

ALMANAC XXXI TRANSITS OF VENUS IN BCE

The almanac XXXI contains a list of transits of Venus from the 125th millennium BCE to the 1st millennium BCE.

During the period of 250 000 years, the total number of transits of Venus is 248 756 transits of Venus (2 964 transits of Venus visible from Earth, 2 984 transits of Venus visible from Moon, 13 099 transits of Venus visible from Mars, 49 274 transits of Venus visible from Jupiter, 55 349 transits of Venus visible from Saturn, 55 766 transits of Venus visible from Uranus, 63 576 transits of Venus visible from Neptune, 5 744 transits of Venus visible from Pluto).

125TH MILLENNIUM BCE

This is a list of transits of Venus in the 125th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-124999-08-04	18:44 J	-43934245.92	-43934245.72	-43934245.51	0.0272	0.0062	
Neptune	-124999-09-08	05:32 J	-43934211.39	-43934211.27	-43934211.13	0.0089	0.0071	
Saturn	-124998-03-21	18:30 J	-43934016.92	-43934016.73	-43934016.53	0.0269	0.0084	
Neptune	-124998-04-21	19:13 J	-43933985.78	-43933985.70	-43933985.57	0.0089	0.0079	
Jupiter	-124998-10-30	08:25 J	-43933794.35	-43933794.15	-43933793.95	0.0515	0.0026	
Saturn	-124998-11-05	17:03 J	-43933787.98	-43933787.79	-43933787.59	0.0267	0.0104	
Neptune	-124998-12-03	09:23 J	-43933760.15	-43933760.11	-43933760.04	0.0089	0.0086	
Saturn	-124997-06-21	15:08 J	-43933559.06	-43933558.87	-43933558.68	0.0265	0.0122	
Saturn	-124996-02-05	12:30 J	-43933330.15	-43933329.98	-43933329.80	0.0263	0.0138	
Saturn	-124996-09-22	09:51 J	-43933101.26	-43933101.09	-43933100.92	0.0262	0.0152	
Saturn	-124995-05-09	07:13 J	-43932872.36	-43932872.20	-43932872.03	0.0260	0.0165	
Saturn	-124995-12-24	04:49 J	-43932643.46	-43932643.30	-43932643.14	0.0259	0.0175	
Saturn	-124994-08-10	02:25 J	-43932414.54	-43932414.40	-43932414.24	0.0259	0.0183	
Saturn	-124993-03-26	00:59 J	-43932185.60	-43932185.46	-43932185.31	0.0259	0.0189	
Pluto	-124993-09-09	07:56 J	-43932018.29	-43932018.17	-43932018.02	0.0079	0.0059	
Saturn	-124993-11-10	00:01 J	-43931956.64	-43931956.50	-43931956.35	0.0258	0.0192	
Pluto	-124992-04-22	16:35 J	-43931793.02	-43931792.81	-43931792.60	0.0079	0.0009	
Saturn	-124992-06-27	00:01 J	-43931727.63	-43931727.50	-43931727.34	0.0259	0.0194	
Jupiter	-124992-09-02	07:27 J	-43931660.36	-43931660.19	-43931660.02	0.0508	0.0301	
Pluto	-124992-12-04	00:15 J	-43931567.52	-43931567.49	-43931567.40	0.0078	0.0076	
Saturn	-124991-02-11	01:27 J	-43931498.58	-43931498.44	-43931498.29	0.0259	0.0193	
Jupiter	-124991-04-27	17:18 J	-43931422.95	-43931422.78	-43931422.61	0.0513	0.0273	

Saturn -124991-09-28 03:51 J -43931269.49 -43931269.34 -43931269.19 0.0260 0.0189
 Saturn -124990-05-15 07:42 J -43931040.33 -43931040.18 -43931040.02 0.0261 0.0183
 Saturn -124990-12-30 12:59 J -43930811.11 -43930810.96 -43930810.79 0.0263 0.0175
 Earth -124989-06-27 17:18 J -43930630.93 -43930630.78 -43930630.63 0.2619 0.0767
 Moon -124989-06-27 21:37 J -43930630.74 -43930630.60 -43930630.46 0.2622 0.1135 *
 Saturn -124989-08-15 20:11 J -43930581.83 -43930581.66 -43930581.48 0.0264 0.0163
 Saturn -124988-04-02 05:03 J -43930352.47 -43930352.29 -43930352.10 0.0266 0.0149
 Saturn -124988-11-17 16:06 J -43930123.02 -43930122.83 -43930122.64 0.0268 0.0132
 Saturn -124987-07-05 05:18 J -43929893.48 -43929893.28 -43929893.08 0.0271 0.0113
 Saturn -124986-02-19 20:11 J -43929663.86 -43929663.66 -43929663.45 0.0273 0.0091
 Jupiter -124986-07-05 09:08 J -43929528.31 -43929528.12 -43929527.93 0.0517 0.0179
 Saturn -124986-10-07 13:13 J -43929434.16 -43929433.95 -43929433.73 0.0276 0.0067
 Jupiter -124985-02-26 22:49 J -43929291.68 -43929291.55 -43929291.41 0.0511 0.0380
 Saturn -124985-05-24 08:39 J -43929204.36 -43929204.14 -43929203.92 0.0279 0.0040
 Saturn -124984-01-09 05:47 J -43928974.48 -43928974.26 -43928974.04 0.0282 0.0013
 Saturn -124984-08-27 05:03 J -43928744.50 -43928744.29 -43928744.07 0.0285 0.0019
 Saturn -124983-04-14 06:01 J -43928514.46 -43928514.25 -43928514.03 0.0288 0.0049
 Saturn -124983-11-30 08:25 J -43928284.36 -43928284.15 -43928283.94 0.0291 0.0079
 Saturn -124982-07-18 11:47 J -43928054.20 -43928054.01 -43928053.80 0.0294 0.0108
 Saturn -124981-03-04 16:06 J -43927824.01 -43927823.83 -43927823.63 0.0296 0.0136
 Earth -124981-06-25 12:01 J -43927711.10 -43927711.00 -43927710.91 0.2623 0.2079
 Moon -124981-06-25 16:49 J -43927710.93 -43927710.80 -43927710.67 0.2624 0.1410 *
 Saturn -124981-10-20 21:23 J -43927593.79 -43927593.61 -43927593.43 0.0299 0.0160
 Jupiter -124980-05-08 01:27 J -43927394.52 -43927394.44 -43927394.34 0.0507 0.0455
 Saturn -124980-06-08 02:11 J -43927363.57 -43927363.41 -43927363.24 0.0301 0.0181
 Jupiter -124980-12-31 12:15 J -43927157.19 -43927156.99 -43927156.79 0.0512 0.0116
 Saturn -124979-01-24 06:59 J -43927133.37 -43927133.21 -43927133.06 0.0302 0.0197
 Saturn -124979-09-11 10:35 J -43926903.20 -43926903.06 -43926902.90 0.0303 0.0209
 Saturn -124978-04-29 13:27 J -43926673.08 -43926672.94 -43926672.79 0.0303 0.0214
 Saturn -124978-12-15 15:08 J -43926443.02 -43926442.87 -43926442.73 0.0303 0.0214

Saturn -124977-08-01 14:39 J -43926213.03 -43926212.89 -43926212.74 0.0302 0.0209
 Saturn -124976-03-19 12:15 J -43925983.13 -43925982.99 -43925982.83 0.0301 0.0199
 Saturn -124976-11-04 08:11 J -43925753.32 -43925753.16 -43925753.00 0.0300 0.0183
 Saturn -124975-06-22 01:42 J -43925523.60 -43925523.43 -43925523.26 0.0298 0.0164
 Saturn -124974-02-06 17:03 J -43925293.96 -43925293.79 -43925293.60 0.0295 0.0142
 Jupiter -124974-03-10 08:54 J -43925262.28 -43925262.13 -43925261.98 0.0518 0.0331
 Saturn -124974-09-24 06:15 J -43925064.42 -43925064.24 -43925064.05 0.0293 0.0117
 Jupiter -124974-11-01 21:23 J -43925025.79 -43925025.61 -43925025.43 0.0512 0.0228
 Saturn -124973-05-10 17:18 J -43924834.97 -43924834.78 -43924834.59 0.0290 0.0090
 Saturn -124973-12-26 02:11 J -43924605.61 -43924605.41 -43924605.21 0.0287 0.0063
 Saturn -124972-08-12 09:08 J -43924376.33 -43924376.12 -43924375.92 0.0284 0.0037
 Mars -124972-10-11 06:44 J -43924316.33 -43924316.22 -43924316.10 0.1865 0.1430
 Saturn -124971-03-29 14:11 J -43924147.11 -43924146.91 -43924146.70 0.0281 0.0010
 Mars -124971-09-17 11:03 J -43923975.18 -43923975.04 -43923974.89 0.1647 0.0862
 Saturn -124971-11-13 17:32 J -43923917.97 -43923917.77 -43923917.56 0.0278 0.0017
 Saturn -124970-06-30 19:27 J -43923688.89 -43923688.69 -43923688.48 0.0275 0.0042
 Mars -124970-08-08 06:59 J -43923650.38 -43923650.21 -43923650.03 0.1863 0.0337
 Saturn -124969-02-14 20:11 J -43923459.86 -43923459.66 -43923459.45 0.0272 0.0065
 Mars -124969-07-17 15:37 J -43923306.02 -43923305.85 -43923305.68 0.1648 0.0031
 Saturn -124969-09-30 19:56 J -43923230.87 -43923230.67 -43923230.47 0.0270 0.0086
 Saturn -124968-05-17 18:30 J -43923001.91 -43923001.73 -43923001.53 0.0267 0.0107
 Jupiter -124968-09-05 06:15 J -43922891.44 -43922891.24 -43922891.03 0.0511 0.0042
 Saturn -124967-01-01 16:49 J -43922772.98 -43922772.80 -43922772.61 0.0265 0.0124
 Mars -124967-05-17 17:32 J -43922636.91 -43922636.77 -43922636.62 0.1651 0.0848
 Saturn -124967-08-18 14:25 J -43922544.07 -43922543.90 -43922543.72 0.0264 0.0141
 Uranus -124966-01-31 13:27 J -43922377.98 -43922377.94 -43922377.89 0.0133 0.0129
 Saturn -124966-04-04 12:01 J -43922315.17 -43922315.00 -43922314.82 0.0262 0.0155
 Uranus -124966-09-14 15:23 J -43922151.95 -43922151.86 -43922151.74 0.0133 0.0114
 Saturn -124966-11-19 09:37 J -43922086.27 -43922086.10 -43922085.94 0.0261 0.0166
 Uranus -124965-04-27 17:47 J -43921925.89 -43921925.76 -43921925.61 0.0133 0.0099

Saturn -124965-07-05 06:59 J -43921857.36 -43921857.21 -43921857.05 0.0260 0.0176
 Uranus -124965-12-09 20:25 J -43921699.81 -43921699.65 -43921699.48 0.0134 0.0083
 Saturn -124964-02-19 05:03 J -43921628.44 -43921628.29 -43921628.14 0.0259 0.0183
 Uranus -124964-07-23 22:49 J -43921473.72 -43921473.55 -43921473.36 0.0134 0.0067
 Saturn -124964-10-06 03:23 J -43921399.50 -43921399.36 -43921399.20 0.0259 0.0189
 Uranus -124963-03-07 01:42 J -43921247.62 -43921247.43 -43921247.23 0.0134 0.0051
 Saturn -124963-05-23 02:54 J -43921170.51 -43921170.38 -43921170.22 0.0259 0.0192
 Uranus -124963-10-19 04:35 J -43921021.51 -43921021.31 -43921021.10 0.0135 0.0034
 Jupiter -124963-11-13 08:54 J -43920996.20 -43920996.13 -43920996.06 0.0519 0.0484
 Saturn -124962-01-07 03:23 J -43920941.50 -43920941.36 -43920941.21 0.0259 0.0192
 Uranus -124962-06-02 07:42 J -43920795.39 -43920795.18 -43920794.97 0.0135 0.0017
 Jupiter -124962-07-07 20:54 J -43920759.82 -43920759.63 -43920759.43 0.0514 0.0075
 Saturn -124962-08-24 04:49 J -43920712.44 -43920712.30 -43920712.15 0.0259 0.0190
 Uranus -124961-01-14 11:03 J -43920569.25 -43920569.04 -43920568.83 0.0135 0.0001
 Saturn -124961-04-09 07:27 J -43920483.34 -43920483.19 -43920483.03 0.0260 0.0186
 Uranus -124961-08-27 14:11 J -43920343.11 -43920342.91 -43920342.69 0.0136 0.0018
 Saturn -124961-11-24 11:32 J -43920254.17 -43920254.02 -43920253.85 0.0261 0.0179
 Uranus -124960-04-10 17:47 J -43920116.96 -43920116.76 -43920116.55 0.0136 0.0035
 Saturn -124960-07-11 17:32 J -43920024.94 -43920024.77 -43920024.60 0.0262 0.0170
 Uranus -124960-11-22 21:23 J -43919890.79 -43919890.61 -43919890.41 0.0136 0.0053
 Saturn -124959-02-26 00:59 J -43919795.63 -43919795.46 -43919795.28 0.0264 0.0158
 Uranus -124959-07-07 01:27 J -43919664.61 -43919664.44 -43919664.25 0.0137 0.0070
 Saturn -124959-10-13 10:06 J -43919566.26 -43919566.08 -43919565.89 0.0266 0.0144
 Uranus -124958-02-18 05:47 J -43919438.41 -43919438.26 -43919438.09 0.0137 0.0088
 Saturn -124958-05-30 21:23 J -43919336.80 -43919336.61 -43919336.41 0.0268 0.0127
 Uranus -124958-10-02 10:06 J -43919212.20 -43919212.08 -43919211.93 0.0138 0.0106
 Saturn -124957-01-15 10:35 J -43919107.26 -43919107.06 -43919106.86 0.0271 0.0107
 Uranus -124957-05-15 14:54 J -43918985.96 -43918985.88 -43918985.78 0.0138 0.0123
 Saturn -124957-09-01 01:42 J -43918877.63 -43918877.43 -43918877.21 0.0273 0.0086
 Saturn -124956-04-18 19:13 J -43918647.91 -43918647.70 -43918647.48 0.0276 0.0060

Jupiter -124956-05-11 00:01 J -43918625.68 -43918625.50 -43918625.30 0.0509 0.0200
 Saturn -124956-12-04 14:39 J -43918418.11 -43918417.89 -43918417.67 0.0279 0.0034
 Jupiter -124955-01-03 10:06 J -43918388.21 -43918388.08 -43918387.94 0.0514 0.0379
 Saturn -124955-07-22 12:15 J -43918188.21 -43918187.99 -43918187.78 0.0282 0.0008
 Saturn -124954-03-09 11:32 J -43917958.24 -43917958.02 -43917957.81 0.0285 0.0024
 Saturn -124954-10-25 12:15 J -43917728.20 -43917727.99 -43917727.77 0.0288 0.0054
 Saturn -124953-06-11 14:39 J -43917498.09 -43917497.89 -43917497.68 0.0291 0.0084
 Saturn -124952-01-27 18:15 J -43917267.94 -43917267.74 -43917267.54 0.0294 0.0113
 Saturn -124952-09-14 22:35 J -43917037.74 -43917037.56 -43917037.37 0.0297 0.0140
 Saturn -124951-05-03 03:23 J -43916807.53 -43916807.36 -43916807.18 0.0299 0.0164
 Saturn -124951-12-19 08:11 J -43916577.32 -43916577.16 -43916576.99 0.0301 0.0184
 Jupiter -124950-03-12 20:11 J -43916493.85 -43916493.66 -43916493.46 0.0516 0.0083
 Saturn -124950-08-06 12:30 J -43916347.12 -43916346.98 -43916346.81 0.0302 0.0201
 Jupiter -124950-11-04 09:51 J -43916257.16 -43916257.09 -43916257.01 0.0510 0.0473
 Saturn -124949-03-23 16:35 J -43916116.96 -43916116.81 -43916116.66 0.0303 0.0211
 Saturn -124949-11-08 19:13 J -43915886.84 -43915886.70 -43915886.55 0.0304 0.0216
 Saturn -124948-06-26 20:25 J -43915656.79 -43915656.65 -43915656.50 0.0304 0.0215
 Saturn -124947-02-11 19:56 J -43915426.81 -43915426.67 -43915426.52 0.0303 0.0209
 Saturn -124947-09-29 17:32 J -43915196.92 -43915196.77 -43915196.62 0.0302 0.0198
 Saturn -124946-05-17 12:59 J -43914967.12 -43914966.96 -43914966.80 0.0300 0.0182
 Saturn -124945-01-02 06:30 J -43914737.40 -43914737.23 -43914737.06 0.0298 0.0162
 Saturn -124945-08-18 21:23 J -43914507.78 -43914507.61 -43914507.43 0.0295 0.0139
 Jupiter -124944-01-13 17:32 J -43914359.91 -43914359.77 -43914359.61 0.0508 0.0356
 Saturn -124944-04-05 10:20 J -43914278.26 -43914278.07 -43914277.89 0.0292 0.0114
 Jupiter -124944-09-08 04:06 J -43914122.51 -43914122.33 -43914122.14 0.0513 0.0220
 Saturn -124944-11-20 20:54 J -43914048.82 -43914048.63 -43914048.43 0.0289 0.0087
 Saturn -124943-07-08 05:32 J -43913819.47 -43913819.27 -43913819.07 0.0286 0.0060
 Saturn -124942-02-22 12:15 J -43913590.19 -43913589.99 -43913589.78 0.0283 0.0033
 Saturn -124942-10-09 17:18 J -43913360.99 -43913360.78 -43913360.58 0.0280 0.0007
 Saturn -124941-05-25 20:25 J -43913131.85 -43913131.65 -43913131.44 0.0277 0.0020

Saturn -124940-01-09 22:20 J -43912902.78 -43912902.57 -43912902.37 0.0274 0.0044
 Saturn -124940-08-26 22:49 J -43912673.75 -43912673.55 -43912673.35 0.0272 0.0067
 Saturn -124939-04-12 22:35 J -43912444.76 -43912444.56 -43912444.36 0.0269 0.0088
 Mars -124939-09-16 02:54 J -43912288.49 -43912288.38 -43912288.28 0.1648 0.1260
 Jupiter -124939-11-15 20:25 J -43912227.82 -43912227.65 -43912227.47 0.0517 0.0237
 Saturn -124939-11-27 21:23 J -43912215.80 -43912215.61 -43912215.42 0.0267 0.0108
 Jupiter -124938-07-10 09:51 J -43911991.24 -43911991.09 -43911990.94 0.0512 0.0324
 Saturn -124938-07-14 19:27 J -43911986.88 -43911986.69 -43911986.51 0.0265 0.0125
 Mars -124938-08-08 07:42 J -43911962.36 -43911962.18 -43911962.01 0.1865 0.0485
 Saturn -124937-02-28 16:49 J -43911757.97 -43911757.80 -43911757.61 0.0263 0.0141
 Mars -124937-07-16 07:56 J -43911619.33 -43911619.17 -43911619.01 0.1648 0.0434
 Saturn -124937-10-14 14:25 J -43911529.06 -43911528.90 -43911528.72 0.0262 0.0154
 Saturn -124936-05-31 12:01 J -43911300.16 -43911300.00 -43911299.83 0.0260 0.0166
 Mars -124936-06-04 10:49 J -43911296.18 -43911296.05 -43911295.91 0.1860 0.1230
 Saturn -124935-01-15 09:51 J -43911071.25 -43911071.09 -43911070.93 0.0260 0.0175
 Mars -124935-05-16 11:03 J -43910950.21 -43910950.04 -43910949.88 0.1650 0.0424
 Saturn -124935-09-01 07:56 J -43910842.32 -43910842.17 -43910842.02 0.0259 0.0182
 Saturn -124934-04-18 06:44 J -43910613.37 -43910613.22 -43910613.07 0.0259 0.0187
 Saturn -124934-12-03 06:01 J -43910384.39 -43910384.25 -43910384.10 0.0259 0.0190
 Mars -124933-03-15 11:18 J -43910281.13 -43910281.03 -43910280.92 0.1654 0.1307
 Saturn -124933-07-19 06:30 J -43910155.37 -43910155.23 -43910155.08 0.0259 0.0190
 Saturn -124932-03-05 07:56 J -43909926.31 -43909926.17 -43909926.02 0.0259 0.0189
 Jupiter -124932-05-13 21:08 J -43909856.82 -43909856.62 -43909856.41 0.0511 0.0059
 Saturn -124932-10-20 10:35 J -43909697.20 -43909697.06 -43909696.90 0.0260 0.0185
 Saturn -124931-06-06 15:08 J -43909468.03 -43909467.87 -43909467.71 0.0261 0.0178
 Saturn -124930-01-21 20:39 J -43909238.79 -43909238.64 -43909238.46 0.0263 0.0169
 Neptune -124930-04-01 01:13 J -43909169.50 -43909169.45 -43909169.37 0.0088 0.0085
 Saturn -124930-09-08 04:20 J -43909009.49 -43909009.32 -43909009.14 0.0265 0.0157
 Neptune -124930-11-12 14:25 J -43908943.99 -43908943.90 -43908943.78 0.0088 0.0078
 Saturn -124929-04-24 13:42 J -43908780.12 -43908779.93 -43908779.74 0.0266 0.0142

Neptune -124929-06-25 03:23 J -43908718.48 -43908718.36 -43908718.21 0.0088 0.0071
 Saturn -124929-12-10 00:44 J -43908550.66 -43908550.47 -43908550.27 0.0269 0.0125
 Neptune -124928-02-05 16:20 J -43908492.96 -43908492.82 -43908492.65 0.0088 0.0064
 Saturn -124928-07-27 14:11 J -43908321.11 -43908320.91 -43908320.70 0.0271 0.0105
 Neptune -124928-09-19 05:18 J -43908267.43 -43908267.28 -43908267.10 0.0088 0.0056
 Saturn -124927-03-14 05:32 J -43908091.47 -43908091.27 -43908091.05 0.0274 0.0083
 Neptune -124927-05-02 18:01 J -43908041.91 -43908041.75 -43908041.55 0.0088 0.0050
 Jupiter -124927-07-21 21:08 J -43907961.75 -43907961.62 -43907961.49 0.0519 0.0390
 Saturn -124927-10-29 23:03 J -43907861.76 -43907861.54 -43907861.32 0.0276 0.0058
 Neptune -124927-12-14 07:13 J -43907816.39 -43907816.20 -43907816.00 0.0088 0.0042
 Jupiter -124926-03-15 10:20 J -43907725.26 -43907725.07 -43907724.88 0.0514 0.0174
 Uranus -124926-05-19 22:49 J -43907659.63 -43907659.55 -43907659.45 0.0146 0.0132
 Saturn -124926-06-16 18:30 J -43907631.95 -43907631.73 -43907631.51 0.0279 0.0031
 Neptune -124926-07-27 19:56 J -43907590.87 -43907590.67 -43907590.46 0.0088 0.0035
 Uranus -124925-01-01 14:54 J -43907433.01 -43907432.88 -43907432.71 0.0145 0.0110
 Saturn -124925-02-01 15:51 J -43907402.06 -43907401.84 -43907401.62 0.0282 0.0003
 Neptune -124925-03-09 08:39 J -43907365.35 -43907365.14 -43907364.93 0.0088 0.0027
 Uranus -124925-08-15 07:27 J -43907206.36 -43907206.19 -43907206.00 0.0145 0.0086
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 Neptune -124925-10-20 21:23 J -43907139.82 -43907139.61 -43907139.39 0.0088 0.0020
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 Neptune -124923-01-14 22:35 J -43906688.77 -43906688.56 -43906688.34 0.0088 0.0006
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Saturn -124922-03-28 01:56 J -43906251.60 -43906251.42 -43906251.22 0.0297 0.0141
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Saturn -124888-10-22 01:56 J -43893624.57 -43893624.42 -43893624.26 0.0301 0.0191
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Saturn -124853-12-28 04:49 J -43880773.50 -43880773.30 -43880773.09 0.0277 0.0031
 Saturn -124852-08-14 06:44 J -43880544.42 -43880544.22 -43880544.02 0.0274 0.0054
 Saturn -124851-03-31 07:27 J -43880315.39 -43880315.19 -43880314.99 0.0272 0.0076
 Saturn -124851-11-15 07:13 J -43880086.40 -43880086.20 -43880086.01 0.0269 0.0096
 Saturn -124850-07-02 06:01 J -43879857.44 -43879857.25 -43879857.06 0.0267 0.0115
 Jupiter -124850-10-08 09:08 J -43879759.19 -43879759.12 -43879759.05 0.0507 0.0474
 Saturn -124849-02-16 04:20 J -43879628.50 -43879628.32 -43879628.14 0.0265 0.0131
 Jupiter -124849-06-01 20:39 J -43879521.84 -43879521.64 -43879521.43 0.0512 0.0102
 Saturn -124849-10-02 02:11 J -43879399.58 -43879399.41 -43879399.23 0.0263 0.0146
 Saturn -124848-05-19 00:15 J -43879170.66 -43879170.49 -43879170.32 0.0262 0.0158
 Neptune -124848-12-21 22:49 J -43878953.61 -43878953.55 -43878953.45 0.0089 0.0083
 Saturn -124847-01-02 22:06 J -43878941.74 -43878941.58 -43878941.41 0.0261 0.0169
 Neptune -124847-08-04 11:32 J -43878728.11 -43878728.02 -43878727.88 0.0089 0.0076
 Saturn -124847-08-19 20:11 J -43878712.81 -43878712.66 -43878712.50 0.0260 0.0177
 Neptune -124846-03-18 00:30 J -43878502.59 -43878502.48 -43878502.32 0.0089 0.0069
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 Saturn -124846-11-20 18:01 J -43878254.89 -43878254.75 -43878254.59 0.0259 0.0187
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Neptune -124842-07-13 20:54 J -43876923.85 -43876923.63 -43876923.41 0.0089 0.0018
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 Uranus -124842-08-31 16:06 J -43876874.94 -43876874.83 -43876874.70 0.0146 0.0124
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Neptune -124837-06-21 07:56 J -43875119.35 -43875119.17 -43875118.95 0.0089 0.0042
 Uranus -124837-08-17 20:11 J -43875061.86 -43875061.66 -43875061.45 0.0143 0.0060
 Saturn -124837-09-05 13:42 J -43875043.15 -43875042.93 -43875042.71 0.0283 0.0012
 Neptune -124836-02-01 21:37 J -43874893.77 -43874893.60 -43874893.40 0.0089 0.0049
 Uranus -124836-04-01 10:20 J -43874835.25 -43874835.07 -43874834.88 0.0142 0.0081
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 Neptune -124836-09-15 11:03 J -43874668.19 -43874668.04 -43874667.84 0.0089 0.0056
 Uranus -124836-11-14 00:01 J -43874608.64 -43874608.50 -43874608.33 0.0142 0.0103
 Saturn -124836-12-09 14:25 J -43874583.10 -43874582.90 -43874582.68 0.0289 0.0070
 Mars -124835-01-09 17:47 J -43874551.90 -43874551.76 -43874551.62 0.1653 0.0902
 Neptune -124835-04-29 00:59 J -43874442.60 -43874442.46 -43874442.28 0.0089 0.0063
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 Pluto -124834-09-22 20:39 J -43873930.70 -43873930.64 -43873930.53 0.0066 0.0061
 Saturn -124834-10-31 00:44 J -43873892.65 -43873892.47 -43873892.28 0.0297 0.0150
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 Pluto -124833-12-16 08:11 J -43873480.36 -43873480.16 -43873479.93 0.0066 0.0025
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Saturn -124829-11-13 13:42 J -43872052.09 -43872051.93 -43872051.77 0.0301 0.0185
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 Jupiter -124826-10-11 07:56 J -43870990.35 -43870990.17 -43870989.98 0.0509 0.0219
 Saturn -124825-01-05 12:30 J -43870904.18 -43870903.98 -43870903.78 0.0288 0.0070
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 Saturn -124815-09-03 00:44 J -43867010.62 -43867010.47 -43867010.32 0.0259 0.0185
 Saturn -124814-04-20 02:54 J -43866781.53 -43866781.38 -43866781.21 0.0260 0.0182
 Jupiter -124814-06-16 00:01 J -43866724.63 -43866724.50 -43866724.35 0.0507 0.0378
 Saturn -124814-12-05 06:44 J -43866552.38 -43866552.22 -43866552.05 0.0261 0.0176

Jupiter -124813-02-08 10:49 J -43866487.24 -43866487.05 -43866486.86 0.0512 0.0200
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 Mars -124807-05-11 04:06 J -43864203.44 -43864203.33 -43864203.22 0.1648 0.1218
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Saturn -124791-07-24 14:11 J -43858285.09 -43858284.91 -43858284.72 0.0267 0.0119
 Uranus -124790-01-30 09:37 J -43858095.25 -43858095.10 -43858094.93 0.0137 0.0089
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 Saturn -124787-04-28 04:06 J -43856911.48 -43856911.33 -43856911.17 0.0260 0.0183
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Neptune -124765-02-14 00:30 J -43848949.57 -43848949.48 -43848949.36 0.0088 0.0078
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Uranus -124751-02-25 18:15 J -43843823.85 -43843823.74 -43843823.58 0.0142 0.0114
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Saturn -124713-06-23 04:35 J -43829826.46 -43829826.31 -43829826.16 0.0303 0.0205
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 Saturn -124645-12-17 20:25 J -43804811.84 -43804811.65 -43804811.45 0.0269 0.0093
 Saturn -124644-08-03 19:27 J -43804582.88 -43804582.69 -43804582.50 0.0267 0.0111
 Mars -124643-01-01 21:23 J -43804431.66 -43804431.61 -43804431.57 0.1648 0.1575
 Saturn -124643-03-20 18:01 J -43804353.93 -43804353.75 -43804353.56 0.0265 0.0126
 Saturn -124643-11-04 16:20 J -43804125.00 -43804124.82 -43804124.64 0.0264 0.0140
 Mars -124643-11-23 18:59 J -43804105.87 -43804105.71 -43804105.55 0.1864 0.0854
 Jupiter -124642-05-25 22:06 J -43803922.76 -43803922.58 -43803922.39 0.0517 0.0197
 Saturn -124642-06-21 14:11 J -43803896.08 -43803895.91 -43803895.73 0.0262 0.0152
 Mars -124642-11-02 02:25 J -43803762.56 -43803762.40 -43803762.25 0.1648 0.0757
 Jupiter -124641-01-17 10:49 J -43803686.18 -43803686.05 -43803685.91 0.0512 0.0373
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Saturn -124604-10-14 10:35 J -43789901.27 -43789901.06 -43789900.84 0.0272 0.0083
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 Saturn -124582-02-27 23:32 J -43782094.67 -43782094.52 -43782094.34 0.0261 0.0162
 Saturn -124582-10-14 22:20 J -43781865.74 -43781865.57 -43781865.41 0.0260 0.0168
 Saturn -124581-05-30 21:08 J -43781636.77 -43781636.62 -43781636.45 0.0259 0.0173
 Saturn -124580-01-14 20:39 J -43781407.79 -43781407.64 -43781407.47 0.0259 0.0177
 Saturn -124580-08-31 21:23 J -43781178.77 -43781178.61 -43781178.45 0.0259 0.0177
 Saturn -124579-04-17 22:49 J -43780949.71 -43780949.55 -43780949.38 0.0260 0.0175
 Saturn -124579-12-03 01:27 J -43780720.59 -43780720.44 -43780720.26 0.0260 0.0172
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Mars -124578-10-30 09:51 J -43780389.14 -43780389.09 -43780389.04 0.1648 0.1554
 Saturn -124577-03-05 11:32 J -43780262.19 -43780262.02 -43780261.84 0.0263 0.0157
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 Jupiter -124577-12-06 18:44 J -43779985.92 -43779985.72 -43779985.51 0.0509 0.0124
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Saturn -124565-10-06 06:59 J -43775664.37 -43775664.21 -43775664.05 0.0302 0.0191
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Saturn -124549-06-14 06:15 J -43769934.39 -43769934.24 -43769934.06 0.0261 0.0171
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 Saturn -124548-09-15 16:35 J -43769475.98 -43769475.81 -43769475.63 0.0263 0.0156
 Jupiter -124547-02-16 19:42 J -43769321.83 -43769321.68 -43769321.53 0.0519 0.0321
 Saturn -124547-05-03 00:15 J -43769246.68 -43769246.49 -43769246.31 0.0265 0.0144
 Jupiter -124547-10-11 07:56 J -43769085.34 -43769085.17 -43769084.99 0.0513 0.0254
 Saturn -124547-12-18 09:23 J -43769017.29 -43769017.11 -43769016.91 0.0266 0.0131
 Uranus -124546-04-07 11:32 J -43768907.06 -43768907.02 -43768906.95 0.0133 0.0128
 Saturn -124546-08-04 20:54 J -43768787.82 -43768787.63 -43768787.42 0.0269 0.0115
 Uranus -124546-11-19 13:56 J -43768681.02 -43768680.92 -43768680.80 0.0133 0.0112
 Saturn -124545-03-21 10:20 J -43768558.28 -43768558.07 -43768557.86 0.0271 0.0096
 Uranus -124545-07-02 16:06 J -43768454.96 -43768454.83 -43768454.66 0.0134 0.0096
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 Saturn -124544-06-23 18:59 J -43768098.93 -43768098.71 -43768098.49 0.0276 0.0053
 Mars -124544-08-28 06:44 J -43768033.34 -43768033.22 -43768033.10 0.1648 0.1139
 Uranus -124544-09-27 21:37 J -43768002.78 -43768002.60 -43768002.41 0.0134 0.0062
 Saturn -124543-02-08 14:11 J -43767869.13 -43767868.91 -43767868.69 0.0279 0.0029
 Uranus -124543-05-12 00:15 J -43767776.68 -43767776.49 -43767776.28 0.0135 0.0045
 Mars -124543-07-18 00:59 J -43767709.64 -43767709.46 -43767709.28 0.1861 0.0186
 Saturn -124543-09-26 11:32 J -43767639.24 -43767639.02 -43767638.80 0.0282 0.0004
 Uranus -124543-12-24 03:23 J -43767550.56 -43767550.36 -43767550.15 0.0135 0.0027
 Saturn -124542-05-14 10:20 J -43767409.29 -43767409.07 -43767408.85 0.0284 0.0024
 Mars -124542-06-28 10:35 J -43767364.23 -43767364.06 -43767363.90 0.1650 0.0297
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 Saturn -124542-12-30 10:49 J -43767179.26 -43767179.05 -43767178.83 0.0287 0.0051
 Uranus -124541-03-20 09:37 J -43767098.30 -43767098.10 -43767097.89 0.0136 0.0010
 Mars -124541-05-14 10:35 J -43767043.09 -43767043.06 -43767043.03 0.1853 0.1812
 Jupiter -124541-08-14 07:42 J -43766951.39 -43766951.18 -43766950.97 0.0510 0.0028

Saturn -124541-08-16 12:44 J -43766949.18 -43766948.97 -43766948.76 0.0290 0.0078
 Uranus -124541-11-01 13:13 J -43766872.15 -43766871.95 -43766871.75 0.0136 0.0027
 Saturn -124540-04-03 15:37 J -43766719.04 -43766718.85 -43766718.64 0.0293 0.0104
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 Uranus -124540-06-15 16:49 J -43766645.99 -43766645.80 -43766645.60 0.0136 0.0045
 Saturn -124540-11-19 19:27 J -43766488.87 -43766488.69 -43766488.49 0.0296 0.0128
 Uranus -124539-01-27 20:54 J -43766419.81 -43766419.63 -43766419.45 0.0137 0.0064
 Saturn -124539-07-08 00:01 J -43766258.68 -43766258.50 -43766258.32 0.0298 0.0149
 Uranus -124539-09-11 00:59 J -43766193.62 -43766193.46 -43766193.29 0.0137 0.0082
 Saturn -124538-02-23 04:35 J -43766028.49 -43766028.31 -43766028.14 0.0300 0.0167
 Mars -124538-02-25 09:37 J -43766026.17 -43766026.10 -43766026.03 0.1660 0.1496
 Uranus -124538-04-25 05:03 J -43765967.42 -43765967.29 -43765967.14 0.0137 0.0101
 Saturn -124538-10-11 08:39 J -43765798.30 -43765798.14 -43765797.97 0.0301 0.0182
 Uranus -124538-12-07 09:37 J -43765741.19 -43765741.10 -43765740.98 0.0138 0.0120
 Saturn -124537-05-28 12:30 J -43765568.14 -43765567.98 -43765567.82 0.0302 0.0191
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 Saturn -124536-08-31 16:20 J -43765107.97 -43765107.82 -43765107.66 0.0303 0.0195
 Jupiter -124536-10-22 17:03 J -43765055.86 -43765055.79 -43765055.72 0.0520 0.0484
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 Jupiter -124535-06-16 04:49 J -43764819.49 -43764819.30 -43764819.10 0.0515 0.0091
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 Saturn -124533-10-23 18:01 J -43763958.93 -43763958.75 -43763958.56 0.0295 0.0126
 Saturn -124532-06-10 06:59 J -43763729.39 -43763729.21 -43763729.01 0.0293 0.0104
 Saturn -124531-01-25 18:01 J -43763499.94 -43763499.75 -43763499.55 0.0290 0.0080
 Saturn -124531-09-12 02:54 J -43763270.58 -43763270.38 -43763270.18 0.0287 0.0055
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 Jupiter -124529-04-19 02:11 J -43762685.61 -43762685.41 -43762685.22 0.0508 0.0188

Saturn -124529-07-30 18:15 J -43762582.94 -43762582.74 -43762582.53 0.0278 0.0019
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 Saturn -124528-03-16 20:39 J -43762353.85 -43762353.64 -43762353.44 0.0275 0.0041
 Saturn -124528-10-31 21:23 J -43762124.81 -43762124.61 -43762124.41 0.0273 0.0062
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 Jupiter -124523-02-19 04:06 J -43760553.53 -43760553.33 -43760553.14 0.0516 0.0072
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 Neptune -124519-06-26 20:39 J -43758964.69 -43758964.64 -43758964.54 0.0089 0.0083
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 Neptune -124518-02-07 09:23 J -43758739.20 -43758739.11 -43758738.97 0.0089 0.0076
 Saturn -124518-03-28 23:03 J -43758689.71 -43758689.54 -43758689.35 0.0263 0.0151
 Neptune -124518-09-20 22:20 J -43758513.69 -43758513.57 -43758513.42 0.0089 0.0069
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 Jupiter -124518-12-23 18:30 J -43758419.88 -43758419.73 -43758419.58 0.0507 0.0349
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 Mars -124512-08-26 22:35 J -43756346.62 -43756346.56 -43756346.50 0.1648 0.1536
 Jupiter -124512-10-25 03:37 J -43756287.52 -43756287.35 -43756287.17 0.0518 0.0231
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 Jupiter -124511-06-18 16:35 J -43756050.96 -43756050.81 -43756050.66 0.0513 0.0345
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 Mars -124510-06-27 03:08 J -43755677.52 -43755677.37 -43755677.22 0.1649 0.0711
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Saturn -124509-09-04 13:42 J -43755242.10 -43755241.93 -43755241.75 0.0301 0.0169
 Neptune -124509-12-25 04:20 J -43755130.50 -43755130.32 -43755130.11 0.0089 0.0040
 Saturn -124508-04-22 17:47 J -43755011.92 -43755011.76 -43755011.59 0.0302 0.0183
 Mars -124508-04-26 05:18 J -43755008.45 -43755008.28 -43755008.11 0.1652 0.0156
 Neptune -124508-08-07 18:01 J -43754904.93 -43754904.75 -43754904.55 0.0089 0.0047
 Saturn -124508-12-08 21:23 J -43754781.76 -43754781.61 -43754781.44 0.0303 0.0191
 Neptune -124507-03-21 07:42 J -43754679.35 -43754679.18 -43754679.00 0.0089 0.0054
 Saturn -124507-07-27 00:01 J -43754551.66 -43754551.50 -43754551.34 0.0303 0.0194
 Neptune -124507-11-01 20:54 J -43754453.77 -43754453.63 -43754453.45 0.0089 0.0062
 Mars -124506-02-24 04:49 J -43754339.43 -43754339.30 -43754339.17 0.1657 0.1054
 Saturn -124506-03-14 00:44 J -43754321.62 -43754321.47 -43754321.30 0.0303 0.0193
 Neptune -124506-06-15 10:49 J -43754228.17 -43754228.05 -43754227.90 0.0089 0.0069
 Uranus -124506-07-24 18:15 J -43754188.83 -43754188.74 -43754188.63 0.0145 0.0129
 Saturn -124506-10-30 00:15 J -43754091.64 -43754091.49 -43754091.32 0.0302 0.0186
 Neptune -124505-01-27 00:30 J -43754002.58 -43754002.48 -43754002.35 0.0089 0.0076
 Uranus -124505-03-07 10:35 J -43753962.21 -43753962.06 -43753961.90 0.0145 0.0105
 Jupiter -124505-04-21 22:20 J -43753916.78 -43753916.57 -43753916.37 0.0510 0.0074
 Saturn -124505-06-15 21:51 J -43753861.75 -43753861.59 -43753861.42 0.0301 0.0175
 Neptune -124505-09-08 14:25 J -43753776.97 -43753776.90 -43753776.82 0.0089 0.0083
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 Saturn -124504-01-31 17:18 J -43753631.95 -43753631.78 -43753631.61 0.0299 0.0160
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 Saturn -124504-09-18 10:35 J -43753402.24 -43753402.06 -43753401.88 0.0297 0.0141
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 Moon -124503-06-29 02:54 J -43753118.52 -43753118.38 -43753118.23 0.2618 0.1262
 Earth -124503-06-29 03:23 J -43753118.49 -43753118.36 -43753118.24 0.2624 0.1610 *
 Uranus -124503-08-31 00:59 J -43753055.68 -43753055.46 -43753055.23 0.0144 0.0009
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 Uranus -124502-04-14 15:51 J -43752829.06 -43752828.84 -43752828.61 0.0143 0.0014

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 Pluto -124500-06-19 22:20 J -43752031.57 -43752031.57 -43752031.51 0.0078 0.0078
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 Jupiter -124499-02-21 17:03 J -43751784.97 -43751784.79 -43751784.60 0.0514 0.0192
 Uranus -124499-05-21 13:56 J -43751696.00 -43751695.92 -43751695.81 0.0141 0.0127
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 Saturn -124488-05-25 11:18 J -43747674.22 -43747674.03 -43747673.84 0.0265 0.0138
 Jupiter -124488-10-27 17:18 J -43747518.98 -43747518.78 -43747518.58 0.0516 0.0032
 Saturn -124487-01-09 20:54 J -43747444.82 -43747444.63 -43747444.43 0.0267 0.0124
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 Saturn -124486-04-13 22:20 J -43746985.78 -43746985.57 -43746985.36 0.0271 0.0090
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 Saturn -124479-11-03 01:27 J -43744225.61 -43744225.44 -43744225.28 0.0302 0.0180
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 Mars -124478-06-25 19:27 J -43743990.82 -43743990.69 -43743990.57 0.1648 0.1118
 Saturn -124477-02-06 07:27 J -43743765.35 -43743765.19 -43743765.03 0.0303 0.0191
 Mars -124477-05-14 03:51 J -43743667.52 -43743667.34 -43743667.17 0.1860 0.0303

Saturn -124477-09-23 08:25 J -43743535.30 -43743535.15 -43743534.99 0.0303 0.0190
 Mars -124476-04-24 22:35 J -43743321.72 -43743321.56 -43743321.39 0.1650 0.0272
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 Saturn -124476-12-27 05:18 J -43743075.44 -43743075.28 -43743075.11 0.0301 0.0172
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 Saturn -124475-08-14 00:44 J -43742845.64 -43742845.47 -43742845.30 0.0299 0.0157
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 Saturn -124474-03-31 17:47 J -43742615.94 -43742615.76 -43742615.58 0.0297 0.0138
 Saturn -124474-11-16 08:25 J -43742386.33 -43742386.15 -43742385.96 0.0295 0.0118
 Saturn -124473-07-02 21:08 J -43742156.81 -43742156.62 -43742156.43 0.0292 0.0095
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 Saturn -124472-10-04 16:06 J -43741698.03 -43741697.83 -43741697.63 0.0286 0.0047
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 Saturn -124470-01-06 03:08 J -43741239.58 -43741239.37 -43741239.17 0.0280 0.0004
 Jupiter -124470-05-06 02:11 J -43741119.52 -43741119.41 -43741119.28 0.0506 0.0413
 Saturn -124470-08-23 06:01 J -43741010.45 -43741010.25 -43741010.04 0.0277 0.0025
 Jupiter -124470-12-29 13:42 J -43740882.12 -43740881.93 -43740881.73 0.0511 0.0176
 Saturn -124469-04-08 07:56 J -43740781.38 -43740781.17 -43740780.97 0.0274 0.0046
 Saturn -124469-11-23 08:11 J -43740552.35 -43740552.16 -43740551.95 0.0272 0.0067
 Saturn -124468-07-10 07:42 J -43740323.37 -43740323.18 -43740322.98 0.0269 0.0085
 Saturn -124467-02-24 06:30 J -43740094.42 -43740094.23 -43740094.04 0.0267 0.0102
 Saturn -124467-10-11 04:35 J -43739865.50 -43739865.31 -43739865.12 0.0265 0.0117
 Saturn -124466-05-28 02:25 J -43739636.58 -43739636.40 -43739636.21 0.0263 0.0130
 Saturn -124465-01-12 00:01 J -43739407.67 -43739407.50 -43739407.32 0.0262 0.0142
 Saturn -124465-08-27 21:37 J -43739178.77 -43739178.60 -43739178.42 0.0261 0.0151
 Jupiter -124464-03-07 13:56 J -43738987.08 -43738986.92 -43738986.75 0.0518 0.0296
 Saturn -124464-04-13 19:42 J -43738949.85 -43738949.68 -43738949.51 0.0260 0.0159
 Jupiter -124464-10-30 02:25 J -43738750.57 -43738750.40 -43738750.24 0.0513 0.0283

Saturn -124464-11-28 18:01 J -43738720.91 -43738720.75 -43738720.58 0.0259 0.0164
 Saturn -124463-07-15 16:49 J -43738491.95 -43738491.80 -43738491.63 0.0259 0.0168
 Saturn -124462-03-01 16:20 J -43738262.97 -43738262.82 -43738262.64 0.0259 0.0170
 Uranus -124462-07-20 00:44 J -43738122.55 -43738122.47 -43738122.38 0.0133 0.0122
 Saturn -124462-10-16 17:18 J -43738033.94 -43738033.78 -43738033.61 0.0259 0.0169
 Uranus -124461-03-02 02:39 J -43737896.50 -43737896.39 -43737896.24 0.0133 0.0106
 Saturn -124461-06-01 19:13 J -43737804.86 -43737804.70 -43737804.52 0.0260 0.0166
 Uranus -124461-10-14 05:03 J -43737670.43 -43737670.29 -43737670.12 0.0134 0.0089
 Saturn -124460-01-16 22:20 J -43737575.73 -43737575.57 -43737575.39 0.0261 0.0162
 Uranus -124460-05-28 07:56 J -43737444.34 -43737444.17 -43737443.99 0.0134 0.0071
 Saturn -124460-09-03 02:54 J -43737346.55 -43737346.38 -43737346.19 0.0262 0.0155
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 Saturn -124459-04-20 09:08 J -43737117.29 -43737117.12 -43737116.93 0.0263 0.0146
 Uranus -124459-08-23 13:27 J -43736992.14 -43736991.94 -43736991.73 0.0135 0.0037
 Saturn -124459-12-05 17:18 J -43736887.97 -43736887.78 -43736887.59 0.0265 0.0134
 Uranus -124458-04-06 16:20 J -43736766.02 -43736765.82 -43736765.61 0.0135 0.0019
 Saturn -124458-07-23 03:23 J -43736658.55 -43736658.36 -43736658.16 0.0267 0.0120
 Jupiter -124458-09-03 06:44 J -43736616.43 -43736616.22 -43736616.01 0.0510 0.0012
 Uranus -124458-11-18 19:27 J -43736539.89 -43736539.69 -43736539.48 0.0135 0.0004
 Saturn -124457-03-08 15:08 J -43736429.07 -43736428.87 -43736428.66 0.0269 0.0104
 Uranus -124457-07-01 22:49 J -43736313.75 -43736313.55 -43736313.34 0.0136 0.0018
 Saturn -124457-10-24 05:03 J -43736199.49 -43736199.29 -43736199.07 0.0272 0.0086
 Uranus -124456-02-13 02:25 J -43736087.59 -43736087.40 -43736087.19 0.0136 0.0036
 Saturn -124456-06-10 20:54 J -43735969.84 -43735969.63 -43735969.41 0.0274 0.0065
 Uranus -124456-09-27 06:15 J -43735861.43 -43735861.24 -43735861.04 0.0136 0.0054
 Saturn -124455-01-26 14:54 J -43735740.09 -43735739.88 -43735739.66 0.0277 0.0043
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 Saturn -124455-09-13 11:03 J -43735510.26 -43735510.04 -43735509.82 0.0280 0.0018
 Uranus -124455-12-23 14:25 J -43735409.05 -43735408.90 -43735408.74 0.0137 0.0091
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Uranus -124454-08-06 18:44 J -43735182.83 -43735182.72 -43735182.58 0.0137 0.0110
 Saturn -124454-12-17 08:25 J -43735050.37 -43735050.15 -43735049.93 0.0286 0.0033
 Uranus -124453-03-19 23:32 J -43734956.58 -43734956.52 -43734956.44 0.0138 0.0129
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 Mars -124446-06-24 11:03 J -43732304.10 -43732304.04 -43732303.98 0.1648 0.1515
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 Mars -124443-03-11 09:51 J -43731313.23 -43731313.09 -43731312.96 0.1856 0.1179
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 Neptune -124437-01-06 08:39 J -43729186.18 -43729186.14 -43729186.05 0.0089 0.0085
 Saturn -124437-04-22 08:11 J -43729079.34 -43729079.16 -43729078.96 0.0265 0.0118
 Neptune -124437-08-18 21:51 J -43728960.67 -43728960.59 -43728960.46 0.0088 0.0078
 Saturn -124437-12-07 06:01 J -43728850.43 -43728850.25 -43728850.06 0.0263 0.0130
 Neptune -124436-04-01 11:03 J -43728735.15 -43728735.04 -43728734.89 0.0088 0.0071
 Saturn -124436-07-24 03:23 J -43728621.53 -43728621.36 -43728621.17 0.0262 0.0142
 Neptune -124436-11-13 00:15 J -43728509.62 -43728509.49 -43728509.32 0.0088 0.0064
 Saturn -124435-03-10 00:59 J -43728392.63 -43728392.46 -43728392.28 0.0261 0.0151
 Neptune -124435-06-26 13:13 J -43728284.10 -43728283.95 -43728283.76 0.0088 0.0057
 Saturn -124435-10-24 22:49 J -43728163.72 -43728163.55 -43728163.38 0.0260 0.0159
 Jupiter -124434-01-11 15:23 J -43728085.02 -43728084.86 -43728084.70 0.0507 0.0318
 Neptune -124434-02-07 02:11 J -43728058.57 -43728058.41 -43728058.21 0.0088 0.0050
 Saturn -124434-06-10 21:08 J -43727934.78 -43727934.62 -43727934.45 0.0259 0.0164
 Jupiter -124434-09-06 02:25 J -43727847.58 -43727847.40 -43727847.23 0.0512 0.0273
 Neptune -124434-09-20 15:37 J -43727833.04 -43727832.85 -43727832.65 0.0088 0.0042
 Saturn -124433-01-25 19:56 J -43727705.83 -43727705.67 -43727705.50 0.0259 0.0168
 Neptune -124433-05-03 04:35 J -43727607.51 -43727607.31 -43727607.10 0.0088 0.0035
 Saturn -124433-09-10 19:42 J -43727476.84 -43727476.68 -43727476.51 0.0259 0.0169
 Neptune -124433-12-14 17:32 J -43727381.97 -43727381.77 -43727381.56 0.0088 0.0028
 Saturn -124432-04-27 20:25 J -43727247.81 -43727247.65 -43727247.48 0.0259 0.0168
 Neptune -124432-07-28 06:15 J -43727156.44 -43727156.24 -43727156.02 0.0088 0.0021

Saturn -124432-12-12 22:06 J -43727018.74 -43727018.58 -43727018.40 0.0260 0.0166
 Neptune -124431-03-10 19:13 J -43726930.92 -43726930.70 -43726930.48 0.0088 0.0013
 Saturn -124431-07-30 01:13 J -43726789.61 -43726789.45 -43726789.27 0.0261 0.0161
 Neptune -124431-10-22 08:11 J -43726705.38 -43726705.16 -43726704.94 0.0088 0.0006
 Saturn -124430-03-16 06:01 J -43726560.43 -43726560.25 -43726560.07 0.0262 0.0153
 Neptune -124430-06-04 20:54 J -43726479.85 -43726479.63 -43726479.41 0.0088 0.0002
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 Jupiter -124429-11-13 03:37 J -43725952.53 -43725952.35 -43725952.16 0.0518 0.0193
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 Saturn -124427-05-06 08:11 J -43725413.37 -43725413.16 -43725412.94 0.0272 0.0083
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Jupiter -124423-09-16 09:23 J -43723819.17 -43723819.11 -43723819.04 0.0506 0.0475
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 Uranus -124422-03-23 19:42 J -43723630.71 -43723630.68 -43723630.65 0.0146 0.0144
 Jupiter -124422-05-11 20:54 J -43723581.83 -43723581.63 -43723581.43 0.0511 0.0111
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 Jupiter -124416-03-12 13:27 J -43721450.12 -43721449.94 -43721449.76 0.0514 0.0223
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 Saturn -124416-09-05 12:30 J -43721273.15 -43721272.98 -43721272.80 0.0299 0.0149
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Uranus -124415-09-02 06:59 J -43720911.24 -43720911.21 -43720911.14 0.0141 0.0138
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 Mars -124413-05-14 03:37 J -43720291.47 -43720291.35 -43720291.23 0.1864 0.1337
 Saturn -124413-10-27 02:25 J -43720125.60 -43720125.40 -43720125.20 0.0286 0.0039
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 Saturn -124412-06-13 08:25 J -43719896.35 -43719896.15 -43719895.94 0.0283 0.0016
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 Saturn -124406-09-20 05:18 J -43717606.45 -43717606.28 -43717606.10 0.0260 0.0150
 Jupiter -124405-03-24 01:13 J -43717420.47 -43717420.45 -43717420.43 0.0520 0.0515
 Saturn -124405-05-06 03:23 J -43717377.52 -43717377.36 -43717377.18 0.0259 0.0157
 Jupiter -124405-11-15 12:59 J -43717184.15 -43717183.96 -43717183.76 0.0515 0.0063
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 Saturn -124403-03-24 00:15 J -43716690.65 -43716690.49 -43716690.32 0.0259 0.0165
 Saturn -124403-11-08 00:59 J -43716461.63 -43716461.46 -43716461.29 0.0259 0.0164

Saturn -124402-06-25 02:54 J -43716232.54 -43716232.38 -43716232.20 0.0260 0.0162
 Saturn -124401-02-09 06:01 J -43716003.41 -43716003.25 -43716003.06 0.0260 0.0157
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 Saturn -124400-05-12 17:18 J -43715544.96 -43715544.78 -43715544.59 0.0263 0.0139
 Saturn -124400-12-28 01:27 J -43715315.63 -43715315.44 -43715315.24 0.0265 0.0127
 Saturn -124399-08-14 11:32 J -43715086.21 -43715086.02 -43715085.81 0.0267 0.0114
 Jupiter -124399-09-19 08:54 J -43715050.32 -43715050.13 -43715049.94 0.0508 0.0213
 Saturn -124398-03-31 23:32 J -43714856.72 -43714856.52 -43714856.30 0.0269 0.0098
 Jupiter -124398-05-14 19:27 J -43714812.82 -43714812.69 -43714812.55 0.0513 0.0379
 Saturn -124398-11-16 13:42 J -43714627.13 -43714626.93 -43714626.71 0.0272 0.0079
 Earth -124397-01-05 00:01 J -43714577.65 -43714577.50 -43714577.35 0.2711 0.1054
 Moon -124397-01-05 04:35 J -43714577.46 -43714577.31 -43714577.17 0.2717 0.0918 *
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 Saturn -124395-05-23 18:44 J -43713707.94 -43713707.72 -43713707.50 0.0284 0.0013
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 Saturn -124394-08-26 20:11 J -43713247.87 -43713247.66 -43713247.45 0.0290 0.0065
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 Saturn -124393-11-29 02:39 J -43712787.58 -43712787.39 -43712787.19 0.0295 0.0114
 Jupiter -124392-03-15 01:56 J -43712681.48 -43712681.42 -43712681.35 0.0512 0.0478
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 Saturn -124391-03-04 12:01 J -43712327.18 -43712327.00 -43712326.82 0.0300 0.0154
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 Saturn -124389-09-10 02:39 J -43711406.55 -43711406.39 -43711406.23 0.0304 0.0187
 Saturn -124388-04-28 03:23 J -43711176.52 -43711176.36 -43711176.19 0.0303 0.0183
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Jupiter -124387-05-25 01:42 J -43710784.56 -43710784.43 -43710784.28 0.0506 0.0375
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 Jupiter -124386-01-17 12:44 J -43710547.16 -43710546.97 -43710546.78 0.0511 0.0215
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 Saturn -124380-06-27 20:11 J -43708193.86 -43708193.66 -43708193.45 0.0270 0.0072
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 Mars -124379-03-11 06:15 J -43707937.42 -43707937.24 -43707937.07 0.1862 0.0401
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 Mars -124378-02-19 03:51 J -43707592.50 -43707592.34 -43707592.19 0.1649 0.0664
 Uranus -124378-03-19 11:32 J -43707564.04 -43707564.02 -43707563.99 0.0133 0.0131
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 Mars -124377-12-19 05:47 J -43706923.43 -43706923.26 -43706923.09 0.1653 0.0208
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 Mars -124375-10-19 04:35 J -43706254.44 -43706254.31 -43706254.19 0.1659 0.1114
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 Uranus -124371-08-22 23:32 J -43704850.67 -43704850.52 -43704850.34 0.0137 0.0082
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 Uranus -124370-11-18 08:25 J -43704398.24 -43704398.15 -43704398.04 0.0138 0.0120
 Jupiter -124370-11-30 14:54 J -43704386.00 -43704385.88 -43704385.76 0.0520 0.0415
 Saturn -124369-02-24 13:42 J -43704300.13 -43704299.93 -43704299.73 0.0267 0.0112
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Saturn -124367-08-31 02:54 J -43703381.60 -43703381.38 -43703381.16 0.0278 0.0034
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 Saturn -124083-01-18 08:11 J -43599875.34 -43599875.16 -43599874.96 0.0265 0.0110
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 Mars -124083-06-06 22:06 J -43599735.71 -43599735.58 -43599735.44 0.1650 0.0991
 Saturn -124083-09-04 06:01 J -43599646.43 -43599646.25 -43599646.05 0.0263 0.0120
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 Saturn -124082-04-21 03:51 J -43599417.52 -43599417.34 -43599417.15 0.0261 0.0128
 Mars -124082-04-24 02:54 J -43599414.54 -43599414.38 -43599414.23 0.1852 0.0915
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 Saturn -124082-12-06 01:27 J -43599188.62 -43599188.44 -43599188.25 0.0260 0.0135
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 Mars -124081-04-05 23:32 J -43599066.69 -43599066.52 -43599066.35 0.1654 0.0119
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 Uranus -124081-09-14 04:49 J -43598905.49 -43598905.30 -43598905.09 0.0142 0.0068
 Saturn -124080-03-07 21:08 J -43598730.79 -43598730.62 -43598730.43 0.0259 0.0143
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 Jupiter -124079-08-07 14:54 J -43598212.97 -43598212.88 -43598212.79 0.0505 0.0456
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Saturn -124075-03-14 15:08 J -43596898.07 -43596897.87 -43596897.67 0.0264 0.0107
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Saturn -124047-06-23 05:47 J -43586570.44 -43586570.26 -43586570.05 0.0261 0.0124
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 Uranus -124039-03-16 02:54 J -43583747.57 -43583747.38 -43583747.18 0.0134 0.0050
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 Uranus -124039-10-28 06:01 J -43583521.45 -43583521.25 -43583521.05 0.0135 0.0032
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Jupiter -124037-10-09 08:25 J -43582809.29 -43582809.15 -43582809.00 0.0514 0.0347
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 Saturn -124034-09-10 06:15 J -43581743.41 -43581743.24 -43581743.06 0.0303 0.0150
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 Saturn -124032-07-30 17:18 J -43581053.97 -43581053.78 -43581053.59 0.0298 0.0104
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Saturn -124025-06-25 12:44 J -43578532.16 -43578531.97 -43578531.77 0.0267 0.0099
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Earth -124017-06-29 13:13 J -43575606.01 -43575605.95 -43575605.89 0.2629 0.2422 *
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 Neptune -124015-12-26 17:47 J -43574695.92 -43574695.76 -43574695.57 0.0089 0.0054
 Saturn -124014-02-23 05:47 J -43574637.47 -43574637.26 -43574637.04 0.0271 0.0057
 Neptune -124014-08-09 07:13 J -43574470.34 -43574470.20 -43574470.02 0.0089 0.0061
 Saturn -124014-10-10 20:54 J -43574407.85 -43574407.63 -43574407.41 0.0273 0.0038
 Mars -124014-12-02 09:51 J -43574355.24 -43574355.09 -43574354.94 0.1662 0.0826
 Jupiter -124013-02-18 10:06 J -43574277.28 -43574277.08 -43574276.88 0.0517 0.0026
 Neptune -124013-03-21 20:54 J -43574244.76 -43574244.63 -43574244.48 0.0089 0.0068
 Saturn -124013-05-27 13:42 J -43574178.15 -43574177.93 -43574177.71 0.0276 0.0019
 Neptune -124013-11-02 10:35 J -43574019.17 -43574019.06 -43574018.93 0.0089 0.0075
 Saturn -124012-01-12 08:39 J -43573948.36 -43573948.14 -43573947.92 0.0279 0.0003
 Neptune -124012-06-16 00:30 J -43573793.56 -43573793.48 -43573793.40 0.0089 0.0082
 Saturn -124012-08-30 05:32 J -43573718.48 -43573718.27 -43573718.05 0.0282 0.0024
 Saturn -124011-04-17 04:20 J -43573488.53 -43573488.32 -43573488.10 0.0285 0.0045
 Saturn -124011-12-03 04:49 J -43573258.51 -43573258.30 -43573258.09 0.0289 0.0066
 Saturn -124010-07-21 06:30 J -43573028.43 -43573028.23 -43573028.02 0.0292 0.0087
 Pluto -124010-10-11 05:18 J -43572946.43 -43572946.28 -43572946.10 0.0079 0.0049
 Saturn -124009-03-07 09:37 J -43572798.30 -43572798.10 -43572797.90 0.0294 0.0106
 Pluto -124009-05-23 13:56 J -43572721.12 -43572720.92 -43572720.71 0.0079 0.0020
 Moon -124009-06-27 05:03 J -43572686.45 -43572686.29 -43572686.13 0.2628 0.0415

Earth -124009-06-27 07:42 J -43572686.33 -43572686.18 -43572686.02 0.2633 0.0471 *
 Saturn -124009-10-23 13:27 J -43572568.13 -43572567.94 -43572567.74 0.0297 0.0124
 Saturn -124008-06-10 17:47 J -43572337.94 -43572337.76 -43572337.57 0.0299 0.0138
 Jupiter -124008-12-21 23:32 J -43572143.70 -43572143.52 -43572143.33 0.0507 0.0252
 Saturn -124007-01-26 22:06 J -43572107.76 -43572107.58 -43572107.39 0.0301 0.0149
 Jupiter -124007-08-16 11:18 J -43571906.17 -43571906.03 -43571905.87 0.0512 0.0353
 Saturn -124007-09-14 02:11 J -43571877.58 -43571877.41 -43571877.23 0.0302 0.0157
 Saturn -124006-05-02 05:32 J -43571647.44 -43571647.27 -43571647.08 0.0303 0.0160
 Saturn -124006-12-18 08:11 J -43571417.33 -43571417.16 -43571416.98 0.0304 0.0159
 Saturn -124005-08-04 09:08 J -43571187.29 -43571187.12 -43571186.94 0.0303 0.0154
 Saturn -124004-03-22 08:25 J -43570957.33 -43570957.15 -43570956.97 0.0303 0.0145
 Saturn -124004-11-07 05:47 J -43570727.44 -43570727.26 -43570727.07 0.0301 0.0133
 Saturn -124003-06-25 01:27 J -43570497.63 -43570497.44 -43570497.25 0.0300 0.0117
 Saturn -124002-02-09 18:59 J -43570267.90 -43570267.71 -43570267.52 0.0297 0.0099
 Uranus -124002-05-28 06:59 J -43570160.22 -43570160.21 -43570160.19 0.0146 0.0145
 Saturn -124002-09-27 10:06 J -43570038.27 -43570038.08 -43570037.88 0.0295 0.0080
 Jupiter -124002-10-24 10:35 J -43570011.26 -43570011.06 -43570010.87 0.0517 0.0137
 Uranus -124001-01-09 23:03 J -43569933.66 -43569933.54 -43569933.41 0.0145 0.0120
 Saturn -124001-05-13 23:18 J -43569808.73 -43569808.53 -43569808.33 0.0292 0.0059
 Jupiter -124001-06-16 21:37 J -43569774.69 -43569774.60 -43569774.50 0.0512 0.0450
 Uranus -124001-08-23 15:08 J -43569707.04 -43569706.87 -43569706.70 0.0145 0.0094
 Saturn -124001-12-29 10:20 J -43569579.27 -43569579.07 -43569578.87 0.0289 0.0038

124TH MILLENNIUM BCE

This is a list of transits of Venus in the 124th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	-124000-04-07 06:44 J	-43569480.42	-43569480.22	-43569480.02	0.0145	0.0069		
Saturn	-124000-08-15 19:27 J	-43569349.89	-43569349.69	-43569349.49	0.0286	0.0017		
Uranus	-124000-11-19 21:51 J	-43569253.79	-43569253.59	-43569253.36	0.0144	0.0045		
Saturn	-123999-04-02 02:39 J	-43569120.59	-43569120.39	-43569120.19	0.0283	0.0003		
Uranus	-123999-07-04 13:27 J	-43569027.16	-43569026.94	-43569026.71	0.0144	0.0019		
Saturn	-123999-11-17 07:56 J	-43568891.37	-43568891.17	-43568890.96	0.0280	0.0024		
Uranus	-123998-02-16 04:49 J	-43568800.53	-43568800.30	-43568800.07	0.0143	0.0007		
Saturn	-123998-07-04 11:47 J	-43568662.21	-43568662.01	-43568661.81	0.0277	0.0042		
Uranus	-123998-09-30 19:27 J	-43568573.90	-43568573.69	-43568573.46	0.0143	0.0032		
Saturn	-123997-02-18 14:11 J	-43568433.11	-43568432.91	-43568432.71	0.0275	0.0059		
Uranus	-123997-05-14 10:06 J	-43568347.29	-43568347.08	-43568346.87	0.0143	0.0056		
Saturn	-123997-10-04 15:08 J	-43568204.06	-43568203.87	-43568203.66	0.0272	0.0075		
Uranus	-123997-12-27 00:01 J	-43568120.67	-43568120.50	-43568120.29	0.0142	0.0081		
Saturn	-123996-05-21 15:23 J	-43567975.06	-43567974.86	-43567974.66	0.0269	0.0089		
Uranus	-123996-08-10 14:39 J	-43567894.04	-43567893.89	-43567893.74	0.0142	0.0103		
Jupiter	-123996-08-26 15:37 J	-43567877.96	-43567877.85	-43567877.72	0.0506	0.0416		
Saturn	-123995-01-05 14:39 J	-43567746.09	-43567745.89	-43567745.70	0.0267	0.0102		
Uranus	-123995-03-25 04:06 J	-43567667.42	-43567667.33	-43567667.22	0.0141	0.0126		
Jupiter	-123995-04-21 04:35 J	-43567640.50	-43567640.31	-43567640.11	0.0511	0.0188		
Saturn	-123995-08-22 13:13 J	-43567517.14	-43567516.95	-43567516.76	0.0265	0.0113		
Saturn	-123994-04-08 11:32 J	-43567288.21	-43567288.02	-43567287.83	0.0263	0.0122		
Saturn	-123994-11-23 09:23 J	-43567059.29	-43567059.11	-43567058.92	0.0262	0.0129		
Saturn	-123993-07-09 06:59 J	-43566830.38	-43566830.21	-43566830.02	0.0261	0.0136		
Saturn	-123992-02-23 05:03 J	-43566601.46	-43566601.29	-43566601.10	0.0260	0.0140		
Saturn	-123992-10-10 03:23 J	-43566372.53	-43566372.36	-43566372.17	0.0259	0.0142		

Saturn -123991-05-27 02:54 J -43566143.56 -43566143.38 -43566143.20 0.0259 0.0142
 Saturn -123990-01-11 02:39 J -43565914.57 -43565914.39 -43565914.21 0.0259 0.0141
 Jupiter -123990-06-29 10:49 J -43565745.20 -43565745.05 -43565744.88 0.0519 0.0301
 Saturn -123990-08-28 03:08 J -43565685.55 -43565685.37 -43565685.18 0.0259 0.0138
 Jupiter -123989-02-20 21:51 J -43565508.75 -43565508.59 -43565508.42 0.0514 0.0291
 Saturn -123989-04-13 04:49 J -43565456.48 -43565456.30 -43565456.11 0.0259 0.0133
 Saturn -123989-11-28 07:42 J -43565227.36 -43565227.18 -43565226.98 0.0260 0.0127
 Saturn -123988-07-15 12:15 J -43564998.18 -43564997.99 -43564997.79 0.0261 0.0119
 Saturn -123987-03-01 18:15 J -43564768.94 -43564768.74 -43564768.54 0.0263 0.0109
 Saturn -123987-10-17 01:42 J -43564539.63 -43564539.43 -43564539.22 0.0264 0.0097
 Mars -123986-04-23 20:54 J -43564350.74 -43564350.63 -43564350.53 0.1862 0.1484
 Saturn -123986-06-03 11:03 J -43564310.25 -43564310.04 -43564309.83 0.0266 0.0083
 Saturn -123985-01-18 22:20 J -43564080.79 -43564080.57 -43564080.36 0.0268 0.0068
 Mars -123985-04-02 02:54 J -43564006.47 -43564006.38 -43564006.29 0.1649 0.1377
 Saturn -123985-09-04 11:32 J -43563851.24 -43563851.02 -43563850.81 0.0271 0.0052
 Mars -123984-02-18 03:08 J -43563684.54 -43563684.37 -43563684.19 0.1855 0.0249
 Saturn -123984-04-22 02:25 J -43563621.61 -43563621.40 -43563621.18 0.0273 0.0034
 Saturn -123984-12-07 19:42 J -43563391.90 -43563391.68 -43563391.46 0.0276 0.0014
 Jupiter -123984-12-24 22:20 J -43563374.78 -43563374.57 -43563374.36 0.0509 0.0022
 Mars -123983-01-31 05:18 J -43563337.44 -43563337.28 -43563337.12 0.1653 0.0524
 Saturn -123983-07-25 14:54 J -43563162.10 -43563161.88 -43563161.66 0.0279 0.0008
 Mars -123983-12-16 17:47 J -43563017.78 -43563017.76 -43563017.73 0.1844 0.1827
 Saturn -123982-03-12 11:47 J -43562932.22 -43562932.01 -43562931.79 0.0282 0.0028
 Saturn -123982-10-28 10:49 J -43562702.27 -43562702.05 -43562701.84 0.0285 0.0049
 Mars -123982-12-01 05:03 J -43562668.46 -43562668.29 -43562668.12 0.1658 0.0376
 Saturn -123981-06-14 11:18 J -43562472.24 -43562472.03 -43562471.82 0.0289 0.0070
 Saturn -123980-01-30 12:59 J -43562242.16 -43562241.96 -43562241.75 0.0292 0.0091
 Saturn -123980-09-17 16:06 J -43562012.03 -43562011.83 -43562011.63 0.0295 0.0109
 Mars -123980-09-30 01:13 J -43561999.56 -43561999.45 -43561999.35 0.1666 0.1318
 Saturn -123979-05-05 19:56 J -43561781.86 -43561781.67 -43561781.48 0.0297 0.0126

Saturn -123979-12-22 00:01 J -43561551.68 -43561551.50 -43561551.31 0.0299 0.0141
 Jupiter -123978-03-04 10:06 J -43561479.16 -43561479.08 -43561478.99 0.0520 0.0465
 Saturn -123978-08-09 04:20 J -43561321.50 -43561321.32 -43561321.14 0.0301 0.0151
 Jupiter -123978-10-26 21:08 J -43561242.81 -43561242.62 -43561242.43 0.0515 0.0127
 Saturn -123977-03-26 08:25 J -43561091.33 -43561091.15 -43561090.98 0.0303 0.0158
 Saturn -123977-11-11 11:47 J -43560861.19 -43560861.01 -43560860.84 0.0304 0.0161
 Saturn -123976-06-29 13:42 J -43560631.10 -43560630.93 -43560630.75 0.0304 0.0160
 Saturn -123975-02-14 14:39 J -43560401.06 -43560400.89 -43560400.71 0.0304 0.0154
 Saturn -123975-10-02 13:42 J -43560171.10 -43560170.93 -43560170.74 0.0303 0.0145
 Saturn -123974-05-20 11:03 J -43559941.22 -43559941.04 -43559940.85 0.0302 0.0132
 Saturn -123973-01-05 06:30 J -43559711.41 -43559711.23 -43559711.04 0.0300 0.0116
 Saturn -123973-08-21 23:47 J -43559481.70 -43559481.51 -43559481.32 0.0298 0.0098
 Saturn -123972-04-08 14:39 J -43559252.08 -43559251.89 -43559251.69 0.0295 0.0078
 Jupiter -123972-08-29 15:51 J -43559109.04 -43559108.84 -43559108.64 0.0508 0.0146
 Saturn -123972-11-24 03:37 J -43559022.55 -43559022.35 -43559022.15 0.0292 0.0057
 Jupiter -123971-04-24 03:37 J -43558871.44 -43558871.35 -43558871.27 0.0513 0.0459
 Saturn -123971-07-11 14:25 J -43558793.11 -43558792.90 -43558792.70 0.0289 0.0036
 Saturn -123970-02-25 23:18 J -43558563.74 -43558563.53 -43558563.33 0.0286 0.0015
 Saturn -123970-10-13 06:01 J -43558334.45 -43558334.25 -43558334.04 0.0283 0.0008
 Saturn -123969-05-29 11:18 J -43558105.24 -43558105.03 -43558104.83 0.0280 0.0026
 Saturn -123968-01-13 14:39 J -43557876.09 -43557875.89 -43557875.68 0.0277 0.0044
 Saturn -123968-08-30 17:03 J -43557646.99 -43557646.79 -43557646.59 0.0274 0.0060
 Saturn -123967-04-16 18:15 J -43557417.94 -43557417.74 -43557417.54 0.0271 0.0076
 Saturn -123967-12-01 18:01 J -43557188.94 -43557188.75 -43557188.54 0.0269 0.0090
 Jupiter -123966-07-01 21:23 J -43556976.81 -43556976.61 -43556976.42 0.0517 0.0038
 Saturn -123966-07-18 17:18 J -43556959.97 -43556959.78 -43556959.58 0.0267 0.0102
 Saturn -123965-03-03 15:51 J -43556731.03 -43556730.84 -43556730.64 0.0265 0.0112
 Saturn -123965-10-18 13:56 J -43556502.10 -43556501.92 -43556501.72 0.0263 0.0121
 Saturn -123964-06-04 12:01 J -43556273.18 -43556273.00 -43556272.81 0.0261 0.0128
 Saturn -123963-01-19 10:06 J -43556044.26 -43556044.08 -43556043.89 0.0260 0.0133

Saturn -123963-09-05 08:11 J -43555815.34 -43555815.16 -43555814.97 0.0259 0.0137
 Saturn -123962-04-22 06:59 J -43555586.39 -43555586.21 -43555586.03 0.0259 0.0139
 Saturn -123962-12-07 06:01 J -43555357.43 -43555357.25 -43555357.07 0.0258 0.0140
 Saturn -123961-07-23 05:47 J -43555128.44 -43555128.26 -43555128.07 0.0258 0.0139
 Saturn -123960-03-09 06:30 J -43554899.41 -43554899.23 -43554899.04 0.0259 0.0136
 Jupiter -123960-05-04 08:11 J -43554843.32 -43554843.16 -43554842.99 0.0506 0.0313
 Saturn -123960-10-24 08:25 J -43554670.34 -43554670.15 -43554669.96 0.0259 0.0131
 Jupiter -123960-12-27 19:56 J -43554605.84 -43554605.67 -43554605.50 0.0511 0.0292
 Saturn -123959-06-10 11:32 J -43554441.20 -43554441.02 -43554440.82 0.0260 0.0125
 Saturn -123958-01-25 16:20 J -43554212.02 -43554211.82 -43554211.63 0.0261 0.0117
 Uranus -123958-05-24 02:39 J -43554093.40 -43554093.39 -43554093.35 0.0133 0.0132
 Saturn -123958-09-11 22:06 J -43553982.78 -43553982.58 -43553982.37 0.0263 0.0107
 Uranus -123957-01-05 05:18 J -43553867.38 -43553867.28 -43553867.17 0.0133 0.0115
 Saturn -123957-04-28 05:32 J -43553753.47 -43553753.27 -43553753.05 0.0265 0.0096
 Uranus -123957-08-18 07:56 J -43553641.31 -43553641.17 -43553641.03 0.0134 0.0097
 Saturn -123957-12-13 15:08 J -43553524.08 -43553523.87 -43553523.66 0.0267 0.0082
 Uranus -123956-04-01 10:20 J -43553415.23 -43553415.07 -43553414.89 0.0134 0.0079
 Saturn -123956-07-31 02:39 J -43553294.60 -43553294.39 -43553294.17 0.0269 0.0067
 Uranus -123956-11-13 12:59 J -43553189.13 -43553188.96 -43553188.76 0.0134 0.0062
 Saturn -123955-03-17 15:51 J -43553065.05 -43553064.84 -43553064.62 0.0271 0.0050
 Uranus -123955-06-27 16:06 J -43552963.02 -43552962.83 -43552962.62 0.0135 0.0043
 Saturn -123955-11-02 07:13 J -43552835.42 -43552835.20 -43552834.98 0.0274 0.0032
 Uranus -123954-02-08 19:27 J -43552736.89 -43552736.69 -43552736.48 0.0135 0.0024
 Jupiter -123954-03-06 22:20 J -43552710.75 -43552710.57 -43552710.39 0.0519 0.0200
 Saturn -123954-06-20 00:15 J -43552605.71 -43552605.49 -43552605.27 0.0277 0.0013
 Uranus -123954-09-22 22:35 J -43552510.76 -43552510.56 -43552510.35 0.0135 0.0005
 Jupiter -123954-10-29 10:06 J -43552474.21 -43552474.08 -43552473.95 0.0514 0.0392
 Saturn -123953-02-04 19:27 J -43552375.91 -43552375.69 -43552375.47 0.0280 0.0010
 Uranus -123953-05-06 01:56 J -43552284.63 -43552284.42 -43552284.21 0.0136 0.0015
 Saturn -123953-09-21 16:49 J -43552146.02 -43552145.80 -43552145.58 0.0283 0.0030

Uranus -123953-12-18 05:32 J -43552058.47 -43552058.27 -43552058.07 0.0136 0.0034
 Mars -123952-02-18 00:44 J -43551996.64 -43551996.47 -43551996.30 0.1859 0.0554
 Saturn -123952-05-09 15:37 J -43551916.06 -43551915.85 -43551915.63 0.0286 0.0051
 Uranus -123952-08-01 09:08 J -43551832.31 -43551832.12 -43551831.92 0.0136 0.0054
 Saturn -123952-12-25 16:06 J -43551686.04 -43551685.83 -43551685.62 0.0289 0.0072
 Mars -123951-01-29 22:35 J -43551650.70 -43551650.56 -43551650.42 0.1651 0.0947
 Uranus -123951-03-15 12:59 J -43551606.13 -43551605.96 -43551605.77 0.0137 0.0074
 Saturn -123951-08-12 18:01 J -43551455.95 -43551455.75 -43551455.55 0.0292 0.0092
 Uranus -123951-10-27 17:03 J -43551379.93 -43551379.79 -43551379.63 0.0137 0.0093
 Mars -123951-12-16 11:47 J -43551330.15 -43551330.01 -43551329.87 0.1849 0.1110
 Saturn -123950-03-30 20:54 J -43551225.82 -43551225.63 -43551225.43 0.0295 0.0110
 Uranus -123950-06-10 21:37 J -43551153.72 -43551153.60 -43551153.48 0.0137 0.0113
 Saturn -123950-11-16 00:44 J -43550995.66 -43550995.47 -43550995.27 0.0297 0.0126
 Mars -123950-11-29 23:47 J -43550981.69 -43550981.51 -43550981.34 0.1656 0.0078
 Uranus -123949-01-23 01:56 J -43550927.46 -43550927.42 -43550927.36 0.0138 0.0133
 Saturn -123949-07-03 04:49 J -43550765.48 -43550765.30 -43550765.10 0.0299 0.0140
 Jupiter -123948-01-07 01:13 J -43550577.52 -43550577.45 -43550577.38 0.0505 0.0475
 Saturn -123948-02-18 09:08 J -43550535.30 -43550535.12 -43550534.94 0.0301 0.0149
 Jupiter -123948-09-01 13:42 J -43550340.13 -43550339.93 -43550339.73 0.0510 0.0125
 Mars -123948-09-28 21:08 J -43550312.76 -43550312.62 -43550312.47 0.1663 0.0859
 Saturn -123948-10-06 12:59 J -43550305.13 -43550304.96 -43550304.78 0.0302 0.0155
 Saturn -123947-05-24 16:06 J -43550075.00 -43550074.83 -43550074.65 0.0303 0.0157
 Saturn -123946-01-09 18:15 J -43549844.91 -43549844.74 -43549844.56 0.0303 0.0155
 Saturn -123946-08-27 18:44 J -43549614.89 -43549614.72 -43549614.54 0.0303 0.0149
 Saturn -123945-04-13 17:32 J -43549384.94 -43549384.77 -43549384.58 0.0302 0.0140
 Neptune -123945-10-12 20:25 J -43549202.71 -43549202.65 -43549202.56 0.0089 0.0083
 Saturn -123945-11-29 14:39 J -43549155.07 -43549154.89 -43549154.70 0.0301 0.0126
 Neptune -123944-05-26 09:51 J -43548977.19 -43548977.09 -43548976.97 0.0089 0.0076
 Saturn -123944-07-17 09:37 J -43548925.28 -43548925.10 -43548924.91 0.0299 0.0110
 Neptune -123943-01-06 23:03 J -43548751.67 -43548751.54 -43548751.39 0.0089 0.0069

Saturn -123943-03-04 02:39 J -43548695.58 -43548695.39 -43548695.20 0.0297 0.0092
 Neptune -123943-08-20 12:15 J -43548526.14 -43548525.99 -43548525.82 0.0089 0.0062
 Saturn -123943-10-19 17:18 J -43548465.97 -43548465.78 -43548465.58 0.0294 0.0073
 Jupiter -123943-11-09 23:03 J -43548444.68 -43548444.54 -43548444.39 0.0519 0.0361
 Neptune -123942-04-03 01:27 J -43548300.61 -43548300.44 -43548300.26 0.0089 0.0055
 Saturn -123942-06-06 06:01 J -43548236.44 -43548236.25 -43548236.04 0.0292 0.0053
 Jupiter -123942-07-04 10:06 J -43548208.26 -43548208.08 -43548207.90 0.0514 0.0232
 Neptune -123942-11-14 14:39 J -43548075.07 -43548074.89 -43548074.70 0.0089 0.0048
 Saturn -123941-01-21 16:49 J -43548007.00 -43548006.80 -43548006.60 0.0289 0.0032
 Neptune -123941-06-27 03:37 J -43547849.54 -43547849.35 -43547849.15 0.0088 0.0041
 Saturn -123941-09-07 01:27 J -43547777.64 -43547777.44 -43547777.23 0.0286 0.0013
 Neptune -123940-02-07 16:35 J -43547624.01 -43547623.81 -43547623.60 0.0088 0.0034
 Saturn -123940-04-24 08:25 J -43547548.35 -43547548.15 -43547547.95 0.0283 0.0009
 Neptune -123940-09-21 05:32 J -43547398.47 -43547398.27 -43547398.05 0.0088 0.0027
 Saturn -123940-12-09 13:27 J -43547319.14 -43547318.94 -43547318.73 0.0280 0.0028
 Neptune -123939-05-04 18:30 J -43547172.93 -43547172.73 -43547172.50 0.0088 0.0020
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 Neptune -123939-12-16 07:27 J -43546947.40 -43546947.19 -43546946.96 0.0088 0.0013
 Saturn -123938-03-12 19:27 J -43546860.89 -43546860.69 -43546860.48 0.0274 0.0063
 Neptune -123938-07-29 20:25 J -43546721.87 -43546721.65 -43546721.43 0.0088 0.0005
 Saturn -123938-10-27 20:39 J -43546631.84 -43546631.64 -43546631.44 0.0272 0.0078
 Neptune -123937-03-11 09:08 J -43546496.33 -43546496.12 -43546495.89 0.0088 0.0003
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 Jupiter -123936-05-07 05:47 J -43546074.47 -43546074.26 -43546074.05 0.0509 0.0044
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 Neptune -123935-01-16 23:32 J -43545819.73 -43545819.52 -43545819.31 0.0088 0.0023
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Neptune -123935-08-30 12:01 J -43545594.20 -43545594.00 -43545593.79 0.0088 0.0030
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 Neptune -123934-04-13 00:44 J -43545368.66 -43545368.47 -43545368.27 0.0088 0.0037
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 Neptune -123933-07-07 01:42 J -43544917.59 -43544917.43 -43544917.24 0.0088 0.0051
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 Saturn -123932-06-18 09:23 J -43544571.28 -43544571.11 -43544570.92 0.0259 0.0140
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 Neptune -123931-12-26 03:23 J -43544015.45 -43544015.36 -43544015.24 0.0088 0.0077
 Jupiter -123930-03-09 10:20 J -43543942.27 -43543942.07 -43543941.87 0.0516 0.0069
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 Neptune -123930-08-08 15:51 J -43543789.90 -43543789.84 -43543789.77 0.0088 0.0084
 Saturn -123930-12-21 16:06 J -43543655.02 -43543654.83 -43543654.63 0.0260 0.0122
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 Saturn -123925-12-30 07:13 J -43541819.42 -43541819.20 -43541818.98 0.0277 0.0008
 Jupiter -123924-01-09 23:03 J -43541808.73 -43541808.54 -43541808.35 0.0508 0.0211
 Saturn -123924-08-17 02:39 J -43541589.61 -43541589.39 -43541589.17 0.0280 0.0013
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Saturn -123923-04-04 00:01 J -43541359.71 -43541359.50 -43541359.28 0.0283 0.0033
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 Mars -123920-02-17 23:32 J -43540308.64 -43540308.52 -43540308.40 0.1861 0.1368
 Saturn -123920-05-28 08:25 J -43540209.33 -43540209.15 -43540208.95 0.0297 0.0128
 Earth -123919-01-07 07:27 J -43539985.24 -43539985.19 -43539985.13 0.2709 0.2536
 Saturn -123919-01-13 12:30 J -43539979.16 -43539978.98 -43539978.79 0.0300 0.0141
 Mars -123919-01-28 15:37 J -43539963.94 -43539963.85 -43539963.75 0.1650 0.1359
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 Jupiter -123919-11-12 09:08 J -43539676.31 -43539676.12 -43539675.92 0.0517 0.0099
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 Saturn -123918-04-18 20:11 J -43539518.83 -43539518.66 -43539518.47 0.0303 0.0157
 Jupiter -123918-07-06 20:39 J -43539439.70 -43539439.64 -43539439.58 0.0512 0.0489
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 Mars -123918-11-28 17:47 J -43539294.92 -43539294.76 -43539294.60 0.1654 0.0501
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 Uranus -123917-12-05 10:06 J -43538922.26 -43538922.08 -43538921.89 0.0145 0.0083
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 Saturn -123915-06-11 21:08 J -43538368.80 -43538368.62 -43538368.43 0.0301 0.0126
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 Uranus -123914-05-30 23:32 J -43538015.74 -43538015.52 -43538015.29 0.0143 0.0019

Mars -123914-07-28 12:15 J -43537957.09 -43537956.99 -43537956.89 0.1668 0.1355
 Saturn -123914-09-14 08:54 J -43537909.32 -43537909.13 -43537908.94 0.0297 0.0091
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 Saturn -123913-04-30 23:18 J -43537679.72 -43537679.53 -43537679.33 0.0295 0.0071
 Uranus -123913-08-26 04:35 J -43537562.49 -43537562.31 -43537562.09 0.0142 0.0069
 Jupiter -123913-09-14 16:35 J -43537542.95 -43537542.81 -43537542.67 0.0506 0.0375
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 Uranus -123912-04-09 18:59 J -43537335.87 -43537335.71 -43537335.53 0.0142 0.0092
 Jupiter -123912-05-10 05:03 J -43537305.48 -43537305.29 -43537305.10 0.0511 0.0231
 Saturn -123912-08-02 22:20 J -43537220.78 -43537220.57 -43537220.37 0.0289 0.0030
 Uranus -123912-11-22 08:39 J -43537109.25 -43537109.14 -43537108.99 0.0142 0.0116
 Earth -123911-01-04 18:44 J -43537065.86 -43537065.72 -43537065.59 0.2705 0.1507
 Moon -123911-01-04 23:47 J -43537065.65 -43537065.51 -43537065.36 0.2708 0.1096 *
 Saturn -123911-03-20 06:44 J -43536991.42 -43536991.22 -43536991.01 0.0286 0.0009
 Uranus -123911-07-06 22:20 J -43536882.60 -43536882.57 -43536882.51 0.0141 0.0139
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 Saturn -123910-06-21 18:15 J -43536532.94 -43536532.74 -43536532.53 0.0279 0.0030
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 Saturn -123904-02-10 17:18 J -43534471.96 -43534471.78 -43534471.59 0.0260 0.0133
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Saturn -123903-12-29 14:11 J -43533785.09 -43533784.91 -43533784.72 0.0259 0.0137
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 Jupiter -123895-03-23 09:37 J -43531144.21 -43531144.10 -43531143.99 0.0520 0.0428
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Saturn -123887-09-19 07:56 J -43528042.35 -43528042.17 -43528041.99 0.0303 0.0144
 Mars -123887-12-16 04:35 J -43527954.48 -43527954.31 -43527954.13 0.1858 0.0447
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 Saturn -123874-04-09 19:56 J -43523456.85 -43523456.67 -43523456.48 0.0260 0.0137
 Uranus -123874-09-04 15:23 J -43523308.92 -43523308.86 -43523308.79 0.0133 0.0126

Saturn -123874-11-24 18:44 J -43523227.89 -43523227.72 -43523227.53 0.0259 0.0139
 Uranus -123873-04-17 17:18 J -43523082.88 -43523082.78 -43523082.64 0.0133 0.0109
 Saturn -123873-07-10 18:15 J -43522998.91 -43522998.74 -43522998.54 0.0259 0.0139
 Uranus -123873-11-29 20:25 J -43522856.80 -43522856.65 -43522856.50 0.0134 0.0090
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 Uranus -123872-07-13 22:49 J -43522630.71 -43522630.55 -43522630.36 0.0134 0.0072
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 Uranus -123871-02-25 01:42 J -43522404.61 -43522404.43 -43522404.23 0.0134 0.0054
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 Jupiter -123871-11-17 08:54 J -43522139.23 -43522139.13 -43522139.02 0.0513 0.0432
 Saturn -123870-01-13 02:54 J -43522082.58 -43522082.38 -43522082.18 0.0261 0.0118
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 Saturn -123870-08-30 07:56 J -43521853.36 -43521853.17 -43521852.96 0.0262 0.0110
 Uranus -123869-01-04 11:03 J -43521726.25 -43521726.04 -43521725.83 0.0135 0.0004
 Saturn -123869-04-15 14:54 J -43521624.08 -43521623.88 -43521623.67 0.0264 0.0098
 Uranus -123869-08-17 14:25 J -43521500.10 -43521499.90 -43521499.69 0.0136 0.0023
 Saturn -123869-11-30 23:32 J -43521394.73 -43521394.52 -43521394.31 0.0265 0.0086
 Uranus -123868-03-31 17:47 J -43521273.95 -43521273.76 -43521273.55 0.0136 0.0043
 Saturn -123868-07-18 10:06 J -43521165.30 -43521165.08 -43521164.87 0.0267 0.0072
 Uranus -123868-11-12 21:37 J -43521047.78 -43521047.60 -43521047.41 0.0136 0.0063
 Saturn -123867-03-04 22:06 J -43520935.79 -43520935.58 -43520935.36 0.0270 0.0057
 Uranus -123867-06-27 01:13 J -43520821.60 -43520821.45 -43520821.27 0.0137 0.0083
 Saturn -123867-10-20 12:15 J -43520706.21 -43520705.99 -43520705.77 0.0272 0.0039
 Uranus -123866-02-08 05:47 J -43520595.39 -43520595.26 -43520595.12 0.0137 0.0102
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 Uranus -123866-09-22 09:51 J -43520369.17 -43520369.09 -43520368.98 0.0137 0.0123
 Saturn -123865-01-22 22:06 J -43520246.80 -43520246.58 -43520246.36 0.0277 0.0004
 Jupiter -123865-01-26 22:20 J -43520242.67 -43520242.57 -43520242.47 0.0506 0.0442

Saturn -123865-09-08 18:01 J -43520016.96 -43520016.75 -43520016.53 0.0280 0.0020
 Jupiter -123865-09-20 11:32 J -43520005.22 -43520005.02 -43520004.82 0.0510 0.0165
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 Neptune -123863-11-22 09:51 J -43519212.12 -43519212.09 -43519212.04 0.0089 0.0087
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Saturn -123855-02-19 05:03 J -43516566.48 -43516566.29 -43516566.09 0.0299 0.0103
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 Neptune -123851-08-16 16:20 J -43514926.99 -43514926.82 -43514926.61 0.0089 0.0047
 Pluto -123851-10-23 12:30 J -43514859.10 -43514858.98 -43514858.83 0.0066 0.0053
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 Pluto -123849-01-16 23:47 J -43514408.70 -43514408.51 -43514408.30 0.0066 0.0034
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 Saturn -123847-04-18 07:27 J -43513586.37 -43513586.19 -43513585.99 0.0264 0.0115
 Saturn -123847-12-03 06:01 J -43513357.44 -43513357.25 -43513357.06 0.0263 0.0122
 Saturn -123846-07-20 04:20 J -43513128.51 -43513128.32 -43513128.13 0.0261 0.0128
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 Saturn -123841-07-25 09:23 J -43511296.31 -43511296.11 -43511295.91 0.0261 0.0115
 Jupiter -123841-09-23 08:39 J -43511236.25 -43511236.14 -43511236.03 0.0512 0.0435
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 Jupiter -123836-12-01 06:59 J -43509341.40 -43509341.21 -43509341.01 0.0518 0.0063

Saturn -123835-03-22 02:11 J -43509230.63 -43509230.41 -43509230.19 0.0281 0.0021
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 Saturn -123834-06-24 23:18 J -43508770.74 -43508770.53 -43508770.31 0.0287 0.0063
 Uranus -123834-12-21 18:44 J -43508590.83 -43508590.72 -43508590.60 0.0145 0.0125
 Saturn -123833-02-10 00:15 J -43508540.69 -43508540.49 -43508540.28 0.0290 0.0082
 Uranus -123833-08-04 10:35 J -43508364.21 -43508364.06 -43508363.88 0.0145 0.0099
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 Jupiter -123829-05-29 01:27 J -43506970.62 -43506970.44 -43506970.26 0.0511 0.0267
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 Saturn -123828-10-11 23:32 J -43506469.69 -43506469.52 -43506469.33 0.0303 0.0140
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Saturn -123825-12-03 16:49 J -43505321.00 -43505320.80 -43505320.60 0.0293 0.0059
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 Saturn -123823-03-07 14:11 J -43504862.11 -43504861.91 -43504861.70 0.0287 0.0020
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Saturn -123794-01-31 12:44 J -43494305.17 -43494304.97 -43494304.77 0.0290 0.0037
 Jupiter -123794-06-12 03:23 J -43494173.55 -43494173.36 -43494173.18 0.0507 0.0242
 Saturn -123794-09-17 22:06 J -43494075.78 -43494075.58 -43494075.38 0.0287 0.0017
 Jupiter -123793-02-04 15:37 J -43493935.99 -43493935.85 -43493935.71 0.0512 0.0370
 Saturn -123793-05-04 05:32 J -43493846.48 -43493846.27 -43493846.07 0.0284 0.0003
 Saturn -123793-12-19 11:18 J -43493617.24 -43493617.03 -43493616.83 0.0281 0.0022
 Saturn -123792-08-05 15:23 J -43493388.06 -43493387.86 -43493387.65 0.0278 0.0039
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 Saturn -123791-11-06 19:56 J -43492929.87 -43492929.67 -43492929.47 0.0273 0.0071
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 Uranus -123790-12-17 03:23 J -43492524.44 -43492524.36 -43492524.25 0.0133 0.0119
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Uranus -123785-04-16 23:18 J -43490941.73 -43490941.53 -43490941.32 0.0135 0.0013
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 Neptune -123774-03-19 19:56 J -43486952.89 -43486952.67 -43486952.45 0.0088 0.0012
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Saturn -123769-11-03 18:30 J -43484896.90 -43484896.73 -43484896.54 0.0302 0.0135
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 Moon -123766-06-28 15:23 J -43483930.01 -43483929.86 -43483929.71 0.2641 0.0090 *
 Neptune -123766-11-10 04:35 J -43483795.35 -43483795.31 -43483795.22 0.0088 0.0084
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 Saturn -123730-03-02 07:56 J -43470899.36 -43470899.17 -43470898.97 0.0267 0.0098
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 Jupiter -123729-04-30 01:42 J -43470474.57 -43470474.43 -43470474.29 0.0520 0.0368
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Saturn -123698-03-16 07:56 J -43459197.35 -43459197.17 -43459196.98 0.0261 0.0127
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Neptune -123690-10-17 10:49 J -43456060.26 -43456060.05 -43456059.83 0.0089 0.0011
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 Neptune -123687-11-18 04:49 J -43454932.47 -43454932.30 -43454932.09 0.0089 0.0047
 Saturn -123686-02-20 02:25 J -43454838.60 -43454838.40 -43454838.18 0.0289 0.0074
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Saturn -123612-04-16 08:10 J -43427754.35 -43427754.16 -43427753.96 0.0266 0.0098
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 Jupiter -123521-08-10 11:32 J -43394400.23 -43394400.02 -43394399.82 0.0509 0.0127
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 Mars -123519-07-09 05:46 J -43393702.31 -43393702.26 -43393702.20 0.1677 0.1593
 Saturn -123519-11-24 13:27 J -43393564.13 -43393563.94 -43393563.74 0.0259 0.0116
 Pluto -123518-04-27 00:01 J -43393410.63 -43393410.50 -43393410.36 0.0079 0.0059
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Uranus -123492-06-14 01:56 J -43383865.57 -43383865.42 -43383865.25 0.0142 0.0100
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Uranus -123447-08-31 14:54 J -43367351.02 -43367350.88 -43367350.71 0.0137 0.0092
 Neptune -123446-02-09 07:42 J -43367189.39 -43367189.18 -43367188.96 0.0088 0.0018
 Saturn -123446-03-03 13:42 J -43367167.11 -43367166.93 -43367166.73 0.0303 0.0129
 Uranus -123446-04-14 19:13 J -43367124.81 -43367124.70 -43367124.57 0.0137 0.0113
 Neptune -123446-09-22 20:54 J -43366963.85 -43366963.63 -43366963.41 0.0088 0.0011
 Saturn -123446-10-19 15:51 J -43366937.02 -43366936.84 -43366936.65 0.0304 0.0125
 Uranus -123446-11-26 23:32 J -43366898.55 -43366898.52 -43366898.45 0.0138 0.0134
 Neptune -123445-05-05 09:51 J -43366738.31 -43366738.09 -43366737.87 0.0088 0.0004
 Saturn -123445-06-05 16:20 J -43366707.00 -43366706.82 -43366706.62 0.0303 0.0120
 Neptune -123445-12-16 22:49 J -43366512.77 -43366512.55 -43366512.32 0.0088 0.0004
 Saturn -123444-01-21 15:37 J -43366477.04 -43366476.85 -43366476.66 0.0302 0.0110
 Jupiter -123444-03-04 02:54 J -43366435.57 -43366435.38 -43366435.20 0.0519 0.0170
 Neptune -123444-07-30 11:32 J -43366287.23 -43366287.02 -43366286.79 0.0088 0.0011
 Saturn -123444-09-08 12:30 J -43366247.17 -43366246.98 -43366246.79 0.0301 0.0098
 Jupiter -123444-10-26 13:42 J -43366199.03 -43366198.93 -43366198.82 0.0514 0.0439
 Neptune -123443-03-13 00:15 J -43366061.69 -43366061.49 -43366061.26 0.0088 0.0018
 Saturn -123443-04-26 07:27 J -43366017.39 -43366017.19 -43366017.00 0.0299 0.0084
 Neptune -123443-10-24 13:13 J -43365836.15 -43365835.95 -43365835.73 0.0088 0.0024
 Saturn -123443-12-12 00:01 J -43365787.69 -43365787.50 -43365787.30 0.0297 0.0069
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 Neptune -123441-01-18 14:39 J -43365385.08 -43365384.89 -43365384.68 0.0088 0.0038
 Saturn -123441-03-15 03:08 J -43365328.57 -43365328.37 -43365328.17 0.0291 0.0036
 Neptune -123441-08-31 03:08 J -43365159.55 -43365159.37 -43365159.17 0.0088 0.0045
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 Saturn -123440-06-16 21:22 J -43364869.81 -43364869.61 -43364869.40 0.0285 0.0004
 Neptune -123440-11-25 04:20 J -43364708.47 -43364708.32 -43364708.14 0.0088 0.0058
 Saturn -123439-02-01 03:51 J -43364640.55 -43364640.34 -43364640.14 0.0282 0.0015
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Saturn -123439-09-18 08:25 J -43364411.36 -43364411.15 -43364410.95 0.0279 0.0030
 Jupiter -123438-01-05 00:30 J -43364302.57 -43364302.48 -43364302.38 0.0505 0.0446
 Neptune -123438-02-19 05:18 J -43364257.39 -43364257.28 -43364257.14 0.0088 0.0072
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 Neptune -123438-10-02 18:15 J -43364031.84 -43364031.74 -43364031.64 0.0088 0.0078
 Saturn -123438-12-20 12:58 J -43363953.16 -43363952.96 -43363952.75 0.0273 0.0056
 Neptune -123437-05-15 06:15 J -43363806.28 -43363806.24 -43363806.16 0.0088 0.0085
 Saturn -123437-08-05 13:27 J -43363724.14 -43363723.94 -43363723.73 0.0271 0.0068
 Saturn -123436-03-22 13:13 J -43363495.15 -43363494.95 -43363494.75 0.0268 0.0078
 Saturn -123436-11-06 12:01 J -43363266.20 -43363266.00 -43363265.80 0.0266 0.0088
 Saturn -123435-06-23 10:06 J -43363037.27 -43363037.08 -43363036.88 0.0264 0.0095
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 Saturn -123434-09-24 05:46 J -43362579.45 -43362579.26 -43362579.06 0.0261 0.0106
 Earth -123433-01-08 02:10 J -43362473.51 -43362473.41 -43362473.31 0.2702 0.2097
 Moon -123433-01-08 06:44 J -43362473.31 -43362473.22 -43362473.14 0.2707 0.2232 *
 Saturn -123433-05-10 03:37 J -43362350.53 -43362350.35 -43362350.14 0.0260 0.0110
 Jupiter -123433-11-07 03:08 J -43362169.52 -43362169.37 -43362169.22 0.0520 0.0340
 Saturn -123433-12-25 01:56 J -43362121.61 -43362121.42 -43362121.22 0.0259 0.0111
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 Saturn -123431-11-11 23:32 J -43361434.72 -43361434.52 -43361434.32 0.0258 0.0109
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 Saturn -123428-05-16 10:34 J -43360518.26 -43360518.06 -43360517.85 0.0262 0.0088
 Mars -123428-11-24 22:06 J -43360325.70 -43360325.58 -43360325.47 0.1857 0.1414
 Saturn -123428-12-31 17:03 J -43360289.00 -43360288.79 -43360288.58 0.0263 0.0079
 Saturn -123427-08-18 01:13 J -43360059.66 -43360059.45 -43360059.23 0.0265 0.0069

Mars -123427-11-05 22:49 J -43359979.57 -43359979.55 -43359979.52 0.1652 0.1626
 Saturn -123426-04-04 11:18 J -43359830.25 -43359830.03 -43359829.81 0.0267 0.0057
 Jupiter -123426-05-05 07:13 J -43359799.41 -43359799.20 -43359798.99 0.0508 0.0011
 Mars -123426-09-22 09:08 J -43359659.29 -43359659.12 -43359658.94 0.1848 0.0282
 Saturn -123426-11-19 23:18 J -43359600.75 -43359600.53 -43359600.31 0.0269 0.0044
 Earth -123425-01-05 13:13 J -43359554.06 -43359553.95 -43359553.83 0.2697 0.1934
 Moon -123425-01-05 18:30 J -43359553.87 -43359553.73 -43359553.59 0.2701 0.1204 *
 Saturn -123425-07-06 13:13 J -43359371.17 -43359370.95 -43359370.73 0.0272 0.0030
 Mars -123425-09-04 23:46 J -43359310.66 -43359310.51 -43359310.36 0.1657 0.0759
 Saturn -123424-02-21 05:18 J -43359141.50 -43359141.28 -43359141.06 0.0275 0.0016
 Mars -123424-07-20 04:06 J -43358992.34 -43358992.33 -43358992.31 0.1834 0.1828
 Saturn -123424-10-08 23:18 J -43358911.75 -43358911.53 -43358911.31 0.0278 0.0003
 Saturn -123423-05-26 19:13 J -43358681.92 -43358681.70 -43358681.48 0.0281 0.0017
 Mars -123423-07-05 21:37 J -43358641.78 -43358641.60 -43358641.43 0.1664 0.0171
 Saturn -123422-01-11 16:49 J -43358452.01 -43358451.80 -43358451.58 0.0284 0.0035
 Saturn -123422-08-29 16:34 J -43358222.02 -43358221.81 -43358221.60 0.0287 0.0051
 Saturn -123421-04-15 17:46 J -43357991.97 -43357991.76 -43357991.55 0.0290 0.0068
 Mars -123421-05-04 15:08 J -43357973.00 -43357972.87 -43357972.75 0.1674 0.1149
 Jupiter -123421-07-13 02:39 J -43357903.42 -43357903.39 -43357903.34 0.0522 0.0509
 Saturn -123421-12-01 19:56 J -43357761.87 -43357761.67 -43357761.46 0.0293 0.0083
 Jupiter -123420-03-06 13:56 J -43357667.11 -43357666.92 -43357666.72 0.0517 0.0106
 Saturn -123420-07-19 23:18 J -43357531.73 -43357531.53 -43357531.32 0.0296 0.0097
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 Saturn -123419-10-23 07:56 J -43357071.36 -43357071.17 -43357070.98 0.0300 0.0118
 Saturn -123418-06-10 12:15 J -43356841.18 -43356840.99 -43356840.80 0.0302 0.0125
 Saturn -123417-01-26 16:06 J -43356611.01 -43356610.83 -43356610.64 0.0303 0.0128
 Saturn -123417-09-12 19:13 J -43356380.89 -43356380.70 -43356380.51 0.0304 0.0128
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 Saturn -123415-08-03 20:25 J -43355690.84 -43355690.65 -43355690.46 0.0302 0.0108

Jupiter -123414-01-07 23:46 J -43355533.71 -43355533.51 -43355533.31 0.0506 0.0171
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 Saturn -123414-11-06 11:46 J -43355231.20 -43355231.01 -43355230.81 0.0299 0.0082
 Uranus -123413-02-25 06:58 J -43355120.32 -43355120.21 -43355120.09 0.0145 0.0124
 Saturn -123413-06-23 04:20 J -43355001.52 -43355001.32 -43355001.12 0.0296 0.0066
 Uranus -123413-10-08 22:34 J -43354893.71 -43354893.56 -43354893.38 0.0145 0.0097
 Saturn -123412-02-07 18:44 J -43354771.92 -43354771.72 -43354771.52 0.0294 0.0050
 Uranus -123412-05-23 14:10 J -43354667.10 -43354666.91 -43354666.70 0.0145 0.0070
 Saturn -123412-09-25 06:44 J -43354542.42 -43354542.22 -43354542.01 0.0291 0.0034
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 Saturn -123411-05-12 16:49 J -43354313.00 -43354312.80 -43354312.60 0.0288 0.0016
 Uranus -123411-08-19 21:08 J -43354213.84 -43354213.62 -43354213.39 0.0144 0.0016
 Saturn -123411-12-28 00:44 J -43354083.67 -43354083.47 -43354083.26 0.0284 0.0004
 Uranus -123410-04-03 12:15 J -43353987.22 -43353986.99 -43353986.77 0.0143 0.0011
 Saturn -123410-08-14 06:58 J -43353854.42 -43353854.21 -43353854.01 0.0281 0.0016
 Uranus -123410-11-16 02:54 J -43353760.60 -43353760.38 -43353760.16 0.0143 0.0037
 Saturn -123409-03-30 11:32 J -43353625.23 -43353625.02 -43353624.82 0.0278 0.0031
 Uranus -123409-06-29 17:18 J -43353533.98 -43353533.78 -43353533.57 0.0143 0.0063
 Jupiter -123409-11-09 15:08 J -43353401.06 -43353400.87 -43353400.67 0.0519 0.0065
 Saturn -123409-11-14 14:25 J -43353396.11 -43353395.90 -43353395.70 0.0275 0.0045
 Uranus -123408-02-11 07:27 J -43353307.36 -43353307.19 -43353307.01 0.0142 0.0089
 Saturn -123408-07-01 15:37 J -43353167.05 -43353166.85 -43353166.64 0.0272 0.0057
 Uranus -123408-09-25 21:08 J -43353080.74 -43353080.62 -43353080.47 0.0142 0.0114
 Saturn -123407-02-15 16:06 J -43352938.03 -43352937.83 -43352937.63 0.0270 0.0068
 Uranus -123407-05-10 10:49 J -43352854.08 -43352854.05 -43352853.99 0.0141 0.0138
 Saturn -123407-10-02 15:22 J -43352709.06 -43352708.86 -43352708.66 0.0268 0.0078
 Saturn -123406-05-19 14:10 J -43352480.10 -43352479.91 -43352479.71 0.0265 0.0087
 Saturn -123405-01-03 12:30 J -43352251.18 -43352250.98 -43352250.78 0.0264 0.0094
 Saturn -123405-08-19 10:06 J -43352022.27 -43352022.08 -43352021.87 0.0262 0.0100

Saturn -123404-04-05 07:56 J -43351793.36 -43351793.17 -43351792.97 0.0261 0.0105
 Saturn -123404-11-20 05:46 J -43351564.45 -43351564.26 -43351564.06 0.0260 0.0108
 Saturn -123403-07-07 03:51 J -43351335.54 -43351335.34 -43351335.14 0.0259 0.0110
 Jupiter -123403-09-12 15:51 J -43351267.99 -43351267.84 -43351267.68 0.0505 0.0344
 Saturn -123402-02-21 02:10 J -43351106.60 -43351106.41 -43351106.21 0.0258 0.0111
 Jupiter -123402-05-08 04:20 J -43351030.49 -43351030.32 -43351030.15 0.0510 0.0279
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 Saturn -123392-03-10 18:44 J -43347435.93 -43347435.72 -43347435.50 0.0287 0.0051
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 Saturn -123392-10-26 20:10 J -43347205.87 -43347205.66 -43347205.45 0.0290 0.0067
 Saturn -123391-06-13 22:34 J -43346975.76 -43346975.56 -43346975.35 0.0293 0.0082
 Mars -123391-07-04 16:49 J -43346954.97 -43346954.80 -43346954.63 0.1661 0.0289

Jupiter -123390-01-10 22:20 J -43346764.77 -43346764.57 -43346764.36 0.0509 0.0107
 Saturn -123390-01-30 02:10 J -43346745.62 -43346745.41 -43346745.21 0.0296 0.0095
 Saturn -123390-09-17 06:15 J -43346515.44 -43346515.24 -43346515.04 0.0298 0.0106
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 Saturn -123377-11-28 17:03 J -43341693.98 -43341693.79 -43341693.59 0.0266 0.0087
 Saturn -123376-07-15 15:08 J -43341465.06 -43341464.87 -43341464.67 0.0264 0.0094
 Saturn -123375-03-01 12:58 J -43341236.16 -43341235.96 -43341235.76 0.0262 0.0100

Saturn -123375-10-16 10:34 J -43341007.25 -43341007.06 -43341006.86 0.0261 0.0104
 Saturn -123374-06-02 08:25 J -43340778.34 -43340778.15 -43340777.95 0.0260 0.0107
 Saturn -123373-01-17 06:30 J -43340549.42 -43340549.23 -43340549.03 0.0259 0.0108
 Jupiter -123373-07-18 02:54 J -43340366.58 -43340366.38 -43340366.19 0.0517 0.0044
 Saturn -123373-09-02 05:03 J -43340320.48 -43340320.29 -43340320.09 0.0258 0.0108
 Saturn -123372-04-19 04:06 J -43340091.52 -43340091.33 -43340091.13 0.0258 0.0107
 Saturn -123372-12-04 04:06 J -43339862.53 -43339862.33 -43339862.13 0.0258 0.0105
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 Uranus -123369-02-20 16:49 J -43339053.87 -43339053.80 -43339053.69 0.0133 0.0120
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 Uranus -123369-10-03 19:42 J -43338827.82 -43338827.68 -43338827.54 0.0134 0.0100
 Neptune -123369-11-23 02:10 J -43338777.53 -43338777.41 -43338777.28 0.0089 0.0071
 Saturn -123368-01-22 21:51 J -43338716.80 -43338716.59 -43338716.37 0.0263 0.0073
 Uranus -123368-05-17 22:06 J -43338601.74 -43338601.58 -43338601.41 0.0134 0.0081
 Neptune -123368-07-06 14:10 J -43338552.03 -43338551.91 -43338551.74 0.0089 0.0065
 Saturn -123368-09-09 06:15 J -43338487.46 -43338487.24 -43338487.03 0.0265 0.0063
 Uranus -123368-12-30 00:58 J -43338375.64 -43338375.46 -43338375.27 0.0134 0.0062
 Neptune -123367-02-17 02:54 J -43338326.53 -43338326.38 -43338326.20 0.0089 0.0058
 Saturn -123367-04-26 16:06 J -43338258.04 -43338257.83 -43338257.61 0.0267 0.0052
 Jupiter -123367-05-21 09:51 J -43338233.27 -43338233.09 -43338232.90 0.0506 0.0232
 Uranus -123367-08-13 03:51 J -43338149.54 -43338149.34 -43338149.14 0.0135 0.0042
 Neptune -123367-09-30 15:37 J -43338101.02 -43338100.85 -43338100.66 0.0089 0.0051
 Saturn -123367-12-12 04:20 J -43338028.54 -43338028.32 -43338028.10 0.0270 0.0039
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 Uranus -123366-03-27 06:44 J -43337923.42 -43337923.22 -43337923.01 0.0135 0.0022
 Neptune -123366-05-14 04:34 J -43337875.50 -43337875.31 -43337875.12 0.0089 0.0044

Saturn -123366-07-29 18:30 J -43337798.95 -43337798.73 -43337798.51 0.0272 0.0025
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Neptune -123360-07-16 13:27 J -43335620.14 -43335619.94 -43335619.72 0.0089 0.0026
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 Mars -123355-03-02 01:27 J -43333930.56 -43333930.44 -43333930.32 0.1675 0.1192
 Saturn -123355-04-12 23:18 J -43333888.72 -43333888.53 -43333888.34 0.0301 0.0089
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Saturn -123353-10-17 12:15 J -43332970.19 -43332969.99 -43332969.79 0.0291 0.0027
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 Saturn -123342-06-16 05:18 J -43329076.48 -43329076.28 -43329076.08 0.0258 0.0103
 Saturn -123341-01-31 06:01 J -43328847.45 -43328847.25 -43328847.04 0.0259 0.0100
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 Saturn -123339-08-04 22:34 J -43327930.77 -43327930.56 -43327930.34 0.0263 0.0072
 Saturn -123338-03-22 06:44 J -43327701.43 -43327701.22 -43327701.00 0.0265 0.0062
 Jupiter -123338-08-02 05:18 J -43327568.36 -43327568.28 -43327568.18 0.0522 0.0466
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 Jupiter -123337-03-25 16:49 J -43327331.98 -43327331.80 -43327331.60 0.0517 0.0154

Saturn -123337-06-23 04:49 J -43327242.51 -43327242.30 -43327242.08 0.0270 0.0038
 Saturn -123336-02-07 18:58 J -43327012.93 -43327012.71 -43327012.49 0.0272 0.0024
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 Saturn -123334-08-15 23:32 J -43326093.73 -43326093.52 -43326093.30 0.0284 0.0038
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 Saturn -123331-02-21 06:58 J -43325173.41 -43325173.21 -43325173.01 0.0296 0.0094
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 Saturn -123330-05-27 15:37 J -43324713.04 -43324712.85 -43324712.65 0.0300 0.0113
 Uranus -123330-10-25 09:51 J -43324562.14 -43324562.09 -43324562.02 0.0145 0.0139
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 Uranus -123329-06-08 01:56 J -43324335.56 -43324335.42 -43324335.27 0.0145 0.0112
 Saturn -123329-08-29 23:46 J -43324252.70 -43324252.51 -43324252.32 0.0303 0.0119
 Uranus -123328-01-20 17:46 J -43324108.94 -43324108.76 -43324108.57 0.0145 0.0084
 Saturn -123328-04-17 02:54 J -43324022.57 -43324022.38 -43324022.19 0.0304 0.0118
 Mars -123328-07-19 07:56 J -43323929.34 -43323929.17 -43323928.99 0.1851 0.0389
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 Uranus -123327-04-19 00:30 J -43323655.69 -43323655.48 -43323655.25 0.0144 0.0031
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 Saturn -123327-07-21 05:03 J -43323562.48 -43323562.29 -43323562.10 0.0303 0.0106
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 Saturn -123298-06-15 07:56 J -43313006.36 -43313006.17 -43313005.98 0.0304 0.0114

Saturn -123297-01-31 08:10 J -43312776.34 -43312776.16 -43312775.96 0.0304 0.0106
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 Mars -123296-07-19 05:18 J -43312241.42 -43312241.28 -43312241.15 0.1855 0.1195
 Jupiter -123296-10-04 19:56 J -43312163.88 -43312163.67 -43312163.46 0.0508 0.0015
 Saturn -123296-12-20 21:37 J -43312086.79 -43312086.60 -43312086.40 0.0299 0.0069
 Mars -123295-06-30 23:18 J -43311894.57 -43311894.53 -43311894.48 0.1653 0.1585
 Saturn -123295-08-07 13:56 J -43311857.12 -43311856.92 -43311856.72 0.0296 0.0053
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 Mars -123294-05-16 18:01 J -43311574.92 -43311574.75 -43311574.58 0.1844 0.0484
 Saturn -123294-11-09 15:51 J -43311398.04 -43311397.84 -43311397.64 0.0290 0.0022
 Mars -123293-04-29 23:18 J -43311225.68 -43311225.53 -43311225.37 0.1659 0.0705
 Saturn -123293-06-26 01:42 J -43311168.64 -43311168.43 -43311168.23 0.0287 0.0008
 Saturn -123292-02-10 09:22 J -43310939.31 -43310939.11 -43310938.90 0.0284 0.0009
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 Neptune -123288-03-10 06:01 J -43309450.28 -43309450.25 -43309450.21 0.0089 0.0087
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Saturn -123286-05-20 15:22 J -43308649.06 -43308648.86 -43308648.67 0.0260 0.0099
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Neptune -123280-03-20 10:49 J -43306518.27 -43306518.05 -43306517.83 0.0088 0.0004
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 Earth -123280-06-28 22:20 J -43306417.72 -43306417.57 -43306417.42 0.2642 0.0670
 Moon -123280-06-29 00:01 J -43306417.64 -43306417.50 -43306417.36 0.2648 0.0910 *
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 Mars -123262-05-16 12:30 J -43299887.16 -43299886.98 -43299886.81 0.1849 0.0284
 Saturn -123262-11-24 20:39 J -43299694.84 -43299694.64 -43299694.43 0.0278 0.0039

Mars -123261-04-28 17:32 J -43299538.89 -43299538.77 -43299538.64 0.1656 0.1139
 Saturn -123261-07-10 23:32 J -43299465.72 -43299465.52 -43299465.32 0.0275 0.0051
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 Mars -123260-03-13 06:30 J -43299220.35 -43299220.23 -43299220.11 0.1836 0.1308
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Saturn -123236-01-12 00:15 J -43290514.69 -43290514.49 -43290514.29 0.0299 0.0063
 Jupiter -123236-06-15 12:30 J -43290360.11 -43290359.98 -43290359.84 0.0510 0.0384
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 Jupiter -123231-08-23 19:13 J -43288464.89 -43288464.70 -43288464.51 0.0519 0.0143
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 Jupiter -123230-04-17 06:15 J -43288228.31 -43288228.24 -43288228.16 0.0514 0.0474
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 Saturn -123228-03-10 22:20 J -43287534.77 -43287534.57 -43287534.37 0.0263 0.0090
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Saturn -123224-07-30 11:32 J -43285932.22 -43285932.02 -43285931.81 0.0258 0.0094
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 Neptune -123201-03-28 05:18 J -43277655.46 -43277655.28 -43277655.07 0.0089 0.0037
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 Saturn -123160-08-29 17:32 J -43262525.99 -43262525.77 -43262525.55 0.0270 0.0022
 Mars -123160-10-22 18:44 J -43262471.89 -43262471.72 -43262471.55 0.1669 0.0302
 Jupiter -123159-01-06 21:51 J -43262395.79 -43262395.59 -43262395.40 0.0518 0.0079
 Uranus -123159-03-30 17:03 J -43262313.00 -43262312.79 -43262312.56 0.0144 0.0036
 Saturn -123159-04-16 07:42 J -43262296.40 -43262296.18 -43262295.96 0.0273 0.0010
 Uranus -123159-11-12 08:39 J -43262086.37 -43262086.14 -43262085.92 0.0144 0.0008

Saturn -123159-12-02 00:01 J -43262066.72 -43262066.50 -43262066.28 0.0276 0.0005
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Saturn -123130-03-11 21:22 J -43251739.83 -43251739.61 -43251739.38 0.0270 0.0019
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 Neptune -123124-06-11 16:49 J -43249455.82 -43249455.80 -43249455.73 0.0089 0.0087
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 Saturn -123121-08-20 18:30 J -43248289.92 -43248289.73 -43248289.53 0.0304 0.0099
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Saturn -123120-04-07 18:15 J -43248059.94 -43248059.74 -43248059.55 0.0304 0.0090
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Jupiter -123106-03-23 12:30 J -43242962.16 -43242961.98 -43242961.80 0.0506 0.0261
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 Jupiter -123089-09-28 12:44 J -43236563.12 -43236562.97 -43236562.81 0.0520 0.0326
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 Saturn -123023-08-26 12:15 J -43212490.18 -43212489.99 -43212489.78 0.0267 0.0081
 Jupiter -123023-12-05 01:42 J -43212389.54 -43212389.43 -43212389.31 0.0511 0.0420
 Saturn -123022-04-12 11:32 J -43212261.22 -43212261.02 -43212260.81 0.0265 0.0085
 Saturn -123022-11-27 10:20 J -43212032.27 -43212032.07 -43212031.87 0.0263 0.0089
 Saturn -123021-07-13 08:39 J -43211803.34 -43211803.14 -43211802.94 0.0262 0.0091
 Saturn -123020-02-27 06:58 J -43211574.41 -43211574.21 -43211574.00 0.0260 0.0092
 Saturn -123020-10-14 05:32 J -43211345.47 -43211345.27 -43211345.06 0.0259 0.0092
 Saturn -123019-05-31 04:34 J -43211116.51 -43211116.31 -43211116.10 0.0259 0.0091

Saturn -123018-01-15 04:06 J -43210887.53 -43210887.33 -43210887.12 0.0259 0.0088
 Saturn -123018-09-01 04:06 J -43210658.53 -43210658.33 -43210658.12 0.0259 0.0085
 Jupiter -123017-02-12 13:13 J -43210494.14 -43210493.95 -43210493.76 0.0518 0.0110
 Saturn -123017-04-17 05:03 J -43210429.49 -43210429.29 -43210429.08 0.0259 0.0081
 Jupiter -123017-10-05 23:03 J -43210257.56 -43210257.54 -43210257.52 0.0513 0.0509
 Saturn -123017-12-02 07:13 J -43210200.41 -43210200.20 -43210199.99 0.0259 0.0075
 Saturn -123016-07-19 10:34 J -43209971.27 -43209971.06 -43209970.84 0.0260 0.0068
 Saturn -123015-03-05 15:22 J -43209742.08 -43209741.86 -43209741.65 0.0261 0.0061
 Saturn -123015-10-20 21:22 J -43209512.83 -43209512.61 -43209512.39 0.0263 0.0052
 Saturn -123014-06-07 05:03 J -43209283.51 -43209283.29 -43209283.07 0.0264 0.0043
 Saturn -123013-01-22 14:25 J -43209054.12 -43209053.90 -43209053.68 0.0266 0.0032
 Saturn -123013-09-08 01:42 J -43208824.65 -43208824.43 -43208824.21 0.0268 0.0021
 Saturn -123012-04-25 14:39 J -43208595.11 -43208594.89 -43208594.67 0.0271 0.0010
 Saturn -123012-12-11 05:32 J -43208365.49 -43208365.27 -43208365.05 0.0274 0.0004
 Jupiter -123012-12-15 04:49 J -43208361.42 -43208361.30 -43208361.16 0.0505 0.0393
 Saturn -123011-07-28 22:20 J -43208135.79 -43208135.57 -43208135.35 0.0276 0.0016
 Jupiter -123011-08-09 18:58 J -43208123.89 -43208123.71 -43208123.52 0.0510 0.0246
 Saturn -123010-03-15 17:03 J -43207906.00 -43207905.79 -43207905.57 0.0280 0.0030
 Saturn -123010-10-31 13:56 J -43207676.14 -43207675.92 -43207675.71 0.0283 0.0042
 Saturn -123009-06-17 12:15 J -43207446.20 -43207445.99 -43207445.78 0.0286 0.0055
 Saturn -123008-02-02 12:01 J -43207216.20 -43207216.00 -43207215.78 0.0289 0.0067
 Saturn -123008-09-20 13:27 J -43206986.14 -43206985.94 -43206985.73 0.0292 0.0078
 Saturn -123007-05-08 16:06 J -43206756.04 -43206755.83 -43206755.63 0.0295 0.0087
 Saturn -123007-12-24 19:13 J -43206525.90 -43206525.70 -43206525.50 0.0298 0.0095
 Saturn -123006-08-11 22:34 J -43206295.75 -43206295.56 -43206295.35 0.0300 0.0101
 Jupiter -123006-10-18 12:30 J -43206228.15 -43206227.98 -43206227.82 0.0520 0.0288
 Saturn -123005-03-29 02:25 J -43206065.60 -43206065.40 -43206065.20 0.0302 0.0104
 Jupiter -123005-06-10 22:20 J -43205991.72 -43205991.57 -43205991.42 0.0515 0.0339
 Saturn -123005-11-14 05:46 J -43205835.45 -43205835.26 -43205835.06 0.0303 0.0104
 Saturn -123004-07-02 08:39 J -43205605.34 -43205605.14 -43205604.95 0.0304 0.0102

Saturn	-123003-02-17 10:20 J	-43205375.26	-43205375.07	-43205374.88	0.0304	0.0097
Saturn	-123003-10-05 10:34 J	-43205145.25	-43205145.06	-43205144.86	0.0304	0.0090
Saturn	-123002-05-23 09:37 J	-43204915.30	-43204915.10	-43204914.91	0.0303	0.0080
Saturn	-123001-01-08 06:44 J	-43204685.42	-43204685.22	-43204685.02	0.0302	0.0069
Saturn	-123001-08-25 01:42 J	-43204455.63	-43204455.43	-43204455.23	0.0300	0.0056
Mars	-123001-11-03 17:18 J	-43204384.87	-43204384.78	-43204384.69	0.1853	0.1565

123RD MILLENNIUM BCE

This is a list of transits of Venus in the 123rd millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-123000-04-11 18:44 J	-43204225.92	-43204225.72	-43204225.52	0.0297	0.0042		
Saturn	-123000-11-27 09:51 J	-43203996.30	-43203996.09	-43203995.89	0.0295	0.0028		
Jupiter	-122999-04-14 12:30 J	-43203858.19	-43203857.98	-43203857.77	0.0508	0.0069		
Saturn	-122999-07-14 22:34 J	-43203766.76	-43203766.56	-43203766.35	0.0292	0.0015		
Mars	-122999-09-01 07:27 J	-43203718.37	-43203718.19	-43203718.02	0.1842	0.0120		
Saturn	-122998-03-01 09:37 J	-43203537.30	-43203537.10	-43203536.89	0.0289	0.0007		
Mars	-122998-08-16 17:18 J	-43203368.91	-43203368.78	-43203368.65	0.1660	0.1046		
Saturn	-122998-10-16 18:44 J	-43203307.93	-43203307.72	-43203307.52	0.0286	0.0015		
Saturn	-122997-06-02 01:42 J	-43203078.63	-43203078.43	-43203078.22	0.0283	0.0028		
Mars	-122997-06-29 05:03 J	-43203051.36	-43203051.29	-43203051.21	0.1828	0.1652		
Saturn	-122996-01-17 07:13 J	-43202849.40	-43202849.20	-43202849.00	0.0280	0.0039		

Mars -122996-06-15 13:56 J -43202700.09 -43202699.92 -43202699.75 0.1668 0.0105
 Saturn -122996-09-03 11:03 J -43202620.24 -43202620.04 -43202619.83 0.0277 0.0050
 Saturn -122995-04-20 13:56 J -43202391.12 -43202390.92 -43202390.71 0.0274 0.0059
 Saturn -122995-12-05 15:22 J -43202162.06 -43202161.86 -43202161.65 0.0271 0.0067
 Mars -122994-04-15 05:46 J -43202031.40 -43202031.26 -43202031.11 0.1678 0.0904
 Jupiter -122994-06-23 12:15 J -43201962.07 -43201961.99 -43201961.90 0.0521 0.0463
 Saturn -122994-07-22 15:51 J -43201933.04 -43201932.84 -43201932.63 0.0269 0.0074
 Jupiter -122993-02-14 22:34 J -43201725.75 -43201725.56 -43201725.38 0.0517 0.0167
 Saturn -122993-03-07 15:37 J -43201704.05 -43201703.85 -43201703.65 0.0266 0.0079
 Uranus -122993-04-30 15:37 J -43201649.96 -43201649.85 -43201649.73 0.0145 0.0123
 Saturn -122993-10-22 14:39 J -43201475.08 -43201474.89 -43201474.68 0.0264 0.0084
 Uranus -122993-12-13 07:13 J -43201423.35 -43201423.20 -43201423.01 0.0145 0.0095
 Saturn -122992-06-08 13:27 J -43201246.13 -43201245.94 -43201245.73 0.0263 0.0087
 Uranus -122992-07-27 23:18 J -43201196.72 -43201196.53 -43201196.32 0.0145 0.0067
 Saturn -122991-01-23 12:01 J -43201017.20 -43201017.00 -43201016.79 0.0261 0.0089
 Uranus -122991-03-11 15:08 J -43200970.09 -43200969.87 -43200969.65 0.0144 0.0038
 Saturn -122991-09-09 10:34 J -43200788.26 -43200788.06 -43200787.86 0.0260 0.0089
 Uranus -122991-10-24 06:30 J -43200743.45 -43200743.23 -43200743.00 0.0144 0.0010
 Saturn -122990-04-26 09:08 J -43200559.32 -43200559.12 -43200558.91 0.0259 0.0089
 Uranus -122990-06-07 21:37 J -43200516.82 -43200516.60 -43200516.37 0.0144 0.0018
 Saturn -122990-12-11 08:25 J -43200330.36 -43200330.15 -43200329.95 0.0259 0.0088
 Uranus -122989-01-20 12:30 J -43200290.19 -43200289.98 -43200289.76 0.0143 0.0045
 Saturn -122989-07-27 07:56 J -43200101.38 -43200101.17 -43200100.97 0.0258 0.0086
 Uranus -122989-09-03 03:22 J -43200063.56 -43200063.36 -43200063.16 0.0143 0.0072
 Saturn -122988-03-13 08:10 J -43199872.37 -43199872.16 -43199871.95 0.0258 0.0082
 Uranus -122988-04-17 17:46 J -43199836.92 -43199836.76 -43199836.60 0.0142 0.0099
 Saturn -122988-10-28 09:22 J -43199643.32 -43199643.11 -43199642.90 0.0259 0.0078
 Uranus -122988-11-30 07:27 J -43199610.28 -43199610.19 -43199610.07 0.0142 0.0125
 Jupiter -122988-12-18 04:34 J -43199592.52 -43199592.31 -43199592.11 0.0507 0.0110
 Saturn -122987-06-14 11:46 J -43199414.22 -43199414.01 -43199413.80 0.0259 0.0073

Saturn -122986-01-29 15:08 J -43199185.08 -43199184.87 -43199184.65 0.0260 0.0066
 Saturn -122986-09-15 19:56 J -43198955.89 -43198955.67 -43198955.46 0.0262 0.0059
 Saturn -122985-05-02 01:56 J -43198726.63 -43198726.42 -43198726.20 0.0263 0.0051
 Saturn -122985-12-17 09:51 J -43198497.31 -43198497.09 -43198496.87 0.0265 0.0041
 Saturn -122984-08-03 19:27 J -43198267.90 -43198267.69 -43198267.46 0.0267 0.0032
 Saturn -122983-03-21 06:58 J -43198038.43 -43198038.21 -43198037.99 0.0269 0.0020
 Saturn -122983-11-05 20:10 J -43197808.88 -43197808.66 -43197808.44 0.0272 0.0009
 Saturn -122982-06-23 11:03 J -43197579.26 -43197579.04 -43197578.82 0.0274 0.0007
 Jupiter -122982-10-20 23:32 J -43197459.72 -43197459.52 -43197459.33 0.0518 0.0013
 Saturn -122981-02-08 04:06 J -43197349.55 -43197349.33 -43197349.11 0.0277 0.0018
 Saturn -122981-09-24 23:18 J -43197119.75 -43197119.53 -43197119.31 0.0280 0.0031
 Saturn -122980-05-12 19:56 J -43196889.88 -43196889.67 -43196889.45 0.0283 0.0044
 Saturn -122980-12-28 18:30 J -43196659.94 -43196659.73 -43196659.52 0.0286 0.0056
 Saturn -122979-08-15 18:30 J -43196429.94 -43196429.73 -43196429.52 0.0289 0.0067
 Saturn -122978-04-02 19:42 J -43196199.88 -43196199.68 -43196199.47 0.0292 0.0078
 Saturn -122978-11-18 22:20 J -43195969.77 -43195969.57 -43195969.37 0.0295 0.0087
 Saturn -122977-07-06 01:27 J -43195739.64 -43195739.44 -43195739.24 0.0298 0.0094
 Saturn -122976-02-21 04:49 J -43195509.49 -43195509.30 -43195509.09 0.0300 0.0099
 Jupiter -122976-08-22 21:08 J -43195326.79 -43195326.62 -43195326.45 0.0506 0.0286
 Saturn -122976-10-09 08:39 J -43195279.34 -43195279.14 -43195278.94 0.0302 0.0101
 Jupiter -122975-04-17 10:34 J -43195089.21 -43195089.06 -43195088.91 0.0510 0.0353
 Saturn -122975-05-27 11:46 J -43195049.20 -43195049.01 -43195048.81 0.0303 0.0101
 Saturn -122974-01-12 14:39 J -43194819.09 -43194818.89 -43194818.70 0.0303 0.0098
 Saturn -122974-08-30 16:06 J -43194589.03 -43194588.83 -43194588.64 0.0304 0.0092
 Saturn -122973-04-16 16:06 J -43194359.02 -43194358.83 -43194358.63 0.0303 0.0085
 Saturn -122973-12-02 14:39 J -43194129.09 -43194128.89 -43194128.69 0.0302 0.0075
 Saturn -122972-07-20 11:18 J -43193899.22 -43193899.03 -43193898.83 0.0301 0.0064
 Saturn -122971-03-07 06:15 J -43193669.44 -43193669.24 -43193669.04 0.0299 0.0051
 Saturn -122971-10-22 22:49 J -43193439.75 -43193439.55 -43193439.35 0.0297 0.0038
 Saturn -122970-06-09 13:27 J -43193210.14 -43193209.94 -43193209.73 0.0294 0.0024

Jupiter -122970-06-26 00:44 J -43193193.65 -43193193.47 -43193193.28 0.0519 0.0178
 Saturn -122969-01-25 02:10 J -43192980.61 -43192980.41 -43192980.20 0.0291 0.0011
 Jupiter -122969-02-17 10:49 J -43192957.15 -43192957.05 -43192956.95 0.0514 0.0447
 Saturn -122969-09-10 12:58 J -43192751.16 -43192750.96 -43192750.76 0.0288 0.0004
 Saturn -122968-04-27 21:51 J -43192521.80 -43192521.59 -43192521.39 0.0285 0.0017
 Saturn -122968-12-13 04:49 J -43192292.50 -43192292.30 -43192292.09 0.0282 0.0029
 Saturn -122967-07-30 10:20 J -43192063.27 -43192063.07 -43192062.87 0.0279 0.0040
 Mars -122967-09-01 01:27 J -43192030.61 -43192030.44 -43192030.28 0.1847 0.0657
 Saturn -122966-03-16 14:25 J -43191834.10 -43191833.90 -43191833.70 0.0276 0.0050
 Mars -122966-08-15 11:46 J -43191682.09 -43191682.01 -43191681.94 0.1657 0.1478
 Saturn -122966-10-31 17:03 J -43191604.99 -43191604.79 -43191604.59 0.0274 0.0060
 Saturn -122965-06-16 18:30 J -43191375.93 -43191375.73 -43191375.53 0.0271 0.0068
 Mars -122965-06-28 19:56 J -43191363.82 -43191363.67 -43191363.52 0.1834 0.0954
 Saturn -122964-01-31 18:44 J -43191146.91 -43191146.72 -43191146.51 0.0269 0.0075
 Jupiter -122964-04-27 11:18 J -43191061.10 -43191061.03 -43191060.94 0.0505 0.0463
 Mars -122964-06-14 09:51 J -43191013.25 -43191013.09 -43191012.93 0.1664 0.0567
 Saturn -122964-09-17 18:44 J -43190917.92 -43190917.72 -43190917.52 0.0267 0.0080
 Jupiter -122964-12-21 01:27 J -43190823.63 -43190823.44 -43190823.24 0.0509 0.0175
 Saturn -122963-05-04 18:01 J -43190688.95 -43190688.75 -43190688.55 0.0265 0.0084
 Saturn -122963-12-19 16:49 J -43190460.00 -43190459.80 -43190459.59 0.0263 0.0088
 Mars -122962-04-14 03:37 J -43190344.52 -43190344.35 -43190344.18 0.1674 0.0413
 Saturn -122962-08-05 15:22 J -43190231.06 -43190230.86 -43190230.65 0.0262 0.0090
 Saturn -122961-03-21 13:56 J -43190002.12 -43190001.92 -43190001.71 0.0260 0.0090
 Saturn -122961-11-05 12:44 J -43189773.17 -43189772.97 -43189772.76 0.0260 0.0090
 Mars -122960-02-10 17:03 J -43189675.88 -43189675.79 -43189675.70 0.1685 0.1453
 Saturn -122960-06-22 12:15 J -43189544.20 -43189543.99 -43189543.79 0.0259 0.0088
 Neptune -122960-09-13 03:37 J -43189461.39 -43189461.35 -43189461.28 0.0089 0.0086
 Saturn -122959-02-06 11:46 J -43189315.21 -43189315.01 -43189314.80 0.0259 0.0086
 Neptune -122959-04-26 17:32 J -43189235.86 -43189235.77 -43189235.67 0.0089 0.0079
 Saturn -122959-09-23 12:30 J -43189086.19 -43189085.98 -43189085.77 0.0259 0.0082

Neptune -122959-12-08 07:13 J -43189010.33 -43189010.20 -43189010.07 0.0089 0.0072
 Jupiter -122958-03-01 01:42 J -43188927.57 -43188927.43 -43188927.29 0.0520 0.0352
 Saturn -122958-05-10 13:42 J -43188857.13 -43188856.93 -43188856.71 0.0259 0.0077
 Neptune -122958-07-21 20:10 J -43188784.79 -43188784.66 -43188784.49 0.0089 0.0066
 Jupiter -122958-10-23 11:32 J -43188691.19 -43188691.02 -43188690.86 0.0515 0.0278
 Saturn -122958-12-25 16:20 J -43188628.03 -43188627.82 -43188627.61 0.0260 0.0071
 Neptune -122957-03-03 09:37 J -43188559.25 -43188559.10 -43188558.91 0.0089 0.0059
 Saturn -122957-08-10 19:56 J -43188398.88 -43188398.67 -43188398.45 0.0261 0.0065
 Neptune -122957-10-14 23:18 J -43188333.70 -43188333.53 -43188333.34 0.0089 0.0052
 Saturn -122956-03-28 01:13 J -43188169.67 -43188169.45 -43188169.24 0.0262 0.0057
 Neptune -122956-05-28 12:44 J -43188108.15 -43188107.97 -43188107.77 0.0089 0.0045
 Saturn -122956-11-12 07:42 J -43187940.39 -43187940.18 -43187939.96 0.0263 0.0048
 Neptune -122955-01-09 01:56 J -43187882.61 -43187882.42 -43187882.21 0.0089 0.0038
 Saturn -122955-06-29 15:51 J -43187711.05 -43187710.84 -43187710.61 0.0265 0.0039
 Neptune -122955-08-22 15:08 J -43187657.06 -43187656.87 -43187656.65 0.0089 0.0031
 Saturn -122954-02-14 01:56 J -43187481.64 -43187481.42 -43187481.20 0.0267 0.0028
 Neptune -122954-04-05 04:34 J -43187431.52 -43187431.31 -43187431.09 0.0089 0.0024
 Saturn -122954-10-01 13:42 J -43187252.15 -43187251.93 -43187251.71 0.0269 0.0018
 Neptune -122954-11-16 18:01 J -43187205.97 -43187205.75 -43187205.53 0.0089 0.0017
 Saturn -122953-05-18 03:08 J -43187022.59 -43187022.37 -43187022.15 0.0272 0.0006
 Neptune -122953-06-29 07:13 J -43186980.42 -43186980.20 -43186979.98 0.0088 0.0010
 Saturn -122952-01-02 18:30 J -43186792.95 -43186792.73 -43186792.51 0.0274 0.0008
 Neptune -122952-02-09 20:10 J -43186754.88 -43186754.66 -43186754.44 0.0088 0.0003
 Saturn -122952-08-20 11:46 J -43186563.23 -43186563.01 -43186562.79 0.0277 0.0020
 Jupiter -122952-08-25 18:44 J -43186557.93 -43186557.72 -43186557.51 0.0508 0.0004
 Neptune -122952-09-23 09:22 J -43186529.33 -43186529.11 -43186528.89 0.0088 0.0004
 Saturn -122951-04-07 06:58 J -43186333.43 -43186333.21 -43186332.99 0.0280 0.0032
 Neptune -122951-05-06 22:20 J -43186303.78 -43186303.57 -43186303.34 0.0088 0.0011
 Saturn -122951-11-23 03:51 J -43186103.55 -43186103.34 -43186103.12 0.0283 0.0045
 Neptune -122951-12-18 11:18 J -43186078.23 -43186078.03 -43186077.80 0.0088 0.0019

Saturn -122950-07-11 02:39 J -43185873.61 -43185873.39 -43185873.18 0.0286 0.0057
 Neptune -122950-08-01 00:30 J -43185852.69 -43185852.48 -43185852.27 0.0088 0.0025
 Saturn -122949-02-26 02:39 J -43185643.60 -43185643.39 -43185643.18 0.0290 0.0068
 Neptune -122949-03-13 13:13 J -43185627.15 -43185626.95 -43185626.74 0.0088 0.0032
 Uranus -122949-04-26 05:46 J -43185583.34 -43185583.26 -43185583.15 0.0133 0.0118
 Saturn -122949-10-13 04:20 J -43185413.53 -43185413.32 -43185413.11 0.0293 0.0078
 Neptune -122949-10-25 02:10 J -43185401.60 -43185401.41 -43185401.20 0.0088 0.0039
 Uranus -122949-12-08 08:25 J -43185357.28 -43185357.15 -43185356.99 0.0134 0.0099
 Saturn -122948-05-31 06:44 J -43185183.42 -43185183.22 -43185183.02 0.0295 0.0087
 Neptune -122948-06-07 14:54 J -43185176.05 -43185175.88 -43185175.68 0.0088 0.0046
 Uranus -122948-07-22 11:32 J -43185131.19 -43185131.02 -43185130.85 0.0134 0.0078
 Earth -122947-01-07 20:54 J -43184961.76 -43184961.63 -43184961.50 0.2695 0.1688
 Moon -122947-01-08 00:15 J -43184961.60 -43184961.49 -43184961.38 0.2701 0.1818 *
 Saturn -122947-01-16 09:51 J -43184953.29 -43184953.09 -43184952.89 0.0298 0.0094
 Neptune -122947-01-19 03:37 J -43184950.51 -43184950.35 -43184950.16 0.0088 0.0052
 Uranus -122947-03-05 14:10 J -43184905.09 -43184904.91 -43184904.71 0.0134 0.0058
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 Mars -122736-12-18 03:22 J -43107549.53 -43107549.36 -43107549.19 0.1834 0.0511
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 Saturn -122664-05-30 21:22 J -43081452.82 -43081452.61 -43081452.40 0.0259 0.0066
 Saturn -122663-01-14 23:18 J -43081223.74 -43081223.53 -43081223.32 0.0260 0.0062
 Saturn -122663-09-01 02:25 J -43080994.62 -43080994.40 -43080994.19 0.0260 0.0057
 Saturn -122662-04-18 06:30 J -43080765.44 -43080765.23 -43080765.01 0.0262 0.0051
 Jupiter -122662-09-07 23:18 J -43080622.68 -43080622.53 -43080622.38 0.0521 0.0337
 Saturn -122662-12-03 12:30 J -43080536.20 -43080535.98 -43080535.77 0.0263 0.0044
 Jupiter -122661-05-01 09:37 J -43080386.25 -43080386.10 -43080385.94 0.0516 0.0308
 Saturn -122661-07-19 19:56 J -43080306.89 -43080306.67 -43080306.45 0.0264 0.0036
 Saturn -122660-03-06 05:03 J -43080077.51 -43080077.29 -43080077.07 0.0266 0.0029

Saturn -122660-10-21 16:06 J -43079848.05 -43079847.83 -43079847.61 0.0268 0.0019
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 Saturn -122658-09-10 12:15 J -43079159.21 -43079158.99 -43079158.77 0.0276 0.0011
 Uranus -122657-03-23 18:15 J -43078963.85 -43078963.74 -43078963.63 0.0146 0.0126
 Saturn -122657-04-27 06:44 J -43078929.44 -43078929.22 -43078929.00 0.0279 0.0021
 Uranus -122657-11-05 10:20 J -43078737.23 -43078737.07 -43078736.90 0.0145 0.0097
 Saturn -122657-12-13 02:54 J -43078699.59 -43078699.38 -43078699.16 0.0282 0.0032
 Uranus -122656-06-20 02:25 J -43078510.60 -43078510.40 -43078510.20 0.0145 0.0067
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Saturn -122649-07-04 22:06 J -43075938.78 -43075938.58 -43075938.38 0.0303 0.0064
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 Mars -122637-09-28 22:49 J -43071469.65 -43071469.55 -43071469.45 0.1662 0.1359
 Saturn -122636-01-23 02:39 J -43071353.59 -43071353.39 -43071353.17 0.0259 0.0070
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 Saturn -122636-09-09 02:25 J -43071124.61 -43071124.40 -43071124.19 0.0259 0.0068
 Saturn -122635-04-26 02:25 J -43070895.61 -43070895.40 -43070895.19 0.0259 0.0065

Mars -122635-07-29 18:15 J -43070800.90 -43070800.74 -43070800.57 0.1671 0.0413
 Saturn -122635-12-11 03:22 J -43070666.57 -43070666.36 -43070666.15 0.0259 0.0062
 Saturn -122634-07-28 05:32 J -43070437.49 -43070437.27 -43070437.06 0.0259 0.0058
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 Saturn -122633-10-28 12:58 J -43069979.17 -43069978.96 -43069978.74 0.0261 0.0047
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 Jupiter -122632-07-12 21:51 J -43069721.75 -43069721.59 -43069721.43 0.0505 0.0335
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 Jupiter -122631-03-07 11:18 J -43069484.19 -43069484.03 -43069483.86 0.0509 0.0316
 Neptune -122631-03-18 22:06 J -43069472.61 -43069472.58 -43069472.49 0.0089 0.0086
 Saturn -122631-09-16 12:01 J -43069291.22 -43069291.00 -43069290.78 0.0266 0.0025
 Neptune -122631-10-30 12:15 J -43069247.08 -43069246.99 -43069246.87 0.0089 0.0079
 Saturn -122630-05-03 23:03 J -43069061.76 -43069061.54 -43069061.32 0.0269 0.0016
 Neptune -122630-06-13 01:56 J -43069021.53 -43069021.42 -43069021.27 0.0089 0.0072
 Saturn -122630-12-19 12:01 J -43068832.22 -43068832.00 -43068831.78 0.0271 0.0007
 Neptune -122629-01-24 15:37 J -43068795.99 -43068795.85 -43068795.69 0.0089 0.0065
 Saturn -122629-08-05 03:08 J -43068602.59 -43068602.37 -43068602.15 0.0274 0.0005
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 Saturn -122628-03-22 19:56 J -43068372.89 -43068372.67 -43068372.45 0.0277 0.0013
 Neptune -122628-04-19 19:13 J -43068344.88 -43068344.70 -43068344.52 0.0089 0.0051
 Saturn -122628-11-07 14:25 J -43068143.11 -43068142.90 -43068142.68 0.0280 0.0023
 Neptune -122628-12-01 08:10 J -43068119.33 -43068119.16 -43068118.95 0.0089 0.0045
 Saturn -122627-06-25 10:49 J -43067913.26 -43067913.05 -43067912.83 0.0283 0.0034
 Neptune -122627-07-14 21:37 J -43067893.78 -43067893.60 -43067893.38 0.0089 0.0038
 Saturn -122626-02-10 09:08 J -43067683.34 -43067683.12 -43067682.91 0.0286 0.0043
 Neptune -122626-02-25 11:03 J -43067668.23 -43067668.04 -43067667.82 0.0089 0.0031
 Jupiter -122626-05-16 07:13 J -43067588.38 -43067588.20 -43067588.03 0.0520 0.0235
 Saturn -122626-09-28 08:54 J -43067453.34 -43067453.13 -43067452.91 0.0289 0.0053
 Neptune -122626-10-09 00:44 J -43067442.68 -43067442.47 -43067442.25 0.0089 0.0024

Jupiter -122625-01-07 17:18 J -43067351.89 -43067351.78 -43067351.65 0.0516 0.0408
 Saturn -122625-05-15 10:06 J -43067223.29 -43067223.08 -43067222.87 0.0292 0.0061
 Neptune -122625-05-21 13:56 J -43067217.13 -43067216.92 -43067216.69 0.0089 0.0017
 Saturn -122625-12-31 12:15 J -43066993.19 -43066992.99 -43066992.78 0.0295 0.0069
 Neptune -122624-01-02 03:22 J -43066991.58 -43066991.36 -43066991.14 0.0089 0.0010
 Neptune -122624-08-15 16:34 J -43066766.03 -43066765.81 -43066765.59 0.0089 0.0003
 Saturn -122624-08-18 15:22 J -43066763.07 -43066762.86 -43066762.66 0.0297 0.0074
 Neptune -122623-03-29 05:32 J -43066540.49 -43066540.27 -43066540.04 0.0089 0.0005
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 Neptune -122623-11-09 18:44 J -43066314.93 -43066314.72 -43066314.50 0.0088 0.0011
 Saturn -122623-11-21 22:34 J -43066302.76 -43066302.56 -43066302.36 0.0301 0.0081
 Neptune -122622-06-23 07:56 J -43066089.39 -43066089.17 -43066088.95 0.0088 0.0018
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 Pluto -122622-12-22 13:56 J -43065907.12 -43065906.92 -43065906.71 0.0066 0.0028
 Neptune -122621-02-03 20:54 J -43065863.84 -43065863.63 -43065863.42 0.0088 0.0025
 Saturn -122621-02-25 04:49 J -43065842.50 -43065842.30 -43065842.10 0.0304 0.0079
 Pluto -122621-08-03 19:42 J -43065681.90 -43065681.68 -43065681.45 0.0066 0.0016
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 Jupiter -122620-11-10 03:22 J -43065218.56 -43065218.36 -43065218.15 0.0508 0.0134
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 Neptune -122619-07-25 00:30 J -43064961.65 -43064961.48 -43064961.29 0.0088 0.0052
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 Neptune -122618-03-07 13:13 J -43064736.10 -43064735.95 -43064735.77 0.0088 0.0059
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 Neptune -122618-10-19 02:25 J -43064510.55 -43064510.40 -43064510.25 0.0088 0.0065

Saturn -122618-12-05 16:49 J -43064463.00 -43064462.80 -43064462.59 0.0297 0.0032
 Neptune -122617-05-31 14:54 J -43064284.99 -43064284.88 -43064284.74 0.0088 0.0072
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 Jupiter -122602-05-18 19:42 J -43058819.87 -43058819.68 -43058819.48 0.0519 0.0058
 Saturn -122602-08-12 07:13 J -43058734.42 -43058734.20 -43058733.98 0.0265 0.0032
 Saturn -122601-03-28 16:49 J -43058505.02 -43058504.80 -43058504.58 0.0267 0.0024
 Mars -122601-05-27 08:10 J -43058445.34 -43058445.16 -43058444.99 0.1677 0.0117
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 Saturn -122600-06-30 17:03 J -43058046.01 -43058045.79 -43058045.56 0.0271 0.0008
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 Mars -122599-03-26 19:56 J -43057776.79 -43057776.67 -43057776.54 0.1689 0.1174
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 Saturn -122598-05-20 20:25 J -43057356.87 -43057356.65 -43057356.43 0.0280 0.0023
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 Jupiter -122596-03-20 11:18 J -43056687.21 -43056687.03 -43056686.84 0.0505 0.0232

Saturn -122596-04-09 15:37 J -43056667.06 -43056666.85 -43056666.63 0.0289 0.0051
 Jupiter -122596-11-13 00:44 J -43056449.58 -43056449.47 -43056449.35 0.0510 0.0422
 Saturn -122596-11-25 17:03 J -43056437.00 -43056436.79 -43056436.58 0.0292 0.0059
 Saturn -122595-07-13 19:27 J -43056206.90 -43056206.69 -43056206.49 0.0294 0.0066
 Saturn -122594-02-28 22:20 J -43055976.77 -43055976.57 -43055976.36 0.0297 0.0071
 Saturn -122594-10-17 02:10 J -43055746.62 -43055746.41 -43055746.21 0.0299 0.0075
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 Saturn -122591-04-24 14:10 J -43054826.11 -43054825.91 -43054825.71 0.0304 0.0070
 Saturn -122591-12-10 14:54 J -43054596.08 -43054595.88 -43054595.68 0.0304 0.0065
 Jupiter -122590-01-21 18:15 J -43054553.93 -43054553.74 -43054553.55 0.0519 0.0126
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 Saturn -122589-03-14 11:18 J -43054136.23 -43054136.03 -43054135.82 0.0301 0.0049
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 Saturn -122581-05-12 20:25 J -43051154.85 -43051154.65 -43051154.44 0.0267 0.0060

Saturn -122581-12-27 19:13 J -43050925.90 -43050925.70 -43050925.49 0.0265 0.0064
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 Uranus -122573-07-05 12:15 J -43048179.12 -43048178.99 -43048178.84 0.0146 0.0114
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 Uranus -122571-05-16 12:01 J -43047499.22 -43047499.00 -43047498.78 0.0144 0.0025
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Uranus -122570-08-12 18:30 J -43047045.94 -43047045.73 -43047045.50 0.0144 0.0034
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 Saturn -122559-05-12 12:44 J -43043120.17 -43043119.97 -43043119.76 0.0299 0.0037
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Saturn -122557-11-15 20:25 J -43042201.85 -43042201.65 -43042201.44 0.0288 0.0005
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 Saturn -122555-02-17 12:15 J -43041743.20 -43041742.99 -43041742.79 0.0282 0.0023
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 Saturn -122553-01-05 23:18 J -43041055.74 -43041055.53 -43041055.33 0.0273 0.0044
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 Earth -122551-06-30 12:44 J -43040149.08 -43040148.97 -43040148.85 0.2651 0.1773
 Moon -122551-06-30 14:54 J -43040149.00 -43040148.88 -43040148.76 0.2645 0.1777 *
 Saturn -122551-07-09 23:03 J -43040139.75 -43040139.54 -43040139.33 0.0264 0.0061
 Saturn -122550-02-23 21:22 J -43039910.81 -43039910.61 -43039910.40 0.0262 0.0064
 Saturn -122550-10-10 19:42 J -43039681.88 -43039681.68 -43039681.47 0.0261 0.0065
 Neptune -122549-04-27 23:32 J -43039481.52 -43039481.52 -43039481.48 0.0089 0.0089
 Saturn -122549-05-26 18:15 J -43039452.94 -43039452.74 -43039452.53 0.0260 0.0065
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 Neptune -122547-10-17 00:30 J -43038579.62 -43038579.48 -43038579.31 0.0089 0.0063
 Saturn -122547-11-28 14:54 J -43038537.09 -43038536.88 -43038536.66 0.0259 0.0060
 Neptune -122546-05-30 12:58 J -43038354.12 -43038353.96 -43038353.78 0.0089 0.0056
 Saturn -122546-07-15 16:06 J -43038308.04 -43038307.83 -43038307.61 0.0259 0.0056
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Saturn -122545-02-29 18:15 J -43038078.96 -43038078.74 -43038078.52 0.0260 0.0052
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 Saturn -122545-10-15 21:37 J -43037849.82 -43037849.60 -43037849.39 0.0261 0.0047
 Neptune -122544-04-06 02:25 J -43037677.59 -43037677.40 -43037677.19 0.0089 0.0036
 Saturn -122544-06-02 02:10 J -43037620.63 -43037620.41 -43037620.19 0.0262 0.0041
 Neptune -122544-11-17 14:54 J -43037452.08 -43037451.88 -43037451.67 0.0089 0.0030
 Saturn -122543-01-17 08:25 J -43037391.37 -43037391.15 -43037390.93 0.0263 0.0034
 Jupiter -122543-06-04 06:44 J -43037253.40 -43037253.22 -43037253.03 0.0520 0.0197
 Earth -122543-06-28 07:13 J -43037229.34 -43037229.20 -43037229.06 0.2655 0.1207
 Moon -122543-06-28 08:25 J -43037229.31 -43037229.15 -43037229.00 0.2649 0.0803 *
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 Neptune -122539-10-26 21:08 J -43035647.83 -43035647.62 -43035647.41 0.0089 0.0025
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Saturn -122538-09-15 03:08 J -43035324.59 -43035324.37 -43035324.16 0.0286 0.0042
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 Pluto -122535-05-27 18:30 J -43034338.86 -43034338.73 -43034338.57 0.0079 0.0057
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Uranus -122530-11-17 21:37 J -43032338.60 -43032338.60 -43032338.57 0.0133 0.0133
 Saturn -122530-11-22 18:15 J -43032333.94 -43032333.74 -43032333.54 0.0299 0.0033
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 Uranus -122528-02-12 02:25 J -43031886.53 -43031886.40 -43031886.23 0.0133 0.0093
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 Jupiter -122525-08-03 19:27 J -43030617.90 -43030617.69 -43030617.48 0.0507 0.0008
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 Saturn -122525-12-01 01:56 J -43030498.63 -43030498.42 -43030498.22 0.0276 0.0039
 Uranus -122524-06-13 23:03 J -43030303.72 -43030303.54 -43030303.34 0.0136 0.0059
 Saturn -122524-07-18 04:06 J -43030269.53 -43030269.33 -43030269.12 0.0273 0.0045
 Uranus -122523-01-26 02:39 J -43030077.54 -43030077.39 -43030077.21 0.0136 0.0081
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 Saturn -122522-06-05 04:34 J -43029582.52 -43029582.31 -43029582.10 0.0266 0.0058
 Saturn -122521-01-20 03:22 J -43029353.57 -43029353.36 -43029353.16 0.0264 0.0060
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Saturn -122520-12-06 22:06 J -43028666.78 -43028666.58 -43028666.36 0.0260 0.0063
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Saturn -122491-11-02 02:25 J -43018109.61 -43018109.40 -43018109.19 0.0261 0.0061
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 Uranus -122489-03-04 16:06 J -43017620.91 -43017620.83 -43017620.71 0.0146 0.0130
 Jupiter -122489-04-11 10:20 J -43017583.27 -43017583.07 -43017582.86 0.0507 0.0105
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 Uranus -122489-10-17 08:10 J -43017394.30 -43017394.16 -43017393.98 0.0145 0.0101
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 Uranus -122487-01-13 16:06 J -43016941.04 -43016940.83 -43016940.60 0.0145 0.0041
 Saturn -122487-08-06 22:20 J -43016735.78 -43016735.57 -43016735.35 0.0259 0.0051
 Uranus -122487-08-28 07:56 J -43016714.40 -43016714.17 -43016713.94 0.0144 0.0011
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 Uranus -122486-04-11 23:03 J -43016487.76 -43016487.54 -43016487.31 0.0144 0.0019
 Saturn -122486-11-08 03:51 J -43016277.56 -43016277.34 -43016277.12 0.0261 0.0041
 Uranus -122486-11-24 14:10 J -43016261.12 -43016260.91 -43016260.69 0.0144 0.0048
 Saturn -122485-06-24 08:39 J -43016048.36 -43016048.14 -43016047.92 0.0262 0.0036
 Uranus -122485-07-08 04:49 J -43016034.48 -43016034.30 -43016034.10 0.0143 0.0076
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 Uranus -122484-10-04 09:37 J -43015581.17 -43015581.10 -43015581.01 0.0142 0.0132
 Jupiter -122483-02-12 05:32 J -43015450.45 -43015450.27 -43015450.09 0.0518 0.0206
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 Saturn -122482-08-15 10:06 J -43014901.30 -43014901.08 -43014900.86 0.0272 0.0003
 Saturn -122481-04-01 01:42 J -43014671.65 -43014671.43 -43014671.21 0.0275 0.0011
 Saturn -122481-11-16 19:27 J -43014441.91 -43014441.69 -43014441.47 0.0278 0.0018

Saturn -122480-07-04 14:54 J -43014212.10 -43014211.88 -43014211.66 0.0281 0.0026
 Saturn -122479-02-19 12:15 J -43013982.21 -43013981.99 -43013981.78 0.0284 0.0035
 Saturn -122479-10-07 11:18 J -43013752.24 -43013752.03 -43013751.81 0.0287 0.0043
 Saturn -122478-05-25 12:01 J -43013522.21 -43013522.00 -43013521.79 0.0290 0.0050
 Jupiter -122478-12-16 03:51 J -43013317.55 -43013317.34 -43013317.13 0.0506 0.0077
 Saturn -122477-01-10 13:56 J -43013292.13 -43013291.92 -43013291.71 0.0293 0.0056
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 Saturn -122476-12-01 00:01 J -43012601.71 -43012601.50 -43012601.30 0.0300 0.0067
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 Saturn -122472-01-24 12:01 J -43011451.20 -43011451.00 -43011450.80 0.0304 0.0052
 Mars -122472-04-05 02:10 J -43011380.56 -43011380.41 -43011380.26 0.1825 0.0873
 Saturn -122472-09-11 10:49 J -43011221.25 -43011221.05 -43011220.85 0.0303 0.0045
 Jupiter -122472-10-18 04:49 J -43011184.49 -43011184.30 -43011184.10 0.0518 0.0027
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 Saturn -122471-12-15 02:25 J -43010761.60 -43010761.40 -43010761.19 0.0299 0.0028
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 Mars -122469-01-20 05:18 J -43010360.45 -43010360.28 -43010360.11 0.1680 0.0191
 Saturn -122469-03-18 10:06 J -43010302.29 -43010302.08 -43010301.88 0.0294 0.0009
 Saturn -122469-11-02 22:34 J -43010072.77 -43010072.56 -43010072.36 0.0291 0.0004
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 Saturn -122467-02-04 17:18 J -43009613.98 -43009613.78 -43009613.57 0.0285 0.0019
 Neptune -122467-06-20 06:44 J -43009478.26 -43009478.22 -43009478.15 0.0089 0.0086
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Neptune -122466-01-31 20:39 J -43009252.73 -43009252.64 -43009252.53 0.0089 0.0079
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 Jupiter -122466-08-20 20:54 J -43009051.80 -43009051.63 -43009051.44 0.0505 0.0256
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 Saturn -122466-12-24 08:10 J -43008926.36 -43008926.16 -43008925.95 0.0276 0.0040
 Jupiter -122465-04-14 11:18 J -43008814.15 -43008814.03 -43008813.90 0.0510 0.0403
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 Neptune -122465-12-08 13:27 J -43008576.08 -43008575.94 -43008575.75 0.0089 0.0059
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 Saturn -122464-11-10 11:18 J -43008239.24 -43008239.03 -43008238.83 0.0268 0.0053
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 Neptune -122462-05-29 20:10 J -43007673.86 -43007673.66 -43007673.45 0.0089 0.0031
 Saturn -122462-09-28 07:13 J -43007552.41 -43007552.20 -43007551.99 0.0262 0.0059
 Earth -122461-01-08 15:51 J -43007449.98 -43007449.84 -43007449.70 0.2688 0.1316
 Moon -122461-01-08 18:15 J -43007449.85 -43007449.74 -43007449.62 0.2694 0.1747 *
 Neptune -122461-01-10 09:37 J -43007448.31 -43007448.10 -43007447.88 0.0089 0.0024
 Saturn -122461-05-14 05:32 J -43007323.48 -43007323.27 -43007323.06 0.0261 0.0059
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 Jupiter -122460-06-23 05:32 J -43006918.45 -43006918.27 -43006918.08 0.0520 0.0156
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 Neptune -122455-10-26 09:22 J -43004967.27 -43004967.11 -43004966.91 0.0088 0.0052
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 Jupiter -122454-04-25 14:25 J -43004786.00 -43004785.90 -43004785.79 0.0504 0.0431
 Neptune -122454-06-08 22:34 J -43004741.72 -43004741.56 -43004741.39 0.0088 0.0058
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 Jupiter -122454-12-19 04:34 J -43004548.50 -43004548.31 -43004548.12 0.0508 0.0224
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 Neptune -122452-11-27 01:42 J -43003839.49 -43003839.43 -43003839.35 0.0088 0.0084
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Saturn -122450-01-14 18:30 J -43003425.95 -43003425.73 -43003425.51 0.0281 0.0028
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 Jupiter -122448-02-26 05:46 J -43002652.41 -43002652.26 -43002652.12 0.0521 0.0337
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 Jupiter -122448-10-20 15:37 J -43002416.00 -43002415.85 -43002415.69 0.0517 0.0314
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 Neptune -122376-11-03 04:49 J -42976104.51 -42976104.30 -42976104.08 0.0089 0.0011
 Pluto -122375-01-20 02:39 J -42976026.62 -42976026.39 -42976026.16 0.0066 0.0004
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 Neptune -122375-06-16 17:32 J -42975878.98 -42975878.77 -42975878.55 0.0089 0.0018
 Pluto -122375-09-02 08:10 J -42975801.33 -42975801.16 -42975800.97 0.0066 0.0040
 Neptune -122374-01-28 06:15 J -42975653.44 -42975653.24 -42975653.02 0.0089 0.0025
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 Mars -122374-01-30 22:06 J -42975650.75 -42975650.58 -42975650.40 0.1830 0.0246
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 Mars -122373-01-16 20:54 J -42975299.74 -42975299.63 -42975299.52 0.1667 0.1253
 Neptune -122373-04-23 08:10 J -42975202.34 -42975202.16 -42975201.95 0.0089 0.0039
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 Mars -122373-11-28 03:08 J -42974983.42 -42974983.37 -42974983.32 0.1813 0.1715
 Neptune -122373-12-04 21:22 J -42974976.80 -42974976.61 -42974976.42 0.0089 0.0045
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Jupiter -122335-01-20 10:20 J -42961416.25 -42961416.07 -42961415.89 0.0505 0.0271
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Saturn -122310-10-13 08:10 J -42952019.37 -42952019.16 -42952018.94 0.0258 0.0036
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 Neptune -122302-05-05 03:51 J -42949258.41 -42949258.34 -42949258.22 0.0089 0.0080
 Saturn -122302-12-13 23:32 J -42949035.73 -42949035.52 -42949035.31 0.0288 0.0043
 Neptune -122302-12-16 17:46 J -42949032.87 -42949032.76 -42949032.62 0.0089 0.0073
 Neptune -122301-07-29 07:27 J -42948807.32 -42948807.19 -42948807.02 0.0089 0.0066
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 Saturn -122300-03-18 02:25 J -42948575.61 -42948575.40 -42948575.19 0.0294 0.0052
 Earth -122300-06-28 11:46 J -42948473.15 -42948473.01 -42948472.86 0.2658 0.0862
 Moon -122300-06-28 15:51 J -42948472.98 -42948472.84 -42948472.70 0.2662 0.0775 *

Jupiter -122300-09-28 03:51 J -42948381.54 -42948381.34 -42948381.14 0.0506 0.0157
 Neptune -122300-10-23 11:03 J -42948356.21 -42948356.04 -42948355.85 0.0089 0.0052
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 Neptune -122298-08-31 03:37 J -42947679.54 -42947679.35 -42947679.13 0.0089 0.0032
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Saturn -122291-01-09 07:42 J -42945356.39 -42945356.18 -42945355.98 0.0290 0.0012
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 Saturn -122282-06-07 09:08 J -42941920.34 -42941920.12 -42941919.91 0.0258 0.0044
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Saturn -122281-09-07 08:54 J -42941462.35 -42941462.13 -42941461.91 0.0258 0.0037
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 Uranus -122277-02-10 18:44 J -42940210.79 -42940210.72 -42940210.63 0.0133 0.0122
 Saturn -122277-06-13 12:01 J -42940087.22 -42940087.00 -42940086.78 0.0265 0.0007
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 Saturn -122276-01-28 22:06 J -42939857.80 -42939857.58 -42939857.36 0.0267 0.0001
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 Uranus -122276-12-20 02:10 J -42939532.60 -42939532.41 -42939532.22 0.0134 0.0059
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 Uranus -122271-12-03 04:49 J -42937723.40 -42937723.30 -42937723.21 0.0137 0.0120
 Jupiter -122271-12-10 11:46 J -42937716.12 -42937716.01 -42937715.90 0.0521 0.0421
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 Saturn -122270-05-16 07:42 J -42937559.39 -42937559.18 -42937558.97 0.0297 0.0056
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 Jupiter -122264-06-05 21:22 J -42935346.82 -42935346.61 -42935346.40 0.0506 0.0039
 Saturn -122264-09-01 14:25 J -42935259.11 -42935258.90 -42935258.70 0.0299 0.0013
 Saturn -122263-04-19 06:30 J -42935029.43 -42935029.23 -42935029.03 0.0296 0.0004
 Saturn -122263-12-04 20:39 J -42934799.85 -42934799.64 -42934799.44 0.0293 0.0007
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Saturn -122257-07-28 19:27 J -42932736.89 -42932736.69 -42932736.48 0.0266 0.0047
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 Saturn -122256-10-29 17:18 J -42932278.99 -42932278.78 -42932278.57 0.0263 0.0048
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 Mars -122245-11-26 12:01 J -42928233.13 -42928233.00 -42928232.86 0.1840 0.1194
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 Saturn -122242-08-23 03:37 J -42927233.56 -42927233.35 -42927233.13 0.0291 0.0048

Mars -122242-09-10 19:42 J -42927214.80 -42927214.68 -42927214.56 0.1670 0.1197
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 Uranus -122235-04-08 22:20 J -42924812.79 -42924812.57 -42924812.34 0.0145 0.0020
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Saturn -122232-01-31 09:22 J -42923784.32 -42923784.11 -42923783.91 0.0290 0.0015
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 Jupiter -122152-09-06 03:22 J -42894346.53 -42894346.36 -42894346.19 0.0520 0.0260
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 Saturn -122144-09-04 14:10 J -42891426.12 -42891425.91 -42891425.71 0.0290 0.0017
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 Saturn -122078-01-05 04:34 J -42867562.51 -42867562.31 -42867562.09 0.0262 0.0043
 Mars -122078-05-04 14:25 J -42867442.94 -42867442.90 -42867442.85 0.1668 0.1601
 Saturn -122078-08-22 03:22 J -42867333.57 -42867333.36 -42867333.14 0.0261 0.0041
 Mars -122077-03-15 17:03 J -42867126.90 -42867126.79 -42867126.68 0.1811 0.1377
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 Saturn -122077-11-22 00:58 J -42866875.67 -42866875.46 -42866875.24 0.0259 0.0037
 Mars -122076-03-03 07:27 J -42866774.35 -42866774.19 -42866774.03 0.1679 0.0618
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Saturn -122072-04-13 11:32 J -42865272.24 -42865272.02 -42865271.80 0.0261 0.0012
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 Moon -122065-06-30 17:18 J -42862636.90 -42862636.78 -42862636.67 0.2660 0.1697
 Earth -122065-06-30 22:06 J -42862636.63 -42862636.58 -42862636.52 0.2657 0.2467
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Saturn -122063-09-19 12:30 J -42861826.19 -42861825.98 -42861825.77 0.0300 0.0047
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 Neptune -122055-04-29 05:46 J -42859047.36 -42859047.26 -42859047.14 0.0089 0.0076
 Saturn -122055-11-24 08:25 J -42858838.35 -42858838.15 -42858837.95 0.0286 0.0025
 Neptune -122055-12-10 17:46 J -42858821.88 -42858821.76 -42858821.61 0.0089 0.0070
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 Neptune -122054-07-24 05:46 J -42858596.39 -42858596.26 -42858596.09 0.0089 0.0064
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Neptune -122052-05-30 18:58 J -42857919.89 -42857919.71 -42857919.51 0.0089 0.0044
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 Neptune -122050-04-07 08:10 J -42857243.36 -42857243.16 -42857242.94 0.0089 0.0024
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 Saturn -122047-06-04 04:49 J -42856089.51 -42856089.30 -42856089.08 0.0259 0.0038
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 Mars -122044-03-02 05:18 J -42855087.41 -42855087.28 -42855087.15 0.1674 0.1106

Neptune -122044-06-09 14:25 J -42854988.07 -42854987.90 -42854987.69 0.0089 0.0044
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 Mars -122043-12-30 19:42 J -42854418.86 -42854418.68 -42854418.51 0.1685 0.0077
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 Neptune -122042-11-28 18:15 J -42854085.85 -42854085.74 -42854085.58 0.0089 0.0071
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 Saturn -122040-12-14 16:06 J -42853339.05 -42853338.83 -42853338.61 0.0271 0.0016
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 Jupiter -122038-03-25 15:22 J -42852872.93 -42852872.86 -42852872.78 0.0510 0.0473
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Saturn -122034-08-14 17:03 J -42851270.00 -42851269.79 -42851269.58 0.0298 0.0047
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 Jupiter -122021-09-30 00:30 J -42846474.61 -42846474.48 -42846474.34 0.0516 0.0376
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 Saturn -122014-09-19 17:03 J -42843929.01 -42843928.79 -42843928.57 0.0260 0.0014
 Mars -122013-03-14 17:46 J -42843751.93 -42843751.76 -42843751.58 0.1826 0.0037
 Saturn -122013-05-05 22:06 J -42843699.80 -42843699.58 -42843699.36 0.0262 0.0010
 Saturn -122013-12-21 04:20 J -42843470.54 -42843470.32 -42843470.09 0.0263 0.0006
 Mars -122012-03-01 01:56 J -42843400.47 -42843400.42 -42843400.37 0.1670 0.1573
 Saturn -122012-08-07 12:30 J -42843241.20 -42843240.98 -42843240.76 0.0265 0.0003
 Mars -122011-01-11 00:01 J -42843084.60 -42843084.50 -42843084.40 0.1808 0.1459
 Saturn -122011-03-24 22:06 J -42843011.80 -42843011.58 -42843011.35 0.0267 0.0007

Saturn -122011-11-09 09:22 J -42842782.33 -42842782.11 -42842781.88 0.0269 0.0012
 Mars -122011-12-29 18:44 J -42842731.88 -42842731.72 -42842731.55 0.1680 0.0589
 Saturn -122010-06-26 22:34 J -42842552.78 -42842552.56 -42842552.34 0.0272 0.0016
 Jupiter -122010-10-12 15:37 J -42842444.92 -42842444.85 -42842444.77 0.0522 0.0475
 Saturn -122009-02-11 13:27 J -42842323.16 -42842322.94 -42842322.72 0.0275 0.0022
 Jupiter -122009-06-05 01:27 J -42842208.62 -42842208.44 -42842208.26 0.0518 0.0195
 Saturn -122009-09-28 06:30 J -42842093.45 -42842093.23 -42842093.01 0.0278 0.0027
 Mars -122009-10-28 06:15 J -42842063.41 -42842063.24 -42842063.08 0.1693 0.0495
 Saturn -122008-05-16 01:13 J -42841863.67 -42841863.45 -42841863.24 0.0281 0.0032
 Saturn -122008-12-31 21:37 J -42841633.82 -42841633.60 -42841633.39 0.0284 0.0036
 Saturn -122007-08-18 19:27 J -42841403.90 -42841403.69 -42841403.47 0.0287 0.0040
 Mars -122007-08-27 11:32 J -42841395.06 -42841395.02 -42841394.98 0.1707 0.1658
 Saturn -122006-04-05 19:13 J -42841173.91 -42841173.70 -42841173.49 0.0290 0.0042
 Saturn -122006-11-21 20:10 J -42840943.87 -42840943.66 -42840943.45 0.0293 0.0044
 Saturn -122005-07-08 22:06 J -42840713.79 -42840713.58 -42840713.37 0.0296 0.0046
 Saturn -122004-02-24 00:30 J -42840483.68 -42840483.48 -42840483.27 0.0298 0.0046
 Saturn -122004-10-12 03:37 J -42840253.55 -42840253.35 -42840253.14 0.0300 0.0044
 Jupiter -122003-04-07 16:20 J -42840076.02 -42840075.82 -42840075.61 0.0506 0.0090
 Saturn -122003-05-30 06:44 J -42840023.42 -42840023.22 -42840023.01 0.0302 0.0042
 Saturn -122002-01-15 09:37 J -42839793.30 -42839793.10 -42839792.89 0.0303 0.0038
 Saturn -122002-09-02 11:46 J -42839563.22 -42839563.01 -42839562.81 0.0304 0.0034
 Saturn -122001-04-19 12:44 J -42839333.17 -42839332.97 -42839332.76 0.0304 0.0029
 Saturn -122001-12-05 12:44 J -42839103.18 -42839102.97 -42839102.77 0.0303 0.0023

122ND MILLENNIUM BCE

This is a list of transits of Venus in the 122nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Saturn	-122000-07-23 10:49 J		-42838873.25	-42838873.05	-42838872.84	0.0302	0.0017	
Saturn	-121999-03-10 07:27 J		-42838643.39	-42838643.19	-42838642.99	0.0301	0.0010	
Saturn	-121999-10-26 01:56 J		-42838413.62	-42838413.42	-42838413.22	0.0299	0.0004	
Saturn	-121998-06-12 18:30 J		-42838183.93	-42838183.73	-42838183.52	0.0296	0.0005	
Saturn	-121997-01-28 09:08 J		-42837954.32	-42837954.12	-42837953.91	0.0294	0.0012	
Jupiter	-121997-02-09 03:08 J		-42837942.56	-42837942.37	-42837942.17	0.0519	0.0018	
Saturn	-121997-09-13 21:51 J		-42837724.79	-42837724.59	-42837724.38	0.0291	0.0016	
Saturn	-121996-05-01 08:39 J		-42837495.34	-42837495.14	-42837494.93	0.0288	0.0021	
Saturn	-121996-12-16 17:46 J		-42837265.97	-42837265.76	-42837265.56	0.0285	0.0025	
Saturn	-121995-08-03 00:58 J		-42837036.66	-42837036.46	-42837036.25	0.0282	0.0029	
Saturn	-121994-03-20 06:44 J		-42836807.42	-42836807.22	-42836807.01	0.0279	0.0033	
Saturn	-121994-11-04 11:03 J		-42836578.24	-42836578.04	-42836577.83	0.0276	0.0035	
Saturn	-121993-06-20 13:56 J		-42836349.12	-42836348.92	-42836348.71	0.0273	0.0038	
Saturn	-121992-02-04 15:51 J		-42836120.05	-42836119.84	-42836119.63	0.0271	0.0039	
Saturn	-121992-09-21 16:49 J		-42835891.01	-42835890.80	-42835890.59	0.0268	0.0040	
Jupiter	-121992-12-11 06:15 J		-42835810.42	-42835810.24	-42835810.07	0.0505	0.0281	
Saturn	-121991-05-08 17:18 J		-42835661.99	-42835661.78	-42835661.57	0.0266	0.0040	
Jupiter	-121991-08-05 20:54 J		-42835572.75	-42835572.63	-42835572.49	0.0509	0.0398	
Saturn	-121991-12-23 16:49 J		-42835433.01	-42835432.80	-42835432.59	0.0264	0.0041	
Saturn	-121990-08-09 16:06 J		-42835204.04	-42835203.83	-42835203.62	0.0263	0.0040	
Saturn	-121989-03-25 15:08 J		-42834975.08	-42834974.87	-42834974.66	0.0261	0.0038	
Saturn	-121989-11-09 14:10 J		-42834746.12	-42834745.91	-42834745.69	0.0260	0.0037	

Saturn -121988-06-26 13:42 J -42834517.15 -42834516.93 -42834516.72 0.0259 0.0034
 Saturn -121987-02-10 13:13 J -42834288.16 -42834287.95 -42834287.73 0.0259 0.0032
 Saturn -121987-09-27 13:27 J -42834059.16 -42834058.94 -42834058.72 0.0259 0.0029
 Saturn -121986-05-14 14:10 J -42833830.13 -42833829.91 -42833829.69 0.0259 0.0025
 Jupiter -121986-10-15 04:20 J -42833676.50 -42833676.32 -42833676.13 0.0520 0.0173
 Saturn -121986-12-29 16:05 J -42833601.05 -42833600.83 -42833600.62 0.0259 0.0022
 Uranus -121985-01-08 02:25 J -42833591.49 -42833591.40 -42833591.29 0.0146 0.0129
 Jupiter -121985-06-07 13:13 J -42833440.01 -42833439.95 -42833439.89 0.0515 0.0490
 Saturn -121985-08-14 18:44 J -42833371.94 -42833371.72 -42833371.50 0.0260 0.0018
 Uranus -121985-08-21 18:44 J -42833364.87 -42833364.72 -42833364.54 0.0146 0.0098
 Saturn -121984-03-31 22:49 J -42833142.77 -42833142.55 -42833142.33 0.0261 0.0012
 Uranus -121984-04-05 11:03 J -42833138.24 -42833138.04 -42833137.83 0.0146 0.0067
 Saturn -121984-11-16 04:05 J -42832913.55 -42832913.33 -42832913.11 0.0262 0.0008
 Uranus -121984-11-18 03:08 J -42832911.59 -42832911.37 -42832911.15 0.0145 0.0035
 Uranus -121983-07-02 18:58 J -42832684.93 -42832684.71 -42832684.48 0.0145 0.0004
 Saturn -121983-07-03 11:03 J -42832684.27 -42832684.04 -42832683.82 0.0263 0.0006
 Uranus -121982-02-14 10:34 J -42832458.28 -42832458.06 -42832457.83 0.0144 0.0027
 Saturn -121982-02-17 19:13 J -42832454.92 -42832454.70 -42832454.48 0.0265 0.0004
 Uranus -121982-09-29 01:56 J -42832231.62 -42832231.42 -42832231.21 0.0144 0.0057
 Saturn -121982-10-05 05:17 J -42832225.50 -42832225.28 -42832225.06 0.0267 0.0007
 Mars -121981-03-14 08:25 J -42832064.31 -42832064.15 -42832063.99 0.1832 0.0782
 Uranus -121981-05-12 16:49 J -42832004.97 -42832004.80 -42832004.61 0.0144 0.0088
 Saturn -121981-05-21 16:49 J -42831996.02 -42831995.80 -42831995.58 0.0270 0.0013
 Uranus -121981-12-25 07:27 J -42831778.30 -42831778.19 -42831778.04 0.0143 0.0117
 Saturn -121980-01-06 06:15 J -42831766.46 -42831766.24 -42831766.02 0.0272 0.0018
 Jupiter -121980-08-15 23:03 J -42831544.62 -42831544.54 -42831544.46 0.0504 0.0464
 Saturn -121980-08-23 21:37 J -42831536.81 -42831536.60 -42831536.38 0.0275 0.0023
 Mars -121979-01-10 11:32 J -42831397.18 -42831397.02 -42831396.87 0.1816 0.0776
 Jupiter -121979-04-10 13:56 J -42831307.11 -42831306.92 -42831306.73 0.0508 0.0210
 Saturn -121979-04-10 14:53 J -42831307.10 -42831306.88 -42831306.66 0.0278 0.0026 *

Saturn -121979-11-26 09:37 J -42831077.31 -42831077.10 -42831076.88 0.0281 0.0031
 Mars -121979-12-28 16:34 J -42831044.95 -42831044.81 -42831044.68 0.1675 0.1078
 Saturn -121978-07-14 06:15 J -42830847.46 -42830847.24 -42830847.02 0.0284 0.0035
 Saturn -121977-02-29 04:34 J -42830617.53 -42830617.31 -42830617.10 0.0287 0.0038
 Saturn -121977-10-16 04:20 J -42830387.53 -42830387.32 -42830387.11 0.0290 0.0041
 Mars -121977-10-27 06:15 J -42830376.41 -42830376.24 -42830376.06 0.1687 0.0049
 Saturn -121976-06-03 05:17 J -42830157.49 -42830157.28 -42830157.07 0.0293 0.0042
 Earth -121975-01-08 11:03 J -42829938.19 -42829938.04 -42829937.89 0.2680 0.1001
 Moon -121975-01-08 11:46 J -42829938.18 -42829938.01 -42829937.85 0.2674 0.0740 *
 Saturn -121975-01-19 07:13 J -42829927.41 -42829927.20 -42829926.99 0.0296 0.0043
 Mars -121975-08-26 14:39 J -42829708.02 -42829707.89 -42829707.75 0.1701 0.1093
 Saturn -121975-09-06 09:37 J -42829697.30 -42829697.10 -42829696.89 0.0298 0.0044
 Neptune -121974-03-27 02:53 J -42829495.38 -42829495.38 -42829495.32 0.0089 0.0088
 Saturn -121974-04-24 12:44 J -42829467.18 -42829466.97 -42829466.77 0.0300 0.0043
 Jupiter -121974-06-20 02:53 J -42829410.51 -42829410.38 -42829410.24 0.0521 0.0365
 Neptune -121974-11-07 17:03 J -42829269.86 -42829269.79 -42829269.68 0.0089 0.0081
 Saturn -121974-12-10 15:37 J -42829237.05 -42829236.85 -42829236.64 0.0302 0.0040
 Jupiter -121973-02-11 12:01 J -42829174.15 -42829174.00 -42829173.84 0.0517 0.0305
 Neptune -121973-06-20 07:13 J -42829044.32 -42829044.20 -42829044.07 0.0089 0.0074
 Saturn -121973-07-27 18:15 J -42829006.95 -42829006.74 -42829006.54 0.0303 0.0037
 Neptune -121972-01-31 20:25 J -42828818.77 -42828818.65 -42828818.48 0.0089 0.0068
 Saturn -121972-03-14 19:56 J -42828776.87 -42828776.67 -42828776.46 0.0304 0.0033
 Neptune -121972-09-14 10:20 J -42828593.21 -42828593.07 -42828592.89 0.0089 0.0061
 Saturn -121972-10-30 20:53 J -42828546.84 -42828546.63 -42828546.43 0.0304 0.0029
 Neptune -121971-04-28 00:15 J -42828367.66 -42828367.49 -42828367.30 0.0089 0.0054
 Saturn -121971-06-17 20:25 J -42828316.86 -42828316.65 -42828316.45 0.0303 0.0023
 Neptune -121971-12-09 13:56 J -42828142.10 -42828141.92 -42828141.72 0.0089 0.0047
 Saturn -121970-02-02 18:29 J -42828086.94 -42828086.73 -42828086.53 0.0302 0.0017
 Neptune -121970-07-23 03:37 J -42827916.54 -42827916.35 -42827916.14 0.0089 0.0040
 Saturn -121970-09-20 14:39 J -42827857.09 -42827856.89 -42827856.69 0.0301 0.0010

Neptune -121969-03-04 17:17 J -42827690.99 -42827690.78 -42827690.57 0.0089 0.0033
 Saturn -121969-05-07 08:53 J -42827627.33 -42827627.13 -42827626.92 0.0299 0.0004
 Neptune -121969-10-16 06:44 J -42827465.42 -42827465.22 -42827465.00 0.0089 0.0026
 Saturn -121969-12-23 01:13 J -42827397.65 -42827397.45 -42827397.24 0.0297 0.0007
 Neptune -121968-05-29 20:10 J -42827239.86 -42827239.66 -42827239.43 0.0089 0.0020
 Saturn -121968-08-09 15:37 J -42827168.05 -42827167.85 -42827167.64 0.0294 0.0012
 Jupiter -121968-12-14 06:58 J -42827041.42 -42827041.21 -42827041.00 0.0507 0.0023
 Neptune -121967-01-10 09:51 J -42827014.31 -42827014.09 -42827013.87 0.0089 0.0013
 Saturn -121967-03-27 04:20 J -42826938.52 -42826938.32 -42826938.12 0.0291 0.0015
 Neptune -121967-08-23 23:17 J -42826788.75 -42826788.53 -42826788.31 0.0089 0.0006
 Saturn -121967-11-11 14:53 J -42826709.09 -42826708.88 -42826708.68 0.0288 0.0021
 Neptune -121966-04-06 12:44 J -42826563.19 -42826562.97 -42826562.75 0.0089 0.0001
 Saturn -121966-06-28 23:32 J -42826479.73 -42826479.52 -42826479.32 0.0285 0.0025
 Neptune -121966-11-18 02:10 J -42826337.63 -42826337.41 -42826337.19 0.0089 0.0008
 Saturn -121965-02-13 06:29 J -42826250.43 -42826250.23 -42826250.02 0.0282 0.0029
 Neptune -121965-06-30 15:22 J -42826112.07 -42826111.86 -42826111.64 0.0089 0.0015
 Saturn -121965-09-29 12:01 J -42826021.21 -42826021.00 -42826020.80 0.0279 0.0032
 Neptune -121964-02-11 04:34 J -42825886.52 -42825886.31 -42825886.09 0.0089 0.0022
 Saturn -121964-05-16 16:05 J -42825792.04 -42825791.83 -42825791.62 0.0276 0.0034
 Neptune -121964-09-24 17:46 J -42825660.96 -42825660.76 -42825660.54 0.0089 0.0029
 Saturn -121964-12-31 18:58 J -42825562.92 -42825562.71 -42825562.50 0.0273 0.0036
 Neptune -121963-05-08 06:44 J -42825435.41 -42825435.22 -42825435.00 0.0089 0.0036
 Saturn -121963-08-17 20:39 J -42825333.85 -42825333.64 -42825333.43 0.0270 0.0037
 Neptune -121963-12-19 20:10 J -42825209.85 -42825209.66 -42825209.46 0.0089 0.0042
 Saturn -121962-04-03 21:37 J -42825104.81 -42825104.60 -42825104.39 0.0268 0.0038
 Neptune -121962-08-02 08:53 J -42824984.30 -42824984.13 -42824983.93 0.0088 0.0049
 Jupiter -121962-10-17 12:15 J -42824908.19 -42824907.99 -42824907.80 0.0518 0.0119
 Saturn -121962-11-18 21:51 J -42824875.80 -42824875.59 -42824875.38 0.0266 0.0038
 Neptune -121961-03-14 22:05 J -42824758.75 -42824758.58 -42824758.40 0.0088 0.0055
 Saturn -121961-07-04 21:37 J -42824646.81 -42824646.60 -42824646.39 0.0264 0.0037

Neptune -121961-10-26 10:49 J -42824533.19 -42824533.05 -42824532.88 0.0088 0.0062
 Saturn -121960-02-18 20:53 J -42824417.84 -42824417.63 -42824417.42 0.0262 0.0036
 Neptune -121960-06-08 23:32 J -42824307.63 -42824307.52 -42824307.36 0.0088 0.0069
 Saturn -121960-10-05 19:56 J -42824188.88 -42824188.67 -42824188.45 0.0261 0.0035
 Neptune -121959-01-20 12:29 J -42824082.08 -42824081.98 -42824081.84 0.0088 0.0075
 Saturn -121959-05-22 19:13 J -42823959.91 -42823959.70 -42823959.48 0.0260 0.0033
 Neptune -121959-09-03 01:27 J -42823856.52 -42823856.44 -42823856.34 0.0088 0.0081
 Saturn -121958-01-06 18:44 J -42823730.94 -42823730.72 -42823730.50 0.0259 0.0031
 Neptune -121958-04-16 13:56 J -42823630.93 -42823630.92 -42823630.86 0.0088 0.0088
 Saturn -121958-08-23 18:29 J -42823501.95 -42823501.73 -42823501.52 0.0259 0.0028
 Saturn -121957-04-08 18:44 J -42823272.94 -42823272.72 -42823272.50 0.0258 0.0025
 Saturn -121957-11-23 19:41 J -42823043.90 -42823043.68 -42823043.46 0.0259 0.0022
 Saturn -121956-07-10 21:51 J -42822814.81 -42822814.59 -42822814.37 0.0259 0.0019
 Jupiter -121956-08-18 22:49 J -42822775.75 -42822775.55 -42822775.35 0.0505 0.0165
 Saturn -121955-02-25 00:58 J -42822585.68 -42822585.46 -42822585.24 0.0260 0.0015
 Saturn -121955-10-12 05:03 J -42822356.51 -42822356.29 -42822356.06 0.0261 0.0012
 Saturn -121954-05-29 10:34 J -42822127.28 -42822127.06 -42822126.84 0.0262 0.0007
 Saturn -121953-01-13 17:32 J -42821897.99 -42821897.77 -42821897.55 0.0264 0.0004
 Saturn -121953-08-30 02:10 J -42821668.63 -42821668.41 -42821668.18 0.0266 0.0005
 Saturn -121952-04-16 12:29 J -42821439.20 -42821438.98 -42821438.76 0.0268 0.0008
 Saturn -121952-12-02 00:15 J -42821209.71 -42821209.49 -42821209.27 0.0270 0.0013
 Saturn -121951-07-19 13:56 J -42820980.14 -42820979.92 -42820979.70 0.0273 0.0018
 Saturn -121950-03-06 05:32 J -42820750.49 -42820750.27 -42820750.05 0.0276 0.0022
 Jupiter -121950-06-22 12:29 J -42820642.18 -42820641.98 -42820641.79 0.0520 0.0068
 Saturn -121950-10-21 22:49 J -42820520.76 -42820520.55 -42820520.33 0.0278 0.0028
 Mars -121949-03-14 00:44 J -42820376.56 -42820376.47 -42820376.38 0.1838 0.1565
 Saturn -121949-06-07 18:01 J -42820290.97 -42820290.75 -42820290.53 0.0282 0.0031
 Saturn -121948-01-23 14:39 J -42820061.10 -42820060.89 -42820060.67 0.0285 0.0036
 Saturn -121948-09-10 13:13 J -42819831.16 -42819830.95 -42819830.73 0.0288 0.0038
 Mars -121947-01-09 23:46 J -42819709.68 -42819709.51 -42819709.33 0.1823 0.0075

Saturn -121947-04-28 13:13 J -42819601.17 -42819600.95 -42819600.74 0.0291 0.0041
 Saturn -121947-12-14 14:10 J -42819371.12 -42819370.91 -42819370.70 0.0294 0.0042
 Mars -121947-12-27 13:27 J -42819358.01 -42819357.94 -42819357.88 0.1671 0.1548
 Saturn -121946-08-01 16:05 J -42819141.04 -42819140.83 -42819140.62 0.0296 0.0043
 Mars -121946-11-08 07:27 J -42819042.28 -42819042.19 -42819042.10 0.1806 0.1531
 Saturn -121945-03-18 18:44 J -42818910.93 -42818910.72 -42818910.51 0.0299 0.0042
 Mars -121945-10-26 05:17 J -42818689.44 -42818689.28 -42818689.11 0.1682 0.0549
 Saturn -121945-11-03 21:37 J -42818680.80 -42818680.60 -42818680.39 0.0301 0.0041
 Jupiter -121944-04-23 14:39 J -42818510.03 -42818509.89 -42818509.73 0.0504 0.0353
 Saturn -121944-06-22 00:29 J -42818450.68 -42818450.48 -42818450.27 0.0302 0.0038
 Jupiter -121944-12-17 05:03 J -42818272.45 -42818272.29 -42818272.13 0.0508 0.0325
 Saturn -121943-02-07 03:08 J -42818220.58 -42818220.37 -42818220.17 0.0303 0.0034
 Mars -121943-08-25 16:05 J -42818021.00 -42818020.83 -42818020.67 0.1695 0.0543
 Saturn -121943-09-25 04:49 J -42817990.51 -42817990.30 -42817990.10 0.0304 0.0030
 Saturn -121942-05-13 05:17 J -42817760.48 -42817760.28 -42817760.07 0.0304 0.0026
 Saturn -121942-12-29 04:49 J -42817530.50 -42817530.30 -42817530.10 0.0303 0.0019
 Uranus -121941-01-04 04:34 J -42817524.37 -42817524.31 -42817524.21 0.0133 0.0122
 Saturn -121941-08-15 02:25 J -42817300.60 -42817300.40 -42817300.19 0.0302 0.0014
 Uranus -121941-08-17 06:58 J -42817298.33 -42817298.21 -42817298.06 0.0133 0.0100
 Uranus -121940-03-31 09:22 J -42817072.27 -42817072.11 -42817071.93 0.0133 0.0079
 Saturn -121940-04-01 22:20 J -42817070.77 -42817070.57 -42817070.37 0.0300 0.0007
 Uranus -121940-11-12 12:01 J -42816846.18 -42816846.00 -42816845.81 0.0133 0.0056
 Saturn -121940-11-17 16:20 J -42816841.02 -42816840.82 -42816840.62 0.0298 0.0001
 Uranus -121939-06-26 14:39 J -42816620.09 -42816619.89 -42816619.68 0.0134 0.0034
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Jupiter -121938-10-19 23:32 J -42816139.64 -42816139.52 -42816139.41 0.0516 0.0418
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 Saturn -121933-10-14 02:39 J -42814318.60 -42814318.39 -42814318.18 0.0268 0.0037
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 Jupiter -121932-08-21 18:44 J -42814006.92 -42814006.72 -42814006.51 0.0507 0.0131
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Mars -121909-06-23 00:15 J -42805665.62 -42805665.49 -42805665.37 0.1703 0.1149
 Saturn -121909-09-01 06:29 J -42805595.43 -42805595.23 -42805595.03 0.0293 0.0011
 Jupiter -121909-12-30 04:20 J -42805475.50 -42805475.32 -42805475.13 0.0505 0.0245
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 Saturn -121908-12-04 04:20 J -42805136.53 -42805136.32 -42805136.12 0.0287 0.0021
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 Saturn -121906-10-23 00:01 J -42804448.71 -42804448.50 -42804448.30 0.0278 0.0030
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 Saturn -121904-09-09 07:41 J -42803761.39 -42803761.18 -42803760.97 0.0270 0.0035
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 Saturn -121901-03-13 07:27 J -42802845.40 -42802845.19 -42802844.98 0.0262 0.0033
 Uranus -121901-04-20 23:32 J -42802806.64 -42802806.52 -42802806.36 0.0146 0.0115
 Saturn -121901-10-28 06:29 J -42802616.44 -42802616.23 -42802616.01 0.0261 0.0032
 Uranus -121901-12-03 16:05 J -42802580.01 -42802579.83 -42802579.63 0.0146 0.0082
 Saturn -121900-06-14 06:01 J -42802387.46 -42802387.25 -42802387.03 0.0260 0.0030
 Uranus -121900-07-18 08:25 J -42802353.35 -42802353.15 -42802352.93 0.0145 0.0051
 Saturn -121899-01-29 05:46 J -42802158.48 -42802158.26 -42802158.05 0.0259 0.0027
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 Saturn -121899-09-15 05:46 J -42801929.48 -42801929.26 -42801929.05 0.0259 0.0025
 Uranus -121899-10-14 16:20 J -42801900.04 -42801899.82 -42801899.59 0.0145 0.0013
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 Uranus -121898-05-29 07:56 J -42801673.39 -42801673.17 -42801672.96 0.0144 0.0044
 Saturn -121898-12-17 07:41 J -42801471.40 -42801471.18 -42801470.96 0.0259 0.0019

Uranus -121897-01-10 23:03 J -42801446.73 -42801446.54 -42801446.34 0.0144 0.0074
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 Uranus -121897-08-24 13:56 J -42801220.05 -42801219.92 -42801219.75 0.0143 0.0105
 Jupiter -121897-09-03 20:39 J -42801209.75 -42801209.64 -42801209.53 0.0504 0.0429
 Saturn -121896-03-19 13:41 J -42801013.15 -42801012.93 -42801012.71 0.0260 0.0012
 Uranus -121896-04-08 05:03 J -42800993.36 -42800993.29 -42800993.20 0.0143 0.0134
 Jupiter -121896-04-29 11:03 J -42800972.22 -42800972.04 -42800971.86 0.0508 0.0248
 Saturn -121896-11-03 18:29 J -42800783.95 -42800783.73 -42800783.51 0.0261 0.0009
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 Neptune -121892-12-18 02:25 J -42799278.46 -42799278.40 -42799278.31 0.0089 0.0083
 Saturn -121891-03-28 23:17 J -42799177.75 -42799177.53 -42799177.31 0.0277 0.0022
 Jupiter -121891-07-08 22:20 J -42799075.72 -42799075.57 -42799075.42 0.0521 0.0335
 Neptune -121891-07-31 14:10 J -42799052.99 -42799052.91 -42799052.78 0.0089 0.0077
 Saturn -121891-11-13 17:17 J -42798948.00 -42798947.78 -42798947.56 0.0279 0.0027
 Jupiter -121890-03-02 07:56 J -42798839.31 -42798839.17 -42798839.02 0.0517 0.0339
 Neptune -121890-03-14 02:53 J -42798827.51 -42798827.38 -42798827.25 0.0089 0.0070
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 Saturn -121889-02-16 10:05 J -42798488.29 -42798488.08 -42798487.86 0.0286 0.0034
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 Saturn -121889-10-03 09:08 J -42798258.33 -42798258.12 -42798257.90 0.0289 0.0036
 Neptune -121888-01-18 15:22 J -42798151.03 -42798150.86 -42798150.67 0.0089 0.0051
 Saturn -121888-05-21 09:22 J -42798028.32 -42798028.11 -42798027.90 0.0292 0.0038
 Neptune -121888-09-01 03:22 J -42797925.53 -42797925.36 -42797925.15 0.0089 0.0045
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Neptune -121887-04-14 16:05 J -42797700.02 -42797699.83 -42797699.63 0.0089 0.0038
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 Neptune -121887-11-26 04:20 J -42797474.51 -42797474.32 -42797474.10 0.0089 0.0032
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 Neptune -121885-02-20 05:17 J -42797023.49 -42797023.28 -42797023.07 0.0089 0.0018
 Saturn -121885-07-14 21:08 J -42796877.83 -42796877.62 -42796877.42 0.0302 0.0034
 Neptune -121885-10-02 17:32 J -42796797.98 -42796797.77 -42796797.55 0.0089 0.0012
 Pluto -121885-12-23 12:29 J -42796716.08 -42796715.98 -42796715.84 0.0066 0.0056
 Jupiter -121884-01-02 02:25 J -42796706.61 -42796706.40 -42796706.19 0.0506 0.0056
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Saturn -121880-07-28 00:29 J -42795038.68 -42795038.48 -42795038.27 0.0295 0.0009
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 Neptune -121880-09-10 22:20 J -42794993.75 -42794993.57 -42794993.36 0.0089 0.0043
 Jupiter -121879-03-13 23:32 J -42794809.53 -42794809.52 -42794809.50 0.0523 0.0520
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Saturn -121869-03-27 11:17 J -42791143.25 -42791143.03 -42791142.81 0.0259 0.0024
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 Saturn -121864-11-19 12:01 J -42789080.23 -42789080.00 -42789079.78 0.0269 0.0011
 Saturn -121863-07-07 00:44 J -42788850.69 -42788850.47 -42788850.25 0.0271 0.0015
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 Saturn -121862-10-09 08:10 J -42788391.38 -42788391.16 -42788390.94 0.0277 0.0022
 Jupiter -121861-05-12 08:25 J -42788175.30 -42788175.15 -42788174.98 0.0504 0.0327
 Saturn -121861-05-26 02:25 J -42788161.61 -42788161.40 -42788161.18 0.0279 0.0026
 Jupiter -121860-01-04 23:17 J -42787937.68 -42787937.53 -42787937.38 0.0509 0.0355
 Saturn -121860-01-10 22:20 J -42787931.78 -42787931.57 -42787931.35 0.0282 0.0029
 Saturn -121860-08-28 19:56 J -42787701.88 -42787701.67 -42787701.45 0.0286 0.0032
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 Uranus -121858-09-03 19:56 J -42786965.69 -42786965.67 -42786965.63 0.0133 0.0131
 Saturn -121857-03-05 23:17 J -42786781.74 -42786781.53 -42786781.32 0.0297 0.0036
 Uranus -121857-04-16 21:51 J -42786739.69 -42786739.59 -42786739.45 0.0133 0.0110
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Uranus -121855-02-24 05:46 J -42786061.45 -42786061.26 -42786061.06 0.0134 0.0044
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Mars -121845-06-21 03:08 J -42782291.55 -42782291.37 -42782291.20 0.1691 0.0051
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 Saturn -121843-01-02 20:10 J -42781730.87 -42781730.66 -42781730.44 0.0265 0.0031
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 Saturn -121838-08-25 23:03 J -42779669.76 -42779669.54 -42779669.32 0.0260 0.0011
 Saturn -121837-04-11 02:53 J -42779440.60 -42779440.38 -42779440.16 0.0261 0.0008
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 Saturn -121832-04-20 17:17 J -42777605.00 -42777604.78 -42777604.56 0.0277 0.0022
 Saturn -121832-12-06 11:46 J -42777375.22 -42777375.01 -42777374.79 0.0280 0.0027
 Jupiter -121831-03-18 17:46 J -42777272.96 -42777272.76 -42777272.57 0.0519 0.0075
 Saturn -121831-07-24 08:10 J -42777145.38 -42777145.16 -42777144.94 0.0284 0.0029
 Saturn -121830-03-11 06:01 J -42776915.46 -42776915.25 -42776915.03 0.0287 0.0032

Saturn -121830-10-27 05:32 J -42776685.48 -42776685.27 -42776685.06 0.0290 0.0034
 Saturn -121829-06-13 06:15 J -42776455.46 -42776455.24 -42776455.03 0.0293 0.0035
 Saturn -121828-01-29 07:41 J -42776225.39 -42776225.18 -42776224.97 0.0295 0.0036
 Saturn -121828-09-16 10:05 J -42775995.29 -42775995.08 -42775994.87 0.0298 0.0035
 Saturn -121827-05-04 12:44 J -42775765.17 -42775764.97 -42775764.76 0.0300 0.0035
 Saturn -121827-12-20 15:51 J -42775535.05 -42775534.84 -42775534.63 0.0302 0.0032
 Saturn -121826-08-07 18:15 J -42775304.94 -42775304.74 -42775304.53 0.0303 0.0030
 Jupiter -121825-01-18 23:32 J -42775140.71 -42775140.52 -42775140.32 0.0505 0.0214
 Saturn -121825-03-24 20:10 J -42775074.86 -42775074.66 -42775074.45 0.0303 0.0026
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 Saturn -121825-11-09 21:22 J -42774844.82 -42774844.61 -42774844.41 0.0304 0.0021
 Saturn -121824-06-27 21:08 J -42774614.83 -42774614.62 -42774614.42 0.0303 0.0016
 Saturn -121823-02-12 19:27 J -42774384.89 -42774384.69 -42774384.48 0.0302 0.0011
 Saturn -121823-09-30 16:05 J -42774155.04 -42774154.83 -42774154.63 0.0301 0.0006
 Saturn -121822-05-18 10:49 J -42773925.26 -42773925.05 -42773924.85 0.0299 0.0006
 Moon -121822-07-01 21:51 J -42773880.69 -42773880.59 -42773880.49 0.2659 0.2049
 Saturn -121821-01-03 03:22 J -42773695.56 -42773695.36 -42773695.15 0.0296 0.0007
 Saturn -121821-08-19 18:15 J -42773465.95 -42773465.74 -42773465.54 0.0294 0.0010
 Saturn -121820-04-06 06:58 J -42773236.41 -42773236.21 -42773236.01 0.0291 0.0013
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 Jupiter -121820-11-21 18:58 J -42773006.90 -42773006.71 -42773006.52 0.0520 0.0113 *
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 Saturn -121818-02-23 09:51 J -42772548.29 -42772548.09 -42772547.88 0.0282 0.0024
 Saturn -121818-10-10 15:37 J -42772319.05 -42772318.85 -42772318.64 0.0279 0.0026
 Mars -121818-11-06 11:17 J -42772292.15 -42772292.03 -42772291.92 0.1834 0.1361
 Uranus -121818-12-20 07:41 J -42772248.27 -42772248.18 -42772248.05 0.0146 0.0129
 Saturn -121817-05-26 19:56 J -42772089.88 -42772089.67 -42772089.46 0.0276 0.0027
 Uranus -121817-08-03 00:29 J -42772021.64 -42772021.48 -42772021.30 0.0146 0.0096
 Saturn -121816-01-10 23:03 J -42771860.75 -42771860.54 -42771860.34 0.0273 0.0029
 Uranus -121816-03-17 16:34 J -42771795.00 -42771794.81 -42771794.59 0.0146 0.0065

Saturn -121816-08-28 00:58 J -42771631.67 -42771631.46 -42771631.25 0.0271 0.0029
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 Uranus -121816-10-30 08:53 J -42771568.35 -42771568.13 -42771567.90 0.0145 0.0032
 Saturn -121815-04-14 02:10 J -42771402.62 -42771402.41 -42771402.20 0.0269 0.0030
 Uranus -121815-06-14 00:44 J -42771341.69 -42771341.47 -42771341.24 0.0145 0.0003
 Mars -121815-08-21 11:46 J -42771273.08 -42771273.01 -42771272.93 0.1674 0.1492
 Saturn -121815-11-29 02:25 J -42771173.61 -42771173.40 -42771173.19 0.0266 0.0030
 Uranus -121814-01-26 16:34 J -42771115.04 -42771114.81 -42771114.59 0.0144 0.0031
 Moon -121814-06-29 16:05 J -42770960.98 -42770960.83 -42770960.68 0.2666 0.0378
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 Mars -121814-07-02 22:20 J -42770957.63 -42770957.57 -42770957.51 0.1801 0.1679
 Saturn -121814-07-16 02:10 J -42770944.62 -42770944.41 -42770944.20 0.0265 0.0029
 Uranus -121814-09-10 07:41 J -42770888.37 -42770888.18 -42770887.96 0.0144 0.0062
 Jupiter -121814-09-23 13:41 J -42770875.05 -42770874.93 -42770874.80 0.0504 0.0405
 Saturn -121813-03-01 01:27 J -42770715.65 -42770715.44 -42770715.22 0.0263 0.0029
 Uranus -121813-04-23 22:49 J -42770661.71 -42770661.55 -42770661.36 0.0144 0.0093
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 Saturn -121812-06-02 00:15 J -42770257.71 -42770257.49 -42770257.28 0.0261 0.0027
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 Neptune -121810-06-28 08:39 J -42769501.14 -42769501.14 -42769501.11 0.0089 0.0089
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Saturn -121808-03-07 05:17 J -42768883.50 -42768883.28 -42768883.06 0.0260 0.0012
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 Saturn -121808-10-22 09:08 J -42768654.34 -42768654.12 -42768653.90 0.0261 0.0009
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 Neptune -121803-11-25 05:17 J -42766794.50 -42766794.28 -42766794.06 0.0089 0.0007
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Neptune -121800-05-15 10:49 J -42765892.26 -42765892.05 -42765891.83 0.0089 0.0020
 Saturn -121800-12-24 16:20 J -42765669.03 -42765668.82 -42765668.61 0.0293 0.0031
 Neptune -121800-12-27 00:01 J -42765666.70 -42765666.50 -42765666.28 0.0088 0.0027
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 Neptune -121798-03-23 02:25 J -42765215.59 -42765215.40 -42765215.20 0.0088 0.0041
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 Pluto -121797-08-22 11:32 J -42764697.20 -42764697.02 -42764696.81 0.0079 0.0033
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 Saturn -121795-05-23 07:41 J -42764058.38 -42764058.18 -42764057.97 0.0304 0.0018
 Neptune -121795-12-05 08:25 J -42763862.23 -42763862.15 -42763862.04 0.0088 0.0080
 Saturn -121794-01-08 07:27 J -42763828.39 -42763828.19 -42763827.99 0.0303 0.0013
 Neptune -121794-07-18 21:22 J -42763636.65 -42763636.61 -42763636.55 0.0088 0.0086
 Saturn -121794-08-26 05:32 J -42763598.48 -42763598.27 -42763598.07 0.0302 0.0010
 Saturn -121793-04-12 01:41 J -42763368.63 -42763368.43 -42763368.23 0.0301 0.0004
 Saturn -121793-11-27 20:10 J -42763138.87 -42763138.66 -42763138.46 0.0299 0.0004
 Saturn -121792-07-15 12:29 J -42762909.18 -42762908.98 -42762908.77 0.0296 0.0007
 Saturn -121791-03-02 03:08 J -42762679.57 -42762679.37 -42762679.16 0.0294 0.0010
 Saturn -121791-10-17 15:37 J -42762450.05 -42762449.85 -42762449.65 0.0291 0.0013

Saturn -121790-06-04 02:10 J -42762220.62 -42762220.41 -42762220.21 0.0288 0.0018
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 Saturn -121788-12-07 03:22 J -42761303.57 -42761303.36 -42761303.16 0.0276 0.0027
 Saturn -121787-07-24 06:01 J -42761074.46 -42761074.25 -42761074.04 0.0273 0.0027
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 Mars -121784-09-03 01:41 J -42759937.60 -42759937.43 -42759937.26 0.1825 0.0493
 Saturn -121784-09-11 07:41 J -42759929.39 -42759929.18 -42759928.96 0.0263 0.0026
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 Saturn -121779-09-17 12:01 J -42758097.22 -42758097.00 -42758096.78 0.0260 0.0009
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Saturn -121777-08-05 04:49 J -42757409.52 -42757409.30 -42757409.07 0.0264 0.0006
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 Uranus -121774-12-16 13:27 J -42756181.03 -42756180.94 -42756180.85 0.0133 0.0119
 Saturn -121773-05-13 11:03 J -42756032.26 -42756032.04 -42756031.82 0.0278 0.0022
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 Uranus -121770-09-03 05:03 J -42754824.50 -42754824.29 -42754824.08 0.0134 0.0015
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 Uranus -121769-04-16 07:56 J -42754598.37 -42754598.17 -42754597.97 0.0135 0.0039
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 Uranus -121767-02-23 18:01 J -42753919.87 -42753919.75 -42753919.62 0.0136 0.0109
 Saturn -121767-08-30 15:22 J -42753732.07 -42753731.86 -42753731.66 0.0303 0.0024

Uranus -121767-10-07 21:51 J -42753693.63 -42753693.59 -42753693.55 0.0136 0.0133
 Jupiter -121766-02-03 21:22 J -42753574.67 -42753574.61 -42753574.54 0.0503 0.0478
 Saturn -121766-04-17 17:03 J -42753502.00 -42753501.79 -42753501.59 0.0304 0.0020
 Jupiter -121766-09-29 11:32 J -42753337.21 -42753337.02 -42753336.82 0.0507 0.0201
 Saturn -121766-12-03 17:46 J -42753271.96 -42753271.76 -42753271.55 0.0304 0.0015
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 Saturn -121764-10-23 11:03 J -42752582.24 -42752582.04 -42752581.84 0.0300 0.0002
 Saturn -121763-06-10 05:17 J -42752352.49 -42752352.28 -42752352.08 0.0298 0.0007
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 Saturn -121762-09-12 11:32 J -42751893.22 -42751893.02 -42751892.82 0.0293 0.0011
 Saturn -121761-04-28 23:32 J -42751663.72 -42751663.52 -42751663.31 0.0290 0.0016
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 Saturn -121761-12-14 09:51 J -42751434.29 -42751434.09 -42751433.89 0.0287 0.0017
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 Saturn -121759-03-18 00:58 J -42750975.66 -42750975.46 -42750975.25 0.0281 0.0022
 Saturn -121759-11-02 06:01 J -42750746.45 -42750746.25 -42750746.04 0.0278 0.0024
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 Saturn -121756-12-21 14:53 J -42749601.09 -42749600.88 -42749600.67 0.0266 0.0026
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 Jupiter -121754-06-04 01:41 J -42749071.65 -42749071.43 -42749071.22 0.0506 0.0011
 Saturn -121754-11-08 12:29 J -42748914.19 -42748913.98 -42748913.76 0.0261 0.0023
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 Saturn -121752-02-08 11:03 J -42748456.25 -42748456.04 -42748455.82 0.0259 0.0020
 Mars -121752-09-02 16:49 J -42748249.92 -42748249.80 -42748249.67 0.1832 0.1263

Saturn -121752-09-25 10:49 J -42748227.26 -42748227.05 -42748226.83 0.0259 0.0018
 Saturn -121751-05-12 11:17 J -42747998.25 -42747998.03 -42747997.81 0.0259 0.0016
 Saturn -121751-12-27 12:15 J -42747769.21 -42747768.99 -42747768.77 0.0259 0.0013
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 Saturn -121750-08-13 14:25 J -42747540.12 -42747539.90 -42747539.68 0.0260 0.0010
 Saturn -121749-03-29 17:32 J -42747310.99 -42747310.77 -42747310.55 0.0260 0.0008
 Mars -121749-06-17 23:17 J -42747230.61 -42747230.53 -42747230.45 0.1675 0.1464
 Saturn -121749-11-13 21:51 J -42747081.81 -42747081.59 -42747081.37 0.0261 0.0005
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 Mars -121748-04-29 05:46 J -42746915.29 -42746915.26 -42746915.23 0.1798 0.1756
 Saturn -121748-07-01 03:37 J -42746852.57 -42746852.35 -42746852.13 0.0263 0.0002
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 Saturn -121739-04-21 16:20 J -42743636.03 -42743635.82 -42743635.61 0.0298 0.0026
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Saturn -121738-07-25 22:20 J -42743175.77 -42743175.57 -42743175.36 0.0302 0.0022
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 Uranus -121734-08-19 15:51 J -42741689.87 -42741689.84 -42741689.77 0.0146 0.0143
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 Earth -121732-01-08 08:25 J -42741182.30 -42741182.15 -42741181.99 0.2676 0.0846 *
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 Saturn -121731-06-26 18:01 J -42740647.95 -42740647.75 -42740647.55 0.0287 0.0018
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 Neptune -121727-11-01 23:17 J -42739058.63 -42739058.53 -42739058.42 0.0089 0.0077
 Saturn -121727-11-16 21:08 J -42739043.83 -42739043.62 -42739043.41 0.0267 0.0024
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 Neptune -121724-04-21 23:46 J -42738156.67 -42738156.51 -42738156.32 0.0089 0.0052
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Neptune -121719-03-31 03:22 J -42736352.58 -42736352.36 -42736352.15 0.0089 0.0002
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 Neptune -121640-04-20 18:29 J -42707476.93 -42707476.73 -42707476.51 0.0089 0.0029
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 Saturn -121639-03-20 12:15 J -42707143.20 -42707142.99 -42707142.78 0.0271 0.0019
 Neptune -121639-07-15 21:37 J -42707025.82 -42707025.60 -42707025.38 0.0089 0.0015
 Saturn -121639-11-04 12:58 J -42706914.17 -42706913.96 -42706913.75 0.0268 0.0019

Pluto -121638-01-21 21:22 J -42706835.76 -42706835.61 -42706835.42 0.0066 0.0044
 Neptune -121638-02-26 11:03 J -42706800.26 -42706800.04 -42706799.81 0.0089 0.0008
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Saturn -121617-11-02 06:58 J -42698880.41 -42698880.21 -42698880.00 0.0301 0.0007
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 Saturn -121614-12-25 10:49 J -42697732.25 -42697732.05 -42697731.84 0.0289 0.0017
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 Saturn -121611-06-29 13:13 J -42696815.16 -42696814.95 -42696814.75 0.0276 0.0020
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 Uranus -121606-11-27 20:39 J -42694837.73 -42694837.64 -42694837.54 0.0132 0.0117
 Saturn -121605-02-19 12:29 J -42694754.20 -42694753.98 -42694753.77 0.0259 0.0009
 Uranus -121605-07-10 22:49 J -42694611.69 -42694611.55 -42694611.40 0.0133 0.0095
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Saturn -121603-01-06 11:46 J -42694067.23 -42694067.01 -42694066.79 0.0258 0.0002
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 Saturn -121603-08-23 12:58 J -42693838.18 -42693837.96 -42693837.74 0.0258 0.0001
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 Uranus -121602-08-15 11:32 J -42693481.23 -42693481.02 -42693480.81 0.0134 0.0019
 Saturn -121602-11-24 18:29 J -42693379.95 -42693379.73 -42693379.51 0.0260 0.0006
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 Uranus -121601-11-09 17:17 J -42693028.95 -42693028.78 -42693028.59 0.0135 0.0066
 Saturn -121600-02-25 05:46 J -42692921.49 -42692921.26 -42692921.04 0.0263 0.0010
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 Saturn -121597-04-17 14:39 J -42691774.11 -42691773.89 -42691773.67 0.0275 0.0018
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Uranus -121564-06-10 23:03 J -42679666.76 -42679666.54 -42679666.32 0.0146 0.0042
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 Neptune -121563-06-22 19:27 J -42679289.74 -42679289.69 -42679289.60 0.0089 0.0084
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Saturn -121538-05-10 21:51 J -42670201.80 -42670201.59 -42670201.37 0.0275 0.0020
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Uranus -121522-07-28 10:20 J -42664279.11 -42664279.07 -42664278.99 0.0132 0.0128
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 Earth -121489-01-09 06:29 J -42652426.39 -42652426.23 -42652426.08 0.2672 0.0724 *
 Saturn -121489-05-18 04:49 J -42652296.51 -42652296.30 -42652296.08 0.0262 0.0008
 Mars -121489-12-19 15:08 J -42652081.02 -42652080.87 -42652080.72 0.1823 0.0859
 Saturn -121488-01-02 03:22 J -42652067.57 -42652067.36 -42652067.14 0.0260 0.0004
 Saturn -121488-08-19 01:41 J -42651838.64 -42651838.43 -42651838.21 0.0259 0.0006
 Jupiter -121487-02-06 09:22 J -42651667.31 -42651667.11 -42651666.91 0.0519 0.0039
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Mars -121457-12-19 06:15 J -42640393.31 -42640393.24 -42640393.16 0.1830 0.1639
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 Moon -121246-01-09 08:53 J -42563670.28 -42563670.13 -42563669.99 0.2665 0.1407 *
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Saturn -121125-10-14 13:13 J -42519196.17 -42519195.95 -42519195.73 0.0277 0.0017
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 Saturn -121090-05-10 11:03 J -42506570.25 -42506570.04 -42506569.83 0.0300 0.0017
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 Moon -121085-06-30 11:03 J -42504692.18 -42504692.04 -42504691.91 0.2681 0.1028 *
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 Saturn -121078-12-05 06:15 J -42501978.45 -42501978.24 -42501978.03 0.0266 0.0008
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Jupiter -121072-05-13 19:13 J -42499991.86 -42499991.70 -42499991.54 0.0518 0.0288
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 Saturn -121067-08-04 18:58 J -42498082.92 -42498082.71 -42498082.48 0.0272 0.0022
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 Neptune -121064-05-31 22:49 J -42497051.76 -42497051.55 -42497051.34 0.0089 0.0022
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 Neptune -121059-05-10 02:10 J -42495247.61 -42495247.41 -42495247.20 0.0089 0.0031
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 Mars -121055-05-13 22:05 J -42493782.74 -42493782.58 -42493782.42 0.1716 0.0691
 Saturn -121055-07-21 07:56 J -42493714.38 -42493714.17 -42493713.97 0.0297 0.0026
 Neptune -121055-09-04 19:27 J -42493668.80 -42493668.69 -42493668.58 0.0089 0.0076
 Jupiter -121055-11-18 11:46 J -42493594.20 -42493594.01 -42493593.82 0.0505 0.0206
 Saturn -121054-03-07 22:49 J -42493484.75 -42493484.55 -42493484.34 0.0294 0.0024
 Neptune -121054-04-18 07:56 J -42493443.23 -42493443.17 -42493443.07 0.0089 0.0083
 Saturn -121054-10-23 11:46 J -42493255.21 -42493255.01 -42493254.80 0.0291 0.0021
 Saturn -121053-06-08 22:49 J -42493025.75 -42493025.55 -42493025.34 0.0288 0.0018
 Saturn -121052-01-24 08:10 J -42492796.37 -42492796.16 -42492795.96 0.0285 0.0014
 Saturn -121052-09-10 15:51 J -42492567.05 -42492566.84 -42492566.64 0.0282 0.0012
 Saturn -121051-04-27 21:51 J -42492337.79 -42492337.59 -42492337.38 0.0279 0.0009
 Saturn -121051-12-13 02:39 J -42492108.60 -42492108.39 -42492108.18 0.0276 0.0003
 Saturn -121050-07-30 06:01 J -42491879.46 -42491879.25 -42491879.04 0.0273 0.0001
 Saturn -121049-03-15 08:25 J -42491650.37 -42491650.15 -42491649.94 0.0270 0.0008
 Jupiter -121049-09-21 18:29 J -42491459.92 -42491459.73 -42491459.54 0.0520 0.0112
 Saturn -121049-10-30 09:37 J -42491421.31 -42491421.10 -42491420.88 0.0268 0.0010
 Saturn -121048-06-16 10:34 J -42491192.27 -42491192.06 -42491191.85 0.0266 0.0012
 Saturn -121047-01-31 10:34 J -42490963.27 -42490963.06 -42490962.84 0.0264 0.0015
 Saturn -121047-09-17 10:20 J -42490734.28 -42490734.07 -42490733.85 0.0262 0.0017

Saturn -121046-05-04 09:51 J -42490505.30 -42490505.09 -42490504.87 0.0261 0.0020
 Saturn -121046-12-19 09:22 J -42490276.33 -42490276.11 -42490275.89 0.0260 0.0022
 Saturn -121045-08-04 08:53 J -42490047.34 -42490047.13 -42490046.91 0.0259 0.0025
 Saturn -121044-03-21 08:53 J -42489818.34 -42489818.13 -42489817.91 0.0258 0.0026
 Saturn -121044-11-05 09:22 J -42489589.33 -42489589.11 -42489588.89 0.0258 0.0027
 Saturn -121043-06-22 10:34 J -42489360.27 -42489360.06 -42489359.84 0.0258 0.0028
 Jupiter -121043-07-24 04:05 J -42489328.45 -42489328.33 -42489328.20 0.0504 0.0400
 Saturn -121042-02-06 12:29 J -42489131.19 -42489130.98 -42489130.75 0.0259 0.0029
 Jupiter -121042-03-18 18:58 J -42489090.88 -42489090.71 -42489090.55 0.0507 0.0312
 Saturn -121042-09-23 15:37 J -42488902.07 -42488901.85 -42488901.63 0.0260 0.0029
 Saturn -121041-05-09 19:27 J -42488672.91 -42488672.69 -42488672.47 0.0261 0.0029
 Saturn -121041-12-25 00:44 J -42488443.69 -42488443.47 -42488443.25 0.0262 0.0028
 Saturn -121040-08-11 07:41 J -42488214.40 -42488214.18 -42488213.96 0.0264 0.0027
 Saturn -121039-03-28 15:51 J -42487985.06 -42487984.84 -42487984.62 0.0265 0.0026
 Saturn -121039-11-13 01:27 J -42487755.66 -42487755.44 -42487755.22 0.0268 0.0025
 Saturn -121038-06-30 12:58 J -42487526.18 -42487525.96 -42487525.74 0.0270 0.0023
 Saturn -121037-02-15 01:56 J -42487296.64 -42487296.42 -42487296.20 0.0273 0.0020
 Jupiter -121037-05-27 18:15 J -42487193.89 -42487193.74 -42487193.58 0.0522 0.0311
 Saturn -121037-10-01 17:03 J -42487067.01 -42487066.79 -42487066.57 0.0275 0.0017
 Jupiter -121036-01-19 03:22 J -42486957.48 -42486957.36 -42486957.23 0.0517 0.0399
 Saturn -121036-05-19 09:51 J -42486837.31 -42486837.09 -42486836.88 0.0278 0.0015
 Saturn -121035-01-04 04:05 J -42486607.54 -42486607.33 -42486607.11 0.0281 0.0011
 Saturn -121035-08-22 00:15 J -42486377.71 -42486377.49 -42486377.27 0.0284 0.0007
 Saturn -121034-04-08 22:05 J -42486147.80 -42486147.58 -42486147.37 0.0288 0.0006
 Saturn -121034-11-24 21:08 J -42485917.83 -42485917.62 -42485917.40 0.0291 0.0006
 Saturn -121033-07-11 21:37 J -42485687.81 -42485687.60 -42485687.39 0.0294 0.0007
 Saturn -121032-02-26 22:49 J -42485457.76 -42485457.55 -42485457.33 0.0296 0.0013
 Saturn -121032-10-15 00:58 J -42485227.67 -42485227.46 -42485227.25 0.0299 0.0017
 Saturn -121031-06-02 03:22 J -42484997.56 -42484997.36 -42484997.15 0.0301 0.0022
 Jupiter -121031-11-21 10:34 J -42484825.26 -42484825.06 -42484824.85 0.0506 0.0112

Saturn -121030-01-18 06:01 J -42484767.45 -42484767.25 -42484767.04 0.0302 0.0025
 Saturn -121030-09-05 08:10 J -42484537.36 -42484537.16 -42484536.95 0.0303 0.0028
 Mars -121030-11-29 07:13 J -42484452.22 -42484452.20 -42484452.19 0.1823 0.1815
 Saturn -121029-04-22 09:51 J -42484307.30 -42484307.09 -42484306.89 0.0304 0.0030
 Saturn -121029-12-08 10:20 J -42484077.27 -42484077.07 -42484076.86 0.0304 0.0032
 Saturn -121028-07-26 09:51 J -42483847.29 -42483847.09 -42483846.89 0.0303 0.0032
 Mars -121028-09-26 12:29 J -42483785.15 -42483784.98 -42483784.81 0.1806 0.0214
 Saturn -121027-03-13 07:41 J -42483617.38 -42483617.18 -42483616.98 0.0302 0.0032
 Saturn -121027-10-29 03:51 J -42483387.54 -42483387.34 -42483387.14 0.0300 0.0031
 Saturn -121026-06-15 22:05 J -42483157.78 -42483157.58 -42483157.37 0.0298 0.0030
 Mars -121026-07-26 02:53 J -42483117.50 -42483117.38 -42483117.25 0.1788 0.1232
 Saturn -121025-01-31 14:39 J -42482928.09 -42482927.89 -42482927.69 0.0296 0.0026
 Jupiter -121025-01-31 19:56 J -42482927.72 -42482927.67 -42482927.62 0.0523 0.0505 *
 Mars -121025-07-13 19:41 J -42482763.81 -42482763.68 -42482763.54 0.1695 0.1075
 Saturn -121025-09-17 05:03 J -42482698.49 -42482698.29 -42482698.08 0.0293 0.0024
 Jupiter -121025-09-24 05:32 J -42482691.45 -42482691.27 -42482691.09 0.0519 0.0208
 Saturn -121024-05-04 17:46 J -42482468.96 -42482468.76 -42482468.56 0.0290 0.0020
 Saturn -121024-12-20 04:34 J -42482239.51 -42482239.31 -42482239.10 0.0287 0.0017
 Mars -121023-05-13 01:41 J -42482095.61 -42482095.43 -42482095.26 0.1709 0.0097
 Saturn -121023-08-06 13:41 J -42482010.14 -42482009.93 -42482009.73 0.0284 0.0013
 Saturn -121022-03-23 21:08 J -42481780.82 -42481780.62 -42481780.41 0.0281 0.0010
 Saturn -121022-11-08 03:08 J -42481551.58 -42481551.37 -42481551.16 0.0278 0.0005
 Mars -121021-03-11 00:58 J -42481427.57 -42481427.46 -42481427.36 0.1726 0.1379
 Saturn -121021-06-24 07:41 J -42481322.39 -42481322.18 -42481321.97 0.0275 0.0002
 Saturn -121020-02-08 11:03 J -42481093.25 -42481093.04 -42481092.84 0.0273 0.0006
 Saturn -121020-09-25 13:13 J -42480864.16 -42480863.95 -42480863.74 0.0270 0.0006
 Saturn -121019-05-12 14:39 J -42480635.10 -42480634.89 -42480634.67 0.0268 0.0011
 Jupiter -121019-07-27 00:01 J -42480559.71 -42480559.50 -42480559.29 0.0505 0.0094
 Saturn -121019-12-27 15:22 J -42480406.07 -42480405.86 -42480405.65 0.0266 0.0013
 Uranus -121018-06-02 08:25 J -42480249.22 -42480249.15 -42480249.05 0.0132 0.0121

Saturn -121018-08-13 15:22 J -42480177.07 -42480176.86 -42480176.64 0.0264 0.0016
 Uranus -121017-01-14 10:34 J -42480023.18 -42480023.06 -42480022.91 0.0132 0.0099
 Saturn -121017-03-29 15:08 J -42479948.08 -42479947.87 -42479947.66 0.0262 0.0018
 Uranus -121017-08-27 12:58 J -42479797.13 -42479796.96 -42479796.78 0.0133 0.0075
 Saturn -121017-11-13 14:39 J -42479719.10 -42479718.89 -42479718.67 0.0261 0.0020
 Uranus -121016-04-10 15:08 J -42479571.05 -42479570.87 -42479570.67 0.0133 0.0052
 Saturn -121016-06-30 14:25 J -42479490.12 -42479489.90 -42479489.68 0.0260 0.0022
 Uranus -121016-11-22 17:32 J -42479344.97 -42479344.77 -42479344.56 0.0133 0.0028
 Saturn -121015-02-14 14:10 J -42479261.13 -42479260.91 -42479260.69 0.0259 0.0024
 Uranus -121015-07-06 20:25 J -42479118.86 -42479118.65 -42479118.44 0.0134 0.0005
 Saturn -121015-10-01 14:10 J -42479032.13 -42479031.91 -42479031.69 0.0259 0.0026
 Uranus -121014-02-17 23:03 J -42478892.74 -42478892.54 -42478892.33 0.0134 0.0020
 Saturn -121014-05-18 14:39 J -42478803.10 -42478802.89 -42478802.67 0.0259 0.0027
 Uranus -121014-10-02 01:56 J -42478666.62 -42478666.42 -42478666.22 0.0134 0.0045
 Saturn -121013-01-02 15:51 J -42478574.05 -42478573.84 -42478573.61 0.0259 0.0029
 Uranus -121013-05-15 04:34 J -42478440.48 -42478440.31 -42478440.12 0.0134 0.0069
 Jupiter -121013-05-30 06:44 J -42478425.41 -42478425.22 -42478425.02 0.0520 0.0014
 Saturn -121013-08-18 18:15 J -42478344.96 -42478344.74 -42478344.52 0.0259 0.0029
 Uranus -121013-12-27 07:41 J -42478214.32 -42478214.18 -42478214.02 0.0135 0.0094
 Saturn -121012-04-04 21:22 J -42478115.83 -42478115.61 -42478115.39 0.0260 0.0029
 Uranus -121012-08-10 11:03 J -42477988.13 -42477988.04 -42477987.93 0.0135 0.0119
 Saturn -121012-11-20 01:41 J -42477886.65 -42477886.43 -42477886.21 0.0261 0.0029
 Saturn -121011-07-07 07:13 J -42477657.42 -42477657.20 -42477656.98 0.0262 0.0029
 Saturn -121010-02-21 14:10 J -42477428.13 -42477427.91 -42477427.68 0.0264 0.0028
 Saturn -121010-10-08 22:49 J -42477198.77 -42477198.55 -42477198.33 0.0266 0.0026
 Saturn -121009-05-25 08:53 J -42476969.35 -42476969.13 -42476968.91 0.0268 0.0024
 Saturn -121008-01-09 20:39 J -42476739.86 -42476739.64 -42476739.42 0.0270 0.0022
 Saturn -121008-08-27 10:20 J -42476510.29 -42476510.07 -42476509.85 0.0273 0.0019
 Jupiter -121007-03-31 16:34 J -42476293.98 -42476293.81 -42476293.64 0.0504 0.0291
 Saturn -121007-04-14 01:27 J -42476280.66 -42476280.44 -42476280.22 0.0275 0.0016

Jupiter	-121007-11-24 07:41 J	-42476056.28	-42476056.18	-42476056.06	0.0508	0.0427
Saturn	-121007-11-29 18:29 J	-42476050.95	-42476050.73	-42476050.51	0.0278	0.0011
Saturn	-121006-07-17 13:13 J	-42475821.17	-42475820.95	-42475820.74	0.0281	0.0009
Saturn	-121005-03-03 09:22 J	-42475591.32	-42475591.11	-42475590.89	0.0284	0.0004
Saturn	-121005-10-19 07:27 J	-42475361.41	-42475361.19	-42475360.97	0.0288	0.0002
Saturn	-121004-06-06 06:44 J	-42475131.43	-42475131.22	-42475131.00	0.0291	0.0007
Earth	-121003-01-09 01:56 J	-42474914.58	-42474914.42	-42474914.25	0.2665	0.0491
Moon	-121003-01-09 03:08 J	-42474914.52	-42474914.37	-42474914.21	0.2672	0.0455 *
Saturn	-121003-01-22 07:13 J	-42474901.41	-42474901.20	-42474900.99	0.0294	0.0011
Saturn	-121003-09-09 08:39 J	-42474671.35	-42474671.14	-42474670.93	0.0296	0.0016
Saturn	-121002-04-27 10:34 J	-42474441.26	-42474441.06	-42474440.85	0.0299	0.0021
Saturn	-121002-12-13 13:13 J	-42474211.16	-42474210.95	-42474210.74	0.0301	0.0024
Jupiter	-121001-02-03 05:46 J	-42474159.45	-42474159.26	-42474159.08	0.0521	0.0192
Saturn	-121001-07-30 15:37 J	-42473981.06	-42473980.85	-42473980.64	0.0302	0.0027
Jupiter	-121001-09-26 14:10 J	-42473922.93	-42473922.91	-42473922.89	0.0516	0.0512

121ST MILLENNIUM BCE

This is a list of transits of Venus in the 121st millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-121000-03-17 17:32 J	-42473750.97	-42473750.77	-42473750.56	0.0303	0.0029		
Saturn	-121000-11-02 18:58 J	-42473520.92	-42473520.71	-42473520.51	0.0304	0.0031		

Saturn -120999-06-20 19:13 J -42473290.90 -42473290.70 -42473290.50 0.0304 0.0032
 Saturn -120998-02-05 18:29 J -42473060.93 -42473060.73 -42473060.53 0.0303 0.0032
 Saturn -120998-09-23 15:51 J -42472831.04 -42472830.84 -42472830.63 0.0302 0.0033
 Saturn -120997-05-10 11:46 J -42472601.21 -42472601.01 -42472600.80 0.0301 0.0030
 Saturn -120997-12-26 06:01 J -42472371.46 -42472371.25 -42472371.05 0.0298 0.0028
 Saturn -120996-08-12 22:05 J -42472141.78 -42472141.58 -42472141.38 0.0296 0.0025
 Mars -120996-09-26 00:01 J -42472097.65 -42472097.50 -42472097.35 0.1814 0.0951
 Jupiter -120996-12-04 09:51 J -42472028.14 -42472028.09 -42472028.03 0.0503 0.0483
 Saturn -120995-03-30 12:29 J -42471912.18 -42471911.98 -42471911.77 0.0293 0.0023
 Jupiter -120995-07-30 00:44 J -42471790.65 -42471790.47 -42471790.28 0.0507 0.0230
 Saturn -120995-11-15 00:58 J -42471682.67 -42471682.46 -42471682.26 0.0290 0.0019
 Saturn -120994-07-02 11:32 J -42471453.23 -42471453.02 -42471452.82 0.0287 0.0016
 Mars -120994-07-25 11:03 J -42471430.21 -42471430.04 -42471429.88 0.1796 0.0566
 Saturn -120993-02-16 20:10 J -42471223.86 -42471223.66 -42471223.45 0.0284 0.0011
 Mars -120993-07-12 19:27 J -42471076.74 -42471076.69 -42471076.63 0.1689 0.1595
 Saturn -120993-10-03 03:22 J -42470994.57 -42470994.36 -42470994.15 0.0281 0.0007
 Saturn -120992-05-20 09:08 J -42470765.33 -42470765.12 -42470764.91 0.0278 0.0004
 Saturn -120991-01-04 13:27 J -42470536.15 -42470535.94 -42470535.73 0.0275 0.0003
 Mars -120991-05-12 04:34 J -42470408.48 -42470408.31 -42470408.14 0.1703 0.0480
 Saturn -120991-08-21 16:34 J -42470307.02 -42470306.81 -42470306.60 0.0272 0.0006
 Saturn -120990-04-07 18:44 J -42470077.93 -42470077.72 -42470077.51 0.0270 0.0010
 Jupiter -120990-10-09 05:17 J -42469893.41 -42469893.28 -42469893.15 0.0522 0.0393
 Saturn -120990-11-22 19:56 J -42469848.88 -42469848.67 -42469848.46 0.0267 0.0013
 Mars -120989-03-10 06:44 J -42469740.38 -42469740.22 -42469740.07 0.1719 0.0757
 Jupiter -120989-06-01 14:10 J -42469657.06 -42469656.91 -42469656.75 0.0518 0.0319
 Saturn -120989-07-08 20:25 J -42469619.86 -42469619.65 -42469619.43 0.0265 0.0017
 Saturn -120988-02-22 20:39 J -42469390.85 -42469390.64 -42469390.43 0.0263 0.0019
 Neptune -120988-05-20 04:49 J -42469304.35 -42469304.30 -42469304.22 0.0089 0.0085
 Saturn -120988-10-09 20:25 J -42469161.86 -42469161.65 -42469161.44 0.0262 0.0022
 Neptune -120988-12-31 18:29 J -42469078.81 -42469078.73 -42469078.60 0.0089 0.0079

Saturn -120987-05-26 20:10 J -42468932.87 -42468932.66 -42468932.44 0.0261 0.0024
 Neptune -120987-08-14 08:39 J -42468853.25 -42468853.14 -42468852.99 0.0089 0.0072
 Saturn -120986-01-10 19:41 J -42468703.89 -42468703.68 -42468703.46 0.0260 0.0027
 Neptune -120986-03-27 22:49 J -42468627.69 -42468627.55 -42468627.39 0.0089 0.0065
 Saturn -120986-08-27 19:27 J -42468474.90 -42468474.69 -42468474.47 0.0259 0.0028
 Neptune -120986-11-08 12:29 J -42468402.13 -42468401.98 -42468401.79 0.0089 0.0059
 Saturn -120985-04-12 19:41 J -42468245.90 -42468245.68 -42468245.46 0.0259 0.0029
 Neptune -120985-06-21 02:39 J -42468176.56 -42468176.39 -42468176.20 0.0089 0.0052
 Saturn -120985-11-27 20:25 J -42468016.87 -42468016.65 -42468016.43 0.0258 0.0030
 Neptune -120984-02-01 16:34 J -42467951.00 -42467950.81 -42467950.61 0.0089 0.0045
 Saturn -120984-07-14 22:05 J -42467787.80 -42467787.58 -42467787.36 0.0259 0.0031
 Neptune -120984-09-15 06:15 J -42467725.43 -42467725.24 -42467725.02 0.0089 0.0038
 Saturn -120983-03-01 00:29 J -42467558.70 -42467558.48 -42467558.26 0.0259 0.0031
 Jupiter -120983-04-03 16:49 J -42467525.02 -42467524.80 -42467524.59 0.0506 0.0032
 Neptune -120983-04-28 20:10 J -42467499.86 -42467499.66 -42467499.44 0.0089 0.0032
 Saturn -120983-10-16 03:51 J -42467329.56 -42467329.34 -42467329.12 0.0260 0.0031
 Neptune -120983-12-10 10:05 J -42467274.29 -42467274.08 -42467273.86 0.0089 0.0025
 Saturn -120982-06-02 08:10 J -42467100.38 -42467100.16 -42467099.94 0.0261 0.0030
 Neptune -120982-07-23 23:46 J -42467048.72 -42467048.51 -42467048.28 0.0089 0.0018
 Saturn -120981-01-17 13:56 J -42466871.13 -42466870.92 -42466870.69 0.0263 0.0030
 Neptune -120981-03-05 13:27 J -42466823.16 -42466822.94 -42466822.71 0.0089 0.0011
 Saturn -120981-09-02 21:22 J -42466641.83 -42466641.61 -42466641.39 0.0264 0.0028
 Neptune -120981-10-17 03:22 J -42466597.58 -42466597.36 -42466597.13 0.0089 0.0004
 Saturn -120980-04-20 06:15 J -42466412.46 -42466412.24 -42466412.02 0.0266 0.0026
 Neptune -120980-05-30 17:03 J -42466372.01 -42466371.79 -42466371.57 0.0089 0.0002
 Saturn -120980-12-05 16:20 J -42466183.03 -42466182.82 -42466182.59 0.0268 0.0024
 Neptune -120979-01-11 06:29 J -42466146.45 -42466146.23 -42466146.00 0.0089 0.0009
 Saturn -120979-07-23 04:20 J -42465953.54 -42465953.32 -42465953.10 0.0271 0.0022
 Neptune -120979-08-24 19:56 J -42465920.89 -42465920.67 -42465920.45 0.0088 0.0016
 Saturn -120978-03-09 18:01 J -42465723.96 -42465723.75 -42465723.53 0.0273 0.0019

Neptune -120978-04-07 09:08 J -42465695.32 -42465695.12 -42465694.89 0.0088 0.0023
 Uranus -120978-09-17 05:03 J -42465532.41 -42465532.29 -42465532.17 0.0147 0.0123
 Saturn -120978-10-25 09:37 J -42465494.32 -42465494.10 -42465493.88 0.0276 0.0015
 Neptune -120978-11-18 23:03 J -42465469.75 -42465469.54 -42465469.33 0.0088 0.0029
 Jupiter -120977-02-05 14:25 J -42465391.09 -42465390.90 -42465390.71 0.0519 0.0122
 Uranus -120977-04-30 21:22 J -42465305.78 -42465305.61 -42465305.42 0.0146 0.0089
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 Neptune -120977-07-01 12:01 J -42465244.19 -42465244.00 -42465243.78 0.0088 0.0036
 Uranus -120977-12-13 13:41 J -42465079.13 -42465078.93 -42465078.71 0.0146 0.0054
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 Neptune -120976-09-25 14:25 J -42464793.07 -42464792.90 -42464792.70 0.0088 0.0049
 Uranus -120975-03-11 22:20 J -42464625.80 -42464625.57 -42464625.34 0.0145 0.0014
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Jupiter -120942-02-19 15:22 J -42452592.93 -42452592.86 -42452592.77 0.0522 0.0476
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 Saturn -120747-05-31 03:08 J -42381268.59 -42381268.37 -42381268.15 0.0260 0.0041
 Saturn -120746-01-15 07:41 J -42381039.40 -42381039.18 -42381038.96 0.0261 0.0039
 Jupiter -120746-01-30 21:37 J -42381023.73 -42381023.60 -42381023.46 0.0503 0.0386
 Saturn -120746-09-01 13:56 J -42380810.14 -42380809.92 -42380809.70 0.0263 0.0036
 Jupiter -120746-09-25 12:29 J -42380786.13 -42380785.98 -42380785.82 0.0507 0.0337

Saturn -120745-04-17 21:22 J -42380580.83 -42380580.61 -42380580.39 0.0264 0.0032
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 Saturn -120744-07-20 17:03 J -42380122.01 -42380121.79 -42380121.57 0.0269 0.0024
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 Mars -120728-08-28 18:01 J -42374238.92 -42374238.75 -42374238.58 0.1712 0.0269

Saturn -120728-11-28 13:27 J -42374147.14 -42374146.94 -42374146.73 0.0279 0.0007
 Neptune -120728-12-14 11:32 J -42374131.17 -42374131.02 -42374130.86 0.0089 0.0062
 Saturn -120727-07-15 18:15 J -42373917.94 -42373917.74 -42373917.53 0.0276 0.0013
 Neptune -120727-07-28 00:01 J -42373905.62 -42373905.50 -42373905.34 0.0089 0.0069
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 Uranus -120598-08-07 11:03 J -42326778.14 -42326778.04 -42326777.90 0.0132 0.0108
 Jupiter -120598-09-03 12:29 J -42326751.16 -42326750.98 -42326750.80 0.0520 0.0190
 Saturn -120598-12-13 17:03 J -42326650.01 -42326649.79 -42326649.57 0.0265 0.0034
 Uranus -120597-03-20 13:41 J -42326552.09 -42326551.93 -42326551.76 0.0133 0.0083
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 Uranus -120597-11-01 15:51 J -42326326.02 -42326325.84 -42326325.64 0.0133 0.0059
 Saturn -120596-03-16 13:41 J -42326191.15 -42326190.93 -42326190.71 0.0270 0.0023
 Mars -120596-04-22 12:15 J -42326154.17 -42326153.99 -42326153.82 0.1716 0.0157

Uranus -120596-06-15 18:29 J -42326099.93 -42326099.73 -42326099.53 0.0133 0.0034
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 Uranus -120595-01-27 20:53 J -42325873.83 -42325873.63 -42325873.41 0.0133 0.0011
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 Jupiter -120592-07-05 03:51 J -42324619.54 -42324619.34 -42324619.13 0.0504 0.0104
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Saturn -120584-03-02 05:03 J -42321822.49 -42321822.29 -42321822.09 0.0299 0.0042
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 Neptune -120574-09-18 03:22 J -42317970.53 -42317970.36 -42317970.17 0.0089 0.0048
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Saturn -120573-06-17 17:03 J -42317697.00 -42317696.79 -42317696.57 0.0258 0.0056
 Neptune -120573-12-12 03:51 J -42317519.53 -42317519.34 -42317519.13 0.0089 0.0035
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 Neptune -120571-03-08 04:05 J -42317068.53 -42317068.33 -42317068.11 0.0089 0.0023
 Saturn -120571-05-05 18:58 J -42317009.93 -42317009.71 -42317009.49 0.0258 0.0054
 Neptune -120571-10-19 16:20 J -42316843.02 -42316842.82 -42316842.60 0.0089 0.0016
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 Neptune -120569-01-13 17:03 J -42316392.01 -42316391.79 -42316391.57 0.0089 0.0003
 Saturn -120569-03-23 05:46 J -42316322.47 -42316322.26 -42316322.04 0.0261 0.0045
 Neptune -120569-08-26 05:17 J -42316166.49 -42316166.28 -42316166.06 0.0089 0.0004
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 Jupiter -120569-11-12 13:41 J -42316087.95 -42316087.93 -42316087.91 0.0503 0.0499
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 Neptune -120568-11-20 05:46 J -42315715.46 -42315715.26 -42315715.03 0.0089 0.0017
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 Pluto -120567-06-02 13:41 J -42315521.10 -42315520.93 -42315520.72 0.0079 0.0033
 Neptune -120567-07-03 18:15 J -42315489.94 -42315489.74 -42315489.52 0.0089 0.0023
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 Saturn -120567-09-26 16:34 J -42315405.03 -42315404.81 -42315404.59 0.0269 0.0023
 Pluto -120566-01-13 22:34 J -42315295.74 -42315295.56 -42315295.37 0.0079 0.0038
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 Saturn -120566-05-14 05:46 J -42315175.48 -42315175.26 -42315175.04 0.0272 0.0017
 Neptune -120566-09-27 18:58 J -42315038.90 -42315038.71 -42315038.50 0.0089 0.0036

Saturn -120566-12-29 20:39 J -42314945.86 -42314945.64 -42314945.42 0.0275 0.0010
 Mars -120565-05-02 14:10 J -42314820.94 -42314820.91 -42314820.88 0.1770 0.1730
 Neptune -120565-05-10 07:27 J -42314813.36 -42314813.19 -42314812.98 0.0089 0.0043
 Saturn -120565-08-15 13:13 J -42314716.17 -42314715.95 -42314715.73 0.0278 0.0004
 Neptune -120565-12-21 20:10 J -42314587.83 -42314587.66 -42314587.47 0.0089 0.0049
 Saturn -120564-04-02 07:56 J -42314486.39 -42314486.17 -42314485.95 0.0281 0.0008
 Mars -120564-04-21 15:51 J -42314466.99 -42314466.84 -42314466.68 0.1709 0.0747
 Neptune -120564-08-04 08:53 J -42314362.30 -42314362.13 -42314361.96 0.0089 0.0055
 Saturn -120564-11-18 04:20 J -42314256.54 -42314256.32 -42314256.11 0.0284 0.0016
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Saturn -120557-10-22 18:01 J -42311725.95 -42311725.75 -42311725.55 0.0304 0.0058
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 Saturn -120555-09-12 07:56 J -42311036.37 -42311036.17 -42311035.97 0.0299 0.0041
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 Saturn -120553-08-01 04:34 J -42310347.51 -42310347.31 -42310347.10 0.0291 0.0017
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 Jupiter -120533-07-21 06:44 J -42303053.36 -42303053.22 -42303053.08 0.0503 0.0377
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Saturn -120529-06-13 17:32 J -42301629.97 -42301629.77 -42301629.57 0.0304 0.0066
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Saturn -120381-02-08 01:27 J -42247699.64 -42247699.44 -42247699.24 0.0305 0.0073
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Neptune -120330-01-09 05:17 J -42229101.37 -42229101.28 -42229101.15 0.0089 0.0077
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Jupiter -120313-07-08 07:27 J -42222711.27 -42222711.19 -42222711.11 0.0518 0.0471
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Saturn	-120287-12-27 02:53 J	-42213043.58	-42213043.38	-42213043.17	0.0286	0.0007
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Saturn	-120283-10-02 10:34 J	-42211668.27	-42211668.06	-42211667.85	0.0269	0.0050
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Saturn	-120281-01-03 12:15 J	-42211210.20	-42211209.99	-42211209.78	0.0265	0.0059
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Saturn	-120280-11-20 10:49 J	-42210523.25	-42210523.05	-42210522.84	0.0260	0.0068
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Saturn	-120278-10-08 09:51 J	-42209836.30	-42209836.09	-42209835.88	0.0258	0.0069
Saturn	-120277-05-24 10:20 J	-42209607.28	-42209607.07	-42209606.86	0.0258	0.0067
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Saturn	-120275-04-11 16:34 J	-42208920.03	-42208919.81	-42208919.60	0.0259	0.0058
Saturn	-120275-11-26 20:39 J	-42208690.86	-42208690.64	-42208690.42	0.0261	0.0053
Earth	-120274-01-09 20:10 J	-42208646.82	-42208646.66	-42208646.49	0.2654	0.0251
Moon	-120274-01-09 22:20 J	-42208646.74	-42208646.57	-42208646.40	0.2648	0.0625 *
Saturn	-120274-07-14 02:10 J	-42208461.63	-42208461.41	-42208461.20	0.0262	0.0047
Mars	-120274-12-22 17:32 J	-42208299.86	-42208299.77	-42208299.68	0.1804	0.1509
Saturn	-120273-02-28 08:53 J	-42208232.35	-42208232.13	-42208231.91	0.0264	0.0041
Saturn	-120273-10-14 17:03 J	-42208003.00	-42208002.79	-42208002.56	0.0266	0.0034
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Saturn	-120272-06-01 03:08 J	-42207773.59	-42207773.37	-42207773.15	0.0268	0.0025

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Saturn -120232-08-24 15:37 J -42193079.04 -42193078.85 -42193078.65 0.0303 0.0067
 Saturn -120231-04-11 12:58 J -42192849.16 -42192848.96 -42192848.76 0.0302 0.0059
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 Saturn -120005-06-14 15:51 J -42110238.06 -42110237.84 -42110237.62 0.0277 0.0015

Uranus -120005-09-05 04:20 J -42110155.43 -42110155.32 -42110155.18 0.0135 0.0109
 Jupiter -120005-09-20 16:34 J -42110139.97 -42110139.81 -42110139.66 0.0519 0.0317
 Saturn -120004-01-30 08:53 J -42110008.35 -42110008.13 -42110007.91 0.0280 0.0027
 Saturn -120004-09-17 03:37 J -42109778.56 -42109778.35 -42109778.13 0.0283 0.0039
 Mars -120004-09-22 16:34 J -42109772.99 -42109772.81 -42109772.64 0.1738 0.0455
 Neptune -120003-04-19 21:22 J -42109563.62 -42109563.61 -42109563.57 0.0089 0.0088
 Saturn -120003-05-05 00:01 J -42109548.71 -42109548.50 -42109548.29 0.0286 0.0050
 Neptune -120003-12-01 11:32 J -42109338.09 -42109338.02 -42109337.91 0.0089 0.0082
 Saturn -120003-12-20 21:51 J -42109318.80 -42109318.59 -42109318.38 0.0289 0.0061
 Neptune -120002-07-15 01:56 J -42109112.53 -42109112.42 -42109112.29 0.0089 0.0075
 Saturn -120002-08-07 20:39 J -42109088.84 -42109088.64 -42109088.43 0.0292 0.0071
 Neptune -120001-02-25 15:51 J -42108886.96 -42108886.84 -42108886.68 0.0089 0.0069
 Saturn -120001-03-24 20:39 J -42108858.84 -42108858.64 -42108858.43 0.0295 0.0080
 Neptune -120001-10-08 06:29 J -42108661.38 -42108661.23 -42108661.06 0.0089 0.0062
 Saturn -120001-11-09 21:51 J -42108628.79 -42108628.59 -42108628.39 0.0297 0.0087

120TH MILLENNIUM BCE

This is a list of transits of Venus in the 120th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	-120000-05-21 20:25 J	-42108435.80	-42108435.65	-42108435.45	0.0089	0.0056		
Saturn	-120000-06-27 23:17 J	-42108398.73	-42108398.53	-42108398.33	0.0300	0.0092		

Neptune -119999-01-02 10:49 J -42108210.23 -42108210.05 -42108209.85 0.0089 0.0049
 Saturn -119999-02-13 01:13 J -42108168.65 -42108168.45 -42108168.26 0.0301 0.0095
 Jupiter -119999-07-23 00:58 J -42108008.67 -42108008.46 -42108008.25 0.0505 0.0016
 Neptune -119999-08-16 00:58 J -42107984.65 -42107984.46 -42107984.26 0.0089 0.0042
 Saturn -119999-10-01 02:53 J -42107938.58 -42107938.38 -42107938.19 0.0303 0.0095
 Neptune -119998-03-29 14:53 J -42107759.08 -42107758.88 -42107758.66 0.0089 0.0036
 Saturn -119998-05-19 04:05 J -42107708.52 -42107708.33 -42107708.13 0.0304 0.0093
 Neptune -119998-11-10 05:03 J -42107533.49 -42107533.29 -42107533.07 0.0089 0.0029
 Saturn -119997-01-04 04:49 J -42107478.49 -42107478.30 -42107478.10 0.0304 0.0088
 Neptune -119997-06-22 18:58 J -42107307.91 -42107307.71 -42107307.48 0.0089 0.0023
 Saturn -119997-08-21 04:34 J -42107248.51 -42107248.31 -42107248.12 0.0303 0.0082
 Neptune -119996-02-03 09:08 J -42107082.34 -42107082.12 -42107081.89 0.0089 0.0016
 Saturn -119996-04-08 02:53 J -42107018.58 -42107018.38 -42107018.18 0.0303 0.0073
 Neptune -119996-09-16 23:03 J -42106856.76 -42106856.54 -42106856.31 0.0089 0.0009
 Saturn -119996-11-23 23:46 J -42106788.71 -42106788.51 -42106788.31 0.0301 0.0062
 Neptune -119995-04-30 12:58 J -42106631.18 -42106630.96 -42106630.73 0.0089 0.0003
 Saturn -119995-07-11 18:58 J -42106558.91 -42106558.71 -42106558.51 0.0299 0.0050
 Neptune -119995-12-12 02:53 J -42106405.60 -42106405.38 -42106405.15 0.0089 0.0004
 Saturn -119994-02-26 12:44 J -42106329.17 -42106328.97 -42106328.77 0.0297 0.0037
 Neptune -119994-07-25 16:34 J -42106180.03 -42106179.81 -42106179.58 0.0089 0.0011
 Saturn -119994-10-14 04:20 J -42106099.52 -42106099.32 -42106099.12 0.0294 0.0024
 Neptune -119993-03-07 06:15 J -42105954.46 -42105954.24 -42105954.02 0.0089 0.0018
 Jupiter -119993-05-26 18:01 J -42105873.94 -42105873.75 -42105873.56 0.0520 0.0111
 Saturn -119993-05-30 18:01 J -42105869.95 -42105869.75 -42105869.54 0.0292 0.0011
 Neptune -119993-10-18 19:41 J -42105728.88 -42105728.68 -42105728.45 0.0089 0.0025
 Saturn -119992-01-15 06:01 J -42105640.45 -42105640.25 -42105640.04 0.0289 0.0004
 Neptune -119992-06-01 09:37 J -42105503.30 -42105503.10 -42105502.89 0.0089 0.0031
 Saturn -119992-09-01 16:20 J -42105411.03 -42105410.82 -42105410.61 0.0286 0.0015
 Neptune -119991-01-12 22:49 J -42105277.73 -42105277.55 -42105277.33 0.0089 0.0038
 Saturn -119991-04-19 01:13 J -42105181.66 -42105181.45 -42105181.25 0.0283 0.0028

Neptune -119991-08-26 12:29 J -42105052.16 -42105051.98 -42105051.78 0.0089 0.0044
 Saturn -119991-12-04 08:10 J -42104952.36 -42104952.16 -42104951.95 0.0280 0.0038
 Neptune -119990-04-09 02:10 J -42104826.59 -42104826.41 -42104826.22 0.0089 0.0050
 Saturn -119990-07-21 13:56 J -42104723.13 -42104722.92 -42104722.72 0.0277 0.0048
 Neptune -119990-11-20 15:22 J -42104601.01 -42104600.86 -42104600.67 0.0089 0.0057
 Saturn -119989-03-06 18:15 J -42104493.94 -42104493.74 -42104493.53 0.0274 0.0057
 Neptune -119989-07-03 04:49 J -42104375.44 -42104375.30 -42104375.13 0.0089 0.0063
 Saturn -119989-10-21 21:37 J -42104264.80 -42104264.60 -42104264.39 0.0271 0.0065
 Neptune -119988-02-13 18:15 J -42104149.87 -42104149.74 -42104149.59 0.0089 0.0069
 Saturn -119988-06-08 00:15 J -42104035.70 -42104035.49 -42104035.29 0.0269 0.0071
 Neptune -119988-09-27 07:13 J -42103924.29 -42103924.20 -42103924.06 0.0088 0.0076
 Saturn -119987-01-23 01:41 J -42103806.63 -42103806.43 -42103806.22 0.0267 0.0077
 Jupiter -119987-03-27 14:39 J -42103743.08 -42103742.89 -42103742.69 0.0503 0.0200
 Neptune -119987-05-10 20:39 J -42103698.70 -42103698.64 -42103698.53 0.0088 0.0082
 Saturn -119987-09-09 02:39 J -42103577.59 -42103577.39 -42103577.18 0.0265 0.0081
 Neptune -119987-12-22 10:05 J -42103473.09 -42103473.08 -42103473.03 0.0088 0.0088
 Saturn -119986-04-26 03:08 J -42103348.57 -42103348.37 -42103348.16 0.0263 0.0083
 Saturn -119986-12-11 03:22 J -42103119.56 -42103119.36 -42103119.15 0.0262 0.0085
 Saturn -119985-07-27 03:37 J -42102890.55 -42102890.35 -42102890.14 0.0261 0.0086
 Saturn -119984-03-13 03:51 J -42102661.55 -42102661.34 -42102661.14 0.0260 0.0085
 Saturn -119984-10-28 04:05 J -42102432.53 -42102432.33 -42102432.12 0.0259 0.0084
 Saturn -119983-06-14 04:49 J -42102203.50 -42102203.30 -42102203.09 0.0259 0.0082
 Saturn -119982-01-29 06:15 J -42101974.45 -42101974.24 -42101974.03 0.0259 0.0078
 Saturn -119982-09-15 08:10 J -42101745.37 -42101745.16 -42101744.95 0.0259 0.0074
 Jupiter -119981-01-30 18:58 J -42101607.90 -42101607.71 -42101607.52 0.0522 0.0100
 Saturn -119981-05-01 11:03 J -42101516.25 -42101516.04 -42101515.83 0.0260 0.0068
 Saturn -119981-12-16 14:53 J -42101287.09 -42101286.88 -42101286.66 0.0261 0.0062
 Saturn -119980-08-02 20:10 J -42101057.88 -42101057.66 -42101057.44 0.0262 0.0054
 Saturn -119979-03-20 02:25 J -42100828.61 -42100828.40 -42100828.18 0.0263 0.0046
 Saturn -119979-11-04 10:20 J -42100599.29 -42100599.07 -42100598.86 0.0265 0.0037

Saturn -119978-06-21 19:27 J -42100369.91 -42100369.69 -42100369.47 0.0267 0.0027
 Saturn -119977-02-06 06:15 J -42100140.46 -42100140.24 -42100140.02 0.0269 0.0016
 Saturn -119977-09-22 18:44 J -42099910.94 -42099910.72 -42099910.50 0.0272 0.0007
 Mars -119976-02-04 22:34 J -42099775.73 -42099775.56 -42099775.39 0.1783 0.0347
 Saturn -119976-05-10 08:53 J -42099681.35 -42099681.13 -42099680.91 0.0274 0.0008
 Jupiter -119976-11-30 07:13 J -42099477.32 -42099477.20 -42099477.08 0.0503 0.0408
 Saturn -119976-12-26 00:44 J -42099451.69 -42099451.47 -42099451.25 0.0277 0.0020
 Jupiter -119975-07-25 21:22 J -42099239.76 -42099239.61 -42099239.45 0.0506 0.0346
 Saturn -119975-08-12 18:01 J -42099221.96 -42099221.75 -42099221.53 0.0280 0.0032
 Mars -119975-12-04 21:37 J -42099107.73 -42099107.60 -42099107.46 0.1765 0.1055
 Saturn -119974-03-30 12:58 J -42098992.17 -42098991.96 -42098991.74 0.0283 0.0045
 Saturn -119974-11-15 09:37 J -42098762.31 -42098762.10 -42098761.88 0.0286 0.0056
 Mars -119974-11-24 00:29 J -42098753.55 -42098753.48 -42098753.39 0.1714 0.1509
 Saturn -119973-07-02 07:41 J -42098532.39 -42098532.18 -42098531.97 0.0289 0.0067
 Saturn -119972-02-17 06:44 J -42098302.42 -42098302.22 -42098302.01 0.0292 0.0077
 Mars -119972-09-21 23:46 J -42098085.68 -42098085.51 -42098085.33 0.1730 0.0214
 Saturn -119972-10-05 06:58 J -42098072.41 -42098072.21 -42098072.00 0.0295 0.0086
 Saturn -119971-05-23 08:10 J -42097842.36 -42097842.16 -42097841.96 0.0297 0.0092
 Saturn -119970-01-08 09:51 J -42097612.29 -42097612.09 -42097611.89 0.0300 0.0097
 Uranus -119970-05-25 22:34 J -42097474.63 -42097474.56 -42097474.48 0.0147 0.0138
 Mars -119970-07-21 15:37 J -42097417.97 -42097417.85 -42097417.72 0.1749 0.1224
 Saturn -119970-08-26 11:32 J -42097382.21 -42097382.02 -42097381.82 0.0301 0.0099
 Jupiter -119970-10-05 17:46 J -42097341.92 -42097341.76 -42097341.61 0.0522 0.0315
 Uranus -119969-01-07 14:25 J -42097248.04 -42097247.90 -42097247.72 0.0146 0.0102
 Saturn -119969-04-12 13:13 J -42097152.14 -42097151.95 -42097151.75 0.0303 0.0099
 Jupiter -119969-05-29 02:39 J -42097105.49 -42097105.39 -42097105.28 0.0518 0.0440
 Uranus -119969-08-21 06:58 J -42097021.41 -42097021.21 -42097021.00 0.0146 0.0064
 Saturn -119969-11-28 14:39 J -42096922.09 -42096921.89 -42096921.70 0.0304 0.0096
 Uranus -119968-04-04 23:03 J -42096794.76 -42096794.54 -42096794.32 0.0146 0.0028
 Saturn -119968-07-16 15:08 J -42096692.07 -42096691.87 -42096691.68 0.0304 0.0090

Uranus -119968-11-17 14:53 J -42096568.11 -42096567.88 -42096567.65 0.0145 0.0009
 Saturn -119967-03-03 14:39 J -42096462.08 -42096461.89 -42096461.69 0.0304 0.0082
 Uranus -119967-07-02 06:15 J -42096341.44 -42096341.24 -42096341.01 0.0145 0.0046
 Saturn -119967-10-19 12:44 J -42096232.16 -42096231.97 -42096231.77 0.0303 0.0073
 Uranus -119966-02-13 21:51 J -42096114.76 -42096114.59 -42096114.39 0.0145 0.0082
 Saturn -119966-06-06 09:22 J -42096002.31 -42096002.11 -42096001.91 0.0301 0.0062
 Uranus -119966-09-28 13:13 J -42095888.07 -42095887.95 -42095887.80 0.0144 0.0117
 Saturn -119965-01-22 04:20 J -42095772.51 -42095772.32 -42095772.11 0.0299 0.0050
 Saturn -119965-09-07 21:37 J -42095542.80 -42095542.60 -42095542.39 0.0297 0.0036
 Saturn -119964-04-25 13:13 J -42095313.15 -42095312.95 -42095312.75 0.0295 0.0022
 Saturn -119964-12-11 02:39 J -42095083.59 -42095083.39 -42095083.18 0.0292 0.0010
 Jupiter -119963-03-30 14:25 J -42094974.10 -42094973.90 -42094973.70 0.0506 0.0138
 Saturn -119963-07-28 14:25 J -42094854.10 -42094853.90 -42094853.69 0.0289 0.0007
 Saturn -119962-03-15 00:29 J -42094624.68 -42094624.48 -42094624.27 0.0286 0.0018
 Saturn -119962-10-30 08:53 J -42094395.33 -42094395.13 -42094394.92 0.0283 0.0030
 Saturn -119961-06-15 15:37 J -42094166.05 -42094165.85 -42094165.64 0.0280 0.0041
 Saturn -119960-01-30 21:08 J -42093936.83 -42093936.62 -42093936.42 0.0277 0.0051
 Saturn -119960-09-17 01:13 J -42093707.65 -42093707.45 -42093707.24 0.0274 0.0060
 Saturn -119959-05-04 04:20 J -42093478.52 -42093478.32 -42093478.11 0.0271 0.0068
 Saturn -119959-12-19 06:29 J -42093249.43 -42093249.23 -42093249.02 0.0269 0.0075
 Saturn -119958-08-05 07:56 J -42093020.37 -42093020.17 -42093019.96 0.0266 0.0080
 Jupiter -119957-02-02 02:53 J -42092839.56 -42092839.38 -42092839.21 0.0519 0.0231
 Saturn -119957-03-21 08:53 J -42092791.34 -42092791.13 -42092790.93 0.0264 0.0084
 Saturn -119957-11-05 09:08 J -42092562.32 -42092562.12 -42092561.91 0.0263 0.0087
 Saturn -119956-06-22 09:37 J -42092333.30 -42092333.10 -42092332.90 0.0261 0.0088
 Saturn -119955-02-06 09:37 J -42092104.30 -42092104.10 -42092103.89 0.0260 0.0089
 Saturn -119955-09-23 09:51 J -42091875.29 -42091875.09 -42091874.89 0.0259 0.0088
 Saturn -119954-05-10 10:05 J -42091646.28 -42091646.08 -42091645.87 0.0259 0.0087
 Saturn -119954-12-25 11:03 J -42091417.25 -42091417.04 -42091416.83 0.0259 0.0084
 Saturn -119953-08-10 12:29 J -42091188.19 -42091187.98 -42091187.77 0.0259 0.0080

Saturn -119952-03-27 14:39 J -42090959.10 -42090958.89 -42090958.68 0.0259 0.0075
 Saturn -119952-11-11 17:46 J -42090729.97 -42090729.76 -42090729.55 0.0260 0.0069
 Jupiter -119952-12-03 06:29 J -42090708.44 -42090708.23 -42090708.02 0.0504 0.0073
 Saturn -119951-06-28 21:51 J -42090500.80 -42090500.59 -42090500.37 0.0261 0.0062
 Saturn -119950-02-13 03:08 J -42090271.58 -42090271.37 -42090271.15 0.0262 0.0054
 Saturn -119950-09-30 09:51 J -42090042.31 -42090042.09 -42090041.87 0.0263 0.0046
 Saturn -119949-05-16 17:46 J -42089812.98 -42089812.76 -42089812.54 0.0265 0.0036
 Saturn -119948-01-01 03:08 J -42089583.58 -42089583.37 -42089583.15 0.0267 0.0026
 Saturn -119948-08-18 14:25 J -42089354.12 -42089353.90 -42089353.68 0.0270 0.0014
 Saturn -119947-04-05 03:08 J -42089124.59 -42089124.37 -42089124.15 0.0272 0.0003
 Saturn -119947-11-20 17:32 J -42088894.99 -42088894.77 -42088894.55 0.0275 0.0010
 Saturn -119946-07-08 09:22 J -42088665.32 -42088665.11 -42088664.89 0.0278 0.0023
 Jupiter -119946-10-08 02:25 J -42088573.60 -42088573.40 -42088573.21 0.0521 0.0020
 Saturn -119945-02-23 03:08 J -42088435.58 -42088435.37 -42088435.15 0.0281 0.0034
 Saturn -119945-10-09 22:34 J -42088205.77 -42088205.56 -42088205.34 0.0284 0.0047
 Mars -119944-02-04 06:01 J -42088088.39 -42088088.25 -42088088.11 0.1791 0.1059
 Saturn -119944-05-27 19:27 J -42087975.90 -42087975.69 -42087975.47 0.0287 0.0058
 Saturn -119943-01-12 17:46 J -42087745.97 -42087745.76 -42087745.55 0.0290 0.0069
 Saturn -119943-08-30 17:03 J -42087515.99 -42087515.79 -42087515.58 0.0293 0.0079
 Mars -119943-12-04 01:27 J -42087420.60 -42087420.44 -42087420.27 0.1772 0.0415
 Saturn -119942-04-17 17:46 J -42087285.97 -42087285.76 -42087285.56 0.0296 0.0087
 Saturn -119942-12-03 18:58 J -42087055.91 -42087055.71 -42087055.51 0.0298 0.0093
 Saturn -119941-07-20 20:39 J -42086825.84 -42086825.64 -42086825.44 0.0300 0.0098
 Mars -119941-10-02 04:05 J -42086752.35 -42086752.33 -42086752.30 0.1754 0.1731
 Saturn -119940-03-07 22:20 J -42086595.76 -42086595.57 -42086595.37 0.0302 0.0100
 Jupiter -119940-08-07 22:20 J -42086442.74 -42086442.57 -42086442.39 0.0503 0.0284
 Mars -119940-09-21 05:32 J -42086398.42 -42086398.27 -42086398.12 0.1723 0.0849
 Saturn -119940-10-24 00:01 J -42086365.69 -42086365.50 -42086365.30 0.0303 0.0099
 Jupiter -119939-04-02 12:58 J -42086205.03 -42086204.96 -42086204.88 0.0507 0.0474
 Saturn -119939-06-11 01:13 J -42086135.64 -42086135.45 -42086135.25 0.0304 0.0096

Saturn -119938-01-27 01:41 J -42085905.62 -42085905.43 -42085905.23 0.0304 0.0090
 Mars -119938-07-21 00:29 J -42085730.65 -42085730.48 -42085730.31 0.1741 0.0528
 Saturn -119938-09-14 00:58 J -42085675.65 -42085675.46 -42085675.26 0.0303 0.0082
 Saturn -119937-04-30 22:49 J -42085445.74 -42085445.55 -42085445.34 0.0302 0.0073
 Saturn -119937-12-16 19:27 J -42085215.89 -42085215.69 -42085215.49 0.0301 0.0060
 Saturn -119936-08-03 14:10 J -42084986.11 -42084985.91 -42084985.71 0.0299 0.0047
 Saturn -119935-03-21 07:13 J -42084756.40 -42084756.20 -42084755.99 0.0296 0.0034
 Saturn -119935-11-05 22:20 J -42084526.77 -42084526.57 -42084526.36 0.0294 0.0019
 Jupiter -119934-06-13 03:08 J -42084307.55 -42084307.37 -42084307.19 0.0522 0.0195
 Saturn -119934-06-23 11:32 J -42084297.22 -42084297.02 -42084296.81 0.0291 0.0005
 Saturn -119933-02-07 22:49 J -42084067.75 -42084067.55 -42084067.34 0.0288 0.0011
 Saturn -119933-09-24 08:39 J -42083838.35 -42083838.14 -42083837.94 0.0285 0.0022
 Saturn -119932-05-11 16:49 J -42083609.01 -42083608.80 -42083608.60 0.0282 0.0034
 Saturn -119932-12-26 23:17 J -42083379.74 -42083379.53 -42083379.33 0.0279 0.0045
 Saturn -119931-08-13 04:20 J -42083150.52 -42083150.32 -42083150.11 0.0276 0.0055
 Saturn -119930-03-30 08:25 J -42082921.35 -42082921.15 -42082920.95 0.0273 0.0064
 Saturn -119930-11-14 11:17 J -42082692.23 -42082692.03 -42082691.83 0.0270 0.0071
 Saturn -119929-06-30 13:27 J -42082463.14 -42082462.94 -42082462.74 0.0268 0.0078
 Saturn -119928-02-14 14:39 J -42082234.09 -42082233.89 -42082233.69 0.0266 0.0082
 Jupiter -119928-04-12 12:58 J -42082176.99 -42082176.96 -42082176.92 0.0502 0.0493
 Saturn -119928-10-01 15:22 J -42082005.06 -42082004.86 -42082004.66 0.0264 0.0086
 Jupiter -119928-12-06 02:39 J -42081939.57 -42081939.39 -42081939.21 0.0506 0.0257
 Saturn -119927-05-18 15:51 J -42081776.04 -42081775.84 -42081775.64 0.0263 0.0089
 Saturn -119926-01-02 15:51 J -42081547.04 -42081546.84 -42081546.63 0.0261 0.0090
 Uranus -119926-05-23 18:01 J -42081405.86 -42081405.75 -42081405.63 0.0132 0.0112
 Saturn -119926-08-19 15:51 J -42081318.04 -42081317.84 -42081317.63 0.0260 0.0090
 Uranus -119925-01-04 20:10 J -42081179.81 -42081179.66 -42081179.49 0.0133 0.0087
 Saturn -119925-04-04 16:05 J -42081089.04 -42081088.83 -42081088.63 0.0260 0.0089
 Uranus -119925-08-17 22:49 J -42080953.74 -42080953.55 -42080953.37 0.0133 0.0061
 Saturn -119925-11-19 16:20 J -42080860.02 -42080859.82 -42080859.61 0.0259 0.0087

Uranus -119924-04-01 00:58 J -42080727.65 -42080727.46 -42080727.25 0.0133 0.0036
 Saturn -119924-07-06 17:32 J -42080630.98 -42080630.77 -42080630.56 0.0259 0.0084
 Uranus -119924-11-13 03:37 J -42080501.55 -42080501.35 -42080501.13 0.0133 0.0011
 Saturn -119923-02-20 18:58 J -42080401.92 -42080401.71 -42080401.50 0.0259 0.0080
 Uranus -119923-06-27 06:15 J -42080275.44 -42080275.24 -42080275.02 0.0134 0.0017
 Saturn -119923-10-07 21:08 J -42080172.83 -42080172.62 -42080172.41 0.0259 0.0075
 Uranus -119922-02-08 09:08 J -42080049.31 -42080049.12 -42080048.91 0.0134 0.0043
 Jupiter -119922-02-16 03:37 J -42080041.47 -42080041.35 -42080041.23 0.0523 0.0406
 Saturn -119922-05-25 00:15 J -42079943.70 -42079943.49 -42079943.28 0.0260 0.0069
 Uranus -119922-09-22 12:01 J -42079823.17 -42079823.00 -42079822.81 0.0134 0.0069
 Jupiter -119922-10-10 13:41 J -42079805.08 -42079804.93 -42079804.79 0.0519 0.0356
 Saturn -119921-01-09 04:20 J -42079714.53 -42079714.32 -42079714.10 0.0261 0.0062
 Uranus -119921-05-05 14:53 J -42079597.02 -42079596.88 -42079596.72 0.0134 0.0096
 Neptune -119921-05-31 17:17 J -42079570.82 -42079570.78 -42079570.74 0.0089 0.0087
 Saturn -119921-08-25 10:05 J -42079485.29 -42079485.08 -42079484.86 0.0262 0.0054
 Uranus -119921-12-17 18:01 J -42079370.83 -42079370.75 -42079370.65 0.0135 0.0122
 Neptune -119920-01-12 04:20 J -42079345.37 -42079345.32 -42079345.21 0.0089 0.0082
 Saturn -119920-04-11 16:49 J -42079256.01 -42079255.80 -42079255.58 0.0264 0.0045
 Neptune -119920-08-25 16:20 J -42079119.91 -42079119.82 -42079119.69 0.0089 0.0076
 Saturn -119920-11-27 01:13 J -42079026.67 -42079026.45 -42079026.23 0.0266 0.0035
 Neptune -119919-04-08 04:20 J -42078894.43 -42078894.32 -42078894.17 0.0089 0.0070
 Saturn -119919-07-14 10:49 J -42078797.27 -42078797.05 -42078796.83 0.0268 0.0024
 Neptune -119919-11-19 16:05 J -42078668.96 -42078668.83 -42078668.66 0.0089 0.0064
 Saturn -119918-02-28 22:20 J -42078567.79 -42078567.57 -42078567.35 0.0270 0.0013
 Neptune -119918-07-03 03:51 J -42078443.48 -42078443.34 -42078443.15 0.0089 0.0058
 Saturn -119918-10-16 11:17 J -42078338.24 -42078338.03 -42078337.81 0.0272 0.0006
 Neptune -119917-02-13 16:05 J -42078218.00 -42078217.83 -42078217.65 0.0089 0.0051
 Saturn -119917-06-02 02:10 J -42078108.63 -42078108.41 -42078108.19 0.0275 0.0013
 Neptune -119917-09-26 03:51 J -42077992.51 -42077992.34 -42077992.14 0.0089 0.0045
 Saturn -119916-01-17 18:29 J -42077878.94 -42077878.73 -42077878.51 0.0278 0.0026

Neptune -119916-05-09 15:51 J -42077767.02 -42077766.84 -42077766.63 0.0089 0.0039
 Jupiter -119916-08-10 18:44 J -42077673.93 -42077673.72 -42077673.51 0.0505 0.0045
 Saturn -119916-09-04 12:44 J -42077649.19 -42077648.97 -42077648.76 0.0281 0.0039
 Neptune -119916-12-21 03:51 J -42077541.53 -42077541.34 -42077541.13 0.0089 0.0033
 Saturn -119915-04-22 08:10 J -42077419.37 -42077419.16 -42077418.94 0.0284 0.0052
 Neptune -119915-08-03 15:51 J -42077316.04 -42077315.84 -42077315.63 0.0089 0.0027
 Pluto -119915-11-02 20:10 J -42077224.80 -42077224.66 -42077224.46 0.0065 0.0044
 Saturn -119915-12-08 05:17 J -42077189.48 -42077189.28 -42077189.06 0.0287 0.0064
 Neptune -119914-03-17 04:05 J -42077090.54 -42077090.33 -42077090.12 0.0089 0.0020
 Pluto -119914-06-16 02:10 J -42076999.64 -42076999.41 -42076999.18 0.0066 0.0001
 Saturn -119914-07-26 03:51 J -42076959.55 -42076959.34 -42076959.13 0.0290 0.0075
 Neptune -119914-10-28 15:51 J -42076865.04 -42076864.84 -42076864.62 0.0089 0.0014
 Pluto -119913-01-27 07:13 J -42076774.35 -42076774.20 -42076774.01 0.0066 0.0044
 Saturn -119913-03-12 03:22 J -42076729.56 -42076729.36 -42076729.15 0.0293 0.0085
 Neptune -119913-06-10 04:05 J -42076639.54 -42076639.33 -42076639.11 0.0089 0.0007
 Saturn -119913-10-28 04:05 J -42076499.53 -42076499.33 -42076499.13 0.0296 0.0093
 Neptune -119912-01-21 16:20 J -42076414.04 -42076413.82 -42076413.61 0.0089 0.0002
 Mars -119912-02-03 14:39 J -42076400.90 -42076400.89 -42076400.88 0.1799 0.1794
 Saturn -119912-06-15 05:17 J -42076269.47 -42076269.28 -42076269.08 0.0298 0.0099
 Neptune -119912-09-04 04:20 J -42076188.53 -42076188.32 -42076188.10 0.0089 0.0005
 Saturn -119911-01-31 07:13 J -42076039.40 -42076039.20 -42076039.01 0.0300 0.0103
 Neptune -119911-04-17 16:34 J -42075963.02 -42075962.81 -42075962.59 0.0089 0.0012
 Saturn -119911-09-18 08:53 J -42075809.32 -42075809.13 -42075808.93 0.0302 0.0105
 Neptune -119911-11-29 04:49 J -42075737.51 -42075737.30 -42075737.08 0.0089 0.0018
 Mars -119911-12-03 06:44 J -42075733.39 -42075733.22 -42075733.05 0.1780 0.0267
 Saturn -119910-05-06 10:34 J -42075579.25 -42075579.06 -42075578.86 0.0303 0.0103
 Jupiter -119910-06-15 12:44 J -42075539.16 -42075538.97 -42075538.79 0.0520 0.0143
 Neptune -119910-07-12 16:49 J -42075511.99 -42075511.80 -42075511.58 0.0089 0.0025
 Saturn -119910-12-22 11:46 J -42075349.20 -42075349.01 -42075348.81 0.0304 0.0099
 Neptune -119909-02-23 05:17 J -42075286.47 -42075286.28 -42075286.07 0.0089 0.0031

Saturn -119909-08-08 12:01 J -42075119.19 -42075119.00 -42075118.80 0.0304 0.0092
 Mars -119909-10-01 06:29 J -42075065.36 -42075065.23 -42075065.10 0.1762 0.1127
 Neptune -119909-10-05 17:46 J -42075060.95 -42075060.76 -42075060.56 0.0089 0.0037
 Saturn -119908-03-26 11:17 J -42074889.23 -42074889.03 -42074888.83 0.0303 0.0083
 Neptune -119908-05-19 06:15 J -42074835.42 -42074835.24 -42074835.04 0.0089 0.0044
 Mars -119908-09-20 09:37 J -42074711.19 -42074711.10 -42074711.00 0.1716 0.1457
 Saturn -119908-11-11 08:53 J -42074659.32 -42074659.13 -42074658.93 0.0302 0.0072
 Neptune -119908-12-30 18:44 J -42074609.89 -42074609.72 -42074609.53 0.0089 0.0050
 Saturn -119907-06-29 05:03 J -42074429.48 -42074429.29 -42074429.08 0.0301 0.0060
 Neptune -119907-08-13 07:27 J -42074384.36 -42074384.19 -42074384.02 0.0089 0.0056
 Saturn -119906-02-13 23:46 J -42074199.71 -42074199.51 -42074199.31 0.0299 0.0046
 Neptune -119906-03-26 19:27 J -42074158.82 -42074158.69 -42074158.52 0.0089 0.0063
 Mars -119906-07-20 08:10 J -42074043.34 -42074043.16 -42074042.99 0.1733 0.0148
 Saturn -119906-10-01 16:20 J -42073970.02 -42073969.82 -42073969.61 0.0296 0.0032
 Neptune -119906-11-07 08:10 J -42073933.28 -42073933.16 -42073933.01 0.0089 0.0069
 Saturn -119905-05-18 07:13 J -42073740.40 -42073740.20 -42073740.00 0.0294 0.0017
 Neptune -119905-06-19 20:53 J -42073707.73 -42073707.63 -42073707.51 0.0089 0.0075
 Saturn -119904-01-02 20:10 J -42073510.86 -42073510.66 -42073510.46 0.0291 0.0003
 Neptune -119904-01-31 09:08 J -42073482.18 -42073482.12 -42073482.01 0.0089 0.0082
 Jupiter -119904-04-15 11:32 J -42073408.22 -42073408.02 -42073407.82 0.0504 0.0163
 Mars -119904-05-17 22:49 J -42073375.66 -42073375.55 -42073375.43 0.1751 0.1312
 Saturn -119904-08-20 07:13 J -42073281.40 -42073281.20 -42073280.99 0.0288 0.0013
 Neptune -119904-09-13 21:51 J -42073256.60 -42073256.59 -42073256.53 0.0089 0.0088
 Saturn -119903-04-06 16:49 J -42073052.00 -42073051.80 -42073051.59 0.0285 0.0025
 Saturn -119903-11-22 00:44 J -42072822.68 -42072822.47 -42072822.27 0.0282 0.0036
 Saturn -119902-07-09 06:58 J -42072593.42 -42072593.21 -42072593.01 0.0279 0.0048
 Saturn -119901-02-23 11:46 J -42072364.21 -42072364.01 -42072363.81 0.0276 0.0057
 Saturn -119901-10-09 15:22 J -42072135.06 -42072134.86 -42072134.65 0.0273 0.0066
 Saturn -119900-05-26 18:15 J -42071905.94 -42071905.74 -42071905.53 0.0270 0.0074
 Saturn -119899-01-10 20:10 J -42071676.86 -42071676.66 -42071676.46 0.0268 0.0080

Saturn -119899-08-27 21:08 J -42071447.82 -42071447.62 -42071447.42 0.0266 0.0085
 Jupiter -119898-02-18 12:29 J -42071273.17 -42071272.98 -42071272.78 0.0521 0.0073
 Saturn -119898-04-13 21:37 J -42071218.80 -42071218.60 -42071218.40 0.0264 0.0089
 Saturn -119898-11-28 21:51 J -42070989.79 -42070989.59 -42070989.39 0.0262 0.0092
 Saturn -119897-07-14 22:05 J -42070760.78 -42070760.58 -42070760.38 0.0261 0.0093
 Saturn -119896-02-28 22:05 J -42070531.78 -42070531.58 -42070531.38 0.0260 0.0093
 Saturn -119896-10-15 22:05 J -42070302.78 -42070302.58 -42070302.37 0.0259 0.0093
 Saturn -119895-06-01 22:49 J -42070073.76 -42070073.55 -42070073.35 0.0259 0.0090
 Saturn -119894-01-16 23:32 J -42069844.72 -42069844.52 -42069844.31 0.0259 0.0087
 Saturn -119894-09-03 01:13 J -42069615.66 -42069615.45 -42069615.24 0.0259 0.0082
 Saturn -119893-04-19 03:22 J -42069386.56 -42069386.36 -42069386.14 0.0259 0.0077
 Saturn -119893-12-04 06:44 J -42069157.43 -42069157.22 -42069157.01 0.0260 0.0070
 Jupiter -119893-12-19 04:05 J -42069142.47 -42069142.33 -42069142.19 0.0503 0.0371
 Saturn -119892-07-21 11:17 J -42068928.25 -42068928.03 -42068927.82 0.0261 0.0062
 Jupiter -119892-08-13 18:29 J -42068904.85 -42068904.73 -42068904.59 0.0507 0.0388
 Saturn -119891-03-07 16:49 J -42068699.01 -42068698.80 -42068698.58 0.0262 0.0054
 Saturn -119891-10-22 23:46 J -42068469.73 -42068469.51 -42068469.29 0.0264 0.0044
 Saturn -119890-06-09 08:10 J -42068240.38 -42068240.16 -42068239.94 0.0266 0.0034
 Saturn -119889-01-24 18:01 J -42068010.96 -42068010.75 -42068010.52 0.0268 0.0023
 Saturn -119889-09-10 06:01 J -42067781.47 -42067781.25 -42067781.03 0.0270 0.0012
 Saturn -119888-04-27 19:13 J -42067551.92 -42067551.70 -42067551.48 0.0273 0.0003
 Saturn -119888-12-13 10:05 J -42067322.30 -42067322.08 -42067321.86 0.0276 0.0015
 Saturn -119887-07-31 02:39 J -42067092.61 -42067092.39 -42067092.17 0.0279 0.0028
 Jupiter -119887-10-24 11:32 J -42067007.18 -42067007.02 -42067006.85 0.0522 0.0288
 Saturn -119886-03-17 20:53 J -42066862.84 -42066862.63 -42066862.41 0.0282 0.0041
 Jupiter -119886-06-17 20:53 J -42066770.71 -42066770.63 -42066770.55 0.0518 0.0470
 Uranus -119886-09-06 17:17 J -42066689.89 -42066689.78 -42066689.64 0.0146 0.0121
 Saturn -119886-11-02 16:49 J -42066633.01 -42066632.80 -42066632.58 0.0285 0.0054
 Uranus -119885-04-20 09:22 J -42066463.28 -42066463.11 -42066462.91 0.0146 0.0085
 Saturn -119885-06-19 14:25 J -42066403.11 -42066402.90 -42066402.69 0.0288 0.0065

Uranus -119885-12-03 01:41 J -42066236.64 -42066236.43 -42066236.21 0.0146 0.0047
 Saturn -119884-02-04 12:58 J -42066173.16 -42066172.96 -42066172.75 0.0291 0.0076
 Uranus -119884-07-17 18:01 J -42066009.98 -42066009.75 -42066009.53 0.0146 0.0010
 Saturn -119884-09-22 12:58 J -42065943.17 -42065942.96 -42065942.76 0.0294 0.0086
 Uranus -119883-03-01 09:37 J -42065783.31 -42065783.10 -42065782.87 0.0145 0.0028
 Saturn -119883-05-10 13:41 J -42065713.13 -42065712.93 -42065712.73 0.0297 0.0094
 Uranus -119883-10-14 01:13 J -42065556.64 -42065556.45 -42065556.24 0.0145 0.0064
 Saturn -119883-12-26 15:22 J -42065483.06 -42065482.86 -42065482.66 0.0299 0.0100
 Uranus -119882-05-28 16:34 J -42065329.96 -42065329.81 -42065329.63 0.0145 0.0100
 Saturn -119882-08-13 17:03 J -42065252.98 -42065252.79 -42065252.59 0.0301 0.0104
 Uranus -119881-01-10 07:41 J -42065103.23 -42065103.18 -42065103.08 0.0144 0.0136
 Saturn -119881-03-30 18:58 J -42065022.90 -42065022.71 -42065022.51 0.0302 0.0105
 Saturn -119881-11-15 20:39 J -42064792.83 -42064792.64 -42064792.44 0.0303 0.0103
 Jupiter -119880-04-18 10:05 J -42064639.27 -42064639.08 -42064638.88 0.0505 0.0174
 Saturn -119880-07-03 21:37 J -42064562.79 -42064562.60 -42064562.40 0.0304 0.0099
 Saturn -119879-02-18 22:05 J -42064332.78 -42064332.58 -42064332.39 0.0304 0.0092
 Saturn -119879-10-06 21:08 J -42064102.82 -42064102.62 -42064102.43 0.0303 0.0082
 Mars -119879-12-02 14:10 J -42064046.06 -42064045.91 -42064045.77 0.1789 0.0975
 Saturn -119878-05-24 18:44 J -42063872.92 -42063872.72 -42063872.53 0.0302 0.0071
 Saturn -119877-01-09 14:39 J -42063643.09 -42063642.89 -42063642.69 0.0300 0.0058
 Saturn -119877-08-26 08:53 J -42063413.33 -42063413.13 -42063412.92 0.0298 0.0045
 Mars -119877-09-30 09:51 J -42063378.25 -42063378.09 -42063377.92 0.1770 0.0494
 Saturn -119876-04-13 01:27 J -42063183.64 -42063183.44 -42063183.23 0.0296 0.0030
 Saturn -119876-11-28 16:05 J -42062954.03 -42062953.83 -42062953.62 0.0293 0.0015
 Jupiter -119875-06-29 11:46 J -42062741.07 -42062741.01 -42062740.96 0.0524 0.0501
 Saturn -119875-07-16 04:49 J -42062724.50 -42062724.30 -42062724.09 0.0290 0.0002
 Jupiter -119874-02-20 22:05 J -42062504.75 -42062504.58 -42062504.41 0.0520 0.0264
 Saturn -119874-03-02 15:51 J -42062495.05 -42062494.84 -42062494.64 0.0287 0.0016
 Mars -119874-07-19 14:25 J -42062356.06 -42062355.90 -42062355.74 0.1726 0.0791
 Saturn -119874-10-18 00:44 J -42062265.67 -42062265.47 -42062265.26 0.0284 0.0029

Saturn	-119873-06-03 08:25 J	-42062036.36	-42062036.15	-42062035.95	0.0281	0.0040
Saturn	-119872-01-18 14:25 J	-42061807.10	-42061806.90	-42061806.70	0.0278	0.0051
Mars	-119872-05-17 08:10 J	-42061688.32	-42061688.16	-42061687.99	0.1743	0.0609
Saturn	-119872-09-04 18:58 J	-42061577.91	-42061577.71	-42061577.50	0.0275	0.0062
Saturn	-119871-04-21 22:49 J	-42061348.76	-42061348.55	-42061348.35	0.0272	0.0070
Saturn	-119871-12-07 01:13 J	-42061119.65	-42061119.45	-42061119.25	0.0270	0.0078
Earth	-119870-07-03 06:29 J	-42060911.33	-42060911.23	-42060911.12	0.2691	0.1947
Moon	-119870-07-03 07:56 J	-42060911.27	-42060911.17	-42060911.07	0.2697	0.1934 *
Saturn	-119870-07-24 02:53 J	-42060890.58	-42060890.38	-42060890.18	0.0267	0.0084
Saturn	-119869-03-09 03:51 J	-42060661.54	-42060661.34	-42060661.14	0.0265	0.0088
Saturn	-119869-10-24 04:20 J	-42060432.52	-42060432.32	-42060432.12	0.0264	0.0092
Jupiter	-119869-12-22 00:29 J	-42060373.69	-42060373.48	-42060373.27	0.0504	0.0043
Saturn	-119868-06-10 04:34 J	-42060203.51	-42060203.31	-42060203.11	0.0262	0.0094
Saturn	-119867-01-25 04:20 J	-42059974.51	-42059974.32	-42059974.11	0.0261	0.0095
Saturn	-119867-09-11 04:20 J	-42059745.52	-42059745.32	-42059745.11	0.0260	0.0094
Saturn	-119866-04-28 04:20 J	-42059516.52	-42059516.32	-42059516.11	0.0259	0.0093
Saturn	-119866-12-13 04:49 J	-42059287.50	-42059287.30	-42059287.09	0.0259	0.0090
Saturn	-119865-07-29 05:46 J	-42059058.46	-42059058.26	-42059058.05	0.0259	0.0087
Saturn	-119864-03-15 07:27 J	-42058829.40	-42058829.19	-42058828.98	0.0259	0.0082
Saturn	-119864-10-30 09:37 J	-42058600.30	-42058600.10	-42058599.88	0.0260	0.0077
Saturn	-119863-06-16 13:13 J	-42058371.17	-42058370.95	-42058370.74	0.0260	0.0070
Jupiter	-119863-10-26 23:03 J	-42058238.73	-42058238.54	-42058238.34	0.0521	0.0055
Saturn	-119862-01-31 17:32 J	-42058141.98	-42058141.77	-42058141.55	0.0261	0.0062
Earth	-119862-07-01 00:15 J	-42057991.63	-42057991.49	-42057991.36	0.2696	0.1253
Moon	-119862-07-01 04:05 J	-42057991.47	-42057991.33	-42057991.20	0.2700	0.1046 *
Saturn	-119862-09-17 23:17 J	-42057912.74	-42057912.53	-42057912.31	0.0263	0.0053
Saturn	-119861-05-04 06:29 J	-42057683.45	-42057683.23	-42057683.01	0.0264	0.0043
Saturn	-119861-12-19 15:08 J	-42057454.09	-42057453.87	-42057453.65	0.0266	0.0032
Saturn	-119860-08-06 01:13 J	-42057224.67	-42057224.45	-42057224.23	0.0268	0.0021
Saturn	-119859-03-23 13:13 J	-42056995.17	-42056994.95	-42056994.73	0.0271	0.0009

Saturn -119859-11-08 02:39 J -42056765.61 -42056765.39 -42056765.17 0.0273 0.0006
 Saturn -119858-06-25 18:01 J -42056535.97 -42056535.75 -42056535.53 0.0276 0.0018
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 Saturn -119847-10-24 10:34 J -42052397.27 -42052397.06 -42052396.86 0.0296 0.0028
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 Jupiter -119839-03-06 22:05 J -42049706.71 -42049706.58 -42049706.44 0.0523 0.0376
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Neptune -119837-05-29 02:53 J -42048892.51 -42048892.38 -42048892.22 0.0089 0.0068
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 Neptune -119828-09-02 20:39 J -42045508.83 -42045508.64 -42045508.41 0.0089 0.0032
 Pluto -119828-11-19 14:39 J -42045431.04 -42045430.89 -42045430.71 0.0079 0.0051
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 Neptune -119826-07-11 13:41 J -42044832.11 -42044831.93 -42044831.74 0.0089 0.0051
 Saturn -119826-07-13 07:41 J -42044830.38 -42044830.18 -42044829.97 0.0289 0.0073
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 Saturn -119820-10-29 15:37 J -42042530.04 -42042529.85 -42042529.65 0.0303 0.0083

Saturn	-119819-06-16 12:58 J	-42042300.16	-42042299.96	-42042299.76	0.0302	0.0070
Saturn	-119818-02-01 08:39 J	-42042070.34	-42042070.14	-42042069.94	0.0300	0.0056
Saturn	-119818-09-19 02:25 J	-42041840.60	-42041840.40	-42041840.20	0.0298	0.0041
Saturn	-119817-05-05 18:29 J	-42041610.93	-42041610.73	-42041610.53	0.0295	0.0025
Saturn	-119817-12-21 08:39 J	-42041381.35	-42041381.14	-42041380.94	0.0292	0.0011
Saturn	-119816-08-07 20:53 J	-42041151.84	-42041151.63	-42041151.43	0.0289	0.0007
Jupiter	-119815-03-09 08:10 J	-42040938.36	-42040938.16	-42040937.97	0.0521	0.0040
Saturn	-119815-03-25 07:13 J	-42040922.40	-42040922.20	-42040921.99	0.0286	0.0021
Saturn	-119815-11-09 15:51 J	-42040693.04	-42040692.84	-42040692.63	0.0283	0.0034
Saturn	-119814-06-26 22:49 J	-42040463.75	-42040463.55	-42040463.34	0.0280	0.0047
Saturn	-119813-02-11 04:20 J	-42040234.52	-42040234.32	-42040234.11	0.0277	0.0058
Saturn	-119813-09-27 08:39 J	-42040005.34	-42040005.14	-42040004.93	0.0274	0.0068
Mars	-119813-09-28 21:51 J	-42040003.74	-42040003.59	-42040003.44	0.1786	0.0887
Saturn	-119812-05-14 12:01 J	-42039776.20	-42039776.00	-42039775.80	0.0271	0.0076
Saturn	-119812-12-29 13:56 J	-42039547.11	-42039546.92	-42039546.71	0.0269	0.0084
Mars	-119811-07-28 19:13 J	-42039335.86	-42039335.70	-42039335.53	0.1767	0.0564
Saturn	-119811-08-15 15:22 J	-42039318.06	-42039317.86	-42039317.66	0.0267	0.0089
Saturn	-119810-04-01 16:05 J	-42039089.03	-42039088.83	-42039088.63	0.0265	0.0094
Saturn	-119810-11-16 16:05 J	-42038860.02	-42038859.83	-42038859.63	0.0263	0.0097
Jupiter	-119809-01-07 23:32 J	-42038807.67	-42038807.52	-42038807.36	0.0502	0.0338
Saturn	-119809-07-02 16:20 J	-42038631.02	-42038630.82	-42038630.62	0.0261	0.0099
Jupiter	-119809-09-01 13:41 J	-42038570.04	-42038569.93	-42038569.81	0.0506	0.0421
Saturn	-119808-02-16 16:05 J	-42038402.03	-42038401.83	-42038401.63	0.0260	0.0099
Mars	-119808-05-15 23:03 J	-42038313.70	-42038313.54	-42038313.38	0.1728	0.0729
Saturn	-119808-10-03 15:51 J	-42038173.04	-42038172.84	-42038172.64	0.0259	0.0098
Saturn	-119807-05-20 15:37 J	-42037944.04	-42037943.85	-42037943.64	0.0259	0.0097
Saturn	-119806-01-04 16:05 J	-42037715.03	-42037714.83	-42037714.62	0.0259	0.0094
Mars	-119806-03-14 15:51 J	-42037646.01	-42037645.84	-42037645.68	0.1746	0.0691
Saturn	-119806-08-21 17:03 J	-42037485.99	-42037485.79	-42037485.58	0.0259	0.0090
Saturn	-119805-04-06 18:44 J	-42037256.92	-42037256.72	-42037256.51	0.0259	0.0084

Saturn -119805-11-21 21:08 J -42037027.82 -42037027.62 -42037027.40 0.0260 0.0078
 Saturn -119804-07-09 00:44 J -42036798.68 -42036798.47 -42036798.25 0.0260 0.0070
 Jupiter -119804-11-12 08:39 J -42036672.31 -42036672.14 -42036671.97 0.0523 0.0251
 Saturn -119803-02-23 05:17 J -42036569.49 -42036569.28 -42036569.06 0.0262 0.0062
 Jupiter -119803-07-06 18:15 J -42036435.77 -42036435.74 -42036435.71 0.0519 0.0511
 Saturn -119803-10-10 11:17 J -42036340.24 -42036340.03 -42036339.81 0.0263 0.0052
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 Saturn -119802-05-27 18:44 J -42036110.94 -42036110.72 -42036110.50 0.0265 0.0042
 Uranus -119802-12-19 09:08 J -42035905.26 -42035905.12 -42035904.95 0.0146 0.0107
 Saturn -119801-01-12 03:22 J -42035881.57 -42035881.36 -42035881.13 0.0267 0.0031
 Uranus -119801-08-02 01:41 J -42035678.62 -42035678.43 -42035678.22 0.0146 0.0069
 Saturn -119801-08-28 14:10 J -42035652.13 -42035651.91 -42035651.69 0.0269 0.0018
 Uranus -119800-03-16 17:46 J -42035451.97 -42035451.76 -42035451.53 0.0146 0.0032
 Saturn -119800-04-15 02:25 J -42035422.62 -42035422.40 -42035422.18 0.0271 0.0004
 Uranus -119800-10-29 09:51 J -42035225.31 -42035225.09 -42035224.86 0.0145 0.0006
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 Uranus -119799-06-13 01:27 J -42034998.64 -42034998.44 -42034998.21 0.0145 0.0043
 Saturn -119799-07-18 07:56 J -42034963.39 -42034963.17 -42034962.95 0.0277 0.0023
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 Saturn -119795-04-27 14:53 J -42033584.07 -42033583.88 -42033583.67 0.0295 0.0099
 Saturn -119795-12-13 16:20 J -42033354.02 -42033353.82 -42033353.62 0.0297 0.0106
 Saturn -119794-07-31 18:01 J -42033123.94 -42033123.75 -42033123.55 0.0299 0.0112
 Saturn -119793-03-17 19:56 J -42032893.85 -42032893.67 -42032893.47 0.0301 0.0115

Saturn -119793-11-02 22:05 J -42032663.77 -42032663.58 -42032663.39 0.0303 0.0114
 Saturn -119792-06-20 23:46 J -42032433.70 -42032433.51 -42032433.32 0.0304 0.0110
 Jupiter -119792-07-18 07:56 J -42032406.25 -42032406.17 -42032406.08 0.0523 0.0464
 Saturn -119791-02-06 00:58 J -42032203.66 -42032203.46 -42032203.27 0.0304 0.0104
 Jupiter -119791-03-11 18:01 J -42032169.90 -42032169.75 -42032169.59 0.0519 0.0303
 Saturn -119791-09-24 00:44 J -42031973.66 -42031973.47 -42031973.27 0.0304 0.0096
 Saturn -119790-05-11 23:32 J -42031743.71 -42031743.52 -42031743.32 0.0303 0.0084
 Saturn -119790-12-27 20:39 J -42031513.83 -42031513.64 -42031513.44 0.0302 0.0071
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 Mars -119018-04-06 19:41 J -41749805.86 -41749805.68 -41749805.50 0.1759 0.0196
 Saturn -119018-07-25 06:15 J -41749696.43 -41749696.24 -41749696.04 0.0279 0.0099
 Neptune -119018-11-01 14:39 J -41749596.96 -41749596.89 -41749596.78 0.0089 0.0081
 Saturn -119017-03-10 12:15 J -41749467.17 -41749466.99 -41749466.79 0.0276 0.0112
 Neptune -119017-06-14 05:17 J -41749371.39 -41749371.28 -41749371.15 0.0089 0.0074
 Saturn -119017-10-25 17:03 J -41749237.97 -41749237.79 -41749237.60 0.0273 0.0124
 Neptune -119016-01-25 19:27 J -41749145.82 -41749145.69 -41749145.53 0.0089 0.0068
 Saturn -119016-06-11 20:53 J -41749008.81 -41749008.63 -41749008.44 0.0271 0.0133
 Neptune -119016-09-08 10:20 J -41748920.23 -41748920.07 -41748919.91 0.0089 0.0061
 Saturn -119015-01-26 23:46 J -41748779.69 -41748779.51 -41748779.32 0.0269 0.0140
 Neptune -119015-04-22 00:29 J -41748694.65 -41748694.48 -41748694.29 0.0089 0.0055

Saturn -119015-09-13 01:41 J -41748550.60 -41748550.43 -41748550.24 0.0266 0.0145
 Jupiter -119015-11-10 07:56 J -41748492.38 -41748492.17 -41748491.96 0.0503 0.0018
 Neptune -119015-12-03 15:08 J -41748469.06 -41748468.87 -41748468.68 0.0089 0.0048
 Saturn -119014-04-30 03:08 J -41748321.54 -41748321.37 -41748321.19 0.0265 0.0147
 Neptune -119014-07-17 05:03 J -41748243.48 -41748243.29 -41748243.08 0.0089 0.0042
 Saturn -119014-12-15 04:20 J -41748092.50 -41748092.32 -41748092.14 0.0263 0.0147
 Neptune -119013-02-27 19:41 J -41748017.89 -41748017.68 -41748017.47 0.0089 0.0035
 Saturn -119013-07-31 05:03 J -41747863.47 -41747863.29 -41747863.11 0.0262 0.0146
 Neptune -119013-10-10 09:51 J -41747792.29 -41747792.09 -41747791.87 0.0089 0.0029
 Saturn -119012-03-17 05:32 J -41747634.45 -41747634.27 -41747634.08 0.0261 0.0143
 Neptune -119012-05-24 00:15 J -41747566.70 -41747566.49 -41747566.27 0.0089 0.0022
 Saturn -119012-11-01 06:01 J -41747405.42 -41747405.25 -41747405.06 0.0260 0.0138
 Neptune -119011-01-04 14:25 J -41747341.12 -41747340.90 -41747340.67 0.0089 0.0016
 Saturn -119011-06-18 06:58 J -41747176.39 -41747176.21 -41747176.02 0.0259 0.0131
 Neptune -119011-08-18 04:34 J -41747115.53 -41747115.31 -41747115.08 0.0089 0.0009
 Saturn -119010-02-02 08:10 J -41746947.35 -41746947.16 -41746946.96 0.0259 0.0123
 Neptune -119010-03-31 18:44 J -41746889.95 -41746889.72 -41746889.49 0.0089 0.0002
 Saturn -119010-09-19 09:51 J -41746718.28 -41746718.09 -41746717.89 0.0259 0.0113
 Neptune -119010-11-12 08:53 J -41746664.36 -41746664.13 -41746663.91 0.0089 0.0004
 Saturn -119009-05-05 12:15 J -41746489.19 -41746488.99 -41746488.79 0.0259 0.0102
 Neptune -119009-06-24 22:49 J -41746438.77 -41746438.55 -41746438.32 0.0089 0.0011
 Jupiter -119009-09-14 21:22 J -41746356.80 -41746356.61 -41746356.41 0.0522 0.0083
 Saturn -119009-12-20 15:22 J -41746260.06 -41746259.86 -41746259.65 0.0260 0.0089
 Neptune -119008-02-05 12:44 J -41746213.19 -41746212.97 -41746212.75 0.0089 0.0017
 Saturn -119008-08-06 19:41 J -41746030.89 -41746030.68 -41746030.46 0.0261 0.0075
 Neptune -119008-09-19 02:25 J -41745987.61 -41745987.40 -41745987.17 0.0089 0.0024
 Saturn -119007-03-24 00:58 J -41745801.67 -41745801.46 -41745801.24 0.0262 0.0060
 Neptune -119007-05-02 16:34 J -41745762.02 -41745761.81 -41745761.60 0.0089 0.0030
 Saturn -119007-11-08 07:41 J -41745572.40 -41745572.18 -41745571.96 0.0264 0.0043
 Neptune -119007-12-14 06:15 J -41745536.44 -41745536.24 -41745536.03 0.0089 0.0037

Saturn -119006-06-25 15:22 J -41745343.08 -41745342.86 -41745342.64 0.0265 0.0026
 Neptune -119006-07-27 19:56 J -41745310.85 -41745310.67 -41745310.46 0.0089 0.0043
 Saturn -119005-02-10 00:44 J -41745113.69 -41745113.47 -41745113.25 0.0267 0.0007
 Neptune -119005-03-09 09:22 J -41745085.27 -41745085.11 -41745084.90 0.0089 0.0050
 Saturn -119005-09-26 11:46 J -41744884.23 -41744884.01 -41744883.79 0.0270 0.0012
 Neptune -119005-10-20 23:32 J -41744859.68 -41744859.52 -41744859.33 0.0089 0.0056
 Saturn -119004-05-14 00:15 J -41744654.71 -41744654.49 -41744654.27 0.0272 0.0032
 Neptune -119004-06-03 13:13 J -41744634.10 -41744633.95 -41744633.78 0.0089 0.0062
 Saturn -119004-12-29 14:10 J -41744425.12 -41744424.91 -41744424.69 0.0275 0.0052
 Neptune -119003-01-15 03:08 J -41744408.51 -41744408.37 -41744408.22 0.0089 0.0068
 Jupiter -119003-07-16 00:15 J -41744226.67 -41744226.49 -41744226.30 0.0502 0.0239
 Saturn -119003-08-16 05:46 J -41744195.47 -41744195.26 -41744195.05 0.0278 0.0072
 Neptune -119003-08-28 16:05 J -41744182.92 -41744182.83 -41744182.68 0.0089 0.0075
 Saturn -119002-04-02 22:49 J -41743965.75 -41743965.55 -41743965.34 0.0280 0.0091
 Neptune -119002-04-11 05:46 J -41743957.33 -41743957.26 -41743957.14 0.0089 0.0081
 Uranus -119002-06-01 04:05 J -41743906.42 -41743906.33 -41743906.21 0.0132 0.0115
 Saturn -119002-11-18 17:46 J -41743735.96 -41743735.76 -41743735.56 0.0283 0.0109
 Neptune -119002-11-22 19:27 J -41743731.71 -41743731.69 -41743731.62 0.0089 0.0087
 Uranus -119001-01-13 06:44 J -41743680.37 -41743680.22 -41743680.06 0.0133 0.0088
 Saturn -119001-07-05 13:56 J -41743506.11 -41743505.92 -41743505.72 0.0287 0.0126
 Uranus -119001-08-26 09:08 J -41743454.30 -41743454.12 -41743453.93 0.0133 0.0061

119TH MILLENNIUM BCE

This is a list of transits of Venus in the 119th millennium BCE.

	FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT								
	TIME								
Saturn	-119000-02-20	11:32	J	-41743276.21	-41743276.02	-41743275.84	0.0290	0.0140	
Uranus	-119000-04-09	11:46	J	-41743228.21	-41743228.01	-41743227.81	0.0133	0.0033	
Saturn	-119000-10-08	10:05	J	-41743046.26	-41743046.08	-41743045.90	0.0292	0.0152	
Uranus	-119000-11-21	14:10	J	-41743002.12	-41743001.91	-41743001.70	0.0133	0.0006	
Saturn	-118999-05-26	09:51	J	-41742816.27	-41742816.09	-41742815.92	0.0295	0.0161	
Uranus	-118999-07-05	16:49	J	-41742776.00	-41742775.80	-41742775.59	0.0133	0.0022	
Saturn	-118998-01-11	10:20	J	-41742586.24	-41742586.07	-41742585.89	0.0298	0.0166	
Uranus	-118998-02-16	19:41	J	-41742549.87	-41742549.68	-41742549.48	0.0134	0.0050	
Saturn	-118998-08-29	11:17	J	-41742356.20	-41742356.03	-41742355.86	0.0300	0.0167	
Uranus	-118998-09-30	22:34	J	-41742323.72	-41742323.56	-41742323.38	0.0134	0.0078	
Saturn	-118997-04-15	12:29	J	-41742126.15	-41742125.98	-41742125.81	0.0302	0.0164	
Uranus	-118997-05-14	01:27	J	-41742097.55	-41742097.44	-41742097.30	0.0134	0.0106	
Jupiter	-118997-05-20	20:25	J	-41742090.83	-41742090.65	-41742090.46	0.0522	0.0144	
Saturn	-118997-12-01	13:41	J	-41741896.11	-41741895.93	-41741895.76	0.0303	0.0157	
Uranus	-118997-12-26	04:49	J	-41741871.31	-41741871.30	-41741871.28	0.0135	0.0134	
Saturn	-118996-07-19	14:25	J	-41741666.08	-41741665.90	-41741665.72	0.0304	0.0145	
Saturn	-118995-03-06	14:25	J	-41741436.08	-41741435.90	-41741435.71	0.0304	0.0130	
Saturn	-118995-10-22	13:27	J	-41741206.13	-41741205.94	-41741205.75	0.0303	0.0112	
Saturn	-118994-06-09	11:03	J	-41740976.23	-41740976.04	-41740975.84	0.0302	0.0092	
Saturn	-118993-01-25	07:41	J	-41740746.38	-41740746.18	-41740745.98	0.0301	0.0068	
Saturn	-118993-09-11	02:25	J	-41740516.60	-41740516.40	-41740516.20	0.0299	0.0044	
Saturn	-118992-04-28	19:27	J	-41740286.89	-41740286.69	-41740286.48	0.0297	0.0021	
Saturn	-118992-12-14	10:49	J	-41740057.25	-41740057.05	-41740056.84	0.0294	0.0005	
Jupiter	-118991-03-20	17:17	J	-41739960.86	-41739960.78	-41739960.69	0.0502	0.0454	
Saturn	-118991-08-01	00:29	J	-41739827.69	-41739827.48	-41739827.28	0.0291	0.0027	
Mars	-118991-08-20	09:08	J	-41739808.28	-41739808.12	-41739807.96	0.1762	0.0603	

Jupiter -118991-11-13 06:58 J -41739723.36 -41739723.21 -41739723.05 0.0506 0.0339
 Saturn -118990-03-18 12:15 J -41739598.19 -41739597.99 -41739597.79 0.0288 0.0048
 Saturn -118990-11-02 22:20 J -41739368.77 -41739368.57 -41739368.37 0.0285 0.0068
 Mars -118989-06-18 14:25 J -41739140.05 -41739139.90 -41739139.75 0.1744 0.0778
 Saturn -118989-06-19 06:58 J -41739139.41 -41739139.21 -41739139.01 0.0282 0.0086
 Saturn -118988-02-03 13:56 J -41738910.11 -41738909.92 -41738909.72 0.0279 0.0102
 Saturn -118988-09-20 19:41 J -41738680.87 -41738680.68 -41738680.49 0.0276 0.0115
 Saturn -118987-05-08 00:15 J -41738451.67 -41738451.49 -41738451.30 0.0273 0.0127
 Saturn -118987-12-23 03:37 J -41738222.53 -41738222.35 -41738222.16 0.0271 0.0136
 Mars -118986-04-06 06:44 J -41738118.39 -41738118.22 -41738118.06 0.1751 0.0548
 Saturn -118986-08-09 06:15 J -41737993.42 -41737993.24 -41737993.06 0.0268 0.0142
 Jupiter -118985-01-24 19:56 J -41737824.81 -41737824.67 -41737824.53 0.0523 0.0371
 Saturn -118985-03-25 07:56 J -41737764.34 -41737764.17 -41737763.99 0.0266 0.0147
 Jupiter -118985-09-17 05:46 J -41737588.37 -41737588.26 -41737588.15 0.0519 0.0430
 Saturn -118985-11-09 09:22 J -41737535.29 -41737535.11 -41737534.94 0.0264 0.0150
 Mars -118984-02-01 14:10 J -41737451.05 -41737450.91 -41737450.77 0.1770 0.1068
 Saturn -118984-06-26 10:20 J -41737306.24 -41737306.07 -41737305.89 0.0263 0.0150
 Saturn -118983-02-10 11:03 J -41737077.22 -41737077.04 -41737076.86 0.0261 0.0149
 Saturn -118983-09-27 11:17 J -41736848.20 -41736848.03 -41736847.84 0.0260 0.0145
 Saturn -118982-05-14 12:01 J -41736619.18 -41736619.00 -41736618.82 0.0259 0.0140
 Saturn -118982-12-29 12:44 J -41736390.15 -41736389.97 -41736389.78 0.0259 0.0133
 Saturn -118981-08-14 14:10 J -41736161.10 -41736160.91 -41736160.71 0.0259 0.0124
 Saturn -118980-03-31 15:51 J -41735932.03 -41735931.84 -41735931.63 0.0259 0.0114
 Saturn -118980-11-15 18:29 J -41735702.93 -41735702.73 -41735702.53 0.0259 0.0102
 Saturn -118979-07-02 21:51 J -41735473.80 -41735473.59 -41735473.38 0.0260 0.0089
 Jupiter -118979-07-18 23:17 J -41735457.74 -41735457.53 -41735457.33 0.0504 0.0116
 Saturn -118978-02-17 02:10 J -41735244.62 -41735244.41 -41735244.20 0.0261 0.0074
 Saturn -118978-10-04 07:41 J -41735015.39 -41735015.18 -41735014.96 0.0262 0.0058
 Saturn -118977-05-20 14:25 J -41734786.11 -41734785.90 -41734785.68 0.0264 0.0041
 Saturn -118976-01-04 22:34 J -41734556.78 -41734556.56 -41734556.34 0.0266 0.0023

Saturn -118976-08-22 08:10 J -41734327.38 -41734327.16 -41734326.94 0.0268 0.0005
 Saturn -118975-04-08 19:13 J -41734097.91 -41734097.70 -41734097.48 0.0270 0.0017
 Saturn -118975-11-24 07:56 J -41733868.38 -41733868.17 -41733867.95 0.0273 0.0036
 Saturn -118974-07-11 22:05 J -41733638.79 -41733638.58 -41733638.36 0.0275 0.0056
 Saturn -118973-02-26 13:56 J -41733409.12 -41733408.92 -41733408.70 0.0278 0.0076
 Jupiter -118973-05-23 05:03 J -41733322.46 -41733322.29 -41733322.11 0.0521 0.0207
 Saturn -118973-10-13 07:41 J -41733179.38 -41733179.18 -41733178.98 0.0281 0.0094
 Saturn -118972-05-31 02:39 J -41732949.58 -41732949.39 -41732949.19 0.0284 0.0112
 Saturn -118971-01-15 23:03 J -41732719.72 -41732719.54 -41732719.34 0.0288 0.0129
 Saturn -118971-09-02 20:53 J -41732489.81 -41732489.63 -41732489.44 0.0291 0.0143
 Saturn -118970-04-20 19:56 J -41732259.85 -41732259.67 -41732259.49 0.0293 0.0154
 Saturn -118970-12-06 19:56 J -41732029.84 -41732029.67 -41732029.49 0.0296 0.0162
 Saturn -118969-07-23 20:39 J -41731799.81 -41731799.64 -41731799.46 0.0299 0.0167
 Saturn -118968-03-10 21:37 J -41731569.76 -41731569.60 -41731569.42 0.0301 0.0168
 Saturn -118968-10-26 22:49 J -41731339.71 -41731339.55 -41731339.37 0.0302 0.0164
 Jupiter -118967-03-23 15:22 J -41731192.07 -41731191.86 -41731191.65 0.0503 0.0107
 Saturn -118967-06-14 00:01 J -41731109.67 -41731109.50 -41731109.32 0.0303 0.0156
 Saturn -118966-01-30 00:44 J -41730879.64 -41730879.47 -41730879.28 0.0304 0.0144
 Saturn -118966-09-17 00:44 J -41730649.65 -41730649.47 -41730649.28 0.0304 0.0128
 Saturn -118965-05-03 23:32 J -41730419.71 -41730419.52 -41730419.33 0.0303 0.0109
 Saturn -118965-12-19 21:08 J -41730189.81 -41730189.62 -41730189.42 0.0302 0.0088
 Saturn -118964-08-06 17:32 J -41729959.97 -41729959.77 -41729959.58 0.0300 0.0065
 Saturn -118963-03-24 12:01 J -41729730.20 -41729730.00 -41729729.79 0.0298 0.0041
 Saturn -118963-11-09 05:03 J -41729500.50 -41729500.29 -41729500.09 0.0296 0.0016
 Saturn -118962-06-26 19:56 J -41729270.87 -41729270.67 -41729270.46 0.0293 0.0009
 Uranus -118962-09-14 14:10 J -41729191.00 -41729190.91 -41729190.79 0.0147 0.0130
 Jupiter -118961-01-27 05:46 J -41729056.46 -41729056.26 -41729056.07 0.0522 0.0018
 Saturn -118961-02-11 09:08 J -41729041.32 -41729041.12 -41729040.91 0.0290 0.0032
 Uranus -118961-04-28 06:15 J -41728964.40 -41728964.24 -41728964.05 0.0146 0.0090
 Saturn -118961-09-27 20:39 J -41728811.84 -41728811.64 -41728811.43 0.0287 0.0054

Uranus -118961-12-10 22:34 J -41728737.77 -41728737.56 -41728737.35 0.0146 0.0050
 Saturn -118960-05-15 06:44 J -41728582.42 -41728582.22 -41728582.02 0.0284 0.0073
 Uranus -118960-07-25 14:25 J -41728511.12 -41728510.90 -41728510.67 0.0146 0.0011
 Saturn -118960-12-30 14:53 J -41728353.07 -41728352.88 -41728352.68 0.0281 0.0091
 Uranus -118959-03-09 06:15 J -41728284.46 -41728284.24 -41728284.02 0.0145 0.0028
 Saturn -118959-08-16 21:37 J -41728123.79 -41728123.60 -41728123.41 0.0278 0.0107
 Mars -118959-08-19 13:13 J -41728121.06 -41728120.95 -41728120.83 0.1770 0.1301
 Uranus -118959-10-21 21:51 J -41728057.79 -41728057.59 -41728057.39 0.0145 0.0067
 Saturn -118958-04-03 03:08 J -41727894.56 -41727894.37 -41727894.18 0.0275 0.0120
 Uranus -118958-06-05 12:58 J -41727831.10 -41727830.96 -41727830.79 0.0145 0.0106
 Saturn -118958-11-18 07:27 J -41727665.37 -41727665.19 -41727665.01 0.0272 0.0131
 Uranus -118957-01-18 04:20 J -41727604.33 -41727604.32 -41727604.28 0.0144 0.0144
 Mars -118957-06-17 15:37 J -41727453.02 -41727452.85 -41727452.68 0.1752 0.0142
 Saturn -118957-07-04 10:34 J -41727436.23 -41727436.06 -41727435.87 0.0270 0.0140
 Saturn -118956-02-18 13:13 J -41727207.13 -41727206.95 -41727206.77 0.0268 0.0146
 Saturn -118956-10-05 14:53 J -41726978.05 -41726977.88 -41726977.70 0.0266 0.0150
 Jupiter -118956-11-26 06:29 J -41726926.39 -41726926.23 -41726926.07 0.0502 0.0330
 Mars -118955-04-17 00:29 J -41726784.57 -41726784.48 -41726784.39 0.1734 0.1451
 Saturn -118955-05-22 16:05 J -41726749.00 -41726748.83 -41726748.65 0.0264 0.0152
 Jupiter -118955-07-21 19:56 J -41726688.75 -41726688.67 -41726688.59 0.0506 0.0464
 Saturn -118954-01-06 16:49 J -41726519.97 -41726519.80 -41726519.62 0.0262 0.0152
 Mars -118954-04-05 15:08 J -41726430.99 -41726430.87 -41726430.75 0.1743 0.1249
 Saturn -118954-08-23 17:17 J -41726290.95 -41726290.78 -41726290.60 0.0261 0.0150
 Saturn -118953-04-08 17:46 J -41726061.93 -41726061.76 -41726061.57 0.0260 0.0146
 Saturn -118953-11-23 18:29 J -41725832.91 -41725832.73 -41725832.55 0.0259 0.0140
 Mars -118952-02-01 02:39 J -41725763.57 -41725763.39 -41725763.21 0.1762 0.0289
 Saturn -118952-07-10 19:27 J -41725603.88 -41725603.69 -41725603.50 0.0259 0.0132
 Saturn -118951-02-24 20:39 J -41725374.83 -41725374.64 -41725374.44 0.0259 0.0123
 Saturn -118951-10-11 22:20 J -41725145.76 -41725145.57 -41725145.37 0.0259 0.0113
 Saturn -118950-05-29 00:58 J -41724916.66 -41724916.46 -41724916.26 0.0260 0.0101

Jupiter -118950-10-02 06:01 J -41724790.43 -41724790.25 -41724790.08 0.0523 0.0242
 Saturn -118949-01-13 04:20 J -41724687.52 -41724687.32 -41724687.11 0.0260 0.0087
 Saturn -118949-08-29 08:53 J -41724458.33 -41724458.13 -41724457.91 0.0261 0.0073
 Saturn -118948-04-15 14:39 J -41724229.10 -41724228.89 -41724228.67 0.0263 0.0056
 Saturn -118948-11-30 21:37 J -41723999.82 -41723999.60 -41723999.38 0.0264 0.0039
 Saturn -118947-07-18 05:46 J -41723770.48 -41723770.26 -41723770.04 0.0266 0.0021
 Saturn -118946-03-04 15:37 J -41723541.07 -41723540.85 -41723540.63 0.0268 0.0003
 Saturn -118946-10-20 03:08 J -41723311.59 -41723311.37 -41723311.15 0.0271 0.0019
 Saturn -118945-06-05 16:05 J -41723082.05 -41723081.83 -41723081.61 0.0273 0.0040
 Saturn -118944-01-21 06:44 J -41722852.43 -41722852.22 -41722852.01 0.0276 0.0060
 Saturn -118944-09-07 22:49 J -41722622.75 -41722622.55 -41722622.34 0.0279 0.0081
 Jupiter -118943-03-26 11:46 J -41722423.19 -41722423.01 -41722422.82 0.0505 0.0242
 Saturn -118943-04-25 16:34 J -41722393.00 -41722392.81 -41722392.60 0.0282 0.0101
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 Saturn -118868-09-23 07:56 J -41694848.34 -41694848.17 -41694847.99 0.0267 0.0154
 Saturn -118867-05-10 09:08 J -41694619.28 -41694619.12 -41694618.94 0.0265 0.0157
 Jupiter -118867-10-21 01:41 J -41694455.61 -41694455.43 -41694455.25 0.0522 0.0206

Saturn -118867-12-25 09:51 J -41694390.26 -41694390.09 -41694389.91 0.0263 0.0159
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 Saturn -118865-11-11 10:49 J -41693703.22 -41693703.05 -41693702.87 0.0259 0.0150
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Neptune -118844-05-09 23:32 J -41686218.73 -41686218.52 -41686218.29 0.0089 0.0019
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 Saturn -118838-11-20 14:10 J -41683833.07 -41683832.91 -41683832.73 0.0264 0.0161
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Saturn -118835-05-24 15:37 J -41682917.01 -41682916.85 -41682916.66 0.0259 0.0152
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 Uranus -118834-05-13 05:03 J -41682563.37 -41682563.29 -41682563.18 0.0132 0.0116
 Saturn -118834-08-25 17:03 J -41682458.97 -41682458.79 -41682458.60 0.0259 0.0135
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 Mars -118824-12-09 21:22 J -41678699.68 -41678699.61 -41678699.55 0.1729 0.1579
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Saturn -118811-04-13 07:13 J -41674192.39 -41674192.20 -41674192.02 0.0276 0.0124
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Saturn -118794-03-25 20:25 J -41668001.82 -41668001.65 -41668001.46 0.0290 0.0153
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 Saturn -118792-09-30 22:05 J -41667081.75 -41667081.58 -41667081.42 0.0301 0.0182
 Mars -118792-12-08 20:10 J -41667012.80 -41667012.66 -41667012.52 0.1736 0.0987
 Uranus -118791-02-18 08:39 J -41666941.35 -41666941.14 -41666940.91 0.0145 0.0031
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Saturn -118784-12-05 14:39 J -41664094.09 -41664093.89 -41664093.69 0.0285 0.0077
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Saturn -118770-09-24 14:39 J -41659053.11 -41659052.89 -41659052.67 0.0267 0.0006
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Saturn -118761-07-16 07:27 J -41655835.36 -41655835.19 -41655835.02 0.0303 0.0173
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 Saturn -118748-02-08 04:34 J -41651245.47 -41651245.31 -41651245.14 0.0262 0.0165
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 Saturn -118027-05-29 13:56 J -41387790.05 -41387789.92 -41387789.79 0.0293 0.0231
 Neptune -118027-12-05 06:00 J -41387600.47 -41387600.25 -41387600.03 0.0089 0.0018
 Saturn -118026-01-14 12:58 J -41387560.07 -41387559.96 -41387559.82 0.0296 0.0237
 Neptune -118026-07-18 20:10 J -41387374.88 -41387374.66 -41387374.43 0.0089 0.0012
 Saturn -118026-09-01 13:12 J -41387330.07 -41387329.95 -41387329.82 0.0298 0.0236
 Neptune -118025-02-29 10:34 J -41387149.29 -41387149.06 -41387148.83 0.0089 0.0005
 Saturn -118025-04-18 13:27 J -41387100.06 -41387099.94 -41387099.80 0.0300 0.0230
 Neptune -118025-10-12 00:58 J -41386923.69 -41386923.46 -41386923.23 0.0089 0.0001
 Saturn -118025-12-04 14:24 J -41386870.04 -41386869.90 -41386869.76 0.0302 0.0218
 Jupiter -118024-01-03 22:48 J -41386839.75 -41386839.55 -41386839.36 0.0522 0.0034
 Neptune -118024-05-25 15:08 J -41386698.09 -41386697.87 -41386697.64 0.0089 0.0008
 Saturn -118024-07-22 14:53 J -41386640.03 -41386639.88 -41386639.72 0.0303 0.0201
 Neptune -118023-01-06 05:03 J -41386472.50 -41386472.29 -41386472.05 0.0089 0.0015
 Saturn -118023-03-09 15:22 J -41386410.03 -41386409.86 -41386409.70 0.0303 0.0178
 Neptune -118023-08-19 19:12 J -41386246.91 -41386246.70 -41386246.47 0.0089 0.0021
 Saturn -118023-10-25 14:39 J -41386180.06 -41386179.89 -41386179.70 0.0304 0.0151
 Neptune -118022-04-02 09:22 J -41386021.32 -41386021.11 -41386020.89 0.0089 0.0027
 Saturn -118022-06-12 13:27 J -41385950.12 -41385949.94 -41385949.75 0.0303 0.0119
 Neptune -118022-11-13 23:17 J -41385795.72 -41385795.53 -41385795.30 0.0089 0.0034
 Saturn -118021-01-28 10:48 J -41385720.24 -41385720.05 -41385719.85 0.0302 0.0086
 Neptune -118021-06-26 13:27 J -41385570.13 -41385569.94 -41385569.73 0.0089 0.0040
 Saturn -118021-09-14 06:58 J -41385490.41 -41385490.21 -41385490.00 0.0300 0.0051
 Neptune -118020-02-07 03:36 J -41385344.54 -41385344.35 -41385344.15 0.0089 0.0046
 Saturn -118020-05-02 01:41 J -41385260.63 -41385260.43 -41385260.22 0.0298 0.0015
 Neptune -118020-09-20 17:17 J -41385118.94 -41385118.78 -41385118.58 0.0089 0.0053
 Saturn -118020-12-17 18:44 J -41385030.93 -41385030.72 -41385030.52 0.0296 0.0020
 Neptune -118019-05-04 07:12 J -41384893.35 -41384893.20 -41384893.01 0.0089 0.0059
 Saturn -118019-08-04 09:51 J -41384801.29 -41384801.09 -41384800.88 0.0293 0.0053
 Jupiter -118019-11-03 09:36 J -41384710.27 -41384710.10 -41384709.93 0.0502 0.0293

Neptune -118019-12-15 21:22 J -41384667.75 -41384667.61 -41384667.44 0.0089 0.0065
 Saturn -118018-03-21 23:32 J -41384571.71 -41384571.52 -41384571.32 0.0290 0.0084
 Neptune -118018-07-29 11:17 J -41384442.15 -41384442.03 -41384441.88 0.0089 0.0071
 Saturn -118018-11-06 11:17 J -41384342.21 -41384342.03 -41384341.83 0.0287 0.0112
 Neptune -118017-03-11 01:12 J -41384216.55 -41384216.45 -41384216.33 0.0089 0.0077
 Saturn -118017-06-22 21:36 J -41384112.78 -41384112.60 -41384112.41 0.0284 0.0137
 Neptune -118017-10-22 15:22 J -41383990.93 -41383990.86 -41383990.78 0.0089 0.0083
 Saturn -118016-02-07 06:15 J -41383883.40 -41383883.24 -41383883.06 0.0281 0.0158
 Saturn -118016-09-24 13:27 J -41383654.09 -41383653.94 -41383653.77 0.0278 0.0176
 Saturn -118015-05-11 19:41 J -41383424.83 -41383424.68 -41383424.53 0.0275 0.0190
 Saturn -118015-12-27 00:15 J -41383195.62 -41383195.49 -41383195.33 0.0273 0.0202
 Saturn -118014-08-13 04:05 J -41382966.45 -41382966.33 -41382966.19 0.0270 0.0209
 Saturn -118013-03-29 06:58 J -41382737.33 -41382737.21 -41382737.07 0.0268 0.0214
 Jupiter -118013-09-08 22:20 J -41382573.75 -41382573.57 -41382573.39 0.0523 0.0207
 Saturn -118013-11-13 09:08 J -41382508.23 -41382508.12 -41382507.99 0.0266 0.0215
 Saturn -118012-06-30 11:03 J -41382279.16 -41382279.04 -41382278.91 0.0264 0.0213
 Saturn -118011-02-14 12:15 J -41382050.11 -41382049.99 -41382049.85 0.0262 0.0209
 Saturn -118011-10-01 13:12 J -41381821.08 -41381820.95 -41381820.80 0.0261 0.0201
 Saturn -118010-05-18 14:10 J -41381592.05 -41381591.91 -41381591.76 0.0260 0.0191
 Saturn -118009-01-02 15:08 J -41381363.02 -41381362.87 -41381362.71 0.0259 0.0179
 Saturn -118009-08-18 16:34 J -41381133.97 -41381133.81 -41381133.64 0.0259 0.0165
 Saturn -118008-04-04 18:00 J -41380904.92 -41380904.75 -41380904.56 0.0259 0.0149
 Saturn -118008-11-19 20:10 J -41380675.84 -41380675.66 -41380675.46 0.0259 0.0130
 Saturn -118007-07-06 23:03 J -41380446.74 -41380446.54 -41380446.34 0.0259 0.0110
 Saturn -118006-02-21 02:24 J -41380217.60 -41380217.40 -41380217.18 0.0260 0.0088
 Jupiter -118006-03-03 15:08 J -41380207.03 -41380206.87 -41380206.70 0.0504 0.0309
 Saturn -118006-10-08 07:12 J -41379988.41 -41379988.20 -41379987.99 0.0261 0.0064
 Mars -118005-03-04 01:12 J -41379840.60 -41379840.45 -41379840.31 0.1742 0.0887
 Saturn -118005-05-24 12:58 J -41379759.18 -41379758.96 -41379758.75 0.0263 0.0040
 Saturn -118004-01-08 19:41 J -41379529.90 -41379529.68 -41379529.46 0.0264 0.0014

Saturn -118004-08-26 03:51 J -41379300.56 -41379300.34 -41379300.12 0.0266 0.0014

Mars -118003-01-01 12:15 J -41379172.15 -41379171.99 -41379171.83 0.1725 0.0487

Saturn -118003-04-12 13:27 J -41379071.15 -41379070.94 -41379070.72 0.0268 0.0041

Saturn -118003-11-28 00:29 J -41378841.69 -41378841.48 -41378841.26 0.0271 0.0068

Saturn -118002-07-15 12:58 J -41378612.16 -41378611.96 -41378611.75 0.0273 0.0095

Saturn -118001-03-01 03:08 J -41378382.56 -41378382.37 -41378382.17 0.0276 0.0122

Jupiter -118001-05-14 20:10 J -41378307.75 -41378307.66 -41378307.56 0.0524 0.0450

Saturn -118001-10-16 18:58 J -41378152.89 -41378152.71 -41378152.52 0.0279 0.0147

Mars -118001-10-18 05:46 J -41378151.41 -41378151.26 -41378151.10 0.1772 0.0828

118TH MILLENNIUM BCE

This is a list of transits of Venus in the 118th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-118000-01-06 07:41 J	-41378071.30	-41378071.18	-41378071.05	0.0521	0.0402		
Saturn	-118000-06-03 12:15 J	-41377923.16	-41377922.99	-41377922.81	0.0282	0.0170		
Saturn	-117999-01-19 06:58 J	-41377693.36	-41377693.21	-41377693.05	0.0285	0.0192		
Mars	-117999-08-16 05:03 J	-41377484.44	-41377484.29	-41377484.14	0.1792	0.0989		
Saturn	-117999-09-06 03:08 J	-41377463.51	-41377463.37	-41377463.22	0.0288	0.0209		
Saturn	-117998-04-24 00:29 J	-41377233.61	-41377233.48	-41377233.34	0.0291	0.0223		
Saturn	-117998-12-09 23:03 J	-41377003.66	-41377003.54	-41377003.40	0.0294	0.0233		
Saturn	-117997-07-26 22:34 J	-41376773.68	-41376773.56	-41376773.43	0.0297	0.0238		

Saturn -117996-03-13 22:48 J -41376543.67 -41376543.55 -41376543.42 0.0299 0.0236
 Saturn -117996-10-29 23:32 J -41376313.65 -41376313.52 -41376313.39 0.0301 0.0229
 Saturn -117995-06-17 00:00 J -41376083.63 -41376083.50 -41376083.35 0.0302 0.0217
 Jupiter -117995-11-06 07:41 J -41375941.39 -41375941.18 -41375940.97 0.0503 0.0075
 Saturn -117994-02-02 00:58 J -41375853.61 -41375853.46 -41375853.30 0.0303 0.0198
 Uranus -117994-02-07 16:05 J -41375847.91 -41375847.83 -41375847.72 0.0132 0.0117
 Saturn -117994-09-20 01:12 J -41375623.62 -41375623.45 -41375623.28 0.0304 0.0174
 Uranus -117994-09-21 18:00 J -41375621.89 -41375621.75 -41375621.58 0.0132 0.0089
 Uranus -117993-05-04 20:24 J -41375395.83 -41375395.65 -41375395.45 0.0132 0.0060
 Saturn -117993-05-07 00:29 J -41375393.65 -41375393.48 -41375393.29 0.0304 0.0146
 Uranus -117993-12-16 22:48 J -41375169.75 -41375169.55 -41375169.34 0.0132 0.0031
 Saturn -117993-12-22 23:03 J -41375163.72 -41375163.54 -41375163.35 0.0303 0.0114
 Uranus -117992-07-31 01:12 J -41374943.66 -41374943.45 -41374943.24 0.0133 0.0003
 Saturn -117992-08-09 20:39 J -41374933.84 -41374933.64 -41374933.45 0.0302 0.0080
 Uranus -117991-03-14 03:36 J -41374717.55 -41374717.35 -41374717.14 0.0133 0.0027
 Saturn -117991-03-27 16:34 J -41374704.01 -41374703.81 -41374703.61 0.0300 0.0044
 Uranus -117991-10-26 06:00 J -41374491.43 -41374491.25 -41374491.05 0.0133 0.0056
 Saturn -117991-11-12 11:03 J -41374474.24 -41374474.04 -41374473.84 0.0298 0.0009
 Uranus -117990-06-09 08:39 J -41374265.29 -41374265.14 -41374264.97 0.0133 0.0085
 Saturn -117990-06-30 03:51 J -41374244.55 -41374244.34 -41374244.14 0.0295 0.0027
 Uranus -117989-01-21 11:17 J -41374039.12 -41374039.03 -41374038.91 0.0134 0.0115
 Saturn -117989-02-14 18:44 J -41374014.92 -41374014.72 -41374014.52 0.0293 0.0060
 Jupiter -117989-09-11 08:10 J -41373805.35 -41373805.16 -41373804.98 0.0522 0.0167
 Saturn -117989-10-01 08:10 J -41373785.35 -41373785.16 -41373784.96 0.0290 0.0090
 Saturn -117988-05-18 19:56 J -41373555.85 -41373555.67 -41373555.48 0.0286 0.0118
 Saturn -117987-01-03 06:00 J -41373326.43 -41373326.25 -41373326.07 0.0283 0.0143
 Saturn -117987-08-20 14:24 J -41373097.07 -41373096.90 -41373096.73 0.0280 0.0164
 Saturn -117986-04-06 21:22 J -41372867.76 -41372867.61 -41372867.45 0.0277 0.0181
 Saturn -117986-11-22 02:53 J -41372638.51 -41372638.38 -41372638.22 0.0275 0.0196
 Saturn -117985-07-08 07:41 J -41372409.31 -41372409.18 -41372409.04 0.0272 0.0206

Saturn -117984-02-22 11:32 J -41372180.15 -41372180.02 -41372179.89 0.0269 0.0213
 Saturn -117984-10-09 14:10 J -41371951.03 -41371950.91 -41371950.78 0.0267 0.0217
 Saturn -117983-05-26 16:05 J -41371721.94 -41371721.83 -41371721.69 0.0265 0.0218
 Jupiter -117983-07-11 23:17 J -41371675.73 -41371675.53 -41371675.33 0.0502 0.0160
 Saturn -117982-01-10 17:46 J -41371492.87 -41371492.76 -41371492.63 0.0264 0.0215
 Saturn -117982-08-27 18:58 J -41371263.83 -41371263.71 -41371263.57 0.0262 0.0209
 Saturn -117981-04-12 20:10 J -41371034.80 -41371034.66 -41371034.53 0.0261 0.0201
 Saturn -117981-11-27 20:39 J -41370805.77 -41370805.64 -41370805.48 0.0260 0.0191
 Saturn -117980-07-14 21:51 J -41370576.74 -41370576.59 -41370576.42 0.0259 0.0178
 Saturn -117979-02-28 23:17 J -41370347.70 -41370347.53 -41370347.36 0.0259 0.0163
 Saturn -117979-10-16 00:44 J -41370118.65 -41370118.47 -41370118.29 0.0259 0.0146
 Saturn -117978-06-02 02:39 J -41369889.58 -41369889.39 -41369889.19 0.0259 0.0128
 Saturn -117977-01-17 05:17 J -41369660.47 -41369660.28 -41369660.07 0.0260 0.0108
 Jupiter -117977-05-17 07:56 J -41369539.36 -41369539.17 -41369538.98 0.0523 0.0070
 Saturn -117977-09-02 09:22 J -41369431.32 -41369431.11 -41369430.90 0.0261 0.0085
 Saturn -117976-04-19 13:56 J -41369202.13 -41369201.92 -41369201.70 0.0262 0.0062
 Saturn -117976-12-04 19:41 J -41368972.89 -41368972.68 -41368972.46 0.0263 0.0037
 Saturn -117975-07-22 02:39 J -41368743.61 -41368743.39 -41368743.17 0.0265 0.0011
 Saturn -117974-03-08 11:03 J -41368514.26 -41368514.04 -41368513.82 0.0267 0.0017
 Saturn -117974-10-23 20:53 J -41368284.84 -41368284.63 -41368284.41 0.0269 0.0045
 Mars -117973-03-03 02:24 J -41368153.47 -41368153.40 -41368153.33 0.1749 0.1573
 Saturn -117973-06-09 08:10 J -41368055.36 -41368055.16 -41368054.94 0.0271 0.0073
 Saturn -117972-01-24 20:53 J -41367825.82 -41367825.63 -41367825.42 0.0274 0.0101
 Saturn -117972-09-11 11:32 J -41367596.21 -41367596.02 -41367595.82 0.0276 0.0127
 Mars -117972-12-31 11:17 J -41367485.20 -41367485.03 -41367484.86 0.1732 0.0152
 Jupiter -117971-03-16 16:34 J -41367409.94 -41367409.81 -41367409.68 0.0501 0.0389
 Saturn -117971-04-29 03:22 J -41367366.53 -41367366.36 -41367366.17 0.0279 0.0153
 Jupiter -117971-11-09 04:20 J -41367172.41 -41367172.32 -41367172.22 0.0504 0.0442
 Saturn -117971-12-14 21:08 J -41367136.78 -41367136.62 -41367136.45 0.0282 0.0177
 Saturn -117970-08-01 16:05 J -41366906.98 -41366906.83 -41366906.67 0.0285 0.0198

Mars -117970-10-31 01:41 J -41366816.56 -41366816.43 -41366816.31 0.1715 0.1156
 Saturn -117969-03-18 12:29 J -41366677.11 -41366676.98 -41366676.83 0.0288 0.0216
 Mars -117969-10-17 17:46 J -41366463.83 -41366463.76 -41366463.69 0.1764 0.1611
 Saturn -117969-11-03 10:05 J -41366447.20 -41366447.08 -41366446.94 0.0291 0.0230
 Saturn -117968-06-21 08:53 J -41366217.24 -41366217.13 -41366217.00 0.0294 0.0238
 Saturn -117967-02-06 08:39 J -41365987.26 -41365987.14 -41365987.02 0.0296 0.0242
 Mars -117967-08-15 21:51 J -41365796.77 -41365796.59 -41365796.41 0.1783 0.0117
 Saturn -117967-09-24 08:39 J -41365757.25 -41365757.14 -41365757.01 0.0299 0.0240
 Saturn -117966-05-12 09:22 J -41365527.24 -41365527.11 -41365526.98 0.0301 0.0232
 Saturn -117966-12-28 10:05 J -41365297.21 -41365297.08 -41365296.93 0.0302 0.0218
 Jupiter -117965-01-21 07:12 J -41365273.36 -41365273.20 -41365273.04 0.0524 0.0310
 Saturn -117965-08-14 10:48 J -41365067.20 -41365067.05 -41365066.89 0.0303 0.0198
 Saturn -117964-04-01 11:03 J -41364837.20 -41364837.04 -41364836.87 0.0304 0.0173
 Saturn -117964-11-17 10:34 J -41364607.24 -41364607.06 -41364606.88 0.0303 0.0144
 Saturn -117963-07-05 08:53 J -41364377.31 -41364377.13 -41364376.94 0.0303 0.0112
 Saturn -117962-02-20 06:15 J -41364147.44 -41364147.24 -41364147.04 0.0302 0.0076
 Saturn -117962-10-08 01:56 J -41363917.62 -41363917.42 -41363917.21 0.0300 0.0041
 Saturn -117961-05-24 20:10 J -41363687.86 -41363687.66 -41363687.46 0.0298 0.0004
 Saturn -117960-01-09 12:44 J -41363458.17 -41363457.97 -41363457.77 0.0295 0.0031
 Saturn -117960-08-27 03:22 J -41363228.55 -41363228.36 -41363228.15 0.0292 0.0064
 Saturn -117959-04-13 16:34 J -41362999.00 -41362998.81 -41362998.61 0.0290 0.0095
 Jupiter -117959-07-14 20:24 J -41362906.84 -41362906.65 -41362906.46 0.0504 0.0210
 Saturn -117959-11-29 04:05 J -41362769.52 -41362769.33 -41362769.14 0.0286 0.0122
 Saturn -117958-07-16 13:41 J -41362540.10 -41362539.93 -41362539.75 0.0283 0.0146
 Saturn -117957-03-01 21:51 J -41362310.75 -41362310.59 -41362310.42 0.0280 0.0167
 Saturn -117957-10-17 04:34 J -41362081.45 -41362081.31 -41362081.14 0.0277 0.0185
 Saturn -117956-06-03 10:20 J -41361852.21 -41361852.07 -41361851.92 0.0275 0.0198
 Saturn -117955-01-18 14:39 J -41361623.01 -41361622.89 -41361622.75 0.0272 0.0208
 Saturn -117955-09-04 18:00 J -41361393.87 -41361393.75 -41361393.61 0.0269 0.0215
 Saturn -117954-04-21 20:24 J -41361164.76 -41361164.65 -41361164.52 0.0267 0.0218

Uranus -117954-05-23 13:27 J -41361133.01 -41361132.94 -41361132.86 0.0147 0.0138
 Saturn -117954-12-06 22:20 J -41360935.68 -41360935.57 -41360935.44 0.0265 0.0218
 Uranus -117953-01-05 05:46 J -41360906.42 -41360906.26 -41360906.08 0.0147 0.0095
 Jupiter -117953-05-19 18:44 J -41360770.87 -41360770.72 -41360770.56 0.0521 0.0308
 Saturn -117953-07-23 00:00 J -41360706.62 -41360706.50 -41360706.38 0.0263 0.0216
 Uranus -117953-08-18 22:05 J -41360679.78 -41360679.58 -41360679.36 0.0147 0.0053
 Saturn -117952-03-09 00:58 J -41360477.58 -41360477.46 -41360477.33 0.0262 0.0210
 Uranus -117952-04-02 14:39 J -41360453.11 -41360452.89 -41360452.66 0.0146 0.0010
 Saturn -117952-10-24 01:27 J -41360248.56 -41360248.44 -41360248.29 0.0261 0.0203
 Uranus -117952-11-15 06:44 J -41360226.44 -41360226.22 -41360226.00 0.0146 0.0033
 Neptune -117951-04-03 02:53 J -41360087.41 -41360087.38 -41360087.31 0.0088 0.0086
 Saturn -117951-06-10 02:24 J -41360019.54 -41360019.40 -41360019.25 0.0260 0.0192
 Uranus -117951-06-29 22:20 J -41359999.75 -41359999.57 -41359999.36 0.0146 0.0075
 Neptune -117951-11-14 14:10 J -41359861.97 -41359861.91 -41359861.80 0.0088 0.0081
 Saturn -117950-01-25 03:08 J -41359790.51 -41359790.37 -41359790.20 0.0259 0.0179
 Uranus -117950-02-11 14:24 J -41359773.03 -41359772.90 -41359772.76 0.0145 0.0116
 Neptune -117950-06-28 01:41 J -41359636.52 -41359636.43 -41359636.29 0.0088 0.0075
 Saturn -117950-09-11 04:34 J -41359561.47 -41359561.31 -41359561.13 0.0259 0.0163
 Neptune -117949-02-08 13:27 J -41359411.06 -41359410.94 -41359410.80 0.0088 0.0069
 Saturn -117949-04-27 06:15 J -41359332.42 -41359332.24 -41359332.06 0.0259 0.0146
 Neptune -117949-09-21 01:12 J -41359185.60 -41359185.45 -41359185.30 0.0088 0.0063
 Saturn -117949-12-12 08:10 J -41359103.34 -41359103.16 -41359102.96 0.0259 0.0127
 Neptune -117948-05-04 12:15 J -41358960.13 -41358959.99 -41358959.80 0.0088 0.0058
 Saturn -117948-07-29 11:17 J -41358874.23 -41358874.03 -41358873.82 0.0259 0.0105
 Neptune -117948-12-16 00:00 J -41358734.66 -41358734.50 -41358734.31 0.0088 0.0052
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Saturn -117788-03-06 02:24 J -41300579.55 -41300579.40 -41300579.26 0.0303 0.0213
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 Jupiter -117093-02-05 20:39 J -41046759.85 -41046759.64 -41046759.43 0.0502 0.0022
 Saturn -117093-09-18 17:32 J -41046533.98 -41046533.77 -41046533.55 0.0260 0.0072

Saturn -117092-05-05 22:20 J -41046304.79 -41046304.57 -41046304.35 0.0261 0.0040
 Saturn -117092-12-21 03:51 J -41046075.56 -41046075.34 -41046075.12 0.0263 0.0007
 Saturn -117091-08-07 10:34 J -41045846.28 -41045846.06 -41045845.84 0.0264 0.0027
 Saturn -117090-03-24 18:29 J -41045616.94 -41045616.73 -41045616.52 0.0266 0.0061
 Saturn -117090-11-09 03:51 J -41045387.55 -41045387.34 -41045387.14 0.0268 0.0095
 Saturn -117089-06-25 14:24 J -41045158.09 -41045157.90 -41045157.71 0.0271 0.0129
 Saturn -117088-02-10 02:24 J -41044928.57 -41044928.40 -41044928.22 0.0273 0.0162
 Saturn -117088-09-27 15:51 J -41044698.99 -41044698.84 -41044698.68 0.0276 0.0193
 Jupiter -117088-12-12 14:39 J -41044623.08 -41044622.89 -41044622.69 0.0523 0.0072
 Saturn -117087-05-15 06:58 J -41044469.33 -41044469.21 -41044469.07 0.0279 0.0222
 Saturn -117087-12-30 23:17 J -41044239.62 -41044239.53 -41044239.41 0.0282 0.0248
 Saturn -117086-08-17 17:32 J -41044009.84 -41044009.77 -41044009.70 0.0285 0.0269
 Mars -117086-11-20 12:44 J -41043915.08 -41043914.97 -41043914.86 0.1725 0.1282
 Saturn -117085-04-03 12:29 J -41043779.98 -41043779.98 -41043779.95 0.0288 0.0287
 Mars -117084-09-19 04:20 J -41043246.49 -41043246.32 -41043246.16 0.1709 0.0101
 Saturn -117083-10-10 04:48 J -41042860.32 -41042860.30 -41042860.25 0.0299 0.0295
 Saturn -117082-05-28 04:48 J -41042630.37 -41042630.30 -41042630.22 0.0300 0.0279
 Mars -117082-07-20 00:44 J -41042577.57 -41042577.47 -41042577.37 0.1694 0.1366
 Jupiter -117082-10-11 14:10 J -41042494.09 -41042493.91 -41042493.73 0.0501 0.0262
 Saturn -117081-01-13 05:03 J -41042400.39 -41042400.29 -41042400.17 0.0302 0.0255
 Mars -117081-07-04 16:05 J -41042226.97 -41042226.83 -41042226.69 0.1791 0.1148
 Saturn -117081-08-30 05:17 J -41042170.42 -41042170.28 -41042170.14 0.0303 0.0225
 Saturn -117080-04-17 05:03 J -41041940.45 -41041940.29 -41041940.13 0.0303 0.0190
 Saturn -117080-12-03 04:05 J -41041710.51 -41041710.33 -41041710.15 0.0303 0.0149
 Mars -117079-05-02 08:39 J -41041560.30 -41041560.14 -41041559.98 0.1810 0.0866
 Saturn -117079-07-21 02:24 J -41041480.59 -41041480.40 -41041480.21 0.0303 0.0105
 Saturn -117078-03-07 23:46 J -41041250.71 -41041250.51 -41041250.31 0.0302 0.0059
 Saturn -117078-10-23 19:41 J -41041020.88 -41041020.68 -41041020.47 0.0300 0.0012
 Saturn -117077-06-09 14:10 J -41040791.11 -41040790.91 -41040790.70 0.0298 0.0034
 Saturn -117076-01-25 07:12 J -41040561.39 -41040561.20 -41040561.00 0.0295 0.0078

Jupiter -117076-08-17 13:41 J -41040357.12 -41040356.93 -41040356.75 0.0524 0.0182
 Saturn -117076-09-11 22:34 J -41040331.74 -41040331.56 -41040331.36 0.0293 0.0119
 Saturn -117075-04-29 12:29 J -41040102.14 -41040101.98 -41040101.80 0.0290 0.0156
 Saturn -117075-12-15 00:44 J -41039872.62 -41039872.47 -41039872.31 0.0287 0.0188
 Saturn -117074-08-01 11:17 J -41039643.15 -41039643.03 -41039642.89 0.0284 0.0216
 Saturn -117073-03-17 20:39 J -41039413.75 -41039413.64 -41039413.53 0.0281 0.0238
 Saturn -117073-11-02 04:20 J -41039184.40 -41039184.32 -41039184.24 0.0278 0.0256
 Saturn -117072-06-19 10:48 J -41038955.08 -41038955.05 -41038955.00 0.0275 0.0269
 Uranus -117071-07-06 18:15 J -41038572.85 -41038572.74 -41038572.61 0.0131 0.0108
 Uranus -117070-02-17 20:39 J -41038346.81 -41038346.64 -41038346.47 0.0132 0.0078
 Jupiter -117070-06-16 07:27 J -41038228.20 -41038228.19 -41038228.17 0.0500 0.0498
 Uranus -117070-10-01 22:48 J -41038120.75 -41038120.55 -41038120.35 0.0132 0.0048
 Jupiter -117069-02-08 16:48 J -41037990.94 -41037990.80 -41037990.65 0.0503 0.0362
 Uranus -117069-05-15 00:44 J -41037894.67 -41037894.47 -41037894.26 0.0132 0.0018
 Uranus -117069-12-27 02:53 J -41037668.58 -41037668.38 -41037668.16 0.0132 0.0013
 Saturn -117068-03-25 06:58 J -41037580.24 -41037580.21 -41037580.15 0.0262 0.0257
 Uranus -117068-08-10 05:17 J -41037442.48 -41037442.28 -41037442.08 0.0132 0.0042
 Saturn -117068-11-09 08:39 J -41037351.21 -41037351.14 -41037351.05 0.0261 0.0241
 Uranus -117067-03-24 07:41 J -41037216.35 -41037216.18 -41037216.00 0.0133 0.0073
 Saturn -117067-06-26 10:05 J -41037122.18 -41037122.08 -41037121.96 0.0260 0.0224
 Uranus -117067-11-05 09:51 J -41036990.21 -41036990.09 -41036989.95 0.0133 0.0104
 Saturn -117066-02-10 11:46 J -41036893.14 -41036893.01 -41036892.87 0.0260 0.0203
 Saturn -117066-09-27 13:12 J -41036664.10 -41036663.95 -41036663.78 0.0259 0.0180
 Saturn -117065-05-13 15:08 J -41036435.04 -41036434.87 -41036434.69 0.0259 0.0155
 Saturn -117065-12-28 17:46 J -41036205.95 -41036205.76 -41036205.57 0.0259 0.0128
 Jupiter -117064-04-22 12:00 J -41036091.11 -41036091.00 -41036090.89 0.0526 0.0436
 Saturn -117064-08-14 20:39 J -41035976.83 -41035976.64 -41035976.42 0.0260 0.0099
 Jupiter -117064-12-15 01:41 J -41035854.51 -41035854.43 -41035854.34 0.0522 0.0467
 Saturn -117063-04-01 00:44 J -41035747.68 -41035747.47 -41035747.26 0.0261 0.0068
 Saturn -117063-11-16 05:17 J -41035518.49 -41035518.28 -41035518.06 0.0262 0.0036

Saturn -117062-07-03 11:03 J -41035289.26 -41035289.04 -41035288.82 0.0263 0.0003
 Saturn -117061-02-17 18:00 J -41035059.97 -41035059.75 -41035059.53 0.0265 0.0032
 Saturn -117061-10-04 02:10 J -41034830.62 -41034830.41 -41034830.19 0.0267 0.0066
 Saturn -117060-05-21 11:46 J -41034601.21 -41034601.01 -41034600.81 0.0269 0.0101
 Saturn -117059-01-05 22:34 J -41034371.75 -41034371.56 -41034371.37 0.0271 0.0135
 Saturn -117059-08-23 10:34 J -41034142.22 -41034142.06 -41034141.88 0.0273 0.0169
 Saturn -117058-04-10 00:29 J -41033912.62 -41033912.48 -41033912.32 0.0276 0.0200
 Jupiter -117058-10-14 09:36 J -41033725.30 -41033725.10 -41033724.89 0.0502 0.0118
 Saturn -117058-11-25 16:05 J -41033682.95 -41033682.83 -41033682.70 0.0279 0.0228
 Saturn -117057-07-12 08:53 J -41033453.22 -41033453.13 -41033453.03 0.0282 0.0254
 Saturn -117056-02-27 02:53 J -41033223.42 -41033223.38 -41033223.32 0.0285 0.0276
 Saturn -117053-04-21 15:22 J -41032073.88 -41032073.86 -41032073.83 0.0298 0.0296
 Saturn -117053-12-07 15:22 J -41031843.94 -41031843.86 -41031843.79 0.0300 0.0279
 Saturn -117052-07-25 15:08 J -41031613.97 -41031613.87 -41031613.75 0.0302 0.0255
 Jupiter -117052-08-20 01:12 J -41031588.63 -41031588.45 -41031588.27 0.0523 0.0220
 Mars -117052-09-18 01:12 J -41031559.61 -41031559.45 -41031559.29 0.1715 0.0548
 Saturn -117051-03-12 15:22 J -41031383.99 -41031383.86 -41031383.72 0.0303 0.0224
 Saturn -117051-10-28 15:08 J -41031154.03 -41031153.87 -41031153.71 0.0303 0.0187
 Saturn -117050-06-15 14:10 J -41030924.09 -41030923.91 -41030923.73 0.0303 0.0145
 Mars -117050-07-18 19:41 J -41030890.83 -41030890.68 -41030890.53 0.1700 0.0774
 Saturn -117049-01-31 12:15 J -41030694.17 -41030693.99 -41030693.79 0.0303 0.0101
 Saturn -117049-09-17 09:36 J -41030464.30 -41030464.10 -41030463.90 0.0301 0.0054
 Saturn -117048-05-05 05:17 J -41030234.48 -41030234.28 -41030234.07 0.0300 0.0009
 Saturn -117048-12-20 23:46 J -41030004.71 -41030004.51 -41030004.31 0.0298 0.0040
 Neptune -117047-04-13 12:44 J -41029891.03 -41029890.97 -41029890.88 0.0089 0.0083
 Mars -117047-05-02 03:51 J -41029872.52 -41029872.34 -41029872.16 0.1802 0.0101
 Saturn -117047-08-07 16:34 J -41029775.01 -41029774.81 -41029774.62 0.0295 0.0083
 Neptune -117047-11-25 03:08 J -41029665.46 -41029665.37 -41029665.23 0.0089 0.0077
 Saturn -117046-03-25 07:41 J -41029545.36 -41029545.18 -41029544.99 0.0293 0.0124
 Jupiter -117046-06-19 02:10 J -41029459.62 -41029459.41 -41029459.21 0.0502 0.0125

Neptune -117046-07-08 17:46 J -41029439.87 -41029439.76 -41029439.60 0.0089 0.0071
 Saturn -117046-11-09 21:08 J -41029315.79 -41029315.62 -41029315.44 0.0290 0.0160
 Neptune -117045-02-19 08:53 J -41029214.28 -41029214.13 -41029213.97 0.0089 0.0064
 Saturn -117045-06-26 08:53 J -41029086.27 -41029086.13 -41029085.96 0.0287 0.0193
 Neptune -117045-10-01 23:17 J -41028988.68 -41028988.53 -41028988.34 0.0089 0.0058
 Saturn -117044-02-10 19:27 J -41028856.81 -41028856.69 -41028856.55 0.0284 0.0219
 Neptune -117044-05-15 13:56 J -41028763.09 -41028762.92 -41028762.72 0.0089 0.0052
 Saturn -117044-09-28 04:20 J -41028627.42 -41028627.32 -41028627.21 0.0281 0.0242
 Neptune -117044-12-27 04:48 J -41028537.49 -41028537.30 -41028537.10 0.0089 0.0045
 Saturn -117043-05-15 12:00 J -41028398.07 -41028398.00 -41028397.92 0.0278 0.0259
 Neptune -117043-08-09 19:12 J -41028311.90 -41028311.70 -41028311.49 0.0089 0.0039
 Saturn -117043-12-30 18:15 J -41028168.77 -41028168.74 -41028168.70 0.0275 0.0271
 Neptune -117042-03-23 09:36 J -41028086.30 -41028086.10 -41028085.87 0.0089 0.0033
 Neptune -117042-11-04 00:29 J -41027860.69 -41027860.48 -41027860.26 0.0089 0.0026
 Neptune -117041-06-16 14:53 J -41027635.10 -41027634.88 -41027634.65 0.0089 0.0020
 Neptune -117040-01-28 05:17 J -41027409.50 -41027409.28 -41027409.05 0.0089 0.0013
 Jupiter -117040-04-25 00:58 J -41027322.65 -41027322.46 -41027322.26 0.0524 0.0033
 Neptune -117040-09-10 19:41 J -41027183.90 -41027183.68 -41027183.45 0.0089 0.0007
 Neptune -117039-04-24 10:05 J -41026958.30 -41026958.08 -41026957.85 0.0089 0.0002
 Saturn -117039-10-05 12:58 J -41026793.99 -41026793.96 -41026793.91 0.0262 0.0256
 Neptune -117039-12-06 00:29 J -41026732.70 -41026732.48 -41026732.25 0.0089 0.0006
 Saturn -117038-05-22 14:10 J -41026564.97 -41026564.91 -41026564.81 0.0261 0.0241
 Neptune -117038-07-19 14:39 J -41026507.11 -41026506.89 -41026506.66 0.0089 0.0013
 Saturn -117037-01-06 15:51 J -41026335.95 -41026335.84 -41026335.73 0.0260 0.0222
 Neptune -117037-03-01 05:03 J -41026281.51 -41026281.29 -41026281.07 0.0089 0.0019
 Saturn -117037-08-22 17:17 J -41026106.91 -41026106.78 -41026106.64 0.0259 0.0202
 Neptune -117037-10-12 19:27 J -41026055.90 -41026055.69 -41026055.47 0.0089 0.0025
 Saturn -117036-04-08 18:58 J -41025877.86 -41025877.71 -41025877.55 0.0259 0.0178
 Neptune -117036-05-26 09:22 J -41025830.30 -41025830.11 -41025829.88 0.0089 0.0032
 Saturn -117036-11-23 20:39 J -41025648.80 -41025648.64 -41025648.45 0.0259 0.0153

Neptune -117035-01-06 23:46 J -41025604.70 -41025604.51 -41025604.29 0.0089 0.0038
 Saturn -117035-07-10 23:03 J -41025419.72 -41025419.54 -41025419.33 0.0259 0.0125
 Neptune -117035-08-20 14:10 J -41025379.11 -41025378.91 -41025378.71 0.0089 0.0044
 Jupiter -117034-02-21 20:10 J -41025193.80 -41025193.66 -41025193.51 0.0501 0.0364
 Saturn -117034-02-25 02:24 J -41025190.61 -41025190.40 -41025190.19 0.0260 0.0095
 Neptune -117034-04-03 03:51 J -41025153.50 -41025153.34 -41025153.13 0.0089 0.0051
 Saturn -117034-10-12 06:15 J -41024961.45 -41024961.24 -41024961.02 0.0260 0.0064
 Neptune -117034-11-14 18:15 J -41024927.90 -41024927.74 -41024927.55 0.0089 0.0057
 Saturn -117033-05-28 11:03 J -41024732.26 -41024732.04 -41024731.82 0.0261 0.0031
 Neptune -117033-06-27 08:24 J -41024702.29 -41024702.15 -41024701.97 0.0089 0.0063
 Saturn -117032-01-12 16:48 J -41024503.02 -41024502.80 -41024502.58 0.0263 0.0004
 Neptune -117032-02-07 22:34 J -41024476.69 -41024476.56 -41024476.40 0.0089 0.0069
 Saturn -117032-08-29 23:46 J -41024273.72 -41024273.51 -41024273.29 0.0265 0.0037
 Neptune -117032-09-21 12:44 J -41024251.08 -41024250.97 -41024250.84 0.0089 0.0075
 Saturn -117031-04-16 08:10 J -41024044.37 -41024044.16 -41024043.95 0.0267 0.0072
 Neptune -117031-05-05 02:39 J -41024025.46 -41024025.39 -41024025.28 0.0089 0.0081
 Uranus -117031-10-18 21:08 J -41023858.68 -41023858.62 -41023858.54 0.0148 0.0140
 Saturn -117031-12-01 17:32 J -41023814.96 -41023814.77 -41023814.56 0.0269 0.0107
 Neptune -117031-12-16 16:48 J -41023799.83 -41023799.80 -41023799.74 0.0089 0.0087
 Uranus -117030-06-02 13:41 J -41023632.10 -41023631.93 -41023631.75 0.0148 0.0095
 Saturn -117030-07-19 04:48 J -41023585.49 -41023585.30 -41023585.12 0.0271 0.0141
 Uranus -117029-01-15 06:15 J -41023405.45 -41023405.24 -41023405.03 0.0147 0.0049
 Saturn -117029-03-04 17:03 J -41023355.95 -41023355.79 -41023355.62 0.0274 0.0173
 Uranus -117029-08-28 22:48 J -41023178.77 -41023178.55 -41023178.32 0.0147 0.0004
 Saturn -117029-10-20 07:12 J -41023126.34 -41023126.20 -41023126.05 0.0277 0.0204
 Jupiter -117029-12-28 22:34 J -41023056.72 -41023056.56 -41023056.39 0.0524 0.0291
 Uranus -117028-04-12 15:08 J -41022952.08 -41022951.87 -41022951.65 0.0147 0.0041
 Saturn -117028-06-06 22:48 J -41022896.67 -41022896.55 -41022896.43 0.0280 0.0233
 Uranus -117028-11-25 07:12 J -41022725.37 -41022725.20 -41022725.01 0.0147 0.0086
 Saturn -117027-01-22 15:51 J -41022666.93 -41022666.84 -41022666.76 0.0283 0.0258

Uranus -117027-07-09 23:03 J -41022498.62 -41022498.54 -41022498.42 0.0146 0.0130
 Saturn -117027-09-09 10:05 J -41022437.12 -41022437.08 -41022437.03 0.0286 0.0279
 Saturn -117024-11-01 23:32 J -41021287.54 -41021287.52 -41021287.48 0.0299 0.0295
 Saturn -117023-06-19 23:46 J -41021057.59 -41021057.51 -41021057.43 0.0301 0.0276
 Saturn -117022-02-05 00:00 J -41020827.61 -41020827.50 -41020827.38 0.0302 0.0251
 Jupiter -117022-06-22 00:00 J -41020690.68 -41020690.50 -41020690.32 0.0503 0.0262
 Saturn -117022-09-23 00:15 J -41020597.63 -41020597.49 -41020597.35 0.0303 0.0219
 Saturn -117021-05-09 23:46 J -41020367.67 -41020367.51 -41020367.34 0.0304 0.0181
 Saturn -117021-12-25 22:48 J -41020137.73 -41020137.55 -41020137.36 0.0303 0.0139
 Saturn -117020-08-12 21:08 J -41019907.82 -41019907.62 -41019907.43 0.0303 0.0093
 Mars -117020-09-16 23:17 J -41019872.65 -41019872.53 -41019872.41 0.1723 0.1210
 Saturn -117019-03-30 18:15 J -41019677.94 -41019677.74 -41019677.54 0.0301 0.0046
 Saturn -117019-11-15 13:56 J -41019448.13 -41019447.92 -41019447.72 0.0299 0.0002
 Saturn -117018-07-03 07:56 J -41019218.36 -41019218.17 -41019217.96 0.0297 0.0049
 Mars -117018-07-17 15:22 J -41019204.03 -41019203.86 -41019203.70 0.1707 0.0167
 Saturn -117017-02-18 00:44 J -41018988.66 -41018988.47 -41018988.27 0.0295 0.0092
 Saturn -117017-10-04 15:51 J -41018759.02 -41018758.84 -41018758.66 0.0292 0.0132
 Jupiter -117016-04-27 10:48 J -41018554.19 -41018554.05 -41018553.90 0.0522 0.0360
 Mars -117016-05-16 12:29 J -41018535.07 -41018534.98 -41018534.89 0.1692 0.1425
 Saturn -117016-05-22 05:17 J -41018529.44 -41018529.28 -41018529.11 0.0289 0.0168
 Saturn -117015-01-06 17:03 J -41018299.93 -41018299.79 -41018299.64 0.0286 0.0200
 Mars -117015-05-01 21:22 J -41018184.76 -41018184.61 -41018184.46 0.1794 0.1030
 Saturn -117015-08-24 03:22 J -41018070.48 -41018070.36 -41018070.24 0.0283 0.0226
 Saturn -117014-04-10 11:46 J -41017841.09 -41017841.01 -41017840.90 0.0280 0.0248
 Saturn -117014-11-25 19:12 J -41017611.75 -41017611.70 -41017611.63 0.0277 0.0264
 Mars -117013-02-27 12:29 J -41017518.13 -41017517.98 -41017517.84 0.1813 0.1022
 Jupiter -117010-02-24 16:34 J -41016425.02 -41016424.81 -41016424.60 0.0502 0.0019
 Saturn -117009-04-16 19:56 J -41016007.72 -41016007.67 -41016007.63 0.0262 0.0255
 Saturn -117009-12-01 20:53 J -41015778.70 -41015778.63 -41015778.53 0.0261 0.0240
 Saturn -117008-07-18 22:20 J -41015549.67 -41015549.57 -41015549.44 0.0260 0.0221

Saturn -117007-03-04 23:46 J -41015320.64 -41015320.51 -41015320.36 0.0259 0.0199

Saturn -117007-10-20 01:12 J -41015091.60 -41015091.45 -41015091.28 0.0259 0.0176

Saturn -117006-06-06 03:08 J -41014862.54 -41014862.37 -41014862.18 0.0259 0.0149

Saturn -117005-01-21 05:32 J -41014633.46 -41014633.27 -41014633.07 0.0259 0.0121

Saturn -117005-09-06 08:53 J -41014404.33 -41014404.13 -41014403.92 0.0260 0.0091

Jupiter -117005-12-31 10:20 J -41014288.26 -41014288.07 -41014287.88 0.0524 0.0111

Saturn -117004-04-23 12:44 J -41014175.18 -41014174.97 -41014174.75 0.0261 0.0060

Saturn -117004-12-08 17:46 J -41013945.98 -41013945.76 -41013945.54 0.0262 0.0027

Saturn -117003-07-25 23:32 J -41013716.74 -41013716.52 -41013716.30 0.0263 0.0007

Saturn -117002-03-12 06:29 J -41013487.44 -41013487.23 -41013487.01 0.0265 0.0042

Saturn -117002-10-27 15:08 J -41013258.08 -41013257.87 -41013257.66 0.0267 0.0077

Saturn -117001-06-13 00:58 J -41013028.66 -41013028.46 -41013028.26 0.0269 0.0112

117TH MILLENNIUM BCE

This is a list of transits of Venus in the 117th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-117000-01-28 12:00 J	-41012799.18	-41012799.00	-41012798.81	0.0272	0.0146		
Saturn	-117000-09-15 00:44 J	-41012569.63	-41012569.47	-41012569.30	0.0274	0.0179		
Saturn	-116999-05-02 15:08 J	-41012340.01	-41012339.87	-41012339.73	0.0277	0.0210		
Jupiter	-116999-10-30 10:05 J	-41012159.27	-41012159.08	-41012158.89	0.0501	0.0224		
Saturn	-116999-12-18 06:44 J	-41012110.32	-41012110.22	-41012110.10	0.0280	0.0239		

Saturn -116998-08-05 00:00 J -41011880.57 -41011880.50 -41011880.42 0.0283 0.0264
 Saturn -116997-03-21 18:44 J -41011650.73 -41011650.72 -41011650.70 0.0286 0.0285
 Saturn -116994-05-15 08:53 J -41010501.14 -41010501.13 -41010501.09 0.0299 0.0296
 Saturn -116994-12-31 09:22 J -41010271.19 -41010271.11 -41010271.03 0.0301 0.0276
 Saturn -116993-08-17 09:36 J -41010041.21 -41010041.10 -41010040.98 0.0302 0.0250
 Jupiter -116993-09-05 09:51 J -41010022.28 -41010022.09 -41010021.90 0.0524 0.0141
 Saturn -116992-04-04 09:36 J -41009811.23 -41009811.10 -41009810.95 0.0303 0.0216
 Saturn -116992-11-20 09:22 J -41009581.27 -41009581.11 -41009580.94 0.0303 0.0177
 Saturn -116991-07-08 08:24 J -41009351.33 -41009351.15 -41009350.97 0.0303 0.0134
 Saturn -116990-02-23 06:29 J -41009121.42 -41009121.23 -41009121.03 0.0302 0.0088
 Saturn -116990-10-11 03:22 J -41008891.56 -41008891.36 -41008891.15 0.0301 0.0041
 Saturn -116989-05-27 23:03 J -41008661.74 -41008661.54 -41008661.34 0.0299 0.0008
 Saturn -116988-01-12 17:03 J -41008431.99 -41008431.79 -41008431.59 0.0297 0.0054
 Saturn -116988-08-30 09:22 J -41008202.30 -41008202.11 -41008201.91 0.0295 0.0098
 Uranus -116987-03-06 08:39 J -41008014.21 -41008014.14 -41008014.05 0.0131 0.0120
 Saturn -116987-04-17 00:29 J -41007972.66 -41007972.48 -41007972.30 0.0292 0.0137
 Jupiter -116987-07-05 02:24 J -41007893.46 -41007893.40 -41007893.31 0.0500 0.0466
 Uranus -116987-10-18 10:48 J -41007788.20 -41007788.05 -41007787.90 0.0131 0.0091
 Saturn -116987-12-02 13:27 J -41007743.10 -41007742.94 -41007742.77 0.0289 0.0173
 Jupiter -116986-02-27 12:58 J -41007656.09 -41007655.96 -41007655.84 0.0504 0.0403
 Uranus -116986-06-01 12:44 J -41007562.15 -41007561.97 -41007561.78 0.0132 0.0061
 Mars -116986-07-16 12:15 J -41007517.15 -41007516.99 -41007516.83 0.1713 0.0482
 Saturn -116986-07-20 00:58 J -41007513.60 -41007513.46 -41007513.31 0.0286 0.0204
 Uranus -116985-01-13 14:53 J -41007336.08 -41007335.88 -41007335.67 0.0132 0.0031
 Saturn -116985-03-05 10:48 J -41007284.16 -41007284.05 -41007283.92 0.0283 0.0230
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 Saturn -116985-10-20 19:12 J -41007054.78 -41007054.70 -41007054.59 0.0280 0.0251
 Uranus -116984-04-09 19:12 J -41006883.90 -41006883.70 -41006883.49 0.0132 0.0030
 Mars -116984-05-15 07:12 J -41006848.34 -41006848.20 -41006848.05 0.1698 0.0836
 Saturn -116984-06-07 02:53 J -41006825.44 -41006825.38 -41006825.33 0.0277 0.0266

Uranus -116984-11-21 21:22 J -41006657.79 -41006657.61 -41006657.42 0.0132 0.0060
 Uranus -116983-07-05 23:46 J -41006431.66 -41006431.51 -41006431.35 0.0133 0.0091
 Uranus -116982-02-17 01:56 J -41006205.48 -41006205.42 -41006205.32 0.0133 0.0122
 Mars -116981-02-27 08:39 J -41005830.32 -41005830.14 -41005829.96 0.1805 0.0046
 Jupiter -116981-05-11 09:22 J -41005756.24 -41005756.11 -41005755.98 0.0525 0.0394
 Jupiter -116980-01-02 22:05 J -41005519.62 -41005519.58 -41005519.54 0.0521 0.0508
 Saturn -116980-10-28 01:12 J -41005221.48 -41005221.45 -41005221.39 0.0262 0.0255
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 Saturn -116978-01-29 03:22 J -41004763.46 -41004763.36 -41004763.23 0.0260 0.0220
 Saturn -116978-09-15 05:03 J -41004534.43 -41004534.29 -41004534.15 0.0259 0.0197
 Saturn -116977-05-01 06:29 J -41004305.39 -41004305.23 -41004305.06 0.0259 0.0173
 Saturn -116977-12-16 08:10 J -41004076.33 -41004076.16 -41004075.97 0.0259 0.0147
 Saturn -116976-08-02 10:48 J -41003847.24 -41003847.05 -41003846.85 0.0259 0.0118
 Saturn -116975-03-19 13:56 J -41003618.12 -41003617.92 -41003617.71 0.0260 0.0087
 Jupiter -116975-11-02 06:15 J -41003390.44 -41003390.24 -41003390.04 0.0503 0.0160
 Saturn -116975-11-03 17:46 J -41003388.97 -41003388.76 -41003388.54 0.0260 0.0056
 Saturn -116974-06-20 22:48 J -41003159.77 -41003159.55 -41003159.33 0.0262 0.0022
 Saturn -116973-02-05 04:48 J -41002930.52 -41002930.30 -41002930.08 0.0263 0.0013
 Saturn -116973-09-21 12:00 J -41002701.22 -41002701.00 -41002700.78 0.0265 0.0047
 Saturn -116972-05-08 20:24 J -41002471.85 -41002471.65 -41002471.44 0.0267 0.0083
 Saturn -116972-12-24 06:15 J -41002242.43 -41002242.24 -41002242.04 0.0269 0.0118
 Saturn -116971-08-10 17:32 J -41002012.95 -41002012.77 -41002012.59 0.0272 0.0152
 Saturn -116970-03-28 06:15 J -41001783.39 -41001783.24 -41001783.07 0.0274 0.0185
 Saturn -116970-11-12 20:53 J -41001553.76 -41001553.63 -41001553.49 0.0277 0.0215
 Saturn -116969-06-29 12:44 J -41001324.07 -41001323.97 -41001323.86 0.0280 0.0244
 Jupiter -116969-09-07 20:53 J -41001253.79 -41001253.63 -41001253.45 0.0522 0.0258
 Saturn -116968-02-14 06:15 J -41001094.31 -41001094.24 -41001094.17 0.0283 0.0268
 Neptune -116966-10-15 09:36 J -41000121.13 -41000121.10 -41000121.03 0.0088 0.0086
 Neptune -116965-05-27 21:08 J -40999895.69 -40999895.62 -40999895.51 0.0088 0.0080
 Saturn -116965-11-24 16:05 J -40999714.86 -40999714.83 -40999714.79 0.0300 0.0294

Neptune -116964-01-08 08:24 J -40999670.24 -40999670.15 -40999670.01 0.0088 0.0075
 Saturn -116964-07-12 16:20 J -40999484.90 -40999484.82 -40999484.73 0.0302 0.0274
 Neptune -116964-08-21 19:56 J -40999444.78 -40999444.67 -40999444.52 0.0088 0.0069
 Saturn -116963-02-27 16:48 J -40999254.91 -40999254.80 -40999254.67 0.0303 0.0246
 Neptune -116963-04-04 07:41 J -40999219.32 -40999219.18 -40999219.02 0.0088 0.0063
 Jupiter -116963-07-08 00:00 J -40999124.71 -40999124.50 -40999124.29 0.0502 0.0083
 Saturn -116963-10-15 17:03 J -40999024.93 -40999024.79 -40999024.64 0.0304 0.0212
 Neptune -116963-11-15 18:58 J -40998993.85 -40998993.71 -40998993.53 0.0088 0.0058
 Saturn -116962-06-02 16:34 J -40998794.97 -40998794.81 -40998794.63 0.0304 0.0172
 Neptune -116962-06-29 06:29 J -40998768.39 -40998768.23 -40998768.04 0.0088 0.0052
 Saturn -116961-01-18 15:51 J -40998565.03 -40998564.84 -40998564.66 0.0303 0.0128
 Neptune -116961-02-09 18:00 J -40998542.92 -40998542.75 -40998542.56 0.0088 0.0046
 Saturn -116961-09-04 13:41 J -40998335.12 -40998334.93 -40998334.73 0.0302 0.0081
 Neptune -116961-09-22 05:46 J -40998317.45 -40998317.26 -40998317.07 0.0088 0.0040
 Saturn -116960-04-22 10:34 J -40998105.26 -40998105.06 -40998104.85 0.0301 0.0033
 Neptune -116960-05-05 17:32 J -40998091.97 -40998091.77 -40998091.57 0.0089 0.0034
 Saturn -116960-12-08 06:00 J -40997875.45 -40997875.25 -40997875.05 0.0299 0.0015
 Neptune -116960-12-17 04:48 J -40997866.49 -40997866.30 -40997866.09 0.0089 0.0028
 Saturn -116959-07-25 23:46 J -40997645.70 -40997645.51 -40997645.30 0.0297 0.0062
 Neptune -116959-07-30 16:20 J -40997641.02 -40997640.82 -40997640.60 0.0089 0.0023
 Saturn -116958-03-12 16:05 J -40997416.01 -40997415.83 -40997415.63 0.0294 0.0106
 Neptune -116958-03-13 04:05 J -40997415.53 -40997415.33 -40997415.12 0.0089 0.0016
 Neptune -116958-10-24 15:36 J -40997190.05 -40997189.85 -40997189.63 0.0089 0.0011
 Saturn -116958-10-28 06:58 J -40997186.39 -40997186.21 -40997186.03 0.0291 0.0145
 Jupiter -116957-05-13 20:24 J -40996987.85 -40996987.65 -40996987.46 0.0524 0.0009
 Neptune -116957-06-06 03:36 J -40996964.57 -40996964.35 -40996964.14 0.0089 0.0004
 Saturn -116957-06-13 19:56 J -40996956.82 -40996956.67 -40996956.50 0.0288 0.0181
 Neptune -116956-01-17 15:08 J -40996739.08 -40996738.87 -40996738.65 0.0089 0.0002
 Saturn -116956-01-29 07:12 J -40996727.32 -40996727.20 -40996727.05 0.0285 0.0212
 Neptune -116956-08-31 02:53 J -40996513.59 -40996513.38 -40996513.16 0.0089 0.0008

Saturn -116956-09-15 17:17 J -40996497.89 -40996497.78 -40996497.66 0.0282 0.0236
 Neptune -116955-04-13 14:39 J -40996288.09 -40996287.89 -40996287.67 0.0089 0.0014
 Saturn -116955-05-03 01:41 J -40996268.50 -40996268.43 -40996268.34 0.0279 0.0256
 Neptune -116955-11-25 02:24 J -40996062.60 -40996062.40 -40996062.19 0.0089 0.0020
 Saturn -116955-12-18 08:39 J -40996039.17 -40996039.14 -40996039.10 0.0276 0.0271
 Neptune -116954-07-08 14:10 J -40995837.11 -40995836.91 -40995836.70 0.0089 0.0026
 Mars -116954-07-15 09:51 J -40995830.22 -40995830.09 -40995829.96 0.1720 0.1139
 Neptune -116953-02-19 01:41 J -40995611.61 -40995611.43 -40995611.22 0.0089 0.0032
 Neptune -116953-10-01 13:27 J -40995386.12 -40995385.94 -40995385.73 0.0089 0.0038
 Mars -116952-05-14 02:53 J -40995161.55 -40995161.38 -40995161.21 0.1704 0.0224
 Neptune -116952-05-15 01:27 J -40995160.61 -40995160.44 -40995160.24 0.0089 0.0044
 Neptune -116952-12-26 13:12 J -40994935.11 -40994934.95 -40994934.75 0.0089 0.0050
 Jupiter -116951-03-12 18:00 J -40994858.91 -40994858.75 -40994858.59 0.0501 0.0322
 Neptune -116951-08-09 01:27 J -40994709.61 -40994709.44 -40994709.27 0.0089 0.0055
 Mars -116950-03-14 00:00 J -40994492.58 -40994492.50 -40994492.42 0.1691 0.1486
 Neptune -116950-03-22 13:12 J -40994484.10 -40994483.95 -40994483.79 0.0089 0.0061
 Saturn -116950-05-10 06:44 J -40994435.26 -40994435.22 -40994435.16 0.0261 0.0254
 Neptune -116950-11-03 00:58 J -40994258.59 -40994258.46 -40994258.31 0.0089 0.0067
 Saturn -116950-12-25 07:56 J -40994206.25 -40994206.17 -40994206.07 0.0260 0.0237
 Mars -116949-02-27 02:10 J -40994142.56 -40994142.41 -40994142.25 0.1797 0.0907
 Neptune -116949-06-15 12:44 J -40994033.07 -40994032.97 -40994032.83 0.0089 0.0073
 Saturn -116949-08-10 09:08 J -40993977.22 -40993977.12 -40993976.99 0.0260 0.0218
 Neptune -116948-01-27 00:44 J -40993807.55 -40993807.47 -40993807.35 0.0089 0.0079
 Saturn -116948-03-27 10:34 J -40993748.20 -40993748.06 -40993747.91 0.0259 0.0195
 Pluto -116948-04-26 00:00 J -40993718.69 -40993718.50 -40993718.29 0.0065 0.0032
 Neptune -116948-09-09 12:58 J -40993582.02 -40993581.96 -40993581.89 0.0089 0.0084
 Saturn -116948-11-11 12:00 J -40993519.16 -40993519.00 -40993518.83 0.0259 0.0170
 Pluto -116948-12-07 05:17 J -40993493.50 -40993493.28 -40993493.04 0.0065 0.0011
 Mars -116948-12-24 16:34 J -40993475.94 -40993475.81 -40993475.67 0.1815 0.1169
 Saturn -116947-06-28 13:56 J -40993290.10 -40993289.92 -40993289.74 0.0259 0.0143

Pluto -116947-07-20 10:05 J -40993268.18 -40993268.08 -40993267.93 0.0065 0.0054
 Uranus -116946-01-30 16:20 J -40993073.95 -40993073.82 -40993073.69 0.0148 0.0119
 Saturn -116946-02-12 16:05 J -40993061.02 -40993060.83 -40993060.62 0.0259 0.0115
 Earth -116946-07-05 12:29 J -40992918.13 -40992917.98 -40992917.83 0.2736 0.0154
 Moon -116946-07-05 17:17 J -40992917.93 -40992917.78 -40992917.64 0.2740 0.0548 *
 Uranus -116946-09-14 08:39 J -40992847.32 -40992847.14 -40992846.94 0.0148 0.0074
 Saturn -116946-09-29 19:27 J -40992831.89 -40992831.69 -40992831.48 0.0260 0.0084
 Jupiter -116945-01-17 18:58 J -40992721.88 -40992721.71 -40992721.54 0.0525 0.0252
 Uranus -116945-04-28 01:12 J -40992620.66 -40992620.45 -40992620.22 0.0147 0.0028
 Saturn -116945-05-15 23:32 J -40992602.74 -40992602.52 -40992602.30 0.0261 0.0051
 Uranus -116945-12-10 17:46 J -40992393.98 -40992393.76 -40992393.54 0.0147 0.0017
 Saturn -116945-12-31 04:20 J -40992373.54 -40992373.32 -40992373.10 0.0262 0.0018
 Uranus -116944-07-25 09:51 J -40992167.28 -40992167.09 -40992166.88 0.0147 0.0063
 Saturn -116944-08-17 10:20 J -40992144.29 -40992144.07 -40992143.85 0.0264 0.0017
 Uranus -116943-03-09 02:10 J -40991940.55 -40991940.41 -40991940.25 0.0146 0.0107
 Saturn -116943-04-03 17:32 J -40991914.98 -40991914.77 -40991914.55 0.0265 0.0052
 Saturn -116943-11-19 02:10 J -40991685.62 -40991685.41 -40991685.20 0.0267 0.0087
 Saturn -116942-07-06 12:00 J -40991456.19 -40991456.00 -40991455.80 0.0270 0.0122
 Saturn -116941-02-20 23:32 J -40991226.70 -40991226.52 -40991226.34 0.0272 0.0157
 Saturn -116941-10-07 12:29 J -40990997.13 -40990996.98 -40990996.82 0.0275 0.0190
 Saturn -116940-05-25 03:08 J -40990767.50 -40990767.37 -40990767.24 0.0278 0.0221
 Saturn -116939-01-09 19:12 J -40990537.79 -40990537.70 -40990537.60 0.0281 0.0249
 Jupiter -116939-07-10 21:08 J -40990355.78 -40990355.62 -40990355.45 0.0503 0.0305
 Saturn -116939-08-27 12:58 J -40990308.02 -40990307.96 -40990307.91 0.0284 0.0273
 Moon -116938-07-03 10:05 J -40989998.14 -40989998.08 -40989998.01 0.2738 0.2449
 Saturn -116935-06-06 23:46 J -40988928.54 -40988928.51 -40988928.47 0.0300 0.0295
 Saturn -116934-01-23 00:00 J -40988698.58 -40988698.50 -40988698.41 0.0301 0.0273
 Saturn -116934-09-10 00:29 J -40988468.60 -40988468.48 -40988468.36 0.0303 0.0244
 Jupiter -116934-09-22 18:15 J -40988455.79 -40988455.74 -40988455.68 0.0525 0.0504
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Jupiter -116933-05-16 08:10 J -40988219.28 -40988219.16 -40988219.03 0.0522 0.0407
 Saturn -116933-12-13 00:15 J -40988008.66 -40988008.49 -40988008.32 0.0304 0.0168
 Saturn -116932-07-30 23:17 J -40987778.72 -40987778.53 -40987778.35 0.0303 0.0123
 Saturn -116931-03-17 21:22 J -40987548.81 -40987548.61 -40987548.41 0.0302 0.0076
 Saturn -116931-11-02 18:00 J -40987318.95 -40987318.75 -40987318.54 0.0301 0.0028
 Saturn -116930-06-20 13:27 J -40987089.14 -40987088.94 -40987088.74 0.0299 0.0021
 Saturn -116929-02-05 07:12 J -40986859.40 -40986859.20 -40986859.00 0.0297 0.0067
 Saturn -116929-09-21 23:32 J -40986629.71 -40986629.52 -40986629.33 0.0294 0.0110
 Saturn -116928-05-09 14:10 J -40986400.08 -40986399.91 -40986399.73 0.0291 0.0150
 Saturn -116928-12-25 03:08 J -40986170.52 -40986170.37 -40986170.21 0.0288 0.0184
 Jupiter -116927-03-15 12:58 J -40986090.17 -40986089.96 -40986089.75 0.0502 0.0058
 Saturn -116927-08-11 14:10 J -40985941.03 -40985940.91 -40985940.76 0.0285 0.0215
 Saturn -116926-03-29 00:00 J -40985711.60 -40985711.50 -40985711.39 0.0282 0.0239
 Saturn -116926-11-13 07:56 J -40985482.23 -40985482.17 -40985482.08 0.0279 0.0259
 Saturn -116925-06-29 15:08 J -40985252.89 -40985252.87 -40985252.84 0.0276 0.0273
 Jupiter -116921-01-20 08:53 J -40983953.32 -40983953.13 -40983952.94 0.0523 0.0159
 Saturn -116921-11-19 11:46 J -40983649.05 -40983649.01 -40983648.95 0.0261 0.0253
 Mars -116920-05-12 23:17 J -40983474.70 -40983474.53 -40983474.37 0.1711 0.0413
 Saturn -116920-07-06 13:12 J -40983420.04 -40983419.95 -40983419.86 0.0260 0.0235
 Saturn -116919-02-20 13:56 J -40983191.03 -40983190.92 -40983190.79 0.0259 0.0216
 Saturn -116919-10-07 14:53 J -40982962.01 -40982961.88 -40982961.72 0.0259 0.0193
 Mars -116918-03-12 18:29 J -40982805.87 -40982805.73 -40982805.59 0.1696 0.0901
 Saturn -116918-05-24 16:20 J -40982732.98 -40982732.82 -40982732.64 0.0258 0.0168
 Saturn -116917-01-08 18:15 J -40982503.92 -40982503.74 -40982503.55 0.0258 0.0140
 Saturn -116917-08-24 20:53 J -40982274.83 -40982274.63 -40982274.43 0.0259 0.0110
 Saturn -116916-04-10 23:46 J -40982045.71 -40982045.51 -40982045.29 0.0259 0.0080
 Jupiter -116916-11-18 07:12 J -40981824.40 -40981824.20 -40981824.01 0.0502 0.0184
 Saturn -116916-11-26 03:51 J -40981816.56 -40981816.34 -40981816.12 0.0260 0.0047
 Mars -116916-12-24 12:44 J -40981788.15 -40981787.97 -40981787.79 0.1807 0.0178
 Saturn -116915-07-13 08:39 J -40981587.36 -40981587.14 -40981586.92 0.0262 0.0013

Saturn -116914-02-27 14:39 J -40981358.11 -40981357.89 -40981357.67 0.0263 0.0022
 Saturn -116914-10-14 21:51 J -40981128.80 -40981128.59 -40981128.37 0.0265 0.0058
 Saturn -116913-05-31 06:29 J -40980899.43 -40980899.23 -40980899.02 0.0267 0.0093
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 Saturn -116910-07-22 23:32 J -40979751.60 -40979751.52 -40979751.42 0.0281 0.0253
 Jupiter -116910-09-25 07:27 J -40979687.38 -40979687.19 -40979686.99 0.0524 0.0099
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Neptune -116882-10-09 23:46 J -40969445.62 -40969445.51 -40969445.34 0.0089 0.0071
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 Saturn -116875-10-02 12:00 J -40966896.11 -40966896.00 -40966895.86 0.0303 0.0239
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 Earth -116872-01-12 09:08 J -40966063.28 -40966063.12 -40966062.97 0.2605 0.0945 *

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Jupiter -116720-03-13 08:53 J -40910485.18 -40910485.13 -40910485.07 0.0525 0.0501
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 Earth -116629-01-13 09:22 J -40877307.26 -40877307.11 -40877306.96 0.2602 0.1108
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 Neptune -116629-04-28 10:34 J -40877201.27 -40877201.06 -40877200.84 0.0089 0.0010
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 Saturn -116625-03-11 11:46 J -40875788.08 -40875788.01 -40875787.93 0.0260 0.0243
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Saturn -116623-09-13 16:05 J -40874872.01 -40874871.83 -40874871.64 0.0258 0.0138
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Saturn -116590-05-15 09:51 J -40862940.31 -40862940.09 -40862939.87 0.0263 0.0037
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 Uranus -116568-09-27 11:17 J -40854769.07 -40854769.03 -40854768.96 0.0131 0.0126

Uranus -116567-05-11 13:41 J -40854543.07 -40854542.93 -40854542.78 0.0131 0.0096
 Uranus -116567-12-23 16:05 J -40854317.02 -40854316.83 -40854316.65 0.0132 0.0065
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 Uranus -116566-08-06 18:00 J -40854090.94 -40854090.75 -40854090.53 0.0132 0.0035
 Jupiter -116566-08-16 18:00 J -40854080.94 -40854080.75 -40854080.56 0.0524 0.0118
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 Uranus -116565-10-31 22:48 J -40853638.75 -40853638.55 -40853638.34 0.0132 0.0028
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 Uranus -116564-06-15 00:58 J -40853412.64 -40853412.46 -40853412.26 0.0132 0.0059
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 Uranus -116563-09-10 05:46 J -40852960.33 -40852960.26 -40852960.17 0.0133 0.0122
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 Saturn -116562-08-24 02:53 J -40852612.59 -40852612.38 -40852612.16 0.0260 0.0031
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 Saturn -116559-02-26 01:55 J -40851695.61 -40851695.42 -40851695.21 0.0266 0.0118
 Mars -116559-06-26 03:07 J -40851575.52 -40851575.37 -40851575.21 0.1707 0.0725
 Saturn -116559-10-13 11:03 J -40851466.21 -40851466.04 -40851465.86 0.0268 0.0154
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Neptune -116554-01-18 08:24 J -40849908.21 -40849908.15 -40849908.04 0.0089 0.0082
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 Neptune -116550-05-16 15:07 J -40848329.07 -40848328.87 -40848328.66 0.0089 0.0038
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 Saturn -116544-11-18 06:15 J -40845951.33 -40845951.24 -40845951.14 0.0286 0.0249
 Neptune -116543-03-02 06:15 J -40845847.44 -40845847.24 -40845847.02 0.0089 0.0033
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 Neptune -116542-05-27 11:03 J -40845396.23 -40845396.04 -40845395.84 0.0089 0.0045
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 Saturn -116534-12-02 22:05 J -40842284.78 -40842284.58 -40842284.37 0.0259 0.0096
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 Saturn -116532-03-05 04:19 J -40841826.54 -40841826.32 -40841826.10 0.0260 0.0026
 Saturn -116532-10-20 08:39 J -40841597.36 -40841597.14 -40841596.91 0.0261 0.0012
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 Jupiter -116530-04-24 05:17 J -40841046.47 -40841046.28 -40841046.08 0.0524 0.0035
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Saturn -116490-11-29 15:07 J -40826217.06 -40826216.87 -40826216.68 0.0304 0.0102
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 Uranus -116483-01-09 03:07 J -40823984.47 -40823984.37 -40823984.24 0.0131 0.0110
 Uranus -116483-08-23 05:31 J -40823758.43 -40823758.27 -40823758.10 0.0131 0.0079
 Jupiter -116483-09-04 19:12 J -40823745.89 -40823745.70 -40823745.50 0.0524 0.0063
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 Uranus -116482-11-18 10:05 J -40823306.29 -40823306.08 -40823305.87 0.0132 0.0017
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 Saturn -116477-06-21 19:41 J -40821628.80 -40821628.68 -40821628.55 0.0259 0.0212
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 Saturn -116476-02-05 20:53 J -40821399.77 -40821399.63 -40821399.46 0.0259 0.0185
 Jupiter -116476-02-25 15:51 J -40821379.87 -40821379.84 -40821379.79 0.0504 0.0492
 Saturn -116476-09-22 22:48 J -40821170.72 -40821170.55 -40821170.37 0.0258 0.0154
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 Neptune -116473-07-21 14:39 J -40820137.94 -40820137.89 -40820137.82 0.0088 0.0085
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 Neptune -116472-10-15 13:27 J -40819687.04 -40819686.94 -40819686.80 0.0088 0.0074
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 Jupiter -116471-05-10 17:17 J -40819479.93 -40819479.78 -40819479.63 0.0525 0.0327
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 Neptune -116466-12-18 09:07 J -40817432.33 -40817432.12 -40817431.91 0.0089 0.0016
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 Mars -116461-04-21 10:34 J -40815846.17 -40815846.06 -40815845.95 0.1711 0.1308
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 Pluto -116452-10-12 19:27 J -40812384.91 -40812384.69 -40812384.45 0.0065 0.0008
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 Saturn -116447-01-01 23:17 J -40810842.64 -40810842.53 -40810842.39 0.0260 0.0211
 Jupiter -116447-05-13 08:39 J -40810711.33 -40810711.14 -40810710.94 0.0524 0.0098
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 Saturn -116446-04-05 02:53 J -40810384.56 -40810384.38 -40810384.20 0.0259 0.0151
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 Saturn -116444-10-07 14:24 J -40809468.12 -40809467.90 -40809467.68 0.0261 0.0011
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 Uranus -116440-05-29 17:46 J -40808137.95 -40808137.76 -40808137.56 0.0147 0.0073
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 Uranus -116439-01-11 09:51 J -40807911.21 -40807911.09 -40807910.95 0.0146 0.0119

Saturn	-116439-02-28 23:31 J	-40807862.60	-40807862.52	-40807862.41	0.0274	0.0246
Saturn	-116439-10-16 13:12 J	-40807632.96	-40807632.95	-40807632.92	0.0277	0.0276
Jupiter	-116435-01-16 07:27 J	-40806445.37	-40806445.19	-40806445.00	0.0525	0.0165
Saturn	-116433-06-15 01:55 J	-40805564.49	-40805564.42	-40805564.33	0.0301	0.0276
Saturn	-116432-01-31 01:41 J	-40805334.54	-40805334.43	-40805334.29	0.0303	0.0238
Saturn	-116432-09-18 01:41 J	-40805104.59	-40805104.43	-40805104.27	0.0303	0.0193
Saturn	-116431-05-06 00:43 J	-40804874.64	-40804874.47	-40804874.28	0.0304	0.0144
Saturn	-116431-12-21 23:31 J	-40804644.71	-40804644.52	-40804644.33	0.0303	0.0091
Saturn	-116430-08-08 21:07 J	-40804414.82	-40804414.62	-40804414.41	0.0302	0.0038
Jupiter	-116430-11-14 14:39 J	-40804316.90	-40804316.89	-40804316.87	0.0500	0.0498
Saturn	-116429-03-25 18:00 J	-40804184.95	-40804184.75	-40804184.55	0.0301	0.0018
Jupiter	-116429-07-08 23:31 J	-40804079.65	-40804079.52	-40804079.38	0.0503	0.0390
Saturn	-116429-11-10 13:27 J	-40803955.14	-40803954.94	-40803954.74	0.0299	0.0070
Saturn	-116428-06-28 07:12 J	-40803725.38	-40803725.20	-40803725.01	0.0297	0.0120
Saturn	-116427-02-12 23:46 J	-40803495.68	-40803495.51	-40803495.34	0.0294	0.0166
Mars	-116427-02-18 01:27 J	-40803490.60	-40803490.44	-40803490.29	0.1702	0.0586
Saturn	-116427-09-30 14:39 J	-40803266.03	-40803265.89	-40803265.74	0.0291	0.0206
Saturn	-116426-05-18 04:05 J	-40803036.43	-40803036.33	-40803036.21	0.0288	0.0242
Mars	-116426-12-18 22:48 J	-40802821.70	-40802821.55	-40802821.40	0.1689	0.0737
Saturn	-116425-01-02 16:05 J	-40802806.89	-40802806.83	-40802806.76	0.0285	0.0270
Jupiter	-116424-09-21 06:00 J	-40802179.36	-40802179.25	-40802179.14	0.0525	0.0428
Jupiter	-116423-05-15 19:55 J	-40801942.71	-40801942.67	-40801942.62	0.0522	0.0504
Mars	-116423-09-30 14:39 J	-40801805.07	-40801804.89	-40801804.71	0.1818	0.0197
Saturn	-116419-04-12 22:34 J	-40800514.57	-40800514.56	-40800514.53	0.0261	0.0259
Saturn	-116419-11-28 00:15 J	-40800285.57	-40800285.49	-40800285.39	0.0260	0.0235
Saturn	-116418-07-15 01:55 J	-40800056.54	-40800056.42	-40800056.29	0.0259	0.0208
Saturn	-116417-02-29 03:36 J	-40799827.50	-40799827.35	-40799827.19	0.0259	0.0179
Jupiter	-116417-03-13 17:46 J	-40799813.96	-40799813.76	-40799813.55	0.0502	0.0142
Saturn	-116417-10-15 05:17 J	-40799598.45	-40799598.28	-40799598.09	0.0259	0.0148
Saturn	-116416-06-01 07:27 J	-40799369.38	-40799369.19	-40799368.98	0.0259	0.0115

Saturn -116415-01-16 10:19 J -40799140.28 -40799140.07 -40799139.86 0.0259 0.0079
 Saturn -116415-09-02 13:55 J -40798911.14 -40798910.92 -40798910.71 0.0260 0.0043
 Saturn -116414-04-19 18:00 J -40798681.97 -40798681.75 -40798681.53 0.0261 0.0006
 Saturn -116414-12-04 22:48 J -40798452.77 -40798452.55 -40798452.33 0.0262 0.0033
 Saturn -116413-07-21 04:34 J -40798223.52 -40798223.31 -40798223.09 0.0264 0.0071
 Saturn -116412-03-07 11:31 J -40797994.21 -40797994.02 -40797993.81 0.0265 0.0110
 Saturn -116412-10-22 20:10 J -40797764.84 -40797764.66 -40797764.48 0.0267 0.0147
 Jupiter -116411-01-18 18:43 J -40797676.89 -40797676.72 -40797676.54 0.0523 0.0246
 Saturn -116411-06-09 05:31 J -40797535.42 -40797535.27 -40797535.11 0.0270 0.0184
 Saturn -116410-01-24 16:19 J -40797305.94 -40797305.82 -40797305.68 0.0272 0.0218
 Saturn -116410-09-11 04:34 J -40797076.39 -40797076.31 -40797076.21 0.0275 0.0251
 Jupiter -116406-11-17 11:46 J -40795548.21 -40795548.01 -40795547.80 0.0501 0.0107
 Saturn -116404-12-26 08:39 J -40794778.22 -40794778.14 -40794778.05 0.0302 0.0272
 Saturn -116403-08-13 08:24 J -40794548.27 -40794548.15 -40794548.01 0.0303 0.0233
 Saturn -116402-03-31 08:24 J -40794318.31 -40794318.15 -40794317.99 0.0303 0.0187
 Saturn -116402-11-16 07:41 J -40794088.36 -40794088.18 -40794088.00 0.0303 0.0137
 Saturn -116401-07-03 06:15 J -40793858.44 -40793858.24 -40793858.04 0.0303 0.0083
 Saturn -116400-02-18 03:51 J -40793628.54 -40793628.34 -40793628.14 0.0302 0.0028
 Uranus -116400-09-08 16:05 J -40793425.89 -40793425.83 -40793425.75 0.0131 0.0124
 Jupiter -116400-09-23 18:58 J -40793410.90 -40793410.71 -40793410.51 0.0524 0.0015
 Saturn -116400-10-06 00:15 J -40793398.69 -40793398.49 -40793398.28 0.0300 0.0027
 Uranus -116399-04-22 18:00 J -40793199.88 -40793199.75 -40793199.59 0.0131 0.0093
 Saturn -116399-05-23 19:27 J -40793168.88 -40793168.69 -40793168.49 0.0298 0.0080
 Uranus -116399-12-04 20:10 J -40792973.83 -40792973.66 -40792973.46 0.0131 0.0063
 Saturn -116398-01-08 13:12 J -40792939.13 -40792938.95 -40792938.76 0.0296 0.0129
 Uranus -116398-07-18 22:34 J -40792747.76 -40792747.56 -40792747.35 0.0132 0.0031
 Saturn -116398-08-26 05:17 J -40792709.44 -40792709.28 -40792709.11 0.0293 0.0174
 Uranus -116397-03-01 00:58 J -40792521.67 -40792521.46 -40792521.25 0.0132 0.0000
 Saturn -116397-04-11 20:10 J -40792479.79 -40792479.66 -40792479.52 0.0291 0.0214
 Uranus -116397-10-13 03:07 J -40792295.57 -40792295.37 -40792295.17 0.0132 0.0031

Saturn -116397-11-27 09:22 J -40792250.20 -40792250.11 -40792250.00 0.0288 0.0249
 Uranus -116396-05-27 05:17 J -40792069.46 -40792069.28 -40792069.09 0.0132 0.0063
 Saturn -116396-07-14 21:07 J -40792020.66 -40792020.62 -40792020.57 0.0285 0.0277
 Uranus -116395-01-08 07:12 J -40791843.33 -40791843.20 -40791843.04 0.0132 0.0094
 Mars -116395-02-16 21:36 J -40791803.72 -40791803.60 -40791803.49 0.1709 0.1239
 Uranus -116395-08-22 09:36 J -40791617.15 -40791617.10 -40791617.02 0.0133 0.0126
 Jupiter -116394-07-23 04:05 J -40791282.48 -40791282.33 -40791282.19 0.0500 0.0357
 Mars -116394-12-17 17:31 J -40791134.94 -40791134.77 -40791134.60 0.1694 0.0119
 Mars -116392-10-16 17:03 J -40790465.88 -40790465.79 -40790465.69 0.1682 0.1388
 Neptune -116391-09-08 01:41 J -40790139.46 -40790139.43 -40790139.38 0.0089 0.0087
 Mars -116391-09-30 11:03 J -40790117.20 -40790117.04 -40790116.88 0.1810 0.0822
 Neptune -116390-04-21 16:19 J -40789913.90 -40789913.82 -40789913.71 0.0089 0.0081
 Saturn -116390-10-24 03:22 J -40789728.38 -40789728.36 -40789728.32 0.0262 0.0258
 Neptune -116390-12-03 06:58 J -40789688.31 -40789688.21 -40789688.07 0.0089 0.0075
 Saturn -116389-06-09 05:03 J -40789499.38 -40789499.29 -40789499.19 0.0260 0.0233
 Neptune -116389-07-15 21:22 J -40789462.73 -40789462.61 -40789462.44 0.0089 0.0069
 Mars -116389-07-27 20:24 J -40789450.76 -40789450.65 -40789450.53 0.1827 0.1410
 Saturn -116388-01-24 06:43 J -40789270.34 -40789270.22 -40789270.08 0.0260 0.0206
 Neptune -116388-02-26 12:00 J -40789237.14 -40789237.00 -40789236.81 0.0089 0.0063
 Jupiter -116388-05-29 18:29 J -40789144.90 -40789144.73 -40789144.56 0.0526 0.0273
 Saturn -116388-09-10 08:39 J -40789041.30 -40789041.14 -40789040.98 0.0259 0.0176
 Neptune -116388-10-10 03:07 J -40789011.54 -40789011.37 -40789011.18 0.0089 0.0056
 Saturn -116387-04-27 10:34 J -40788812.24 -40788812.06 -40788811.87 0.0259 0.0144
 Neptune -116387-05-23 17:46 J -40788785.94 -40788785.76 -40788785.56 0.0089 0.0050
 Saturn -116387-12-12 12:58 J -40788583.16 -40788582.96 -40788582.76 0.0259 0.0110
 Neptune -116386-01-04 08:10 J -40788560.34 -40788560.16 -40788559.95 0.0089 0.0044
 Moon -116386-01-13 04:48 J -40788551.44 -40788551.30 -40788551.15 0.2603 0.0999
 Earth -116386-01-13 09:36 J -40788551.24 -40788551.10 -40788550.95 0.2599 0.1280 *
 Saturn -116386-07-29 15:36 J -40788354.06 -40788353.85 -40788353.63 0.0259 0.0075
 Neptune -116386-08-17 23:03 J -40788334.75 -40788334.54 -40788334.33 0.0089 0.0037

Saturn -116385-03-14 19:12 J -40788124.92 -40788124.70 -40788124.48 0.0260 0.0038
 Neptune -116385-03-30 13:27 J -40788109.15 -40788108.94 -40788108.72 0.0089 0.0031
 Saturn -116385-10-29 23:31 J -40787895.74 -40787895.52 -40787895.30 0.0261 0.0004
 Neptune -116385-11-11 03:51 J -40787883.54 -40787883.34 -40787883.10 0.0089 0.0025
 Saturn -116384-06-16 04:34 J -40787666.53 -40787666.31 -40787666.09 0.0262 0.0039
 Neptune -116384-06-24 18:43 J -40787657.94 -40787657.72 -40787657.50 0.0089 0.0018
 Saturn -116383-01-31 10:34 J -40787437.27 -40787437.06 -40787436.84 0.0264 0.0078
 Neptune -116383-02-05 09:07 J -40787432.34 -40787432.12 -40787431.89 0.0089 0.0012
 Saturn -116383-09-17 18:00 J -40787207.95 -40787207.75 -40787207.55 0.0266 0.0116
 Neptune -116383-09-18 23:46 J -40787206.73 -40787206.51 -40787206.28 0.0089 0.0005
 Neptune -116382-05-02 14:24 J -40786981.13 -40786980.90 -40786980.67 0.0089 0.0001
 Saturn -116382-05-05 02:24 J -40786978.57 -40786978.40 -40786978.22 0.0268 0.0155
 Jupiter -116382-11-20 06:43 J -40786779.40 -40786779.22 -40786779.05 0.0502 0.0285
 Neptune -116382-12-14 04:48 J -40786755.52 -40786755.30 -40786755.07 0.0089 0.0008
 Saturn -116382-12-20 12:00 J -40786749.14 -40786749.00 -40786748.84 0.0270 0.0192
 Neptune -116381-07-26 19:12 J -40786529.92 -40786529.70 -40786529.47 0.0089 0.0014
 Saturn -116381-08-05 23:17 J -40786519.65 -40786519.53 -40786519.41 0.0272 0.0227
 Neptune -116380-03-09 09:22 J -40786304.32 -40786304.11 -40786303.87 0.0089 0.0021
 Saturn -116380-03-23 11:31 J -40786290.08 -40786290.02 -40786289.94 0.0275 0.0259
 Neptune -116380-10-21 00:00 J -40786078.70 -40786078.50 -40786078.27 0.0089 0.0027
 Neptune -116379-06-03 14:39 J -40785853.10 -40785852.89 -40785852.67 0.0089 0.0033
 Earth -116378-01-10 23:46 J -40785631.60 -40785631.51 -40785631.42 0.2596 0.2193
 Moon -116378-01-10 23:03 J -40785631.54 -40785631.54 -40785631.54 0.2602 0.2602 *
 Neptune -116378-01-15 04:34 J -40785627.49 -40785627.31 -40785627.08 0.0089 0.0040
 Neptune -116378-08-28 18:58 J -40785401.89 -40785401.71 -40785401.50 0.0089 0.0046
 Neptune -116377-04-10 09:22 J -40785176.28 -40785176.11 -40785175.91 0.0089 0.0052
 Neptune -116377-11-21 23:46 J -40784950.67 -40784950.51 -40784950.33 0.0089 0.0058
 Neptune -116376-07-05 13:55 J -40784725.06 -40784724.92 -40784724.75 0.0089 0.0064
 Jupiter -116376-09-26 07:55 J -40784642.29 -40784642.17 -40784642.05 0.0522 0.0404
 Neptune -116375-02-16 04:05 J -40784499.46 -40784499.33 -40784499.18 0.0089 0.0070

Neptune -116375-09-29 18:15 J -40784273.84 -40784273.74 -40784273.61 0.0089 0.0076
 Neptune -116374-05-13 08:24 J -40784048.22 -40784048.15 -40784048.06 0.0089 0.0082
 Saturn -116374-07-08 15:22 J -40783991.94 -40783991.86 -40783991.76 0.0302 0.0270
 Neptune -116374-12-24 22:19 J -40783822.58 -40783822.57 -40783822.53 0.0089 0.0088
 Saturn -116373-02-23 14:53 J -40783762.00 -40783761.88 -40783761.73 0.0303 0.0230
 Saturn -116373-10-10 14:39 J -40783532.05 -40783531.89 -40783531.73 0.0303 0.0183
 Saturn -116372-05-28 13:27 J -40783302.12 -40783301.94 -40783301.75 0.0303 0.0132
 Saturn -116371-01-13 11:46 J -40783072.20 -40783072.01 -40783071.81 0.0303 0.0078
 Saturn -116371-08-31 09:07 J -40782842.32 -40782842.12 -40782841.92 0.0302 0.0023
 Saturn -116370-04-18 05:31 J -40782612.47 -40782612.27 -40782612.07 0.0300 0.0032
 Jupiter -116370-07-26 00:58 J -40782513.67 -40782513.46 -40782513.25 0.0502 0.0038
 Saturn -116370-12-04 00:29 J -40782382.68 -40782382.48 -40782382.29 0.0298 0.0085
 Saturn -116369-07-20 18:00 J -40782152.93 -40782152.75 -40782152.57 0.0296 0.0134
 Saturn -116368-03-07 09:51 J -40781923.24 -40781923.09 -40781922.92 0.0293 0.0180
 Saturn -116368-10-23 00:15 J -40781693.61 -40781693.49 -40781693.34 0.0291 0.0220
 Saturn -116367-06-09 13:27 J -40781464.02 -40781463.94 -40781463.83 0.0288 0.0254
 Saturn -116366-01-25 01:12 J -40781234.47 -40781234.45 -40781234.42 0.0285 0.0281
 Pluto -116365-10-29 19:55 J -40780590.85 -40780590.67 -40780590.46 0.0079 0.0033
 Jupiter -116364-06-01 06:58 J -40780376.39 -40780376.21 -40780376.02 0.0523 0.0145
 Pluto -116364-06-12 04:34 J -40780365.48 -40780365.31 -40780365.11 0.0079 0.0040
 Mars -116362-12-16 12:43 J -40779448.13 -40779447.97 -40779447.81 0.1700 0.0518
 Saturn -116360-05-05 06:29 J -40778942.26 -40778942.23 -40778942.18 0.0261 0.0257
 Mars -116360-10-15 10:48 J -40778779.20 -40778779.05 -40778778.90 0.1687 0.0796
 Saturn -116360-12-20 08:39 J -40778713.24 -40778713.14 -40778713.05 0.0260 0.0232
 Uranus -116359-08-04 01:55 J -40778486.47 -40778486.42 -40778486.33 0.0148 0.0140
 Saturn -116359-08-06 10:19 J -40778484.20 -40778484.07 -40778483.93 0.0259 0.0204
 Mars -116359-09-30 05:46 J -40778429.27 -40778429.26 -40778429.24 0.1802 0.1791
 Uranus -116358-03-18 18:43 J -40778259.88 -40778259.72 -40778259.54 0.0147 0.0093
 Saturn -116358-03-23 12:15 J -40778255.15 -40778254.99 -40778254.82 0.0259 0.0173
 Jupiter -116358-03-30 19:41 J -40778247.87 -40778247.68 -40778247.49 0.0501 0.0208

Uranus -116358-10-31 11:17 J -40778033.24 -40778033.03 -40778032.81 0.0147 0.0045
 Saturn -116358-11-07 14:10 J -40778026.08 -40778025.91 -40778025.72 0.0259 0.0141
 Uranus -116357-06-14 03:36 J -40777806.57 -40777806.35 -40777806.12 0.0147 0.0003
 Saturn -116357-06-23 16:48 J -40777797.00 -40777796.80 -40777796.60 0.0259 0.0106
 Mars -116357-07-27 18:29 J -40777762.90 -40777762.73 -40777762.55 0.1820 0.0350
 Uranus -116356-01-26 19:55 J -40777579.88 -40777579.67 -40777579.45 0.0147 0.0048
 Saturn -116356-02-07 19:41 J -40777567.89 -40777567.68 -40777567.46 0.0259 0.0070
 Uranus -116356-09-10 12:15 J -40777353.15 -40777352.99 -40777352.81 0.0147 0.0095
 Saturn -116356-09-24 23:31 J -40777338.73 -40777338.52 -40777338.29 0.0260 0.0033
 Uranus -116355-04-25 04:19 J -40777126.37 -40777126.32 -40777126.25 0.0146 0.0141
 Saturn -116355-05-12 04:05 J -40777109.55 -40777109.33 -40777109.11 0.0261 0.0006
 Saturn -116355-12-27 09:22 J -40776880.32 -40776880.11 -40776879.89 0.0263 0.0045
 Saturn -116354-08-13 15:36 J -40776651.05 -40776650.85 -40776650.64 0.0264 0.0084
 Saturn -116353-03-29 23:03 J -40776421.73 -40776421.54 -40776421.34 0.0266 0.0123
 Saturn -116353-11-14 07:55 J -40776192.35 -40776192.17 -40776192.00 0.0268 0.0161
 Jupiter -116352-02-04 04:48 J -40776110.49 -40776110.30 -40776110.11 0.0525 0.0123
 Saturn -116352-07-01 17:31 J -40775962.90 -40775962.77 -40775962.61 0.0270 0.0198
 Saturn -116351-02-16 04:48 J -40775733.40 -40775733.30 -40775733.17 0.0273 0.0232
 Saturn -116351-10-03 17:46 J -40775503.82 -40775503.76 -40775503.70 0.0276 0.0264
 Jupiter -116347-12-03 14:10 J -40773981.99 -40773981.91 -40773981.82 0.0500 0.0453
 Jupiter -116346-07-28 23:03 J -40773744.64 -40773744.54 -40773744.44 0.0503 0.0438
 Saturn -116345-06-01 23:31 J -40773435.53 -40773435.52 -40773435.51 0.0300 0.0300
 Saturn -116344-01-17 23:17 J -40773205.63 -40773205.53 -40773205.44 0.0302 0.0265
 Saturn -116344-09-04 22:48 J -40772975.68 -40772975.55 -40772975.41 0.0303 0.0224
 Saturn -116343-04-22 22:19 J -40772745.73 -40772745.57 -40772745.40 0.0303 0.0176
 Saturn -116343-12-08 21:07 J -40772515.80 -40772515.62 -40772515.43 0.0303 0.0125
 Saturn -116342-07-26 19:27 J -40772285.88 -40772285.69 -40772285.49 0.0303 0.0070
 Saturn -116341-03-12 16:48 J -40772056.00 -40772055.80 -40772055.59 0.0301 0.0014
 Jupiter -116341-10-10 03:36 J -40771844.47 -40771844.35 -40771844.21 0.0526 0.0387
 Saturn -116341-10-28 12:58 J -40771826.16 -40771825.96 -40771825.76 0.0300 0.0042

Saturn -116340-06-15 07:41 J -40771596.37 -40771596.18 -40771595.98 0.0298 0.0095
 Saturn -116339-01-31 00:58 J -40771366.63 -40771366.46 -40771366.28 0.0295 0.0144
 Saturn -116339-09-17 16:48 J -40771136.95 -40771136.80 -40771136.64 0.0293 0.0188
 Saturn -116338-05-05 07:12 J -40770907.32 -40770907.20 -40770907.07 0.0290 0.0228
 Saturn -116338-12-20 19:55 J -40770677.74 -40770677.67 -40770677.58 0.0287 0.0261
 Jupiter -116334-04-02 14:10 J -40769479.11 -40769478.91 -40769478.71 0.0502 0.0182
 Saturn -116331-11-15 12:29 J -40768156.01 -40768155.98 -40768155.92 0.0261 0.0255
 Saturn -116330-07-02 14:24 J -40767926.99 -40767926.90 -40767926.79 0.0260 0.0229
 Mars -116330-12-15 08:39 J -40767761.26 -40767761.14 -40767761.02 0.1706 0.1167
 Saturn -116329-02-16 16:19 J -40767697.95 -40767697.82 -40767697.68 0.0260 0.0201
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 Mars -116225-03-21 01:55 J -40729678.58 -40729678.42 -40729678.25 0.1825 0.0670
 Saturn -116225-06-07 11:03 J -40729600.22 -40729600.04 -40729599.86 0.0303 0.0150
 Neptune -116225-10-17 06:15 J -40729468.37 -40729468.24 -40729468.08 0.0089 0.0068
 Saturn -116224-01-23 09:22 J -40729370.30 -40729370.11 -40729369.92 0.0303 0.0094
 Neptune -116224-05-30 20:39 J -40729242.78 -40729242.64 -40729242.45 0.0089 0.0062
 Saturn -116224-09-10 06:58 J -40729140.41 -40729140.21 -40729140.01 0.0302 0.0037
 Neptune -116223-01-11 11:46 J -40729017.18 -40729017.01 -40729016.83 0.0089 0.0055
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Neptune -116223-08-25 02:10 J -40728791.59 -40728791.41 -40728791.21 0.0089 0.0049
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 Jupiter -116222-07-07 10:34 J -40728475.25 -40728475.06 -40728474.88 0.0525 0.0197
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Saturn -116211-04-02 16:05 J -40724552.98 -40724552.83 -40724552.68 0.0260 0.0188
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 Mars -116162-04-06 22:48 J -40706651.69 -40706651.55 -40706651.41 0.1681 0.0976
 Saturn -116162-04-10 02:39 J -40706648.54 -40706648.39 -40706648.23 0.0293 0.0193
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 Mars -116161-03-20 20:10 J -40706302.78 -40706302.66 -40706302.55 0.1810 0.1408
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 Neptune -116128-09-25 14:39 J -40694061.00 -40694060.89 -40694060.76 0.0089 0.0074
 Mars -116127-01-16 04:05 J -40693948.51 -40693948.33 -40693948.15 0.1820 0.0238
 Jupiter -116127-03-31 04:19 J -40693874.43 -40693874.32 -40693874.20 0.0526 0.0424
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 Saturn -116018-10-14 02:24 J -40653865.60 -40653865.40 -40653865.20 0.0302 0.0036
 Saturn -116017-05-30 23:03 J -40653635.74 -40653635.54 -40653635.34 0.0301 0.0024
 Saturn -116016-01-15 18:15 J -40653405.93 -40653405.74 -40653405.54 0.0299 0.0082
 Saturn -116016-09-02 12:15 J -40653176.16 -40653175.99 -40653175.80 0.0296 0.0136
 Saturn -116015-04-20 04:48 J -40652946.45 -40652946.30 -40652946.13 0.0294 0.0185
 Saturn -116015-12-05 19:41 J -40652716.80 -40652716.68 -40652716.54 0.0291 0.0229
 Jupiter -116014-02-17 20:53 J -40652642.80 -40652642.63 -40652642.46 0.0500 0.0307
 Saturn -116014-07-23 09:07 J -40652487.19 -40652487.12 -40652487.04 0.0288 0.0266
 Jupiter -116009-12-25 12:15 J -40650505.17 -40650504.99 -40650504.81 0.0525 0.0229
 Saturn -116006-02-02 03:07 J -40649736.40 -40649736.37 -40649736.32 0.0260 0.0255
 Saturn -116006-09-19 04:48 J -40649507.40 -40649507.30 -40649507.19 0.0260 0.0226
 Saturn -116005-05-05 06:15 J -40649278.37 -40649278.24 -40649278.08 0.0259 0.0194
 Saturn -116005-12-20 08:24 J -40649049.32 -40649049.15 -40649048.97 0.0259 0.0159
 Saturn -116004-08-06 10:34 J -40648820.25 -40648820.06 -40648819.86 0.0259 0.0122

Saturn -116003-03-23 13:27 J -40648591.15 -40648590.94 -40648590.73 0.0259 0.0083

Saturn -116003-11-07 16:48 J -40648362.02 -40648361.80 -40648361.58 0.0260 0.0043

Jupiter -116002-06-17 23:31 J -40648139.67 -40648139.52 -40648139.36 0.0502 0.0349

Saturn -116002-06-24 20:53 J -40648132.85 -40648132.63 -40648132.41 0.0261 0.0005

Saturn -116001-02-09 01:41 J -40647903.65 -40647903.43 -40647903.21 0.0262 0.0040

Saturn -116001-09-25 07:55 J -40647674.38 -40647674.17 -40647673.96 0.0263 0.0082

116TH MILLENNIUM BCE

This is a list of transits of Venus in the 116th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-116000-01-28 17:31 J	-40647548.92	-40647548.77	-40647548.62	0.1696	0.0837		
Saturn	-116000-05-12 14:53 J	-40647445.07	-40647444.88	-40647444.68	0.0265	0.0124		
Saturn	-116000-12-27 23:17 J	-40647215.70	-40647215.53	-40647215.36	0.0267	0.0165		
Saturn	-115999-08-14 08:53 J	-40646986.26	-40646986.13	-40646985.98	0.0270	0.0206		
Mars	-115999-11-28 16:19 J	-40646879.98	-40646879.82	-40646879.66	0.1683	0.0498		
Saturn	-115998-03-31 20:10 J	-40646756.76	-40646756.66	-40646756.57	0.0272	0.0244		
Jupiter	-115997-08-30 09:22 J	-40646239.16	-40646239.11	-40646239.05	0.0526	0.0502		
Jupiter	-115996-04-24 00:58 J	-40646002.55	-40646002.46	-40646002.36	0.0523	0.0456		
Mars	-115996-09-09 11:31 J	-40645864.21	-40645864.02	-40645863.84	0.1825	0.0091		
Saturn	-115991-03-02 13:27 J	-40644228.98	-40644228.94	-40644228.90	0.0302	0.0295		
Saturn	-115991-10-18 12:58 J	-40643999.06	-40643998.96	-40643998.84	0.0303	0.0252		

Jupiter -115990-02-20 18:00 J -40643873.96 -40643873.75 -40643873.54 0.0501 0.0096
 Saturn -115990-06-05 12:29 J -40643769.12 -40643768.98 -40643768.82 0.0303 0.0203
 Saturn -115989-01-21 12:00 J -40643539.18 -40643539.00 -40643538.82 0.0304 0.0147
 Saturn -115989-09-07 10:34 J -40643309.26 -40643309.06 -40643308.87 0.0303 0.0088
 Saturn -115988-04-25 08:10 J -40643079.36 -40643079.16 -40643078.95 0.0302 0.0029
 Saturn -115988-12-11 04:48 J -40642849.50 -40642849.30 -40642849.10 0.0301 0.0032
 Saturn -115987-07-29 00:00 J -40642619.69 -40642619.50 -40642619.30 0.0299 0.0089
 Saturn -115986-03-15 17:46 J -40642389.93 -40642389.76 -40642389.57 0.0296 0.0144
 Saturn -115986-10-31 10:19 J -40642160.22 -40642160.07 -40642159.92 0.0294 0.0193
 Saturn -115985-06-17 01:12 J -40641930.57 -40641930.45 -40641930.33 0.0291 0.0237
 Jupiter -115985-12-27 23:46 J -40641736.69 -40641736.51 -40641736.32 0.0524 0.0192
 Saturn -115984-02-01 14:24 J -40641700.96 -40641700.90 -40641700.84 0.0288 0.0274
 Neptune -115981-09-14 14:10 J -40640379.92 -40640379.91 -40640379.86 0.0088 0.0088
 Neptune -115980-04-28 01:55 J -40640154.49 -40640154.42 -40640154.33 0.0088 0.0082
 Uranus -115980-11-13 12:43 J -40639955.09 -40639954.97 -40639954.84 0.0131 0.0106
 Neptune -115980-12-09 12:58 J -40639929.04 -40639928.96 -40639928.83 0.0088 0.0077
 Uranus -115979-06-27 14:39 J -40639729.05 -40639728.89 -40639728.70 0.0132 0.0075
 Neptune -115979-07-23 00:43 J -40639703.59 -40639703.47 -40639703.34 0.0088 0.0071
 Jupiter -115979-10-26 12:43 J -40639608.17 -40639607.97 -40639607.77 0.0500 0.0153
 Uranus -115978-02-08 17:03 J -40639502.98 -40639502.79 -40639502.58 0.0132 0.0043
 Neptune -115978-03-05 11:46 J -40639478.13 -40639478.01 -40639477.84 0.0088 0.0066
 Uranus -115978-09-22 19:27 J -40639276.90 -40639276.69 -40639276.48 0.0132 0.0011
 Neptune -115978-10-16 23:17 J -40639252.67 -40639252.53 -40639252.36 0.0088 0.0060
 Uranus -115977-05-05 21:51 J -40639050.80 -40639050.59 -40639050.38 0.0132 0.0021
 Neptune -115977-05-29 11:03 J -40639027.20 -40639027.04 -40639026.87 0.0088 0.0054
 Saturn -115977-08-14 07:55 J -40638950.21 -40638950.17 -40638950.11 0.0260 0.0253
 Uranus -115977-12-18 00:00 J -40638824.69 -40638824.50 -40638824.30 0.0132 0.0053
 Neptune -115976-01-09 22:05 J -40638801.74 -40638801.58 -40638801.38 0.0088 0.0049
 Saturn -115976-03-31 09:36 J -40638721.20 -40638721.10 -40638720.98 0.0260 0.0222
 Uranus -115976-08-01 02:10 J -40638598.56 -40638598.41 -40638598.24 0.0132 0.0086

Neptune -115976-08-23 09:36 J -40638576.27 -40638576.10 -40638575.90 0.0088 0.0043
 Saturn -115976-11-15 11:17 J -40638492.17 -40638492.03 -40638491.88 0.0259 0.0190
 Uranus -115975-03-15 04:48 J -40638372.39 -40638372.30 -40638372.20 0.0133 0.0118
 Neptune -115975-04-05 21:22 J -40638350.80 -40638350.61 -40638350.41 0.0088 0.0037
 Saturn -115975-07-02 13:12 J -40638263.13 -40638262.95 -40638262.77 0.0259 0.0154
 Neptune -115975-11-17 08:53 J -40638125.32 -40638125.13 -40638124.93 0.0088 0.0031
 Saturn -115974-02-16 15:22 J -40638034.05 -40638033.86 -40638033.66 0.0259 0.0117
 Neptune -115974-06-30 20:24 J -40637899.85 -40637899.65 -40637899.44 0.0088 0.0025
 Earth -115974-07-06 20:24 J -40637893.81 -40637893.65 -40637893.50 0.2748 0.0110
 Moon -115974-07-07 01:12 J -40637893.59 -40637893.45 -40637893.30 0.2746 0.0952 *
 Saturn -115974-10-03 18:15 J -40637804.95 -40637804.74 -40637804.53 0.0260 0.0079
 Neptune -115973-02-11 07:41 J -40637674.38 -40637674.18 -40637673.96 0.0088 0.0020
 Saturn -115973-05-19 21:36 J -40637575.82 -40637575.60 -40637575.38 0.0260 0.0038
 Jupiter -115973-09-01 22:05 J -40637470.77 -40637470.58 -40637470.39 0.0525 0.0078
 Neptune -115973-09-23 19:27 J -40637448.90 -40637448.69 -40637448.48 0.0089 0.0013
 Saturn -115972-01-04 01:41 J -40637346.65 -40637346.43 -40637346.21 0.0261 0.0003
 Neptune -115972-05-07 07:12 J -40637223.41 -40637223.20 -40637222.99 0.0089 0.0007
 Saturn -115972-08-21 06:43 J -40637117.44 -40637117.22 -40637117.00 0.0262 0.0045
 Neptune -115972-12-18 18:43 J -40636997.93 -40636997.72 -40636997.50 0.0089 0.0002
 Saturn -115971-04-07 12:43 J -40636888.18 -40636887.97 -40636887.76 0.0264 0.0087
 Neptune -115971-08-01 06:29 J -40636772.45 -40636772.23 -40636772.02 0.0089 0.0005
 Saturn -115971-11-22 20:10 J -40636658.86 -40636658.66 -40636658.47 0.0266 0.0129
 Neptune -115970-03-14 18:00 J -40636546.96 -40636546.75 -40636546.54 0.0089 0.0010
 Saturn -115970-07-10 04:19 J -40636429.48 -40636429.32 -40636429.14 0.0268 0.0171
 Neptune -115970-10-26 05:31 J -40636321.47 -40636321.27 -40636321.06 0.0089 0.0016
 Saturn -115969-02-24 14:10 J -40636200.04 -40636199.91 -40636199.77 0.0270 0.0211
 Neptune -115969-06-07 17:03 J -40636095.98 -40636095.79 -40636095.57 0.0089 0.0023
 Saturn -115969-10-11 01:41 J -40635970.52 -40635970.43 -40635970.34 0.0273 0.0249
 Neptune -115968-01-19 04:34 J -40635870.50 -40635870.31 -40635870.09 0.0089 0.0029
 Mars -115968-01-27 13:12 J -40635862.03 -40635861.95 -40635861.87 0.1702 0.1494

Neptune -115968-09-01 16:34 J -40635645.01 -40635644.81 -40635644.61 0.0089 0.0034
 Neptune -115967-04-15 04:05 J -40635419.51 -40635419.33 -40635419.13 0.0089 0.0040
 Jupiter -115967-07-01 07:27 J -40635342.31 -40635342.19 -40635342.06 0.0499 0.0402
 Neptune -115967-11-26 15:51 J -40635194.02 -40635193.84 -40635193.65 0.0089 0.0046
 Mars -115967-11-27 10:19 J -40635193.23 -40635193.07 -40635192.90 0.1689 0.0135
 Jupiter -115966-02-23 15:07 J -40635104.87 -40635104.87 -40635104.86 0.0502 0.0502
 Neptune -115966-07-10 03:22 J -40634968.52 -40634968.36 -40634968.17 0.0089 0.0052
 Neptune -115965-02-20 14:53 J -40634743.02 -40634742.88 -40634742.70 0.0089 0.0058
 Mars -115965-09-26 11:17 J -40634524.15 -40634524.03 -40634523.91 0.1677 0.1159
 Neptune -115965-10-03 02:53 J -40634517.52 -40634517.38 -40634517.22 0.0089 0.0063
 Neptune -115964-05-16 14:39 J -40634292.01 -40634291.89 -40634291.74 0.0089 0.0069
 Mars -115964-09-09 08:53 J -40634176.28 -40634176.13 -40634175.98 0.1817 0.0980
 Neptune -115964-12-28 02:24 J -40634066.50 -40634066.40 -40634066.27 0.0089 0.0075
 Neptune -115963-08-10 13:55 J -40633840.98 -40633840.92 -40633840.80 0.0089 0.0081
 Neptune -115962-03-24 02:10 J -40633615.45 -40633615.41 -40633615.35 0.0089 0.0086
 Mars -115962-07-07 15:36 J -40633509.97 -40633509.85 -40633509.73 0.1834 0.1354
 Saturn -115962-09-12 20:24 J -40633442.69 -40633442.65 -40633442.59 0.0301 0.0291
 Saturn -115961-04-29 20:10 J -40633212.77 -40633212.66 -40633212.54 0.0302 0.0247
 Jupiter -115961-05-07 21:22 J -40633204.76 -40633204.61 -40633204.46 0.0526 0.0344
 Saturn -115961-12-15 19:41 J -40632982.83 -40632982.68 -40632982.52 0.0303 0.0196
 Saturn -115960-08-02 18:58 J -40632752.89 -40632752.71 -40632752.53 0.0303 0.0140
 Saturn -115959-03-20 17:31 J -40632522.96 -40632522.77 -40632522.57 0.0303 0.0081
 Saturn -115959-11-05 15:07 J -40632293.07 -40632292.87 -40632292.66 0.0302 0.0020
 Saturn -115958-06-23 11:31 J -40632063.22 -40632063.02 -40632062.81 0.0300 0.0040
 Saturn -115957-02-08 06:43 J -40631833.41 -40631833.22 -40631833.02 0.0298 0.0098
 Saturn -115957-09-25 00:29 J -40631603.65 -40631603.48 -40631603.30 0.0296 0.0151
 Saturn -115956-05-12 17:03 J -40631373.94 -40631373.79 -40631373.64 0.0293 0.0200
 Pluto -115956-08-17 22:19 J -40631276.75 -40631276.57 -40631276.35 0.0065 0.0032
 Saturn -115956-12-28 07:41 J -40631144.29 -40631144.18 -40631144.06 0.0291 0.0243
 Pluto -115955-03-31 03:36 J -40631051.56 -40631051.35 -40631051.11 0.0065 0.0011

Saturn -115955-08-14 20:39 J -40630914.68 -40630914.64 -40630914.58 0.0288 0.0279
 Jupiter -115955-10-29 06:58 J -40630839.40 -40630839.21 -40630839.03 0.0502 0.0243
 Pluto -115955-11-11 08:53 J -40630826.25 -40630826.13 -40630825.99 0.0065 0.0054
 Jupiter -115949-09-04 13:12 J -40628702.09 -40628701.95 -40628701.81 0.0523 0.0354
 Saturn -115947-02-24 12:15 J -40628164.04 -40628163.99 -40628163.93 0.0260 0.0249
 Saturn -115947-10-11 13:41 J -40627935.04 -40627934.93 -40627934.81 0.0259 0.0219
 Saturn -115946-05-28 14:53 J -40627706.02 -40627705.88 -40627705.72 0.0259 0.0186
 Saturn -115945-01-12 16:48 J -40627476.97 -40627476.80 -40627476.62 0.0259 0.0150
 Saturn -115945-08-28 18:58 J -40627247.90 -40627247.71 -40627247.50 0.0259 0.0113
 Saturn -115944-04-14 21:51 J -40627018.80 -40627018.59 -40627018.38 0.0259 0.0073
 Saturn -115944-11-30 00:58 J -40626789.67 -40626789.46 -40626789.24 0.0260 0.0033
 Jupiter -115943-07-04 01:27 J -40626573.65 -40626573.44 -40626573.23 0.0501 0.0010
 Saturn -115943-07-17 05:03 J -40626560.51 -40626560.29 -40626560.07 0.0261 0.0009
 Saturn -115942-03-03 09:51 J -40626331.30 -40626331.09 -40626330.87 0.0262 0.0052
 Saturn -115942-10-18 16:05 J -40626102.03 -40626101.83 -40626101.62 0.0264 0.0094
 Saturn -115941-06-03 23:03 J -40625872.72 -40625872.54 -40625872.34 0.0265 0.0137
 Saturn -115940-01-19 07:27 J -40625643.34 -40625643.19 -40625643.01 0.0267 0.0178
 Saturn -115940-09-05 17:31 J -40625413.90 -40625413.77 -40625413.64 0.0270 0.0217
 Saturn -115939-04-23 04:19 J -40625184.38 -40625184.32 -40625184.23 0.0272 0.0256
 Uranus -115939-10-08 22:05 J -40625015.70 -40625015.58 -40625015.43 0.0147 0.0118
 Uranus -115938-05-23 14:24 J -40624789.09 -40624788.90 -40624788.70 0.0147 0.0070
 Uranus -115937-01-05 06:29 J -40624562.44 -40624562.23 -40624562.00 0.0147 0.0022
 Jupiter -115937-05-10 11:46 J -40624436.20 -40624436.01 -40624435.82 0.0524 0.0086
 Uranus -115937-08-18 22:48 J -40624335.77 -40624335.55 -40624335.32 0.0147 0.0026
 Uranus -115936-04-02 14:53 J -40624109.07 -40624108.88 -40624108.68 0.0147 0.0073
 Uranus -115936-11-15 06:29 J -40623882.34 -40623882.23 -40623882.09 0.0146 0.0120
 Mars -115935-11-26 05:03 J -40623506.44 -40623506.29 -40623506.14 0.1694 0.0769
 Mars -115933-09-25 04:19 J -40622837.48 -40622837.32 -40622837.16 0.1681 0.0557
 Saturn -115932-03-25 00:00 J -40622656.55 -40622656.50 -40622656.43 0.0302 0.0288
 Saturn -115932-11-10 00:00 J -40622426.62 -40622426.50 -40622426.38 0.0303 0.0242

Jupiter -115931-03-08 20:53 J -40622307.81 -40622307.63 -40622307.45 0.0500 0.0259
 Saturn -115931-06-27 23:31 J -40622196.67 -40622196.52 -40622196.35 0.0304 0.0191
 Saturn -115930-02-12 23:03 J -40621966.72 -40621966.54 -40621966.36 0.0304 0.0134
 Mars -115930-07-07 14:53 J -40621822.06 -40621821.88 -40621821.69 0.1827 0.0248
 Saturn -115930-09-30 21:36 J -40621736.80 -40621736.60 -40621736.40 0.0303 0.0074
 Saturn -115929-05-17 19:12 J -40621506.90 -40621506.70 -40621506.50 0.0302 0.0013
 Saturn -115928-01-02 15:36 J -40621277.05 -40621276.85 -40621276.65 0.0300 0.0047
 Saturn -115928-08-20 10:48 J -40621047.24 -40621047.05 -40621046.86 0.0298 0.0105
 Saturn -115927-04-07 04:34 J -40620817.48 -40620817.31 -40620817.14 0.0296 0.0159
 Saturn -115927-11-22 20:39 J -40620587.78 -40620587.64 -40620587.49 0.0293 0.0208
 Saturn -115926-07-10 11:31 J -40620358.12 -40620358.02 -40620357.92 0.0290 0.0250
 Jupiter -115925-01-14 10:05 J -40620170.27 -40620170.08 -40620169.90 0.0525 0.0185
 Saturn -115925-02-25 00:29 J -40620128.50 -40620128.48 -40620128.46 0.0287 0.0286
 Jupiter -115919-07-07 00:00 J -40617804.62 -40617804.50 -40617804.37 0.0502 0.0403
 Saturn -115918-09-06 15:51 J -40617377.90 -40617377.84 -40617377.77 0.0260 0.0246
 Saturn -115917-04-22 17:17 J -40617148.89 -40617148.78 -40617148.65 0.0259 0.0215
 Saturn -115917-12-07 18:43 J -40616919.87 -40616919.72 -40616919.56 0.0259 0.0182
 Saturn -115916-07-24 20:24 J -40616690.82 -40616690.65 -40616690.46 0.0259 0.0146
 Saturn -115915-03-10 22:34 J -40616461.75 -40616461.56 -40616461.35 0.0259 0.0108
 Saturn -115915-10-26 01:27 J -40616232.65 -40616232.44 -40616232.23 0.0259 0.0068
 Saturn -115914-06-12 04:34 J -40616003.52 -40616003.31 -40616003.08 0.0260 0.0029
 Jupiter -115914-09-19 07:27 J -40615904.28 -40615904.19 -40615904.09 0.0526 0.0458
 Saturn -115913-01-27 08:53 J -40615774.35 -40615774.13 -40615773.91 0.0261 0.0015
 Jupiter -115913-05-12 23:17 J -40615667.57 -40615667.53 -40615667.48 0.0523 0.0505
 Saturn -115913-09-12 13:55 J -40615545.14 -40615544.92 -40615544.71 0.0263 0.0057
 Saturn -115912-04-29 19:55 J -40615315.87 -40615315.67 -40615315.46 0.0264 0.0099
 Saturn -115912-12-15 03:07 J -40615086.55 -40615086.37 -40615086.18 0.0266 0.0141
 Saturn -115911-08-01 11:31 J -40614857.17 -40614857.02 -40614856.86 0.0268 0.0183
 Saturn -115910-03-18 21:22 J -40614627.73 -40614627.61 -40614627.48 0.0270 0.0222
 Saturn -115910-11-03 08:53 J -40614398.19 -40614398.13 -40614398.06 0.0273 0.0260

Jupiter -115907-03-11 18:00 J -40613538.95 -40613538.75 -40613538.55 0.0501 0.0148
 Saturn -115903-10-05 06:00 J -40611870.31 -40611870.25 -40611870.18 0.0302 0.0284
 Mars -115903-11-25 00:15 J -40611819.58 -40611819.49 -40611819.40 0.1700 0.1423
 Saturn -115902-05-23 05:46 J -40611640.38 -40611640.26 -40611640.13 0.0303 0.0237
 Saturn -115901-01-08 05:17 J -40611410.43 -40611410.28 -40611410.11 0.0303 0.0185
 Jupiter -115901-01-16 23:46 J -40611401.68 -40611401.51 -40611401.33 0.0524 0.0246
 Saturn -115901-08-25 04:34 J -40611180.49 -40611180.31 -40611180.12 0.0303 0.0127
 Mars -115901-09-23 22:05 J -40611150.75 -40611150.58 -40611150.41 0.1687 0.0065
 Moon -115900-01-13 07:55 J -40611039.30 -40611039.17 -40611039.03 0.2600 0.1345
 Earth -115900-01-13 10:48 J -40611039.17 -40611039.05 -40611038.92 0.2594 0.1665 *
 Saturn -115900-04-12 03:07 J -40610950.56 -40610950.37 -40610950.17 0.0303 0.0067
 Saturn -115900-11-28 00:43 J -40610720.67 -40610720.47 -40610720.26 0.0302 0.0007
 Saturn -115899-07-15 21:07 J -40610490.82 -40610490.62 -40610490.42 0.0300 0.0055
 Mars -115899-07-24 23:31 J -40610481.63 -40610481.52 -40610481.40 0.1675 0.1219
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 Neptune -115898-06-15 04:19 J -40610156.39 -40610156.32 -40610156.25 0.0089 0.0084
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Neptune -115894-02-27 20:24 J -40608802.83 -40608802.65 -40608802.44 0.0089 0.0047
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 Neptune -115888-05-02 22:48 J -40606546.77 -40606546.55 -40606546.32 0.0089 0.0017
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 Neptune -115888-12-14 13:12 J -40606321.17 -40606320.95 -40606320.73 0.0089 0.0023
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 Neptune -115886-03-10 17:46 J -40605869.95 -40605869.76 -40605869.54 0.0089 0.0036
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 Neptune -115885-06-03 22:34 J -40605418.73 -40605418.56 -40605418.35 0.0089 0.0049

Saturn -115885-12-22 07:41 J -40605217.40 -40605217.18 -40605216.96 0.0260 0.0022
 Neptune -115884-01-15 12:58 J -40605193.12 -40605192.96 -40605192.76 0.0089 0.0055
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 Neptune -115883-11-23 08:10 J -40604516.27 -40604516.16 -40604516.02 0.0089 0.0073
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 Neptune -115882-07-06 22:34 J -40604290.65 -40604290.56 -40604290.45 0.0089 0.0079
 Saturn -115881-02-11 14:10 J -40604071.05 -40604070.91 -40604070.75 0.0268 0.0189
 Neptune -115881-02-17 12:43 J -40604065.02 -40604064.97 -40604064.89 0.0089 0.0085
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 Saturn -115880-05-15 11:17 J -40603612.06 -40603612.03 -40603611.98 0.0273 0.0266
 Jupiter -115878-05-27 22:34 J -40602869.72 -40602869.56 -40602869.39 0.0525 0.0290
 Saturn -115873-04-16 07:55 J -40601084.24 -40601084.17 -40601084.09 0.0302 0.0280
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 Pluto -115868-04-17 04:48 J -40599257.48 -40599257.30 -40599257.10 0.0080 0.0038
 Saturn -115868-04-29 12:00 J -40599245.16 -40599245.00 -40599244.83 0.0296 0.0173
 Pluto -115868-11-28 13:27 J -40599032.11 -40599031.94 -40599031.73 0.0079 0.0036
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Mars -115867-07-23 16:19 J -40598794.97 -40598794.82 -40598794.66 0.1680 0.0621
 Saturn -115867-08-01 18:29 J -40598785.81 -40598785.73 -40598785.63 0.0290 0.0262
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 Mars -115864-05-03 18:15 J -40597779.92 -40597779.74 -40597779.56 0.1830 0.0415
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 Jupiter -115854-05-30 11:17 J -40594101.22 -40594101.03 -40594100.84 0.0524 0.0138
 Uranus -115854-09-04 09:07 J -40594004.33 -40594004.12 -40594003.90 0.0147 0.0047
 Saturn -115854-10-05 19:27 J -40593972.90 -40593972.69 -40593972.48 0.0263 0.0068
 Uranus -115853-04-18 01:27 J -40593777.67 -40593777.44 -40593777.22 0.0147 0.0002
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 Saturn -115852-08-23 16:48 J -40593284.94 -40593284.80 -40593284.64 0.0268 0.0194
 Uranus -115851-02-27 01:12 J -40593097.49 -40593097.45 -40593097.39 0.0146 0.0143
 Saturn -115851-04-10 02:39 J -40593055.49 -40593055.39 -40593055.27 0.0271 0.0234
 Saturn -115851-11-25 14:24 J -40592825.93 -40592825.90 -40592825.87 0.0273 0.0270
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 Jupiter -115842-02-02 11:31 J -40589835.21 -40589835.02 -40589834.83 0.0525 0.0128
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 Mars -115837-09-21 11:46 J -40587777.10 -40587777.01 -40587776.91 0.1698 0.1360
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Saturn -115822-03-05 18:58 J -40582498.84 -40582498.71 -40582498.56 0.0268 0.0201
 Saturn -115822-10-21 05:03 J -40582269.38 -40582269.29 -40582269.19 0.0270 0.0240
 Jupiter -115818-02-05 02:10 J -40581066.56 -40581066.41 -40581066.24 0.0523 0.0307
 Neptune -115817-12-17 02:39 J -40580385.41 -40580385.39 -40580385.32 0.0088 0.0087
 Neptune -115816-07-30 14:24 J -40580159.97 -40580159.90 -40580159.80 0.0088 0.0081
 Neptune -115815-03-13 01:41 J -40579934.52 -40579934.43 -40579934.30 0.0088 0.0075
 Neptune -115815-10-24 13:12 J -40579709.06 -40579708.95 -40579708.80 0.0088 0.0070
 Saturn -115814-05-09 12:58 J -40579512.04 -40579511.96 -40579511.87 0.0303 0.0274
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 Saturn -115813-08-11 12:43 J -40579052.14 -40579051.97 -40579051.80 0.0304 0.0169
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 Uranus -115812-10-25 13:12 J -40578612.07 -40578611.95 -40578611.82 0.0131 0.0107
 Saturn -115812-11-14 10:34 J -40578592.26 -40578592.06 -40578591.86 0.0303 0.0048
 Neptune -115812-11-24 22:19 J -40578581.74 -40578581.57 -40578581.36 0.0088 0.0042
 Uranus -115811-06-08 15:07 J -40578386.03 -40578385.87 -40578385.68 0.0131 0.0076
 Saturn -115811-07-02 08:10 J -40578362.37 -40578362.16 -40578361.96 0.0302 0.0015
 Neptune -115811-07-08 09:51 J -40578356.27 -40578356.09 -40578355.88 0.0088 0.0036
 Uranus -115810-01-20 17:31 J -40578159.96 -40578159.77 -40578159.56 0.0132 0.0044
 Saturn -115810-02-17 04:34 J -40578132.51 -40578132.31 -40578132.12 0.0300 0.0076
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 Uranus -115810-09-03 19:55 J -40577933.88 -40577933.67 -40577933.46 0.0132 0.0011
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 Uranus -115809-04-16 22:19 J -40577707.78 -40577707.57 -40577707.36 0.0132 0.0021
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Saturn -115809-05-21 17:17 J -40577672.94 -40577672.78 -40577672.62 0.0296 0.0186
 Uranus -115809-11-29 00:43 J -40577481.67 -40577481.47 -40577481.28 0.0132 0.0053
 Neptune -115809-12-26 08:10 J -40577454.37 -40577454.16 -40577453.95 0.0088 0.0012
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 Uranus -115807-02-24 05:17 J -40577029.36 -40577029.28 -40577029.18 0.0132 0.0118
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 Jupiter -115807-10-11 01:27 J -40576800.64 -40576800.44 -40576800.24 0.0524 0.0037
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 Neptune -115806-06-16 06:29 J -40576552.44 -40576552.23 -40576552.01 0.0089 0.0012
 Neptune -115805-01-27 18:00 J -40576326.95 -40576326.75 -40576326.53 0.0089 0.0018
 Neptune -115805-09-09 05:31 J -40576101.46 -40576101.27 -40576101.05 0.0089 0.0024
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 Neptune -115802-10-11 16:05 J -40574973.99 -40574973.83 -40574973.65 0.0089 0.0053
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 Neptune -115565-11-26 22:05 J -40488362.78 -40488362.58 -40488362.35 0.0089 0.0032
 Saturn -115564-06-03 13:12 J -40488174.01 -40488173.95 -40488173.87 0.0260 0.0247
 Neptune -115564-07-10 12:58 J -40488137.17 -40488136.96 -40488136.74 0.0089 0.0025
 Saturn -115563-01-18 15:22 J -40487944.99 -40487944.86 -40487944.74 0.0259 0.0211
 Jupiter -115563-01-30 20:39 J -40487932.84 -40487932.64 -40487932.43 0.0501 0.0122
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 Neptune -115563-10-04 18:29 J -40487685.95 -40487685.73 -40487685.50 0.0089 0.0012
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 Moon -115488-07-07 03:36 J -40460381.50 -40460381.35 -40460381.20 0.2749 0.0777 *
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 Neptune -115487-09-16 04:19 J -40459945.43 -40459945.32 -40459945.19 0.0088 0.0073
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Saturn -115166-10-11 22:19 J -40342674.67 -40342674.57 -40342674.48 0.0301 0.0266
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 Earth -115163-01-12 04:34 J -40341851.46 -40341851.31 -40341851.16 0.2583 0.1060 *
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 Neptune -115156-09-09 05:46 J -40339054.43 -40339054.26 -40339054.08 0.0088 0.0047
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 Neptune -115154-07-17 16:05 J -40338378.02 -40338377.83 -40338377.62 0.0088 0.0030
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 Neptune -115152-05-24 02:53 J -40337701.59 -40337701.38 -40337701.17 0.0088 0.0012
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 Saturn -115092-12-02 00:00 J -40315594.66 -40315594.50 -40315594.34 0.0259 0.0175
 Saturn -115091-07-19 02:10 J -40315365.59 -40315365.41 -40315365.21 0.0259 0.0131
 Saturn -115090-03-05 04:48 J -40315136.50 -40315136.30 -40315136.09 0.0259 0.0085
 Saturn -115090-10-20 07:55 J -40314907.39 -40314907.17 -40314906.95 0.0259 0.0037
 Jupiter -115089-05-22 07:26 J -40314692.40 -40314692.19 -40314691.97 0.0500 0.0034
 Saturn -115089-06-05 11:31 J -40314678.24 -40314678.02 -40314677.80 0.0260 0.0012
 Saturn -115088-01-20 15:36 J -40314449.06 -40314448.85 -40314448.63 0.0261 0.0061
 Saturn -115088-09-06 20:38 J -40314219.84 -40314219.64 -40314219.44 0.0262 0.0110
 Saturn -115087-04-24 02:38 J -40313990.56 -40313990.39 -40313990.21 0.0264 0.0159
 Saturn -115087-12-09 09:36 J -40313761.23 -40313761.10 -40313760.96 0.0265 0.0206
 Saturn -115086-07-26 17:31 J -40313531.83 -40313531.77 -40313531.69 0.0267 0.0252
 Jupiter -115083-03-30 03:36 J -40312554.55 -40312554.35 -40312554.15 0.0526 0.0058
 Mars -115081-10-16 14:38 J -40311623.00 -40311622.89 -40311622.78 0.1683 0.1287
 Mars -115079-08-16 16:34 J -40310953.98 -40310953.81 -40310953.64 0.1672 0.0066
 Saturn -115078-09-28 22:34 J -40310545.56 -40310545.56 -40310545.55 0.0301 0.0301
 Jupiter -115077-01-26 03:07 J -40310426.53 -40310426.37 -40310426.19 0.0499 0.0289
 Neptune -115077-02-11 17:46 J -40310409.82 -40310409.76 -40310409.66 0.0089 0.0083
 Saturn -115077-05-15 21:36 J -40310315.71 -40310315.60 -40310315.47 0.0302 0.0243
 Mars -115077-06-15 21:07 J -40310284.71 -40310284.62 -40310284.52 0.1663 0.1350
 Neptune -115077-09-24 08:38 J -40310184.23 -40310184.14 -40310184.01 0.0089 0.0077
 Saturn -115077-12-31 20:38 J -40310085.80 -40310085.64 -40310085.47 0.0303 0.0179
 Neptune -115076-05-07 23:17 J -40309958.64 -40309958.53 -40309958.36 0.0089 0.0071
 Mars -115076-05-26 04:19 J -40309940.50 -40309940.32 -40309940.14 0.1841 0.0082
 Saturn -115076-08-18 19:26 J -40309855.88 -40309855.69 -40309855.50 0.0303 0.0110
 Neptune -115076-12-19 14:38 J -40309733.04 -40309732.89 -40309732.73 0.0089 0.0064
 Saturn -115075-04-05 17:46 J -40309625.96 -40309625.76 -40309625.55 0.0303 0.0039
 Neptune -115075-08-02 05:02 J -40309507.45 -40309507.29 -40309507.10 0.0089 0.0058
 Saturn -115075-11-21 15:22 J -40309396.07 -40309395.86 -40309395.66 0.0302 0.0034
 Neptune -115074-03-15 19:41 J -40309281.85 -40309281.68 -40309281.48 0.0089 0.0052

Saturn -115074-07-09 11:31 J -40309166.20 -40309166.02 -40309165.82 0.0300 0.0104
 Neptune -115074-10-27 10:34 J -40309056.24 -40309056.06 -40309055.85 0.0089 0.0046
 Saturn -115073-02-24 06:58 J -40308936.37 -40308936.21 -40308936.04 0.0298 0.0169
 Neptune -115073-06-09 01:41 J -40308830.63 -40308830.43 -40308830.22 0.0089 0.0039
 Saturn -115073-10-11 01:12 J -40308706.58 -40308706.45 -40308706.32 0.0296 0.0229
 Neptune -115072-01-20 16:05 J -40308605.03 -40308604.83 -40308604.61 0.0089 0.0033
 Saturn -115072-05-28 18:00 J -40308476.80 -40308476.75 -40308476.70 0.0294 0.0283
 Neptune -115072-09-03 06:43 J -40308379.42 -40308379.22 -40308378.99 0.0089 0.0027
 Jupiter -115072-12-03 00:43 J -40308288.64 -40308288.47 -40308288.29 0.0527 0.0229
 Neptune -115071-04-16 21:36 J -40308153.82 -40308153.60 -40308153.37 0.0089 0.0020
 Neptune -115071-11-28 12:14 J -40307928.21 -40307927.99 -40307927.76 0.0089 0.0014
 Neptune -115070-07-12 02:53 J -40307702.61 -40307702.38 -40307702.15 0.0089 0.0008
 Neptune -115069-02-22 17:31 J -40307477.00 -40307476.77 -40307476.54 0.0089 0.0001
 Neptune -115069-10-05 08:10 J -40307251.38 -40307251.16 -40307250.93 0.0089 0.0006
 Neptune -115068-05-18 22:48 J -40307025.77 -40307025.55 -40307025.32 0.0089 0.0012
 Neptune -115068-12-30 13:26 J -40306800.16 -40306799.94 -40306799.72 0.0089 0.0018
 Neptune -115067-08-13 03:36 J -40306574.55 -40306574.35 -40306574.12 0.0089 0.0025
 Neptune -115066-03-26 18:14 J -40306348.94 -40306348.74 -40306348.51 0.0089 0.0031
 Neptune -115066-11-07 09:07 J -40306123.32 -40306123.12 -40306122.91 0.0089 0.0037
 Jupiter -115065-05-25 04:05 J -40305923.46 -40305923.33 -40305923.19 0.0501 0.0390
 Neptune -115065-06-19 23:17 J -40305897.71 -40305897.53 -40305897.31 0.0089 0.0044
 Neptune -115064-01-31 13:55 J -40305672.09 -40305671.92 -40305671.71 0.0089 0.0050
 Neptune -115064-09-14 04:34 J -40305446.47 -40305446.31 -40305446.12 0.0089 0.0056
 Saturn -115063-03-13 01:12 J -40305266.50 -40305266.45 -40305266.40 0.0261 0.0253
 Neptune -115063-04-27 19:12 J -40305220.85 -40305220.70 -40305220.53 0.0089 0.0062
 Saturn -115063-10-28 03:07 J -40305037.48 -40305037.37 -40305037.24 0.0260 0.0213
 Neptune -115063-12-09 09:50 J -40304995.23 -40304995.09 -40304994.94 0.0089 0.0068
 Saturn -115062-06-14 05:17 J -40304808.44 -40304808.28 -40304808.11 0.0260 0.0170
 Neptune -115062-07-23 00:14 J -40304769.61 -40304769.49 -40304769.36 0.0089 0.0074
 Saturn -115061-01-29 07:41 J -40304579.37 -40304579.18 -40304578.98 0.0259 0.0125

Neptune -115061-03-04 14:38 J -40304543.98 -40304543.89 -40304543.79 0.0089 0.0080
 Saturn -115061-09-14 10:34 J -40304350.27 -40304350.06 -40304349.85 0.0259 0.0078
 Neptune -115061-10-16 05:17 J -40304318.33 -40304318.28 -40304318.23 0.0089 0.0086
 Saturn -115060-05-01 13:26 J -40304121.15 -40304120.94 -40304120.72 0.0260 0.0031
 Jupiter -115060-08-07 20:53 J -40304022.67 -40304022.63 -40304022.60 0.0528 0.0517
 Saturn -115060-12-16 17:02 J -40303892.01 -40303891.79 -40303891.57 0.0261 0.0019
 Jupiter -115059-04-01 15:22 J -40303785.91 -40303785.86 -40303785.79 0.0524 0.0496
 Saturn -115059-08-02 21:07 J -40303662.83 -40303662.62 -40303662.40 0.0262 0.0068
 Saturn -115058-03-20 02:10 J -40303433.60 -40303433.41 -40303433.21 0.0263 0.0117
 Saturn -115058-11-04 08:24 J -40303204.32 -40303204.15 -40303203.98 0.0264 0.0166
 Saturn -115057-06-20 15:22 J -40302974.98 -40302974.86 -40302974.72 0.0266 0.0213
 Saturn -115056-02-04 23:46 J -40302745.56 -40302745.51 -40302745.45 0.0268 0.0258
 Uranus -115056-11-22 00:00 J -40302455.62 -40302455.50 -40302455.35 0.0131 0.0100
 Uranus -115055-07-06 02:38 J -40302229.57 -40302229.39 -40302229.21 0.0132 0.0067
 Uranus -115054-02-17 05:02 J -40302003.49 -40302003.29 -40302003.08 0.0132 0.0034
 Uranus -115054-10-01 07:26 J -40301777.40 -40301777.19 -40301776.98 0.0132 0.0000
 Jupiter -115053-01-28 22:19 J -40301657.77 -40301657.57 -40301657.36 0.0500 0.0127
 Uranus -115053-05-14 09:36 J -40301551.30 -40301551.10 -40301550.89 0.0132 0.0033
 Uranus -115053-12-26 12:14 J -40301325.18 -40301324.99 -40301324.81 0.0132 0.0067
 Uranus -115052-08-09 14:10 J -40301099.03 -40301098.91 -40301098.75 0.0132 0.0101
 Saturn -115048-04-10 06:43 J -40299759.25 -40299759.22 -40299759.17 0.0301 0.0294
 Saturn -115048-11-26 05:46 J -40299529.38 -40299529.26 -40299529.13 0.0302 0.0235
 Jupiter -115048-12-05 14:53 J -40299520.05 -40299519.88 -40299519.70 0.0525 0.0221
 Saturn -115047-07-14 04:48 J -40299299.46 -40299299.30 -40299299.13 0.0303 0.0170
 Mars -115047-08-15 09:22 J -40299267.27 -40299267.11 -40299266.96 0.1676 0.0573
 Saturn -115046-03-01 03:36 J -40299069.54 -40299069.35 -40299069.15 0.0303 0.0100
 Saturn -115046-10-17 01:55 J -40298839.63 -40298839.42 -40298839.22 0.0302 0.0028
 Saturn -115045-06-02 23:17 J -40298609.73 -40298609.53 -40298609.33 0.0301 0.0044
 Mars -115045-06-14 12:58 J -40298598.11 -40298597.96 -40298597.81 0.1666 0.0746
 Saturn -115044-01-18 19:41 J -40298379.87 -40298379.68 -40298379.49 0.0300 0.0114

Mars -115044-05-26 04:34 J -40298252.46 -40298252.31 -40298252.17 0.1834 0.1088
 Saturn -115044-09-05 14:53 J -40298150.04 -40298149.88 -40298149.71 0.0298 0.0179
 Saturn -115043-04-23 08:53 J -40297920.24 -40297920.13 -40297920.00 0.0296 0.0239
 Saturn -115043-12-09 01:41 J -40297690.45 -40297690.43 -40297690.41 0.0293 0.0291
 Mars -115042-03-23 04:19 J -40297586.42 -40297586.32 -40297586.21 0.1848 0.1498
 Jupiter -115042-10-03 15:22 J -40297392.06 -40297391.86 -40297391.66 0.0499 0.0142
 Jupiter -115036-08-10 14:24 J -40295254.09 -40295253.90 -40295253.70 0.0526 0.0058
 Saturn -115034-09-23 05:31 J -40294480.32 -40294480.27 -40294480.19 0.0260 0.0249
 Saturn -115033-05-09 07:55 J -40294251.30 -40294251.17 -40294251.04 0.0260 0.0207
 Saturn -115033-12-24 09:50 J -40294022.26 -40294022.09 -40294021.92 0.0259 0.0164
 Saturn -115032-08-10 12:00 J -40293793.19 -40293793.00 -40293792.80 0.0259 0.0118
 Saturn -115031-03-27 14:24 J -40293564.11 -40293563.90 -40293563.68 0.0259 0.0071
 Saturn -115031-11-11 17:31 J -40293334.99 -40293334.77 -40293334.55 0.0259 0.0023
 Jupiter -115030-06-08 11:02 J -40293126.16 -40293126.04 -40293125.91 0.0499 0.0399
 Saturn -115030-06-28 20:53 J -40293105.85 -40293105.63 -40293105.41 0.0260 0.0027
 Saturn -115029-02-13 00:58 J -40292876.66 -40292876.46 -40292876.24 0.0261 0.0076
 Saturn -115029-09-29 06:14 J -40292647.43 -40292647.24 -40292647.05 0.0262 0.0125
 Saturn -115028-05-16 12:00 J -40292418.15 -40292418.00 -40292417.83 0.0264 0.0174
 Saturn -115028-12-31 18:58 J -40292188.82 -40292188.71 -40292188.58 0.0266 0.0221
 Saturn -115027-08-18 03:07 J -40291959.38 -40291959.37 -40291959.34 0.0268 0.0267
 Jupiter -115024-04-15 11:31 J -40290988.16 -40290988.02 -40290987.86 0.0527 0.0344
 Saturn -115019-10-21 11:02 J -40288973.10 -40288973.04 -40288972.98 0.0302 0.0289
 Saturn -115018-06-08 10:05 J -40288743.21 -40288743.08 -40288742.94 0.0303 0.0229
 Jupiter -115018-10-06 12:00 J -40288623.17 -40288623.00 -40288622.82 0.0501 0.0280
 Saturn -115017-01-24 09:22 J -40288513.28 -40288513.11 -40288512.94 0.0303 0.0162
 Saturn -115017-09-10 07:55 J -40288283.36 -40288283.17 -40288282.97 0.0303 0.0093
 Saturn -115016-04-28 06:29 J -40288053.44 -40288053.23 -40288053.03 0.0303 0.0019
 Saturn -115016-12-14 03:50 J -40287823.54 -40287823.34 -40287823.14 0.0302 0.0053
 Saturn -115015-08-01 00:00 J -40287593.68 -40287593.50 -40287593.31 0.0300 0.0123
 Mars -115015-08-14 02:38 J -40287580.50 -40287580.39 -40287580.28 0.1681 0.1221

Uranus -115015-10-16 19:26 J -40287516.81 -40287516.69 -40287516.55 0.0147 0.0121
 Saturn -115014-03-18 19:12 J -40287363.85 -40287363.70 -40287363.54 0.0298 0.0188
 Uranus -115014-05-31 11:17 J -40287290.22 -40287290.03 -40287289.82 0.0147 0.0071
 Saturn -115014-11-03 13:12 J -40287134.06 -40287133.95 -40287133.84 0.0296 0.0247
 Uranus -115013-01-13 03:22 J -40287063.58 -40287063.36 -40287063.14 0.0147 0.0021
 Mars -115013-06-13 04:48 J -40286911.47 -40286911.30 -40286911.14 0.1670 0.0131
 Uranus -115013-08-26 19:12 J -40286836.91 -40286836.70 -40286836.47 0.0147 0.0029
 Uranus -115012-04-10 11:02 J -40286610.22 -40286610.04 -40286609.84 0.0147 0.0078
 Jupiter -115012-08-13 03:07 J -40286485.50 -40286485.37 -40286485.24 0.0524 0.0385
 Uranus -115012-11-23 02:53 J -40286383.48 -40286383.38 -40286383.26 0.0146 0.0127
 Mars -115011-04-13 09:50 J -40286242.18 -40286242.09 -40286242.01 0.1661 0.1411
 Mars -115010-03-23 06:29 J -40285898.41 -40285898.23 -40285898.05 0.1843 0.0281
 Jupiter -115006-06-11 07:26 J -40284357.40 -40284357.19 -40284356.98 0.0500 0.0020
 Saturn -115004-04-04 09:50 J -40283694.16 -40283694.09 -40283694.01 0.0260 0.0243
 Saturn -115004-11-19 11:46 J -40283465.14 -40283465.01 -40283464.86 0.0260 0.0202
 Saturn -115003-07-06 13:41 J -40283236.09 -40283235.93 -40283235.74 0.0259 0.0158
 Saturn -115002-02-20 16:05 J -40283007.02 -40283006.83 -40283006.63 0.0259 0.0112
 Earth -115002-07-08 01:55 J -40282869.57 -40282869.42 -40282869.27 0.2759 0.0227
 Moon -115002-07-08 05:46 J -40282869.42 -40282869.26 -40282869.10 0.2754 0.0292 *
 Saturn -115002-10-07 18:43 J -40282777.93 -40282777.72 -40282777.50 0.0259 0.0065
 Saturn -115001-05-23 21:50 J -40282548.81 -40282548.59 -40282548.37 0.0260 0.0016

115TH MILLENNIUM BCE

This is a list of transits of Venus in the 115th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-115000-01-08 01:12 J	-40282319.66	-40282319.45	-40282319.23	0.0261	0.0033		
Jupiter	-115000-04-18 00:58 J	-40282219.66	-40282219.46	-40282219.27	0.0526	0.0103		
Saturn	-115000-08-25 05:31 J	-40282090.48	-40282090.27	-40282090.06	0.0262	0.0082		
Saturn	-114999-04-11 10:19 J	-40281861.25	-40281861.07	-40281860.87	0.0263	0.0132		
Saturn	-114999-11-26 16:34 J	-40281631.96	-40281631.81	-40281631.64	0.0264	0.0180		
Saturn	-114998-07-13 23:46 J	-40281402.62	-40281402.51	-40281402.39	0.0266	0.0227		
Neptune	-114996-08-16 11:17 J	-40280638.07	-40280638.03	-40280637.95	0.0088	0.0085		
Neptune	-114995-03-29 23:02 J	-40280412.63	-40280412.54	-40280412.44	0.0088	0.0079		
Neptune	-114995-11-10 10:05 J	-40280187.17	-40280187.08	-40280186.94	0.0088	0.0074		
Jupiter	-114994-02-14 02:53 J	-40280091.57	-40280091.38	-40280091.20	0.0499	0.0240		
Neptune	-114994-06-23 21:50 J	-40279961.72	-40279961.59	-40279961.45	0.0088	0.0068		
Neptune	-114993-02-04 08:53 J	-40279736.26	-40279736.13	-40279735.96	0.0088	0.0063		
Neptune	-114993-09-16 20:24 J	-40279510.80	-40279510.65	-40279510.47	0.0088	0.0057		
Neptune	-114992-04-30 07:41 J	-40279285.33	-40279285.18	-40279284.98	0.0088	0.0052		
Neptune	-114992-12-11 19:12 J	-40279059.86	-40279059.70	-40279059.50	0.0088	0.0046		
Neptune	-114991-07-25 06:43 J	-40278834.40	-40278834.22	-40278834.02	0.0088	0.0040		
Neptune	-114990-03-07 18:14 J	-40278608.93	-40278608.74	-40278608.53	0.0088	0.0034		
Neptune	-114990-10-19 05:31 J	-40278383.45	-40278383.27	-40278383.05	0.0088	0.0029		
Saturn	-114989-05-02 17:17 J	-40278186.84	-40278186.78	-40278186.70	0.0301	0.0283		
Neptune	-114989-05-31 17:17 J	-40278157.98	-40278157.78	-40278157.57	0.0088	0.0022		
Saturn	-114989-12-18 16:34 J	-40277956.94	-40277956.81	-40277956.67	0.0302	0.0221		
Jupiter	-114989-12-21 23:46 J	-40277953.69	-40277953.51	-40277953.32	0.0527	0.0178		
Neptune	-114988-01-12 04:48 J	-40277932.50	-40277932.30	-40277932.09	0.0088	0.0016		
Saturn	-114988-08-05 15:36 J	-40277727.02	-40277726.85	-40277726.67	0.0303	0.0153		
Neptune	-114988-08-25 16:19 J	-40277707.03	-40277706.82	-40277706.61	0.0088	0.0010		
Saturn	-114987-03-23 14:24 J	-40277497.09	-40277496.90	-40277496.70	0.0303	0.0082		

Neptune -114987-04-08 04:05 J -40277481.54 -40277481.33 -40277481.12 0.0088 0.0005
 Saturn -114987-11-08 12:43 J -40277267.18 -40277266.97 -40277266.77 0.0302 0.0011
 Neptune -114987-11-19 15:36 J -40277256.06 -40277255.85 -40277255.64 0.0088 0.0002
 Saturn -114986-06-26 09:50 J -40277037.29 -40277037.09 -40277036.89 0.0301 0.0063
 Neptune -114986-07-03 02:53 J -40277030.59 -40277030.38 -40277030.16 0.0088 0.0008
 Saturn -114985-02-11 06:00 J -40276807.42 -40276807.25 -40276807.06 0.0300 0.0133
 Neptune -114985-02-13 14:24 J -40276805.10 -40276804.90 -40276804.68 0.0088 0.0013
 Neptune -114985-09-26 02:10 J -40276579.62 -40276579.41 -40276579.20 0.0088 0.0019
 Saturn -114985-09-28 01:26 J -40276577.59 -40276577.44 -40276577.29 0.0298 0.0197
 Neptune -114984-05-09 13:41 J -40276354.13 -40276353.93 -40276353.72 0.0088 0.0025
 Saturn -114984-05-15 19:12 J -40276347.79 -40276347.70 -40276347.59 0.0296 0.0256
 Neptune -114984-12-21 01:12 J -40276128.64 -40276128.45 -40276128.24 0.0088 0.0031
 Neptune -114983-08-03 12:29 J -40275903.16 -40275902.98 -40275902.77 0.0089 0.0037
 Neptune -114982-03-17 00:00 J -40275677.67 -40275677.50 -40275677.30 0.0089 0.0043
 Jupiter -114982-06-14 00:43 J -40275588.57 -40275588.47 -40275588.36 0.0501 0.0432
 Neptune -114982-10-28 11:46 J -40275452.18 -40275452.01 -40275451.82 0.0089 0.0048
 Neptune -114981-06-09 23:31 J -40275226.68 -40275226.52 -40275226.34 0.0089 0.0054
 Mars -114981-06-11 21:36 J -40275224.76 -40275224.60 -40275224.44 0.1675 0.0512
 Neptune -114980-01-21 10:48 J -40275001.19 -40275001.05 -40275000.87 0.0089 0.0060
 Neptune -114980-09-03 22:48 J -40274775.69 -40274775.55 -40274775.40 0.0089 0.0065
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Moon -114928-01-14 16:05 J -40256014.89 -40256014.83 -40256014.77 0.2590 0.2379
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 Saturn -114767-10-04 06:58 J -40196947.40 -40196947.21 -40196947.01 0.0259 0.0115
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Saturn -114674-02-11 10:19 J -40163214.19 -40163214.07 -40163213.93 0.0263 0.0209
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 Jupiter -114473-10-18 00:58 J -40089549.55 -40089549.46 -40089549.35 0.0498 0.0435
 Saturn -114473-10-23 06:00 J -40089544.42 -40089544.25 -40089544.07 0.0260 0.0159
 Saturn -114472-06-09 08:53 J -40089315.33 -40089315.13 -40089314.93 0.0260 0.0107
 Saturn -114471-01-24 11:46 J -40089086.22 -40089086.01 -40089085.79 0.0260 0.0054
 Saturn -114471-09-10 15:07 J -40088857.09 -40088856.87 -40088856.65 0.0260 0.0001
 Saturn -114470-04-27 18:43 J -40088627.93 -40088627.72 -40088627.50 0.0260 0.0054
 Saturn -114470-12-12 22:34 J -40088398.75 -40088398.56 -40088398.35 0.0261 0.0109
 Saturn -114469-07-29 03:22 J -40088169.52 -40088169.36 -40088169.18 0.0262 0.0162
 Saturn -114468-03-15 08:53 J -40087940.25 -40087940.13 -40087940.00 0.0263 0.0214
 Uranus -114468-05-26 09:50 J -40087868.14 -40087868.09 -40087868.00 0.0131 0.0124
 Saturn -114468-10-30 15:36 J -40087710.86 -40087710.85 -40087710.84 0.0265 0.0264
 Uranus -114467-01-07 12:29 J -40087642.12 -40087641.98 -40087641.81 0.0131 0.0089
 Uranus -114467-08-21 14:53 J -40087416.06 -40087415.88 -40087415.67 0.0131 0.0056
 Jupiter -114467-08-26 05:31 J -40087411.40 -40087411.27 -40087411.14 0.0528 0.0394
 Uranus -114466-04-04 17:46 J -40087189.97 -40087189.76 -40087189.55 0.0132 0.0021
 Uranus -114466-11-16 20:10 J -40086963.87 -40086963.66 -40086963.45 0.0132 0.0014
 Pluto -114465-04-01 07:55 J -40086827.36 -40086827.17 -40086826.94 0.0064 0.0028
 Uranus -114465-06-29 22:34 J -40086737.75 -40086737.56 -40086737.36 0.0132 0.0048
 Pluto -114465-11-12 13:26 J -40086602.16 -40086601.94 -40086601.71 0.0065 0.0015
 Uranus -114464-02-11 00:58 J -40086511.61 -40086511.46 -40086511.28 0.0132 0.0083
 Pluto -114464-06-25 18:29 J -40086376.83 -40086376.73 -40086376.62 0.0065 0.0057
 Uranus -114464-09-25 03:22 J -40086285.44 -40086285.36 -40086285.25 0.0132 0.0117
 Jupiter -114460-02-14 23:31 J -40085046.70 -40085046.52 -40085046.34 0.0500 0.0250
 Saturn -114458-04-06 07:26 J -40084266.30 -40084266.19 -40084266.06 0.0301 0.0243
 Saturn -114458-11-22 06:00 J -40084036.41 -40084036.25 -40084036.08 0.0302 0.0169
 Saturn -114457-07-09 04:19 J -40083806.51 -40083806.32 -40083806.12 0.0302 0.0091
 Saturn -114456-02-24 02:24 J -40083576.60 -40083576.40 -40083576.19 0.0302 0.0013

Mars -114456-03-18 20:10 J -40083553.76 -40083553.66 -40083553.56 0.1673 0.1357
 Saturn -114456-10-12 00:00 J -40083346.70 -40083346.50 -40083346.30 0.0302 0.0069
 Saturn -114455-05-29 20:53 J -40083116.81 -40083116.63 -40083116.45 0.0300 0.0147
 Jupiter -114455-12-23 23:17 J -40082908.67 -40082908.53 -40082908.39 0.0526 0.0361
 Saturn -114454-01-14 16:34 J -40082886.94 -40082886.81 -40082886.67 0.0299 0.0219
 Mars -114454-01-17 00:14 J -40082884.65 -40082884.49 -40082884.32 0.1663 0.0043
 Saturn -114454-09-01 11:17 J -40082657.08 -40082657.03 -40082656.97 0.0297 0.0284
 Mars -114453-11-16 06:43 J -40082215.32 -40082215.22 -40082215.12 0.1656 0.1307
 Mars -114452-10-24 03:22 J -40081873.53 -40081873.36 -40081873.19 0.1852 0.0660
 Jupiter -114449-10-20 17:31 J -40080780.98 -40080780.77 -40080780.56 0.0498 0.0021
 Saturn -114444-02-01 06:14 J -40079216.28 -40079216.24 -40079216.17 0.0262 0.0252
 Saturn -114444-09-18 09:22 J -40078987.23 -40078987.11 -40078986.96 0.0261 0.0205
 Saturn -114443-05-05 12:29 J -40078758.15 -40078757.98 -40078757.80 0.0260 0.0153
 Jupiter -114443-08-28 20:53 J -40078642.82 -40078642.63 -40078642.43 0.0527 0.0072
 Saturn -114443-12-20 15:22 J -40078529.06 -40078528.86 -40078528.65 0.0260 0.0101
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 Saturn -114441-03-22 21:36 J -40078070.82 -40078070.60 -40078070.38 0.0260 0.0008
 Saturn -114441-11-07 01:26 J -40077841.65 -40077841.44 -40077841.23 0.0261 0.0062
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 Jupiter -114437-06-25 13:26 J -40076515.11 -40076514.94 -40076514.77 0.0497 0.0283
 Earth -114434-01-13 09:07 J -40075583.29 -40075583.12 -40075582.96 0.2576 0.0257
 Moon -114434-01-13 14:53 J -40075583.04 -40075582.88 -40075582.72 0.2578 0.0646 *
 Jupiter -114431-05-03 18:29 J -40074376.91 -40074376.73 -40074376.55 0.0528 0.0220
 Saturn -114429-10-16 16:19 J -40073479.94 -40073479.82 -40073479.69 0.0301 0.0234
 Saturn -114428-06-03 14:24 J -40073250.06 -40073249.90 -40073249.72 0.0302 0.0160
 Saturn -114427-01-19 12:43 J -40073020.17 -40073019.97 -40073019.78 0.0302 0.0081
 Saturn -114427-09-06 10:19 J -40072790.27 -40072790.07 -40072789.86 0.0302 0.0007
 Uranus -114427-12-02 07:12 J -40072703.35 -40072703.20 -40072703.04 0.0147 0.0107

Saturn -114426-04-24 07:41 J -40072560.37 -40072560.18 -40072559.98 0.0301 0.0079
 Uranus -114426-07-16 23:17 J -40072476.74 -40072476.53 -40072476.33 0.0147 0.0056
 Saturn -114426-12-10 04:05 J -40072330.50 -40072330.33 -40072330.15 0.0300 0.0156
 Uranus -114425-02-28 15:07 J -40072250.09 -40072249.87 -40072249.64 0.0147 0.0005
 Saturn -114425-07-26 23:31 J -40072100.65 -40072100.52 -40072100.38 0.0299 0.0227
 Uranus -114425-10-12 06:58 J -40072023.41 -40072023.21 -40072022.99 0.0147 0.0047
 Jupiter -114425-10-23 11:31 J -40072012.14 -40072012.02 -40072011.89 0.0500 0.0405
 Saturn -114424-03-13 17:46 J -40071870.78 -40071870.76 -40071870.71 0.0297 0.0292
 Uranus -114424-05-26 22:48 J -40071796.70 -40071796.55 -40071796.37 0.0147 0.0098
 Mars -114422-01-15 16:19 J -40071197.97 -40071197.82 -40071197.66 0.1667 0.0644
 Neptune -114421-07-08 20:24 J -40070657.71 -40070657.65 -40070657.55 0.0089 0.0083
 Mars -114421-11-14 21:36 J -40070528.76 -40070528.60 -40070528.45 0.1659 0.0696
 Neptune -114420-02-19 11:02 J -40070432.13 -40070432.04 -40070431.91 0.0089 0.0077
 Neptune -114420-10-03 01:55 J -40070206.54 -40070206.42 -40070206.26 0.0089 0.0071
 Mars -114420-10-24 06:58 J -40070185.38 -40070185.21 -40070185.04 0.1847 0.0624
 Jupiter -114419-01-06 15:07 J -40070110.90 -40070110.87 -40070110.82 0.0528 0.0516
 Neptune -114419-05-16 16:34 J -40069980.94 -40069980.81 -40069980.63 0.0089 0.0065
 Neptune -114419-12-28 07:12 J -40069755.35 -40069755.20 -40069755.01 0.0089 0.0059
 Neptune -114418-08-10 22:19 J -40069529.75 -40069529.57 -40069529.38 0.0089 0.0052
 Neptune -114417-03-23 12:43 J -40069304.15 -40069303.97 -40069303.76 0.0089 0.0046
 Neptune -114417-11-04 03:22 J -40069078.54 -40069078.36 -40069078.13 0.0089 0.0040
 Neptune -114416-06-17 18:29 J -40068852.94 -40068852.73 -40068852.51 0.0089 0.0033
 Neptune -114415-01-29 09:07 J -40068627.33 -40068627.12 -40068626.90 0.0089 0.0027
 Saturn -114415-08-14 10:19 J -40068430.13 -40068430.07 -40068429.99 0.0262 0.0247
 Neptune -114415-09-11 23:46 J -40068401.72 -40068401.51 -40068401.28 0.0089 0.0021
 Saturn -114414-03-31 13:26 J -40068201.07 -40068200.94 -40068200.79 0.0261 0.0198
 Neptune -114414-04-25 14:38 J -40068176.11 -40068175.89 -40068175.66 0.0089 0.0014
 Saturn -114414-11-15 16:34 J -40067971.99 -40067971.81 -40067971.63 0.0260 0.0146
 Neptune -114414-12-07 05:17 J -40067950.50 -40067950.28 -40067950.04 0.0089 0.0008
 Jupiter -114413-06-28 06:58 J -40067746.42 -40067746.21 -40067746.01 0.0499 0.0138

Saturn -114413-07-01 19:12 J -40067742.89 -40067742.70 -40067742.48 0.0260 0.0094
 Neptune -114413-07-19 20:10 J -40067724.89 -40067724.66 -40067724.43 0.0089 0.0001
 Saturn -114412-02-15 22:34 J -40067513.78 -40067513.56 -40067513.34 0.0260 0.0039
 Neptune -114412-03-02 10:48 J -40067499.27 -40067499.05 -40067498.82 0.0089 0.0005
 Saturn -114412-10-03 02:10 J -40067284.63 -40067284.41 -40067284.19 0.0260 0.0016
 Neptune -114412-10-14 01:41 J -40067273.65 -40067273.43 -40067273.20 0.0089 0.0012
 Saturn -114411-05-20 06:00 J -40067055.46 -40067055.25 -40067055.03 0.0261 0.0071
 Neptune -114411-05-27 16:19 J -40067048.04 -40067047.82 -40067047.59 0.0089 0.0018
 Saturn -114410-01-04 10:19 J -40066826.25 -40066826.07 -40066825.87 0.0261 0.0126
 Neptune -114410-01-08 06:58 J -40066822.42 -40066822.21 -40066821.98 0.0089 0.0025
 Saturn -114410-08-21 15:22 J -40066597.01 -40066596.86 -40066596.69 0.0262 0.0179
 Neptune -114410-08-21 21:36 J -40066596.81 -40066596.60 -40066596.38 0.0089 0.0031 *
 Neptune -114409-04-03 12:14 J -40066371.19 -40066370.99 -40066370.78 0.0089 0.0037
 Saturn -114409-04-06 21:07 J -40066367.71 -40066367.62 -40066367.50 0.0264 0.0232
 Neptune -114409-11-15 03:07 J -40066145.57 -40066145.37 -40066145.17 0.0089 0.0043
 Neptune -114408-06-28 17:17 J -40065919.95 -40065919.78 -40065919.57 0.0089 0.0050
 Neptune -114407-02-09 07:55 J -40065694.33 -40065694.17 -40065693.98 0.0089 0.0056
 Jupiter -114407-05-06 08:10 J -40065608.33 -40065608.16 -40065607.98 0.0526 0.0239
 Neptune -114407-09-22 22:34 J -40065468.71 -40065468.56 -40065468.39 0.0089 0.0062
 Neptune -114406-05-06 13:12 J -40065243.09 -40065242.95 -40065242.80 0.0089 0.0068
 Neptune -114406-12-18 03:36 J -40065017.46 -40065017.35 -40065017.22 0.0089 0.0074
 Neptune -114405-07-30 18:14 J -40064791.83 -40064791.74 -40064791.64 0.0089 0.0080
 Neptune -114404-03-13 08:38 J -40064566.19 -40064566.14 -40064566.09 0.0089 0.0086
 Jupiter -114401-03-03 02:38 J -40063480.60 -40063480.39 -40063480.19 0.0498 0.0129
 Saturn -114400-09-11 02:38 J -40062923.42 -40062923.39 -40062923.33 0.0300 0.0293
 Saturn -114399-04-29 00:58 J -40062693.59 -40062693.46 -40062693.32 0.0301 0.0224
 Saturn -114399-12-14 23:17 J -40062463.70 -40062463.53 -40062463.35 0.0302 0.0148
 Saturn -114398-08-01 21:22 J -40062233.80 -40062233.61 -40062233.41 0.0302 0.0069
 Saturn -114397-03-18 19:12 J -40062003.90 -40062003.70 -40062003.49 0.0302 0.0014
 Saturn -114397-11-03 16:34 J -40061774.01 -40061773.81 -40061773.62 0.0301 0.0093

Saturn -114396-06-21 12:43 J -40061544.13 -40061543.97 -40061543.80 0.0300 0.0169
 Jupiter -114395-01-09 05:31 J -40061342.47 -40061342.27 -40061342.08 0.0527 0.0056
 Saturn -114395-02-06 08:10 J -40061314.27 -40061314.16 -40061314.04 0.0298 0.0240
 Mars -114390-01-14 08:53 J -40059511.24 -40059511.13 -40059511.03 0.1671 0.1297
 Jupiter -114390-11-06 21:50 J -40059214.71 -40059214.59 -40059214.45 0.0497 0.0391
 Mars -114389-11-13 13:12 J -40058842.12 -40058841.95 -40058841.79 0.1662 0.0072
 Mars -114387-09-13 19:26 J -40058172.78 -40058172.69 -40058172.60 0.1655 0.1370
 Mars -114386-08-21 05:46 J -40057831.42 -40057831.26 -40057831.10 0.1854 0.0865
 Saturn -114385-02-24 17:31 J -40057643.85 -40057643.77 -40057643.68 0.0262 0.0241
 Saturn -114385-10-10 20:38 J -40057414.78 -40057414.64 -40057414.49 0.0261 0.0191
 Saturn -114384-05-27 23:31 J -40057185.70 -40057185.52 -40057185.33 0.0260 0.0140
 Uranus -114384-09-06 23:46 J -40057083.62 -40057083.51 -40057083.38 0.0131 0.0106
 Jupiter -114384-09-14 01:26 J -40057076.58 -40057076.44 -40057076.29 0.0529 0.0353
 Saturn -114383-01-12 02:38 J -40056956.59 -40056956.39 -40056956.18 0.0260 0.0087
 Uranus -114383-04-21 02:10 J -40056857.57 -40056857.41 -40056857.22 0.0131 0.0073
 Saturn -114383-08-29 06:00 J -40056727.47 -40056727.25 -40056727.03 0.0260 0.0032
 Uranus -114383-12-03 04:48 J -40056631.50 -40056631.30 -40056631.09 0.0132 0.0038
 Saturn -114382-04-15 09:36 J -40056498.32 -40056498.10 -40056497.88 0.0260 0.0024
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 Uranus -114381-02-28 09:50 J -40056179.29 -40056179.09 -40056178.88 0.0132 0.0031
 Saturn -114381-07-16 17:46 J -40056039.94 -40056039.76 -40056039.56 0.0262 0.0134
 Uranus -114381-10-11 12:00 J -40055953.17 -40055953.00 -40055952.80 0.0132 0.0066
 Saturn -114380-03-02 23:02 J -40055810.69 -40055810.54 -40055810.38 0.0263 0.0188
 Uranus -114380-05-25 14:38 J -40055727.02 -40055726.89 -40055726.75 0.0132 0.0100
 Saturn -114380-10-18 05:17 J -40055581.36 -40055581.28 -40055581.18 0.0264 0.0240
 Pluto -114378-11-30 13:12 J -40054808.05 -40054807.95 -40054807.84 0.0080 0.0069
 Jupiter -114377-03-05 19:12 J -40054711.87 -40054711.70 -40054711.52 0.0499 0.0292
 Pluto -114377-07-12 22:05 J -40054582.79 -40054582.58 -40054582.36 0.0080 0.0005
 Pluto -114376-02-23 06:29 J -40054357.25 -40054357.23 -40054357.17 0.0079 0.0078

Jupiter -114371-01-11 19:55 J -40052573.80 -40052573.67 -40052573.55 0.0526 0.0408
 Saturn -114370-03-24 12:58 J -40052137.02 -40052136.96 -40052136.90 0.0300 0.0284
 Saturn -114370-11-09 10:48 J -40051907.18 -40051907.05 -40051906.90 0.0301 0.0214
 Saturn -114369-06-26 08:53 J -40051677.30 -40051677.13 -40051676.94 0.0302 0.0138
 Saturn -114368-02-11 06:58 J -40051447.41 -40051447.21 -40051447.01 0.0302 0.0058
 Saturn -114368-09-29 04:34 J -40051217.51 -40051217.31 -40051217.11 0.0302 0.0023
 Saturn -114367-05-17 01:41 J -40050987.62 -40050987.43 -40050987.24 0.0301 0.0103
 Saturn -114366-01-01 21:36 J -40050757.76 -40050757.60 -40050757.43 0.0300 0.0179
 Saturn -114366-08-19 16:34 J -40050527.91 -40050527.81 -40050527.69 0.0298 0.0249
 Jupiter -114366-11-09 13:55 J -40050446.13 -40050445.92 -40050445.71 0.0499 0.0024
 Jupiter -114360-09-16 17:46 J -40048307.95 -40048307.76 -40048307.56 0.0527 0.0119
 Mars -114357-11-12 04:48 J -40047155.45 -40047155.30 -40047155.14 0.1666 0.0580
 Saturn -114356-09-05 22:19 J -40046857.66 -40046857.57 -40046857.47 0.0261 0.0235
 Saturn -114355-04-23 01:12 J -40046628.59 -40046628.45 -40046628.29 0.0261 0.0185
 Mars -114355-09-12 10:19 J -40046486.21 -40046486.07 -40046485.92 0.1658 0.0755
 Saturn -114355-12-08 04:19 J -40046399.51 -40046399.32 -40046399.13 0.0260 0.0132
 Jupiter -114354-07-15 09:36 J -40046180.28 -40046180.10 -40046179.91 0.0498 0.0243
 Saturn -114354-07-25 07:12 J -40046170.40 -40046170.20 -40046169.98 0.0260 0.0079
 Mars -114354-08-21 09:07 J -40046143.30 -40046143.12 -40046142.95 0.1849 0.0422
 Saturn -114353-03-10 10:34 J -40045941.28 -40045941.06 -40045940.84 0.0260 0.0024
 Saturn -114353-10-25 14:24 J -40045712.12 -40045711.90 -40045711.68 0.0260 0.0032
 Saturn -114352-06-11 18:29 J -40045482.94 -40045482.73 -40045482.52 0.0261 0.0088
 Saturn -114351-01-26 23:02 J -40045253.72 -40045253.54 -40045253.35 0.0262 0.0143
 Saturn -114351-09-13 04:19 J -40045024.45 -40045024.32 -40045024.16 0.0263 0.0197
 Saturn -114350-04-30 10:34 J -40044795.12 -40044795.06 -40044794.98 0.0264 0.0250
 Jupiter -114348-05-22 13:41 J -40044042.11 -40044041.93 -40044041.74 0.0527 0.0182
 Uranus -114343-08-01 12:43 J -40042145.06 -40042144.97 -40042144.86 0.0147 0.0131
 Uranus -114342-03-16 04:34 J -40041918.48 -40041918.31 -40041918.11 0.0147 0.0080
 Uranus -114342-10-28 20:38 J -40041691.85 -40041691.64 -40041691.41 0.0147 0.0028
 Jupiter -114342-11-12 08:38 J -40041677.23 -40041677.14 -40041677.05 0.0500 0.0449

Uranus -114341-06-11 12:29 J -40041465.19 -40041464.98 -40041464.75 0.0147 0.0024
 Saturn -114341-10-03 22:05 J -40041350.66 -40041350.58 -40041350.50 0.0300 0.0275
 Uranus -114340-01-24 04:19 J -40041238.50 -40041238.32 -40041238.11 0.0147 0.0075
 Saturn -114340-05-21 20:10 J -40041120.81 -40041120.66 -40041120.50 0.0302 0.0203
 Uranus -114340-09-07 20:24 J -40041011.75 -40041011.65 -40041011.52 0.0147 0.0126
 Saturn -114339-01-06 18:29 J -40040890.92 -40040890.73 -40040890.55 0.0302 0.0125
 Neptune -114339-01-12 04:48 J -40040885.34 -40040885.30 -40040885.22 0.0088 0.0085
 Saturn -114339-08-24 16:19 J -40040661.02 -40040660.82 -40040660.61 0.0302 0.0045
 Neptune -114339-08-25 16:34 J -40040659.90 -40040659.81 -40040659.71 0.0088 0.0079
 Neptune -114338-04-08 03:50 J -40040434.44 -40040434.34 -40040434.21 0.0088 0.0073
 Saturn -114338-04-11 14:10 J -40040431.11 -40040430.91 -40040430.71 0.0302 0.0037
 Neptune -114338-11-19 15:22 J -40040208.98 -40040208.86 -40040208.71 0.0088 0.0068
 Saturn -114338-11-27 11:02 J -40040201.23 -40040201.04 -40040200.85 0.0301 0.0117
 Neptune -114337-07-02 02:38 J -40039983.52 -40039983.39 -40039983.22 0.0088 0.0062
 Saturn -114337-07-14 06:58 J -40039971.36 -40039971.21 -40039971.05 0.0299 0.0193
 Jupiter -114336-01-25 09:36 J -40039776.17 -40039776.10 -40039776.02 0.0528 0.0483
 Neptune -114336-02-12 14:10 J -40039758.06 -40039757.91 -40039757.73 0.0088 0.0057
 Saturn -114336-03-01 01:55 J -40039741.51 -40039741.42 -40039741.32 0.0298 0.0263
 Neptune -114336-09-26 01:55 J -40039532.59 -40039532.42 -40039532.24 0.0088 0.0051
 Neptune -114335-05-09 13:12 J -40039307.12 -40039306.95 -40039306.75 0.0088 0.0045
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 Neptune -114330-11-28 20:24 J -40037277.85 -40037277.65 -40037277.43 0.0088 0.0008

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 Mars -114325-11-10 20:53 J -40035468.74 -40035468.63 -40035468.52 0.1670 0.1230
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Jupiter -114318-03-22 22:19 J -40033145.78 -40033145.57 -40033145.37 0.0498 0.0089
 Jupiter -114312-01-28 00:58 J -40031007.66 -40031007.46 -40031007.26 0.0528 0.0013
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 Uranus -114297-06-11 00:14 J -40025394.68 -40025394.49 -40025394.29 0.0132 0.0050
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 Uranus -114296-01-23 02:38 J -40025168.55 -40025168.39 -40025168.22 0.0132 0.0084
 Saturn -114296-05-15 13:41 J -40025056.08 -40025055.93 -40025055.75 0.0260 0.0171
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 Saturn -114296-12-30 16:48 J -40024826.99 -40024826.80 -40024826.60 0.0260 0.0117
 Saturn -114295-08-16 20:10 J -40024597.88 -40024597.66 -40024597.45 0.0260 0.0062
 Jupiter -114294-03-25 14:53 J -40024377.03 -40024376.88 -40024376.72 0.0500 0.0332
 Saturn -114294-04-02 23:31 J -40024368.74 -40024368.52 -40024368.30 0.0260 0.0007
 Saturn -114294-11-18 03:22 J -40024139.58 -40024139.36 -40024139.15 0.0260 0.0050
 Saturn -114293-07-04 07:26 J -40023910.39 -40023910.19 -40023909.99 0.0261 0.0105
 Saturn -114292-02-18 12:14 J -40023681.16 -40023680.99 -40023680.81 0.0262 0.0161
 Saturn -114292-10-05 18:00 J -40023451.87 -40023451.75 -40023451.62 0.0263 0.0215

Mars -114291-09-09 17:17 J -40023112.94 -40023112.78 -40023112.62 0.1665 0.0515
 Mars -114289-07-09 23:02 J -40022443.68 -40022443.54 -40022443.39 0.1657 0.0818
 Jupiter -114288-01-30 14:38 J -40022239.00 -40022238.89 -40022238.79 0.0526 0.0445
 Mars -114288-06-17 11:46 J -40022101.19 -40022101.01 -40022100.83 0.1851 0.0221
 Jupiter -114283-11-28 10:19 J -40020111.28 -40020111.07 -40020110.86 0.0499 0.0064
 Saturn -114282-10-27 17:17 J -40019777.87 -40019777.78 -40019777.66 0.0301 0.0256
 Saturn -114281-06-13 15:36 J -40019548.01 -40019547.85 -40019547.68 0.0302 0.0181
 Moon -114281-07-10 10:19 J -40019521.12 -40019521.07 -40019521.01 0.2769 0.2527
 Saturn -114280-01-29 13:55 J -40019318.11 -40019317.92 -40019317.73 0.0302 0.0101
 Saturn -114280-09-16 11:46 J -40019088.21 -40019088.01 -40019087.80 0.0302 0.0020
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 Saturn -114278-08-07 01:26 J -40018398.57 -40018398.44 -40018398.29 0.0299 0.0217
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 Earth -114273-07-08 04:48 J -40016601.45 -40016601.30 -40016601.15 0.2767 0.0652
 Moon -114273-07-08 05:46 J -40016601.41 -40016601.26 -40016601.12 0.2774 0.0425 *
 Jupiter -114271-08-03 06:00 J -40015845.44 -40015845.25 -40015845.05 0.0498 0.0201
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 Saturn -114263-08-31 20:10 J -40012894.83 -40012894.66 -40012894.50 0.0263 0.0169
 Saturn -114262-04-18 01:41 J -40012665.54 -40012665.43 -40012665.31 0.0264 0.0223
 Jupiter -114259-04-08 02:10 J -40011579.48 -40011579.41 -40011579.33 0.0497 0.0465
 Mars -114259-09-08 09:36 J -40011426.22 -40011426.10 -40011425.99 0.1668 0.1172

Uranus -114259-11-13 10:19 J -40011360.21 -40011360.07 -40011359.89 0.0147 0.0104
 Jupiter -114259-12-01 03:50 J -40011342.37 -40011342.34 -40011342.29 0.0500 0.0490
 Uranus -114258-06-28 02:38 J -40011133.60 -40011133.39 -40011133.18 0.0147 0.0052
 Uranus -114257-02-09 18:29 J -40010906.95 -40010906.73 -40010906.50 0.0147 0.0003
 Neptune -114257-02-27 14:53 J -40010888.89 -40010888.88 -40010888.83 0.0089 0.0088
 Mars -114257-07-08 14:24 J -40010757.06 -40010756.90 -40010756.73 0.1660 0.0187
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 Neptune -114257-10-10 05:46 J -40010663.33 -40010663.26 -40010663.15 0.0089 0.0082
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 Mars -114256-06-17 13:55 J -40010413.03 -40010412.92 -40010412.82 0.1845 0.1481
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Saturn -114249-07-01 16:05 J -40007842.00 -40007841.83 -40007841.65 0.0300 0.0155
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Saturn -114233-10-28 07:12 J -40001879.30 -40001879.20 -40001879.09 0.0264 0.0233
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 Saturn -114223-11-19 12:14 J -39998205.11 -39998204.99 -39998204.86 0.0301 0.0235
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 Saturn -114219-08-29 19:41 J -39996825.79 -39996825.68 -39996825.55 0.0298 0.0241
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 Pluto -114217-03-04 06:29 J -39996273.32 -39996273.23 -39996273.14 0.0064 0.0059
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 Saturn -114209-09-16 04:05 J -39993155.40 -39993155.33 -39993155.27 0.0262 0.0250
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 Saturn -114206-03-21 15:36 J -39992239.06 -39992238.85 -39992238.63 0.0260 0.0038

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 Neptune -114076-09-16 02:24 J -39944577.40 -39944577.40 -39944577.37 0.0089 0.0089
 Saturn -114076-11-29 03:36 J -39944503.45 -39944503.35 -39944503.24 0.0301 0.0260
 Saturn -114075-07-17 02:10 J -39944273.57 -39944273.41 -39944273.25 0.0302 0.0183
 Jupiter -114075-07-21 17:17 J -39944268.90 -39944268.78 -39944268.66 0.0526 0.0413
 Saturn -114074-03-04 00:43 J -39944043.66 -39944043.47 -39944043.28 0.0302 0.0101
 Saturn -114074-10-19 23:02 J -39943813.74 -39943813.54 -39943813.34 0.0302 0.0017
 Saturn -114073-06-05 20:53 J -39943583.83 -39943583.63 -39943583.43 0.0302 0.0068
 Saturn -114072-01-21 17:46 J -39943353.93 -39943353.76 -39943353.58 0.0301 0.0150
 Saturn -114072-09-08 13:55 J -39943124.04 -39943123.92 -39943123.78 0.0299 0.0227
 Saturn -114071-04-26 09:22 J -39942894.12 -39942894.11 -39942894.09 0.0298 0.0296
 Jupiter -114069-05-18 10:34 J -39942141.27 -39942141.06 -39942140.85 0.0499 0.0033
 Jupiter -114063-03-26 16:48 J -39940002.99 -39940002.80 -39940002.61 0.0527 0.0124
 Mars -114061-02-28 22:48 J -39939298.69 -39939298.55 -39939298.42 0.1664 0.0979
 Saturn -114061-05-13 06:29 J -39939224.36 -39939224.23 -39939224.11 0.0261 0.0215
 Saturn -114061-12-28 08:38 J -39938995.31 -39938995.14 -39938994.97 0.0260 0.0162
 Saturn -114060-08-14 11:02 J -39938766.24 -39938766.04 -39938765.84 0.0259 0.0107

Mars -114060-12-29 04:48 J -39938629.47 -39938629.30 -39938629.14 0.1656 0.0378
 Saturn -114059-03-31 13:41 J -39938537.15 -39938536.93 -39938536.72 0.0259 0.0051
 Saturn -114059-11-15 16:19 J -39938308.04 -39938307.82 -39938307.60 0.0259 0.0007
 Mars -114059-12-06 20:53 J -39938286.79 -39938286.63 -39938286.47 0.1850 0.0882
 Saturn -114058-07-02 19:26 J -39938078.90 -39938078.69 -39938078.47 0.0260 0.0063
 Jupiter -114057-01-22 07:12 J -39937875.39 -39937875.20 -39937875.02 0.0498 0.0236
 Saturn -114057-02-16 23:02 J -39937849.73 -39937849.54 -39937849.34 0.0260 0.0120
 Saturn -114057-10-03 03:36 J -39937620.51 -39937620.35 -39937620.19 0.0261 0.0176
 Saturn -114056-05-20 08:38 J -39937391.24 -39937391.14 -39937391.03 0.0263 0.0231
 Jupiter -114052-11-29 13:41 J -39935737.11 -39935736.93 -39935736.74 0.0528 0.0176
 Uranus -114048-07-31 03:22 J -39934397.47 -39934397.36 -39934397.22 0.0131 0.0105
 Uranus -114047-03-14 06:00 J -39934171.42 -39934171.25 -39934171.06 0.0131 0.0071
 Uranus -114047-10-26 08:10 J -39933945.35 -39933945.16 -39933944.94 0.0131 0.0037
 Uranus -114046-06-09 10:34 J -39933719.27 -39933719.06 -39933718.84 0.0131 0.0003
 Saturn -114046-06-11 06:29 J -39933717.33 -39933717.23 -39933717.11 0.0301 0.0253
 Jupiter -114046-09-27 04:48 J -39933609.31 -39933609.30 -39933609.29 0.0497 0.0496
 Uranus -114045-01-21 12:58 J -39933493.16 -39933492.96 -39933492.75 0.0132 0.0034
 Saturn -114045-01-27 05:17 J -39933487.44 -39933487.28 -39933487.11 0.0302 0.0175
 Jupiter -114045-05-21 06:43 J -39933372.29 -39933372.22 -39933372.14 0.0500 0.0469
 Uranus -114045-09-03 14:53 J -39933267.04 -39933266.88 -39933266.68 0.0132 0.0069
 Saturn -114045-09-13 03:50 J -39933257.53 -39933257.34 -39933257.14 0.0303 0.0093
 Uranus -114044-04-17 17:31 J -39933040.89 -39933040.77 -39933040.63 0.0132 0.0103
 Saturn -114044-05-01 02:24 J -39933027.60 -39933027.40 -39933027.20 0.0303 0.0008
 Saturn -114044-12-17 00:14 J -39932797.69 -39932797.49 -39932797.29 0.0302 0.0077
 Saturn -114043-08-03 21:22 J -39932567.79 -39932567.61 -39932567.44 0.0301 0.0159
 Saturn -114042-03-21 17:17 J -39932337.90 -39932337.78 -39932337.65 0.0300 0.0236
 Jupiter -114040-08-04 09:50 J -39931471.17 -39931471.09 -39931471.01 0.0528 0.0478
 Jupiter -114033-01-25 02:53 J -39929106.57 -39929106.38 -39929106.19 0.0499 0.0201
 Saturn -114032-04-08 07:12 J -39928667.22 -39928667.20 -39928667.17 0.0261 0.0260
 Saturn -114032-11-23 09:36 J -39928438.22 -39928438.10 -39928437.96 0.0260 0.0209

Saturn -114031-07-10 12:14 J -39928209.16 -39928208.99 -39928208.81 0.0260 0.0155
 Saturn -114030-02-24 14:38 J -39927980.09 -39927979.89 -39927979.69 0.0259 0.0100
 Earth -114030-07-09 05:02 J -39927845.43 -39927845.29 -39927845.14 0.2769 0.0854
 Moon -114030-07-09 10:19 J -39927845.22 -39927845.07 -39927844.92 0.2768 0.0464 *
 Saturn -114030-10-11 17:17 J -39927750.99 -39927750.78 -39927750.56 0.0259 0.0044
 Mars -114029-02-27 14:38 J -39927611.92 -39927611.89 -39927611.86 0.1668 0.1637
 Saturn -114029-05-27 20:10 J -39927521.88 -39927521.66 -39927521.44 0.0260 0.0014
 Saturn -114028-01-11 23:17 J -39927292.74 -39927292.53 -39927292.31 0.0260 0.0071
 Saturn -114028-08-29 02:53 J -39927063.56 -39927063.38 -39927063.18 0.0261 0.0128
 Jupiter -114028-12-02 03:36 J -39926968.51 -39926968.35 -39926968.19 0.0527 0.0292
 Mars -114028-12-27 19:41 J -39926942.84 -39926942.68 -39926942.51 0.1659 0.0265
 Saturn -114027-04-15 07:12 J -39926834.34 -39926834.20 -39926834.03 0.0262 0.0184
 Saturn -114027-11-30 12:29 J -39926605.06 -39926604.98 -39926604.88 0.0263 0.0239
 Mars -114026-10-28 02:38 J -39926273.51 -39926273.39 -39926273.26 0.1653 0.1069
 Mars -114025-10-02 19:12 J -39925932.88 -39925932.70 -39925932.53 0.1857 0.0650
 Jupiter -114022-09-29 23:02 J -39924840.75 -39924840.54 -39924840.33 0.0498 0.0069
 Saturn -114017-12-21 12:58 J -39922931.07 -39922930.96 -39922930.84 0.0301 0.0243
 Jupiter -114016-08-07 02:10 J -39922702.61 -39922702.41 -39922702.21 0.0528 0.0003
 Saturn -114016-08-08 11:31 J -39922701.18 -39922701.02 -39922700.84 0.0302 0.0164
 Saturn -114015-03-26 10:19 J -39922471.27 -39922471.07 -39922470.87 0.0302 0.0081
 Saturn -114015-11-11 08:38 J -39922241.35 -39922241.14 -39922240.94 0.0302 0.0008
 Saturn -114014-06-29 06:14 J -39922011.43 -39922011.24 -39922011.05 0.0302 0.0089
 Saturn -114013-02-14 03:22 J -39921781.53 -39921781.36 -39921781.20 0.0301 0.0171
 Saturn -114013-09-30 23:17 J -39921551.63 -39921551.53 -39921551.41 0.0299 0.0247
 Neptune -114012-12-04 18:00 J -39921121.76 -39921121.75 -39921121.72 0.0088 0.0088
 Neptune -114011-07-18 05:02 J -39920896.34 -39920896.29 -39920896.19 0.0088 0.0083
 Neptune -114010-02-28 17:02 J -39920670.89 -39920670.79 -39920670.69 0.0088 0.0077
 Jupiter -114010-06-04 16:48 J -39920574.95 -39920574.80 -39920574.65 0.0497 0.0344
 Neptune -114010-10-12 04:05 J -39920445.44 -39920445.33 -39920445.19 0.0088 0.0071
 Neptune -114009-05-24 15:36 J -39920219.98 -39920219.85 -39920219.70 0.0088 0.0066

Neptune -114008-01-05 02:53 J -39919994.52 -39919994.38 -39919994.21 0.0088 0.0060
 Neptune -114008-08-18 14:24 J -39919769.06 -39919768.90 -39919768.72 0.0088 0.0054
 Neptune -114007-04-01 01:55 J -39919543.59 -39919543.42 -39919543.23 0.0088 0.0049
 Uranus -114007-06-24 11:46 J -39919459.10 -39919459.01 -39919458.91 0.0148 0.0133
 Neptune -114007-11-12 13:12 J -39919318.12 -39919317.95 -39919317.75 0.0088 0.0043
 Uranus -114006-02-06 03:36 J -39919232.53 -39919232.35 -39919232.15 0.0148 0.0081
 Neptune -114006-06-26 00:29 J -39919092.65 -39919092.48 -39919092.27 0.0088 0.0038
 Uranus -114006-09-20 19:55 J -39919005.89 -39919005.67 -39919005.45 0.0148 0.0028
 Neptune -114005-02-06 12:00 J -39918867.19 -39918867.00 -39918866.79 0.0088 0.0032
 Uranus -114005-05-04 12:00 J -39918779.22 -39918779.00 -39918778.78 0.0147 0.0024
 Neptune -114005-09-18 23:46 J -39918641.71 -39918641.51 -39918641.31 0.0088 0.0026
 Uranus -114005-12-17 03:50 J -39918552.53 -39918552.34 -39918552.14 0.0147 0.0076
 Jupiter -114004-04-12 00:58 J -39918436.62 -39918436.46 -39918436.30 0.0528 0.0296
 Neptune -114004-05-02 11:17 J -39918416.23 -39918416.03 -39918415.82 0.0088 0.0020
 Uranus -114004-07-31 19:41 J -39918325.78 -39918325.68 -39918325.56 0.0147 0.0128
 Neptune -114004-12-13 22:34 J -39918190.76 -39918190.56 -39918190.34 0.0088 0.0014
 Neptune -114003-07-27 10:05 J -39917965.29 -39917965.08 -39917964.86 0.0088 0.0008
 Saturn -114003-10-19 11:17 J -39917881.07 -39917881.03 -39917880.97 0.0261 0.0253
 Neptune -114002-03-09 21:36 J -39917739.81 -39917739.60 -39917739.38 0.0088 0.0003
 Saturn -114002-06-05 13:41 J -39917652.06 -39917651.93 -39917651.79 0.0260 0.0202
 Neptune -114002-10-21 09:07 J -39917514.33 -39917514.12 -39917513.91 0.0088 0.0004
 Saturn -114001-01-20 15:50 J -39917423.01 -39917422.84 -39917422.65 0.0260 0.0148
 Neptune -114001-06-02 20:38 J -39917288.85 -39917288.64 -39917288.43 0.0088 0.0010
 Saturn -114001-09-05 18:29 J -39917193.93 -39917193.73 -39917193.52 0.0259 0.0092

114TH MILLENNIUM BCE

This is a list of transits of Venus in the 114th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-114000-01-14	07:55 J	-39917063.37	-39917063.17	-39917062.95	0.0088	0.0016	
Saturn	-114000-04-22	20:53 J	-39916964.85	-39916964.63	-39916964.41	0.0259	0.0035	
Neptune	-114000-08-27	19:26 J	-39916837.89	-39916837.69	-39916837.48	0.0088	0.0021	
Saturn	-114000-12-07	23:31 J	-39916735.74	-39916735.52	-39916735.30	0.0259	0.0023	
Neptune	-113999-04-10	06:43 J	-39916612.41	-39916612.22	-39916612.00	0.0088	0.0028	
Saturn	-113999-07-25	02:38 J	-39916506.60	-39916506.39	-39916506.18	0.0260	0.0080	
Neptune	-113999-11-21	18:29 J	-39916386.93	-39916386.73	-39916386.53	0.0088	0.0033	
Saturn	-113998-03-11	06:00 J	-39916277.43	-39916277.25	-39916277.05	0.0260	0.0137	
Neptune	-113998-07-05	05:46 J	-39916161.44	-39916161.26	-39916161.06	0.0088	0.0039	
Jupiter	-113998-10-02	15:22 J	-39916072.00	-39916071.86	-39916071.71	0.0500	0.0356	
Saturn	-113998-10-26	10:34 J	-39916048.20	-39916048.06	-39916047.91	0.0261	0.0193	
Neptune	-113997-02-15	17:02 J	-39915935.96	-39915935.79	-39915935.59	0.0088	0.0045	
Saturn	-113997-06-11	15:36 J	-39915818.91	-39915818.85	-39915818.77	0.0263	0.0248	
Neptune	-113997-09-28	04:19 J	-39915710.47	-39915710.32	-39915710.12	0.0088	0.0051	
Neptune	-113996-05-11	16:19 J	-39915484.98	-39915484.82	-39915484.65	0.0088	0.0056	
Neptune	-113996-12-23	03:36 J	-39915259.49	-39915259.35	-39915259.18	0.0088	0.0062	
Mars	-113996-12-26	11:31 J	-39915256.16	-39915256.02	-39915255.88	0.1663	0.0916	
Neptune	-113995-08-05	14:53 J	-39915034.00	-39915033.88	-39915033.72	0.0088	0.0068	
Neptune	-113994-03-19	02:38 J	-39914808.50	-39914808.39	-39914808.26	0.0088	0.0073	
Mars	-113994-10-26	17:17 J	-39914586.94	-39914586.78	-39914586.62	0.1656	0.0444	
Neptune	-113994-10-30	13:55 J	-39914582.99	-39914582.92	-39914582.80	0.0088	0.0079	
Neptune	-113993-06-12	02:10 J	-39914357.47	-39914357.41	-39914357.35	0.0088	0.0084	

Mars -113993-10-02 23:46 J -39914244.68 -39914244.51 -39914244.34 0.1852 0.0685
 Jupiter -113992-08-09 18:58 J -39913933.78 -39913933.71 -39913933.62 0.0526 0.0476
 Saturn -113987-07-03 13:55 J -39912145.05 -39912144.92 -39912144.80 0.0302 0.0238
 Saturn -113986-02-18 12:43 J -39911915.15 -39911914.97 -39911914.80 0.0303 0.0158
 Jupiter -113986-06-07 12:00 J -39911806.21 -39911806.00 -39911805.79 0.0499 0.0089
 Saturn -113986-10-06 11:17 J -39911685.23 -39911685.03 -39911684.83 0.0303 0.0074
 Saturn -113985-05-23 09:36 J -39911455.30 -39911455.10 -39911454.89 0.0303 0.0013
 Saturn -113984-01-08 07:26 J -39911225.38 -39911225.19 -39911225.00 0.0302 0.0097
 Saturn -113984-08-26 04:19 J -39910995.47 -39910995.32 -39910995.15 0.0301 0.0180
 Saturn -113983-04-13 00:29 J -39910765.57 -39910765.48 -39910765.36 0.0300 0.0256
 Jupiter -113980-04-14 16:48 J -39909667.98 -39909667.80 -39909667.61 0.0527 0.0181
 Jupiter -113974-02-10 09:07 J -39907540.31 -39907540.12 -39907539.92 0.0498 0.0177
 Saturn -113973-04-30 13:26 J -39907094.99 -39907094.94 -39907094.86 0.0261 0.0248
 Saturn -113973-12-15 16:05 J -39906865.97 -39906865.83 -39906865.68 0.0260 0.0195
 Saturn -113972-08-01 18:29 J -39906636.91 -39906636.73 -39906636.54 0.0260 0.0141
 Saturn -113971-03-18 20:53 J -39906407.84 -39906407.63 -39906407.42 0.0259 0.0085
 Saturn -113971-11-02 23:31 J -39906178.74 -39906178.52 -39906178.30 0.0259 0.0028
 Saturn -113970-06-20 02:10 J -39905949.63 -39905949.41 -39905949.19 0.0259 0.0030
 Saturn -113969-02-04 05:17 J -39905720.49 -39905720.28 -39905720.07 0.0260 0.0087
 Pluto -113969-09-17 11:02 J -39905494.20 -39905494.04 -39905493.87 0.0064 0.0045
 Saturn -113969-09-20 08:53 J -39905491.30 -39905491.13 -39905490.94 0.0261 0.0145
 Jupiter -113969-12-18 12:58 J -39905402.15 -39905401.96 -39905401.77 0.0528 0.0123
 Pluto -113968-04-30 16:05 J -39905269.06 -39905268.83 -39905268.60 0.0064 0.0003
 Saturn -113968-05-07 13:12 J -39905262.08 -39905261.95 -39905261.80 0.0262 0.0201
 Pluto -113968-12-11 20:38 J -39905043.81 -39905043.64 -39905043.44 0.0065 0.0039
 Saturn -113968-12-22 18:29 J -39905032.78 -39905032.73 -39905032.68 0.0263 0.0255
 Uranus -113964-03-30 15:50 J -39903838.91 -39903838.84 -39903838.75 0.0131 0.0121
 Uranus -113964-11-11 18:00 J -39903612.89 -39903612.75 -39903612.58 0.0131 0.0087
 Mars -113964-12-25 03:22 J -39903569.41 -39903569.36 -39903569.30 0.1667 0.1576
 Uranus -113963-06-25 20:24 J -39903386.84 -39903386.65 -39903386.45 0.0131 0.0053

Jupiter -113963-10-16 06:14 J -39903274.32 -39903274.24 -39903274.13 0.0497 0.0442
 Uranus -113962-02-06 23:02 J -39903160.75 -39903160.54 -39903160.33 0.0131 0.0018
 Uranus -113962-09-21 01:12 J -39902934.66 -39902934.45 -39902934.24 0.0132 0.0017
 Mars -113962-10-25 08:24 J -39902900.31 -39902900.15 -39902899.98 0.1659 0.0205
 Uranus -113961-05-04 03:22 J -39902708.54 -39902708.36 -39902708.15 0.0132 0.0053
 Uranus -113961-12-16 05:46 J -39902482.41 -39902482.26 -39902482.09 0.0132 0.0087
 Uranus -113960-07-30 08:10 J -39902256.23 -39902256.16 -39902256.08 0.0132 0.0122
 Mars -113960-08-24 15:36 J -39902230.97 -39902230.85 -39902230.73 0.1652 0.1132
 Mars -113959-07-30 21:22 J -39901890.77 -39901890.61 -39901890.45 0.1858 0.0866
 Saturn -113957-01-13 18:43 J -39901358.84 -39901358.72 -39901358.57 0.0301 0.0228
 Jupiter -113957-08-23 10:34 J -39901136.17 -39901136.06 -39901135.93 0.0529 0.0423
 Saturn -113957-08-30 17:31 J -39901128.94 -39901128.77 -39901128.58 0.0302 0.0147
 Saturn -113956-04-17 16:19 J -39900899.02 -39900898.82 -39900898.62 0.0302 0.0062
 Saturn -113956-12-03 14:38 J -39900669.09 -39900668.89 -39900668.69 0.0302 0.0024
 Saturn -113955-07-21 12:14 J -39900439.18 -39900438.99 -39900438.80 0.0302 0.0109
 Saturn -113954-03-08 09:22 J -39900209.27 -39900209.11 -39900208.95 0.0301 0.0191
 Saturn -113954-10-24 05:31 J -39899979.36 -39899979.27 -39899979.18 0.0299 0.0266
 Jupiter -113950-02-13 00:58 J -39898771.64 -39898771.46 -39898771.27 0.0499 0.0248
 Moon -113948-01-13 10:05 J -39898071.23 -39898071.08 -39898070.92 0.2578 0.0186
 Earth -113948-01-13 12:43 J -39898071.13 -39898070.97 -39898070.81 0.2572 0.0355 *
 Jupiter -113945-12-21 07:41 J -39896633.31 -39896633.18 -39896633.03 0.0527 0.0364
 Saturn -113944-11-10 16:48 J -39896308.86 -39896308.80 -39896308.70 0.0261 0.0243
 Saturn -113943-06-27 19:12 J -39896079.84 -39896079.70 -39896079.54 0.0260 0.0189
 Saturn -113942-02-11 21:36 J -39895850.78 -39895850.60 -39895850.41 0.0259 0.0134
 Saturn -113942-09-29 00:00 J -39895621.71 -39895621.50 -39895621.29 0.0259 0.0077
 Saturn -113941-05-15 02:24 J -39895392.62 -39895392.40 -39895392.18 0.0259 0.0020
 Saturn -113941-12-30 05:02 J -39895163.51 -39895163.29 -39895163.07 0.0259 0.0038
 Saturn -113940-08-16 07:55 J -39894934.37 -39894934.17 -39894933.96 0.0260 0.0096
 Saturn -113939-04-02 11:31 J -39894705.19 -39894705.02 -39894704.84 0.0260 0.0153
 Jupiter -113939-10-18 21:50 J -39894505.80 -39894505.59 -39894505.38 0.0498 0.0022

Saturn -113939-11-17 15:50 J -39894475.96 -39894475.84 -39894475.70 0.0261 0.0209
 Jupiter -113933-08-26 05:46 J -39892367.46 -39892367.26 -39892367.07 0.0527 0.0068
 Mars -113930-10-24 00:00 J -39891213.65 -39891213.50 -39891213.36 0.1662 0.0852
 Neptune -113929-09-01 06:58 J -39890900.24 -39890900.21 -39890900.14 0.0089 0.0087
 Saturn -113929-12-07 20:24 J -39890802.66 -39890802.65 -39890802.62 0.0300 0.0299
 Neptune -113928-04-14 21:36 J -39890674.67 -39890674.60 -39890674.48 0.0089 0.0081
 Saturn -113928-07-25 19:12 J -39890572.84 -39890572.70 -39890572.56 0.0302 0.0223
 Mars -113928-08-23 06:14 J -39890544.40 -39890544.24 -39890544.08 0.1655 0.0505
 Neptune -113928-11-26 12:43 J -39890449.09 -39890448.97 -39890448.84 0.0089 0.0074
 Saturn -113927-03-12 17:46 J -39890342.93 -39890342.76 -39890342.57 0.0303 0.0142
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 Mars -113927-07-31 01:26 J -39890202.61 -39890202.44 -39890202.26 0.1854 0.0471
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 Saturn -113796-07-07 00:00 J -39842378.62 -39842378.50 -39842378.38 0.0261 0.0216
 Uranus -113796-10-23 21:50 J -39842269.74 -39842269.59 -39842269.41 0.0131 0.0084
 Saturn -113795-02-21 02:38 J -39842149.56 -39842149.39 -39842149.22 0.0260 0.0160
 Mars -113795-03-24 05:31 J -39842118.45 -39842118.27 -39842118.09 0.1857 0.0039
 Uranus -113795-06-07 00:14 J -39842043.68 -39842043.49 -39842043.28 0.0131 0.0049
 Saturn -113795-10-08 05:17 J -39841920.48 -39841920.28 -39841920.08 0.0259 0.0103
 Uranus -113794-01-19 02:38 J -39841817.59 -39841817.39 -39841817.17 0.0131 0.0014
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 Uranus -113793-04-15 07:26 J -39841365.37 -39841365.19 -39841364.99 0.0132 0.0057
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 Uranus -113793-11-27 09:36 J -39841139.23 -39841139.10 -39841138.93 0.0132 0.0092

Saturn -113792-04-11 16:34 J -39841003.99 -39841003.81 -39841003.62 0.0260 0.0134
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 Saturn -113792-11-26 20:10 J -39840774.79 -39840774.66 -39840774.50 0.0261 0.0192
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 Jupiter -113791-10-01 17:17 J -39840465.95 -39840465.78 -39840465.62 0.0528 0.0288
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 Neptune -113749-05-13 21:07 J -39825265.73 -39825265.62 -39825265.47 0.0089 0.0072
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 Saturn -113736-10-30 08:10 J -39820348.36 -39820348.16 -39820347.94 0.0260 0.0091
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 Saturn -113733-12-19 00:14 J -39819202.61 -39819202.49 -39819202.35 0.0261 0.0208
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Jupiter -113725-04-08 15:50 J -39816535.05 -39816534.84 -39816534.63 0.0498 0.0008
 Saturn -113722-08-26 11:17 J -39815300.13 -39815300.03 -39815299.91 0.0300 0.0254
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 Saturn -113721-11-28 08:10 J -39814840.35 -39814840.16 -39814839.96 0.0302 0.0083
 Pluto -113720-04-02 13:41 J -39814715.10 -39814714.93 -39814714.71 0.0064 0.0036
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 Pluto -113720-11-13 19:12 J -39814489.93 -39814489.70 -39814489.47 0.0064 0.0007
 Jupiter -113719-02-14 23:17 J -39814396.72 -39814396.53 -39814396.33 0.0528 0.0084
 Saturn -113719-03-03 04:19 J -39814380.51 -39814380.32 -39814380.12 0.0302 0.0096
 Pluto -113719-06-26 23:46 J -39814264.64 -39814264.51 -39814264.34 0.0065 0.0049
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 Uranus -113711-09-18 16:05 J -39811259.03 -39811258.83 -39811258.62 0.0131 0.0029
 Uranus -113710-05-02 18:29 J -39811032.94 -39811032.73 -39811032.51 0.0131 0.0007
 Uranus -113710-12-14 20:53 J -39810806.83 -39810806.63 -39810806.43 0.0132 0.0042
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 Uranus -113708-03-11 01:26 J -39810354.53 -39810354.44 -39810354.31 0.0132 0.0113
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 Jupiter -113708-10-20 21:07 J -39810130.80 -39810130.62 -39810130.44 0.0529 0.0216
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 Saturn -113706-05-12 12:00 J -39809562.21 -39809562.00 -39809561.79 0.0260 0.0084
 Saturn -113706-12-27 14:38 J -39809333.11 -39809332.89 -39809332.67 0.0260 0.0024
 Earth -113705-01-14 14:38 J -39809315.05 -39809314.89 -39809314.73 0.2571 0.0646
 Moon -113705-01-14 17:02 J -39809314.94 -39809314.79 -39809314.64 0.2576 0.0708 *
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 Saturn -113703-07-01 04:05 J -39808416.45 -39808416.33 -39808416.21 0.0261 0.0215
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Saturn -113678-08-21 06:58 J -39799234.36 -39799234.21 -39799234.07 0.0261 0.0195 *
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 Uranus -113669-11-09 10:34 J -39795866.24 -39795866.06 -39795865.88 0.0147 0.0087
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 Neptune -113666-02-08 12:58 J -39795045.08 -39795044.96 -39795044.82 0.0088 0.0069
 Mars -113666-02-10 02:38 J -39795043.55 -39795043.39 -39795043.23 0.1657 0.0598
 Jupiter -113666-04-25 23:31 J -39794968.65 -39794968.52 -39794968.37 0.0497 0.0372
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 Neptune -113516-02-28 22:48 J -39740236.67 -39740236.55 -39740236.38 0.0088 0.0065
 Saturn -113516-09-27 03:22 J -39740026.43 -39740026.36 -39740026.27 0.0299 0.0274
 Neptune -113516-10-12 10:34 J -39740011.20 -39740011.06 -39740010.89 0.0088 0.0059
 Saturn -113515-05-15 00:58 J -39739796.61 -39739796.46 -39739796.30 0.0300 0.0190
 Neptune -113515-05-25 22:19 J -39739785.74 -39739785.57 -39739785.40 0.0088 0.0053
 Saturn -113515-12-30 22:34 J -39739566.75 -39739566.56 -39739566.36 0.0301 0.0102
 Neptune -113514-01-06 09:22 J -39739560.27 -39739560.11 -39739559.91 0.0088 0.0048
 Saturn -113514-08-17 20:10 J -39739336.86 -39739336.66 -39739336.45 0.0302 0.0011
 Neptune -113514-08-19 20:53 J -39739334.80 -39739334.63 -39739334.42 0.0088 0.0042
 Neptune -113513-04-01 08:38 J -39739109.33 -39739109.14 -39739108.94 0.0088 0.0035
 Saturn -113513-04-03 17:46 J -39739106.96 -39739106.76 -39739106.56 0.0302 0.0082
 Neptune -113513-11-12 20:10 J -39738883.86 -39738883.66 -39738883.46 0.0088 0.0030
 Saturn -113513-11-19 14:24 J -39738877.06 -39738876.90 -39738876.72 0.0301 0.0171
 Neptune -113512-06-26 07:41 J -39738658.39 -39738658.18 -39738657.98 0.0088 0.0024
 Saturn -113512-07-07 10:48 J -39738647.15 -39738647.05 -39738646.94 0.0300 0.0255
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 Uranus -113503-04-28 19:55 J -39735429.78 -39735429.67 -39735429.54 0.0148 0.0125
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 Mars -113503-10-03 19:12 J -39735271.82 -39735271.70 -39735271.58 0.1658 0.1130
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 Saturn -113501-03-12 02:10 J -39734746.53 -39734746.41 -39734746.28 0.0262 0.0215
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Saturn -113497-08-02 03:50 J -39733142.45 -39733142.34 -39733142.21 0.0262 0.0219
 Jupiter -113494-04-11 05:02 J -39732160.46 -39732160.29 -39732160.11 0.0529 0.0235
 Jupiter -113488-09-30 17:31 J -39729795.87 -39729795.77 -39729795.67 0.0499 0.0435
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 Pluto -113472-03-05 12:58 J -39724160.99 -39724160.96 -39724160.87 0.0064 0.0062
 Saturn -113472-09-22 09:22 J -39723960.23 -39723960.11 -39723959.97 0.0262 0.0208
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 Pluto -113471-05-29 23:46 J -39723710.73 -39723710.51 -39723710.29 0.0064 0.0021
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 Pluto -113470-01-10 04:34 J -39723485.35 -39723485.31 -39723485.25 0.0065 0.0063
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 Mars -113469-08-01 17:02 J -39722915.96 -39722915.79 -39722915.63 0.1654 0.0408
 Saturn -113469-11-11 03:07 J -39722814.57 -39722814.37 -39722814.17 0.0261 0.0105
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 Earth -113462-01-14 16:48 J -39720558.96 -39720558.80 -39720558.65 0.2569 0.0962

Moon -113462-01-14 18:00 J -39720558.89 -39720558.75 -39720558.60 0.2563 0.1389 *
 Uranus -113460-02-02 06:29 J -39719809.32 -39719809.23 -39719809.09 0.0131 0.0110
 Uranus -113460-09-16 09:22 J -39719583.28 -39719583.11 -39719582.93 0.0131 0.0074
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 Earth -113454-01-12 08:24 J -39717639.22 -39717639.15 -39717639.08 0.2567 0.2286
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 Saturn -113454-12-13 07:26 J -39717304.33 -39717304.19 -39717304.03 0.0301 0.0198
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 Saturn -113443-08-18 10:05 J -39713403.11 -39713403.08 -39713403.04 0.0263 0.0258
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 Saturn -113442-11-19 17:17 J -39712944.96 -39712944.78 -39712944.59 0.0261 0.0138
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Neptune -113436-06-08 02:53 J -39710917.41 -39710917.38 -39710917.30 0.0089 0.0086
 Neptune -113435-01-19 17:31 J -39710691.85 -39710691.77 -39710691.65 0.0089 0.0080
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 Mars -113434-05-06 19:12 J -39710219.88 -39710219.70 -39710219.52 0.1860 0.0275
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 Saturn -113427-12-18 03:22 J -39707437.53 -39707437.36 -39707437.18 0.0301 0.0153
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 Saturn -113425-03-21 22:48 J -39706977.76 -39706977.55 -39706977.35 0.0302 0.0032
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 Jupiter -113423-08-25 04:48 J -39706091.49 -39706091.30 -39706091.11 0.0528 0.0118
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 Saturn -113413-02-28 17:46 J -39702616.82 -39702616.76 -39702616.70 0.0263 0.0250
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 Mars -113403-05-30 06:00 J -39698873.41 -39698873.25 -39698873.09 0.1653 0.0344
 Mars -113402-05-06 22:48 J -39698531.63 -39698531.55 -39698531.46 0.1856 0.1636
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Mars -113400-03-02 15:36 J -39697865.98 -39697865.85 -39697865.73 0.1864 0.1363
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 Saturn -113398-11-12 16:05 J -39696880.96 -39696880.83 -39696880.69 0.0300 0.0227
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 Jupiter -113387-05-02 17:31 J -39693056.93 -39693056.77 -39693056.61 0.0528 0.0299
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 Pluto -113383-01-27 10:19 J -39691691.28 -39691691.07 -39691690.86 0.0080 0.0002
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 Pluto -113383-09-09 18:29 J -39691465.77 -39691465.73 -39691465.63 0.0079 0.0076
 Saturn -113383-12-12 06:00 J -39691372.43 -39691372.25 -39691372.04 0.0261 0.0120
 Saturn -113382-07-29 09:36 J -39691143.31 -39691143.10 -39691142.88 0.0260 0.0056
 Jupiter -113381-02-28 04:19 J -39690929.53 -39690929.32 -39690929.11 0.0497 0.0078
 Saturn -113381-03-14 13:12 J -39690914.17 -39690913.95 -39690913.73 0.0260 0.0009
 Saturn -113381-10-29 16:48 J -39690685.01 -39690684.80 -39690684.58 0.0260 0.0072
 Saturn -113380-06-15 20:38 J -39690455.82 -39690455.64 -39690455.44 0.0261 0.0136
 Saturn -113379-01-31 01:12 J -39690226.59 -39690226.45 -39690226.30 0.0261 0.0198
 Saturn -113379-09-17 06:00 J -39689997.28 -39689997.25 -39689997.21 0.0262 0.0258
 Uranus -113377-10-02 20:53 J -39689250.69 -39689250.63 -39689250.57 0.0131 0.0124
 Uranus -113376-05-16 23:02 J -39689024.69 -39689024.54 -39689024.38 0.0131 0.0089
 Uranus -113376-12-29 01:12 J -39688798.63 -39688798.45 -39688798.24 0.0131 0.0054
 Jupiter -113375-01-05 12:58 J -39688791.16 -39688790.96 -39688790.77 0.0529 0.0019
 Uranus -113375-08-12 03:50 J -39688572.55 -39688572.34 -39688572.13 0.0131 0.0018
 Uranus -113374-03-26 06:14 J -39688346.45 -39688346.24 -39688346.03 0.0131 0.0017
 Uranus -113374-11-07 08:10 J -39688120.34 -39688120.16 -39688119.95 0.0131 0.0053

Uranus -113373-06-20 10:34 J -39687894.21 -39687894.06 -39687893.90 0.0131 0.0089
 Uranus -113372-02-01 12:29 J -39687668.02 -39687667.98 -39687667.89 0.0132 0.0125
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 Jupiter -113370-11-03 01:26 J -39686663.58 -39686663.44 -39686663.29 0.0497 0.0348
 Mars -113369-03-28 04:05 J -39686517.49 -39686517.33 -39686517.16 0.1650 0.0375
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 Saturn -113368-05-25 00:43 J -39686094.60 -39686094.47 -39686094.32 0.0300 0.0215
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Neptune -113350-04-09 19:12 J -39679565.88 -39679565.70 -39679565.52 0.0088 0.0047
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Saturn -113337-10-25 04:19 J -39674618.51 -39674618.32 -39674618.12 0.0301 0.0077
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 Mars -113336-03-03 00:29 J -39674489.60 -39674489.48 -39674489.36 0.1857 0.1410
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 Mars -113335-12-28 16:05 J -39673823.91 -39673823.83 -39673823.74 0.1865 0.1617
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 Uranus -113333-02-18 20:53 J -39673406.84 -39673406.63 -39673406.41 0.0148 0.0037
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 Saturn -113309-06-16 19:41 J -39664521.84 -39664521.68 -39664521.52 0.0301 0.0189
 Earth -113309-07-11 15:36 J -39664496.91 -39664496.85 -39664496.78 0.2773 0.2480

Moon -113309-07-11 19:41 J -39664496.70 -39664496.68 -39664496.65 0.2777 0.2717
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 Moon -113301-07-09 11:31 J -39661577.17 -39661577.02 -39661576.87 0.2774 0.0567 *
 Jupiter -113298-03-19 01:12 J -39660594.66 -39660594.45 -39660594.24 0.0497 0.0033
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 Saturn -113295-11-29 23:02 J -39659242.71 -39659242.54 -39659242.36 0.0261 0.0154
 Saturn -113294-07-17 02:24 J -39659013.60 -39659013.40 -39659013.19 0.0261 0.0091
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 Uranus -113292-01-14 13:12 J -39658466.06 -39658465.95 -39658465.81 0.0131 0.0104
 Jupiter -113292-01-24 06:29 J -39658456.42 -39658456.23 -39658456.03 0.0529 0.0023
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 Saturn -113291-01-18 17:17 J -39658096.94 -39658096.78 -39658096.60 0.0261 0.0167
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 Saturn -113291-09-04 21:50 J -39657867.69 -39657867.59 -39657867.48 0.0262 0.0229
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Jupiter -113281-09-29 03:07 J -39654190.53 -39654190.37 -39654190.20 0.0530 0.0293
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 Jupiter -113274-03-21 15:22 J -39651825.98 -39651825.86 -39651825.73 0.0498 0.0397
 Mars -113273-03-24 00:29 J -39651457.52 -39651457.48 -39651457.44 0.1658 0.1606
 Neptune -113272-09-09 08:38 J -39650923.18 -39650923.14 -39650923.07 0.0089 0.0086
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 Neptune -113266-04-01 20:10 J -39648892.86 -39648892.66 -39648892.43 0.0089 0.0030
 Saturn -113266-10-26 00:58 J -39648685.59 -39648685.46 -39648685.32 0.0262 0.0207
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Neptune -113264-02-06 16:19 J -39648216.04 -39648215.82 -39648215.59 0.0089 0.0010
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 Saturn -113263-04-29 14:38 J -39647769.11 -39647768.89 -39647768.68 0.0260 0.0049
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 Saturn -113263-12-14 18:00 J -39647539.94 -39647539.75 -39647539.54 0.0260 0.0114
 Neptune -113263-12-15 12:29 J -39647539.20 -39647538.98 -39647538.75 0.0089 0.0009
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 Saturn -113262-07-31 21:50 J -39647310.74 -39647310.59 -39647310.41 0.0261 0.0178
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 Neptune -113261-10-22 08:24 J -39646862.35 -39646862.15 -39646861.92 0.0089 0.0029
 Neptune -113260-06-04 23:17 J -39646636.73 -39646636.53 -39646636.31 0.0089 0.0035
 Neptune -113259-01-16 13:55 J -39646411.12 -39646410.92 -39646410.71 0.0089 0.0041
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 Jupiter -113251-07-30 08:38 J -39643294.33 -39643294.14 -39643293.94 0.0497 0.0155
 Saturn -113251-11-22 15:22 J -39643178.97 -39643178.86 -39643178.74 0.0300 0.0251
 Uranus -113250-03-06 12:14 J -39643075.20 -39643074.99 -39643074.77 0.0148 0.0040
 Saturn -113250-07-10 12:58 J -39642949.13 -39642948.96 -39642948.78 0.0301 0.0163
 Uranus -113250-10-19 04:34 J -39642848.53 -39642848.31 -39642848.09 0.0148 0.0015
 Saturn -113249-02-25 10:48 J -39642719.25 -39642719.05 -39642718.85 0.0302 0.0069

Uranus -113249-06-01 20:24 J -39642621.83 -39642621.65 -39642621.44 0.0148 0.0070
 Saturn -113249-10-12 08:24 J -39642489.35 -39642489.15 -39642488.94 0.0302 0.0027
 Uranus -113248-01-14 12:29 J -39642395.08 -39642394.98 -39642394.84 0.0147 0.0124
 Saturn -113248-05-30 05:46 J -39642259.44 -39642259.26 -39642259.06 0.0302 0.0121
 Saturn -113247-01-15 02:38 J -39642029.53 -39642029.39 -39642029.24 0.0301 0.0211
 Saturn -113247-09-01 22:48 J -39641799.57 -39641799.55 -39641799.51 0.0300 0.0295
 Jupiter -113245-06-06 16:05 J -39641156.02 -39641155.83 -39641155.63 0.0529 0.0112
 Mars -113239-01-20 22:05 J -39639101.72 -39639101.58 -39639101.43 0.1654 0.0874
 Jupiter -113239-04-04 06:43 J -39639028.32 -39639028.22 -39639028.11 0.0496 0.0422
 Mars -113238-11-21 06:00 J -39638432.41 -39638432.25 -39638432.09 0.1649 0.0507
 Saturn -113237-09-20 04:05 J -39638128.37 -39638128.33 -39638128.29 0.0263 0.0258
 Mars -113237-10-24 23:02 J -39638093.72 -39638093.54 -39638093.36 0.1863 0.0447
 Saturn -113236-05-07 07:26 J -39637899.32 -39637899.19 -39637899.04 0.0262 0.0198
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 Jupiter -113221-06-09 07:41 J -39632387.32 -39632387.18 -39632387.04 0.0528 0.0378
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 Saturn -113220-09-06 20:24 J -39631932.85 -39631932.65 -39631932.45 0.0301 0.0054
 Earth -113219-01-14 18:58 J -39631802.85 -39631802.71 -39631802.57 0.2567 0.1300

Moon -113219-01-14 21:22 J -39631802.75 -39631802.61 -39631802.47 0.2574 0.1194 *
 Saturn -113219-04-24 18:00 J -39631702.95 -39631702.75 -39631702.54 0.0301 0.0043
 Saturn -113219-12-10 15:22 J -39631473.04 -39631472.86 -39631472.68 0.0301 0.0136
 Saturn -113218-07-28 12:00 J -39631243.13 -39631243.00 -39631242.86 0.0300 0.0226
 Jupiter -113215-04-06 19:41 J -39630259.89 -39630259.68 -39630259.47 0.0497 0.0003
 Earth -113211-01-12 10:34 J -39628883.16 -39628883.06 -39628882.95 0.2565 0.1960
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 Uranus -113208-04-28 06:43 J -39627681.38 -39627681.22 -39627681.05 0.0131 0.0082
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 Mars -113205-10-25 04:05 J -39626405.49 -39626405.33 -39626405.18 0.1860 0.0960
 Saturn -113204-05-22 01:41 J -39626196.64 -39626196.43 -39626196.21 0.0260 0.0070
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Saturn -113192-12-15 06:00 J -39621606.39 -39621606.25 -39621606.12 0.0300 0.0228
 Jupiter -113191-04-09 13:26 J -39621491.03 -39621490.94 -39621490.84 0.0499 0.0446
 Saturn -113191-08-02 03:36 J -39621376.53 -39621376.35 -39621376.17 0.0301 0.0137
 Neptune -113190-03-16 18:58 J -39621149.74 -39621149.71 -39621149.66 0.0088 0.0087
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 Saturn -113190-11-04 23:17 J -39620916.73 -39620916.53 -39620916.33 0.0302 0.0054
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 Neptune -113188-01-21 05:31 J -39620473.39 -39620473.27 -39620473.13 0.0088 0.0070
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 Neptune -113185-02-22 14:53 J -39619346.05 -39619345.88 -39619345.67 0.0088 0.0042
 Neptune -113185-10-05 02:38 J -39619120.57 -39619120.39 -39619120.18 0.0088 0.0035
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 Saturn -113175-04-17 03:36 J -39615639.57 -39615639.35 -39615639.13 0.0260 0.0015
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 Neptune -113101-09-27 07:12 J -39588447.42 -39588447.20 -39588446.97 0.0089 0.0017
 Saturn -113100-01-24 15:07 J -39588328.02 -39588327.87 -39588327.71 0.0301 0.0189
 Neptune -113100-05-10 22:05 J -39588221.81 -39588221.58 -39588221.36 0.0089 0.0010
 Saturn -113100-09-11 11:46 J -39588098.08 -39588098.01 -39588097.93 0.0300 0.0277
 Neptune -113100-12-22 12:29 J -39587996.21 -39587995.98 -39587995.75 0.0089 0.0004
 Neptune -113099-08-05 03:07 J -39587770.60 -39587770.37 -39587770.14 0.0089 0.0003
 Neptune -113098-03-18 17:46 J -39587544.99 -39587544.76 -39587544.53 0.0089 0.0009
 Neptune -113098-10-30 08:24 J -39587319.37 -39587319.15 -39587318.92 0.0089 0.0016
 Neptune -113097-06-11 23:02 J -39587093.75 -39587093.54 -39587093.31 0.0089 0.0022
 Jupiter -113096-01-01 06:43 J -39586890.41 -39586890.22 -39586890.03 0.0498 0.0212
 Neptune -113096-01-23 13:26 J -39586868.14 -39586867.94 -39586867.71 0.0089 0.0029
 Neptune -113096-09-06 04:05 J -39586642.52 -39586642.33 -39586642.10 0.0089 0.0035
 Neptune -113095-04-19 18:58 J -39586416.90 -39586416.71 -39586416.50 0.0089 0.0041
 Neptune -113095-12-01 09:22 J -39586191.28 -39586191.11 -39586190.90 0.0089 0.0048
 Neptune -113094-07-15 00:14 J -39585965.66 -39585965.49 -39585965.30 0.0089 0.0054
 Neptune -113093-02-25 14:53 J -39585740.04 -39585739.88 -39585739.71 0.0089 0.0060
 Neptune -113093-10-08 05:17 J -39585514.41 -39585514.28 -39585514.11 0.0089 0.0067
 Neptune -113092-05-21 19:55 J -39585288.78 -39585288.67 -39585288.52 0.0089 0.0073
 Neptune -113091-01-02 10:34 J -39585063.15 -39585063.06 -39585062.94 0.0089 0.0079
 Neptune -113091-08-16 00:58 J -39584837.50 -39584837.46 -39584837.38 0.0089 0.0085
 Jupiter -113091-11-09 18:29 J -39584751.89 -39584751.73 -39584751.57 0.0528 0.0312

Saturn -113089-05-17 03:50 J -39584197.46 -39584197.34 -39584197.22 0.0262 0.0217
 Saturn -113088-01-01 06:43 J -39583968.39 -39583968.22 -39583968.04 0.0261 0.0154
 Saturn -113088-08-18 09:36 J -39583739.30 -39583739.10 -39583738.89 0.0260 0.0089
 Saturn -113087-04-04 12:29 J -39583510.20 -39583509.98 -39583509.76 0.0260 0.0023
 Saturn -113087-11-19 15:22 J -39583281.07 -39583280.86 -39583280.64 0.0260 0.0044
 Saturn -113086-07-06 18:29 J -39583051.93 -39583051.73 -39583051.53 0.0260 0.0109
 Saturn -113085-02-20 21:50 J -39582822.75 -39582822.59 -39582822.42 0.0260 0.0173
 Jupiter -113085-09-06 04:05 J -39582624.54 -39582624.33 -39582624.12 0.0497 0.0064
 Saturn -113085-10-07 01:55 J -39582593.51 -39582593.42 -39582593.33 0.0261 0.0236
 Uranus -113084-11-19 12:14 J -39582185.04 -39582184.99 -39582184.90 0.0148 0.0140
 Uranus -113083-07-04 04:34 J -39581958.48 -39581958.31 -39581958.12 0.0148 0.0085
 Uranus -113082-02-15 20:53 J -39581731.85 -39581731.63 -39581731.41 0.0148 0.0029
 Uranus -113082-09-30 13:12 J -39581505.17 -39581504.95 -39581504.73 0.0148 0.0026
 Uranus -113081-05-14 05:17 J -39581278.46 -39581278.28 -39581278.08 0.0148 0.0081
 Uranus -113081-12-26 21:22 J -39581051.69 -39581051.61 -39581051.51 0.0148 0.0135
 Jupiter -113079-07-15 15:07 J -39580486.07 -39580485.87 -39580485.67 0.0529 0.0003
 Mars -113076-09-13 14:38 J -39579329.98 -39579329.89 -39579329.81 0.1655 0.1414
 Saturn -113074-06-14 03:50 J -39578691.41 -39578691.34 -39578691.25 0.0300 0.0275
 Mars -113074-07-14 22:05 J -39578660.74 -39578660.58 -39578660.41 0.1649 0.0046
 Saturn -113073-01-30 01:41 J -39578461.58 -39578461.43 -39578461.26 0.0301 0.0186
 Jupiter -113073-05-12 02:10 J -39578358.56 -39578358.41 -39578358.25 0.0496 0.0335
 Mars -113073-06-18 07:41 J -39578321.36 -39578321.18 -39578321.00 0.1863 0.0499
 Saturn -113073-09-15 23:46 J -39578231.70 -39578231.51 -39578231.31 0.0302 0.0091
 Saturn -113072-05-03 21:50 J -39578001.79 -39578001.59 -39578001.38 0.0302 0.0010
 Mars -113072-05-14 06:58 J -39577991.30 -39577991.21 -39577991.11 0.1646 0.1353
 Saturn -113072-12-19 19:41 J -39577771.87 -39577771.68 -39577771.49 0.0302 0.0104
 Saturn -113071-08-06 17:02 J -39577541.94 -39577541.79 -39577541.63 0.0302 0.0198
 Saturn -113070-03-24 13:41 J -39577311.98 -39577311.93 -39577311.86 0.0301 0.0286
 Jupiter -113067-03-20 11:02 J -39576220.20 -39576220.04 -39576219.88 0.0529 0.0318
 Moon -113066-07-12 11:02 J -39575741.15 -39575741.04 -39575740.93 0.2773 0.1886

Earth -113066-07-12 16:05 J -39575740.92 -39575740.83 -39575740.75 0.2775 0.2272
 Jupiter -113061-09-08 23:17 J -39573855.66 -39573855.53 -39573855.40 0.0498 0.0388
 Saturn -113060-11-27 06:29 J -39573411.36 -39573411.23 -39573411.10 0.0262 0.0209
 Saturn -113059-07-14 09:22 J -39573182.29 -39573182.11 -39573181.92 0.0261 0.0145
 Saturn -113058-02-28 12:14 J -39572953.19 -39572952.99 -39572952.77 0.0260 0.0081
 Moon -113058-07-10 01:55 J -39572821.47 -39572821.42 -39572821.38 0.2781 0.2621
 Earth -113058-07-10 06:29 J -39572821.35 -39572821.23 -39572821.11 0.2777 0.1732
 Saturn -113058-10-15 15:36 J -39572724.07 -39572723.85 -39572723.63 0.0260 0.0015
 Saturn -113057-05-31 18:29 J -39572494.95 -39572494.73 -39572494.51 0.0260 0.0052
 Saturn -113056-01-15 21:22 J -39572265.80 -39572265.61 -39572265.40 0.0260 0.0118
 Saturn -113056-09-02 00:43 J -39572036.61 -39572036.47 -39572036.30 0.0260 0.0183
 Saturn -113055-04-19 05:02 J -39571807.36 -39571807.29 -39571807.22 0.0261 0.0245
 Jupiter -113055-07-18 05:46 J -39571717.33 -39571717.26 -39571717.18 0.0527 0.0487
 Jupiter -113049-05-14 19:55 J -39569589.88 -39569589.67 -39569589.47 0.0497 0.0109
 Saturn -113045-12-24 09:50 J -39567905.18 -39567905.09 -39567904.99 0.0299 0.0263
 Saturn -113044-08-11 07:41 J -39567675.35 -39567675.18 -39567675.01 0.0301 0.0172
 Jupiter -113043-03-23 04:05 J -39567451.52 -39567451.33 -39567451.15 0.0529 0.0182
 Saturn -113043-03-29 05:46 J -39567445.46 -39567445.26 -39567445.06 0.0301 0.0077
 Saturn -113043-11-14 03:50 J -39567215.55 -39567215.34 -39567215.14 0.0302 0.0022
 Saturn -113042-07-02 01:12 J -39566985.63 -39566985.45 -39566985.25 0.0302 0.0119
 Mars -113042-07-13 12:43 J -39566974.13 -39566973.97 -39566973.82 0.1651 0.0682
 Saturn -113041-02-16 22:34 J -39566755.70 -39566755.56 -39566755.41 0.0301 0.0212
 Uranus -113041-08-26 12:00 J -39566564.09 -39566564.00 -39566563.87 0.0131 0.0111
 Saturn -113041-10-03 19:26 J -39566525.69 -39566525.69 -39566525.68 0.0300 0.0300
 Uranus -113040-04-09 14:38 J -39566338.06 -39566337.89 -39566337.71 0.0131 0.0075
 Mars -113040-05-12 21:07 J -39566304.77 -39566304.62 -39566304.47 0.1647 0.0705
 Uranus -113040-11-21 16:48 J -39566111.99 -39566111.80 -39566111.59 0.0131 0.0039
 Mars -113039-04-15 03:07 J -39565967.51 -39565967.37 -39565967.23 0.1866 0.1187
 Uranus -113039-07-05 19:12 J -39565885.91 -39565885.70 -39565885.49 0.0131 0.0003
 Uranus -113038-02-16 21:22 J -39565659.81 -39565659.61 -39565659.40 0.0131 0.0033

Uranus -113038-09-30 23:31 J -39565433.69 -39565433.52 -39565433.33 0.0131 0.0069
 Jupiter -113037-01-18 14:24 J -39565324.09 -39565323.90 -39565323.70 0.0496 0.0175
 Uranus -113037-05-14 01:26 J -39565207.54 -39565207.44 -39565207.29 0.0131 0.0106
 Jupiter -113032-11-26 02:10 J -39563185.60 -39563185.41 -39563185.22 0.0530 0.0127
 Saturn -113030-06-09 10:05 J -39562625.21 -39562625.08 -39562624.93 0.0262 0.0202
 Saturn -113029-01-24 12:58 J -39562396.13 -39562395.96 -39562395.76 0.0261 0.0138
 Saturn -113029-09-09 16:05 J -39562167.04 -39562166.83 -39562166.62 0.0260 0.0071
 Saturn -113028-04-26 18:58 J -39561937.93 -39561937.71 -39561937.49 0.0260 0.0007
 Saturn -113028-12-11 21:36 J -39561708.81 -39561708.60 -39561708.39 0.0259 0.0061
 Saturn -113027-07-29 00:29 J -39561479.67 -39561479.48 -39561479.28 0.0260 0.0127
 Saturn -113026-03-15 03:36 J -39561250.48 -39561250.35 -39561250.19 0.0260 0.0193
 Neptune -113026-06-18 03:22 J -39561155.39 -39561155.36 -39561155.32 0.0088 0.0087
 Jupiter -113026-09-23 12:43 J -39561058.05 -39561057.97 -39561057.87 0.0496 0.0446
 Saturn -113026-10-30 07:41 J -39561021.21 -39561021.18 -39561021.12 0.0261 0.0255
 Neptune -113025-01-29 14:24 J -39560929.96 -39560929.90 -39560929.79 0.0088 0.0082
 Neptune -113025-09-11 02:10 J -39560704.50 -39560704.41 -39560704.29 0.0088 0.0076
 Neptune -113024-04-24 13:41 J -39560479.04 -39560478.93 -39560478.78 0.0088 0.0070
 Neptune -113024-12-06 01:12 J -39560253.58 -39560253.45 -39560253.29 0.0088 0.0065
 Neptune -113023-07-19 12:43 J -39560028.11 -39560027.97 -39560027.80 0.0088 0.0059
 Neptune -113022-03-02 00:29 J -39559802.64 -39559802.48 -39559802.31 0.0088 0.0053
 Neptune -113022-10-13 11:46 J -39559577.17 -39559577.01 -39559576.82 0.0088 0.0047
 Neptune -113021-05-25 23:17 J -39559351.70 -39559351.53 -39559351.33 0.0088 0.0042
 Neptune -113020-01-06 10:48 J -39559126.23 -39559126.05 -39559125.84 0.0088 0.0036
 Jupiter -113020-07-31 22:19 J -39558919.67 -39558919.57 -39558919.46 0.0530 0.0441
 Neptune -113020-08-19 22:34 J -39558900.76 -39558900.56 -39558900.36 0.0088 0.0029
 Neptune -113019-04-02 10:05 J -39558675.28 -39558675.08 -39558674.87 0.0088 0.0024
 Neptune -113019-11-13 21:50 J -39558449.80 -39558449.59 -39558449.38 0.0088 0.0018
 Neptune -113018-06-27 09:07 J -39558224.32 -39558224.12 -39558223.90 0.0088 0.0012
 Neptune -113017-02-07 20:38 J -39557998.85 -39557998.64 -39557998.42 0.0088 0.0006
 Neptune -113017-09-20 08:10 J -39557773.37 -39557773.16 -39557772.94 0.0088 0.0002

Neptune -113016-05-03 19:41 J -39557547.88 -39557547.68 -39557547.46 0.0088 0.0007
 Neptune -113016-12-15 07:12 J -39557322.40 -39557322.20 -39557321.98 0.0088 0.0012
 Saturn -113015-07-06 09:50 J -39557119.18 -39557119.09 -39557118.97 0.0300 0.0258
 Neptune -113015-07-28 18:43 J -39557096.93 -39557096.72 -39557096.51 0.0088 0.0018
 Saturn -113014-02-21 07:55 J -39556889.34 -39556889.17 -39556889.00 0.0301 0.0166
 Neptune -113014-03-11 06:14 J -39556871.44 -39556871.24 -39556871.04 0.0088 0.0024
 Saturn -113014-10-09 06:00 J -39556659.45 -39556659.25 -39556659.05 0.0302 0.0070
 Neptune -113014-10-22 17:31 J -39556645.96 -39556645.77 -39556645.56 0.0088 0.0030
 Jupiter -113013-01-21 08:38 J -39556555.32 -39556555.14 -39556554.97 0.0498 0.0273
 Saturn -113013-05-26 04:05 J -39556429.53 -39556429.33 -39556429.13 0.0302 0.0029
 Neptune -113013-06-04 05:02 J -39556420.47 -39556420.29 -39556420.09 0.0088 0.0035
 Saturn -113012-01-11 01:41 J -39556199.61 -39556199.43 -39556199.24 0.0302 0.0127
 Neptune -113012-01-15 16:19 J -39556194.99 -39556194.82 -39556194.62 0.0088 0.0042
 Saturn -113012-08-28 23:02 J -39555969.67 -39555969.54 -39555969.40 0.0302 0.0220
 Neptune -113012-08-29 04:05 J -39555969.51 -39555969.33 -39555969.15 0.0088 0.0047 *
 Neptune -113011-04-11 15:36 J -39555744.02 -39555743.85 -39555743.68 0.0088 0.0053
 Neptune -113011-11-23 02:53 J -39555518.53 -39555518.38 -39555518.21 0.0088 0.0059
 Neptune -113010-07-06 14:10 J -39555293.03 -39555292.91 -39555292.74 0.0088 0.0065
 Mars -113010-07-12 03:22 J -39555287.46 -39555287.36 -39555287.27 0.1654 0.1349
 Neptune -113009-02-17 01:55 J -39555067.54 -39555067.42 -39555067.28 0.0088 0.0070
 Neptune -113009-09-29 13:12 J -39554842.04 -39554841.95 -39554841.82 0.0088 0.0076
 Mars -113008-05-11 11:02 J -39554618.20 -39554618.04 -39554617.87 0.1649 0.0068
 Neptune -113008-05-13 00:43 J -39554616.52 -39554616.47 -39554616.36 0.0088 0.0082
 Jupiter -113008-11-28 19:26 J -39554416.82 -39554416.69 -39554416.55 0.0528 0.0374
 Neptune -113008-12-24 12:43 J -39554391.00 -39554390.97 -39554390.92 0.0088 0.0087
 Mars -113007-04-15 09:07 J -39554279.30 -39554279.12 -39554278.93 0.1864 0.0266
 Mars -113006-03-11 19:55 J -39553948.75 -39553948.67 -39553948.59 0.1646 0.1422
 Jupiter -113002-09-26 06:43 J -39552289.43 -39552289.22 -39552289.01 0.0497 0.0003
 Saturn -113001-05-04 08:10 J -39552068.19 -39552068.16 -39552068.11 0.0262 0.0258
 Saturn -113001-12-19 11:31 J -39551839.16 -39551839.02 -39551838.87 0.0261 0.0195

113TH MILLENNIUM BCE

This is a list of transits of Venus in the 113th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-113000-08-05 14:38 J	-39551610.07	-39551609.89	-39551609.70	0.0260	0.0130		
Uranus	-112999-03-03 10:05 J	-39551400.22	-39551400.08	-39551399.93	0.0148	0.0111		
Saturn	-112999-03-22 17:31 J	-39551380.98	-39551380.77	-39551380.55	0.0260	0.0064		
Uranus	-112999-10-16 02:10 J	-39551173.61	-39551173.41	-39551173.20	0.0148	0.0056		
Saturn	-112999-11-06 20:38 J	-39551151.86	-39551151.64	-39551151.42	0.0260	0.0005		
Uranus	-112998-05-30 18:29 J	-39550946.95	-39550946.73	-39550946.51	0.0148	0.0001		
Saturn	-112998-06-23 23:31 J	-39550922.73	-39550922.52	-39550922.31	0.0260	0.0070		
Uranus	-112997-01-12 10:34 J	-39550720.26	-39550720.06	-39550719.85	0.0148	0.0055		
Saturn	-112997-02-08 02:24 J	-39550693.58	-39550693.40	-39550693.20	0.0260	0.0136		
Uranus	-112997-08-26 02:53 J	-39550493.52	-39550493.38	-39550493.23	0.0148	0.0110		
Saturn	-112997-09-24 05:46 J	-39550464.38	-39550464.26	-39550464.11	0.0260	0.0201		
Jupiter	-112996-08-03 15:07 J	-39550151.07	-39550150.87	-39550150.68	0.0529	0.0057		
Jupiter	-112990-06-01 04:19 J	-39548023.49	-39548023.32	-39548023.14	0.0496	0.0276		
Saturn	-112985-01-16 14:24 J	-39546333.01	-39546332.90	-39546332.78	0.0300	0.0247		
Saturn	-112985-09-02 12:29 J	-39546103.16	-39546102.98	-39546102.80	0.0301	0.0154		
Jupiter	-112984-04-08 12:14 J	-39545885.16	-39545884.99	-39545884.82	0.0530	0.0257		
Saturn	-112984-04-20 10:34 J	-39545873.26	-39545873.06	-39545872.86	0.0302	0.0057		

Saturn -112984-12-06 08:38 J -39545643.34 -39545643.14 -39545642.94 0.0302 0.0042
 Saturn -112983-07-24 06:14 J -39545413.42 -39545413.24 -39545413.05 0.0302 0.0140
 Saturn -112982-03-11 03:22 J -39545183.47 -39545183.36 -39545183.22 0.0301 0.0234
 Jupiter -112978-09-28 21:50 J -39543520.68 -39543520.59 -39543520.49 0.0498 0.0438
 Moon -112976-01-14 18:58 J -39543046.84 -39543046.71 -39543046.57 0.2560 0.1645
 Earth -112976-01-14 21:22 J -39543046.74 -39543046.61 -39543046.48 0.2566 0.1627 *
 Mars -112976-05-10 01:41 J -39542931.58 -39542931.43 -39542931.27 0.1651 0.0616
 Pluto -112975-04-03 21:07 J -39542602.78 -39542602.62 -39542602.41 0.0064 0.0037
 Mars -112975-04-15 13:41 J -39542591.00 -39542590.93 -39542590.85 0.1860 0.1677
 Pluto -112975-11-15 02:38 J -39542377.62 -39542377.39 -39542377.16 0.0064 0.0005
 Mars -112974-03-10 09:50 J -39542262.24 -39542262.09 -39542261.94 0.1647 0.0777
 Pluto -112974-06-28 06:58 J -39542152.34 -39542152.21 -39542152.02 0.0065 0.0047
 Mars -112973-02-10 05:02 J -39541925.41 -39541925.29 -39541925.17 0.1867 0.1431
 Saturn -112972-11-14 12:00 J -39541282.05 -39541282.00 -39541281.93 0.0263 0.0251
 Saturn -112971-07-01 15:07 J -39541053.01 -39541052.87 -39541052.71 0.0261 0.0187
 Saturn -112970-02-15 18:14 J -39540823.93 -39540823.74 -39540823.55 0.0261 0.0122
 Saturn -112970-10-02 21:07 J -39540594.83 -39540594.62 -39540594.40 0.0260 0.0055
 Saturn -112969-05-18 23:46 J -39540365.73 -39540365.51 -39540365.29 0.0260 0.0013
 Saturn -112968-01-03 02:38 J -39540136.60 -39540136.39 -39540136.18 0.0259 0.0079
 Moon -112968-01-12 07:41 J -39540127.23 -39540127.18 -39540127.12 0.2561 0.2412
 Earth -112968-01-12 13:12 J -39540127.07 -39540126.95 -39540126.82 0.2564 0.1594
 Saturn -112968-08-20 05:17 J -39539907.45 -39539907.28 -39539907.09 0.0260 0.0145
 Saturn -112967-04-06 08:38 J -39539678.26 -39539678.14 -39539678.00 0.0260 0.0209
 Jupiter -112966-06-03 18:58 J -39539254.90 -39539254.71 -39539254.51 0.0497 0.0161
 Jupiter -112960-04-11 08:24 J -39537116.32 -39537116.15 -39537115.98 0.0528 0.0258
 Uranus -112957-04-26 02:53 J -39536005.43 -39536005.38 -39536005.31 0.0131 0.0125
 Uranus -112957-12-08 04:48 J -39535779.44 -39535779.30 -39535779.13 0.0131 0.0090
 Uranus -112956-07-22 07:12 J -39535553.38 -39535553.20 -39535553.00 0.0131 0.0054
 Saturn -112956-07-28 14:24 J -39535547.02 -39535546.90 -39535546.78 0.0300 0.0241
 Uranus -112955-03-05 09:36 J -39535327.30 -39535327.10 -39535326.88 0.0131 0.0018

Saturn -112955-03-15 12:14 J -39535317.16 -39535316.99 -39535316.81 0.0301 0.0148
 Uranus -112955-10-17 11:46 J -39535101.21 -39535101.01 -39535100.79 0.0131 0.0019
 Saturn -112955-10-31 10:19 J -39535087.27 -39535087.07 -39535086.87 0.0302 0.0050
 Jupiter -112954-02-06 17:02 J -39534988.99 -39534988.79 -39534988.58 0.0497 0.0112
 Uranus -112954-05-31 13:55 J -39534875.11 -39534874.92 -39534874.72 0.0131 0.0055
 Saturn -112954-06-18 08:24 J -39534857.35 -39534857.15 -39534856.95 0.0302 0.0049
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Saturn -112865-09-06 13:12 J -39502269.11 -39502268.95 -39502268.78 0.0302 0.0181
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 Neptune -112862-09-19 11:46 J -39501161.04 -39501161.01 -39501160.97 0.0088 0.0087
 Neptune -112861-05-01 23:02 J -39500935.60 -39500935.54 -39500935.44 0.0088 0.0082
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 Mars -112811-11-01 02:10 J -39482490.58 -39482490.41 -39482490.25 0.1647 0.0254
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 Saturn -112676-10-21 13:26 J -39433192.14 -39433191.94 -39433191.75 0.0262 0.0116
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 Saturn -112674-01-22 20:24 J -39432733.87 -39432733.65 -39432733.43 0.0261 0.0026
 Saturn -112674-09-08 23:46 J -39432504.71 -39432504.51 -39432504.30 0.0260 0.0096
 Saturn -112673-04-25 03:22 J -39432275.52 -39432275.36 -39432275.19 0.0260 0.0165
 Saturn -112673-12-10 06:58 J -39432046.29 -39432046.21 -39432046.10 0.0261 0.0233
 Jupiter -112670-12-12 11:46 J -39430949.19 -39430949.01 -39430948.83 0.0496 0.0240

Jupiter -112664-10-20 01:41 J -39428810.58 -39428810.43 -39428810.28 0.0529 0.0339
 Uranus -112663-01-24 12:58 J -39428714.10 -39428713.96 -39428713.80 0.0148 0.0108
 Uranus -112663-09-08 05:02 J -39428487.49 -39428487.29 -39428487.07 0.0148 0.0052
 Uranus -112662-04-22 21:22 J -39428260.83 -39428260.61 -39428260.39 0.0148 0.0004
 Uranus -112662-12-05 13:12 J -39428034.14 -39428033.95 -39428033.74 0.0148 0.0060
 Saturn -112661-04-02 00:58 J -39427915.57 -39427915.46 -39427915.34 0.0298 0.0245
 Uranus -112661-07-19 05:02 J -39427807.41 -39427807.29 -39427807.13 0.0148 0.0116
 Saturn -112661-11-17 21:50 J -39427685.77 -39427685.59 -39427685.41 0.0300 0.0149
 Saturn -112660-07-05 18:58 J -39427455.91 -39427455.71 -39427455.51 0.0301 0.0048
 Saturn -112659-02-20 16:05 J -39427226.03 -39427225.83 -39427225.63 0.0301 0.0056
 Saturn -112659-10-08 13:12 J -39426996.12 -39426995.95 -39426995.77 0.0301 0.0157
 Saturn -112658-05-26 10:05 J -39426766.17 -39426766.08 -39426765.96 0.0301 0.0255
 Jupiter -112658-08-17 08:53 J -39426683.34 -39426683.13 -39426682.92 0.0496 0.0040
 Jupiter -112652-06-24 22:05 J -39424544.77 -39424544.58 -39424544.38 0.0530 0.0021
 Saturn -112647-01-30 06:29 J -39422864.30 -39422864.23 -39422864.15 0.0264 0.0247
 Mars -112647-06-24 18:29 J -39422718.89 -39422718.73 -39422718.56 0.1647 0.0289
 Saturn -112647-09-16 11:02 J -39422635.20 -39422635.04 -39422634.88 0.0262 0.0178
 Jupiter -112646-04-22 07:12 J -39422417.36 -39422417.20 -39422417.04 0.0496 0.0316
 Saturn -112646-05-03 15:07 J -39422406.07 -39422405.87 -39422405.67 0.0261 0.0107
 Mars -112646-05-28 21:50 J -39422380.77 -39422380.59 -39422380.41 0.1866 0.0487
 Saturn -112646-12-18 18:43 J -39422176.93 -39422176.72 -39422176.50 0.0261 0.0036
 Mars -112645-04-24 03:36 J -39422049.48 -39422049.35 -39422049.23 0.1645 0.1114
 Saturn -112645-08-03 22:19 J -39421947.79 -39421947.57 -39421947.35 0.0260 0.0035
 Saturn -112644-03-21 01:55 J -39421718.62 -39421718.42 -39421718.22 0.0260 0.0106
 Saturn -112644-11-05 05:31 J -39421489.42 -39421489.27 -39421489.10 0.0260 0.0176
 Saturn -112643-06-22 09:36 J -39421260.17 -39421260.10 -39421260.01 0.0261 0.0243
 Jupiter -112640-02-27 16:34 J -39420278.97 -39420278.81 -39420278.65 0.0530 0.0309
 Pluto -112638-01-28 17:02 J -39419579.00 -39419578.79 -39419578.58 0.0080 0.0017
 Pluto -112638-09-11 01:26 J -39419353.57 -39419353.44 -39419353.27 0.0080 0.0057
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Saturn -112632-10-13 07:26 J -39417129.31 -39417129.19 -39417129.06 0.0299 0.0233
 Saturn -112631-05-31 04:19 J -39416899.50 -39416899.32 -39416899.14 0.0300 0.0135
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 Saturn -112630-09-02 22:48 J -39416439.75 -39416439.55 -39416439.35 0.0301 0.0071
 Saturn -112629-04-19 20:10 J -39416209.82 -39416209.66 -39416209.49 0.0301 0.0173
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 Saturn -112618-08-12 12:14 J -39412078.07 -39412077.99 -39412077.89 0.0264 0.0239
 Uranus -112618-12-06 06:00 J -39411962.36 -39411962.25 -39411962.11 0.0131 0.0107
 Saturn -112617-03-28 16:48 J -39411848.96 -39411848.80 -39411848.63 0.0263 0.0170
 Saturn -112617-11-12 20:53 J -39411619.83 -39411619.63 -39411619.42 0.0262 0.0099
 Jupiter -112616-03-02 09:50 J -39411510.27 -39411510.09 -39411509.90 0.0530 0.0203
 Saturn -112616-06-30 00:43 J -39411390.69 -39411390.47 -39411390.25 0.0261 0.0027
 Saturn -112615-02-14 04:19 J -39411161.53 -39411161.32 -39411161.10 0.0261 0.0044
 Mars -112615-06-23 08:53 J -39411032.27 -39411032.13 -39411032.00 0.1649 0.0965
 Neptune -112615-09-17 08:24 J -39410946.19 -39410946.15 -39410946.07 0.0089 0.0086
 Saturn -112615-10-01 07:55 J -39410932.36 -39410932.17 -39410931.96 0.0261 0.0116
 Neptune -112614-04-30 22:48 J -39410720.62 -39410720.55 -39410720.43 0.0089 0.0080
 Saturn -112614-05-18 11:46 J -39410703.15 -39410703.01 -39410702.84 0.0261 0.0185
 Neptune -112614-12-12 13:41 J -39410495.05 -39410494.93 -39410494.80 0.0089 0.0073
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 Mars -112613-04-22 17:31 J -39410362.93 -39410362.77 -39410362.61 0.1646 0.0449
 Neptune -112613-07-25 04:05 J -39410269.47 -39410269.33 -39410269.18 0.0089 0.0067

Neptune -112612-03-07 18:29 J -39410043.88 -39410043.73 -39410043.55 0.0089 0.0061
 Mars -112612-03-24 16:48 J -39410026.94 -39410026.80 -39410026.67 0.1868 0.1254
 Neptune -112612-10-19 09:07 J -39409818.28 -39409818.12 -39409817.93 0.0089 0.0055
 Neptune -112611-06-02 00:00 J -39409592.69 -39409592.50 -39409592.31 0.0089 0.0048
 Jupiter -112611-12-28 19:26 J -39409382.88 -39409382.69 -39409382.49 0.0495 0.0152
 Neptune -112610-01-13 14:24 J -39409367.09 -39409366.90 -39409366.69 0.0089 0.0042
 Neptune -112610-08-27 05:17 J -39409141.49 -39409141.28 -39409141.07 0.0089 0.0035
 Neptune -112609-04-08 19:41 J -39408915.89 -39408915.68 -39408915.46 0.0089 0.0029
 Neptune -112609-11-20 10:19 J -39408690.28 -39408690.07 -39408689.84 0.0089 0.0023
 Neptune -112608-07-04 00:58 J -39408464.68 -39408464.46 -39408464.23 0.0089 0.0016
 Neptune -112607-02-14 15:36 J -39408239.07 -39408238.85 -39408238.62 0.0089 0.0010
 Neptune -112607-09-28 06:29 J -39408013.46 -39408013.23 -39408013.00 0.0089 0.0003
 Neptune -112606-05-11 21:07 J -39407787.85 -39407787.62 -39407787.39 0.0089 0.0003
 Neptune -112606-12-23 11:31 J -39407562.24 -39407562.02 -39407561.79 0.0089 0.0010
 Neptune -112605-08-05 01:55 J -39407336.63 -39407336.42 -39407336.19 0.0089 0.0017
 Jupiter -112605-11-05 06:14 J -39407244.43 -39407244.24 -39407244.04 0.0531 0.0118
 Neptune -112604-03-18 16:34 J -39407111.02 -39407110.81 -39407110.58 0.0089 0.0023
 Neptune -112604-10-30 07:26 J -39406885.40 -39406885.19 -39406884.97 0.0089 0.0029
 Neptune -112603-06-12 21:36 J -39406659.79 -39406659.60 -39406659.37 0.0089 0.0036
 Neptune -112602-01-24 12:14 J -39406434.18 -39406433.99 -39406433.78 0.0089 0.0042
 Saturn -112602-04-25 14:24 J -39406343.03 -39406342.90 -39406342.76 0.0298 0.0222
 Neptune -112602-09-07 02:38 J -39406208.56 -39406208.39 -39406208.18 0.0089 0.0049
 Saturn -112602-12-11 11:17 J -39406113.22 -39406113.03 -39406112.85 0.0300 0.0123
 Neptune -112601-04-19 17:17 J -39405982.94 -39405982.78 -39405982.59 0.0089 0.0055
 Saturn -112601-07-28 08:10 J -39405883.36 -39405883.16 -39405882.96 0.0301 0.0021
 Neptune -112601-12-01 08:10 J -39405757.32 -39405757.16 -39405756.99 0.0089 0.0061
 Saturn -112600-03-15 05:17 J -39405653.48 -39405653.28 -39405653.08 0.0301 0.0083
 Neptune -112600-07-14 22:19 J -39405531.70 -39405531.57 -39405531.40 0.0089 0.0068
 Saturn -112600-10-31 02:10 J -39405423.57 -39405423.41 -39405423.25 0.0301 0.0184
 Neptune -112599-02-25 12:58 J -39405306.07 -39405305.96 -39405305.82 0.0089 0.0074

Saturn -112599-06-17 22:48 J -39405193.61 -39405193.55 -39405193.47 0.0300 0.0281
 Jupiter -112599-09-02 16:48 J -39405116.89 -39405116.80 -39405116.69 0.0495 0.0429
 Neptune -112599-10-09 03:36 J -39405080.43 -39405080.35 -39405080.23 0.0089 0.0080
 Neptune -112598-05-22 18:29 J -39404854.77 -39404854.73 -39404854.67 0.0089 0.0086
 Jupiter -112593-07-11 01:55 J -39402978.53 -39402978.42 -39402978.31 0.0531 0.0442
 Saturn -112588-02-21 14:38 J -39401291.98 -39401291.89 -39401291.77 0.0264 0.0232
 Saturn -112588-10-08 19:26 J -39401062.86 -39401062.69 -39401062.51 0.0262 0.0161
 Saturn -112587-05-25 23:31 J -39400833.72 -39400833.52 -39400833.31 0.0261 0.0090
 Jupiter -112587-12-31 10:34 J -39400614.23 -39400614.06 -39400613.89 0.0497 0.0292
 Saturn -112586-01-10 03:36 J -39400604.57 -39400604.35 -39400604.13 0.0261 0.0018
 Saturn -112586-08-27 07:12 J -39400375.41 -39400375.20 -39400374.98 0.0260 0.0054
 Saturn -112585-04-12 10:48 J -39400146.23 -39400146.05 -39400145.85 0.0260 0.0126
 Saturn -112585-11-27 15:07 J -39399917.02 -39399916.87 -39399916.73 0.0261 0.0195
 Mars -112583-06-21 23:17 J -39399345.54 -39399345.53 -39399345.52 0.1651 0.1641
 Mars -112581-04-21 07:26 J -39398676.36 -39398676.19 -39398676.03 0.1647 0.0220
 Jupiter -112581-11-07 23:02 J -39398475.67 -39398475.54 -39398475.40 0.0529 0.0388
 Mars -112580-03-24 23:17 J -39398338.71 -39398338.53 -39398338.35 0.1867 0.0241
 Moon -112580-07-12 10:19 J -39398229.21 -39398229.07 -39398228.93 0.2779 0.1059
 Earth -112580-07-12 16:05 J -39398228.95 -39398228.83 -39398228.72 0.2778 0.1780 *
 Uranus -112580-09-23 21:22 J -39398155.70 -39398155.61 -39398155.49 0.0148 0.0131
 Mars -112579-02-19 16:19 J -39398006.93 -39398006.82 -39398006.70 0.1645 0.1185
 Uranus -112579-05-08 13:41 J -39397929.12 -39397928.93 -39397928.74 0.0148 0.0075
 Uranus -112579-12-21 05:31 J -39397702.49 -39397702.27 -39397702.04 0.0148 0.0019
 Uranus -112578-08-04 21:36 J -39397475.81 -39397475.60 -39397475.38 0.0148 0.0038
 Uranus -112577-03-18 13:26 J -39397249.09 -39397248.94 -39397248.75 0.0148 0.0094
 Jupiter -112575-09-05 07:55 J -39396348.38 -39396348.17 -39396347.96 0.0496 0.0015
 Saturn -112573-11-04 21:50 J -39395556.73 -39395556.59 -39395556.44 0.0299 0.0209
 Saturn -112572-06-22 18:43 J -39395326.91 -39395326.72 -39395326.53 0.0300 0.0109
 Earth -112572-07-10 06:14 J -39395309.33 -39395309.24 -39395309.15 0.2780 0.2284
 Saturn -112571-02-07 15:50 J -39395097.05 -39395096.84 -39395096.64 0.0301 0.0005

Saturn	-112571-09-25 12:58 J	-39394867.15	-39394866.96	-39394866.76	0.0301	0.0099
Saturn	-112570-05-13 10:19 J	-39394637.23	-39394637.07	-39394636.92	0.0301	0.0200
Saturn	-112570-12-29 06:43 J	-39394407.24	-39394407.22	-39394407.18	0.0300	0.0296
Jupiter	-112569-07-13 18:43 J	-39394209.91	-39394209.72	-39394209.52	0.0530	0.0066
Jupiter	-112563-05-11 05:31 J	-39392082.45	-39392082.27	-39392082.10	0.0495	0.0265
Saturn	-112559-09-03 21:50 J	-39390505.70	-39390505.59	-39390505.47	0.0264	0.0222
Saturn	-112558-04-21 02:10 J	-39390276.58	-39390276.41	-39390276.22	0.0263	0.0152
Saturn	-112558-12-06 06:29 J	-39390047.44	-39390047.23	-39390047.02	0.0262	0.0080
Jupiter	-112557-03-18 12:58 J	-39389944.13	-39389943.96	-39389943.79	0.0531	0.0263
Saturn	-112557-07-22 10:19 J	-39389818.29	-39389818.07	-39389817.85	0.0261	0.0008
Saturn	-112556-03-08 13:55 J	-39389589.12	-39389588.92	-39389588.70	0.0261	0.0065
Saturn	-112556-10-23 18:00 J	-39389359.93	-39389359.75	-39389359.56	0.0261	0.0136
Saturn	-112555-06-09 22:05 J	-39389130.71	-39389130.58	-39389130.44	0.0261	0.0205
Jupiter	-112551-09-07 23:02 J	-39387579.61	-39387579.54	-39387579.46	0.0497	0.0458
Mars	-112549-04-19 21:50 J	-39386989.73	-39386989.59	-39386989.45	0.1648	0.0898
Mars	-112548-03-25 04:19 J	-39386650.39	-39386650.32	-39386650.24	0.1864	0.1704
Mars	-112547-02-18 06:14 J	-39386320.40	-39386320.24	-39386320.08	0.1645	0.0523
Mars	-112546-01-19 18:29 J	-39385984.84	-39385984.73	-39385984.62	0.1868	0.1508
Saturn	-112544-09-30 10:34 J	-39385000.10	-39385000.06	-39385000.01	0.0297	0.0289
Saturn	-112543-05-18 06:43 J	-39384770.36	-39384770.22	-39384770.06	0.0299	0.0195
Saturn	-112542-01-03 03:36 J	-39384540.54	-39384540.35	-39384540.15	0.0300	0.0094
Saturn	-112542-08-21 00:29 J	-39384310.68	-39384310.48	-39384310.27	0.0301	0.0010
Saturn	-112541-04-06 21:36 J	-39384080.79	-39384080.60	-39384080.41	0.0301	0.0113
Saturn	-112541-11-22 18:14 J	-39383850.88	-39383850.74	-39383850.59	0.0301	0.0214
Jupiter	-112539-05-13 18:58 J	-39383313.90	-39383313.71	-39383313.51	0.0496	0.0173
Uranus	-112538-11-18 06:43 J	-39382760.26	-39382760.22	-39382760.18	0.0131	0.0128
Uranus	-112537-07-01 08:53 J	-39382534.27	-39382534.13	-39382533.97	0.0131	0.0092
Uranus	-112536-02-12 11:31 J	-39382308.21	-39382308.02	-39382307.82	0.0131	0.0055
Uranus	-112536-09-26 13:55 J	-39382082.13	-39382081.92	-39382081.71	0.0131	0.0018
Uranus	-112535-05-10 16:19 J	-39381856.03	-39381855.82	-39381855.61	0.0131	0.0018

Uranus -112535-12-22 18:29 J -39381629.92 -39381629.73 -39381629.53 0.0131 0.0055
 Uranus -112534-08-05 20:38 J -39381403.78 -39381403.64 -39381403.48 0.0131 0.0092
 Uranus -112533-03-18 23:02 J -39381177.57 -39381177.54 -39381177.49 0.0131 0.0129
 Jupiter -112533-03-21 08:38 J -39381175.32 -39381175.14 -39381174.97 0.0529 0.0257
 Neptune -112533-03-24 04:19 J -39381172.32 -39381172.32 -39381172.26 0.0088 0.0088
 Neptune -112533-11-04 16:19 J -39380946.88 -39380946.82 -39380946.72 0.0088 0.0082
 Neptune -112532-06-18 04:05 J -39380721.43 -39380721.33 -39380721.21 0.0088 0.0076
 Neptune -112531-01-29 15:22 J -39380495.97 -39380495.86 -39380495.71 0.0088 0.0070
 Neptune -112531-09-12 03:07 J -39380270.50 -39380270.37 -39380270.21 0.0088 0.0064
 Neptune -112530-04-25 14:53 J -39380045.03 -39380044.88 -39380044.71 0.0088 0.0059
 Neptune -112530-12-07 02:24 J -39379819.56 -39379819.40 -39379819.22 0.0088 0.0053
 Saturn -112529-03-16 01:12 J -39379719.56 -39379719.45 -39379719.31 0.0263 0.0214
 Neptune -112529-07-19 14:10 J -39379594.09 -39379593.91 -39379593.73 0.0088 0.0047
 Saturn -112529-10-31 05:46 J -39379490.43 -39379490.26 -39379490.07 0.0262 0.0142
 Neptune -112528-03-02 01:26 J -39379368.62 -39379368.44 -39379368.24 0.0088 0.0041
 Saturn -112528-06-17 10:05 J -39379261.29 -39379261.08 -39379260.87 0.0261 0.0070
 Neptune -112528-10-13 12:58 J -39379143.14 -39379142.96 -39379142.75 0.0088 0.0035
 Jupiter -112527-01-16 16:19 J -39379048.02 -39379047.82 -39379047.61 0.0496 0.0108
 Saturn -112527-02-01 14:10 J -39379032.13 -39379031.91 -39379031.69 0.0261 0.0005
 Neptune -112527-05-27 00:29 J -39378917.67 -39378917.48 -39378917.27 0.0088 0.0030
 Saturn -112527-09-18 18:00 J -39378802.96 -39378802.75 -39378802.54 0.0261 0.0076
 Neptune -112526-01-07 12:00 J -39378692.20 -39378692.00 -39378691.79 0.0088 0.0024
 Saturn -112526-05-05 21:50 J -39378573.76 -39378573.59 -39378573.40 0.0261 0.0147
 Neptune -112526-08-20 23:31 J -39378466.72 -39378466.52 -39378466.30 0.0088 0.0018
 Saturn -112526-12-21 01:55 J -39378344.53 -39378344.42 -39378344.29 0.0261 0.0217
 Neptune -112525-04-02 11:17 J -39378241.24 -39378241.03 -39378240.82 0.0088 0.0012
 Neptune -112525-11-13 22:48 J -39378015.77 -39378015.55 -39378015.34 0.0088 0.0006
 Neptune -112524-06-27 10:05 J -39377790.29 -39377790.08 -39377789.86 0.0088 0.0002
 Neptune -112523-02-07 21:36 J -39377564.81 -39377564.60 -39377564.39 0.0088 0.0006
 Neptune -112523-09-21 09:07 J -39377339.33 -39377339.12 -39377338.91 0.0088 0.0012

Neptune -112522-05-04 20:38 J -39377113.84 -39377113.64 -39377113.43 0.0088 0.0018
 Jupiter -112522-11-25 02:53 J -39376909.57 -39376909.38 -39376909.18 0.0530 0.0073
 Neptune -112522-12-16 07:55 J -39376888.36 -39376888.17 -39376887.95 0.0088 0.0025
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Uranus -112368-01-24 17:17 J -39320964.97 -39320964.78 -39320964.58 0.0131 0.0050
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 Saturn -112365-03-12 12:14 J -39319822.20 -39319821.99 -39319821.79 0.0300 0.0005
 Neptune -112365-10-20 23:31 J -39319599.69 -39319599.52 -39319599.33 0.0088 0.0047
 Saturn -112365-10-28 09:07 J -39319592.30 -39319592.12 -39319591.92 0.0301 0.0111
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 Saturn -112364-06-15 06:00 J -39319362.38 -39319362.25 -39319362.10 0.0301 0.0214
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 Neptune -112362-11-22 09:07 J -39318472.32 -39318472.12 -39318471.90 0.0088 0.0018
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 Moon -112337-07-12 21:36 J -39309472.68 -39309472.60 -39309472.53 0.2779 0.2433

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 Uranus -112328-12-17 19:41 J -39306027.84 -39306027.68 -39306027.52 0.0148 0.0100
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 Mars -112317-07-10 03:36 J -39302170.51 -39302170.35 -39302170.18 0.1869 0.0808
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 Jupiter -112314-07-07 18:14 J -39301077.94 -39301077.74 -39301077.54 0.0495 0.0143
 Jupiter -112308-05-15 00:43 J -39298939.66 -39298939.47 -39298939.28 0.0531 0.0135
 Saturn -112308-05-15 14:38 J -39298938.96 -39298938.89 -39298938.80 0.0297 0.0271
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Saturn -112306-04-05 05:17 J -39298249.48 -39298249.28 -39298249.07 0.0301 0.0038
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 Neptune -112286-11-03 13:12 J -39290732.03 -39290731.95 -39290731.83 0.0089 0.0079
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 Uranus -112285-09-24 06:29 J -39290406.41 -39290406.23 -39290406.04 0.0131 0.0066
 Neptune -112284-01-27 18:00 J -39290280.87 -39290280.75 -39290280.58 0.0089 0.0067
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 Jupiter -112284-05-17 19:41 J -39290170.81 -39290170.68 -39290170.54 0.0529 0.0388
 Mars -112284-06-07 11:02 J -39290150.19 -39290150.04 -39290149.89 0.1644 0.0794
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 Uranus -112284-12-20 11:17 J -39289954.24 -39289954.03 -39289953.82 0.0131 0.0008
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 Neptune -112283-12-05 13:41 J -39289604.11 -39289603.93 -39289603.72 0.0089 0.0048
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 Uranus -112282-10-29 18:00 J -39289275.82 -39289275.75 -39289275.65 0.0131 0.0119
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Saturn -112235-04-06 08:38 J -39272315.20 -39272315.14 -39272315.05 0.0264 0.0249
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 Saturn -112055-08-02 00:14 J -39206452.63 -39206452.49 -39206452.32 0.0260 0.0184
 Mars -112055-11-26 16:19 J -39206335.98 -39206335.82 -39206335.65 0.1644 0.0327
 Saturn -112054-03-19 03:50 J -39206223.37 -39206223.34 -39206223.30 0.0260 0.0256
 Jupiter -112053-05-08 11:31 J -39205807.18 -39205807.02 -39205806.84 0.0495 0.0278
 Jupiter -112047-03-16 22:19 J -39203668.74 -39203668.57 -39203668.40 0.0531 0.0279
 Saturn -112043-07-09 09:07 J -39202093.19 -39202093.12 -39202093.03 0.0297 0.0273
 Saturn -112042-02-24 06:00 J -39201863.42 -39201863.25 -39201863.08 0.0299 0.0170
 Saturn -112042-10-12 03:07 J -39201633.57 -39201633.37 -39201633.17 0.0300 0.0062
 Saturn -112041-05-29 00:29 J -39201403.69 -39201403.48 -39201403.28 0.0301 0.0049
 Jupiter -112041-09-05 05:46 J -39201304.33 -39201304.26 -39201304.18 0.0497 0.0464
 Neptune -112041-12-29 10:19 J -39201189.09 -39201189.07 -39201189.01 0.0088 0.0087
 Saturn -112040-01-13 21:50 J -39201173.77 -39201173.59 -39201173.42 0.0302 0.0159
 Neptune -112040-08-11 22:19 J -39200963.65 -39200963.57 -39200963.48 0.0088 0.0081
 Saturn -112040-08-31 18:58 J -39200943.80 -39200943.71 -39200943.61 0.0301 0.0265
 Neptune -112039-03-25 09:36 J -39200738.19 -39200738.10 -39200737.97 0.0088 0.0075
 Neptune -112039-11-05 21:22 J -39200512.73 -39200512.61 -39200512.46 0.0088 0.0069
 Neptune -112038-06-19 08:53 J -39200287.26 -39200287.13 -39200286.97 0.0088 0.0064
 Neptune -112037-01-30 20:38 J -39200061.79 -39200061.64 -39200061.47 0.0088 0.0058
 Neptune -112037-09-12 08:24 J -39199836.32 -39199836.15 -39199835.97 0.0088 0.0052
 Neptune -112036-04-25 20:10 J -39199610.84 -39199610.66 -39199610.48 0.0088 0.0046
 Neptune -112036-12-07 07:26 J -39199385.36 -39199385.19 -39199384.99 0.0088 0.0040
 Neptune -112035-07-20 18:58 J -39199159.89 -39199159.71 -39199159.50 0.0088 0.0035
 Neptune -112034-03-03 06:43 J -39198934.41 -39198934.22 -39198934.01 0.0088 0.0028

Uranus -112034-09-22 20:53 J -39198730.71 -39198730.63 -39198730.52 0.0131 0.0116
 Neptune -112034-10-14 18:29 J -39198708.93 -39198708.73 -39198708.52 0.0088 0.0022
 Uranus -112033-05-05 23:46 J -39198504.68 -39198504.51 -39198504.34 0.0131 0.0078
 Neptune -112033-05-27 06:00 J -39198483.45 -39198483.25 -39198483.03 0.0088 0.0016
 Uranus -112033-12-18 02:10 J -39198278.61 -39198278.41 -39198278.20 0.0131 0.0041
 Neptune -112032-01-07 17:31 J -39198257.97 -39198257.77 -39198257.55 0.0088 0.0011
 Uranus -112032-08-01 04:48 J -39198052.52 -39198052.30 -39198052.09 0.0131 0.0004
 Neptune -112032-08-21 05:17 J -39198032.49 -39198032.28 -39198032.07 0.0088 0.0004
 Uranus -112031-03-15 06:58 J -39197826.41 -39197826.21 -39197825.99 0.0131 0.0035
 Neptune -112031-04-03 16:48 J -39197807.01 -39197806.80 -39197806.58 0.0088 0.0003
 Uranus -112031-10-27 09:22 J -39197600.28 -39197600.11 -39197599.93 0.0131 0.0072
 Neptune -112031-11-15 04:19 J -39197581.53 -39197581.32 -39197581.11 0.0088 0.0008
 Uranus -112030-06-10 11:17 J -39197374.12 -39197374.03 -39197373.89 0.0131 0.0110
 Neptune -112030-06-28 15:36 J -39197356.05 -39197355.85 -39197355.63 0.0088 0.0015
 Neptune -112029-02-09 03:07 J -39197130.57 -39197130.37 -39197130.16 0.0088 0.0020
 Saturn -112029-05-08 03:22 J -39197041.38 -39197041.36 -39197041.32 0.0264 0.0261
 Jupiter -112029-05-11 04:19 J -39197038.51 -39197038.32 -39197038.12 0.0496 0.0182
 Neptune -112029-09-21 14:53 J -39196905.09 -39196904.88 -39196904.68 0.0088 0.0026
 Saturn -112029-12-23 07:41 J -39196812.32 -39196812.18 -39196812.02 0.0263 0.0187
 Neptune -112028-05-05 02:24 J -39196679.60 -39196679.40 -39196679.20 0.0088 0.0032
 Saturn -112028-08-09 11:46 J -39196583.20 -39196583.01 -39196582.81 0.0262 0.0111
 Neptune -112028-12-16 13:41 J -39196454.12 -39196453.93 -39196453.73 0.0088 0.0038
 Saturn -112027-03-26 15:36 J -39196354.07 -39196353.85 -39196353.63 0.0261 0.0034
 Neptune -112027-07-30 00:58 J -39196228.63 -39196228.46 -39196228.26 0.0088 0.0044
 Saturn -112027-11-10 18:58 J -39196124.92 -39196124.71 -39196124.49 0.0260 0.0044
 Neptune -112026-03-12 12:29 J -39196003.14 -39196002.98 -39196002.79 0.0088 0.0050
 Saturn -112026-06-27 22:19 J -39195895.76 -39195895.57 -39195895.37 0.0260 0.0119
 Neptune -112026-10-23 23:46 J -39195777.65 -39195777.51 -39195777.32 0.0088 0.0056
 Saturn -112025-02-12 01:41 J -39195666.57 -39195666.43 -39195666.28 0.0260 0.0193
 Neptune -112025-06-05 11:17 J -39195552.16 -39195552.03 -39195551.85 0.0088 0.0062

Neptune -112024-01-16 22:48 J -39195326.67 -39195326.55 -39195326.39 0.0088 0.0068

Neptune -112024-08-30 10:34 J -39195101.17 -39195101.06 -39195100.93 0.0088 0.0073

Jupiter -112023-03-19 16:05 J -39194900.00 -39194899.83 -39194899.65 0.0530 0.0243

Neptune -112023-04-12 22:05 J -39194875.66 -39194875.58 -39194875.47 0.0088 0.0079

Neptune -112023-11-24 09:22 J -39194650.15 -39194650.11 -39194650.02 0.0088 0.0085

Mars -112023-11-25 06:14 J -39194649.40 -39194649.24 -39194649.08 0.1644 0.0363

Mars -112022-10-26 15:07 J -39194314.05 -39194313.87 -39194313.69 0.1870 0.0338

Mars -112021-09-24 15:36 J -39193979.98 -39193979.85 -39193979.73 0.1644 0.1083

Jupiter -112017-01-15 02:53 J -39192772.59 -39192772.38 -39192772.18 0.0495 0.0101

Saturn -112013-01-19 13:12 J -39191307.04 -39191306.95 -39191306.84 0.0298 0.0261

Saturn -112013-09-05 10:05 J -39191077.25 -39191077.08 -39191076.90 0.0299 0.0156

Saturn -112012-04-23 07:26 J -39190847.39 -39190847.19 -39190846.99 0.0300 0.0047

Jupiter -112012-11-22 12:29 J -39190634.18 -39190633.98 -39190633.79 0.0531 0.0087

Saturn -112012-12-09 04:48 J -39190617.50 -39190617.30 -39190617.10 0.0301 0.0064

Saturn -112011-07-27 01:55 J -39190387.58 -39190387.42 -39190387.25 0.0301 0.0174

Saturn -112010-03-13 23:02 J -39190157.60 -39190157.54 -39190157.45 0.0301 0.0280

Jupiter -112006-09-19 23:46 J -39188506.63 -39188506.51 -39188506.37 0.0495 0.0386

Moon -112004-01-16 02:38 J -39188022.45 -39188022.39 -39188022.33 0.2558 0.2346

112TH MILLENNIUM BCE

This is a list of transits of Venus in the 112th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								

TIME

Jupiter -112000-07-28 08:24 J -39186368.27 -39186368.15 -39186368.02 0.0532 0.0414

Saturn -112000-11-18 07:12 J -39186255.25 -39186255.20 -39186255.14 0.0264 0.0254

Saturn -111999-07-05 11:31 J -39186026.18 -39186026.02 -39186025.86 0.0263 0.0178

Saturn -111998-02-19 15:22 J -39185797.06 -39185796.86 -39185796.66 0.0262 0.0102

Saturn -111998-10-06 19:12 J -39185567.92 -39185567.70 -39185567.48 0.0261 0.0025

Saturn -111997-05-22 22:19 J -39185338.78 -39185338.57 -39185338.35 0.0260 0.0052

Saturn -111996-01-07 01:26 J -39185109.63 -39185109.44 -39185109.24 0.0260 0.0128

Moon -111996-01-13 18:43 J -39185102.87 -39185102.72 -39185102.57 0.2562 0.0863

Earth -111996-01-13 23:46 J -39185102.67 -39185102.51 -39185102.34 0.2559 0.0188 *

Saturn -111996-08-24 04:34 J -39184880.44 -39184880.31 -39184880.17 0.0260 0.0202

Jupiter -111993-01-17 16:48 J -39184003.95 -39184003.80 -39184003.65 0.0496 0.0350

Uranus -111992-11-09 23:46 J -39183341.67 -39183341.51 -39183341.33 0.0148 0.0095

Uranus -111991-06-24 15:36 J -39183115.06 -39183114.85 -39183114.63 0.0148 0.0038

Mars -111991-11-23 20:10 J -39182962.78 -39182962.66 -39182962.53 0.1645 0.1054

Uranus -111990-02-06 07:26 J -39182888.41 -39182888.19 -39182887.97 0.0148 0.0019

Uranus -111990-09-20 23:17 J -39182661.71 -39182661.53 -39182661.33 0.0148 0.0076

Mars -111990-10-26 21:36 J -39182625.74 -39182625.60 -39182625.46 0.1869 0.1203

Uranus -111989-05-04 14:53 J -39182434.95 -39182434.88 -39182434.76 0.0148 0.0133

Mars -111989-09-23 05:17 J -39182293.44 -39182293.28 -39182293.12 0.1644 0.0400

Jupiter -111988-11-25 09:22 J -39181865.20 -39181865.11 -39181865.00 0.0530 0.0452

Saturn -111984-07-31 12:58 J -39180521.05 -39180520.96 -39180520.85 0.0298 0.0255

Saturn -111983-03-18 09:36 J -39180291.27 -39180291.10 -39180290.92 0.0299 0.0150

Saturn -111983-11-03 06:43 J -39180061.42 -39180061.22 -39180061.02 0.0301 0.0041

Pluto -111982-03-08 10:05 J -39179936.22 -39179936.08 -39179935.91 0.0064 0.0046

Saturn -111982-06-21 04:05 J -39179831.53 -39179831.33 -39179831.13 0.0301 0.0071

Jupiter -111982-09-22 15:36 J -39179738.06 -39179737.85 -39179737.64 0.0496 0.0069

Pluto -111982-10-19 15:22 J -39179711.09 -39179710.86 -39179710.63 0.0064 0.0005

Saturn -111981-02-06 01:12 J -39179601.61 -39179601.45 -39179601.28 0.0302 0.0182

Pluto -111981-05-31 19:41 J -39179485.84 -39179485.68 -39179485.46 0.0064 0.0037

Saturn -111981-09-22 22:19 J -39179371.62 -39179371.57 -39179371.50 0.0301 0.0287
 Jupiter -111976-07-31 05:31 J -39177599.46 -39177599.27 -39177599.07 0.0530 0.0124
 Jupiter -111970-05-28 14:53 J -39175472.07 -39175471.88 -39175471.69 0.0495 0.0212
 Saturn -111970-05-31 06:43 J -39175469.29 -39175469.22 -39175469.14 0.0264 0.0247
 Saturn -111969-01-15 11:17 J -39175240.19 -39175240.03 -39175239.86 0.0263 0.0171
 Saturn -111969-08-31 15:22 J -39175011.06 -39175010.86 -39175010.65 0.0262 0.0094
 Saturn -111968-04-17 19:12 J -39174781.92 -39174781.70 -39174781.48 0.0261 0.0016
 Saturn -111968-12-02 22:34 J -39174552.77 -39174552.56 -39174552.35 0.0260 0.0061
 Saturn -111967-07-20 01:55 J -39174323.61 -39174323.42 -39174323.23 0.0260 0.0137
 Saturn -111966-03-06 05:17 J -39174094.40 -39174094.28 -39174094.15 0.0260 0.0211
 Jupiter -111964-04-04 23:46 J -39173333.69 -39173333.51 -39173333.33 0.0531 0.0215
 Jupiter -111958-01-31 14:10 J -39171205.93 -39171205.91 -39171205.88 0.0495 0.0488
 Neptune -111958-09-25 15:22 J -39170968.92 -39170968.86 -39170968.78 0.0089 0.0084
 Neptune -111957-05-08 05:31 J -39170743.35 -39170743.27 -39170743.14 0.0089 0.0078
 Mars -111957-09-21 19:12 J -39170606.86 -39170606.70 -39170606.53 0.1644 0.0297
 Neptune -111957-12-19 19:55 J -39170517.78 -39170517.67 -39170517.51 0.0089 0.0072
 Neptune -111956-08-02 10:48 J -39170292.20 -39170292.05 -39170291.89 0.0089 0.0065
 Mars -111956-08-22 16:34 J -39170271.99 -39170271.81 -39170271.64 0.1870 0.0606
 Neptune -111955-03-16 00:58 J -39170066.61 -39170066.46 -39170066.27 0.0089 0.0060
 Mars -111955-07-23 04:34 J -39169937.43 -39169937.31 -39169937.19 0.1644 0.1158
 Neptune -111955-10-27 15:36 J -39169841.01 -39169840.85 -39169840.65 0.0089 0.0053
 Saturn -111954-02-10 16:48 J -39169734.91 -39169734.80 -39169734.68 0.0298 0.0243
 Neptune -111954-06-10 06:14 J -39169615.42 -39169615.24 -39169615.03 0.0089 0.0046
 Saturn -111954-09-28 13:26 J -39169505.12 -39169504.94 -39169504.75 0.0299 0.0137
 Neptune -111953-01-21 20:38 J -39169389.83 -39169389.64 -39169389.42 0.0089 0.0040
 Saturn -111953-05-15 10:48 J -39169275.25 -39169275.05 -39169274.85 0.0300 0.0026
 Neptune -111953-09-03 11:31 J -39169164.23 -39169164.02 -39169163.81 0.0089 0.0033
 Saturn -111953-12-31 08:10 J -39169045.36 -39169045.16 -39169044.97 0.0301 0.0086
 Neptune -111952-04-17 01:55 J -39168938.63 -39168938.42 -39168938.19 0.0089 0.0027
 Saturn -111952-08-18 05:17 J -39168815.42 -39168815.28 -39168815.12 0.0301 0.0197

Neptune -111952-11-28 16:34 J -39168713.03 -39168712.81 -39168712.59 0.0089 0.0020
 Neptune -111951-07-12 06:58 J -39168487.43 -39168487.21 -39168486.98 0.0089 0.0014
 Neptune -111950-02-22 21:36 J -39168261.83 -39168261.60 -39168261.37 0.0089 0.0007
 Neptune -111950-10-06 12:14 J -39168036.21 -39168035.99 -39168035.76 0.0089 0.0002
 Uranus -111949-01-04 11:46 J -39167946.14 -39167946.01 -39167945.85 0.0131 0.0096
 Neptune -111949-05-19 02:53 J -39167810.61 -39167810.38 -39167810.15 0.0089 0.0006
 Uranus -111949-08-17 14:38 J -39167720.08 -39167719.89 -39167719.70 0.0131 0.0058
 Neptune -111949-12-30 17:17 J -39167585.00 -39167584.78 -39167584.55 0.0089 0.0013
 Uranus -111948-03-31 17:17 J -39167493.99 -39167493.78 -39167493.57 0.0131 0.0020
 Neptune -111948-08-13 07:55 J -39167359.39 -39167359.17 -39167358.94 0.0089 0.0019
 Uranus -111948-11-12 19:41 J -39167267.89 -39167267.68 -39167267.47 0.0131 0.0017
 Neptune -111947-03-26 22:19 J -39167133.78 -39167133.57 -39167133.34 0.0089 0.0026
 Uranus -111947-06-26 21:36 J -39167041.78 -39167041.60 -39167041.39 0.0131 0.0056
 Neptune -111947-11-07 13:12 J -39166908.16 -39166907.95 -39166907.73 0.0089 0.0032
 Uranus -111946-02-08 00:14 J -39166815.63 -39166815.49 -39166815.33 0.0131 0.0092
 Jupiter -111946-05-31 04:34 J -39166703.49 -39166703.31 -39166703.12 0.0496 0.0241
 Neptune -111946-06-21 03:36 J -39166682.54 -39166682.35 -39166682.13 0.0089 0.0039
 Uranus -111946-09-22 02:38 J -39166589.41 -39166589.39 -39166589.36 0.0131 0.0130
 Neptune -111945-02-01 18:29 J -39166456.92 -39166456.73 -39166456.53 0.0089 0.0045
 Neptune -111945-09-14 08:53 J -39166231.30 -39166231.13 -39166230.93 0.0089 0.0052
 Neptune -111944-04-27 23:46 J -39166005.67 -39166005.51 -39166005.33 0.0089 0.0058
 Neptune -111944-12-09 14:10 J -39165780.05 -39165779.91 -39165779.73 0.0089 0.0065
 Neptune -111943-07-23 04:48 J -39165554.42 -39165554.30 -39165554.15 0.0089 0.0071
 Neptune -111942-03-05 19:41 J -39165328.78 -39165328.68 -39165328.56 0.0089 0.0077
 Neptune -111942-10-17 10:05 J -39165103.13 -39165103.08 -39165102.98 0.0089 0.0084
 Saturn -111941-12-10 10:19 J -39164683.15 -39164683.07 -39164682.97 0.0264 0.0240
 Jupiter -111940-04-07 20:38 J -39164564.79 -39164564.64 -39164564.48 0.0531 0.0324
 Saturn -111940-07-27 14:38 J -39164454.05 -39164453.89 -39164453.71 0.0263 0.0163
 Saturn -111939-03-13 18:43 J -39164224.92 -39164224.72 -39164224.51 0.0262 0.0086
 Saturn -111939-10-28 22:34 J -39163995.78 -39163995.56 -39163995.34 0.0261 0.0007

Saturn -111938-06-15 01:55 J -39163766.63 -39163766.42 -39163766.21 0.0260 0.0070
 Saturn -111937-01-30 05:02 J -39163537.46 -39163537.29 -39163537.10 0.0260 0.0147
 Saturn -111937-09-15 08:10 J -39163308.26 -39163308.16 -39163308.03 0.0260 0.0222
 Jupiter -111934-02-03 03:22 J -39162437.57 -39162437.36 -39162437.15 0.0495 0.0042
 Jupiter -111929-12-11 17:17 J -39160298.98 -39160298.78 -39160298.58 0.0531 0.0004
 Saturn -111925-08-22 16:48 J -39158948.92 -39158948.80 -39158948.67 0.0298 0.0236
 Mars -111925-09-20 09:22 J -39158920.24 -39158920.11 -39158919.98 0.1645 0.0987
 Saturn -111924-04-09 13:26 J -39158719.13 -39158718.94 -39158718.76 0.0299 0.0130
 Mars -111924-08-22 22:34 J -39158583.72 -39158583.56 -39158583.40 0.1869 0.0939
 Saturn -111924-11-25 10:19 J -39158489.28 -39158489.07 -39158488.87 0.0300 0.0020
 Saturn -111923-07-13 07:12 J -39158259.39 -39158259.20 -39158259.00 0.0301 0.0093
 Mars -111923-07-21 18:29 J -39158250.89 -39158250.73 -39158250.56 0.1644 0.0470
 Jupiter -111923-10-09 02:38 J -39158171.54 -39158171.39 -39158171.23 0.0495 0.0321
 Saturn -111922-02-28 04:19 J -39158029.46 -39158029.32 -39158029.16 0.0301 0.0204
 Jupiter -111917-08-16 12:29 J -39156033.13 -39156032.98 -39156032.82 0.0531 0.0338
 Saturn -111911-06-22 09:22 J -39153897.19 -39153897.11 -39153896.99 0.0264 0.0233
 Jupiter -111910-02-05 20:24 J -39153668.76 -39153668.65 -39153668.54 0.0496 0.0420
 Saturn -111910-02-06 14:10 J -39153668.08 -39153667.91 -39153667.73 0.0263 0.0156
 Saturn -111910-09-23 18:29 J -39153438.93 -39153438.73 -39153438.52 0.0262 0.0077
 Saturn -111909-05-09 22:19 J -39153209.79 -39153209.57 -39153209.35 0.0261 0.0003
 Saturn -111909-12-25 01:41 J -39152980.63 -39152980.43 -39152980.21 0.0260 0.0079
 Uranus -111908-07-10 05:17 J -39152783.39 -39152783.28 -39152783.15 0.0148 0.0122
 Saturn -111908-08-11 05:17 J -39152751.46 -39152751.28 -39152751.11 0.0260 0.0155
 Uranus -111907-02-21 21:07 J -39152556.82 -39152556.62 -39152556.42 0.0148 0.0065
 Saturn -111907-03-28 08:24 J -39152522.24 -39152522.15 -39152522.04 0.0260 0.0230
 Uranus -111907-10-06 12:58 J -39152330.18 -39152329.96 -39152329.73 0.0148 0.0008
 Uranus -111906-05-21 04:48 J -39152103.51 -39152103.30 -39152103.09 0.0148 0.0049
 Uranus -111905-01-02 20:38 J -39151876.79 -39151876.64 -39151876.48 0.0148 0.0106
 Jupiter -111905-12-14 10:48 J -39151530.08 -39151530.05 -39151530.00 0.0529 0.0518
 Jupiter -111899-10-11 18:43 J -39149402.92 -39149402.72 -39149402.52 0.0496 0.0136

Saturn -111895-03-04 20:24 J -39148162.78 -39148162.65 -39148162.51 0.0298 0.0225
 Saturn -111895-10-20 17:02 J -39147932.98 -39147932.79 -39147932.60 0.0299 0.0117
 Saturn -111894-06-07 14:10 J -39147703.11 -39147702.91 -39147702.71 0.0300 0.0005
 Pluto -111894-06-18 23:02 J -39147691.62 -39147691.54 -39147691.41 0.0080 0.0071
 Saturn -111893-01-23 11:17 J -39147473.21 -39147473.03 -39147472.83 0.0301 0.0108
 Pluto -111893-01-30 08:53 J -39147466.35 -39147466.13 -39147465.92 0.0080 0.0005
 Jupiter -111893-08-19 07:26 J -39147264.37 -39147264.19 -39147264.01 0.0530 0.0191
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 Mars -111889-05-19 18:00 J -39145894.86 -39145894.75 -39145894.64 0.1644 0.1228
 Jupiter -111887-06-16 15:36 J -39145137.04 -39145136.85 -39145136.64 0.0495 0.0151
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 Saturn -111880-04-04 22:19 J -39142652.78 -39142652.57 -39142652.35 0.0262 0.0069
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Neptune -111792-03-23 04:48 J -39110523.41 -39110523.30 -39110523.14 0.0089 0.0072 *
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Moon -111753-01-15 07:55 J -39096346.33 -39096346.17 -39096346.01 0.2555 0.0724 *
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 Jupiter -111745-07-22 04:34 J -39093235.35 -39093235.31 -39093235.26 0.0494 0.0479
 Uranus -111740-06-21 01:26 J -39091440.53 -39091440.44 -39091440.31 0.0148 0.0127
 Uranus -111739-02-02 17:17 J -39091213.97 -39091213.78 -39091213.58 0.0148 0.0070
 Uranus -111739-09-17 09:22 J -39090987.33 -39090987.11 -39090986.89 0.0148 0.0013
 Uranus -111738-05-02 00:58 J -39090760.67 -39090760.46 -39090760.24 0.0148 0.0045
 Uranus -111738-12-14 16:48 J -39090533.96 -39090533.80 -39090533.64 0.0148 0.0102
 Saturn -111734-01-11 18:29 J -39089409.74 -39089409.73 -39089409.70 0.0266 0.0264
 Pluto -111734-02-08 12:43 J -39089382.00 -39089381.97 -39089381.90 0.0064 0.0062
 Saturn -111734-08-29 00:14 J -39089180.65 -39089180.49 -39089180.34 0.0264 0.0184
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 Saturn -111733-04-14 05:02 J -39088951.49 -39088951.29 -39088951.08 0.0263 0.0104
 Pluto -111733-05-03 22:34 J -39088931.77 -39088931.56 -39088931.33 0.0064 0.0020
 Jupiter -111733-11-18 19:55 J -39088732.84 -39088732.67 -39088732.48 0.0496 0.0258
 Saturn -111733-11-29 09:36 J -39088722.32 -39088722.10 -39088721.88 0.0262 0.0023
 Pluto -111733-12-15 02:53 J -39088706.41 -39088706.38 -39088706.27 0.0064 0.0062
 Saturn -111732-07-16 13:41 J -39088493.14 -39088492.93 -39088492.71 0.0261 0.0058
 Saturn -111731-03-02 17:46 J -39088263.95 -39088263.76 -39088263.57 0.0261 0.0137
 Saturn -111731-10-17 21:36 J -39088034.71 -39088034.60 -39088034.47 0.0261 0.0215
 Mars -111727-03-13 00:29 J -39086792.63 -39086792.48 -39086792.33 0.1644 0.0781
 Jupiter -111727-09-27 10:19 J -39086594.22 -39086594.07 -39086593.91 0.0530 0.0328
 Mars -111726-02-11 02:53 J -39086457.56 -39086457.38 -39086457.19 0.1870 0.0154
 Mars -111725-01-11 10:05 J -39086123.23 -39086123.08 -39086122.93 0.1644 0.0685

Jupiter -111721-07-24 18:43 J -39084466.93 -39084466.72 -39084466.51 0.0495 0.0029
 Saturn -111719-09-23 23:45 J -39083675.60 -39083675.51 -39083675.42 0.0296 0.0265
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Saturn -111702-01-26 19:41 J -39077706.88 -39077706.68 -39077706.46 0.0262 0.0069
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 Mars -111661-01-08 13:41 J -39062750.08 -39062749.93 -39062749.78 0.1643 0.0715
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Uranus -111654-08-13 18:14 J -39059975.93 -39059975.74 -39059975.54 0.0148 0.0071
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 Saturn -111645-11-16 19:55 J -39056592.88 -39056592.67 -39056592.45 0.0263 0.0072
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 Uranus -111614-11-27 14:53 J -39045260.03 -39045259.88 -39045259.73 0.0131 0.0094

Saturn -111613-04-16 12:29 J -39045119.13 -39045118.98 -39045118.82 0.0261 0.0182
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 Mars -111595-10-05 04:19 J -39038373.50 -39038373.32 -39038373.14 0.1871 0.0416
 Mars -111594-09-05 12:00 J -39038038.14 -39038038.00 -39038037.85 0.1644 0.0835
 Jupiter -111591-12-25 02:53 J -39036831.58 -39036831.38 -39036831.17 0.0494 0.0096
 Saturn -111587-09-07 19:55 J -39035478.79 -39035478.67 -39035478.53 0.0265 0.0214
 Saturn -111586-04-25 01:41 J -39035249.62 -39035249.43 -39035249.24 0.0264 0.0131
 Saturn -111586-12-10 06:29 J -39035020.44 -39035020.23 -39035020.01 0.0263 0.0049
 Saturn -111585-07-26 11:17 J -39034791.25 -39034791.03 -39034790.81 0.0262 0.0034
 Jupiter -111585-11-01 09:07 J -39034693.31 -39034693.12 -39034692.92 0.0532 0.0108
 Saturn -111584-03-12 15:36 J -39034562.04 -39034561.85 -39034561.65 0.0262 0.0115
 Saturn -111584-10-27 20:09 J -39034332.80 -39034332.66 -39034332.51 0.0262 0.0195
 Jupiter -111579-08-30 01:55 J -39032565.55 -39032565.42 -39032565.29 0.0494 0.0379
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Uranus -111572-06-01 22:19 J -39030097.66 -39030097.57 -39030097.45 0.0148 0.0131
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 Mars -111564-11-03 16:33 J -39027020.90 -39027020.81 -39027020.71 0.1644 0.1346
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Neptune -111530-01-18 10:05 J -39014892.13 -39014892.08 -39014891.98 0.0088 0.0083
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 Saturn -111526-08-18 23:17 J -39013218.74 -39013218.53 -39013218.32 0.0262 0.0059
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 Saturn -111525-11-19 07:55 J -39012760.27 -39012760.17 -39012760.04 0.0262 0.0221
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 Moon -111510-01-15 01:12 J -39007590.61 -39007590.45 -39007590.30 0.2561 0.0234
 Earth -111510-01-15 05:45 J -39007590.42 -39007590.26 -39007590.10 0.2557 0.0571 *
 Saturn -111510-05-03 21:21 J -39007481.77 -39007481.61 -39007481.46 0.0300 0.0188
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 Saturn -111498-11-27 18:29 J -39002890.93 -39002890.73 -39002890.52 0.0263 0.0094
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 Saturn -111496-02-28 03:50 J -39002432.55 -39002432.34 -39002432.13 0.0262 0.0072
 Mars -111496-07-01 15:21 J -39002309.03 -39002308.86 -39002308.70 0.1643 0.0204
 Jupiter -111496-09-17 20:38 J -39002230.79 -39002230.64 -39002230.49 0.0494 0.0345
 Saturn -111496-10-15 08:24 J -39002203.32 -39002203.15 -39002202.97 0.0261 0.0154
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 Uranus -111487-12-11 02:09 J -38998859.62 -38998859.41 -38998859.18 0.0148 0.0015
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 Pluto -111486-08-24 22:33 J -38998602.74 -38998602.56 -38998602.33 0.0064 0.0030
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Saturn -111469-10-22 21:07 J -38992333.79 -38992333.62 -38992333.45 0.0264 0.0164
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 Mars -111464-06-30 05:02 J -38990622.45 -38990622.29 -38990622.13 0.1643 0.0507
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 Mars -111462-04-30 14:38 J -38989953.02 -38989952.89 -38989952.76 0.1644 0.0984
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 Jupiter -111436-05-28 19:26 J -38980427.85 -38980427.69 -38980427.51 0.0495 0.0272
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Mars -111432-06-28 18:57 J -38978935.82 -38978935.71 -38978935.60 0.1643 0.1212
 Mars -111431-05-29 13:55 J -38978601.10 -38978600.92 -38978600.75 0.1871 0.0630
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 Saturn -111422-04-21 02:38 J -38975352.58 -38975352.39 -38975352.21 0.0300 0.0128
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 Uranus -111275-11-24 04:33 J -38921443.43 -38921443.31 -38921443.15 0.0131 0.0099
 Saturn -111275-12-16 17:45 J -38921420.89 -38921420.76 -38921420.61 0.0300 0.0220
 Jupiter -111270-07-06 12:43 J -38919758.11 -38919757.97 -38919757.83 0.0495 0.0361
 Earth -111267-01-15 08:53 J -38918834.28 -38918834.13 -38918833.98 0.2557 0.0957
 Moon -111267-01-15 13:41 J -38918834.08 -38918833.93 -38918833.78 0.2553 0.1138 *
 Mars -111267-01-20 21:36 J -38918828.68 -38918828.60 -38918828.52 0.1871 0.1662
 Mars -111267-12-20 20:24 J -38918494.82 -38918494.65 -38918494.49 0.1643 0.0286
 Mars -111266-11-17 10:19 J -38918163.10 -38918163.07 -38918163.03 0.1868 0.1819
 Mars -111265-10-20 05:17 J -38917825.39 -38917825.28 -38917825.17 0.1645 0.1225
 Jupiter -111264-05-14 03:36 J -38917619.45 -38917619.35 -38917619.23 0.0531 0.0435
 Saturn -111263-04-10 04:48 J -38917288.38 -38917288.30 -38917288.21 0.0265 0.0243
 Saturn -111263-11-25 09:50 J -38917059.25 -38917059.09 -38917058.91 0.0264 0.0159
 Saturn -111262-07-12 14:38 J -38916830.10 -38916829.89 -38916829.68 0.0263 0.0074
 Saturn -111261-02-26 18:57 J -38916600.93 -38916600.71 -38916600.49 0.0262 0.0011
 Saturn -111261-10-12 23:02 J -38916371.74 -38916371.54 -38916371.33 0.0261 0.0096
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 Moon -111259-01-13 01:55 J -38915914.49 -38915914.42 -38915914.34 0.2549 0.2279 *
 Saturn -111259-01-14 06:29 J -38915913.24 -38915913.23 -38915913.19 0.0261 0.0259
 Jupiter -111258-03-11 11:31 J -38915492.23 -38915492.02 -38915491.81 0.0494 0.0071
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Saturn -111246-11-10 23:45 J -38910864.70 -38910864.51 -38910864.32 0.0300 0.0113
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 Uranus -111236-04-24 21:36 J -38907411.69 -38907411.60 -38907411.50 0.0148 0.0133
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 Neptune -111204-02-02 14:09 J -38895805.04 -38895804.91 -38895804.74 0.0088 0.0063
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 Neptune -111203-04-29 13:12 J -38895354.04 -38895353.95 -38895353.81 0.0088 0.0075
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Neptune -111203-12-11 01:12 J -38895128.53 -38895128.45 -38895128.35 0.0088 0.0080
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 Saturn -111202-11-05 07:41 J -38894799.37 -38894799.18 -38894798.98 0.0261 0.0120
 Mars -111202-11-17 22:19 J -38894786.70 -38894786.57 -38894786.45 0.1871 0.1376
 Saturn -111201-06-21 11:17 J -38894570.16 -38894570.03 -38894569.89 0.0261 0.0203
 Mars -111201-10-17 09:21 J -38894452.28 -38894452.11 -38894451.94 0.1643 0.0212
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 Uranus -111193-02-01 04:48 J -38891789.46 -38891789.30 -38891789.12 0.0131 0.0077
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 Uranus -111192-12-10 12:43 J -38891111.16 -38891110.97 -38891110.75 0.0131 0.0041
 Uranus -111191-07-24 15:21 J -38890885.02 -38890884.86 -38890884.68 0.0131 0.0079
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 Saturn -111188-01-12 19:12 J -38889981.84 -38889981.70 -38889981.56 0.0297 0.0214
 Saturn -111188-08-30 14:53 J -38889752.07 -38889751.88 -38889751.68 0.0299 0.0098
 Saturn -111187-04-17 11:31 J -38889522.23 -38889522.02 -38889521.82 0.0300 0.0022
 Jupiter -111187-07-25 12:57 J -38889423.07 -38889422.96 -38889422.85 0.0495 0.0420
 Saturn -111187-12-03 07:55 J -38889292.34 -38889292.17 -38889291.98 0.0301 0.0143
 Saturn -111186-07-21 05:02 J -38889062.39 -38889062.29 -38889062.19 0.0301 0.0260
 Jupiter -111181-06-02 04:05 J -38887284.39 -38887284.33 -38887284.26 0.0531 0.0499
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 Saturn -111175-11-12 15:50 J -38884929.96 -38884929.84 -38884929.70 0.0265 0.0211
 Saturn -111174-06-29 20:53 J -38884700.81 -38884700.63 -38884700.42 0.0263 0.0126
 Saturn -111173-02-14 01:41 J -38884471.64 -38884471.43 -38884471.21 0.0262 0.0039
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Saturn -111171-01-01 13:55 J -38883784.04 -38883783.92 -38883783.79 0.0261 0.0214
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 Mars -111169-10-15 23:02 J -38882765.68 -38882765.54 -38882765.40 0.1643 0.0929
 Mars -111168-09-13 17:17 J -38882432.96 -38882432.78 -38882432.60 0.1870 0.0513
 Mars -111167-08-16 08:38 J -38882096.30 -38882096.14 -38882095.99 0.1644 0.0584
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 Saturn -111159-07-26 01:12 J -38879195.60 -38879195.45 -38879195.30 0.0297 0.0198
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 Saturn -111158-10-28 17:45 J -38878735.96 -38878735.76 -38878735.56 0.0299 0.0040
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 Uranus -111152-08-06 13:26 J -38876627.08 -38876626.94 -38876626.78 0.0148 0.0109
 Jupiter -111152-08-08 09:21 J -38876625.19 -38876625.11 -38876625.01 0.0494 0.0447
 Uranus -111151-03-21 05:02 J -38876400.49 -38876400.29 -38876400.08 0.0148 0.0051
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 Uranus -111149-01-30 03:36 J -38875720.45 -38875720.35 -38875720.21 0.0147 0.0125
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 Jupiter -111140-12-05 23:45 J -38872122.67 -38872122.51 -38872122.34 0.0495 0.0303
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 Uranus -111110-10-01 14:24 J -38861231.02 -38861230.90 -38861230.74 0.0131 0.0098
 Uranus -111109-05-14 17:17 J -38861004.96 -38861004.78 -38861004.58 0.0131 0.0059
 Uranus -111109-12-26 20:09 J -38860778.87 -38860778.66 -38860778.44 0.0131 0.0020
 Uranus -111108-08-09 22:48 J -38860552.76 -38860552.55 -38860552.33 0.0131 0.0020
 Uranus -111107-03-24 01:26 J -38860326.62 -38860326.44 -38860326.24 0.0131 0.0058
 Uranus -111107-11-05 03:50 J -38860100.47 -38860100.34 -38860100.19 0.0131 0.0097
 Jupiter -111104-08-13 15:07 J -38859087.91 -38859087.87 -38859087.83 0.0495 0.0485
 Mars -111103-08-13 12:14 J -38858723.13 -38858722.99 -38858722.85 0.1643 0.0859
 Mars -111102-07-11 18:43 J -38858390.89 -38858390.72 -38858390.55 0.1870 0.0794
 Mars -111101-06-12 21:36 J -38858053.75 -38858053.60 -38858053.44 0.1644 0.0661
 Saturn -111101-12-30 10:33 J -38857853.10 -38857853.06 -38857853.02 0.0295 0.0289
 Saturn -111100-08-17 05:45 J -38857623.42 -38857623.26 -38857623.09 0.0297 0.0176
 Saturn -111099-04-04 01:55 J -38857393.62 -38857393.42 -38857393.21 0.0299 0.0057
 Saturn -111099-11-19 22:33 J -38857163.76 -38857163.56 -38857163.36 0.0300 0.0066
 Saturn -111098-07-07 19:12 J -38856933.86 -38856933.70 -38856933.54 0.0300 0.0187

Jupiter -111092-04-18 11:45 J -38854822.20 -38854822.01 -38854821.82 0.0494 0.0188
 Jupiter -111086-02-25 01:26 J -38852683.62 -38852683.44 -38852683.26 0.0532 0.0230
 Saturn -111086-06-17 02:38 J -38852571.55 -38852571.39 -38852571.23 0.0265 0.0181
 Saturn -111085-02-01 07:26 J -38852342.39 -38852342.19 -38852341.98 0.0263 0.0094
 Saturn -111085-09-17 12:00 J -38852113.21 -38852113.00 -38852112.78 0.0262 0.0008
 Saturn -111084-05-04 16:05 J -38851884.04 -38851883.83 -38851883.62 0.0261 0.0080
 Saturn -111084-12-19 19:41 J -38851654.84 -38851654.68 -38851654.50 0.0261 0.0165
 Saturn -111083-08-05 23:02 J -38851425.59 -38851425.54 -38851425.46 0.0261 0.0248
 Jupiter -111081-12-22 11:31 J -38850556.23 -38850556.02 -38850555.82 0.0494 0.0100
 Jupiter -111075-10-30 20:53 J -38848417.82 -38848417.63 -38848417.43 0.0532 0.0113
 Saturn -111071-07-12 10:48 J -38847067.11 -38847067.05 -38847066.99 0.0295 0.0281
 Mars -111071-08-12 02:09 J -38847036.45 -38847036.41 -38847036.36 0.1642 0.1578
 Saturn -111070-02-27 05:45 J -38846837.42 -38846837.26 -38846837.08 0.0297 0.0169
 Mars -111070-07-12 00:57 J -38846702.63 -38846702.46 -38846702.30 0.1871 0.0823
 Saturn -111070-10-15 01:41 J -38846607.63 -38846607.43 -38846607.22 0.0299 0.0049
 Saturn -111069-05-31 22:05 J -38846377.78 -38846377.58 -38846377.38 0.0300 0.0074
 Mars -111069-06-11 11:45 J -38846367.18 -38846367.01 -38846366.84 0.1643 0.0068
 Jupiter -111069-08-27 11:31 J -38846290.15 -38846290.02 -38846289.89 0.0494 0.0384
 Saturn -111068-01-16 18:29 J -38846147.87 -38846147.73 -38846147.56 0.0301 0.0196
 Uranus -111068-04-05 14:53 J -38846068.93 -38846068.88 -38846068.81 0.0148 0.0142
 Uranus -111068-11-18 06:14 J -38845842.41 -38845842.24 -38845842.05 0.0148 0.0084
 Mars -111067-04-11 20:38 J -38845697.71 -38845697.64 -38845697.56 0.1647 0.1463
 Uranus -111067-07-02 21:36 J -38845615.81 -38845615.60 -38845615.37 0.0148 0.0026
 Uranus -111066-02-14 13:12 J -38845389.16 -38845388.95 -38845388.73 0.0147 0.0033
 Uranus -111066-09-29 04:48 J -38845162.46 -38845162.30 -38845162.11 0.0147 0.0092
 Jupiter -111063-07-05 15:07 J -38844151.97 -38844151.87 -38844151.77 0.0533 0.0462
 Saturn -111057-05-11 20:53 J -38842014.67 -38842014.63 -38842014.58 0.0266 0.0259
 Jupiter -111057-12-25 02:38 J -38841787.52 -38841787.39 -38841787.24 0.0495 0.0371
 Saturn -111057-12-27 02:24 J -38841785.56 -38841785.40 -38841785.23 0.0265 0.0173
 Saturn -111056-08-13 07:41 J -38841556.39 -38841556.18 -38841555.97 0.0263 0.0085

Neptune -111056-11-30 00:43 J -38841447.48 -38841447.47 -38841447.41 0.0088 0.0088
 Saturn -111055-03-30 12:14 J -38841327.21 -38841326.99 -38841326.77 0.0262 0.0003
 Neptune -111055-07-13 12:29 J -38841222.04 -38841221.98 -38841221.87 0.0088 0.0082
 Saturn -111055-11-14 16:33 J -38841098.01 -38841097.81 -38841097.60 0.0261 0.0090
 Neptune -111054-02-24 00:29 J -38840996.57 -38840996.48 -38840996.35 0.0088 0.0075
 Saturn -111054-07-01 20:24 J -38840868.80 -38840868.65 -38840868.48 0.0261 0.0175
 Neptune -111054-10-07 12:14 J -38840771.10 -38840770.99 -38840770.84 0.0088 0.0070
 Saturn -111053-02-16 00:00 J -38840639.51 -38840639.50 -38840639.45 0.0261 0.0258
 Neptune -111053-05-20 00:00 J -38840545.63 -38840545.50 -38840545.34 0.0088 0.0064
 Neptune -111053-12-31 11:45 J -38840320.16 -38840320.01 -38840319.84 0.0088 0.0057
 Neptune -111052-08-13 23:31 J -38840094.68 -38840094.52 -38840094.34 0.0088 0.0051
 Neptune -111051-03-27 11:17 J -38839869.20 -38839869.03 -38839868.84 0.0088 0.0045
 Jupiter -111051-11-02 16:19 J -38839648.93 -38839648.82 -38839648.71 0.0531 0.0433
 Neptune -111051-11-07 23:02 J -38839643.72 -38839643.54 -38839643.34 0.0088 0.0039
 Neptune -111050-06-21 10:33 J -38839418.24 -38839418.06 -38839417.85 0.0088 0.0034
 Neptune -111049-02-01 22:19 J -38839192.76 -38839192.57 -38839192.36 0.0088 0.0027
 Neptune -111049-09-14 10:05 J -38838967.28 -38838967.08 -38838966.87 0.0088 0.0021
 Neptune -111048-04-27 21:50 J -38838741.80 -38838741.59 -38838741.37 0.0088 0.0015
 Neptune -111048-12-09 09:36 J -38838516.31 -38838516.10 -38838515.89 0.0088 0.0009
 Neptune -111047-07-22 21:07 J -38838290.83 -38838290.62 -38838290.41 0.0088 0.0003
 Neptune -111046-03-05 08:38 J -38838065.35 -38838065.14 -38838064.92 0.0088 0.0004
 Neptune -111046-10-16 20:09 J -38837839.87 -38837839.66 -38837839.44 0.0088 0.0010
 Neptune -111045-05-29 07:55 J -38837614.38 -38837614.17 -38837613.96 0.0088 0.0016
 Jupiter -111045-08-30 02:09 J -38837521.62 -38837521.41 -38837521.21 0.0494 0.0081
 Neptune -111044-01-09 19:12 J -38837388.90 -38837388.70 -38837388.49 0.0088 0.0022
 Neptune -111044-08-23 06:29 J -38837163.42 -38837163.23 -38837163.01 0.0088 0.0029
 Neptune -111043-04-05 18:00 J -38836937.93 -38836937.75 -38836937.53 0.0088 0.0035
 Neptune -111043-11-17 05:31 J -38836712.44 -38836712.27 -38836712.06 0.0088 0.0041
 Neptune -111042-06-30 17:02 J -38836486.95 -38836486.79 -38836486.59 0.0088 0.0046
 Saturn -111041-01-22 14:24 J -38836280.97 -38836280.90 -38836280.81 0.0295 0.0269

Neptune -111041-02-11 04:33 J -38836261.46 -38836261.31 -38836261.12 0.0088 0.0052
 Saturn -111041-09-08 09:50 J -38836051.26 -38836051.09 -38836050.91 0.0297 0.0154
 Neptune -111041-09-23 16:05 J -38836035.97 -38836035.83 -38836035.65 0.0088 0.0058
 Saturn -111040-04-26 06:00 J -38835821.46 -38835821.25 -38835821.05 0.0299 0.0034
 Neptune -111040-05-07 04:05 J -38835810.47 -38835810.33 -38835810.18 0.0088 0.0064
 Saturn -111040-12-12 02:24 J -38835591.60 -38835591.40 -38835591.21 0.0300 0.0090
 Neptune -111040-12-18 15:36 J -38835584.98 -38835584.85 -38835584.72 0.0088 0.0070
 Jupiter -111039-07-08 11:31 J -38835383.22 -38835383.02 -38835382.82 0.0532 0.0090
 Saturn -111039-07-29 23:02 J -38835361.68 -38835361.54 -38835361.40 0.0300 0.0211
 Neptune -111039-08-01 02:53 J -38835359.48 -38835359.38 -38835359.26 0.0088 0.0076
 Neptune -111038-03-14 14:24 J -38835133.97 -38835133.90 -38835133.81 0.0088 0.0082
 Neptune -111038-10-26 01:55 J -38834908.43 -38834908.42 -38834908.37 0.0088 0.0087
 Mars -111037-06-10 01:41 J -38834680.58 -38834680.43 -38834680.28 0.1643 0.0790
 Mars -111036-05-07 19:41 J -38834348.83 -38834348.68 -38834348.53 0.1869 0.1086
 Mars -111035-04-10 11:02 J -38834011.19 -38834011.04 -38834010.89 0.1645 0.0736
 Jupiter -111033-05-05 00:14 J -38833255.68 -38833255.49 -38833255.30 0.0493 0.0211
 Saturn -111028-11-22 00:57 J -38831228.52 -38831228.46 -38831228.38 0.0266 0.0251
 Jupiter -111027-03-13 06:29 J -38831117.40 -38831117.23 -38831117.05 0.0533 0.0254
 Saturn -111027-07-09 06:43 J -38830999.39 -38830999.22 -38830999.05 0.0265 0.0163
 Saturn -111026-02-23 11:45 J -38830770.22 -38830770.01 -38830769.80 0.0263 0.0075
 Uranus -111026-06-01 00:29 J -38830672.56 -38830672.48 -38830672.38 0.0131 0.0118
 Saturn -111026-10-10 16:33 J -38830541.03 -38830540.81 -38830540.59 0.0262 0.0014
 Uranus -111025-01-13 03:21 J -38830446.52 -38830446.36 -38830446.18 0.0131 0.0079
 Saturn -111025-05-26 20:24 J -38830311.84 -38830311.65 -38830311.44 0.0262 0.0101
 Uranus -111025-08-26 06:14 J -38830220.44 -38830220.24 -38830220.03 0.0131 0.0040
 Saturn -111024-01-11 00:29 J -38830082.64 -38830082.48 -38830082.33 0.0261 0.0185
 Moon -111024-01-15 08:09 J -38830078.29 -38830078.16 -38830078.02 0.2560 0.1294
 Earth -111024-01-15 12:00 J -38830078.14 -38830078.00 -38830077.86 0.2556 0.1339 *
 Uranus -111024-04-09 09:07 J -38829994.33 -38829994.12 -38829993.90 0.0131 0.0002
 Uranus -111024-11-21 11:45 J -38829768.21 -38829768.01 -38829767.81 0.0131 0.0038

Uranus -111023-07-05 14:09 J -38829542.08 -38829541.91 -38829541.73 0.0131 0.0077
 Uranus -111022-02-16 16:33 J -38829315.89 -38829315.81 -38829315.70 0.0131 0.0117
 Jupiter -111021-01-09 00:43 J -38828989.47 -38828989.47 -38828989.47 0.0493 0.0493
 Earth -111016-01-13 04:33 J -38827158.42 -38827158.31 -38827158.19 0.2555 0.1810
 Moon -111016-01-13 05:02 J -38827158.40 -38827158.29 -38827158.17 0.2561 0.1746 *
 Saturn -111012-08-03 14:53 J -38825494.97 -38825494.88 -38825494.78 0.0295 0.0261
 Saturn -111011-03-21 09:50 J -38825265.26 -38825265.09 -38825264.90 0.0297 0.0146
 Saturn -111011-11-06 05:45 J -38825035.47 -38825035.26 -38825035.06 0.0299 0.0025
 Saturn -111010-06-24 01:55 J -38824805.61 -38824805.42 -38824805.23 0.0300 0.0098
 Saturn -111009-02-08 22:19 J -38824575.70 -38824575.57 -38824575.43 0.0301 0.0220
 Jupiter -111009-05-07 14:24 J -38824487.07 -38824486.90 -38824486.72 0.0494 0.0256
 Mars -111005-06-08 15:21 J -38822993.92 -38822993.86 -38822993.79 0.1642 0.1510
 Mars -111004-05-08 02:38 J -38822660.56 -38822660.39 -38822660.21 0.1871 0.0551
 Jupiter -111003-03-16 05:17 J -38822348.44 -38822348.28 -38822348.12 0.0532 0.0309
 Mars -111003-04-09 00:43 J -38822324.63 -38822324.47 -38822324.30 0.1643 0.0030
 Mars -111001-02-07 09:36 J -38821655.15 -38821655.10 -38821655.04 0.1647 0.1546

111TH MILLENNIUM BCE

This is a list of transits of Venus in the 111th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								

Saturn -110998-06-04 00:14 J -38820442.57 -38820442.49 -38820442.40 0.0266 0.0243

Jupiter -110997-01-11 14:09 J -38820221.11 -38820220.91 -38820220.70 0.0494 0.0034
 Saturn -110997-01-19 06:00 J -38820213.42 -38820213.25 -38820213.07 0.0264 0.0155
 Saturn -110997-09-04 11:17 J -38819984.24 -38819984.03 -38819983.81 0.0263 0.0066
 Saturn -110996-04-21 16:05 J -38819755.05 -38819754.83 -38819754.61 0.0262 0.0023
 Saturn -110996-12-06 20:09 J -38819525.85 -38819525.66 -38819525.45 0.0261 0.0111
 Saturn -110995-07-24 00:00 J -38819296.63 -38819296.50 -38819296.34 0.0261 0.0196
 Jupiter -110992-11-18 22:33 J -38818082.75 -38818082.56 -38818082.36 0.0532 0.0045
 Pluto -110990-06-30 11:31 J -38817494.19 -38817494.02 -38817493.83 0.0064 0.0038
 Pluto -110989-02-10 16:19 J -38817269.04 -38817268.82 -38817268.58 0.0064 0.0003
 Pluto -110989-09-22 21:07 J -38817043.78 -38817043.62 -38817043.45 0.0064 0.0044
 Jupiter -110986-09-16 14:24 J -38815955.05 -38815954.90 -38815954.74 0.0494 0.0318
 Uranus -110984-07-18 09:36 J -38815284.24 -38815284.10 -38815283.96 0.0148 0.0114
 Uranus -110983-03-02 00:57 J -38815057.66 -38815057.46 -38815057.25 0.0148 0.0056
 Uranus -110983-10-14 16:19 J -38814831.04 -38814830.82 -38814830.59 0.0148 0.0004
 Saturn -110982-02-13 18:43 J -38814708.83 -38814708.72 -38814708.62 0.0295 0.0249
 Uranus -110982-05-29 07:41 J -38814604.37 -38814604.18 -38814603.97 0.0147 0.0062
 Saturn -110982-10-01 13:41 J -38814479.11 -38814478.93 -38814478.74 0.0297 0.0132
 Uranus -110981-01-10 23:17 J -38814377.65 -38814377.53 -38814377.40 0.0147 0.0120
 Saturn -110981-05-18 09:50 J -38814249.30 -38814249.09 -38814248.89 0.0299 0.0010
 Saturn -110980-01-03 06:14 J -38814019.43 -38814019.24 -38814019.05 0.0300 0.0114
 Jupiter -110980-07-24 16:33 J -38813816.94 -38813816.81 -38813816.67 0.0533 0.0395
 Saturn -110980-08-21 02:38 J -38813789.51 -38813789.39 -38813789.26 0.0300 0.0236
 Jupiter -110973-01-14 03:21 J -38811452.45 -38811452.36 -38811452.25 0.0494 0.0434
 Neptune -110973-08-25 14:38 J -38811227.96 -38811227.89 -38811227.82 0.0089 0.0084
 Neptune -110972-04-08 04:33 J -38811002.40 -38811002.31 -38811002.18 0.0089 0.0079
 Neptune -110972-11-19 18:43 J -38810776.82 -38810776.72 -38810776.56 0.0089 0.0072
 Mars -110971-04-07 14:38 J -38810638.04 -38810637.89 -38810637.74 0.1643 0.0717
 Neptune -110971-07-03 09:21 J -38810551.25 -38810551.11 -38810550.94 0.0089 0.0066
 Neptune -110970-02-13 23:45 J -38810325.66 -38810325.51 -38810325.33 0.0089 0.0059
 Mars -110970-03-04 21:21 J -38810306.74 -38810306.61 -38810306.49 0.1868 0.1366

Neptune -110970-09-27 14:24 J -38810100.07 -38810099.90 -38810099.70 0.0089 0.0052
 Mars -110969-02-05 23:45 J -38809968.66 -38809968.51 -38809968.37 0.1645 0.0820
 Neptune -110969-05-10 04:48 J -38809874.48 -38809874.30 -38809874.09 0.0089 0.0046
 Saturn -110969-12-14 04:19 J -38809656.41 -38809656.32 -38809656.21 0.0266 0.0234
 Neptune -110969-12-21 19:12 J -38809648.89 -38809648.70 -38809648.48 0.0089 0.0039
 Saturn -110968-07-31 10:19 J -38809427.25 -38809427.07 -38809426.89 0.0265 0.0145
 Neptune -110968-08-04 09:50 J -38809423.30 -38809423.09 -38809422.88 0.0089 0.0033
 Jupiter -110968-11-21 19:41 J -38809313.72 -38809313.68 -38809313.62 0.0532 0.0514
 Saturn -110967-03-17 15:21 J -38809198.07 -38809197.86 -38809197.64 0.0263 0.0056
 Neptune -110967-03-18 00:00 J -38809197.71 -38809197.50 -38809197.27 0.0089 0.0026 *
 Neptune -110967-10-29 14:53 J -38808972.10 -38808971.88 -38808971.66 0.0089 0.0019
 Saturn -110967-11-01 20:09 J -38808968.88 -38808968.66 -38808968.44 0.0262 0.0033
 Neptune -110966-06-12 05:02 J -38808746.50 -38808746.29 -38808746.05 0.0089 0.0013
 Saturn -110966-06-19 00:14 J -38808739.68 -38808739.49 -38808739.29 0.0262 0.0121
 Neptune -110965-01-23 19:41 J -38808520.90 -38808520.68 -38808520.45 0.0089 0.0006
 Saturn -110965-02-03 04:05 J -38808510.45 -38808510.33 -38808510.18 0.0261 0.0206
 Neptune -110965-09-05 10:19 J -38808295.30 -38808295.07 -38808294.84 0.0089 0.0001
 Neptune -110964-04-19 00:43 J -38808069.69 -38808069.47 -38808069.24 0.0089 0.0008
 Neptune -110964-11-30 15:21 J -38807844.08 -38807843.86 -38807843.63 0.0089 0.0014
 Neptune -110963-07-14 05:45 J -38807618.47 -38807618.26 -38807618.03 0.0089 0.0021
 Neptune -110962-02-24 20:24 J -38807392.86 -38807392.65 -38807392.42 0.0089 0.0028
 Jupiter -110962-09-19 03:07 J -38807186.57 -38807186.37 -38807186.17 0.0494 0.0144
 Neptune -110962-10-08 11:17 J -38807167.24 -38807167.03 -38807166.82 0.0089 0.0034
 Neptune -110961-05-21 01:41 J -38806941.62 -38806941.43 -38806941.21 0.0089 0.0041
 Neptune -110960-01-01 16:05 J -38806716.00 -38806715.83 -38806715.62 0.0089 0.0048
 Neptune -110960-08-15 06:57 J -38806490.38 -38806490.21 -38806490.02 0.0089 0.0054
 Neptune -110959-03-28 21:21 J -38806264.75 -38806264.61 -38806264.42 0.0089 0.0061
 Neptune -110959-11-09 12:29 J -38806039.12 -38806038.98 -38806038.83 0.0089 0.0067
 Neptune -110958-06-23 02:53 J -38805813.49 -38805813.38 -38805813.24 0.0089 0.0074
 Neptune -110957-02-03 17:45 J -38805587.85 -38805587.76 -38805587.66 0.0089 0.0080

Neptune -110957-09-16 07:55 J -38805362.19 -38805362.17 -38805362.10 0.0089 0.0087
 Jupiter -110956-07-27 15:50 J -38805048.03 -38805047.84 -38805047.65 0.0532 0.0174
 Saturn -110953-08-25 19:26 J -38803922.80 -38803922.69 -38803922.56 0.0295 0.0241
 Saturn -110952-04-12 14:38 J -38803693.07 -38803692.89 -38803692.70 0.0297 0.0123
 Saturn -110952-11-28 10:19 J -38803463.28 -38803463.07 -38803462.87 0.0299 0.0006
 Saturn -110951-07-16 06:14 J -38803233.43 -38803233.24 -38803233.05 0.0300 0.0122
 Saturn -110950-03-03 02:24 J -38803003.51 -38803003.40 -38803003.27 0.0300 0.0245
 Jupiter -110950-05-25 02:24 J -38802920.59 -38802920.40 -38802920.20 0.0494 0.0146
 Jupiter -110944-04-01 10:33 J -38800782.24 -38800782.06 -38800781.87 0.0533 0.0175
 Uranus -110942-09-12 13:12 J -38799888.07 -38799887.95 -38799887.80 0.0131 0.0100
 Uranus -110941-04-25 16:19 J -38799662.01 -38799661.82 -38799661.63 0.0131 0.0061
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 Uranus -110940-07-21 21:36 J -38799209.81 -38799209.60 -38799209.38 0.0131 0.0018
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 Mars -110939-04-06 04:33 J -38798951.39 -38798951.31 -38798951.23 0.1642 0.1441
 Saturn -110939-06-26 03:21 J -38798870.46 -38798870.36 -38798870.24 0.0266 0.0226
 Uranus -110939-10-17 02:38 J -38798757.52 -38798757.39 -38798757.23 0.0131 0.0097
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Saturn -110922-06-10 14:09 J -38792677.11 -38792676.91 -38792676.70 0.0299 0.0014
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 Uranus -110858-05-12 23:45 J -38769329.58 -38769329.51 -38769329.42 0.0131 0.0120
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 Earth -110773-01-14 07:55 J -38738402.31 -38738402.17 -38738402.04 0.2555 0.1422 *
 Uranus -110773-04-06 15:36 J -38738319.03 -38738318.85 -38738318.66 0.0131 0.0062
 Uranus -110773-11-18 18:14 J -38738092.94 -38738092.74 -38738092.52 0.0131 0.0023
 Jupiter -110772-03-07 03:50 J -38737984.50 -38737984.34 -38737984.18 0.0493 0.0313
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 Mars -110772-07-28 14:53 J -38737841.01 -38737840.88 -38737840.75 0.1647 0.1063

Uranus -110771-02-13 23:31 J -38737640.70 -38737640.52 -38737640.32 0.0131 0.0056
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 Saturn -110762-01-15 12:43 J -38734383.00 -38734382.97 -38734382.90 0.0268 0.0260
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 Pluto -110741-08-26 03:50 J -38726489.50 -38726489.34 -38726489.15 0.0064 0.0043
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Uranus -110731-05-25 19:55 J -38722929.88 -38722929.67 -38722929.45 0.0148 0.0027
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 Neptune -110710-09-17 17:17 J -38715144.81 -38715144.78 -38715144.70 0.0088 0.0086
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 Saturn -110702-12-26 17:02 J -38712123.01 -38712122.79 -38712122.58 0.0263 0.0043
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 Uranus -110690-12-06 01:41 J -38707760.59 -38707760.43 -38707760.26 0.0131 0.0083
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 Uranus -110689-07-19 04:33 J -38707534.51 -38707534.31 -38707534.11 0.0131 0.0043
 Uranus -110688-03-02 07:26 J -38707308.41 -38707308.19 -38707307.98 0.0131 0.0004

Uranus -110688-10-14 10:05 J -38707082.29 -38707082.08 -38707081.88 0.0131 0.0036
 Saturn -110688-10-19 23:02 J -38707076.67 -38707076.54 -38707076.42 0.0295 0.0233
 Uranus -110687-05-28 12:29 J -38706856.15 -38706855.98 -38706855.80 0.0131 0.0075
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 Mars -110676-07-24 08:53 J -38702781.24 -38702781.13 -38702781.01 0.1642 0.1157
 Mars -110675-06-20 08:24 J -38702450.31 -38702450.15 -38702449.99 0.1868 0.0901
 Mars -110674-05-24 18:14 J -38702111.90 -38702111.74 -38702111.57 0.1645 0.0401
 Saturn -110674-08-20 05:31 J -38702024.38 -38702024.27 -38702024.14 0.0267 0.0223
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 Saturn -110672-07-08 00:14 J -38701336.70 -38701336.49 -38701336.27 0.0264 0.0057
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 Saturn -110657-08-03 21:36 J -38695830.81 -38695830.60 -38695830.40 0.0297 0.0032
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Jupiter -110648-10-09 17:02 J -38692476.98 -38692476.79 -38692476.59 0.0533 0.0143
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Mars -110610-05-21 22:19 J -38678738.69 -38678738.57 -38678738.44 0.1642 0.1084
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Saturn -110568-10-24 18:14 J -38663241.87 -38663241.74 -38663241.59 0.0299 0.0217
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 Jupiter -110541-10-31 06:57 J -38653373.31 -38653373.21 -38653373.11 0.0533 0.0454
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 Moon -110538-01-16 16:48 J -38652565.87 -38652565.80 -38652565.73 0.2561 0.2264
 Earth -110538-01-16 18:29 J -38652565.82 -38652565.73 -38652565.64 0.2555 0.2113 *
 Saturn -110538-05-07 05:02 J -38652455.40 -38652455.29 -38652455.16 0.0299 0.0240
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 Earth -110530-01-14 11:02 J -38649646.19 -38649646.04 -38649645.89 0.2554 0.1035
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 Mars -110511-02-11 17:02 J -38642677.97 -38642677.79 -38642677.60 0.1870 0.0174
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 Mars -110509-11-14 18:57 J -38641670.79 -38641670.71 -38641670.62 0.1649 0.1401
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 Uranus -110479-01-03 15:36 J -38631029.05 -38631028.85 -38631028.65 0.0148 0.0068
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 Jupiter -110452-09-16 15:21 J -38620911.06 -38620910.86 -38620910.66 0.0494 0.0159

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 Mars -110446-12-09 18:14 J -38618635.92 -38618635.74 -38618635.56 0.1869 0.0124
 Mars -110445-11-11 23:31 J -38618297.68 -38618297.52 -38618297.35 0.1645 0.0115
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 Saturn -110438-11-19 09:21 J -38615734.30 -38615734.11 -38615733.90 0.0265 0.0106
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 Uranus -110437-10-11 16:05 J -38615407.03 -38615406.83 -38615406.61 0.0131 0.0027
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 Uranus -110435-08-21 00:14 J -38614728.63 -38614728.49 -38614728.34 0.0131 0.0094
 Jupiter -110434-03-30 12:57 J -38614507.14 -38614506.96 -38614506.78 0.0533 0.0221
 Jupiter -110428-01-25 15:36 J -38612378.96 -38612378.85 -38612378.75 0.0493 0.0425
 Saturn -110423-12-15 10:19 J -38610229.23 -38610229.07 -38610228.91 0.0295 0.0186
 Saturn -110422-08-02 04:48 J -38609999.50 -38609999.30 -38609999.10 0.0296 0.0061
 Saturn -110421-03-19 00:00 J -38609769.70 -38609769.50 -38609769.30 0.0298 0.0067
 Saturn -110421-11-03 19:26 J -38609539.84 -38609539.69 -38609539.53 0.0299 0.0196
 Jupiter -110416-05-25 01:12 J -38607876.60 -38607876.45 -38607876.29 0.0494 0.0326
 Mars -110414-12-10 00:00 J -38606947.60 -38606947.50 -38606947.40 0.1871 0.1545
 Mars -110413-11-10 13:41 J -38606611.08 -38606610.93 -38606610.79 0.1643 0.0858
 Mars -110411-09-10 22:19 J -38605941.72 -38605941.57 -38605941.42 0.1647 0.0729

Jupiter -110410-04-02 12:00 J -38605738.14 -38605738.00 -38605737.85 0.0533 0.0356
 Saturn -110409-10-14 09:36 J -38605177.24 -38605177.10 -38605176.93 0.0266 0.0188
 Saturn -110408-05-31 15:50 J -38604948.04 -38604947.84 -38604947.63 0.0265 0.0092
 Saturn -110407-01-15 21:36 J -38604718.82 -38604718.60 -38604718.38 0.0264 0.0005
 Saturn -110407-09-02 02:38 J -38604489.59 -38604489.39 -38604489.19 0.0263 0.0098
 Saturn -110406-04-19 07:26 J -38604260.34 -38604260.19 -38604260.04 0.0262 0.0190
 Pluto -110406-08-16 18:29 J -38604140.82 -38604140.73 -38604140.60 0.0081 0.0069
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 Jupiter -110404-01-28 00:43 J -38603610.68 -38603610.47 -38603610.27 0.0493 0.0032
 Neptune -110399-04-27 18:14 J -38601694.74 -38601694.74 -38601694.74 0.0088 0.0088
 Jupiter -110399-12-06 06:00 J -38601472.45 -38601472.25 -38601472.05 0.0533 0.0001
 Neptune -110399-12-09 05:45 J -38601469.32 -38601469.26 -38601469.17 0.0088 0.0083
 Neptune -110398-07-22 17:45 J -38601243.85 -38601243.76 -38601243.64 0.0088 0.0076
 Neptune -110397-03-04 05:31 J -38601018.38 -38601018.27 -38601018.12 0.0088 0.0071
 Neptune -110397-10-15 17:31 J -38600792.90 -38600792.77 -38600792.61 0.0088 0.0064
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 Neptune -110394-11-17 04:33 J -38599665.50 -38599665.31 -38599665.10 0.0088 0.0034
 Uranus -110393-02-26 08:53 J -38599564.18 -38599564.13 -38599564.06 0.0147 0.0141
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 Earth -110393-07-14 10:33 J -38599425.20 -38599425.06 -38599424.92 0.2787 0.1191
 Moon -110393-07-14 11:31 J -38599425.16 -38599425.02 -38599424.87 0.2780 0.1308 *

Jupiter -110393-10-03 00:43 J -38599344.65 -38599344.47 -38599344.30 0.0493 0.0262
 Neptune -110392-02-10 03:50 J -38599214.54 -38599214.34 -38599214.12 0.0088 0.0021
 Saturn -110392-02-11 08:53 J -38599213.33 -38599213.13 -38599212.93 0.0297 0.0047
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 Neptune -110391-05-07 03:21 J -38598763.57 -38598763.36 -38598763.14 0.0088 0.0009
 Saturn -110391-05-16 23:45 J -38598753.65 -38598753.51 -38598753.36 0.0299 0.0211
 Neptune -110391-12-18 15:07 J -38598538.09 -38598537.87 -38598537.66 0.0088 0.0003
 Neptune -110390-08-01 02:38 J -38598312.60 -38598312.39 -38598312.18 0.0088 0.0004
 Neptune -110389-03-13 14:09 J -38598087.12 -38598086.91 -38598086.69 0.0088 0.0010
 Neptune -110389-10-25 01:55 J -38597861.63 -38597861.42 -38597861.21 0.0088 0.0016
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 Neptune -110387-01-19 00:57 J -38597410.65 -38597410.46 -38597410.25 0.0088 0.0029
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 Neptune -110382-08-10 08:53 J -38595381.18 -38595381.13 -38595381.04 0.0088 0.0083
 Mars -110381-11-09 03:36 J -38594924.38 -38594924.35 -38594924.32 0.1642 0.1605
 Mars -110380-10-05 19:26 J -38594593.87 -38594593.69 -38594593.51 0.1868 0.0421
 Saturn -110379-04-26 14:53 J -38594391.03 -38594390.88 -38594390.71 0.0266 0.0173
 Mars -110379-09-09 12:43 J -38594255.14 -38594254.97 -38594254.81 0.1645 0.0043
 Saturn -110379-12-11 21:07 J -38594161.82 -38594161.62 -38594161.41 0.0265 0.0077
 Saturn -110378-07-29 02:53 J -38593932.60 -38593932.38 -38593932.16 0.0264 0.0019
 Saturn -110377-03-14 08:09 J -38593703.36 -38593703.16 -38593702.96 0.0263 0.0113

Mars -110377-07-09 20:53 J -38593585.68 -38593585.63 -38593585.58 0.1651 0.1577
 Saturn -110377-10-29 12:57 J -38593474.08 -38593473.96 -38593473.81 0.0262 0.0206
 Jupiter -110369-10-05 13:26 J -38590576.12 -38590575.94 -38590575.75 0.0493 0.0209
 Saturn -110364-05-22 05:17 J -38588886.35 -38588886.28 -38588886.20 0.0293 0.0274
 Saturn -110363-01-06 23:17 J -38588656.70 -38588656.53 -38588656.35 0.0295 0.0152
 Jupiter -110363-08-13 18:14 J -38588437.93 -38588437.74 -38588437.56 0.0533 0.0196
 Saturn -110363-08-24 18:14 J -38588426.95 -38588426.74 -38588426.54 0.0297 0.0025
 Saturn -110362-04-11 13:26 J -38588197.13 -38588196.94 -38588196.74 0.0298 0.0105
 Saturn -110362-11-27 09:07 J -38587967.24 -38587967.12 -38587966.99 0.0299 0.0233
 Jupiter -110357-06-10 10:48 J -38586310.26 -38586310.05 -38586309.85 0.0493 0.0094
 Uranus -110354-03-16 21:07 J -38585300.67 -38585300.62 -38585300.56 0.0131 0.0126
 Uranus -110354-10-29 00:00 J -38585074.65 -38585074.50 -38585074.33 0.0131 0.0086
 Uranus -110353-06-11 02:53 J -38584848.57 -38584848.38 -38584848.17 0.0131 0.0046
 Uranus -110352-01-23 05:45 J -38584622.47 -38584622.26 -38584622.04 0.0131 0.0007
 Uranus -110352-09-06 08:24 J -38584396.34 -38584396.15 -38584395.93 0.0131 0.0035
 Jupiter -110351-04-18 13:12 J -38584172.14 -38584171.95 -38584171.76 0.0534 0.0158
 Uranus -110351-04-20 11:17 J -38584170.20 -38584170.03 -38584169.84 0.0131 0.0074
 Uranus -110351-12-02 13:41 J -38583944.01 -38583943.93 -38583943.80 0.0131 0.0115
 Saturn -110350-03-22 14:53 J -38583833.94 -38583833.88 -38583833.81 0.0268 0.0255
 Saturn -110350-11-06 21:21 J -38583604.78 -38583604.61 -38583604.43 0.0266 0.0159
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 Saturn -110348-09-24 13:41 J -38582917.12 -38582916.93 -38582916.74 0.0263 0.0127
 Mars -110348-10-06 00:57 J -38582905.59 -38582905.46 -38582905.32 0.1871 0.1247
 Saturn -110347-05-11 18:14 J -38582687.85 -38582687.74 -38582687.61 0.0262 0.0219
 Mars -110347-09-08 02:53 J -38582568.53 -38582568.38 -38582568.23 0.1644 0.0784
 Jupiter -110345-02-14 11:02 J -38582044.16 -38582044.04 -38582043.91 0.0493 0.0386
 Mars -110345-07-08 11:31 J -38581899.16 -38581899.02 -38581898.87 0.1648 0.0810
 Jupiter -110340-12-22 06:43 J -38579906.27 -38579906.22 -38579906.17 0.0534 0.0517
 Saturn -110335-12-02 07:26 J -38578100.27 -38578100.19 -38578100.09 0.0294 0.0264

Saturn -110334-07-20 01:41 J -38577870.61 -38577870.43 -38577870.25 0.0296 0.0141
 Saturn -110333-03-05 20:38 J -38577640.85 -38577640.64 -38577640.44 0.0297 0.0013
 Jupiter -110333-06-12 23:31 J -38577541.65 -38577541.52 -38577541.38 0.0494 0.0379
 Saturn -110333-10-21 16:05 J -38577411.02 -38577410.83 -38577410.64 0.0299 0.0117
 Saturn -110332-06-08 11:45 J -38577181.12 -38577181.01 -38577180.89 0.0300 0.0246
 Jupiter -110327-04-21 10:33 J -38575403.18 -38575403.06 -38575402.93 0.0532 0.0414
 Jupiter -110321-02-16 23:45 J -38573275.72 -38573275.51 -38573275.31 0.0493 0.0085
 Saturn -110321-10-01 18:29 J -38573047.81 -38573047.73 -38573047.63 0.0267 0.0243
 Saturn -110320-05-19 01:26 J -38572818.63 -38572818.44 -38572818.26 0.0266 0.0146
 Saturn -110319-01-03 07:12 J -38572589.41 -38572589.20 -38572588.98 0.0264 0.0050
 Saturn -110319-08-20 12:43 J -38572360.19 -38572359.97 -38572359.76 0.0263 0.0047
 Saturn -110318-04-06 17:45 J -38572130.94 -38572130.76 -38572130.58 0.0262 0.0141
 Saturn -110318-11-21 22:19 J -38571901.66 -38571901.57 -38571901.46 0.0262 0.0233
 Neptune -110316-01-20 20:38 J -38571475.68 -38571475.64 -38571475.57 0.0089 0.0087
 Neptune -110316-09-03 10:48 J -38571250.13 -38571250.05 -38571249.93 0.0089 0.0080
 Jupiter -110316-12-25 02:38 J -38571137.59 -38571137.39 -38571137.19 0.0533 0.0047
 Neptune -110315-04-17 01:12 J -38571024.56 -38571024.45 -38571024.31 0.0089 0.0074
 Mars -110315-09-06 16:33 J -38570881.86 -38570881.81 -38570881.75 0.1642 0.1534
 Neptune -110315-11-28 15:07 J -38570799.00 -38570798.87 -38570798.70 0.0089 0.0067
 Neptune -110314-07-12 05:31 J -38570573.42 -38570573.27 -38570573.09 0.0089 0.0061
 Mars -110314-08-02 20:53 J -38570551.80 -38570551.63 -38570551.47 0.1867 0.0719
 Neptune -110313-02-22 19:41 J -38570347.84 -38570347.68 -38570347.49 0.0089 0.0054
 Mars -110313-07-07 01:55 J -38570212.59 -38570212.42 -38570212.25 0.1646 0.0054
 Neptune -110313-10-05 10:19 J -38570122.25 -38570122.07 -38570121.87 0.0089 0.0047
 Uranus -110312-05-03 00:43 J -38569912.57 -38569912.47 -38569912.35 0.0148 0.0127
 Neptune -110312-05-19 00:43 J -38569896.66 -38569896.47 -38569896.26 0.0089 0.0041
 Uranus -110312-12-15 15:50 J -38569686.03 -38569685.84 -38569685.63 0.0148 0.0067
 Neptune -110312-12-30 14:53 J -38569671.08 -38569670.88 -38569670.66 0.0089 0.0034
 Uranus -110311-07-30 07:26 J -38569459.42 -38569459.19 -38569458.97 0.0148 0.0008
 Neptune -110311-08-13 05:17 J -38569445.49 -38569445.28 -38569445.05 0.0089 0.0027

Uranus -110310-03-13 22:33 J -38569232.76 -38569232.56 -38569232.34 0.0147 0.0053
 Neptune -110310-03-26 19:55 J -38569219.89 -38569219.67 -38569219.45 0.0089 0.0020
 Jupiter -110310-10-22 23:45 J -38569009.69 -38569009.51 -38569009.32 0.0493 0.0210
 Uranus -110310-10-26 13:55 J -38569006.05 -38569005.92 -38569005.76 0.0147 0.0113
 Neptune -110310-11-07 10:33 J -38568994.29 -38568994.06 -38568993.84 0.0089 0.0013
 Neptune -110309-06-20 00:43 J -38568768.69 -38568768.47 -38568768.23 0.0089 0.0008
 Neptune -110308-01-31 15:21 J -38568543.08 -38568542.86 -38568542.63 0.0089 0.0001
 Neptune -110308-09-14 06:00 J -38568317.48 -38568317.25 -38568317.02 0.0089 0.0007
 Neptune -110307-04-27 20:24 J -38568091.87 -38568091.65 -38568091.42 0.0089 0.0014
 Neptune -110307-12-09 10:48 J -38567866.26 -38567866.05 -38567865.82 0.0089 0.0021
 Neptune -110306-07-23 01:26 J -38567640.66 -38567640.44 -38567640.22 0.0089 0.0027
 Neptune -110305-03-04 15:50 J -38567415.04 -38567414.84 -38567414.62 0.0089 0.0034
 Saturn -110305-06-13 15:07 J -38567313.97 -38567313.87 -38567313.75 0.0294 0.0245
 Neptune -110305-10-16 06:29 J -38567189.42 -38567189.23 -38567189.02 0.0089 0.0041
 Saturn -110304-01-29 09:36 J -38567084.29 -38567084.10 -38567083.91 0.0296 0.0121
 Neptune -110304-05-29 20:38 J -38566963.81 -38566963.64 -38566963.43 0.0089 0.0049
 Jupiter -110304-08-29 19:55 J -38566871.82 -38566871.67 -38566871.50 0.0533 0.0316
 Saturn -110304-09-16 04:33 J -38566854.51 -38566854.31 -38566854.10 0.0297 0.0010
 Neptune -110303-01-10 11:31 J -38566738.19 -38566738.02 -38566737.83 0.0089 0.0054
 Saturn -110303-05-04 00:00 J -38566624.67 -38566624.50 -38566624.31 0.0298 0.0140
 Neptune -110303-08-24 01:41 J -38566512.58 -38566512.43 -38566512.25 0.0089 0.0061
 Saturn -110303-12-19 20:09 J -38566394.75 -38566394.66 -38566394.57 0.0299 0.0268
 Neptune -110302-04-06 16:05 J -38566286.95 -38566286.83 -38566286.66 0.0089 0.0068
 Neptune -110302-11-18 06:57 J -38566061.32 -38566061.21 -38566061.07 0.0089 0.0074
 Neptune -110301-06-30 21:21 J -38565835.68 -38565835.61 -38565835.50 0.0089 0.0081
 Neptune -110300-02-11 12:14 J -38565610.02 -38565609.99 -38565609.94 0.0089 0.0087
 Moon -110295-01-16 22:19 J -38563809.64 -38563809.57 -38563809.50 0.2548 0.2319
 Earth -110295-01-16 21:36 J -38563809.63 -38563809.60 -38563809.57 0.2555 0.2501 *
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 Saturn -110291-11-29 07:12 J -38562032.39 -38562032.20 -38562032.01 0.0266 0.0133

Saturn -110290-07-16 12:57 J -38561803.18 -38561802.96 -38561802.75 0.0264 0.0036
 Saturn -110289-03-01 18:00 J -38561573.96 -38561573.75 -38561573.53 0.0263 0.0060
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 Saturn -110288-06-03 03:21 J -38561115.43 -38561115.36 -38561115.28 0.0262 0.0246
 Moon -110287-01-14 10:33 J -38560890.22 -38560890.06 -38560889.90 0.2550 0.0754
 Earth -110287-01-14 14:38 J -38560890.05 -38560889.89 -38560889.74 0.2554 0.0646 *
 Jupiter -110286-10-25 10:05 J -38560241.25 -38560241.08 -38560240.90 0.0493 0.0256
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 Jupiter -110280-09-01 20:09 J -38558102.83 -38558102.66 -38558102.49 0.0533 0.0270
 Mars -110279-05-06 00:43 J -38557856.61 -38557856.47 -38557856.33 0.1649 0.0895
 Saturn -110276-12-24 16:33 J -38556527.93 -38556527.81 -38556527.69 0.0294 0.0235
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 Saturn -110274-03-29 05:45 J -38556068.46 -38556068.26 -38556068.05 0.0298 0.0019
 Jupiter -110274-06-30 10:05 J -38555975.29 -38555975.08 -38555974.87 0.0493 0.0039
 Saturn -110274-11-14 01:12 J -38555838.62 -38555838.45 -38555838.27 0.0299 0.0150
 Saturn -110273-06-30 21:07 J -38555608.69 -38555608.62 -38555608.54 0.0300 0.0279
 Uranus -110270-06-28 10:19 J -38554516.17 -38554516.07 -38554515.93 0.0131 0.0107
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 Uranus -110269-09-22 16:33 J -38554064.01 -38554063.81 -38554063.59 0.0131 0.0026
 Uranus -110268-05-06 19:26 J -38553837.90 -38553837.69 -38553837.47 0.0131 0.0014
 Jupiter -110268-05-07 13:55 J -38553837.12 -38553836.92 -38553836.73 0.0533 0.0092
 Uranus -110268-12-18 22:05 J -38553611.77 -38553611.58 -38553611.38 0.0131 0.0055
 Uranus -110267-08-02 00:43 J -38553385.60 -38553385.47 -38553385.31 0.0131 0.0095
 Jupiter -110262-03-05 11:02 J -38551709.19 -38551709.04 -38551708.89 0.0493 0.0330
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 Saturn -110261-06-10 09:21 J -38551246.30 -38551246.11 -38551245.91 0.0265 0.0121
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 Saturn -110260-09-11 20:38 J -38550787.85 -38550787.64 -38550787.43 0.0263 0.0073
 Saturn -110259-04-29 01:26 J -38550558.60 -38550558.44 -38550558.26 0.0262 0.0167

Saturn -110259-12-14 06:00 J -38550329.27 -38550329.25 -38550329.21 0.0262 0.0259
 Jupiter -110256-01-10 05:02 J -38549571.39 -38549571.29 -38549571.19 0.0533 0.0462
 Jupiter -110250-07-02 23:45 J -38547206.59 -38547206.51 -38547206.41 0.0494 0.0439
 Mars -110249-07-04 06:00 J -38546839.32 -38546839.25 -38546839.17 0.1643 0.1464
 Mars -110248-05-29 22:48 J -38546509.71 -38546509.55 -38546509.40 0.1866 0.1009
 Mars -110247-05-04 15:07 J -38546170.04 -38546169.87 -38546169.71 0.1646 0.0133
 Pluto -110246-04-08 11:17 J -38545831.22 -38545831.03 -38545830.82 0.0064 0.0032
 Saturn -110246-07-06 22:33 J -38545741.69 -38545741.56 -38545741.42 0.0294 0.0218
 Pluto -110246-11-19 16:05 J -38545606.04 -38545605.83 -38545605.59 0.0064 0.0009
 Saturn -110245-02-21 17:02 J -38545511.98 -38545511.79 -38545511.59 0.0296 0.0092
 Pluto -110245-07-01 20:53 J -38545380.76 -38545380.63 -38545380.47 0.0064 0.0050
 Saturn -110245-10-08 12:14 J -38545282.19 -38545281.99 -38545281.78 0.0298 0.0039
 Jupiter -110244-05-10 09:36 J -38545068.19 -38545068.10 -38545068.01 0.0533 0.0472
 Saturn -110244-05-26 07:55 J -38545052.33 -38545052.17 -38545052.00 0.0299 0.0171
 Saturn -110243-01-11 03:50 J -38544822.34 -38544822.34 -38544822.33 0.0299 0.0299
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 Neptune -110235-07-30 06:29 J -38541700.24 -38541700.23 -38541700.19 0.0088 0.0088
 Neptune -110234-03-12 18:29 J -38541474.79 -38541474.73 -38541474.63 0.0088 0.0082
 Neptune -110234-10-24 06:29 J -38541249.32 -38541249.23 -38541249.10 0.0088 0.0076
 Neptune -110233-06-05 18:14 J -38541023.85 -38541023.74 -38541023.59 0.0088 0.0070
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 Saturn -110232-12-21 14:38 J -38540460.08 -38540459.89 -38540459.68 0.0265 0.0109
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Saturn -110230-11-09 06:14 J -38539772.40 -38539772.24 -38539772.08 0.0262 0.0180
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 Neptune -110229-10-01 05:02 J -38539445.48 -38539445.29 -38539445.07 0.0088 0.0026
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 Uranus -110227-11-11 04:05 J -38538674.55 -38538674.33 -38538674.11 0.0148 0.0024 *
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Saturn -110216-09-02 17:17 J -38534725.98 -38534725.78 -38534725.58 0.0296 0.0083
 Saturn -110215-04-20 12:29 J -38534496.19 -38534495.98 -38534495.78 0.0298 0.0049
 Mars -110215-05-03 05:17 J -38534483.44 -38534483.28 -38534483.13 0.1644 0.0633
 Jupiter -110215-07-16 22:33 J -38534408.64 -38534408.56 -38534408.47 0.0493 0.0448
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 Saturn -110203-11-16 09:21 J -38529903.25 -38529903.11 -38529902.96 0.0267 0.0195
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 Uranus -110186-02-25 21:21 J -38523957.64 -38523957.61 -38523957.53 0.0131 0.0127
 Saturn -110186-03-15 22:33 J -38523939.75 -38523939.56 -38523939.35 0.0296 0.0065
 Uranus -110186-10-10 00:43 J -38523731.62 -38523731.47 -38523731.30 0.0131 0.0086
 Saturn -110186-10-31 18:00 J -38523709.95 -38523709.75 -38523709.55 0.0298 0.0067
 Uranus -110185-05-23 03:36 J -38523505.54 -38523505.35 -38523505.14 0.0131 0.0046
 Jupiter -110185-05-26 13:55 J -38523502.12 -38523501.92 -38523501.72 0.0533 0.0029
 Saturn -110185-06-17 13:41 J -38523480.08 -38523479.93 -38523479.78 0.0299 0.0200
 Uranus -110184-01-04 06:43 J -38523279.44 -38523279.22 -38523279.01 0.0131 0.0006
 Uranus -110184-08-18 09:07 J -38523053.31 -38523053.12 -38523052.90 0.0131 0.0036
 Uranus -110183-04-01 12:00 J -38522827.16 -38522827.00 -38522826.81 0.0131 0.0075
 Mars -110183-05-01 19:12 J -38522796.79 -38522796.70 -38522796.61 0.1643 0.1389
 Uranus -110183-11-13 14:24 J -38522600.98 -38522600.90 -38522600.78 0.0131 0.0116
 Mars -110182-03-26 23:31 J -38522467.65 -38522467.52 -38522467.39 0.1865 0.1314
 Mars -110181-03-01 04:05 J -38522127.50 -38522127.33 -38522127.17 0.1647 0.0214
 Jupiter -110179-03-24 10:19 J -38521374.24 -38521374.07 -38521373.89 0.0493 0.0273

Jupiter -110173-01-30 07:26 J -38519236.32 -38519236.19 -38519236.04 0.0534 0.0389
 Saturn -110173-05-28 14:24 J -38519117.05 -38519116.90 -38519116.74 0.0267 0.0184
 Saturn -110172-01-12 20:38 J -38518887.84 -38518887.64 -38518887.43 0.0265 0.0086
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 Saturn -110171-04-16 07:12 J -38518429.39 -38518429.20 -38518428.99 0.0263 0.0110
 Saturn -110171-12-01 11:45 J -38518200.13 -38518200.01 -38518199.86 0.0262 0.0204
 Moon -110158-07-17 15:50 J -38513588.94 -38513588.84 -38513588.73 0.2792 0.1982
 Earth -110158-07-17 19:55 J -38513588.71 -38513588.67 -38513588.63 0.2787 0.2680
 Pluto -110158-07-20 03:50 J -38513586.46 -38513586.34 -38513586.19 0.0081 0.0063
 Saturn -110157-02-08 03:50 J -38513383.49 -38513383.34 -38513383.17 0.0295 0.0185
 Pluto -110157-03-01 13:12 J -38513361.15 -38513360.95 -38513360.73 0.0080 0.0014
 Saturn -110157-09-24 22:19 J -38513153.77 -38513153.57 -38513153.36 0.0296 0.0056
 Saturn -110156-05-12 17:31 J -38512923.97 -38512923.77 -38512923.57 0.0298 0.0076
 Saturn -110156-12-28 12:57 J -38512694.10 -38512693.96 -38512693.81 0.0299 0.0208
 Jupiter -110155-03-26 23:02 J -38512605.73 -38512605.54 -38512605.35 0.0493 0.0201
 Neptune -110152-04-24 07:12 J -38511481.25 -38511481.20 -38511481.13 0.0089 0.0086
 Neptune -110152-12-05 20:53 J -38511255.71 -38511255.63 -38511255.51 0.0089 0.0080
 Neptune -110151-07-19 11:31 J -38511030.15 -38511030.02 -38511029.89 0.0089 0.0073
 Neptune -110150-03-02 01:26 J -38510804.58 -38510804.44 -38510804.28 0.0089 0.0066
 Mars -110150-03-27 05:45 J -38510779.44 -38510779.26 -38510779.08 0.1869 0.0377
 Moon -110150-07-15 09:36 J -38510669.23 -38510669.10 -38510668.97 0.2794 0.1287
 Earth -110150-07-15 09:21 J -38510669.23 -38510669.11 -38510668.98 0.2787 0.1602 *
 Neptune -110150-10-13 16:05 J -38510579.00 -38510578.83 -38510578.66 0.0089 0.0060
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 Mars -110149-02-28 18:00 J -38510440.91 -38510440.75 -38510440.59 0.1645 0.0552
 Neptune -110149-05-26 06:00 J -38510353.42 -38510353.25 -38510353.06 0.0089 0.0053
 Neptune -110148-01-06 20:24 J -38510127.84 -38510127.65 -38510127.45 0.0089 0.0046
 Neptune -110148-08-20 10:48 J -38509902.25 -38509902.05 -38509901.85 0.0089 0.0040
 Mars -110148-12-29 02:24 J -38509771.52 -38509771.40 -38509771.27 0.1650 0.1071
 Neptune -110147-04-03 00:43 J -38509676.66 -38509676.47 -38509676.24 0.0089 0.0033

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 Neptune -110144-05-05 01:12 J -38508548.67 -38508548.45 -38508548.22 0.0089 0.0002
 Uranus -110144-11-26 16:19 J -38508343.00 -38508342.82 -38508342.61 0.0148 0.0067
 Jupiter -110144-11-29 23:45 J -38508339.71 -38508339.51 -38508339.30 0.0493 0.0093
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 Neptune -110144-12-16 15:36 J -38508323.07 -38508322.85 -38508322.62 0.0089 0.0008
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 Saturn -110143-07-25 20:38 J -38508101.84 -38508101.64 -38508101.42 0.0265 0.0075
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 Neptune -110136-05-15 22:19 J -38505615.57 -38505615.57 -38505615.56 0.0089 0.0089

Jupiter -110132-08-05 00:43 J -38504073.59 -38504073.47 -38504073.34 0.0493 0.0384
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 Jupiter -110096-04-12 12:29 J -38491039.16 -38491038.98 -38491038.79 0.0493 0.0208

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 Saturn -110085-05-15 11:17 J -38486988.09 -38486988.03 -38486987.95 0.0268 0.0253
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 Mars -110084-01-21 06:57 J -38486737.39 -38486737.21 -38486737.03 0.1868 0.0072
 Saturn -110084-08-17 00:57 J -38486529.67 -38486529.46 -38486529.24 0.0265 0.0053
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 Jupiter -110072-04-15 01:55 J -38482270.59 -38482270.42 -38482270.25 0.0493 0.0270
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 Neptune -110069-09-07 06:43 J -38481029.34 -38481029.22 -38481029.08 0.0088 0.0069
 Saturn -110069-09-11 12:14 J -38481025.17 -38481024.99 -38481024.81 0.0295 0.0145
 Neptune -110068-04-20 18:29 J -38480803.86 -38480803.73 -38480803.56 0.0088 0.0063
 Saturn -110068-04-29 06:43 J -38480795.42 -38480795.22 -38480795.01 0.0297 0.0015
 Neptune -110068-12-02 06:29 J -38480578.38 -38480578.23 -38480578.05 0.0088 0.0056
 Saturn -110068-12-15 01:55 J -38480565.60 -38480565.42 -38480565.23 0.0298 0.0120
 Neptune -110067-07-15 18:14 J -38480352.90 -38480352.74 -38480352.55 0.0088 0.0050
 Saturn -110067-08-01 21:36 J -38480335.70 -38480335.60 -38480335.49 0.0299 0.0253
 Jupiter -110066-02-21 09:21 J -38480132.27 -38480132.11 -38480131.93 0.0533 0.0270
 Neptune -110066-02-26 06:29 J -38480127.42 -38480127.23 -38480127.05 0.0088 0.0044
 Neptune -110066-10-09 18:14 J -38479901.93 -38479901.74 -38479901.54 0.0088 0.0037
 Neptune -110065-05-22 06:00 J -38479676.44 -38479676.25 -38479676.04 0.0088 0.0031
 Neptune -110064-01-02 17:31 J -38479450.96 -38479450.77 -38479450.55 0.0088 0.0026
 Neptune -110064-08-16 05:31 J -38479225.47 -38479225.27 -38479225.06 0.0088 0.0019
 Neptune -110063-03-29 17:17 J -38478999.99 -38478999.78 -38478999.56 0.0088 0.0013

Neptune -110063-11-10 05:02 J -38478774.50 -38478774.29 -38478774.07 0.0088 0.0006
 Neptune -110062-06-23 16:48 J -38478549.02 -38478548.80 -38478548.59 0.0088 0.0001
 Neptune -110061-02-04 04:19 J -38478323.53 -38478323.32 -38478323.10 0.0088 0.0007
 Neptune -110061-09-16 15:50 J -38478098.05 -38478097.84 -38478097.62 0.0088 0.0013
 Jupiter -110061-12-19 00:57 J -38478004.66 -38478004.46 -38478004.25 0.0492 0.0029
 Neptune -110060-04-30 03:21 J -38477872.55 -38477872.36 -38477872.14 0.0088 0.0020
 Uranus -110060-07-26 19:12 J -38477784.86 -38477784.70 -38477784.54 0.0148 0.0099
 Neptune -110060-12-11 15:07 J -38477647.07 -38477646.87 -38477646.66 0.0088 0.0025
 Uranus -110059-03-10 10:33 J -38477558.27 -38477558.06 -38477557.85 0.0148 0.0039
 Neptune -110059-07-25 02:38 J -38477421.58 -38477421.39 -38477421.19 0.0088 0.0031
 Uranus -110059-10-23 01:55 J -38477331.63 -38477331.42 -38477331.20 0.0148 0.0022
 Neptune -110058-03-07 14:09 J -38477196.09 -38477195.91 -38477195.71 0.0088 0.0038
 Uranus -110058-06-06 17:17 J -38477104.95 -38477104.78 -38477104.59 0.0148 0.0083
 Neptune -110058-10-19 01:55 J -38476970.60 -38476970.42 -38476970.23 0.0088 0.0044
 Uranus -110057-01-19 08:53 J -38476878.17 -38476878.13 -38476878.07 0.0148 0.0143
 Neptune -110057-05-31 13:12 J -38476745.11 -38476744.95 -38476744.76 0.0088 0.0050
 Neptune -110056-01-12 00:43 J -38476519.62 -38476519.47 -38476519.29 0.0088 0.0056
 Neptune -110056-08-25 12:14 J -38476294.12 -38476293.99 -38476293.82 0.0088 0.0062
 Saturn -110056-11-25 15:50 J -38476201.92 -38476201.84 -38476201.73 0.0268 0.0243
 Neptune -110055-04-07 23:45 J -38476068.62 -38476068.51 -38476068.35 0.0088 0.0069
 Saturn -110055-07-12 23:02 J -38475972.71 -38475972.54 -38475972.35 0.0267 0.0142
 Jupiter -110055-10-27 03:07 J -38475866.57 -38475866.37 -38475866.17 0.0534 0.0092
 Neptune -110055-11-19 11:31 J -38475843.12 -38475843.02 -38475842.89 0.0088 0.0074
 Saturn -110054-02-27 05:31 J -38475743.48 -38475743.27 -38475743.05 0.0265 0.0042
 Neptune -110054-07-02 23:02 J -38475617.61 -38475617.54 -38475617.44 0.0088 0.0080
 Saturn -110054-10-14 11:31 J -38475514.23 -38475514.02 -38475513.80 0.0264 0.0058
 Neptune -110053-02-13 10:19 J -38475392.09 -38475392.07 -38475392.00 0.0088 0.0087
 Saturn -110053-05-30 16:48 J -38475284.98 -38475284.80 -38475284.63 0.0263 0.0155
 Saturn -110052-01-14 21:21 J -38475055.67 -38475055.61 -38475055.54 0.0262 0.0250
 Mars -110052-01-21 12:29 J -38475049.04 -38475048.98 -38475048.92 0.1871 0.1771

Mars -110052-12-24 21:36 J -38474711.71 -38474711.60 -38474711.49 0.1643 0.1237
 Mars -110050-10-25 06:00 J -38474042.41 -38474042.25 -38474042.09 0.1648 0.0383
 Jupiter -110049-08-24 02:24 J -38473738.56 -38473738.40 -38473738.24 0.0492 0.0318
 Earth -110044-01-14 17:45 J -38472133.92 -38472133.76 -38472133.59 0.2554 0.0254
 Moon -110044-01-14 22:05 J -38472133.74 -38472133.58 -38472133.42 0.2559 0.0185 *
 Jupiter -110043-07-01 21:07 J -38471600.72 -38471600.62 -38471600.51 0.0534 0.0453
 Saturn -110040-08-06 19:12 J -38470468.78 -38470468.70 -38470468.60 0.0293 0.0261
 Saturn -110039-03-24 12:57 J -38470239.14 -38470238.96 -38470238.78 0.0295 0.0135
 Saturn -110039-11-09 07:12 J -38470009.41 -38470009.20 -38470009.00 0.0296 0.0004
 Saturn -110038-06-27 01:55 J -38469779.60 -38469779.42 -38469779.23 0.0298 0.0130
 Saturn -110037-02-11 21:21 J -38469549.70 -38469549.61 -38469549.51 0.0299 0.0262
 Jupiter -110037-12-21 13:55 J -38469236.00 -38469235.92 -38469235.83 0.0493 0.0450
 Jupiter -110031-10-30 03:21 J -38467097.43 -38467097.36 -38467097.29 0.0533 0.0496
 Saturn -110026-06-07 15:07 J -38465415.97 -38465415.87 -38465415.76 0.0268 0.0233
 Saturn -110025-01-22 22:19 J -38465186.75 -38465186.57 -38465186.37 0.0266 0.0133
 Jupiter -110025-08-26 14:24 J -38464970.10 -38464969.90 -38464969.70 0.0493 0.0154
 Saturn -110025-09-08 05:02 J -38464957.50 -38464957.29 -38464957.07 0.0265 0.0031
 Saturn -110024-04-25 11:02 J -38464728.25 -38464728.04 -38464727.83 0.0264 0.0069
 Saturn -110024-12-10 16:19 J -38464498.99 -38464498.82 -38464498.65 0.0263 0.0166
 Saturn -110023-07-27 21:07 J -38464269.64 -38464269.62 -38464269.60 0.0262 0.0260
 Jupiter -110019-07-04 20:09 J -38462831.85 -38462831.66 -38462831.47 0.0533 0.0130
 Mars -110019-11-18 08:24 J -38462695.33 -38462695.15 -38462694.97 0.1867 0.0227
 Uranus -110018-02-06 23:02 J -38462614.59 -38462614.54 -38462614.48 0.0131 0.0126
 Uranus -110018-09-21 01:55 J -38462388.57 -38462388.42 -38462388.25 0.0131 0.0086
 Mars -110018-10-23 20:09 J -38462355.82 -38462355.66 -38462355.50 0.1646 0.0390
 Uranus -110017-05-04 05:02 J -38462162.49 -38462162.29 -38462162.09 0.0131 0.0045
 Uranus -110017-12-16 07:41 J -38461936.39 -38461936.18 -38461935.96 0.0131 0.0005
 Uranus -110016-07-30 10:19 J -38461710.27 -38461710.07 -38461709.86 0.0131 0.0036
 Mars -110016-08-23 04:19 J -38461686.43 -38461686.32 -38461686.21 0.1652 0.1251
 Uranus -110015-03-13 12:43 J -38461484.12 -38461483.97 -38461483.78 0.0131 0.0077

Uranus -110015-10-25 15:21 J -38461257.94 -38461257.86 -38461257.75 0.0131 0.0116
 Jupiter -110013-05-01 15:07 J -38460704.07 -38460703.87 -38460703.67 0.0493 0.0140
 Saturn -110010-02-16 23:02 J -38459682.65 -38459682.54 -38459682.43 0.0293 0.0247
 Saturn -110010-10-04 16:33 J -38459453.00 -38459452.81 -38459452.62 0.0295 0.0120
 Saturn -110009-05-21 11:02 J -38459223.24 -38459223.04 -38459222.83 0.0297 0.0014
 Saturn -110008-01-06 06:14 J -38458993.42 -38458993.24 -38458993.06 0.0298 0.0147
 Saturn -110008-08-24 01:40 J -38458763.49 -38458763.43 -38458763.35 0.0299 0.0280
 Jupiter -110007-03-09 13:26 J -38458566.12 -38458565.94 -38458565.76 0.0534 0.0236
 Jupiter -110001-01-05 15:36 J -38456437.95 -38456437.85 -38456437.75 0.0492 0.0431

110TH MILLENNIUM BCE

This is a list of transits of Venus in the 110th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Pluto	-109999-07-29 16:33 J	-38455501.84	-38455501.81	-38455501.74	0.0064	0.0062		
Pluto	-109998-03-11 21:21 J	-38455276.81	-38455276.61	-38455276.38	0.0064	0.0022		
Pluto	-109998-10-23 02:09 J	-38455051.61	-38455051.41	-38455051.17	0.0064	0.0019		
Pluto	-109997-06-04 07:12 J	-38454826.27	-38454826.20	-38454826.11	0.0064	0.0060		
Saturn	-109997-12-17 19:55 J	-38454629.78	-38454629.67	-38454629.54	0.0268	0.0222		
Saturn	-109996-08-04 03:07 J	-38454400.56	-38454400.37	-38454400.17	0.0267	0.0121		
Saturn	-109995-03-21 09:36 J	-38454171.31	-38454171.10	-38454170.88	0.0265	0.0020		
Saturn	-109995-11-05 15:36 J	-38453942.05	-38453941.85	-38453941.64	0.0264	0.0081		

Saturn -109994-06-22 20:52 J -38453712.78 -38453712.63 -38453712.46 0.0263 0.0178
 Jupiter -109989-05-04 03:07 J -38451935.52 -38451935.37 -38451935.22 0.0493 0.0336
 Neptune -109988-07-26 16:33 J -38451486.85 -38451486.81 -38451486.72 0.0089 0.0086
 Neptune -109987-03-09 07:12 J -38451261.30 -38451261.20 -38451261.09 0.0089 0.0079
 Neptune -109987-10-20 21:07 J -38451035.73 -38451035.62 -38451035.47 0.0089 0.0072
 Mars -109987-11-18 13:40 J -38451007.04 -38451006.93 -38451006.82 0.1870 0.1470
 Neptune -109986-06-03 11:31 J -38450810.16 -38450810.02 -38450809.86 0.0089 0.0065
 Mars -109986-10-22 10:19 J -38450669.19 -38450669.07 -38450668.95 0.1644 0.1155
 Neptune -109985-01-15 01:26 J -38450584.59 -38450584.44 -38450584.25 0.0089 0.0059
 Neptune -109985-08-27 15:50 J -38450359.01 -38450358.84 -38450358.64 0.0089 0.0052
 Neptune -109984-04-10 06:14 J -38450133.42 -38450133.24 -38450133.04 0.0089 0.0046
 Mars -109984-08-21 18:43 J -38449999.88 -38449999.72 -38449999.56 0.1649 0.0472
 Neptune -109984-11-21 20:09 J -38449907.84 -38449907.66 -38449907.43 0.0089 0.0040
 Jupiter -109983-03-12 12:57 J -38449797.11 -38449796.96 -38449796.81 0.0534 0.0353
 Neptune -109983-07-05 10:33 J -38449682.26 -38449682.06 -38449681.83 0.0089 0.0032
 Neptune -109982-02-16 00:57 J -38449456.67 -38449456.46 -38449456.23 0.0089 0.0025
 Neptune -109982-09-29 15:36 J -38449231.07 -38449230.85 -38449230.63 0.0089 0.0018
 Neptune -109981-05-12 06:00 J -38449005.47 -38449005.25 -38449005.03 0.0089 0.0012
 Saturn -109981-08-29 01:26 J -38448896.56 -38448896.44 -38448896.32 0.0293 0.0235
 Neptune -109981-12-23 20:09 J -38448779.88 -38448779.66 -38448779.43 0.0089 0.0005
 Saturn -109980-04-15 18:43 J -38448666.90 -38448666.72 -38448666.52 0.0295 0.0108
 Neptune -109980-08-06 10:33 J -38448554.28 -38448554.06 -38448553.83 0.0089 0.0002
 Saturn -109980-12-01 12:57 J -38448437.16 -38448436.96 -38448436.75 0.0296 0.0025
 Neptune -109979-03-20 00:57 J -38448328.68 -38448328.46 -38448328.23 0.0089 0.0009
 Saturn -109979-07-19 07:40 J -38448207.35 -38448207.18 -38448207.00 0.0298 0.0159
 Neptune -109979-10-31 15:36 J -38448103.07 -38448102.85 -38448102.63 0.0089 0.0016
 Saturn -109978-03-06 02:52 J -38447977.41 -38447977.38 -38447977.33 0.0299 0.0291
 Neptune -109978-06-14 06:00 J -38447877.46 -38447877.25 -38447877.03 0.0089 0.0023
 Jupiter -109977-01-08 02:52 J -38447669.58 -38447669.38 -38447669.17 0.0492 0.0039
 Neptune -109977-01-25 20:09 J -38447651.86 -38447651.66 -38447651.43 0.0089 0.0031

Neptune -109977-09-07 10:48 J -38447426.24 -38447426.05 -38447425.83 0.0089 0.0037
 Uranus -109976-03-25 20:52 J -38447226.71 -38447226.63 -38447226.52 0.0148 0.0133
 Neptune -109976-04-21 01:40 J -38447200.63 -38447200.43 -38447200.23 0.0089 0.0043
 Uranus -109976-11-07 12:28 J -38447000.17 -38446999.98 -38446999.79 0.0148 0.0072
 Neptune -109976-12-02 16:04 J -38446975.01 -38446974.83 -38446974.64 0.0089 0.0050
 Uranus -109975-06-22 03:36 J -38446773.57 -38446773.35 -38446773.12 0.0148 0.0012
 Neptune -109975-07-16 06:28 J -38446749.39 -38446749.23 -38446749.04 0.0089 0.0057
 Uranus -109974-02-03 19:12 J -38446546.91 -38446546.70 -38446546.49 0.0148 0.0049
 Neptune -109974-02-26 20:52 J -38446523.77 -38446523.63 -38446523.45 0.0089 0.0064
 Uranus -109974-09-18 10:33 J -38446320.19 -38446320.06 -38446319.90 0.0148 0.0110
 Neptune -109974-10-10 12:00 J -38446298.14 -38446298.00 -38446297.86 0.0089 0.0071
 Neptune -109973-05-23 02:09 J -38446072.50 -38446072.41 -38446072.28 0.0089 0.0077
 Neptune -109972-01-03 16:33 J -38445846.86 -38445846.81 -38445846.71 0.0089 0.0084
 Jupiter -109972-11-15 07:12 J -38445531.40 -38445531.20 -38445531.00 0.0534 0.0010
 Saturn -109967-06-29 18:57 J -38443843.83 -38443843.71 -38443843.57 0.0268 0.0213
 Saturn -109966-02-14 02:38 J -38443614.59 -38443614.39 -38443614.19 0.0266 0.0111
 Jupiter -109966-09-13 03:50 J -38443403.51 -38443403.34 -38443403.16 0.0492 0.0256
 Saturn -109966-10-01 09:21 J -38443385.33 -38443385.11 -38443384.89 0.0265 0.0009
 Saturn -109965-05-17 15:21 J -38443156.06 -38443155.86 -38443155.65 0.0264 0.0092
 Saturn -109964-01-01 20:38 J -38442926.78 -38442926.64 -38442926.48 0.0263 0.0189
 Jupiter -109960-07-20 23:02 J -38441265.67 -38441265.54 -38441265.39 0.0534 0.0381
 Mars -109953-09-14 09:36 J -38438653.28 -38438653.10 -38438652.93 0.1866 0.0533
 Mars -109952-08-20 09:07 J -38438313.28 -38438313.12 -38438312.95 0.1646 0.0309
 Saturn -109951-03-11 04:48 J -38438110.43 -38438110.30 -38438110.16 0.0293 0.0222
 Saturn -109951-10-26 22:33 J -38437880.76 -38437880.56 -38437880.37 0.0295 0.0093
 Saturn -109950-06-13 16:48 J -38437651.00 -38437650.80 -38437650.60 0.0297 0.0041
 Mars -109950-06-20 17:02 J -38437643.88 -38437643.79 -38437643.69 0.1653 0.1343
 Saturn -109949-01-29 11:45 J -38437421.17 -38437421.01 -38437420.85 0.0298 0.0175
 Jupiter -109942-09-15 15:50 J -38434635.03 -38434634.84 -38434634.66 0.0492 0.0221
 Saturn -109937-01-10 00:14 J -38433057.62 -38433057.49 -38433057.34 0.0268 0.0202

Saturn	-109937-08-26 07:40 J	-38432828.37	-38432828.18	-38432827.97	0.0267	0.0099
Saturn	-109936-04-12 14:38 J	-38432599.11	-38432598.89	-38432598.68	0.0265	0.0007
Jupiter	-109936-07-23 20:52 J	-38432496.81	-38432496.63	-38432496.44	0.0534	0.0201
Saturn	-109936-11-27 20:24 J	-38432369.84	-38432369.65	-38432369.44	0.0264	0.0104
Saturn	-109935-07-15 01:40 J	-38432140.56	-38432140.43	-38432140.28	0.0263	0.0202
Uranus	-109934-05-21 12:28 J	-38431830.09	-38431829.98	-38431829.84	0.0131	0.0106
Uranus	-109933-01-02 15:36 J	-38431604.03	-38431603.85	-38431603.66	0.0131	0.0065
Uranus	-109933-08-15 18:28 J	-38431377.94	-38431377.73	-38431377.52	0.0131	0.0025
Uranus	-109932-03-29 21:21 J	-38431151.82	-38431151.61	-38431151.40	0.0131	0.0016
Uranus	-109932-11-10 23:45 J	-38430925.69	-38430925.51	-38430925.31	0.0131	0.0056
Uranus	-109931-06-25 02:24 J	-38430699.54	-38430699.40	-38430699.25	0.0131	0.0096
Jupiter	-109930-05-21 16:33 J	-38430369.02	-38430368.81	-38430368.61	0.0492	0.0075
Jupiter	-109924-03-28 15:21 J	-38428231.05	-38428230.86	-38428230.67	0.0535	0.0162
Saturn	-109922-09-21 08:38 J	-38427324.27	-38427324.14	-38427323.99	0.0293	0.0208
Saturn	-109921-05-08 02:09 J	-38427094.61	-38427094.41	-38427094.21	0.0295	0.0079
Mars	-109921-09-14 14:24 J	-38426965.04	-38426964.90	-38426964.75	0.1869	0.1162
Saturn	-109921-12-23 20:09 J	-38426864.86	-38426864.66	-38426864.46	0.0296	0.0055
Saturn	-109920-08-10 14:52 J	-38426635.04	-38426634.88	-38426634.72	0.0298	0.0189
Mars	-109920-08-18 23:31 J	-38426626.65	-38426626.52	-38426626.39	0.1644	0.1080
Jupiter	-109918-01-24 16:33 J	-38426102.94	-38426102.81	-38426102.67	0.0492	0.0371
Mars	-109918-06-19 07:55 J	-38425957.33	-38425957.17	-38425957.01	0.1650	0.0553
Earth	-109915-07-17 18:43 J	-38424832.80	-38424832.72	-38424832.63	0.2787	0.2274
Moon	-109915-07-17 21:50 J	-38424832.61	-38424832.59	-38424832.56	0.2782	0.2736
Jupiter	-109913-12-01 08:38 J	-38423965.16	-38423965.14	-38423965.11	0.0534	0.0529
Pluto	-109910-06-22 14:24 J	-38423032.05	-38423031.90	-38423031.72	0.0081	0.0053
Pluto	-109909-02-02 23:45 J	-38422806.70	-38422806.51	-38422806.29	0.0080	0.0024
Saturn	-109908-07-22 00:14 J	-38422271.64	-38422271.49	-38422271.33	0.0268	0.0191
Saturn	-109907-03-08 07:40 J	-38422042.38	-38422042.18	-38422041.97	0.0266	0.0088
Moon	-109907-07-15 06:28 J	-38421913.29	-38421913.23	-38421913.16	0.2781	0.2505
Earth	-109907-07-15 08:24 J	-38421913.26	-38421913.15	-38421913.04	0.2788	0.1982 *

Saturn -109907-10-23 14:38 J -38421813.11 -38421812.89 -38421812.67 0.0265 0.0015
 Neptune -109906-02-02 06:28 J -38421711.25 -38421711.23 -38421711.17 0.0088 0.0087
 Jupiter -109906-05-24 04:04 J -38421600.45 -38421600.33 -38421600.20 0.0493 0.0399
 Saturn -109906-06-09 20:38 J -38421583.83 -38421583.64 -38421583.44 0.0264 0.0116
 Neptune -109906-09-15 18:28 J -38421485.80 -38421485.73 -38421485.63 0.0088 0.0080
 Saturn -109905-01-25 02:09 J -38421354.53 -38421354.41 -38421354.28 0.0263 0.0213
 Neptune -109905-04-28 06:14 J -38421260.33 -38421260.24 -38421260.10 0.0088 0.0075
 Neptune -109905-12-09 18:14 J -38421034.86 -38421034.74 -38421034.59 0.0088 0.0068
 Neptune -109904-07-23 06:00 J -38420809.38 -38420809.25 -38420809.08 0.0088 0.0062
 Neptune -109903-03-05 18:14 J -38420583.90 -38420583.74 -38420583.57 0.0088 0.0056
 Neptune -109903-10-17 06:00 J -38420358.42 -38420358.25 -38420358.06 0.0088 0.0049
 Neptune -109902-05-30 17:45 J -38420132.93 -38420132.76 -38420132.56 0.0088 0.0043
 Neptune -109901-01-11 05:45 J -38419907.45 -38419907.26 -38419907.06 0.0088 0.0037
 Neptune -109901-08-23 17:31 J -38419681.96 -38419681.77 -38419681.56 0.0088 0.0030
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 Neptune -109900-04-06 05:16 J -38419456.47 -38419456.28 -38419456.06 0.0088 0.0025
 Neptune -109900-11-17 17:02 J -38419230.99 -38419230.79 -38419230.57 0.0088 0.0019
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 Neptune -109895-10-26 14:38 J -38417427.08 -38417426.89 -38417426.68 0.0088 0.0033
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 Saturn -109892-04-02 13:12 J -38416538.10 -38416537.95 -38416537.79 0.0293 0.0194

Neptune -109892-04-15 12:57 J -38416525.11 -38416524.96 -38416524.79 0.0088 0.0057
 Uranus -109892-07-07 15:50 J -38416442.00 -38416441.84 -38416441.68 0.0148 0.0103
 Saturn -109892-11-18 06:43 J -38416308.42 -38416308.22 -38416308.02 0.0295 0.0063
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 Uranus -109891-10-03 22:33 J -38415988.78 -38415988.56 -38415988.34 0.0148 0.0018
 Saturn -109890-02-20 19:40 J -38415848.82 -38415848.68 -38415848.53 0.0298 0.0207
 Neptune -109890-02-20 23:31 J -38415848.62 -38415848.52 -38415848.40 0.0088 0.0076 *
 Uranus -109890-05-18 13:55 J -38415762.10 -38415761.92 -38415761.73 0.0148 0.0079
 Neptune -109890-10-04 11:02 J -38415623.11 -38415623.04 -38415622.95 0.0088 0.0082
 Uranus -109890-12-31 05:16 J -38415535.34 -38415535.28 -38415535.20 0.0148 0.0140
 Neptune -109889-05-16 22:48 J -38415397.57 -38415397.55 -38415397.51 0.0088 0.0088
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 Mars -109884-04-17 06:14 J -38413601.32 -38413601.24 -38413601.16 0.1654 0.1433
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 Saturn -109877-05-04 20:24 J -38411026.87 -38411026.65 -38411026.43 0.0265 0.0028
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 Saturn -109877-12-20 02:24 J -38410797.59 -38410797.40 -38410797.20 0.0264 0.0129
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 Jupiter -109871-06-07 06:14 J -38408802.27 -38408802.24 -38408802.20 0.0492 0.0483
 Saturn -109863-10-13 18:43 J -38405751.88 -38405751.72 -38405751.55 0.0293 0.0177
 Saturn -109862-05-31 12:00 J -38405522.20 -38405522.00 -38405521.79 0.0295 0.0046
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 Saturn -109861-09-02 00:28 J -38405062.61 -38405062.48 -38405062.34 0.0298 0.0223

Jupiter -109859-10-04 15:50 J -38404300.01 -38404299.84 -38404299.67 0.0492 0.0279
 Mars -109855-07-12 16:33 J -38402922.97 -38402922.81 -38402922.65 0.1868 0.0871
 Mars -109854-06-16 12:43 J -38402584.10 -38402583.97 -38402583.84 0.1645 0.1003
 Jupiter -109853-08-11 23:16 J -38402161.69 -38402161.53 -38402161.35 0.0534 0.0276
 Mars -109852-04-15 20:52 J -38401914.78 -38401914.63 -38401914.47 0.1651 0.0642
 Uranus -109850-01-19 00:14 J -38401271.54 -38401271.49 -38401271.42 0.0131 0.0125
 Uranus -109850-09-02 02:52 J -38401045.52 -38401045.38 -38401045.20 0.0131 0.0085
 Uranus -109849-04-15 06:00 J -38400819.44 -38400819.25 -38400819.04 0.0131 0.0044
 Saturn -109849-08-13 06:57 J -38400699.38 -38400699.21 -38400699.04 0.0268 0.0167
 Uranus -109849-11-27 08:52 J -38400593.34 -38400593.13 -38400592.91 0.0131 0.0004
 Saturn -109848-03-30 14:24 J -38400470.11 -38400469.90 -38400469.68 0.0266 0.0063
 Uranus -109848-07-11 11:31 J -38400367.22 -38400367.02 -38400366.81 0.0131 0.0037
 Saturn -109848-11-14 21:21 J -38400240.83 -38400240.61 -38400240.39 0.0265 0.0040
 Uranus -109847-02-22 13:55 J -38400141.07 -38400140.92 -38400140.73 0.0131 0.0078
 Jupiter -109847-06-09 16:04 J -38400034.04 -38400033.83 -38400033.62 0.0492 0.0019
 Saturn -109847-07-02 03:36 J -38400011.54 -38400011.35 -38400011.17 0.0264 0.0141
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 Saturn -109846-02-16 08:52 J -38399782.20 -38399782.13 -38399782.02 0.0263 0.0239
 Jupiter -109841-04-16 15:50 J -38397896.03 -38397895.84 -38397895.64 0.0534 0.0096
 Jupiter -109835-02-12 16:48 J -38395767.96 -38395767.80 -38395767.64 0.0492 0.0313
 Saturn -109834-09-08 06:57 J -38395195.23 -38395195.21 -38395195.17 0.0291 0.0288
 Saturn -109833-04-24 23:45 J -38394965.68 -38394965.51 -38394965.33 0.0294 0.0162
 Saturn -109833-12-10 17:16 J -38394735.98 -38394735.78 -38394735.58 0.0295 0.0030
 Saturn -109832-07-28 11:16 J -38394506.22 -38394506.03 -38394505.83 0.0297 0.0106
 Saturn -109831-03-15 06:14 J -38394276.36 -38394276.24 -38394276.12 0.0298 0.0240
 Jupiter -109830-12-21 07:40 J -38393630.27 -38393630.18 -38393630.09 0.0534 0.0470
 Neptune -109824-10-28 01:40 J -38391492.47 -38391492.43 -38391492.34 0.0089 0.0085
 Neptune -109823-06-10 16:04 J -38391266.92 -38391266.83 -38391266.71 0.0089 0.0078
 Jupiter -109823-06-12 04:04 J -38391265.39 -38391265.33 -38391265.25 0.0493 0.0460
 Neptune -109822-01-22 06:00 J -38391041.36 -38391041.25 -38391041.09 0.0089 0.0072

Neptune -109822-09-04 20:24 J -38390815.78 -38390815.65 -38390815.48 0.0089 0.0065
 Neptune -109821-04-17 10:48 J -38390590.21 -38390590.05 -38390589.87 0.0089 0.0058
 Mars -109821-05-08 12:57 J -38390569.11 -38390568.96 -38390568.82 0.1863 0.1130
 Neptune -109821-11-29 00:43 J -38390364.63 -38390364.47 -38390364.26 0.0089 0.0052
 Mars -109820-04-14 11:31 J -38390228.19 -38390228.02 -38390227.85 0.1648 0.0145
 Saturn -109820-07-09 05:02 J -38390142.35 -38390142.29 -38390142.22 0.0270 0.0257
 Neptune -109820-07-12 15:07 J -38390139.05 -38390138.87 -38390138.66 0.0089 0.0045
 Neptune -109819-02-23 05:31 J -38389913.47 -38389913.27 -38389913.06 0.0089 0.0038
 Saturn -109819-02-23 13:12 J -38389913.12 -38389912.95 -38389912.76 0.0268 0.0153 *
 Neptune -109819-10-06 19:55 J -38389687.87 -38389687.67 -38389687.45 0.0089 0.0032
 Saturn -109819-10-10 21:07 J -38389683.84 -38389683.62 -38389683.41 0.0267 0.0049
 Mars -109818-02-12 18:43 J -38389558.78 -38389558.72 -38389558.66 0.1655 0.1532
 Neptune -109818-05-20 10:33 J -38389462.28 -38389462.06 -38389461.85 0.0089 0.0025
 Saturn -109818-05-28 03:50 J -38389454.55 -38389454.34 -38389454.12 0.0265 0.0054
 Neptune -109817-01-01 00:28 J -38389236.69 -38389236.48 -38389236.25 0.0089 0.0018
 Saturn -109817-01-12 09:50 J -38389225.26 -38389225.09 -38389224.91 0.0264 0.0156
 Jupiter -109817-04-19 11:31 J -38389127.10 -38389127.02 -38389126.93 0.0534 0.0478
 Neptune -109817-08-13 14:52 J -38389011.10 -38389010.88 -38389010.65 0.0089 0.0011
 Saturn -109817-08-28 15:36 J -38388995.90 -38388995.85 -38388995.79 0.0263 0.0253
 Neptune -109816-03-27 05:16 J -38388785.51 -38388785.28 -38388785.05 0.0089 0.0004
 Neptune -109816-11-07 19:40 J -38388559.90 -38388559.68 -38388559.45 0.0089 0.0003
 Neptune -109815-06-21 10:04 J -38388334.30 -38388334.08 -38388333.85 0.0089 0.0010
 Neptune -109814-02-02 00:14 J -38388108.70 -38388108.49 -38388108.26 0.0089 0.0017
 Neptune -109814-09-15 14:38 J -38387883.09 -38387882.89 -38387882.66 0.0089 0.0024
 Neptune -109813-04-28 05:31 J -38387657.49 -38387657.27 -38387657.06 0.0089 0.0031
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 Jupiter -109811-02-15 04:04 J -38386999.52 -38386999.33 -38386999.13 0.0492 0.0163
 Neptune -109811-03-06 00:43 J -38386980.65 -38386980.47 -38386980.28 0.0089 0.0051
 Neptune -109811-10-17 15:21 J -38386755.02 -38386754.86 -38386754.68 0.0089 0.0058

Neptune -109810-05-31 05:45 J -38386529.39 -38386529.26 -38386529.09 0.0089 0.0065
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 Neptune -109809-08-24 11:02 J -38386078.14 -38386078.04 -38386077.92 0.0089 0.0078
 Uranus -109808-03-06 21:21 J -38385883.71 -38385883.61 -38385883.52 0.0148 0.0132
 Neptune -109808-04-07 01:12 J -38385852.49 -38385852.45 -38385852.36 0.0089 0.0085
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 Saturn -109804-03-20 14:52 J -38384408.95 -38384408.88 -38384408.80 0.0291 0.0268
 Saturn -109804-11-05 07:12 J -38384179.37 -38384179.20 -38384179.01 0.0293 0.0142
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 Saturn -109802-02-07 18:28 J -38383719.91 -38383719.73 -38383719.54 0.0297 0.0125
 Saturn -109802-09-25 13:12 J -38383490.05 -38383489.95 -38383489.85 0.0298 0.0259
 Moon -109801-01-15 16:33 J -38383377.98 -38383377.81 -38383377.64 0.2550 0.0041
 Earth -109801-01-15 21:21 J -38383377.78 -38383377.61 -38383377.45 0.2554 0.0150 *
 Jupiter -109800-10-21 03:36 J -38382733.55 -38382733.35 -38382733.15 0.0492 0.0140
 Jupiter -109794-08-28 23:31 J -38380595.69 -38380595.52 -38380595.34 0.0535 0.0253
 Saturn -109790-01-19 07:26 J -38379356.28 -38379356.19 -38379356.10 0.0269 0.0245
 Saturn -109790-09-05 15:21 J -38379127.04 -38379126.86 -38379126.67 0.0268 0.0141
 Saturn -109789-04-21 23:02 J -38378897.76 -38378897.54 -38378897.32 0.0266 0.0036
 Mars -109789-05-08 17:45 J -38378880.94 -38378880.76 -38378880.59 0.1867 0.0565
 Saturn -109789-12-07 05:45 J -38378668.47 -38378668.26 -38378668.05 0.0265 0.0068
 Mars -109788-04-13 01:40 J -38378541.56 -38378541.43 -38378541.29 0.1645 0.0927
 Jupiter -109788-06-26 04:04 J -38378467.42 -38378467.33 -38378467.23 0.0492 0.0436
 Saturn -109788-07-24 11:45 J -38378439.17 -38378439.01 -38378438.83 0.0264 0.0169
 Mars -109786-02-11 09:36 J -38377872.25 -38377872.10 -38377871.95 0.1651 0.0734
 Jupiter -109776-10-23 14:52 J -38373965.03 -38373964.88 -38373964.73 0.0493 0.0335
 Saturn -109775-09-30 20:24 J -38373622.75 -38373622.65 -38373622.55 0.0292 0.0254

Saturn -109774-05-18 12:57 J -38373393.14 -38373392.96 -38373392.77 0.0294 0.0126
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 Saturn -109773-08-20 00:43 J -38372933.65 -38372933.47 -38372933.29 0.0297 0.0143
 Saturn -109772-04-06 19:26 J -38372703.76 -38372703.69 -38372703.62 0.0298 0.0278
 Jupiter -109770-08-31 20:38 J -38371826.79 -38371826.64 -38371826.48 0.0534 0.0329
 Uranus -109766-05-02 14:38 J -38370487.00 -38370486.89 -38370486.74 0.0131 0.0104
 Uranus -109766-12-14 17:31 J -38370260.94 -38370260.77 -38370260.57 0.0131 0.0063
 Uranus -109765-07-27 20:38 J -38370034.85 -38370034.64 -38370034.43 0.0131 0.0022
 Uranus -109764-03-10 23:16 J -38369808.74 -38369808.53 -38369808.31 0.0131 0.0019
 Jupiter -109764-06-28 15:21 J -38369699.07 -38369698.86 -38369698.66 0.0492 0.0040
 Uranus -109764-10-23 01:55 J -38369582.60 -38369582.42 -38369582.22 0.0131 0.0059
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 Saturn -109761-07-31 14:24 J -38368570.02 -38368569.90 -38368569.79 0.0269 0.0230
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 Jupiter -109752-03-03 15:50 J -38365433.01 -38365432.84 -38365432.66 0.0492 0.0259
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 Jupiter -109746-01-09 04:19 J -38363295.44 -38363295.32 -38363295.20 0.0535 0.0422
 Saturn -109745-04-12 05:16 J -38362836.40 -38362836.28 -38362836.15 0.0291 0.0233
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Neptune -109742-05-06 17:45 J -38361716.78 -38361716.76 -38361716.69 0.0088 0.0086
 Neptune -109742-12-18 06:14 J -38361491.33 -38361491.24 -38361491.15 0.0088 0.0080
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 Neptune -109735-02-19 04:33 J -38359236.52 -38359236.31 -38359236.10 0.0088 0.0017
 Neptune -109735-10-02 16:19 J -38359011.03 -38359010.82 -38359010.60 0.0088 0.0011
 Neptune -109734-05-16 04:19 J -38358785.53 -38358785.32 -38358785.11 0.0088 0.0004
 Neptune -109734-12-27 16:04 J -38358560.05 -38358559.83 -38358559.62 0.0088 0.0002
 Neptune -109733-08-09 03:36 J -38358334.56 -38358334.35 -38358334.13 0.0088 0.0009
 Neptune -109732-03-22 15:36 J -38358109.06 -38358108.85 -38358108.64 0.0088 0.0015
 Neptune -109732-11-03 02:52 J -38357883.57 -38357883.38 -38357883.16 0.0088 0.0022
 Saturn -109731-02-10 17:45 J -38357783.88 -38357783.76 -38357783.63 0.0269 0.0217
 Neptune -109731-06-16 14:38 J -38357658.08 -38357657.89 -38357657.68 0.0088 0.0028
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 Saturn -109730-05-15 09:21 J -38357325.33 -38357325.11 -38357324.89 0.0266 0.0007
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 Saturn -109730-12-30 15:50 J -38357096.04 -38357095.84 -38357095.63 0.0265 0.0097
 Neptune -109729-04-23 01:26 J -38356981.61 -38356981.44 -38356981.25 0.0088 0.0046
 Saturn -109729-08-15 22:04 J -38356866.72 -38356866.58 -38356866.44 0.0264 0.0198
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 Jupiter -109728-03-06 00:57 J -38356664.65 -38356664.46 -38356664.27 0.0492 0.0207
 Neptune -109728-07-18 00:28 J -38356530.63 -38356530.48 -38356530.31 0.0088 0.0059

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 Jupiter -109722-01-12 04:04 J -38354526.51 -38354526.33 -38354526.14 0.0534 0.0173
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 Uranus -109722-12-12 07:55 J -38354192.20 -38354192.17 -38354192.12 0.0148 0.0145
 Mars -109721-12-08 22:33 J -38353829.71 -38353829.56 -38353829.42 0.1652 0.0825
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 Saturn -109699-02-26 05:45 J -38346080.38 -38346080.26 -38346080.13 0.0264 0.0214
 Jupiter -109693-11-11 12:43 J -38343630.09 -38343629.97 -38343629.84 0.0492 0.0386
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 Uranus -109681-03-27 08:52 J -38339476.32 -38339476.13 -38339475.92 0.0131 0.0041
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 Uranus -109679-09-17 19:26 J -38338571.75 -38338571.69 -38338571.60 0.0131 0.0122
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 Moon -109672-07-17 16:19 J -38336076.93 -38336076.82 -38336076.70 0.2794 0.1685
 Earth -109672-07-17 17:45 J -38336076.87 -38336076.76 -38336076.65 0.2787 0.1901 *
 Saturn -109672-10-20 14:09 J -38335982.12 -38335981.91 -38335981.70 0.0267 0.0080
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 Jupiter -109669-03-22 11:16 J -38335098.22 -38335098.03 -38335097.84 0.0492 0.0221
 Earth -109664-07-15 06:57 J -38333157.28 -38333157.21 -38333157.13 0.2787 0.2420
 Moon -109664-07-15 10:04 J -38333157.20 -38333157.08 -38333156.97 0.2793 0.1713 *
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 Neptune -109659-01-29 10:19 J -38331498.11 -38331498.07 -38331497.98 0.0089 0.0085
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 Neptune -109658-04-25 15:07 J -38331047.00 -38331046.87 -38331046.74 0.0089 0.0072
 Neptune -109658-12-07 04:48 J -38330821.43 -38330821.30 -38330821.13 0.0089 0.0065

Mars -109658-12-31 20:24 J -38330796.83 -38330796.65 -38330796.47 0.1865 0.0045
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 Saturn -109656-07-02 20:52 J -38330247.83 -38330247.63 -38330247.42 0.0295 0.0045
 Neptune -109656-10-13 23:31 J -38330144.70 -38330144.52 -38330144.31 0.0089 0.0045
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 Neptune -109655-05-27 13:55 J -38329919.11 -38329918.92 -38329918.70 0.0089 0.0038
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 Mars -109655-10-06 11:02 J -38329787.18 -38329787.04 -38329786.90 0.1653 0.0923
 Neptune -109654-01-08 04:04 J -38329693.53 -38329693.33 -38329693.10 0.0089 0.0032
 Neptune -109654-08-21 18:28 J -38329467.94 -38329467.73 -38329467.50 0.0089 0.0024
 Neptune -109653-04-03 08:52 J -38329242.35 -38329242.13 -38329241.90 0.0089 0.0017
 Neptune -109653-11-14 23:16 J -38329016.75 -38329016.53 -38329016.30 0.0089 0.0010
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 Neptune -109651-02-09 03:50 J -38328565.56 -38328565.34 -38328565.11 0.0089 0.0004
 Neptune -109651-09-22 18:14 J -38328339.96 -38328339.74 -38328339.51 0.0089 0.0010
 Neptune -109650-05-06 08:38 J -38328114.36 -38328114.14 -38328113.92 0.0089 0.0017
 Neptune -109650-12-17 22:48 J -38327888.76 -38327888.55 -38327888.32 0.0089 0.0024
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 Neptune -109648-10-24 18:00 J -38327211.93 -38327211.75 -38327211.54 0.0089 0.0045
 Neptune -109647-06-07 08:24 J -38326986.31 -38326986.15 -38326985.95 0.0089 0.0052
 Neptune -109646-01-18 23:16 J -38326760.70 -38326760.53 -38326760.36 0.0089 0.0058
 Neptune -109646-09-01 13:40 J -38326535.08 -38326534.93 -38326534.77 0.0089 0.0065
 Jupiter -109645-03-24 22:33 J -38326329.74 -38326329.56 -38326329.38 0.0492 0.0257
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 Neptune -109645-11-25 18:28 J -38326083.81 -38326083.73 -38326083.60 0.0089 0.0079
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 Saturn -109642-12-18 05:02 J -38324966.50 -38324966.29 -38324966.07 0.0266 0.0044
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 Uranus -109640-02-16 00:28 J -38324540.57 -38324540.48 -38324540.35 0.0148 0.0128
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 Jupiter -109639-01-30 21:21 J -38324191.79 -38324191.61 -38324191.42 0.0534 0.0208
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 Jupiter -109634-11-28 22:33 J -38322063.76 -38322063.56 -38322063.35 0.0492 0.0045
 Jupiter -109628-10-05 14:24 J -38319926.09 -38319925.90 -38319925.71 0.0535 0.0166
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 Saturn -109611-09-30 22:48 J -38313721.56 -38313721.55 -38313721.52 0.0263 0.0262
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 Uranus -109595-05-18 07:40 J -38308013.29 -38308013.18 -38308013.03 0.0131 0.0104
 Jupiter -109592-06-13 06:14 J -38306891.44 -38306891.24 -38306891.05 0.0534 0.0055
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 Saturn -109582-01-09 18:14 J -38303393.94 -38303393.74 -38303393.53 0.0265 0.0077
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 Neptune -109569-03-30 02:38 J -38298565.60 -38298565.39 -38298565.17 0.0088 0.0003
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 Neptune -109567-09-18 01:26 J -38297663.63 -38297663.44 -38297663.23 0.0088 0.0028
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 Neptune -109566-05-01 13:12 J -38297438.14 -38297437.95 -38297437.74 0.0088 0.0034
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 Neptune -109564-03-08 00:00 J -38296761.66 -38296761.50 -38296761.32 0.0088 0.0053
 Neptune -109564-10-19 11:31 J -38296536.16 -38296536.02 -38296535.84 0.0088 0.0060
 Neptune -109563-06-01 23:16 J -38296310.66 -38296310.53 -38296310.37 0.0088 0.0066
 Neptune -109562-01-13 10:48 J -38296085.16 -38296085.05 -38296084.91 0.0088 0.0072
 Jupiter -109562-04-13 16:48 J -38295994.96 -38295994.80 -38295994.63 0.0492 0.0293
 Neptune -109562-08-26 22:19 J -38295859.65 -38295859.57 -38295859.46 0.0088 0.0078
 Neptune -109561-04-08 10:04 J -38295634.14 -38295634.08 -38295634.00 0.0088 0.0084
 Mars -109560-10-28 02:52 J -38295066.50 -38295066.38 -38295066.25 0.1868 0.1375
 Mars -109559-10-02 06:43 J -38294727.29 -38294727.22 -38294727.14 0.1645 0.1458
 Earth -109558-01-16 00:43 J -38294621.63 -38294621.47 -38294621.31 0.2554 0.0553

Moon -109558-01-16 05:31 J -38294621.42 -38294621.27 -38294621.12 0.2558 0.0776 *
 Mars -109557-08-01 14:52 J -38294058.05 -38294057.88 -38294057.71 0.1651 0.0211
 Jupiter -109556-02-18 20:09 J -38293856.84 -38293856.66 -38293856.49 0.0534 0.0265
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 Uranus -109555-01-12 12:00 J -38293529.21 -38293529.00 -38293528.78 0.0148 0.0036
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 Uranus -109554-04-10 18:57 J -38293075.88 -38293075.71 -38293075.53 0.0148 0.0088
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 Jupiter -109527-12-20 04:33 J -38282960.36 -38282960.31 -38282960.25 0.0493 0.0473
 Mars -109526-08-24 23:31 J -38282712.69 -38282712.52 -38282712.35 0.1862 0.0657
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 Saturn -109523-09-18 13:26 J -38281592.05 -38281591.94 -38281591.80 0.0264 0.0214

Jupiter -109521-10-27 07:26 J -38280822.28 -38280822.19 -38280822.09 0.0534 0.0465
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 Uranus -109511-01-15 20:38 J -38277454.79 -38277454.64 -38277454.47 0.0131 0.0086
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 Pluto -109504-10-22 16:04 J -38274617.91 -38274617.83 -38274617.69 0.0064 0.0056
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 Neptune -109495-05-02 18:28 J -38271503.77 -38271503.73 -38271503.64 0.0089 0.0085
 Saturn -109495-05-13 00:43 J -38271493.67 -38271493.47 -38271493.26 0.0267 0.0084
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 Saturn -109494-08-14 13:55 J -38271035.11 -38271034.92 -38271034.73 0.0264 0.0128
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 Neptune -109492-06-03 17:31 J -38270375.95 -38270375.77 -38270375.59 0.0089 0.0051
 Jupiter -109491-01-03 03:21 J -38270162.44 -38270162.36 -38270162.26 0.0492 0.0436
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 Neptune -109491-08-28 21:36 J -38269924.79 -38269924.60 -38269924.38 0.0089 0.0038
 Neptune -109490-04-11 12:00 J -38269699.20 -38269699.00 -38269698.78 0.0089 0.0031
 Neptune -109490-11-23 02:24 J -38269473.61 -38269473.40 -38269473.18 0.0089 0.0024
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 Neptune -109486-08-07 16:04 J -38268120.04 -38268119.83 -38268119.59 0.0089 0.0018
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 Neptune -109481-07-16 11:16 J -38266315.14 -38266315.03 -38266314.88 0.0089 0.0073
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 Saturn -109479-09-09 21:50 J -38265529.79 -38265529.59 -38265529.40 0.0296 0.0084
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 Uranus -109472-09-11 15:50 J -38262971.03 -38262970.84 -38262970.64 0.0148 0.0067
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 Uranus -109470-07-23 13:40 J -38262291.04 -38262290.93 -38262290.78 0.0148 0.0119
 Jupiter -109467-01-05 14:24 J -38261394.11 -38261393.90 -38261393.70 0.0492 0.0041
 Saturn -109466-04-07 23:02 J -38260936.70 -38260936.54 -38260936.37 0.0268 0.0175
 Saturn -109466-11-23 06:43 J -38260707.43 -38260707.22 -38260707.01 0.0267 0.0067
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 Jupiter -109450-07-18 23:16 J -38254990.64 -38254990.53 -38254990.42 0.0534 0.0446
 Saturn -109450-08-05 13:26 J -38254973.14 -38254972.94 -38254972.73 0.0295 0.0031
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 Saturn -109449-11-07 01:55 J -38254513.52 -38254513.42 -38254513.30 0.0297 0.0248
 Jupiter -109438-11-16 06:57 J -38250487.22 -38250487.21 -38250487.18 0.0534 0.0531
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 Saturn -109435-01-19 20:24 J -38249691.86 -38249691.65 -38249691.44 0.0265 0.0056
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 Moon -109429-07-17 16:48 J -38247320.93 -38247320.80 -38247320.66 0.2780 0.1461 *
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 Uranus -109428-09-15 09:21 J -38246896.28 -38246896.11 -38246895.92 0.0131 0.0068
 Uranus -109427-04-29 12:00 J -38246670.11 -38246670.00 -38246669.87 0.0131 0.0109
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 Neptune -109414-11-09 13:55 J -38241727.95 -38241727.92 -38241727.86 0.0088 0.0086
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 Mars -109199-12-10 14:38 J -38163167.98 -38163167.89 -38163167.79 0.1867 0.1575
 Mars -109196-09-14 21:50 J -38162158.76 -38162158.59 -38162158.42 0.1652 0.0150
 Jupiter -109195-07-13 13:55 J -38161857.04 -38161856.92 -38161856.79 0.0491 0.0387
 Mars -109194-07-16 03:50 J -38161489.38 -38161489.34 -38161489.30 0.1661 0.1613
 Earth -109186-07-18 15:21 J -38158565.00 -38158564.86 -38158564.72 0.2787 0.1092
 Moon -109186-07-18 16:04 J -38158564.96 -38158564.83 -38158564.71 0.2795 0.1378 *
 Saturn -109185-02-11 10:19 J -38158357.23 -38158357.07 -38158356.90 0.0292 0.0169
 Saturn -109185-09-28 03:07 J -38158127.57 -38158127.37 -38158127.16 0.0294 0.0030
 Saturn -109184-05-15 20:38 J -38157897.83 -38157897.64 -38157897.45 0.0296 0.0112
 Saturn -109184-12-31 14:52 J -38157667.98 -38157667.88 -38157667.77 0.0297 0.0254
 Jupiter -109183-11-09 23:31 J -38157354.64 -38157354.52 -38157354.39 0.0492 0.0393
 Uranus -109179-11-04 17:16 J -38155898.89 -38155898.78 -38155898.65 0.0131 0.0107
 Uranus -109178-06-18 20:09 J -38155672.83 -38155672.66 -38155672.46 0.0131 0.0066
 Moon -109178-07-16 09:07 J -38155645.19 -38155645.12 -38155645.05 0.2792 0.2447
 Uranus -109177-01-30 23:16 J -38155446.74 -38155446.53 -38155446.32 0.0131 0.0024
 Uranus -109177-09-13 01:55 J -38155220.62 -38155220.42 -38155220.20 0.0131 0.0018
 Jupiter -109177-09-17 04:33 J -38155216.45 -38155216.31 -38155216.17 0.0535 0.0377
 Uranus -109176-04-27 04:33 J -38154994.49 -38154994.31 -38154994.10 0.0131 0.0059
 Uranus -109176-12-09 07:12 J -38154768.32 -38154768.20 -38154768.05 0.0131 0.0100
 Saturn -109172-04-26 21:36 J -38153533.64 -38153533.60 -38153533.54 0.0271 0.0261
 Saturn -109172-12-12 06:28 J -38153304.41 -38153304.23 -38153304.05 0.0269 0.0149

Jupiter -109171-07-16 00:43 J -38153088.67 -38153088.47 -38153088.26 0.0492 0.0093
 Saturn -109171-07-29 14:09 J -38153075.12 -38153074.91 -38153074.69 0.0267 0.0037
 Saturn -109170-03-15 21:21 J -38152845.82 -38152845.61 -38152845.40 0.0265 0.0074
 Saturn -109170-10-31 03:50 J -38152616.49 -38152616.34 -38152616.18 0.0264 0.0181
 Pluto -109167-01-06 05:16 J -38151818.43 -38151818.28 -38151818.10 0.0081 0.0053
 Pluto -109167-08-19 14:38 J -38151593.08 -38151592.89 -38151592.67 0.0080 0.0024
 Neptune -109167-11-05 10:04 J -38151515.13 -38151515.08 -38151515.02 0.0089 0.0085
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 Jupiter -109165-05-22 20:24 J -38150950.85 -38150950.65 -38150950.45 0.0534 0.0005
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 Mars -109165-10-06 12:28 J -38150814.15 -38150813.98 -38150813.80 0.1860 0.0472
 Neptune -109164-04-25 17:31 J -38150612.91 -38150612.77 -38150612.58 0.0089 0.0059
 Mars -109164-09-13 12:28 J -38150472.11 -38150471.98 -38150471.84 0.1649 0.0963
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 Neptune -109161-05-27 16:19 J -38149485.03 -38149484.82 -38149484.59 0.0089 0.0025
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 Jupiter -109159-03-21 02:24 J -38148822.59 -38148822.40 -38148822.21 0.0492 0.0206
 Neptune -109159-04-04 11:02 J -38148808.26 -38148808.04 -38148807.81 0.0089 0.0004
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 Neptune -109158-06-29 15:36 J -38148357.07 -38148356.85 -38148356.62 0.0089 0.0011
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 Saturn -109156-01-05 21:50 J -38147800.61 -38147800.59 -38147800.56 0.0290 0.0287
 Neptune -109156-05-06 10:33 J -38147680.26 -38147680.06 -38147679.84 0.0089 0.0032

Saturn -109156-08-23 13:55 J -38147571.09 -38147570.92 -38147570.74 0.0292 0.0154
 Neptune -109156-12-18 00:43 J -38147454.66 -38147454.47 -38147454.25 0.0089 0.0039
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 Saturn -109154-07-13 18:57 J -38146881.78 -38146881.71 -38146881.62 0.0297 0.0273
 Neptune -109154-10-25 20:09 J -38146777.82 -38146777.66 -38146777.48 0.0089 0.0059
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 Neptune -109152-09-01 14:52 J -38146100.95 -38146100.88 -38146100.76 0.0089 0.0080
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 Saturn -109141-02-08 19:12 J -38142288.92 -38142288.70 -38142288.48 0.0267 0.0024
 Saturn -109141-09-25 02:24 J -38142059.61 -38142059.40 -38142059.20 0.0266 0.0087
 Saturn -109140-05-12 08:24 J -38141830.29 -38141830.15 -38141829.99 0.0264 0.0195
 Uranus -109137-12-21 06:57 J -38140511.32 -38140511.21 -38140511.07 0.0148 0.0120
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 Uranus -109135-03-19 13:55 J -38140058.14 -38140057.92 -38140057.70 0.0148 0.0005
 Jupiter -109135-03-23 13:12 J -38140054.12 -38140053.95 -38140053.78 0.0492 0.0278
 Uranus -109135-11-01 05:16 J -38139831.46 -38139831.28 -38139831.07 0.0148 0.0068
 Uranus -109134-06-15 20:38 J -38139604.72 -38139604.64 -38139604.51 0.0148 0.0131
 Mars -109133-10-06 16:33 J -38139125.94 -38139125.81 -38139125.68 0.1865 0.1266
 Mars -109130-07-13 10:48 J -38138116.22 -38138116.05 -38138115.89 0.1653 0.0065
 Jupiter -109129-01-29 13:55 J -38137916.10 -38137915.92 -38137915.74 0.0535 0.0228
 Saturn -109127-07-18 23:02 J -38137014.59 -38137014.54 -38137014.47 0.0290 0.0276
 Saturn -109126-03-05 14:52 J -38136785.06 -38136784.88 -38136784.69 0.0292 0.0142
 Saturn -109126-10-21 07:40 J -38136555.39 -38136555.18 -38136554.98 0.0294 0.0003

Saturn -109125-06-07 01:12 J -38136325.63 -38136325.45 -38136325.27 0.0296 0.0141
 Saturn -109124-01-22 18:57 J -38136095.76 -38136095.71 -38136095.64 0.0297 0.0284
 Jupiter -109124-11-26 14:09 J -38135788.12 -38135787.91 -38135787.71 0.0492 0.0026
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 Saturn -109112-08-20 18:14 J -38131502.96 -38131502.74 -38131502.53 0.0267 0.0014
 Saturn -109111-04-07 01:12 J -38131273.65 -38131273.45 -38131273.24 0.0265 0.0098
 Saturn -109111-11-22 07:40 J -38131044.31 -38131044.18 -38131044.04 0.0264 0.0206
 Jupiter -109106-06-08 22:19 J -38129384.57 -38129384.57 -38129384.55 0.0535 0.0534
 Jupiter -109100-11-29 02:09 J -38127019.47 -38127019.41 -38127019.34 0.0492 0.0464
 Mars -109099-08-03 14:09 J -38126772.07 -38126771.91 -38126771.74 0.1858 0.0782
 Mars -109098-07-12 01:40 J -38126429.57 -38126429.43 -38126429.29 0.1650 0.0879
 Saturn -109097-01-29 02:09 J -38126228.49 -38126228.41 -38126228.31 0.0290 0.0262
 Saturn -109097-09-14 18:14 J -38125998.92 -38125998.74 -38125998.55 0.0292 0.0127
 Saturn -109096-05-02 11:16 J -38125769.24 -38125769.03 -38125768.83 0.0294 0.0015
 Mars -109096-05-11 08:24 J -38125760.29 -38125760.15 -38125760.01 0.1658 0.0873
 Saturn -109096-12-18 04:48 J -38125539.47 -38125539.30 -38125539.12 0.0296 0.0158
 Uranus -109095-07-05 07:12 J -38125340.25 -38125340.20 -38125340.12 0.0131 0.0124
 Uranus -109094-02-16 10:04 J -38125114.23 -38125114.08 -38125113.89 0.0131 0.0083
 Uranus -109094-09-30 13:26 J -38124888.14 -38124887.94 -38124887.73 0.0131 0.0041
 Jupiter -109094-10-07 05:45 J -38124881.36 -38124881.26 -38124881.14 0.0534 0.0450
 Uranus -109093-05-13 16:19 J -38124662.03 -38124661.82 -38124661.60 0.0131 0.0001
 Uranus -109093-12-25 18:43 J -38124435.91 -38124435.72 -38124435.50 0.0131 0.0043
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 Uranus -109091-03-23 00:00 J -38123983.54 -38123983.50 -38123983.42 0.0131 0.0125
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 Neptune -109085-05-14 07:12 J -38121739.21 -38121739.20 -38121739.17 0.0088 0.0088
 Neptune -109085-12-25 18:57 J -38121513.77 -38121513.71 -38121513.61 0.0088 0.0082

Neptune -109084-08-08 06:57 J -38121288.30 -38121288.21 -38121288.07 0.0088 0.0076
 Saturn -109084-11-29 06:00 J -38121175.36 -38121175.25 -38121175.12 0.0271 0.0227
 Neptune -109083-03-21 19:26 J -38121062.81 -38121062.69 -38121062.54 0.0088 0.0069
 Saturn -109083-07-16 14:52 J -38120946.07 -38120945.88 -38120945.68 0.0269 0.0113
 Neptune -109083-11-02 07:26 J -38120837.33 -38120837.19 -38120837.02 0.0088 0.0062
 Saturn -109082-03-02 22:48 J -38120716.77 -38120716.55 -38120716.33 0.0267 0.0003
 Jupiter -109082-06-11 22:04 J -38120615.78 -38120615.58 -38120615.38 0.0535 0.0071
 Neptune -109082-06-15 19:40 J -38120611.84 -38120611.68 -38120611.51 0.0088 0.0056
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 Neptune -109081-01-27 07:26 J -38120386.35 -38120386.19 -38120386.00 0.0088 0.0050
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 Earth -109072-01-16 07:55 J -38117109.31 -38117109.17 -38117109.03 0.2554 0.1346
 Moon -109072-01-16 13:12 J -38117109.06 -38117108.95 -38117108.84 0.2555 0.1821 *
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 Neptune -109072-12-13 04:19 J -38116778.47 -38116778.32 -38116778.13 0.0088 0.0055

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 Saturn -109067-03-27 20:09 J -38115212.85 -38115212.66 -38115212.47 0.0292 0.0113
 Mars -109067-08-03 17:45 J -38115083.92 -38115083.76 -38115083.60 0.1864 0.0948
 Saturn -109067-11-12 12:43 J -38114983.17 -38114982.97 -38114982.76 0.0294 0.0028
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 Moon -109064-01-14 04:48 J -38114189.45 -38114189.30 -38114189.15 0.2551 0.1125 *
 Mars -109064-05-09 23:45 J -38114073.68 -38114073.51 -38114073.34 0.1654 0.0039
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Saturn -109037-05-24 16:19 J -38104197.03 -38104196.82 -38104196.62 0.0295 0.0045
 Saturn -109036-01-09 09:50 J -38103967.25 -38103967.09 -38103966.93 0.0296 0.0189
 Jupiter -109035-10-23 08:24 J -38103315.35 -38103315.15 -38103314.95 0.0535 0.0079
 Mars -109033-05-30 16:19 J -38102729.97 -38102729.82 -38102729.68 0.1857 0.1088
 Mars -109032-05-08 14:38 J -38102387.04 -38102386.89 -38102386.74 0.1651 0.0793
 Mars -109030-03-08 20:52 J -38101717.76 -38101717.63 -38101717.49 0.1659 0.0972
 Jupiter -109029-08-20 17:31 J -38101186.94 -38101186.77 -38101186.59 0.0491 0.0255
 Saturn -109025-12-21 10:19 J -38099603.21 -38099603.07 -38099602.93 0.0271 0.0203
 Saturn -109024-08-07 18:57 J -38099373.91 -38099373.71 -38099373.50 0.0269 0.0088
 Saturn -109023-03-25 03:07 J -38099144.59 -38099144.37 -38099144.16 0.0267 0.0026
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 Jupiter -109011-10-26 08:09 J -38094546.18 -38094546.16 -38094546.13 0.0535 0.0529
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 Uranus -109009-01-12 06:28 J -38094103.44 -38094103.23 -38094103.01 0.0131 0.0016
 Pluto -109009-06-05 01:12 J -38093958.59 -38093958.45 -38093958.26 0.0064 0.0044
 Uranus -109009-08-25 09:07 J -38093877.32 -38093877.12 -38093876.90 0.0131 0.0026
 Saturn -109009-09-01 11:02 J -38093870.17 -38093870.04 -38093869.90 0.0290 0.0219
 Pluto -109008-01-16 06:14 J -38093733.47 -38093733.24 -38093733.01 0.0064 0.0004
 Uranus -109008-04-08 12:00 J -38093651.18 -38093651.00 -38093650.81 0.0131 0.0067
 Saturn -109008-04-19 02:52 J -38093640.58 -38093640.38 -38093640.18 0.0292 0.0082
 Pluto -109008-08-29 10:19 J -38093508.23 -38093508.07 -38093507.86 0.0064 0.0037
 Uranus -109008-11-20 14:09 J -38093425.01 -38093424.91 -38093424.77 0.0131 0.0109
 Saturn -109008-12-04 19:26 J -38093410.89 -38093410.69 -38093410.49 0.0294 0.0060
 Saturn -109007-07-22 12:28 J -38093181.12 -38093180.98 -38093180.82 0.0296 0.0204
 Jupiter -109005-08-23 03:36 J -38092418.53 -38092418.35 -38092418.16 0.0491 0.0227
 Neptune -109002-02-06 16:33 J -38091520.85 -38091520.81 -38091520.74 0.0089 0.0086
 Neptune -109002-09-20 06:57 J -38091295.31 -38091295.21 -38091295.11 0.0089 0.0079

Neptune -109001-05-02 20:24 J -38091069.76 -38091069.65 -38091069.50 0.0089 0.0073

Mars -109001-05-30 19:55 J -38091041.84 -38091041.67 -38091041.50 0.1862 0.0648

Neptune -109001-12-14 10:19 J -38090844.20 -38090844.07 -38090843.90 0.0089 0.0066

109TH MILLENNIUM BCE

This is a list of transits of Venus in the 109th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-109000-05-07 05:02 J		-38090700.32	-38090700.29	-38090700.25	0.1648	0.1605	
Neptune	-109000-07-28 00:28 J		-38090618.64	-38090618.48	-38090618.30	0.0089	0.0059	
Neptune	-108999-03-10 14:09 J		-38090393.07	-38090392.91	-38090392.71	0.0089	0.0053	
Jupiter	-108999-07-01 01:55 J		-38090280.61	-38090280.42	-38090280.22	0.0535	0.0155	
Neptune	-108999-10-22 04:19 J		-38090167.49	-38090167.32	-38090167.11	0.0089	0.0046	
Mars	-108998-03-07 12:14 J		-38090031.16	-38090030.99	-38090030.82	0.1655	0.0131	
Neptune	-108998-06-04 18:28 J		-38089941.92	-38089941.73	-38089941.51	0.0089	0.0039	
Neptune	-108997-01-16 08:38 J		-38089716.34	-38089716.14	-38089715.92	0.0089	0.0032	
Neptune	-108997-08-28 22:48 J		-38089490.76	-38089490.55	-38089490.33	0.0089	0.0025	
Neptune	-108996-04-11 12:57 J		-38089265.18	-38089264.96	-38089264.73	0.0089	0.0018	
Neptune	-108996-11-23 03:07 J		-38089039.59	-38089039.37	-38089039.14	0.0089	0.0011	
Saturn	-108995-07-03 09:21 J		-38088817.25	-38088817.11	-38088816.95	0.0270	0.0193	
Neptune	-108995-07-06 17:31 J		-38088814.00	-38088813.77	-38088813.55	0.0089	0.0004	
Neptune	-108994-02-17 07:40 J		-38088588.41	-38088588.18	-38088587.95	0.0089	0.0003	

Saturn -108994-02-17 18:28 J -38088587.94 -38088587.73 -38088587.52 0.0268 0.0077
 Neptune -108994-09-30 22:04 J -38088362.80 -38088362.58 -38088362.36 0.0089 0.0010
 Saturn -108994-10-05 02:38 J -38088358.60 -38088358.39 -38088358.17 0.0267 0.0038
 Jupiter -108993-04-28 05:16 J -38088152.49 -38088152.28 -38088152.08 0.0491 0.0077
 Neptune -108993-05-13 12:14 J -38088137.21 -38088136.99 -38088136.76 0.0089 0.0017
 Saturn -108993-05-21 10:04 J -38088129.26 -38088129.08 -38088128.90 0.0265 0.0149
 Neptune -108993-12-25 02:38 J -38087911.61 -38087911.39 -38087911.17 0.0089 0.0024
 Saturn -108992-01-05 16:33 J -38087899.85 -38087899.81 -38087899.76 0.0264 0.0257
 Neptune -108992-08-07 16:48 J -38087686.01 -38087685.80 -38087685.58 0.0089 0.0031
 Neptune -108991-03-21 07:12 J -38087460.40 -38087460.20 -38087459.99 0.0089 0.0038
 Neptune -108991-11-01 21:50 J -38087234.79 -38087234.59 -38087234.40 0.0089 0.0045
 Neptune -108990-06-15 12:14 J -38087009.17 -38087008.99 -38087008.81 0.0089 0.0052
 Neptune -108989-01-27 02:24 J -38086783.56 -38086783.40 -38086783.23 0.0089 0.0059
 Neptune -108989-09-08 16:48 J -38086557.94 -38086557.80 -38086557.64 0.0089 0.0066
 Neptune -108988-04-22 06:57 J -38086332.32 -38086332.21 -38086332.07 0.0089 0.0073
 Neptune -108988-12-03 21:21 J -38086106.69 -38086106.61 -38086106.50 0.0089 0.0080
 Jupiter -108987-03-05 17:45 J -38086014.94 -38086014.76 -38086014.58 0.0535 0.0231
 Neptune -108987-07-17 11:31 J -38085881.04 -38085881.02 -38085880.95 0.0089 0.0087
 Jupiter -108981-01-02 06:43 J -38083886.35 -38083886.22 -38083886.08 0.0492 0.0375
 Saturn -108979-03-14 14:38 J -38083084.03 -38083083.89 -38083083.74 0.0291 0.0205
 Saturn -108979-10-30 06:28 J -38082854.42 -38082854.23 -38082854.02 0.0293 0.0067
 Saturn -108978-06-16 23:16 J -38082624.73 -38082624.53 -38082624.33 0.0295 0.0077
 Saturn -108977-02-01 16:48 J -38082394.93 -38082394.80 -38082394.66 0.0296 0.0221
 Jupiter -108969-04-30 16:04 J -38079383.93 -38079383.83 -38079383.71 0.0491 0.0412
 Uranus -108969-12-02 11:45 J -38079168.14 -38079168.01 -38079167.86 0.0148 0.0115
 Uranus -108968-07-17 03:21 J -38078941.57 -38078941.36 -38078941.15 0.0148 0.0051
 Uranus -108967-02-28 18:43 J -38078714.94 -38078714.72 -38078714.50 0.0148 0.0012
 Mars -108967-03-27 18:14 J -38078687.86 -38078687.74 -38078687.62 0.1855 0.1391
 Uranus -108967-10-13 10:19 J -38078488.25 -38078488.07 -38078487.87 0.0148 0.0075
 Mars -108966-03-06 03:07 J -38078344.52 -38078344.37 -38078344.21 0.1652 0.0702

Uranus -108966-05-28 01:55 J -38078261.49 -38078261.42 -38078261.33 0.0148 0.0138
 Saturn -108965-01-13 15:21 J -38078031.02 -38078030.86 -38078030.70 0.0270 0.0177
 Saturn -108965-08-30 00:14 J -38077801.70 -38077801.49 -38077801.28 0.0269 0.0062
 Mars -108964-01-03 09:21 J -38077675.23 -38077675.11 -38077674.98 0.1661 0.1076
 Saturn -108964-04-16 08:24 J -38077572.37 -38077572.15 -38077571.94 0.0267 0.0052
 Saturn -108964-12-01 15:36 J -38077343.01 -38077342.85 -38077342.67 0.0266 0.0164
 Jupiter -108963-03-08 15:36 J -38077245.99 -38077245.85 -38077245.71 0.0535 0.0369
 Jupiter -108957-01-04 17:31 J -38075117.97 -38075117.77 -38075117.57 0.0491 0.0110
 Jupiter -108952-11-11 09:07 J -38072980.32 -38072980.12 -38072979.92 0.0536 0.0014
 Saturn -108950-09-24 19:26 J -38072297.84 -38072297.69 -38072297.52 0.0290 0.0187
 Saturn -108949-05-11 11:16 J -38072068.23 -38072068.03 -38072067.82 0.0292 0.0048
 Saturn -108949-12-27 03:50 J -38071838.53 -38071838.34 -38071838.14 0.0294 0.0095
 Saturn -108948-08-13 20:52 J -38071608.74 -38071608.63 -38071608.50 0.0296 0.0239
 Jupiter -108946-09-09 18:00 J -38070851.93 -38070851.75 -38070851.56 0.0491 0.0196
 Moon -108943-07-18 12:28 J -38069809.14 -38069808.98 -38069808.81 0.2779 0.0207
 Earth -108943-07-18 13:55 J -38069809.06 -38069808.92 -38069808.77 0.2787 0.0681 *
 Jupiter -108940-07-17 01:55 J -38068714.55 -38068714.42 -38068714.28 0.0535 0.0390
 Saturn -108936-07-25 15:50 J -38067245.01 -38067244.84 -38067244.67 0.0270 0.0165
 Saturn -108935-03-12 00:43 J -38067015.68 -38067015.47 -38067015.25 0.0268 0.0049
 Mars -108935-03-27 21:21 J -38066999.79 -38066999.61 -38066999.43 0.1861 0.0333
 Saturn -108935-10-27 09:07 J -38066786.33 -38066786.12 -38066785.91 0.0267 0.0065
 Mars -108934-03-04 18:00 J -38066657.81 -38066657.75 -38066657.69 0.1649 0.1522
 Saturn -108934-06-13 16:19 J -38066556.98 -38066556.82 -38066556.65 0.0265 0.0177
 Mars -108932-01-02 00:57 J -38065988.62 -38065988.46 -38065988.29 0.1657 0.0229
 Uranus -108927-06-16 14:52 J -38063996.97 -38063996.88 -38063996.77 0.0131 0.0116
 Uranus -108926-01-28 18:00 J -38063770.92 -38063770.75 -38063770.57 0.0131 0.0074
 Uranus -108926-09-11 20:52 J -38063544.84 -38063544.63 -38063544.42 0.0131 0.0032
 Uranus -108925-04-24 23:45 J -38063318.72 -38063318.51 -38063318.30 0.0131 0.0009
 Uranus -108925-12-07 02:09 J -38063092.60 -38063092.41 -38063092.21 0.0131 0.0051
 Uranus -108924-07-21 04:48 J -38062866.45 -38062866.30 -38062866.15 0.0131 0.0092

Jupiter -108922-09-12 04:33 J -38062083.48 -38062083.31 -38062083.15 0.0492 0.0289
 Neptune -108920-03-29 02:52 J -38061519.43 -38061519.38 -38061519.28 0.0088 0.0083
 Saturn -108920-04-06 00:14 J -38061511.66 -38061511.49 -38061511.32 0.0291 0.0171
 Pluto -108920-04-29 00:43 J -38061488.65 -38061488.47 -38061488.27 0.0081 0.0036
 Neptune -108920-11-09 15:21 J -38061293.96 -38061293.86 -38061293.74 0.0088 0.0076
 Saturn -108920-11-21 16:04 J -38061282.04 -38061281.83 -38061281.63 0.0293 0.0031
 Pluto -108920-12-10 09:50 J -38061263.26 -38061263.09 -38061262.89 0.0080 0.0040
 Neptune -108919-06-23 03:07 J -38061068.48 -38061068.37 -38061068.22 0.0088 0.0070
 Saturn -108919-07-09 08:38 J -38061052.33 -38061052.14 -38061051.95 0.0295 0.0113
 Neptune -108918-02-03 15:07 J -38060843.00 -38060842.87 -38060842.70 0.0088 0.0063
 Saturn -108918-02-24 01:55 J -38060822.51 -38060822.42 -38060822.31 0.0296 0.0257
 Neptune -108918-09-17 03:21 J -38060617.51 -38060617.36 -38060617.18 0.0088 0.0057
 Neptune -108917-04-29 15:21 J -38060392.02 -38060391.86 -38060391.66 0.0088 0.0051
 Neptune -108917-12-11 03:36 J -38060166.53 -38060166.35 -38060166.15 0.0088 0.0044
 Jupiter -108916-07-20 01:12 J -38059945.63 -38059945.45 -38059945.26 0.0535 0.0218
 Neptune -108916-07-24 15:21 J -38059941.04 -38059940.86 -38059940.65 0.0088 0.0038
 Neptune -108915-03-07 03:36 J -38059715.54 -38059715.35 -38059715.14 0.0088 0.0031
 Neptune -108915-10-18 15:50 J -38059490.05 -38059489.84 -38059489.63 0.0088 0.0024
 Neptune -108914-06-01 03:36 J -38059264.55 -38059264.35 -38059264.13 0.0088 0.0018
 Neptune -108913-01-12 15:36 J -38059039.06 -38059038.85 -38059038.63 0.0088 0.0011
 Neptune -108913-08-25 03:36 J -38058813.57 -38058813.35 -38058813.14 0.0088 0.0004
 Neptune -108912-04-07 15:21 J -38058588.07 -38058587.86 -38058587.64 0.0088 0.0003
 Neptune -108912-11-19 03:07 J -38058362.58 -38058362.37 -38058362.15 0.0088 0.0009
 Neptune -108911-07-02 14:52 J -38058137.08 -38058136.88 -38058136.66 0.0088 0.0016
 Neptune -108910-02-13 02:24 J -38057911.59 -38057911.40 -38057911.18 0.0088 0.0023
 Jupiter -108910-05-18 06:00 J -38057817.46 -38057817.25 -38057817.05 0.0491 0.0014
 Neptune -108910-09-26 14:24 J -38057686.10 -38057685.90 -38057685.69 0.0088 0.0028
 Neptune -108909-05-09 02:24 J -38057460.60 -38057460.40 -38057460.21 0.0088 0.0035
 Neptune -108909-12-20 13:40 J -38057235.11 -38057234.93 -38057234.73 0.0088 0.0042
 Neptune -108908-08-03 01:26 J -38057009.61 -38057009.44 -38057009.25 0.0088 0.0048

Neptune -108907-03-16 12:57 J -38056784.11 -38056783.96 -38056783.77 0.0088 0.0054
 Saturn -108907-06-20 12:14 J -38056688.02 -38056687.99 -38056687.94 0.0272 0.0266
 Neptune -108907-10-28 00:43 J -38056558.61 -38056558.47 -38056558.30 0.0088 0.0061
 Saturn -108906-02-04 22:04 J -38056458.75 -38056458.58 -38056458.39 0.0270 0.0150
 Neptune -108906-06-10 12:43 J -38056333.10 -38056332.97 -38056332.83 0.0088 0.0067
 Saturn -108906-09-22 07:12 J -38056229.41 -38056229.20 -38056228.98 0.0268 0.0033
 Neptune -108905-01-21 23:45 J -38056107.60 -38056107.51 -38056107.36 0.0088 0.0074
 Saturn -108905-05-08 15:21 J -38056000.07 -38055999.86 -38055999.65 0.0267 0.0082
 Neptune -108905-09-03 11:31 J -38055882.09 -38055882.02 -38055881.91 0.0088 0.0080
 Saturn -108905-12-23 22:33 J -38055770.70 -38055770.56 -38055770.40 0.0266 0.0193
 Jupiter -108904-03-24 15:21 J -38055680.05 -38055679.86 -38055679.68 0.0536 0.0177
 Neptune -108904-04-16 23:31 J -38055656.56 -38055656.52 -38055656.46 0.0088 0.0086
 Mars -108901-01-22 20:09 J -38054645.73 -38054645.66 -38054645.59 0.1853 0.1702
 Mars -108901-12-31 16:19 J -38054301.97 -38054301.82 -38054301.66 0.1653 0.0614
 Mars -108899-10-31 22:04 J -38053632.69 -38053632.58 -38053632.46 0.1662 0.1178
 Jupiter -108898-01-21 07:40 J -38053551.34 -38053551.18 -38053551.02 0.0491 0.0313
 Saturn -108891-03-01 16:19 J -38050954.84 -38050954.82 -38050954.78 0.0288 0.0284
 Saturn -108891-10-17 07:12 J -38050725.37 -38050725.20 -38050725.02 0.0291 0.0150
 Saturn -108890-06-03 23:02 J -38050495.75 -38050495.54 -38050495.34 0.0293 0.0010
 Saturn -108889-01-19 15:21 J -38050266.04 -38050265.86 -38050265.67 0.0294 0.0134
 Saturn -108889-09-05 08:24 J -38050036.20 -38050036.15 -38050036.07 0.0296 0.0278
 Jupiter -108886-05-20 15:21 J -38049048.91 -38049048.86 -38049048.79 0.0491 0.0468
 Uranus -108885-08-01 15:50 J -38048609.86 -38048609.84 -38048609.80 0.0148 0.0146
 Uranus -108884-03-16 07:12 J -38048383.38 -38048383.20 -38048383.01 0.0148 0.0084
 Uranus -108884-10-28 22:48 J -38048156.77 -38048156.55 -38048156.33 0.0148 0.0020
 Uranus -108883-06-12 14:09 J -38047930.12 -38047929.91 -38047929.70 0.0148 0.0043
 Uranus -108882-01-25 05:45 J -38047703.41 -38047703.26 -38047703.10 0.0148 0.0106
 Jupiter -108880-03-27 17:31 J -38046910.88 -38046910.77 -38046910.66 0.0535 0.0443
 Saturn -108878-12-31 14:24 J -38045901.97 -38045901.90 -38045901.82 0.0272 0.0253
 Saturn -108877-08-17 00:00 J -38045672.68 -38045672.50 -38045672.31 0.0270 0.0136

Saturn -108876-04-03 08:52 J -38045443.35 -38045443.13 -38045442.91 0.0268 0.0019
 Saturn -108876-11-18 17:02 J -38045213.99 -38045213.79 -38045213.59 0.0267 0.0095
 Saturn -108875-07-06 00:28 J -38044984.62 -38044984.48 -38044984.34 0.0265 0.0207
 Jupiter -108874-01-23 16:04 J -38044783.03 -38044782.83 -38044782.63 0.0491 0.0163
 Mars -108869-01-23 00:00 J -38042957.68 -38042957.50 -38042957.32 0.1859 0.0029
 Jupiter -108869-11-30 09:21 J -38042645.31 -38042645.11 -38042644.91 0.0535 0.0059
 Mars -108869-12-30 06:57 J -38042615.29 -38042615.21 -38042615.13 0.1649 0.1437
 Mars -108867-10-30 13:40 J -38041946.09 -38041945.93 -38041945.76 0.1658 0.0327
 Jupiter -108863-09-28 17:16 J -38040516.97 -38040516.78 -38040516.58 0.0491 0.0141
 Saturn -108862-09-11 20:38 J -38040168.70 -38040168.64 -38040168.56 0.0289 0.0270
 Saturn -108861-04-28 11:45 J -38039939.19 -38039939.01 -38039938.82 0.0291 0.0135
 Saturn -108861-12-14 03:50 J -38039709.55 -38039709.34 -38039709.14 0.0293 0.0008
 Saturn -108860-07-31 20:24 J -38039479.82 -38039479.65 -38039479.47 0.0295 0.0152
 Saturn -108859-03-18 13:55 J -38039249.92 -38039249.92 -38039249.91 0.0296 0.0296
 Jupiter -108857-08-05 00:14 J -38038379.64 -38038379.49 -38038379.33 0.0535 0.0332
 Jupiter -108851-06-03 19:40 J -38036250.78 -38036250.68 -38036250.59 0.0491 0.0438
 Saturn -108848-07-12 21:21 J -38035115.71 -38035115.61 -38035115.50 0.0272 0.0236
 Saturn -108847-02-27 06:57 J -38034886.40 -38034886.21 -38034886.01 0.0270 0.0119
 Saturn -108847-10-14 16:04 J -38034657.05 -38034656.83 -38034656.61 0.0268 0.0004
 Saturn -108846-06-01 00:14 J -38034427.69 -38034427.49 -38034427.29 0.0267 0.0113
 Saturn -108845-01-16 07:40 J -38034198.30 -38034198.18 -38034198.07 0.0266 0.0224
 Uranus -108843-09-28 07:55 J -38033212.31 -38033212.17 -38033212.00 0.0131 0.0091
 Uranus -108842-05-12 11:02 J -38032986.23 -38032986.04 -38032985.84 0.0131 0.0049
 Uranus -108842-12-24 13:55 J -38032760.14 -38032759.92 -38032759.71 0.0131 0.0007
 Uranus -108841-08-06 16:19 J -38032534.02 -38032533.82 -38032533.60 0.0131 0.0035
 Uranus -108840-03-20 18:57 J -38032307.87 -38032307.71 -38032307.53 0.0131 0.0076
 Uranus -108840-11-01 21:36 J -38032081.69 -38032081.60 -38032081.50 0.0131 0.0117
 Jupiter -108839-10-01 04:04 J -38031748.47 -38031748.33 -38031748.18 0.0491 0.0347
 Neptune -108838-05-10 23:31 J -38031526.54 -38031526.52 -38031526.45 0.0089 0.0087
 Neptune -108838-12-22 13:26 J -38031301.02 -38031300.94 -38031300.83 0.0089 0.0080

Mars -108837-01-23 04:04 J -38031269.38 -38031269.33 -38031269.29 0.1865 0.1799
 Neptune -108837-08-04 03:36 J -38031075.47 -38031075.35 -38031075.22 0.0089 0.0073
 Neptune -108836-03-17 17:02 J -38030849.91 -38030849.79 -38030849.62 0.0089 0.0067
 Neptune -108836-10-29 07:12 J -38030624.35 -38030624.20 -38030624.01 0.0089 0.0060
 Neptune -108835-06-11 21:21 J -38030398.78 -38030398.61 -38030398.42 0.0089 0.0053
 Mars -108835-10-29 05:02 J -38030259.45 -38030259.29 -38030259.13 0.1654 0.0517
 Neptune -108834-01-23 11:16 J -38030173.21 -38030173.03 -38030172.83 0.0089 0.0046
 Neptune -108834-09-06 01:26 J -38029947.63 -38029947.44 -38029947.23 0.0089 0.0039
 Neptune -108833-04-18 15:36 J -38029722.06 -38029721.85 -38029721.64 0.0089 0.0032
 Jupiter -108833-08-07 22:33 J -38029610.73 -38029610.56 -38029610.38 0.0536 0.0272
 Mars -108833-08-28 10:33 J -38029590.17 -38029590.06 -38029589.96 0.1663 0.1285
 Neptune -108833-11-30 05:31 J -38029496.48 -38029496.27 -38029496.05 0.0089 0.0025
 Saturn -108832-03-24 05:45 J -38029382.37 -38029382.26 -38029382.16 0.0289 0.0247
 Neptune -108832-07-13 19:40 J -38029270.90 -38029270.68 -38029270.46 0.0089 0.0018
 Saturn -108832-11-08 20:38 J -38029152.83 -38029152.64 -38029152.45 0.0291 0.0110
 Neptune -108831-02-24 09:36 J -38029045.32 -38029045.10 -38029044.87 0.0089 0.0011
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 Moon -108829-01-17 06:00 J -38028353.39 -38028353.25 -38028353.10 0.2556 0.1191
 Earth -108829-01-17 11:31 J -38028353.14 -38028353.02 -38028352.90 0.2555 0.1738 *
 Neptune -108829-08-14 18:14 J -38028142.95 -38028142.74 -38028142.51 0.0089 0.0017
 Neptune -108828-03-28 08:38 J -38027917.36 -38027917.14 -38027916.92 0.0089 0.0024
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 Neptune -108825-12-10 22:33 J -38026563.70 -38026563.56 -38026563.40 0.0089 0.0066
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Saturn -108788-03-21 17:45 J -38013313.97 -38013313.76 -38013313.55 0.0269 0.0085
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 Uranus -108758-01-10 00:43 J -38002427.64 -38002427.47 -38002427.27 0.0131 0.0066
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 Neptune -108750-01-19 23:16 J -37999495.73 -37999495.53 -37999495.32 0.0088 0.0024
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 Neptune -108750-09-02 11:02 J -37999270.24 -37999270.04 -37999269.82 0.0088 0.0018
 Neptune -108749-04-14 23:16 J -37999044.74 -37999044.53 -37999044.31 0.0088 0.0011
 Neptune -108749-11-26 11:16 J -37998819.24 -37998819.03 -37998818.81 0.0088 0.0005
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 Neptune -108746-05-17 10:48 J -37997917.26 -37997917.05 -37997916.84 0.0088 0.0022
 Neptune -108746-12-28 22:19 J -37997691.76 -37997691.57 -37997691.36 0.0088 0.0028
 Neptune -108745-08-10 10:04 J -37997466.27 -37997466.08 -37997465.87 0.0088 0.0035
 Neptune -108744-03-23 21:50 J -37997240.77 -37997240.59 -37997240.39 0.0088 0.0041
 Jupiter -108744-06-25 00:28 J -37997147.68 -37997147.48 -37997147.28 0.0491 0.0085
 Saturn -108744-10-27 02:09 J -37997023.56 -37997023.41 -37997023.25 0.0290 0.0190
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 Saturn -108742-01-29 09:50 J -37996564.28 -37996564.09 -37996563.89 0.0294 0.0096
 Neptune -108742-01-29 08:52 J -37996564.27 -37996564.13 -37996563.96 0.0088 0.0061 *
 Neptune -108742-09-11 20:38 J -37996338.77 -37996338.64 -37996338.49 0.0088 0.0067
 Saturn -108742-09-16 02:52 J -37996334.50 -37996334.38 -37996334.26 0.0296 0.0241

Neptune -108741-04-24 08:09 J -37996113.26 -37996113.16 -37996113.02 0.0088 0.0073
 Neptune -108741-12-05 19:55 J -37995887.74 -37995887.67 -37995887.56 0.0088 0.0080
 Neptune -108740-07-19 07:40 J -37995662.22 -37995662.18 -37995662.12 0.0088 0.0086
 Jupiter -108738-05-02 12:28 J -37995010.18 -37995009.98 -37995009.78 0.0535 0.0059
 Mars -108738-09-16 03:50 J -37994873.52 -37994873.34 -37994873.17 0.1856 0.0592
 Mars -108737-08-24 08:38 J -37994530.25 -37994530.14 -37994530.03 0.1651 0.1262
 Mars -108735-06-24 15:21 J -37993861.02 -37993860.86 -37993860.70 0.1660 0.0520
 Jupiter -108732-02-28 02:24 J -37992881.58 -37992881.40 -37992881.21 0.0491 0.0218
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 Saturn -108729-04-13 06:00 J -37991741.46 -37991741.25 -37991741.03 0.0269 0.0050
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 Saturn -108728-07-15 22:19 J -37991282.72 -37991282.57 -37991282.40 0.0266 0.0182
 Jupiter -108726-01-05 00:28 J -37990744.57 -37990744.48 -37990744.37 0.0535 0.0462
 Uranus -108717-07-13 18:28 J -37987266.77 -37987266.73 -37987266.66 0.0148 0.0143
 Uranus -108716-02-25 09:50 J -37987040.27 -37987040.09 -37987039.90 0.0148 0.0080
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 Uranus -108715-05-24 16:33 J -37986587.02 -37986586.81 -37986586.60 0.0148 0.0047
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 Saturn -108713-08-10 20:52 J -37985777.81 -37985777.63 -37985777.44 0.0294 0.0124
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 Mars -108706-09-16 06:57 J -37983185.35 -37983185.21 -37983185.07 0.1862 0.1161
 Mars -108703-06-23 06:43 J -37982174.39 -37982174.22 -37982174.06 0.1656 0.0335
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 Saturn -108701-07-22 17:02 J -37981413.81 -37981413.79 -37981413.75 0.0272 0.0269
 Saturn -108700-03-09 02:52 J -37981184.56 -37981184.38 -37981184.20 0.0270 0.0150
 Earth -108700-07-18 12:43 J -37981053.12 -37981052.97 -37981052.82 0.2786 0.0246

Moon -108700-07-18 14:52 J -37981053.02 -37981052.88 -37981052.74 0.2793 0.0879 *
 Saturn -108700-10-24 12:00 J -37980955.22 -37980955.00 -37980954.79 0.0269 0.0032
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 Jupiter -108697-11-05 10:48 J -37979847.25 -37979847.05 -37979846.84 0.0491 0.0048
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 Neptune -108674-08-12 06:00 J -37971532.26 -37971532.25 -37971532.19 0.0089 0.0088
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 Pluto -108673-01-07 15:21 J -37971383.93 -37971383.86 -37971383.74 0.0081 0.0072
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 Neptune -108672-06-19 00:00 J -37970855.63 -37970855.50 -37970855.34 0.0089 0.0067
 Mars -108672-07-13 06:00 J -37970831.41 -37970831.25 -37970831.09 0.1854 0.0899
 Uranus -108672-10-14 04:19 J -37970738.36 -37970738.32 -37970738.25 0.0131 0.0127
 Neptune -108671-01-30 14:09 J -37970630.07 -37970629.91 -37970629.75 0.0089 0.0060
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Mars -108671-06-21 21:50 J -37970487.71 -37970487.59 -37970487.47 0.1652 0.1179
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 Neptune -108668-10-15 02:09 J -37969276.62 -37969276.41 -37969276.18 0.0089 0.0019
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 Neptune -108666-01-09 06:28 J -37968825.45 -37968825.23 -37968825.00 0.0089 0.0005
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 Neptune -108664-06-29 14:52 J -37967923.09 -37967922.88 -37967922.65 0.0089 0.0024
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 Neptune -108660-10-25 19:12 J -37966343.81 -37966343.70 -37966343.56 0.0089 0.0073
 Neptune -108659-06-08 09:36 J -37966118.18 -37966118.10 -37966117.99 0.0089 0.0080
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 Mars -108474-01-01 12:43 J -37898705.00 -37898704.97 -37898704.94 0.1847 0.1818
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 Uranus -108463-08-17 22:19 J -37894458.73 -37894458.57 -37894458.39 0.0148 0.0095
 Saturn -108463-09-09 23:45 J -37894435.61 -37894435.51 -37894435.39 0.0266 0.0231
 Jupiter -108459-04-28 23:31 J -37893108.63 -37893108.52 -37893108.39 0.0491 0.0400
 Moon -108457-07-18 08:09 J -37892297.31 -37892297.16 -37892297.01 0.2780 0.0903
 Earth -108457-07-18 11:16 J -37892297.19 -37892297.03 -37892296.88 0.2786 0.0178 *
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 Pluto -108426-04-30 18:14 J -37881053.93 -37881053.74 -37881053.52 0.0081 0.0021

Neptune -108426-11-10 14:38 J -37880860.02 -37880859.89 -37880859.73 0.0088 0.0066
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 Uranus -108380-01-18 20:24 J -37864353.83 -37864353.65 -37864353.44 0.0148 0.0066
 Uranus -108380-09-02 12:00 J -37864127.22 -37864127.00 -37864126.78 0.0148 0.0001
 Uranus -108379-04-17 03:07 J -37863900.56 -37863900.37 -37863900.16 0.0148 0.0063
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Saturn -108376-05-26 12:43 J -37862765.18 -37862764.97 -37862764.76 0.0269 0.0077
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 Saturn -108360-09-22 15:21 J -37856802.05 -37856801.86 -37856801.66 0.0293 0.0079
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 Neptune -108345-09-27 10:19 J -37851318.14 -37851318.07 -37851317.98 0.0089 0.0082
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 Moon -108343-01-17 13:12 J -37850841.07 -37850840.95 -37850840.83 0.2558 0.1682
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Mars -108340-06-05 18:14 J -37849605.86 -37849605.74 -37849605.62 0.1669 0.1160
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 Saturn -108259-04-08 05:16 J -37820079.30 -37820079.28 -37820079.23 0.0273 0.0269
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Saturn -108184-08-26 22:19 J -37792544.75 -37792544.57 -37792544.38 0.0290 0.0128
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 Uranus -108085-01-22 08:38 J -37756602.33 -37756602.14 -37756601.94 0.0131 0.0051
 Neptune -108085-02-06 19:11 J -37756586.85 -37756586.70 -37756586.54 0.0088 0.0061
 Uranus -108085-09-04 11:16 J -37756376.17 -37756376.03 -37756375.87 0.0131 0.0094
 Neptune -108085-09-19 06:43 J -37756361.34 -37756361.22 -37756361.06 0.0088 0.0067

Neptune -108084-05-02 18:43 J -37756135.82 -37756135.72 -37756135.59 0.0088 0.0074
 Neptune -108084-12-14 06:14 J -37755910.30 -37755910.24 -37755910.12 0.0088 0.0081
 Neptune -108083-07-27 18:14 J -37755684.77 -37755684.74 -37755684.68 0.0088 0.0087
 Saturn -108082-06-14 18:14 J -37755362.88 -37755362.74 -37755362.58 0.0273 0.0191
 Saturn -108081-01-30 04:48 J -37755133.51 -37755133.30 -37755133.09 0.0271 0.0063
 Mars -108081-02-14 05:16 J -37755118.47 -37755118.28 -37755118.10 0.1851 0.0118
 Saturn -108081-09-15 14:24 J -37754904.11 -37754903.90 -37754903.69 0.0269 0.0064
 Saturn -108080-05-02 23:02 J -37754674.69 -37754674.54 -37754674.38 0.0267 0.0187
 Mars -108079-11-23 16:19 J -37754104.99 -37754104.82 -37754104.66 0.1663 0.0315
 Mars -108077-09-22 18:57 J -37753435.74 -37753435.71 -37753435.67 0.1675 0.1630
 Jupiter -108074-10-03 10:33 J -37752330.15 -37752330.06 -37752329.97 0.0536 0.0474
 Jupiter -108068-07-31 17:31 J -37750201.95 -37750201.77 -37750201.59 0.0491 0.0232
 Saturn -108066-02-23 19:40 J -37749629.81 -37749629.68 -37749629.53 0.0288 0.0210
 Saturn -108066-10-11 10:04 J -37749400.28 -37749400.08 -37749399.88 0.0290 0.0063
 Saturn -108065-05-28 01:11 J -37749170.65 -37749170.45 -37749170.25 0.0292 0.0088
 Saturn -108064-01-12 16:48 J -37748940.90 -37748940.80 -37748940.67 0.0294 0.0241
 Jupiter -108062-06-08 01:55 J -37748064.62 -37748064.42 -37748064.22 0.0536 0.0078
 Jupiter -108056-04-05 19:55 J -37745935.87 -37745935.67 -37745935.46 0.0491 0.0074
 Saturn -108053-12-25 00:00 J -37744576.66 -37744576.50 -37744576.33 0.0273 0.0174
 Saturn -108052-08-11 10:19 J -37744347.28 -37744347.07 -37744346.85 0.0271 0.0046
 Saturn -108051-03-28 19:55 J -37744117.87 -37744117.67 -37744117.46 0.0269 0.0081
 Saturn -108051-11-13 04:48 J -37743888.44 -37743888.30 -37743888.15 0.0268 0.0204
 Jupiter -108050-02-10 14:52 J -37743799.04 -37743798.88 -37743798.72 0.0536 0.0330
 Mars -108047-11-22 08:09 J -37742418.27 -37742418.16 -37742418.05 0.1658 0.1201
 Uranus -108045-04-29 10:33 J -37741894.18 -37741894.06 -37741893.94 0.0148 0.0121
 Mars -108045-09-21 12:14 J -37741749.15 -37741748.99 -37741748.84 0.1670 0.0702
 Jupiter -108045-12-09 22:48 J -37741669.68 -37741669.55 -37741669.42 0.0491 0.0378
 Uranus -108045-12-12 01:11 J -37741667.65 -37741667.45 -37741667.24 0.0148 0.0058
 Uranus -108044-07-26 16:19 J -37741441.04 -37741440.82 -37741440.60 0.0148 0.0007
 Uranus -108043-03-10 07:26 J -37741214.38 -37741214.19 -37741213.99 0.0148 0.0071

Uranus -108043-10-22 22:33 J -37740987.63 -37740987.56 -37740987.46 0.0148 0.0136
 Saturn -108037-09-05 00:57 J -37738843.61 -37738843.46 -37738843.30 0.0288 0.0190
 Saturn -108036-04-22 14:52 J -37738614.08 -37738613.88 -37738613.67 0.0290 0.0044
 Saturn -108036-12-08 05:45 J -37738384.45 -37738384.26 -37738384.07 0.0292 0.0108
 Saturn -108035-07-25 21:35 J -37738154.70 -37738154.60 -37738154.51 0.0293 0.0260
 Jupiter -108032-04-08 04:48 J -37737167.40 -37737167.30 -37737167.19 0.0490 0.0417
 Jupiter -108026-02-13 19:11 J -37735029.86 -37735029.70 -37735029.54 0.0536 0.0315
 Saturn -108023-07-07 00:00 J -37733790.67 -37733790.50 -37733790.32 0.0272 0.0162
 Saturn -108022-02-21 10:19 J -37733561.28 -37733561.07 -37733560.85 0.0271 0.0033
 Saturn -108022-10-08 20:09 J -37733331.87 -37733331.66 -37733331.46 0.0269 0.0094
 Pluto -108022-10-26 12:14 J -37733314.16 -37733313.99 -37733313.77 0.0064 0.0035
 Saturn -108021-05-25 04:33 J -37733102.42 -37733102.31 -37733102.17 0.0267 0.0218
 Pluto -108021-06-07 17:16 J -37733089.00 -37733088.78 -37733088.54 0.0064 0.0006
 Jupiter -108021-12-12 06:28 J -37732901.43 -37732901.23 -37732901.02 0.0491 0.0109
 Pluto -108020-01-18 22:04 J -37732863.74 -37732863.58 -37732863.42 0.0064 0.0045
 Neptune -108016-04-02 01:26 J -37731329.49 -37731329.44 -37731329.34 0.0089 0.0084
 Neptune -108016-11-13 15:07 J -37731103.96 -37731103.87 -37731103.73 0.0089 0.0077
 Mars -108016-12-11 07:40 J -37731076.36 -37731076.18 -37731076.00 0.1849 0.0199
 Neptune -108015-06-27 05:02 J -37730878.41 -37730878.29 -37730878.14 0.0089 0.0070
 Jupiter -108015-10-19 10:33 J -37730764.26 -37730764.06 -37730763.87 0.0536 0.0084
 Neptune -108014-02-07 18:43 J -37730652.86 -37730652.72 -37730652.54 0.0089 0.0063
 Neptune -108014-09-21 08:38 J -37730427.29 -37730427.14 -37730426.95 0.0089 0.0056
 Neptune -108013-05-03 22:33 J -37730201.73 -37730201.56 -37730201.36 0.0089 0.0049
 Mars -108013-09-20 04:33 J -37730062.48 -37730062.31 -37730062.14 0.1665 0.0208
 Neptune -108013-12-15 12:14 J -37729976.17 -37729975.99 -37729975.77 0.0089 0.0043
 Neptune -108012-07-29 02:09 J -37729750.60 -37729750.41 -37729750.19 0.0089 0.0035
 Neptune -108011-03-11 16:33 J -37729525.03 -37729524.81 -37729524.60 0.0089 0.0027
 Neptune -108011-10-23 06:28 J -37729299.44 -37729299.23 -37729299.00 0.0089 0.0020
 Neptune -108010-06-05 20:38 J -37729073.86 -37729073.64 -37729073.42 0.0089 0.0013
 Neptune -108009-01-17 10:33 J -37728848.28 -37728848.06 -37728847.83 0.0089 0.0006

Jupiter -108009-08-17 08:38 J -37728635.33 -37728635.14 -37728634.95 0.0491 0.0200
 Neptune -108009-08-30 00:43 J -37728622.69 -37728622.47 -37728622.24 0.0089 0.0002
 Neptune -108008-04-12 14:52 J -37728397.10 -37728396.88 -37728396.66 0.0089 0.0009
 Neptune -108008-11-24 05:02 J -37728171.51 -37728171.29 -37728171.07 0.0089 0.0016
 Saturn -108007-03-18 04:33 J -37728057.47 -37728057.31 -37728057.14 0.0288 0.0174
 Neptune -108007-07-07 18:43 J -37727945.92 -37727945.72 -37727945.48 0.0089 0.0024
 Saturn -108007-11-02 18:43 J -37727827.92 -37727827.72 -37727827.51 0.0290 0.0026
 Neptune -108006-02-18 09:07 J -37727720.32 -37727720.12 -37727719.90 0.0089 0.0031
 Saturn -108006-06-20 09:35 J -37727598.28 -37727598.10 -37727597.91 0.0292 0.0126
 Neptune -108006-10-01 23:16 J -37727494.72 -37727494.53 -37727494.31 0.0089 0.0038
 Saturn -108005-02-05 01:40 J -37727368.49 -37727368.43 -37727368.37 0.0294 0.0278
 Neptune -108005-05-14 13:40 J -37727269.12 -37727268.93 -37727268.73 0.0089 0.0045
 Neptune -108005-12-26 03:21 J -37727043.52 -37727043.36 -37727043.15 0.0089 0.0053
 Neptune -108004-08-08 17:31 J -37726817.91 -37726817.77 -37726817.58 0.0089 0.0060
 Uranus -108004-11-12 12:00 J -37726722.13 -37726722.00 -37726721.84 0.0131 0.0097
 Neptune -108003-03-22 07:55 J -37726592.30 -37726592.17 -37726592.00 0.0089 0.0067
 Jupiter -108003-06-24 00:43 J -37726498.55 -37726498.47 -37726498.39 0.0536 0.0486
 Uranus -108003-06-26 15:07 J -37726496.05 -37726495.87 -37726495.66 0.0131 0.0054
 Neptune -108003-11-02 22:19 J -37726366.67 -37726366.57 -37726366.43 0.0089 0.0074
 Uranus -108002-02-07 18:28 J -37726269.94 -37726269.73 -37726269.51 0.0131 0.0011
 Neptune -108002-06-16 12:28 J -37726141.05 -37726140.98 -37726140.87 0.0089 0.0081
 Uranus -108002-09-21 21:35 J -37726043.80 -37726043.60 -37726043.39 0.0131 0.0033
 Neptune -108001-01-28 02:52 J -37725915.39 -37725915.38 -37725915.33 0.0089 0.0088
 Uranus -108001-05-05 00:14 J -37725817.65 -37725817.49 -37725817.30 0.0131 0.0076
 Uranus -108001-12-17 03:21 J -37725591.44 -37725591.36 -37725591.27 0.0131 0.0118

108TH MILLENNIUM BCE

This is a list of transits of Venus in the 108th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-107994-06-01	18:43 J	-37723233.73	-37723233.72	-37723233.70	0.0274	0.0273	
Saturn	-107993-01-17	05:45 J	-37723004.43	-37723004.26	-37723004.06	0.0272	0.0145	
Saturn	-107993-09-02	16:33 J	-37722775.03	-37722774.81	-37722774.59	0.0271	0.0015	
Saturn	-107992-04-20	01:55 J	-37722545.61	-37722545.42	-37722545.21	0.0269	0.0112	
Saturn	-107992-12-05	10:48 J	-37722316.14	-37722316.05	-37722315.94	0.0268	0.0235	
Jupiter	-107991-10-22	08:24 J	-37721995.16	-37721995.15	-37721995.13	0.0537	0.0534	
Jupiter	-107985-08-19	18:43 J	-37719866.88	-37719866.72	-37719866.56	0.0490	0.0297	
Mars	-107984-12-11	09:50 J	-37719388.18	-37719388.09	-37719388.00	0.1856	0.1593	
Mars	-107981-09-18	20:24 J	-37718375.77	-37718375.65	-37718375.52	0.1660	0.1099	
Jupiter	-107979-06-27	00:57 J	-37717729.65	-37717729.46	-37717729.26	0.0537	0.0141	
Mars	-107979-07-20	00:28 J	-37717706.63	-37717706.48	-37717706.34	0.1671	0.0816	
Saturn	-107978-09-28	11:02 J	-37717271.21	-37717271.04	-37717270.86	0.0288	0.0152	
Saturn	-107977-05-15	01:11 J	-37717041.66	-37717041.45	-37717041.25	0.0290	0.0005	
Saturn	-107977-12-30	15:50 J	-37716812.01	-37716811.84	-37716811.66	0.0292	0.0148	
Jupiter	-107973-04-24	19:40 J	-37715600.89	-37715600.68	-37715600.48	0.0490	0.0020	
Moon	-107971-07-19	05:16 J	-37714785.42	-37714785.28	-37714785.15	0.2778	0.1568	
Earth	-107971-07-19	08:24 J	-37714785.29	-37714785.15	-37714785.01	0.2784	0.1045	*
Jupiter	-107967-03-01	17:31 J	-37713463.94	-37713463.77	-37713463.59	0.0536	0.0253	
Saturn	-107965-12-11	20:09 J	-37712447.72	-37712447.66	-37712447.59	0.0274	0.0260	
Saturn	-107964-07-29	07:11 J	-37712218.38	-37712218.20	-37712218.00	0.0272	0.0130	
Saturn	-107963-03-15	17:45 J	-37711988.98	-37711988.76	-37711988.55	0.0270	0.0003	
Saturn	-107963-10-31	03:07 J	-37711759.55	-37711759.37	-37711759.17	0.0269	0.0127	

Saturn -107962-06-17 12:14 J -37711530.07 -37711529.99 -37711529.92 0.0267 0.0249
 Jupiter -107962-12-29 21:21 J -37711334.75 -37711334.61 -37711334.45 0.0491 0.0326
 Uranus -107961-08-11 08:38 J -37711109.31 -37711109.14 -37711108.96 0.0148 0.0086
 Uranus -107960-03-25 23:31 J -37710882.73 -37710882.52 -37710882.29 0.0148 0.0022
 Uranus -107960-11-07 14:38 J -37710656.09 -37710655.89 -37710655.67 0.0148 0.0043
 Uranus -107959-06-22 05:45 J -37710429.40 -37710429.26 -37710429.10 0.0148 0.0108
 Mars -107950-10-08 10:04 J -37707034.26 -37707034.08 -37707033.91 0.1847 0.0513
 Jupiter -107949-04-27 04:33 J -37706832.35 -37706832.31 -37706832.26 0.0491 0.0478
 Saturn -107949-08-23 01:55 J -37706714.47 -37706714.42 -37706714.38 0.0287 0.0279
 Saturn -107948-04-09 15:07 J -37706485.05 -37706484.87 -37706484.68 0.0289 0.0136
 Saturn -107948-11-25 05:31 J -37706255.48 -37706255.27 -37706255.07 0.0291 0.0015
 Saturn -107947-07-12 20:24 J -37706025.81 -37706025.65 -37706025.48 0.0293 0.0167
 Mars -107947-07-18 17:02 J -37706019.95 -37706019.79 -37706019.62 0.1666 0.0107
 Jupiter -107943-03-04 18:00 J -37704694.89 -37704694.75 -37704694.61 0.0536 0.0377
 Jupiter -107937-01-01 06:43 J -37702566.41 -37702566.22 -37702566.02 0.0490 0.0170
 Saturn -107935-06-24 02:52 J -37701661.48 -37701661.38 -37701661.27 0.0274 0.0241
 Neptune -107935-10-10 03:50 J -37701553.35 -37701553.34 -37701553.30 0.0088 0.0088
 Saturn -107934-02-08 14:09 J -37701432.11 -37701431.91 -37701431.71 0.0272 0.0111
 Neptune -107934-05-23 15:50 J -37701327.90 -37701327.84 -37701327.73 0.0088 0.0082
 Saturn -107934-09-26 00:43 J -37701202.69 -37701202.47 -37701202.26 0.0270 0.0019
 Neptune -107933-01-04 04:19 J -37701102.42 -37701102.32 -37701102.19 0.0088 0.0074
 Saturn -107933-05-12 10:04 J -37700973.26 -37700973.08 -37700972.89 0.0269 0.0146
 Neptune -107933-08-16 16:48 J -37700876.93 -37700876.80 -37700876.66 0.0088 0.0068
 Pluto -107933-09-18 14:24 J -37700844.09 -37700843.90 -37700843.69 0.0081 0.0026
 Neptune -107932-03-30 04:48 J -37700651.44 -37700651.30 -37700651.12 0.0088 0.0061
 Pluto -107932-05-01 23:45 J -37700618.66 -37700618.51 -37700618.33 0.0081 0.0051
 Jupiter -107932-11-07 06:43 J -37700429.42 -37700429.22 -37700429.02 0.0536 0.0034
 Neptune -107932-11-10 17:02 J -37700425.94 -37700425.79 -37700425.60 0.0088 0.0055
 Neptune -107931-06-24 05:16 J -37700200.45 -37700200.28 -37700200.08 0.0088 0.0048
 Neptune -107930-02-04 17:31 J -37699974.95 -37699974.77 -37699974.57 0.0088 0.0041

Neptune -107930-09-18 06:00 J -37699749.45 -37699749.25 -37699749.05 0.0088 0.0034
 Neptune -107929-04-30 17:45 J -37699523.95 -37699523.76 -37699523.54 0.0088 0.0027
 Neptune -107929-12-12 06:00 J -37699298.45 -37699298.25 -37699298.03 0.0088 0.0020
 Neptune -107928-07-25 18:00 J -37699072.96 -37699072.75 -37699072.53 0.0088 0.0013
 Neptune -107927-03-08 06:14 J -37698847.46 -37698847.24 -37698847.03 0.0088 0.0007
 Neptune -107927-10-19 18:14 J -37698621.96 -37698621.74 -37698621.53 0.0088 0.0001
 Neptune -107926-06-02 06:00 J -37698396.46 -37698396.25 -37698396.03 0.0088 0.0007
 Jupiter -107926-09-06 09:07 J -37698300.32 -37698300.12 -37698299.92 0.0491 0.0138
 Neptune -107925-01-13 17:45 J -37698170.96 -37698170.76 -37698170.54 0.0088 0.0014
 Neptune -107925-08-26 05:45 J -37697945.46 -37697945.26 -37697945.05 0.0088 0.0021
 Neptune -107924-04-08 17:45 J -37697719.96 -37697719.76 -37697719.55 0.0088 0.0027
 Neptune -107924-11-20 05:16 J -37697494.46 -37697494.28 -37697494.06 0.0088 0.0035
 Neptune -107923-07-03 17:31 J -37697268.96 -37697268.77 -37697268.58 0.0088 0.0041
 Neptune -107922-02-14 05:02 J -37697043.46 -37697043.29 -37697043.10 0.0088 0.0048
 Neptune -107922-09-27 16:48 J -37696817.95 -37696817.80 -37696817.62 0.0088 0.0054
 Neptune -107921-05-10 04:48 J -37696592.44 -37696592.30 -37696592.13 0.0088 0.0061
 Neptune -107921-12-21 16:33 J -37696366.93 -37696366.81 -37696366.66 0.0088 0.0067
 Jupiter -107920-07-12 21:50 J -37696163.70 -37696163.59 -37696163.47 0.0536 0.0434
 Uranus -107920-07-13 00:43 J -37696163.55 -37696163.47 -37696163.35 0.0131 0.0116 *
 Neptune -107920-08-04 04:33 J -37696141.42 -37696141.31 -37696141.19 0.0088 0.0074
 Uranus -107919-02-24 04:33 J -37695937.49 -37695937.31 -37695937.13 0.0131 0.0072
 Saturn -107919-03-05 10:19 J -37695928.16 -37695928.07 -37695927.98 0.0286 0.0255
 Neptune -107919-03-17 16:04 J -37695915.90 -37695915.83 -37695915.73 0.0088 0.0081
 Uranus -107919-10-08 07:40 J -37695711.39 -37695711.18 -37695710.97 0.0131 0.0029
 Saturn -107919-10-20 23:31 J -37695698.71 -37695698.52 -37695698.33 0.0288 0.0110
 Neptune -107919-10-29 04:04 J -37695690.36 -37695690.33 -37695690.28 0.0088 0.0087
 Uranus -107918-05-22 10:48 J -37695485.26 -37695485.05 -37695484.83 0.0131 0.0014
 Saturn -107918-06-07 13:40 J -37695469.13 -37695468.93 -37695468.73 0.0290 0.0040
 Mars -107918-10-08 12:00 J -37695346.14 -37695346.00 -37695345.87 0.1854 0.1268
 Uranus -107917-01-03 13:40 J -37695259.12 -37695258.93 -37695258.73 0.0131 0.0057

Saturn -107917-01-23 04:33 J -37695239.46 -37695239.31 -37695239.15 0.0292 0.0193
 Uranus -107917-08-16 16:19 J -37695032.95 -37695032.82 -37695032.67 0.0131 0.0100
 Mars -107915-07-17 09:21 J -37694333.24 -37694333.11 -37694332.97 0.1661 0.1005
 Jupiter -107914-05-12 10:04 J -37694034.15 -37694034.08 -37694034.00 0.0491 0.0451
 Mars -107913-05-16 12:57 J -37693664.10 -37693663.96 -37693663.82 0.1673 0.0931
 Saturn -107905-01-04 06:00 J -37690875.37 -37690875.25 -37690875.13 0.0274 0.0226
 Saturn -107905-08-20 16:48 J -37690646.00 -37690645.80 -37690645.59 0.0272 0.0095
 Saturn -107904-04-07 03:07 J -37690416.59 -37690416.37 -37690416.16 0.0270 0.0035
 Saturn -107904-11-22 12:28 J -37690187.15 -37690186.98 -37690186.80 0.0269 0.0161
 Jupiter -107902-09-08 16:19 J -37689531.96 -37689531.82 -37689531.67 0.0490 0.0348
 Jupiter -107896-07-16 01:11 J -37687394.63 -37687394.45 -37687394.27 0.0536 0.0210
 Jupiter -107890-05-14 18:00 J -37685265.96 -37685265.75 -37685265.55 0.0491 0.0038
 Saturn -107890-09-15 14:24 J -37685142.01 -37685141.90 -37685141.78 0.0287 0.0239
 Saturn -107889-05-02 04:04 J -37684912.52 -37684912.33 -37684912.13 0.0289 0.0093
 Saturn -107889-12-17 18:28 J -37684682.93 -37684682.73 -37684682.53 0.0291 0.0058
 Saturn -107888-08-04 09:35 J -37684453.24 -37684453.10 -37684452.96 0.0293 0.0211
 Jupiter -107884-03-20 15:35 J -37683129.04 -37683128.85 -37683128.66 0.0536 0.0195
 Mars -107884-08-04 12:57 J -37682992.12 -37682991.96 -37682991.79 0.1844 0.0815
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 Jupiter -107878-01-17 20:24 J -37680999.81 -37680999.65 -37680999.47 0.0491 0.0270
 Uranus -107877-04-10 14:24 J -37680551.02 -37680550.90 -37680550.75 0.0148 0.0116
 Uranus -107877-11-23 05:16 J -37680324.48 -37680324.28 -37680324.06 0.0148 0.0052
 Uranus -107876-07-07 20:24 J -37680097.87 -37680097.65 -37680097.43 0.0148 0.0013
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 Uranus -107875-10-04 02:38 J -37679644.43 -37679644.39 -37679644.31 0.0148 0.0142
 Saturn -107875-10-18 10:33 J -37679630.27 -37679630.06 -37679629.85 0.0270 0.0055
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Saturn -107860-03-28 00:00 J -37674355.63 -37674355.50 -37674355.36 0.0287 0.0212
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 Saturn -107770-02-02 00:43 J -37641537.64 -37641537.47 -37641537.29 0.0292 0.0155
 Neptune -107770-08-25 01:55 J -37641333.48 -37641333.42 -37641333.32 0.0088 0.0082
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 Mars -107684-11-04 18:14 J -37609849.90 -37609849.74 -37609849.57 0.1672 0.0350
 Neptune -107683-01-31 19:40 J -37609761.87 -37609761.68 -37609761.46 0.0089 0.0035
 Saturn -107683-06-04 22:48 J -37609637.75 -37609637.55 -37609637.35 0.0289 0.0074

Neptune -107683-09-14 09:35 J -37609536.30 -37609536.10 -37609535.87 0.0089 0.0028
 Jupiter -107682-01-03 21:07 J -37609424.81 -37609424.62 -37609424.42 0.0536 0.0125
 Saturn -107682-01-20 13:11 J -37609408.15 -37609407.95 -37609407.75 0.0291 0.0080
 Neptune -107682-04-27 23:45 J -37609310.73 -37609310.51 -37609310.29 0.0089 0.0020
 Saturn -107682-09-07 04:19 J -37609178.44 -37609178.32 -37609178.19 0.0292 0.0235
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 Neptune -107677-11-17 06:00 J -37607280.43 -37607280.25 -37607280.04 0.0089 0.0046
 Neptune -107676-06-30 20:24 J -37607054.82 -37607054.65 -37607054.46 0.0089 0.0053
 Neptune -107675-02-11 10:48 J -37606829.21 -37606829.05 -37606828.88 0.0089 0.0060
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 Saturn -107669-04-04 13:55 J -37604585.12 -37604584.92 -37604584.70 0.0272 0.0065
 Saturn -107669-11-19 23:45 J -37604355.71 -37604355.51 -37604355.29 0.0270 0.0068
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 Uranus -107667-05-19 22:33 J -37603809.76 -37603809.56 -37603809.35 0.0131 0.0045
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Jupiter -107665-07-07 23:16 J -37603029.69 -37603029.53 -37603029.38 0.0491 0.0317
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 Mars -107654-01-23 21:21 J -37599177.79 -37599177.61 -37599177.42 0.1845 0.0037
 Saturn -107654-04-30 12:28 J -37599081.11 -37599080.98 -37599080.82 0.0287 0.0209
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 Jupiter -107653-11-04 05:16 J -37598527.29 -37598527.28 -37598527.26 0.0491 0.0489
 Saturn -107652-03-19 08:24 J -37598392.25 -37598392.15 -37598392.04 0.0293 0.0253
 Mars -107652-11-03 11:02 J -37598163.20 -37598163.04 -37598162.89 0.1667 0.0585
 Mars -107650-09-03 12:43 J -37597494.05 -37597493.97 -37597493.88 0.1680 0.1426
 Jupiter -107647-09-11 14:38 J -37596390.03 -37596389.89 -37596389.74 0.0536 0.0365
 Jupiter -107641-07-10 07:26 J -37594261.38 -37594261.19 -37594261.00 0.0491 0.0177
 Saturn -107640-02-28 09:21 J -37594028.26 -37594028.11 -37594027.93 0.0273 0.0177
 Saturn -107640-10-15 20:24 J -37593798.86 -37593798.65 -37593798.43 0.0271 0.0043
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 Saturn -107638-01-17 15:07 J -37593339.99 -37593339.87 -37593339.74 0.0268 0.0216
 Jupiter -107635-05-17 03:07 J -37592124.57 -37592124.37 -37592124.17 0.0536 0.0050
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 Saturn -107625-11-09 23:02 J -37588294.70 -37588294.54 -37588294.38 0.0288 0.0181
 Uranus -107624-02-15 22:33 J -37588196.77 -37588196.56 -37588196.34 0.0148 0.0022
 Saturn -107624-06-27 12:57 J -37588065.16 -37588064.96 -37588064.75 0.0290 0.0029
 Uranus -107624-09-30 13:26 J -37587970.14 -37587969.94 -37587969.72 0.0148 0.0043
 Jupiter -107623-01-19 17:16 J -37587858.88 -37587858.78 -37587858.67 0.0535 0.0457
 Saturn -107623-02-12 03:35 J -37587835.53 -37587835.35 -37587835.16 0.0291 0.0128
 Uranus -107623-05-15 04:33 J -37587743.46 -37587743.31 -37587743.16 0.0148 0.0107
 Saturn -107623-09-29 19:26 J -37587605.74 -37587605.69 -37587605.64 0.0293 0.0284
 Mars -107622-01-23 23:45 J -37587489.54 -37587489.51 -37587489.48 0.1853 0.1813
 Mars -107620-11-02 03:07 J -37586476.44 -37586476.37 -37586476.29 0.1662 0.1496
 Mars -107618-09-02 06:28 J -37585807.39 -37585807.23 -37585807.07 0.1674 0.0465

Jupiter -107618-11-19 09:50 J -37585729.16 -37585729.09 -37585729.00 0.0491 0.0450
 Saturn -107611-09-10 18:14 J -37583241.91 -37583241.74 -37583241.56 0.0273 0.0156
 Saturn -107610-04-28 04:33 J -37583012.53 -37583012.31 -37583012.09 0.0271 0.0023
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 Earth -107606-01-16 22:33 J -37581652.72 -37581652.56 -37581652.40 0.2559 0.0534
 Moon -107606-01-17 01:11 J -37581652.62 -37581652.45 -37581652.28 0.2554 0.0490 *
 Neptune -107606-04-15 00:43 J -37581564.47 -37581564.47 -37581564.47 0.0088 0.0088
 Neptune -107606-11-26 12:57 J -37581339.04 -37581338.96 -37581338.88 0.0088 0.0082
 Jupiter -107605-03-17 16:04 J -37581226.97 -37581226.83 -37581226.69 0.0490 0.0355
 Neptune -107605-07-09 00:43 J -37581113.56 -37581113.47 -37581113.33 0.0088 0.0076
 Neptune -107604-02-19 13:11 J -37580888.07 -37580887.95 -37580887.80 0.0088 0.0068
 Neptune -107604-10-03 01:26 J -37580662.58 -37580662.44 -37580662.27 0.0088 0.0062
 Neptune -107603-05-16 13:55 J -37580437.08 -37580436.92 -37580436.74 0.0088 0.0055
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 Neptune -107602-08-10 13:55 J -37579986.09 -37579985.92 -37579985.71 0.0088 0.0042
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 Neptune -107601-11-03 14:38 J -37579535.09 -37579534.89 -37579534.68 0.0088 0.0027
 Neptune -107600-06-17 02:38 J -37579309.59 -37579309.39 -37579309.17 0.0088 0.0021
 Jupiter -107599-01-22 20:52 J -37579089.81 -37579089.63 -37579089.44 0.0536 0.0194
 Neptune -107599-01-28 14:52 J -37579084.09 -37579083.88 -37579083.66 0.0088 0.0013
 Neptune -107599-09-11 03:07 J -37578858.59 -37578858.37 -37578858.15 0.0088 0.0006
 Neptune -107598-04-24 15:21 J -37578633.08 -37578632.86 -37578632.65 0.0088 0.0001
 Neptune -107598-12-06 03:21 J -37578407.58 -37578407.36 -37578407.15 0.0088 0.0008
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 Neptune -107596-03-01 03:07 J -37577956.57 -37577956.37 -37577956.15 0.0088 0.0022
 Neptune -107596-10-12 15:07 J -37577731.07 -37577730.87 -37577730.66 0.0088 0.0028
 Saturn -107595-05-23 01:40 J -37577508.59 -37577508.43 -37577508.25 0.0288 0.0166
 Neptune -107595-05-26 02:52 J -37577505.56 -37577505.38 -37577505.17 0.0088 0.0035
 Neptune -107594-01-06 15:07 J -37577280.06 -37577279.87 -37577279.68 0.0088 0.0042

Saturn -107594-01-07 15:50 J -37577279.05 -37577278.84 -37577278.64 0.0290 0.0013
 Neptune -107594-08-20 02:38 J -37577054.56 -37577054.39 -37577054.20 0.0088 0.0049
 Saturn -107594-08-25 06:28 J -37577049.41 -37577049.23 -37577049.05 0.0292 0.0143
 Jupiter -107594-11-21 17:45 J -37576960.97 -37576960.76 -37576960.56 0.0491 0.0043
 Neptune -107593-04-01 14:24 J -37576829.05 -37576828.90 -37576828.71 0.0088 0.0056
 Neptune -107593-11-13 02:09 J -37576603.54 -37576603.41 -37576603.24 0.0088 0.0062
 Neptune -107592-06-26 14:09 J -37576378.03 -37576377.91 -37576377.76 0.0088 0.0069
 Neptune -107591-02-07 01:40 J -37576152.52 -37576152.43 -37576152.30 0.0088 0.0076
 Neptune -107591-09-20 13:55 J -37575927.00 -37575926.92 -37575926.84 0.0088 0.0082
 Neptune -107590-05-04 01:40 J -37575701.43 -37575701.43 -37575701.42 0.0088 0.0088
 Mars -107589-11-20 00:14 J -37575135.67 -37575135.49 -37575135.31 0.1843 0.0320
 Jupiter -107588-09-27 11:31 J -37574824.20 -37574824.02 -37574823.83 0.0536 0.0213
 Mars -107586-08-31 23:16 J -37574120.70 -37574120.53 -37574120.37 0.1669 0.0476
 Uranus -107584-06-05 06:28 J -37573477.34 -37573477.23 -37573477.11 0.0131 0.0110
 Mars -107584-07-01 00:57 J -37573451.52 -37573451.46 -37573451.39 0.1682 0.1547
 Uranus -107583-01-17 09:35 J -37573251.27 -37573251.10 -37573250.90 0.0131 0.0066
 Uranus -107583-08-31 12:57 J -37573025.17 -37573024.96 -37573024.74 0.0131 0.0022
 Uranus -107582-04-14 16:04 J -37572799.04 -37572798.83 -37572798.61 0.0131 0.0022
 Jupiter -107582-07-27 20:09 J -37572694.83 -37572694.66 -37572694.49 0.0491 0.0270
 Saturn -107582-08-06 11:45 J -37572685.04 -37572685.01 -37572684.98 0.0274 0.0272
 Uranus -107582-11-26 18:57 J -37572572.89 -37572572.71 -37572572.51 0.0131 0.0065
 Saturn -107581-03-22 22:48 J -37572455.73 -37572455.55 -37572455.36 0.0272 0.0138
 Uranus -107581-07-09 21:50 J -37572346.70 -37572346.59 -37572346.46 0.0131 0.0108
 Saturn -107581-11-07 09:21 J -37572226.32 -37572226.11 -37572225.89 0.0271 0.0006
 Saturn -107580-06-24 18:57 J -37571996.90 -37571996.71 -37571996.51 0.0269 0.0128
 Saturn -107579-02-09 03:50 J -37571767.40 -37571767.34 -37571767.27 0.0268 0.0255
 Saturn -107566-12-03 10:33 J -37566722.23 -37566722.06 -37566721.87 0.0288 0.0141
 Saturn -107565-07-20 00:57 J -37566492.67 -37566492.46 -37566492.26 0.0290 0.0014
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 Jupiter -107564-09-30 10:04 J -37566055.20 -37566055.08 -37566054.95 0.0536 0.0413

Jupiter -107558-07-30 03:07 J -37563926.56 -37563926.37 -37563926.19 0.0490 0.0223
 Mars -107557-11-20 01:11 J -37563447.55 -37563447.45 -37563447.34 0.1851 0.1475
 Mars -107554-08-30 15:21 J -37562433.95 -37562433.86 -37562433.77 0.1664 0.1390
 Saturn -107552-02-15 20:09 J -37561898.73 -37561898.66 -37561898.57 0.0274 0.0252
 Jupiter -107552-06-05 02:09 J -37561789.61 -37561789.41 -37561789.21 0.0537 0.0015
 Mars -107552-06-29 18:28 J -37561764.89 -37561764.73 -37561764.57 0.1676 0.0582
 Saturn -107552-10-03 07:11 J -37561669.38 -37561669.20 -37561668.99 0.0272 0.0118
 Saturn -107551-05-20 17:31 J -37561439.99 -37561439.77 -37561439.55 0.0271 0.0017
 Saturn -107550-01-05 02:38 J -37561210.57 -37561210.39 -37561210.20 0.0269 0.0148
 Jupiter -107546-04-04 05:31 J -37559660.48 -37559660.27 -37559660.07 0.0490 0.0088
 Uranus -107541-03-03 13:26 J -37557865.07 -37557864.94 -37557864.81 0.0148 0.0117
 Uranus -107541-10-16 03:50 J -37557638.54 -37557638.34 -37557638.13 0.0148 0.0053
 Jupiter -107540-02-07 17:45 J -37557523.90 -37557523.76 -37557523.62 0.0536 0.0386
 Uranus -107540-05-30 18:28 J -37557411.95 -37557411.73 -37557411.51 0.0148 0.0012
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 Uranus -107539-08-27 00:00 J -37556958.55 -37556958.50 -37556958.42 0.0148 0.0141
 Saturn -107537-10-27 23:31 J -37556165.57 -37556165.52 -37556165.45 0.0286 0.0274
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 Saturn -107535-09-16 18:00 J -37555476.90 -37555476.75 -37555476.59 0.0292 0.0187
 Jupiter -107535-12-08 07:26 J -37555394.30 -37555394.19 -37555394.07 0.0491 0.0401
 Pluto -107529-08-03 12:14 J -37553329.13 -37553328.99 -37553328.81 0.0064 0.0046
 Pluto -107528-03-16 17:02 J -37553104.01 -37553103.79 -37553103.55 0.0064 0.0007
 Pluto -107528-10-27 21:21 J -37552878.78 -37552878.61 -37552878.39 0.0064 0.0034
 Neptune -107523-01-07 04:19 J -37551346.36 -37551346.32 -37551346.24 0.0089 0.0085
 Neptune -107523-08-20 18:00 J -37551120.83 -37551120.75 -37551120.62 0.0089 0.0078
 Saturn -107523-08-28 23:31 J -37551112.62 -37551112.52 -37551112.40 0.0274 0.0235
 Mars -107523-09-17 02:38 J -37551093.56 -37551093.39 -37551093.22 0.1840 0.0636
 Neptune -107522-04-03 07:55 J -37550895.29 -37550895.17 -37550895.02 0.0089 0.0071
 Jupiter -107522-04-06 14:09 J -37550892.01 -37550891.91 -37550891.79 0.0491 0.0410

Saturn -107522-04-15 10:33 J -37550883.26 -37550883.06 -37550882.85 0.0272 0.0100
 Neptune -107522-11-14 21:35 J -37550669.74 -37550669.60 -37550669.43 0.0089 0.0064
 Saturn -107522-11-30 20:52 J -37550653.85 -37550653.63 -37550653.41 0.0270 0.0035
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 Saturn -107521-07-17 06:14 J -37550424.41 -37550424.24 -37550424.07 0.0269 0.0166
 Neptune -107520-02-08 01:26 J -37550218.62 -37550218.44 -37550218.24 0.0089 0.0049
 Mars -107520-06-28 11:31 J -37550078.18 -37550078.02 -37550077.85 0.1670 0.0367
 Neptune -107520-09-21 15:21 J -37549993.04 -37549992.86 -37549992.65 0.0089 0.0042
 Neptune -107519-05-05 05:16 J -37549767.47 -37549767.28 -37549767.06 0.0089 0.0035
 Neptune -107519-12-16 19:26 J -37549541.91 -37549541.69 -37549541.48 0.0089 0.0027
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 Neptune -107517-10-23 13:11 J -37548865.17 -37548864.95 -37548864.72 0.0089 0.0006
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 Neptune -107515-01-17 17:02 J -37548414.01 -37548413.79 -37548413.56 0.0089 0.0009
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 Neptune -107514-04-13 21:07 J -37547962.83 -37547962.62 -37547962.40 0.0089 0.0024
 Neptune -107514-11-25 11:16 J -37547737.24 -37547737.03 -37547736.82 0.0089 0.0032
 Neptune -107513-07-08 01:11 J -37547511.64 -37547511.45 -37547511.24 0.0089 0.0039
 Neptune -107512-02-18 15:21 J -37547286.04 -37547285.86 -37547285.66 0.0089 0.0046
 Neptune -107512-10-02 05:31 J -37547060.43 -37547060.27 -37547060.08 0.0089 0.0054
 Neptune -107511-05-15 19:40 J -37546834.82 -37546834.68 -37546834.50 0.0089 0.0061
 Jupiter -107511-12-10 16:04 J -37546626.03 -37546625.83 -37546625.62 0.0491 0.0098
 Neptune -107511-12-27 10:04 J -37546609.21 -37546609.08 -37546608.93 0.0089 0.0068
 Neptune -107510-08-10 00:00 J -37546383.60 -37546383.50 -37546383.36 0.0089 0.0076
 Neptune -107509-03-22 14:24 J -37546157.96 -37546157.90 -37546157.80 0.0089 0.0083
 Saturn -107507-05-10 06:57 J -37545379.30 -37545379.21 -37545379.11 0.0287 0.0253
 Saturn -107507-12-25 20:24 J -37545149.84 -37545149.65 -37545149.45 0.0289 0.0102

Saturn -107506-08-12 10:48 J -37544920.25 -37544920.05 -37544919.84 0.0291 0.0055
 Saturn -107505-03-29 01:55 J -37544690.55 -37544690.42 -37544690.27 0.0292 0.0214
 Jupiter -107505-10-16 08:24 J -37544489.34 -37544489.15 -37544488.95 0.0536 0.0160
 Uranus -107500-02-02 17:16 J -37542918.78 -37542918.78 -37542918.78 0.0131 0.0131
 Uranus -107500-09-16 20:24 J -37542692.80 -37542692.65 -37542692.48 0.0131 0.0087
 Uranus -107499-04-30 23:45 J -37542466.70 -37542466.51 -37542466.30 0.0131 0.0044
 Jupiter -107499-08-15 17:16 J -37542359.96 -37542359.78 -37542359.59 0.0491 0.0218
 Uranus -107499-12-13 03:07 J -37542240.58 -37542240.37 -37542240.15 0.0131 0.0001
 Uranus -107498-07-27 06:14 J -37542014.44 -37542014.24 -37542014.04 0.0131 0.0044
 Uranus -107497-03-09 09:07 J -37541788.27 -37541788.12 -37541787.95 0.0131 0.0088
 Saturn -107493-03-10 07:26 J -37540326.32 -37540326.19 -37540326.06 0.0274 0.0216
 Moon -107493-07-21 16:04 J -37540192.94 -37540192.83 -37540192.72 0.2775 0.2058
 Earth -107493-07-21 16:33 J -37540192.87 -37540192.81 -37540192.74 0.2783 0.2514 *
 Saturn -107493-10-25 18:28 J -37540096.94 -37540096.73 -37540096.52 0.0272 0.0080
 Saturn -107492-06-12 04:19 J -37539867.53 -37539867.32 -37539867.10 0.0270 0.0055
 Saturn -107491-01-27 13:26 J -37539638.09 -37539637.94 -37539637.78 0.0269 0.0185
 Mars -107491-09-17 03:35 J -37539405.49 -37539405.35 -37539405.21 0.1849 0.1149
 Mars -107488-06-27 04:19 J -37538391.42 -37538391.32 -37538391.22 0.1665 0.1295
 Mars -107486-04-27 06:43 J -37537722.37 -37537722.22 -37537722.07 0.1678 0.0702
 Moon -107485-07-19 00:43 J -37537273.55 -37537273.47 -37537273.39 0.2777 0.2342
 Earth -107485-07-19 05:45 J -37537273.38 -37537273.26 -37537273.15 0.2781 0.1902
 Jupiter -107481-10-19 11:45 J -37535720.08 -37535720.01 -37535719.93 0.0537 0.0492
 Saturn -107478-11-20 08:24 J -37534593.25 -37534593.15 -37534593.03 0.0286 0.0239
 Saturn -107477-07-06 21:50 J -37534363.79 -37534363.59 -37534363.39 0.0289 0.0088
 Saturn -107476-02-21 12:00 J -37534134.20 -37534134.00 -37534133.80 0.0291 0.0069
 Saturn -107476-10-09 03:07 J -37533904.50 -37533904.37 -37533904.24 0.0293 0.0227
 Jupiter -107475-08-18 01:55 J -37533591.59 -37533591.42 -37533591.25 0.0490 0.0280
 Jupiter -107469-06-24 03:21 J -37531454.56 -37531454.36 -37531454.16 0.0536 0.0090
 Saturn -107464-09-20 09:07 J -37529540.25 -37529540.12 -37529539.96 0.0274 0.0201
 Jupiter -107463-04-23 04:19 J -37529325.52 -37529325.32 -37529325.11 0.0491 0.0034

Saturn -107463-05-07 20:09 J -37529310.86 -37529310.66 -37529310.44 0.0272 0.0065
 Saturn -107463-12-23 06:14 J -37529081.44 -37529081.24 -37529081.02 0.0270 0.0071
 Saturn -107462-08-09 15:21 J -37528851.99 -37528851.86 -37528851.71 0.0268 0.0201
 Uranus -107458-11-01 19:26 J -37527306.69 -37527306.69 -37527306.68 0.0148 0.0147
 Jupiter -107457-02-27 16:48 J -37527188.96 -37527188.80 -37527188.64 0.0535 0.0323
 Uranus -107457-06-15 09:35 J -37527080.27 -37527080.10 -37527079.91 0.0148 0.0084
 Mars -107457-07-14 06:28 J -37527051.39 -37527051.23 -37527051.08 0.1838 0.0929
 Uranus -107456-01-28 00:14 J -37526853.71 -37526853.49 -37526853.27 0.0148 0.0019
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 Uranus -107455-04-26 05:45 J -37526400.39 -37526400.26 -37526400.10 0.0148 0.0111
 Mars -107454-04-26 00:14 J -37526035.66 -37526035.49 -37526035.33 0.1672 0.0257
 Jupiter -107452-12-27 06:43 J -37525059.36 -37525059.22 -37525059.07 0.0491 0.0344
 Saturn -107448-06-01 14:09 J -37523807.03 -37523806.91 -37523806.76 0.0287 0.0219
 Saturn -107447-01-17 04:04 J -37523577.53 -37523577.33 -37523577.13 0.0289 0.0066
 Saturn -107447-09-03 18:28 J -37523347.92 -37523347.73 -37523347.53 0.0291 0.0092
 Saturn -107446-04-21 10:04 J -37523118.18 -37523118.08 -37523117.98 0.0293 0.0251
 Neptune -107441-02-28 00:14 J -37521344.56 -37521344.49 -37521344.39 0.0088 0.0082
 Neptune -107441-10-10 12:57 J -37521119.07 -37521118.96 -37521118.85 0.0088 0.0075
 Neptune -107440-05-24 00:43 J -37520893.59 -37520893.47 -37520893.31 0.0088 0.0068
 Pluto -107440-06-27 12:57 J -37520859.10 -37520858.96 -37520858.79 0.0081 0.0054
 Neptune -107439-01-04 12:57 J -37520668.10 -37520667.96 -37520667.79 0.0088 0.0061
 Pluto -107439-02-07 22:48 J -37520633.75 -37520633.55 -37520633.34 0.0081 0.0022
 Jupiter -107439-04-25 12:14 J -37520557.04 -37520556.99 -37520556.92 0.0490 0.0468
 Neptune -107439-08-18 01:11 J -37520442.60 -37520442.45 -37520442.26 0.0088 0.0055
 Neptune -107438-03-31 13:40 J -37520217.10 -37520216.93 -37520216.74 0.0088 0.0048
 Neptune -107438-11-12 01:55 J -37519991.61 -37519991.42 -37519991.22 0.0088 0.0041
 Neptune -107437-06-24 14:09 J -37519766.11 -37519765.91 -37519765.71 0.0088 0.0034
 Neptune -107436-02-05 02:09 J -37519540.61 -37519540.41 -37519540.20 0.0088 0.0027
 Neptune -107436-09-18 14:24 J -37519315.11 -37519314.90 -37519314.69 0.0088 0.0020
 Neptune -107435-05-02 02:24 J -37519089.61 -37519089.40 -37519089.18 0.0088 0.0013

Neptune -107435-12-13 14:38 J -37518864.11 -37518863.89 -37518863.68 0.0088 0.0006
 Saturn -107434-04-02 16:19 J -37518753.97 -37518753.82 -37518753.65 0.0274 0.0183
 Neptune -107434-07-27 02:38 J -37518638.61 -37518638.39 -37518638.17 0.0088 0.0001
 Saturn -107434-11-18 03:21 J -37518524.57 -37518524.36 -37518524.14 0.0272 0.0046
 Jupiter -107433-03-01 18:14 J -37518419.89 -37518419.74 -37518419.57 0.0537 0.0322
 Neptune -107433-03-08 14:38 J -37518413.10 -37518412.89 -37518412.67 0.0088 0.0008
 Saturn -107433-07-04 13:11 J -37518295.15 -37518294.95 -37518294.74 0.0270 0.0089
 Neptune -107433-10-20 02:38 J -37518187.59 -37518187.39 -37518187.17 0.0088 0.0015
 Saturn -107432-02-18 22:04 J -37518065.69 -37518065.58 -37518065.44 0.0268 0.0220
 Neptune -107432-06-02 14:38 J -37517962.09 -37517961.89 -37517961.67 0.0088 0.0022
 Neptune -107431-01-14 02:24 J -37517736.59 -37517736.40 -37517736.18 0.0088 0.0030
 Neptune -107431-08-27 14:24 J -37517511.08 -37517510.90 -37517510.69 0.0088 0.0036
 Neptune -107430-04-10 02:38 J -37517285.57 -37517285.39 -37517285.20 0.0088 0.0043
 Neptune -107430-11-21 14:24 J -37517060.07 -37517059.90 -37517059.71 0.0088 0.0050
 Neptune -107429-07-04 02:09 J -37516834.56 -37516834.41 -37516834.23 0.0088 0.0056
 Neptune -107428-02-14 13:40 J -37516609.05 -37516608.93 -37516608.75 0.0088 0.0064
 Neptune -107428-09-28 01:55 J -37516383.54 -37516383.42 -37516383.28 0.0088 0.0070
 Jupiter -107428-12-29 14:52 J -37516291.07 -37516290.88 -37516290.68 0.0490 0.0156
 Neptune -107427-05-11 13:26 J -37516158.02 -37516157.94 -37516157.81 0.0088 0.0077
 Neptune -107427-12-23 01:40 J -37515932.50 -37515932.43 -37515932.35 0.0088 0.0083
 Mars -107425-07-14 06:28 J -37515363.39 -37515363.23 -37515363.07 0.1846 0.0835
 Mars -107422-04-24 16:33 J -37514348.92 -37514348.81 -37514348.69 0.1666 0.1189
 Jupiter -107422-11-05 10:48 J -37514154.25 -37514154.05 -37514153.85 0.0537 0.0079
 Mars -107420-02-21 18:43 J -37513679.87 -37513679.72 -37513679.58 0.1680 0.0827
 Saturn -107419-12-12 15:35 J -37513020.99 -37513020.85 -37513020.70 0.0287 0.0205
 Saturn -107418-07-30 05:02 J -37512791.49 -37512791.29 -37512791.09 0.0289 0.0052
 Saturn -107417-03-15 19:11 J -37512561.88 -37512561.70 -37512561.50 0.0291 0.0106
 Saturn -107417-10-31 10:19 J -37512332.14 -37512332.07 -37512331.97 0.0293 0.0265
 Uranus -107416-05-17 07:40 J -37512134.29 -37512134.18 -37512134.06 0.0131 0.0109
 Jupiter -107416-09-03 17:16 J -37512024.98 -37512024.78 -37512024.59 0.0491 0.0158

Uranus -107416-12-29 11:02 J -37511908.22 -37511908.04 -37511907.85 0.0131 0.0065
 Uranus -107415-08-12 14:24 J -37511682.11 -37511681.90 -37511681.69 0.0131 0.0020
 Uranus -107414-03-26 17:45 J -37511455.97 -37511455.76 -37511455.55 0.0131 0.0024
 Uranus -107414-11-07 20:38 J -37511229.82 -37511229.64 -37511229.45 0.0131 0.0068
 Uranus -107413-06-20 23:31 J -37511003.62 -37511003.52 -37511003.40 0.0131 0.0111
 Jupiter -107410-07-11 01:55 J -37509888.50 -37509888.42 -37509888.33 0.0536 0.0483
 Saturn -107405-10-12 16:48 J -37507967.96 -37507967.80 -37507967.62 0.0273 0.0169
 Jupiter -107404-05-09 19:55 J -37507758.72 -37507758.67 -37507758.60 0.0491 0.0469
 Saturn -107404-05-30 03:50 J -37507738.55 -37507738.34 -37507738.12 0.0271 0.0031
 Saturn -107403-01-14 13:40 J -37507509.12 -37507508.93 -37507508.72 0.0270 0.0104
 Saturn -107403-08-31 22:48 J -37507279.65 -37507279.55 -37507279.44 0.0268 0.0234
 Jupiter -107392-09-06 02:24 J -37503256.54 -37503256.40 -37503256.25 0.0491 0.0345
 Mars -107391-05-11 09:21 J -37503009.24 -37503009.11 -37503008.98 0.1835 0.1237
 Saturn -107389-06-23 20:09 J -37502234.81 -37502234.66 -37502234.50 0.0287 0.0186
 Saturn -107388-02-08 09:50 J -37502005.30 -37502005.09 -37502004.89 0.0289 0.0032
 Mars -107388-02-20 12:00 J -37501993.16 -37501993.00 -37501992.83 0.1674 0.0142
 Saturn -107388-09-26 00:14 J -37501775.67 -37501775.49 -37501775.30 0.0291 0.0127
 Saturn -107387-05-13 15:35 J -37501545.88 -37501545.85 -37501545.80 0.0293 0.0287
 Jupiter -107386-07-14 02:52 J -37501119.57 -37501119.38 -37501119.19 0.0536 0.0157
 Jupiter -107380-05-12 04:04 J -37498990.54 -37498990.33 -37498990.12 0.0490 0.0031
 Saturn -107375-04-24 23:16 J -37497181.70 -37497181.53 -37497181.34 0.0273 0.0151
 Saturn -107375-12-10 10:19 J -37496952.29 -37496952.07 -37496951.86 0.0272 0.0014
 Jupiter -107374-03-18 17:16 J -37496853.96 -37496853.78 -37496853.60 0.0537 0.0251
 Saturn -107374-07-27 19:55 J -37496722.86 -37496722.67 -37496722.47 0.0270 0.0122
 Uranus -107373-02-13 15:07 J -37496521.99 -37496521.87 -37496521.71 0.0148 0.0115
 Saturn -107373-03-13 05:02 J -37496493.36 -37496493.29 -37496493.21 0.0268 0.0251
 Uranus -107373-09-27 06:14 J -37496295.45 -37496295.24 -37496295.04 0.0148 0.0050
 Uranus -107372-05-11 20:38 J -37496068.85 -37496068.64 -37496068.42 0.0148 0.0015
 Uranus -107372-12-24 11:16 J -37495842.21 -37495842.03 -37495841.84 0.0148 0.0080
 Uranus -107371-08-08 02:09 J -37495615.44 -37495615.41 -37495615.36 0.0148 0.0145

Jupiter -107368-01-15 07:11 J -37494724.37 -37494724.20 -37494724.03 0.0491 0.0279
 Moon -107363-01-17 00:43 J -37492896.61 -37492896.47 -37492896.33 0.2565 0.1051
 Earth -107363-01-17 02:24 J -37492896.56 -37492896.40 -37492896.25 0.2560 0.0927 *
 Saturn -107359-01-03 21:07 J -37491448.78 -37491448.62 -37491448.45 0.0287 0.0172
 Neptune -107359-04-10 14:38 J -37491351.94 -37491351.89 -37491351.82 0.0089 0.0085
 Mars -107359-05-11 08:38 J -37491321.31 -37491321.14 -37491320.96 0.1844 0.0508
 Saturn -107359-08-21 10:33 J -37491219.27 -37491219.06 -37491218.85 0.0289 0.0017
 Neptune -107359-11-22 04:04 J -37491126.42 -37491126.33 -37491126.21 0.0089 0.0078
 Saturn -107358-04-08 00:57 J -37490989.64 -37490989.46 -37490989.28 0.0291 0.0141
 Neptune -107358-07-05 17:45 J -37490900.87 -37490900.76 -37490900.61 0.0089 0.0071
 Neptune -107357-02-16 07:26 J -37490675.32 -37490675.19 -37490675.01 0.0089 0.0064
 Neptune -107357-09-28 21:50 J -37490449.76 -37490449.59 -37490449.42 0.0089 0.0057
 Mars -107356-02-19 04:48 J -37490306.42 -37490306.30 -37490306.17 0.1668 0.1083
 Neptune -107356-05-12 11:31 J -37490224.20 -37490224.02 -37490223.83 0.0089 0.0049
 Neptune -107356-12-24 01:11 J -37489998.64 -37489998.45 -37489998.24 0.0089 0.0042
 Earth -107355-01-14 19:26 J -37489976.77 -37489976.69 -37489976.61 0.2561 0.2251
 Moon -107355-01-14 22:19 J -37489976.66 -37489976.57 -37489976.49 0.2566 0.2166 *
 Neptune -107355-08-06 14:52 J -37489773.07 -37489772.88 -37489772.66 0.0089 0.0035
 Mars -107355-12-20 06:28 J -37489637.36 -37489637.23 -37489637.09 0.1682 0.0956
 Neptune -107354-03-20 05:02 J -37489547.50 -37489547.29 -37489547.07 0.0089 0.0027
 Neptune -107354-10-31 18:57 J -37489321.92 -37489321.71 -37489321.48 0.0089 0.0020
 Neptune -107353-06-13 09:07 J -37489096.34 -37489096.12 -37489095.90 0.0089 0.0012
 Neptune -107352-01-24 23:02 J -37488870.76 -37488870.54 -37488870.32 0.0089 0.0005
 Neptune -107352-09-07 12:57 J -37488645.18 -37488644.96 -37488644.73 0.0089 0.0003
 Neptune -107351-04-21 02:52 J -37488419.60 -37488419.38 -37488419.15 0.0089 0.0010
 Neptune -107351-12-02 17:02 J -37488194.01 -37488193.79 -37488193.57 0.0089 0.0017
 Jupiter -107350-03-21 22:04 J -37488084.71 -37488084.58 -37488084.45 0.0537 0.0408
 Neptune -107350-07-16 06:43 J -37487968.42 -37487968.22 -37487967.99 0.0089 0.0025
 Neptune -107349-02-26 20:52 J -37487742.83 -37487742.63 -37487742.41 0.0089 0.0032
 Neptune -107349-10-09 11:16 J -37487517.23 -37487517.03 -37487516.83 0.0089 0.0040

Neptune -107348-05-23 00:57 J -37487291.63 -37487291.46 -37487291.25 0.0089 0.0047
 Neptune -107347-01-03 15:21 J -37487066.03 -37487065.86 -37487065.68 0.0089 0.0054
 Neptune -107347-08-17 05:02 J -37486840.43 -37486840.29 -37486840.11 0.0089 0.0062
 Neptune -107346-03-30 19:26 J -37486614.82 -37486614.69 -37486614.53 0.0089 0.0069
 Saturn -107346-11-04 22:48 J -37486395.73 -37486395.55 -37486395.36 0.0273 0.0137
 Neptune -107346-11-11 10:04 J -37486389.19 -37486389.08 -37486388.96 0.0089 0.0076
 Saturn -107345-06-21 09:50 J -37486166.31 -37486166.09 -37486165.87 0.0271 0.0003
 Neptune -107345-06-23 23:45 J -37486163.55 -37486163.51 -37486163.41 0.0089 0.0085
 Jupiter -107344-01-17 15:35 J -37485956.03 -37485955.85 -37485955.66 0.0490 0.0220
 Saturn -107344-02-05 19:40 J -37485936.86 -37485936.68 -37485936.49 0.0270 0.0135
 Saturn -107344-09-23 04:48 J -37485707.32 -37485707.30 -37485707.27 0.0268 0.0265
 Jupiter -107339-11-24 12:14 J -37483819.19 -37483818.99 -37483818.79 0.0536 0.0006
 Jupiter -107333-09-22 18:14 J -37481689.94 -37481689.74 -37481689.54 0.0491 0.0092
 Uranus -107332-01-14 18:00 J -37481575.76 -37481575.75 -37481575.73 0.0131 0.0131
 Uranus -107332-08-28 21:35 J -37481349.76 -37481349.60 -37481349.44 0.0131 0.0086
 Uranus -107331-04-12 00:57 J -37481123.66 -37481123.46 -37481123.25 0.0131 0.0042
 Uranus -107331-11-24 04:19 J -37480897.53 -37480897.32 -37480897.10 0.0131 0.0002
 Uranus -107330-07-08 07:11 J -37480671.39 -37480671.20 -37480670.99 0.0131 0.0046
 Saturn -107330-07-17 00:43 J -37480662.64 -37480662.47 -37480662.29 0.0287 0.0155
 Uranus -107329-02-19 10:19 J -37480445.21 -37480445.07 -37480444.90 0.0131 0.0090
 Saturn -107329-03-02 14:24 J -37480433.11 -37480432.90 -37480432.69 0.0289 0.0002
 Saturn -107329-10-18 05:02 J -37480203.46 -37480203.29 -37480203.12 0.0291 0.0161
 Jupiter -107327-07-30 02:38 J -37479553.52 -37479553.39 -37479553.27 0.0536 0.0412
 Mars -107325-03-07 12:28 J -37478967.07 -37478966.98 -37478966.88 0.1833 0.1540
 Mars -107323-12-19 00:28 J -37477950.65 -37477950.48 -37477950.31 0.1675 0.0024
 Jupiter -107321-05-28 20:52 J -37477423.74 -37477423.63 -37477423.51 0.0491 0.0401
 Saturn -107317-09-29 17:02 J -37475838.86 -37475838.79 -37475838.72 0.0275 0.0259
 Saturn -107316-05-17 04:48 J -37475609.49 -37475609.30 -37475609.10 0.0273 0.0120
 Saturn -107315-01-01 15:35 J -37475380.07 -37475379.85 -37475379.63 0.0271 0.0018
 Saturn -107315-08-19 01:26 J -37475150.62 -37475150.44 -37475150.26 0.0270 0.0153

Jupiter -107309-09-25 03:21 J -37472921.46 -37472921.36 -37472921.24 0.0490 0.0413
 Jupiter -107303-08-02 05:45 J -37470784.44 -37470784.26 -37470784.08 0.0537 0.0242
 Saturn -107300-01-26 02:09 J -37469876.59 -37469876.41 -37469876.23 0.0287 0.0139
 Saturn -107300-09-12 15:35 J -37469647.06 -37469646.85 -37469646.65 0.0289 0.0017
 Saturn -107299-04-30 05:45 J -37469417.42 -37469417.26 -37469417.09 0.0291 0.0176
 Jupiter -107297-05-31 05:31 J -37468655.47 -37468655.27 -37468655.07 0.0490 0.0098
 Mars -107293-03-07 11:45 J -37467279.19 -37467279.01 -37467278.83 0.1841 0.0204
 Jupiter -107291-04-06 21:50 J -37466518.78 -37466518.59 -37466518.39 0.0536 0.0163
 Mars -107291-12-17 17:16 J -37466263.92 -37466263.78 -37466263.65 0.1670 0.0973
 Uranus -107290-10-13 19:55 J -37465963.67 -37465963.67 -37465963.65 0.0147 0.0147
 Uranus -107289-05-27 10:33 J -37465737.24 -37465737.06 -37465736.88 0.0148 0.0083
 Mars -107289-10-16 18:28 J -37465594.86 -37465594.73 -37465594.60 0.1683 0.1084
 Uranus -107288-01-09 00:57 J -37465510.68 -37465510.46 -37465510.24 0.0148 0.0018
 Uranus -107288-08-23 15:35 J -37465284.05 -37465283.85 -37465283.64 0.0148 0.0047
 Uranus -107287-04-07 06:28 J -37465057.37 -37465057.23 -37465057.08 0.0148 0.0112
 Saturn -107287-04-11 15:35 J -37465052.94 -37465052.85 -37465052.76 0.0275 0.0247
 Saturn -107287-11-27 03:35 J -37464823.55 -37464823.35 -37464823.15 0.0273 0.0108
 Saturn -107286-07-14 14:24 J -37464594.11 -37464593.90 -37464593.68 0.0271 0.0031
 Jupiter -107285-02-04 08:09 J -37464389.34 -37464389.16 -37464388.97 0.0491 0.0214
 Saturn -107285-02-29 00:28 J -37464364.65 -37464364.48 -37464364.31 0.0269 0.0166
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 Pluto -107282-11-25 22:04 J -37462998.79 -37462998.58 -37462998.35 0.0064 0.0017
 Pluto -107281-07-08 02:38 J -37462773.47 -37462773.39 -37462773.27 0.0064 0.0057
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 Moon -107250-07-22 16:04 J -37451436.89 -37451436.83 -37451436.77 0.2789 0.2528 *
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Saturn -107212-08-30 10:04 J -37437518.28 -37437518.08 -37437517.88 0.0288 0.0090
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 Jupiter -107191-10-29 13:55 J -37429787.99 -37429787.92 -37429787.84 0.0491 0.0452
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 Saturn -107168-08-27 23:31 J -37421449.72 -37421449.52 -37421449.31 0.0271 0.0093
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Neptune -107100-08-20 14:24 J -37396620.02 -37396619.90 -37396619.74 0.0088 0.0066
 Neptune -107099-04-03 02:24 J -37396394.50 -37396394.40 -37396394.26 0.0088 0.0073
 Neptune -107099-11-14 14:38 J -37396168.98 -37396168.89 -37396168.79 0.0088 0.0079
 Neptune -107098-06-28 02:24 J -37395943.44 -37395943.40 -37395943.34 0.0088 0.0086
 Mars -107096-08-26 20:52 J -37395152.80 -37395152.63 -37395152.46 0.1833 0.0735
 Jupiter -107095-03-16 19:26 J -37394950.79 -37394950.69 -37394950.59 0.0490 0.0424
 Saturn -107094-02-27 10:48 J -37394603.21 -37394603.05 -37394602.88 0.0286 0.0172
 Saturn -107094-10-14 23:31 J -37394373.73 -37394373.52 -37394373.31 0.0288 0.0016
 Saturn -107093-05-31 12:57 J -37394144.14 -37394143.96 -37394143.78 0.0290 0.0144
 Mars -107093-06-08 06:00 J -37394136.41 -37394136.25 -37394136.10 0.1675 0.0634
 Mars -107091-04-08 06:00 J -37393467.33 -37393467.25 -37393467.17 0.1689 0.1482
 Jupiter -107089-01-21 18:00 J -37392813.93 -37392813.75 -37392813.57 0.0537 0.0233
 Jupiter -107084-11-19 22:19 J -37390684.77 -37390684.57 -37390684.36 0.0490 0.0112
 Saturn -107081-12-28 12:14 J -37389550.17 -37389549.99 -37389549.80 0.0275 0.0136
 Uranus -107080-04-09 07:40 J -37389448.28 -37389448.18 -37389448.05 0.0131 0.0110
 Saturn -107080-08-15 00:14 J -37389320.71 -37389320.49 -37389320.27 0.0273 0.0006
 Uranus -107080-11-21 11:16 J -37389222.21 -37389222.03 -37389221.83 0.0131 0.0065
 Saturn -107079-04-01 11:16 J -37389091.21 -37389091.03 -37389090.84 0.0271 0.0146
 Uranus -107079-07-05 14:52 J -37388996.09 -37388995.88 -37388995.66 0.0131 0.0020
 Uranus -107078-02-16 18:14 J -37388769.95 -37388769.74 -37388769.53 0.0131 0.0025
 Jupiter -107078-09-26 06:00 J -37388548.44 -37388548.25 -37388548.07 0.0537 0.0193
 Uranus -107078-09-30 21:21 J -37388543.78 -37388543.61 -37388543.42 0.0131 0.0069
 Uranus -107077-05-14 00:28 J -37388317.57 -37388317.48 -37388317.36 0.0131 0.0113
 Jupiter -107072-07-26 01:26 J -37386418.62 -37386418.44 -37386418.24 0.0490 0.0202
 Saturn -107065-09-08 17:16 J -37383816.95 -37383816.78 -37383816.60 0.0285 0.0147
 Saturn -107064-04-26 05:45 J -37383587.46 -37383587.26 -37383587.05 0.0287 0.0010
 Mars -107064-08-26 20:24 J -37383464.80 -37383464.65 -37383464.50 0.1842 0.1047
 Saturn -107064-12-11 18:57 J -37383357.87 -37383357.71 -37383357.54 0.0289 0.0168
 Mars -107061-06-06 23:02 J -37382449.59 -37382449.54 -37382449.49 0.1669 0.1591
 Mars -107059-04-07 00:28 J -37381780.65 -37381780.48 -37381780.32 0.1683 0.0470

Jupiter -107054-09-29 11:02 J -37379779.13 -37379779.04 -37379778.95 0.0537 0.0473
 Saturn -107052-11-23 00:28 J -37378993.52 -37378993.48 -37378993.41 0.0277 0.0266
 Saturn -107051-07-10 13:26 J -37378764.13 -37378763.94 -37378763.75 0.0274 0.0122
 Saturn -107050-02-25 01:11 J -37378534.66 -37378534.45 -37378534.23 0.0273 0.0021
 Saturn -107050-10-12 12:14 J -37378305.16 -37378304.99 -37378304.81 0.0271 0.0161
 Jupiter -107048-07-28 08:24 J -37377650.31 -37377650.15 -37377649.98 0.0490 0.0296
 Jupiter -107042-06-04 01:55 J -37375513.62 -37375513.42 -37375513.22 0.0537 0.0064
 Uranus -107037-01-06 09:50 J -37373836.20 -37373836.09 -37373835.96 0.0147 0.0123
 Uranus -107037-08-20 00:14 J -37373609.69 -37373609.49 -37373609.28 0.0147 0.0058
 Jupiter -107036-04-02 10:48 J -37373384.26 -37373384.05 -37373383.84 0.0490 0.0019
 Uranus -107036-04-03 14:52 J -37373383.10 -37373382.88 -37373382.66 0.0147 0.0007
 Pluto -107036-05-12 20:24 J -37373343.85 -37373343.65 -37373343.44 0.0064 0.0030
 Saturn -107036-08-04 08:52 J -37373260.14 -37373260.13 -37373260.10 0.0284 0.0282
 Uranus -107036-11-16 05:16 J -37373156.46 -37373156.28 -37373156.08 0.0147 0.0073
 Pluto -107036-12-24 00:57 J -37373118.67 -37373118.46 -37373118.22 0.0064 0.0010
 Saturn -107035-03-21 20:52 J -37373030.81 -37373030.63 -37373030.44 0.0286 0.0131
 Uranus -107035-06-30 19:55 J -37372929.73 -37372929.67 -37372929.58 0.0148 0.0139
 Pluto -107035-08-06 06:00 J -37372893.40 -37372893.25 -37372893.11 0.0064 0.0049
 Saturn -107035-11-06 09:35 J -37372801.31 -37372801.10 -37372800.90 0.0288 0.0027
 Saturn -107034-06-23 22:48 J -37372571.70 -37372571.55 -37372571.38 0.0290 0.0187
 Neptune -107031-10-14 12:28 J -37371363.02 -37371362.98 -37371362.89 0.0089 0.0085
 Jupiter -107030-02-06 15:21 J -37371248.00 -37371247.86 -37371247.70 0.0536 0.0354
 Neptune -107030-05-28 01:55 J -37371137.50 -37371137.42 -37371137.29 0.0089 0.0078
 Mars -107030-06-24 01:11 J -37371110.60 -37371110.45 -37371110.31 0.1831 0.1028
 Neptune -107029-01-08 16:04 J -37370911.96 -37370911.83 -37370911.69 0.0089 0.0071
 Neptune -107029-08-21 05:31 J -37370686.41 -37370686.27 -37370686.10 0.0089 0.0063
 Neptune -107028-04-03 18:57 J -37370460.86 -37370460.71 -37370460.52 0.0089 0.0057
 Neptune -107028-11-15 08:38 J -37370235.30 -37370235.14 -37370234.93 0.0089 0.0049
 Mars -107027-04-05 18:14 J -37370093.90 -37370093.74 -37370093.58 0.1676 0.0522
 Neptune -107027-06-28 22:33 J -37370009.74 -37370009.56 -37370009.35 0.0089 0.0042

Neptune -107026-02-09 12:14 J -37369784.18 -37369783.99 -37369783.76 0.0089 0.0035
 Neptune -107026-09-23 02:38 J -37369558.60 -37369558.39 -37369558.18 0.0089 0.0026
 Mars -107025-02-03 17:45 J -37369424.81 -37369424.76 -37369424.72 0.1692 0.1616
 Neptune -107025-05-05 16:19 J -37369333.03 -37369332.82 -37369332.59 0.0089 0.0019
 Jupiter -107025-12-06 14:09 J -37369118.05 -37369117.91 -37369117.75 0.0491 0.0331
 Neptune -107025-12-17 06:28 J -37369107.46 -37369107.23 -37369107.01 0.0089 0.0011
 Neptune -107024-07-30 20:09 J -37368881.88 -37368881.66 -37368881.43 0.0089 0.0004
 Neptune -107023-03-13 10:19 J -37368656.30 -37368656.07 -37368655.85 0.0089 0.0004
 Neptune -107023-10-25 00:28 J -37368430.70 -37368430.48 -37368430.26 0.0089 0.0011
 Saturn -107022-06-05 07:11 J -37368207.29 -37368207.20 -37368207.10 0.0276 0.0245
 Neptune -107022-06-07 14:09 J -37368205.12 -37368204.91 -37368204.68 0.0089 0.0020
 Neptune -107021-01-19 04:19 J -37367979.53 -37367979.32 -37367979.10 0.0089 0.0027
 Saturn -107021-01-20 19:55 J -37367977.87 -37367977.67 -37367977.47 0.0274 0.0101
 Neptune -107021-08-31 18:14 J -37367753.94 -37367753.74 -37367753.52 0.0089 0.0034
 Saturn -107021-09-06 07:55 J -37367748.39 -37367748.17 -37367747.96 0.0273 0.0042
 Neptune -107020-04-14 08:38 J -37367528.34 -37367528.14 -37367527.94 0.0089 0.0042
 Saturn -107020-04-23 18:43 J -37367518.87 -37367518.72 -37367518.55 0.0271 0.0182
 Neptune -107020-11-25 22:19 J -37367302.74 -37367302.57 -37367302.37 0.0089 0.0049
 Neptune -107019-07-09 12:43 J -37367077.14 -37367076.97 -37367076.79 0.0089 0.0057
 Neptune -107018-02-20 02:24 J -37366851.53 -37366851.40 -37366851.22 0.0089 0.0064
 Neptune -107018-10-03 17:02 J -37366625.92 -37366625.79 -37366625.65 0.0089 0.0071
 Neptune -107017-05-16 06:43 J -37366400.30 -37366400.22 -37366400.09 0.0089 0.0079
 Neptune -107017-12-27 20:52 J -37366174.66 -37366174.63 -37366174.55 0.0089 0.0087
 Jupiter -107012-04-04 20:09 J -37364615.67 -37364615.66 -37364615.64 0.0490 0.0488
 Moon -107007-07-22 12:14 J -37362681.13 -37362680.99 -37362680.84 0.2772 0.1294
 Earth -107007-07-22 13:40 J -37362681.05 -37362680.93 -37362680.81 0.2780 0.1644 *
 Jupiter -107006-02-09 15:50 J -37362479.01 -37362478.84 -37362478.67 0.0537 0.0290
 Saturn -107006-02-14 17:02 J -37362473.87 -37362473.79 -37362473.70 0.0284 0.0256
 Saturn -107006-10-02 04:33 J -37362244.49 -37362244.31 -37362244.11 0.0286 0.0105
 Saturn -107005-05-18 17:16 J -37362014.98 -37362014.78 -37362014.58 0.0288 0.0053

Saturn -107004-01-03 06:14 J -37361785.36 -37361785.24 -37361785.09 0.0290 0.0214

Jupiter -107001-12-08 21:07 J -37360349.81 -37360349.62 -37360349.42 0.0490 0.0168

107TH MILLENNIUM BCE

This is a list of transits of Venus in the 107th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	-106999-07-20 02:52 J	-37359761.39	-37359761.38	-37359761.37	0.2778	0.2769		
Mars	-106998-06-24 00:00 J	-37359422.67	-37359422.50	-37359422.34	0.1839	0.0734		
Uranus	-106996-07-21 20:38 J	-37358663.79	-37358663.64	-37358663.47	0.0131	0.0088		
Uranus	-106995-03-05 00:28 J	-37358437.68	-37358437.48	-37358437.27	0.0131	0.0043		
Mars	-106995-04-04 11:16 J	-37358407.11	-37358407.03	-37358406.96	0.1671	0.1482		
Jupiter	-106995-10-15 07:55 J	-37358213.36	-37358213.17	-37358212.97	0.0537	0.0116		
Uranus	-106995-10-17 04:04 J	-37358211.54	-37358211.33	-37358211.11	0.0131	0.0002		
Uranus	-106994-05-31 07:26 J	-37357985.39	-37357985.19	-37357984.99	0.0131	0.0046		
Uranus	-106993-01-12 10:19 J	-37357759.21	-37357759.07	-37357758.90	0.0131	0.0091		
Mars	-106993-02-02 12:14 J	-37357738.15	-37357737.99	-37357737.83	0.1685	0.0597		
Saturn	-106993-12-15 10:04 J	-37357421.20	-37357421.08	-37357420.96	0.0276	0.0228		
Saturn	-106992-08-01 22:19 J	-37357191.77	-37357191.57	-37357191.36	0.0274	0.0085		
Saturn	-106991-03-19 10:04 J	-37356962.29	-37356962.08	-37356961.86	0.0272	0.0059		
Saturn	-106991-11-03 21:07 J	-37356732.76	-37356732.62	-37356732.47	0.0271	0.0198		
Jupiter	-106989-08-13 23:45 J	-37356083.71	-37356083.51	-37356083.32	0.0490	0.0149		

Jupiter -106983-06-19 22:04 J -37353947.60 -37353947.58 -37353947.54 0.0536 0.0528
 Jupiter -106977-04-19 02:09 J -37351817.47 -37351817.41 -37351817.34 0.0491 0.0464
 Saturn -106977-08-26 20:24 J -37351687.75 -37351687.65 -37351687.53 0.0284 0.0241
 Saturn -106976-04-13 08:38 J -37351458.34 -37351458.14 -37351457.94 0.0287 0.0087
 Saturn -106976-11-28 21:21 J -37351228.81 -37351228.61 -37351228.41 0.0289 0.0072
 Saturn -106975-07-16 10:48 J -37350999.17 -37350999.05 -37350998.93 0.0291 0.0233
 Jupiter -106971-10-18 09:35 J -37349444.11 -37349444.10 -37349444.09 0.0537 0.0535
 Jupiter -106965-08-16 07:55 J -37347315.31 -37347315.17 -37347315.03 0.0490 0.0356
 Mars -106964-04-20 04:19 J -37347068.44 -37347068.32 -37347068.20 0.1828 0.1333
 Saturn -106963-06-27 16:48 J -37346634.93 -37346634.80 -37346634.65 0.0276 0.0207
 Saturn -106962-02-12 05:31 J -37346405.48 -37346405.27 -37346405.06 0.0274 0.0062
 Saturn -106962-09-29 17:16 J -37346175.98 -37346175.78 -37346175.57 0.0272 0.0081
 Mars -106961-02-01 06:14 J -37346051.40 -37346051.24 -37346051.07 0.1678 0.0401
 Saturn -106961-05-16 04:19 J -37345946.44 -37345946.32 -37345946.19 0.0271 0.0220
 Jupiter -106959-06-22 21:07 J -37345178.82 -37345178.62 -37345178.42 0.0537 0.0109
 Uranus -106953-04-19 04:48 J -37343051.47 -37343051.30 -37343051.13 0.0147 0.0091
 Jupiter -106953-04-21 10:33 J -37343049.26 -37343049.06 -37343048.85 0.0490 0.0042
 Uranus -106953-12-01 18:57 J -37342824.92 -37342824.71 -37342824.49 0.0147 0.0026
 Uranus -106952-07-16 09:35 J -37342598.31 -37342598.10 -37342597.89 0.0147 0.0039
 Uranus -106951-02-28 00:00 J -37342371.64 -37342371.50 -37342371.33 0.0147 0.0105
 Neptune -106949-04-22 23:45 J -37341586.51 -37341586.51 -37341586.48 0.0088 0.0088
 Neptune -106949-12-04 12:00 J -37341361.06 -37341361.00 -37341360.89 0.0088 0.0081
 Neptune -106948-07-18 00:28 J -37341135.58 -37341135.48 -37341135.34 0.0088 0.0074
 Jupiter -106947-02-25 11:31 J -37340913.18 -37340913.02 -37340912.85 0.0536 0.0306
 Neptune -106947-02-28 12:57 J -37340910.08 -37340909.96 -37340909.80 0.0088 0.0067
 Saturn -106947-03-09 06:00 J -37340901.38 -37340901.25 -37340901.10 0.0284 0.0213
 Pluto -106947-04-05 22:48 J -37340873.74 -37340873.55 -37340873.34 0.0081 0.0029
 Neptune -106947-10-12 01:26 J -37340684.58 -37340684.44 -37340684.26 0.0088 0.0060
 Saturn -106947-10-24 18:00 J -37340671.95 -37340671.75 -37340671.55 0.0286 0.0058
 Pluto -106947-11-17 08:24 J -37340648.31 -37340648.15 -37340647.97 0.0081 0.0047

Neptune -106946-05-25 13:55 J -37340459.08 -37340458.92 -37340458.73 0.0088 0.0053
 Saturn -106946-06-11 06:43 J -37340442.41 -37340442.22 -37340442.03 0.0288 0.0102
 Neptune -106945-01-06 02:38 J -37340233.58 -37340233.39 -37340233.21 0.0088 0.0046
 Saturn -106945-01-26 20:09 J -37340212.74 -37340212.66 -37340212.57 0.0290 0.0262
 Neptune -106945-08-18 14:52 J -37340008.08 -37340007.88 -37340007.69 0.0088 0.0039
 Neptune -106944-04-01 03:07 J -37339782.57 -37339782.37 -37339782.16 0.0088 0.0032
 Neptune -106944-11-12 15:21 J -37339557.06 -37339556.86 -37339556.65 0.0088 0.0025
 Neptune -106943-06-26 03:35 J -37339331.56 -37339331.35 -37339331.14 0.0088 0.0017
 Neptune -106942-02-06 15:35 J -37339106.06 -37339105.85 -37339105.63 0.0088 0.0011
 Neptune -106942-09-20 03:50 J -37338880.56 -37338880.34 -37338880.12 0.0088 0.0003
 Jupiter -106942-12-26 12:00 J -37338783.17 -37338783.00 -37338782.83 0.0490 0.0281
 Neptune -106941-05-02 15:50 J -37338655.05 -37338654.84 -37338654.62 0.0088 0.0004
 Neptune -106941-12-14 03:50 J -37338429.55 -37338429.34 -37338429.12 0.0088 0.0011
 Neptune -106940-07-27 15:50 J -37338204.05 -37338203.84 -37338203.62 0.0088 0.0018
 Neptune -106939-03-10 03:50 J -37337978.54 -37337978.34 -37337978.12 0.0088 0.0025
 Neptune -106939-10-21 15:50 J -37337753.03 -37337752.84 -37337752.63 0.0088 0.0032
 Neptune -106938-06-04 03:35 J -37337527.52 -37337527.35 -37337527.14 0.0088 0.0040
 Neptune -106937-01-15 15:35 J -37337302.02 -37337301.85 -37337301.65 0.0088 0.0046
 Neptune -106937-08-28 03:21 J -37337076.51 -37337076.36 -37337076.16 0.0088 0.0054
 Neptune -106936-04-10 15:50 J -37336850.99 -37336850.84 -37336850.68 0.0088 0.0060
 Neptune -106936-11-22 03:50 J -37336625.47 -37336625.34 -37336625.20 0.0088 0.0067
 Neptune -106935-07-05 15:35 J -37336399.96 -37336399.85 -37336399.72 0.0088 0.0073
 Neptune -106934-02-16 03:07 J -37336174.43 -37336174.37 -37336174.26 0.0088 0.0081
 Neptune -106934-09-29 14:52 J -37335948.88 -37335948.88 -37335948.82 0.0088 0.0088
 Saturn -106933-01-07 21:21 J -37335848.76 -37335848.61 -37335848.45 0.0276 0.0189
 Saturn -106933-08-24 09:35 J -37335619.31 -37335619.10 -37335618.88 0.0274 0.0044
 Saturn -106932-04-10 21:07 J -37335389.82 -37335389.62 -37335389.42 0.0272 0.0099
 Mars -106932-04-20 02:38 J -37335380.57 -37335380.39 -37335380.22 0.1837 0.0411
 Saturn -106932-11-26 07:55 J -37335160.27 -37335160.17 -37335160.07 0.0270 0.0238
 Mars -106929-01-30 23:45 J -37334364.61 -37334364.51 -37334364.42 0.1673 0.1375

Mars -106928-11-30 00:14 J -37333695.64 -37333695.49 -37333695.34 0.1687 0.0728
 Jupiter -106923-02-28 15:50 J -37332143.98 -37332143.84 -37332143.69 0.0537 0.0361
 Saturn -106918-09-19 10:04 J -37330115.23 -37330115.08 -37330114.93 0.0285 0.0195
 Jupiter -106918-12-28 18:43 J -37330014.90 -37330014.72 -37330014.53 0.0490 0.0219
 Saturn -106917-05-05 22:04 J -37329885.78 -37329885.58 -37329885.37 0.0287 0.0041
 Saturn -106917-12-21 11:02 J -37329656.22 -37329656.04 -37329655.85 0.0289 0.0121
 Saturn -106916-08-08 00:28 J -37329426.51 -37329426.48 -37329426.42 0.0291 0.0282
 Uranus -106912-03-21 06:28 J -37328105.32 -37328105.23 -37328105.10 0.0131 0.0112
 Uranus -106912-11-02 10:19 J -37327879.24 -37327879.07 -37327878.87 0.0131 0.0067
 Jupiter -106912-11-03 05:45 J -37327878.46 -37327878.26 -37327878.06 0.0536 0.0058
 Uranus -106911-06-16 14:09 J -37327653.12 -37327652.91 -37327652.70 0.0131 0.0021
 Uranus -106910-01-28 17:31 J -37327426.98 -37327426.77 -37327426.56 0.0131 0.0024
 Uranus -106910-09-11 20:38 J -37327200.81 -37327200.64 -37327200.45 0.0131 0.0069
 Uranus -106909-04-24 23:45 J -37326974.60 -37326974.51 -37326974.39 0.0131 0.0113
 Jupiter -106906-09-02 21:50 J -37325748.79 -37325748.59 -37325748.38 0.0490 0.0096
 Saturn -106904-07-20 04:19 J -37325062.48 -37325062.32 -37325062.14 0.0275 0.0166
 Saturn -106903-03-06 16:48 J -37324833.01 -37324832.80 -37324832.58 0.0273 0.0020
 Saturn -106903-10-22 04:19 J -37324603.50 -37324603.32 -37324603.12 0.0272 0.0123
 Saturn -106902-06-08 15:07 J -37324373.92 -37324373.87 -37324373.81 0.0270 0.0261
 Jupiter -106900-07-08 16:19 J -37323612.90 -37323612.82 -37323612.74 0.0536 0.0489
 Mars -106898-02-15 08:09 J -37323026.23 -37323026.16 -37323026.08 0.1825 0.1628
 Mars -106896-11-28 18:43 J -37322008.89 -37322008.72 -37322008.56 0.1680 0.0284
 Jupiter -106894-05-09 00:43 J -37321482.58 -37321482.47 -37321482.35 0.0491 0.0411
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 Saturn -106888-11-16 08:38 J -37319099.35 -37319099.14 -37319098.93 0.0287 0.0009
 Saturn -106887-07-03 21:35 J -37318869.78 -37318869.60 -37318869.43 0.0289 0.0152
 Jupiter -106882-09-05 04:04 J -37316980.44 -37316980.33 -37316980.21 0.0490 0.0402
 Moon -106877-01-18 09:07 J -37315384.23 -37315384.12 -37315384.01 0.2568 0.1744
 Earth -106877-01-18 09:21 J -37315384.23 -37315384.11 -37315383.98 0.2562 0.1676 *
 Jupiter -106876-07-11 20:24 J -37314843.84 -37314843.65 -37314843.46 0.0537 0.0176

Saturn -106874-01-30 10:48 J -37314276.24 -37314276.05 -37314275.87 0.0275 0.0146
 Saturn -106874-09-16 22:48 J -37314046.77 -37314046.55 -37314046.34 0.0273 0.0006
 Saturn -106873-05-03 09:50 J -37313817.27 -37313817.09 -37313816.90 0.0271 0.0142
 Jupiter -106870-05-11 06:14 J -37312714.44 -37312714.24 -37312714.03 0.0490 0.0084
 Uranus -106870-12-18 09:35 J -37312493.20 -37312493.10 -37312492.97 0.0147 0.0123
 Earth -106869-01-16 02:38 J -37312464.52 -37312464.39 -37312464.26 0.2563 0.1523
 Moon -106869-01-16 06:14 J -37312464.36 -37312464.24 -37312464.11 0.2568 0.1495 *
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 Uranus -106868-03-15 14:38 J -37312040.11 -37312039.89 -37312039.67 0.0147 0.0008
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 Uranus -106867-06-11 19:40 J -37311586.74 -37311586.68 -37311586.59 0.0147 0.0139
 Neptune -106866-01-16 00:28 J -37311368.54 -37311368.48 -37311368.40 0.0089 0.0084
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 Neptune -106865-04-11 03:21 J -37310917.47 -37310917.36 -37310917.20 0.0089 0.0071
 Neptune -106865-11-22 17:02 J -37310691.93 -37310691.79 -37310691.61 0.0089 0.0063
 Jupiter -106864-03-16 11:16 J -37310578.21 -37310578.03 -37310577.85 0.0536 0.0238
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 Neptune -106863-02-16 20:24 J -37310240.82 -37310240.65 -37310240.45 0.0089 0.0048
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 Neptune -106862-12-25 13:40 J -37309564.13 -37309563.93 -37309563.70 0.0089 0.0026
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 Mars -106830-09-26 06:14 J -37297966.41 -37297966.24 -37297966.08 0.1682 0.0157
 Saturn -106829-04-23 11:16 J -37297756.21 -37297756.03 -37297755.83 0.0286 0.0118
 Jupiter -106829-11-21 23:45 J -37297543.71 -37297543.51 -37297543.31 0.0537 0.0020
 Saturn -106829-12-09 00:00 J -37297526.71 -37297526.50 -37297526.30 0.0288 0.0042
 Uranus -106828-07-02 19:55 J -37297320.82 -37297320.67 -37297320.51 0.0131 0.0090
 Saturn -106828-07-26 12:57 J -37297297.10 -37297296.96 -37297296.81 0.0289 0.0204
 Uranus -106827-02-13 23:45 J -37297094.71 -37297094.51 -37297094.31 0.0131 0.0045
 Uranus -106827-09-28 03:21 J -37296868.58 -37296868.36 -37296868.15 0.0131 0.0002
 Uranus -106826-05-12 06:28 J -37296642.42 -37296642.23 -37296642.02 0.0131 0.0046
 Uranus -106826-12-24 09:35 J -37296416.24 -37296416.10 -37296415.93 0.0131 0.0090

Jupiter -106823-09-21 17:16 J -37295413.98 -37295413.78 -37295413.57 0.0490 0.0052
 Jupiter -106817-07-27 14:38 J -37293278.00 -37293277.89 -37293277.77 0.0536 0.0428
 Saturn -106816-07-07 12:43 J -37292933.06 -37292932.97 -37292932.87 0.0276 0.0247
 Saturn -106815-02-22 01:11 J -37292703.65 -37292703.45 -37292703.24 0.0274 0.0100
 Saturn -106815-10-09 12:57 J -37292474.17 -37292473.96 -37292473.74 0.0273 0.0045
 Saturn -106814-05-27 00:00 J -37292244.66 -37292244.50 -37292244.35 0.0271 0.0186
 Jupiter -106811-05-27 19:40 J -37291147.81 -37291147.68 -37291147.54 0.0491 0.0370
 Mars -106801-12-12 09:07 J -37287296.30 -37287296.12 -37287295.94 0.1831 0.0214
 Saturn -106800-03-19 03:35 J -37287199.44 -37287199.35 -37287199.26 0.0284 0.0254
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 Mars -106798-09-24 23:45 J -37286279.63 -37286279.51 -37286279.39 0.1676 0.1146
 Mars -106796-07-24 23:31 J -37285610.66 -37285610.52 -37285610.39 0.1691 0.1001
 Jupiter -106793-07-30 17:31 J -37284508.95 -37284508.77 -37284508.59 0.0537 0.0231
 Pluto -106790-06-10 23:31 J -37283463.68 -37283463.52 -37283463.30 0.0064 0.0036
 Pluto -106789-01-22 04:33 J -37283238.53 -37283238.31 -37283238.08 0.0064 0.0005
 Pluto -106789-09-03 08:52 J -37283013.28 -37283013.13 -37283012.95 0.0064 0.0044
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 Saturn -106786-09-04 08:24 J -37281917.36 -37281917.15 -37281916.94 0.0274 0.0077
 Uranus -106785-03-31 04:33 J -37281708.47 -37281708.31 -37281708.13 0.0147 0.0091
 Saturn -106785-04-20 19:55 J -37281687.87 -37281687.67 -37281687.45 0.0272 0.0069
 Neptune -106785-07-25 12:14 J -37281592.00 -37281591.99 -37281591.96 0.0088 0.0088
 Uranus -106785-11-12 18:57 J -37281481.92 -37281481.71 -37281481.49 0.0147 0.0026
 Saturn -106785-12-06 06:57 J -37281458.34 -37281458.21 -37281458.07 0.0271 0.0210
 Neptune -106784-03-08 00:43 J -37281366.54 -37281366.47 -37281366.37 0.0088 0.0081
 Uranus -106784-06-27 09:21 J -37281255.31 -37281255.11 -37281254.89 0.0147 0.0040
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 Jupiter -106781-04-04 04:48 J -37280243.49 -37280243.30 -37280243.11 0.0536 0.0200
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 Neptune -106777-08-04 04:33 J -37278660.52 -37278660.31 -37278660.09 0.0088 0.0005
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 Neptune -106776-10-29 04:48 J -37278209.50 -37278209.30 -37278209.08 0.0088 0.0019
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 Neptune -106774-01-23 04:48 J -37277758.49 -37277758.30 -37277758.09 0.0088 0.0033
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 Neptune -106773-04-18 04:33 J -37277307.47 -37277307.31 -37277307.11 0.0088 0.0048
 Neptune -106773-11-29 16:33 J -37277081.96 -37277081.81 -37277081.62 0.0088 0.0055
 Neptune -106772-07-13 04:19 J -37276856.45 -37276856.32 -37276856.14 0.0088 0.0062
 Neptune -106771-02-23 16:19 J -37276630.94 -37276630.82 -37276630.66 0.0088 0.0068
 Saturn -106771-09-29 13:55 J -37276413.04 -37276412.92 -37276412.79 0.0284 0.0226
 Neptune -106771-10-07 04:48 J -37276405.42 -37276405.30 -37276405.19 0.0088 0.0075
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 Neptune -106770-05-20 16:33 J -37276179.88 -37276179.81 -37276179.72 0.0088 0.0082
 Saturn -106769-01-01 14:52 J -37275954.07 -37275953.88 -37275953.68 0.0288 0.0093
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 Mars -106769-12-12 09:07 J -37275608.20 -37275608.12 -37275608.03 0.1840 0.1608

Earth -106764-07-22 12:14 J -37273925.13 -37273924.99 -37273924.85 0.2778 0.1219
 Moon -106764-07-22 13:55 J -37273925.05 -37273924.92 -37273924.79 0.2785 0.1406 *
 Mars -106764-07-23 18:28 J -37273923.90 -37273923.73 -37273923.57 0.1684 0.0055
 Jupiter -106757-04-07 07:40 J -37271474.28 -37271474.18 -37271474.07 0.0537 0.0462
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 Saturn -106755-06-18 14:38 J -37270671.99 -37270671.89 -37270671.77 0.0270 0.0231
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 Uranus -106744-03-02 06:14 J -37266762.35 -37266762.24 -37266762.13 0.0131 0.0113
 Uranus -106744-10-14 09:50 J -37266536.27 -37266536.09 -37266535.90 0.0131 0.0068
 Uranus -106743-05-28 13:26 J -37266310.15 -37266309.94 -37266309.73 0.0131 0.0022
 Uranus -106742-01-09 16:48 J -37266084.01 -37266083.80 -37266083.59 0.0131 0.0023
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 Uranus -106741-04-05 23:02 J -37265631.64 -37265631.54 -37265631.42 0.0131 0.0112
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Saturn -106712-10-22 03:50 J -37254840.50 -37254840.34 -37254840.18 0.0285 0.0181
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 Neptune -106702-04-19 12:00 J -37251374.05 -37251374.00 -37251373.90 0.0089 0.0085
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 Neptune -106697-03-28 01:26 J -37249569.64 -37249569.44 -37249569.21 0.0089 0.0025
 Saturn -106697-04-08 07:55 J -37249558.39 -37249558.17 -37249557.95 0.0273 0.0008
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 Neptune -106696-06-22 05:16 J -37249118.50 -37249118.28 -37249118.06 0.0089 0.0010
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 Neptune -106692-03-06 16:48 J -37247765.00 -37247764.80 -37247764.59 0.0089 0.0036
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 Jupiter -106663-12-30 18:00 J -37236873.95 -37236873.75 -37236873.55 0.0536 0.0096
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 Earth -106634-01-18 12:43 J -37226628.06 -37226627.97 -37226627.87 0.2563 0.2023
 Moon -106634-01-18 13:11 J -37226628.04 -37226627.95 -37226627.86 0.2557 0.2136 *
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 Saturn -106580-02-19 10:33 J -37206872.19 -37206872.06 -37206871.93 0.0276 0.0219
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 Saturn -106579-05-24 10:33 J -37206413.27 -37206413.06 -37206412.85 0.0272 0.0078
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 Neptune -106532-09-23 16:47 J -37189124.01 -37189123.80 -37189123.57 0.0089 0.0010

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Uranus -106492-05-25 17:31 J -37174634.91 -37174634.77 -37174634.61 0.0131 0.0094
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 Uranus -106491-08-21 00:43 J -37174182.69 -37174182.47 -37174182.25 0.0131 0.0003
 Jupiter -106491-12-07 06:43 J -37174074.41 -37174074.22 -37174074.02 0.0490 0.0156
 Saturn -106491-12-26 21:35 J -37174054.78 -37174054.60 -37174054.41 0.0272 0.0135
 Uranus -106490-04-04 04:04 J -37173956.53 -37173956.33 -37173956.12 0.0131 0.0042
 Uranus -106490-11-16 07:11 J -37173730.35 -37173730.20 -37173730.03 0.0131 0.0087
 Jupiter -106485-10-12 08:23 J -37171938.33 -37171938.15 -37171937.95 0.0536 0.0180
 Jupiter -106479-08-12 09:35 J -37169808.29 -37169808.10 -37169807.90 0.0491 0.0163
 Saturn -106476-06-05 05:02 J -37168780.45 -37168780.29 -37168780.13 0.0285 0.0180
 Saturn -106475-01-20 17:02 J -37168551.00 -37168550.79 -37168550.58 0.0287 0.0018
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 Mars -106471-01-25 05:16 J -37167085.34 -37167085.28 -37167085.22 0.1818 0.1695
 Mars -106469-11-08 12:28 J -37166067.14 -37166066.98 -37166066.82 0.1685 0.0547
 Jupiter -106467-04-17 12:43 J -37165542.01 -37165541.97 -37165541.92 0.0491 0.0479
 Saturn -106462-04-06 04:47 J -37163727.47 -37163727.30 -37163727.11 0.0276 0.0144
 Saturn -106462-11-21 17:31 J -37163497.99 -37163497.77 -37163497.56 0.0274 0.0008
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 Jupiter -106455-08-14 17:45 J -37161039.90 -37161039.76 -37161039.61 0.0490 0.0349
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Neptune -106453-10-12 16:19 J -37160249.99 -37160249.82 -37160249.62 0.0088 0.0044
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 Earth -106391-01-18 16:33 J -37137871.87 -37137871.81 -37137871.76 0.2564 0.2402 *
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 Jupiter -106064-11-16 12:43 J -37018133.16 -37018132.97 -37018132.77 0.0490 0.0164
 Saturn -106063-03-25 16:33 J -37018004.01 -37018003.81 -37018003.60 0.0284 0.0073
 Saturn -106063-11-10 03:50 J -37017774.54 -37017774.34 -37017774.14 0.0286 0.0093
 Saturn -106062-06-27 15:50 J -37017544.92 -37017544.84 -37017544.76 0.0288 0.0261
 Jupiter -106058-09-22 04:47 J -37015997.48 -37015997.30 -37015997.11 0.0536 0.0224
 Jupiter -106052-07-22 16:33 J -37013867.00 -37013866.81 -37013866.61 0.0491 0.0156

Pluto -106052-09-04 16:19 J -37013823.01 -37013822.82 -37013822.62 0.0063 0.0032
 Pluto -106051-04-17 20:52 J -37013597.85 -37013597.63 -37013597.40 0.0064 0.0007
 Pluto -106051-11-29 01:11 J -37013372.58 -37013372.45 -37013372.27 0.0064 0.0047
 Saturn -106050-06-08 18:57 J -37013180.84 -37013180.71 -37013180.56 0.0278 0.0207
 Saturn -106049-01-24 09:07 J -37012951.33 -37012951.12 -37012950.91 0.0276 0.0048
 Saturn -106049-09-09 22:19 J -37012721.77 -37012721.57 -37012721.37 0.0274 0.0109
 Saturn -106048-04-27 10:33 J -37012492.11 -37012492.06 -37012491.99 0.0273 0.0261
 Neptune -106045-04-27 11:16 J -37011396.09 -37011396.03 -37011395.94 0.0089 0.0083
 Neptune -106045-12-09 00:28 J -37011170.58 -37011170.48 -37011170.35 0.0089 0.0076
 Mars -106044-01-04 02:38 J -37011144.43 -37011144.39 -37011144.36 0.1809 0.1759
 Neptune -106044-07-22 14:09 J -37010945.05 -37010944.91 -37010944.76 0.0089 0.0068
 Neptune -106043-03-05 03:21 J -37010719.50 -37010719.36 -37010719.18 0.0089 0.0061
 Neptune -106043-10-16 17:02 J -37010493.95 -37010493.79 -37010493.60 0.0089 0.0054
 Neptune -106042-05-30 06:57 J -37010268.40 -37010268.21 -37010268.02 0.0089 0.0046
 Mars -106042-10-20 05:31 J -37010125.42 -37010125.27 -37010125.13 0.1691 0.0807
 Neptune -106041-01-10 20:09 J -37010042.85 -37010042.66 -37010042.44 0.0089 0.0038
 Neptune -106041-08-23 10:04 J -37009817.28 -37009817.08 -37009816.87 0.0089 0.0030
 Jupiter -106040-03-27 20:09 J -37009600.70 -37009600.66 -37009600.60 0.0491 0.0475
 Neptune -106040-04-05 23:45 J -37009591.72 -37009591.51 -37009591.29 0.0089 0.0022
 Mars -106040-08-19 00:43 J -37009456.54 -37009456.47 -37009456.40 0.1709 0.1545
 Neptune -106040-11-17 13:26 J -37009366.15 -37009365.94 -37009365.71 0.0089 0.0015
 Neptune -106039-07-01 03:07 J -37009140.58 -37009140.37 -37009140.14 0.0089 0.0007
 Neptune -106038-02-11 17:02 J -37008915.01 -37008914.79 -37008914.56 0.0089 0.0001
 Neptune -106038-09-25 06:57 J -37008689.43 -37008689.21 -37008688.99 0.0089 0.0009
 Neptune -106037-05-07 20:38 J -37008463.85 -37008463.64 -37008463.41 0.0089 0.0017
 Neptune -106037-12-19 10:33 J -37008238.27 -37008238.06 -37008237.84 0.0089 0.0025
 Neptune -106036-08-02 00:14 J -37008012.69 -37008012.49 -37008012.28 0.0089 0.0032
 Neptune -106035-03-15 13:55 J -37007787.11 -37007786.92 -37007786.71 0.0089 0.0041
 Earth -106035-07-23 07:55 J -37007657.33 -37007657.17 -37007657.02 0.2773 0.0080
 Moon -106035-07-23 08:23 J -37007657.32 -37007657.15 -37007656.98 0.2766 0.0284 *

Neptune -106035-10-27 03:50 J -37007561.51 -37007561.34 -37007561.13 0.0089 0.0049
 Saturn -106034-02-18 15:07 J -37007447.00 -37007446.87 -37007446.72 0.0282 0.0205
 Neptune -106034-06-09 17:45 J -37007335.91 -37007335.76 -37007335.57 0.0089 0.0056
 Jupiter -106034-09-25 05:02 J -37007228.40 -37007228.29 -37007228.17 0.0538 0.0436
 Saturn -106034-10-06 01:40 J -37007217.63 -37007217.43 -37007217.22 0.0284 0.0043
 Neptune -106033-01-21 07:55 J -37007110.32 -37007110.17 -37007110.01 0.0089 0.0063
 Saturn -106033-05-22 12:57 J -37006988.15 -37006987.96 -37006987.77 0.0286 0.0124
 Neptune -106033-09-02 21:35 J -37006884.72 -37006884.60 -37006884.45 0.0089 0.0071
 Neptune -106032-04-16 11:31 J -37006659.10 -37006659.02 -37006658.90 0.0089 0.0079
 Neptune -106032-11-28 01:55 J -37006433.46 -37006433.42 -37006433.36 0.0089 0.0086
 Uranus -106030-09-13 20:52 J -37005778.67 -37005778.63 -37005778.57 0.0147 0.0144
 Uranus -106029-04-27 11:02 J -37005552.22 -37005552.04 -37005551.85 0.0147 0.0078
 Uranus -106029-12-10 01:11 J -37005325.66 -37005325.45 -37005325.23 0.0147 0.0012
 Uranus -106028-07-24 15:35 J -37005099.05 -37005098.85 -37005098.64 0.0147 0.0056
 Jupiter -106028-07-24 22:47 J -37005098.69 -37005098.55 -37005098.41 0.0489 0.0354 *
 Uranus -106027-03-08 05:59 J -37004872.36 -37004872.25 -37004872.11 0.0148 0.0123
 Jupiter -106022-05-30 20:52 J -37002962.84 -37002962.63 -37002962.43 0.0537 0.0022
 Saturn -106021-12-18 23:31 J -37002394.67 -37002394.52 -37002394.36 0.0278 0.0187
 Saturn -106020-08-05 13:11 J -37002165.16 -37002164.95 -37002164.73 0.0276 0.0029
 Saturn -106019-03-23 02:09 J -37001935.60 -37001935.41 -37001935.22 0.0274 0.0128
 Jupiter -106016-03-30 01:40 J -37000832.64 -37000832.43 -37000832.23 0.0490 0.0031
 Mars -106012-01-03 21:50 J -36999456.77 -36999456.59 -36999456.41 0.1819 0.0058
 Jupiter -106010-02-02 10:47 J -36998697.18 -36998697.05 -36998696.92 0.0536 0.0406
 Mars -106008-08-17 21:07 J -36997769.78 -36997769.62 -36997769.45 0.1701 0.0425
 Saturn -106005-08-30 18:14 J -36996660.89 -36996660.74 -36996660.58 0.0283 0.0188
 Jupiter -106005-12-03 04:04 J -36996566.49 -36996566.33 -36996566.16 0.0491 0.0294
 Saturn -106004-04-17 05:02 J -36996431.50 -36996431.29 -36996431.08 0.0285 0.0024
 Saturn -106004-12-02 16:19 J -36996202.00 -36996201.82 -36996201.64 0.0287 0.0143

106TH MILLENNIUM BCE

This is a list of transits of Venus in the 106th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-105991-07-01 06:28 J	-36991608.39	-36991608.23	-36991608.04	0.0277	0.0163		
Saturn	-105990-02-15 20:38 J	-36991378.86	-36991378.64	-36991378.43	0.0276	0.0006		
Saturn	-105990-10-03 09:35 J	-36991149.28	-36991149.10	-36991148.92	0.0274	0.0153		
Uranus	-105988-03-29 15:21 J	-36990606.00	-36990605.86	-36990605.71	0.0131	0.0098		
Uranus	-105988-11-10 19:11 J	-36990379.90	-36990379.70	-36990379.50	0.0131	0.0051		
Uranus	-105987-06-24 22:47 J	-36990153.77	-36990153.55	-36990153.33	0.0131	0.0005		
Jupiter	-105986-02-05 10:19 J	-36989928.25	-36989928.07	-36989927.89	0.0537	0.0249		
Uranus	-105986-02-06 02:09 J	-36989927.61	-36989927.41	-36989927.20	0.0131	0.0040		
Uranus	-105986-09-20 05:16 J	-36989701.43	-36989701.28	-36989701.10	0.0131	0.0086		
Jupiter	-105981-12-05 11:45 J	-36987798.19	-36987798.01	-36987797.82	0.0490	0.0223		
Mars	-105980-01-03 18:57 J	-36987768.76	-36987768.71	-36987768.67	0.1828	0.1754		
Mars	-105976-08-16 16:47 J	-36986082.95	-36986082.80	-36986082.65	0.1693	0.0666		
Saturn	-105975-03-13 04:33 J	-36985874.48	-36985874.31	-36985874.14	0.0283	0.0157		
Jupiter	-105975-10-10 23:59 J	-36985662.69	-36985662.50	-36985662.31	0.0537	0.0179		
Saturn	-105975-10-28 15:07 J	-36985645.07	-36985644.87	-36985644.66	0.0284	0.0009		
Saturn	-105974-06-15 02:23 J	-36985415.55	-36985415.40	-36985415.23	0.0286	0.0177		
Mars	-105974-06-16 11:45 J	-36985414.02	-36985414.01	-36985414.00	0.1711	0.1703		
Jupiter	-105969-08-10 13:26 J	-36983532.14	-36983531.94	-36983531.74	0.0490	0.0106		

Neptune -105964-11-05 02:38 J -36981619.42 -36981619.39 -36981619.34 0.0088 0.0087
 Neptune -105963-06-18 15:07 J -36981393.95 -36981393.87 -36981393.76 0.0088 0.0079
 Pluto -105963-07-29 18:14 J -36981352.90 -36981352.74 -36981352.55 0.0081 0.0047
 Neptune -105962-01-30 03:35 J -36981168.45 -36981168.35 -36981168.20 0.0088 0.0072
 Pluto -105962-03-12 03:50 J -36981127.52 -36981127.34 -36981127.12 0.0081 0.0031
 Neptune -105962-09-12 16:19 J -36980942.95 -36980942.82 -36980942.66 0.0088 0.0065
 Saturn -105961-01-11 12:57 J -36980822.15 -36980821.96 -36980821.78 0.0277 0.0141
 Neptune -105961-04-25 04:47 J -36980717.44 -36980717.30 -36980717.11 0.0088 0.0058
 Saturn -105961-08-28 02:23 J -36980592.62 -36980592.40 -36980592.19 0.0275 0.0019
 Neptune -105961-12-06 17:45 J -36980491.94 -36980491.76 -36980491.58 0.0088 0.0050
 Saturn -105960-04-14 14:52 J -36980363.04 -36980362.88 -36980362.71 0.0274 0.0174
 Neptune -105960-07-20 05:59 J -36980266.43 -36980266.25 -36980266.05 0.0088 0.0042
 Neptune -105959-03-02 18:14 J -36980040.92 -36980040.74 -36980040.52 0.0088 0.0036
 Neptune -105959-10-14 06:57 J -36979815.41 -36979815.21 -36979815.00 0.0088 0.0028
 Neptune -105958-05-27 19:11 J -36979589.90 -36979589.70 -36979589.48 0.0088 0.0020
 Neptune -105957-01-08 07:40 J -36979364.40 -36979364.18 -36979363.97 0.0088 0.0013
 Jupiter -105957-04-15 16:33 J -36979265.90 -36979265.81 -36979265.71 0.0491 0.0429
 Neptune -105957-08-20 19:55 J -36979138.89 -36979138.67 -36979138.45 0.0088 0.0005
 Neptune -105956-04-03 08:09 J -36978913.37 -36978913.16 -36978912.94 0.0088 0.0003
 Neptune -105956-11-14 20:23 J -36978687.86 -36978687.65 -36978687.43 0.0088 0.0010
 Neptune -105955-06-28 08:23 J -36978462.35 -36978462.15 -36978461.93 0.0088 0.0017
 Neptune -105954-02-08 20:38 J -36978236.84 -36978236.64 -36978236.43 0.0088 0.0024
 Neptune -105954-09-22 08:52 J -36978011.33 -36978011.13 -36978010.93 0.0088 0.0031
 Neptune -105953-05-04 20:38 J -36977785.81 -36977785.64 -36977785.42 0.0088 0.0040
 Neptune -105953-12-16 08:52 J -36977560.30 -36977560.13 -36977559.93 0.0088 0.0046
 Neptune -105952-07-29 21:07 J -36977334.78 -36977334.62 -36977334.44 0.0088 0.0053
 Neptune -105951-03-12 09:21 J -36977109.26 -36977109.11 -36977108.95 0.0088 0.0061
 Jupiter -105951-10-14 05:16 J -36976893.34 -36976893.28 -36976893.22 0.0538 0.0507
 Neptune -105951-10-23 21:35 J -36976883.74 -36976883.60 -36976883.46 0.0088 0.0068
 Neptune -105950-06-06 09:07 J -36976658.21 -36976658.12 -36976657.98 0.0088 0.0076

Neptune -105949-01-17 21:07 J -36976432.67 -36976432.62 -36976432.52 0.0088 0.0083
 Mars -105947-11-01 01:26 J -36975414.62 -36975414.44 -36975414.27 0.1816 0.0367
 Saturn -105946-09-23 08:09 J -36975088.34 -36975088.16 -36975087.98 0.0283 0.0138
 Uranus -105946-12-26 13:55 J -36974994.04 -36974993.92 -36974993.76 0.0147 0.0114
 Saturn -105945-05-09 18:57 J -36974858.91 -36974858.71 -36974858.50 0.0285 0.0028
 Uranus -105945-08-09 04:19 J -36974767.52 -36974767.32 -36974767.11 0.0147 0.0047
 Jupiter -105945-08-12 19:26 J -36974763.80 -36974763.69 -36974763.57 0.0490 0.0404
 Saturn -105945-12-25 06:28 J -36974629.37 -36974629.23 -36974629.07 0.0287 0.0196
 Uranus -105944-03-23 18:43 J -36974540.94 -36974540.72 -36974540.50 0.0147 0.0020
 Uranus -105944-11-05 09:07 J -36974314.29 -36974314.12 -36974313.93 0.0148 0.0087
 Mars -105942-06-15 08:38 J -36973727.30 -36973727.14 -36973726.98 0.1703 0.0572
 Jupiter -105939-06-18 18:28 J -36972627.92 -36972627.73 -36972627.53 0.0537 0.0079
 Jupiter -105933-04-17 23:02 J -36970497.74 -36970497.54 -36970497.34 0.0490 0.0082
 Saturn -105933-12-06 05:31 J -36970265.29 -36970265.27 -36970265.23 0.0279 0.0276
 Saturn -105932-07-23 19:55 J -36970035.87 -36970035.67 -36970035.47 0.0277 0.0115
 Saturn -105931-03-10 09:21 J -36969806.32 -36969806.11 -36969805.89 0.0275 0.0044
 Saturn -105931-10-25 22:19 J -36969576.72 -36969576.57 -36969576.42 0.0273 0.0199
 Jupiter -105927-02-21 04:47 J -36968362.44 -36968362.30 -36968362.15 0.0536 0.0365
 Jupiter -105922-12-23 02:09 J -36966231.59 -36966231.41 -36966231.23 0.0491 0.0241
 Saturn -105917-08-18 08:23 J -36964531.21 -36964531.15 -36964531.09 0.0281 0.0269
 Saturn -105916-04-04 18:43 J -36964301.91 -36964301.72 -36964301.53 0.0283 0.0107
 Saturn -105916-11-20 05:45 J -36964072.47 -36964072.26 -36964072.06 0.0285 0.0060
 Saturn -105915-07-07 17:02 J -36963842.90 -36963842.79 -36963842.65 0.0287 0.0230
 Mars -105915-10-31 22:33 J -36963726.67 -36963726.56 -36963726.45 0.1826 0.1439
 Mars -105910-06-14 04:33 J -36962040.47 -36962040.31 -36962040.15 0.1696 0.0535
 Moon -105905-01-19 18:43 J -36960359.72 -36960359.72 -36960359.71 0.2571 0.2565
 Uranus -105905-11-27 01:26 J -36960047.52 -36960047.44 -36960047.35 0.0131 0.0121
 Uranus -105904-07-11 05:02 J -36959821.46 -36959821.29 -36959821.10 0.0131 0.0075
 Uranus -105903-02-22 08:52 J -36959595.33 -36959595.13 -36959594.91 0.0131 0.0029
 Jupiter -105903-02-24 09:07 J -36959593.28 -36959593.12 -36959592.96 0.0538 0.0315

Saturn -105903-06-18 13:40 J -36959479.02 -36959478.93 -36959478.84 0.0279 0.0253
 Uranus -105903-10-06 12:28 J -36959369.19 -36959368.98 -36959368.76 0.0131 0.0019
 Saturn -105902-02-03 03:35 J -36959249.55 -36959249.35 -36959249.15 0.0277 0.0092
 Uranus -105902-05-20 15:50 J -36959143.01 -36959142.84 -36959142.64 0.0131 0.0064
 Saturn -105902-09-20 16:47 J -36959020.01 -36959019.80 -36959019.59 0.0275 0.0067
 Uranus -105901-01-01 19:11 J -36958916.81 -36958916.70 -36958916.57 0.0131 0.0110
 Saturn -105901-05-07 04:47 J -36958790.41 -36958790.30 -36958790.16 0.0273 0.0223
 Jupiter -105898-12-25 07:11 J -36957463.37 -36957463.20 -36957463.02 0.0490 0.0266
 Moon -105897-01-17 15:35 J -36957440.01 -36957439.85 -36957439.70 0.2576 0.0114
 Earth -105897-01-17 16:47 J -36957439.97 -36957439.80 -36957439.64 0.2569 0.0135 *
 Jupiter -105892-10-29 23:31 J -36955327.71 -36955327.52 -36955327.32 0.0537 0.0109
 Saturn -105887-02-28 11:45 J -36953745.09 -36953745.01 -36953744.90 0.0282 0.0251
 Saturn -105887-10-15 22:19 J -36953515.77 -36953515.57 -36953515.37 0.0284 0.0088
 Saturn -105886-06-02 09:21 J -36953286.31 -36953286.11 -36953285.91 0.0286 0.0080
 Jupiter -105886-08-30 09:35 J -36953197.30 -36953197.10 -36953196.90 0.0490 0.0060
 Saturn -105885-01-17 21:07 J -36953056.72 -36953056.62 -36953056.52 0.0288 0.0250
 Neptune -105881-07-29 22:19 J -36951401.64 -36951401.57 -36951401.49 0.0089 0.0083
 Mars -105881-08-28 05:45 J -36951372.42 -36951372.26 -36951372.09 0.1813 0.0659
 Neptune -105880-03-12 11:16 J -36951176.12 -36951176.03 -36951175.89 0.0089 0.0076
 Neptune -105880-10-24 01:11 J -36950950.59 -36950950.45 -36950950.31 0.0089 0.0068
 Neptune -105879-06-06 14:09 J -36950725.05 -36950724.91 -36950724.73 0.0089 0.0062
 Neptune -105878-01-18 03:50 J -36950499.50 -36950499.34 -36950499.15 0.0089 0.0054
 Mars -105878-06-12 23:16 J -36950353.58 -36950353.53 -36950353.48 0.1688 0.1600
 Neptune -105878-08-31 17:16 J -36950273.95 -36950273.78 -36950273.57 0.0089 0.0046
 Neptune -105877-04-13 06:57 J -36950048.40 -36950048.21 -36950048.00 0.0089 0.0038
 Neptune -105877-11-24 20:38 J -36949822.84 -36949822.64 -36949822.43 0.0089 0.0030
 Mars -105876-04-11 19:55 J -36949684.82 -36949684.67 -36949684.51 0.1706 0.0719
 Neptune -105876-07-08 10:19 J -36949597.28 -36949597.07 -36949596.85 0.0089 0.0022
 Neptune -105875-02-18 23:59 J -36949371.72 -36949371.50 -36949371.28 0.0089 0.0015
 Neptune -105875-10-02 13:55 J -36949146.14 -36949145.92 -36949145.70 0.0089 0.0007

Jupiter -105874-05-05 12:57 J -36948931.08 -36948930.96 -36948930.83 0.0491 0.0383
 Neptune -105874-05-16 03:35 J -36948920.57 -36948920.35 -36948920.12 0.0089 0.0002
 Neptune -105874-12-27 17:16 J -36948695.00 -36948694.78 -36948694.55 0.0089 0.0009
 Saturn -105874-12-29 20:23 J -36948692.76 -36948692.65 -36948692.52 0.0278 0.0228
 Neptune -105873-08-09 06:57 J -36948469.42 -36948469.21 -36948468.98 0.0089 0.0017
 Saturn -105873-08-15 10:19 J -36948463.27 -36948463.07 -36948462.85 0.0276 0.0067
 Neptune -105872-03-22 20:52 J -36948243.84 -36948243.63 -36948243.41 0.0089 0.0025
 Saturn -105872-04-01 23:31 J -36948233.72 -36948233.52 -36948233.31 0.0274 0.0092
 Neptune -105872-11-03 10:47 J -36948018.25 -36948018.05 -36948017.83 0.0089 0.0033
 Saturn -105872-11-17 11:59 J -36948004.08 -36948004.00 -36948003.90 0.0273 0.0247
 Neptune -105871-06-17 00:28 J -36947792.66 -36947792.48 -36947792.26 0.0089 0.0041
 Neptune -105870-01-28 14:52 J -36947567.07 -36947566.88 -36947566.70 0.0089 0.0049
 Neptune -105870-09-11 04:33 J -36947341.48 -36947341.31 -36947341.13 0.0089 0.0056
 Neptune -105869-04-23 18:14 J -36947115.88 -36947115.74 -36947115.57 0.0089 0.0065
 Neptune -105869-12-05 08:09 J -36946890.27 -36946890.16 -36946890.01 0.0089 0.0072
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 Uranus -105608-09-28 10:19 J -36851628.24 -36851628.07 -36851627.89 0.0148 0.0091
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 Saturn -105430-08-03 22:47 J -36786669.59 -36786669.55 -36786669.49 0.0274 0.0266
 Jupiter -105429-06-15 22:47 J -36786352.75 -36786352.55 -36786352.34 0.0537 0.0036
 Jupiter -105423-04-16 15:07 J -36784222.07 -36784221.87 -36784221.67 0.0490 0.0096
 Mars -105422-08-07 22:19 J -36783743.72 -36783743.57 -36783743.42 0.1815 0.1045
 Jupiter -105417-02-19 13:26 J -36782087.07 -36782086.94 -36782086.79 0.0536 0.0395
 Mars -105417-03-21 07:40 J -36782056.34 -36782056.18 -36782056.03 0.1704 0.0633
 Saturn -105416-05-26 19:40 J -36781624.78 -36781624.68 -36781624.56 0.0280 0.0237
 Saturn -105415-01-11 05:02 J -36781395.49 -36781395.29 -36781395.09 0.0282 0.0071
 Saturn -105415-08-28 15:07 J -36781166.06 -36781165.87 -36781165.68 0.0284 0.0100
 Saturn -105414-04-15 01:55 J -36780936.46 -36780936.42 -36780936.35 0.0286 0.0274
 Jupiter -105412-12-20 18:14 J -36779955.92 -36779955.74 -36779955.56 0.0491 0.0232
 Moon -105411-01-17 19:11 J -36779927.85 -36779927.70 -36779927.54 0.2577 0.0093
 Earth -105411-01-17 23:31 J -36779927.67 -36779927.52 -36779927.36 0.2573 0.0572 *
 Saturn -105402-03-27 03:35 J -36776572.48 -36776572.35 -36776572.21 0.0280 0.0217
 Saturn -105402-11-11 18:43 J -36776342.93 -36776342.72 -36776342.51 0.0278 0.0047
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 Uranus -105401-10-01 07:11 J -36776018.29 -36776018.20 -36776018.08 0.0131 0.0114
 Uranus -105400-05-15 11:16 J -36775792.22 -36775792.03 -36775791.84 0.0131 0.0067
 Uranus -105400-12-27 14:38 J -36775566.10 -36775565.89 -36775565.67 0.0131 0.0020
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 Saturn -105373-10-06 09:50 J -36765786.24 -36765786.09 -36765785.93 0.0279 0.0194
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Saturn -105371-01-08 14:52 J -36765327.06 -36765326.88 -36765326.69 0.0276 0.0143
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 Uranus -105357-02-11 08:23 J -36760180.32 -36760180.15 -36760179.96 0.0148 0.0081
 Saturn -105357-06-18 01:40 J -36760052.57 -36760052.43 -36760052.28 0.0280 0.0198
 Uranus -105357-09-24 22:47 J -36759953.77 -36759953.55 -36759953.33 0.0148 0.0013
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 Saturn -105356-09-19 21:07 J -36759593.80 -36759593.62 -36759593.44 0.0284 0.0142
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 Jupiter -105352-08-30 12:28 J -36758152.99 -36758152.98 -36758152.97 0.0489 0.0488
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 Jupiter -105340-05-05 15:50 J -36753887.03 -36753886.84 -36753886.64 0.0490 0.0163
 Jupiter -105334-03-10 17:31 J -36751751.93 -36751751.77 -36751751.60 0.0536 0.0304
 Jupiter -105328-01-08 19:11 J -36749620.90 -36749620.70 -36749620.51 0.0491 0.0165
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 Mars -105319-01-15 15:07 J -36746326.91 -36746326.87 -36746326.82 0.1699 0.1614
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 Jupiter -105317-09-13 23:31 J -36745354.54 -36745354.52 -36745354.49 0.0492 0.0488
 Uranus -105316-01-12 22:19 J -36745233.71 -36745233.57 -36745233.39 0.0131 0.0088
 Uranus -105316-08-27 02:09 J -36745007.61 -36745007.41 -36745007.20 0.0131 0.0042
 Uranus -105315-04-10 05:59 J -36744781.47 -36744781.25 -36744781.03 0.0131 0.0005
 Uranus -105315-11-22 09:07 J -36744555.31 -36744555.12 -36744554.91 0.0131 0.0052

Pluto -105314-04-19 14:38 J -36744407.06 -36744406.89 -36744406.68 0.0063 0.0033
 Uranus -105314-07-06 12:14 J -36744329.11 -36744328.99 -36744328.83 0.0131 0.0098
 Moon -105314-07-26 09:21 J -36744309.20 -36744309.11 -36744309.02 0.2767 0.2277
 Saturn -105314-10-29 14:38 J -36744214.06 -36744213.89 -36744213.71 0.0279 0.0157
 Pluto -105314-11-30 19:40 J -36744181.90 -36744181.68 -36744181.45 0.0064 0.0006
 Saturn -105313-06-15 05:45 J -36743984.48 -36743984.26 -36743984.05 0.0277 0.0014
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 Jupiter -105310-03-13 18:43 J -36742982.86 -36742982.72 -36742982.57 0.0538 0.0370
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 Moon -105306-07-23 23:16 J -36741389.66 -36741389.53 -36741389.40 0.2770 0.1477
 Earth -105306-07-24 04:04 J -36741389.47 -36741389.33 -36741389.19 0.2766 0.1284 *
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 Neptune -105302-10-23 02:09 J -36739837.61 -36739837.41 -36739837.20 0.0088 0.0029
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 Saturn -105297-02-25 17:31 J -36738250.98 -36738250.77 -36738250.56 0.0282 0.0011

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 Saturn -105297-10-12 03:21 J -36738021.51 -36738021.36 -36738021.19 0.0284 0.0184
 Neptune -105296-05-13 17:45 J -36737807.94 -36737807.76 -36737807.56 0.0088 0.0040
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 Jupiter -105293-09-16 06:28 J -36736586.43 -36736586.23 -36736586.02 0.0490 0.0036
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 Saturn -105284-05-10 14:09 J -36733428.09 -36733427.91 -36733427.72 0.0279 0.0143
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 Jupiter -105245-01-28 21:21 J -36719285.81 -36719285.61 -36719285.41 0.0490 0.0092
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 Uranus -105230-10-18 03:50 J -36713544.39 -36713544.34 -36713544.25 0.0131 0.0124
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Mars -105220-09-10 16:47 J -36709928.97 -36709928.80 -36709928.63 0.1712 0.0167
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 Jupiter -105216-12-05 12:28 J -36708382.18 -36708381.98 -36708381.77 0.0537 0.0028
 Neptune -105215-03-31 10:19 J -36708266.28 -36708266.07 -36708265.85 0.0089 0.0024
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 Neptune -105214-06-25 13:40 J -36707815.12 -36707814.93 -36707814.72 0.0089 0.0040
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 Neptune -105212-05-02 06:57 J -36707138.36 -36707138.21 -36707138.05 0.0089 0.0064
 Neptune -105212-12-13 20:38 J -36706912.76 -36706912.64 -36706912.50 0.0089 0.0072
 Neptune -105211-07-27 10:33 J -36706687.14 -36706687.06 -36706686.96 0.0089 0.0080
 Neptune -105210-03-10 00:14 J -36706461.50 -36706461.49 -36706461.44 0.0089 0.0088
 Saturn -105210-06-28 09:07 J -36706351.17 -36706351.12 -36706351.04 0.0280 0.0264
 Jupiter -105210-10-06 06:28 J -36706251.44 -36706251.23 -36706251.03 0.0490 0.0098
 Saturn -105209-02-12 17:59 J -36706121.94 -36706121.75 -36706121.55 0.0281 0.0098
 Saturn -105209-09-29 03:35 J -36705892.55 -36705892.35 -36705892.15 0.0283 0.0074
 Saturn -105208-05-16 13:55 J -36705663.02 -36705662.92 -36705662.82 0.0285 0.0248
 Jupiter -105204-08-10 01:11 J -36704116.57 -36704116.45 -36704116.32 0.0536 0.0411
 Jupiter -105198-06-11 10:33 J -36701985.24 -36701985.06 -36701984.88 0.0491 0.0227
 Saturn -105196-04-27 11:16 J -36701299.13 -36701299.03 -36701298.94 0.0281 0.0250
 Saturn -105196-12-13 02:38 J -36701069.59 -36701069.39 -36701069.18 0.0279 0.0077
 Saturn -105195-07-30 17:31 J -36700839.97 -36700839.77 -36700839.56 0.0277 0.0094
 Saturn -105194-03-17 07:40 J -36700610.25 -36700610.18 -36700610.11 0.0275 0.0260
 Uranus -105190-06-10 20:38 J -36699063.66 -36699063.64 -36699063.57 0.0147 0.0145

Uranus -105189-01-23 11:02 J -36698837.23 -36698837.04 -36698836.85 0.0148 0.0077
 Uranus -105189-09-06 01:11 J -36698610.67 -36698610.45 -36698610.23 0.0148 0.0009
 Uranus -105188-04-20 15:21 J -36698384.05 -36698383.86 -36698383.65 0.0148 0.0060
 Mars -105188-09-09 13:55 J -36698242.03 -36698241.92 -36698241.82 0.1704 0.1328
 Uranus -105188-12-03 05:59 J -36698157.35 -36698157.25 -36698157.14 0.0148 0.0128
 Mars -105186-07-10 05:59 J -36697573.37 -36697573.25 -36697573.13 0.1723 0.1200
 Saturn -105180-01-07 16:33 J -36695564.91 -36695564.81 -36695564.69 0.0279 0.0236
 Jupiter -105180-08-13 02:52 J -36695347.56 -36695347.38 -36695347.21 0.0538 0.0266
 Saturn -105180-08-25 01:26 J -36695335.64 -36695335.44 -36695335.24 0.0281 0.0069
 Saturn -105179-04-11 10:47 J -36695106.23 -36695106.05 -36695105.85 0.0283 0.0104
 Saturn -105179-11-26 21:07 J -36694876.66 -36694876.62 -36694876.57 0.0285 0.0277
 Jupiter -105174-06-13 16:47 J -36693216.96 -36693216.80 -36693216.63 0.0489 0.0295
 Earth -105168-01-18 02:52 J -36691171.53 -36691171.38 -36691171.23 0.2575 0.0877
 Moon -105168-01-18 08:09 J -36691171.29 -36691171.16 -36691171.04 0.2573 0.1704 *
 Jupiter -105168-04-17 17:59 J -36691081.94 -36691081.75 -36691081.56 0.0537 0.0162
 Saturn -105167-11-07 13:40 J -36690513.04 -36690512.93 -36690512.80 0.0280 0.0232
 Saturn -105166-06-25 05:02 J -36690283.50 -36690283.29 -36690283.07 0.0279 0.0059
 Saturn -105165-02-09 19:26 J -36690053.88 -36690053.69 -36690053.48 0.0277 0.0112
 Jupiter -105162-02-16 20:09 J -36688950.87 -36688950.66 -36688950.46 0.0490 0.0034
 Earth -105160-01-15 20:09 J -36688251.72 -36688251.66 -36688251.61 0.2577 0.2392
 Moon -105160-01-15 22:33 J -36688251.65 -36688251.56 -36688251.46 0.2572 0.2105 *
 Mars -105159-11-23 16:33 J -36687574.99 -36687574.81 -36687574.63 0.1802 0.0171
 Mars -105154-07-09 04:04 J -36685886.50 -36685886.33 -36685886.16 0.1714 0.0034
 Saturn -105151-07-20 18:57 J -36684778.84 -36684778.71 -36684778.58 0.0280 0.0219
 Jupiter -105151-10-22 23:16 J -36684684.67 -36684684.53 -36684684.40 0.0491 0.0365
 Saturn -105150-03-07 03:50 J -36684549.54 -36684549.34 -36684549.13 0.0282 0.0051
 Saturn -105150-10-22 13:26 J -36684320.12 -36684319.94 -36684319.75 0.0284 0.0122
 Uranus -105149-05-12 22:19 J -36684116.58 -36684116.57 -36684116.52 0.0131 0.0130
 Uranus -105149-12-25 02:09 J -36683890.56 -36683890.41 -36683890.23 0.0131 0.0084
 Uranus -105148-08-08 05:59 J -36683664.45 -36683664.25 -36683664.03 0.0131 0.0037

Uranus -105147-03-22 10:04 J -36683438.30 -36683438.08 -36683437.87 0.0131 0.0011
 Uranus -105147-11-03 13:11 J -36683212.13 -36683211.95 -36683211.74 0.0131 0.0058
 Uranus -105146-06-17 16:33 J -36682985.93 -36682985.81 -36682985.67 0.0131 0.0104
 Jupiter -105144-04-20 22:19 J -36682312.60 -36682312.57 -36682312.54 0.0538 0.0530
 Neptune -105142-09-28 18:28 J -36681421.78 -36681421.73 -36681421.64 0.0088 0.0083
 Neptune -105141-05-11 07:26 J -36681196.29 -36681196.19 -36681196.06 0.0088 0.0075
 Neptune -105141-12-22 20:09 J -36680970.79 -36680970.66 -36680970.51 0.0088 0.0068
 Neptune -105140-08-05 08:38 J -36680745.28 -36680745.14 -36680744.97 0.0088 0.0060
 Neptune -105139-03-18 21:21 J -36680519.77 -36680519.61 -36680519.42 0.0088 0.0053
 Neptune -105139-10-30 10:19 J -36680294.26 -36680294.07 -36680293.88 0.0088 0.0045
 Jupiter -105138-02-19 02:52 J -36680182.38 -36680182.38 -36680182.37 0.0489 0.0489
 Neptune -105138-06-12 22:33 J -36680068.75 -36680068.56 -36680068.35 0.0088 0.0037
 Neptune -105137-01-24 11:02 J -36679843.23 -36679843.04 -36679842.82 0.0088 0.0030
 Saturn -105137-05-19 19:40 J -36679726.81 -36679726.68 -36679726.52 0.0280 0.0207
 Neptune -105137-09-05 23:45 J -36679617.72 -36679617.51 -36679617.30 0.0088 0.0022
 Saturn -105136-01-04 11:16 J -36679497.24 -36679497.03 -36679496.82 0.0278 0.0033
 Neptune -105136-04-19 12:14 J -36679392.20 -36679391.99 -36679391.77 0.0088 0.0014
 Saturn -105136-08-22 01:55 J -36679267.61 -36679267.42 -36679267.23 0.0276 0.0137
 Neptune -105136-12-01 00:43 J -36679166.68 -36679166.47 -36679166.25 0.0088 0.0006
 Neptune -105135-07-14 13:11 J -36678941.17 -36678940.95 -36678940.73 0.0088 0.0001
 Neptune -105134-02-25 01:26 J -36678715.65 -36678715.44 -36678715.22 0.0088 0.0010
 Neptune -105134-10-08 13:40 J -36678490.13 -36678489.93 -36678489.70 0.0088 0.0018
 Neptune -105133-05-21 02:23 J -36678264.61 -36678264.40 -36678264.19 0.0088 0.0025
 Jupiter -105133-12-24 08:23 J -36678047.35 -36678047.15 -36678046.95 0.0537 0.0078
 Neptune -105132-01-01 14:23 J -36678039.09 -36678038.90 -36678038.68 0.0088 0.0033
 Neptune -105132-08-15 02:38 J -36677813.57 -36677813.39 -36677813.18 0.0088 0.0040
 Neptune -105131-03-28 15:07 J -36677588.04 -36677587.87 -36677587.67 0.0088 0.0048
 Neptune -105131-11-09 03:21 J -36677362.51 -36677362.36 -36677362.17 0.0088 0.0055
 Neptune -105130-06-22 15:50 J -36677136.99 -36677136.84 -36677136.68 0.0088 0.0063
 Neptune -105129-02-03 03:35 J -36676911.46 -36676911.35 -36676911.20 0.0088 0.0070

Neptune -105129-09-15 15:50 J -36676685.92 -36676685.84 -36676685.72 0.0088 0.0078
 Neptune -105128-04-29 04:19 J -36676460.37 -36676460.32 -36676460.25 0.0088 0.0085
 Jupiter -105127-10-25 06:43 J -36675916.41 -36675916.22 -36675916.02 0.0490 0.0164
 Mars -105127-11-23 11:02 J -36675887.12 -36675887.04 -36675886.96 0.1812 0.1610
 Mars -105122-07-08 00:57 J -36674199.58 -36674199.46 -36674199.33 0.1706 0.1183
 Saturn -105121-01-31 03:35 J -36673992.50 -36673992.35 -36673992.20 0.0280 0.0189
 Jupiter -105121-08-28 21:50 J -36673781.74 -36673781.59 -36673781.44 0.0536 0.0359
 Saturn -105121-09-16 12:28 J -36673763.19 -36673762.98 -36673762.77 0.0282 0.0020
 Saturn -105120-05-03 22:04 J -36673533.75 -36673533.58 -36673533.40 0.0283 0.0154
 Mars -105120-05-06 16:33 J -36673530.91 -36673530.81 -36673530.71 0.1726 0.1377
 Jupiter -105115-06-30 09:07 J -36671650.31 -36671650.12 -36671649.93 0.0491 0.0169
 Saturn -105108-11-30 00:14 J -36668940.65 -36668940.49 -36668940.33 0.0280 0.0186
 Saturn -105107-07-17 15:21 J -36668711.08 -36668710.86 -36668710.64 0.0278 0.0013
 Saturn -105106-03-04 05:45 J -36668481.44 -36668481.26 -36668481.08 0.0276 0.0157
 Uranus -105106-09-22 17:31 J -36668278.90 -36668278.77 -36668278.61 0.0148 0.0108
 Uranus -105105-05-06 07:40 J -36668052.38 -36668052.18 -36668051.96 0.0148 0.0041
 Uranus -105105-12-18 22:04 J -36667825.79 -36667825.58 -36667825.36 0.0148 0.0028
 Uranus -105104-08-02 12:28 J -36667599.14 -36667598.98 -36667598.81 0.0148 0.0097
 Jupiter -105097-09-01 04:19 J -36665012.47 -36665012.32 -36665012.16 0.0538 0.0346
 Mars -105093-09-19 21:21 J -36663532.79 -36663532.61 -36663532.44 0.1799 0.0469
 Saturn -105092-08-12 05:59 J -36663206.41 -36663206.25 -36663206.08 0.0280 0.0172
 Saturn -105091-03-29 15:21 J -36662977.07 -36662976.86 -36662976.66 0.0282 0.0004
 Jupiter -105091-07-02 14:52 J -36662882.02 -36662881.88 -36662881.74 0.0490 0.0350
 Saturn -105091-11-14 00:57 J -36662747.62 -36662747.46 -36662747.29 0.0284 0.0174
 Mars -105088-05-05 15:07 J -36661844.04 -36661843.87 -36661843.71 0.1717 0.0157
 Jupiter -105085-05-06 17:16 J -36660746.98 -36660746.78 -36660746.58 0.0536 0.0095
 Jupiter -105079-03-07 18:43 J -36658615.93 -36658615.72 -36658615.52 0.0491 0.0023
 Saturn -105078-06-12 06:57 J -36658154.38 -36658154.21 -36658154.03 0.0280 0.0160
 Saturn -105077-01-27 22:04 J -36657924.79 -36657924.58 -36657924.36 0.0278 0.0015
 Saturn -105077-09-13 12:28 J -36657695.14 -36657694.98 -36657694.81 0.0276 0.0184

Earth -105071-07-26 13:26 J -36655552.97 -36655552.94 -36655552.91 0.2767 0.2703
 Pluto -105069-10-04 23:02 J -36654751.68 -36654751.54 -36654751.38 0.0063 0.0048
 Pluto -105068-05-18 03:35 J -36654526.57 -36654526.35 -36654526.11 0.0063 0.0010
 Jupiter -105068-11-10 22:19 J -36654349.72 -36654349.57 -36654349.41 0.0492 0.0305
 Pluto -105068-12-29 08:09 J -36654301.35 -36654301.16 -36654300.94 0.0064 0.0030
 Uranus -105065-08-24 15:07 J -36653331.99 -36653331.87 -36653331.72 0.0131 0.0103
 Uranus -105064-04-07 19:11 J -36653105.89 -36653105.70 -36653105.49 0.0131 0.0056
 Uranus -105064-11-19 23:02 J -36652879.75 -36652879.54 -36652879.32 0.0131 0.0009
 Uranus -105063-07-04 02:23 J -36652653.60 -36652653.40 -36652653.18 0.0131 0.0038
 Earth -105063-07-24 02:38 J -36652633.51 -36652633.39 -36652633.27 0.2764 0.1698
 Moon -105063-07-24 08:23 J -36652633.29 -36652633.15 -36652633.01 0.2762 0.1289 *
 Uranus -105062-02-15 05:59 J -36652427.41 -36652427.25 -36652427.08 0.0131 0.0084
 Saturn -105062-02-22 15:35 J -36652420.02 -36652419.85 -36652419.66 0.0280 0.0141
 Uranus -105062-09-29 09:07 J -36652201.12 -36652201.12 -36652201.10 0.0131 0.0131
 Saturn -105062-10-10 00:57 J -36652190.66 -36652190.46 -36652190.25 0.0282 0.0033
 Saturn -105061-05-26 11:02 J -36651961.18 -36651961.04 -36651960.90 0.0284 0.0207
 Mars -105061-09-19 15:50 J -36651844.96 -36651844.84 -36651844.71 0.1809 0.1311
 Neptune -105060-11-08 22:19 J -36651429.58 -36651429.57 -36651429.52 0.0089 0.0088
 Neptune -105059-06-22 11:45 J -36651204.10 -36651204.01 -36651203.91 0.0089 0.0080
 Neptune -105058-02-03 00:28 J -36650978.58 -36650978.48 -36650978.33 0.0089 0.0073
 Neptune -105058-09-16 13:55 J -36650753.05 -36650752.92 -36650752.75 0.0089 0.0065
 Neptune -105057-04-29 03:21 J -36650527.51 -36650527.36 -36650527.17 0.0089 0.0057
 Neptune -105057-12-10 16:47 J -36650301.97 -36650301.80 -36650301.61 0.0089 0.0049
 Mars -105056-05-04 12:28 J -36650157.11 -36650156.98 -36650156.84 0.1709 0.1039
 Neptune -105056-07-24 06:14 J -36650076.43 -36650076.24 -36650076.04 0.0089 0.0041
 Neptune -105055-03-06 19:40 J -36649850.88 -36649850.68 -36649850.47 0.0089 0.0033
 Neptune -105055-10-18 09:21 J -36649625.32 -36649625.11 -36649624.89 0.0089 0.0025
 Mars -105054-03-04 03:07 J -36649488.44 -36649488.37 -36649488.30 0.1729 0.1560
 Neptune -105054-05-31 22:47 J -36649399.76 -36649399.55 -36649399.33 0.0089 0.0017
 Neptune -105053-01-12 12:14 J -36649174.21 -36649173.99 -36649173.76 0.0089 0.0009

Neptune -105053-08-25 01:55 J -36648948.64 -36648948.42 -36648948.20 0.0089 0.0001
 Neptune -105052-04-07 15:21 J -36648723.08 -36648722.86 -36648722.63 0.0089 0.0007
 Neptune -105052-11-19 05:02 J -36648497.51 -36648497.29 -36648497.07 0.0089 0.0015
 Neptune -105051-07-02 18:14 J -36648271.94 -36648271.74 -36648271.51 0.0089 0.0024
 Neptune -105050-02-13 07:55 J -36648046.36 -36648046.17 -36648045.95 0.0089 0.0032
 Neptune -105050-09-26 21:35 J -36647820.78 -36647820.60 -36647820.38 0.0089 0.0040
 Jupiter -105049-01-13 08:23 J -36647712.34 -36647712.15 -36647711.95 0.0537 0.0151
 Neptune -105049-05-09 11:16 J -36647595.20 -36647595.03 -36647594.83 0.0089 0.0048
 Neptune -105049-12-21 00:57 J -36647369.62 -36647369.46 -36647369.27 0.0089 0.0056
 Saturn -105049-12-22 12:57 J -36647368.14 -36647367.96 -36647367.77 0.0279 0.0137
 Neptune -105048-08-03 14:23 J -36647144.03 -36647143.90 -36647143.72 0.0089 0.0064
 Saturn -105048-08-09 03:50 J -36647138.56 -36647138.34 -36647138.13 0.0278 0.0037
 Neptune -105047-03-17 04:19 J -36646918.43 -36646918.32 -36646918.17 0.0089 0.0072
 Saturn -105047-03-26 17:59 J -36646908.90 -36646908.75 -36646908.61 0.0276 0.0206
 Neptune -105047-10-28 18:14 J -36646692.81 -36646692.74 -36646692.62 0.0089 0.0080
 Neptune -105046-06-11 07:55 J -36646467.18 -36646467.17 -36646467.11 0.0089 0.0088
 Jupiter -105044-11-13 03:21 J -36645581.54 -36645581.36 -36645581.17 0.0490 0.0214
 Jupiter -105038-09-17 22:33 J -36643446.73 -36643446.56 -36643446.39 0.0536 0.0284
 Saturn -105033-09-03 18:43 J -36641633.90 -36641633.72 -36641633.53 0.0281 0.0121
 Saturn -105032-04-21 04:19 J -36641404.53 -36641404.32 -36641404.12 0.0283 0.0052
 Jupiter -105032-07-19 05:59 J -36641315.45 -36641315.25 -36641315.05 0.0491 0.0120
 Saturn -105032-12-06 14:09 J -36641175.03 -36641174.91 -36641174.78 0.0285 0.0228
 Mars -105027-07-18 03:07 J -36639490.53 -36639490.37 -36639490.20 0.1796 0.0743
 Mars -105022-03-03 02:09 J -36637801.58 -36637801.41 -36637801.25 0.1720 0.0317
 Uranus -105022-05-23 00:57 J -36637720.52 -36637720.46 -36637720.38 0.0148 0.0139
 Uranus -105021-01-04 14:52 J -36637494.06 -36637493.88 -36637493.68 0.0148 0.0071
 Uranus -105021-08-18 05:16 J -36637267.50 -36637267.28 -36637267.06 0.0148 0.0003
 Jupiter -105020-03-24 09:50 J -36637049.17 -36637049.09 -36637049.00 0.0492 0.0449
 Uranus -105020-04-01 19:40 J -36637040.87 -36637040.68 -36637040.48 0.0148 0.0066
 Uranus -105020-11-14 10:04 J -36636814.15 -36636814.08 -36636813.98 0.0148 0.0135

Saturn	-105019-07-04 19:55 J	-36636581.87	-36636581.67	-36636581.47	0.0279	0.0110
Saturn	-105018-02-19 10:47 J	-36636352.26	-36636352.05	-36636351.84	0.0277	0.0064
Saturn	-105018-10-07 00:43 J	-36636122.57	-36636122.47	-36636122.34	0.0276	0.0234
Jupiter	-105014-09-20 22:33 J	-36634677.69	-36634677.56	-36634677.42	0.0537	0.0389
Jupiter	-105008-07-21 13:11 J	-36632547.07	-36632546.95	-36632546.84	0.0490	0.0407
Saturn	-105004-07-30 19:40 J	-36631076.75	-36631076.68	-36631076.59	0.0279	0.0259
Saturn	-105003-03-17 04:47 J	-36630847.50	-36630847.30	-36630847.10	0.0281	0.0089
Saturn	-105003-11-01 14:23 J	-36630618.10	-36630617.90	-36630617.70	0.0283	0.0086
Jupiter	-105002-05-26 11:45 J	-36630412.21	-36630412.01	-36630411.81	0.0536	0.0050
Saturn	-105002-06-19 00:43 J	-36630388.55	-36630388.47	-36630388.39	0.0285	0.0262

105TH MILLENNIUM BCE

This is a list of transits of Venus in the 105th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-104996-03-26 15:07 J	-36628281.07	-36628280.87	-36628280.67	0.0490	0.0073		
Mars	-104995-07-17 20:38 J	-36627802.79	-36627802.64	-36627802.49	0.1806	0.1004		
Jupiter	-104990-01-29 01:40 J	-36626146.51	-36626146.43	-36626146.34	0.0536	0.0482		
Mars	-104990-03-01 23:31 J	-36626114.67	-36626114.52	-36626114.38	0.1711	0.0883		
Saturn	-104990-05-30 12:28 J	-36626025.05	-36626024.98	-36626024.90	0.0281	0.0260		
Saturn	-104989-01-15 03:35 J	-36625795.55	-36625795.35	-36625795.14	0.0279	0.0085		
Saturn	-104989-08-31 18:14 J	-36625565.94	-36625565.74	-36625565.53	0.0277	0.0089		

Saturn -104988-04-18 07:55 J -36625336.24 -36625336.17 -36625336.09 0.0275 0.0258
 Jupiter -104985-11-29 18:14 J -36624014.91 -36624014.74 -36624014.56 0.0491 0.0258
 Uranus -104981-04-24 04:33 J -36622773.38 -36622773.31 -36622773.23 0.0131 0.0123
 Uranus -104981-12-06 08:23 J -36622547.32 -36622547.15 -36622546.97 0.0131 0.0075
 Uranus -104980-07-20 11:59 J -36622321.21 -36622321.00 -36622320.78 0.0131 0.0029
 Uranus -104979-03-03 15:35 J -36622095.06 -36622094.85 -36622094.63 0.0131 0.0019
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Uranus -104854-05-04 02:23 J -36576377.47 -36576377.40 -36576377.32 0.0148 0.0137
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 Uranus -104768-06-25 16:33 J -36544912.95 -36544912.81 -36544912.64 0.0148 0.0105
 Saturn -104768-10-29 21:35 J -36544786.80 -36544786.60 -36544786.39 0.0282 0.0061
 Saturn -104767-06-16 07:26 J -36544557.37 -36544557.19 -36544557.00 0.0284 0.0118
 Mars -104761-08-20 05:45 J -36542300.31 -36542300.26 -36542300.20 0.1710 0.1600
 Mars -104759-06-19 20:09 J -36541631.79 -36541631.66 -36541631.52 0.1731 0.1024
 Saturn -104754-01-12 11:02 J -36539964.16 -36539964.04 -36539963.91 0.0281 0.0225
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 Jupiter -104747-05-23 05:02 J -36537276.48 -36537276.29 -36537276.11 0.0490 0.0224
 Jupiter -104741-03-26 18:14 J -36535141.90 -36535141.74 -36535141.57 0.0536 0.0304
 Saturn -104739-09-24 15:06 J -36534230.00 -36534229.87 -36534229.73 0.0279 0.0214
 Saturn -104738-05-12 00:14 J -36534000.70 -36534000.49 -36534000.28 0.0281 0.0040
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Jupiter -104735-01-26 07:40 J -36533010.38 -36533010.18 -36533009.98 0.0491 0.0111
 Pluto -104734-09-27 12:42 J -36532401.12 -36532400.97 -36532400.81 0.0082 0.0056
 Pluto -104733-05-09 22:33 J -36532175.77 -36532175.56 -36532175.35 0.0081 0.0021
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 Neptune -104731-12-26 04:04 J -36531215.39 -36531215.33 -36531215.25 0.0089 0.0083
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 Moon -104682-01-19 14:09 J -36513659.00 -36513658.91 -36513658.81 0.2581 0.2064 *
 Saturn -104680-10-17 00:14 J -36512657.66 -36512657.49 -36512657.33 0.0280 0.0169
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 Jupiter -104670-08-11 05:30 J -36509072.45 -36509072.27 -36509072.08 0.0537 0.0212
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 Saturn -104650-12-14 14:23 J -36501642.10 -36501641.90 -36501641.69 0.0282 0.0030
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 Neptune -104647-05-12 07:40 J -36500762.31 -36500762.18 -36500762.02 0.0088 0.0066
 Neptune -104647-12-23 20:38 J -36500536.80 -36500536.64 -36500536.47 0.0088 0.0058
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Saturn -104606-12-11 14:38 J -36485573.99 -36485573.89 -36485573.79 0.0276 0.0241
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 Neptune -104566-11-10 00:57 J -36470995.55 -36470995.46 -36470995.34 0.0089 0.0077

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 Neptune -104559-08-26 03:06 J -36468514.58 -36468514.37 -36468514.14 0.0089 0.0012
 Uranus -104559-12-21 01:26 J -36468397.54 -36468397.44 -36468397.33 0.0131 0.0112
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 Neptune -104556-09-26 23:02 J -36467386.71 -36467386.54 -36467386.35 0.0089 0.0053
 Neptune -104555-05-10 12:42 J -36467161.12 -36467160.97 -36467160.80 0.0089 0.0061

Neptune -104555-12-22 02:38 J -36466935.53 -36466935.39 -36466935.25 0.0089 0.0069
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 Neptune -104553-03-17 05:30 J -36466484.30 -36466484.27 -36466484.19 0.0089 0.0086
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 Saturn -104547-05-18 06:42 J -36464231.42 -36464231.22 -36464231.02 0.0278 0.0108
 Jupiter -104539-01-10 13:40 J -36461437.13 -36461436.93 -36461436.73 0.0537 0.0108
 Mars -104534-04-24 09:21 J -36459507.25 -36459507.11 -36459506.96 0.1784 0.1030
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 Jupiter -104528-09-15 02:09 J -36457171.56 -36457171.41 -36457171.25 0.0535 0.0337
 Jupiter -104522-07-17 20:52 J -36455039.83 -36455039.63 -36455039.43 0.0491 0.0117
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Earth -104431-01-17 05:45 J -36421983.39 -36421983.26 -36421983.13 0.2583 0.1516 *
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 Jupiter -104415-08-08 04:33 J -36415936.33 -36415936.31 -36415936.28 0.0490 0.0485
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Neptune -104395-11-27 10:33 J -36408520.28 -36408520.06 -36408519.84 0.0089 0.0010
 Neptune -104394-07-10 23:45 J -36408294.71 -36408294.51 -36408294.28 0.0089 0.0019
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 Mars -104371-12-16 11:16 J -36399735.21 -36399735.03 -36399734.85 0.1788 0.0098
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 Uranus -104350-10-21 05:45 J -36392121.46 -36392121.26 -36392121.05 0.0148 0.0049
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Neptune -104237-05-14 16:18 J -36351006.91 -36351006.82 -36351006.73 0.0089 0.0081
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 Mars -104075-04-03 01:11 J -36291878.62 -36291878.45 -36291878.28 0.1786 0.0675
 Neptune -104073-08-15 23:16 J -36291012.57 -36291012.53 -36291012.43 0.0089 0.0084
 Neptune -104072-03-29 12:28 J -36290787.07 -36290786.98 -36290786.84 0.0089 0.0076
 Neptune -104072-11-10 02:09 J -36290561.55 -36290561.41 -36290561.26 0.0089 0.0067
 Neptune -104071-06-23 15:06 J -36290336.02 -36290335.87 -36290335.70 0.0089 0.0059
 Jupiter -104071-06-29 05:16 J -36290330.39 -36290330.28 -36290330.16 0.0490 0.0400
 Mars -104071-11-17 15:21 J -36290188.98 -36290188.86 -36290188.73 0.1729 0.1200
 Neptune -104070-02-04 04:18 J -36290110.49 -36290110.32 -36290110.13 0.0089 0.0051

Neptune -104070-09-17 17:30 J -36289884.95 -36289884.77 -36289884.56 0.0089 0.0043
 Neptune -104069-04-30 06:57 J -36289659.41 -36289659.21 -36289659.00 0.0089 0.0034
 Mars -104069-09-16 00:28 J -36289520.52 -36289520.48 -36289520.44 0.1750 0.1689
 Neptune -104069-12-11 20:09 J -36289433.87 -36289433.66 -36289433.44 0.0089 0.0026
 Neptune -104068-07-25 09:21 J -36289208.32 -36289208.11 -36289207.89 0.0089 0.0018
 Neptune -104067-03-07 22:47 J -36288982.77 -36288982.55 -36288982.33 0.0089 0.0009
 Neptune -104067-10-19 12:14 J -36288757.21 -36288756.99 -36288756.76 0.0089 0.0002
 Neptune -104066-06-02 01:40 J -36288531.65 -36288531.43 -36288531.21 0.0089 0.0007
 Neptune -104065-01-13 14:52 J -36288306.09 -36288305.88 -36288305.66 0.0089 0.0016
 Jupiter -104065-05-02 09:35 J -36288196.29 -36288196.10 -36288195.91 0.0536 0.0161
 Neptune -104065-08-26 04:18 J -36288080.53 -36288080.32 -36288080.11 0.0089 0.0024
 Neptune -104064-04-08 17:30 J -36287854.97 -36287854.77 -36287854.55 0.0089 0.0033
 Neptune -104064-11-20 06:57 J -36287629.39 -36287629.21 -36287629.00 0.0089 0.0041
 Neptune -104063-07-03 20:38 J -36287403.82 -36287403.64 -36287403.45 0.0089 0.0049
 Neptune -104062-02-14 09:50 J -36287178.24 -36287178.09 -36287177.90 0.0089 0.0058
 Neptune -104062-09-27 23:30 J -36286952.65 -36286952.52 -36286952.36 0.0089 0.0066
 Saturn -104061-01-22 12:28 J -36286836.10 -36286835.98 -36286835.85 0.0278 0.0221
 Neptune -104061-05-10 12:57 J -36286727.06 -36286726.96 -36286726.82 0.0089 0.0075
 Saturn -104061-09-07 20:23 J -36286606.86 -36286606.65 -36286606.45 0.0279 0.0043
 Neptune -104061-12-22 02:38 J -36286501.45 -36286501.39 -36286501.29 0.0089 0.0083
 Saturn -104060-04-25 04:47 J -36286377.48 -36286377.30 -36286377.12 0.0281 0.0140
 Jupiter -104059-03-04 07:54 J -36286064.37 -36286064.17 -36286063.96 0.0491 0.0061
 Uranus -104058-09-21 02:52 J -36285498.52 -36285498.38 -36285498.23 0.0132 0.0098
 Uranus -104057-05-04 06:57 J -36285272.40 -36285272.21 -36285272.00 0.0132 0.0049
 Uranus -104057-12-16 11:02 J -36285046.26 -36285046.04 -36285045.82 0.0131 0.0001
 Uranus -104056-07-30 14:38 J -36284820.08 -36284819.89 -36284819.68 0.0131 0.0047
 Uranus -104055-03-13 18:14 J -36284593.87 -36284593.74 -36284593.58 0.0131 0.0095
 Jupiter -104048-11-07 11:45 J -36281798.17 -36281798.01 -36281797.84 0.0492 0.0278
 Saturn -104048-11-20 16:18 J -36281784.92 -36281784.82 -36281784.70 0.0282 0.0239
 Saturn -104047-07-08 09:06 J -36281555.34 -36281555.12 -36281554.91 0.0280 0.0049

Saturn -104046-02-23 00:42 J -36281325.65 -36281325.47 -36281325.27 0.0279 0.0140
 Mars -104041-01-29 17:45 J -36279523.88 -36279523.76 -36279523.64 0.1772 0.1285
 Jupiter -104041-05-05 10:33 J -36279427.08 -36279427.06 -36279427.03 0.0537 0.0530
 Mars -104037-09-15 01:54 J -36277833.59 -36277833.42 -36277833.25 0.1741 0.0306
 Saturn -104032-08-03 22:18 J -36276049.72 -36276049.57 -36276049.42 0.0278 0.0189
 Saturn -104031-03-21 06:28 J -36275820.44 -36275820.23 -36275820.03 0.0280 0.0011
 Saturn -104031-11-05 14:38 J -36275591.04 -36275590.89 -36275590.72 0.0281 0.0175
 Jupiter -104029-01-08 23:02 J -36275161.74 -36275161.54 -36275161.34 0.0536 0.0080
 Jupiter -104024-11-09 16:47 J -36273029.97 -36273029.80 -36273029.62 0.0490 0.0256
 Saturn -104018-06-03 01:40 J -36270998.56 -36270998.43 -36270998.28 0.0282 0.0211
 Jupiter -104018-09-13 12:28 J -36270896.13 -36270895.98 -36270895.84 0.0535 0.0364
 Saturn -104017-01-18 17:59 J -36270768.96 -36270768.75 -36270768.53 0.0280 0.0020
 Saturn -104017-09-04 09:35 J -36270539.27 -36270539.10 -36270538.93 0.0279 0.0168
 Uranus -104014-01-29 23:30 J -36269661.66 -36269661.52 -36269661.35 0.0147 0.0105
 Uranus -104014-09-13 13:40 J -36269435.14 -36269434.93 -36269434.72 0.0147 0.0036
 Uranus -104013-04-27 03:35 J -36269208.56 -36269208.35 -36269208.14 0.0148 0.0034
 Uranus -104013-12-09 17:30 J -36268981.92 -36268981.77 -36268981.61 0.0148 0.0104
 Jupiter -104012-07-15 20:23 J -36268763.85 -36268763.65 -36268763.45 0.0491 0.0082
 Mars -104009-01-29 06:57 J -36267836.39 -36267836.21 -36267836.04 0.1782 0.0387
 Mars -104005-09-14 01:26 J -36266146.58 -36266146.44 -36266146.30 0.1732 0.1015
 Saturn -104002-02-14 01:11 J -36265263.61 -36265263.45 -36265263.28 0.0278 0.0168
 Saturn -104002-10-01 09:21 J -36265034.32 -36265034.11 -36265033.90 0.0280 0.0012
 Saturn -104001-05-17 17:59 J -36264804.90 -36264804.75 -36264804.60 0.0282 0.0196

104TH MILLENNIUM BCE

This is a list of transits of Venus in the 104th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-104000-03-20	23:02 J	-36264497.64	-36264497.54	-36264497.44	0.0493	0.0425	
Pluto	-103997-09-28	19:26 J	-36263209.81	-36263209.69	-36263209.54	0.0082	0.0063	
Pluto	-103996-05-12	05:30 J	-36262984.48	-36262984.27	-36262984.05	0.0081	0.0014	
Jupiter	-103994-09-16	17:59 J	-36262126.90	-36262126.75	-36262126.60	0.0537	0.0348	
Neptune	-103991-10-06	23:16 J	-36261010.59	-36261010.53	-36261010.43	0.0088	0.0083	
Neptune	-103990-05-20	12:14 J	-36260785.09	-36260784.99	-36260784.85	0.0088	0.0074	
Neptune	-103989-01-01	00:57 J	-36260559.58	-36260559.46	-36260559.29	0.0088	0.0066	
Neptune	-103989-08-13	13:40 J	-36260334.07	-36260333.93	-36260333.74	0.0088	0.0059	
Saturn	-103989-12-13	07:26 J	-36260212.34	-36260212.19	-36260212.02	0.0282	0.0183	
Neptune	-103988-03-27	03:06 J	-36260108.55	-36260108.37	-36260108.19	0.0088	0.0050	
Jupiter	-103988-07-18	01:26 J	-36259995.51	-36259995.44	-36259995.36	0.0490	0.0449	
Saturn	-103988-07-30	23:59 J	-36259982.71	-36259982.50	-36259982.28	0.0280	0.0009	
Neptune	-103988-11-07	15:50 J	-36259883.03	-36259882.84	-36259882.64	0.0088	0.0042	
Saturn	-103987-03-17	15:35 J	-36259753.00	-36259752.85	-36259752.69	0.0278	0.0196	
Neptune	-103987-06-21	04:33 J	-36259657.51	-36259657.31	-36259657.11	0.0088	0.0034	
Neptune	-103986-02-01	17:02 J	-36259431.99	-36259431.79	-36259431.57	0.0088	0.0026	
Neptune	-103986-09-15	05:45 J	-36259206.47	-36259206.26	-36259206.04	0.0088	0.0017	
Neptune	-103985-04-27	18:28 J	-36258980.94	-36258980.73	-36258980.51	0.0088	0.0009	
Neptune	-103985-12-09	07:11 J	-36258755.42	-36258755.20	-36258754.98	0.0088	0.0001	
Neptune	-103984-07-22	19:40 J	-36258529.89	-36258529.68	-36258529.46	0.0088	0.0007	
Neptune	-103983-03-05	08:23 J	-36258304.37	-36258304.15	-36258303.94	0.0088	0.0015	
Neptune	-103983-10-16	20:52 J	-36258078.84	-36258078.63	-36258078.42	0.0088	0.0023	

Jupiter -103982-05-22 04:33 J -36257861.51 -36257861.31 -36257861.11 0.0535 0.0112
 Neptune -103982-05-30 09:21 J -36257853.31 -36257853.11 -36257852.90 0.0088 0.0032
 Neptune -103981-01-10 21:50 J -36257627.78 -36257627.59 -36257627.39 0.0088 0.0040
 Neptune -103981-08-23 10:18 J -36257402.25 -36257402.07 -36257401.88 0.0088 0.0048
 Neptune -103980-04-05 23:02 J -36257176.71 -36257176.54 -36257176.37 0.0088 0.0056
 Neptune -103980-11-17 11:30 J -36256951.17 -36256951.02 -36256950.87 0.0088 0.0064
 Neptune -103979-06-30 23:45 J -36256725.63 -36256725.51 -36256725.38 0.0088 0.0072
 Neptune -103978-02-11 11:45 J -36256500.08 -36256500.01 -36256499.90 0.0088 0.0080
 Neptune -103978-09-24 23:59 J -36256274.51 -36256274.50 -36256274.45 0.0088 0.0088
 Jupiter -103976-03-23 04:47 J -36255729.50 -36255729.30 -36255729.10 0.0491 0.0112
 Mars -103976-11-25 23:30 J -36255481.60 -36255481.52 -36255481.43 0.1768 0.1561
 Uranus -103974-05-21 15:21 J -36254939.93 -36254939.86 -36254939.75 0.0132 0.0119
 Uranus -103973-01-02 19:54 J -36254713.85 -36254713.67 -36254713.48 0.0132 0.0070
 Uranus -103973-08-15 23:59 J -36254487.71 -36254487.50 -36254487.28 0.0131 0.0021
 Saturn -103973-08-26 10:47 J -36254477.22 -36254477.05 -36254476.86 0.0279 0.0137
 Uranus -103972-03-30 04:04 J -36254261.54 -36254261.33 -36254261.12 0.0131 0.0028
 Saturn -103972-04-12 19:11 J -36254247.90 -36254247.70 -36254247.49 0.0280 0.0046
 Uranus -103972-11-11 07:54 J -36254035.35 -36254035.17 -36254034.99 0.0131 0.0076
 Saturn -103972-11-28 04:04 J -36254018.44 -36254018.33 -36254018.21 0.0282 0.0231
 Uranus -103971-06-25 11:16 J -36253809.09 -36253809.03 -36253808.95 0.0131 0.0123
 Mars -103971-07-13 11:30 J -36253791.18 -36253791.02 -36253790.85 0.1744 0.0510
 Jupiter -103965-11-26 07:26 J -36251463.37 -36251463.19 -36251463.01 0.0492 0.0229
 Saturn -103959-06-25 17:59 J -36249425.93 -36249425.75 -36249425.57 0.0282 0.0152
 Saturn -103958-02-10 09:50 J -36249196.30 -36249196.09 -36249195.87 0.0280 0.0039
 Saturn -103958-09-28 00:57 J -36248966.57 -36248966.46 -36248966.32 0.0278 0.0226
 Moon -103953-01-20 17:16 J -36247390.83 -36247390.78 -36247390.73 0.2579 0.2437
 Earth -103953-01-20 18:42 J -36247390.78 -36247390.72 -36247390.66 0.2585 0.2378 *
 Jupiter -103946-01-27 22:18 J -36244826.77 -36244826.57 -36244826.38 0.0537 0.0151
 Moon -103945-01-18 06:57 J -36244471.33 -36244471.21 -36244471.09 0.2586 0.1722
 Earth -103945-01-18 11:45 J -36244471.16 -36244471.01 -36244470.86 0.2588 0.0962 *

Mars -103944-11-25 11:59 J -36243794.17 -36243794.00 -36243793.82 0.1779 0.0092
 Saturn -103943-03-08 14:09 J -36243691.10 -36243690.91 -36243690.72 0.0279 0.0115
 Saturn -103943-10-23 22:18 J -36243461.77 -36243461.57 -36243461.37 0.0280 0.0068
 Saturn -103942-06-10 06:57 J -36243232.30 -36243232.21 -36243232.11 0.0282 0.0252
 Jupiter -103941-11-28 12:42 J -36242695.13 -36242694.97 -36242694.81 0.0490 0.0304
 Mars -103939-07-12 11:45 J -36242104.16 -36242104.01 -36242103.86 0.1735 0.0833
 Jupiter -103935-10-02 11:16 J -36240561.20 -36240561.03 -36240560.86 0.0535 0.0298
 Uranus -103931-09-29 07:11 J -36239103.27 -36239103.20 -36239103.10 0.0147 0.0136
 Uranus -103930-05-13 21:06 J -36238876.82 -36238876.62 -36238876.43 0.0147 0.0067
 Uranus -103930-12-26 10:47 J -36238650.27 -36238650.05 -36238649.83 0.0147 0.0002
 Saturn -103929-01-05 23:02 J -36238639.73 -36238639.54 -36238639.35 0.0281 0.0125
 Jupiter -103929-08-03 16:18 J -36238429.03 -36238428.82 -36238428.62 0.0492 0.0035
 Uranus -103929-08-09 00:28 J -36238423.66 -36238423.48 -36238423.28 0.0148 0.0073
 Saturn -103929-08-22 15:06 J -36238410.08 -36238409.87 -36238409.66 0.0279 0.0066
 Uranus -103928-03-23 14:38 J -36238196.93 -36238196.89 -36238196.82 0.0148 0.0143
 Saturn -103928-04-09 06:28 J -36238180.31 -36238180.23 -36238180.13 0.0278 0.0252
 Jupiter -103917-04-08 19:26 J -36234162.82 -36234162.69 -36234162.56 0.0493 0.0376
 Saturn -103914-02-01 14:52 J -36233133.93 -36233133.88 -36233133.81 0.0278 0.0264
 Saturn -103914-09-18 22:47 J -36232904.74 -36232904.55 -36232904.35 0.0279 0.0085
 Saturn -103913-05-05 07:26 J -36232675.38 -36232675.19 -36232674.99 0.0281 0.0100
 Jupiter -103911-10-05 12:28 J -36231792.11 -36231791.98 -36231791.84 0.0537 0.0395
 Neptune -103909-11-17 07:11 J -36231018.23 -36231018.20 -36231018.12 0.0089 0.0086
 Neptune -103908-06-30 20:09 J -36230792.74 -36230792.66 -36230792.53 0.0089 0.0078
 Neptune -103907-02-11 09:21 J -36230567.22 -36230567.11 -36230566.95 0.0089 0.0070
 Neptune -103907-09-24 23:02 J -36230341.69 -36230341.54 -36230341.38 0.0089 0.0061
 Neptune -103906-05-08 11:59 J -36230116.16 -36230116.00 -36230115.81 0.0089 0.0053
 Neptune -103906-12-20 00:57 J -36229890.63 -36229890.46 -36229890.25 0.0089 0.0045
 Mars -103905-05-09 21:35 J -36229748.75 -36229748.60 -36229748.44 0.1747 0.0710
 Neptune -103905-08-01 14:38 J -36229665.09 -36229664.89 -36229664.69 0.0089 0.0036
 Neptune -103904-03-15 03:35 J -36229439.55 -36229439.35 -36229439.13 0.0089 0.0028

Neptune -103904-10-26 17:02 J -36229213.99 -36229213.79 -36229213.56 0.0089 0.0020
 Neptune -103903-06-09 06:28 J -36228988.44 -36228988.23 -36228988.01 0.0089 0.0011
 Neptune -103902-01-20 19:54 J -36228762.89 -36228762.67 -36228762.45 0.0089 0.0003
 Neptune -103902-09-03 09:21 J -36228537.33 -36228537.11 -36228536.89 0.0089 0.0006
 Neptune -103901-04-15 22:33 J -36228311.77 -36228311.56 -36228311.34 0.0089 0.0014
 Neptune -103901-11-27 11:59 J -36228086.21 -36228086.00 -36228085.78 0.0089 0.0023
 Neptune -103900-07-11 01:26 J -36227860.65 -36227860.44 -36227860.23 0.0089 0.0031
 Saturn -103900-07-18 09:50 J -36227853.29 -36227853.09 -36227852.89 0.0281 0.0093
 Neptune -103899-02-21 14:38 J -36227635.08 -36227634.89 -36227634.68 0.0089 0.0040
 Saturn -103899-03-05 01:40 J -36227623.63 -36227623.43 -36227623.22 0.0279 0.0097
 Jupiter -103899-06-10 01:26 J -36227526.65 -36227526.44 -36227526.24 0.0536 0.0054
 Neptune -103899-10-05 04:18 J -36227409.50 -36227409.32 -36227409.12 0.0089 0.0048
 Neptune -103898-05-18 17:30 J -36227183.92 -36227183.77 -36227183.58 0.0089 0.0057
 Neptune -103898-12-30 07:11 J -36226958.34 -36226958.20 -36226958.04 0.0089 0.0065
 Neptune -103897-08-11 21:06 J -36226732.75 -36226732.62 -36226732.50 0.0089 0.0073
 Neptune -103896-03-25 10:04 J -36226507.14 -36226507.08 -36226506.97 0.0089 0.0082
 Jupiter -103893-04-11 01:11 J -36225394.64 -36225394.45 -36225394.26 0.0491 0.0163
 Uranus -103890-09-02 08:38 J -36224155.30 -36224155.14 -36224154.98 0.0132 0.0090
 Uranus -103889-04-15 12:42 J -36223929.17 -36223928.97 -36223928.75 0.0132 0.0042
 Uranus -103889-11-27 17:02 J -36223703.01 -36223702.79 -36223702.58 0.0131 0.0008
 Uranus -103888-07-11 20:23 J -36223476.83 -36223476.65 -36223476.44 0.0131 0.0057
 Jupiter -103887-02-12 15:06 J -36223260.94 -36223260.87 -36223260.79 0.0534 0.0496
 Uranus -103887-02-22 23:59 J -36223250.61 -36223250.50 -36223250.35 0.0131 0.0105
 Saturn -103885-08-13 18:14 J -36222347.84 -36222347.74 -36222347.64 0.0277 0.0242
 Saturn -103884-03-31 02:09 J -36222118.61 -36222118.41 -36222118.21 0.0279 0.0062
 Saturn -103884-11-15 10:18 J -36221889.25 -36221889.07 -36221888.88 0.0281 0.0122
 Jupiter -103882-12-16 04:04 J -36221128.52 -36221128.33 -36221128.14 0.0492 0.0180
 Mars -103878-09-22 18:14 J -36219751.92 -36219751.74 -36219751.56 0.1775 0.0193
 Mars -103873-05-08 22:04 J -36218061.73 -36218061.58 -36218061.42 0.1737 0.0651
 Saturn -103871-06-12 20:52 J -36217296.69 -36217296.63 -36217296.54 0.0283 0.0263

Saturn -103870-01-28 13:54 J -36217067.13 -36217066.92 -36217066.72 0.0281 0.0069
 Saturn -103870-09-15 05:45 J -36216837.45 -36216837.26 -36216837.06 0.0279 0.0122
 Jupiter -103863-02-15 18:42 J -36214491.90 -36214491.72 -36214491.53 0.0536 0.0208
 Jupiter -103858-12-18 09:35 J -36212360.24 -36212360.10 -36212359.96 0.0491 0.0357
 Earth -103856-07-27 07:54 J -36211773.32 -36211773.17 -36211773.02 0.2754 0.0834
 Moon -103856-07-27 12:14 J -36211773.15 -36211772.99 -36211772.84 0.2748 0.0953 *
 Saturn -103855-02-24 01:54 J -36211561.55 -36211561.42 -36211561.28 0.0278 0.0215
 Saturn -103855-10-11 10:04 J -36211332.29 -36211332.08 -36211331.87 0.0280 0.0034
 Saturn -103854-05-28 18:28 J -36211102.90 -36211102.73 -36211102.55 0.0281 0.0152
 Jupiter -103852-10-21 06:57 J -36210226.39 -36210226.21 -36210226.03 0.0535 0.0245
 Uranus -103846-01-11 04:04 J -36208318.48 -36208318.33 -36208318.16 0.0147 0.0099
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Uranus -103384-05-16 06:57 J -36039447.38 -36039447.21 -36039447.02 0.0132 0.0073
 Saturn -103384-05-21 18:28 J -36039441.86 -36039441.73 -36039441.60 0.0276 0.0216
 Uranus -103384-12-28 10:47 J -36039221.12 -36039221.05 -36039220.96 0.0131 0.0121
 Saturn -103383-01-06 00:57 J -36039212.66 -36039212.46 -36039212.25 0.0278 0.0034
 Jupiter -103383-04-10 02:38 J -36039118.57 -36039118.39 -36039118.20 0.0491 0.0209
 Saturn -103383-08-23 07:54 J -36038983.34 -36038983.17 -36038982.99 0.0279 0.0153
 Mars -103380-02-13 20:23 J -36038077.81 -36038077.65 -36038077.50 0.1749 0.0647
 Jupiter -103377-02-11 07:40 J -36036985.25 -36036985.18 -36036985.10 0.0534 0.0494
 Jupiter -103372-12-14 07:11 J -36034852.40 -36034852.20 -36034852.00 0.0493 0.0131
 Saturn -103370-03-20 10:33 J -36034391.14 -36034391.06 -36034390.95 0.0284 0.0254
 Earth -103370-07-28 06:14 J -36034261.40 -36034261.24 -36034261.09 0.2748 0.0154
 Moon -103370-07-28 11:59 J -36034261.14 -36034261.00 -36034260.85 0.2748 0.1041 *
 Saturn -103370-11-05 04:33 J -36034161.52 -36034161.31 -36034161.09 0.0282 0.0051
 Saturn -103369-06-21 21:50 J -36033931.77 -36033931.59 -36033931.41 0.0281 0.0149
 Jupiter -103360-08-19 11:45 J -36030586.07 -36030586.01 -36030585.95 0.0494 0.0471
 Saturn -103355-12-02 01:26 J -36028655.59 -36028655.44 -36028655.28 0.0276 0.0186
 Saturn -103354-07-19 08:09 J -36028426.37 -36028426.16 -36028425.95 0.0277 0.0002
 Jupiter -103353-02-14 09:50 J -36028216.27 -36028216.09 -36028215.90 0.0536 0.0209
 Saturn -103353-03-04 15:06 J -36028197.02 -36028196.87 -36028196.71 0.0279 0.0184
 Mars -103353-06-28 16:33 J -36028080.94 -36028080.81 -36028080.69 0.1774 0.1276
 Pluto -103349-03-26 21:50 J -36026713.65 -36026713.59 -36026713.51 0.0063 0.0059
 Pluto -103349-11-07 02:09 J -36026488.61 -36026488.41 -36026488.18 0.0063 0.0022
 Pluto -103348-06-20 06:57 J -36026263.43 -36026263.21 -36026262.99 0.0063 0.0016
 Jupiter -103348-12-16 13:26 J -36026084.04 -36026083.94 -36026083.83 0.0490 0.0416
 Pluto -103347-01-31 10:33 J -36026038.14 -36026038.06 -36026037.91 0.0064 0.0055
 Mars -103347-12-13 03:50 J -36025722.48 -36025722.34 -36025722.20 0.1762 0.1015
 Uranus -103343-11-15 10:18 J -36024289.24 -36024289.07 -36024288.89 0.0147 0.0088
 Uranus -103342-06-29 23:30 J -36024062.73 -36024062.52 -36024062.30 0.0147 0.0019
 Jupiter -103342-10-20 00:28 J -36023950.66 -36023950.48 -36023950.29 0.0535 0.0237
 Uranus -103341-02-11 12:57 J -36023836.16 -36023835.96 -36023835.75 0.0147 0.0050

Uranus -103341-09-25 02:38 J -36023609.51 -36023609.39 -36023609.26 0.0147 0.0121
 Saturn -103341-09-29 13:26 J -36023605.06 -36023604.94 -36023604.82 0.0284 0.0233
 Saturn -103340-05-17 06:57 J -36023375.43 -36023375.21 -36023375.00 0.0282 0.0031
 Saturn -103339-01-01 23:45 J -36023145.68 -36023145.51 -36023145.34 0.0281 0.0169
 Jupiter -103336-08-21 17:16 J -36021817.98 -36021817.78 -36021817.58 0.0491 0.0075
 Neptune -103333-05-28 00:14 J -36020807.55 -36020807.49 -36020807.38 0.0088 0.0082
 Neptune -103332-01-08 13:40 J -36020582.05 -36020581.93 -36020581.80 0.0088 0.0073
 Neptune -103332-08-22 02:23 J -36020356.54 -36020356.40 -36020356.24 0.0088 0.0065
 Neptune -103331-04-04 15:21 J -36020131.01 -36020130.86 -36020130.67 0.0088 0.0056
 Neptune -103331-11-16 04:33 J -36019905.49 -36019905.31 -36019905.12 0.0088 0.0048
 Neptune -103330-06-29 17:16 J -36019679.96 -36019679.78 -36019679.57 0.0088 0.0039
 Neptune -103329-02-10 06:28 J -36019454.44 -36019454.23 -36019454.02 0.0088 0.0031
 Neptune -103329-09-22 19:11 J -36019228.91 -36019228.70 -36019228.48 0.0088 0.0022
 Neptune -103328-05-06 08:09 J -36019003.38 -36019003.16 -36019002.94 0.0088 0.0014
 Neptune -103328-12-17 20:52 J -36018777.85 -36018777.63 -36018777.41 0.0088 0.0005
 Neptune -103327-07-31 09:35 J -36018552.32 -36018552.10 -36018551.88 0.0088 0.0003
 Neptune -103326-03-13 22:18 J -36018326.79 -36018326.57 -36018326.35 0.0088 0.0012
 Neptune -103326-10-25 10:47 J -36018101.26 -36018101.05 -36018100.83 0.0088 0.0020
 Neptune -103325-06-06 23:16 J -36017875.73 -36017875.53 -36017875.31 0.0088 0.0029
 Saturn -103325-06-13 02:23 J -36017869.56 -36017869.40 -36017869.23 0.0276 0.0168
 Neptune -103324-01-18 11:59 J -36017650.20 -36017650.00 -36017649.80 0.0088 0.0037
 Saturn -103324-01-28 09:06 J -36017640.33 -36017640.12 -36017639.91 0.0278 0.0016
 Jupiter -103324-04-26 20:23 J -36017551.82 -36017551.65 -36017551.48 0.0493 0.0272
 Neptune -103324-09-01 00:14 J -36017424.66 -36017424.49 -36017424.29 0.0088 0.0045
 Saturn -103324-09-14 16:18 J -36017410.96 -36017410.82 -36017410.68 0.0280 0.0203
 Neptune -103323-04-14 12:42 J -36017199.12 -36017198.97 -36017198.78 0.0088 0.0054
 Neptune -103323-11-26 01:11 J -36016973.59 -36016973.45 -36016973.27 0.0088 0.0062
 Neptune -103322-07-09 13:40 J -36016748.05 -36016747.93 -36016747.78 0.0088 0.0070
 Neptune -103321-02-20 02:09 J -36016522.50 -36016522.41 -36016522.30 0.0088 0.0078
 Neptune -103321-10-02 14:38 J -36016296.93 -36016296.89 -36016296.83 0.0088 0.0086

Mars -103319-04-26 10:33 J -36015726.22 -36015726.06 -36015725.89 0.1760 0.0692
 Jupiter -103318-10-23 06:14 J -36015181.31 -36015181.24 -36015181.15 0.0537 0.0487
 Mars -103315-12-12 06:28 J -36014035.39 -36014035.23 -36014035.07 0.1751 0.0448
 Saturn -103311-04-11 18:57 J -36012818.85 -36012818.71 -36012818.56 0.0284 0.0205
 Saturn -103311-11-27 12:42 J -36012589.19 -36012588.97 -36012588.76 0.0282 0.0002
 Saturn -103310-07-15 05:30 J -36012359.41 -36012359.27 -36012359.11 0.0280 0.0199
 Jupiter -103306-06-27 15:50 J -36010916.04 -36010915.84 -36010915.63 0.0535 0.0020
 Uranus -103302-03-07 05:30 J -36009567.41 -36009567.27 -36009567.12 0.0132 0.0099
 Uranus -103302-10-19 10:04 J -36009341.28 -36009341.08 -36009340.88 0.0132 0.0049
 Uranus -103301-06-01 14:23 J -36009115.12 -36009114.90 -36009114.68 0.0132 0.0001
 Uranus -103300-01-13 18:14 J -36008888.93 -36008888.74 -36008888.53 0.0132 0.0050
 Jupiter -103300-04-29 03:35 J -36008783.51 -36008783.35 -36008783.18 0.0491 0.0280
 Uranus -103300-08-27 22:04 J -36008662.71 -36008662.58 -36008662.43 0.0132 0.0099
 Saturn -103296-12-24 10:33 J -36007083.24 -36007083.06 -36007082.88 0.0276 0.0137
 Saturn -103295-08-10 17:16 J -36006853.99 -36006853.78 -36006853.58 0.0278 0.0049
 Jupiter -103294-03-02 04:47 J -36006650.41 -36006650.30 -36006650.18 0.0534 0.0436
 Saturn -103294-03-28 00:28 J -36006624.59 -36006624.48 -36006624.37 0.0279 0.0237
 Jupiter -103288-01-02 06:42 J -36004517.42 -36004517.22 -36004517.02 0.0492 0.0065
 Mars -103287-04-25 22:18 J -36004038.72 -36004038.57 -36004038.42 0.1770 0.0987
 Saturn -103282-10-22 23:16 J -36002032.69 -36002032.53 -36002032.37 0.0284 0.0182
 Saturn -103281-06-08 16:33 J -36001803.02 -36001802.81 -36001802.60 0.0282 0.0021
 Mars -103281-10-09 12:42 J -36001680.09 -36001679.97 -36001679.85 0.1765 0.1248
 Saturn -103280-01-24 09:06 J -36001573.24 -36001573.12 -36001572.98 0.0280 0.0220
 Jupiter -103277-09-07 10:33 J -36000251.17 -36000251.06 -36000250.95 0.0494 0.0409
 Jupiter -103270-03-05 12:28 J -35997881.15 -35997880.98 -35997880.81 0.0536 0.0296
 Saturn -103266-07-06 11:59 J -35996297.19 -35996297.00 -35996296.81 0.0277 0.0117
 Saturn -103265-02-20 18:42 J -35996067.92 -35996067.72 -35996067.51 0.0278 0.0069
 Saturn -103265-10-07 01:54 J -35995838.49 -35995838.42 -35995838.33 0.0280 0.0257
 Jupiter -103264-01-04 11:45 J -35995749.05 -35995749.01 -35995748.96 0.0490 0.0475
 Pluto -103260-10-01 01:40 J -35994018.51 -35994018.43 -35994018.32 0.0082 0.0073

Pluto -103259-05-14 11:59 J -35993793.21 -35993793.00 -35993792.78 0.0081 0.0004
 Uranus -103259-07-15 15:50 J -35993730.95 -35993730.84 -35993730.72 0.0147 0.0122
 Jupiter -103259-11-08 01:11 J -35993615.65 -35993615.45 -35993615.26 0.0535 0.0161
 Pluto -103259-12-25 21:35 J -35993567.63 -35993567.60 -35993567.55 0.0081 0.0079
 Uranus -103258-02-27 04:47 J -35993504.49 -35993504.30 -35993504.09 0.0147 0.0054
 Uranus -103258-10-11 18:28 J -35993277.95 -35993277.73 -35993277.51 0.0147 0.0016
 Uranus -103257-05-25 07:40 J -35993051.34 -35993051.18 -35993050.99 0.0147 0.0086
 Mars -103253-02-21 17:30 J -35991683.92 -35991683.77 -35991683.62 0.1756 0.0953
 Jupiter -103253-09-09 16:04 J -35991483.02 -35991482.83 -35991482.63 0.0492 0.0135
 Saturn -103252-05-04 05:02 J -35991246.46 -35991246.29 -35991246.10 0.0283 0.0153
 Saturn -103252-12-19 22:33 J -35991016.77 -35991016.56 -35991016.35 0.0282 0.0051
 Neptune -103251-07-09 09:50 J -35990815.15 -35990815.09 -35990815.02 0.0089 0.0084
 Saturn -103251-08-06 15:06 J -35990786.95 -35990786.87 -35990786.76 0.0280 0.0250
 Neptune -103250-02-19 22:33 J -35990589.65 -35990589.56 -35990589.43 0.0089 0.0076
 Neptune -103250-10-03 11:30 J -35990364.13 -35990364.02 -35990363.85 0.0089 0.0068
 Neptune -103249-05-16 00:57 J -35990138.61 -35990138.46 -35990138.29 0.0089 0.0059
 Mars -103249-10-08 15:35 J -35989993.02 -35989992.85 -35989992.68 0.1755 0.0229
 Neptune -103249-12-27 13:40 J -35989913.09 -35989912.93 -35989912.73 0.0089 0.0051
 Neptune -103248-08-10 02:52 J -35989687.56 -35989687.38 -35989687.17 0.0089 0.0043
 Neptune -103247-03-23 15:50 J -35989462.02 -35989461.84 -35989461.62 0.0089 0.0035
 Neptune -103247-11-04 05:16 J -35989236.48 -35989236.28 -35989236.06 0.0089 0.0025
 Neptune -103246-06-17 18:42 J -35989010.94 -35989010.72 -35989010.51 0.0089 0.0016
 Neptune -103245-01-29 07:40 J -35988785.39 -35988785.18 -35988784.95 0.0089 0.0008
 Neptune -103245-09-10 21:06 J -35988559.84 -35988559.62 -35988559.40 0.0089 0.0001
 Neptune -103244-04-24 10:18 J -35988334.29 -35988334.07 -35988333.85 0.0089 0.0010
 Neptune -103244-12-05 23:45 J -35988108.73 -35988108.51 -35988108.30 0.0089 0.0019
 Neptune -103243-07-19 12:57 J -35987883.17 -35987882.96 -35987882.75 0.0089 0.0027
 Neptune -103242-03-02 02:09 J -35987657.60 -35987657.41 -35987657.20 0.0089 0.0036
 Neptune -103242-10-13 15:35 J -35987432.02 -35987431.85 -35987431.64 0.0089 0.0045
 Jupiter -103241-05-15 20:09 J -35987216.85 -35987216.66 -35987216.48 0.0493 0.0207

Neptune -103241-05-26 05:30 J -35987206.45 -35987206.27 -35987206.09 0.0089 0.0053

Neptune -103240-01-06 18:42 J -35986980.87 -35986980.72 -35986980.55 0.0089 0.0062

Neptune -103240-08-20 07:54 J -35986755.28 -35986755.17 -35986755.02 0.0089 0.0071

Neptune -103239-04-02 22:04 J -35986529.68 -35986529.58 -35986529.49 0.0089 0.0080

Neptune -103239-11-14 11:16 J -35986304.04 -35986304.03 -35986303.98 0.0089 0.0089

Saturn -103237-05-31 13:54 J -35985739.95 -35985739.92 -35985739.86 0.0275 0.0268

Saturn -103236-01-15 20:38 J -35985510.84 -35985510.64 -35985510.44 0.0277 0.0085

Saturn -103236-09-02 03:35 J -35985281.54 -35985281.35 -35985281.16 0.0278 0.0103

Jupiter -103223-07-16 16:18 J -35980581.02 -35980580.82 -35980580.62 0.0536 0.0093

Saturn -103223-11-14 11:16 J -35980460.22 -35980460.03 -35980459.83 0.0283 0.0127

Saturn -103222-07-02 04:18 J -35980230.52 -35980230.32 -35980230.11 0.0282 0.0077

Saturn -103221-02-16 20:52 J -35980000.66 -35980000.63 -35980000.59 0.0280 0.0275

Mars -103221-02-21 05:02 J -35979996.45 -35979996.29 -35979996.12 0.1767 0.0715

Uranus -103219-11-04 15:35 J -35979008.91 -35979008.85 -35979008.76 0.0132 0.0124

Uranus -103218-06-18 20:09 J -35978782.83 -35978782.66 -35978782.47 0.0132 0.0073

Uranus -103217-01-31 00:28 J -35978556.69 -35978556.48 -35978556.26 0.0132 0.0024

Jupiter -103217-05-18 01:26 J -35978448.59 -35978448.44 -35978448.29 0.0491 0.0337

Uranus -103217-09-13 04:47 J -35978330.51 -35978330.30 -35978330.09 0.0132 0.0026

Mars -103217-10-07 17:02 J -35978305.84 -35978305.79 -35978305.73 0.1745 0.1647

Moon -103216-01-18 19:54 J -35978202.82 -35978202.67 -35978202.52 0.2602 0.0485

Earth -103216-01-18 20:23 J -35978202.81 -35978202.65 -35978202.49 0.2595 0.0225 *

Uranus -103216-04-27 08:38 J -35978104.30 -35978104.14 -35978103.95 0.0132 0.0076

Uranus -103216-12-09 12:14 J -35977878.03 -35977877.99 -35977877.90 0.0132 0.0125

Mars -103215-08-06 21:35 J -35977637.69 -35977637.60 -35977637.51 0.1768 0.1491

Jupiter -103211-03-21 06:14 J -35976315.39 -35976315.24 -35976315.08 0.0534 0.0355

Saturn -103208-12-11 15:50 J -35974953.91 -35974953.84 -35974953.73 0.0276 0.0249

Saturn -103207-07-28 22:47 J -35974724.75 -35974724.55 -35974724.35 0.0277 0.0064

Saturn -103206-03-15 05:45 J -35974495.44 -35974495.26 -35974495.07 0.0279 0.0124

Jupiter -103205-01-22 04:18 J -35974182.53 -35974182.32 -35974182.12 0.0492 0.0015

Jupiter -103194-09-27 08:09 J -35969916.30 -35969916.16 -35969916.02 0.0494 0.0356

Saturn -103193-05-26 17:30 J -35969673.97 -35969673.77 -35969673.57 0.0283 0.0097
 Saturn -103192-01-11 10:33 J -35969444.26 -35969444.06 -35969443.86 0.0281 0.0106
 Mars -103188-12-19 00:57 J -35967641.59 -35967641.46 -35967641.33 0.1753 0.1200
 Jupiter -103187-03-24 07:54 J -35967546.32 -35967546.17 -35967546.02 0.0536 0.0347
 Mars -103183-08-06 01:26 J -35965950.61 -35965950.44 -35965950.27 0.1758 0.0025
 Saturn -103178-06-24 01:26 J -35964167.56 -35964167.44 -35964167.30 0.0276 0.0216
 Saturn -103177-02-08 08:23 J -35963938.36 -35963938.15 -35963937.94 0.0277 0.0030
 Saturn -103177-09-24 15:21 J -35963709.02 -35963708.86 -35963708.68 0.0279 0.0159
 Jupiter -103176-11-26 20:09 J -35963280.85 -35963280.66 -35963280.46 0.0535 0.0112
 Uranus -103175-10-27 09:21 J -35962946.27 -35962946.11 -35962945.92 0.0147 0.0090
 Uranus -103174-06-10 22:47 J -35962719.77 -35962719.55 -35962719.34 0.0147 0.0020
 Uranus -103173-01-23 11:59 J -35962493.20 -35962493.00 -35962492.79 0.0147 0.0050
 Uranus -103173-09-06 01:40 J -35962266.55 -35962266.43 -35962266.30 0.0147 0.0120
 Jupiter -103170-09-29 13:25 J -35961148.12 -35961147.94 -35961147.75 0.0492 0.0193
 Neptune -103169-08-29 11:01 J -35960813.10 -35960813.04 -35960812.94 0.0088 0.0083
 Neptune -103168-04-12 00:28 J -35960587.59 -35960587.48 -35960587.35 0.0088 0.0074
 Neptune -103168-11-23 13:11 J -35960362.08 -35960361.95 -35960361.79 0.0088 0.0066
 Neptune -103167-07-07 01:54 J -35960136.56 -35960136.42 -35960136.23 0.0088 0.0058
 Neptune -103166-02-17 15:06 J -35959911.04 -35959910.87 -35959910.67 0.0088 0.0049
 Neptune -103166-10-01 03:49 J -35959685.52 -35959685.34 -35959685.12 0.0088 0.0041
 Neptune -103165-05-13 17:01 J -35959459.99 -35959459.79 -35959459.58 0.0088 0.0031
 Neptune -103165-12-25 05:45 J -35959234.46 -35959234.26 -35959234.04 0.0088 0.0023
 Saturn -103164-04-21 07:25 J -35959117.23 -35959117.19 -35959117.12 0.0284 0.0274
 Neptune -103164-08-07 18:42 J -35959008.93 -35959008.72 -35959008.50 0.0088 0.0014
 Saturn -103164-12-07 01:11 J -35958887.66 -35958887.45 -35958887.24 0.0283 0.0068
 Neptune -103163-03-21 07:40 J -35958783.40 -35958783.18 -35958782.96 0.0088 0.0006
 Saturn -103163-07-24 17:59 J -35958657.94 -35958657.75 -35958657.56 0.0281 0.0135
 Neptune -103163-11-01 20:23 J -35958557.87 -35958557.65 -35958557.43 0.0088 0.0003
 Neptune -103162-06-15 09:06 J -35958332.33 -35958332.12 -35958331.90 0.0088 0.0011
 Neptune -103161-01-26 21:49 J -35958106.80 -35958106.59 -35958106.38 0.0088 0.0020

Neptune -103161-09-08 10:04 J -35957881.27 -35957881.08 -35957880.86 0.0088 0.0029
 Neptune -103160-04-21 23:01 J -35957655.73 -35957655.54 -35957655.33 0.0088 0.0037
 Neptune -103160-12-03 11:45 J -35957430.20 -35957430.01 -35957429.82 0.0088 0.0045
 Neptune -103159-07-16 23:45 J -35957204.66 -35957204.51 -35957204.32 0.0088 0.0054
 Neptune -103158-02-27 12:13 J -35956979.13 -35956978.99 -35956978.82 0.0088 0.0062
 Jupiter -103158-06-04 17:16 J -35956881.97 -35956881.78 -35956881.58 0.0493 0.0153
 Neptune -103158-10-11 00:57 J -35956753.59 -35956753.46 -35956753.32 0.0088 0.0070
 Neptune -103157-05-23 13:25 J -35956528.03 -35956527.94 -35956527.83 0.0088 0.0078
 Neptune -103156-01-04 01:54 J -35956302.47 -35956302.42 -35956302.37 0.0088 0.0086
 Mars -103156-12-18 11:30 J -35955954.19 -35955954.02 -35955953.84 0.1764 0.0439
 Mars -103151-08-05 03:06 J -35954263.47 -35954263.37 -35954263.28 0.1748 0.1450
 Mars -103149-06-03 07:11 J -35953595.24 -35953595.20 -35953595.17 0.1771 0.1721
 Saturn -103148-01-03 03:49 J -35953381.48 -35953381.34 -35953381.19 0.0276 0.0195
 Saturn -103148-08-20 10:47 J -35953152.26 -35953152.05 -35953151.84 0.0278 0.0010
 Saturn -103147-04-06 17:59 J -35952922.91 -35952922.75 -35952922.59 0.0279 0.0181
 Jupiter -103140-08-04 15:35 J -35950246.04 -35950245.85 -35950245.66 0.0536 0.0163
 Saturn -103135-11-01 13:40 J -35948331.03 -35948330.93 -35948330.81 0.0284 0.0244
 Uranus -103134-02-16 06:28 J -35948224.37 -35948224.23 -35948224.08 0.0132 0.0098
 Jupiter -103134-06-06 22:18 J -35948113.69 -35948113.57 -35948113.44 0.0491 0.0390
 Saturn -103134-06-19 07:25 J -35948101.40 -35948101.19 -35948100.98 0.0282 0.0038
 Uranus -103134-09-30 11:01 J -35947998.24 -35947998.04 -35947997.84 0.0132 0.0047
 Saturn -103133-02-04 00:13 J -35947871.66 -35947871.49 -35947871.31 0.0281 0.0165
 Uranus -103133-05-13 15:21 J -35947772.08 -35947771.86 -35947771.64 0.0132 0.0002
 Uranus -103133-12-25 19:25 J -35947545.89 -35947545.69 -35947545.49 0.0132 0.0052
 Uranus -103132-08-08 23:30 J -35947319.66 -35947319.52 -35947319.39 0.0132 0.0101
 Jupiter -103128-04-09 01:54 J -35945980.59 -35945980.42 -35945980.26 0.0533 0.0304
 Moon -103127-07-27 23:59 J -35945505.64 -35945505.50 -35945505.35 0.2742 0.1177
 Earth -103127-07-28 05:30 J -35945505.43 -35945505.27 -35945505.11 0.2744 0.0156 *
 Jupiter -103122-02-10 01:40 J -35943847.63 -35943847.43 -35943847.22 0.0493 0.0046
 Mars -103122-10-16 07:54 J -35943599.26 -35943599.17 -35943599.07 0.1750 0.1460

Saturn -103119-07-16 13:25 J -35942595.10 -35942594.94 -35942594.76 0.0277 0.0163
 Saturn -103118-03-02 20:37 J -35942365.85 -35942365.64 -35942365.43 0.0278 0.0026
 Saturn -103118-10-18 03:49 J -35942136.46 -35942136.34 -35942136.20 0.0280 0.0216
 Mars -103117-06-02 10:47 J -35941908.22 -35941908.05 -35941907.88 0.1761 0.0203
 Jupiter -103111-10-16 04:47 J -35939581.46 -35939581.30 -35939581.14 0.0494 0.0302
 Saturn -103105-05-13 23:01 J -35937544.66 -35937544.54 -35937544.38 0.0284 0.0213
 Saturn -103105-12-29 16:33 J -35937315.03 -35937314.81 -35937314.60 0.0282 0.0007
 Jupiter -103104-04-12 05:59 J -35937211.37 -35937211.25 -35937211.12 0.0537 0.0414
 Saturn -103104-08-16 09:06 J -35937085.27 -35937085.12 -35937084.96 0.0281 0.0196
 Pluto -103103-04-25 10:04 J -35936833.24 -35936833.08 -35936832.87 0.0063 0.0037
 Pluto -103103-12-06 15:06 J -35936608.10 -35936607.87 -35936607.64 0.0063 0.0001
 Pluto -103102-07-19 19:11 J -35936382.86 -35936382.70 -35936382.50 0.0064 0.0039
 Jupiter -103093-12-15 19:54 J -35932945.88 -35932945.67 -35932945.47 0.0535 0.0039
 Uranus -103091-06-26 14:09 J -35932388.01 -35932387.91 -35932387.78 0.0147 0.0124
 Uranus -103090-02-08 03:06 J -35932161.56 -35932161.37 -35932161.16 0.0147 0.0056
 Uranus -103090-09-22 16:47 J -35931935.02 -35931934.80 -35931934.59 0.0147 0.0014
 Mars -103090-10-15 17:59 J -35931911.93 -35931911.75 -35931911.58 0.1760 0.0160
 Saturn -103089-01-26 16:18 J -35931808.99 -35931808.82 -35931808.63 0.0277 0.0140
 Uranus -103089-05-06 05:59 J -35931708.42 -35931708.25 -35931708.06 0.0147 0.0084
 Saturn -103089-09-11 23:16 J -35931579.73 -35931579.53 -35931579.32 0.0278 0.0050
 Saturn -103088-04-29 06:57 J -35931350.31 -35931350.21 -35931350.10 0.0280 0.0239
 Neptune -103087-10-10 20:09 J -35930820.69 -35930820.66 -35930820.58 0.0089 0.0086
 Jupiter -103087-10-18 09:49 J -35930813.27 -35930813.09 -35930812.91 0.0491 0.0242
 Neptune -103086-05-24 09:35 J -35930595.20 -35930595.10 -35930594.99 0.0089 0.0077
 Neptune -103085-01-04 22:04 J -35930369.69 -35930369.58 -35930369.42 0.0089 0.0069
 Mars -103085-06-01 12:57 J -35930221.08 -35930220.96 -35930220.85 0.1751 0.1251
 Neptune -103085-08-17 11:30 J -35930144.17 -35930144.02 -35930143.85 0.0089 0.0060
 Neptune -103084-03-31 00:13 J -35929918.65 -35929918.49 -35929918.29 0.0089 0.0052
 Neptune -103084-11-11 13:25 J -35929693.12 -35929692.94 -35929692.73 0.0089 0.0043
 Neptune -103083-06-25 02:52 J -35929467.58 -35929467.38 -35929467.18 0.0089 0.0034

Neptune -103082-02-05 15:35 J -35929242.04 -35929241.85 -35929241.62 0.0089 0.0027
 Neptune -103082-09-19 05:01 J -35929016.50 -35929016.29 -35929016.07 0.0089 0.0017
 Neptune -103081-05-01 18:28 J -35928790.95 -35928790.73 -35928790.51 0.0089 0.0008
 Jupiter -103081-08-20 08:37 J -35928680.22 -35928680.14 -35928680.06 0.0533 0.0490
 Neptune -103081-12-13 07:25 J -35928565.41 -35928565.19 -35928564.97 0.0089 0.0002
 Neptune -103080-07-26 20:37 J -35928339.86 -35928339.64 -35928339.42 0.0089 0.0009
 Neptune -103079-03-09 09:49 J -35928114.30 -35928114.09 -35928113.87 0.0089 0.0018
 Neptune -103079-10-20 23:16 J -35927888.73 -35927888.53 -35927888.31 0.0089 0.0027
 Neptune -103078-06-03 12:42 J -35927663.17 -35927662.97 -35927662.76 0.0089 0.0035
 Neptune -103077-01-15 01:54 J -35927437.60 -35927437.42 -35927437.22 0.0089 0.0044
 Neptune -103077-08-27 15:06 J -35927212.03 -35927211.87 -35927211.67 0.0089 0.0054
 Neptune -103076-04-10 04:33 J -35926986.45 -35926986.31 -35926986.13 0.0089 0.0062
 Neptune -103076-11-21 17:59 J -35926760.86 -35926760.75 -35926760.59 0.0089 0.0071
 Saturn -103076-11-24 04:47 J -35926758.46 -35926758.30 -35926758.13 0.0283 0.0184
 Jupiter -103075-06-23 13:11 J -35926547.14 -35926546.95 -35926546.75 0.0493 0.0105
 Neptune -103075-07-05 07:54 J -35926535.26 -35926535.17 -35926535.06 0.0089 0.0079
 Saturn -103075-07-11 22:18 J -35926528.79 -35926528.57 -35926528.36 0.0282 0.0022
 Neptune -103074-02-15 21:21 J -35926309.62 -35926309.61 -35926309.56 0.0089 0.0088
 Saturn -103074-02-26 14:52 J -35926299.00 -35926298.88 -35926298.74 0.0280 0.0225
 Jupiter -103063-02-26 16:18 J -35922280.90 -35922280.82 -35922280.74 0.0495 0.0453
 Saturn -103060-08-08 01:40 J -35921022.62 -35921022.43 -35921022.23 0.0277 0.0108
 Saturn -103059-03-25 08:52 J -35920793.32 -35920793.13 -35920792.92 0.0279 0.0083
 Saturn -103059-11-09 16:33 J -35920563.84 -35920563.81 -35920563.76 0.0280 0.0274
 Jupiter -103057-08-23 10:04 J -35919911.27 -35919911.08 -35919910.90 0.0535 0.0210
 Mars -103056-08-12 15:35 J -35919556.89 -35919556.85 -35919556.82 0.1747 0.1703
 Mars -103051-03-30 20:09 J -35917865.83 -35917865.66 -35917865.50 0.1764 0.0429
 Jupiter -103051-06-25 17:59 J -35917778.83 -35917778.75 -35917778.65 0.0491 0.0441
 Uranus -103051-10-16 15:21 J -35917665.92 -35917665.86 -35917665.77 0.0132 0.0124
 Uranus -103050-05-30 19:54 J -35917439.84 -35917439.67 -35917439.47 0.0132 0.0074
 Uranus -103049-01-12 00:28 J -35917213.69 -35917213.48 -35917213.26 0.0132 0.0023

Uranus -103049-08-25 04:47 J -35916987.51 -35916987.30 -35916987.08 0.0132 0.0027
 Uranus -103048-04-08 08:52 J -35916761.29 -35916761.13 -35916760.94 0.0132 0.0077
 Uranus -103048-11-20 12:57 J -35916535.01 -35916534.96 -35916534.89 0.0132 0.0126
 Saturn -103046-06-06 15:21 J -35915972.03 -35915971.86 -35915971.67 0.0283 0.0151
 Saturn -103045-01-22 08:23 J -35915742.35 -35915742.15 -35915741.93 0.0282 0.0056
 Jupiter -103045-04-27 22:33 J -35915645.74 -35915645.56 -35915645.37 0.0534 0.0246
 Saturn -103045-09-08 00:57 J -35915512.54 -35915512.46 -35915512.37 0.0280 0.0257
 Jupiter -103039-02-28 22:04 J -35913512.78 -35913512.58 -35913512.38 0.0492 0.0097
 Saturn -103031-07-03 22:04 J -35910465.61 -35910465.58 -35910465.53 0.0275 0.0270
 Saturn -103030-02-18 04:47 J -35910236.49 -35910236.30 -35910236.10 0.0277 0.0084
 Saturn -103030-10-05 11:59 J -35910007.19 -35910007.00 -35910006.81 0.0279 0.0106
 Jupiter -103028-11-04 00:57 J -35909246.63 -35909246.46 -35909246.29 0.0494 0.0254
 Mars -103024-08-12 01:11 J -35907869.63 -35907869.45 -35907869.28 0.1757 0.0111
 Jupiter -103021-05-01 04:47 J -35906876.38 -35906876.30 -35906876.21 0.0537 0.0483
 Mars -103019-03-29 22:33 J -35906178.69 -35906178.56 -35906178.42 0.1754 0.1047
 Saturn -103017-12-16 20:23 J -35905185.84 -35905185.65 -35905185.46 0.0283 0.0122
 Saturn -103016-08-03 13:25 J -35904956.14 -35904955.94 -35904955.73 0.0281 0.0084
 Pluto -103014-10-30 17:59 J -35904137.93 -35904137.75 -35904137.53 0.0082 0.0028
 Pluto -103013-06-12 04:04 J -35903912.49 -35903912.33 -35903912.15 0.0081 0.0049
 Jupiter -103009-01-04 15:35 J -35902611.05 -35902610.85 -35902610.64 0.0534 0.0021
 Uranus -103007-10-08 08:23 J -35901603.31 -35901603.15 -35901602.97 0.0147 0.0091
 Uranus -103006-05-22 21:35 J -35901376.81 -35901376.60 -35901376.38 0.0147 0.0021
 Uranus -103005-01-04 10:33 J -35901150.25 -35901150.06 -35901149.84 0.0147 0.0049
 Uranus -103005-08-17 23:59 J -35900923.61 -35900923.50 -35900923.36 0.0147 0.0119
 Neptune -103005-11-30 22:04 J -35900818.62 -35900818.58 -35900818.48 0.0088 0.0084
 Neptune -103004-07-14 11:30 J -35900593.13 -35900593.02 -35900592.89 0.0088 0.0075
 Jupiter -103004-11-06 06:13 J -35900478.41 -35900478.24 -35900478.08 0.0492 0.0294
 Neptune -103003-02-25 00:13 J -35900367.61 -35900367.49 -35900367.32 0.0088 0.0067
 Neptune -103003-10-08 13:25 J -35900142.09 -35900141.94 -35900141.76 0.0088 0.0058
 Neptune -103002-05-22 02:09 J -35899916.57 -35899916.41 -35899916.21 0.0088 0.0050

Neptune -103001-01-02 15:21 J -35899691.05 -35899690.86 -35899690.66 0.0088 0.0041

Saturn -103001-01-14 06:42 J -35899679.32 -35899679.22 -35899679.12 0.0276 0.0241

Neptune -103001-08-15 04:04 J -35899465.52 -35899465.33 -35899465.11 0.0088 0.0032

Saturn -103001-08-30 13:40 J -35899450.13 -35899449.93 -35899449.72 0.0278 0.0053

103RD MILLENNIUM BCE

This is a list of transits of Venus in the 103rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-103000-03-28	17:16	J	-35899239.99	-35899239.78	-35899239.56	0.0088	0.0023
Saturn	-103000-04-16	21:06	J	-35899220.80	-35899220.62	-35899220.44	0.0279	0.0139
Neptune	-103000-11-09	05:59	J	-35899014.46	-35899014.25	-35899014.02	0.0088	0.0015
Neptune	-102999-06-22	18:57	J	-35898788.93	-35898788.71	-35898788.49	0.0088	0.0006
Neptune	-102998-02-03	07:40	J	-35898563.40	-35898563.18	-35898562.96	0.0088	0.0003
Jupiter	-102998-09-09	03:21	J	-35898345.46	-35898345.36	-35898345.24	0.0533	0.0442
Neptune	-102998-09-16	20:23	J	-35898337.86	-35898337.65	-35898337.43	0.0088	0.0011
Neptune	-102997-04-29	09:21	J	-35898112.32	-35898112.11	-35898111.90	0.0088	0.0019
Neptune	-102997-12-10	21:49	J	-35897886.79	-35897886.59	-35897886.37	0.0088	0.0028
Neptune	-102996-07-24	10:33	J	-35897661.25	-35897661.06	-35897660.86	0.0088	0.0036
Neptune	-102995-03-06	22:47	J	-35897435.72	-35897435.55	-35897435.34	0.0088	0.0046
Neptune	-102995-10-18	11:30	J	-35897210.18	-35897210.02	-35897209.83	0.0088	0.0054
Neptune	-102994-06-01	00:28	J	-35896984.63	-35896984.48	-35896984.32	0.0088	0.0062

Neptune -102993-01-12 12:28 J -35896759.09 -35896758.98 -35896758.83 0.0088 0.0070
 Neptune -102993-08-25 00:57 J -35896533.54 -35896533.46 -35896533.34 0.0088 0.0078
 Neptune -102992-04-07 13:25 J -35896307.96 -35896307.94 -35896307.88 0.0088 0.0087
 Jupiter -102992-07-12 09:06 J -35896212.32 -35896212.12 -35896211.92 0.0493 0.0054
 Mars -102992-08-11 12:28 J -35896182.05 -35896181.98 -35896181.90 0.1767 0.1592
 Saturn -102987-06-29 07:25 J -35894399.39 -35894399.19 -35894398.98 0.0283 0.0088
 Saturn -102986-02-14 00:28 J -35894169.67 -35894169.48 -35894169.28 0.0281 0.0118
 Mars -102985-01-26 05:01 J -35893823.44 -35893823.29 -35893823.13 0.1767 0.0660
 Jupiter -102980-03-17 13:11 J -35891946.06 -35891945.95 -35891945.83 0.0494 0.0400
 Jupiter -102974-09-12 08:37 J -35889576.31 -35889576.14 -35889575.96 0.0536 0.0280
 Earth -102973-01-19 23:01 J -35889446.70 -35889446.54 -35889446.38 0.2598 0.0058
 Moon -102973-01-20 01:25 J -35889446.60 -35889446.44 -35889446.27 0.2592 0.0590 *
 Saturn -102972-07-26 10:18 J -35888893.20 -35888893.07 -35888892.94 0.0276 0.0216
 Saturn -102971-03-12 17:01 J -35888664.00 -35888663.79 -35888663.58 0.0277 0.0028
 Saturn -102971-10-27 23:59 J -35888434.66 -35888434.50 -35888434.32 0.0279 0.0163
 Uranus -102966-01-28 05:30 J -35886881.40 -35886881.27 -35886881.12 0.0132 0.0099
 Uranus -102966-09-11 10:04 J -35886655.27 -35886655.08 -35886654.87 0.0132 0.0048
 Uranus -102965-04-24 14:52 J -35886429.10 -35886428.88 -35886428.66 0.0132 0.0002
 Uranus -102965-12-06 18:57 J -35886202.90 -35886202.71 -35886202.50 0.0132 0.0052
 Uranus -102964-07-20 22:47 J -35885976.67 -35885976.55 -35885976.40 0.0132 0.0102
 Jupiter -102962-05-17 22:04 J -35885310.77 -35885310.58 -35885310.38 0.0534 0.0175
 Saturn -102958-05-24 17:30 J -35883842.82 -35883842.77 -35883842.69 0.0284 0.0270
 Mars -102958-06-09 08:09 J -35883827.33 -35883827.16 -35883826.99 0.1754 0.0368
 Saturn -102957-01-09 11:16 J -35883613.24 -35883613.03 -35883612.82 0.0283 0.0062
 Saturn -102957-08-26 04:18 J -35883383.50 -35883383.32 -35883383.13 0.0281 0.0144
 Jupiter -102956-03-19 17:59 J -35883177.94 -35883177.75 -35883177.55 0.0492 0.0146
 Mars -102953-01-25 08:09 J -35882136.31 -35882136.16 -35882136.01 0.1757 0.0836
 Jupiter -102945-11-22 21:06 J -35878911.81 -35878911.62 -35878911.44 0.0494 0.0204
 Saturn -102942-02-05 17:30 J -35878106.91 -35878106.77 -35878106.60 0.0276 0.0189
 Saturn -102942-09-23 00:57 J -35877877.67 -35877877.46 -35877877.26 0.0278 0.0006

Saturn -102941-05-09 08:09 J -35877648.30 -35877648.16 -35877648.00 0.0280 0.0195
 Jupiter -102938-05-21 00:13 J -35876541.50 -35876541.49 -35876541.47 0.0536 0.0534
 Saturn -102929-12-04 05:01 J -35873056.40 -35873056.29 -35873056.16 0.0284 0.0234
 Saturn -102928-07-21 22:33 J -35872826.77 -35872826.56 -35872826.34 0.0282 0.0026
 Saturn -102927-03-08 15:35 J -35872597.02 -35872596.85 -35872596.69 0.0281 0.0179
 Jupiter -102926-01-23 12:13 J -35872276.20 -35872275.99 -35872275.79 0.0535 0.0074
 Mars -102926-06-08 19:40 J -35872139.79 -35872139.68 -35872139.56 0.1764 0.1326
 Uranus -102923-06-07 14:09 J -35871045.01 -35871044.91 -35871044.78 0.0146 0.0125
 Neptune -102922-01-12 07:25 J -35870826.21 -35870826.19 -35870826.12 0.0089 0.0087
 Uranus -102922-01-20 03:06 J -35870818.56 -35870818.37 -35870818.16 0.0147 0.0056
 Neptune -102922-08-25 20:37 J -35870600.73 -35870600.64 -35870600.53 0.0089 0.0078
 Uranus -102922-09-03 16:33 J -35870592.03 -35870591.81 -35870591.59 0.0147 0.0014
 Neptune -102921-04-07 09:21 J -35870375.22 -35870375.11 -35870374.95 0.0089 0.0070
 Uranus -102921-04-17 05:45 J -35870365.43 -35870365.26 -35870365.07 0.0147 0.0084
 Neptune -102921-11-18 22:33 J -35870149.70 -35870149.56 -35870149.39 0.0089 0.0061
 Jupiter -102921-11-25 03:21 J -35870143.50 -35870143.36 -35870143.22 0.0491 0.0349
 Neptune -102920-07-02 11:59 J -35869924.18 -35869924.00 -35869923.83 0.0089 0.0052
 Mars -102920-11-22 14:09 J -35869781.05 -35869780.91 -35869780.76 0.1771 0.0896
 Neptune -102919-02-13 00:42 J -35869698.65 -35869698.47 -35869698.27 0.0089 0.0044
 Neptune -102919-09-26 13:54 J -35869473.11 -35869472.92 -35869472.71 0.0089 0.0035
 Neptune -102918-05-10 03:06 J -35869247.57 -35869247.37 -35869247.15 0.0089 0.0027
 Neptune -102918-12-21 16:04 J -35869022.03 -35869021.83 -35869021.60 0.0089 0.0018
 Neptune -102917-08-03 05:16 J -35868796.49 -35868796.28 -35868796.05 0.0089 0.0010
 Neptune -102916-03-16 18:42 J -35868570.94 -35868570.72 -35868570.50 0.0089 0.0000
 Neptune -102916-10-28 07:54 J -35868345.38 -35868345.17 -35868344.94 0.0089 0.0009
 Neptune -102915-06-10 21:06 J -35868119.83 -35868119.62 -35868119.40 0.0089 0.0018
 Jupiter -102915-09-28 01:54 J -35868010.56 -35868010.42 -35868010.27 0.0534 0.0378
 Neptune -102914-01-22 10:33 J -35867894.27 -35867894.06 -35867893.85 0.0089 0.0026
 Neptune -102914-09-04 23:30 J -35867668.71 -35867668.52 -35867668.31 0.0089 0.0036
 Neptune -102913-04-17 12:42 J -35867443.15 -35867442.97 -35867442.76 0.0089 0.0045

Saturn -102913-08-17 21:06 J -35867320.78 -35867320.62 -35867320.45 0.0276 0.0163
 Neptune -102913-11-29 02:09 J -35867217.57 -35867217.41 -35867217.22 0.0089 0.0053
 Saturn -102912-04-04 04:04 J -35867091.54 -35867091.33 -35867091.12 0.0278 0.0027
 Neptune -102912-07-12 15:21 J -35866992.00 -35866991.86 -35866991.68 0.0089 0.0062
 Saturn -102912-11-19 11:16 J -35866862.15 -35866862.03 -35866861.90 0.0279 0.0218
 Neptune -102911-02-23 05:16 J -35866766.41 -35866766.28 -35866766.15 0.0089 0.0071
 Neptune -102911-10-06 18:42 J -35866540.81 -35866540.72 -35866540.61 0.0089 0.0079
 Neptune -102910-05-20 07:54 J -35866315.18 -35866315.17 -35866315.12 0.0089 0.0089
 Jupiter -102909-07-31 06:28 J -35865877.44 -35865877.23 -35865877.03 0.0493 0.0009
 Saturn -102899-06-16 07:54 J -35862270.31 -35862270.17 -35862270.03 0.0284 0.0211
 Saturn -102898-02-01 01:25 J -35862040.66 -35862040.44 -35862040.23 0.0282 0.0006
 Saturn -102898-09-18 18:13 J -35861810.88 -35861810.74 -35861810.59 0.0281 0.0203
 Jupiter -102897-04-05 09:49 J -35861611.23 -35861611.09 -35861610.95 0.0494 0.0351
 Mars -102892-04-05 15:49 J -35859785.01 -35859784.84 -35859784.68 0.1751 0.0618
 Jupiter -102891-10-01 06:57 J -35859241.37 -35859241.21 -35859241.06 0.0536 0.0345
 Mars -102888-11-21 17:59 J -35858093.91 -35858093.75 -35858093.59 0.1760 0.0629
 Earth -102884-07-28 04:47 J -35856749.46 -35856749.30 -35856749.15 0.2741 0.0493
 Moon -102884-07-28 09:06 J -35856749.27 -35856749.12 -35856748.97 0.2746 0.0325 *
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 Uranus -102883-09-27 14:09 J -35856322.96 -35856322.91 -35856322.82 0.0132 0.0126
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 Uranus -102882-05-11 19:11 J -35856096.87 -35856096.70 -35856096.51 0.0132 0.0075
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Saturn -102869-08-13 11:45 J -35851254.22 -35851254.01 -35851253.79 0.0282 0.0034
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 Jupiter -102862-12-12 19:25 J -35848576.88 -35848576.69 -35848576.49 0.0493 0.0144
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 Jupiter -102832-10-17 01:40 J -35837675.59 -35837675.43 -35837675.26 0.0533 0.0304
 Neptune -102832-10-25 22:18 J -35837666.77 -35837666.57 -35837666.37 0.0088 0.0036
 Neptune -102831-06-08 10:33 J -35837441.23 -35837441.06 -35837440.85 0.0088 0.0046
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 Neptune -102829-04-15 00:28 J -35836764.59 -35836764.48 -35836764.33 0.0088 0.0071
 Neptune -102829-11-26 13:25 J -35836539.03 -35836538.94 -35836538.84 0.0088 0.0079
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 Jupiter -102814-04-25 07:40 J -35831276.34 -35831276.18 -35831276.02 0.0494 0.0293
 Saturn -102810-01-19 05:59 J -35829911.44 -35829911.25 -35829911.06 0.0283 0.0120
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Saturn -102795-10-02 15:35 J -35824176.05 -35824175.85 -35824175.65 0.0276 0.0060
 Mars -102794-01-31 09:21 J -35824055.27 -35824055.11 -35824054.95 0.1758 0.0780
 Saturn -102794-05-19 22:18 J -35823946.75 -35823946.57 -35823946.38 0.0278 0.0131
 Jupiter -102790-04-27 14:09 J -35822508.08 -35822507.91 -35822507.74 0.0492 0.0263
 Mars -102788-07-17 07:40 J -35821696.29 -35821696.18 -35821696.08 0.1777 0.1395
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 Pluto -102768-11-28 05:16 J -35814257.49 -35814257.28 -35814257.06 0.0082 0.0005
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 Saturn -102766-08-28 12:42 J -35813619.08 -35813618.97 -35813618.84 0.0276 0.0227
 Saturn -102765-04-13 19:25 J -35813389.89 -35813389.69 -35813389.48 0.0277 0.0038
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 Jupiter -102760-03-02 12:28 J -35811606.17 -35811605.98 -35811605.80 0.0535 0.0224
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 Neptune -102758-11-27 08:09 J -35810606.25 -35810606.16 -35810606.05 0.0089 0.0079
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 Neptune -102756-02-20 09:49 J -35810155.23 -35810155.09 -35810154.92 0.0089 0.0062
 Mars -102756-07-16 12:28 J -35810009.15 -35810008.98 -35810008.81 0.1767 0.0179
 Neptune -102756-10-03 23:16 J -35809929.70 -35809929.53 -35809929.35 0.0089 0.0053
 Neptune -102755-05-17 12:28 J -35809704.17 -35809703.98 -35809703.79 0.0089 0.0045
 Uranus -102755-05-19 14:37 J -35809702.00 -35809701.89 -35809701.77 0.0146 0.0124
 Neptune -102755-12-29 01:11 J -35809478.64 -35809478.45 -35809478.24 0.0089 0.0036
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 Jupiter -102754-01-02 23:30 J -35809473.58 -35809473.52 -35809473.46 0.0491 0.0466
 Neptune -102754-08-11 14:23 J -35809253.10 -35809252.90 -35809252.68 0.0089 0.0027

Uranus -102754-08-15 16:33 J -35809249.02 -35809248.81 -35809248.59 0.0147 0.0015
 Neptune -102753-03-24 03:35 J -35809027.56 -35809027.35 -35809027.13 0.0089 0.0018
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 Neptune -102752-06-18 06:13 J -35808576.46 -35808576.24 -35808576.02 0.0089 0.0000
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 Neptune -102747-05-27 16:18 J -35806771.93 -35806771.82 -35806771.67 0.0089 0.0071
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Mars -102722-05-14 16:33 J -35797653.87 -35797653.81 -35797653.74 0.1780 0.1643
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 Saturn -102706-05-07 01:40 J -35791817.64 -35791817.43 -35791817.22 0.0277 0.0010
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 Jupiter -102677-03-21 11:59 J -35781271.16 -35781271.00 -35781270.83 0.0536 0.0296
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 Neptune -102674-04-13 13:11 J -35780153.10 -35780152.95 -35780152.77 0.0088 0.0059

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 Neptune -102669-03-21 20:23 J -35778348.86 -35778348.65 -35778348.43 0.0088 0.0011
 Uranus -102669-07-10 23:30 J -35778237.64 -35778237.52 -35778237.38 0.0147 0.0118
 Neptune -102669-11-02 09:06 J -35778123.33 -35778123.12 -35778122.90 0.0088 0.0020
 Neptune -102668-06-15 21:35 J -35777897.79 -35777897.60 -35777897.38 0.0088 0.0029
 Neptune -102667-01-27 10:04 J -35777672.26 -35777672.08 -35777671.86 0.0088 0.0038
 Neptune -102667-09-09 23:01 J -35777446.72 -35777446.54 -35777446.35 0.0088 0.0045
 Neptune -102666-04-23 11:30 J -35777221.17 -35777221.02 -35777220.83 0.0088 0.0054
 Jupiter -102666-11-25 02:37 J -35777005.58 -35777005.39 -35777005.19 0.0534 0.0155
 Neptune -102666-12-05 00:13 J -35776995.63 -35776995.49 -35776995.32 0.0088 0.0063
 Neptune -102665-07-17 12:28 J -35776770.08 -35776769.98 -35776769.82 0.0088 0.0072
 Neptune -102664-02-28 01:11 J -35776544.52 -35776544.45 -35776544.34 0.0088 0.0080
 Neptune -102664-10-11 13:54 J -35776318.93 -35776318.92 -35776318.88 0.0088 0.0088
 Saturn -102663-01-28 04:04 J -35776210.47 -35776210.33 -35776210.18 0.0285 0.0213
 Saturn -102663-09-14 22:04 J -35775980.79 -35775980.58 -35775980.36 0.0283 0.0002
 Mars -102663-09-24 22:47 J -35775970.73 -35775970.55 -35775970.38 0.1751 0.0230
 Saturn -102662-05-02 15:35 J -35775750.99 -35775750.85 -35775750.71 0.0282 0.0211
 Jupiter -102660-09-27 04:33 J -35774872.50 -35774872.31 -35774872.13 0.0492 0.0191
 Mars -102658-05-13 00:28 J -35774279.57 -35774279.48 -35774279.38 0.1760 0.1456
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 Saturn -102648-10-12 00:42 J -35770474.65 -35770474.47 -35770474.28 0.0276 0.0134

Saturn -102647-05-29 06:57 J -35770245.41 -35770245.21 -35770245.00 0.0277 0.0058
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 Moon -102641-07-28 00:57 J -35767993.61 -35767993.46 -35767993.32 0.2732 0.1204
 Earth -102641-07-28 04:04 J -35767993.48 -35767993.33 -35767993.18 0.2738 0.0777 *
 Saturn -102634-08-10 11:01 J -35765424.20 -35765424.04 -35765423.87 0.0285 0.0181
 Saturn -102633-03-27 05:16 J -35765194.50 -35765194.28 -35765194.07 0.0283 0.0033
 Saturn -102633-11-11 23:01 J -35764964.64 -35764964.54 -35764964.43 0.0281 0.0243
 Uranus -102631-12-21 04:18 J -35764195.45 -35764195.32 -35764195.17 0.0132 0.0101
 Jupiter -102630-08-02 17:59 J -35763970.95 -35763970.75 -35763970.55 0.0535 0.0101
 Uranus -102630-08-04 09:21 J -35763969.31 -35763969.11 -35763968.91 0.0132 0.0050
 Uranus -102629-03-17 13:54 J -35763743.14 -35763742.92 -35763742.70 0.0132 0.0002
 Mars -102629-07-22 22:18 J -35763615.64 -35763615.57 -35763615.51 0.1738 0.1607
 Uranus -102629-10-29 18:13 J -35763516.93 -35763516.74 -35763516.53 0.0132 0.0052
 Uranus -102628-06-12 22:18 J -35763290.69 -35763290.57 -35763290.42 0.0132 0.0102
 Mars -102624-03-10 06:13 J -35761924.40 -35761924.24 -35761924.07 0.1773 0.0298
 Jupiter -102624-06-04 15:21 J -35761837.97 -35761837.86 -35761837.74 0.0491 0.0403
 Jupiter -102618-04-07 07:54 J -35759705.32 -35759705.17 -35759705.02 0.0533 0.0352
 Saturn -102618-04-24 05:45 J -35759688.46 -35759688.26 -35759688.07 0.0275 0.0105
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 Jupiter -102612-02-07 19:11 J -35757571.91 -35757571.70 -35757571.50 0.0493 0.0055
 Pluto -102612-11-09 01:40 J -35757297.57 -35757297.43 -35757297.25 0.0063 0.0045
 Pluto -102611-06-22 06:13 J -35757072.46 -35757072.24 -35757072.00 0.0063 0.0008
 Pluto -102610-02-02 10:47 J -35756847.24 -35756847.05 -35756846.84 0.0063 0.0030
 Saturn -102604-02-19 10:18 J -35754638.24 -35754638.07 -35754637.89 0.0285 0.0165
 Saturn -102604-10-07 04:33 J -35754408.52 -35754408.31 -35754408.10 0.0283 0.0050
 Saturn -102603-05-24 21:49 J -35754178.66 -35754178.59 -35754178.50 0.0281 0.0260
 Jupiter -102601-10-13 23:16 J -35753305.70 -35753305.53 -35753305.37 0.0494 0.0296
 Mars -102597-07-22 06:28 J -35751928.41 -35751928.23 -35751928.05 0.1748 0.0023
 Jupiter -102594-04-10 16:04 J -35750935.96 -35750935.83 -35750935.69 0.0536 0.0391

Neptune -102594-07-18 07:25 J -35750837.20 -35750837.19 -35750837.15 0.0089 0.0089
 Neptune -102593-02-28 20:09 J -35750611.74 -35750611.66 -35750611.55 0.0089 0.0080
 Neptune -102593-10-11 09:21 J -35750386.23 -35750386.11 -35750385.97 0.0089 0.0071
 Mars -102592-03-09 09:49 J -35750237.21 -35750237.09 -35750236.97 0.1763 0.1239
 Neptune -102592-05-24 21:49 J -35750160.72 -35750160.59 -35750160.41 0.0089 0.0063
 Neptune -102591-01-05 11:01 J -35749935.20 -35749935.04 -35749934.85 0.0089 0.0054
 Neptune -102591-08-18 23:59 J -35749709.67 -35749709.50 -35749709.30 0.0089 0.0045
 Neptune -102590-04-01 13:11 J -35749484.14 -35749483.95 -35749483.74 0.0089 0.0036
 Neptune -102590-11-13 02:23 J -35749258.60 -35749258.40 -35749258.19 0.0089 0.0027
 Neptune -102589-06-25 15:35 J -35749033.06 -35749032.85 -35749032.63 0.0089 0.0018
 Saturn -102589-11-03 06:28 J -35748902.42 -35748902.23 -35748902.03 0.0276 0.0088
 Neptune -102588-02-06 04:47 J -35748807.52 -35748807.30 -35748807.08 0.0089 0.0009
 Saturn -102588-06-20 12:42 J -35748673.16 -35748672.97 -35748672.77 0.0277 0.0105
 Neptune -102588-09-19 17:59 J -35748581.97 -35748581.75 -35748581.53 0.0089 0.0000
 Uranus -102587-04-30 11:59 J -35748359.10 -35748359.00 -35748358.89 0.0146 0.0129
 Neptune -102587-05-03 07:11 J -35748356.42 -35748356.20 -35748355.98 0.0089 0.0009
 Uranus -102587-12-13 00:42 J -35748132.66 -35748132.47 -35748132.27 0.0146 0.0060
 Neptune -102587-12-14 20:23 J -35748130.87 -35748130.65 -35748130.43 0.0089 0.0017
 Uranus -102586-07-27 13:54 J -35747906.14 -35747905.92 -35747905.71 0.0147 0.0010
 Neptune -102586-07-28 09:35 J -35747905.31 -35747905.10 -35747904.89 0.0089 0.0026
 Neptune -102585-03-09 22:47 J -35747679.75 -35747679.55 -35747679.34 0.0089 0.0035
 Uranus -102585-03-10 03:06 J -35747679.55 -35747679.37 -35747679.19 0.0147 0.0080 *
 Neptune -102585-10-21 12:13 J -35747454.18 -35747453.99 -35747453.79 0.0089 0.0044
 Neptune -102584-06-04 01:25 J -35747228.61 -35747228.44 -35747228.25 0.0089 0.0053
 Neptune -102583-01-15 14:37 J -35747003.03 -35747002.89 -35747002.72 0.0089 0.0062
 Neptune -102583-08-29 03:49 J -35746777.45 -35746777.34 -35746777.19 0.0089 0.0072
 Jupiter -102583-12-14 04:33 J -35746670.51 -35746670.31 -35746670.11 0.0534 0.0071
 Neptune -102582-04-11 17:16 J -35746551.86 -35746551.78 -35746551.67 0.0089 0.0080
 Neptune -102582-11-23 06:57 J -35746326.21 -35746326.21 -35746326.19 0.0089 0.0089
 Jupiter -102577-10-16 05:16 J -35744537.45 -35744537.28 -35744537.11 0.0492 0.0261

Saturn -102575-09-01 16:33 J -35743852.00 -35743851.81 -35743851.62 0.0284 0.0134
 Saturn -102574-04-19 10:33 J -35743622.26 -35743622.06 -35743621.85 0.0283 0.0081
 Jupiter -102565-06-21 10:04 J -35740271.28 -35740271.08 -35740270.88 0.0493 0.0082
 Mars -102565-07-21 16:18 J -35740240.87 -35740240.82 -35740240.76 0.1758 0.1653
 Saturn -102560-09-29 05:59 J -35738345.34 -35738345.25 -35738345.16 0.0274 0.0246
 Saturn -102559-05-16 11:45 J -35738116.21 -35738116.01 -35738115.80 0.0275 0.0058
 Saturn -102559-12-31 17:45 J -35737886.94 -35737886.76 -35737886.58 0.0277 0.0134
 Mars -102558-01-05 15:06 J -35737882.03 -35737881.87 -35737881.71 0.1776 0.0543
 Jupiter -102553-02-25 13:40 J -35736005.02 -35736004.93 -35736004.83 0.0495 0.0433
 Uranus -102547-08-20 12:42 J -35733637.01 -35733636.97 -35733636.90 0.0132 0.0128
 Jupiter -102547-08-21 22:04 J -35733635.76 -35733635.58 -35733635.39 0.0536 0.0197
 Uranus -102546-04-03 17:45 J -35733410.92 -35733410.76 -35733410.56 0.0132 0.0077
 Uranus -102546-11-15 22:47 J -35733184.76 -35733184.55 -35733184.33 0.0132 0.0025
 Saturn -102545-03-13 16:33 J -35733066.01 -35733065.81 -35733065.62 0.0284 0.0117
 Uranus -102545-06-29 03:06 J -35732958.57 -35732958.37 -35732958.15 0.0132 0.0026
 Saturn -102545-10-29 10:33 J -35732836.26 -35732836.06 -35732835.86 0.0283 0.0098
 Uranus -102544-02-10 07:25 J -35732732.36 -35732732.19 -35732732.01 0.0132 0.0076
 Uranus -102544-09-24 11:16 J -35732506.07 -35732506.03 -35732505.95 0.0132 0.0126
 Jupiter -102541-06-23 16:04 J -35731502.89 -35731502.83 -35731502.78 0.0491 0.0471
 Jupiter -102535-04-26 12:13 J -35729370.17 -35729369.99 -35729369.81 0.0533 0.0256
 Mars -102531-05-19 13:25 J -35727886.11 -35727885.94 -35727885.76 0.1745 0.0289
 Saturn -102530-04-11 06:28 J -35727559.34 -35727559.23 -35727559.11 0.0275 0.0229
 Saturn -102530-11-26 12:28 J -35727330.19 -35727329.98 -35727329.77 0.0276 0.0040
 Jupiter -102529-02-27 19:11 J -35727236.90 -35727236.70 -35727236.51 0.0493 0.0122
 Saturn -102529-07-12 18:28 J -35727100.90 -35727100.73 -35727100.55 0.0278 0.0153
 Mars -102526-01-04 19:11 J -35726194.84 -35726194.70 -35726194.57 0.1766 0.1014
 Pluto -102522-05-16 05:59 J -35724602.38 -35724602.25 -35724602.08 0.0082 0.0059
 Pluto -102522-12-27 16:33 J -35724377.02 -35724376.81 -35724376.60 0.0081 0.0018
 Jupiter -102518-11-02 23:45 J -35722970.69 -35722970.51 -35722970.33 0.0494 0.0226
 Saturn -102516-09-23 22:04 J -35722279.78 -35722279.58 -35722279.37 0.0284 0.0086

Saturn -102515-05-11 16:18 J -35722050.01 -35722049.82 -35722049.63 0.0283 0.0129
 Neptune -102512-09-07 09:21 J -35720835.14 -35720835.11 -35720835.03 0.0088 0.0086
 Neptune -102511-04-20 22:47 J -35720609.64 -35720609.55 -35720609.43 0.0088 0.0077
 Jupiter -102511-04-29 13:54 J -35720601.02 -35720600.92 -35720600.81 0.0536 0.0454
 Neptune -102511-12-02 12:13 J -35720384.13 -35720383.99 -35720383.85 0.0088 0.0068
 Neptune -102510-07-16 00:57 J -35720158.61 -35720158.46 -35720158.28 0.0088 0.0059
 Neptune -102509-02-26 14:09 J -35719933.08 -35719932.91 -35719932.72 0.0088 0.0050
 Neptune -102509-10-09 03:06 J -35719707.55 -35719707.37 -35719707.16 0.0088 0.0042
 Neptune -102508-05-22 16:18 J -35719482.02 -35719481.82 -35719481.61 0.0088 0.0033
 Neptune -102507-01-03 05:01 J -35719256.49 -35719256.29 -35719256.07 0.0088 0.0024
 Neptune -102507-08-16 17:59 J -35719030.96 -35719030.75 -35719030.53 0.0088 0.0015
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 Neptune -102503-04-30 22:33 J -35717677.74 -35717677.56 -35717677.35 0.0088 0.0038
 Uranus -102503-08-12 04:47 J -35717574.46 -35717574.30 -35717574.14 0.0146 0.0097
 Neptune -102503-12-12 11:30 J -35717452.20 -35717452.02 -35717451.83 0.0088 0.0046
 Uranus -102502-03-26 17:30 J -35717347.98 -35717347.77 -35717347.55 0.0147 0.0028
 Neptune -102502-07-25 23:45 J -35717226.66 -35717226.51 -35717226.32 0.0088 0.0055
 Uranus -102502-11-08 06:42 J -35717121.42 -35717121.22 -35717121.01 0.0147 0.0043
 Neptune -102501-03-07 12:13 J -35717001.12 -35717000.99 -35717000.81 0.0088 0.0064
 Uranus -102501-06-21 19:54 J -35716894.80 -35716894.67 -35716894.52 0.0147 0.0113
 Neptune -102501-10-19 01:11 J -35716775.57 -35716775.45 -35716775.31 0.0088 0.0071
 Saturn -102501-10-21 12:42 J -35716773.11 -35716772.97 -35716772.82 0.0274 0.0199
 Neptune -102500-06-01 13:25 J -35716550.00 -35716549.94 -35716549.82 0.0088 0.0081
 Saturn -102500-06-07 18:42 J -35716543.93 -35716543.72 -35716543.51 0.0276 0.0010
 Jupiter -102499-01-02 03:21 J -35716335.57 -35716335.36 -35716335.16 0.0535 0.0009
 Saturn -102499-01-23 00:28 J -35716314.63 -35716314.48 -35716314.32 0.0277 0.0184

Mars -102499-05-18 23:45 J -35716198.62 -35716198.51 -35716198.41 0.1755 0.1388
 Jupiter -102494-11-05 06:28 J -35714202.37 -35714202.23 -35714202.07 0.0492 0.0336
 Mars -102493-11-01 23:30 J -35713839.67 -35713839.52 -35713839.37 0.1780 0.0798
 Jupiter -102488-09-06 17:45 J -35712069.86 -35712069.76 -35712069.65 0.0533 0.0451
 Earth -102487-01-20 04:04 J -35711934.49 -35711934.33 -35711934.17 0.2603 0.0399
 Moon -102487-01-20 09:35 J -35711934.25 -35711934.10 -35711933.94 0.2601 0.0843 *
 Saturn -102487-08-19 04:33 J -35711723.32 -35711723.31 -35711723.28 0.0286 0.0284
 Saturn -102486-04-05 23:01 J -35711493.75 -35711493.54 -35711493.33 0.0284 0.0067
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 Saturn -102471-05-03 13:11 J -35705987.10 -35705986.95 -35705986.79 0.0275 0.0182
 Saturn -102471-12-18 19:11 J -35705757.91 -35705757.70 -35705757.49 0.0276 0.0009
 Jupiter -102470-03-16 13:25 J -35705670.07 -35705669.94 -35705669.80 0.0495 0.0369
 Saturn -102470-08-05 01:11 J -35705528.59 -35705528.45 -35705528.31 0.0278 0.0203
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 Jupiter -102464-09-10 00:13 J -35703300.66 -35703300.49 -35703300.32 0.0535 0.0281
 Uranus -102463-12-02 02:52 J -35702852.51 -35702852.38 -35702852.24 0.0132 0.0103
 Uranus -102462-07-16 07:40 J -35702626.38 -35702626.18 -35702625.97 0.0132 0.0052
 Uranus -102461-02-27 12:28 J -35702400.20 -35702399.98 -35702399.76 0.0132 0.0002
 Uranus -102461-10-10 16:47 J -35702174.00 -35702173.80 -35702173.60 0.0132 0.0050
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 Saturn -102457-10-16 04:33 J -35700707.52 -35700707.31 -35700707.10 0.0284 0.0037
 Saturn -102456-06-02 22:33 J -35700477.72 -35700477.56 -35700477.39 0.0282 0.0178
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 Jupiter -102446-03-18 21:06 J -35696901.81 -35696901.62 -35696901.43 0.0493 0.0198
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 Saturn -102441-06-30 02:09 J -35694971.62 -35694971.41 -35694971.20 0.0276 0.0042
 Saturn -102440-02-14 08:09 J -35694742.27 -35694742.16 -35694742.05 0.0277 0.0236

Jupiter -102435-11-22 00:42 J -35692635.66 -35692635.47 -35692635.28 0.0494 0.0153
 Mars -102433-03-15 06:42 J -35692156.36 -35692156.22 -35692156.09 0.1752 0.1115
 Neptune -102430-10-19 20:23 J -35690842.65 -35690842.65 -35690842.65 0.0089 0.0089
 Neptune -102429-06-01 08:52 J -35690617.21 -35690617.13 -35690617.03 0.0089 0.0081
 Neptune -102428-01-12 21:21 J -35690391.71 -35690391.61 -35690391.46 0.0089 0.0072
 Neptune -102428-08-26 10:33 J -35690166.20 -35690166.06 -35690165.90 0.0089 0.0063
 Saturn -102428-09-10 12:28 J -35690151.09 -35690150.98 -35690150.85 0.0285 0.0233
 Neptune -102427-04-08 23:30 J -35689940.68 -35689940.52 -35689940.34 0.0089 0.0054
 Saturn -102427-04-28 06:42 J -35689921.43 -35689921.22 -35689921.00 0.0284 0.0016
 Mars -102427-08-30 07:40 J -35689797.31 -35689797.18 -35689797.04 0.1783 0.1065
 Neptune -102427-11-20 12:28 J -35689715.16 -35689714.98 -35689714.79 0.0089 0.0046
 Saturn -102427-12-14 00:28 J -35689691.62 -35689691.48 -35689691.32 0.0282 0.0199
 Neptune -102426-07-04 01:11 J -35689489.63 -35689489.45 -35689489.23 0.0089 0.0037
 Neptune -102425-02-14 14:23 J -35689264.10 -35689263.90 -35689263.68 0.0089 0.0028
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 Neptune -102424-05-10 16:47 J -35688813.01 -35688812.80 -35688812.58 0.0089 0.0010
 Neptune -102424-12-22 05:59 J -35688587.47 -35688587.25 -35688587.03 0.0089 0.0001
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 Neptune -102422-10-29 21:49 J -35687910.80 -35687910.59 -35687910.38 0.0089 0.0026
 Neptune -102421-06-11 11:01 J -35687685.24 -35687685.04 -35687684.84 0.0089 0.0036
 Neptune -102420-01-22 23:59 J -35687459.68 -35687459.50 -35687459.29 0.0089 0.0045
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 Uranus -102419-04-11 09:06 J -35687016.19 -35687016.12 -35687016.01 0.0146 0.0133
 Neptune -102419-04-19 02:23 J -35687008.53 -35687008.40 -35687008.22 0.0089 0.0064
 Uranus -102419-11-23 22:04 J -35686789.77 -35686789.58 -35686789.38 0.0146 0.0064
 Neptune -102419-11-30 15:49 J -35686782.94 -35686782.84 -35686782.68 0.0089 0.0072
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 Neptune -102418-07-14 05:16 J -35686557.35 -35686557.28 -35686557.17 0.0089 0.0081
 Uranus -102417-02-20 00:13 J -35686336.68 -35686336.49 -35686336.31 0.0147 0.0076

Uranus -102417-10-03 13:25 J -35686109.94 -35686109.94 -35686109.92 0.0147 0.0147
 Jupiter -102416-01-21 06:57 J -35686000.41 -35686000.21 -35686000.01 0.0535 0.0091
 Saturn -102412-05-25 20:52 J -35684414.81 -35684414.63 -35684414.44 0.0275 0.0132
 Saturn -102411-01-10 02:52 J -35684185.58 -35684185.38 -35684185.17 0.0276 0.0061
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 Jupiter -102399-07-30 10:18 J -35679601.28 -35679601.07 -35679600.87 0.0493 0.0053
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 Mars -102367-01-10 13:54 J -35668114.08 -35668113.92 -35668113.77 0.1749 0.0851

Pluto -102366-12-08 11:01 J -35667417.21 -35667417.04 -35667416.82 0.0063 0.0033
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 Jupiter -102363-04-06 20:09 J -35666566.83 -35666566.66 -35666566.48 0.0492 0.0262
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 Saturn -102354-10-31 23:59 J -35663071.53 -35663071.50 -35663071.46 0.0274 0.0270
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 Saturn -102352-02-01 11:45 J -35662613.20 -35662613.01 -35662612.82 0.0277 0.0115
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 Neptune -102348-12-09 22:04 J -35660840.63 -35660840.58 -35660840.53 0.0088 0.0086
 Neptune -102347-07-23 10:33 J -35660615.14 -35660615.06 -35660614.93 0.0088 0.0078
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 Saturn -102339-04-15 03:06 J -35657792.54 -35657792.37 -35657792.18 0.0285 0.0150
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 Saturn -102339-11-30 21:35 J -35657562.81 -35657562.60 -35657562.39 0.0283 0.0069
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 Neptune -102338-10-27 12:13 J -35657232.14 -35657231.99 -35657231.80 0.0088 0.0056
 Neptune -102337-06-09 01:11 J -35657006.59 -35657006.45 -35657006.29 0.0088 0.0064

Neptune -102336-01-20 13:25 J -35656781.04 -35656780.94 -35656780.79 0.0088 0.0072
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 Uranus -102333-06-02 18:13 J -35655551.88 -35655551.74 -35655551.60 0.0147 0.0110
 Mars -102329-06-25 22:04 J -35654067.75 -35654067.58 -35654067.41 0.1776 0.0312
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 Saturn -102324-05-13 08:23 J -35652285.24 -35652285.15 -35652285.04 0.0274 0.0238
 Saturn -102324-12-28 14:23 J -35652056.10 -35652055.90 -35652055.69 0.0276 0.0046
 Saturn -102323-08-14 20:23 J -35651826.82 -35651826.65 -35651826.47 0.0277 0.0150
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 Saturn -102310-10-26 09:21 J -35647006.30 -35647006.11 -35647005.92 0.0285 0.0122
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 Mars -102295-04-24 00:42 J -35641712.55 -35641712.47 -35641712.40 0.1789 0.1593
 Uranus -102295-11-13 00:57 J -35641509.59 -35641509.46 -35641509.33 0.0132 0.0106
 Saturn -102295-11-23 10:18 J -35641499.20 -35641499.07 -35641498.94 0.0274 0.0217
 Uranus -102294-06-27 05:30 J -35641283.46 -35641283.27 -35641283.06 0.0132 0.0055
 Saturn -102294-07-10 16:04 J -35641270.04 -35641269.83 -35641269.62 0.0276 0.0025
 Uranus -102293-02-08 10:18 J -35641057.29 -35641057.07 -35641056.85 0.0132 0.0003
 Saturn -102293-02-24 22:04 J -35641040.74 -35641040.58 -35641040.41 0.0277 0.0171
 Uranus -102293-09-21 14:23 J -35640831.09 -35640830.90 -35640830.68 0.0132 0.0048
 Uranus -102292-05-05 18:57 J -35640604.85 -35640604.71 -35640604.56 0.0132 0.0098
 Jupiter -102286-06-23 11:59 J -35638365.20 -35638365.00 -35638364.79 0.0534 0.0036

Jupiter -102280-04-25 17:59 J -35636231.89 -35636231.75 -35636231.59 0.0492 0.0321
 Saturn -102280-05-07 14:37 J -35636220.09 -35636219.89 -35636219.68 0.0284 0.0091
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 Pluto -102276-06-13 15:35 J -35634722.02 -35634721.85 -35634721.66 0.0082 0.0045
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 Mars -102268-09-04 20:37 J -35631716.76 -35631716.64 -35631716.52 0.1732 0.1275
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 Neptune -102263-07-11 11:30 J -35629946.17 -35629946.02 -35629945.83 0.0089 0.0055
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 Neptune -102254-10-15 17:16 J -35626562.85 -35626562.78 -35626562.67 0.0089 0.0081
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 Saturn -102251-04-02 04:18 J -35625663.35 -35625663.32 -35625663.28 0.0285 0.0280
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 Jupiter -102250-03-01 02:52 J -35625330.57 -35625330.38 -35625330.20 0.0535 0.0221
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 Moon -102244-01-20 00:42 J -35623178.63 -35623178.47 -35623178.31 0.2606 0.0318
 Earth -102244-01-20 06:42 J -35623178.38 -35623178.22 -35623178.07 0.2606 0.0596 *
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Saturn -102206-06-28 06:28 J -35609140.41 -35609140.23 -35609140.04 0.0275 0.0129
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 Saturn -102192-04-24 19:11 J -35604090.83 -35604090.70 -35604090.55 0.0285 0.0216
 Saturn -102192-12-10 13:25 J -35603861.16 -35603860.94 -35603860.73 0.0284 0.0006
 Jupiter -102191-03-16 19:54 J -35603764.78 -35603764.67 -35603764.55 0.0532 0.0441
 Saturn -102191-07-28 06:42 J -35603631.34 -35603631.22 -35603631.08 0.0282 0.0221
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 Neptune -102183-03-13 09:49 J -35600846.12 -35600846.09 -35600846.04 0.0088 0.0087
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 Neptune -102177-05-15 20:52 J -35598590.85 -35598590.63 -35598590.41 0.0088 0.0003
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 Neptune -102173-09-10 13:40 J -35597012.06 -35597011.93 -35597011.76 0.0088 0.0064
 Neptune -102172-04-24 02:37 J -35596786.50 -35596786.39 -35596786.26 0.0088 0.0073
 Neptune -102172-12-05 14:52 J -35596560.94 -35596560.88 -35596560.77 0.0088 0.0082
 Mars -102170-07-02 11:59 J -35595987.17 -35595987.00 -35595986.82 0.1739 0.0077
 Jupiter -102167-03-20 02:09 J -35594995.57 -35594995.41 -35594995.23 0.0535 0.0293
 Uranus -102167-07-05 01:25 J -35594888.58 -35594888.44 -35594888.27 0.0146 0.0103
 Uranus -102166-02-16 14:23 J -35594662.11 -35594661.90 -35594661.69 0.0147 0.0033
 Uranus -102166-10-01 03:21 J -35594435.57 -35594435.36 -35594435.15 0.0147 0.0037
 Mars -102165-02-17 19:40 J -35594295.78 -35594295.68 -35594295.58 0.1772 0.1406
 Uranus -102165-05-14 16:18 J -35594208.95 -35594208.82 -35594208.66 0.0147 0.0108
 Saturn -102163-11-05 00:28 J -35593304.63 -35593304.48 -35593304.31 0.0285 0.0187
 Saturn -102162-06-22 18:42 J -35593074.93 -35593074.72 -35593074.50 0.0283 0.0034
 Saturn -102161-02-07 12:28 J -35592845.07 -35592844.98 -35592844.88 0.0282 0.0251
 Jupiter -102156-11-22 12:57 J -35590730.15 -35590729.96 -35590729.77 0.0532 0.0179
 Moon -102155-07-29 03:21 J -35590481.52 -35590481.36 -35590481.21 0.2725 0.0982
 Earth -102155-07-29 03:21 J -35590481.50 -35590481.36 -35590481.22 0.2732 0.1322 *
 Jupiter -102150-09-26 03:06 J -35588596.55 -35588596.37 -35588596.19 0.0493 0.0226
 Saturn -102148-12-03 11:45 J -35587797.05 -35587797.01 -35587796.96 0.0275 0.0267
 Saturn -102147-07-20 17:59 J -35587567.95 -35587567.75 -35587567.55 0.0276 0.0072
 Saturn -102146-03-07 00:13 J -35587338.67 -35587338.49 -35587338.30 0.0277 0.0126
 Jupiter -102138-06-01 06:13 J -35584330.44 -35584330.24 -35584330.05 0.0495 0.0131
 Mars -102138-07-01 20:37 J -35584299.67 -35584299.64 -35584299.61 0.1749 0.1718
 Saturn -102133-05-17 11:30 J -35582518.20 -35582518.02 -35582517.83 0.0285 0.0150
 Saturn -102132-01-02 05:16 J -35582288.48 -35582288.28 -35582288.07 0.0283 0.0071
 Mars -102132-12-15 23:30 J -35581940.69 -35581940.52 -35581940.36 0.1786 0.0456
 Uranus -102127-10-24 23:30 J -35580166.63 -35580166.52 -35580166.38 0.0132 0.0108
 Jupiter -102126-02-04 09:49 J -35580064.13 -35580064.09 -35580064.05 0.0496 0.0485
 Uranus -102126-06-08 04:18 J -35579940.51 -35579940.32 -35579940.11 0.0132 0.0056

Uranus -102125-01-20 09:06 J -35579714.34 -35579714.12 -35579713.90 0.0132 0.0005
 Uranus -102125-09-02 13:25 J -35579488.14 -35579487.94 -35579487.73 0.0132 0.0046
 Uranus -102124-04-16 17:30 J -35579261.90 -35579261.77 -35579261.60 0.0132 0.0097
 Pluto -102120-05-25 16:47 J -35577761.88 -35577761.80 -35577761.68 0.0063 0.0056
 Jupiter -102120-07-31 05:59 J -35577695.45 -35577695.25 -35577695.05 0.0534 0.0086
 Pluto -102119-01-05 21:35 J -35577536.81 -35577536.60 -35577536.38 0.0063 0.0019
 Pluto -102119-08-19 01:40 J -35577311.63 -35577311.43 -35577311.19 0.0063 0.0018
 Pluto -102118-04-01 05:59 J -35577086.34 -35577086.25 -35577086.12 0.0063 0.0056
 Saturn -102118-06-15 14:52 J -35577010.97 -35577010.88 -35577010.78 0.0274 0.0241
 Saturn -102117-01-30 21:06 J -35576781.83 -35576781.62 -35576781.42 0.0276 0.0047
 Saturn -102117-09-16 03:21 J -35576552.53 -35576552.36 -35576552.19 0.0277 0.0151
 Jupiter -102114-06-03 11:30 J -35575562.12 -35575562.02 -35575561.92 0.0492 0.0426
 Jupiter -102108-04-04 19:25 J -35573429.84 -35573429.69 -35573429.55 0.0532 0.0371
 Mars -102104-04-28 19:25 J -35571944.87 -35571944.69 -35571944.52 0.1735 0.0201
 Saturn -102104-11-27 16:04 J -35571732.02 -35571731.83 -35571731.63 0.0284 0.0121
 Saturn -102103-07-15 10:04 J -35571502.28 -35571502.08 -35571501.88 0.0283 0.0100
 Jupiter -102102-02-06 14:52 J -35571296.08 -35571295.88 -35571295.68 0.0494 0.0073
 Neptune -102101-12-05 09:21 J -35570628.17 -35570628.11 -35570628.00 0.0089 0.0082
 Neptune -102100-07-18 22:18 J -35570402.68 -35570402.57 -35570402.43 0.0089 0.0073
 Mars -102100-12-15 04:33 J -35570253.44 -35570253.31 -35570253.18 0.1775 0.1167
 Neptune -102099-03-01 11:16 J -35570177.17 -35570177.03 -35570176.87 0.0089 0.0064
 Neptune -102099-10-13 00:13 J -35569951.65 -35569951.49 -35569951.30 0.0089 0.0055
 Neptune -102098-05-26 13:11 J -35569726.13 -35569725.95 -35569725.75 0.0089 0.0046
 Neptune -102097-01-07 02:09 J -35569500.60 -35569500.41 -35569500.20 0.0089 0.0037
 Neptune -102097-08-19 15:06 J -35569275.07 -35569274.87 -35569274.66 0.0089 0.0028
 Neptune -102096-04-02 04:04 J -35569049.54 -35569049.33 -35569049.11 0.0089 0.0019
 Neptune -102096-11-13 17:16 J -35568824.00 -35568823.78 -35568823.56 0.0089 0.0010
 Neptune -102095-06-27 06:13 J -35568598.46 -35568598.24 -35568598.02 0.0089 0.0001
 Neptune -102094-02-07 19:11 J -35568372.91 -35568372.70 -35568372.47 0.0089 0.0008
 Neptune -102094-09-21 08:23 J -35568147.36 -35568147.15 -35568146.93 0.0089 0.0017

Neptune -102093-05-03 21:35 J -35567921.81 -35567921.60 -35567921.39 0.0089 0.0026
 Neptune -102093-12-15 10:47 J -35567696.25 -35567696.05 -35567695.85 0.0089 0.0036
 Neptune -102092-07-28 23:30 J -35567470.69 -35567470.52 -35567470.31 0.0089 0.0046
 Neptune -102091-03-11 12:57 J -35567245.12 -35567244.96 -35567244.77 0.0089 0.0054
 Jupiter -102091-10-12 17:30 J -35567029.93 -35567029.77 -35567029.60 0.0496 0.0286
 Neptune -102091-10-23 02:23 J -35567019.54 -35567019.40 -35567019.23 0.0089 0.0063
 Neptune -102090-06-05 15:49 J -35566793.95 -35566793.84 -35566793.70 0.0089 0.0072
 Neptune -102089-01-17 05:01 J -35566568.36 -35566568.29 -35566568.18 0.0089 0.0082
 Saturn -102089-12-25 23:16 J -35566224.65 -35566224.53 -35566224.39 0.0275 0.0211
 Saturn -102088-08-12 05:45 J -35565995.47 -35565995.26 -35565995.05 0.0276 0.0014
 Saturn -102087-03-29 11:59 J -35565766.14 -35565766.00 -35565765.83 0.0278 0.0186
 Jupiter -102084-04-07 21:06 J -35564660.77 -35564660.62 -35564660.46 0.0534 0.0343
 Uranus -102083-03-04 05:16 J -35564330.32 -35564330.28 -35564330.20 0.0146 0.0140
 Uranus -102083-10-16 18:13 J -35564103.93 -35564103.74 -35564103.55 0.0146 0.0071
 Uranus -102082-05-31 07:11 J -35563877.42 -35563877.20 -35563876.99 0.0147 0.0002
 Uranus -102081-01-12 19:54 J -35563650.85 -35563650.67 -35563650.47 0.0147 0.0070
 Uranus -102081-08-26 09:06 J -35563424.16 -35563424.12 -35563424.05 0.0147 0.0141
 Saturn -102074-06-10 03:35 J -35560945.55 -35560945.35 -35560945.14 0.0284 0.0083
 Saturn -102073-01-25 21:06 J -35560715.79 -35560715.62 -35560715.42 0.0283 0.0138
 Jupiter -102073-12-11 08:52 J -35560395.32 -35560395.13 -35560394.93 0.0533 0.0124
 Mars -102072-04-28 04:04 J -35560257.42 -35560257.33 -35560257.23 0.1746 0.1457
 Jupiter -102067-10-14 23:45 J -35558261.67 -35558261.51 -35558261.34 0.0493 0.0280
 Mars -102066-10-13 07:25 J -35557898.35 -35557898.19 -35557898.04 0.1789 0.0730
 Saturn -102059-07-08 02:37 J -35555438.54 -35555438.39 -35555438.23 0.0274 0.0185
 Saturn -102058-02-22 08:52 J -35555209.34 -35555209.13 -35555208.92 0.0276 0.0012
 Saturn -102058-10-09 15:06 J -35554980.00 -35554979.87 -35554979.73 0.0277 0.0210
 Jupiter -102055-06-20 02:37 J -35553995.59 -35553995.39 -35553995.19 0.0494 0.0079
 Saturn -102045-05-04 13:25 J -35550388.98 -35550388.94 -35550388.89 0.0286 0.0278
 Saturn -102045-12-20 07:25 J -35550159.39 -35550159.19 -35550158.97 0.0284 0.0056
 Saturn -102044-08-07 01:25 J -35549929.61 -35549929.44 -35549929.26 0.0283 0.0165

Jupiter -102043-02-23 05:30 J -35549729.35 -35549729.27 -35549729.17 0.0496 0.0439
 Uranus -102042-02-05 13:11 J -35549382.11 -35549381.95 -35549381.77 0.0132 0.0083
 Uranus -102042-09-19 17:59 J -35549155.96 -35549155.75 -35549155.53 0.0132 0.0031
 Uranus -102041-05-02 22:47 J -35548929.77 -35548929.55 -35548929.34 0.0132 0.0020
 Uranus -102041-12-15 02:52 J -35548703.55 -35548703.38 -35548703.19 0.0132 0.0071
 Uranus -102040-07-29 07:11 J -35548477.28 -35548477.20 -35548477.11 0.0132 0.0121
 Mars -102038-02-24 03:49 J -35547902.52 -35547902.34 -35547902.17 0.1732 0.0437
 Jupiter -102037-08-19 02:52 J -35547360.57 -35547360.38 -35547360.18 0.0534 0.0149
 Mars -102034-10-12 13:25 J -35546211.09 -35546210.94 -35546210.80 0.1778 0.0927
 Jupiter -102031-06-22 07:25 J -35545227.23 -35545227.19 -35545227.14 0.0492 0.0479
 Pluto -102030-07-13 03:49 J -35544841.54 -35544841.34 -35544841.12 0.0082 0.0019
 Saturn -102029-01-18 10:18 J -35544652.24 -35544652.07 -35544651.89 0.0275 0.0155
 Pluto -102029-02-23 13:54 J -35544616.07 -35544615.92 -35544615.77 0.0081 0.0057
 Saturn -102029-09-03 16:33 J -35544423.01 -35544422.81 -35544422.60 0.0277 0.0043
 Saturn -102028-04-20 23:16 J -35544193.62 -35544193.53 -35544193.43 0.0278 0.0243
 Jupiter -102025-04-23 14:52 J -35543095.04 -35543094.88 -35543094.71 0.0532 0.0318
 Jupiter -102019-02-25 10:47 J -35540961.24 -35540961.05 -35540960.85 0.0494 0.0125
 Neptune -102019-06-14 21:35 J -35540851.61 -35540851.60 -35540851.54 0.0088 0.0088
 Neptune -102018-01-26 11:01 J -35540626.13 -35540626.04 -35540625.93 0.0088 0.0079
 Neptune -102018-09-09 00:13 J -35540400.62 -35540400.49 -35540400.35 0.0088 0.0070
 Neptune -102017-04-21 13:25 J -35540175.09 -35540174.94 -35540174.77 0.0088 0.0061
 Neptune -102017-12-03 02:37 J -35539949.56 -35539949.39 -35539949.21 0.0088 0.0052
 Neptune -102016-07-16 15:35 J -35539724.04 -35539723.85 -35539723.65 0.0088 0.0043
 Saturn -102016-11-15 01:25 J -35539602.56 -35539602.44 -35539602.33 0.0285 0.0239
 Neptune -102015-02-27 04:47 J -35539498.50 -35539498.30 -35539498.09 0.0088 0.0034
 Saturn -102015-07-02 19:25 J -35539372.91 -35539372.69 -35539372.48 0.0284 0.0017
 Neptune -102015-10-10 17:45 J -35539272.97 -35539272.76 -35539272.54 0.0088 0.0025
 Saturn -102014-02-17 12:57 J -35539143.10 -35539142.96 -35539142.81 0.0282 0.0204
 Neptune -102014-05-24 06:57 J -35539047.43 -35539047.21 -35539046.99 0.0088 0.0016
 Neptune -102013-01-04 19:54 J -35538821.89 -35538821.67 -35538821.45 0.0088 0.0007

Neptune -102013-08-17 08:52 J -35538596.35 -35538596.13 -35538595.91 0.0088 0.0003
 Neptune -102012-03-30 21:49 J -35538370.81 -35538370.59 -35538370.37 0.0088 0.0011
 Neptune -102012-11-11 10:33 J -35538145.27 -35538145.06 -35538144.84 0.0088 0.0021
 Neptune -102011-06-24 23:16 J -35537919.72 -35537919.53 -35537919.31 0.0088 0.0030
 Neptune -102010-02-05 11:59 J -35537694.18 -35537694.00 -35537693.79 0.0088 0.0039
 Neptune -102010-09-19 00:42 J -35537468.64 -35537468.47 -35537468.27 0.0088 0.0047
 Neptune -102009-05-01 13:25 J -35537243.09 -35537242.94 -35537242.75 0.0088 0.0056
 Neptune -102009-12-13 02:23 J -35537017.54 -35537017.40 -35537017.25 0.0088 0.0065
 Neptune -102008-07-26 14:37 J -35536791.99 -35536791.89 -35536791.75 0.0088 0.0074
 Jupiter -102008-10-31 15:06 J -35536695.04 -35536694.87 -35536694.69 0.0495 0.0229
 Neptune -102007-03-09 03:06 J -35536566.42 -35536566.37 -35536566.26 0.0088 0.0083
 Mars -102006-02-23 11:30 J -35536215.15 -35536215.02 -35536214.89 0.1743 0.1191
 Earth -102001-01-21 09:06 J -35534422.28 -35534422.12 -35534421.97 0.2609 0.0787
 Moon -102001-01-21 14:09 J -35534422.05 -35534421.91 -35534421.77 0.2612 0.1047 *
 Jupiter -102001-04-26 19:25 J -35534325.82 -35534325.69 -35534325.56 0.0535 0.0410

102ND MILLENNIUM BCE

This is a list of transits of Venus in the 102nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-102000-07-30	14:09 J	-35533866.09	-35533865.91	-35533865.72	0.0275	0.0128	
Mars	-102000-08-09	15:21 J	-35533856.00	-35533855.86	-35533855.72	0.1793	0.1013	

Saturn -101999-03-16 20:09 J -35533636.86 -35533636.66 -35533636.45 0.0276 0.0070
 Uranus -101999-06-15 21:49 J -35533545.72 -35533545.59 -35533545.43 0.0146 0.0108
 Saturn -101999-11-01 02:37 J -35533407.44 -35533407.39 -35533407.34 0.0278 0.0269
 Uranus -101998-01-28 10:33 J -35533319.26 -35533319.06 -35533318.84 0.0147 0.0039
 Uranus -101998-09-11 23:45 J -35533092.72 -35533092.51 -35533092.30 0.0147 0.0032
 Uranus -101997-04-25 12:42 J -35532866.11 -35532865.97 -35532865.81 0.0147 0.0103
 Moon -101993-01-19 06:42 J -35531502.33 -35531502.22 -35531502.11 0.2610 0.1898
 Jupiter -101990-12-31 09:06 J -35530060.33 -35530060.12 -35530059.92 0.0533 0.0049
 Saturn -101986-05-28 03:49 J -35528816.47 -35528816.34 -35528816.20 0.0285 0.0215
 Saturn -101985-01-12 22:04 J -35528586.80 -35528586.58 -35528586.37 0.0284 0.0009
 Saturn -101985-08-29 15:49 J -35528356.96 -35528356.84 -35528356.71 0.0282 0.0229
 Jupiter -101984-11-02 20:23 J -35527926.80 -35527926.65 -35527926.50 0.0493 0.0330
 Jupiter -101978-09-04 21:06 J -35525794.67 -35525794.62 -35525794.56 0.0531 0.0509
 Mars -101973-12-21 11:30 J -35523860.18 -35523860.02 -35523859.86 0.1729 0.0683
 Jupiter -101972-07-08 22:47 J -35523660.75 -35523660.55 -35523660.35 0.0495 0.0028
 Saturn -101970-02-09 20:37 J -35523079.84 -35523079.64 -35523079.45 0.0276 0.0100
 Saturn -101970-09-27 02:52 J -35522850.57 -35522850.38 -35522850.18 0.0277 0.0099
 Mars -101968-08-08 21:35 J -35522168.76 -35522168.60 -35522168.44 0.1782 0.0666
 Jupiter -101960-03-14 02:23 J -35519394.53 -35519394.40 -35519394.28 0.0496 0.0386
 Uranus -101959-10-05 22:04 J -35518823.69 -35518823.58 -35518823.44 0.0132 0.0110
 Uranus -101958-05-20 03:06 J -35518597.56 -35518597.37 -35518597.17 0.0132 0.0058
 Uranus -101957-01-01 07:54 J -35518371.39 -35518371.17 -35518370.95 0.0132 0.0006
 Uranus -101957-08-14 12:28 J -35518145.19 -35518144.98 -35518144.78 0.0132 0.0045
 Saturn -101957-12-07 15:06 J -35518030.03 -35518029.87 -35518029.69 0.0285 0.0175
 Uranus -101956-03-28 16:47 J -35517918.94 -35517918.80 -35517918.65 0.0132 0.0096
 Saturn -101956-07-25 09:21 J -35517800.32 -35517800.11 -35517799.89 0.0284 0.0049
 Saturn -101955-03-12 02:52 J -35517570.43 -35517570.38 -35517570.30 0.0282 0.0269
 Jupiter -101954-09-07 23:01 J -35517025.73 -35517025.54 -35517025.35 0.0534 0.0202
 Jupiter -101942-05-13 12:57 J -35512760.14 -35512759.96 -35512759.78 0.0532 0.0255
 Saturn -101941-01-05 18:42 J -35512522.76 -35512522.72 -35512522.68 0.0273 0.0267

Saturn -101941-08-22 00:28 J -35512293.68 -35512293.48 -35512293.28 0.0275 0.0072
 Mars -101941-12-20 19:11 J -35512172.85 -35512172.70 -35512172.55 0.1740 0.0934
 Saturn -101940-04-08 06:28 J -35512064.41 -35512064.23 -35512064.04 0.0276 0.0127
 Neptune -101936-03-08 21:21 J -35510633.66 -35510633.61 -35510633.51 0.0089 0.0083
 Jupiter -101936-03-16 08:52 J -35510626.32 -35510626.13 -35510625.94 0.0493 0.0182
 Neptune -101936-10-20 10:33 J -35510408.17 -35510408.06 -35510407.93 0.0089 0.0074
 Neptune -101935-06-02 23:16 J -35510182.66 -35510182.53 -35510182.36 0.0089 0.0065
 Neptune -101934-01-14 12:13 J -35509957.15 -35509956.99 -35509956.81 0.0089 0.0056
 Mars -101934-06-06 23:16 J -35509813.65 -35509813.53 -35509813.41 0.1796 0.1293
 Neptune -101934-08-28 01:11 J -35509731.62 -35509731.45 -35509731.25 0.0089 0.0047
 Neptune -101933-04-09 14:09 J -35509506.10 -35509505.91 -35509505.70 0.0089 0.0038
 Neptune -101933-11-21 03:06 J -35509280.57 -35509280.37 -35509280.16 0.0089 0.0029
 Neptune -101932-07-04 16:04 J -35509055.04 -35509054.83 -35509054.61 0.0089 0.0020
 Neptune -101931-02-15 05:01 J -35508829.50 -35508829.29 -35508829.06 0.0089 0.0011
 Neptune -101931-09-28 18:28 J -35508603.95 -35508603.73 -35508603.51 0.0089 0.0002
 Neptune -101930-05-12 07:11 J -35508378.41 -35508378.20 -35508377.97 0.0089 0.0009
 Neptune -101930-12-23 20:09 J -35508152.86 -35508152.66 -35508152.43 0.0089 0.0018
 Neptune -101929-08-05 09:21 J -35507927.31 -35507927.11 -35507926.89 0.0089 0.0026
 Neptune -101928-03-18 22:33 J -35507701.76 -35507701.56 -35507701.35 0.0089 0.0035
 Neptune -101928-10-30 11:59 J -35507476.19 -35507476.00 -35507475.81 0.0089 0.0045
 Neptune -101927-06-13 00:42 J -35507250.62 -35507250.47 -35507250.27 0.0089 0.0054
 Saturn -101927-06-19 17:01 J -35507243.97 -35507243.79 -35507243.61 0.0285 0.0153
 Neptune -101926-01-24 13:54 J -35507025.05 -35507024.92 -35507024.74 0.0089 0.0064
 Saturn -101926-02-04 11:01 J -35507014.24 -35507014.04 -35507013.83 0.0284 0.0072
 Neptune -101926-09-07 03:21 J -35506799.47 -35506799.36 -35506799.21 0.0089 0.0072
 Neptune -101925-04-19 16:47 J -35506573.87 -35506573.80 -35506573.70 0.0089 0.0081
 Jupiter -101925-11-19 12:13 J -35506360.18 -35506359.99 -35506359.80 0.0495 0.0175
 Moon -101920-07-31 08:09 J -35504645.27 -35504645.16 -35504645.05 0.2735 0.1868
 Earth -101920-07-31 12:57 J -35504644.98 -35504644.96 -35504644.93 0.2732 0.2688
 Jupiter -101918-05-16 18:42 J -35503990.80 -35503990.72 -35503990.63 0.0535 0.0483

Uranus -101915-02-13 01:54 J -35502987.43 -35502987.42 -35502987.38 0.0146 0.0145
 Uranus -101915-09-27 14:52 J -35502761.06 -35502760.88 -35502760.69 0.0146 0.0076
 Uranus -101914-05-12 03:49 J -35502534.56 -35502534.34 -35502534.13 0.0147 0.0006
 Uranus -101914-12-24 16:33 J -35502308.00 -35502307.81 -35502307.61 0.0147 0.0066
 Uranus -101913-08-07 05:30 J -35502081.33 -35502081.27 -35502081.17 0.0147 0.0137
 Saturn -101912-07-17 23:45 J -35501736.60 -35501736.51 -35501736.41 0.0274 0.0243
 Moon -101912-07-29 01:25 J -35501725.54 -35501725.44 -35501725.34 0.2734 0.1983
 Earth -101912-07-29 03:06 J -35501725.50 -35501725.37 -35501725.24 0.2728 0.1559 *
 Saturn -101911-03-04 05:45 J -35501507.47 -35501507.26 -35501507.05 0.0276 0.0046
 Saturn -101911-10-19 11:59 J -35501278.17 -35501278.00 -35501277.83 0.0277 0.0154
 Mars -101907-10-18 19:54 J -35499817.82 -35499817.67 -35499817.52 0.1726 0.0922
 Jupiter -101906-01-19 06:42 J -35499725.42 -35499725.22 -35499725.02 0.0533 0.0015
 Mars -101902-06-06 06:28 J -35498126.39 -35498126.23 -35498126.06 0.1785 0.0422
 Jupiter -101901-11-21 17:30 J -35497591.89 -35497591.77 -35497591.64 0.0493 0.0388
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 Saturn -101897-08-16 21:35 J -35496227.79 -35496227.60 -35496227.40 0.0283 0.0110
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 Jupiter -101889-07-27 22:18 J -35493325.78 -35493325.57 -35493325.37 0.0494 0.0038
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 Saturn -101882-09-14 09:35 J -35490721.30 -35490721.10 -35490720.89 0.0275 0.0018
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 Mars -101875-10-18 02:23 J -35488130.56 -35488130.40 -35488130.23 0.1736 0.0668
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 Neptune -101844-03-16 14:23 J -35477023.03 -35477022.90 -35477022.73 0.0088 0.0065
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 Neptune -101843-06-10 15:49 J -35476571.90 -35476571.84 -35476571.75 0.0088 0.0083

Jupiter -101842-12-09 10:33 J -35476025.26 -35476025.06 -35476024.86 0.0495 0.0115
 Mars -101841-08-15 03:49 J -35475775.46 -35475775.34 -35475775.21 0.1723 0.1162
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 Jupiter -101830-08-14 15:06 J -35471758.93 -35471758.87 -35471758.80 0.0497 0.0469
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 Saturn -101823-10-06 17:45 J -35469148.97 -35469148.76 -35469148.55 0.0275 0.0036
 Saturn -101822-05-23 23:30 J -35468919.62 -35468919.52 -35468919.40 0.0276 0.0235
 Jupiter -101818-12-11 17:30 J -35467256.85 -35467256.77 -35467256.69 0.0492 0.0454
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Uranus -101788-03-09 15:21 J -35456575.99 -35456575.86 -35456575.69 0.0132 0.0096
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 Pluto -101783-03-23 23:16 J -35454735.61 -35454735.53 -35454735.41 0.0081 0.0072
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 Saturn -101779-10-01 16:04 J -35453082.96 -35453082.83 -35453082.70 0.0283 0.0223
 Jupiter -101776-06-20 10:47 J -35452090.24 -35452090.05 -35452089.84 0.0533 0.0118
 Mars -101775-06-12 12:57 J -35451733.07 -35451732.96 -35451732.86 0.1720 0.1387
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 Neptune -101764-06-20 10:04 J -35447707.27 -35447707.08 -35447706.86 0.0089 0.0036
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 Saturn -101750-08-26 21:21 J -35442526.83 -35442526.61 -35442526.40 0.0285 0.0017
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 Mars -101677-04-08 02:23 J -35416003.58 -35416003.40 -35416003.22 0.1727 0.0085
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 Earth -101669-07-29 02:52 J -35412969.50 -35412969.38 -35412969.26 0.2725 0.1805
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 Uranus -101663-12-21 08:09 J -35410633.36 -35410633.16 -35410632.94 0.0146 0.0043
 Uranus -101662-08-04 21:06 J -35410406.83 -35410406.62 -35410406.40 0.0147 0.0029
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 Uranus -101661-03-18 10:18 J -35410180.22 -35410180.07 -35410179.91 0.0147 0.0100
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 Uranus -101410-10-28 13:25 J -35318279.12 -35318278.94 -35318278.73 0.0147 0.0062
 Mars -101409-03-12 22:04 J -35318142.75 -35318142.58 -35318142.41 0.1798 0.0245
 Uranus -101409-06-11 02:52 J -35318052.47 -35318052.38 -35318052.29 0.0147 0.0133
 Jupiter -101408-05-14 08:37 J -35317715.23 -35317715.14 -35317715.05 0.0534 0.0476
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 Saturn -101397-10-06 07:11 J -35313552.39 -35313552.20 -35313552.00 0.0286 0.0116
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 Saturn -101396-05-24 01:40 J -35313322.62 -35313322.43 -35313322.23 0.0284 0.0117

Jupiter -101391-11-20 22:33 J -35311315.64 -35311315.56 -35311315.47 0.0493 0.0450
 Jupiter -101385-09-21 12:28 J -35309184.08 -35309183.98 -35309183.86 0.0530 0.0441
 Mars -101382-07-25 17:59 J -35308146.92 -35308146.75 -35308146.58 0.1724 0.0542
 Pluto -101382-08-20 17:16 J -35308120.95 -35308120.78 -35308120.57 0.0063 0.0034
 Saturn -101382-11-05 05:01 J -35308044.45 -35308044.29 -35308044.13 0.0273 0.0180
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 Saturn -101367-12-04 07:11 J -35302536.39 -35302536.20 -35302536.02 0.0284 0.0149
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 Mars -101348-05-22 22:04 J -35295791.70 -35295791.58 -35295791.46 0.1712 0.1236
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Saturn -101308-05-11 01:11 J -35281193.67 -35281193.45 -35281193.24 0.0285 0.0021
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 Neptune -101276-04-18 11:01 J -35269528.22 -35269528.04 -35269527.83 0.0089 0.0043
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 Earth -101272-01-21 15:21 J -35268154.00 -35268153.86 -35268153.72 0.2618 0.1228 *
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 Jupiter -101147-03-15 16:18 J -35222445.01 -35222444.82 -35222444.63 0.0533 0.0212
 Saturn -101146-06-19 20:37 J -35221983.81 -35221983.64 -35221983.45 0.0274 0.0147
 Mars -101146-06-30 04:33 J -35221973.46 -35221973.31 -35221973.17 0.1812 0.0938
 Saturn -101145-02-04 02:23 J -35221754.60 -35221754.40 -35221754.19 0.0275 0.0059
 Saturn -101145-09-20 07:54 J -35221525.21 -35221525.17 -35221525.10 0.0276 0.0265
 Pluto -101136-09-17 22:33 J -35218240.72 -35218240.56 -35218240.34 0.0063 0.0035
 Jupiter -101136-11-18 05:59 J -35218179.43 -35218179.25 -35218179.07 0.0531 0.0249
 Pluto -101135-05-01 03:35 J -35218015.58 -35218015.35 -35218015.13 0.0063 0.0002
 Pluto -101135-12-12 07:25 J -35217790.35 -35217790.19 -35217789.99 0.0063 0.0039
 Saturn -101132-12-01 03:06 J -35216705.58 -35216705.37 -35216705.16 0.0285 0.0051
 Saturn -101131-07-18 21:21 J -35216475.76 -35216475.61 -35216475.44 0.0284 0.0185
 Jupiter -101130-09-22 16:18 J -35216044.99 -35216044.82 -35216044.65 0.0495 0.0253
 Uranus -101119-07-03 02:37 J -35212108.52 -35212108.39 -35212108.24 0.0132 0.0102
 Mars -101119-11-11 04:47 J -35211977.48 -35211977.30 -35211977.13 0.1712 0.0402
 Uranus -101118-02-14 07:40 J -35211882.38 -35211882.18 -35211881.97 0.0132 0.0049
 Jupiter -101118-05-28 18:28 J -35211778.92 -35211778.73 -35211778.53 0.0497 0.0116
 Uranus -101118-09-28 12:28 J -35211656.20 -35211655.98 -35211655.76 0.0132 0.0003
 Uranus -101117-05-11 17:01 J -35211429.98 -35211429.79 -35211429.59 0.0132 0.0055
 Uranus -101117-12-23 21:21 J -35211203.73 -35211203.61 -35211203.48 0.0132 0.0106
 Saturn -101117-12-30 04:18 J -35211197.51 -35211197.32 -35211197.12 0.0274 0.0116
 Saturn -101116-08-16 10:04 J -35210968.27 -35210968.08 -35210967.88 0.0276 0.0092
 Neptune -101114-01-30 18:42 J -35210435.80 -35210435.72 -35210435.63 0.0089 0.0081
 Mars -101114-06-29 13:25 J -35210286.09 -35210285.94 -35210285.80 0.1801 0.0895
 Neptune -101114-09-13 07:11 J -35210210.31 -35210210.20 -35210210.06 0.0089 0.0072
 Neptune -101113-04-25 19:40 J -35209984.81 -35209984.68 -35209984.51 0.0089 0.0063
 Neptune -101113-12-07 08:23 J -35209759.31 -35209759.15 -35209758.96 0.0089 0.0054
 Neptune -101112-07-20 20:52 J -35209533.80 -35209533.63 -35209533.42 0.0089 0.0045
 Jupiter -101112-11-21 08:09 J -35209410.24 -35209410.16 -35209410.07 0.0533 0.0476

Neptune -101111-03-03 10:04 J -35209308.28 -35209308.08 -35209307.88 0.0089 0.0035
 Neptune -101111-10-14 22:47 J -35209082.75 -35209082.55 -35209082.33 0.0089 0.0026
 Neptune -101110-05-28 11:45 J -35208857.22 -35208857.01 -35208856.79 0.0089 0.0017
 Neptune -101109-01-09 00:42 J -35208631.69 -35208631.47 -35208631.25 0.0089 0.0007
 Neptune -101109-08-21 13:25 J -35208406.15 -35208405.94 -35208405.72 0.0089 0.0003
 Neptune -101108-04-04 02:23 J -35208180.61 -35208180.40 -35208180.18 0.0089 0.0012
 Neptune -101108-11-15 15:21 J -35207955.06 -35207954.86 -35207954.64 0.0089 0.0022
 Neptune -101107-06-29 04:33 J -35207729.51 -35207729.31 -35207729.10 0.0089 0.0031
 Jupiter -101106-01-31 21:35 J -35207512.65 -35207512.60 -35207512.56 0.0499 0.0483
 Neptune -101106-02-09 17:16 J -35207503.96 -35207503.78 -35207503.57 0.0089 0.0041
 Neptune -101106-09-23 06:42 J -35207278.40 -35207278.22 -35207278.03 0.0089 0.0050
 Neptune -101105-05-05 19:25 J -35207052.83 -35207052.69 -35207052.51 0.0089 0.0060
 Neptune -101105-12-17 08:52 J -35206827.26 -35206827.13 -35206826.98 0.0089 0.0069
 Neptune -101104-07-30 21:35 J -35206601.67 -35206601.60 -35206601.47 0.0089 0.0079
 Neptune -101103-03-13 11:01 J -35206376.05 -35206376.04 -35206375.99 0.0089 0.0088
 Saturn -101103-10-26 20:23 J -35206148.75 -35206148.65 -35206148.53 0.0286 0.0245
 Saturn -101102-06-13 15:06 J -35205919.09 -35205918.87 -35205918.66 0.0285 0.0009
 Saturn -101101-01-29 08:52 J -35205689.24 -35205689.13 -35205688.99 0.0284 0.0227
 Jupiter -101100-07-26 19:25 J -35205144.89 -35205144.69 -35205144.48 0.0532 0.0012
 Jupiter -101094-05-31 01:25 J -35203010.50 -35203010.44 -35203010.37 0.0494 0.0463
 Jupiter -101088-03-31 09:35 J -35200879.20 -35200879.10 -35200879.00 0.0530 0.0457
 Saturn -101087-07-12 08:23 J -35200411.35 -35200411.15 -35200410.95 0.0274 0.0086
 Mars -101087-11-10 10:04 J -35200290.21 -35200290.08 -35200289.96 0.1722 0.1189
 Saturn -101086-02-26 13:54 J -35200182.11 -35200181.92 -35200181.73 0.0275 0.0120
 Jupiter -101082-02-03 04:18 J -35198744.52 -35198744.32 -35198744.12 0.0495 0.0099
 Mars -101080-04-26 11:45 J -35197931.13 -35197931.01 -35197930.88 0.1815 0.1251
 Uranus -101075-06-24 13:40 J -35196046.11 -35196045.93 -35196045.75 0.0147 0.0078
 Uranus -101074-02-06 02:09 J -35195819.62 -35195819.41 -35195819.19 0.0147 0.0007
 Uranus -101074-09-20 15:06 J -35195593.06 -35195592.87 -35195592.67 0.0147 0.0065
 Uranus -101073-05-04 04:18 J -35195366.39 -35195366.32 -35195366.24 0.0147 0.0137

Saturn -101073-05-07 23:01 J -35195362.66 -35195362.54 -35195362.39 0.0286 0.0219
 Saturn -101073-12-23 17:45 J -35195132.97 -35195132.76 -35195132.55 0.0285 0.0019
 Saturn -101072-08-10 11:45 J -35194903.09 -35194903.01 -35194902.90 0.0284 0.0254
 Jupiter -101071-10-09 07:25 J -35194478.36 -35194478.19 -35194478.02 0.0497 0.0269
 Jupiter -101064-04-03 14:37 J -35192110.06 -35192109.89 -35192109.72 0.0532 0.0280
 Saturn -101058-06-07 08:37 J -35189854.19 -35189854.14 -35189854.07 0.0274 0.0262
 Saturn -101057-01-22 14:37 J -35189625.10 -35189624.89 -35189624.69 0.0275 0.0057
 Saturn -101057-09-07 20:09 J -35189395.83 -35189395.66 -35189395.48 0.0276 0.0151
 Mars -101053-09-07 13:40 J -35187935.09 -35187934.93 -35187934.76 0.1709 0.0624
 Jupiter -101053-12-07 02:37 J -35187844.58 -35187844.39 -35187844.20 0.0530 0.0191
 Mars -101048-04-25 21:35 J -35186243.76 -35186243.60 -35186243.43 0.1804 0.0625
 Jupiter -101047-10-11 12:42 J -35185710.13 -35185709.97 -35185709.81 0.0495 0.0306
 Pluto -101046-03-25 01:11 J -35185545.55 -35185545.45 -35185545.30 0.0082 0.0067
 Pluto -101046-11-05 11:30 J -35185320.22 -35185320.02 -35185319.80 0.0082 0.0010
 Saturn -101044-11-18 11:01 J -35184576.20 -35184576.04 -35184575.86 0.0286 0.0176
 Saturn -101043-07-06 05:45 J -35184346.47 -35184346.26 -35184346.05 0.0285 0.0062
 Uranus -101035-03-02 13:40 J -35181549.98 -35181549.93 -35181549.84 0.0132 0.0126
 Jupiter -101035-06-16 17:01 J -35181444.00 -35181443.79 -35181443.59 0.0496 0.0055
 Uranus -101035-10-14 19:11 J -35181323.88 -35181323.70 -35181323.52 0.0132 0.0073
 Uranus -101034-05-28 23:59 J -35181097.71 -35181097.50 -35181097.28 0.0132 0.0020
 Uranus -101033-01-10 04:33 J -35180871.52 -35180871.31 -35180871.10 0.0132 0.0032
 Neptune -101033-08-09 01:54 J -35180659.42 -35180659.42 -35180659.39 0.0088 0.0088
 Uranus -101033-08-23 08:37 J -35180645.29 -35180645.14 -35180644.95 0.0132 0.0084
 Neptune -101032-03-22 15:35 J -35180433.94 -35180433.85 -35180433.74 0.0088 0.0079
 Neptune -101032-11-03 04:47 J -35180208.42 -35180208.30 -35180208.15 0.0088 0.0069
 Neptune -101031-06-16 18:28 J -35179982.90 -35179982.73 -35179982.57 0.0088 0.0060
 Neptune -101030-01-28 07:25 J -35179757.36 -35179757.19 -35179757.00 0.0088 0.0050
 Neptune -101030-09-10 20:23 J -35179531.83 -35179531.65 -35179531.43 0.0088 0.0042
 Moon -101029-01-22 15:35 J -35179397.99 -35179397.85 -35179397.72 0.2627 0.1301
 Earth -101029-01-22 17:16 J -35179397.91 -35179397.78 -35179397.64 0.2621 0.1352 *

Neptune -101029-04-23 10:04 J -35179306.28 -35179306.08 -35179305.87 0.0088 0.0032
 Neptune -101029-12-04 23:16 J -35179080.74 -35179080.53 -35179080.31 0.0088 0.0022
 Saturn -101029-12-17 13:25 J -35179068.05 -35179067.94 -35179067.83 0.0273 0.0231
 Neptune -101028-07-18 12:28 J -35178855.19 -35178854.98 -35178854.76 0.0088 0.0013
 Saturn -101028-08-03 18:57 J -35178838.92 -35178838.71 -35178838.50 0.0274 0.0027
 Neptune -101027-03-01 01:40 J -35178629.65 -35178629.43 -35178629.20 0.0088 0.0003
 Saturn -101027-03-21 00:13 J -35178609.64 -35178609.49 -35178609.33 0.0275 0.0180
 Neptune -101027-10-12 14:52 J -35178404.10 -35178403.88 -35178403.66 0.0088 0.0006
 Neptune -101026-05-26 03:35 J -35178178.55 -35178178.35 -35178178.12 0.0088 0.0017
 Neptune -101025-01-06 16:33 J -35177953.01 -35177952.81 -35177952.58 0.0088 0.0026
 Neptune -101025-08-19 05:45 J -35177727.46 -35177727.26 -35177727.05 0.0088 0.0035
 Neptune -101024-04-01 18:28 J -35177501.90 -35177501.73 -35177501.52 0.0088 0.0044
 Neptune -101024-11-13 07:25 J -35177276.35 -35177276.19 -35177276.00 0.0088 0.0053
 Jupiter -101023-02-19 19:40 J -35177177.78 -35177177.68 -35177177.57 0.0498 0.0423
 Neptune -101023-06-26 20:09 J -35177050.80 -35177050.66 -35177050.49 0.0088 0.0063
 Neptune -101022-02-07 08:52 J -35176825.24 -35176825.13 -35176824.98 0.0088 0.0072
 Neptune -101022-09-20 21:49 J -35176599.67 -35176599.59 -35176599.49 0.0088 0.0081
 Earth -101021-01-20 09:21 J -35176478.18 -35176478.11 -35176478.03 0.2625 0.2299
 Moon -101021-01-20 11:59 J -35176478.07 -35176478.00 -35176477.94 0.2630 0.2372 *
 Mars -101021-09-06 18:13 J -35176247.88 -35176247.74 -35176247.59 0.1718 0.0943
 Jupiter -101017-08-14 20:09 J -35174809.86 -35174809.66 -35174809.46 0.0532 0.0079
 Mars -101014-02-21 19:11 J -35173888.79 -35173888.70 -35173888.62 0.1818 0.1564
 Saturn -101014-05-31 12:57 J -35173790.14 -35173789.96 -35173789.78 0.0286 0.0152
 Saturn -101013-01-16 07:11 J -35173560.40 -35173560.20 -35173559.99 0.0285 0.0086
 Jupiter -101005-04-19 09:21 J -35170544.25 -35170544.11 -35170543.97 0.0529 0.0383

101ST MILLENNIUM BCE

This is a list of transits of Venus in the 101st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-100999-02-22 00:42 J	-35168409.66	-35168409.47	-35168409.28	0.0496	0.0151		
Saturn	-100999-06-29 18:13 J	-35168281.87	-35168281.74	-35168281.59	0.0274	0.0205		
Saturn	-100998-02-13 23:59 J	-35168052.71	-35168052.50	-35168052.29	0.0275	0.0005		
Saturn	-100998-10-01 05:45 J	-35167823.39	-35167823.26	-35167823.12	0.0276	0.0209		
Uranus	-100991-02-21 19:25 J	-35165487.82	-35165487.69	-35165487.55	0.0146	0.0113		
Uranus	-100991-10-06 08:09 J	-35165261.36	-35165261.16	-35165260.95	0.0147	0.0042		
Uranus	-100990-05-20 21:06 J	-35165034.83	-35165034.62	-35165034.41	0.0147	0.0030		
Uranus	-100989-01-02 10:04 J	-35164808.23	-35164808.08	-35164807.92	0.0147	0.0102		
Jupiter	-100988-10-28 04:18 J	-35164143.50	-35164143.32	-35164143.14	0.0498	0.0215		
Mars	-100987-07-05 23:01 J	-35163892.69	-35163892.54	-35163892.38	0.1706	0.0845		
Saturn	-100985-12-10 23:45 J	-35163003.70	-35163003.51	-35163003.31	0.0286	0.0110		
Saturn	-100984-07-28 18:13 J	-35162773.92	-35162773.74	-35162773.54	0.0284	0.0129		
Mars	-100982-02-21 05:01 J	-35162201.46	-35162201.29	-35162201.12	0.1808	0.0325		
Jupiter	-100981-04-22 10:18 J	-35161775.23	-35161775.07	-35161774.91	0.0533	0.0333		
Jupiter	-100970-12-27 00:13 J	-35157509.69	-35157509.49	-35157509.30	0.0531	0.0130		
Saturn	-100969-01-09 23:01 J	-35157495.70	-35157495.54	-35157495.38	0.0273	0.0174		
Saturn	-100969-08-26 04:18 J	-35157266.53	-35157266.32	-35157266.11	0.0274	0.0031		
Saturn	-100968-04-12 09:35 J	-35157037.19	-35157037.10	-35157036.99	0.0275	0.0239		
Jupiter	-100964-10-30 11:30 J	-35155375.15	-35155375.02	-35155374.89	0.0494	0.0368		
Saturn	-100955-06-23 00:57 J	-35152217.66	-35152217.46	-35152217.25	0.0286	0.0088		
Mars	-100955-07-05 03:06 J	-35152205.53	-35152205.37	-35152205.21	0.1715	0.0701		
Saturn	-100954-02-07 19:25 J	-35151987.87	-35151987.69	-35151987.50	0.0285	0.0151		

Jupiter -100952-07-05 14:37 J -35151109.09 -35151108.89 -35151108.68 0.0496 0.0009
 Uranus -100951-06-14 06:42 J -35150765.35 -35150765.22 -35150765.05 0.0132 0.0096
 Uranus -100950-01-26 11:59 J -35150539.21 -35150539.00 -35150538.79 0.0132 0.0043
 Neptune -100950-05-04 04:18 J -35150441.37 -35150441.32 -35150441.22 0.0089 0.0084
 Uranus -100950-09-09 16:33 J -35150313.02 -35150312.81 -35150312.59 0.0132 0.0010
 Neptune -100950-12-15 17:16 J -35150215.89 -35150215.78 -35150215.65 0.0089 0.0074
 Uranus -100949-04-22 21:06 J -35150086.80 -35150086.62 -35150086.42 0.0132 0.0062
 Neptune -100949-07-28 05:45 J -35149990.39 -35149990.26 -35149990.10 0.0089 0.0065
 Uranus -100949-12-05 01:40 J -35149860.53 -35149860.43 -35149860.31 0.0132 0.0113
 Neptune -100948-03-10 18:13 J -35149764.89 -35149764.74 -35149764.55 0.0089 0.0056
 Moon -100948-08-01 08:23 J -35149621.28 -35149621.15 -35149621.01 0.2714 0.1513
 Earth -100948-08-01 12:28 J -35149621.11 -35149620.98 -35149620.86 0.2719 0.1716 *
 Neptune -100948-10-22 07:25 J -35149539.37 -35149539.19 -35149539.00 0.0089 0.0046
 Neptune -100947-06-04 19:54 J -35149313.85 -35149313.67 -35149313.46 0.0089 0.0037
 Neptune -100946-01-16 08:37 J -35149088.34 -35149088.14 -35149087.92 0.0089 0.0028
 Neptune -100946-08-29 21:35 J -35148862.81 -35148862.60 -35148862.38 0.0089 0.0018
 Neptune -100945-04-11 10:18 J -35148637.28 -35148637.07 -35148636.84 0.0089 0.0009
 Neptune -100945-11-22 23:16 J -35148411.75 -35148411.53 -35148411.31 0.0089 0.0001
 Neptune -100944-07-06 12:13 J -35148186.21 -35148185.99 -35148185.77 0.0089 0.0010
 Neptune -100943-02-17 00:57 J -35147960.67 -35147960.46 -35147960.24 0.0089 0.0020
 Neptune -100943-09-30 13:40 J -35147735.12 -35147734.93 -35147734.71 0.0089 0.0030
 Neptune -100942-05-14 02:52 J -35147509.57 -35147509.38 -35147509.17 0.0089 0.0039
 Neptune -100942-12-25 15:35 J -35147284.01 -35147283.85 -35147283.65 0.0089 0.0049
 Neptune -100941-08-07 04:47 J -35147058.45 -35147058.30 -35147058.12 0.0089 0.0058
 Jupiter -100940-03-10 16:33 J -35146842.94 -35146842.81 -35146842.67 0.0498 0.0370
 Neptune -100940-03-20 17:45 J -35146832.88 -35146832.76 -35146832.60 0.0089 0.0068
 Saturn -100940-07-22 02:37 J -35146709.56 -35146709.39 -35146709.20 0.0274 0.0150
 Earth -100940-07-30 02:52 J -35146701.44 -35146701.38 -35146701.31 0.2715 0.2435
 Neptune -100940-11-01 07:11 J -35146607.29 -35146607.20 -35146607.08 0.0089 0.0077
 Saturn -100939-03-08 08:09 J -35146480.36 -35146480.16 -35146479.95 0.0275 0.0058

Neptune -100939-06-14 20:09 J -35146381.68 -35146381.66 -35146381.59 0.0089 0.0087
 Saturn -100939-10-23 13:40 J -35146250.97 -35146250.93 -35146250.86 0.0276 0.0265
 Jupiter -100934-09-03 18:42 J -35144474.91 -35144474.72 -35144474.52 0.0532 0.0149
 Saturn -100926-05-18 16:04 J -35141660.84 -35141660.83 -35141660.81 0.0287 0.0286
 Saturn -100925-01-03 10:47 J -35141431.26 -35141431.05 -35141430.84 0.0286 0.0047
 Saturn -100925-08-20 05:16 J -35141201.43 -35141201.28 -35141201.12 0.0284 0.0192
 Jupiter -100922-05-09 05:01 J -35140209.44 -35140209.29 -35140209.12 0.0530 0.0332
 Mars -100921-05-02 08:23 J -35139850.29 -35139850.15 -35139850.01 0.1703 0.1062
 Mars -100917-12-18 12:42 J -35138159.14 -35138158.97 -35138158.80 0.1811 0.0037
 Jupiter -100916-03-13 00:57 J -35138074.64 -35138074.46 -35138074.28 0.0495 0.0221
 Saturn -100910-02-01 07:40 J -35135923.36 -35135923.18 -35135922.98 0.0273 0.0118
 Saturn -100910-09-18 12:57 J -35135694.16 -35135693.96 -35135693.76 0.0274 0.0089
 Uranus -100907-06-05 14:23 J -35134703.07 -35134702.90 -35134702.70 0.0147 0.0077
 Uranus -100906-01-18 03:21 J -35134476.58 -35134476.36 -35134476.14 0.0147 0.0005
 Uranus -100906-09-01 16:18 J -35134250.01 -35134249.82 -35134249.63 0.0147 0.0067
 Uranus -100905-04-15 05:16 J -35134023.33 -35134023.28 -35134023.20 0.0147 0.0140
 Jupiter -100905-11-16 04:18 J -35133808.52 -35133808.32 -35133808.13 0.0497 0.0145
 Jupiter -100898-05-12 12:28 J -35131440.10 -35131439.98 -35131439.85 0.0534 0.0421
 Saturn -100897-11-27 16:18 J -35130874.88 -35130874.82 -35130874.73 0.0287 0.0266
 Saturn -100896-07-15 11:01 J -35130645.25 -35130645.04 -35130644.82 0.0286 0.0027
 Saturn -100895-03-02 05:30 J -35130415.40 -35130415.27 -35130415.12 0.0284 0.0213
 Pluto -100890-10-17 03:06 J -35128360.53 -35128360.37 -35128360.18 0.0063 0.0039
 Mars -100889-05-01 11:59 J -35128163.17 -35128163.00 -35128162.83 0.1712 0.0471
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 Jupiter -100886-01-15 02:09 J -35127174.62 -35127174.41 -35127174.21 0.0531 0.0044
 Saturn -100881-08-13 10:04 J -35125137.27 -35125137.08 -35125136.88 0.0274 0.0096
 Jupiter -100881-11-18 09:21 J -35125040.21 -35125040.11 -35125040.01 0.0494 0.0428
 Saturn -100880-03-30 15:35 J -35124908.04 -35124907.85 -35124907.66 0.0275 0.0112
 Jupiter -100875-09-19 14:52 J -35122908.93 -35122908.88 -35122908.83 0.0529 0.0509

Jupiter -100869-07-24 13:11 J -35120774.15 -35120773.95 -35120773.75 0.0496 0.0067
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 Uranus -100867-02-11 18:13 J -35120206.81 -35120206.74 -35120206.62 0.0133 0.0119
 Saturn -100867-06-10 00:57 J -35120088.58 -35120088.46 -35120088.32 0.0287 0.0227
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Jupiter -100637-03-13 05:16 J -35036169.47 -35036169.28 -35036169.09 0.0532 0.0198
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 Neptune -100620-09-13 12:28 J -35029776.12 -35029775.98 -35029775.81 0.0089 0.0061
 Jupiter -100620-09-20 16:04 J -35029768.99 -35029768.83 -35029768.66 0.0496 0.0290
 Neptune -100619-04-27 00:57 J -35029550.61 -35029550.46 -35029550.26 0.0089 0.0052
 Neptune -100619-12-08 13:54 J -35029325.10 -35029324.92 -35029324.72 0.0089 0.0042
 Neptune -100618-07-22 02:52 J -35029099.58 -35029099.38 -35029099.18 0.0089 0.0032
 Neptune -100617-03-03 15:21 J -35028874.06 -35028873.86 -35028873.64 0.0089 0.0023
 Neptune -100617-10-15 04:18 J -35028648.53 -35028648.32 -35028648.10 0.0089 0.0013
 Saturn -100616-02-20 08:52 J -35028520.17 -35028520.13 -35028520.08 0.0272 0.0264
 Neptune -100616-05-28 17:16 J -35028423.00 -35028422.78 -35028422.56 0.0089 0.0004
 Saturn -100616-10-07 13:54 J -35028291.13 -35028290.92 -35028290.71 0.0273 0.0057
 Neptune -100615-01-09 05:59 J -35028197.47 -35028197.25 -35028197.03 0.0089 0.0006
 Uranus -100615-05-07 16:47 J -35028078.96 -35028078.80 -35028078.62 0.0132 0.0080
 Saturn -100615-05-24 18:57 J -35028061.88 -35028061.71 -35028061.54 0.0274 0.0152
 Neptune -100615-08-22 18:42 J -35027971.93 -35027971.72 -35027971.50 0.0089 0.0016
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 Neptune -100614-11-16 20:23 J -35027520.84 -35027520.65 -35027520.44 0.0089 0.0035
 Uranus -100613-03-16 07:25 J -35027400.35 -35027400.19 -35027400.00 0.0132 0.0078
 Neptune -100613-06-29 09:06 J -35027295.29 -35027295.12 -35027294.92 0.0089 0.0045
 Uranus -100613-10-28 11:59 J -35027174.02 -35027174.00 -35027173.96 0.0132 0.0130

Neptune -100612-02-09 22:18 J -35027069.74 -35027069.57 -35027069.39 0.0089 0.0054
 Neptune -100612-09-23 11:01 J -35026844.18 -35026844.04 -35026843.87 0.0089 0.0064
 Neptune -100611-05-06 23:45 J -35026618.60 -35026618.51 -35026618.36 0.0089 0.0074
 Neptune -100611-12-18 13:11 J -35026393.01 -35026392.95 -35026392.86 0.0089 0.0083
 Jupiter -100608-05-26 19:40 J -35025502.88 -35025502.68 -35025502.48 0.0497 0.0077
 Saturn -100602-08-03 10:04 J -35023243.20 -35023243.08 -35023242.94 0.0287 0.0230
 Jupiter -100602-11-19 21:35 J -35023134.70 -35023134.60 -35023134.50 0.0533 0.0466
 Saturn -100601-03-20 05:01 J -35023013.51 -35023013.29 -35023013.08 0.0286 0.0015
 Saturn -100601-11-04 23:45 J -35022783.59 -35022783.51 -35022783.42 0.0285 0.0258
 Jupiter -100596-01-29 23:01 J -35021236.62 -35021236.54 -35021236.45 0.0500 0.0448
 Mars -100594-08-18 03:21 J -35020306.49 -35020306.36 -35020306.22 0.1710 0.1107
 Jupiter -100590-07-25 11:59 J -35018869.20 -35018869.00 -35018868.79 0.0531 0.0007
 Mars -100587-01-31 23:16 J -35017947.61 -35017947.53 -35017947.45 0.1828 0.1608
 Saturn -100587-09-02 08:23 J -35017734.23 -35017734.15 -35017734.05 0.0272 0.0245
 Saturn -100586-04-19 13:54 J -35017505.13 -35017504.92 -35017504.71 0.0273 0.0037
 Saturn -100586-12-04 18:42 J -35017275.87 -35017275.72 -35017275.55 0.0274 0.0173
 Jupiter -100578-03-30 01:25 J -35014603.53 -35014603.44 -35014603.33 0.0528 0.0459
 Jupiter -100572-02-01 05:16 J -35012468.47 -35012468.28 -35012468.08 0.0496 0.0138
 Saturn -100572-02-12 14:52 J -35012457.03 -35012456.88 -35012456.72 0.0287 0.0198
 Uranus -100572-09-14 08:09 J -35012243.23 -35012243.16 -35012243.09 0.0146 0.0138
 Saturn -100572-09-30 09:49 J -35012227.30 -35012227.09 -35012226.88 0.0286 0.0048
 Uranus -100571-04-28 20:23 J -35012016.83 -35012016.65 -35012016.45 0.0146 0.0067
 Uranus -100571-12-11 09:06 J -35011790.33 -35011790.12 -35011789.90 0.0147 0.0006
 Uranus -100570-07-25 21:49 J -35011563.76 -35011563.59 -35011563.39 0.0147 0.0078
 Jupiter -100561-10-07 09:06 J -35008202.30 -35008202.12 -35008201.94 0.0499 0.0229
 Mars -100560-06-15 09:35 J -35007951.26 -35007951.10 -35007950.94 0.1698 0.0664
 Saturn -100557-03-14 16:04 J -35006947.95 -35006947.83 -35006947.69 0.0273 0.0212
 Saturn -100557-10-29 21:21 J -35006718.82 -35006718.61 -35006718.40 0.0273 0.0003
 Saturn -100556-06-16 02:23 J -35006489.54 -35006489.40 -35006489.27 0.0274 0.0208
 Mars -100555-01-31 10:18 J -35006260.23 -35006260.07 -35006259.90 0.1818 0.0369

Jupiter -100554-04-02 02:52 J -35005834.56 -35005834.38 -35005834.20 0.0532 0.0263
 Pluto -100553-01-01 14:23 J -35005560.08 -35005559.90 -35005559.69 0.0082 0.0033
 Pluto -100553-08-14 00:13 J -35005334.65 -35005334.49 -35005334.28 0.0082 0.0043
 Moon -100543-01-22 16:33 J -35001885.96 -35001885.81 -35001885.66 0.2631 0.0764
 Earth -100543-01-22 21:06 J -35001885.75 -35001885.62 -35001885.50 0.2627 0.1560 *
 Saturn -100543-08-25 18:57 J -35001670.87 -35001670.71 -35001670.53 0.0287 0.0171
 Jupiter -100543-12-05 17:01 J -35001568.98 -35001568.79 -35001568.60 0.0530 0.0198
 Saturn -100542-04-12 13:40 J -35001441.13 -35001440.93 -35001440.72 0.0286 0.0074
 Neptune -100540-12-27 14:09 J -35000450.92 -35000450.91 -35000450.86 0.0088 0.0088
 Neptune -100539-08-10 03:21 J -35000225.44 -35000225.36 -35000225.23 0.0088 0.0079
 Neptune -100538-03-23 17:01 J -34999999.91 -34999999.79 -34999999.63 0.0088 0.0069
 Neptune -100538-11-04 06:42 J -34999774.38 -34999774.22 -34999774.05 0.0088 0.0059
 Neptune -100537-06-16 19:40 J -34999548.85 -34999548.68 -34999548.48 0.0088 0.0050
 Jupiter -100537-10-09 16:04 J -34999433.96 -34999433.83 -34999433.68 0.0495 0.0360
 Neptune -100536-01-28 09:06 J -34999323.31 -34999323.12 -34999322.92 0.0088 0.0040
 Neptune -100536-09-10 22:04 J -34999097.77 -34999097.58 -34999097.35 0.0088 0.0031
 Moon -100535-01-20 11:59 J -34998966.07 -34998966.00 -34998965.92 0.2637 0.2280
 Earth -100535-01-20 12:57 J -34998966.05 -34998965.96 -34998965.87 0.2631 0.2149 *
 Neptune -100535-04-24 11:45 J -34998872.22 -34998872.01 -34998871.79 0.0088 0.0020
 Neptune -100535-12-06 00:57 J -34998646.68 -34998646.46 -34998646.24 0.0088 0.0011
 Neptune -100534-07-19 14:09 J -34998421.13 -34998420.91 -34998420.69 0.0088 0.0001
 Neptune -100533-03-01 03:21 J -34998195.58 -34998195.36 -34998195.14 0.0088 0.0009
 Neptune -100533-10-12 16:18 J -34997970.03 -34997969.82 -34997969.60 0.0088 0.0018
 Neptune -100532-05-26 05:16 J -34997744.48 -34997744.28 -34997744.06 0.0088 0.0028
 Uranus -100531-01-05 05:01 J -34997520.41 -34997520.29 -34997520.13 0.0132 0.0103
 Neptune -100531-01-06 18:13 J -34997518.93 -34997518.74 -34997518.53 0.0088 0.0038
 Uranus -100531-08-19 10:18 J -34997294.26 -34997294.07 -34997293.85 0.0132 0.0050
 Neptune -100531-08-20 07:11 J -34997293.37 -34997293.20 -34997293.00 0.0088 0.0047
 Uranus -100530-04-02 15:49 J -34997068.06 -34997067.84 -34997067.62 0.0132 0.0004
 Neptune -100530-04-02 20:23 J -34997067.80 -34997067.65 -34997067.47 0.0088 0.0057 *

Neptune -100530-11-14 09:06 J -34996842.24 -34996842.12 -34996841.95 0.0088 0.0067
 Uranus -100530-11-14 20:23 J -34996841.84 -34996841.65 -34996841.44 0.0132 0.0057
 Neptune -100529-06-26 22:18 J -34996616.67 -34996616.57 -34996616.44 0.0088 0.0076
 Uranus -100529-06-28 00:57 J -34996615.57 -34996615.46 -34996615.33 0.0132 0.0109
 Neptune -100528-02-07 11:30 J -34996391.08 -34996391.02 -34996390.96 0.0088 0.0085
 Mars -100528-06-14 12:28 J -34996264.13 -34996263.98 -34996263.83 0.1707 0.0869
 Saturn -100528-09-24 16:33 J -34996161.96 -34996161.81 -34996161.66 0.0273 0.0191
 Saturn -100527-05-11 21:49 J -34995932.80 -34995932.59 -34995932.38 0.0273 0.0019
 Saturn -100527-12-27 02:52 J -34995703.50 -34995703.38 -34995703.27 0.0274 0.0229
 Jupiter -100525-06-14 18:42 J -34995167.92 -34995167.72 -34995167.52 0.0497 0.0013
 Jupiter -100513-02-18 21:49 J -34990901.72 -34990901.59 -34990901.46 0.0500 0.0385
 Saturn -100513-03-06 23:16 J -34990884.71 -34990884.53 -34990884.34 0.0286 0.0140
 Saturn -100513-10-22 18:28 J -34990654.93 -34990654.73 -34990654.53 0.0285 0.0107
 Jupiter -100507-08-13 09:35 J -34988534.30 -34988534.10 -34988533.90 0.0530 0.0070
 Saturn -100498-04-07 00:28 J -34985375.64 -34985375.48 -34985375.30 0.0273 0.0157
 Saturn -100498-11-22 05:45 J -34985146.46 -34985146.26 -34985146.05 0.0274 0.0054
 Saturn -100497-07-08 10:33 J -34984917.09 -34984917.06 -34984916.99 0.0275 0.0266
 Jupiter -100495-04-17 22:47 J -34984268.68 -34984268.55 -34984268.41 0.0528 0.0396
 Mars -100494-04-12 19:11 J -34983908.85 -34983908.70 -34983908.55 0.1695 0.0879
 Mars -100490-11-28 17:45 J -34982217.94 -34982217.76 -34982217.59 0.1821 0.0072
 Jupiter -100489-02-21 05:01 J -34982133.48 -34982133.29 -34982133.11 0.0496 0.0209
 Uranus -100488-12-27 03:49 J -34981458.49 -34981458.34 -34981458.18 0.0146 0.0100
 Uranus -100487-08-10 16:18 J -34981232.03 -34981231.82 -34981231.60 0.0147 0.0028
 Uranus -100486-03-25 05:01 J -34981005.49 -34981005.29 -34981005.08 0.0147 0.0044
 Uranus -100486-11-06 17:59 J -34980778.86 -34980778.75 -34980778.60 0.0147 0.0117
 Saturn -100484-09-17 05:16 J -34980098.47 -34980098.28 -34980098.08 0.0286 0.0109
 Saturn -100483-05-04 23:45 J -34979868.69 -34979868.51 -34979868.32 0.0285 0.0137
 Jupiter -100478-10-27 08:37 J -34977867.33 -34977867.14 -34977866.95 0.0498 0.0160
 Jupiter -100471-04-21 05:16 J -34975499.43 -34975499.28 -34975499.13 0.0532 0.0352
 Saturn -100469-10-17 01:11 J -34974589.63 -34974589.45 -34974589.27 0.0273 0.0135

Saturn -100468-06-03 06:28 J -34974360.43 -34974360.23 -34974360.03 0.0274 0.0076
 Mars -100462-04-11 21:21 J -34972221.77 -34972221.61 -34972221.44 0.1704 0.0642
 Moon -100462-08-02 12:28 J -34972109.12 -34972108.98 -34972108.84 0.2705 0.1460
 Earth -100462-08-02 12:42 J -34972109.10 -34972108.97 -34972108.83 0.2712 0.1337 *
 Jupiter -100460-12-24 18:28 J -34971233.93 -34971233.73 -34971233.53 0.0530 0.0115
 Neptune -100457-09-20 19:40 J -34970232.74 -34970232.68 -34970232.59 0.0089 0.0083
 Neptune -100456-05-04 08:37 J -34970007.26 -34970007.14 -34970007.02 0.0089 0.0073
 Neptune -100456-12-15 20:52 J -34969781.77 -34969781.63 -34969781.47 0.0089 0.0064
 Neptune -100455-07-29 09:49 J -34969556.26 -34969556.09 -34969555.92 0.0089 0.0054
 Neptune -100454-03-11 22:18 J -34969330.75 -34969330.57 -34969330.37 0.0089 0.0045
 Saturn -100454-03-30 09:49 J -34969312.29 -34969312.09 -34969311.88 0.0286 0.0077
 Neptune -100454-10-23 11:16 J -34969105.23 -34969105.03 -34969104.83 0.0089 0.0035
 Jupiter -100454-10-29 14:23 J -34969099.00 -34969098.90 -34969098.79 0.0495 0.0421
 Saturn -100454-11-15 04:47 J -34969082.47 -34969082.30 -34969082.12 0.0285 0.0170
 Neptune -100453-06-04 23:45 J -34968879.70 -34968879.51 -34968879.29 0.0089 0.0026
 Neptune -100452-01-16 12:42 J -34968654.18 -34968653.97 -34968653.75 0.0089 0.0016
 Neptune -100452-08-30 01:40 J -34968428.65 -34968428.43 -34968428.22 0.0089 0.0006
 Neptune -100451-04-12 14:23 J -34968203.12 -34968202.90 -34968202.68 0.0089 0.0004
 Neptune -100451-11-24 03:06 J -34967977.58 -34967977.37 -34967977.15 0.0089 0.0014
 Neptune -100450-07-07 16:04 J -34967752.04 -34967751.83 -34967751.62 0.0089 0.0023
 Neptune -100449-02-18 04:33 J -34967526.50 -34967526.31 -34967526.09 0.0089 0.0033
 Neptune -100449-09-30 17:30 J -34967300.95 -34967300.77 -34967300.56 0.0089 0.0043
 Neptune -100448-05-14 06:42 J -34967075.39 -34967075.22 -34967075.04 0.0089 0.0052
 Uranus -100448-09-04 18:13 J -34966961.81 -34966961.74 -34966961.65 0.0133 0.0124
 Neptune -100448-12-25 19:25 J -34966849.83 -34966849.69 -34966849.52 0.0089 0.0062
 Uranus -100447-04-18 23:30 J -34966735.69 -34966735.52 -34966735.32 0.0132 0.0071
 Neptune -100447-08-08 08:09 J -34966624.27 -34966624.16 -34966624.01 0.0089 0.0072
 Uranus -100447-12-01 05:01 J -34966509.51 -34966509.29 -34966509.07 0.0132 0.0017
 Neptune -100446-03-21 21:21 J -34966398.68 -34966398.61 -34966398.51 0.0089 0.0081
 Uranus -100446-07-15 09:49 J -34966283.30 -34966283.09 -34966282.88 0.0132 0.0036

Uranus -100445-02-26 14:09 J -34966057.05 -34966056.91 -34966056.73 0.0132 0.0089
 Jupiter -100442-07-04 17:30 J -34964832.97 -34964832.77 -34964832.57 0.0498 0.0054
 Saturn -100439-04-29 09:35 J -34963803.29 -34963803.10 -34963802.90 0.0273 0.0101
 Saturn -100439-12-14 14:52 J -34963574.06 -34963573.88 -34963573.68 0.0274 0.0113
 Jupiter -100430-03-09 20:23 J -34960566.80 -34960566.65 -34960566.49 0.0500 0.0319
 Mars -100428-02-07 04:33 J -34959866.44 -34959866.31 -34959866.18 0.1692 0.1096
 Saturn -100425-10-09 17:30 J -34958525.98 -34958525.77 -34958525.56 0.0286 0.0042
 Saturn -100424-05-27 11:59 J -34958296.15 -34958296.00 -34958295.85 0.0285 0.0203
 Jupiter -100424-09-01 09:06 J -34958199.32 -34958199.12 -34958198.92 0.0531 0.0144
 Mars -100424-09-24 23:59 J -34958175.67 -34958175.50 -34958175.33 0.1825 0.0287
 Jupiter -100412-05-06 23:30 J -34953933.68 -34953933.52 -34953933.35 0.0529 0.0317
 Saturn -100410-11-09 11:01 J -34953017.24 -34953017.04 -34953016.83 0.0273 0.0076
 Saturn -100409-06-25 16:18 J -34952788.00 -34952787.82 -34952787.63 0.0274 0.0137
 Jupiter -100406-03-12 02:37 J -34951798.55 -34951798.39 -34951798.21 0.0496 0.0268
 Uranus -100404-08-26 11:59 J -34950900.08 -34950900.00 -34950899.89 0.0146 0.0132
 Uranus -100403-04-10 00:28 J -34950673.67 -34950673.48 -34950673.27 0.0147 0.0060
 Uranus -100403-11-22 13:25 J -34950447.16 -34950446.94 -34950446.73 0.0147 0.0012
 Uranus -100402-07-07 01:54 J -34950220.58 -34950220.42 -34950220.23 0.0147 0.0085
 Pluto -100398-12-13 07:40 J -34948600.18 -34948600.18 -34948600.16 0.0063 0.0063
 Pluto -100397-07-25 11:45 J -34948375.20 -34948375.01 -34948374.79 0.0063 0.0027
 Mars -100396-02-06 06:28 J -34948179.41 -34948179.23 -34948179.06 0.1701 0.0405
 Pluto -100396-03-07 16:18 J -34948150.05 -34948149.82 -34948149.60 0.0063 0.0009
 Saturn -100396-09-04 03:06 J -34947969.45 -34947969.37 -34947969.27 0.0287 0.0258
 Pluto -100396-10-18 19:54 J -34947924.80 -34947924.67 -34947924.49 0.0063 0.0046
 Saturn -100395-04-21 22:04 J -34947739.80 -34947739.58 -34947739.37 0.0286 0.0012
 Jupiter -100395-11-15 05:59 J -34947532.45 -34947532.25 -34947532.05 0.0498 0.0104
 Saturn -100395-12-07 16:47 J -34947509.91 -34947509.80 -34947509.68 0.0285 0.0236
 Mars -100392-09-24 10:04 J -34946488.15 -34946488.08 -34946488.01 0.1814 0.1640
 Jupiter -100388-05-10 02:09 J -34945164.54 -34945164.41 -34945164.28 0.0532 0.0414
 Jupiter -100383-07-21 07:54 J -34943266.22 -34943266.17 -34943266.11 0.0501 0.0481

Saturn -100381-10-04 13:54 J -34942459.99 -34942459.92 -34942459.84 0.0273 0.0253
 Saturn -100380-05-21 19:40 J -34942230.89 -34942230.68 -34942230.47 0.0274 0.0041
 Saturn -100379-01-06 00:57 J -34942001.62 -34942001.46 -34942001.29 0.0275 0.0172
 Jupiter -100376-01-12 14:37 J -34940899.10 -34940898.89 -34940898.69 0.0529 0.0059
 Neptune -100375-11-11 10:33 J -34940231.13 -34940231.06 -34940230.96 0.0088 0.0082
 Neptune -100374-06-25 00:13 J -34940005.62 -34940005.49 -34940005.36 0.0088 0.0072
 Neptune -100373-02-05 13:11 J -34939780.09 -34939779.95 -34939779.78 0.0088 0.0062
 Neptune -100373-09-18 02:37 J -34939554.56 -34939554.39 -34939554.20 0.0088 0.0053
 Neptune -100372-05-01 16:04 J -34939329.02 -34939328.83 -34939328.63 0.0088 0.0043
 Neptune -100372-12-13 05:01 J -34939103.48 -34939103.29 -34939103.07 0.0088 0.0034
 Neptune -100371-07-26 18:28 J -34938877.94 -34938877.73 -34938877.51 0.0088 0.0024
 Jupiter -100371-11-17 11:45 J -34938764.04 -34938764.01 -34938763.96 0.0495 0.0483
 Neptune -100370-03-09 07:54 J -34938652.39 -34938652.17 -34938651.95 0.0088 0.0014
 Neptune -100370-10-20 21:06 J -34938426.84 -34938426.62 -34938426.40 0.0088 0.0004
 Neptune -100369-06-02 10:04 J -34938201.30 -34938201.08 -34938200.85 0.0088 0.0006
 Neptune -100368-01-13 23:16 J -34937975.75 -34937975.53 -34937975.31 0.0088 0.0015
 Neptune -100368-08-27 11:59 J -34937750.20 -34937750.00 -34937749.77 0.0088 0.0026
 Neptune -100367-04-10 01:25 J -34937524.64 -34937524.44 -34937524.23 0.0088 0.0035
 Neptune -100367-11-21 14:23 J -34937299.08 -34937298.90 -34937298.70 0.0088 0.0045
 Saturn -100366-03-17 13:11 J -34937183.09 -34937182.95 -34937182.82 0.0286 0.0219
 Neptune -100366-07-05 03:06 J -34937073.52 -34937073.37 -34937073.18 0.0088 0.0055
 Saturn -100366-11-02 07:40 J -34936953.40 -34936953.18 -34936952.97 0.0286 0.0028
 Neptune -100365-02-15 16:18 J -34936847.96 -34936847.82 -34936847.66 0.0088 0.0064
 Saturn -100365-06-19 01:40 J -34936723.47 -34936723.43 -34936723.36 0.0285 0.0274
 Jupiter -100365-09-17 03:21 J -34936633.38 -34936633.36 -34936633.33 0.0527 0.0523
 Neptune -100365-09-28 05:01 J -34936622.39 -34936622.29 -34936622.15 0.0088 0.0073
 Neptune -100364-05-11 18:13 J -34936396.80 -34936396.74 -34936396.65 0.0088 0.0083
 Uranus -100364-12-17 12:28 J -34936177.12 -34936176.98 -34936176.80 0.0133 0.0092
 Uranus -100363-07-31 18:13 J -34935950.95 -34935950.74 -34935950.54 0.0132 0.0038
 Mars -100363-12-05 14:09 J -34935824.02 -34935823.91 -34935823.80 0.1690 0.1311

Uranus -100362-03-14 23:01 J -34935724.75 -34935724.54 -34935724.32 0.0132 0.0016
 Uranus -100362-10-27 03:35 J -34935498.52 -34935498.35 -34935498.15 0.0132 0.0068
 Uranus -100361-06-09 08:09 J -34935272.24 -34935272.16 -34935272.06 0.0132 0.0120
 Jupiter -100359-07-23 15:35 J -34934498.05 -34934497.85 -34934497.65 0.0497 0.0115
 Mars -100358-07-23 06:28 J -34934133.40 -34934133.23 -34934133.07 0.1828 0.0636
 Saturn -100351-04-16 16:18 J -34931673.93 -34931673.82 -34931673.70 0.0273 0.0227
 Saturn -100351-12-01 21:49 J -34931444.80 -34931444.59 -34931444.38 0.0273 0.0015
 Saturn -100350-07-19 03:06 J -34931215.51 -34931215.37 -34931215.22 0.0274 0.0198
 Jupiter -100347-03-28 17:45 J -34930231.93 -34930231.76 -34930231.58 0.0499 0.0263
 Jupiter -100341-09-20 09:21 J -34927864.29 -34927864.11 -34927863.92 0.0531 0.0221
 Saturn -100337-09-26 17:16 J -34926396.94 -34926396.78 -34926396.62 0.0286 0.0189
 Saturn -100336-05-14 11:45 J -34926167.22 -34926167.01 -34926166.80 0.0285 0.0059
 Mars -100331-12-04 16:04 J -34924137.01 -34924136.83 -34924136.66 0.1698 0.0188
 Jupiter -100329-05-25 21:06 J -34923598.80 -34923598.62 -34923598.44 0.0528 0.0252
 Mars -100326-07-22 17:30 J -34922445.88 -34922445.77 -34922445.65 0.1817 0.1339
 Jupiter -100323-03-30 23:30 J -34921463.67 -34921463.52 -34921463.37 0.0497 0.0324
 Saturn -100322-10-28 00:42 J -34920887.61 -34920887.47 -34920887.32 0.0273 0.0193
 Saturn -100321-06-13 06:28 J -34920658.44 -34920658.23 -34920658.02 0.0274 0.0021
 Saturn -100320-01-28 11:45 J -34920429.11 -34920429.01 -34920428.89 0.0275 0.0235
 Uranus -100320-12-08 06:57 J -34920115.36 -34920115.21 -34920115.03 0.0146 0.0095
 Uranus -100319-07-22 19:40 J -34919888.89 -34919888.68 -34919888.46 0.0147 0.0023
 Uranus -100318-03-06 08:09 J -34919662.35 -34919662.16 -34919661.94 0.0147 0.0050
 Uranus -100318-10-18 21:06 J -34919435.72 -34919435.62 -34919435.49 0.0147 0.0123
 Jupiter -100312-12-04 02:37 J -34917197.59 -34917197.39 -34917197.19 0.0498 0.0048
 Pluto -100307-01-29 12:13 J -34915680.07 -34915679.99 -34915679.86 0.0082 0.0071
 Saturn -100307-04-09 04:04 J -34915610.51 -34915610.33 -34915610.14 0.0286 0.0147
 Pluto -100307-09-11 22:47 J -34915454.76 -34915454.55 -34915454.33 0.0082 0.0005
 Saturn -100307-11-24 22:33 J -34915380.75 -34915380.56 -34915380.36 0.0285 0.0101
 Pluto -100306-04-25 08:09 J -34915229.18 -34915229.16 -34915229.09 0.0081 0.0080
 Jupiter -100305-05-28 23:01 J -34914829.62 -34914829.54 -34914829.44 0.0532 0.0478

Earth -100300-01-22 22:33 J -34913129.69 -34913129.56 -34913129.44 0.2630 0.1613
 Moon -100300-01-23 03:49 J -34913129.40 -34913129.34 -34913129.29 0.2629 0.2457
 Jupiter -100300-08-09 05:59 J -34912931.36 -34912931.25 -34912931.14 0.0500 0.0421
 Mars -100297-10-01 23:45 J -34911781.58 -34911781.51 -34911781.44 0.1687 0.1526
 Jupiter -100293-02-01 13:25 J -34910564.15 -34910563.94 -34910563.74 0.0530 0.0013
 Neptune -100293-12-23 04:04 J -34910238.37 -34910238.33 -34910238.27 0.0089 0.0086
 Earth -100292-01-20 14:23 J -34910209.99 -34910209.90 -34910209.80 0.2634 0.2100
 Moon -100292-01-20 17:01 J -34910209.89 -34910209.79 -34910209.68 0.2629 0.2035 *
 Saturn -100292-05-09 03:49 J -34910101.50 -34910101.34 -34910101.17 0.0273 0.0165
 Mars -100292-05-19 12:57 J -34910091.10 -34910090.96 -34910090.81 0.1831 0.0980
 Neptune -100292-08-05 16:18 J -34910012.91 -34910012.82 -34910012.69 0.0089 0.0077
 Saturn -100292-12-24 09:21 J -34909872.32 -34909872.11 -34909871.90 0.0274 0.0048
 Neptune -100291-03-19 05:01 J -34909787.42 -34909787.29 -34909787.14 0.0089 0.0067
 Saturn -100291-08-10 14:23 J -34909642.95 -34909642.90 -34909642.83 0.0275 0.0262
 Neptune -100291-10-30 17:30 J -34909561.92 -34909561.77 -34909561.59 0.0089 0.0058
 Neptune -100290-06-13 06:13 J -34909336.41 -34909336.24 -34909336.04 0.0089 0.0048
 Neptune -100289-01-24 19:11 J -34909110.90 -34909110.70 -34909110.50 0.0089 0.0038
 Neptune -100289-09-06 07:40 J -34908885.38 -34908885.18 -34908884.96 0.0089 0.0029
 Neptune -100288-04-19 20:37 J -34908659.85 -34908659.64 -34908659.43 0.0089 0.0019
 Neptune -100288-12-01 09:21 J -34908434.32 -34908434.11 -34908433.89 0.0089 0.0009
 Neptune -100287-07-14 22:04 J -34908208.79 -34908208.58 -34908208.36 0.0089 0.0002
 Neptune -100286-02-25 10:47 J -34907983.26 -34907983.05 -34907982.82 0.0089 0.0011
 Neptune -100286-10-08 23:59 J -34907757.71 -34907757.50 -34907757.29 0.0089 0.0020
 Neptune -100285-05-21 12:42 J -34907532.17 -34907531.97 -34907531.76 0.0089 0.0030
 Neptune -100284-01-02 01:25 J -34907306.63 -34907306.44 -34907306.24 0.0089 0.0040
 Neptune -100284-08-15 14:09 J -34907081.08 -34907080.91 -34907080.71 0.0089 0.0050
 Neptune -100283-03-29 02:52 J -34906855.52 -34906855.38 -34906855.19 0.0089 0.0060
 Neptune -100283-11-09 16:18 J -34906629.95 -34906629.82 -34906629.67 0.0089 0.0069
 Neptune -100282-06-23 05:01 J -34906404.37 -34906404.29 -34906404.17 0.0089 0.0079
 Jupiter -100282-10-07 03:35 J -34906298.46 -34906298.35 -34906298.25 0.0528 0.0449

Neptune -100281-02-03 18:13 J -34906178.74 -34906178.74 -34906178.71 0.0089 0.0089
 Uranus -100280-08-17 01:25 J -34905618.54 -34905618.44 -34905618.31 0.0133 0.0113
 Uranus -100279-03-31 07:11 J -34905392.40 -34905392.20 -34905392.00 0.0132 0.0059
 Uranus -100279-11-12 12:13 J -34905166.21 -34905165.99 -34905165.77 0.0132 0.0005
 Uranus -100278-06-26 17:01 J -34904939.99 -34904939.79 -34904939.58 0.0132 0.0048
 Saturn -100278-10-20 07:54 J -34904824.35 -34904824.17 -34904823.97 0.0286 0.0118
 Uranus -100277-02-07 21:21 J -34904713.74 -34904713.61 -34904713.46 0.0132 0.0100
 Saturn -100277-06-06 02:37 J -34904594.57 -34904594.39 -34904594.20 0.0285 0.0132
 Jupiter -100276-08-11 11:45 J -34904163.20 -34904163.01 -34904162.82 0.0497 0.0167
 Mars -100265-10-01 00:57 J -34900094.64 -34900094.46 -34900094.29 0.1695 0.0065
 Jupiter -100264-04-16 13:40 J -34899897.11 -34899896.93 -34899896.75 0.0500 0.0212
 Saturn -100263-11-19 11:59 J -34899315.19 -34899315.00 -34899314.82 0.0274 0.0132
 Saturn -100262-07-06 17:30 J -34899085.97 -34899085.77 -34899085.57 0.0275 0.0083
 Mars -100260-05-19 00:28 J -34898403.62 -34898403.48 -34898403.34 0.1821 0.1021
 Jupiter -100258-10-10 05:01 J -34897529.47 -34897529.29 -34897529.12 0.0531 0.0276
 Saturn -100248-05-01 19:54 J -34894037.87 -34894037.67 -34894037.46 0.0286 0.0073
 Saturn -100248-12-17 14:23 J -34893808.06 -34893807.90 -34893807.73 0.0285 0.0176
 Jupiter -100246-06-14 17:01 J -34893263.98 -34893263.79 -34893263.60 0.0529 0.0199
 Jupiter -100240-04-18 21:06 J -34891128.75 -34891128.62 -34891128.49 0.0496 0.0382
 Uranus -100236-08-07 15:35 J -34889556.95 -34889556.85 -34889556.74 0.0146 0.0125
 Uranus -100235-03-22 03:49 J -34889330.54 -34889330.34 -34889330.13 0.0146 0.0054
 Uranus -100235-11-03 16:33 J -34889104.02 -34889103.81 -34889103.59 0.0147 0.0018
 Uranus -100234-06-18 05:16 J -34888877.45 -34888877.28 -34888877.11 0.0147 0.0090
 Saturn -100233-05-31 15:35 J -34888529.04 -34888528.85 -34888528.65 0.0273 0.0102
 Mars -100233-09-30 03:49 J -34888407.42 -34888407.34 -34888407.26 0.1704 0.1512
 Saturn -100232-01-15 20:52 J -34888299.81 -34888299.63 -34888299.43 0.0274 0.0113
 Jupiter -100229-12-22 23:30 J -34886862.72 -34886862.52 -34886862.31 0.0498 0.0012
 Mars -100226-03-16 19:11 J -34886048.82 -34886048.70 -34886048.58 0.1835 0.1340
 Moon -100219-08-02 11:45 J -34883353.15 -34883353.01 -34883352.88 0.2715 0.1138
 Earth -100219-08-02 13:11 J -34883353.09 -34883352.95 -34883352.81 0.2708 0.1183 *

Saturn -100219-11-11 23:16 J -34883251.74 -34883251.53 -34883251.31 0.0286 0.0044
 Saturn -100218-06-29 17:45 J -34883021.90 -34883021.76 -34883021.60 0.0285 0.0205
 Jupiter -100217-08-28 02:09 J -34882596.54 -34882596.41 -34882596.28 0.0500 0.0371
 Moon -100211-07-31 06:28 J -34880433.30 -34880433.23 -34880433.15 0.2710 0.2335
 Neptune -100210-02-12 16:33 J -34880236.85 -34880236.81 -34880236.74 0.0088 0.0086
 Jupiter -100210-02-20 11:16 J -34880229.23 -34880229.03 -34880228.83 0.0530 0.0078
 Neptune -100210-09-26 06:13 J -34880011.35 -34880011.24 -34880011.12 0.0088 0.0076
 Neptune -100209-05-08 19:11 J -34879785.82 -34879785.70 -34879785.52 0.0088 0.0067
 Neptune -100209-12-20 08:52 J -34879560.28 -34879560.13 -34879559.94 0.0088 0.0056
 Neptune -100208-08-02 22:18 J -34879334.75 -34879334.57 -34879334.37 0.0088 0.0047
 Neptune -100207-03-16 11:45 J -34879109.20 -34879109.01 -34879108.80 0.0088 0.0037
 Neptune -100207-10-28 01:11 J -34878883.66 -34878883.45 -34878883.23 0.0088 0.0027
 Neptune -100206-06-10 14:23 J -34878658.11 -34878657.90 -34878657.68 0.0088 0.0017
 Neptune -100205-01-22 03:35 J -34878432.57 -34878432.35 -34878432.12 0.0088 0.0007
 Neptune -100205-09-03 16:47 J -34878207.02 -34878206.80 -34878206.58 0.0088 0.0003
 Neptune -100204-04-17 05:59 J -34877981.46 -34877981.25 -34877981.03 0.0088 0.0013
 Neptune -100204-11-28 18:57 J -34877755.91 -34877755.71 -34877755.48 0.0088 0.0023
 Saturn -100204-12-11 23:01 J -34877742.74 -34877742.54 -34877742.33 0.0274 0.0070
 Neptune -100203-07-12 07:54 J -34877530.36 -34877530.17 -34877529.95 0.0088 0.0032
 Saturn -100203-07-29 04:33 J -34877513.48 -34877513.31 -34877513.13 0.0275 0.0146
 Neptune -100202-02-22 21:06 J -34877304.81 -34877304.62 -34877304.42 0.0088 0.0042
 Neptune -100202-10-06 09:49 J -34877079.25 -34877079.09 -34877078.89 0.0088 0.0052
 Neptune -100201-05-18 22:47 J -34876853.68 -34876853.55 -34876853.37 0.0088 0.0062
 Neptune -100201-12-30 11:59 J -34876628.12 -34876628.00 -34876627.85 0.0088 0.0071
 Neptune -100200-08-13 00:42 J -34876402.54 -34876402.47 -34876402.35 0.0088 0.0081
 Mars -100199-07-29 10:47 J -34876052.22 -34876052.05 -34876051.88 0.1692 0.0259
 Jupiter -100199-10-25 23:45 J -34875963.65 -34875963.51 -34875963.37 0.0527 0.0392
 Uranus -100196-11-28 19:40 J -34874833.85 -34874833.68 -34874833.50 0.0133 0.0081
 Uranus -100195-07-13 00:42 J -34874607.67 -34874607.47 -34874607.24 0.0132 0.0028
 Uranus -100194-02-24 05:45 J -34874381.47 -34874381.26 -34874381.04 0.0132 0.0026

Mars -100194-03-16 07:40 J -34874361.34 -34874361.18 -34874361.02 0.1824 0.0708
 Uranus -100194-10-08 10:18 J -34874155.23 -34874155.07 -34874154.88 0.0132 0.0079
 Uranus -100193-05-21 14:52 J -34873928.89 -34873928.88 -34873928.85 0.0132 0.0131
 Jupiter -100193-08-30 07:40 J -34873828.36 -34873828.18 -34873828.00 0.0497 0.0218
 Saturn -100190-10-07 17:01 J -34872694.89 -34872694.79 -34872694.68 0.0287 0.0247
 Saturn -100189-05-24 11:30 J -34872465.23 -34872465.02 -34872464.81 0.0286 0.0002
 Saturn -100188-01-09 05:45 J -34872235.35 -34872235.26 -34872235.15 0.0285 0.0251
 Jupiter -100181-05-05 11:30 J -34869562.21 -34869562.02 -34869561.82 0.0499 0.0153
 Jupiter -100175-10-29 02:37 J -34867194.55 -34867194.39 -34867194.23 0.0532 0.0339
 Saturn -100175-11-06 21:35 J -34867185.67 -34867185.60 -34867185.51 0.0272 0.0251
 Saturn -100174-06-24 03:21 J -34866956.57 -34866956.36 -34866956.15 0.0273 0.0038
 Saturn -100173-02-08 08:23 J -34866727.30 -34866727.15 -34866726.98 0.0274 0.0177
 Mars -100167-07-28 12:57 J -34864365.07 -34864364.96 -34864364.84 0.1701 0.1279
 Jupiter -100163-07-03 16:47 J -34862929.00 -34862928.80 -34862928.60 0.0529 0.0125
 Mars -100160-01-11 01:40 J -34862006.50 -34862006.43 -34862006.37 0.1838 0.1698
 Saturn -100160-04-18 19:40 J -34861908.81 -34861908.68 -34861908.54 0.0287 0.0221
 Saturn -100160-12-04 14:23 J -34861679.12 -34861678.90 -34861678.69 0.0286 0.0030
 Saturn -100159-07-22 08:37 J -34861449.17 -34861449.14 -34861449.09 0.0285 0.0278
 Jupiter -100157-05-07 17:16 J -34860793.87 -34860793.78 -34860793.68 0.0496 0.0434
 Uranus -100152-11-19 11:16 J -34858772.20 -34858772.03 -34858771.85 0.0146 0.0087
 Uranus -100151-07-03 23:45 J -34858545.73 -34858545.51 -34858545.30 0.0147 0.0016
 Pluto -100151-08-23 11:16 J -34858495.16 -34858495.03 -34858494.87 0.0063 0.0048
 Uranus -100150-02-15 11:59 J -34858319.19 -34858319.00 -34858318.79 0.0147 0.0057
 Pluto -100150-04-05 15:21 J -34858270.07 -34858269.86 -34858269.62 0.0063 0.0013
 Uranus -100150-09-30 00:57 J -34858092.55 -34858092.46 -34858092.35 0.0147 0.0129
 Pluto -100150-11-16 19:40 J -34858044.88 -34858044.68 -34858044.46 0.0063 0.0024
 Pluto -100149-06-28 23:59 J -34857819.55 -34857819.50 -34857819.42 0.0063 0.0061
 Jupiter -100145-01-11 19:11 J -34856527.90 -34856527.70 -34856527.50 0.0498 0.0057
 Saturn -100145-05-19 03:49 J -34856399.45 -34856399.34 -34856399.21 0.0273 0.0222
 Saturn -100144-01-03 09:35 J -34856170.31 -34856170.10 -34856169.89 0.0274 0.0008

Saturn -100144-08-20 14:52 J -34855941.00 -34855940.88 -34855940.73 0.0275 0.0209
 Jupiter -100134-09-16 22:04 J -34852261.73 -34852261.58 -34852261.42 0.0500 0.0320
 Mars -100133-05-25 20:23 J -34852009.82 -34852009.65 -34852009.48 0.1689 0.0477
 Saturn -100131-10-30 07:40 J -34851122.34 -34851122.18 -34851122.01 0.0286 0.0174
 Saturn -100130-06-17 02:09 J -34850892.61 -34850892.41 -34850892.20 0.0285 0.0076
 Mars -100128-01-10 14:09 J -34850319.07 -34850318.91 -34850318.74 0.1828 0.0371
 Neptune -100128-11-07 00:42 J -34850018.55 -34850018.47 -34850018.36 0.0089 0.0080
 Jupiter -100127-03-11 06:28 J -34849894.43 -34849894.23 -34849894.03 0.0530 0.0128
 Neptune -100127-06-20 12:57 J -34849793.07 -34849792.96 -34849792.81 0.0089 0.0071
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 Neptune -100126-09-14 14:37 J -34849342.07 -34849341.89 -34849341.71 0.0089 0.0051
 Neptune -100125-04-27 02:52 J -34849116.56 -34849116.38 -34849116.17 0.0089 0.0042
 Neptune -100125-12-08 15:35 J -34848891.04 -34848890.85 -34848890.64 0.0089 0.0032
 Neptune -100124-07-22 04:18 J -34848665.52 -34848665.32 -34848665.10 0.0089 0.0022
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 Neptune -100123-10-16 06:13 J -34848214.46 -34848214.24 -34848214.02 0.0089 0.0003
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 Neptune -100121-01-10 07:25 J -34847763.39 -34847763.19 -34847762.96 0.0089 0.0018
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 Neptune -100120-11-16 22:18 J -34847086.75 -34847086.57 -34847086.38 0.0089 0.0047
 Neptune -100119-06-30 11:01 J -34846861.19 -34846861.04 -34846860.86 0.0089 0.0057
 Neptune -100118-02-10 23:45 J -34846635.63 -34846635.51 -34846635.35 0.0089 0.0067
 Neptune -100118-09-24 12:42 J -34846410.06 -34846409.97 -34846409.84 0.0089 0.0077
 Neptune -100117-05-07 01:40 J -34846184.45 -34846184.43 -34846184.36 0.0089 0.0087
 Jupiter -100116-11-13 20:37 J -34845628.80 -34845628.64 -34845628.48 0.0528 0.0335
 Saturn -100116-11-29 09:06 J -34845613.27 -34845613.12 -34845612.97 0.0272 0.0189
 Saturn -100115-07-16 14:23 J -34845384.11 -34845383.90 -34845383.69 0.0273 0.0026
 Saturn -100114-03-02 19:25 J -34845154.79 -34845154.69 -34845154.59 0.0274 0.0240
 Uranus -100112-07-29 07:54 J -34844275.30 -34844275.17 -34844275.03 0.0133 0.0103

Uranus -100111-03-12 13:25 J -34844049.14 -34844048.94 -34844048.74 0.0133 0.0049
 Uranus -100111-10-24 18:28 J -34843822.95 -34843822.73 -34843822.51 0.0132 0.0005
 Uranus -100110-06-07 23:16 J -34843596.72 -34843596.53 -34843596.33 0.0132 0.0058
 Jupiter -100110-09-19 05:45 J -34843493.43 -34843493.26 -34843493.09 0.0497 0.0278
 Uranus -100109-01-20 03:49 J -34843370.45 -34843370.34 -34843370.21 0.0132 0.0110
 Saturn -100101-05-11 09:35 J -34840336.28 -34840336.10 -34840335.92 0.0287 0.0150
 Mars -100101-05-24 22:04 J -34840322.71 -34840322.58 -34840322.44 0.1698 0.1046
 Saturn -100101-12-27 04:04 J -34840106.53 -34840106.33 -34840106.13 0.0286 0.0101
 Jupiter -100098-05-25 08:37 J -34839227.34 -34839227.14 -34839226.95 0.0499 0.0098
 Jupiter -100092-11-17 01:54 J -34836859.54 -34836859.42 -34836859.29 0.0531 0.0413
 Jupiter -100086-01-28 09:35 J -34834961.15 -34834961.10 -34834961.05 0.0501 0.0484
 Saturn -100086-06-11 13:40 J -34834827.09 -34834826.93 -34834826.75 0.0273 0.0162
 Saturn -100085-01-26 19:25 J -34834597.90 -34834597.69 -34834597.48 0.0274 0.0055
 Saturn -100085-09-12 00:28 J -34834368.50 -34834368.48 -34834368.43 0.0275 0.0271
 Jupiter -100080-07-22 14:23 J -34832594.10 -34832593.90 -34832593.70 0.0529 0.0062
 Jupiter -100074-05-27 13:54 J -34830458.94 -34830458.92 -34830458.88 0.0496 0.0488
 Saturn -100072-11-21 20:52 J -34829549.82 -34829549.63 -34829549.43 0.0286 0.0104
 Saturn -100071-07-09 15:21 J -34829320.03 -34829319.86 -34829319.67 0.0285 0.0148
 Uranus -100068-07-19 20:09 J -34828213.77 -34828213.66 -34828213.52 0.0146 0.0118
 Uranus -100067-03-03 08:37 J -34827987.35 -34827987.14 -34827986.94 0.0146 0.0047
 Mars -100067-03-23 06:13 J -34827967.40 -34827967.24 -34827967.08 0.1687 0.0684
 Uranus -100067-10-15 20:52 J -34827760.84 -34827760.63 -34827760.41 0.0147 0.0026
 Uranus -100066-05-30 09:35 J -34827534.25 -34827534.10 -34827533.93 0.0147 0.0098
 Mars -100063-11-07 20:52 J -34826276.80 -34826276.63 -34826276.46 0.1831 0.0032
 Jupiter -100062-01-30 18:13 J -34826192.93 -34826192.74 -34826192.54 0.0498 0.0122
 Pluto -100061-10-09 18:28 J -34825574.91 -34825574.73 -34825574.54 0.0082 0.0041
 Pluto -100060-05-23 04:33 J -34825349.50 -34825349.31 -34825349.11 0.0082 0.0034
 Moon -100057-01-23 18:57 J -34824373.86 -34824373.71 -34824373.56 0.2634 0.1037
 Earth -100057-01-24 00:13 J -34824373.61 -34824373.49 -34824373.36 0.2633 0.1714 *
 Saturn -100057-12-21 19:11 J -34824040.88 -34824040.70 -34824040.51 0.0272 0.0127

Saturn -100056-08-08 00:28 J -34823811.68 -34823811.48 -34823811.28 0.0273 0.0088
 Jupiter -100051-10-05 21:06 J -34821926.79 -34821926.62 -34821926.44 0.0500 0.0255
 Moon -100049-01-21 12:13 J -34821454.08 -34821453.99 -34821453.90 0.2642 0.2154
 Earth -100049-01-21 16:04 J -34821453.93 -34821453.83 -34821453.73 0.2637 0.2057 *
 Neptune -100046-12-28 12:28 J -34820017.06 -34820016.98 -34820016.88 0.0088 0.0080
 Neptune -100045-08-10 01:54 J -34819791.54 -34819791.42 -34819791.27 0.0088 0.0070
 Neptune -100044-03-23 15:35 J -34819566.01 -34819565.85 -34819565.68 0.0088 0.0060
 Jupiter -100044-03-30 07:25 J -34819559.38 -34819559.19 -34819559.00 0.0531 0.0209
 Neptune -100044-11-04 04:47 J -34819340.47 -34819340.30 -34819340.10 0.0088 0.0050
 Neptune -100043-06-17 18:13 J -34819114.93 -34819114.74 -34819114.53 0.0088 0.0040
 Neptune -100042-01-29 07:25 J -34818889.38 -34818889.19 -34818888.97 0.0088 0.0031
 Saturn -100042-06-03 22:04 J -34818763.78 -34818763.58 -34818763.37 0.0286 0.0081
 Neptune -100042-09-11 20:52 J -34818663.84 -34818663.63 -34818663.41 0.0088 0.0020
 Saturn -100041-01-19 16:33 J -34818533.97 -34818533.81 -34818533.63 0.0285 0.0171
 Neptune -100041-04-24 10:18 J -34818438.29 -34818438.07 -34818437.84 0.0088 0.0011
 Neptune -100041-12-05 23:30 J -34818212.74 -34818212.52 -34818212.29 0.0088 0.0002
 Neptune -100040-07-19 12:42 J -34817987.19 -34817986.97 -34817986.75 0.0088 0.0009
 Neptune -100039-03-02 01:40 J -34817761.64 -34817761.43 -34817761.20 0.0088 0.0019
 Neptune -100039-10-13 14:37 J -34817536.09 -34817535.89 -34817535.67 0.0088 0.0029
 Neptune -100038-05-27 04:04 J -34817310.53 -34817310.33 -34817310.13 0.0088 0.0039
 Neptune -100037-01-07 16:47 J -34817084.97 -34817084.80 -34817084.61 0.0088 0.0049
 Neptune -100037-08-20 05:30 J -34816859.41 -34816859.27 -34816859.08 0.0088 0.0059
 Neptune -100036-04-02 18:57 J -34816633.84 -34816633.71 -34816633.56 0.0088 0.0068
 Neptune -100036-11-14 07:40 J -34816408.27 -34816408.18 -34816408.06 0.0088 0.0078
 Mars -100035-03-22 07:40 J -34816280.33 -34816280.18 -34816280.03 0.1695 0.0823
 Neptune -100035-06-27 20:23 J -34816182.66 -34816182.65 -34816182.59 0.0088 0.0088
 Jupiter -100033-12-02 21:21 J -34815293.79 -34815293.61 -34815293.43 0.0528 0.0256
 Uranus -100028-03-28 20:09 J -34813716.71 -34813716.66 -34813716.57 0.0133 0.0126
 Uranus -100028-11-10 01:40 J -34813490.60 -34813490.43 -34813490.23 0.0133 0.0072
 Uranus -100027-06-24 07:11 J -34813264.42 -34813264.20 -34813263.98 0.0133 0.0017

Saturn -100027-07-03 23:01 J -34813254.73 -34813254.54 -34813254.34 0.0273 0.0101
 Jupiter -100027-10-08 02:23 J -34813158.55 -34813158.40 -34813158.25 0.0497 0.0332
 Uranus -100026-02-05 11:59 J -34813038.21 -34813038.00 -34813037.78 0.0132 0.0036
 Saturn -100026-02-18 04:18 J -34813025.51 -34813025.32 -34813025.13 0.0274 0.0115
 Uranus -100026-09-19 16:33 J -34812811.96 -34812811.81 -34812811.64 0.0132 0.0089
 Jupiter -100015-06-13 05:45 J -34808892.46 -34808892.26 -34808892.06 0.0499 0.0042
 Saturn -100013-12-14 08:09 J -34807977.37 -34807977.16 -34807976.95 0.0286 0.0036
 Saturn -100012-08-01 02:37 J -34807747.52 -34807747.39 -34807747.24 0.0285 0.0215
 Jupiter -100009-12-05 21:49 J -34806524.69 -34806524.59 -34806524.50 0.0532 0.0466
 Jupiter -100003-02-16 09:35 J -34804626.21 -34804626.10 -34804625.98 0.0501 0.0414
 Mars -100001-01-18 16:04 J -34803924.98 -34803924.83 -34803924.68 0.1684 0.0896

100TH MILLENNIUM BCE

This is a list of transits of Venus in the 100th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-99997-01-14 04:33 J	-34802468.51	-34802468.31	-34802468.10	0.0273	0.0067		
Jupiter	-99997-08-10 11:30 J	-34802259.22	-34802259.02	-34802258.81	0.0529	0.0013		
Saturn	-99997-08-30 09:21 J	-34802239.28	-34802239.11	-34802238.92	0.0273	0.0149		
Mars	-99997-09-04 02:52 J	-34802234.55	-34802234.38	-34802234.21	0.1835	0.0330		
Jupiter	-99985-04-15 02:37 J	-34797993.48	-34797993.39	-34797993.28	0.0527	0.0458		
Uranus	-99984-10-31 16:33 J	-34797428.98	-34797428.81	-34797428.62	0.0146	0.0079		

Saturn -99984-11-08 14:09 J -34797420.97 -34797420.91 -34797420.82 0.0287 0.0267
 Uranus -99983-06-15 05:01 J -34797202.51 -34797202.29 -34797202.08 0.0146 0.0007
 Saturn -99983-06-26 08:52 J -34797191.34 -34797191.13 -34797190.92 0.0286 0.0015
 Uranus -99982-01-27 17:16 J -34796975.97 -34796975.78 -34796975.58 0.0147 0.0065
 Saturn -99982-02-11 03:21 J -34796961.47 -34796961.36 -34796961.23 0.0285 0.0237
 Uranus -99982-09-11 06:13 J -34796749.31 -34796749.24 -34796749.17 0.0147 0.0138
 Jupiter -99979-02-18 16:47 J -34795857.99 -34795857.80 -34795857.61 0.0497 0.0185
 Earth -99976-08-02 13:40 J -34794597.08 -34794596.93 -34794596.79 0.2705 0.1033
 Moon -99976-08-02 17:16 J -34794596.93 -34794596.78 -34794596.63 0.2700 0.1082 *
 Mars -99969-01-17 16:47 J -34792237.96 -34792237.80 -34792237.63 0.1693 0.0595
 Saturn -99969-12-09 01:25 J -34791911.50 -34791911.44 -34791911.37 0.0272 0.0258
 Saturn -99968-07-26 06:57 J -34791682.42 -34791682.21 -34791682.00 0.0273 0.0043
 Jupiter -99968-10-24 18:28 J -34791591.91 -34791591.73 -34791591.54 0.0500 0.0199
 Saturn -99967-03-12 11:59 J -34791453.16 -34791453.00 -34791452.83 0.0274 0.0174
 Mars -99965-09-03 14:23 J -34790546.96 -34790546.90 -34790546.84 0.1824 0.1688
 Neptune -99963-02-08 08:23 J -34790024.20 -34790024.15 -34790024.06 0.0089 0.0084
 Neptune -99963-09-21 21:06 J -34789798.72 -34789798.62 -34789798.49 0.0089 0.0074
 Neptune -99962-05-05 09:49 J -34789573.23 -34789573.09 -34789572.93 0.0089 0.0064
 Neptune -99962-12-16 22:04 J -34789347.73 -34789347.58 -34789347.39 0.0089 0.0055
 Jupiter -99961-04-18 07:11 J -34789224.37 -34789224.20 -34789224.03 0.0530 0.0283
 Neptune -99961-07-29 10:47 J -34789122.23 -34789122.05 -34789121.85 0.0089 0.0045
 Neptune -99960-03-11 23:30 J -34788896.71 -34788896.52 -34788896.32 0.0089 0.0035
 Neptune -99960-10-23 12:28 J -34788671.19 -34788670.98 -34788670.77 0.0089 0.0025
 Neptune -99959-06-06 00:57 J -34788445.67 -34788445.46 -34788445.24 0.0089 0.0016
 Neptune -99958-01-17 13:40 J -34788220.15 -34788219.93 -34788219.71 0.0089 0.0006
 Neptune -99958-08-31 02:23 J -34787994.61 -34787994.40 -34787994.18 0.0089 0.0005
 Neptune -99957-04-12 15:21 J -34787769.08 -34787768.86 -34787768.65 0.0089 0.0014
 Neptune -99957-11-24 04:04 J -34787543.54 -34787543.33 -34787543.12 0.0089 0.0024
 Neptune -99956-07-07 17:01 J -34787317.99 -34787317.79 -34787317.59 0.0089 0.0034
 Neptune -99955-02-18 05:45 J -34787092.44 -34787092.26 -34787092.06 0.0089 0.0044

Neptune -99955-10-01 18:42 J -34786866.88 -34786866.72 -34786866.54 0.0089 0.0054
 Neptune -99954-05-15 07:40 J -34786641.32 -34786641.18 -34786641.02 0.0089 0.0064
 Saturn -99954-05-21 23:01 J -34786634.66 -34786634.54 -34786634.40 0.0287 0.0225
 Neptune -99954-12-26 20:37 J -34786415.75 -34786415.64 -34786415.51 0.0089 0.0074
 Saturn -99953-01-06 17:45 J -34786404.97 -34786404.76 -34786404.55 0.0286 0.0028
 Neptune -99953-08-08 09:21 J -34786190.16 -34786190.11 -34786190.02 0.0089 0.0084
 Saturn -99953-08-23 12:28 J -34786175.01 -34786174.98 -34786174.94 0.0285 0.0280
 Jupiter -99950-12-22 17:16 J -34784958.97 -34784958.78 -34784958.59 0.0528 0.0202
 Uranus -99944-07-10 14:09 J -34782932.05 -34782931.91 -34782931.75 0.0133 0.0094
 Jupiter -99944-10-27 03:06 J -34782823.48 -34782823.37 -34782823.25 0.0497 0.0406
 Uranus -99943-02-21 19:25 J -34782705.89 -34782705.69 -34782705.47 0.0133 0.0040
 Uranus -99943-10-06 00:42 J -34782479.68 -34782479.47 -34782479.25 0.0132 0.0014
 Uranus -99942-05-20 05:45 J -34782253.45 -34782253.26 -34782253.07 0.0132 0.0067
 Uranus -99941-01-01 10:18 J -34782027.15 -34782027.07 -34782026.97 0.0132 0.0120
 Saturn -99939-06-21 07:40 J -34781125.30 -34781125.18 -34781125.06 0.0272 0.0223
 Saturn -99938-02-05 12:42 J -34780896.18 -34780895.97 -34780895.76 0.0273 0.0009
 Saturn -99938-09-22 17:16 J -34780666.90 -34780666.78 -34780666.63 0.0273 0.0208
 Mars -99936-11-15 01:54 J -34779882.55 -34779882.42 -34779882.29 0.1682 0.1109
 Jupiter -99932-07-02 06:28 J -34778557.43 -34778557.23 -34778557.03 0.0498 0.0034
 Mars -99931-07-02 08:52 J -34778192.29 -34778192.13 -34778191.97 0.1838 0.0692
 Saturn -99925-11-30 23:16 J -34775848.67 -34775848.53 -34775848.38 0.0287 0.0205
 Saturn -99924-07-18 17:59 J -34775618.96 -34775618.75 -34775618.54 0.0286 0.0049
 Jupiter -99920-03-07 09:06 J -34774291.26 -34774291.12 -34774290.97 0.0501 0.0346
 Jupiter -99914-08-30 14:23 J -34771924.10 -34771923.90 -34771923.70 0.0530 0.0090
 Saturn -99909-01-01 08:52 J -34770339.27 -34770339.13 -34770338.98 0.0272 0.0202
 Saturn -99909-08-17 14:09 J -34770110.12 -34770109.91 -34770109.70 0.0273 0.0014
 Saturn -99908-04-03 19:11 J -34769880.81 -34769880.70 -34769880.59 0.0274 0.0231
 Pluto -99904-05-03 13:11 J -34768390.13 -34768389.95 -34768389.76 0.0063 0.0038
 Mars -99904-11-14 02:37 J -34768195.56 -34768195.39 -34768195.22 0.1690 0.0378
 Pluto -99904-12-14 17:30 J -34768164.99 -34768164.77 -34768164.54 0.0063 0.0003

Pluto -99903-07-27 21:21 J -34767939.78 -34767939.61 -34767939.39 0.0063 0.0034
 Jupiter -99902-05-05 03:35 J -34767658.49 -34767658.35 -34767658.20 0.0527 0.0378
 Uranus -99900-07-01 01:40 J -34766870.57 -34766870.43 -34766870.29 0.0146 0.0109
 Uranus -99899-02-12 13:40 J -34766644.13 -34766643.93 -34766643.72 0.0146 0.0038
 Mars -99899-07-01 21:35 J -34766504.71 -34766504.60 -34766504.49 0.1827 0.1373
 Uranus -99899-09-27 02:09 J -34766417.62 -34766417.41 -34766417.20 0.0146 0.0034
 Uranus -99898-05-11 14:52 J -34766191.02 -34766190.88 -34766190.73 0.0147 0.0107
 Jupiter -99896-03-09 15:35 J -34765523.02 -34765522.85 -34765522.67 0.0498 0.0249
 Saturn -99895-06-13 06:42 J -34765062.38 -34765062.22 -34765062.04 0.0287 0.0166
 Saturn -99894-01-29 01:40 J -34764832.63 -34764832.43 -34764832.23 0.0286 0.0089
 Jupiter -99885-11-12 19:54 J -34761256.86 -34761256.67 -34761256.47 0.0500 0.0121
 Neptune -99881-03-30 18:57 J -34760022.76 -34760022.71 -34760022.62 0.0088 0.0084
 Neptune -99881-11-11 08:37 J -34759797.25 -34759797.14 -34759797.00 0.0088 0.0074
 Neptune -99880-06-24 22:04 J -34759571.72 -34759571.58 -34759571.41 0.0088 0.0064
 Saturn -99880-07-13 14:52 J -34759553.04 -34759552.88 -34759552.71 0.0272 0.0168
 Neptune -99879-02-05 11:30 J -34759346.19 -34759346.02 -34759345.83 0.0088 0.0054
 Saturn -99879-02-27 19:54 J -34759323.88 -34759323.67 -34759323.46 0.0273 0.0048
 Neptune -99879-09-19 00:57 J -34759120.64 -34759120.46 -34759120.26 0.0088 0.0044
 Saturn -99879-10-15 00:28 J -34759094.52 -34759094.48 -34759094.42 0.0274 0.0264
 Neptune -99878-05-02 14:37 J -34758895.10 -34758894.89 -34758894.68 0.0088 0.0034
 Jupiter -99878-05-08 05:01 J -34758889.44 -34758889.29 -34758889.13 0.0531 0.0349
 Neptune -99878-12-14 03:49 J -34758669.55 -34758669.34 -34758669.12 0.0088 0.0024
 Neptune -99877-07-26 17:16 J -34758444.00 -34758443.78 -34758443.56 0.0088 0.0014
 Neptune -99876-03-09 06:28 J -34758218.45 -34758218.23 -34758218.00 0.0088 0.0004
 Neptune -99876-10-20 19:54 J -34757992.89 -34757992.67 -34757992.45 0.0088 0.0006
 Neptune -99875-06-03 08:52 J -34757767.34 -34757767.13 -34757766.91 0.0088 0.0016
 Neptune -99874-01-14 21:49 J -34757541.79 -34757541.59 -34757541.37 0.0088 0.0027
 Neptune -99874-08-28 10:47 J -34757316.24 -34757316.05 -34757315.83 0.0088 0.0037
 Neptune -99873-04-10 00:28 J -34757090.67 -34757090.48 -34757090.29 0.0088 0.0046
 Jupiter -99873-07-18 22:47 J -34756990.56 -34756990.55 -34756990.52 0.0502 0.0499

Neptune -99873-11-21 13:11 J -34756865.11 -34756864.95 -34756864.77 0.0088 0.0056
 Neptune -99872-07-05 01:54 J -34756639.55 -34756639.42 -34756639.25 0.0088 0.0066
 Neptune -99871-02-15 14:37 J -34756413.98 -34756413.89 -34756413.75 0.0088 0.0076
 Neptune -99871-09-29 03:49 J -34756188.38 -34756188.34 -34756188.26 0.0088 0.0085
 Mars -99870-09-12 11:45 J -34755840.12 -34755840.01 -34755839.90 0.1679 0.1317
 Jupiter -99866-01-10 19:54 J -34754623.87 -34754623.67 -34754623.46 0.0529 0.0113
 Saturn -99866-12-24 07:25 J -34754276.38 -34754276.19 -34754276.01 0.0287 0.0144
 Mars -99865-04-28 15:06 J -34754150.01 -34754149.87 -34754149.72 0.1841 0.1056
 Saturn -99865-08-10 01:54 J -34754046.61 -34754046.42 -34754046.22 0.0286 0.0110
 Jupiter -99861-11-15 03:06 J -34752488.42 -34752488.37 -34752488.31 0.0496 0.0476
 Uranus -99860-03-10 02:37 J -34752373.48 -34752373.39 -34752373.27 0.0133 0.0116
 Uranus -99860-10-22 08:09 J -34752147.34 -34752147.16 -34752146.95 0.0133 0.0062
 Uranus -99859-06-05 13:40 J -34751921.15 -34751920.93 -34751920.71 0.0133 0.0007
 Uranus -99858-01-17 18:28 J -34751694.93 -34751694.73 -34751694.52 0.0132 0.0047
 Uranus -99858-08-31 23:16 J -34751468.66 -34751468.53 -34751468.38 0.0132 0.0099
 Saturn -99850-01-23 15:21 J -34748767.03 -34748766.86 -34748766.68 0.0272 0.0147
 Saturn -99850-09-09 20:23 J -34748537.85 -34748537.65 -34748537.44 0.0273 0.0070
 Jupiter -99849-07-21 05:16 J -34748222.48 -34748222.28 -34748222.08 0.0498 0.0098
 Mars -99838-09-11 11:59 J -34744153.17 -34744153.00 -34744152.82 0.1687 0.0153
 Jupiter -99837-03-26 08:37 J -34743956.31 -34743956.14 -34743955.97 0.0501 0.0280
 Saturn -99836-07-05 13:40 J -34743490.13 -34743489.93 -34743489.73 0.0287 0.0108
 Saturn -99835-02-20 08:23 J -34743260.33 -34743260.15 -34743259.97 0.0286 0.0148
 Mars -99833-04-28 04:04 J -34742462.47 -34742462.33 -34742462.19 0.1831 0.1037
 Jupiter -99831-09-18 11:45 J -34741589.21 -34741589.01 -34741588.82 0.0530 0.0152
 Saturn -99821-08-04 21:49 J -34737980.78 -34737980.59 -34737980.39 0.0272 0.0113
 Saturn -99820-03-22 02:37 J -34737751.58 -34737751.39 -34737751.19 0.0273 0.0105
 Jupiter -99819-05-24 01:40 J -34737323.59 -34737323.43 -34737323.26 0.0527 0.0313
 Uranus -99816-02-28 08:52 J -34736312.16 -34736312.13 -34736312.06 0.0146 0.0142
 Uranus -99816-10-12 21:06 J -34736085.79 -34736085.62 -34736085.42 0.0146 0.0071
 Uranus -99815-05-27 09:35 J -34735859.31 -34735859.10 -34735858.88 0.0146 0.0002

Uranus -99814-01-08 21:49 J -34735632.76 -34735632.59 -34735632.39 0.0147 0.0074
 Earth -99814-01-24 01:25 J -34735617.56 -34735617.44 -34735617.32 0.2636 0.1734
 Moon -99814-01-24 06:28 J -34735617.32 -34735617.23 -34735617.13 0.2638 0.2096 *
 Pluto -99814-06-20 20:52 J -34735469.82 -34735469.63 -34735469.42 0.0082 0.0028
 Uranus -99814-08-23 10:47 J -34735406.05 -34735406.05 -34735406.04 0.0147 0.0147
 Pluto -99813-02-01 06:57 J -34735244.37 -34735244.21 -34735244.02 0.0081 0.0047
 Jupiter -99813-03-28 17:16 J -34735187.93 -34735187.78 -34735187.63 0.0497 0.0329
 Saturn -99806-01-15 14:23 J -34732704.11 -34732703.90 -34732703.70 0.0287 0.0086
 Earth -99806-01-21 17:16 J -34732697.88 -34732697.78 -34732697.68 0.2641 0.2037
 Moon -99806-01-21 22:18 J -34732697.70 -34732697.57 -34732697.45 0.2638 0.1687 *
 Saturn -99806-09-02 08:52 J -34732474.30 -34732474.13 -34732473.95 0.0286 0.0169
 Mars -99804-07-09 22:04 J -34731797.65 -34731797.58 -34731797.51 0.1676 0.1523
 Jupiter -99802-12-02 20:37 J -34730921.84 -34730921.64 -34730921.43 0.0499 0.0046
 Mars -99799-02-23 20:52 J -34730107.73 -34730107.63 -34730107.52 0.1845 0.1436
 Neptune -99799-05-12 17:01 J -34730029.82 -34730029.79 -34730029.74 0.0089 0.0087
 Neptune -99799-12-24 05:01 J -34729804.37 -34729804.29 -34729804.16 0.0089 0.0078
 Neptune -99798-08-06 17:45 J -34729578.88 -34729578.76 -34729578.60 0.0089 0.0068
 Neptune -99797-03-19 06:28 J -34729353.38 -34729353.23 -34729353.06 0.0089 0.0058
 Neptune -99797-10-30 19:11 J -34729127.87 -34729127.70 -34729127.51 0.0089 0.0048
 Neptune -99796-06-13 07:54 J -34728902.37 -34728902.17 -34728901.97 0.0089 0.0038
 Neptune -99795-01-24 20:09 J -34728676.85 -34728676.66 -34728676.44 0.0089 0.0029
 Jupiter -99795-05-27 09:06 J -34728554.23 -34728554.12 -34728554.01 0.0531 0.0447
 Neptune -99795-09-07 08:52 J -34728451.33 -34728451.13 -34728450.91 0.0089 0.0019
 Neptune -99794-04-20 21:35 J -34728225.81 -34728225.60 -34728225.37 0.0089 0.0009
 Neptune -99794-12-02 10:33 J -34728000.28 -34728000.06 -34727999.85 0.0089 0.0002
 Neptune -99793-07-14 23:16 J -34727774.75 -34727774.53 -34727774.32 0.0089 0.0011
 Neptune -99792-02-25 11:59 J -34727549.21 -34727549.00 -34727548.79 0.0089 0.0021
 Neptune -99792-10-09 00:42 J -34727323.67 -34727323.47 -34727323.26 0.0089 0.0031
 Saturn -99791-02-14 21:35 J -34727194.79 -34727194.60 -34727194.40 0.0272 0.0092
 Neptune -99791-05-22 13:40 J -34727098.12 -34727097.93 -34727097.74 0.0089 0.0041

Saturn -99791-10-02 02:23 J -34726965.58 -34726965.40 -34726965.20 0.0273 0.0126
 Neptune -99790-01-03 02:23 J -34726872.57 -34726872.40 -34726872.22 0.0089 0.0051
 Jupiter -99790-08-07 22:18 J -34726655.67 -34726655.57 -34726655.47 0.0502 0.0432
 Neptune -99790-08-16 15:21 J -34726647.01 -34726646.86 -34726646.70 0.0089 0.0061
 Neptune -99789-03-29 04:18 J -34726421.44 -34726421.32 -34726421.19 0.0089 0.0071
 Neptune -99789-11-09 17:30 J -34726195.85 -34726195.77 -34726195.68 0.0089 0.0081
 Jupiter -99783-01-29 22:33 J -34724288.77 -34724288.56 -34724288.36 0.0529 0.0025
 Saturn -99777-07-27 19:54 J -34721917.88 -34721917.67 -34721917.46 0.0286 0.0050
 Saturn -99776-03-14 14:37 J -34721688.03 -34721687.89 -34721687.74 0.0286 0.0206
 Uranus -99776-06-21 20:09 J -34721588.81 -34721588.66 -34721588.47 0.0133 0.0084
 Uranus -99775-02-03 01:40 J -34721362.63 -34721362.43 -34721362.20 0.0133 0.0030
 Uranus -99775-09-17 06:57 J -34721136.42 -34721136.21 -34721135.99 0.0133 0.0025
 Uranus -99774-05-01 11:59 J -34720910.16 -34720910.00 -34720909.81 0.0132 0.0078
 Uranus -99774-12-13 16:33 J -34720683.81 -34720683.81 -34720683.76 0.0132 0.0132
 Mars -99772-07-08 22:33 J -34720110.74 -34720110.56 -34720110.39 0.1684 0.0053
 Jupiter -99772-10-04 09:06 J -34720023.18 -34720023.12 -34720023.06 0.0526 0.0502
 Mars -99767-02-23 11:01 J -34718420.20 -34718420.04 -34718419.88 0.1834 0.0709
 Jupiter -99766-08-10 07:11 J -34717887.39 -34717887.20 -34717887.01 0.0498 0.0179
 Saturn -99762-08-28 04:33 J -34716408.52 -34716408.31 -34716408.11 0.0272 0.0058
 Saturn -99761-04-13 09:21 J -34716179.28 -34716179.11 -34716178.94 0.0273 0.0160
 Jupiter -99754-04-15 10:33 J -34713621.24 -34713621.06 -34713620.87 0.0500 0.0197
 Saturn -99748-06-22 02:37 J -34711361.41 -34711361.39 -34711361.35 0.0287 0.0284
 Jupiter -99748-10-07 14:37 J -34711254.07 -34711253.89 -34711253.70 0.0530 0.0245
 Saturn -99747-02-06 21:20 J -34711131.83 -34711131.61 -34711131.40 0.0287 0.0028
 Saturn -99747-09-24 16:04 J -34710901.96 -34710901.83 -34710901.71 0.0286 0.0228
 Mars -99740-07-07 23:44 J -34708423.59 -34708423.51 -34708423.42 0.1693 0.1477
 Jupiter -99736-06-12 05:44 J -34706988.44 -34706988.26 -34706988.07 0.0528 0.0216
 Mars -99734-12-22 03:20 J -34706065.40 -34706065.36 -34706065.33 0.1848 0.1810
 Saturn -99733-07-22 22:47 J -34705851.61 -34705851.55 -34705851.47 0.0272 0.0254
 Moon -99733-08-02 09:35 J -34705841.25 -34705841.10 -34705840.95 0.2706 0.0690

Earth -99733-08-02 14:23 J -34705841.05 -34705840.90 -34705840.76 0.2702 0.0900 *
 Saturn -99732-03-09 04:04 J -34705622.53 -34705622.33 -34705622.12 0.0273 0.0037
 Uranus -99732-06-12 05:16 J -34705527.42 -34705527.28 -34705527.12 0.0146 0.0103
 Saturn -99732-10-24 09:06 J -34705393.28 -34705393.12 -34705392.97 0.0273 0.0181
 Uranus -99731-01-24 17:30 J -34705300.98 -34705300.77 -34705300.56 0.0146 0.0031
 Uranus -99731-09-08 05:44 J -34705074.46 -34705074.26 -34705074.05 0.0146 0.0041
 Jupiter -99730-04-17 17:01 J -34704852.91 -34704852.79 -34704852.67 0.0497 0.0397
 Uranus -99730-04-22 18:13 J -34704847.86 -34704847.74 -34704847.59 0.0147 0.0114
 Jupiter -99719-12-21 20:23 J -34700586.85 -34700586.65 -34700586.44 0.0499 0.0025
 Saturn -99718-01-02 07:11 J -34700575.29 -34700575.20 -34700575.09 0.0287 0.0250
 Saturn -99718-08-20 01:54 J -34700345.63 -34700345.42 -34700345.20 0.0286 0.0009
 Saturn -99717-04-05 20:52 J -34700115.70 -34700115.63 -34700115.54 0.0285 0.0263
 Neptune -99717-07-02 01:54 J -34700028.43 -34700028.42 -34700028.36 0.0088 0.0088
 Neptune -99716-02-12 15:20 J -34699802.94 -34699802.86 -34699802.73 0.0088 0.0078
 Neptune -99716-09-26 05:01 J -34699577.42 -34699577.29 -34699577.13 0.0088 0.0068
 Neptune -99715-05-09 18:28 J -34699351.88 -34699351.73 -34699351.54 0.0088 0.0058
 Neptune -99715-12-21 07:54 J -34699126.34 -34699126.17 -34699125.97 0.0088 0.0047
 Neptune -99714-08-03 21:20 J -34698900.80 -34698900.61 -34698900.40 0.0088 0.0037
 Neptune -99713-03-16 10:47 J -34698675.25 -34698675.05 -34698674.83 0.0088 0.0027
 Neptune -99713-10-28 00:13 J -34698449.70 -34698449.49 -34698449.26 0.0088 0.0017
 Neptune -99712-06-10 13:40 J -34698224.15 -34698223.93 -34698223.71 0.0088 0.0007
 Jupiter -99712-06-15 06:56 J -34698219.25 -34698219.21 -34698219.16 0.0531 0.0514
 Neptune -99711-01-22 02:52 J -34697998.60 -34697998.38 -34697998.16 0.0088 0.0003
 Neptune -99711-09-04 16:04 J -34697773.05 -34697772.83 -34697772.61 0.0088 0.0013
 Neptune -99710-04-18 05:16 J -34697547.48 -34697547.28 -34697547.06 0.0088 0.0024
 Neptune -99710-11-29 18:28 J -34697321.93 -34697321.73 -34697321.52 0.0088 0.0033
 Neptune -99709-07-12 07:25 J -34697096.37 -34697096.19 -34697095.98 0.0088 0.0043
 Neptune -99708-02-22 20:23 J -34696870.81 -34696870.65 -34696870.46 0.0088 0.0053
 Neptune -99708-10-06 09:49 J -34696645.24 -34696645.09 -34696644.94 0.0088 0.0063
 Neptune -99707-05-19 22:32 J -34696419.67 -34696419.56 -34696419.42 0.0088 0.0073

Jupiter -99707-08-26 23:44 J -34696320.65 -34696320.51 -34696320.36 0.0502 0.0353
 Neptune -99707-12-31 11:16 J -34696194.08 -34696194.03 -34696193.93 0.0088 0.0083
 Mars -99706-05-06 08:08 J -34696068.33 -34696068.16 -34696067.98 0.1682 0.0266
 Saturn -99703-02-02 05:59 J -34695065.37 -34695065.25 -34695065.12 0.0272 0.0220
 Saturn -99703-09-19 11:16 J -34694836.24 -34694836.03 -34694835.82 0.0273 0.0005
 Saturn -99702-05-06 15:49 J -34694606.95 -34694606.84 -34694606.70 0.0273 0.0217
 Mars -99702-12-21 17:16 J -34694377.95 -34694377.78 -34694377.61 0.1837 0.0354
 Jupiter -99700-02-17 20:37 J -34693953.84 -34693953.64 -34693953.44 0.0529 0.0044
 Uranus -99692-02-19 08:08 J -34691030.27 -34691030.16 -34691030.01 0.0133 0.0107
 Uranus -99692-10-03 13:54 J -34690804.11 -34690803.92 -34690803.71 0.0133 0.0052
 Uranus -99691-05-17 19:25 J -34690577.91 -34690577.69 -34690577.47 0.0133 0.0003
 Uranus -99691-12-30 00:13 J -34690351.67 -34690351.49 -34690351.28 0.0132 0.0057
 Uranus -99690-08-13 05:16 J -34690125.39 -34690125.28 -34690125.15 0.0132 0.0110
 Saturn -99689-07-14 09:49 J -34689789.21 -34689789.09 -34689788.95 0.0287 0.0225
 Jupiter -99689-10-23 11:16 J -34689688.14 -34689688.03 -34689687.89 0.0526 0.0416
 Saturn -99688-03-01 04:32 J -34689559.52 -34689559.31 -34689559.10 0.0286 0.0032
 Jupiter -99683-08-29 07:54 J -34687552.34 -34687552.17 -34687551.99 0.0498 0.0255
 Mars -99674-05-05 09:06 J -34684381.23 -34684381.12 -34684381.00 0.1690 0.1250
 Saturn -99674-08-15 05:44 J -34684279.40 -34684279.26 -34684279.12 0.0272 0.0199
 Saturn -99673-03-31 11:01 J -34684050.25 -34684050.04 -34684049.83 0.0273 0.0019
 Saturn -99673-11-15 15:49 J -34683820.94 -34683820.84 -34683820.74 0.0274 0.0237
 Jupiter -99671-05-04 10:04 J -34683286.27 -34683286.08 -34683285.88 0.0500 0.0129
 Jupiter -99665-10-26 17:30 J -34680918.93 -34680918.77 -34680918.61 0.0530 0.0335
 Saturn -99659-01-24 13:54 J -34679003.06 -34679002.92 -34679002.75 0.0287 0.0193
 Saturn -99659-09-11 08:52 J -34678773.34 -34678773.13 -34678772.92 0.0286 0.0065
 Pluto -99657-01-12 11:16 J -34678285.19 -34678285.03 -34678284.85 0.0063 0.0040
 Pluto -99657-08-24 15:35 J -34678060.07 -34678059.85 -34678059.62 0.0063 0.0005
 Pluto -99656-04-06 19:25 J -34677834.86 -34677834.69 -34677834.47 0.0063 0.0032
 Jupiter -99653-07-01 04:04 J -34676653.52 -34676653.33 -34676653.13 0.0527 0.0147
 Uranus -99648-02-09 12:56 J -34674969.03 -34674968.96 -34674968.87 0.0146 0.0135

Uranus -99648-09-24 00:56 J -34674742.65 -34674742.46 -34674742.26 0.0146 0.0064
 Jupiter -99647-05-06 17:59 J -34674517.80 -34674517.75 -34674517.69 0.0497 0.0476
 Uranus -99647-05-08 13:11 J -34674516.16 -34674515.95 -34674515.73 0.0146 0.0008
 Uranus -99647-12-21 01:25 J -34674289.61 -34674289.44 -34674289.25 0.0146 0.0080
 Saturn -99644-02-24 13:11 J -34673493.11 -34673492.95 -34673492.77 0.0272 0.0165
 Saturn -99644-10-11 18:28 J -34673263.94 -34673263.73 -34673263.52 0.0273 0.0054
 Saturn -99643-05-28 23:16 J -34673034.53 -34673034.53 -34673034.52 0.0274 0.0274
 Mars -99640-03-02 18:42 J -34672025.89 -34672025.72 -34672025.55 0.1679 0.0463
 Mars -99636-10-17 23:30 J -34670335.69 -34670335.52 -34670335.34 0.1841 0.0030
 Jupiter -99635-01-09 21:20 J -34670251.81 -34670251.61 -34670251.41 0.0499 0.0101
 Neptune -99634-03-27 13:40 J -34669810.01 -34669809.93 -34669809.84 0.0089 0.0081
 Neptune -99634-11-08 02:23 J -34669584.52 -34669584.40 -34669584.27 0.0089 0.0071
 Neptune -99633-06-20 14:23 J -34669359.03 -34669358.90 -34669358.72 0.0089 0.0062
 Neptune -99632-02-01 03:06 J -34669133.53 -34669133.37 -34669133.18 0.0089 0.0052
 Neptune -99632-09-14 15:49 J -34668908.02 -34668907.84 -34668907.63 0.0089 0.0042
 Neptune -99631-04-28 04:32 J -34668682.50 -34668682.31 -34668682.10 0.0089 0.0032
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 Neptune -99630-07-23 05:59 J -34668231.46 -34668231.25 -34668231.03 0.0089 0.0012
 Saturn -99630-08-06 18:13 J -34668216.91 -34668216.74 -34668216.56 0.0287 0.0164
 Neptune -99629-03-04 18:42 J -34668005.94 -34668005.72 -34668005.50 0.0089 0.0002
 Saturn -99629-03-23 12:42 J -34667987.17 -34667986.97 -34667986.77 0.0286 0.0094
 Neptune -99629-10-16 07:25 J -34667780.40 -34667780.19 -34667779.97 0.0089 0.0008
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 Neptune -99627-01-10 08:52 J -34667329.33 -34667329.13 -34667328.92 0.0089 0.0028
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 Neptune -99626-11-17 23:16 J -34666652.68 -34666652.53 -34666652.35 0.0089 0.0059
 Neptune -99625-06-30 11:59 J -34666427.11 -34666427.00 -34666426.84 0.0089 0.0069
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 Jupiter -99624-09-15 00:42 J -34665985.64 -34665985.47 -34665985.31 0.0501 0.0277

Neptune -99624-09-24 14:23 J -34665975.90 -34665975.90 -34665975.89 0.0089 0.0089
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 Saturn -99614-04-23 18:28 J -34662477.93 -34662477.73 -34662477.52 0.0273 0.0077
 Uranus -99609-10-19 19:11 J -34660471.72 -34660471.70 -34660471.65 0.0133 0.0131
 Mars -99608-03-01 19:11 J -34660338.84 -34660338.70 -34660338.56 0.1687 0.1036
 Uranus -99608-06-03 00:56 J -34660245.63 -34660245.46 -34660245.27 0.0133 0.0076
 Uranus -99607-01-15 06:42 J -34660019.44 -34660019.22 -34660019.00 0.0133 0.0021
 Uranus -99607-08-29 11:59 J -34659793.21 -34659793.00 -34659792.79 0.0133 0.0033
 Uranus -99606-04-12 17:16 J -34659566.94 -34659566.78 -34659566.62 0.0132 0.0087
 Jupiter -99606-11-12 13:54 J -34659353.07 -34659352.92 -34659352.75 0.0526 0.0327
 Saturn -99600-02-15 22:04 J -34657430.76 -34657430.58 -34657430.39 0.0287 0.0133
 Jupiter -99600-09-17 06:56 J -34657217.36 -34657217.21 -34657217.05 0.0498 0.0321
 Saturn -99600-10-03 16:47 J -34657200.98 -34657200.80 -34657200.60 0.0286 0.0127
 Jupiter -99588-05-23 10:04 J -34652951.28 -34652951.08 -34652950.88 0.0501 0.0056
 Saturn -99585-03-18 21:20 J -34651920.81 -34651920.61 -34651920.42 0.0273 0.0108
 Saturn -99585-11-03 02:23 J -34651691.59 -34651691.40 -34651691.20 0.0273 0.0113
 Jupiter -99582-11-15 14:52 J -34650584.01 -34650583.88 -34650583.75 0.0530 0.0400
 Jupiter -99576-01-26 12:42 J -34648685.06 -34648684.97 -34648684.87 0.0503 0.0439
 Mars -99575-12-29 04:47 J -34647983.46 -34647983.30 -34647983.14 0.1677 0.0668
 Moon -99571-01-23 22:32 J -34646861.69 -34646861.56 -34646861.43 0.2637 0.1598
 Earth -99571-01-24 03:06 J -34646861.49 -34646861.37 -34646861.26 0.2640 0.1781 *
 Saturn -99571-08-29 04:04 J -34646644.53 -34646644.33 -34646644.13 0.0287 0.0100
 Saturn -99570-04-15 22:32 J -34646414.74 -34646414.56 -34646414.39 0.0286 0.0158
 Jupiter -99570-07-21 04:47 J -34646318.50 -34646318.30 -34646318.09 0.0528 0.0067
 Mars -99570-08-15 05:16 J -34646293.45 -34646293.28 -34646293.11 0.1844 0.0385
 Pluto -99567-02-28 18:42 J -34645364.90 -34645364.72 -34645364.51 0.0082 0.0033
 Pluto -99567-10-12 04:47 J -34645139.47 -34645139.30 -34645139.10 0.0082 0.0042
 Uranus -99564-05-24 09:06 J -34644184.27 -34644184.12 -34644183.95 0.0146 0.0096
 Uranus -99563-01-05 21:06 J -34643957.83 -34643957.62 -34643957.40 0.0146 0.0025

Earth -99563-01-21 18:28 J -34643941.83 -34643941.73 -34643941.63 0.2644 0.2036
 Uranus -99563-08-20 09:20 J -34643731.31 -34643731.11 -34643730.90 0.0146 0.0048
 Uranus -99562-04-03 21:35 J -34643504.70 -34643504.60 -34643504.46 0.0146 0.0121
 Jupiter -99558-03-25 19:54 J -34642052.68 -34642052.67 -34642052.65 0.0525 0.0524
 Saturn -99556-09-28 21:49 J -34641134.79 -34641134.59 -34641134.39 0.0272 0.0085
 Saturn -99555-05-16 02:52 J -34640905.55 -34640905.38 -34640905.19 0.0273 0.0136
 Jupiter -99552-01-28 20:08 J -34639916.85 -34639916.66 -34639916.47 0.0499 0.0166
 Neptune -99552-05-16 23:30 J -34639808.59 -34639808.52 -34639808.41 0.0088 0.0081
 Neptune -99552-12-28 12:56 J -34639583.08 -34639582.96 -34639582.81 0.0088 0.0071
 Neptune -99551-08-11 02:23 J -34639357.55 -34639357.40 -34639357.22 0.0088 0.0061
 Neptune -99550-03-24 16:04 J -34639132.00 -34639131.83 -34639131.64 0.0088 0.0050
 Neptune -99550-11-05 05:16 J -34638906.46 -34638906.28 -34638906.06 0.0088 0.0041
 Neptune -99549-06-17 18:42 J -34638680.92 -34638680.72 -34638680.50 0.0088 0.0030
 Neptune -99548-01-29 07:54 J -34638455.37 -34638455.17 -34638454.94 0.0088 0.0021
 Neptune -99548-09-11 21:20 J -34638229.82 -34638229.61 -34638229.38 0.0088 0.0010
 Neptune -99547-04-25 11:01 J -34638004.26 -34638004.04 -34638003.82 0.0088 0.0001
 Neptune -99547-12-07 00:13 J -34637778.71 -34637778.49 -34637778.27 0.0088 0.0010
 Neptune -99546-07-20 13:25 J -34637553.15 -34637552.94 -34637552.72 0.0088 0.0020
 Neptune -99545-03-02 02:37 J -34637327.60 -34637327.39 -34637327.18 0.0088 0.0031
 Neptune -99545-10-13 15:35 J -34637102.04 -34637101.85 -34637101.64 0.0088 0.0041
 Neptune -99544-05-27 04:47 J -34636876.47 -34636876.30 -34636876.11 0.0088 0.0051
 Neptune -99543-01-07 17:44 J -34636650.91 -34636650.76 -34636650.59 0.0088 0.0061
 Neptune -99543-08-21 06:42 J -34636425.34 -34636425.22 -34636425.07 0.0088 0.0071
 Mars -99543-12-28 04:47 J -34636296.45 -34636296.30 -34636296.15 0.1685 0.0814
 Neptune -99542-04-03 19:40 J -34636199.75 -34636199.68 -34636199.57 0.0088 0.0081
 Saturn -99541-03-10 07:40 J -34635858.38 -34635858.18 -34635857.97 0.0286 0.0069
 Jupiter -99541-10-03 23:01 J -34635650.73 -34635650.54 -34635650.36 0.0501 0.0215
 Saturn -99541-10-26 02:37 J -34635628.54 -34635628.39 -34635628.23 0.0286 0.0191
 Mars -99538-08-14 18:13 J -34634605.79 -34634605.74 -34634605.68 0.1834 0.1729
 Jupiter -99534-03-28 21:49 J -34633283.77 -34633283.59 -34633283.40 0.0529 0.0206

Saturn	-99527-08-25 00:13 J	-34630577.51	-34630577.49	-34630577.46	0.0273	0.0270
Saturn	-99526-04-11 05:59 J	-34630348.45	-34630348.25	-34630348.04	0.0273	0.0049
Saturn	-99526-11-26 11:16 J	-34630119.19	-34630119.03	-34630118.86	0.0274	0.0173
Uranus	-99524-01-31 12:13 J	-34629687.12	-34629686.99	-34629686.84	0.0133	0.0100
Uranus	-99524-09-14 17:59 J	-34629460.95	-34629460.75	-34629460.54	0.0133	0.0045
Uranus	-99523-04-28 23:44 J	-34629234.73	-34629234.51	-34629234.29	0.0133	0.0009
Jupiter	-99523-12-01 11:01 J	-34629018.21	-34629018.04	-34629017.86	0.0526	0.0264
Uranus	-99523-12-11 04:47 J	-34629008.48	-34629008.30	-34629008.10	0.0133	0.0064
Uranus	-99522-07-25 09:35 J	-34628782.18	-34628782.10	-34628781.98	0.0132	0.0118
Jupiter	-99517-10-06 05:59 J	-34626882.37	-34626882.25	-34626882.12	0.0498	0.0390
Saturn	-99512-09-20 15:20 J	-34625072.07	-34625071.86	-34625071.65	0.0286	0.0032
Saturn	-99511-05-08 09:35 J	-34624842.22	-34624842.10	-34624841.96	0.0286	0.0227
Mars	-99509-10-25 15:06 J	-34623941.02	-34623940.87	-34623940.72	0.1674	0.0876
Jupiter	-99505-06-11 09:35 J	-34622616.31	-34622616.10	-34622615.90	0.0500	0.0015
Mars	-99504-06-11 11:01 J	-34622251.19	-34622251.04	-34622250.88	0.1848	0.0765
Jupiter	-99499-12-04 16:04 J	-34620248.90	-34620248.83	-34620248.74	0.0531	0.0485
Saturn	-99497-03-06 01:40 J	-34619791.52	-34619791.43	-34619791.34	0.0272	0.0244
Saturn	-99497-10-21 07:11 J	-34619562.41	-34619562.20	-34619561.99	0.0273	0.0024
Saturn	-99496-06-07 12:28 J	-34619333.12	-34619332.98	-34619332.83	0.0273	0.0198
Jupiter	-99493-02-15 11:16 J	-34618350.16	-34618350.03	-34618349.90	0.0502	0.0375
Earth	-99490-08-03 14:52 J	-34617085.03	-34617084.88	-34617084.73	0.2698	0.0759
Moon	-99490-08-03 20:37 J	-34617084.78	-34617084.64	-34617084.51	0.2697	0.1373 *
Jupiter	-99487-08-09 05:59 J	-34615983.45	-34615983.25	-34615983.04	0.0528	0.0019
Saturn	-99483-08-16 00:28 J	-34614515.55	-34614515.48	-34614515.38	0.0287	0.0260
Saturn	-99482-04-02 19:11 J	-34614285.91	-34614285.70	-34614285.49	0.0286	0.0000
Moon	-99482-08-01 08:37 J	-34614165.18	-34614165.14	-34614165.09	0.2688	0.2576
Saturn	-99482-11-18 14:08 J	-34614056.00	-34614055.91	-34614055.82	0.0285	0.0259
Uranus	-99480-01-21 17:16 J	-34613625.87	-34613625.78	-34613625.67	0.0145	0.0128
Uranus	-99480-09-05 05:16 J	-34613399.48	-34613399.28	-34613399.08	0.0146	0.0057
Uranus	-99479-04-19 17:16 J	-34613172.99	-34613172.78	-34613172.56	0.0146	0.0015

Uranus -99479-12-02 05:30 J -34612946.44 -34612946.27 -34612946.09 0.0146 0.0087
 Mars -99477-10-24 14:52 J -34612254.04 -34612253.88 -34612253.72 0.1682 0.0603
 Jupiter -99475-04-13 18:13 J -34611717.84 -34611717.74 -34611717.64 0.0525 0.0455
 Mars -99472-06-11 01:11 J -34610563.56 -34610563.45 -34610563.34 0.1837 0.1396
 Neptune -99470-06-28 22:04 J -34609815.62 -34609815.58 -34609815.50 0.0089 0.0085
 Neptune -99469-02-09 10:32 J -34609590.15 -34609590.06 -34609589.92 0.0089 0.0075
 Jupiter -99469-02-17 17:44 J -34609581.93 -34609581.76 -34609581.58 0.0499 0.0229
 Neptune -99469-09-21 23:16 J -34609364.66 -34609364.53 -34609364.37 0.0089 0.0065
 Neptune -99468-05-05 11:59 J -34609139.16 -34609139.00 -34609138.82 0.0089 0.0055
 Saturn -99468-09-16 09:35 J -34609005.23 -34609005.10 -34609004.96 0.0273 0.0210
 Neptune -99468-12-17 00:28 J -34608913.65 -34608913.48 -34608913.28 0.0089 0.0045
 Saturn -99467-05-03 15:35 J -34608776.06 -34608775.85 -34608775.64 0.0273 0.0012
 Neptune -99467-07-30 13:11 J -34608688.14 -34608687.95 -34608687.74 0.0089 0.0035
 Saturn -99467-12-18 20:37 J -34608546.73 -34608546.64 -34608546.52 0.0274 0.0235
 Neptune -99466-03-13 01:40 J -34608462.63 -34608462.43 -34608462.21 0.0089 0.0025
 Neptune -99466-10-24 14:37 J -34608237.10 -34608236.89 -34608236.67 0.0089 0.0015
 Neptune -99465-06-06 03:20 J -34608011.58 -34608011.36 -34608011.14 0.0089 0.0005
 Neptune -99464-01-17 16:04 J -34607786.05 -34607785.83 -34607785.61 0.0089 0.0005
 Neptune -99464-08-31 04:32 J -34607560.52 -34607560.31 -34607560.09 0.0089 0.0016
 Neptune -99463-04-13 17:16 J -34607334.98 -34607334.78 -34607334.56 0.0089 0.0026
 Neptune -99463-11-25 05:59 J -34607109.44 -34607109.25 -34607109.04 0.0089 0.0036
 Neptune -99462-07-08 18:42 J -34606883.89 -34606883.72 -34606883.52 0.0089 0.0046
 Neptune -99461-02-19 07:40 J -34606658.34 -34606658.18 -34606658.00 0.0089 0.0056
 Neptune -99461-10-01 20:37 J -34606432.78 -34606432.64 -34606432.49 0.0089 0.0066
 Neptune -99460-05-15 09:35 J -34606207.20 -34606207.10 -34606206.98 0.0089 0.0076
 Neptune -99460-12-26 22:32 J -34605981.60 -34605981.56 -34605981.51 0.0089 0.0086
 Jupiter -99458-10-23 20:37 J -34605315.83 -34605315.64 -34605315.44 0.0501 0.0153
 Saturn -99453-02-26 10:18 J -34603729.20 -34603729.07 -34603728.93 0.0287 0.0219
 Saturn -99453-10-13 04:32 J -34603499.52 -34603499.31 -34603499.10 0.0286 0.0041
 Jupiter -99451-04-16 20:08 J -34602948.83 -34602948.66 -34602948.48 0.0529 0.0274

Mars -99443-08-23 01:25 J -34599898.58 -34599898.44 -34599898.31 0.1672 0.1074
 Uranus -99441-09-30 22:47 J -34599128.62 -34599128.55 -34599128.48 0.0133 0.0126
 Uranus -99440-05-15 04:32 J -34598902.48 -34598902.31 -34598902.11 0.0133 0.0071
 Jupiter -99440-12-20 10:47 J -34598683.24 -34598683.05 -34598682.85 0.0527 0.0190
 Uranus -99440-12-27 10:32 J -34598676.28 -34598676.06 -34598675.85 0.0133 0.0015
 Uranus -99439-08-10 15:35 J -34598450.05 -34598449.85 -34598449.63 0.0133 0.0040
 Uranus -99438-03-24 20:52 J -34598223.77 -34598223.63 -34598223.46 0.0132 0.0094
 Saturn -99438-03-29 11:59 J -34598219.15 -34598219.00 -34598218.84 0.0272 0.0182
 Mars -99438-04-08 17:01 J -34598208.93 -34598208.79 -34598208.66 0.1851 0.1146
 Saturn -99438-11-13 17:30 J -34597989.98 -34597989.77 -34597989.56 0.0273 0.0040
 Saturn -99437-06-29 22:32 J -34597760.61 -34597760.56 -34597760.49 0.0274 0.0262
 Jupiter -99434-10-26 03:35 J -34596547.43 -34596547.35 -34596547.26 0.0498 0.0449
 Saturn -99424-09-07 13:40 J -34592943.08 -34592942.93 -34592942.77 0.0287 0.0189
 Saturn -99423-04-25 07:54 J -34592713.37 -34592713.17 -34592712.96 0.0286 0.0072
 Jupiter -99422-07-01 06:28 J -34592281.43 -34592281.23 -34592281.03 0.0500 0.0069
 Mars -99411-08-22 00:42 J -34588211.64 -34588211.47 -34588211.30 0.1679 0.0389
 Pluto -99411-09-22 06:56 J -34588180.33 -34588180.21 -34588180.05 0.0062 0.0049
 Jupiter -99410-03-06 07:40 J -34588015.34 -34588015.18 -34588015.03 0.0503 0.0321
 Pluto -99410-05-05 11:16 J -34587955.24 -34587955.03 -34587954.80 0.0063 0.0014
 Pluto -99410-12-16 15:35 J -34587730.05 -34587729.85 -34587729.63 0.0063 0.0022
 Pluto -99409-07-28 19:40 J -34587504.74 -34587504.68 -34587504.57 0.0063 0.0058
 Saturn -99409-10-08 19:54 J -34587432.84 -34587432.67 -34587432.48 0.0273 0.0148
 Saturn -99408-05-26 01:54 J -34587203.62 -34587203.42 -34587203.22 0.0274 0.0076
 Mars -99406-04-08 07:25 J -34586521.34 -34586521.19 -34586521.05 0.1840 0.1042
 Jupiter -99404-08-28 02:08 J -34585648.61 -34585648.41 -34585648.20 0.0527 0.0075
 Uranus -99396-05-05 13:11 J -34582841.11 -34582840.95 -34582840.77 0.0146 0.0090
 Uranus -99396-12-18 01:11 J -34582614.66 -34582614.45 -34582614.23 0.0146 0.0018
 Uranus -99395-08-01 13:11 J -34582388.14 -34582387.95 -34582387.74 0.0146 0.0054
 Uranus -99394-03-16 01:40 J -34582161.53 -34582161.43 -34582161.32 0.0146 0.0127
 Saturn -99394-03-21 00:42 J -34582156.65 -34582156.47 -34582156.28 0.0286 0.0144

Saturn -99394-11-05 19:11 J -34581926.90 -34581926.70 -34581926.51 0.0286 0.0116
 Jupiter -99392-05-02 15:06 J -34581383.00 -34581382.87 -34581382.74 0.0525 0.0397
 Neptune -99388-08-18 07:54 J -34579814.23 -34579814.17 -34579814.09 0.0088 0.0084
 Neptune -99387-03-31 21:35 J -34579588.71 -34579588.60 -34579588.47 0.0088 0.0074
 Neptune -99387-11-12 11:01 J -34579363.18 -34579363.04 -34579362.87 0.0088 0.0064
 Jupiter -99386-03-08 16:04 J -34579247.00 -34579246.83 -34579246.67 0.0499 0.0291
 Neptune -99386-06-26 00:13 J -34579137.65 -34579137.49 -34579137.29 0.0088 0.0054
 Neptune -99385-02-06 13:40 J -34578912.11 -34578911.93 -34578911.72 0.0088 0.0043
 Neptune -99385-09-19 03:06 J -34578686.57 -34578686.37 -34578686.15 0.0088 0.0033
 Neptune -99384-05-02 16:47 J -34578461.02 -34578460.80 -34578460.59 0.0088 0.0023
 Neptune -99384-12-14 05:59 J -34578235.47 -34578235.25 -34578235.03 0.0088 0.0013
 Neptune -99383-07-27 19:25 J -34578009.92 -34578009.69 -34578009.47 0.0088 0.0003
 Neptune -99382-03-10 08:37 J -34577784.36 -34577784.14 -34577783.92 0.0088 0.0008
 Neptune -99382-10-21 21:35 J -34577558.80 -34577558.60 -34577558.37 0.0088 0.0019
 Neptune -99381-06-03 10:47 J -34577333.25 -34577333.05 -34577332.82 0.0088 0.0029
 Neptune -99380-01-14 23:59 J -34577107.69 -34577107.50 -34577107.29 0.0088 0.0039
 Neptune -99380-08-28 13:11 J -34576882.12 -34576881.95 -34576881.75 0.0088 0.0048
 Neptune -99379-04-11 02:23 J -34576656.55 -34576656.40 -34576656.22 0.0088 0.0059
 Saturn -99379-04-20 23:01 J -34576646.73 -34576646.54 -34576646.35 0.0273 0.0118
 Neptune -99379-11-22 15:35 J -34576430.97 -34576430.85 -34576430.70 0.0088 0.0069
 Saturn -99379-12-06 04:32 J -34576417.50 -34576417.31 -34576417.11 0.0273 0.0105
 Neptune -99378-07-06 04:32 J -34576205.39 -34576205.31 -34576205.19 0.0088 0.0079
 Neptune -99377-02-16 17:44 J -34575979.76 -34575979.76 -34575979.74 0.0088 0.0088
 Mars -99377-06-19 11:59 J -34575856.12 -34575856.00 -34575855.89 0.1669 0.1276
 Jupiter -99375-11-11 18:13 J -34574980.94 -34574980.74 -34574980.54 0.0501 0.0094
 Mars -99372-02-02 22:32 J -34574166.66 -34574166.56 -34574166.47 0.1854 0.1546
 Jupiter -99368-05-05 20:23 J -34572613.80 -34572613.65 -34572613.50 0.0529 0.0351
 Saturn -99365-09-30 04:18 J -34571370.52 -34571370.32 -34571370.13 0.0286 0.0114
 Saturn -99364-05-17 22:32 J -34571140.74 -34571140.56 -34571140.37 0.0286 0.0147
 Jupiter -99363-07-17 19:54 J -34570714.72 -34570714.67 -34570714.61 0.0503 0.0484

Jupiter -99356-01-08 08:52 J -34568348.33 -34568348.13 -34568347.93 0.0526 0.0122
 Uranus -99356-01-12 15:49 J -34568343.99 -34568343.84 -34568343.68 0.0133 0.0095
 Uranus -99356-08-26 21:49 J -34568117.80 -34568117.59 -34568117.38 0.0133 0.0039
 Uranus -99355-04-10 03:20 J -34567891.57 -34567891.36 -34567891.14 0.0133 0.0016
 Uranus -99355-11-22 08:37 J -34567665.32 -34567665.14 -34567664.95 0.0133 0.0070
 Uranus -99354-07-06 13:40 J -34567439.00 -34567438.93 -34567438.85 0.0132 0.0124
 Saturn -99350-11-01 06:42 J -34565860.42 -34565860.22 -34565860.02 0.0273 0.0084
 Saturn -99349-06-17 12:28 J -34565631.16 -34565630.98 -34565630.80 0.0274 0.0141
 Mars -99345-06-18 11:30 J -34564169.20 -34564169.02 -34564168.85 0.1677 0.0192
 Mars -99340-02-02 14:08 J -34562479.07 -34562478.91 -34562478.75 0.1844 0.0697
 Jupiter -99339-07-20 02:23 J -34561946.59 -34561946.40 -34561946.20 0.0500 0.0122
 Saturn -99335-04-12 16:04 J -34560584.04 -34560583.83 -34560583.63 0.0286 0.0067
 Saturn -99335-11-28 10:18 J -34560354.22 -34560354.07 -34560353.91 0.0285 0.0194
 Earth -99328-01-24 04:04 J -34558105.45 -34558105.33 -34558105.22 0.2643 0.1771
 Moon -99328-01-24 06:56 J -34558105.31 -34558105.21 -34558105.10 0.2648 0.1870 *
 Jupiter -99327-03-25 05:44 J -34557680.43 -34557680.26 -34557680.09 0.0502 0.0260
 Jupiter -99321-09-16 00:13 J -34555313.69 -34555313.49 -34555313.29 0.0528 0.0139
 Pluto -99321-11-08 11:01 J -34555260.16 -34555260.04 -34555259.88 0.0082 0.0061
 Earth -99320-01-21 19:25 J -34555185.78 -34555185.69 -34555185.59 0.2647 0.2065
 Moon -99320-01-22 00:56 J -34555185.60 -34555185.46 -34555185.32 0.2648 0.1180 *
 Saturn -99320-05-13 10:47 J -34555074.26 -34555074.05 -34555073.84 0.0273 0.0052
 Pluto -99320-06-21 21:35 J -34555034.80 -34555034.60 -34555034.38 0.0082 0.0014
 Saturn -99320-12-28 15:49 J -34554844.99 -34554844.84 -34554844.66 0.0273 0.0173
 Uranus -99312-01-02 21:06 J -34552282.73 -34552282.62 -34552282.50 0.0145 0.0122
 Uranus -99312-08-17 08:52 J -34552056.33 -34552056.13 -34552055.93 0.0146 0.0051
 Uranus -99311-03-31 20:37 J -34551829.85 -34551829.64 -34551829.42 0.0146 0.0021
 Mars -99311-04-16 22:32 J -34551813.64 -34551813.56 -34551813.47 0.1667 0.1464
 Uranus -99311-11-13 08:52 J -34551603.29 -34551603.13 -34551602.95 0.0146 0.0093
 Jupiter -99309-05-21 14:52 J -34551048.04 -34551047.88 -34551047.72 0.0526 0.0323
 Neptune -99306-09-30 07:25 J -34549821.20 -34549821.19 -34549821.14 0.0089 0.0088

Saturn -99306-10-23 19:11 J -34549797.91 -34549797.70 -34549797.49 0.0286 0.0037
 Neptune -99305-05-12 19:54 J -34549595.75 -34549595.67 -34549595.55 0.0089 0.0078
 Saturn -99305-06-09 13:40 J -34549568.06 -34549567.93 -34549567.80 0.0285 0.0224
 Neptune -99305-12-24 08:37 J -34549370.27 -34549370.14 -34549369.99 0.0089 0.0068
 Neptune -99304-08-06 21:06 J -34549144.77 -34549144.62 -34549144.45 0.0089 0.0058
 Neptune -99303-03-20 09:49 J -34548919.27 -34548919.09 -34548918.90 0.0089 0.0048
 Jupiter -99303-03-27 12:13 J -34548912.14 -34548911.99 -34548911.84 0.0499 0.0343
 Neptune -99303-10-31 22:32 J -34548693.75 -34548693.56 -34548693.36 0.0089 0.0038
 Neptune -99302-06-14 11:01 J -34548468.23 -34548468.04 -34548467.82 0.0089 0.0028
 Neptune -99301-01-25 23:44 J -34548242.72 -34548242.51 -34548242.29 0.0089 0.0018
 Neptune -99301-09-07 12:42 J -34548017.19 -34548016.97 -34548016.76 0.0089 0.0007
 Neptune -99300-04-21 01:25 J -34547791.66 -34547791.44 -34547791.23 0.0089 0.0003
 Neptune -99300-12-02 13:54 J -34547566.13 -34547565.92 -34547565.70 0.0089 0.0013
 Neptune -99299-07-16 02:37 J -34547340.60 -34547340.39 -34547340.17 0.0089 0.0023
 Neptune -99298-02-26 15:06 J -34547115.06 -34547114.87 -34547114.65 0.0089 0.0034
 Neptune -99298-10-10 04:04 J -34546889.51 -34546889.33 -34546889.13 0.0089 0.0044
 Neptune -99297-05-22 16:47 J -34546663.96 -34546663.80 -34546663.61 0.0089 0.0054
 Neptune -99296-01-03 05:30 J -34546438.40 -34546438.27 -34546438.10 0.0089 0.0064
 Neptune -99296-08-16 18:28 J -34546212.84 -34546212.73 -34546212.60 0.0089 0.0074
 Neptune -99295-03-30 07:25 J -34545987.25 -34545987.19 -34545987.11 0.0089 0.0084
 Jupiter -99292-11-30 13:25 J -34544646.14 -34544645.94 -34544645.74 0.0501 0.0046
 Saturn -99291-04-08 11:16 J -34544517.11 -34544517.03 -34544516.92 0.0273 0.0243
 Saturn -99291-11-23 17:30 J -34544287.98 -34544287.77 -34544287.55 0.0274 0.0020
 Saturn -99290-07-10 23:16 J -34544058.67 -34544058.53 -34544058.39 0.0274 0.0207
 Jupiter -99285-05-24 16:32 J -34542278.94 -34542278.81 -34542278.68 0.0529 0.0408
 Jupiter -99280-08-05 15:35 J -34540379.94 -34540379.85 -34540379.75 0.0504 0.0435
 Mars -99279-04-15 21:35 J -34540126.78 -34540126.60 -34540126.43 0.1674 0.0019
 Saturn -99277-09-17 13:25 J -34539241.03 -34539240.94 -34539240.83 0.0287 0.0249
 Saturn -99276-05-05 07:40 J -34539011.39 -34539011.18 -34539010.97 0.0286 0.0012
 Saturn -99276-12-21 02:08 J -34538781.47 -34538781.41 -34538781.35 0.0285 0.0273

Mars -99275-11-30 19:54 J -34538436.84 -34538436.67 -34538436.50 0.1847 0.0321
 Jupiter -99273-01-28 04:04 J -34538013.53 -34538013.33 -34538013.12 0.0527 0.0073
 Uranus -99273-09-12 01:54 J -34537785.50 -34537785.42 -34537785.31 0.0133 0.0121
 Uranus -99272-04-26 08:08 J -34537559.34 -34537559.16 -34537558.96 0.0133 0.0065
 Uranus -99272-12-08 13:54 J -34537333.13 -34537332.92 -34537332.70 0.0133 0.0010
 Uranus -99271-07-22 19:11 J -34537106.89 -34537106.70 -34537106.48 0.0133 0.0046
 Uranus -99270-03-06 00:13 J -34536880.62 -34536880.49 -34536880.33 0.0133 0.0100
 Saturn -99262-10-19 16:04 J -34533730.95 -34533730.83 -34533730.68 0.0272 0.0210
 Saturn -99261-06-04 22:04 J -34533501.79 -34533501.58 -34533501.36 0.0273 0.0016
 Saturn -99260-01-20 03:20 J -34533272.45 -34533272.36 -34533272.25 0.0274 0.0239
 Jupiter -99256-08-07 23:59 J -34531611.69 -34531611.50 -34531611.31 0.0500 0.0181
 Saturn -99247-03-30 16:04 J -34528454.96 -34528454.83 -34528454.69 0.0287 0.0222
 Mars -99247-04-14 21:35 J -34528439.68 -34528439.60 -34528439.52 0.1682 0.1489
 Moon -99247-08-03 09:49 J -34528329.25 -34528329.09 -34528328.93 0.2694 0.0246
 Earth -99247-08-03 15:35 J -34528329.00 -34528328.85 -34528328.70 0.2695 0.0662 *
 Saturn -99247-11-15 10:18 J -34528225.28 -34528225.07 -34528224.86 0.0286 0.0040
 Mars -99245-02-12 09:20 J -34527771.12 -34527771.11 -34527771.10 0.1664 0.1659
 Jupiter -99244-04-13 02:08 J -34527345.59 -34527345.41 -34527345.22 0.0502 0.0207
 Jupiter -99238-10-05 23:01 J -34524978.73 -34524978.54 -34524978.36 0.0528 0.0209
 Saturn -99232-04-30 22:32 J -34522944.72 -34522944.56 -34522944.40 0.0273 0.0178
 Saturn -99232-12-16 04:32 J -34522715.52 -34522715.31 -34522715.10 0.0274 0.0048
 Saturn -99231-08-02 09:49 J -34522486.10 -34522486.09 -34522486.06 0.0274 0.0273
 Uranus -99228-04-16 15:35 J -34521498.01 -34521497.85 -34521497.66 0.0145 0.0085
 Uranus -99228-11-29 03:35 J -34521271.56 -34521271.35 -34521271.13 0.0146 0.0014
 Uranus -99227-07-13 15:35 J -34521045.05 -34521044.85 -34521044.65 0.0146 0.0058
 Uranus -99226-02-25 03:49 J -34520818.43 -34520818.34 -34520818.25 0.0146 0.0131
 Jupiter -99226-06-10 11:44 J -34520713.18 -34520713.01 -34520712.83 0.0525 0.0263
 Neptune -99224-11-19 17:01 J -34519819.81 -34519819.79 -34519819.72 0.0088 0.0087
 Neptune -99223-07-03 06:28 J -34519594.32 -34519594.23 -34519594.09 0.0088 0.0077
 Neptune -99222-02-13 19:54 J -34519368.79 -34519368.67 -34519368.50 0.0088 0.0067

Neptune -99222-09-27 09:49 J -34519143.26 -34519143.09 -34519142.91 0.0088 0.0056
 Neptune -99221-05-09 23:01 J -34518917.72 -34518917.54 -34518917.34 0.0088 0.0046
 Neptune -99221-12-21 12:28 J -34518692.17 -34518691.98 -34518691.77 0.0088 0.0035
 Jupiter -99220-04-15 08:08 J -34518577.28 -34518577.16 -34518577.04 0.0499 0.0394
 Neptune -99220-08-04 01:40 J -34518466.63 -34518466.43 -34518466.20 0.0088 0.0026
 Neptune -99219-03-17 15:06 J -34518241.08 -34518240.87 -34518240.64 0.0088 0.0016
 Neptune -99219-10-29 04:32 J -34518015.53 -34518015.31 -34518015.08 0.0088 0.0005
 Neptune -99218-06-11 17:59 J -34517789.98 -34517789.75 -34517789.53 0.0088 0.0006
 Saturn -99218-10-11 04:18 J -34517668.49 -34517668.32 -34517668.15 0.0286 0.0172
 Neptune -99217-01-23 06:56 J -34517564.42 -34517564.21 -34517563.99 0.0088 0.0016
 Saturn -99217-05-27 22:32 J -34517438.76 -34517438.56 -34517438.36 0.0286 0.0090
 Neptune -99217-09-04 19:54 J -34517338.87 -34517338.67 -34517338.44 0.0088 0.0027
 Neptune -99216-04-18 09:20 J -34517113.30 -34517113.11 -34517112.90 0.0088 0.0036
 Neptune -99216-11-29 22:32 J -34516887.74 -34516887.56 -34516887.36 0.0088 0.0047
 Neptune -99215-07-13 11:44 J -34516662.17 -34516662.01 -34516661.83 0.0088 0.0056
 Neptune -99214-02-24 00:42 J -34516436.60 -34516436.47 -34516436.31 0.0088 0.0067
 Neptune -99214-10-07 13:54 J -34516211.02 -34516210.92 -34516210.80 0.0088 0.0077
 Mars -99213-02-11 08:23 J -34516084.33 -34516084.15 -34516083.98 0.1672 0.0215
 Neptune -99213-05-20 02:52 J -34515985.40 -34515985.38 -34515985.32 0.0088 0.0087
 Mars -99209-09-27 01:40 J -34514394.60 -34514394.43 -34514394.26 0.1851 0.0062
 Jupiter -99209-12-19 11:44 J -34514311.21 -34514311.01 -34514310.81 0.0501 0.0017
 Saturn -99203-11-11 03:49 J -34512158.52 -34512158.34 -34512158.16 0.0272 0.0143
 Jupiter -99202-06-13 13:11 J -34511944.03 -34511943.95 -34511943.85 0.0530 0.0469
 Saturn -99202-06-28 09:20 J -34511929.31 -34511929.11 -34511928.91 0.0273 0.0082
 Jupiter -99197-08-24 13:54 J -34510045.05 -34510044.92 -34510044.78 0.0503 0.0372
 Jupiter -99190-02-16 04:04 J -34507678.53 -34507678.33 -34507678.12 0.0527 0.0010
 Uranus -99189-12-24 18:56 J -34507000.87 -34507000.71 -34507000.55 0.0133 0.0090
 Saturn -99188-04-22 06:28 J -34506882.41 -34506882.23 -34506882.05 0.0287 0.0146
 Uranus -99188-08-08 00:42 J -34506774.68 -34506774.47 -34506774.26 0.0133 0.0034
 Saturn -99188-12-08 00:42 J -34506652.66 -34506652.47 -34506652.28 0.0286 0.0117

Uranus -99187-03-22 06:13 J -34506548.45 -34506548.24 -34506548.02 0.0133 0.0021
 Uranus -99187-11-03 11:16 J -34506322.19 -34506322.03 -34506321.83 0.0133 0.0076
 Uranus -99186-06-17 16:18 J -34506095.84 -34506095.82 -34506095.76 0.0133 0.0130
 Mars -99181-02-10 07:54 J -34504397.28 -34504397.17 -34504397.06 0.1680 0.1279
 Jupiter -99179-10-21 18:28 J -34503412.82 -34503412.73 -34503412.63 0.0524 0.0459
 Saturn -99173-05-23 08:37 J -34501372.32 -34501372.14 -34501371.94 0.0273 0.0114
 Jupiter -99173-08-26 19:40 J -34501276.86 -34501276.68 -34501276.50 0.0500 0.0230
 Saturn -99172-01-07 14:23 J -34501143.09 -34501142.90 -34501142.70 0.0274 0.0113
 Pluto -99163-01-13 03:06 J -34497850.55 -34497850.37 -34497850.18 0.0063 0.0036
 Pluto -99163-08-26 07:11 J -34497625.42 -34497625.20 -34497624.97 0.0063 0.0001
 Pluto -99162-04-08 11:01 J -34497400.21 -34497400.04 -34497399.83 0.0063 0.0035
 Jupiter -99161-05-01 22:18 J -34497010.76 -34497010.57 -34497010.38 0.0502 0.0155
 Saturn -99159-11-02 17:59 J -34496095.95 -34496095.75 -34496095.55 0.0286 0.0097
 Saturn -99158-06-20 12:13 J -34495866.16 -34495865.99 -34495865.81 0.0286 0.0166
 Jupiter -99155-10-24 17:59 J -34494643.93 -34494643.75 -34494643.57 0.0528 0.0258
 Mars -99148-12-08 18:42 J -34492041.89 -34492041.72 -34492041.55 0.1669 0.0415
 Uranus -99145-12-14 22:47 J -34490939.67 -34490939.55 -34490939.43 0.0145 0.0119
 Uranus -99144-07-29 10:18 J -34490713.28 -34490713.07 -34490712.87 0.0146 0.0048
 Saturn -99144-12-03 14:52 J -34490586.08 -34490585.88 -34490585.68 0.0272 0.0077
 Uranus -99143-03-12 21:49 J -34490486.80 -34490486.59 -34490486.37 0.0146 0.0024
 Jupiter -99143-06-29 08:23 J -34490378.34 -34490378.15 -34490377.96 0.0526 0.0208
 Saturn -99143-07-20 20:08 J -34490356.84 -34490356.66 -34490356.48 0.0273 0.0148
 Mars -99143-07-25 06:56 J -34490352.38 -34490352.21 -34490352.04 0.1854 0.0459
 Uranus -99143-10-25 09:49 J -34490260.24 -34490260.09 -34490259.91 0.0146 0.0096
 Neptune -99141-08-14 05:44 J -34489601.34 -34489601.26 -34489601.16 0.0089 0.0081
 Neptune -99140-03-27 18:13 J -34489375.86 -34489375.74 -34489375.60 0.0089 0.0071
 Neptune -99140-11-08 06:42 J -34489150.36 -34489150.22 -34489150.05 0.0089 0.0061
 Neptune -99139-06-21 19:11 J -34488924.86 -34488924.70 -34488924.51 0.0089 0.0051
 Neptune -99138-02-02 07:54 J -34488699.35 -34488699.17 -34488698.97 0.0089 0.0041
 Neptune -99138-09-15 20:23 J -34488473.84 -34488473.65 -34488473.43 0.0089 0.0031

Neptune -99137-04-28 09:20 J -34488248.32 -34488248.11 -34488247.89 0.0089 0.0020
 Jupiter -99137-05-04 06:42 J -34488242.29 -34488242.22 -34488242.14 0.0498 0.0458
 Neptune -99137-12-09 22:04 J -34488022.79 -34488022.58 -34488022.36 0.0089 0.0010
 Neptune -99136-07-23 10:47 J -34487797.27 -34487797.05 -34487796.83 0.0089 0.0000
 Neptune -99135-03-05 23:16 J -34487571.74 -34487571.53 -34487571.30 0.0089 0.0011
 Neptune -99135-10-17 12:13 J -34487346.19 -34487345.99 -34487345.77 0.0089 0.0021
 Neptune -99134-05-31 00:56 J -34487120.66 -34487120.46 -34487120.25 0.0089 0.0031
 Neptune -99133-01-11 13:54 J -34486895.11 -34486894.92 -34486894.73 0.0089 0.0041
 Neptune -99133-08-24 02:08 J -34486669.57 -34486669.41 -34486669.21 0.0089 0.0052
 Neptune -99132-04-06 15:06 J -34486444.01 -34486443.87 -34486443.70 0.0089 0.0062
 Neptune -99132-11-18 04:18 J -34486218.44 -34486218.32 -34486218.19 0.0089 0.0072
 Neptune -99131-07-01 17:16 J -34485992.86 -34485992.78 -34485992.70 0.0089 0.0082
 Saturn -99129-05-14 19:25 J -34485309.89 -34485309.69 -34485309.48 0.0287 0.0072
 Saturn -99129-12-30 13:25 J -34485080.08 -34485079.94 -34485079.77 0.0286 0.0192
 Jupiter -99125-01-08 09:20 J -34483976.31 -34483976.11 -34483975.91 0.0500 0.0076
 Mars -99116-12-07 17:44 J -34480354.89 -34480354.76 -34480354.62 0.1677 0.1058
 Saturn -99114-06-15 18:28 J -34479799.94 -34479799.73 -34479799.52 0.0273 0.0049
 Jupiter -99114-09-13 10:04 J -34479710.23 -34479710.08 -34479709.92 0.0503 0.0321
 Saturn -99113-01-30 23:44 J -34479570.66 -34479570.51 -34479570.34 0.0274 0.0177
 Mars -99111-07-24 21:20 J -34478664.66 -34478664.61 -34478664.56 0.1844 0.1748
 Jupiter -99107-03-07 02:37 J -34477343.59 -34477343.39 -34477343.18 0.0527 0.0072
 Uranus -99105-08-24 04:04 J -34476442.43 -34476442.33 -34476442.22 0.0134 0.0117
 Uranus -99104-04-07 10:18 J -34476216.26 -34476216.07 -34476215.87 0.0133 0.0061
 Uranus -99104-11-19 16:04 J -34475990.05 -34475989.83 -34475989.61 0.0133 0.0005
 Uranus -99103-07-03 21:06 J -34475763.81 -34475763.62 -34475763.40 0.0133 0.0050
 Uranus -99102-02-15 02:23 J -34475537.53 -34475537.40 -34475537.26 0.0133 0.0104
 Saturn -99100-11-25 05:59 J -34474523.46 -34474523.25 -34474523.04 0.0286 0.0026
 Saturn -99099-07-13 00:13 J -34474293.60 -34474293.49 -34474293.37 0.0286 0.0239
 Jupiter -99096-11-09 13:40 J -34473078.05 -34473077.93 -34473077.80 0.0524 0.0410
 Jupiter -99090-09-15 19:25 J -34470941.85 -34470941.69 -34470941.53 0.0499 0.0299

Moon	-99085-01-25 03:35 J	-34469349.48	-34469349.35	-34469349.22	0.2640	0.1602
Earth	-99085-01-25 05:16 J	-34469349.40	-34469349.28	-34469349.17	0.2646	0.1778 *
Saturn	-99085-05-10 18:56 J	-34469242.80	-34469242.71	-34469242.60	0.0272	0.0237
Saturn	-99085-12-26 00:42 J	-34469013.68	-34469013.47	-34469013.26	0.0272	0.0012
Saturn	-99084-08-12 05:44 J	-34468784.39	-34468784.26	-34468784.13	0.0273	0.0212
Mars	-99082-10-06 05:01 J	-34467999.45	-34467999.29	-34467999.13	0.1667	0.0620
Jupiter	-99078-05-21 22:04 J	-34466675.78	-34466675.58	-34466675.38	0.0502	0.0084
Earth	-99077-01-22 20:37 J	-34466429.74	-34466429.64	-34466429.55	0.2651	0.2091
Mars	-99077-05-21 12:28 J	-34466310.13	-34466309.98	-34466309.83	0.1857	0.0861
Pluto	-99073-03-01 08:37 J	-34464930.32	-34464930.14	-34464929.94	0.0082	0.0038
Pluto	-99073-10-12 18:42 J	-34464704.90	-34464704.72	-34464704.52	0.0082	0.0037
Jupiter	-99072-11-12 19:11 J	-34464308.86	-34464308.70	-34464308.55	0.0529	0.0341
Saturn	-99071-10-20 12:56 J	-34463967.03	-34463966.96	-34463966.88	0.0287	0.0265
Saturn	-99070-06-07 06:56 J	-34463737.42	-34463737.21	-34463737.00	0.0287	0.0003
Saturn	-99069-01-23 01:11 J	-34463507.52	-34463507.45	-34463507.36	0.0286	0.0263
Jupiter	-99066-01-25 00:13 J	-34462409.55	-34462409.49	-34462409.42	0.0504	0.0475
Uranus	-99060-03-28 16:32 J	-34460154.97	-34460154.81	-34460154.62	0.0145	0.0083
Jupiter	-99060-07-18 09:49 J	-34460043.29	-34460043.09	-34460042.89	0.0526	0.0124
Uranus	-99060-11-10 04:32 J	-34459928.53	-34459928.31	-34459928.09	0.0146	0.0012
Uranus	-99059-06-24 16:18 J	-34459702.01	-34459701.82	-34459701.62	0.0146	0.0060
Neptune	-99059-10-04 16:32 J	-34459599.90	-34459599.81	-34459599.71	0.0088	0.0079
Uranus	-99058-02-06 04:18 J	-34459475.40	-34459475.32	-34459475.23	0.0146	0.0133
Neptune	-99058-05-18 05:44 J	-34459374.38	-34459374.26	-34459374.10	0.0088	0.0069
Neptune	-99058-12-29 19:11 J	-34459148.85	-34459148.70	-34459148.51	0.0088	0.0059
Neptune	-99057-08-11 09:06 J	-34458923.31	-34458923.12	-34458922.93	0.0088	0.0048
Neptune	-99056-03-24 22:32 J	-34458697.76	-34458697.56	-34458697.35	0.0088	0.0037
Neptune	-99056-11-05 11:44 J	-34458472.21	-34458472.01	-34458471.78	0.0088	0.0028
Saturn	-99056-11-20 21:35 J	-34458456.73	-34458456.60	-34458456.46	0.0272	0.0212
Neptune	-99055-06-19 01:25 J	-34458246.66	-34458246.44	-34458246.22	0.0088	0.0017
Saturn	-99055-07-08 03:20 J	-34458227.57	-34458227.36	-34458227.15	0.0273	0.0014

Neptune -99054-01-30 14:37 J -34458021.11 -34458020.89 -34458020.67 0.0088 0.0007
 Saturn -99054-02-22 08:23 J -34457998.24 -34457998.15 -34457998.04 0.0274 0.0240
 Neptune -99054-09-13 03:49 J -34457795.56 -34457795.34 -34457795.12 0.0088 0.0004
 Neptune -99053-04-25 17:01 J -34457570.00 -34457569.79 -34457569.56 0.0088 0.0015
 Neptune -99053-12-07 06:13 J -34457344.44 -34457344.24 -34457344.02 0.0088 0.0025
 Neptune -99052-07-20 19:25 J -34457118.88 -34457118.69 -34457118.48 0.0088 0.0035
 Neptune -99051-03-03 08:52 J -34456893.32 -34456893.13 -34456892.94 0.0088 0.0045
 Neptune -99051-10-14 21:35 J -34456667.76 -34456667.60 -34456667.41 0.0088 0.0055
 Neptune -99050-05-28 10:32 J -34456442.18 -34456442.06 -34456441.89 0.0088 0.0066
 Mars -99050-10-05 04:04 J -34456312.48 -34456312.33 -34456312.18 0.1674 0.0851
 Neptune -99049-01-08 23:44 J -34456216.60 -34456216.51 -34456216.38 0.0088 0.0076
 Neptune -99049-08-21 12:42 J -34455991.00 -34455990.97 -34455990.89 0.0088 0.0086
 Mars -99045-05-21 03:49 J -34454622.45 -34454622.34 -34454622.23 0.1847 0.1395
 Jupiter -99042-01-27 06:56 J -34453641.41 -34453641.21 -34453641.02 0.0501 0.0134
 Saturn -99041-05-01 21:35 J -34453180.72 -34453180.60 -34453180.46 0.0287 0.0222
 Saturn -99041-12-17 16:04 J -34452951.04 -34452950.83 -34452950.62 0.0286 0.0044
 Jupiter -99031-10-02 10:32 J -34449375.23 -34449375.06 -34449374.88 0.0503 0.0247
 Saturn -99026-06-03 04:18 J -34447670.48 -34447670.32 -34447670.16 0.0272 0.0175
 Saturn -99025-01-18 09:35 J -34447441.30 -34447441.10 -34447440.89 0.0272 0.0051
 Jupiter -99024-03-25 23:44 J -34447008.70 -34447008.51 -34447008.31 0.0527 0.0133
 Uranus -99021-12-05 19:40 J -34445657.83 -34445657.68 -34445657.51 0.0134 0.0088
 Uranus -99020-07-20 01:25 J -34445431.64 -34445431.44 -34445431.22 0.0133 0.0033
 Uranus -99019-03-03 07:11 J -34445205.41 -34445205.20 -34445204.98 0.0133 0.0023
 Uranus -99019-10-15 12:28 J -34444979.15 -34444978.98 -34444978.80 0.0133 0.0078
 Uranus -99018-05-29 17:44 J -34444752.77 -34444752.76 -34444752.74 0.0133 0.0132
 Mars -99016-08-02 15:49 J -34443956.99 -34443956.84 -34443956.69 0.1665 0.0814
 Jupiter -99013-11-28 15:06 J -34442743.02 -34442742.87 -34442742.70 0.0525 0.0327
 Saturn -99012-11-11 22:32 J -34442394.71 -34442394.56 -34442394.41 0.0287 0.0199
 Mars -99011-03-18 17:44 J -34442267.89 -34442267.76 -34442267.64 0.1860 0.1272
 Saturn -99011-06-29 16:32 J -34442165.01 -34442164.81 -34442164.60 0.0286 0.0067

Jupiter -99007-10-04 18:42 J -34440606.86 -34440606.72 -34440606.59 0.0499 0.0367

Earth -99004-08-03 16:18 J -34439572.98 -34439572.82 -34439572.67 0.2691 0.0529

Moon -99004-08-03 21:20 J -34439572.74 -34439572.61 -34439572.49 0.2695 0.1498 *

99TH MILLENNIUM BCE

This is a list of transits of Venus in the 99th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-98997-12-13 05:44 J	-34436884.43	-34436884.26	-34436884.08	0.0272	0.0151		
Saturn	-98996-07-30 11:01 J	-34436655.24	-34436655.04	-34436654.83	0.0273	0.0075		
Jupiter	-98995-06-09 19:54 J	-34436340.87	-34436340.67	-34436340.47	0.0501	0.0025		
Jupiter	-98989-12-01 19:40 J	-34433973.80	-34433973.68	-34433973.55	0.0529	0.0420		
Mars	-98984-08-01 14:08 J	-34432270.07	-34432269.91	-34432269.74	0.1672	0.0643		
Jupiter	-98983-02-12 22:18 J	-34432074.68	-34432074.57	-34432074.45	0.0504	0.0414		
Saturn	-98982-05-25 05:59 J	-34431608.42	-34431608.25	-34431608.07	0.0287	0.0158		
Saturn	-98981-01-10 00:28 J	-34431378.67	-34431378.48	-34431378.28	0.0286	0.0109		
Mars	-98979-03-18 09:20 J	-34430580.25	-34430580.11	-34430579.96	0.1850	0.1013		
Jupiter	-98977-08-06 06:13 J	-34429708.45	-34429708.24	-34429708.04	0.0526	0.0067		
Neptune	-98977-11-15 16:04 J	-34429606.87	-34429606.83	-34429606.73	0.0089	0.0084		
Uranus	-98977-11-25 23:30 J	-34429596.63	-34429596.52	-34429596.38	0.0145	0.0117		
Neptune	-98976-06-29 04:32 J	-34429381.40	-34429381.31	-34429381.16	0.0089	0.0074		
Uranus	-98976-07-10 11:01 J	-34429370.23	-34429370.04	-34429369.83	0.0145	0.0047		
Neptune	-98975-02-09 17:01 J	-34429155.92	-34429155.79	-34429155.62	0.0089	0.0064		
Uranus	-98975-02-21 22:47 J	-34429143.76	-34429143.55	-34429143.33	0.0146	0.0025		

Neptune -98975-09-23 05:59 J -34428930.42 -34428930.25 -34428930.07 0.0089 0.0053
 Uranus -98975-10-06 10:32 J -34428917.20 -34428917.06 -34428916.88 0.0146 0.0098
 Neptune -98974-05-06 18:28 J -34428704.91 -34428704.73 -34428704.53 0.0089 0.0043
 Neptune -98974-12-18 06:56 J -34428479.40 -34428479.21 -34428479.00 0.0089 0.0033
 Neptune -98973-07-30 19:25 J -34428253.89 -34428253.69 -34428253.47 0.0089 0.0023
 Neptune -98972-03-13 08:23 J -34428028.36 -34428028.15 -34428027.93 0.0089 0.0012
 Neptune -98972-10-24 21:06 J -34427802.83 -34427802.62 -34427802.40 0.0089 0.0003
 Neptune -98971-06-07 09:49 J -34427577.30 -34427577.09 -34427576.87 0.0089 0.0009
 Neptune -98970-01-18 22:18 J -34427351.77 -34427351.57 -34427351.34 0.0089 0.0019
 Neptune -98970-09-01 11:16 J -34427126.23 -34427126.03 -34427125.82 0.0089 0.0029
 Neptune -98969-04-13 23:44 J -34426900.69 -34426900.51 -34426900.30 0.0089 0.0040
 Neptune -98969-11-25 12:42 J -34426675.14 -34426674.97 -34426674.78 0.0089 0.0050
 Neptune -98968-07-09 01:40 J -34426449.58 -34426449.43 -34426449.27 0.0089 0.0060
 Neptune -98967-02-19 14:08 J -34426224.02 -34426223.91 -34426223.76 0.0089 0.0071
 Saturn -98967-06-25 12:13 J -34426098.17 -34426097.99 -34426097.79 0.0272 0.0115
 Neptune -98967-10-03 03:06 J -34425998.44 -34425998.37 -34425998.26 0.0089 0.0081
 Saturn -98966-02-09 17:30 J -34425868.96 -34425868.77 -34425868.57 0.0273 0.0111
 Jupiter -98959-02-15 07:54 J -34423306.35 -34423306.17 -34423305.98 0.0500 0.0214
 Saturn -98953-12-04 06:56 J -34420822.40 -34420822.21 -34420822.02 0.0287 0.0135
 Saturn -98952-07-22 01:11 J -34420592.64 -34420592.45 -34420592.26 0.0286 0.0131
 Mars -98950-05-31 02:23 J -34419914.54 -34419914.40 -34419914.26 0.1662 0.1014
 Jupiter -98948-10-21 10:47 J -34419040.23 -34419040.05 -34419039.86 0.0502 0.0174
 Mars -98945-01-13 22:47 J -34418225.62 -34418225.55 -34418225.49 0.1863 0.1697
 Jupiter -98941-04-14 03:06 J -34416673.56 -34416673.37 -34416673.19 0.0528 0.0226
 Saturn -98937-01-05 12:56 J -34415312.16 -34415311.96 -34415311.76 0.0272 0.0092
 Uranus -98937-08-05 03:49 J -34415099.43 -34415099.34 -34415099.21 0.0134 0.0117
 Saturn -98937-08-21 18:13 J -34415082.92 -34415082.74 -34415082.56 0.0273 0.0134
 Uranus -98936-03-19 10:04 J -34414873.26 -34414873.08 -34414872.87 0.0133 0.0061
 Uranus -98936-10-31 16:04 J -34414647.05 -34414646.83 -34414646.61 0.0133 0.0005
 Uranus -98935-06-14 21:20 J -34414420.80 -34414420.61 -34414420.40 0.0133 0.0051

Uranus -98934-01-27 02:52 J -34414194.51 -34414194.38 -34414194.25 0.0133 0.0105
 Jupiter -98930-12-18 16:47 J -34412407.98 -34412407.80 -34412407.61 0.0525 0.0243
 Jupiter -98924-10-23 17:30 J -34410271.86 -34410271.77 -34410271.67 0.0499 0.0433
 Saturn -98923-06-16 13:11 J -34410036.15 -34410035.95 -34410035.75 0.0287 0.0096
 Saturn -98922-02-01 07:25 J -34409806.35 -34409806.19 -34409806.01 0.0286 0.0171
 Mars -98918-05-30 00:56 J -34408227.63 -34408227.46 -34408227.29 0.1670 0.0446
 Pluto -98917-09-22 16:47 J -34407745.80 -34407745.80 -34407745.76 0.0062 0.0062
 Pluto -98916-05-05 21:06 J -34407520.81 -34407520.62 -34407520.40 0.0062 0.0028
 Pluto -98916-12-17 01:40 J -34407295.66 -34407295.43 -34407295.20 0.0063 0.0008
 Pluto -98915-07-30 05:44 J -34407070.42 -34407070.26 -34407070.09 0.0063 0.0043
 Mars -98913-01-13 15:49 J -34406538.01 -34406537.84 -34406537.68 0.1853 0.0646
 Jupiter -98912-06-28 21:20 J -34406005.81 -34406005.61 -34406005.41 0.0502 0.0056
 Saturn -98908-07-17 19:54 J -34404525.88 -34404525.67 -34404525.46 0.0272 0.0056
 Saturn -98907-03-04 00:42 J -34404296.63 -34404296.47 -34404296.30 0.0273 0.0171
 Jupiter -98906-12-21 17:30 J -34403638.85 -34403638.77 -34403638.69 0.0529 0.0486
 Jupiter -98900-03-03 23:59 J -34401739.64 -34401739.50 -34401739.34 0.0504 0.0332
 Neptune -98894-01-06 01:54 J -34399605.48 -34399605.42 -34399605.30 0.0088 0.0082
 Neptune -98894-08-19 16:04 J -34399379.96 -34399379.83 -34399379.69 0.0088 0.0071
 Jupiter -98894-08-26 08:37 J -34399373.35 -34399373.14 -34399372.93 0.0527 0.0023
 Saturn -98894-12-27 14:08 J -34399250.11 -34399249.91 -34399249.70 0.0287 0.0073
 Neptune -98893-04-01 05:30 J -34399154.42 -34399154.27 -34399154.09 0.0088 0.0061
 Saturn -98893-08-13 08:23 J -34399020.30 -34399020.15 -34399019.99 0.0286 0.0195
 Neptune -98893-11-12 18:56 J -34398928.87 -34398928.71 -34398928.51 0.0088 0.0051
 Uranus -98892-03-09 17:44 J -34398811.93 -34398811.76 -34398811.58 0.0145 0.0081
 Neptune -98892-06-26 08:37 J -34398703.33 -34398703.14 -34398702.93 0.0088 0.0040
 Uranus -98892-10-22 05:30 J -34398585.48 -34398585.27 -34398585.05 0.0145 0.0010
 Neptune -98891-02-06 21:49 J -34398477.78 -34398477.59 -34398477.36 0.0088 0.0030
 Uranus -98891-06-05 17:01 J -34398358.97 -34398358.79 -34398358.58 0.0146 0.0062
 Neptune -98891-09-20 11:30 J -34398252.23 -34398252.02 -34398251.80 0.0088 0.0019
 Uranus -98890-01-18 05:01 J -34398132.36 -34398132.29 -34398132.20 0.0146 0.0134

Neptune -98890-05-04 00:56 J -34398026.68 -34398026.46 -34398026.23 0.0088 0.0008
 Neptune -98890-12-15 14:23 J -34397801.12 -34397800.90 -34397800.68 0.0088 0.0002
 Neptune -98889-07-28 03:35 J -34397575.57 -34397575.35 -34397575.13 0.0088 0.0012
 Neptune -98888-03-10 16:32 J -34397350.01 -34397349.81 -34397349.58 0.0088 0.0023
 Neptune -98888-10-22 05:44 J -34397124.45 -34397124.26 -34397124.04 0.0088 0.0034
 Neptune -98887-06-04 18:56 J -34396898.89 -34396898.71 -34396898.50 0.0088 0.0044
 Neptune -98886-01-16 08:08 J -34396673.33 -34396673.16 -34396672.97 0.0088 0.0054
 Neptune -98886-08-29 21:35 J -34396447.76 -34396447.60 -34396447.45 0.0088 0.0064
 Neptune -98885-04-11 10:18 J -34396222.17 -34396222.07 -34396221.93 0.0088 0.0074
 Neptune -98885-11-22 23:16 J -34395996.57 -34395996.53 -34395996.44 0.0088 0.0085
 Mars -98884-03-27 13:25 J -34395872.06 -34395871.94 -34395871.82 0.1660 0.1198
 Jupiter -98882-05-01 00:28 J -34395107.59 -34395107.48 -34395107.37 0.0524 0.0434
 Saturn -98879-06-12 13:54 J -34393968.97 -34393968.92 -34393968.86 0.0272 0.0261
 Saturn -98878-01-27 19:40 J -34393739.89 -34393739.68 -34393739.47 0.0272 0.0034
 Saturn -98878-09-14 00:28 J -34393510.62 -34393510.48 -34393510.32 0.0273 0.0193
 Jupiter -98876-03-06 07:11 J -34392971.36 -34392971.20 -34392971.03 0.0500 0.0280
 Jupiter -98865-11-09 10:18 J -34388705.27 -34388705.07 -34388704.88 0.0502 0.0106
 Saturn -98864-07-08 19:40 J -34388463.89 -34388463.68 -34388463.47 0.0287 0.0036
 Saturn -98863-02-23 13:54 J -34388234.03 -34388233.92 -34388233.78 0.0286 0.0232
 Jupiter -98858-05-04 00:42 J -34386338.64 -34386338.47 -34386338.30 0.0528 0.0291
 Jupiter -98853-07-15 12:56 J -34384439.00 -34384438.96 -34384438.92 0.0505 0.0493
 Uranus -98853-11-16 19:40 J -34384314.85 -34384314.68 -34384314.52 0.0134 0.0088
 Mars -98852-03-26 11:30 J -34384185.20 -34384185.02 -34384184.85 0.1667 0.0245
 Uranus -98852-07-01 01:11 J -34384088.65 -34384088.45 -34384088.22 0.0133 0.0033
 Uranus -98851-02-12 06:56 J -34383862.42 -34383862.21 -34383861.99 0.0133 0.0024
 Uranus -98851-09-26 12:13 J -34383636.15 -34383635.99 -34383635.80 0.0133 0.0079
 Saturn -98850-12-23 21:20 J -34383182.73 -34383182.61 -34383182.49 0.0272 0.0225
 Saturn -98849-08-09 02:52 J -34382953.60 -34382953.38 -34382953.17 0.0272 0.0006
 Saturn -98848-03-26 07:40 J -34382724.29 -34382724.18 -34382724.07 0.0273 0.0229
 Mars -98848-11-09 20:52 J -34382495.80 -34382495.63 -34382495.46 0.1856 0.0240

Jupiter -98846-01-06 14:52 J -34382073.07 -34382072.88 -34382072.68 0.0525 0.0176
 Earth -98842-01-25 05:59 J -34380593.37 -34380593.25 -34380593.13 0.2650 0.1741
 Moon -98842-01-25 05:44 J -34380593.36 -34380593.26 -34380593.16 0.2656 0.1972 *
 Saturn -98835-06-03 03:06 J -34377907.41 -34377907.37 -34377907.32 0.0287 0.0279
 Saturn -98834-01-18 21:06 J -34377677.84 -34377677.62 -34377677.41 0.0287 0.0012
 Earth -98834-01-22 21:20 J -34377673.70 -34377673.61 -34377673.52 0.2654 0.2149
 Moon -98834-01-23 01:11 J -34377673.57 -34377673.45 -34377673.32 0.2659 0.1560 *
 Saturn -98834-09-05 15:06 J -34377447.95 -34377447.87 -34377447.76 0.0286 0.0256
 Jupiter -98829-07-17 22:18 J -34375670.76 -34375670.57 -34375670.37 0.0501 0.0134
 Pluto -98826-06-23 02:08 J -34374600.60 -34374600.41 -34374600.21 0.0082 0.0033
 Pluto -98825-02-03 11:59 J -34374375.17 -34374375.00 -34374374.80 0.0082 0.0041
 Saturn -98820-07-04 20:37 J -34372396.77 -34372396.64 -34372396.49 0.0272 0.0204
 Saturn -98819-02-19 02:08 J -34372167.62 -34372167.41 -34372167.20 0.0272 0.0024
 Saturn -98819-10-06 06:56 J -34371938.28 -34371938.21 -34371938.12 0.0273 0.0251
 Mars -98818-01-22 23:59 J -34371829.59 -34371829.50 -34371829.40 0.1658 0.1394
 Jupiter -98817-03-22 23:44 J -34371404.68 -34371404.51 -34371404.34 0.0503 0.0262
 Neptune -98812-02-17 03:20 J -34369612.39 -34369612.36 -34369612.29 0.0089 0.0086
 Neptune -98812-09-30 15:49 J -34369386.93 -34369386.84 -34369386.71 0.0089 0.0076
 Neptune -98811-05-14 04:18 J -34369161.45 -34369161.32 -34369161.16 0.0089 0.0066
 Jupiter -98811-09-14 11:16 J -34369038.23 -34369038.03 -34369037.82 0.0527 0.0115
 Neptune -98811-12-25 16:32 J -34368935.95 -34368935.81 -34368935.62 0.0089 0.0056
 Neptune -98810-08-08 05:30 J -34368710.45 -34368710.27 -34368710.08 0.0089 0.0045
 Neptune -98809-03-20 17:59 J -34368484.94 -34368484.75 -34368484.54 0.0089 0.0035
 Neptune -98809-11-01 06:28 J -34368259.42 -34368259.23 -34368259.01 0.0089 0.0025
 Uranus -98809-11-07 00:42 J -34368253.58 -34368253.47 -34368253.33 0.0145 0.0116
 Neptune -98808-06-14 19:25 J -34368033.91 -34368033.69 -34368033.48 0.0089 0.0014
 Uranus -98808-06-21 12:13 J -34368027.19 -34368026.99 -34368026.78 0.0145 0.0045
 Neptune -98807-01-26 07:54 J -34367808.38 -34367808.17 -34367807.95 0.0089 0.0004
 Uranus -98807-02-02 23:59 J -34367800.72 -34367800.50 -34367800.29 0.0146 0.0027
 Neptune -98807-09-08 20:37 J -34367582.85 -34367582.64 -34367582.42 0.0089 0.0007

Uranus -98807-09-17 11:44 J -34367574.16 -34367574.01 -34367573.85 0.0146 0.0099
 Neptune -98806-04-22 09:20 J -34367357.32 -34367357.11 -34367356.89 0.0089 0.0017
 Neptune -98806-12-03 21:49 J -34367131.78 -34367131.59 -34367131.37 0.0089 0.0028
 Saturn -98806-12-14 07:25 J -34367121.29 -34367121.19 -34367121.08 0.0287 0.0244
 Neptune -98805-07-16 10:32 J -34366906.24 -34366906.06 -34366905.85 0.0089 0.0038
 Saturn -98805-07-31 01:40 J -34366891.64 -34366891.43 -34366891.22 0.0286 0.0024
 Neptune -98804-02-26 23:44 J -34366680.69 -34366680.51 -34366680.33 0.0089 0.0048
 Neptune -98804-10-10 12:13 J -34366455.13 -34366454.99 -34366454.81 0.0089 0.0059
 Neptune -98803-05-24 01:11 J -34366229.57 -34366229.45 -34366229.30 0.0089 0.0069
 Neptune -98802-01-04 13:40 J -34366004.00 -34366003.93 -34366003.81 0.0089 0.0080
 Jupiter -98799-05-19 22:47 J -34364772.69 -34364772.55 -34364772.40 0.0524 0.0364
 Jupiter -98793-03-25 08:37 J -34362636.28 -34362636.14 -34362636.00 0.0500 0.0361
 Saturn -98790-01-15 03:49 J -34361610.50 -34361610.34 -34361610.17 0.0272 0.0169
 Saturn -98790-09-01 09:20 J -34361381.32 -34361381.11 -34361380.91 0.0273 0.0060
 Mars -98786-01-21 22:18 J -34360142.75 -34360142.57 -34360142.40 0.1665 0.0060
 Mars -98782-09-07 01:54 J -34358453.59 -34358453.42 -34358453.24 0.1860 0.0176
 Jupiter -98782-11-29 11:44 J -34358370.21 -34358370.01 -34358369.81 0.0502 0.0023
 Saturn -98776-06-25 10:32 J -34356335.20 -34356335.06 -34356334.93 0.0287 0.0217
 Saturn -98775-02-10 04:18 J -34356105.53 -34356105.32 -34356105.11 0.0286 0.0051
 Jupiter -98775-05-23 03:06 J -34356003.51 -34356003.37 -34356003.23 0.0528 0.0382
 Jupiter -98770-08-04 14:08 J -34354104.01 -34354103.91 -34354103.79 0.0505 0.0414
 Uranus -98769-07-17 03:49 J -34353756.43 -34353756.34 -34353756.22 0.0134 0.0117
 Uranus -98768-02-28 09:49 J -34353530.27 -34353530.09 -34353529.88 0.0134 0.0061
 Uranus -98768-10-12 15:49 J -34353304.06 -34353303.84 -34353303.62 0.0133 0.0005
 Uranus -98767-05-26 21:20 J -34353077.80 -34353077.61 -34353077.40 0.0133 0.0051
 Uranus -98766-01-08 02:37 J -34352851.51 -34352851.39 -34352851.24 0.0133 0.0106
 Jupiter -98763-01-25 18:28 J -34351737.93 -34351737.73 -34351737.52 0.0526 0.0081
 Saturn -98761-07-27 03:20 J -34350824.54 -34350824.36 -34350824.18 0.0272 0.0147
 Moon -98761-08-03 13:25 J -34350817.10 -34350816.94 -34350816.77 0.2682 0.0228
 Earth -98761-08-03 17:30 J -34350816.93 -34350816.77 -34350816.62 0.2688 0.0485 *

Saturn -98760-03-13 08:37 J -34350595.34 -34350595.14 -34350594.93 0.0273 0.0082
 Mars -98754-01-20 20:52 J -34348455.70 -34348455.63 -34348455.56 0.1672 0.1529
 Mars -98753-11-19 11:16 J -34347787.08 -34347787.03 -34347786.98 0.1656 0.1577
 Saturn -98746-01-05 13:54 J -34345549.08 -34345548.92 -34345548.75 0.0287 0.0185
 Jupiter -98746-08-06 21:49 J -34345335.77 -34345335.59 -34345335.41 0.0501 0.0203
 Saturn -98746-08-23 08:08 J -34345319.36 -34345319.16 -34345318.95 0.0286 0.0085
 Jupiter -98734-04-12 00:28 J -34341069.67 -34341069.48 -34341069.29 0.0504 0.0185
 Saturn -98731-02-06 10:47 J -34340038.24 -34340038.05 -34340037.85 0.0272 0.0111
 Saturn -98731-09-23 16:04 J -34339809.01 -34339808.83 -34339808.63 0.0273 0.0119
 Neptune -98730-04-09 12:56 J -34339611.01 -34339610.96 -34339610.87 0.0088 0.0084
 Neptune -98730-11-21 02:52 J -34339385.50 -34339385.38 -34339385.25 0.0088 0.0073
 Neptune -98729-07-03 16:04 J -34339159.97 -34339159.83 -34339159.65 0.0088 0.0063
 Neptune -98728-02-14 05:59 J -34338934.43 -34338934.25 -34338934.07 0.0088 0.0052
 Neptune -98728-09-27 19:11 J -34338708.88 -34338708.70 -34338708.49 0.0088 0.0042
 Jupiter -98728-10-03 09:20 J -34338703.30 -34338703.11 -34338702.91 0.0527 0.0183
 Neptune -98727-05-11 09:06 J -34338483.33 -34338483.12 -34338482.91 0.0088 0.0031
 Neptune -98727-12-22 22:18 J -34338257.78 -34338257.57 -34338257.34 0.0088 0.0021
 Neptune -98726-08-05 11:59 J -34338032.22 -34338032.00 -34338031.78 0.0088 0.0010
 Neptune -98725-03-18 01:25 J -34337806.66 -34337806.44 -34337806.22 0.0088 0.0001
 Neptune -98725-10-29 14:37 J -34337581.10 -34337580.89 -34337580.66 0.0088 0.0012
 Uranus -98724-02-18 18:28 J -34337468.91 -34337468.73 -34337468.55 0.0145 0.0080
 Neptune -98724-06-12 04:04 J -34337355.55 -34337355.33 -34337355.11 0.0088 0.0022
 Uranus -98724-10-03 05:59 J -34337242.46 -34337242.25 -34337242.03 0.0145 0.0009
 Neptune -98723-01-23 17:01 J -34337129.99 -34337129.79 -34337129.57 0.0088 0.0032
 Uranus -98723-05-17 17:44 J -34337015.95 -34337015.76 -34337015.56 0.0146 0.0063
 Neptune -98723-09-06 06:13 J -34336904.43 -34336904.24 -34336904.04 0.0088 0.0043
 Uranus -98723-12-30 05:16 J -34336789.33 -34336789.28 -34336789.18 0.0146 0.0136
 Neptune -98722-04-19 19:11 J -34336678.85 -34336678.70 -34336678.50 0.0088 0.0054
 Neptune -98722-12-01 08:23 J -34336453.28 -34336453.15 -34336452.97 0.0088 0.0064
 Neptune -98721-07-13 21:35 J -34336227.71 -34336227.60 -34336227.46 0.0088 0.0074

Mars -98721-11-18 08:52 J -34336100.31 -34336100.13 -34336099.96 0.1662 0.0163
 Neptune -98720-02-24 10:32 J -34336002.11 -34336002.06 -34336001.97 0.0088 0.0084
 Saturn -98717-07-17 18:13 J -34334762.91 -34334762.74 -34334762.56 0.0287 0.0155
 Saturn -98716-03-04 12:13 J -34334533.18 -34334532.99 -34334532.80 0.0286 0.0114
 Jupiter -98716-06-08 00:13 J -34334437.66 -34334437.49 -34334437.31 0.0524 0.0281
 Mars -98716-07-04 06:56 J -34334411.38 -34334411.21 -34334411.05 0.1863 0.0593
 Jupiter -98710-04-14 09:20 J -34332301.20 -34332301.11 -34332301.01 0.0500 0.0437
 Saturn -98702-08-19 10:18 J -34329252.27 -34329252.07 -34329251.86 0.0272 0.0089
 Saturn -98701-04-04 15:35 J -34329023.02 -34329022.85 -34329022.66 0.0273 0.0141
 Jupiter -98699-12-18 11:16 J -34328035.23 -34328035.03 -34328034.83 0.0502 0.0047
 Jupiter -98692-06-11 05:30 J -34325668.35 -34325668.27 -34325668.17 0.0528 0.0474
 Mars -98689-11-17 06:56 J -34324413.32 -34324413.21 -34324413.11 0.1670 0.1308
 Saturn -98687-01-27 21:35 J -34323976.79 -34323976.60 -34323976.40 0.0287 0.0123
 Jupiter -98687-08-23 13:25 J -34323769.08 -34323768.94 -34323768.79 0.0505 0.0347
 Saturn -98687-09-14 15:49 J -34323747.01 -34323746.84 -34323746.65 0.0286 0.0148
 Uranus -98685-10-28 19:11 J -34322971.86 -34322971.70 -34322971.53 0.0134 0.0088
 Uranus -98684-06-12 01:11 J -34322745.66 -34322745.45 -34322745.23 0.0133 0.0032
 Mars -98684-07-03 22:32 J -34322723.62 -34322723.56 -34322723.49 0.1853 0.1715
 Uranus -98683-01-24 06:56 J -34322519.42 -34322519.21 -34322518.99 0.0133 0.0024
 Uranus -98683-09-07 12:28 J -34322293.15 -34322292.98 -34322292.80 0.0133 0.0079
 Jupiter -98680-02-13 17:16 J -34321402.99 -34321402.78 -34321402.57 0.0525 0.0008
 Saturn -98672-02-28 18:13 J -34318465.95 -34318465.74 -34318465.53 0.0273 0.0053
 Saturn -98672-10-15 23:30 J -34318236.67 -34318236.52 -34318236.36 0.0273 0.0178
 Pluto -98669-01-14 08:52 J -34317416.15 -34317416.13 -34317416.07 0.0062 0.0062
 Pluto -98669-08-26 13:25 J -34317191.14 -34317190.94 -34317190.73 0.0062 0.0027
 Jupiter -98669-10-19 07:25 J -34317137.27 -34317137.19 -34317137.10 0.0522 0.0472
 Pluto -98668-04-08 17:30 J -34316965.99 -34316965.77 -34316965.54 0.0063 0.0008
 Pluto -98668-11-19 21:06 J -34316740.76 -34316740.62 -34316740.43 0.0063 0.0044
 Jupiter -98663-08-25 21:49 J -34315000.75 -34315000.59 -34315000.41 0.0501 0.0279
 Saturn -98658-08-10 03:20 J -34313190.55 -34313190.36 -34313190.15 0.0286 0.0089

Saturn -98657-03-26 21:20 J -34312960.77 -34312960.61 -34312960.44 0.0286 0.0181
 Mars -98655-09-15 19:11 J -34312057.87 -34312057.70 -34312057.53 0.1660 0.0359
 Jupiter -98651-05-01 00:56 J -34310734.65 -34310734.46 -34310734.26 0.0503 0.0109
 Mars -98650-05-01 11:44 J -34310369.16 -34310369.01 -34310368.87 0.1866 0.1020
 Neptune -98648-05-21 15:20 J -34309617.87 -34309617.86 -34309617.81 0.0089 0.0088
 Neptune -98647-01-02 03:35 J -34309392.43 -34309392.35 -34309392.23 0.0089 0.0078
 Neptune -98647-08-15 15:49 J -34309166.95 -34309166.84 -34309166.67 0.0089 0.0068
 Neptune -98646-03-29 04:47 J -34308941.46 -34308941.30 -34308941.13 0.0089 0.0057
 Neptune -98646-11-09 17:16 J -34308715.96 -34308715.78 -34308715.59 0.0089 0.0047
 Neptune -98645-06-22 05:30 J -34308490.45 -34308490.27 -34308490.06 0.0089 0.0037
 Jupiter -98645-10-22 11:44 J -34308368.18 -34308368.01 -34308367.83 0.0527 0.0273
 Neptune -98644-02-02 18:13 J -34308264.94 -34308264.74 -34308264.53 0.0089 0.0026
 Neptune -98644-09-16 06:42 J -34308039.42 -34308039.22 -34308039.00 0.0089 0.0016
 Saturn -98643-01-24 12:13 J -34307909.04 -34307908.99 -34307908.91 0.0272 0.0259
 Neptune -98643-04-29 19:25 J -34307813.90 -34307813.69 -34307813.47 0.0089 0.0006
 Saturn -98643-09-10 18:28 J -34307679.94 -34307679.73 -34307679.52 0.0272 0.0029
 Neptune -98643-12-11 08:08 J -34307588.38 -34307588.16 -34307587.95 0.0089 0.0005
 Saturn -98642-04-27 23:44 J -34307450.64 -34307450.51 -34307450.36 0.0273 0.0202
 Neptune -98642-07-24 20:37 J -34307362.85 -34307362.64 -34307362.42 0.0089 0.0015
 Neptune -98641-03-06 09:06 J -34307137.32 -34307137.12 -34307136.90 0.0089 0.0026
 Neptune -98641-10-17 22:18 J -34306911.77 -34306911.57 -34306911.38 0.0089 0.0036
 Uranus -98641-10-19 00:28 J -34306910.60 -34306910.48 -34306910.34 0.0145 0.0116
 Neptune -98640-05-31 10:32 J -34306686.23 -34306686.06 -34306685.86 0.0089 0.0047
 Uranus -98640-06-02 11:59 J -34306684.20 -34306684.00 -34306683.79 0.0145 0.0045
 Neptune -98639-01-11 23:44 J -34306460.68 -34306460.51 -34306460.35 0.0089 0.0057
 Uranus -98639-01-14 23:30 J -34306457.73 -34306457.52 -34306457.30 0.0145 0.0026
 Neptune -98639-08-25 12:13 J -34306235.12 -34306234.99 -34306234.84 0.0089 0.0068
 Uranus -98639-08-29 11:16 J -34306231.18 -34306231.03 -34306230.86 0.0146 0.0099
 Neptune -98638-04-08 01:11 J -34306009.54 -34306009.45 -34306009.34 0.0089 0.0078
 Neptune -98638-11-19 14:08 J -34305783.91 -34305783.91 -34305783.89 0.0089 0.0089

Jupiter -98633-06-27 02:37 J -34304102.58 -34304102.39 -34304102.20 0.0524 0.0193
 Saturn -98628-02-19 06:42 J -34302404.43 -34302404.22 -34302404.01 0.0287 0.0057
 Saturn -98628-10-07 00:56 J -34302174.59 -34302174.46 -34302174.32 0.0286 0.0214
 Mars -98623-09-14 17:16 J -34300370.91 -34300370.78 -34300370.65 0.1667 0.1105
 Mars -98618-05-01 04:32 J -34298681.43 -34298681.31 -34298681.19 0.1856 0.1335
 Jupiter -98615-01-06 10:04 J -34297700.27 -34297700.08 -34297699.88 0.0502 0.0115
 Saturn -98614-08-06 20:23 J -34297122.77 -34297122.65 -34297122.53 0.0273 0.0224
 Saturn -98613-03-23 02:23 J -34296893.61 -34296893.40 -34296893.19 0.0273 0.0008
 Saturn -98613-11-07 07:25 J -34296664.27 -34296664.19 -34296664.07 0.0274 0.0240
 Jupiter -98604-09-11 12:28 J -34293434.14 -34293433.98 -34293433.81 0.0505 0.0277
 Uranus -98601-06-28 03:20 J -34292413.45 -34292413.36 -34292413.24 0.0134 0.0117
 Uranus -98600-02-09 09:20 J -34292187.29 -34292187.11 -34292186.90 0.0134 0.0061
 Uranus -98600-09-23 15:35 J -34291961.07 -34291960.85 -34291960.63 0.0133 0.0004
 Earth -98599-01-25 06:56 J -34291837.33 -34291837.21 -34291837.09 0.2653 0.1723
 Moon -98599-01-25 09:20 J -34291837.25 -34291837.11 -34291836.98 0.2647 0.1625 *
 Uranus -98599-05-07 21:06 J -34291734.81 -34291734.62 -34291734.41 0.0133 0.0052
 Saturn -98599-09-01 14:23 J -34291618.11 -34291617.90 -34291617.69 0.0286 0.0018
 Uranus -98599-12-20 02:37 J -34291508.51 -34291508.39 -34291508.25 0.0133 0.0107
 Saturn -98598-04-19 08:08 J -34291388.25 -34291388.16 -34291388.05 0.0286 0.0252
 Jupiter -98597-03-04 17:01 J -34291068.00 -34291067.79 -34291067.59 0.0526 0.0067
 Moon -98591-01-22 19:40 J -34288917.75 -34288917.68 -34288917.61 0.2652 0.2375
 Earth -98591-01-22 22:18 J -34288917.66 -34288917.57 -34288917.49 0.2658 0.2206 *
 Mars -98589-07-13 06:13 J -34288015.40 -34288015.24 -34288015.07 0.1658 0.0552
 Jupiter -98586-11-08 08:23 J -34286802.28 -34286802.15 -34286802.01 0.0523 0.0393
 Saturn -98584-02-15 21:20 J -34286336.75 -34286336.61 -34286336.46 0.0272 0.0197
 Mars -98584-02-25 16:18 J -34286326.92 -34286326.82 -34286326.71 0.1869 0.1458
 Saturn -98584-10-03 03:20 J -34286107.57 -34286107.36 -34286107.15 0.0273 0.0034
 Saturn -98583-05-20 08:37 J -34285878.18 -34285878.14 -34285878.08 0.0273 0.0265
 Jupiter -98580-09-13 20:37 J -34284665.78 -34284665.64 -34284665.49 0.0500 0.0344
 Pluto -98579-10-13 17:01 J -34284270.96 -34284270.79 -34284270.58 0.0082 0.0038

Pluto -98578-05-27 03:20 J -34284045.54 -34284045.36 -34284045.16 0.0082 0.0037
 Saturn -98570-07-27 23:44 J -34281061.60 -34281061.51 -34281061.42 0.0287 0.0257
 Saturn -98569-03-13 17:30 J -34280831.98 -34280831.77 -34280831.56 0.0286 0.0013
 Saturn -98569-10-29 11:44 J -34280602.02 -34280602.01 -34280601.98 0.0286 0.0284
 Jupiter -98568-05-19 23:01 J -34280399.74 -34280399.54 -34280399.34 0.0503 0.0048
 Neptune -98566-07-11 23:44 J -34279616.54 -34279616.51 -34279616.43 0.0088 0.0086
 Neptune -98565-02-22 13:40 J -34279391.04 -34279390.93 -34279390.81 0.0088 0.0075
 Neptune -98565-10-05 02:52 J -34279165.51 -34279165.38 -34279165.20 0.0088 0.0065
 Neptune -98564-05-18 16:47 J -34278939.97 -34278939.80 -34278939.61 0.0088 0.0054
 Neptune -98564-12-30 05:59 J -34278714.42 -34278714.25 -34278714.03 0.0088 0.0044
 Neptune -98563-08-12 19:40 J -34278488.87 -34278488.68 -34278488.46 0.0088 0.0033
 Neptune -98562-03-26 09:35 J -34278263.31 -34278263.10 -34278262.88 0.0088 0.0022
 Neptune -98562-11-06 23:01 J -34278037.76 -34278037.54 -34278037.32 0.0088 0.0011
 Jupiter -98562-11-11 10:18 J -34278033.22 -34278033.07 -34278032.91 0.0527 0.0343
 Neptune -98561-06-19 12:28 J -34277812.20 -34277811.98 -34277811.76 0.0088 0.0001
 Neptune -98560-01-31 01:40 J -34277586.64 -34277586.43 -34277586.20 0.0088 0.0010
 Neptune -98560-09-13 15:06 J -34277361.08 -34277360.87 -34277360.65 0.0088 0.0021
 Neptune -98559-04-27 04:18 J -34277135.51 -34277135.32 -34277135.10 0.0088 0.0032
 Neptune -98559-12-08 17:44 J -34276909.95 -34276909.76 -34276909.56 0.0088 0.0042
 Neptune -98558-07-22 06:42 J -34276684.38 -34276684.22 -34276684.02 0.0088 0.0052
 Neptune -98557-03-03 19:54 J -34276458.81 -34276458.67 -34276458.50 0.0088 0.0063
 Mars -98557-07-12 03:49 J -34276328.49 -34276328.34 -34276328.19 0.1665 0.0898
 Neptune -98557-10-15 09:06 J -34276233.23 -34276233.12 -34276232.98 0.0088 0.0073
 Jupiter -98556-01-22 23:30 J -34276133.60 -34276133.52 -34276133.42 0.0506 0.0449
 Uranus -98556-01-30 17:16 J -34276125.94 -34276125.78 -34276125.58 0.0145 0.0082
 Neptune -98556-05-28 22:04 J -34276007.63 -34276007.58 -34276007.48 0.0088 0.0083
 Uranus -98556-09-14 05:01 J -34275899.50 -34275899.29 -34275899.07 0.0145 0.0011
 Uranus -98555-04-28 16:47 J -34275672.99 -34275672.80 -34275672.60 0.0146 0.0062
 Saturn -98555-08-29 05:16 J -34275550.44 -34275550.28 -34275550.10 0.0273 0.0162
 Uranus -98555-12-11 04:47 J -34275446.38 -34275446.30 -34275446.22 0.0146 0.0134

Saturn	-98554-04-15 11:30 J	-34275321.22	-34275321.02	-34275320.81	0.0273	0.0072
Mars	-98552-02-25 09:35 J	-34274639.25	-34274639.10	-34274638.95	0.1860	0.0928
Jupiter	-98550-07-16 23:44 J	-34273767.71	-34273767.51	-34273767.31	0.0524	0.0130
Saturn	-98540-02-06 09:06 J	-34270275.25	-34270275.12	-34270274.98	0.0286	0.0214
Saturn	-98540-09-24 02:37 J	-34270045.59	-34270045.39	-34270045.18	0.0286	0.0056
Jupiter	-98532-01-25 09:20 J	-34267365.30	-34267365.11	-34267364.92	0.0502	0.0184
Saturn	-98525-03-10 07:25 J	-34264764.37	-34264764.19	-34264764.00	0.0272	0.0133
Saturn	-98525-10-25 13:11 J	-34264535.14	-34264534.95	-34264534.75	0.0273	0.0100
Mars	-98523-05-10 16:47 J	-34263972.95	-34263972.80	-34263972.64	0.1656	0.0751
Jupiter	-98521-09-30 11:01 J	-34263099.22	-34263099.04	-34263098.86	0.0504	0.0213
Earth	-98518-08-04 18:28 J	-34262060.89	-34262060.73	-34262060.58	0.2684	0.0401
Moon	-98518-08-04 20:37 J	-34262060.79	-34262060.64	-34262060.49	0.2691	0.0586 *
Uranus	-98517-10-09 17:59 J	-34261628.90	-34261628.75	-34261628.58	0.0134	0.0089
Uranus	-98516-05-24 00:13 J	-34261402.70	-34261402.49	-34261402.27	0.0133	0.0032
Uranus	-98515-01-05 05:59 J	-34261176.46	-34261176.25	-34261176.03	0.0133	0.0024
Uranus	-98515-08-19 11:44 J	-34260950.18	-34260950.01	-34260949.83	0.0133	0.0079
Jupiter	-98514-03-24 17:59 J	-34260732.95	-34260732.75	-34260732.55	0.0526	0.0148
Saturn	-98511-08-19 11:44 J	-34259489.16	-34259489.01	-34259488.84	0.0287	0.0185
Saturn	-98510-04-06 05:44 J	-34259259.46	-34259259.26	-34259259.06	0.0286	0.0087
Jupiter	-98503-11-27 07:11 J	-34256467.36	-34256467.20	-34256467.04	0.0523	0.0322
Jupiter	-98497-10-02 17:30 J	-34254330.89	-34254330.77	-34254330.65	0.0501	0.0402
Saturn	-98496-09-20 15:06 J	-34253978.06	-34253977.87	-34253977.67	0.0273	0.0097
Saturn	-98495-05-07 21:20 J	-34253748.79	-34253748.61	-34253748.43	0.0274	0.0137
Mars	-98491-05-09 14:37 J	-34252286.05	-34252285.89	-34252285.73	0.1662	0.0701
Mars	-98487-12-23 15:20 J	-34250597.02	-34250596.86	-34250596.69	0.1863	0.0534
Jupiter	-98485-06-07 19:54 J	-34250064.87	-34250064.67	-34250064.47	0.0503	0.0011
Neptune	-98483-04-05 15:35 J	-34249397.92	-34249397.85	-34249397.73	0.0089	0.0080
Neptune	-98483-11-17 04:32 J	-34249172.44	-34249172.31	-34249172.17	0.0089	0.0069
Neptune	-98482-06-30 16:47 J	-34248946.95	-34248946.80	-34248946.63	0.0089	0.0059
Neptune	-98481-02-11 05:01 J	-34248721.45	-34248721.29	-34248721.09	0.0089	0.0049

Saturn -98481-02-29 22:47 J -34248702.73 -34248702.55 -34248702.36 0.0286 0.0138
 Neptune -98481-09-23 17:59 J -34248495.94 -34248495.75 -34248495.55 0.0089 0.0038
 Saturn -98481-10-16 16:32 J -34248472.99 -34248472.81 -34248472.62 0.0286 0.0134
 Neptune -98480-05-07 06:13 J -34248270.43 -34248270.24 -34248270.02 0.0089 0.0028
 Neptune -98480-12-18 18:56 J -34248044.92 -34248044.71 -34248044.49 0.0089 0.0017
 Neptune -98479-08-01 07:25 J -34247819.40 -34247819.19 -34247818.97 0.0089 0.0007
 Jupiter -98479-11-30 07:40 J -34247698.31 -34247698.18 -34247698.05 0.0527 0.0405
 Neptune -98478-03-14 20:08 J -34247593.88 -34247593.66 -34247593.44 0.0089 0.0004
 Neptune -98478-10-26 08:52 J -34247368.34 -34247368.13 -34247367.92 0.0089 0.0014
 Neptune -98477-06-07 21:06 J -34247142.81 -34247142.62 -34247142.40 0.0089 0.0025
 Neptune -98476-01-19 09:49 J -34246917.28 -34246917.09 -34246916.88 0.0089 0.0035
 Neptune -98476-09-01 22:32 J -34246691.74 -34246691.56 -34246691.36 0.0089 0.0046
 Neptune -98475-04-15 11:30 J -34246466.19 -34246466.02 -34246465.85 0.0089 0.0056
 Neptune -98475-11-26 23:59 J -34246240.62 -34246240.50 -34246240.34 0.0089 0.0067
 Neptune -98474-07-10 13:11 J -34246015.05 -34246014.95 -34246014.84 0.0089 0.0078
 Jupiter -98473-02-11 22:32 J -34245798.69 -34245798.56 -34245798.43 0.0506 0.0381
 Neptune -98473-02-21 01:40 J -34245789.44 -34245789.43 -34245789.38 0.0089 0.0088
 Uranus -98473-09-29 23:16 J -34245567.63 -34245567.53 -34245567.38 0.0145 0.0118
 Uranus -98472-05-14 10:47 J -34245341.24 -34245341.05 -34245340.84 0.0145 0.0047
 Uranus -98472-12-26 22:18 J -34245114.78 -34245114.57 -34245114.35 0.0145 0.0025
 Uranus -98471-08-10 10:18 J -34244888.23 -34244888.07 -34244887.91 0.0146 0.0097
 Jupiter -98467-08-04 22:32 J -34243432.77 -34243432.56 -34243432.36 0.0525 0.0061
 Saturn -98466-04-02 18:28 J -34243191.94 -34243191.73 -34243191.53 0.0273 0.0066
 Saturn -98466-11-18 00:13 J -34242962.66 -34242962.49 -34242962.33 0.0273 0.0167
 Mars -98457-03-07 04:04 J -34239930.47 -34239930.33 -34239930.18 0.1653 0.0934
 Jupiter -98455-04-09 13:54 J -34239166.94 -34239166.92 -34239166.90 0.0522 0.0518
 Saturn -98452-09-11 01:40 J -34237916.62 -34237916.43 -34237916.23 0.0286 0.0108
 Saturn -98451-04-28 19:40 J -34237686.86 -34237686.68 -34237686.51 0.0286 0.0164
 Jupiter -98449-02-14 05:59 J -34237030.42 -34237030.25 -34237030.07 0.0502 0.0240
 Jupiter -98438-10-20 06:42 J -34232764.41 -34232764.22 -34232764.03 0.0505 0.0162

Saturn -98437-02-26 19:11 J -34232634.74 -34232634.70 -34232634.64 0.0273 0.0264
 Saturn -98437-10-13 01:54 J -34232405.63 -34232405.42 -34232405.21 0.0273 0.0030
 Saturn -98436-05-30 07:40 J -34232176.31 -34232176.18 -34232176.03 0.0274 0.0205
 Uranus -98433-06-09 01:40 J -34231070.52 -34231070.43 -34231070.32 0.0134 0.0119
 Uranus -98432-01-21 08:08 J -34230844.36 -34230844.16 -34230843.97 0.0134 0.0062
 Uranus -98432-09-04 14:08 J -34230618.13 -34230617.91 -34230617.69 0.0133 0.0006
 Jupiter -98431-04-12 14:23 J -34230398.08 -34230397.90 -34230397.70 0.0525 0.0209
 Uranus -98431-04-18 20:08 J -34230391.86 -34230391.66 -34230391.46 0.0133 0.0050
 Uranus -98431-12-01 01:25 J -34230165.56 -34230165.44 -34230165.30 0.0133 0.0106
 Mars -98425-03-06 01:11 J -34228243.61 -34228243.45 -34228243.28 0.1660 0.0503
 Saturn -98422-03-24 13:25 J -34227130.14 -34227129.94 -34227129.73 0.0286 0.0058
 Pluto -98422-05-07 00:13 J -34227086.49 -34227086.49 -34227086.46 0.0062 0.0062
 Saturn -98422-11-09 07:25 J -34226900.33 -34226900.19 -34226900.05 0.0286 0.0214
 Pluto -98422-12-18 04:32 J -34226861.50 -34226861.31 -34226861.10 0.0062 0.0028
 Pluto -98421-07-30 08:37 J -34226636.35 -34226636.14 -34226635.90 0.0063 0.0008
 Mars -98421-10-19 19:40 J -34226554.85 -34226554.68 -34226554.50 0.1866 0.0110
 Pluto -98420-03-12 13:11 J -34226411.12 -34226410.95 -34226410.78 0.0063 0.0042
 Jupiter -98420-12-16 03:06 J -34226132.55 -34226132.37 -34226132.19 0.0523 0.0269
 Jupiter -98414-10-22 15:35 J -34223995.91 -34223995.85 -34223995.77 0.0500 0.0465
 Saturn -98408-09-07 23:30 J -34221848.63 -34221848.52 -34221848.40 0.0272 0.0230
 Saturn -98407-04-25 05:59 J -34221619.46 -34221619.25 -34221619.04 0.0273 0.0004
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 Jupiter -98402-06-27 17:44 J -34219729.96 -34219729.76 -34219729.56 0.0503 0.0073
 Neptune -98402-10-13 11:44 J -34219622.04 -34219622.01 -34219621.97 0.0088 0.0087
 Neptune -98401-05-26 00:56 J -34219396.55 -34219396.46 -34219396.33 0.0088 0.0077
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 Neptune -98400-08-20 04:04 J -34218945.49 -34218945.33 -34218945.14 0.0088 0.0055
 Neptune -98399-04-02 17:59 J -34218719.94 -34218719.75 -34218719.55 0.0088 0.0045
 Neptune -98399-11-14 07:40 J -34218494.39 -34218494.18 -34218493.97 0.0088 0.0034
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 Jupiter -98396-12-19 07:25 J -34217363.26 -34217363.19 -34217363.10 0.0528 0.0483
 Neptune -98395-07-29 15:49 J -34217141.03 -34217140.84 -34217140.61 0.0088 0.0031
 Neptune -98394-03-12 05:30 J -34216915.46 -34216915.27 -34216915.07 0.0088 0.0041
 Neptune -98394-10-23 18:28 J -34216689.89 -34216689.73 -34216689.53 0.0088 0.0052
 Neptune -98393-06-05 07:54 J -34216464.32 -34216464.17 -34216464.00 0.0088 0.0062
 Saturn -98393-10-03 16:18 J -34216344.03 -34216343.82 -34216343.61 0.0286 0.0028
 Neptune -98392-01-16 20:52 J -34216238.74 -34216238.63 -34216238.49 0.0088 0.0072
 Saturn -98392-05-21 10:18 J -34216114.18 -34216114.07 -34216113.96 0.0286 0.0244
 Neptune -98392-08-30 10:04 J -34216013.14 -34216013.08 -34216012.99 0.0088 0.0083
 Mars -98391-01-02 15:06 J -34215888.00 -34215887.87 -34215887.75 0.1651 0.1125
 Jupiter -98390-03-02 18:56 J -34215463.86 -34215463.71 -34215463.55 0.0505 0.0327
 Uranus -98388-01-11 16:32 J -34214782.98 -34214782.81 -34214782.62 0.0145 0.0084
 Uranus -98388-08-26 04:04 J -34214556.54 -34214556.33 -34214556.11 0.0145 0.0012
 Uranus -98387-04-09 15:35 J -34214330.04 -34214329.85 -34214329.65 0.0145 0.0060
 Uranus -98387-11-22 03:06 J -34214103.43 -34214103.37 -34214103.26 0.0146 0.0133
 Jupiter -98384-08-23 21:06 J -34213097.82 -34213097.62 -34213097.41 0.0524 0.0013
 Saturn -98378-03-21 06:13 J -34211062.38 -34211062.24 -34211062.09 0.0273 0.0197
 Saturn -98378-11-05 12:42 J -34210833.18 -34210832.97 -34210832.76 0.0274 0.0039
 Saturn -98377-06-21 18:28 J -34210603.74 -34210603.73 -34210603.71 0.0274 0.0273
 Jupiter -98372-04-28 10:47 J -34208832.14 -34208832.05 -34208831.95 0.0521 0.0458
 Jupiter -98366-03-05 01:40 J -34206695.59 -34206695.43 -34206695.26 0.0502 0.0291
 Saturn -98364-08-29 11:16 J -34205787.13 -34205787.03 -34205786.92 0.0286 0.0247
 Saturn -98363-04-16 04:32 J -34205557.52 -34205557.31 -34205557.09 0.0286 0.0025
 Mars -98359-01-01 12:28 J -34204201.16 -34204200.98 -34204200.81 0.1658 0.0314
 Moon -98356-01-25 04:18 J -34203081.45 -34203081.32 -34203081.20 0.2662 0.1473
 Earth -98356-01-25 07:54 J -34203081.30 -34203081.17 -34203081.05 0.2656 0.1667 *

Mars -98355-08-17 00:28 J -34202512.65 -34202512.48 -34202512.30 0.1869 0.0340
 Jupiter -98355-11-08 05:01 J -34202429.49 -34202429.29 -34202429.10 0.0504 0.0099
 Uranus -98349-09-20 15:49 J -34200285.98 -34200285.84 -34200285.66 0.0134 0.0092
 Saturn -98349-09-30 11:16 J -34200276.19 -34200276.03 -34200275.85 0.0272 0.0161
 Earth -98348-01-22 23:01 J -34200161.62 -34200161.54 -34200161.46 0.2661 0.2276
 Moon -98348-01-22 23:30 J -34200161.55 -34200161.52 -34200161.47 0.2668 0.2557 *
 Jupiter -98348-05-01 11:30 J -34200063.19 -34200063.02 -34200062.84 0.0526 0.0268
 Uranus -98348-05-04 22:32 J -34200059.77 -34200059.56 -34200059.35 0.0133 0.0035
 Saturn -98348-05-17 17:44 J -34200046.97 -34200046.76 -34200046.56 0.0273 0.0074
 Uranus -98348-12-17 04:32 J -34199833.53 -34199833.31 -34199833.09 0.0133 0.0022
 Uranus -98347-07-31 10:04 J -34199607.25 -34199607.08 -34199606.89 0.0133 0.0078
 Uranus -98346-03-14 15:35 J -34199380.85 -34199380.85 -34199380.83 0.0133 0.0133
 Jupiter -98343-07-14 06:13 J -34198163.27 -34198163.24 -34198163.20 0.0507 0.0499
 Jupiter -98336-01-04 02:37 J -34195797.58 -34195797.39 -34195797.19 0.0524 0.0195
 Saturn -98334-03-11 13:40 J -34195001.06 -34195000.93 -34195000.79 0.0287 0.0220
 Saturn -98334-10-27 06:56 J -34194771.41 -34194771.21 -34194770.99 0.0286 0.0054
 Pluto -98331-02-03 07:11 J -34193941.36 -34193941.20 -34193941.02 0.0082 0.0048
 Pluto -98331-09-16 17:16 J -34193715.97 -34193715.78 -34193715.57 0.0082 0.0026
 Mars -98326-10-31 02:23 J -34191845.51 -34191845.40 -34191845.30 0.1649 0.1308
 Saturn -98319-04-12 17:30 J -34189489.96 -34189489.77 -34189489.59 0.0273 0.0128
 Neptune -98319-07-08 03:49 J -34189403.40 -34189403.34 -34189403.23 0.0089 0.0082
 Jupiter -98319-07-16 12:42 J -34189395.17 -34189394.97 -34189394.78 0.0503 0.0120
 Saturn -98319-11-27 23:30 J -34189260.71 -34189260.52 -34189260.32 0.0274 0.0109
 Neptune -98318-02-18 16:32 J -34189177.92 -34189177.81 -34189177.67 0.0089 0.0071
 Neptune -98318-10-02 05:01 J -34188952.43 -34188952.29 -34188952.12 0.0089 0.0061
 Neptune -98317-05-14 17:44 J -34188726.93 -34188726.76 -34188726.58 0.0089 0.0050
 Neptune -98317-12-26 05:59 J -34188501.43 -34188501.25 -34188501.04 0.0089 0.0040
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 Neptune -98315-03-22 07:11 J -34188050.41 -34188050.20 -34188049.98 0.0089 0.0019
 Neptune -98315-11-02 19:54 J -34187824.89 -34187824.67 -34187824.45 0.0089 0.0008

Neptune -98314-06-16 08:23 J -34187599.36 -34187599.15 -34187598.93 0.0089 0.0003
 Neptune -98313-01-27 20:52 J -34187373.84 -34187373.63 -34187373.41 0.0089 0.0013
 Neptune -98313-09-09 09:20 J -34187148.31 -34187148.11 -34187147.89 0.0089 0.0024
 Neptune -98312-04-22 22:04 J -34186922.77 -34186922.58 -34186922.37 0.0089 0.0034
 Neptune -98312-12-04 10:32 J -34186697.23 -34186697.06 -34186696.86 0.0089 0.0045
 Neptune -98311-07-17 23:30 J -34186471.69 -34186471.52 -34186471.35 0.0089 0.0055
 Neptune -98310-02-28 11:59 J -34186246.13 -34186246.00 -34186245.84 0.0089 0.0066
 Neptune -98310-10-12 00:28 J -34186020.56 -34186020.48 -34186020.34 0.0089 0.0078
 Neptune -98309-05-24 13:40 J -34185794.96 -34185794.93 -34185794.87 0.0089 0.0087
 Jupiter -98307-03-21 14:37 J -34185129.06 -34185128.89 -34185128.73 0.0506 0.0279
 Uranus -98305-09-10 22:32 J -34184224.67 -34184224.56 -34184224.43 0.0145 0.0120
 Saturn -98305-09-21 01:54 J -34184214.59 -34184214.42 -34184214.25 0.0286 0.0167
 Uranus -98304-04-25 09:49 J -34183998.29 -34183998.09 -34183997.88 0.0145 0.0049
 Saturn -98304-05-08 19:11 J -34183984.89 -34183984.70 -34183984.49 0.0286 0.0106
 Uranus -98304-12-07 21:20 J -34183771.82 -34183771.61 -34183771.39 0.0145 0.0023
 Uranus -98303-07-22 09:06 J -34183545.28 -34183545.12 -34183544.96 0.0146 0.0095
 Jupiter -98301-09-11 15:49 J -34182763.04 -34182762.84 -34182762.63 0.0525 0.0059
 Mars -98294-10-29 23:01 J -34180158.72 -34180158.54 -34180158.37 0.1656 0.0114
 Saturn -98290-10-23 23:01 J -34178703.74 -34178703.54 -34178703.34 0.0273 0.0091
 Jupiter -98289-05-17 06:56 J -34178497.34 -34178497.21 -34178497.08 0.0522 0.0405
 Saturn -98289-06-09 04:47 J -34178474.47 -34178474.30 -34178474.11 0.0273 0.0145
 Mars -98289-06-13 05:01 J -34178470.45 -34178470.29 -34178470.13 0.1872 0.0783
 Jupiter -98283-03-23 23:44 J -34176360.65 -34176360.51 -34176360.36 0.0501 0.0353
 Saturn -98275-04-03 04:04 J -34173428.51 -34173428.33 -34173428.15 0.0286 0.0140
 Moon -98275-08-04 19:25 J -34173304.85 -34173304.69 -34173304.53 0.2674 0.0621
 Earth -98275-08-04 19:54 J -34173304.83 -34173304.67 -34173304.52 0.2681 0.0374 *
 Saturn -98275-11-18 21:49 J -34173198.78 -34173198.59 -34173198.41 0.0286 0.0133
 Jupiter -98272-11-27 01:54 J -34172094.62 -34172094.42 -34172094.22 0.0504 0.0042
 Jupiter -98265-05-20 11:01 J -34169728.19 -34169728.04 -34169727.88 0.0526 0.0343
 Uranus -98265-05-20 23:44 J -34169727.58 -34169727.51 -34169727.40 0.0134 0.0122

Uranus -98264-01-02 06:13 J -34169501.42 -34169501.24 -34169501.04 0.0134 0.0065
 Uranus -98264-08-16 12:28 J -34169275.20 -34169274.98 -34169274.76 0.0133 0.0008
 Uranus -98263-03-30 18:28 J -34169048.93 -34169048.73 -34169048.53 0.0133 0.0048
 Uranus -98263-11-11 23:44 J -34168822.63 -34168822.51 -34168822.36 0.0133 0.0104
 Mars -98262-10-28 20:08 J -34168471.71 -34168471.66 -34168471.60 0.1662 0.1565
 Saturn -98260-05-05 04:04 J -34167917.54 -34167917.33 -34167917.12 0.0273 0.0059
 Jupiter -98260-08-02 01:25 J -34167828.53 -34167828.44 -34167828.35 0.0507 0.0452
 Mars -98260-08-27 13:11 J -34167803.02 -34167802.95 -34167802.88 0.1647 0.1497
 Saturn -98260-12-20 10:04 J -34167688.24 -34167688.08 -34167687.92 0.0274 0.0177
 Mars -98257-06-12 22:18 J -34166782.66 -34166782.57 -34166782.49 0.1863 0.1627
 Jupiter -98253-01-24 00:28 J -34165462.68 -34165462.48 -34165462.28 0.0523 0.0131
 Saturn -98246-10-14 15:20 J -34162642.05 -34162641.86 -34162641.65 0.0286 0.0089
 Saturn -98245-05-31 09:20 J -34162412.27 -34162412.11 -34162411.95 0.0286 0.0185
 Neptune -98237-08-27 12:13 J -34159402.07 -34159401.99 -34159401.86 0.0088 0.0079
 Neptune -98236-04-10 02:08 J -34159176.53 -34159176.41 -34159176.25 0.0088 0.0068
 Jupiter -98236-08-04 11:30 J -34159060.21 -34159060.02 -34159059.83 0.0503 0.0185
 Neptune -98236-11-21 16:04 J -34158950.99 -34158950.83 -34158950.65 0.0088 0.0057
 Neptune -98235-07-05 05:16 J -34158725.45 -34158725.28 -34158725.07 0.0088 0.0047
 Neptune -98234-02-15 18:56 J -34158499.90 -34158499.71 -34158499.49 0.0088 0.0035
 Neptune -98234-09-29 08:37 J -34158274.35 -34158274.14 -34158273.92 0.0088 0.0025
 Neptune -98233-05-11 22:18 J -34158048.79 -34158048.57 -34158048.35 0.0088 0.0014
 Neptune -98233-12-23 11:44 J -34157823.24 -34157823.01 -34157822.79 0.0088 0.0003
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 Neptune -98231-03-19 14:23 J -34157372.11 -34157371.90 -34157371.67 0.0088 0.0019
 Saturn -98231-03-31 03:49 J -34157360.40 -34157360.34 -34157360.26 0.0272 0.0256
 Neptune -98231-10-31 03:35 J -34157146.54 -34157146.35 -34157146.12 0.0088 0.0030
 Saturn -98231-11-15 10:18 J -34157131.28 -34157131.07 -34157130.85 0.0273 0.0021
 Neptune -98230-06-13 16:47 J -34156920.98 -34156920.80 -34156920.58 0.0088 0.0041
 Saturn -98230-07-02 15:49 J -34156901.96 -34156901.84 -34156901.70 0.0273 0.0215
 Neptune -98229-01-25 06:13 J -34156695.41 -34156695.24 -34156695.04 0.0088 0.0051

Neptune -98229-09-06 19:25 J -34156469.83 -34156469.69 -34156469.51 0.0088 0.0062
 Neptune -98228-04-20 09:06 J -34156244.24 -34156244.12 -34156243.98 0.0088 0.0072
 Mars -98228-08-26 09:49 J -34156116.26 -34156116.09 -34156115.91 0.1654 0.0087
 Neptune -98228-12-01 22:04 J -34156018.64 -34156018.58 -34156018.48 0.0088 0.0082
 Jupiter -98224-04-09 13:25 J -34154794.12 -34154793.94 -34154793.75 0.0505 0.0211
 Mars -98223-04-10 09:20 J -34154428.24 -34154428.11 -34154427.98 0.1875 0.1239
 Uranus -98221-12-23 15:35 J -34153440.01 -34153439.85 -34153439.67 0.0145 0.0086
 Uranus -98220-08-07 03:06 J -34153213.59 -34153213.37 -34153213.16 0.0145 0.0015
 Uranus -98219-03-21 14:23 J -34152987.09 -34152986.90 -34152986.70 0.0145 0.0058
 Uranus -98219-11-03 02:23 J -34152760.49 -34152760.40 -34152760.30 0.0146 0.0130
 Jupiter -98218-10-01 16:04 J -34152428.03 -34152427.83 -34152427.63 0.0525 0.0134
 Saturn -98216-04-25 17:16 J -34151855.99 -34151855.78 -34151855.57 0.0286 0.0063
 Saturn -98216-12-11 11:01 J -34151626.18 -34151626.04 -34151625.90 0.0286 0.0212
 Jupiter -98206-06-06 07:11 J -34148162.35 -34148162.20 -34148162.03 0.0522 0.0328
 Saturn -98202-10-11 07:11 J -34146574.30 -34146574.20 -34146574.07 0.0273 0.0228
 Saturn -98201-05-27 14:08 J -34146345.13 -34146344.91 -34146344.70 0.0273 0.0011
 Saturn -98200-01-11 19:40 J -34146115.76 -34146115.68 -34146115.58 0.0274 0.0245
 Jupiter -98200-04-11 19:40 J -34146025.79 -34146025.68 -34146025.56 0.0501 0.0404
 Mars -98196-08-25 07:11 J -34144429.30 -34144429.20 -34144429.10 0.1660 0.1371
 Mars -98191-04-10 03:35 J -34142740.48 -34142740.35 -34142740.22 0.1866 0.1222
 Jupiter -98189-12-15 22:04 J -34141759.78 -34141759.58 -34141759.38 0.0504 0.0011
 Saturn -98187-03-21 10:32 J -34141299.07 -34141299.06 -34141299.04 0.0286 0.0286
 Saturn -98187-11-06 04:04 J -34141069.55 -34141069.33 -34141069.12 0.0286 0.0013
 Saturn -98186-06-23 21:35 J -34140839.67 -34140839.60 -34140839.50 0.0286 0.0263
 Jupiter -98182-06-09 05:59 J -34139393.38 -34139393.25 -34139393.11 0.0526 0.0392
 Uranus -98181-09-01 14:23 J -34138943.04 -34138942.90 -34138942.73 0.0134 0.0094
 Uranus -98180-04-15 21:06 J -34138716.83 -34138716.62 -34138716.41 0.0134 0.0037
 Uranus -98180-11-28 03:06 J -34138490.58 -34138490.37 -34138490.15 0.0133 0.0020
 Uranus -98179-07-12 08:37 J -34138264.31 -34138264.14 -34138263.95 0.0133 0.0076
 Uranus -98178-02-23 13:54 J -34138037.94 -34138037.92 -34138037.87 0.0133 0.0131

Jupiter -98177-08-21 00:56 J -34137493.59 -34137493.46 -34137493.33 0.0507 0.0383
 Pluto -98174-04-09 17:59 J -34136531.93 -34136531.75 -34136531.56 0.0062 0.0036
 Pluto -98174-11-20 22:18 J -34136306.80 -34136306.57 -34136306.34 0.0063 0.0001
 Pluto -98173-07-03 02:08 J -34136081.59 -34136081.41 -34136081.20 0.0063 0.0034
 Saturn -98172-04-22 14:37 J -34135788.04 -34135787.89 -34135787.73 0.0272 0.0188
 Saturn -98172-12-07 20:52 J -34135558.84 -34135558.63 -34135558.43 0.0273 0.0048
 Jupiter -98170-02-11 20:37 J -34135127.84 -34135127.64 -34135127.43 0.0524 0.0076
 Mars -98162-06-23 21:06 J -34132073.79 -34132073.62 -34132073.45 0.1651 0.0276
 Saturn -98158-10-01 11:59 J -34130513.08 -34130513.00 -34130512.91 0.0287 0.0261
 Mars -98157-02-05 13:40 J -34130386.00 -34130385.93 -34130385.86 0.1878 0.1700
 Saturn -98157-05-18 05:16 J -34130283.49 -34130283.28 -34130283.07 0.0286 0.0013
 Neptune -98155-10-09 17:01 J -34129408.85 -34129408.79 -34129408.71 0.0089 0.0083
 Neptune -98154-05-23 05:16 J -34129183.39 -34129183.28 -34129183.14 0.0089 0.0073
 Neptune -98153-01-03 17:59 J -34128957.90 -34128957.75 -34128957.60 0.0089 0.0062
 Neptune -98153-08-16 05:59 J -34128732.41 -34128732.25 -34128732.06 0.0089 0.0052
 Jupiter -98153-08-23 09:49 J -34128725.27 -34128725.09 -34128724.92 0.0502 0.0249
 Neptune -98152-03-29 18:56 J -34128506.90 -34128506.71 -34128506.52 0.0089 0.0041
 Neptune -98152-11-10 07:11 J -34128281.39 -34128281.20 -34128280.98 0.0089 0.0031
 Neptune -98151-06-23 19:54 J -34128055.88 -34128055.67 -34128055.45 0.0089 0.0020
 Neptune -98150-02-04 08:23 J -34127830.36 -34127830.15 -34127829.93 0.0089 0.0010
 Neptune -98150-09-17 21:06 J -34127604.84 -34127604.62 -34127604.40 0.0089 0.0001
 Neptune -98149-04-30 09:35 J -34127379.31 -34127379.10 -34127378.88 0.0089 0.0012
 Neptune -98149-12-11 22:04 J -34127153.78 -34127153.58 -34127153.36 0.0089 0.0023
 Neptune -98148-07-25 10:47 J -34126928.25 -34126928.05 -34126927.85 0.0089 0.0033
 Neptune -98147-03-07 23:16 J -34126702.71 -34126702.53 -34126702.33 0.0089 0.0044
 Neptune -98147-10-19 11:44 J -34126477.16 -34126477.01 -34126476.82 0.0089 0.0055
 Neptune -98146-06-02 00:42 J -34126251.61 -34126251.47 -34126251.31 0.0089 0.0065
 Neptune -98145-01-13 13:11 J -34126026.05 -34126025.95 -34126025.82 0.0089 0.0076
 Neptune -98145-08-26 02:23 J -34125800.45 -34125800.40 -34125800.36 0.0089 0.0087
 Saturn -98143-11-02 17:01 J -34125001.95 -34125001.79 -34125001.61 0.0273 0.0162

Saturn -98142-06-19 23:16 J -34124772.73 -34124772.53 -34124772.32 0.0273 0.0076
 Jupiter -98141-04-28 10:04 J -34124459.27 -34124459.08 -34124458.88 0.0505 0.0157
 Uranus -98137-08-22 20:52 J -34122881.72 -34122881.63 -34122881.50 0.0145 0.0123
 Uranus -98136-04-06 08:08 J -34122655.35 -34122655.16 -34122654.95 0.0145 0.0052
 Uranus -98136-11-18 19:40 J -34122428.89 -34122428.68 -34122428.46 0.0145 0.0020
 Uranus -98135-07-03 07:25 J -34122202.36 -34122202.19 -34122202.02 0.0146 0.0092
 Jupiter -98135-10-20 15:35 J -34122093.04 -34122092.85 -34122092.66 0.0525 0.0207
 Mars -98130-06-22 17:44 J -34120386.88 -34120386.76 -34120386.63 0.1658 0.1168
 Saturn -98128-04-12 20:52 J -34119726.76 -34119726.63 -34119726.49 0.0286 0.0215
 Saturn -98128-11-28 14:37 J -34119497.10 -34119496.89 -34119496.69 0.0286 0.0060
 Mars -98125-02-05 08:23 J -34118698.31 -34118698.15 -34118698.00 0.1869 0.0792
 Jupiter -98123-06-25 02:52 J -34117827.55 -34117827.38 -34117827.20 0.0522 0.0275
 Jupiter -98117-04-30 19:54 J -34115690.73 -34115690.67 -34115690.61 0.0501 0.0477
 Earth -98113-01-26 08:37 J -34114325.27 -34114325.14 -34114325.02 0.2660 0.1602
 Moon -98113-01-26 13:40 J -34114325.02 -34114324.93 -34114324.85 0.2656 0.2279 *
 Saturn -98113-05-15 00:13 J -34114215.68 -34114215.49 -34114215.30 0.0272 0.0123
 Saturn -98113-12-30 05:59 J -34113986.44 -34113986.25 -34113986.05 0.0273 0.0114
 Jupiter -98105-01-04 22:32 J -34111424.76 -34111424.56 -34111424.37 0.0503 0.0087
 Earth -98105-01-23 23:30 J -34111405.59 -34111405.52 -34111405.45 0.2664 0.2386
 Moon -98105-01-24 00:56 J -34111405.58 -34111405.46 -34111405.35 0.2657 0.1914 *
 Jupiter -98099-06-28 07:11 J -34109058.28 -34109058.20 -34109058.11 0.0527 0.0477
 Saturn -98099-10-23 22:18 J -34108940.72 -34108940.57 -34108940.41 0.0287 0.0190
 Saturn -98098-06-10 15:49 J -34108711.04 -34108710.84 -34108710.64 0.0286 0.0085
 Uranus -98097-05-01 22:47 J -34108384.62 -34108384.55 -34108384.46 0.0134 0.0123
 Uranus -98097-12-14 05:01 J -34108158.47 -34108158.29 -34108158.09 0.0134 0.0066
 Mars -98096-04-20 07:54 J -34108031.33 -34108031.17 -34108031.00 0.1649 0.0472
 Uranus -98096-07-28 11:16 J -34107932.25 -34107932.03 -34107931.81 0.0133 0.0009
 Uranus -98095-03-11 17:01 J -34107705.99 -34107705.79 -34107705.58 0.0133 0.0047
 Uranus -98095-10-23 22:18 J -34107479.69 -34107479.57 -34107479.41 0.0133 0.0103
 Jupiter -98094-09-10 00:28 J -34107158.64 -34107158.48 -34107158.32 0.0506 0.0312

Jupiter -98087-03-02 22:47 J -34104792.76 -34104792.55 -34104792.35 0.0524 0.0012
 Pluto -98084-05-26 18:56 J -34103611.82 -34103611.71 -34103611.57 0.0082 0.0066
 Saturn -98084-11-25 01:40 J -34103429.63 -34103429.43 -34103429.23 0.0273 0.0097
 Pluto -98083-01-07 05:30 J -34103386.49 -34103386.27 -34103386.06 0.0082 0.0008
 Saturn -98083-07-12 07:25 J -34103200.36 -34103200.19 -34103200.00 0.0273 0.0140
 Pluto -98083-08-20 15:35 J -34103160.87 -34103160.85 -34103160.83 0.0081 0.0081
 Jupiter -98076-11-05 13:11 J -34100527.04 -34100526.95 -34100526.84 0.0521 0.0453
 Neptune -98073-11-29 00:28 J -34099407.56 -34099407.48 -34099407.37 0.0088 0.0080
 Neptune -98072-07-12 14:23 J -34099182.04 -34099181.90 -34099181.76 0.0088 0.0069
 Neptune -98071-02-23 03:35 J -34098956.50 -34098956.35 -34098956.16 0.0088 0.0058
 Neptune -98071-10-06 17:16 J -34098730.96 -34098730.78 -34098730.58 0.0088 0.0048
 Neptune -98070-05-20 06:56 J -34098505.41 -34098505.21 -34098505.00 0.0088 0.0037
 Jupiter -98070-09-12 07:40 J -34098390.34 -34098390.18 -34098390.02 0.0502 0.0310
 Neptune -98070-12-31 20:23 J -34098279.86 -34098279.65 -34098279.43 0.0088 0.0026
 Saturn -98069-05-05 05:44 J -34098154.43 -34098154.26 -34098154.07 0.0286 0.0148
 Neptune -98069-08-13 09:49 J -34098054.30 -34098054.09 -34098053.86 0.0088 0.0015
 Saturn -98069-12-20 23:30 J -34097924.70 -34097924.52 -34097924.32 0.0286 0.0130
 Neptune -98068-03-26 23:30 J -34097828.74 -34097828.52 -34097828.29 0.0088 0.0004
 Neptune -98068-11-07 12:56 J -34097603.18 -34097602.96 -34097602.74 0.0088 0.0007
 Neptune -98067-06-21 02:08 J -34097377.62 -34097377.41 -34097377.18 0.0088 0.0018
 Neptune -98066-02-01 15:20 J -34097152.06 -34097151.86 -34097151.64 0.0088 0.0029
 Neptune -98066-09-15 04:32 J -34096926.49 -34096926.31 -34096926.09 0.0088 0.0040
 Neptune -98065-04-27 18:13 J -34096700.91 -34096700.74 -34096700.55 0.0088 0.0050
 Neptune -98065-12-09 07:25 J -34096475.34 -34096475.19 -34096475.01 0.0088 0.0061
 Mars -98064-04-19 05:01 J -34096344.43 -34096344.29 -34096344.15 0.1656 0.0977
 Neptune -98064-07-22 20:23 J -34096249.75 -34096249.65 -34096249.49 0.0088 0.0072
 Neptune -98063-03-05 09:49 J -34096024.15 -34096024.09 -34096023.99 0.0088 0.0082
 Mars -98060-12-02 13:40 J -34094656.10 -34094655.93 -34094655.76 0.1872 0.0375
 Jupiter -98058-05-18 10:47 J -34094124.25 -34094124.05 -34094123.85 0.0505 0.0080
 Saturn -98054-06-07 09:06 J -34092643.33 -34092643.12 -34092642.92 0.0272 0.0058

Saturn -98053-01-22 14:23 J -34092414.05 -34092413.90 -34092413.73 0.0273 0.0179
 Uranus -98053-12-04 13:25 J -34092097.10 -34092096.94 -34092096.76 0.0145 0.0089
 Uranus -98052-07-19 00:42 J -34091870.68 -34091870.47 -34091870.25 0.0145 0.0018
 Jupiter -98052-11-08 12:42 J -34091758.15 -34091757.97 -34091757.80 0.0525 0.0270
 Uranus -98051-03-02 11:59 J -34091644.19 -34091644.00 -34091643.79 0.0145 0.0054
 Uranus -98051-10-14 23:30 J -34091417.61 -34091417.52 -34091417.40 0.0146 0.0127
 Jupiter -98046-01-21 12:56 J -34089858.02 -34089857.96 -34089857.90 0.0507 0.0478
 Jupiter -98040-07-14 04:18 J -34087492.51 -34087492.32 -34087492.13 0.0523 0.0191
 Saturn -98040-11-15 07:11 J -34087368.39 -34087368.20 -34087368.01 0.0287 0.0123
 Saturn -98039-07-03 00:27 J -34087138.65 -34087138.48 -34087138.29 0.0286 0.0154
 Moon -98032-08-04 19:39 J -34084548.83 -34084548.68 -34084548.53 0.2684 0.0180
 Earth -98032-08-04 21:06 J -34084548.78 -34084548.62 -34084548.47 0.2678 0.0333 *
 Mars -98030-02-15 19:25 J -34083988.84 -34083988.69 -34083988.52 0.1647 0.0652
 Saturn -98025-05-02 03:06 J -34082086.38 -34082086.37 -34082086.35 0.0272 0.0272
 Saturn -98025-12-17 09:35 J -34081857.31 -34081857.10 -34081856.89 0.0273 0.0034
 Saturn -98024-08-03 14:51 J -34081628.01 -34081627.88 -34081627.73 0.0273 0.0203
 Jupiter -98022-01-23 20:37 J -34081089.83 -34081089.64 -34081089.44 0.0503 0.0151
 Uranus -98013-08-13 13:11 J -34077600.09 -34077599.95 -34077599.78 0.0134 0.0095
 Uranus -98012-03-27 19:39 J -34077373.89 -34077373.68 -34077373.47 0.0134 0.0038
 Uranus -98012-11-09 01:39 J -34077147.65 -34077147.43 -34077147.21 0.0133 0.0019
 Uranus -98011-06-23 06:56 J -34076921.37 -34076921.21 -34076921.01 0.0133 0.0075
 Jupiter -98011-09-28 22:47 J -34076823.72 -34076823.55 -34076823.37 0.0506 0.0249
 Uranus -98010-02-04 12:27 J -34076695.01 -34076694.98 -34076694.92 0.0133 0.0130
 Saturn -98010-05-28 13:25 J -34076582.14 -34076581.94 -34076581.73 0.0286 0.0082
 Saturn -98009-01-13 07:11 J -34076352.35 -34076352.20 -34076352.04 0.0286 0.0196
 Jupiter -98004-03-21 19:39 J -34074457.88 -34074457.68 -34074457.47 0.0524 0.0075

98TH MILLENNIUM BCE

This is a list of transits of Venus in the 98th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Mars	-97998-02-14 16:03 J		-34072301.99	-34072301.83	-34072301.68	0.1653	0.0782	
Saturn	-97996-11-12 10:47 J		-34071300.16	-34071300.05	-34071299.94	0.0272	0.0234	
Saturn	-97995-06-29 16:47 J		-34071071.01	-34071070.80	-34071070.59	0.0272	0.0005	
Saturn	-97994-02-13 22:03 J		-34070841.67	-34070841.58	-34070841.48	0.0273	0.0241	
Mars	-97994-09-29 17:44 J		-34070613.93	-34070613.76	-34070613.59	0.1875	0.0083	
Jupiter	-97993-11-24 10:47 J		-34070192.18	-34070192.05	-34070191.91	0.0521	0.0389	
Neptune	-97990-01-11 05:30 J		-34069414.32	-34069414.27	-34069414.20	0.0089	0.0085	
Neptune	-97990-08-24 17:30 J		-34069188.86	-34069188.77	-34069188.63	0.0089	0.0075	
Neptune	-97989-04-06 06:13 J		-34068963.38	-34068963.24	-34068963.08	0.0089	0.0064	
Neptune	-97989-11-17 18:27 J		-34068737.88	-34068737.73	-34068737.54	0.0089	0.0054	
Neptune	-97988-07-01 07:11 J		-34068512.38	-34068512.20	-34068512.00	0.0089	0.0043	
Neptune	-97987-02-11 19:39 J		-34068286.87	-34068286.68	-34068286.47	0.0089	0.0032	
Neptune	-97987-09-25 08:08 J		-34068061.36	-34068061.16	-34068060.94	0.0089	0.0022	
Jupiter	-97987-10-01 09:06 J		-34068055.24	-34068055.12	-34068054.99	0.0502	0.0392	
Neptune	-97986-05-08 20:51 J		-34067835.84	-34067835.63	-34067835.41	0.0089	0.0011	
Neptune	-97986-12-20 09:20 J		-34067610.32	-34067610.11	-34067609.89	0.0089	0.0002	
Neptune	-97985-08-01 21:49 J		-34067384.80	-34067384.59	-34067384.37	0.0089	0.0011	
Neptune	-97984-03-15 10:18 J		-34067159.27	-34067159.07	-34067158.84	0.0089	0.0022	
Neptune	-97984-10-26 23:15 J		-34066933.73	-34066933.53	-34066933.32	0.0089	0.0032	
Neptune	-97983-06-09 11:44 J		-34066708.19	-34066708.01	-34066707.81	0.0089	0.0043	
Neptune	-97982-01-21 00:13 J		-34066482.65	-34066482.49	-34066482.30	0.0089	0.0054	
Neptune	-97982-09-03 13:25 J		-34066257.09	-34066256.94	-34066256.80	0.0089	0.0064	

Neptune -97981-04-16 01:39 J -34066031.53 -34066031.43 -34066031.30 0.0089 0.0075
 Neptune -97981-11-27 14:23 J -34065805.93 -34065805.90 -34065805.83 0.0089 0.0086
 Saturn -97981-12-07 14:51 J -34065796.09 -34065795.88 -34065795.67 0.0287 0.0057
 Saturn -97980-07-25 08:23 J -34065566.28 -34065566.15 -34065566.01 0.0286 0.0221
 Jupiter -97975-06-06 11:44 J -34063789.21 -34063789.01 -34063788.81 0.0504 0.0009
 Uranus -97969-08-03 18:27 J -34061538.82 -34061538.73 -34061538.61 0.0145 0.0127
 Jupiter -97969-11-27 16:03 J -34061422.98 -34061422.83 -34061422.68 0.0526 0.0365
 Uranus -97968-03-18 05:30 J -34061312.46 -34061312.27 -34061312.06 0.0145 0.0056
 Uranus -97968-10-30 17:01 J -34061086.00 -34061085.79 -34061085.57 0.0145 0.0016
 Uranus -97967-06-14 04:32 J -34060859.48 -34060859.31 -34060859.14 0.0146 0.0088
 Saturn -97966-05-25 10:18 J -34060514.19 -34060514.07 -34060513.93 0.0272 0.0211
 Saturn -97965-01-09 16:47 J -34060285.01 -34060284.80 -34060284.59 0.0273 0.0027
 Saturn -97965-08-25 22:03 J -34060055.62 -34060055.58 -34060055.52 0.0273 0.0264
 Mars -97965-12-13 06:42 J -34059946.37 -34059946.22 -34059946.07 0.1645 0.0839
 Jupiter -97963-02-09 11:59 J -34059523.11 -34059523.00 -34059522.88 0.0507 0.0410
 Jupiter -97957-08-02 06:27 J -34057157.43 -34057157.23 -34057157.02 0.0523 0.0104
 Saturn -97951-06-19 20:08 J -34055009.87 -34055009.66 -34055009.45 0.0286 0.0019
 Saturn -97950-02-04 13:54 J -34054780.00 -34054779.92 -34054779.83 0.0286 0.0259
 Jupiter -97939-02-11 21:49 J -34050754.76 -34050754.59 -34050754.40 0.0503 0.0232
 Saturn -97937-12-04 17:59 J -34049727.90 -34049727.75 -34049727.58 0.0272 0.0174
 Saturn -97936-07-21 23:59 J -34049498.70 -34049498.50 -34049498.29 0.0273 0.0066
 Mars -97933-12-12 03:20 J -34048259.52 -34048259.36 -34048259.20 0.1651 0.0594
 Uranus -97929-04-12 20:51 J -34047041.69 -34047041.63 -34047041.54 0.0134 0.0125
 Uranus -97929-11-25 03:20 J -34046815.54 -34046815.36 -34046815.16 0.0134 0.0068
 Uranus -97928-07-09 09:35 J -34046589.32 -34046589.10 -34046588.88 0.0134 0.0011
 Mars -97928-07-26 22:18 J -34046571.74 -34046571.57 -34046571.41 0.1878 0.0538
 Jupiter -97928-10-18 00:27 J -34046488.66 -34046488.48 -34046488.28 0.0506 0.0165
 Uranus -97927-02-20 15:06 J -34046363.07 -34046362.87 -34046362.65 0.0133 0.0046
 Pluto -97927-07-31 05:59 J -34046202.38 -34046202.25 -34046202.08 0.0062 0.0046
 Uranus -97927-10-04 20:37 J -34046136.77 -34046136.64 -34046136.49 0.0133 0.0101

Pluto -97926-03-13 10:03 J -34045977.29 -34045977.08 -34045976.84 0.0062 0.0013
 Pluto -97926-10-24 14:23 J -34045752.10 -34045751.90 -34045751.68 0.0063 0.0023
 Pluto -97925-06-05 18:27 J -34045526.80 -34045526.73 -34045526.62 0.0063 0.0058
 Saturn -97922-05-15 04:47 J -34044453.37 -34044453.30 -34044453.23 0.0287 0.0270
 Saturn -97922-12-30 21:49 J -34044223.80 -34044223.59 -34044223.38 0.0286 0.0008
 Jupiter -97921-04-09 21:49 J -34044122.78 -34044122.59 -34044122.39 0.0525 0.0163
 Saturn -97921-08-16 15:35 J -34043993.85 -34043993.85 -34043993.84 0.0286 0.0286
 Jupiter -97910-12-14 14:08 J -34039857.08 -34039856.91 -34039856.74 0.0522 0.0296
 Neptune -97908-03-02 11:59 J -34039413.06 -34039413.00 -34039412.90 0.0088 0.0082
 Neptune -97908-10-14 01:54 J -34039187.54 -34039187.42 -34039187.28 0.0088 0.0071
 Neptune -97907-05-27 15:35 J -34038962.00 -34038961.85 -34038961.68 0.0088 0.0060
 Saturn -97907-06-16 17:30 J -34038941.95 -34038941.77 -34038941.59 0.0272 0.0151
 Neptune -97906-01-08 05:15 J -34038736.46 -34038736.28 -34038736.09 0.0088 0.0049
 Saturn -97906-01-31 23:30 J -34038712.72 -34038712.52 -34038712.32 0.0273 0.0088
 Neptune -97906-08-21 18:56 J -34038510.91 -34038510.71 -34038510.51 0.0088 0.0038
 Neptune -97905-04-03 08:37 J -34038285.35 -34038285.14 -34038284.93 0.0088 0.0027
 Neptune -97905-11-14 22:03 J -34038059.80 -34038059.58 -34038059.36 0.0088 0.0016
 Neptune -97904-06-28 11:30 J -34037834.24 -34037834.02 -34037833.79 0.0088 0.0005
 Jupiter -97904-10-20 08:37 J -34037720.21 -34037720.14 -34037720.06 0.0502 0.0462
 Neptune -97903-02-09 00:56 J -34037608.68 -34037608.46 -34037608.24 0.0088 0.0006
 Neptune -97903-09-22 14:08 J -34037383.12 -34037382.91 -34037382.68 0.0088 0.0017
 Neptune -97902-05-06 03:35 J -34037157.55 -34037157.35 -34037157.13 0.0088 0.0028
 Neptune -97902-12-17 16:47 J -34036931.98 -34036931.80 -34036931.58 0.0088 0.0039
 Neptune -97901-07-30 05:59 J -34036706.41 -34036706.25 -34036706.04 0.0088 0.0050
 Neptune -97900-03-12 19:39 J -34036480.84 -34036480.68 -34036480.51 0.0088 0.0060
 Neptune -97900-10-24 08:37 J -34036255.25 -34036255.14 -34036254.99 0.0088 0.0071
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 Jupiter -97595-01-02 22:03 J -33925148.78 -33925148.58 -33925148.39 0.0505 0.0119
 Uranus -97593-03-05 17:44 J -33924355.81 -33924355.76 -33924355.70 0.0134 0.0129
 Uranus -97593-10-17 23:59 J -33924129.68 -33924129.50 -33924129.30 0.0134 0.0072
 Uranus -97592-06-01 06:27 J -33923903.45 -33923903.23 -33923903.01 0.0134 0.0014
 Uranus -97591-01-13 12:13 J -33923677.19 -33923676.99 -33923676.77 0.0133 0.0043
 Uranus -97591-08-27 17:59 J -33923450.89 -33923450.75 -33923450.60 0.0133 0.0099
 Jupiter -97589-06-25 23:01 J -33922782.61 -33922782.54 -33922782.45 0.0525 0.0482
 Pluto -97589-08-19 21:20 J -33922727.73 -33922727.61 -33922727.45 0.0082 0.0062
 Pluto -97588-04-02 07:54 J -33922502.38 -33922502.17 -33922501.96 0.0082 0.0012
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 Saturn -97583-09-02 10:18 J -33920523.28 -33920523.07 -33920522.86 0.0274 0.0041
 Saturn -97582-04-19 16:47 J -33920293.93 -33920293.80 -33920293.65 0.0274 0.0204
 Neptune -97580-09-05 10:32 J -33919424.09 -33919424.06 -33919423.99 0.0088 0.0086
 Neptune -97579-04-19 00:27 J -33919198.58 -33919198.48 -33919198.34 0.0088 0.0075
 Neptune -97579-11-30 14:23 J -33918973.04 -33918972.90 -33918972.73 0.0088 0.0064
 Neptune -97578-07-14 04:03 J -33918747.50 -33918747.33 -33918747.14 0.0088 0.0053
 Neptune -97577-02-24 17:44 J -33918521.95 -33918521.76 -33918521.55 0.0088 0.0041
 Jupiter -97577-02-29 13:11 J -33918517.16 -33918516.95 -33918516.75 0.0522 0.0011
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 Neptune -97571-12-10 21:49 J -33916040.67 -33916040.59 -33916040.48 0.0088 0.0080
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 Saturn -97568-09-27 14:51 J -33915019.06 -33915018.88 -33915018.70 0.0285 0.0154
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 Jupiter -97566-11-04 02:51 J -33914251.47 -33914251.38 -33914251.28 0.0519 0.0460
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 Saturn -97553-03-14 13:25 J -33909737.15 -33909736.94 -33909736.73 0.0273 0.0008
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 Uranus -97549-10-08 07:25 J -33908068.33 -33908068.19 -33908068.02 0.0145 0.0100
 Jupiter -97548-05-16 09:35 J -33907848.29 -33907848.10 -33907847.90 0.0506 0.0053
 Uranus -97548-05-22 18:42 J -33907841.93 -33907841.72 -33907841.50 0.0145 0.0028
 Uranus -97547-01-04 05:59 J -33907615.45 -33907615.25 -33907615.04 0.0145 0.0045
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 Moon -97546-08-05 19:25 J -33907036.84 -33907036.69 -33907036.54 0.2674 0.0062
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 Saturn -97538-04-09 17:15 J -33904232.93 -33904232.78 -33904232.61 0.0286 0.0185
 Mars -97538-11-23 23:30 J -33904004.68 -33904004.52 -33904004.35 0.1639 0.0524
 Jupiter -97536-01-19 10:18 J -33903582.14 -33903582.07 -33903581.98 0.0509 0.0464
 Jupiter -97530-07-12 20:37 J -33901216.83 -33901216.64 -33901216.45 0.0520 0.0186
 Saturn -97524-02-07 12:56 J -33899180.08 -33899179.96 -33899179.82 0.0274 0.0218
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Saturn -97523-05-12 02:51 J -33898721.39 -33898721.38 -33898721.36 0.0274 0.0273
 Jupiter -97512-01-21 18:13 J -33894813.93 -33894813.74 -33894813.55 0.0505 0.0173
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 Uranus -97508-01-29 15:06 J -33893345.07 -33893344.87 -33893344.65 0.0134 0.0043
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 Saturn -97494-04-07 00:27 J -33888164.68 -33888164.48 -33888164.27 0.0273 0.0064
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 Neptune -97493-09-25 22:32 J -33887626.78 -33887626.56 -33887626.35 0.0089 0.0005
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 Neptune -97490-10-28 12:56 J -33886499.13 -33886498.96 -33886498.77 0.0089 0.0050
 Neptune -97489-06-10 01:39 J -33886273.58 -33886273.43 -33886273.26 0.0089 0.0061
 Neptune -97488-01-21 14:08 J -33886048.02 -33886047.91 -33886047.77 0.0089 0.0072

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 Jupiter -97483-11-23 02:51 J -33883916.52 -33883916.38 -33883916.24 0.0520 0.0386
 Saturn -97480-09-14 14:37 J -33882890.10 -33882889.89 -33882889.67 0.0286 0.0016
 Saturn -97479-05-02 07:39 J -33882660.25 -33882660.18 -33882660.10 0.0286 0.0267
 Jupiter -97477-09-29 05:01 J -33881779.40 -33881779.29 -33881779.17 0.0504 0.0409
 Mars -97472-09-20 11:15 J -33879962.19 -33879962.03 -33879961.88 0.1638 0.0701
 Mars -97469-07-05 15:06 J -33878942.90 -33878942.87 -33878942.83 0.1878 0.1832
 Saturn -97465-03-01 23:59 J -33877607.67 -33877607.50 -33877607.32 0.0274 0.0147
 Jupiter -97465-06-04 04:47 J -33877513.50 -33877513.30 -33877513.10 0.0507 0.0004
 Uranus -97465-06-07 13:25 J -33877510.01 -33877509.94 -33877509.87 0.0145 0.0136
 Saturn -97465-10-17 07:11 J -33877378.40 -33877378.20 -33877378.00 0.0274 0.0100
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 Jupiter -97459-11-26 03:06 J -33875147.52 -33875147.37 -33875147.21 0.0523 0.0344
 Jupiter -97453-02-08 05:44 J -33873247.37 -33873247.26 -33873247.14 0.0509 0.0415
 Saturn -97451-08-10 10:32 J -33872333.17 -33872333.06 -33872332.94 0.0286 0.0241
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 Jupiter -97447-07-31 15:49 J -33870882.04 -33870881.84 -33870881.64 0.0521 0.0136
 Mars -97440-09-19 06:27 J -33868275.39 -33868275.23 -33868275.07 0.1643 0.0715
 Saturn -97436-09-12 05:30 J -33866821.46 -33866821.27 -33866821.07 0.0273 0.0109
 Saturn -97435-04-29 12:13 J -33866592.17 -33866591.99 -33866591.80 0.0273 0.0137
 Mars -97435-05-02 23:15 J -33866588.65 -33866588.53 -33866588.39 0.1889 0.1249
 Pluto -97432-10-24 04:32 J -33865318.40 -33865318.31 -33865318.17 0.0062 0.0053
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 Pluto -97430-08-30 17:15 J -33864642.90 -33864642.78 -33864642.63 0.0063 0.0050
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 Uranus -97425-02-15 17:01 J -33863012.83 -33863012.79 -33863012.71 0.0134 0.0129
 Uranus -97425-09-28 23:44 J -33862786.68 -33862786.51 -33862786.31 0.0134 0.0071

Uranus -97424-05-13 06:27 J -33862560.45 -33862560.23 -33862560.01 0.0134 0.0013
 Uranus -97424-12-25 12:27 J -33862334.19 -33862333.98 -33862333.77 0.0133 0.0044
 Uranus -97423-08-08 17:44 J -33862107.88 -33862107.76 -33862107.60 0.0133 0.0100
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 Saturn -97421-10-07 05:30 J -33861317.48 -33861317.27 -33861317.07 0.0286 0.0069
 Jupiter -97418-10-16 17:30 J -33860212.96 -33860212.77 -33860212.58 0.0507 0.0171
 Neptune -97416-12-07 21:20 J -33859429.61 -33859429.61 -33859429.57 0.0088 0.0088
 Neptune -97415-07-21 11:30 J -33859204.12 -33859204.02 -33859203.91 0.0088 0.0077
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 Neptune -97414-10-15 14:51 J -33858753.05 -33858752.88 -33858752.69 0.0088 0.0055
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 Neptune -97412-08-22 07:54 J -33858076.38 -33858076.17 -33858075.95 0.0088 0.0021
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 Neptune -97411-11-16 11:30 J -33857625.25 -33857625.02 -33857624.80 0.0088 0.0002
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 Neptune -97408-12-18 06:42 J -33856497.38 -33856497.22 -33856497.04 0.0088 0.0057
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 Neptune -97406-03-14 09:06 J -33856046.20 -33856046.12 -33856046.00 0.0088 0.0079
 Saturn -97406-03-25 11:15 J -33856035.23 -33856035.03 -33856034.82 0.0274 0.0074
 Mars -97406-07-18 23:01 J -33855919.69 -33855919.54 -33855919.39 0.1636 0.0877
 Saturn -97406-11-09 17:59 J -33855805.91 -33855805.75 -33855805.58 0.0274 0.0173
 Mars -97403-05-02 19:39 J -33854900.80 -33854900.68 -33854900.57 0.1881 0.1379
 Jupiter -97400-12-12 00:13 J -33853581.65 -33853581.49 -33853581.33 0.0519 0.0324
 Jupiter -97394-10-19 00:27 J -33851444.56 -33851444.48 -33851444.39 0.0504 0.0458
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Saturn -97391-04-19 17:30 J -33850530.96 -33850530.77 -33850530.58 0.0285 0.0124
 Moon -97384-01-26 04:32 J -33848057.47 -33848057.31 -33848057.15 0.2667 0.0532
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 Uranus -97380-12-16 04:32 J -33846272.51 -33846272.31 -33846272.10 0.0145 0.0042
 Uranus -97379-07-30 15:49 J -33846045.96 -33846045.84 -33846045.70 0.0146 0.0115
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 Jupiter -97376-12-14 23:30 J -33844812.65 -33844812.52 -33844812.39 0.0524 0.0399
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 Jupiter -97370-02-27 04:18 J -33842912.46 -33842912.32 -33842912.17 0.0509 0.0348
 Mars -97369-02-28 02:51 J -33842546.44 -33842546.38 -33842546.32 0.1892 0.1753
 Jupiter -97364-08-19 15:06 J -33840547.07 -33840546.87 -33840546.66 0.0521 0.0063
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 Saturn -97347-12-02 05:01 J -33834233.38 -33834233.29 -33834233.19 0.0274 0.0245
 Jupiter -97346-03-01 11:30 J -33834144.19 -33834144.02 -33834143.86 0.0505 0.0284
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 Uranus -97340-01-10 15:06 J -33832002.07 -33832001.87 -33832001.65 0.0134 0.0042
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 Mars -97340-05-15 11:01 J -33831877.18 -33831877.04 -33831876.91 0.1634 0.1049
 Uranus -97340-08-24 21:35 J -33831775.82 -33831775.60 -33831775.38 0.0133 0.0016
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 Mars -97337-02-27 23:59 J -33830858.65 -33830858.50 -33830858.35 0.1883 0.0925

Jupiter -97335-11-04 12:56 J -33829878.16 -33829877.96 -33829877.77 0.0508 0.0124
 Neptune -97333-09-01 19:39 J -33829210.74 -33829210.68 -33829210.58 0.0089 0.0083
 Saturn -97333-09-24 14:37 J -33829188.09 -33829187.89 -33829187.69 0.0286 0.0076
 Neptune -97332-04-15 08:08 J -33828985.27 -33828985.16 -33828985.02 0.0089 0.0072
 Saturn -97332-05-12 07:11 J -33828958.33 -33828958.20 -33828958.04 0.0285 0.0208
 Neptune -97332-11-26 20:23 J -33828759.79 -33828759.65 -33828759.48 0.0089 0.0061
 Neptune -97331-07-10 08:51 J -33828534.30 -33828534.13 -33828533.94 0.0089 0.0050
 Neptune -97330-02-20 21:20 J -33828308.80 -33828308.61 -33828308.42 0.0089 0.0039
 Neptune -97330-10-04 09:49 J -33828083.29 -33828083.09 -33828082.89 0.0089 0.0028
 Neptune -97329-05-16 22:03 J -33827857.79 -33827857.58 -33827857.36 0.0089 0.0018
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 Jupiter -97328-04-27 04:32 J -33827512.50 -33827512.31 -33827512.11 0.0522 0.0192
 Neptune -97328-08-10 22:47 J -33827406.76 -33827406.55 -33827406.33 0.0089 0.0005
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 Neptune -97327-11-04 23:59 J -33826955.71 -33826955.50 -33826955.29 0.0089 0.0026
 Neptune -97326-06-18 12:27 J -33826730.18 -33826729.98 -33826729.78 0.0089 0.0037
 Neptune -97325-01-30 00:56 J -33826504.64 -33826504.46 -33826504.28 0.0089 0.0048
 Neptune -97325-09-11 12:56 J -33826279.09 -33826278.96 -33826278.77 0.0089 0.0060
 Neptune -97324-04-25 01:39 J -33826053.54 -33826053.43 -33826053.27 0.0089 0.0071
 Neptune -97324-12-06 14:23 J -33825827.96 -33825827.90 -33825827.79 0.0089 0.0082
 Saturn -97318-03-12 22:18 J -33823905.70 -33823905.57 -33823905.43 0.0273 0.0208
 Saturn -97318-10-28 05:15 J -33823676.49 -33823676.28 -33823676.07 0.0273 0.0039
 Jupiter -97317-12-30 19:54 J -33823246.84 -33823246.67 -33823246.49 0.0520 0.0272
 Mars -97308-05-14 05:44 J -33820190.43 -33820190.26 -33820190.09 0.1639 0.0351
 Saturn -97303-04-06 16:32 J -33818402.01 -33818401.81 -33818401.60 0.0286 0.0049
 Earth -97303-08-06 01:11 J -33818280.60 -33818280.45 -33818280.29 0.2668 0.0275
 Moon -97303-08-06 06:42 J -33818280.38 -33818280.22 -33818280.06 0.2667 0.0540 *
 Saturn -97303-11-22 09:20 J -33818172.22 -33818172.11 -33818171.98 0.0286 0.0236
 Jupiter -97299-07-13 00:42 J -33816843.66 -33816843.47 -33816843.27 0.0506 0.0122
 Uranus -97297-05-19 12:13 J -33816167.04 -33816166.99 -33816166.92 0.0145 0.0138

Uranus	-97297-12-31 23:01 J	-33815940.72	-33815940.54	-33815940.34	0.0145	0.0067
Uranus	-97296-08-15 10:18 J	-33815714.28	-33815714.07	-33815713.85	0.0145	0.0005
Uranus	-97295-03-29 21:35 J	-33815487.78	-33815487.60	-33815487.41	0.0145	0.0078
Jupiter	-97292-01-02 23:30 J	-33814477.60	-33814477.52	-33814477.43	0.0524	0.0478
Saturn	-97289-09-22 01:39 J	-33813119.58	-33813119.43	-33813119.26	0.0273	0.0178
Saturn	-97288-05-09 09:06 J	-33812890.32	-33812890.12	-33812889.91	0.0274	0.0071
Jupiter	-97287-03-17 23:59 J	-33812577.66	-33812577.50	-33812577.34	0.0509	0.0299
Jupiter	-97281-09-07 13:39 J	-33810212.14	-33810211.93	-33810211.72	0.0521	0.0005
Saturn	-97274-03-02 10:47 J	-33807845.08	-33807845.05	-33807845.00	0.0286	0.0279
Mars	-97274-03-12 22:47 J	-33807834.66	-33807834.55	-33807834.43	0.1633	0.1222
Saturn	-97274-10-18 03:20 J	-33807615.58	-33807615.36	-33807615.15	0.0286	0.0006
Mars	-97272-12-25 04:03 J	-33806816.49	-33806816.33	-33806816.16	0.1886	0.0451
Jupiter	-97269-05-13 01:54 J	-33805946.50	-33805946.42	-33805946.33	0.0518	0.0471
Jupiter	-97263-03-20 10:32 J	-33803809.20	-33803809.06	-33803808.92	0.0505	0.0353
Saturn	-97259-04-04 09:35 J	-33802333.28	-33802333.10	-33802332.91	0.0273	0.0136
Saturn	-97259-11-19 16:18 J	-33802104.01	-33802103.82	-33802103.62	0.0273	0.0112
Uranus	-97257-01-27 17:15 J	-33801669.83	-33801669.78	-33801669.70	0.0134	0.0128
Uranus	-97257-09-09 23:59 J	-33801443.68	-33801443.50	-33801443.30	0.0134	0.0070
Uranus	-97256-04-24 06:42 J	-33801217.44	-33801217.22	-33801217.00	0.0134	0.0012
Uranus	-97256-12-06 12:42 J	-33800991.17	-33800990.97	-33800990.76	0.0133	0.0045
Uranus	-97255-07-20 18:13 J	-33800764.87	-33800764.74	-33800764.58	0.0133	0.0101
Jupiter	-97252-11-23 12:27 J	-33799543.18	-33799542.98	-33799542.78	0.0507	0.0050
Neptune	-97251-10-22 21:49 J	-33799209.67	-33799209.59	-33799209.47	0.0088	0.0080
Neptune	-97250-06-05 11:30 J	-33798984.14	-33798984.02	-33798983.86	0.0088	0.0069
Neptune	-97249-01-17 01:39 J	-33798758.60	-33798758.43	-33798758.26	0.0088	0.0057
Neptune	-97249-08-29 15:06 J	-33798533.05	-33798532.87	-33798532.67	0.0088	0.0046
Neptune	-97248-04-12 04:47 J	-33798307.49	-33798307.30	-33798307.08	0.0088	0.0035
Neptune	-97248-11-23 18:27 J	-33798081.93	-33798081.73	-33798081.50	0.0088	0.0024
Neptune	-97247-07-07 08:08 J	-33797856.37	-33797856.16	-33797855.93	0.0088	0.0012
Neptune	-97246-02-17 21:49 J	-33797630.81	-33797630.59	-33797630.36	0.0088	0.0001

Neptune -97246-10-01 11:30 J -33797405.24 -33797405.02 -33797404.80 0.0088 0.0011
 Neptune -97245-05-14 00:56 J -33797179.67 -33797179.46 -33797179.24 0.0088 0.0022
 Jupiter -97245-05-16 04:47 J -33797177.48 -33797177.30 -33797177.13 0.0523 0.0269
 Saturn -97245-09-11 12:27 J -33797059.07 -33797058.98 -33797058.88 0.0286 0.0253
 Neptune -97245-12-25 14:37 J -33796954.10 -33796953.89 -33796953.68 0.0088 0.0033
 Saturn -97244-04-29 04:47 J -33796829.51 -33796829.30 -33796829.09 0.0286 0.0030
 Neptune -97244-08-08 03:35 J -33796728.52 -33796728.35 -33796728.14 0.0088 0.0045
 Neptune -97243-03-21 17:01 J -33796502.94 -33796502.79 -33796502.59 0.0088 0.0056
 Neptune -97243-11-02 06:27 J -33796277.35 -33796277.23 -33796277.06 0.0088 0.0067
 Mars -97242-03-11 17:30 J -33796147.95 -33796147.77 -33796147.60 0.1638 0.0171
 Neptune -97242-06-15 19:54 J -33796051.76 -33796051.67 -33796051.55 0.0088 0.0078
 Neptune -97241-01-27 09:20 J -33795826.11 -33795826.11 -33795826.09 0.0088 0.0088
 Jupiter -97240-07-29 13:11 J -33795277.02 -33795276.95 -33795276.86 0.0510 0.0463
 Jupiter -97233-01-19 20:37 J -33792911.83 -33792911.64 -33792911.44 0.0520 0.0192
 Saturn -97230-10-15 12:13 J -33791547.19 -33791546.99 -33791546.79 0.0273 0.0106
 Saturn -97229-05-31 19:11 J -33791317.88 -33791317.70 -33791317.52 0.0273 0.0142
 Jupiter -97216-07-31 21:06 J -33786508.80 -33786508.62 -33786508.43 0.0506 0.0177
 Saturn -97215-03-24 21:35 J -33786272.74 -33786272.60 -33786272.45 0.0286 0.0204
 Saturn -97215-11-09 14:08 J -33786043.11 -33786042.91 -33786042.70 0.0286 0.0080
 Uranus -97213-08-31 05:01 J -33785382.43 -33785382.29 -33785382.13 0.0145 0.0104
 Uranus -97212-04-14 16:18 J -33785156.03 -33785155.82 -33785155.61 0.0145 0.0032
 Uranus -97212-11-27 03:35 J -33784929.55 -33784929.35 -33784929.14 0.0145 0.0041
 Uranus -97211-07-11 14:51 J -33784703.00 -33784702.88 -33784702.73 0.0146 0.0114
 Mars -97210-03-10 12:56 J -33784460.99 -33784460.96 -33784460.93 0.1643 0.1605
 Mars -97208-01-07 11:01 J -33783792.13 -33783792.04 -33783791.95 0.1631 0.1390
 Mars -97206-10-22 08:23 J -33782774.32 -33782774.15 -33782773.97 0.1889 0.0054
 Jupiter -97204-04-05 23:30 J -33782242.70 -33782242.52 -33782242.34 0.0509 0.0227
 Saturn -97200-04-26 20:08 J -33780760.87 -33780760.66 -33780760.46 0.0273 0.0065
 Saturn -97200-12-12 02:23 J -33780531.55 -33780531.40 -33780531.24 0.0273 0.0183
 Jupiter -97198-09-27 09:49 J -33779877.29 -33779877.09 -33779876.88 0.0521 0.0062

Jupiter -97186-06-02 02:23 J -33775611.54 -33775611.40 -33775611.27 0.0519 0.0394
 Saturn -97186-10-04 23:15 J -33775486.69 -33775486.53 -33775486.36 0.0286 0.0178
 Saturn -97185-05-21 15:35 J -33775257.04 -33775256.85 -33775256.65 0.0286 0.0107
 Pluto -97184-09-26 15:20 J -33774763.99 -33774763.86 -33774763.71 0.0062 0.0049
 Pluto -97183-05-09 19:39 J -33774538.90 -33774538.68 -33774538.46 0.0062 0.0015
 Pluto -97183-12-20 23:30 J -33774313.73 -33774313.52 -33774313.29 0.0063 0.0020
 Pluto -97182-08-03 03:06 J -33774088.45 -33774088.37 -33774088.22 0.0063 0.0055
 Jupiter -97180-04-08 09:35 J -33773474.20 -33773474.10 -33773473.99 0.0504 0.0422
 Mars -97176-01-06 05:15 J -33772105.45 -33772105.28 -33772105.10 0.1636 0.0023
 Uranus -97173-05-10 09:20 J -33770885.25 -33770885.11 -33770884.95 0.0134 0.0098
 Uranus -97173-12-22 15:49 J -33770659.04 -33770658.84 -33770658.62 0.0134 0.0041
 Uranus -97172-08-05 22:03 J -33770432.79 -33770432.58 -33770432.35 0.0133 0.0018
 Uranus -97171-03-20 03:49 J -33770206.51 -33770206.34 -33770206.14 0.0133 0.0075
 Uranus -97171-11-01 09:35 J -33769980.13 -33769980.10 -33769980.04 0.0133 0.0130
 Saturn -97171-11-06 21:35 J -33769974.81 -33769974.60 -33769974.39 0.0273 0.0038
 Saturn -97170-06-24 04:03 J -33769745.46 -33769745.33 -33769745.19 0.0273 0.0210
 Neptune -97169-12-04 07:25 J -33769216.24 -33769216.19 -33769216.12 0.0089 0.0085
 Jupiter -97169-12-12 09:35 J -33769208.30 -33769208.10 -33769207.90 0.0507 0.0009
 Neptune -97168-07-17 19:25 J -33768990.79 -33768990.69 -33768990.55 0.0089 0.0075
 Neptune -97167-02-28 07:39 J -33768765.31 -33768765.18 -33768765.01 0.0089 0.0064
 Neptune -97167-10-11 20:08 J -33768539.81 -33768539.66 -33768539.47 0.0089 0.0053
 Neptune -97166-05-25 08:37 J -33768314.32 -33768314.14 -33768313.94 0.0089 0.0042
 Neptune -97165-01-05 20:51 J -33768088.82 -33768088.63 -33768088.41 0.0089 0.0031
 Neptune -97165-08-18 09:20 J -33767863.31 -33767863.11 -33767862.89 0.0089 0.0020
 Neptune -97164-03-31 21:49 J -33767637.80 -33767637.59 -33767637.37 0.0089 0.0009
 Neptune -97164-11-12 10:32 J -33767412.28 -33767412.06 -33767411.85 0.0089 0.0003
 Neptune -97163-06-25 22:47 J -33767186.76 -33767186.55 -33767186.33 0.0089 0.0013
 Neptune -97162-02-06 11:15 J -33766961.24 -33766961.03 -33766960.82 0.0089 0.0024
 Jupiter -97162-06-05 05:01 J -33766842.45 -33766842.29 -33766842.14 0.0523 0.0347
 Neptune -97162-09-19 23:30 J -33766735.71 -33766735.52 -33766735.31 0.0089 0.0036

Neptune -97161-05-02 11:59 J -33766510.17 -33766510.00 -33766509.80 0.0089 0.0047
 Neptune -97161-12-14 00:27 J -33766284.63 -33766284.48 -33766284.30 0.0089 0.0058
 Neptune -97160-07-27 12:56 J -33766059.08 -33766058.96 -33766058.81 0.0089 0.0069
 Neptune -97159-03-10 01:25 J -33765833.51 -33765833.44 -33765833.32 0.0089 0.0080
 Jupiter -97157-08-17 10:32 J -33764942.18 -33764942.06 -33764941.94 0.0510 0.0405
 Saturn -97156-04-16 06:56 J -33764700.40 -33764700.21 -33764700.03 0.0286 0.0133
 Saturn -97156-12-01 23:30 J -33764470.69 -33764470.52 -33764470.34 0.0286 0.0153
 Jupiter -97150-02-07 16:47 J -33762577.00 -33762576.80 -33762576.60 0.0520 0.0135
 Mars -97144-01-05 00:13 J -33760418.57 -33760418.49 -33760418.40 0.1641 0.1420
 Mars -97143-11-04 22:47 J -33759749.59 -33759749.55 -33759749.50 0.1629 0.1565
 Saturn -97142-10-02 22:03 J -33759417.66 -33759417.58 -33759417.48 0.0273 0.0246
 Earth -97141-01-27 09:49 J -33759301.23 -33759301.09 -33759300.94 0.2673 0.1120
 Moon -97141-01-27 13:39 J -33759301.06 -33759300.93 -33759300.80 0.2679 0.1349 *
 Saturn -97141-05-19 05:30 J -33759188.48 -33759188.27 -33759188.06 0.0273 0.0004
 Saturn -97140-01-03 11:30 J -33758959.09 -33758959.02 -33758958.93 0.0273 0.0251
 Mars -97140-08-18 11:44 J -33758732.18 -33758732.01 -33758731.85 0.1891 0.0540
 Moon -97133-01-25 06:27 J -33756381.28 -33756381.23 -33756381.18 0.2678 0.2533
 Jupiter -97133-08-19 22:03 J -33756173.75 -33756173.58 -33756173.41 0.0506 0.0257
 Uranus -97129-04-30 11:59 J -33754824.05 -33754824.00 -33754823.94 0.0145 0.0139
 Uranus -97129-12-12 22:47 J -33754597.73 -33754597.55 -33754597.35 0.0145 0.0068
 Uranus -97128-07-27 10:03 J -33754371.30 -33754371.08 -33754370.87 0.0145 0.0005
 Uranus -97127-03-10 21:20 J -33754144.79 -33754144.61 -33754144.43 0.0145 0.0077
 Saturn -97127-10-27 08:23 J -33753914.34 -33753914.15 -33753913.95 0.0286 0.0107
 Saturn -97126-06-14 00:56 J -33753684.62 -33753684.46 -33753684.29 0.0286 0.0180
 Jupiter -97121-04-24 23:44 J -33751907.70 -33751907.51 -33751907.31 0.0508 0.0151
 Jupiter -97115-10-16 12:13 J -33749542.19 -33749541.99 -33749541.79 0.0522 0.0151
 Saturn -97112-04-13 22:32 J -33748631.68 -33748631.56 -33748631.43 0.0273 0.0221
 Saturn -97112-11-29 05:44 J -33748402.47 -33748402.26 -33748402.04 0.0273 0.0029
 Mars -97111-11-03 16:47 J -33748062.98 -33748062.80 -33748062.63 0.1634 0.0197
 Jupiter -97103-06-21 03:35 J -33745276.51 -33745276.35 -33745276.18 0.0519 0.0312

Jupiter -97097-04-27 07:39 J -33743139.23 -33743139.18 -33743139.12 0.0504 0.0485
 Saturn -97097-05-08 14:37 J -33743128.09 -33743127.89 -33743127.68 0.0286 0.0065
 Saturn -97097-12-24 07:39 J -33742898.31 -33742898.18 -33742898.04 0.0286 0.0223
 Pluto -97093-06-25 23:01 J -33741618.73 -33741618.54 -33741618.34 0.0082 0.0034
 Pluto -97092-02-06 08:51 J -33741393.30 -33741393.13 -33741392.93 0.0082 0.0039
 Uranus -97089-01-08 18:27 J -33740326.78 -33740326.73 -33740326.63 0.0134 0.0126
 Uranus -97089-08-22 01:11 J -33740100.62 -33740100.45 -33740100.24 0.0134 0.0068
 Uranus -97088-04-05 07:54 J -33739874.39 -33739874.17 -33739873.95 0.0134 0.0010
 Uranus -97088-11-17 13:54 J -33739648.12 -33739647.92 -33739647.71 0.0133 0.0047
 Uranus -97087-07-01 19:25 J -33739421.81 -33739421.69 -33739421.54 0.0133 0.0104
 Neptune -97086-01-24 07:39 J -33739215.24 -33739215.18 -33739215.08 0.0088 0.0083
 Neptune -97086-09-06 21:49 J -33738989.72 -33738989.59 -33738989.45 0.0088 0.0071
 Jupiter -97085-01-01 10:03 J -33738873.27 -33738873.08 -33738872.88 0.0507 0.0088
 Neptune -97085-04-19 11:30 J -33738764.17 -33738764.02 -33738763.84 0.0088 0.0060
 Neptune -97085-12-01 01:11 J -33738538.63 -33738538.45 -33738538.25 0.0088 0.0049
 Neptune -97084-07-14 14:37 J -33738313.07 -33738312.89 -33738312.67 0.0088 0.0038
 Neptune -97083-02-25 04:47 J -33738087.52 -33738087.30 -33738087.09 0.0088 0.0026
 Neptune -97083-10-08 18:13 J -33737861.96 -33737861.74 -33737861.51 0.0088 0.0015
 Saturn -97083-10-25 06:42 J -33737845.38 -33737845.22 -33737845.06 0.0273 0.0180
 Neptune -97082-05-22 07:54 J -33737636.39 -33737636.17 -33737635.94 0.0088 0.0003
 Saturn -97082-06-11 13:39 J -33737616.13 -33737615.93 -33737615.72 0.0273 0.0070
 Neptune -97081-01-02 21:20 J -33737410.82 -33737410.61 -33737410.38 0.0088 0.0009
 Neptune -97081-08-15 11:01 J -33737185.26 -33737185.04 -33737184.82 0.0088 0.0019
 Neptune -97080-03-29 00:42 J -33736959.68 -33736959.47 -33736959.26 0.0088 0.0031
 Neptune -97080-11-09 13:54 J -33736734.10 -33736733.92 -33736733.71 0.0088 0.0042
 Neptune -97079-06-23 03:20 J -33736508.52 -33736508.36 -33736508.17 0.0088 0.0054
 Jupiter -97079-06-24 02:08 J -33736507.53 -33736507.41 -33736507.28 0.0523 0.0411
 Mars -97079-11-02 11:44 J -33736376.12 -33736376.01 -33736375.89 0.1639 0.1234
 Neptune -97078-02-03 16:47 J -33736282.94 -33736282.80 -33736282.63 0.0088 0.0065
 Neptune -97078-09-17 06:13 J -33736057.34 -33736057.24 -33736057.11 0.0088 0.0076

Neptune -97077-04-29 19:39 J -33735831.70 -33735831.68 -33735831.62 0.0088 0.0087
 Mars -97074-06-15 15:35 J -33734690.00 -33734689.85 -33734689.71 0.1894 0.1035
 Jupiter -97074-09-06 11:59 J -33734607.15 -33734607.00 -33734606.84 0.0510 0.0321
 Saturn -97068-11-18 16:18 J -33732342.03 -33732341.82 -33732341.61 0.0286 0.0038
 Jupiter -97067-02-26 18:13 J -33732241.95 -33732241.74 -33732241.53 0.0521 0.0051
 Saturn -97067-07-06 09:06 J -33732112.22 -33732112.12 -33732112.02 0.0286 0.0249
 Moon -97060-08-05 21:35 J -33729524.76 -33729524.60 -33729524.44 0.2664 0.0054
 Earth -97060-08-06 03:06 J -33729524.53 -33729524.37 -33729524.21 0.2664 0.0293 *
 Jupiter -97056-11-01 11:15 J -33727976.07 -33727976.03 -33727975.98 0.0518 0.0502
 Saturn -97053-05-06 06:27 J -33727059.40 -33727059.23 -33727059.05 0.0273 0.0156
 Saturn -97053-12-21 13:25 J -33726830.13 -33726829.94 -33726829.73 0.0273 0.0094
 Jupiter -97050-09-08 20:51 J -33725838.78 -33725838.63 -33725838.47 0.0505 0.0325
 Uranus -97045-08-12 05:01 J -33724039.43 -33724039.29 -33724039.13 0.0145 0.0104
 Mars -97045-08-31 04:32 J -33724020.48 -33724020.31 -33724020.14 0.1632 0.0370
 Uranus -97044-03-26 16:03 J -33723813.03 -33723812.83 -33723812.62 0.0145 0.0032
 Uranus -97044-11-08 03:20 J -33723586.56 -33723586.36 -33723586.15 0.0145 0.0041
 Uranus -97043-06-22 14:37 J -33723360.01 -33723359.89 -33723359.74 0.0146 0.0114
 Mars -97042-06-15 12:27 J -33723002.06 -33723001.98 -33723001.90 0.1886 0.1665
 Saturn -97039-10-14 05:15 J -33721785.30 -33721785.28 -33721785.26 0.0286 0.0284
 Jupiter -97038-05-14 22:32 J -33721572.76 -33721572.56 -33721572.36 0.0508 0.0084
 Saturn -97038-05-31 21:20 J -33721555.82 -33721555.61 -33721555.39 0.0286 0.0006
 Jupiter -97032-11-04 10:03 J -33719207.27 -33719207.08 -33719206.89 0.0522 0.0218
 Jupiter -97026-01-17 23:44 J -33717306.56 -33717306.51 -33717306.46 0.0511 0.0496
 Saturn -97024-11-16 14:08 J -33716273.09 -33716272.91 -33716272.71 0.0273 0.0117
 Saturn -97023-07-03 20:51 J -33716043.81 -33716043.63 -33716043.44 0.0273 0.0134
 Jupiter -97020-07-10 01:25 J -33714941.62 -33714941.44 -33714941.25 0.0519 0.0245
 Mars -97013-08-29 23:15 J -33712333.66 -33712333.53 -33712333.40 0.1637 0.1044
 Saturn -97009-04-25 07:39 J -33710999.27 -33710999.18 -33710999.09 0.0286 0.0256
 Saturn -97009-12-10 23:44 J -33710769.72 -33710769.51 -33710769.30 0.0286 0.0030
 Mars -97008-04-11 18:42 J -33710647.82 -33710647.72 -33710647.62 0.1896 0.1556

Uranus	-97005-04-21 11:30 J	-33709542.16	-33709542.02	-33709541.85	0.0134	0.0094
Uranus	-97005-12-03 18:13 J	-33709315.95	-33709315.74	-33709315.53	0.0134	0.0036
Neptune	-97004-03-07 18:42 J	-33709221.74	-33709221.72	-33709221.69	0.0089	0.0088
Uranus	-97004-07-18 00:13 J	-33709089.70	-33709089.49	-33709089.27	0.0133	0.0021
Neptune	-97004-10-19 07:11 J	-33708996.30	-33708996.20	-33708996.09	0.0089	0.0077
Uranus	-97003-03-01 05:44 J	-33708863.42	-33708863.26	-33708863.07	0.0133	0.0079
Neptune	-97003-06-01 18:56 J	-33708770.83	-33708770.71	-33708770.54	0.0089	0.0067
Neptune	-97002-01-13 07:11 J	-33708545.34	-33708545.20	-33708545.01	0.0089	0.0056
Jupiter	-97002-01-20 11:30 J	-33708538.21	-33708538.02	-33708537.83	0.0507	0.0169
Neptune	-97002-08-26 20:08 J	-33708319.85	-33708319.66	-33708319.47	0.0089	0.0044
Neptune	-97001-04-08 08:08 J	-33708094.35	-33708094.16	-33708093.95	0.0089	0.0034
Neptune	-97001-11-19 20:51 J	-33707868.84	-33707868.63	-33707868.42	0.0089	0.0022

97TH MILLENNIUM BCE

This is a list of transits of Venus in the 97th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-97000-07-03 09:06 J	-33707643.33	-33707643.12	-33707642.90	0.0089	0.0011		
Neptune	-96999-02-13 21:35 J	-33707417.82	-33707417.60	-33707417.38	0.0089	0.0000		
Neptune	-96999-09-27 10:03 J	-33707192.29	-33707192.08	-33707191.86	0.0089	0.0011		
Neptune	-96998-05-10 22:32 J	-33706966.77	-33706966.56	-33706966.35	0.0089	0.0022		
Neptune	-96998-12-22 10:32 J	-33706741.25	-33706741.06	-33706740.84	0.0089	0.0034		
Neptune	-96997-08-03 22:47 J	-33706515.71	-33706515.55	-33706515.34	0.0089	0.0045		
Neptune	-96996-03-17 11:15 J	-33706290.17	-33706290.03	-33706289.84	0.0089	0.0056		

Jupiter -96996-07-13 05:30 J -33706172.32 -33706172.27 -33706172.22 0.0524 0.0506
 Neptune -96996-10-28 23:59 J -33706064.62 -33706064.50 -33706064.34 0.0089 0.0067
 Neptune -96995-06-11 12:27 J -33705839.06 -33705838.98 -33705838.85 0.0089 0.0078
 Neptune -96994-01-23 01:11 J -33705613.45 -33705613.45 -33705613.43 0.0089 0.0089
 Saturn -96994-05-29 13:39 J -33705487.13 -33705486.93 -33705486.73 0.0273 0.0093
 Saturn -96993-01-13 20:23 J -33705257.82 -33705257.65 -33705257.47 0.0273 0.0157
 Jupiter -96991-09-25 11:44 J -33704272.18 -33704272.01 -33704271.83 0.0509 0.0248
 Jupiter -96984-03-17 20:51 J -33701906.83 -33701906.63 -33701906.42 0.0521 0.0041
 Saturn -96980-11-05 11:15 J -33700213.16 -33700213.03 -33700212.90 0.0286 0.0221
 Saturn -96979-06-23 03:35 J -33699983.55 -33699983.35 -33699983.14 0.0286 0.0066
 Mars -96979-06-28 16:32 J -33699977.98 -33699977.81 -33699977.65 0.1631 0.0548
 Mars -96976-04-11 16:18 J -33698959.96 -33698959.82 -33698959.69 0.1889 0.1177
 Jupiter -96973-11-20 10:18 J -33697641.18 -33697641.07 -33697640.96 0.0517 0.0430
 Jupiter -96967-09-27 21:49 J -33695503.71 -33695503.59 -33695503.47 0.0506 0.0405
 Saturn -96965-12-08 21:35 J -33694700.81 -33694700.60 -33694700.39 0.0273 0.0053
 Saturn -96964-07-26 04:03 J -33694471.47 -33694471.33 -33694471.18 0.0273 0.0198
 Uranus -96961-04-11 11:59 J -33693481.05 -33693481.00 -33693480.93 0.0145 0.0139
 Uranus -96961-11-23 22:47 J -33693254.73 -33693254.55 -33693254.35 0.0145 0.0068
 Uranus -96960-07-08 10:03 J -33693028.30 -33693028.08 -33693027.86 0.0145 0.0004
 Uranus -96959-02-19 21:06 J -33692801.79 -33692801.62 -33692801.43 0.0146 0.0078
 Jupiter -96955-06-02 23:59 J -33691237.70 -33691237.50 -33691237.30 0.0508 0.0001
 Saturn -96950-05-18 14:23 J -33689427.05 -33689426.90 -33689426.73 0.0286 0.0191
 Saturn -96949-01-03 06:42 J -33689197.42 -33689197.22 -33689197.02 0.0286 0.0097
 Jupiter -96949-11-23 11:44 J -33688872.18 -33688872.01 -33688871.84 0.0522 0.0305
 Mars -96947-06-27 11:01 J -33688291.18 -33688291.04 -33688290.89 0.1636 0.0864
 Jupiter -96943-02-06 01:25 J -33686971.55 -33686971.44 -33686971.32 0.0511 0.0411
 Jupiter -96937-07-29 04:32 J -33684606.51 -33684606.31 -33684606.11 0.0519 0.0154
 Pluto -96936-08-30 00:13 J -33684209.61 -33684209.49 -33684209.32 0.0062 0.0048
 Pluto -96935-04-12 04:32 J -33683984.52 -33683984.31 -33683984.08 0.0062 0.0015
 Saturn -96935-06-20 20:37 J -33683914.85 -33683914.64 -33683914.43 0.0273 0.0030

Pluto -96935-11-23 08:37 J -33683759.35 -33683759.14 -33683758.91 0.0063 0.0020
 Saturn -96934-02-05 03:06 J -33683685.49 -33683685.37 -33683685.24 0.0273 0.0220
 Pluto -96934-07-06 12:13 J -33683534.07 -33683533.99 -33683533.84 0.0063 0.0055
 Neptune -96922-04-27 17:01 J -33679220.82 -33679220.79 -33679220.71 0.0089 0.0086
 Neptune -96922-12-09 06:42 J -33678995.31 -33678995.22 -33678995.07 0.0089 0.0075
 Uranus -96922-12-20 21:20 J -33678983.68 -33678983.61 -33678983.49 0.0134 0.0121
 Neptune -96921-07-21 20:51 J -33678769.78 -33678769.63 -33678769.46 0.0088 0.0063
 Uranus -96921-08-03 04:03 J -33678757.51 -33678757.33 -33678757.12 0.0134 0.0063
 Saturn -96921-11-27 17:15 J -33678640.95 -33678640.78 -33678640.60 0.0286 0.0158
 Neptune -96920-03-04 10:18 J -33678544.23 -33678544.07 -33678543.87 0.0088 0.0052
 Uranus -96920-03-17 10:32 J -33678531.28 -33678531.06 -33678530.84 0.0134 0.0005
 Saturn -96920-07-15 09:49 J -33678411.27 -33678411.09 -33678410.90 0.0286 0.0131
 Neptune -96920-10-15 23:59 J -33678318.68 -33678318.50 -33678318.28 0.0088 0.0041
 Uranus -96920-10-29 16:18 J -33678305.01 -33678304.82 -33678304.61 0.0133 0.0053
 Jupiter -96919-02-08 10:47 J -33678203.22 -33678203.05 -33678202.87 0.0506 0.0240
 Neptune -96919-05-29 13:54 J -33678093.12 -33678092.92 -33678092.70 0.0088 0.0029
 Uranus -96919-06-12 21:49 J -33678078.69 -33678078.59 -33678078.44 0.0133 0.0110
 Neptune -96918-01-10 03:35 J -33677867.57 -33677867.35 -33677867.13 0.0088 0.0017
 Neptune -96918-08-23 17:15 J -33677642.00 -33677641.78 -33677641.56 0.0088 0.0006
 Neptune -96917-04-05 06:56 J -33677416.43 -33677416.21 -33677415.99 0.0088 0.0006
 Neptune -96917-11-16 20:37 J -33677190.86 -33677190.64 -33677190.42 0.0088 0.0017
 Neptune -96916-06-30 09:49 J -33676965.29 -33676965.09 -33676964.87 0.0088 0.0028
 Neptune -96915-02-10 23:15 J -33676739.72 -33676739.53 -33676739.32 0.0088 0.0040
 Neptune -96915-09-24 12:56 J -33676514.14 -33676513.96 -33676513.78 0.0088 0.0051
 Neptune -96914-05-08 02:08 J -33676288.55 -33676288.41 -33676288.23 0.0088 0.0062
 Neptune -96914-12-19 15:35 J -33676062.95 -33676062.85 -33676062.71 0.0088 0.0074
 Mars -96913-04-25 04:32 J -33675935.47 -33675935.31 -33675935.16 0.1629 0.0719
 Neptune -96913-08-01 05:01 J -33675837.34 -33675837.29 -33675837.21 0.0088 0.0085
 Mars -96910-02-06 20:08 J -33674917.82 -33674917.66 -33674917.49 0.1891 0.0694
 Jupiter -96908-10-14 11:44 J -33673937.19 -33673937.01 -33673936.82 0.0510 0.0172

Saturn -96906-05-16 20:37 J -33673357.72 -33673357.64 -33673357.54 0.0274 0.0245
 Saturn -96905-01-01 04:18 J -33673128.53 -33673128.32 -33673128.11 0.0273 0.0009
 Saturn -96905-08-17 10:32 J -33672899.11 -33672899.06 -33672898.98 0.0273 0.0261
 Jupiter -96901-04-05 19:25 J -33671571.89 -33671571.69 -33671571.48 0.0520 0.0112
 Moon -96898-01-27 07:54 J -33670545.33 -33670545.17 -33670545.02 0.2670 0.1052
 Earth -96898-01-27 10:03 J -33670545.23 -33670545.08 -33670544.93 0.2677 0.0949 *
 Saturn -96891-06-09 21:49 J -33667854.77 -33667854.59 -33667854.39 0.0286 0.0124
 Saturn -96890-01-25 13:54 J -33667625.08 -33667624.92 -33667624.74 0.0286 0.0165
 Jupiter -96890-12-10 11:15 J -33667306.18 -33667306.03 -33667305.88 0.0518 0.0349
 Jupiter -96884-10-16 23:15 J -33665168.58 -33665168.53 -33665168.48 0.0505 0.0487
 Mars -96881-04-23 22:32 J -33664248.71 -33664248.56 -33664248.40 0.1634 0.0681
 Uranus -96877-07-24 05:30 J -33662696.42 -33662696.27 -33662696.12 0.0145 0.0103
 Saturn -96877-11-25 20:23 J -33662571.78 -33662571.65 -33662571.53 0.0273 0.0219
 Uranus -96876-03-07 16:03 J -33662470.03 -33662469.83 -33662469.61 0.0145 0.0032
 Saturn -96876-07-13 03:49 J -33662342.56 -33662342.34 -33662342.13 0.0273 0.0034
 Uranus -96876-10-20 03:20 J -33662243.56 -33662243.36 -33662243.15 0.0145 0.0041
 Uranus -96875-06-03 14:37 J -33662017.01 -33662016.89 -33662016.74 0.0146 0.0115
 Jupiter -96872-06-21 23:59 J -33660902.69 -33660902.50 -33660902.30 0.0508 0.0076
 Jupiter -96866-12-13 14:37 J -33658537.02 -33658536.89 -33658536.75 0.0522 0.0398
 Saturn -96862-12-20 23:59 J -33657068.69 -33657068.50 -33657068.30 0.0286 0.0092
 Saturn -96861-08-06 16:18 J -33656838.96 -33656838.82 -33656838.66 0.0286 0.0198
 Jupiter -96860-02-25 00:56 J -33656636.61 -33656636.46 -33656636.32 0.0510 0.0340
 Jupiter -96854-08-18 04:03 J -33654271.53 -33654271.33 -33654271.12 0.0519 0.0076
 Mars -96847-02-20 16:32 J -33651892.96 -33651892.81 -33651892.67 0.1628 0.0894
 Saturn -96847-06-08 03:49 J -33651785.49 -33651785.34 -33651785.18 0.0274 0.0182
 Saturn -96846-01-23 11:15 J -33651556.23 -33651556.03 -33651555.82 0.0274 0.0073
 Pluto -96845-05-29 06:27 J -33651064.40 -33651064.23 -33651064.03 0.0082 0.0041
 Mars -96845-12-03 23:44 J -33650875.69 -33650875.51 -33650875.34 0.1894 0.0190
 Pluto -96844-01-09 17:01 J -33650838.99 -33650838.79 -33650838.59 0.0082 0.0032
 Neptune -96839-01-20 17:15 J -33649001.85 -33649001.78 -33649001.67 0.0089 0.0081

Neptune -96839-09-03 05:30 J -33648776.38 -33648776.27 -33648776.11 0.0089 0.0070
 Neptune -96838-04-16 17:59 J -33648550.90 -33648550.75 -33648550.57 0.0089 0.0059
 Neptune -96838-11-28 06:13 J -33648325.40 -33648325.24 -33648325.04 0.0089 0.0048
 Uranus -96837-04-02 14:23 J -33648199.05 -33648198.90 -33648198.72 0.0134 0.0089
 Neptune -96837-07-10 18:27 J -33648099.91 -33648099.73 -33648099.51 0.0089 0.0037
 Uranus -96837-11-14 20:51 J -33647972.83 -33647972.63 -33647972.41 0.0134 0.0031
 Neptune -96836-02-21 07:11 J -33647874.40 -33647874.20 -33647873.99 0.0089 0.0025
 Jupiter -96836-02-27 11:01 J -33647868.19 -33647868.04 -33647867.88 0.0507 0.0319
 Uranus -96836-06-29 03:06 J -33647746.58 -33647746.37 -33647746.15 0.0133 0.0027
 Neptune -96836-10-04 19:39 J -33647648.89 -33647648.68 -33647648.46 0.0089 0.0014
 Uranus -96835-02-10 08:51 J -33647520.29 -33647520.13 -33647519.95 0.0133 0.0084
 Neptune -96835-05-18 08:08 J -33647423.38 -33647423.16 -33647422.94 0.0089 0.0003
 Neptune -96835-12-29 20:23 J -33647197.86 -33647197.65 -33647197.43 0.0089 0.0009
 Neptune -96834-08-12 08:37 J -33646972.34 -33646972.14 -33646971.92 0.0089 0.0020
 Neptune -96833-03-24 21:06 J -33646746.81 -33646746.62 -33646746.40 0.0089 0.0031
 Neptune -96833-11-05 09:49 J -33646521.27 -33646521.09 -33646520.89 0.0089 0.0042
 Neptune -96832-06-18 22:18 J -33646295.74 -33646295.57 -33646295.39 0.0089 0.0053
 Saturn -96832-07-02 05:59 J -33646282.45 -33646282.25 -33646282.04 0.0285 0.0054
 Neptune -96831-01-30 10:47 J -33646070.19 -33646070.05 -33646069.90 0.0089 0.0064
 Saturn -96831-02-16 22:18 J -33646052.69 -33646052.57 -33646052.45 0.0285 0.0235
 Neptune -96831-09-12 22:47 J -33645844.63 -33645844.55 -33645844.41 0.0089 0.0076
 Neptune -96830-04-26 11:30 J -33645619.04 -33645619.02 -33645618.95 0.0089 0.0087
 Jupiter -96825-11-02 13:11 J -33643602.14 -33643601.95 -33643601.75 0.0509 0.0090
 Jupiter -96818-04-25 21:35 J -33641236.79 -33641236.60 -33641236.41 0.0521 0.0200
 Saturn -96818-12-19 03:49 J -33640999.51 -33640999.34 -33640999.16 0.0273 0.0156
 Saturn -96817-08-04 11:15 J -33640770.23 -33640770.03 -33640769.83 0.0273 0.0099
 Earth -96817-08-06 04:47 J -33640768.46 -33640768.30 -33640768.14 0.2661 0.0314
 Moon -96817-08-06 09:35 J -33640768.25 -33640768.10 -33640767.95 0.2665 0.0853 *
 Mars -96815-02-19 10:18 J -33640206.23 -33640206.07 -33640205.90 0.1632 0.0495
 Jupiter -96813-07-08 13:11 J -33639335.95 -33639335.95 -33639335.93 0.0512 0.0510

Jupiter -96807-12-29 13:54 J -33636971.10 -33636970.92 -33636970.74 0.0518 0.0259
 Saturn -96802-01-12 07:54 J -33635496.38 -33635496.17 -33635495.96 0.0286 0.0024
 Saturn -96802-08-30 00:13 J -33635266.55 -33635266.49 -33635266.41 0.0285 0.0267
 Uranus -96793-03-23 12:27 J -33632138.03 -33632137.98 -33632137.90 0.0145 0.0138
 Uranus -96793-11-04 23:44 J -33631911.70 -33631911.51 -33631911.32 0.0145 0.0066
 Uranus -96792-06-19 10:47 J -33631685.27 -33631685.05 -33631684.84 0.0145 0.0007
 Uranus -96791-01-31 21:49 J -33631458.77 -33631458.59 -33631458.41 0.0146 0.0079
 Jupiter -96789-07-10 22:47 J -33630567.74 -33630567.55 -33630567.36 0.0508 0.0146
 Saturn -96788-06-30 11:15 J -33630213.22 -33630213.03 -33630212.83 0.0274 0.0117
 Saturn -96787-02-14 18:42 J -33629983.90 -33629983.72 -33629983.53 0.0274 0.0138
 Jupiter -96782-01-01 12:56 J -33628202.05 -33628201.96 -33628201.87 0.0522 0.0468
 Mars -96782-12-19 04:47 J -33627850.43 -33627850.30 -33627850.17 0.1626 0.1063
 Mars -96779-10-01 03:20 J -33626833.53 -33626833.36 -33626833.18 0.1896 0.0317
 Jupiter -96777-03-15 23:59 J -33626301.67 -33626301.50 -33626301.33 0.0511 0.0268
 Saturn -96774-12-07 23:59 J -33624939.57 -33624939.50 -33624939.43 0.0285 0.0267
 Saturn -96773-07-24 15:20 J -33624710.07 -33624709.86 -33624709.65 0.0285 0.0019
 Jupiter -96771-09-06 03:49 J -33623936.55 -33623936.34 -33623936.13 0.0519 0.0004
 Jupiter -96759-05-11 20:37 J -33619670.73 -33619670.64 -33619670.54 0.0517 0.0455
 Saturn -96758-01-10 12:27 J -33619427.18 -33619426.98 -33619426.78 0.0273 0.0088
 Saturn -96758-08-27 19:39 J -33619197.85 -33619197.68 -33619197.51 0.0273 0.0166
 Neptune -96757-03-11 15:35 J -33619000.94 -33619000.85 -33619000.73 0.0088 0.0078
 Neptune -96757-10-23 05:15 J -33618775.40 -33618775.28 -33618775.11 0.0088 0.0067
 Neptune -96756-06-05 19:25 J -33618549.86 -33618549.69 -33618549.51 0.0088 0.0055
 Neptune -96755-01-17 08:51 J -33618324.31 -33618324.13 -33618323.92 0.0088 0.0044
 Neptune -96755-08-30 22:47 J -33618098.75 -33618098.55 -33618098.34 0.0088 0.0032
 Neptune -96754-04-13 12:27 J -33617873.19 -33617872.98 -33617872.75 0.0088 0.0021
 Neptune -96754-11-25 02:23 J -33617647.63 -33617647.40 -33617647.18 0.0088 0.0009
 Uranus -96754-12-02 00:42 J -33617640.57 -33617640.47 -33617640.35 0.0134 0.0115
 Jupiter -96753-03-18 10:47 J -33617533.18 -33617533.05 -33617532.92 0.0506 0.0390
 Neptune -96753-07-07 15:49 J -33617422.06 -33617421.84 -33617421.61 0.0088 0.0003

Uranus -96753-07-15 07:11 J -33617414.39 -33617414.20 -33617413.99 0.0134 0.0057
 Neptune -96752-02-18 05:15 J -33617196.50 -33617196.28 -33617196.05 0.0088 0.0014
 Uranus -96752-02-26 13:39 J -33617188.15 -33617187.93 -33617187.71 0.0134 0.0002
 Neptune -96752-10-01 18:42 J -33616970.93 -33616970.72 -33616970.50 0.0088 0.0026
 Uranus -96752-10-10 19:25 J -33616961.88 -33616961.69 -33616961.48 0.0133 0.0058
 Neptune -96751-05-15 08:23 J -33616745.35 -33616745.15 -33616744.94 0.0088 0.0037
 Uranus -96751-05-25 01:11 J -33616735.54 -33616735.45 -33616735.33 0.0133 0.0115
 Neptune -96751-12-26 21:35 J -33616519.77 -33616519.60 -33616519.40 0.0088 0.0049
 Neptune -96750-08-09 11:01 J -33616294.19 -33616294.04 -33616293.86 0.0088 0.0060
 Mars -96750-12-17 22:32 J -33616163.73 -33616163.56 -33616163.39 0.1631 0.0323
 Neptune -96749-03-22 00:42 J -33616068.59 -33616068.47 -33616068.33 0.0088 0.0071
 Neptune -96749-11-02 14:23 J -33615842.98 -33615842.90 -33615842.82 0.0088 0.0082
 Saturn -96744-06-19 01:25 J -33614153.55 -33614153.44 -33614153.32 0.0285 0.0240
 Saturn -96743-02-03 17:01 J -33613924.00 -33613923.79 -33613923.58 0.0285 0.0049
 Jupiter -96742-11-22 11:44 J -33613267.21 -33613267.01 -33613266.81 0.0509 0.0024
 Jupiter -96735-05-14 21:20 J -33610901.78 -33610901.61 -33610901.43 0.0521 0.0277
 Jupiter -96730-07-28 10:47 J -33609001.14 -33609001.05 -33609000.95 0.0512 0.0449
 Saturn -96729-07-22 19:39 J -33608640.89 -33608640.68 -33608640.47 0.0274 0.0050
 Saturn -96728-03-09 03:06 J -33608411.51 -33608411.37 -33608411.23 0.0274 0.0206
 Jupiter -96723-01-17 12:13 J -33606636.18 -33606635.99 -33606635.79 0.0518 0.0190
 Mars -96716-10-15 16:32 J -33603807.92 -33603807.81 -33603807.70 0.1625 0.1240
 Saturn -96715-12-30 10:32 J -33603367.21 -33603367.06 -33603366.90 0.0285 0.0192
 Saturn -96714-08-17 02:08 J -33603137.61 -33603137.41 -33603137.21 0.0285 0.0096
 Mars -96713-07-28 05:59 J -33602791.41 -33602791.25 -33602791.10 0.1899 0.0864
 Uranus -96709-07-05 06:13 J -33601353.38 -33601353.24 -33601353.08 0.0145 0.0102
 Uranus -96708-02-16 17:15 J -33601126.99 -33601126.78 -33601126.57 0.0145 0.0030
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 Jupiter -96706-07-30 22:47 J -33600232.72 -33600232.55 -33600232.36 0.0508 0.0222
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Saturn -96699-09-19 04:32 J -33597625.40 -33597625.31 -33597625.19 0.0273 0.0236
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 Pluto -96688-08-02 07:11 J -33593655.28 -33593655.20 -33593655.04 0.0062 0.0054
 Jupiter -96688-09-25 05:15 J -33593601.48 -33593601.28 -33593601.07 0.0520 0.0084
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 Pluto -96686-06-08 20:08 J -33592979.79 -33592979.66 -33592979.51 0.0063 0.0049
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 Saturn -96670-08-15 04:47 J -33587068.51 -33587068.30 -33587068.08 0.0274 0.0020
 Neptune -96670-11-13 18:56 J -33586977.92 -33586977.71 -33586977.49 0.0089 0.0017
 Uranus -96669-03-14 17:44 J -33586855.92 -33586855.76 -33586855.58 0.0134 0.0083
 Neptune -96669-06-26 07:11 J -33586752.40 -33586752.20 -33586751.98 0.0089 0.0028
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Uranus -96667-01-22 12:13 J -33586177.14 -33586176.99 -33586176.82 0.0133 0.0090
 Neptune -96667-05-03 20:23 J -33586075.79 -33586075.65 -33586075.48 0.0089 0.0062
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 Neptune -96666-07-28 21:35 J -33585624.66 -33585624.60 -33585624.52 0.0089 0.0084
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 Moon -96655-01-27 10:18 J -33581789.22 -33581789.07 -33581788.93 0.2687 0.0538 *
 Saturn -96655-09-08 14:08 J -33581565.07 -33581564.91 -33581564.74 0.0285 0.0177
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 Mars -96650-08-13 04:32 J -33579765.39 -33579765.31 -33579765.23 0.1623 0.1415
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 Jupiter -96640-02-05 11:01 J -33576301.24 -33576301.04 -33576300.84 0.0518 0.0121
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 Saturn -96625-03-20 16:18 J -33570778.95 -33570778.82 -33570778.67 0.0285 0.0208
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 Uranus -96624-05-31 12:27 J -33570342.20 -33570341.98 -33570341.77 0.0145 0.0009
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 Saturn -96611-09-06 14:37 J -33565496.09 -33565495.89 -33565495.69 0.0274 0.0092

Jupiter -96605-10-14 03:06 J -33563266.57 -33563266.37 -33563266.17 0.0519 0.0148
 Pluto -96597-05-01 13:39 J -33560510.08 -33560509.93 -33560509.75 0.0082 0.0051
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 Neptune -96593-06-12 23:30 J -33559006.60 -33559006.52 -33559006.44 0.0088 0.0082
 Jupiter -96593-06-18 17:01 J -33559000.95 -33559000.79 -33559000.63 0.0517 0.0323
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 Neptune -96587-08-16 16:18 J -33556751.02 -33556750.82 -33556750.61 0.0088 0.0033
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 Neptune -96584-02-03 22:18 J -33555848.66 -33555848.57 -33555848.47 0.0088 0.0079
 Uranus -96584-02-07 17:30 J -33555844.99 -33555844.77 -33555844.55 0.0134 0.0008
 Mars -96584-06-09 16:47 J -33555722.83 -33555722.80 -33555722.76 0.1622 0.1582
 Uranus -96584-09-21 23:15 J -33555618.71 -33555618.53 -33555618.32 0.0133 0.0065
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 Uranus -96541-06-16 08:23 J -33540010.29 -33540010.15 -33540009.98 0.0145 0.0099
 Uranus -96540-01-28 19:39 J -33539783.89 -33539783.68 -33539783.47 0.0145 0.0026
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Saturn -96464-09-16 11:01 J -33511794.25 -33511794.04 -33511793.82 0.0274 0.0026
 Jupiter -96463-11-18 21:35 J -33511365.69 -33511365.60 -33511365.50 0.0516 0.0456
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 Jupiter -96427-07-27 14:23 J -33498331.09 -33498330.90 -33498330.70 0.0517 0.0186
 Neptune -96426-03-05 14:08 J -33498110.11 -33498109.91 -33498109.71 0.0088 0.0040
 Neptune -96426-10-17 03:35 J -33497884.55 -33497884.35 -33497884.13 0.0088 0.0029
 Neptune -96425-05-29 17:30 J -33497658.99 -33497658.77 -33497658.55 0.0088 0.0017
 Neptune -96424-01-10 07:11 J -33497433.42 -33497433.20 -33497432.97 0.0088 0.0005
 Neptune -96424-08-23 20:51 J -33497207.85 -33497207.63 -33497207.41 0.0088 0.0007
 Neptune -96423-04-06 10:32 J -33496982.28 -33496982.06 -33496981.84 0.0088 0.0018

Neptune -96423-11-18 00:13 J -33496756.70 -33496756.49 -33496756.28 0.0088 0.0030
 Neptune -96422-07-01 13:25 J -33496531.13 -33496530.94 -33496530.73 0.0088 0.0042
 Neptune -96421-02-12 03:06 J -33496305.55 -33496305.37 -33496305.19 0.0088 0.0053
 Neptune -96421-09-24 16:03 J -33496079.96 -33496079.83 -33496079.66 0.0088 0.0065
 Mars -96420-01-31 10:03 J -33495951.24 -33495951.08 -33495950.91 0.1623 0.0560
 Neptune -96420-05-08 05:44 J -33495854.36 -33495854.26 -33495854.13 0.0088 0.0076
 Saturn -96420-09-05 14:51 J -33495734.08 -33495733.88 -33495733.67 0.0285 0.0060
 Neptune -96420-12-19 18:42 J -33495628.72 -33495628.72 -33495628.65 0.0088 0.0088
 Saturn -96419-04-23 06:27 J -33495504.34 -33495504.23 -33495504.10 0.0285 0.0232
 Uranus -96418-10-25 09:49 J -33494954.22 -33494954.09 -33494953.93 0.0134 0.0100
 Mars -96418-11-13 17:15 J -33494934.95 -33494934.78 -33494934.60 0.1901 0.0154
 Uranus -96417-06-07 16:47 J -33494728.01 -33494727.80 -33494727.59 0.0134 0.0041
 Uranus -96416-01-19 23:01 J -33494501.75 -33494501.54 -33494501.32 0.0134 0.0017
 Uranus -96416-09-03 05:01 J -33494275.46 -33494275.29 -33494275.10 0.0133 0.0075
 Uranus -96415-04-17 11:01 J -33494049.06 -33494049.04 -33494049.00 0.0133 0.0132
 Earth -96412-01-27 10:03 J -33493033.23 -33493033.08 -33493032.92 0.2683 0.0590
 Moon -96412-01-27 12:13 J -33493033.15 -33493032.99 -33493032.83 0.2676 0.0806 *
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 Saturn -96405-02-22 14:51 J -33490451.04 -33490450.88 -33490450.70 0.0274 0.0158
 Saturn -96405-10-08 23:01 J -33490221.74 -33490221.54 -33490221.34 0.0274 0.0102
 Jupiter -96398-10-13 01:54 J -33487661.60 -33487661.42 -33487661.23 0.0511 0.0198
 Jupiter -96391-04-04 04:47 J -33485296.51 -33485296.30 -33485296.10 0.0519 0.0075
 Saturn -96390-03-18 17:01 J -33484948.00 -33484947.79 -33484947.58 0.0285 0.0031
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 Mars -96388-01-30 03:35 J -33484264.50 -33484264.35 -33484264.20 0.1627 0.0832
 Jupiter -96380-12-07 21:35 J -33481030.74 -33481030.60 -33481030.46 0.0516 0.0381
 Saturn -96376-09-03 18:42 J -33479664.91 -33479664.72 -33479664.53 0.0274 0.0125
 Saturn -96375-04-21 02:51 J -33479435.56 -33479435.38 -33479435.19 0.0274 0.0136
 Jupiter -96374-10-15 09:49 J -33478893.18 -33478893.09 -33478893.00 0.0507 0.0448
 Uranus -96373-05-28 11:44 J -33478667.17 -33478667.01 -33478666.85 0.0145 0.0093

Uranus -96372-01-09 22:32 J -33478440.77 -33478440.56 -33478440.35 0.0145 0.0021
 Uranus -96372-08-24 09:20 J -33478214.30 -33478214.11 -33478213.90 0.0145 0.0053
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 Jupiter -96362-06-20 10:32 J -33474627.26 -33474627.06 -33474626.86 0.0510 0.0032
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 Mars -96355-11-28 22:32 J -33471908.71 -33471908.56 -33471908.40 0.1622 0.0729
 Mars -96352-09-09 20:37 J -33470892.80 -33470892.64 -33470892.47 0.1903 0.0681
 Jupiter -96350-02-23 11:44 J -33470361.13 -33470361.01 -33470360.87 0.0513 0.0385
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 Pluto -96349-11-15 03:35 J -33469730.56 -33469730.35 -33469730.13 0.0082 0.0003
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 Saturn -96346-03-17 02:51 J -33468878.58 -33468878.38 -33468878.17 0.0274 0.0081
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 Neptune -96344-04-16 23:59 J -33468116.67 -33468116.50 -33468116.31 0.0089 0.0047
 Jupiter -96344-08-15 09:49 J -33467996.29 -33467996.09 -33467995.89 0.0517 0.0133
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 Neptune -96341-05-18 13:25 J -33466989.15 -33466988.94 -33466988.72 0.0089 0.0010
 Neptune -96341-12-30 01:39 J -33466763.63 -33466763.43 -33466763.21 0.0089 0.0021
 Neptune -96340-08-12 14:08 J -33466538.11 -33466537.91 -33466537.71 0.0089 0.0032
 Neptune -96339-03-26 02:23 J -33466312.58 -33466312.40 -33466312.20 0.0089 0.0044
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 Uranus -96332-05-03 17:30 J -33463716.97 -33463716.77 -33463716.56 0.0134 0.0051
 Saturn -96332-08-23 14:37 J -33463605.00 -33463604.89 -33463604.77 0.0285 0.0239
 Uranus -96332-12-15 23:30 J -33463490.64 -33463490.52 -33463490.39 0.0133 0.0109
 Saturn -96331-04-10 05:44 J -33463375.47 -33463375.26 -33463375.06 0.0285 0.0053
 Earth -96331-08-07 08:37 J -33463256.29 -33463256.14 -33463255.98 0.2655 0.0421
 Moon -96331-08-07 11:01 J -33463256.18 -33463256.04 -33463255.90 0.2661 0.1015 *
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 Mars -96323-11-27 15:49 J -33460222.00 -33460221.84 -33460221.68 0.1626 0.0658
 Saturn -96317-09-26 05:30 J -33458092.48 -33458092.27 -33458092.06 0.0274 0.0050
 Saturn -96316-05-13 13:25 J -33457863.07 -33457862.94 -33457862.80 0.0274 0.0210
 Jupiter -96315-10-31 21:49 J -33457326.78 -33457326.59 -33457326.39 0.0511 0.0146
 Jupiter -96308-04-23 03:49 J -33454961.53 -33454961.34 -33454961.14 0.0519 0.0146
 Saturn -96302-03-05 23:44 J -33452818.66 -33452818.51 -33452818.35 0.0285 0.0189
 Saturn -96302-10-21 14:51 J -33452589.07 -33452588.88 -33452588.67 0.0285 0.0104
 Jupiter -96297-12-26 16:47 J -33450695.96 -33450695.80 -33450695.64 0.0516 0.0329
 Uranus -96289-01-26 20:37 J -33448108.74 -33448108.64 -33448108.53 0.0145 0.0125
 Uranus -96289-09-09 07:25 J -33447882.39 -33447882.19 -33447881.99 0.0145 0.0053
 Mars -96289-09-25 10:32 J -33447866.21 -33447866.06 -33447865.92 0.1620 0.0907
 Uranus -96288-04-23 18:27 J -33447655.94 -33447655.73 -33447655.52 0.0145 0.0019
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 Uranus -96288-12-06 05:44 J -33447429.42 -33447429.26 -33447429.09 0.0146 0.0093
 Saturn -96287-04-08 14:08 J -33447306.12 -33447305.91 -33447305.70 0.0274 0.0006
 Saturn -96287-11-23 21:20 J -33447076.68 -33447076.61 -33447076.53 0.0274 0.0254
 Mars -96286-07-07 22:47 J -33446850.68 -33446850.55 -33446850.41 0.1906 0.1251
 Jupiter -96279-07-09 10:32 J -33444292.25 -33444292.06 -33444291.86 0.0509 0.0110
 Saturn -96273-09-15 01:25 J -33442032.60 -33442032.44 -33442032.26 0.0285 0.0161

Jupiter -96273-12-29 17:59 J -33441926.87 -33441926.75 -33441926.62 0.0521 0.0408
 Saturn -96272-05-02 16:47 J -33441802.99 -33441802.80 -33441802.61 0.0285 0.0132
 Jupiter -96267-03-14 11:15 J -33440026.19 -33440026.03 -33440025.87 0.0512 0.0312
 Neptune -96264-07-30 02:51 J -33438792.47 -33438792.38 -33438792.28 0.0088 0.0080
 Neptune -96263-03-12 16:18 J -33438566.94 -33438566.82 -33438566.65 0.0088 0.0069
 Neptune -96263-10-24 06:27 J -33438341.39 -33438341.23 -33438341.05 0.0088 0.0057
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 Neptune -96260-04-13 13:54 J -33437439.14 -33437438.92 -33437438.69 0.0088 0.0009
 Neptune -96260-11-25 03:35 J -33437213.57 -33437213.35 -33437213.12 0.0088 0.0003
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 Neptune -96258-02-19 06:56 J -33436762.43 -33436762.21 -33436762.00 0.0088 0.0026
 Saturn -96258-03-04 06:56 J -33436749.30 -33436749.21 -33436749.09 0.0274 0.0239
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 Neptune -96257-05-15 09:35 J -33436311.26 -33436311.10 -33436310.89 0.0088 0.0050
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 Neptune -96257-12-26 23:15 J -33436085.67 -33436085.53 -33436085.35 0.0088 0.0061
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 Neptune -96255-03-23 02:08 J -33435634.46 -33435634.41 -33435634.32 0.0088 0.0084
 Mars -96254-07-07 22:32 J -33435162.64 -33435162.56 -33435162.47 0.1900 0.1647
 Uranus -96250-10-06 16:03 J -33433610.99 -33433610.83 -33433610.66 0.0134 0.0090
 Jupiter -96249-05-09 03:06 J -33433395.39 -33433395.37 -33433395.33 0.0515 0.0507
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 Jupiter -96243-03-16 19:54 J -33431257.82 -33431257.67 -33431257.52 0.0508 0.0342
 Saturn -96243-03-28 09:06 J -33431246.31 -33431246.12 -33431245.92 0.0285 0.0114

Saturn -96243-11-13 00:42 J -33431016.63 -33431016.47 -33431016.30 0.0285 0.0180
 Jupiter -96232-11-19 21:35 J -33426991.80 -33426991.60 -33426991.40 0.0511 0.0071
 Saturn -96229-09-13 15:49 J -33425962.98 -33425962.84 -33425962.68 0.0274 0.0195
 Saturn -96228-05-01 00:13 J -33425733.69 -33425733.49 -33425733.28 0.0274 0.0068
 Jupiter -96225-05-12 00:13 J -33424626.68 -33424626.49 -33424626.30 0.0519 0.0205
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 Jupiter -96220-07-25 22:18 J -33422725.61 -33422725.57 -33422725.51 0.0514 0.0492
 Saturn -96214-10-08 11:01 J -33420460.23 -33420460.04 -33420459.83 0.0285 0.0086
 Jupiter -96213-01-15 16:47 J -33420360.97 -33420360.80 -33420360.61 0.0516 0.0253
 Saturn -96213-05-25 02:23 J -33420230.53 -33420230.40 -33420230.25 0.0285 0.0209
 Uranus -96205-05-09 15:20 J -33417324.03 -33417323.86 -33417323.68 0.0145 0.0087
 Uranus -96205-12-22 02:08 J -33417097.62 -33417097.41 -33417097.19 0.0145 0.0015
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 Uranus -96203-03-20 00:27 J -33416644.56 -33416644.48 -33416644.39 0.0146 0.0132
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 Saturn -96199-11-11 00:42 J -33414947.66 -33414947.47 -33414947.26 0.0274 0.0095
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 Neptune -96181-04-24 08:23 J -33408573.24 -33408573.15 -33408573.01 0.0089 0.0074
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 Neptune -96176-11-13 22:47 J -33406543.74 -33406543.55 -33406543.33 0.0089 0.0029
 Neptune -96175-06-27 11:15 J -33406318.22 -33406318.03 -33406317.83 0.0089 0.0040
 Neptune -96174-02-07 23:44 J -33406092.68 -33406092.51 -33406092.33 0.0089 0.0051
 Neptune -96174-09-21 11:59 J -33405867.14 -33405867.00 -33405866.84 0.0089 0.0063
 Neptune -96173-05-04 00:42 J -33405641.58 -33405641.47 -33405641.35 0.0089 0.0074
 Neptune -96173-12-15 12:42 J -33405416.00 -33405415.97 -33405415.89 0.0089 0.0086
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 Moon -96169-01-28 06:13 J -33404277.39 -33404277.24 -33404277.09 0.2692 0.0249
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 Uranus -96166-06-06 03:35 J -33403052.45 -33403052.35 -33403052.22 0.0134 0.0114
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 Uranus -96165-08-31 17:30 J -33402599.99 -33402599.77 -33402599.55 0.0134 0.0004
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 Jupiter -96149-12-08 22:32 J -33396656.76 -33396656.56 -33396656.36 0.0510 0.0012
 Jupiter -96142-06-01 02:37 J -33394291.56 -33394291.39 -33394291.22 0.0520 0.0294

Saturn -96140-04-18 01:11 J -33393604.64 -33393604.45 -33393604.25 0.0274 0.0098
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 Jupiter -96137-08-13 21:20 J -33392390.72 -33392390.61 -33392390.49 0.0513 0.0422
 Jupiter -96130-02-03 18:42 J -33390025.91 -33390025.72 -33390025.52 0.0517 0.0166
 Saturn -96126-09-25 08:51 J -33388331.18 -33388331.13 -33388331.05 0.0285 0.0268
 Saturn -96125-05-12 00:13 J -33388101.70 -33388101.49 -33388101.28 0.0285 0.0026
 Mars -96125-05-19 03:49 J -33388094.51 -33388094.34 -33388094.17 0.1621 0.0130
 Mars -96122-03-01 04:32 J -33387078.47 -33387078.31 -33387078.14 0.1904 0.0584
 Uranus -96121-01-08 00:27 J -33386765.59 -33386765.48 -33386765.34 0.0144 0.0118
 Uranus -96121-08-21 11:15 J -33386539.23 -33386539.03 -33386538.82 0.0145 0.0047
 Uranus -96120-04-04 22:03 J -33386312.78 -33386312.58 -33386312.36 0.0145 0.0026
 Uranus -96120-11-17 09:06 J -33386086.26 -33386086.12 -33386085.95 0.0145 0.0100
 Jupiter -96113-08-16 08:37 J -33383622.31 -33383622.14 -33383621.96 0.0509 0.0253
 Saturn -96111-10-29 09:35 J -33382818.31 -33382818.10 -33382817.89 0.0274 0.0056
 Saturn -96110-06-15 17:01 J -33382588.92 -33382588.79 -33382588.64 0.0274 0.0207
 Jupiter -96101-04-21 10:18 J -33379356.26 -33379356.07 -33379355.88 0.0512 0.0166
 Pluto -96101-10-18 07:11 J -33379176.39 -33379176.20 -33379175.99 0.0082 0.0028
 Pluto -96100-05-31 17:15 J -33378950.94 -33378950.78 -33378950.59 0.0082 0.0045
 Neptune -96100-10-31 09:20 J -33378798.17 -33378798.11 -33378798.05 0.0088 0.0085
 Neptune -96099-06-13 22:32 J -33378572.66 -33378572.56 -33378572.41 0.0088 0.0074
 Neptune -96098-01-25 12:27 J -33378347.12 -33378346.98 -33378346.80 0.0088 0.0062
 Neptune -96098-09-08 02:23 J -33378121.58 -33378121.40 -33378121.20 0.0088 0.0050
 Neptune -96097-04-20 16:32 J -33377896.01 -33377895.81 -33377895.61 0.0088 0.0038
 Neptune -96097-12-02 05:59 J -33377670.45 -33377670.25 -33377670.02 0.0088 0.0027
 Saturn -96096-04-06 11:44 J -33377545.11 -33377545.01 -33377544.88 0.0285 0.0237
 Neptune -96096-07-15 19:54 J -33377444.89 -33377444.67 -33377444.44 0.0088 0.0014
 Saturn -96096-11-22 02:51 J -33377315.59 -33377315.38 -33377315.17 0.0285 0.0057
 Neptune -96095-02-26 09:49 J -33377219.32 -33377219.09 -33377218.87 0.0088 0.0003
 Neptune -96095-10-09 23:15 J -33376993.74 -33376993.53 -33376993.30 0.0088 0.0010
 Jupiter -96095-10-12 09:06 J -33376991.33 -33376991.12 -33376990.92 0.0518 0.0094

Neptune -96094-05-23 12:56 J -33376768.17 -33376767.96 -33376767.73 0.0088 0.0022
 Neptune -96093-01-04 02:51 J -33376542.59 -33376542.38 -33376542.17 0.0088 0.0033
 Mars -96093-05-17 21:20 J -33376407.66 -33376407.61 -33376407.56 0.1626 0.1542
 Neptune -96093-08-16 16:18 J -33376317.01 -33376316.82 -33376316.62 0.0088 0.0045
 Neptune -96092-03-30 05:44 J -33376091.42 -33376091.26 -33376091.07 0.0088 0.0057
 Neptune -96092-11-10 19:39 J -33375865.82 -33375865.68 -33375865.54 0.0088 0.0068
 Mars -96091-03-17 23:30 J -33375738.60 -33375738.52 -33375738.43 0.1617 0.1412
 Neptune -96091-06-24 08:37 J -33375640.21 -33375640.14 -33375640.02 0.0088 0.0080
 Moon -96088-08-07 09:49 J -33374500.26 -33374500.09 -33374499.92 0.2646 0.0179
 Earth -96088-08-07 10:32 J -33374500.21 -33374500.06 -33374499.90 0.2652 0.0478 *
 Jupiter -96083-06-17 02:37 J -33372725.53 -33372725.39 -33372725.24 0.0515 0.0357
 Uranus -96082-09-17 22:18 J -33372267.74 -33372267.57 -33372267.39 0.0134 0.0080
 Uranus -96081-05-01 05:15 J -33372041.49 -33372041.28 -33372041.06 0.0134 0.0021
 Saturn -96081-05-10 09:06 J -33372032.33 -33372032.12 -33372031.91 0.0274 0.0031
 Uranus -96081-12-13 11:44 J -33371815.22 -33371815.01 -33371814.79 0.0134 0.0038
 Saturn -96081-12-25 16:32 J -33371802.91 -33371802.81 -33371802.69 0.0274 0.0232
 Uranus -96080-07-27 17:59 J -33371588.90 -33371588.75 -33371588.59 0.0133 0.0096
 Jupiter -96077-04-23 20:23 J -33370587.68 -33370587.65 -33370587.60 0.0507 0.0497
 Saturn -96067-10-17 15:06 J -33366759.01 -33366758.87 -33366758.72 0.0285 0.0202
 Saturn -96066-06-04 06:13 J -33366529.44 -33366529.24 -33366529.04 0.0285 0.0093
 Jupiter -96066-12-28 21:20 J -33366321.81 -33366321.61 -33366321.41 0.0510 0.0080
 Mars -96059-03-16 16:18 J -33364051.99 -33364051.82 -33364051.64 0.1620 0.0042
 Jupiter -96059-06-20 01:11 J -33363956.59 -33363956.45 -33363956.30 0.0519 0.0367
 Mars -96057-12-26 08:08 J -33363036.34 -33363036.16 -33363035.99 0.1906 0.0053
 Jupiter -96054-09-02 21:35 J -33362055.75 -33362055.60 -33362055.45 0.0514 0.0345
 Saturn -96052-04-05 08:23 J -33361475.22 -33361475.15 -33361475.07 0.0274 0.0255
 Saturn -96052-11-20 17:15 J -33361246.00 -33361245.78 -33361245.57 0.0274 0.0012
 Saturn -96051-07-08 00:42 J -33361016.48 -33361016.47 -33361016.46 0.0274 0.0273
 Jupiter -96047-02-22 17:15 J -33359690.99 -33359690.78 -33359690.58 0.0516 0.0096
 Uranus -96037-04-20 19:39 J -33355980.86 -33355980.68 -33355980.50 0.0145 0.0080

Saturn -96037-04-28 18:42 J -33355972.88 -33355972.72 -33355972.54 0.0285 0.0169
 Uranus -96037-12-03 06:27 J -33355754.45 -33355754.23 -33355754.02 0.0145 0.0008
 Saturn -96037-12-14 09:49 J -33355743.28 -33355743.09 -33355742.90 0.0285 0.0126
 Uranus -96036-07-17 17:01 J -33355527.97 -33355527.79 -33355527.59 0.0145 0.0066
 Uranus -96035-03-01 04:18 J -33355301.37 -33355301.32 -33355301.25 0.0146 0.0139
 Jupiter -96030-09-05 10:32 J -33353287.21 -33353287.06 -33353286.91 0.0509 0.0336
 Mars -96027-03-15 09:35 J -33352365.19 -33352365.10 -33352365.01 0.1624 0.1368
 Mars -96025-01-13 12:27 J -33351696.02 -33351695.98 -33351695.94 0.1616 0.1566
 Saturn -96023-10-16 07:25 J -33350689.30 -33350689.19 -33350689.07 0.0274 0.0230
 Saturn -96022-06-02 16:18 J -33350460.03 -33350459.82 -33350459.61 0.0274 0.0035
 Jupiter -96018-05-11 10:32 J -33349021.26 -33349021.06 -33349020.87 0.0511 0.0089
 Neptune -96017-07-26 16:47 J -33348578.88 -33348578.80 -33348578.68 0.0089 0.0079
 Neptune -96016-03-09 04:47 J -33348353.41 -33348353.30 -33348353.14 0.0089 0.0068
 Neptune -96016-10-20 17:30 J -33348127.93 -33348127.77 -33348127.60 0.0089 0.0056
 Neptune -96015-06-03 05:30 J -33347902.44 -33347902.27 -33347902.07 0.0089 0.0045
 Neptune -96014-01-14 17:59 J -33347676.95 -33347676.75 -33347676.55 0.0089 0.0033
 Neptune -96014-08-28 05:59 J -33347451.45 -33347451.25 -33347451.03 0.0089 0.0022
 Neptune -96013-04-09 18:27 J -33347225.94 -33347225.73 -33347225.51 0.0089 0.0010
 Neptune -96013-11-21 06:56 J -33347000.43 -33347000.21 -33347000.00 0.0089 0.0002
 Neptune -96012-07-04 18:56 J -33346774.92 -33346774.71 -33346774.49 0.0089 0.0013
 Jupiter -96012-10-31 11:59 J -33346656.19 -33346656.00 -33346655.81 0.0518 0.0187
 Neptune -96011-02-15 07:25 J -33346549.40 -33346549.19 -33346548.98 0.0089 0.0024
 Neptune -96011-09-28 19:25 J -33346323.87 -33346323.69 -33346323.48 0.0089 0.0036
 Neptune -96010-05-12 08:08 J -33346098.34 -33346098.16 -33346097.98 0.0089 0.0047
 Neptune -96010-12-23 20:08 J -33345872.80 -33345872.66 -33345872.48 0.0089 0.0059
 Neptune -96009-08-05 08:51 J -33345647.26 -33345647.13 -33345647.00 0.0089 0.0070
 Neptune -96008-03-18 20:51 J -33345421.69 -33345421.63 -33345421.53 0.0089 0.0082
 Saturn -96008-11-08 21:20 J -33345186.80 -33345186.61 -33345186.43 0.0285 0.0136
 Saturn -96007-06-26 12:27 J -33344957.15 -33344956.98 -33344956.80 0.0285 0.0160

96TH MILLENNIUM BCE

This is a list of transits of Venus in the 96th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-96000-07-06 02:23 J	-33342390.57	-33342390.40	-33342390.22	0.0515	0.0280		
Uranus	-95998-05-18 10:18 J	-33341709.20	-33341709.07	-33341708.93	0.0134	0.0104		
Uranus	-95998-12-30 17:15 J	-33341482.99	-33341482.78	-33341482.57	0.0134	0.0044		
Uranus	-95997-08-12 23:44 J	-33341256.72	-33341256.51	-33341256.28	0.0134	0.0015		
Uranus	-95996-03-27 05:59 J	-33341030.42	-33341030.25	-33341030.05	0.0134	0.0073		
Uranus	-95996-11-08 12:13 J	-33340804.03	-33340803.99	-33340803.94	0.0133	0.0130		
Mars	-95993-01-12 04:47 J	-33340009.47	-33340009.30	-33340009.13	0.1619	0.0201		
Saturn	-95993-04-27 15:20 J	-33339903.00	-33339902.86	-33339902.70	0.0275	0.0190		
Saturn	-95993-12-12 23:59 J	-33339673.70	-33339673.50	-33339673.29	0.0274	0.0077		
Mars	-95991-10-23 10:32 J	-33338994.23	-33338994.06	-33338993.89	0.1908	0.0514		
Jupiter	-95982-01-16 22:18 J	-33335986.76	-33335986.57	-33335986.38	0.0511	0.0162		
Saturn	-95978-05-22 01:54 J	-33334400.62	-33334400.42	-33334400.22	0.0284	0.0100		
Saturn	-95977-01-06 16:47 J	-33334170.95	-33334170.80	-33334170.65	0.0285	0.0196		
Jupiter	-95976-07-09 02:08 J	-33333621.50	-33333621.41	-33333621.30	0.0520	0.0450		
Jupiter	-95971-09-21 23:30 J	-33331720.69	-33331720.52	-33331720.34	0.0513	0.0258		
Jupiter	-95964-03-13 19:39 J	-33329355.89	-33329355.68	-33329355.47	0.0517	0.0008		
Saturn	-95964-11-07 14:51 J	-33329117.04	-33329116.88	-33329116.70	0.0274	0.0164		
Saturn	-95963-06-24 23:30 J	-33328887.72	-33328887.52	-33328887.32	0.0274	0.0102		
Mars	-95961-01-10 21:35 J	-33328322.71	-33328322.60	-33328322.48	0.1623	0.1194		
Uranus	-95954-12-20 05:15 J	-33325422.41	-33325422.28	-33325422.14	0.0144	0.0111		

Uranus -95953-08-02 15:49 J -33325196.05 -33325195.84 -33325195.63 0.0145 0.0039
 Jupiter -95953-11-16 12:56 J -33325090.05 -33325089.96 -33325089.87 0.0514 0.0458
 Uranus -95952-03-17 02:37 J -33324969.60 -33324969.39 -33324969.18 0.0145 0.0033
 Uranus -95952-10-29 13:39 J -33324743.07 -33324742.93 -33324742.78 0.0145 0.0107
 Saturn -95949-12-01 03:35 J -33323614.55 -33323614.35 -33323614.14 0.0285 0.0069
 Saturn -95948-07-18 18:42 J -33323384.84 -33323384.72 -33323384.59 0.0285 0.0228
 Jupiter -95947-09-24 09:49 J -33322952.20 -33322952.09 -33322951.97 0.0509 0.0409
 Pluto -95944-12-22 03:20 J -33321767.45 -33321767.36 -33321767.22 0.0062 0.0053
 Pluto -95943-08-04 07:25 J -33321542.38 -33321542.19 -33321541.95 0.0062 0.0021
 Pluto -95942-03-17 11:59 J -33321317.22 -33321317.00 -33321316.77 0.0062 0.0014
 Pluto -95942-10-28 15:49 J -33321091.97 -33321091.84 -33321091.68 0.0063 0.0048
 Jupiter -95935-05-30 09:49 J -33318686.29 -33318686.09 -33318685.89 0.0512 0.0016
 Neptune -95935-09-15 04:47 J -33318578.38 -33318578.30 -33318578.18 0.0088 0.0079
 Neptune -95934-04-28 18:56 J -33318352.85 -33318352.71 -33318352.55 0.0088 0.0067
 Saturn -95934-05-20 22:18 J -33318330.76 -33318330.57 -33318330.38 0.0275 0.0124
 Neptune -95934-12-10 08:51 J -33318127.30 -33318127.13 -33318126.95 0.0088 0.0055
 Saturn -95933-01-05 06:56 J -33318101.39 -33318101.21 -33318101.03 0.0275 0.0143
 Neptune -95933-07-22 22:18 J -33317901.75 -33317901.57 -33317901.36 0.0088 0.0044
 Neptune -95932-03-05 12:13 J -33317676.19 -33317675.99 -33317675.77 0.0088 0.0031
 Neptune -95932-10-17 02:08 J -33317450.62 -33317450.41 -33317450.19 0.0088 0.0019
 Neptune -95931-05-30 15:49 J -33317225.06 -33317224.84 -33317224.61 0.0088 0.0008
 Neptune -95930-01-11 05:44 J -33316999.49 -33316999.26 -33316999.04 0.0088 0.0005
 Neptune -95930-08-24 19:11 J -33316773.91 -33316773.70 -33316773.47 0.0088 0.0017
 Neptune -95929-04-06 08:51 J -33316548.33 -33316548.13 -33316547.90 0.0088 0.0029
 Neptune -95929-11-17 22:32 J -33316322.75 -33316322.56 -33316322.35 0.0088 0.0040
 Jupiter -95929-11-19 10:47 J -33316321.22 -33316321.05 -33316320.87 0.0518 0.0260
 Neptune -95928-07-01 11:59 J -33316097.16 -33316097.00 -33316096.80 0.0088 0.0052
 Mars -95928-11-08 17:15 J -33315966.95 -33315966.78 -33315966.61 0.1618 0.0370
 Neptune -95927-02-12 01:39 J -33315871.57 -33315871.43 -33315871.26 0.0088 0.0064
 Neptune -95927-09-25 15:06 J -33315645.97 -33315645.87 -33315645.74 0.0088 0.0076

Earth	-95926-01-28 09:35 J	-33315521.26	-33315521.10	-33315520.94	0.2690	0.0140
Moon	-95926-01-28 14:51 J	-33315521.04	-33315520.88	-33315520.72	0.2686	0.0410 *
Neptune	-95926-05-09 04:32 J	-33315420.32	-33315420.31	-33315420.25	0.0088	0.0088
Mars	-95925-08-19 13:39 J	-33314952.08	-33314951.93	-33314951.79	0.1910	0.1069
Jupiter	-95923-02-02 10:18 J	-33314420.17	-33314420.07	-33314419.97	0.0515	0.0441
Saturn	-95919-06-13 09:35 J	-33312828.30	-33312828.10	-33312827.88	0.0284	0.0029
Saturn	-95918-01-29 00:27 J	-33312598.54	-33312598.48	-33312598.40	0.0285	0.0268
Jupiter	-95917-07-25 02:51 J	-33312055.57	-33312055.38	-33312055.19	0.0515	0.0202
Uranus	-95914-01-15 22:18 J	-33311150.64	-33311150.57	-33311150.51	0.0135	0.0128
Uranus	-95914-08-30 05:01 J	-33310924.47	-33310924.29	-33310924.09	0.0134	0.0069
Uranus	-95913-04-12 11:59 J	-33310698.22	-33310698.00	-33310697.78	0.0134	0.0009
Uranus	-95913-11-24 18:27 J	-33310471.93	-33310471.73	-33310471.52	0.0134	0.0049
Uranus	-95912-07-09 00:42 J	-33310245.60	-33310245.47	-33310245.34	0.0134	0.0107
Saturn	-95905-11-29 22:18 J	-33307544.76	-33307544.57	-33307544.36	0.0274	0.0097
Saturn	-95904-07-17 06:27 J	-33307315.38	-33307315.23	-33307315.05	0.0274	0.0170
Jupiter	-95899-02-04 22:32 J	-33305651.73	-33305651.56	-33305651.38	0.0510	0.0240
Mars	-95896-11-07 09:49 J	-33304280.22	-33304280.09	-33304279.95	0.1621	0.1022
Mars	-95893-08-19 14:08 J	-33303263.92	-33303263.91	-33303263.91	0.1904	0.1901
Saturn	-95890-12-24 10:47 J	-33302042.26	-33302042.05	-33302041.84	0.0285	0.0005
Jupiter	-95888-10-10 22:47 J	-33301385.73	-33301385.55	-33301385.36	0.0513	0.0186
Jupiter	-95881-04-01 19:54 J	-33299020.87	-33299020.67	-33299020.46	0.0517	0.0075
Saturn	-95875-06-12 05:44 J	-33296758.47	-33296758.26	-33296758.05	0.0275	0.0057
Saturn	-95874-01-27 13:54 J	-33296529.04	-33296528.92	-33296528.77	0.0275	0.0211
Uranus	-95870-08-19 13:54 J	-33294863.94	-33294863.92	-33294863.88	0.0144	0.0143
Jupiter	-95870-12-06 12:13 J	-33294755.12	-33294754.99	-33294754.85	0.0514	0.0384
Uranus	-95869-04-02 00:13 J	-33294637.67	-33294637.49	-33294637.30	0.0145	0.0072
Uranus	-95869-11-14 11:01 J	-33294411.26	-33294411.04	-33294410.83	0.0145	0.0000
Uranus	-95868-06-28 21:35 J	-33294184.77	-33294184.60	-33294184.40	0.0145	0.0074
Jupiter	-95864-10-13 09:20 J	-33292617.17	-33292617.11	-33292617.04	0.0509	0.0483
Mars	-95862-09-06 05:30 J	-33291924.44	-33291924.27	-33291924.11	0.1616	0.0542

Saturn -95861-11-18 04:03 J -33291485.42 -33291485.33 -33291485.22 0.0284 0.0248
 Saturn -95860-07-05 18:13 J -33291255.94 -33291255.74 -33291255.53 0.0284 0.0046
 Mars -95859-06-16 15:49 J -33290909.93 -33290909.84 -33290909.76 0.1911 0.1656
 Pluto -95853-09-20 07:39 J -33288622.30 -33288622.18 -33288622.04 0.0082 0.0065
 Neptune -95853-10-28 00:56 J -33288584.50 -33288584.46 -33288584.36 0.0089 0.0084
 Pluto -95852-05-03 17:59 J -33288396.96 -33288396.75 -33288396.53 0.0082 0.0008
 Neptune -95852-06-10 13:39 J -33288359.05 -33288358.93 -33288358.80 0.0089 0.0072
 Jupiter -95852-06-18 11:01 J -33288351.24 -33288351.04 -33288350.84 0.0512 0.0067
 Pluto -95852-12-15 03:49 J -33288171.38 -33288171.34 -33288171.27 0.0081 0.0079
 Neptune -95851-01-22 01:39 J -33288133.58 -33288133.43 -33288133.27 0.0089 0.0061
 Neptune -95851-09-04 13:39 J -33287908.09 -33287907.93 -33287907.73 0.0089 0.0050
 Neptune -95850-04-18 02:08 J -33287682.60 -33287682.41 -33287682.21 0.0089 0.0038
 Neptune -95850-11-29 14:37 J -33287457.10 -33287456.89 -33287456.68 0.0089 0.0026
 Neptune -95849-07-12 02:37 J -33287231.59 -33287231.39 -33287231.17 0.0089 0.0015
 Neptune -95848-02-22 15:06 J -33287006.09 -33287005.87 -33287005.66 0.0089 0.0003
 Neptune -95848-10-06 03:20 J -33286780.57 -33286780.36 -33286780.14 0.0089 0.0009
 Neptune -95847-05-19 15:35 J -33286555.06 -33286554.85 -33286554.63 0.0089 0.0020
 Neptune -95847-12-31 03:35 J -33286329.54 -33286329.35 -33286329.13 0.0089 0.0032
 Neptune -95846-08-13 16:03 J -33286104.01 -33286103.83 -33286103.63 0.0089 0.0043
 Jupiter -95846-12-09 11:59 J -33285986.15 -33285986.00 -33285985.84 0.0519 0.0343
 Saturn -95846-12-23 06:27 J -33285972.44 -33285972.23 -33285972.01 0.0274 0.0028
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 Neptune -95519-04-10 19:25 J -33166791.90 -33166791.69 -33166791.47 0.0089 0.0002
 Neptune -95519-11-22 07:54 J -33166566.38 -33166566.17 -33166565.96 0.0089 0.0011
 Neptune -95518-07-05 19:54 J -33166340.87 -33166340.67 -33166340.45 0.0089 0.0023
 Neptune -95517-02-16 08:23 J -33166115.34 -33166115.15 -33166114.95 0.0089 0.0034
 Neptune -95517-09-28 20:37 J -33165889.81 -33165889.64 -33165889.44 0.0089 0.0046
 Neptune -95516-05-12 08:51 J -33165664.27 -33165664.13 -33165663.95 0.0089 0.0058
 Neptune -95516-12-23 21:06 J -33165438.73 -33165438.62 -33165438.46 0.0089 0.0070
 Neptune -95515-08-06 09:49 J -33165213.17 -33165213.09 -33165212.99 0.0089 0.0081
 Jupiter -95508-05-08 23:01 J -33162745.73 -33162745.54 -33162745.35 0.0514 0.0126
 Saturn -95507-08-17 17:01 J -33162280.00 -33162279.79 -33162279.58 0.0284 0.0038
 Saturn -95506-04-04 06:56 J -33162050.28 -33162050.21 -33162050.12 0.0284 0.0261
 Jupiter -95502-10-29 19:39 J -33160380.88 -33160380.68 -33160380.48 0.0516 0.0142
 Mars -95501-10-19 12:42 J -33160025.15 -33160024.97 -33160024.80 0.1614 0.0034
 Mars -95498-07-30 06:13 J -33159011.35 -33159011.24 -33159011.13 0.1915 0.1486
 Uranus -95495-08-08 20:23 J -33157905.66 -33157905.65 -33157905.63 0.0135 0.0134
 Uranus -95494-03-23 03:35 J -33157679.53 -33157679.35 -33157679.16 0.0135 0.0074
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 Saturn -95492-02-03 07:11 J -33156996.40 -33156996.20 -33156996.01 0.0275 0.0103
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 Saturn -95477-02-27 19:11 J -33151493.91 -33151493.70 -33151493.49 0.0284 0.0009
 Jupiter -95472-01-14 11:59 J -33149711.19 -33149711.00 -33149710.81 0.0512 0.0134

Mars -95469-10-18 04:47 J -33148338.38 -33148338.30 -33148338.21 0.1617 0.1403
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 Mars -95466-07-30 07:54 J -33147323.27 -33147323.17 -33147323.08 0.1910 0.1592
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 Jupiter -95461-09-19 09:20 J -33145445.26 -33145445.11 -33145444.94 0.0515 0.0312
 Jupiter -95454-03-12 05:15 J -33143080.48 -33143080.28 -33143080.07 0.0515 0.0045
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 Uranus -95449-06-07 06:13 J -33141166.45 -33141166.24 -33141166.03 0.0144 0.0013
 Uranus -95448-01-19 16:47 J -33140939.99 -33140939.80 -33140939.60 0.0145 0.0059
 Saturn -95448-01-22 15:49 J -33140936.93 -33140936.84 -33140936.73 0.0284 0.0249
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 Pluto -95447-06-09 13:25 J -33140434.02 -33140433.94 -33140433.83 0.0062 0.0056
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 Earth -95440-01-28 08:37 J -33138009.29 -33138009.14 -33138008.98 0.2696 0.0398
 Moon -95440-01-28 14:23 J -33138009.06 -33138008.90 -33138008.75 0.2698 0.0435 *
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 Neptune -95440-12-10 08:08 J -33137693.34 -33137693.16 -33137692.95 0.0088 0.0046
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 Neptune -95437-05-30 15:20 J -33136791.08 -33136790.86 -33136790.63 0.0088 0.0003
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 Neptune -95435-11-18 21:49 J -33135888.76 -33135888.59 -33135888.40 0.0088 0.0051
 Neptune -95434-07-02 11:15 J -33135663.17 -33135663.03 -33135662.86 0.0088 0.0063
 Neptune -95433-02-13 00:42 J -33135437.57 -33135437.47 -33135437.33 0.0088 0.0075
 Saturn -95433-02-26 19:25 J -33135423.90 -33135423.69 -33135423.48 0.0275 0.0022
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 Saturn -95433-10-13 03:49 J -33135194.41 -33135194.34 -33135194.24 0.0275 0.0251
 Jupiter -95425-05-27 22:32 J -33132410.76 -33132410.56 -33132410.36 0.0514 0.0051
 Saturn -95419-08-04 18:27 J -33130150.86 -33130150.73 -33130150.60 0.0284 0.0218
 Jupiter -95419-11-17 18:56 J -33130045.90 -33130045.71 -33130045.53 0.0517 0.0214
 Saturn -95418-03-22 07:54 J -33129921.37 -33129921.17 -33129920.97 0.0284 0.0079
 Jupiter -95413-01-31 21:49 J -33128144.64 -33128144.59 -33128144.52 0.0516 0.0488
 Uranus -95411-11-20 14:23 J -33127121.03 -33127120.90 -33127120.73 0.0135 0.0100
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 Saturn -95404-09-07 22:03 J -33124637.79 -33124637.58 -33124637.37 0.0275 0.0011
 Mars -95403-08-15 17:01 J -33124295.90 -33124295.79 -33124295.68 0.1616 0.1227
 Mars -95400-05-26 10:18 J -33123281.22 -33123281.07 -33123280.92 0.1912 0.1019
 Jupiter -95389-02-03 07:39 J -33119376.37 -33119376.18 -33119376.00 0.0512 0.0185
 Saturn -95389-02-15 03:06 J -33119364.53 -33119364.37 -33119364.20 0.0284 0.0168
 Saturn -95389-10-01 17:01 J -33119134.98 -33119134.79 -33119134.60 0.0284 0.0131
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 Jupiter -95378-10-09 08:23 J -33115110.33 -33115110.15 -33115109.98 0.0515 0.0241
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 Saturn -95359-04-13 18:56 J -33108348.87 -33108348.71 -33108348.53 0.0284 0.0162
 Moon -95359-08-08 13:11 J -33108232.10 -33108231.95 -33108231.80 0.2647 0.0044
 Earth -95359-08-08 17:01 J -33108231.94 -33108231.79 -33108231.64 0.2643 0.0704 *
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 Neptune -95356-04-18 03:06 J -33107248.56 -33107248.37 -33107248.15 0.0089 0.0030
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 Pluto -95355-06-02 13:25 J -33106838.04 -33106837.94 -33106837.81 0.0081 0.0068
 Neptune -95355-07-13 03:49 J -33106797.55 -33106797.34 -33106797.12 0.0089 0.0006
 Neptune -95354-02-23 16:18 J -33106572.04 -33106571.82 -33106571.61 0.0089 0.0006
 Neptune -95354-10-07 04:32 J -33106346.51 -33106346.31 -33106346.09 0.0089 0.0018
 Jupiter -95354-10-11 20:51 J -33106341.72 -33106341.63 -33106341.53 0.0510 0.0445
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 Neptune -95352-08-13 17:15 J -33105669.93 -33105669.78 -33105669.59 0.0089 0.0054
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 Saturn -95345-02-13 22:47 J -33103294.70 -33103294.55 -33103294.39 0.0275 0.0188
 Saturn -95345-09-30 08:37 J -33103065.34 -33103065.14 -33103064.94 0.0275 0.0088
 Jupiter -95342-06-16 19:11 J -33102075.90 -33102075.70 -33102075.50 0.0513 0.0012
 Mars -95337-06-12 05:44 J -33100253.38 -33100253.26 -33100253.13 0.1615 0.1066
 Jupiter -95336-12-06 18:42 J -33099710.89 -33099710.72 -33099710.54 0.0517 0.0290
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 Saturn -95330-03-09 12:56 J -33097792.15 -33097791.96 -33097791.76 0.0284 0.0090
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 Uranus -95326-10-16 15:20 J -33096110.08 -33096109.86 -33096109.64 0.0135 0.0006
 Uranus -95325-05-29 22:18 J -33095883.77 -33095883.57 -33095883.36 0.0134 0.0054
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 Jupiter -95324-08-11 08:37 J -33095445.34 -33095445.14 -33095444.95 0.0513 0.0182
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 Jupiter -95295-10-28 08:23 J -33084775.33 -33084775.15 -33084774.96 0.0515 0.0164
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 Neptune -95275-10-25 05:44 J -33077473.45 -33077473.26 -33077473.05 0.0088 0.0038
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 Neptune -95273-08-31 23:01 J -33076796.76 -33076796.54 -33076796.31 0.0088 0.0003
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 Saturn -95242-02-24 10:32 J -33065663.07 -33065663.06 -33065663.03 0.0283 0.0282
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Uranus -95241-01-28 09:20 J -33065325.32 -33065325.11 -33065324.89 0.0134 0.0029
 Jupiter -95241-08-30 08:37 J -33065110.34 -33065110.14 -33065109.94 0.0514 0.0105
 Uranus -95241-09-10 16:03 J -33065098.99 -33065098.83 -33065098.66 0.0134 0.0088
 Mars -95237-02-06 15:06 J -33063855.03 -33063854.87 -33063854.72 0.1610 0.0659
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 Saturn -95213-09-05 14:37 J -33054876.99 -33054876.89 -33054876.78 0.0284 0.0244
 Saturn -95212-04-23 04:18 J -33054647.53 -33054647.32 -33054647.11 0.0284 0.0056
 Jupiter -95212-11-16 06:27 J -33054440.42 -33054440.23 -33054440.03 0.0514 0.0098
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 Jupiter -95205-05-07 23:59 J -33052075.69 -33052075.50 -33052075.30 0.0515 0.0162
 Mars -95203-11-14 17:15 J -33051154.94 -33051154.78 -33051154.62 0.1917 0.0747
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 Uranus -95198-06-05 09:35 J -33049491.24 -33049491.10 -33049490.96 0.0144 0.0108
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 Saturn -95198-10-11 02:51 J -33049363.59 -33049363.38 -33049363.16 0.0275 0.0010
 Uranus -95197-01-17 19:25 J -33049264.89 -33049264.69 -33049264.48 0.0144 0.0037
 Moon -95197-01-29 03:20 J -33049253.49 -33049253.36 -33049253.23 0.2697 0.1589
 Earth -95197-01-29 08:23 J -33049253.30 -33049253.15 -33049253.00 0.2700 0.0647 *
 Pluto -95197-03-18 03:49 J -33049204.54 -33049204.34 -33049204.11 0.0062 0.0021
 Uranus -95197-08-31 05:44 J -33049038.46 -33049038.26 -33049038.05 0.0144 0.0035
 Pluto -95197-10-29 07:54 J -33048979.26 -33048979.17 -33048979.05 0.0063 0.0055
 Uranus -95196-04-14 16:03 J -33048811.96 -33048811.83 -33048811.67 0.0145 0.0108
 Neptune -95194-01-30 11:15 J -33048156.10 -33048156.03 -33048155.93 0.0089 0.0081
 Neptune -95194-09-12 23:44 J -33047930.64 -33047930.51 -33047930.37 0.0089 0.0069
 Jupiter -95193-01-11 17:01 J -33047809.96 -33047809.79 -33047809.62 0.0512 0.0293
 Neptune -95193-04-25 11:30 J -33047705.16 -33047705.02 -33047704.84 0.0089 0.0058
 Neptune -95193-12-06 23:44 J -33047479.68 -33047479.51 -33047479.31 0.0089 0.0046

Neptune -95192-07-20 11:59 J -33047254.19 -33047254.00 -33047253.79 0.0089 0.0034
 Neptune -95191-03-03 00:27 J -33047028.69 -33047028.48 -33047028.28 0.0089 0.0022
 Neptune -95191-10-14 12:27 J -33046803.18 -33046802.98 -33046802.76 0.0089 0.0011
 Neptune -95190-05-28 00:56 J -33046577.67 -33046577.46 -33046577.24 0.0089 0.0001
 Neptune -95189-01-08 13:11 J -33046352.16 -33046351.95 -33046351.74 0.0089 0.0013
 Neptune -95189-08-21 01:25 J -33046126.64 -33046126.44 -33046126.23 0.0089 0.0025
 Neptune -95188-04-03 13:54 J -33045901.11 -33045900.92 -33045900.72 0.0089 0.0037
 Neptune -95188-11-15 02:23 J -33045675.58 -33045675.40 -33045675.22 0.0089 0.0049
 Neptune -95187-06-28 14:37 J -33045450.04 -33045449.89 -33045449.73 0.0089 0.0061
 Neptune -95186-02-09 02:51 J -33045224.49 -33045224.38 -33045224.24 0.0089 0.0073
 Neptune -95186-09-22 15:20 J -33044998.90 -33044998.86 -33044998.78 0.0089 0.0085
 Saturn -95183-03-18 17:44 J -33044090.89 -33044090.76 -33044090.61 0.0283 0.0211
 Saturn -95183-11-03 07:11 J -33043861.39 -33043861.20 -33043860.99 0.0284 0.0090
 Jupiter -95176-07-24 20:08 J -33041405.84 -33041405.66 -33041405.47 0.0513 0.0168
 Mars -95172-12-04 04:03 J -33039812.48 -33039812.33 -33039812.18 0.1610 0.0817
 Jupiter -95169-01-14 17:44 J -33039040.86 -33039040.76 -33039040.65 0.0517 0.0441
 Saturn -95169-09-04 16:18 J -33038806.90 -33038806.82 -33038806.72 0.0275 0.0246
 Saturn -95168-04-22 02:37 J -33038577.60 -33038577.39 -33038577.18 0.0275 0.0033
 Jupiter -95164-03-29 18:56 J -33037139.88 -33037139.71 -33037139.54 0.0516 0.0273
 Uranus -95159-07-02 04:18 J -33035219.41 -33035219.32 -33035219.21 0.0135 0.0120
 Uranus -95158-02-13 11:59 J -33034993.20 -33034993.00 -33034992.80 0.0135 0.0058
 Jupiter -95158-09-19 10:47 J -33034775.25 -33034775.05 -33034774.84 0.0514 0.0019
 Uranus -95158-09-27 19:11 J -33034766.92 -33034766.70 -33034766.48 0.0135 0.0003
 Uranus -95157-05-11 02:08 J -33034540.59 -33034540.41 -33034540.20 0.0134 0.0062
 Uranus -95157-12-23 08:51 J -33034314.21 -33034314.13 -33034314.03 0.0134 0.0121
 Saturn -95154-09-28 20:51 J -33033304.79 -33033304.63 -33033304.47 0.0284 0.0176
 Saturn -95153-05-15 10:18 J -33033075.25 -33033075.07 -33033074.87 0.0284 0.0126
 Jupiter -95146-05-25 02:23 J -33030509.47 -33030509.40 -33030509.32 0.0511 0.0474
 Jupiter -95140-04-01 06:42 J -33028371.34 -33028371.22 -33028371.11 0.0512 0.0413
 Mars -95140-12-02 19:25 J -33028125.85 -33028125.69 -33028125.52 0.1612 0.0561

Saturn -95139-03-18 00:56 J -33028020.60 -33028020.46 -33028020.32 0.0276 0.0202
 Saturn -95139-11-02 10:47 J -33027791.25 -33027791.05 -33027790.84 0.0275 0.0077
 Mars -95137-09-10 18:56 J -33027112.83 -33027112.71 -33027112.59 0.1918 0.1367
 Jupiter -95129-12-05 07:39 J -33024105.38 -33024105.18 -33024104.98 0.0515 0.0016
 Saturn -95124-04-10 00:42 J -33022518.65 -33022518.47 -33022518.28 0.0283 0.0140
 Saturn -95124-11-25 14:23 J -33022289.07 -33022288.90 -33022288.73 0.0284 0.0161
 Jupiter -95122-05-28 00:42 J -33021740.64 -33021740.47 -33021740.28 0.0516 0.0244
 Jupiter -95117-08-10 07:54 J -33019839.27 -33019839.17 -33019839.07 0.0517 0.0448
 Earth -95116-08-08 19:25 J -33019475.85 -33019475.69 -33019475.54 0.2640 0.0800
 Moon -95116-08-09 00:13 J -33019475.62 -33019475.49 -33019475.35 0.2639 0.1467 *
 Uranus -95114-02-02 18:27 J -33018932.77 -33018932.73 -33018932.68 0.0143 0.0140
 Uranus -95114-09-17 04:18 J -33018706.50 -33018706.32 -33018706.13 0.0144 0.0070
 Uranus -95113-04-30 14:37 J -33018480.11 -33018479.89 -33018479.68 0.0144 0.0002
 Uranus -95113-12-13 00:42 J -33018253.64 -33018253.47 -33018253.27 0.0144 0.0074
 Neptune -95112-03-20 19:54 J -33018155.75 -33018155.67 -33018155.55 0.0088 0.0080
 Neptune -95112-11-01 09:49 J -33017930.22 -33017930.09 -33017929.93 0.0088 0.0067
 Neptune -95111-06-14 23:59 J -33017704.67 -33017704.50 -33017704.32 0.0088 0.0055
 Neptune -95110-01-26 13:39 J -33017479.11 -33017478.93 -33017478.72 0.0088 0.0043
 Jupiter -95110-01-30 18:56 J -33017474.89 -33017474.71 -33017474.52 0.0513 0.0207
 Neptune -95110-09-09 03:35 J -33017253.55 -33017253.35 -33017253.13 0.0088 0.0030
 Saturn -95110-09-28 00:13 J -33017234.65 -33017234.49 -33017234.32 0.0275 0.0175
 Neptune -95109-04-21 17:30 J -33017027.98 -33017027.77 -33017027.54 0.0088 0.0019
 Saturn -95109-05-14 10:18 J -33017005.27 -33017005.07 -33017004.87 0.0275 0.0103
 Neptune -95109-12-03 07:39 J -33016802.41 -33016802.18 -33016801.96 0.0088 0.0006
 Neptune -95108-07-16 21:20 J -33016576.83 -33016576.61 -33016576.39 0.0088 0.0007
 Pluto -95108-09-22 01:39 J -33016509.58 -33016509.43 -33016509.24 0.0082 0.0049
 Neptune -95107-02-27 11:01 J -33016351.26 -33016351.04 -33016350.82 0.0088 0.0019
 Pluto -95107-05-05 12:13 J -33016284.19 -33016283.99 -33016283.78 0.0082 0.0023
 Neptune -95107-10-11 00:13 J -33016125.68 -33016125.49 -33016125.26 0.0088 0.0032
 Neptune -95106-05-24 14:08 J -33015900.09 -33015899.91 -33015899.70 0.0088 0.0043

Mars -95106-10-01 16:18 J -33015769.96 -33015769.82 -33015769.69 0.1609 0.0991
 Neptune -95105-01-05 03:35 J -33015674.51 -33015674.35 -33015674.16 0.0088 0.0056
 Neptune -95105-08-17 17:01 J -33015448.91 -33015448.79 -33015448.62 0.0088 0.0068
 Mars -95105-09-10 22:03 J -33015424.63 -33015424.58 -33015424.52 0.1914 0.1806
 Neptune -95104-03-31 06:42 J -33015223.30 -33015223.22 -33015223.10 0.0088 0.0080
 Saturn -95095-10-21 02:37 J -33011732.58 -33011732.39 -33011732.19 0.0284 0.0108
 Saturn -95094-06-07 16:32 J -33011502.96 -33011502.81 -33011502.66 0.0284 0.0194
 Jupiter -95093-08-12 19:25 J -33011070.86 -33011070.69 -33011070.51 0.0513 0.0240
 Jupiter -95081-04-17 18:27 J -33006804.91 -33006804.73 -33006804.54 0.0516 0.0198
 Saturn -95080-04-09 08:23 J -33006448.34 -33006448.15 -33006447.96 0.0276 0.0133
 Saturn -95080-11-24 18:13 J -33006218.92 -33006218.74 -33006218.56 0.0275 0.0147
 Jupiter -95075-10-08 09:49 J -33004440.29 -33004440.09 -33004439.88 0.0514 0.0057
 Uranus -95075-10-13 21:35 J -33004434.75 -33004434.60 -33004434.41 0.0135 0.0087
 Uranus -95074-05-28 05:30 J -33004208.49 -33004208.27 -33004208.05 0.0135 0.0025
 Mars -95074-09-30 07:54 J -33004083.34 -33004083.17 -33004083.00 0.1611 0.0389
 Uranus -95073-01-09 12:27 J -33003982.18 -33003981.98 -33003981.76 0.0135 0.0036
 Uranus -95073-08-22 19:25 J -33003755.84 -33003755.69 -33003755.53 0.0134 0.0095
 Saturn -95065-05-02 07:25 J -33000946.39 -33000946.19 -33000945.98 0.0283 0.0070
 Saturn -95065-12-17 20:51 J -33000716.74 -33000716.63 -33000716.50 0.0284 0.0233
 Jupiter -95063-06-13 02:51 J -33000174.50 -33000174.38 -33000174.24 0.0511 0.0397
 Jupiter -95057-04-20 08:37 J -32998036.18 -32998036.14 -32998036.10 0.0511 0.0499
 Saturn -95051-10-20 07:54 J -32995662.36 -32995662.17 -32995661.97 0.0275 0.0106
 Saturn -95050-06-06 17:44 J -32995432.92 -32995432.76 -32995432.59 0.0275 0.0173
 Jupiter -95046-12-25 08:08 J -32993770.35 -32993770.16 -32993769.96 0.0514 0.0068
 Mars -95040-07-29 05:15 J -32991727.40 -32991727.28 -32991727.16 0.1608 0.1150
 Jupiter -95039-06-16 03:49 J -32991405.49 -32991405.34 -32991405.18 0.0516 0.0337
 Mars -95039-07-08 23:59 J -32991382.64 -32991382.50 -32991382.37 0.1916 0.1206
 Saturn -95036-11-12 08:51 J -32990160.34 -32990160.13 -32990159.92 0.0284 0.0040
 Saturn -95035-06-29 22:32 J -32989930.63 -32989930.56 -32989930.48 0.0284 0.0264
 Jupiter -95034-08-30 07:25 J -32989504.33 -32989504.19 -32989504.05 0.0517 0.0373

Neptune -95030-05-03 21:20 J -32988161.66 -32988161.61 -32988161.55 0.0089 0.0085
 Uranus -95030-05-17 13:11 J -32988148.09 -32988147.95 -32988147.79 0.0143 0.0102
 Neptune -95030-12-15 09:06 J -32987936.22 -32987936.12 -32987935.98 0.0089 0.0074
 Uranus -95030-12-29 23:01 J -32987921.74 -32987921.54 -32987921.33 0.0144 0.0031
 Neptune -95029-07-27 21:20 J -32987710.75 -32987710.61 -32987710.44 0.0089 0.0062
 Uranus -95029-08-12 09:06 J -32987695.32 -32987695.12 -32987694.91 0.0144 0.0041
 Neptune -95028-03-10 09:35 J -32987485.27 -32987485.10 -32987484.92 0.0089 0.0050
 Uranus -95028-03-26 19:11 J -32987468.81 -32987468.70 -32987468.55 0.0145 0.0114
 Neptune -95028-10-21 21:49 J -32987259.78 -32987259.59 -32987259.39 0.0089 0.0038
 Jupiter -95027-02-18 19:39 J -32987139.88 -32987139.68 -32987139.48 0.0512 0.0126
 Neptune -95027-06-04 10:03 J -32987034.28 -32987034.08 -32987033.87 0.0089 0.0026
 Neptune -95026-01-15 22:03 J -32986808.78 -32986808.58 -32986808.36 0.0089 0.0015
 Neptune -95026-08-29 10:32 J -32986583.28 -32986583.06 -32986582.85 0.0089 0.0003
 Neptune -95025-04-10 22:47 J -32986357.77 -32986357.55 -32986357.34 0.0089 0.0009
 Neptune -95025-11-22 11:01 J -32986132.25 -32986132.04 -32986131.83 0.0089 0.0021
 Neptune -95024-07-05 23:15 J -32985906.73 -32985906.53 -32985906.33 0.0089 0.0033
 Neptune -95023-02-16 11:30 J -32985681.20 -32985681.02 -32985680.83 0.0089 0.0045
 Neptune -95023-09-29 23:59 J -32985455.66 -32985455.50 -32985455.33 0.0089 0.0057
 Neptune -95022-05-13 12:27 J -32985230.11 -32985229.98 -32985229.84 0.0089 0.0069
 Neptune -95022-12-25 00:42 J -32985004.54 -32985004.47 -32985004.38 0.0089 0.0081
 Saturn -95021-05-01 15:20 J -32984876.06 -32984875.86 -32984875.65 0.0276 0.0064
 Saturn -95021-12-17 01:11 J -32984646.58 -32984646.45 -32984646.32 0.0276 0.0216
 Jupiter -95010-09-01 19:39 J -32980735.83 -32980735.68 -32980735.52 0.0513 0.0319
 Mars -95008-07-27 20:37 J -32980040.81 -32980040.64 -32980040.47 0.1610 0.0222
 Saturn -95006-05-25 14:51 J -32979374.09 -32979373.88 -32979373.67 0.0283 0.0004

95TH MILLENNIUM BCE

This is a list of transits of Venus in the 95th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Jupiter	-94998-05-07 20:37 J		-32976469.84	-32976469.64	-32976469.45	0.0516	0.0110	
Jupiter	-94992-10-27 11:30 J		-32974105.21	-32974105.02	-32974104.81	0.0514	0.0142	
Saturn	-94992-11-11 15:35 J		-32974090.06	-32974089.85	-32974089.64	0.0275	0.0035	
Uranus	-94991-06-13 06:27 J		-32973876.33	-32973876.23	-32973876.11	0.0135	0.0115	
Saturn	-94991-06-29 00:56 J		-32973860.54	-32973860.46	-32973860.35	0.0275	0.0244	
Uranus	-94990-01-25 14:08 J		-32973650.11	-32973649.91	-32973649.70	0.0135	0.0054	
Uranus	-94990-09-08 21:35 J		-32973423.82	-32973423.60	-32973423.38	0.0135	0.0007	
Uranus	-94989-04-22 04:47 J		-32973197.49	-32973197.30	-32973197.11	0.0134	0.0067	
Uranus	-94989-12-04 11:15 J		-32972971.09	-32972971.03	-32972970.94	0.0134	0.0126	
Jupiter	-94980-07-02 05:44 J		-32969839.43	-32969839.26	-32969839.10	0.0512	0.0307	
Saturn	-94977-04-19 02:37 J		-32968817.45	-32968817.39	-32968817.32	0.0283	0.0268	
Saturn	-94977-12-04 15:35 J		-32968588.06	-32968587.85	-32968587.64	0.0283	0.0032	
Mars	-94976-07-26 12:13 J		-32968353.99	-32968353.99	-32968353.99	0.1612	0.1612	
Mars	-94974-05-26 17:59 J		-32967684.85	-32967684.75	-32967684.65	0.1607	0.1315	
Mars	-94973-05-05 01:54 J		-32967340.59	-32967340.42	-32967340.25	0.1918	0.0602	
Jupiter	-94962-01-13 06:42 J		-32963435.41	-32963435.22	-32963435.03	0.0514	0.0136	
Saturn	-94962-05-24 22:47 J		-32963303.77	-32963303.55	-32963303.34	0.0276	0.0007	
Jupiter	-94956-07-05 03:06 J		-32961070.49	-32961070.37	-32961070.24	0.0515	0.0411	
Earth	-94954-01-29 07:39 J		-32960497.33	-32960497.18	-32960497.03	0.2703	0.0973	
Moon	-94954-01-29 11:15 J		-32960497.18	-32960497.03	-32960496.88	0.2708	0.0210	*
Jupiter	-94951-09-18 06:42 J		-32959169.38	-32959169.22	-32959169.06	0.0517	0.0301	
Pluto	-94950-07-08 23:15 J		-32958875.68	-32958875.53	-32958875.33	0.0062	0.0039	

Pluto -94949-02-19 03:49 J -32958650.56 -32958650.34 -32958650.10 0.0062 0.0007
 Pluto -94949-10-01 07:39 J -32958425.36 -32958425.18 -32958424.95 0.0062 0.0028
 Pluto -94948-05-14 11:59 J -32958200.04 -32958200.00 -32958199.93 0.0063 0.0061
 Neptune -94948-06-22 04:32 J -32958161.37 -32958161.31 -32958161.22 0.0088 0.0084
 Saturn -94948-10-30 10:18 J -32958031.19 -32958031.07 -32958030.93 0.0283 0.0221
 Neptune -94947-02-02 18:13 J -32957935.85 -32957935.74 -32957935.59 0.0088 0.0072
 Saturn -94947-06-16 22:47 J -32957801.75 -32957801.55 -32957801.34 0.0283 0.0079
 Neptune -94947-09-16 08:37 J -32957710.31 -32957710.14 -32957709.97 0.0088 0.0059
 Uranus -94946-01-14 21:35 J -32957589.67 -32957589.60 -32957589.53 0.0143 0.0135
 Neptune -94946-04-29 22:32 J -32957484.75 -32957484.56 -32957484.36 0.0088 0.0047
 Uranus -94946-08-29 07:11 J -32957363.39 -32957363.20 -32957363.01 0.0144 0.0065
 Neptune -94946-12-11 12:13 J -32957259.18 -32957258.99 -32957258.77 0.0088 0.0035
 Uranus -94945-04-11 17:15 J -32957137.00 -32957136.78 -32957136.57 0.0144 0.0007
 Neptune -94945-07-24 02:23 J -32957033.62 -32957033.40 -32957033.18 0.0088 0.0022
 Uranus -94945-11-24 03:20 J -32956910.53 -32956910.36 -32956910.17 0.0144 0.0079
 Neptune -94944-03-06 16:03 J -32956808.05 -32956807.83 -32956807.60 0.0088 0.0010
 Jupiter -94944-03-09 19:11 J -32956804.90 -32956804.70 -32956804.49 0.0513 0.0053
 Neptune -94944-10-18 05:59 J -32956582.48 -32956582.25 -32956582.03 0.0088 0.0003
 Neptune -94943-05-31 19:39 J -32956356.90 -32956356.68 -32956356.45 0.0088 0.0015
 Neptune -94942-01-12 09:20 J -32956131.32 -32956131.11 -32956130.89 0.0088 0.0028
 Mars -94942-05-25 09:06 J -32955998.29 -32955998.12 -32955997.94 0.1609 0.0068
 Neptune -94942-08-25 23:01 J -32955905.73 -32955905.54 -32955905.33 0.0088 0.0040
 Neptune -94941-04-07 12:27 J -32955680.14 -32955679.98 -32955679.78 0.0088 0.0053
 Neptune -94941-11-19 02:08 J -32955454.54 -32955454.41 -32955454.24 0.0088 0.0065
 Neptune -94940-07-02 15:35 J -32955228.94 -32955228.85 -32955228.72 0.0088 0.0077
 Neptune -94939-02-13 05:30 J -32955003.27 -32955003.27 -32955003.26 0.0088 0.0088
 Saturn -94933-04-18 12:56 J -32952747.06 -32952746.96 -32952746.87 0.0276 0.0246
 Jupiter -94933-11-12 13:39 J -32952538.97 -32952538.93 -32952538.88 0.0510 0.0497
 Saturn -94933-12-03 23:30 J -32952517.73 -32952517.52 -32952517.30 0.0275 0.0037
 Jupiter -94927-09-20 20:08 J -32950400.78 -32950400.66 -32950400.53 0.0512 0.0399

Saturn -94918-05-12 10:47 J -32947245.20 -32947245.05 -32947244.89 0.0283 0.0194
 Saturn -94918-12-27 23:30 J -32947015.71 -32947015.52 -32947015.32 0.0283 0.0107
 Jupiter -94915-05-26 19:54 J -32946134.87 -32946134.67 -32946134.47 0.0515 0.0037
 Mars -94910-05-24 00:42 J -32944311.54 -32944311.47 -32944311.39 0.1611 0.1448
 Jupiter -94909-11-15 12:27 J -32943770.16 -32943769.98 -32943769.79 0.0514 0.0224
 Mars -94908-03-23 06:56 J -32943642.28 -32943642.21 -32943642.15 0.1607 0.1477
 Mars -94907-03-02 03:49 J -32943298.52 -32943298.34 -32943298.16 0.1919 0.0005
 Uranus -94907-09-24 23:30 J -32943091.69 -32943091.52 -32943091.34 0.0135 0.0083
 Uranus -94906-05-09 07:11 J -32942865.42 -32942865.20 -32942864.98 0.0135 0.0022
 Uranus -94906-12-21 14:23 J -32942639.11 -32942638.90 -32942638.69 0.0135 0.0039
 Uranus -94905-08-03 21:06 J -32942412.76 -32942412.62 -32942412.46 0.0134 0.0099
 Saturn -94904-10-29 19:11 J -32941960.83 -32941960.70 -32941960.55 0.0277 0.0207
 Jupiter -94903-01-29 16:47 J -32941868.86 -32941868.80 -32941868.74 0.0519 0.0491
 Saturn -94903-06-16 06:13 J -32941731.44 -32941731.24 -32941731.03 0.0276 0.0078
 Jupiter -94897-07-21 05:15 J -32939504.46 -32939504.28 -32939504.09 0.0511 0.0233
 Saturn -94889-11-21 19:25 J -32936458.86 -32936458.69 -32936458.50 0.0282 0.0144
 Saturn -94888-07-09 08:08 J -32936229.33 -32936229.16 -32936228.98 0.0283 0.0157
 Jupiter -94879-02-01 07:39 J -32933100.36 -32933100.18 -32933100.00 0.0514 0.0218
 Mars -94876-03-21 22:03 J -32931955.76 -32931955.58 -32931955.41 0.1608 0.0115
 Saturn -94874-05-11 21:49 J -32931174.75 -32931174.59 -32931174.42 0.0276 0.0172
 Saturn -94874-12-27 08:23 J -32930945.34 -32930945.15 -32930944.95 0.0276 0.0112
 Jupiter -94873-07-24 03:06 J -32930735.42 -32930735.37 -32930735.29 0.0516 0.0488
 Moon -94873-08-08 16:32 J -32930719.97 -32930719.81 -32930719.66 0.2638 0.0452
 Earth -94873-08-08 21:49 J -32930719.74 -32930719.59 -32930719.44 0.2637 0.0918 *
 Jupiter -94868-10-07 07:11 J -32928834.38 -32928834.20 -32928834.02 0.0517 0.0220
 Neptune -94865-03-17 19:11 J -32927941.78 -32927941.70 -32927941.58 0.0089 0.0078
 Neptune -94865-10-29 07:25 J -32927716.31 -32927716.19 -32927716.03 0.0089 0.0066
 Neptune -94864-06-11 19:39 J -32927490.84 -32927490.68 -32927490.50 0.0089 0.0054
 Neptune -94863-01-23 07:54 J -32927265.35 -32927265.17 -32927264.98 0.0089 0.0042
 Neptune -94863-09-05 20:08 J -32927039.86 -32927039.66 -32927039.45 0.0089 0.0030

Neptune -94862-04-19 08:23 J -32926814.36 -32926814.15 -32926813.94 0.0089 0.0018
 Uranus -94862-04-28 15:35 J -32926805.00 -32926804.85 -32926804.69 0.0143 0.0098
 Neptune -94862-11-30 20:37 J -32926588.85 -32926588.64 -32926588.42 0.0089 0.0006
 Uranus -94862-12-11 01:25 J -32926578.65 -32926578.44 -32926578.23 0.0144 0.0027
 Jupiter -94861-03-28 21:06 J -32926469.83 -32926469.62 -32926469.41 0.0513 0.0034
 Neptune -94861-07-13 08:51 J -32926363.35 -32926363.13 -32926362.92 0.0089 0.0006
 Uranus -94861-07-24 11:30 J -32926352.22 -32926352.02 -32926351.82 0.0144 0.0044
 Neptune -94860-02-23 20:51 J -32926137.83 -32926137.63 -32926137.41 0.0089 0.0018
 Uranus -94860-03-07 21:35 J -32926125.72 -32926125.60 -32926125.47 0.0144 0.0117
 Neptune -94860-10-07 09:06 J -32925912.31 -32925912.12 -32925911.90 0.0089 0.0030
 Pluto -94859-04-07 06:42 J -32925730.39 -32925730.22 -32925730.02 0.0082 0.0039
 Neptune -94859-05-20 21:20 J -32925686.78 -32925686.61 -32925686.40 0.0089 0.0042
 Saturn -94859-06-03 20:23 J -32925672.84 -32925672.65 -32925672.46 0.0283 0.0116
 Pluto -94859-11-18 17:01 J -32925504.97 -32925504.79 -32925504.58 0.0082 0.0033
 Neptune -94858-01-01 09:35 J -32925461.25 -32925461.10 -32925460.91 0.0089 0.0054
 Saturn -94858-01-19 09:06 J -32925443.28 -32925443.12 -32925442.96 0.0283 0.0186
 Neptune -94858-08-14 22:03 J -32925235.71 -32925235.58 -32925235.43 0.0089 0.0066
 Neptune -94857-03-27 10:18 J -32925010.15 -32925010.07 -32925009.95 0.0089 0.0078
 Jupiter -94850-12-02 14:37 J -32922204.00 -32922203.89 -32922203.77 0.0510 0.0416
 Saturn -94845-11-21 03:49 J -32920388.53 -32920388.34 -32920388.15 0.0277 0.0133
 Mars -94844-03-20 13:11 J -32920269.05 -32920268.95 -32920268.84 0.1610 0.1275
 Saturn -94844-07-08 14:23 J -32920159.07 -32920158.90 -32920158.71 0.0276 0.0152
 Jupiter -94844-10-09 17:15 J -32920065.87 -32920065.78 -32920065.69 0.0513 0.0458
 Mars -94842-12-28 05:30 J -32919256.44 -32919256.27 -32919256.10 0.1920 0.0635
 Jupiter -94832-06-14 17:01 J -32915799.99 -32915799.79 -32915799.59 0.0516 0.0024
 Saturn -94830-12-15 06:13 J -32914886.44 -32914886.24 -32914886.03 0.0282 0.0061
 Saturn -94829-07-31 18:56 J -32914656.81 -32914656.71 -32914656.59 0.0283 0.0241
 Jupiter -94826-12-05 10:32 J -32913435.23 -32913435.06 -32913434.89 0.0514 0.0289
 Uranus -94823-05-25 07:54 J -32912533.29 -32912533.17 -32912533.05 0.0136 0.0113
 Uranus -94822-01-06 15:35 J -32912307.05 -32912306.85 -32912306.64 0.0135 0.0051

Uranus -94822-08-20 22:47 J -32912080.76 -32912080.55 -32912080.32 0.0135 0.0010
 Uranus -94821-04-03 05:44 J -32911854.44 -32911854.26 -32911854.06 0.0135 0.0070
 Uranus -94821-11-15 12:13 J -32911628.02 -32911627.99 -32911627.91 0.0134 0.0130
 Jupiter -94820-02-17 17:15 J -32911533.90 -32911533.78 -32911533.66 0.0518 0.0413
 Saturn -94815-06-03 07:25 J -32909602.38 -32909602.19 -32909601.98 0.0276 0.0096
 Saturn -94814-01-18 17:59 J -32909372.90 -32909372.75 -32909372.59 0.0276 0.0188
 Jupiter -94814-08-10 04:03 J -32909169.53 -32909169.33 -32909169.13 0.0512 0.0165
 Mars -94810-01-17 10:32 J -32907913.23 -32907913.06 -32907912.89 0.1608 0.0281
 Saturn -94800-06-26 07:11 J -32904100.40 -32904100.20 -32904099.99 0.0283 0.0033
 Saturn -94799-02-10 20:08 J -32903870.72 -32903870.66 -32903870.60 0.0283 0.0269
 Jupiter -94796-02-20 05:59 J -32902765.41 -32902765.25 -32902765.08 0.0514 0.0286
 Saturn -94786-12-14 13:25 J -32898816.14 -32898815.94 -32898815.72 0.0277 0.0056
 Saturn -94785-07-30 23:59 J -32898586.61 -32898586.50 -32898586.38 0.0276 0.0229
 Jupiter -94785-10-26 03:06 J -32898499.56 -32898499.37 -32898499.18 0.0517 0.0168
 Neptune -94784-09-23 13:39 J -32898166.93 -32898166.93 -32898166.87 0.0088 0.0088
 Neptune -94783-05-07 04:18 J -32897941.44 -32897941.32 -32897941.20 0.0088 0.0075
 Neptune -94783-12-18 17:59 J -32897715.90 -32897715.75 -32897715.58 0.0088 0.0063
 Neptune -94782-08-01 07:39 J -32897490.35 -32897490.18 -32897489.98 0.0088 0.0051
 Neptune -94781-03-13 21:49 J -32897264.79 -32897264.59 -32897264.38 0.0088 0.0038
 Neptune -94781-10-25 11:30 J -32897039.22 -32897039.02 -32897038.79 0.0088 0.0026
 Neptune -94780-06-08 01:39 J -32896813.65 -32896813.43 -32896813.21 0.0088 0.0013
 Neptune -94779-01-19 15:20 J -32896588.08 -32896587.86 -32896587.63 0.0088 0.0002
 Neptune -94779-09-02 05:01 J -32896362.50 -32896362.29 -32896362.06 0.0088 0.0013
 Uranus -94779-12-26 23:30 J -32896246.60 -32896246.52 -32896246.43 0.0143 0.0131
 Mars -94778-01-16 02:08 J -32896226.54 -32896226.41 -32896226.29 0.1610 0.1115
 Neptune -94778-04-15 18:56 J -32896136.92 -32896136.71 -32896136.48 0.0088 0.0025
 Jupiter -94778-04-17 20:08 J -32896134.87 -32896134.66 -32896134.46 0.0513 0.0104
 Uranus -94778-08-10 08:51 J -32896020.31 -32896020.13 -32896019.92 0.0144 0.0062
 Neptune -94778-11-27 08:51 J -32895911.33 -32895911.13 -32895910.92 0.0088 0.0037
 Uranus -94777-03-23 18:56 J -32895793.92 -32895793.71 -32895793.49 0.0144 0.0010

Neptune -94777-07-09 22:18 J -32895685.74 -32895685.57 -32895685.37 0.0088 0.0049
 Uranus -94777-11-05 05:15 J -32895567.46 -32895567.28 -32895567.10 0.0144 0.0081
 Neptune -94776-02-20 11:59 J -32895460.15 -32895460.00 -32895459.83 0.0088 0.0062
 Neptune -94776-10-04 01:39 J -32895234.54 -32895234.43 -32895234.30 0.0088 0.0074
 Mars -94776-10-24 07:11 J -32895214.33 -32895214.20 -32895214.06 0.1921 0.1255
 Neptune -94775-05-17 15:35 J -32895008.90 -32895008.85 -32895008.80 0.0088 0.0086
 Saturn -94771-05-22 05:59 J -32893543.29 -32893543.25 -32893543.19 0.0282 0.0274
 Saturn -94770-01-06 17:59 J -32893313.96 -32893313.75 -32893313.54 0.0282 0.0025
 Jupiter -94767-12-21 11:15 J -32891869.17 -32891869.03 -32891868.88 0.0510 0.0359
 Saturn -94756-06-25 18:27 J -32888029.95 -32888029.73 -32888029.52 0.0276 0.0016
 Saturn -94755-02-10 04:18 J -32887800.36 -32887800.32 -32887800.26 0.0276 0.0268
 Jupiter -94749-07-03 16:32 J -32885465.00 -32885464.81 -32885464.61 0.0515 0.0100
 Mars -94745-11-13 23:30 J -32883870.69 -32883870.52 -32883870.35 0.1607 0.0440
 Jupiter -94743-12-24 10:32 J -32883100.20 -32883100.06 -32883099.91 0.0515 0.0367
 Saturn -94742-12-02 07:25 J -32882757.28 -32882757.19 -32882757.07 0.0282 0.0246
 Saturn -94741-07-18 19:39 J -32882527.89 -32882527.68 -32882527.47 0.0283 0.0054
 Uranus -94739-09-06 00:13 J -32881748.66 -32881748.49 -32881748.30 0.0135 0.0081
 Uranus -94738-04-20 07:54 J -32881522.38 -32881522.17 -32881521.94 0.0135 0.0020
 Uranus -94738-12-02 15:06 J -32881296.07 -32881295.87 -32881295.65 0.0135 0.0042
 Jupiter -94737-03-08 15:20 J -32881199.00 -32881198.86 -32881198.71 0.0518 0.0346
 Uranus -94737-07-15 21:49 J -32881069.72 -32881069.59 -32881069.43 0.0135 0.0102
 Jupiter -94731-08-29 04:03 J -32878834.53 -32878834.33 -32878834.12 0.0512 0.0089
 Saturn -94727-05-21 11:59 J -32877473.05 -32877473.00 -32877472.92 0.0277 0.0264
 Saturn -94726-01-05 23:59 J -32877243.72 -32877243.50 -32877243.29 0.0277 0.0025
 Jupiter -94713-03-11 01:25 J -32872430.59 -32872430.44 -32872430.29 0.0514 0.0336
 Mars -94713-11-12 14:37 J -32872184.03 -32872183.89 -32872183.75 0.1609 0.0943
 Saturn -94712-06-13 18:42 J -32871970.87 -32871970.72 -32871970.56 0.0282 0.0187
 Moon -94711-01-29 04:47 J -32871741.43 -32871741.30 -32871741.17 0.2700 0.1641
 Saturn -94711-01-29 06:42 J -32871741.41 -32871741.22 -32871741.02 0.0282 0.0114 *
 Earth -94711-01-29 07:11 J -32871741.34 -32871741.20 -32871741.06 0.2706 0.1259 *

Mars -94710-08-21 08:23 J -32871172.16 -32871172.15 -32871172.13 0.1922 0.1910
 Jupiter -94702-11-15 02:08 J -32868164.61 -32868164.41 -32868164.22 0.0517 0.0097
 Pluto -94701-01-22 03:06 J -32868096.54 -32868096.37 -32868096.16 0.0062 0.0035
 Neptune -94701-06-19 05:59 J -32867947.31 -32867947.25 -32867947.15 0.0089 0.0082
 Pluto -94701-09-03 07:39 J -32867871.41 -32867871.18 -32867870.95 0.0062 0.0002
 Neptune -94700-01-30 17:59 J -32867721.86 -32867721.75 -32867721.59 0.0089 0.0070
 Pluto -94700-04-16 11:44 J -32867646.21 -32867646.01 -32867645.81 0.0062 0.0031
 Neptune -94700-09-13 06:13 J -32867496.38 -32867496.24 -32867496.05 0.0089 0.0058
 Neptune -94699-04-26 18:27 J -32867270.89 -32867270.73 -32867270.53 0.0089 0.0046
 Neptune -94699-12-08 06:42 J -32867045.40 -32867045.22 -32867045.01 0.0089 0.0034
 Neptune -94698-07-21 18:56 J -32866819.91 -32866819.71 -32866819.49 0.0089 0.0022
 Saturn -94698-12-01 18:56 J -32866686.83 -32866686.71 -32866686.57 0.0276 0.0220
 Neptune -94697-03-03 07:11 J -32866594.41 -32866594.20 -32866593.98 0.0089 0.0010
 Saturn -94697-07-18 06:13 J -32866457.44 -32866457.24 -32866457.03 0.0276 0.0068
 Neptune -94697-10-14 19:39 J -32866368.90 -32866368.68 -32866368.47 0.0089 0.0003
 Neptune -94696-05-28 07:39 J -32866143.39 -32866143.18 -32866142.96 0.0089 0.0015
 Neptune -94695-01-08 19:39 J -32865917.87 -32865917.68 -32865917.46 0.0089 0.0027
 Jupiter -94695-05-06 16:47 J -32865800.00 -32865799.80 -32865799.61 0.0513 0.0162
 Neptune -94695-08-22 07:54 J -32865692.35 -32865692.17 -32865691.96 0.0089 0.0039
 Neptune -94694-04-04 20:08 J -32865466.82 -32865466.66 -32865466.47 0.0089 0.0051
 Uranus -94694-04-09 16:47 J -32865461.95 -32865461.80 -32865461.63 0.0143 0.0095
 Neptune -94694-11-16 08:37 J -32865241.28 -32865241.14 -32865240.98 0.0089 0.0063
 Uranus -94694-11-22 02:51 J -32865235.59 -32865235.38 -32865235.17 0.0144 0.0025
 Neptune -94693-06-28 20:51 J -32865015.73 -32865015.63 -32865015.50 0.0089 0.0075
 Uranus -94693-07-05 12:42 J -32865009.17 -32865008.97 -32865008.76 0.0144 0.0047
 Neptune -94692-02-09 09:06 J -32864790.14 -32864790.12 -32864790.06 0.0089 0.0087
 Uranus -94692-02-16 22:47 J -32864782.66 -32864782.55 -32864782.42 0.0144 0.0119
 Jupiter -94683-01-09 10:32 J -32861534.23 -32861534.06 -32861533.88 0.0511 0.0287
 Saturn -94683-12-24 20:37 J -32861184.81 -32861184.64 -32861184.46 0.0282 0.0157
 Saturn -94682-08-11 08:37 J -32860955.31 -32860955.14 -32860954.95 0.0283 0.0145

Mars	-94679-09-11 11:44 J	-32859828.17	-32859828.01	-32859827.85	0.1606	0.0616
Mars	-94678-08-21 12:42 J	-32859484.09	-32859483.97	-32859483.85	0.1919	0.1364
Saturn	-94668-06-12 23:59 J	-32855900.66	-32855900.50	-32855900.34	0.0277	0.0181
Saturn	-94667-01-28 11:01 J	-32855671.23	-32855671.04	-32855670.84	0.0277	0.0107
Jupiter	-94666-07-23 11:30 J	-32855130.22	-32855130.02	-32855129.83	0.0515	0.0146
Jupiter	-94659-01-12 08:51 J	-32852765.24	-32852765.13	-32852765.02	0.0515	0.0433
Uranus	-94655-05-06 07:54 J	-32851190.27	-32851190.17	-32851190.02	0.0136	0.0112
Uranus	-94655-12-18 16:03 J	-32850964.04	-32850963.83	-32850963.62	0.0135	0.0050
Jupiter	-94654-03-28 10:03 J	-32850864.24	-32850864.08	-32850863.92	0.0518	0.0300
Uranus	-94654-08-01 23:15 J	-32850737.75	-32850737.53	-32850737.30	0.0135	0.0012
Uranus	-94653-03-15 06:13 J	-32850511.42	-32850511.24	-32850511.05	0.0135	0.0072
Saturn	-94653-07-06 07:54 J	-32850398.36	-32850398.17	-32850397.97	0.0282	0.0098
Uranus	-94653-10-27 12:42 J	-32850284.99	-32850284.97	-32850284.90	0.0134	0.0132
Saturn	-94652-02-20 20:08 J	-32850168.79	-32850168.66	-32850168.51	0.0283	0.0205
Jupiter	-94648-09-16 23:15 J	-32848499.74	-32848499.53	-32848499.32	0.0512	0.0037
Mars	-94647-09-10 03:06 J	-32848141.52	-32848141.37	-32848141.22	0.1608	0.0773
Saturn	-94639-12-24 07:54 J	-32845114.35	-32845114.17	-32845113.98	0.0276	0.0134
Saturn	-94638-08-10 18:42 J	-32844884.90	-32844884.72	-32844884.54	0.0276	0.0152
Jupiter	-94636-05-22 17:01 J	-32844233.84	-32844233.79	-32844233.73	0.0509	0.0485
Jupiter	-94630-03-31 00:27 J	-32842095.60	-32842095.48	-32842095.36	0.0513	0.0408
Earth	-94630-08-10 00:13 J	-32841963.63	-32841963.49	-32841963.34	0.2635	0.1045
Moon	-94630-08-10 05:15 J	-32841963.41	-32841963.28	-32841963.14	0.2637	0.1296 *
Saturn	-94623-01-16 10:03 J	-32839612.28	-32839612.08	-32839611.87	0.0283	0.0067
Saturn	-94623-09-02 22:18 J	-32839382.67	-32839382.57	-32839382.45	0.0283	0.0236
Moon	-94622-08-07 21:35 J	-32839043.69	-32839043.60	-32839043.51	0.2628	0.2149
Neptune	-94619-08-08 13:39 J	-32837947.01	-32837946.93	-32837946.81	0.0088	0.0079
Jupiter	-94619-12-03 23:44 J	-32837829.71	-32837829.51	-32837829.31	0.0516	0.0033
Neptune	-94618-03-22 04:03 J	-32837721.48	-32837721.33	-32837721.18	0.0088	0.0066
Neptune	-94618-11-02 17:30 J	-32837495.93	-32837495.77	-32837495.57	0.0088	0.0054
Neptune	-94617-06-15 07:25 J	-32837270.38	-32837270.19	-32837269.98	0.0088	0.0041

Neptune -94616-01-26 21:20 J -32837044.81 -32837044.61 -32837044.39 0.0088 0.0029
 Neptune -94616-09-09 11:15 J -32836819.25 -32836819.03 -32836818.80 0.0088 0.0016
 Neptune -94615-04-23 01:25 J -32836593.67 -32836593.44 -32836593.22 0.0088 0.0004
 Neptune -94615-12-04 15:06 J -32836368.09 -32836367.87 -32836367.64 0.0088 0.0009
 Neptune -94614-07-18 04:47 J -32836142.51 -32836142.30 -32836142.08 0.0088 0.0022
 Neptune -94613-02-28 18:13 J -32835916.93 -32835916.74 -32835916.51 0.0088 0.0035
 Mars -94613-07-09 00:56 J -32835785.61 -32835785.46 -32835785.30 0.1606 0.0775
 Neptune -94613-10-11 08:08 J -32835691.34 -32835691.16 -32835690.96 0.0088 0.0046
 Neptune -94612-05-24 22:03 J -32835465.74 -32835465.58 -32835465.41 0.0088 0.0059
 Jupiter -94612-05-25 16:18 J -32835465.00 -32835464.82 -32835464.63 0.0514 0.0237
 Mars -94612-06-17 14:23 J -32835442.06 -32835441.90 -32835441.74 0.1921 0.0741
 Neptune -94611-01-05 11:15 J -32835240.13 -32835240.03 -32835239.87 0.0088 0.0072
 Neptune -94611-08-19 01:11 J -32835014.51 -32835014.45 -32835014.36 0.0088 0.0084
 Pluto -94611-10-21 11:59 J -32834951.20 -32834951.00 -32834950.80 0.0082 0.0028
 Uranus -94611-12-08 00:42 J -32834903.55 -32834903.47 -32834903.37 0.0143 0.0129
 Pluto -94610-06-03 22:03 J -32834725.76 -32834725.58 -32834725.39 0.0082 0.0043
 Uranus -94610-07-22 10:03 J -32834677.26 -32834677.08 -32834676.87 0.0143 0.0060
 Uranus -94609-03-04 20:08 J -32834450.87 -32834450.66 -32834450.44 0.0144 0.0012
 Saturn -94609-07-05 11:59 J -32834328.19 -32834328.00 -32834327.79 0.0277 0.0097
 Uranus -94609-10-17 06:13 J -32834224.41 -32834224.24 -32834224.06 0.0144 0.0084
 Saturn -94608-02-19 23:01 J -32834098.69 -32834098.54 -32834098.38 0.0276 0.0191
 Jupiter -94607-08-08 19:54 J -32833563.73 -32833563.67 -32833563.61 0.0519 0.0493
 Jupiter -94600-01-28 09:06 J -32831199.31 -32831199.12 -32831198.93 0.0511 0.0220
 Saturn -94594-07-29 21:06 J -32828825.83 -32828825.62 -32828825.41 0.0282 0.0009
 Jupiter -94583-08-11 09:35 J -32824795.28 -32824795.10 -32824794.91 0.0515 0.0214
 Mars -94581-07-07 16:03 J -32824098.99 -32824098.83 -32824098.67 0.1607 0.0607
 Saturn -94579-01-15 21:06 J -32823541.83 -32823541.62 -32823541.41 0.0276 0.0048
 Saturn -94579-09-02 07:25 J -32823312.29 -32823312.19 -32823312.08 0.0276 0.0238
 Jupiter -94576-01-31 04:18 J -32822430.39 -32822430.32 -32822430.26 0.0515 0.0486
 Jupiter -94571-04-16 09:20 J -32820529.28 -32820529.11 -32820528.93 0.0518 0.0226

Uranus -94571-08-18 00:13 J -32820405.67 -32820405.49 -32820405.31 0.0136 0.0080
 Uranus -94570-04-01 07:54 J -32820179.39 -32820179.17 -32820178.95 0.0135 0.0018
 Uranus -94570-11-13 14:51 J -32819953.08 -32819952.88 -32819952.66 0.0135 0.0043
 Uranus -94569-06-26 21:49 J -32819726.72 -32819726.59 -32819726.44 0.0135 0.0103
 Saturn -94565-06-23 11:30 J -32818269.04 -32818269.02 -32818268.97 0.0282 0.0278
 Jupiter -94565-10-05 21:49 J -32818164.79 -32818164.59 -32818164.38 0.0512 0.0033
 Saturn -94564-02-07 23:15 J -32818039.74 -32818039.53 -32818039.32 0.0283 0.0023
 Jupiter -94553-06-10 16:32 J -32813898.92 -32813898.81 -32813898.68 0.0509 0.0414
 Saturn -94550-07-29 00:42 J -32812755.69 -32812755.47 -32812755.26 0.0276 0.0012
 Saturn -94549-03-14 11:15 J -32812526.05 -32812526.03 -32812526.02 0.0276 0.0275
 Jupiter -94547-04-18 19:25 J -32811760.78 -32811760.69 -32811760.60 0.0513 0.0456
 Mars -94547-05-06 13:39 J -32811743.07 -32811742.93 -32811742.79 0.1605 0.0941
 Mars -94546-04-14 15:49 J -32811400.01 -32811399.84 -32811399.66 0.1922 0.0117
 Neptune -94537-09-20 17:30 J -32807952.81 -32807952.77 -32807952.70 0.0089 0.0085
 Neptune -94536-05-04 05:44 J -32807727.37 -32807727.26 -32807727.13 0.0089 0.0073
 Neptune -94536-12-15 17:59 J -32807501.90 -32807501.75 -32807501.59 0.0089 0.0061
 Jupiter -94536-12-22 18:27 J -32807494.93 -32807494.73 -32807494.53 0.0516 0.0017
 Saturn -94535-01-03 21:35 J -32807482.73 -32807482.60 -32807482.47 0.0282 0.0222
 Neptune -94535-07-29 05:59 J -32807276.42 -32807276.25 -32807276.06 0.0089 0.0049
 Saturn -94535-08-21 09:35 J -32807253.30 -32807253.10 -32807252.90 0.0283 0.0080
 Neptune -94534-03-11 18:13 J -32807050.93 -32807050.74 -32807050.54 0.0089 0.0037
 Neptune -94534-10-23 06:27 J -32806825.43 -32806825.23 -32806825.01 0.0089 0.0025
 Neptune -94533-06-04 18:42 J -32806599.93 -32806599.72 -32806599.50 0.0089 0.0013
 Neptune -94532-01-16 06:56 J -32806374.42 -32806374.21 -32806373.99 0.0089 0.0002
 Neptune -94532-08-29 19:11 J -32806148.91 -32806148.70 -32806148.48 0.0089 0.0012
 Neptune -94531-04-12 07:25 J -32805923.39 -32805923.19 -32805922.98 0.0089 0.0024
 Neptune -94531-11-23 19:39 J -32805697.87 -32805697.68 -32805697.48 0.0089 0.0036
 Neptune -94530-07-07 07:54 J -32805472.34 -32805472.17 -32805471.98 0.0089 0.0048
 Neptune -94529-02-17 20:08 J -32805246.81 -32805246.66 -32805246.50 0.0089 0.0060
 Jupiter -94529-06-13 11:01 J -32805130.21 -32805130.04 -32805129.87 0.0513 0.0286

Neptune -94529-09-30 08:08 J -32805021.26 -32805021.16 -32805021.01 0.0089 0.0073
 Neptune -94528-05-13 20:23 J -32804795.69 -32804795.65 -32804795.56 0.0089 0.0085
 Uranus -94526-03-21 17:59 J -32804118.90 -32804118.75 -32804118.58 0.0143 0.0093
 Uranus -94526-11-03 03:49 J -32803892.55 -32803892.34 -32803892.12 0.0143 0.0023
 Uranus -94525-06-16 13:54 J -32803666.12 -32803665.92 -32803665.72 0.0144 0.0049
 Uranus -94524-01-28 23:44 J -32803439.61 -32803439.51 -32803439.38 0.0144 0.0122
 Jupiter -94524-08-27 17:59 J -32803228.86 -32803228.75 -32803228.63 0.0519 0.0426
 Saturn -94521-06-22 22:32 J -32802198.63 -32802198.56 -32802198.46 0.0277 0.0252
 Saturn -94520-02-07 10:03 J -32801969.29 -32801969.08 -32801968.87 0.0276 0.0038
 Jupiter -94517-02-17 04:18 J -32800864.52 -32800864.32 -32800864.13 0.0511 0.0169
 Mars -94515-05-05 04:32 J -32800056.47 -32800056.31 -32800056.14 0.1607 0.0439
 Saturn -94506-07-16 23:44 J -32796696.65 -32796696.51 -32796696.34 0.0282 0.0192
 Saturn -94505-03-02 11:44 J -32796467.20 -32796467.01 -32796466.81 0.0283 0.0112
 Jupiter -94500-08-30 08:08 J -32794460.33 -32794460.16 -32794459.99 0.0514 0.0282
 Saturn -94491-01-03 01:25 J -32791412.57 -32791412.44 -32791412.31 0.0277 0.0217
 Saturn -94491-08-20 12:42 J -32791183.17 -32791182.97 -32791182.76 0.0276 0.0073
 Jupiter -94488-05-05 05:15 J -32790194.47 -32790194.28 -32790194.09 0.0517 0.0172
 Uranus -94487-04-17 07:11 J -32789847.31 -32789847.20 -32789847.06 0.0136 0.0112
 Uranus -94487-11-29 15:06 J -32789621.07 -32789620.87 -32789620.66 0.0135 0.0050
 Uranus -94486-07-13 22:32 J -32789394.78 -32789394.56 -32789394.33 0.0135 0.0012
 Uranus -94485-02-25 05:30 J -32789168.44 -32789168.27 -32789168.07 0.0135 0.0072
 Uranus -94485-10-08 12:27 J -32788942.01 -32788941.98 -32788941.93 0.0134 0.0132
 Jupiter -94482-10-25 21:06 J -32787829.83 -32787829.62 -32787829.42 0.0512 0.0103
 Mars -94481-03-03 02:51 J -32787700.51 -32787700.38 -32787700.26 0.1605 0.1102
 Mars -94480-02-08 17:44 J -32787357.93 -32787357.76 -32787357.59 0.1923 0.0517
 Saturn -94476-01-26 08:23 J -32785910.32 -32785910.15 -32785909.96 0.0282 0.0140
 Moon -94476-01-31 12:27 J -32785904.99 -32785904.98 -32785904.96 0.2710 0.2682
 Saturn -94476-09-12 20:51 J -32785680.80 -32785680.63 -32785680.46 0.0283 0.0165
 Jupiter -94470-06-30 11:44 J -32783564.15 -32783564.01 -32783563.86 0.0509 0.0361
 Earth -94468-01-29 06:27 J -32782985.36 -32782985.23 -32782985.10 0.2709 0.1586

Moon -94468-01-29 06:56 J -32782985.33 -32782985.21 -32782985.10 0.2716 0.1726 *
 Saturn -94462-07-16 11:30 J -32780626.18 -32780626.02 -32780625.84 0.0276 0.0166
 Saturn -94461-03-01 22:32 J -32780396.75 -32780396.56 -32780396.37 0.0276 0.0123
 Neptune -94455-11-10 00:13 J -32777952.55 -32777952.49 -32777952.38 0.0088 0.0082
 Neptune -94454-06-23 14:23 J -32777727.03 -32777726.90 -32777726.75 0.0088 0.0069
 Neptune -94453-02-04 04:03 J -32777501.49 -32777501.33 -32777501.14 0.0088 0.0057
 Pluto -94453-08-06 04:03 J -32777317.49 -32777317.33 -32777317.13 0.0062 0.0038
 Neptune -94453-09-16 18:13 J -32777275.93 -32777275.74 -32777275.54 0.0088 0.0044
 Jupiter -94452-01-10 18:13 J -32777159.94 -32777159.74 -32777159.54 0.0516 0.0093
 Pluto -94452-03-19 08:37 J -32777092.37 -32777092.14 -32777091.91 0.0062 0.0005
 Neptune -94452-04-30 07:54 J -32777050.37 -32777050.17 -32777049.94 0.0088 0.0032
 Pluto -94452-10-30 12:42 J -32776867.17 -32776866.97 -32776866.77 0.0062 0.0028
 Neptune -94452-12-11 22:03 J -32776824.80 -32776824.58 -32776824.36 0.0088 0.0019
 Pluto -94451-06-12 16:03 J -32776641.84 -32776641.83 -32776641.75 0.0063 0.0062
 Neptune -94451-07-25 11:44 J -32776599.23 -32776599.01 -32776598.78 0.0088 0.0006
 Neptune -94450-03-08 01:39 J -32776373.66 -32776373.43 -32776373.21 0.0088 0.0006
 Neptune -94450-10-19 15:06 J -32776148.08 -32776147.87 -32776147.64 0.0088 0.0019
 Mars -94449-03-01 17:30 J -32776013.94 -32776013.77 -32776013.60 0.1606 0.0278
 Neptune -94449-06-01 05:01 J -32775922.49 -32775922.29 -32775922.07 0.0088 0.0032
 Neptune -94448-01-12 18:27 J -32775696.91 -32775696.73 -32775696.52 0.0088 0.0045
 Neptune -94448-08-26 08:23 J -32775471.31 -32775471.15 -32775470.97 0.0088 0.0057
 Neptune -94447-04-08 21:49 J -32775245.70 -32775245.59 -32775245.43 0.0088 0.0070
 Saturn -94447-08-08 11:15 J -32775124.23 -32775124.03 -32775123.84 0.0282 0.0107
 Neptune -94447-11-20 11:30 J -32775020.08 -32775020.02 -32775019.91 0.0088 0.0082
 Saturn -94446-03-25 23:15 J -32774894.67 -32774894.53 -32774894.37 0.0283 0.0198
 Jupiter -94446-07-03 09:49 J -32774795.23 -32774795.09 -32774794.94 0.0514 0.0358
 Uranus -94443-11-19 01:25 J -32773560.52 -32773560.44 -32773560.34 0.0143 0.0128
 Uranus -94442-07-03 10:47 J -32773334.23 -32773334.05 -32773333.84 0.0143 0.0059
 Uranus -94441-02-14 20:51 J -32773107.84 -32773107.63 -32773107.42 0.0144 0.0013
 Jupiter -94441-09-15 17:30 J -32772893.91 -32772893.77 -32772893.62 0.0519 0.0351

Uranus -94441-09-28 06:42 J -32772881.38 -32772881.22 -32772881.04 0.0144 0.0085
 Jupiter -94434-03-08 04:32 J -32770529.52 -32770529.31 -32770529.11 0.0511 0.0093
 Saturn -94432-01-25 13:11 J -32769840.13 -32769839.95 -32769839.76 0.0276 0.0134
 Saturn -94432-09-12 00:13 J -32769610.66 -32769610.49 -32769610.31 0.0276 0.0155
 Saturn -94417-02-18 18:27 J -32764337.94 -32764337.73 -32764337.53 0.0283 0.0059
 Jupiter -94417-09-18 04:03 J -32764125.48 -32764125.33 -32764125.18 0.0514 0.0337
 Saturn -94417-10-05 06:56 J -32764108.30 -32764108.21 -32764108.10 0.0283 0.0248
 Mars -94416-12-29 15:49 J -32763657.94 -32763657.84 -32763657.73 0.1604 0.1261
 Mars -94415-12-06 18:56 J -32763315.85 -32763315.71 -32763315.57 0.1924 0.1170
 Jupiter -94405-05-24 03:49 J -32759859.53 -32759859.34 -32759859.14 0.0518 0.0101
 Uranus -94403-07-29 22:32 J -32759062.72 -32759062.56 -32759062.37 0.0136 0.0082
 Saturn -94403-08-07 23:30 J -32759053.72 -32759053.52 -32759053.31 0.0276 0.0084
 Uranus -94402-03-13 06:27 J -32758836.45 -32758836.23 -32758836.01 0.0135 0.0020
 Saturn -94402-03-25 10:03 J -32758824.22 -32758824.08 -32758823.94 0.0276 0.0205
 Uranus -94402-10-25 13:39 J -32758610.13 -32758609.93 -32758609.71 0.0135 0.0042
 Uranus -94401-06-07 20:51 J -32758383.76 -32758383.63 -32758383.48 0.0135 0.0102
 Jupiter -94399-11-13 17:01 J -32757494.99 -32757494.79 -32757494.59 0.0512 0.0159
 Saturn -94388-08-30 21:06 J -32753551.83 -32753551.62 -32753551.41 0.0282 0.0026
 Saturn -94387-04-17 09:20 J -32753322.13 -32753322.11 -32753322.08 0.0283 0.0280
 Jupiter -94387-07-19 11:01 J -32753229.21 -32753229.04 -32753228.87 0.0510 0.0291
 Moon -94387-08-09 22:18 J -32753207.72 -32753207.57 -32753207.41 0.2628 0.0962
 Earth -94387-08-10 02:51 J -32753207.52 -32753207.38 -32753207.24 0.2632 0.1173 *
 Mars -94384-12-28 06:27 J -32751971.40 -32751971.23 -32751971.06 0.1605 0.0109
 Earth -94379-08-07 19:25 J -32750287.72 -32750287.69 -32750287.66 0.2628 0.2570
 Saturn -94373-02-18 00:13 J -32748267.70 -32748267.49 -32748267.28 0.0276 0.0053
 Saturn -94373-10-04 10:47 J -32748038.15 -32748038.05 -32748037.93 0.0276 0.0236
 Neptune -94373-12-23 05:30 J -32747958.28 -32747958.27 -32747958.24 0.0089 0.0088
 Neptune -94372-08-05 17:30 J -32747732.87 -32747732.77 -32747732.66 0.0089 0.0076
 Neptune -94371-03-19 05:44 J -32747507.41 -32747507.26 -32747507.11 0.0089 0.0064
 Neptune -94371-10-30 17:44 J -32747281.92 -32747281.76 -32747281.58 0.0089 0.0052

Neptune -94370-06-13 05:59 J -32747056.43 -32747056.25 -32747056.05 0.0089 0.0040
 Neptune -94369-01-24 17:59 J -32746830.94 -32746830.75 -32746830.53 0.0089 0.0028
 Jupiter -94369-01-30 15:49 J -32746825.03 -32746824.84 -32746824.65 0.0516 0.0157
 Neptune -94369-09-06 06:13 J -32746605.44 -32746605.24 -32746605.02 0.0089 0.0016
 Neptune -94368-04-19 18:42 J -32746379.93 -32746379.72 -32746379.50 0.0089 0.0003
 Neptune -94368-12-01 06:56 J -32746154.42 -32746154.21 -32746153.99 0.0089 0.0009
 Neptune -94367-07-14 19:11 J -32745928.91 -32745928.70 -32745928.49 0.0089 0.0021
 Neptune -94366-02-25 07:11 J -32745703.39 -32745703.20 -32745702.99 0.0089 0.0034
 Neptune -94366-10-08 19:25 J -32745477.86 -32745477.69 -32745477.49 0.0089 0.0046
 Neptune -94365-05-21 07:39 J -32745252.33 -32745252.18 -32745252.00 0.0089 0.0058
 Neptune -94364-01-01 20:08 J -32745026.78 -32745026.66 -32745026.52 0.0089 0.0070
 Neptune -94364-08-15 08:23 J -32744801.22 -32744801.15 -32744801.06 0.0089 0.0082
 Jupiter -94363-07-22 10:18 J -32744460.17 -32744460.07 -32744459.95 0.0514 0.0438
 Pluto -94362-05-06 11:44 J -32744172.18 -32744172.01 -32744171.80 0.0082 0.0038
 Pluto -94362-12-17 22:18 J -32743946.76 -32743946.57 -32743946.37 0.0082 0.0033
 Uranus -94358-03-02 18:13 J -32742775.90 -32742775.74 -32742775.57 0.0143 0.0093
 Saturn -94358-03-13 02:51 J -32742765.59 -32742765.38 -32742765.17 0.0283 0.0019
 Jupiter -94358-10-05 14:37 J -32742559.06 -32742558.89 -32742558.73 0.0519 0.0291
 Uranus -94358-10-15 04:03 J -32742549.54 -32742549.33 -32742549.12 0.0143 0.0023
 Uranus -94357-05-28 13:54 J -32742323.12 -32742322.92 -32742322.72 0.0144 0.0049
 Uranus -94356-01-09 23:44 J -32742096.61 -32742096.51 -32742096.38 0.0144 0.0121
 Mars -94352-12-26 21:35 J -32740284.65 -32740284.60 -32740284.54 0.1607 0.1510
 Jupiter -94351-03-27 01:25 J -32740194.65 -32740194.44 -32740194.23 0.0511 0.0030
 Mars -94350-10-27 04:47 J -32739615.38 -32739615.30 -32739615.22 0.1604 0.1426
 Mars -94349-10-02 20:37 J -32739273.70 -32739273.64 -32739273.58 0.1924 0.1809
 Saturn -94344-08-30 10:03 J -32737481.30 -32737481.08 -32737480.87 0.0276 0.0006
 Jupiter -94340-11-29 19:25 J -32735928.76 -32735928.69 -32735928.62 0.0508 0.0477
 Jupiter -94334-10-08 04:47 J -32733790.41 -32733790.30 -32733790.18 0.0514 0.0419
 Saturn -94329-02-05 18:13 J -32732208.82 -32732208.74 -32732208.64 0.0282 0.0250
 Saturn -94329-09-22 05:59 J -32731979.46 -32731979.25 -32731979.05 0.0282 0.0053

Jupiter -94322-06-13 04:47 J -32729524.50 -32729524.30 -32729524.10 0.0517 0.0019
 Uranus -94319-03-29 05:30 J -32728504.37 -32728504.27 -32728504.14 0.0136 0.0114
 Uranus -94319-11-10 13:39 J -32728278.13 -32728277.93 -32728277.72 0.0135 0.0052
 Uranus -94318-06-24 21:20 J -32728051.83 -32728051.61 -32728051.39 0.0135 0.0010
 Mars -94318-10-25 19:25 J -32727928.86 -32727928.69 -32727928.52 0.1605 0.0054
 Uranus -94317-02-06 04:18 J -32727825.50 -32727825.32 -32727825.12 0.0135 0.0071
 Uranus -94317-09-19 11:15 J -32727599.06 -32727599.03 -32727598.97 0.0134 0.0131
 Mars -94317-10-03 01:11 J -32727585.56 -32727585.45 -32727585.34 0.1922 0.1514
 Jupiter -94316-12-02 18:13 J -32727159.92 -32727159.74 -32727159.55 0.0513 0.0243
 Saturn -94315-07-25 22:18 J -32726924.61 -32726924.57 -32726924.51 0.0276 0.0267
 Saturn -94314-03-12 10:03 J -32726695.29 -32726695.08 -32726694.87 0.0276 0.0025
 Jupiter -94310-02-16 02:08 J -32725258.48 -32725258.41 -32725258.33 0.0520 0.0474
 Jupiter -94304-08-07 12:13 J -32722894.18 -32722893.99 -32722893.80 0.0510 0.0208
 Saturn -94300-08-17 22:03 J -32721422.71 -32721422.58 -32721422.44 0.0282 0.0213
 Saturn -94299-04-04 09:49 J -32721193.28 -32721193.09 -32721192.88 0.0283 0.0093
 Neptune -94290-02-11 10:47 J -32717958.10 -32717958.05 -32717957.97 0.0088 0.0085
 Neptune -94290-09-25 01:11 J -32717732.58 -32717732.45 -32717732.32 0.0088 0.0072
 Neptune -94289-05-07 14:51 J -32717507.03 -32717506.88 -32717506.70 0.0088 0.0060
 Neptune -94289-12-19 05:01 J -32717281.47 -32717281.29 -32717281.09 0.0088 0.0047
 Neptune -94288-08-01 18:42 J -32717055.91 -32717055.72 -32717055.50 0.0088 0.0034
 Neptune -94287-03-15 08:37 J -32716830.34 -32716830.14 -32716829.91 0.0088 0.0022
 Neptune -94287-10-26 22:47 J -32716604.77 -32716604.55 -32716604.33 0.0088 0.0009
 Jupiter -94286-02-18 15:06 J -32716490.04 -32716489.87 -32716489.69 0.0516 0.0233
 Neptune -94286-06-09 12:27 J -32716379.20 -32716378.98 -32716378.75 0.0088 0.0004
 Mars -94286-10-24 10:03 J -32716242.17 -32716242.08 -32716241.98 0.1606 0.1339
 Neptune -94285-01-21 02:08 J -32716153.62 -32716153.41 -32716153.18 0.0088 0.0017
 Saturn -94285-02-05 07:39 J -32716138.30 -32716138.18 -32716138.04 0.0277 0.0220
 Neptune -94285-09-02 15:49 J -32715928.04 -32715927.84 -32715927.62 0.0088 0.0030
 Saturn -94285-09-21 19:11 J -32715908.90 -32715908.70 -32715908.49 0.0276 0.0074
 Neptune -94284-04-16 05:59 J -32715702.45 -32715702.25 -32715702.05 0.0088 0.0042

Mars -94284-08-23 17:44 J -32715572.78 -32715572.76 -32715572.74 0.1603 0.1589
 Neptune -94284-11-27 19:25 J -32715476.85 -32715476.69 -32715476.50 0.0088 0.0055
 Neptune -94283-07-11 09:20 J -32715251.25 -32715251.11 -32715250.96 0.0088 0.0067
 Neptune -94282-02-21 22:32 J -32715025.64 -32715025.56 -32715025.44 0.0088 0.0080
 Jupiter -94280-08-10 07:54 J -32714125.21 -32714125.17 -32714125.13 0.0514 0.0502
 Jupiter -94275-10-24 15:06 J -32712224.05 -32712223.87 -32712223.68 0.0519 0.0209
 Uranus -94275-10-31 01:11 J -32712217.52 -32712217.45 -32712217.34 0.0143 0.0129
 Uranus -94274-06-14 11:01 J -32711991.24 -32711991.04 -32711990.85 0.0143 0.0059
 Uranus -94273-01-26 20:37 J -32711764.85 -32711764.64 -32711764.42 0.0143 0.0013
 Uranus -94273-09-09 06:42 J -32711538.39 -32711538.22 -32711538.05 0.0144 0.0084
 Saturn -94270-02-28 01:54 J -32710636.58 -32710636.42 -32710636.26 0.0282 0.0176
 Saturn -94270-10-15 13:25 J -32710407.12 -32710406.94 -32710406.75 0.0282 0.0129
 Jupiter -94268-04-15 01:25 J -32709859.64 -32709859.44 -32709859.23 0.0511 0.0048
 Jupiter -94257-12-18 20:37 J -32705593.77 -32705593.64 -32705593.51 0.0509 0.0396
 Saturn -94256-08-17 07:25 J -32705352.34 -32705352.19 -32705352.03 0.0276 0.0192
 Saturn -94255-04-03 18:56 J -32705122.91 -32705122.71 -32705122.51 0.0276 0.0100
 Mars -94252-08-22 08:08 J -32703886.34 -32703886.16 -32703885.99 0.1604 0.0225
 Mars -94251-07-31 02:51 J -32703543.53 -32703543.38 -32703543.22 0.1923 0.0891
 Jupiter -94251-10-27 04:03 J -32703455.37 -32703455.33 -32703455.27 0.0514 0.0494
 Saturn -94241-09-09 04:18 J -32699850.50 -32699850.32 -32699850.14 0.0282 0.0142
 Saturn -94240-04-26 16:18 J -32699620.98 -32699620.82 -32699620.64 0.0283 0.0165
 Jupiter -94239-07-02 03:20 J -32699189.56 -32699189.36 -32699189.16 0.0517 0.0052
 Uranus -94235-07-10 21:20 J -32697719.79 -32697719.61 -32697719.44 0.0136 0.0083
 Uranus -94234-02-22 04:47 J -32697493.51 -32697493.30 -32697493.07 0.0135 0.0021
 Uranus -94234-10-06 12:13 J -32697267.19 -32697266.99 -32697266.77 0.0135 0.0040
 Earth -94233-02-01 15:49 J -32697148.90 -32697148.84 -32697148.78 0.2708 0.2493
 Uranus -94233-05-19 19:25 J -32697040.82 -32697040.69 -32697040.53 0.0135 0.0101
 Jupiter -94233-12-21 17:01 J -32696824.95 -32696824.79 -32696824.62 0.0512 0.0316
 Jupiter -94227-03-07 01:11 J -32694923.57 -32694923.45 -32694923.32 0.0520 0.0401
 Saturn -94226-02-27 15:49 J -32694566.01 -32694565.84 -32694565.65 0.0277 0.0146

Saturn -94226-10-15 03:20 J -32694336.54 -32694336.36 -32694336.18 0.0277 0.0147
 Earth -94225-01-30 05:30 J -32694229.38 -32694229.27 -32694229.16 0.2712 0.1941
 Moon -94225-01-30 06:56 J -32694229.35 -32694229.21 -32694229.07 0.2705 0.1417 *
 Jupiter -94221-08-26 10:47 J -32692559.25 -32692559.05 -32692558.85 0.0510 0.0138
 Mars -94220-08-20 23:01 J -32692199.65 -32692199.54 -32692199.42 0.1605 0.1176
 Saturn -94211-03-22 08:23 J -32689064.34 -32689064.15 -32689063.95 0.0282 0.0104
 Saturn -94211-11-06 20:23 J -32688834.79 -32688834.65 -32688834.50 0.0282 0.0202
 Neptune -94208-11-07 05:59 J -32687738.33 -32687738.25 -32687738.14 0.0089 0.0079
 Neptune -94207-06-20 17:59 J -32687512.88 -32687512.75 -32687512.60 0.0089 0.0067
 Neptune -94206-02-01 05:59 J -32687287.40 -32687287.25 -32687287.07 0.0089 0.0055
 Neptune -94206-09-14 18:13 J -32687061.92 -32687061.74 -32687061.54 0.0089 0.0043
 Neptune -94205-04-27 06:13 J -32686836.42 -32686836.24 -32686836.02 0.0089 0.0031
 Neptune -94205-12-08 18:42 J -32686610.92 -32686610.72 -32686610.50 0.0089 0.0018
 Pluto -94204-02-19 05:01 J -32686538.44 -32686538.29 -32686538.11 0.0062 0.0042
 Neptune -94204-07-22 06:56 J -32686385.42 -32686385.21 -32686384.99 0.0089 0.0006
 Pluto -94204-10-02 09:06 J -32686313.34 -32686313.12 -32686312.89 0.0062 0.0010
 Neptune -94203-03-04 19:11 J -32686159.91 -32686159.70 -32686159.48 0.0089 0.0006
 Jupiter -94203-03-09 17:01 J -32686154.94 -32686154.79 -32686154.63 0.0515 0.0321
 Pluto -94203-05-15 12:56 J -32686088.15 -32686087.96 -32686087.73 0.0062 0.0024
 Neptune -94203-10-16 07:25 J -32685934.40 -32685934.19 -32685933.97 0.0089 0.0019
 Pluto -94203-12-26 16:47 J -32685862.87 -32685862.80 -32685862.67 0.0063 0.0057
 Neptune -94202-05-29 19:39 J -32685708.88 -32685708.68 -32685708.47 0.0089 0.0031
 Neptune -94201-01-10 07:39 J -32685483.35 -32685483.18 -32685482.98 0.0089 0.0044
 Neptune -94201-08-22 19:54 J -32685257.82 -32685257.67 -32685257.49 0.0089 0.0056
 Neptune -94200-04-05 08:23 J -32685032.28 -32685032.15 -32685032.01 0.0089 0.0068
 Neptune -94200-11-16 20:23 J -32684806.71 -32684806.65 -32684806.54 0.0089 0.0081
 Saturn -94197-09-08 15:49 J -32683780.03 -32683779.84 -32683779.65 0.0276 0.0118
 Saturn -94196-04-26 02:51 J -32683550.53 -32683550.38 -32683550.21 0.0276 0.0175
 Jupiter -94192-11-12 15:49 J -32681889.04 -32681888.84 -32681888.65 0.0518 0.0127
 Uranus -94190-02-11 17:44 J -32681432.91 -32681432.76 -32681432.59 0.0143 0.0094

Uranus	-94190-09-26 03:35 J	-32681206.56	-32681206.35	-32681206.14	0.0143	0.0024
Uranus	-94189-05-09 13:11 J	-32680980.14	-32680979.95	-32680979.74	0.0144	0.0048
Uranus	-94189-12-21 23:15 J	-32680753.64	-32680753.53	-32680753.40	0.0144	0.0120
Mars	-94186-06-19 21:20 J	-32679843.78	-32679843.61	-32679843.45	0.1604	0.0380
Jupiter	-94185-05-04 04:03 J	-32679524.53	-32679524.33	-32679524.13	0.0512	0.0137
Mars	-94185-05-27 04:32 J	-32679501.48	-32679501.31	-32679501.13	0.1924	0.0251
Saturn	-94182-10-02 10:03 J	-32678278.28	-32678278.08	-32678277.88	0.0282	0.0072
Saturn	-94181-05-18 22:18 J	-32678048.69	-32678048.57	-32678048.46	0.0283	0.0235
Jupiter	-94173-01-07 20:37 J	-32675258.80	-32675258.64	-32675258.47	0.0508	0.0318
Saturn	-94167-03-21 23:30 J	-32672993.72	-32672993.52	-32672993.31	0.0277	0.0074
Saturn	-94167-11-06 10:32 J	-32672764.18	-32672764.06	-32672763.92	0.0277	0.0220
Jupiter	-94156-07-21 03:49 J	-32668854.53	-32668854.34	-32668854.15	0.0517	0.0134
Mars	-94154-06-18 11:59 J	-32668157.13	-32668157.00	-32668156.87	0.1605	0.1011
Saturn	-94152-04-13 15:20 J	-32667492.07	-32667491.86	-32667491.65	0.0282	0.0031
Saturn	-94152-11-29 03:20 J	-32667262.40	-32667262.36	-32667262.32	0.0282	0.0276
Uranus	-94151-03-10 04:18 J	-32667161.44	-32667161.32	-32667161.21	0.0136	0.0115
Uranus	-94151-10-22 11:59 J	-32666935.19	-32666935.00	-32666934.79	0.0135	0.0053
Uranus	-94150-06-05 19:54 J	-32666708.89	-32666708.67	-32666708.45	0.0135	0.0009
Jupiter	-94149-01-10 17:30 J	-32666489.89	-32666489.77	-32666489.63	0.0513	0.0395
Uranus	-94149-01-18 03:06 J	-32666482.55	-32666482.37	-32666482.17	0.0135	0.0070
Uranus	-94149-08-31 10:18 J	-32666256.12	-32666256.07	-32666256.01	0.0135	0.0130
Jupiter	-94144-03-26 03:35 J	-32664588.50	-32664588.35	-32664588.19	0.0520	0.0310
Earth	-94144-08-10 05:15 J	-32664451.42	-32664451.28	-32664451.14	0.2629	0.1298
Moon	-94144-08-10 07:54 J	-32664451.29	-32664451.17	-32664451.05	0.2635	0.1577 *
Jupiter	-94138-09-15 12:27 J	-32662224.19	-32662223.98	-32662223.78	0.0510	0.0054
Saturn	-94138-10-01 23:15 J	-32662207.74	-32662207.53	-32662207.32	0.0277	0.0045
Saturn	-94137-05-18 10:18 J	-32661978.15	-32661978.07	-32661977.97	0.0276	0.0248
Earth	-94136-08-07 22:03 J	-32661531.64	-32661531.58	-32661531.53	0.2626	0.2436
Moon	-94136-08-08 03:06 J	-32661531.49	-32661531.37	-32661531.24	0.2627	0.1518
Neptune	-94126-05-15 21:49 J	-32657963.60	-32657963.59	-32657963.54	0.0089	0.0088

Jupiter -94126-05-21 07:25 J -32657958.23 -32657958.19 -32657958.14 0.0508 0.0494
 Neptune -94126-12-27 11:59 J -32657738.11 -32657738.00 -32657737.87 0.0089 0.0075
 Neptune -94125-08-09 01:39 J -32657512.57 -32657512.43 -32657512.25 0.0088 0.0063
 Neptune -94124-03-22 15:49 J -32657287.01 -32657286.84 -32657286.63 0.0088 0.0050
 Neptune -94124-11-03 05:59 J -32657061.45 -32657061.25 -32657061.04 0.0088 0.0037
 Neptune -94123-06-16 19:54 J -32656835.88 -32656835.67 -32656835.45 0.0088 0.0024
 Saturn -94123-10-24 16:03 J -32656706.04 -32656705.83 -32656705.62 0.0282 0.0004
 Neptune -94122-01-28 09:49 J -32656610.31 -32656610.09 -32656609.86 0.0088 0.0011
 Neptune -94122-09-10 23:44 J -32656384.74 -32656384.51 -32656384.29 0.0088 0.0002
 Neptune -94121-04-23 13:39 J -32656159.15 -32656158.93 -32656158.71 0.0088 0.0014
 Neptune -94121-12-05 03:06 J -32655933.57 -32655933.37 -32655933.14 0.0088 0.0028
 Jupiter -94120-03-28 16:32 J -32655819.93 -32655819.81 -32655819.68 0.0515 0.0396
 Mars -94120-04-16 10:03 J -32655801.24 -32655801.08 -32655800.91 0.1603 0.0544
 Neptune -94120-07-18 17:01 J -32655707.99 -32655707.79 -32655707.58 0.0088 0.0040
 Neptune -94119-03-01 06:27 J -32655482.40 -32655482.23 -32655482.03 0.0088 0.0053
 Mars -94119-03-24 05:59 J -32655459.43 -32655459.25 -32655459.08 0.1925 0.0403
 Neptune -94119-10-12 20:23 J -32655256.80 -32655256.65 -32655256.49 0.0088 0.0065
 Neptune -94118-05-26 09:49 J -32655031.18 -32655031.09 -32655030.96 0.0088 0.0078
 Pluto -94114-11-19 11:44 J -32653393.17 -32653393.01 -32653392.82 0.0082 0.0048
 Pluto -94113-07-01 22:03 J -32653167.77 -32653167.58 -32653167.36 0.0082 0.0024
 Jupiter -94109-12-01 14:37 J -32651554.09 -32651553.89 -32651553.69 0.0519 0.0055
 Saturn -94108-04-13 06:42 J -32651421.43 -32651421.22 -32651421.00 0.0277 0.0004
 Uranus -94107-10-12 00:42 J -32650874.54 -32650874.47 -32650874.37 0.0143 0.0130
 Uranus -94106-05-26 10:32 J -32650648.26 -32650648.06 -32650647.87 0.0143 0.0060
 Uranus -94105-01-07 19:54 J -32650421.88 -32650421.67 -32650421.45 0.0143 0.0012
 Uranus -94105-08-21 05:44 J -32650195.43 -32650195.26 -32650195.08 0.0144 0.0083
 Jupiter -94102-05-24 03:35 J -32649189.54 -32649189.35 -32649189.16 0.0511 0.0212
 Jupiter -94097-08-06 13:25 J -32647287.98 -32647287.94 -32647287.89 0.0522 0.0506
 Saturn -94094-09-19 11:01 J -32646149.11 -32646149.04 -32646148.95 0.0281 0.0260
 Saturn -94093-05-05 22:03 J -32645919.79 -32645919.58 -32645919.37 0.0282 0.0043

Jupiter -94090-01-26 20:51 J -32644923.81 -32644923.63 -32644923.45 0.0509 0.0241
 Mars -94088-04-15 00:56 J -32644114.61 -32644114.46 -32644114.31 0.1604 0.0848
 Saturn -94079-03-08 18:27 J -32640864.77 -32640864.73 -32640864.67 0.0277 0.0269
 Saturn -94079-10-24 06:56 J -32640635.42 -32640635.21 -32640635.00 0.0277 0.0028
 Jupiter -94073-08-09 05:01 J -32638519.47 -32638519.29 -32638519.11 0.0516 0.0218
 Uranus -94067-06-21 19:25 J -32636376.85 -32636376.69 -32636376.50 0.0136 0.0085
 Jupiter -94066-01-29 20:23 J -32636154.71 -32636154.65 -32636154.58 0.0513 0.0488
 Uranus -94066-02-03 03:20 J -32636150.57 -32636150.36 -32636150.13 0.0135 0.0023
 Uranus -94066-09-17 11:01 J -32635924.25 -32635924.04 -32635923.83 0.0135 0.0039
 Uranus -94065-04-30 18:13 J -32635697.87 -32635697.74 -32635697.58 0.0135 0.0100
 Saturn -94064-03-31 11:15 J -32635363.14 -32635363.03 -32635362.91 0.0282 0.0234
 Saturn -94064-11-15 22:18 J -32635133.77 -32635133.57 -32635133.36 0.0282 0.0071
 Jupiter -94061-04-14 03:35 J -32634253.53 -32634253.35 -32634253.17 0.0519 0.0232
 Jupiter -94055-10-04 13:39 J -32631889.14 -32631888.93 -32631888.73 0.0510 0.0032
 Mars -94054-02-11 23:30 J -32631758.68 -32631758.52 -32631758.37 0.1603 0.0702
 Mars -94053-01-19 07:39 J -32631417.33 -32631417.18 -32631417.03 0.1926 0.1042
 Saturn -94050-09-19 01:11 J -32630078.57 -32630078.45 -32630078.33 0.0278 0.0227
 Saturn -94049-05-05 13:39 J -32629849.13 -32629848.93 -32629848.72 0.0277 0.0072
 Neptune -94043-02-08 18:27 J -32627743.79 -32627743.73 -32627743.63 0.0089 0.0082
 Jupiter -94043-06-09 07:39 J -32627623.29 -32627623.18 -32627623.06 0.0507 0.0416
 Neptune -94043-09-22 06:27 J -32627518.34 -32627518.23 -32627518.08 0.0089 0.0070
 Neptune -94042-05-05 18:27 J -32627292.87 -32627292.73 -32627292.54 0.0089 0.0058
 Neptune -94042-12-17 06:42 J -32627067.39 -32627067.22 -32627067.02 0.0089 0.0046
 Neptune -94041-07-29 18:56 J -32626841.90 -32626841.71 -32626841.50 0.0089 0.0033
 Neptune -94040-03-12 06:56 J -32626616.41 -32626616.21 -32626615.99 0.0089 0.0021
 Neptune -94040-10-23 19:25 J -32626390.90 -32626390.69 -32626390.47 0.0089 0.0008
 Neptune -94039-06-06 07:39 J -32626165.40 -32626165.18 -32626164.97 0.0089 0.0004
 Neptune -94038-01-17 19:54 J -32625939.88 -32625939.67 -32625939.46 0.0089 0.0016
 Neptune -94038-08-31 07:54 J -32625714.37 -32625714.17 -32625713.96 0.0089 0.0029
 Neptune -94037-04-12 20:08 J -32625488.84 -32625488.66 -32625488.46 0.0089 0.0041

Jupiter -94037-04-16 16:03 J -32625484.91 -32625484.83 -32625484.75 0.0516 0.0470
 Neptune -94037-11-24 08:23 J -32625263.30 -32625263.15 -32625262.96 0.0089 0.0054
 Neptune -94036-07-07 20:37 J -32625037.76 -32625037.64 -32625037.48 0.0089 0.0066
 Neptune -94035-02-18 09:20 J -32624812.21 -32624812.11 -32624812.01 0.0089 0.0078
 Saturn -94035-10-11 18:27 J -32624576.88 -32624576.73 -32624576.56 0.0281 0.0185
 Saturn -94034-05-29 05:30 J -32624347.46 -32624347.27 -32624347.07 0.0282 0.0119
 Jupiter -94026-12-21 16:32 J -32621219.01 -32621218.81 -32621218.62 0.0518 0.0035
 Uranus -94022-01-23 17:15 J -32620089.94 -32620089.78 -32620089.62 0.0143 0.0095
 Mars -94022-02-10 13:54 J -32620072.07 -32620071.92 -32620071.76 0.1604 0.0690
 Uranus -94022-09-07 02:37 J -32619863.60 -32619863.39 -32619863.17 0.0143 0.0025
 Uranus -94021-04-20 12:13 J -32619637.18 -32619636.99 -32619636.78 0.0144 0.0047
 Uranus -94021-12-02 22:32 J -32619410.68 -32619410.56 -32619410.44 0.0144 0.0118
 Saturn -94020-03-31 02:37 J -32619292.54 -32619292.39 -32619292.24 0.0277 0.0194
 Saturn -94020-11-15 14:51 J -32619063.08 -32619062.88 -32619062.68 0.0277 0.0103
 Jupiter -94019-06-12 04:18 J -32618854.48 -32618854.32 -32618854.14 0.0512 0.0294
 Jupiter -94014-08-26 14:51 J -32616952.99 -32616952.88 -32616952.76 0.0521 0.0419
 Jupiter -94007-02-14 23:15 J -32614588.73 -32614588.53 -32614588.33 0.0509 0.0153
 Saturn -94005-04-22 18:27 J -32613790.89 -32613790.73 -32613790.55 0.0281 0.0159
 Saturn -94005-12-08 05:44 J -32613561.44 -32613561.26 -32613561.08 0.0282 0.0146

94TH MILLENNIUM BCE

This is a list of transits of Venus in the 94th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Saturn -93991-10-11 08:37 J -32608506.31 -32608506.14 -32608505.95 0.0278 0.0153
 Moon -93990-02-01 09:20 J -32608393.25 -32608393.11 -32608392.98 0.2712 0.1323
 Earth -93990-02-01 14:51 J -32608392.97 -32608392.88 -32608392.79 0.2711 0.2147
 Saturn -93990-05-28 21:06 J -32608276.79 -32608276.62 -32608276.43 0.0278 0.0146
 Jupiter -93990-08-29 02:37 J -32608184.56 -32608184.39 -32608184.22 0.0517 0.0282
 Mars -93989-12-09 12:42 J -32607716.12 -32607715.97 -32607715.83 0.1603 0.0862
 Mars -93988-11-15 08:37 J -32607375.22 -32607375.14 -32607375.06 0.1926 0.1716
 Uranus -93983-02-19 02:23 J -32605818.50 -32605818.40 -32605818.28 0.0136 0.0117
 Uranus -93983-10-03 10:18 J -32605592.26 -32605592.07 -32605591.86 0.0135 0.0055
 Earth -93982-01-30 04:47 J -32605473.38 -32605473.30 -32605473.22 0.2715 0.2289
 Uranus -93982-05-17 18:27 J -32605365.95 -32605365.73 -32605365.51 0.0135 0.0007
 Uranus -93982-12-30 01:25 J -32605139.61 -32605139.44 -32605139.23 0.0135 0.0069
 Uranus -93981-08-12 08:37 J -32604913.18 -32604913.14 -32604913.06 0.0135 0.0129
 Jupiter -93978-05-04 01:39 J -32603918.61 -32603918.43 -32603918.24 0.0520 0.0166
 Saturn -93976-11-03 03:06 J -32603004.56 -32603004.37 -32603004.18 0.0281 0.0107
 Saturn -93975-06-20 13:54 J -32602775.06 -32602774.92 -32602774.76 0.0281 0.0199
 Jupiter -93972-10-23 12:42 J -32601554.18 -32601553.97 -32601553.77 0.0510 0.0101
 Neptune -93961-03-29 23:01 J -32597743.63 -32597743.54 -32597743.42 0.0089 0.0078
 Saturn -93961-04-22 11:15 J -32597720.22 -32597720.03 -32597719.83 0.0277 0.0118
 Neptune -93961-11-10 13:11 J -32597518.09 -32597517.95 -32597517.79 0.0088 0.0065
 Saturn -93961-12-07 23:15 J -32597490.68 -32597490.53 -32597490.36 0.0277 0.0180
 Neptune -93960-06-24 03:20 J -32597292.54 -32597292.36 -32597292.17 0.0088 0.0052
 Jupiter -93960-06-28 07:25 J -32597288.34 -32597288.19 -32597288.03 0.0508 0.0343
 Neptune -93959-02-04 17:01 J -32597066.98 -32597066.79 -32597066.57 0.0088 0.0039
 Neptune -93959-09-18 07:11 J -32596841.41 -32596841.20 -32596840.98 0.0088 0.0026
 Neptune -93958-05-01 21:20 J -32596615.83 -32596615.61 -32596615.38 0.0088 0.0013
 Neptune -93958-12-13 11:15 J -32596390.25 -32596390.03 -32596389.80 0.0088 0.0002
 Neptune -93957-07-26 01:11 J -32596164.67 -32596164.45 -32596164.23 0.0088 0.0012
 Mars -93957-12-08 03:06 J -32596029.54 -32596029.37 -32596029.21 0.1603 0.0522
 Neptune -93956-03-08 14:37 J -32595939.09 -32595938.89 -32595938.66 0.0088 0.0026

Pluto -93956-09-04 03:20 J -32595759.46 -32595759.36 -32595759.22 0.0062 0.0052
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 Pluto -93955-04-17 07:25 J -32595534.39 -32595534.19 -32595533.96 0.0062 0.0020
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 Pluto -93955-11-28 11:44 J -32595309.23 -32595309.01 -32595308.78 0.0062 0.0013
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 Pluto -93954-07-11 15:35 J -32595083.99 -32595083.85 -32595083.68 0.0062 0.0046
 Neptune -93954-08-27 21:49 J -32595036.70 -32595036.59 -32595036.47 0.0088 0.0076
 Saturn -93946-05-16 03:20 J -32592218.56 -32592218.36 -32592218.16 0.0281 0.0080
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 Uranus -93939-09-22 23:59 J -32589531.57 -32589531.50 -32589531.41 0.0143 0.0131
 Uranus -93938-05-07 09:20 J -32589305.30 -32589305.11 -32589304.91 0.0143 0.0061
 Uranus -93938-12-19 18:56 J -32589078.92 -32589078.71 -32589078.49 0.0143 0.0010
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 Jupiter -93936-07-01 05:44 J -32588519.40 -32588519.26 -32588519.12 0.0512 0.0376
 Saturn -93932-11-02 17:01 J -32586933.99 -32586933.79 -32586933.58 0.0278 0.0077
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 Jupiter -93924-03-05 23:01 J -32584253.74 -32584253.54 -32584253.33 0.0509 0.0079
 Mars -93923-10-07 01:39 J -32583673.56 -32583673.43 -32583673.30 0.1603 0.1027
 Saturn -93917-11-25 12:56 J -32581432.17 -32581431.96 -32581431.76 0.0281 0.0025
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 Earth -93901-08-10 07:54 J -32575695.30 -32575695.17 -32575695.04 0.2627 0.1447 *
 Uranus -93899-06-02 17:44 J -32575033.93 -32575033.76 -32575033.59 0.0136 0.0087

Uranus -93898-01-15 01:39 J -32574807.65 -32574807.43 -32574807.21 0.0135 0.0025
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 Uranus -93897-04-11 16:18 J -32574354.96 -32574354.82 -32574354.65 0.0135 0.0098
 Jupiter -93895-05-23 02:23 J -32573583.59 -32573583.40 -32573583.20 0.0519 0.0084
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 Jupiter -93889-11-11 13:54 J -32571219.12 -32571218.92 -32571218.73 0.0511 0.0183
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 Neptune -93877-10-31 07:54 J -32566847.35 -32566847.17 -32566846.96 0.0089 0.0036
 Neptune -93876-06-13 20:08 J -32566621.86 -32566621.66 -32566621.45 0.0089 0.0023
 Neptune -93875-01-25 08:08 J -32566396.37 -32566396.16 -32566395.94 0.0089 0.0011
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 Neptune -93874-04-21 08:37 J -32565945.35 -32565945.14 -32565944.93 0.0089 0.0014
 Neptune -93874-12-02 20:37 J -32565719.84 -32565719.64 -32565719.43 0.0089 0.0027
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 Neptune -93872-02-25 20:51 J -32565268.79 -32565268.63 -32565268.44 0.0089 0.0052
 Neptune -93872-10-09 09:20 J -32565043.25 -32565043.11 -32565042.95 0.0089 0.0064
 Neptune -93871-05-22 21:20 J -32564817.69 -32564817.61 -32564817.48 0.0089 0.0077
 Neptune -93870-01-03 10:18 J -32564592.07 -32564592.07 -32564592.07 0.0089 0.0089
 Pluto -93865-06-03 07:25 J -32562614.25 -32562614.19 -32562614.09 0.0082 0.0076
 Pluto -93864-01-14 18:13 J -32562388.95 -32562388.74 -32562388.53 0.0082 0.0004
 Pluto -93864-08-28 04:18 J -32562163.43 -32562163.32 -32562163.18 0.0081 0.0066
 Jupiter -93859-01-28 11:59 J -32560549.19 -32560549.00 -32560548.81 0.0518 0.0162

Saturn -93858-05-03 13:25 J -32560089.04 -32560088.94 -32560088.83 0.0280 0.0242
 Saturn -93858-12-18 23:44 J -32559859.71 -32559859.51 -32559859.30 0.0281 0.0062
 Mars -93857-08-03 14:51 J -32559630.99 -32559630.88 -32559630.76 0.1602 0.1186
 Uranus -93854-01-04 15:49 J -32558746.99 -32558746.84 -32558746.68 0.0143 0.0098
 Uranus -93854-08-19 01:11 J -32558520.66 -32558520.45 -32558520.24 0.0143 0.0028
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 Jupiter -93853-07-20 02:37 J -32558184.49 -32558184.39 -32558184.27 0.0512 0.0437
 Uranus -93853-11-13 20:51 J -32558067.75 -32558067.63 -32558067.50 0.0144 0.0115
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 Saturn -93844-10-20 18:27 J -32554804.80 -32554804.73 -32554804.64 0.0278 0.0257
 Saturn -93843-06-07 07:54 J -32554575.38 -32554575.17 -32554574.96 0.0277 0.0045
 Jupiter -93841-03-24 20:51 J -32553918.83 -32553918.63 -32553918.42 0.0509 0.0019
 Jupiter -93830-11-28 16:03 J -32549652.92 -32549652.83 -32549652.74 0.0507 0.0456
 Saturn -93829-11-12 14:37 J -32549303.02 -32549302.89 -32549302.75 0.0281 0.0213
 Saturn -93828-06-30 00:56 J -32549073.66 -32549073.46 -32549073.26 0.0281 0.0091
 Mars -93825-08-02 05:01 J -32547944.46 -32547944.29 -32547944.12 0.1602 0.0195
 Mars -93824-07-09 17:15 J -32547602.95 -32547602.78 -32547602.61 0.1926 0.0400
 Jupiter -93824-10-06 01:39 J -32547514.53 -32547514.43 -32547514.32 0.0516 0.0431
 Uranus -93815-01-31 00:13 J -32544475.58 -32544475.49 -32544475.38 0.0136 0.0120
 Uranus -93815-09-14 08:08 J -32544249.34 -32544249.16 -32544248.94 0.0136 0.0058
 Uranus -93814-04-28 16:18 J -32544023.04 -32544022.82 -32544022.59 0.0135 0.0005
 Saturn -93814-05-02 23:44 J -32544018.64 -32544018.51 -32544018.37 0.0278 0.0216
 Uranus -93814-12-10 23:44 J -32543796.70 -32543796.51 -32543796.31 0.0135 0.0066
 Saturn -93814-12-18 12:56 J -32543789.16 -32543788.96 -32543788.75 0.0278 0.0087
 Uranus -93813-07-24 06:27 J -32543570.28 -32543570.23 -32543570.14 0.0135 0.0127
 Jupiter -93812-06-10 21:49 J -32543248.79 -32543248.59 -32543248.39 0.0519 0.0034
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 Saturn -93798-01-10 11:44 J -32538287.18 -32538287.01 -32538286.83 0.0281 0.0151

Neptune -93797-07-01 10:03 J -32537749.15 -32537749.08 -32537748.97 0.0089 0.0081
 Neptune -93796-02-12 00:13 J -32537523.62 -32537523.49 -32537523.33 0.0089 0.0068
 Neptune -93796-09-25 14:23 J -32537298.07 -32537297.90 -32537297.72 0.0089 0.0055
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 Neptune -93793-03-15 22:32 J -32536395.79 -32536395.56 -32536395.33 0.0088 0.0003
 Mars -93793-07-31 19:39 J -32536257.68 -32536257.68 -32536257.67 0.1603 0.1601
 Neptune -93793-10-27 12:13 J -32536170.20 -32536169.99 -32536169.76 0.0088 0.0011
 Neptune -93792-06-10 02:23 J -32535944.62 -32535944.40 -32535944.18 0.0088 0.0023
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 Neptune -93790-11-29 09:06 J -32535042.22 -32535042.12 -32535041.98 0.0088 0.0075
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 Uranus -93771-09-03 22:03 J -32528188.64 -32528188.58 -32528188.50 0.0143 0.0135
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 Saturn -93754-01-10 00:13 J -32522216.65 -32522216.49 -32522216.32 0.0278 0.0172
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 Jupiter -93747-12-17 14:51 J -32519318.01 -32519317.88 -32519317.74 0.0506 0.0388
 Jupiter -93741-10-24 20:23 J -32517179.72 -32517179.65 -32517179.57 0.0516 0.0478
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 Earth -93739-01-30 03:35 J -32516717.37 -32516717.35 -32516717.33 0.2718 0.2690
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Saturn -93711-12-28 16:03 J -32506158.04 -32506157.83 -32506157.62 0.0281 0.0032
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 Neptune -93706-04-06 22:32 J -32504597.58 -32504597.56 -32504597.50 0.0089 0.0087
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 Mars -93693-03-27 07:11 J -32499859.37 -32499859.20 -32499859.03 0.1602 0.0127
 Mars -93692-03-02 19:54 J -32499518.83 -32499518.67 -32499518.52 0.1927 0.0926
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 Uranus -93686-07-30 23:01 J -32497177.75 -32497177.54 -32497177.33 0.0143 0.0032
 Uranus -93685-03-13 08:23 J -32496951.35 -32496951.15 -32496950.93 0.0144 0.0040
 Uranus -93685-10-25 18:27 J -32496724.86 -32496724.73 -32496724.59 0.0144 0.0111
 Jupiter -93682-11-11 04:18 J -32495613.50 -32495613.32 -32495613.13 0.0520 0.0171
 Saturn -93682-11-23 16:47 J -32495600.83 -32495600.80 -32495600.77 0.0280 0.0277
 Saturn -93681-07-10 02:37 J -32495371.60 -32495371.39 -32495371.18 0.0281 0.0027
 Jupiter -93675-05-02 16:03 J -32493249.03 -32493248.83 -32493248.63 0.0509 0.0111
 Saturn -93667-12-28 09:20 J -32490087.32 -32490087.11 -32490086.90 0.0278 0.0009
 Jupiter -93663-01-05 10:03 J -32488983.23 -32488983.08 -32488982.92 0.0507 0.0336
 Mars -93661-03-25 21:49 J -32488172.69 -32488172.59 -32488172.49 0.1602 0.1275
 Moon -93658-08-11 09:20 J -32486939.21 -32486939.11 -32486939.00 0.2631 0.1806

Earth -93658-08-11 10:32 J -32486939.19 -32486939.06 -32486938.94 0.2624 0.1580 *
 Saturn -93652-06-04 19:11 J -32484814.80 -32484814.70 -32484814.59 0.0281 0.0244
 Saturn -93651-01-20 05:15 J -32484585.49 -32484585.28 -32484585.08 0.0281 0.0061
 Earth -93650-08-09 03:20 J -32484019.45 -32484019.36 -32484019.27 0.2621 0.2128
 Moon -93650-08-09 06:27 J -32484019.33 -32484019.23 -32484019.12 0.2626 0.1887 *
 Uranus -93647-01-11 22:18 J -32483132.65 -32483132.57 -32483132.47 0.0136 0.0122
 Uranus -93647-08-26 06:13 J -32482906.43 -32482906.24 -32482906.03 0.0136 0.0060
 Uranus -93646-04-09 14:08 J -32482680.13 -32482679.91 -32482679.68 0.0135 0.0004
 Jupiter -93646-07-19 18:27 J -32482578.92 -32482578.73 -32482578.53 0.0519 0.0106
 Uranus -93646-11-21 21:20 J -32482453.79 -32482453.61 -32482453.40 0.0135 0.0064
 Uranus -93645-07-05 04:18 J -32482227.38 -32482227.32 -32482227.22 0.0135 0.0125
 Jupiter -93639-01-08 08:08 J -32480214.29 -32480214.16 -32480214.01 0.0511 0.0383
 Saturn -93638-11-22 23:01 J -32479530.61 -32479530.54 -32479530.45 0.0278 0.0259
 Saturn -93637-07-09 12:42 J -32479301.18 -32479300.97 -32479300.76 0.0278 0.0047
 Jupiter -93634-03-24 14:08 J -32478313.05 -32478312.91 -32478312.77 0.0522 0.0366
 Neptune -93633-10-02 21:35 J -32477754.65 -32477754.60 -32477754.51 0.0089 0.0084
 Neptune -93632-05-16 11:30 J -32477529.13 -32477529.02 -32477528.86 0.0089 0.0071
 Neptune -93632-12-28 01:39 J -32477303.58 -32477303.43 -32477303.24 0.0089 0.0058
 Neptune -93631-08-10 15:49 J -32477078.02 -32477077.84 -32477077.64 0.0089 0.0045
 Neptune -93630-03-24 05:44 J -32476852.45 -32476852.26 -32476852.03 0.0089 0.0032
 Neptune -93630-11-04 19:54 J -32476626.88 -32476626.67 -32476626.44 0.0088 0.0019
 Neptune -93629-06-17 10:03 J -32476401.31 -32476401.08 -32476400.86 0.0088 0.0005
 Neptune -93628-01-28 23:59 J -32476175.73 -32476175.50 -32476175.28 0.0088 0.0008
 Neptune -93628-09-11 13:39 J -32475950.14 -32475949.93 -32475949.70 0.0088 0.0021
 Jupiter -93628-09-13 01:54 J -32475948.63 -32475948.42 -32475948.21 0.0508 0.0071
 Mars -93627-01-22 20:37 J -32475816.81 -32475816.64 -32475816.47 0.1602 0.0283
 Neptune -93627-04-25 03:49 J -32475724.55 -32475724.34 -32475724.13 0.0088 0.0034
 Neptune -93627-12-06 17:30 J -32475498.95 -32475498.77 -32475498.57 0.0088 0.0047
 Mars -93627-12-28 21:35 J -32475476.70 -32475476.60 -32475476.50 0.1927 0.1588
 Neptune -93626-07-20 07:11 J -32475273.35 -32475273.20 -32475273.02 0.0088 0.0060

Neptune -93625-03-01 20:51 J -32475047.74 -32475047.63 -32475047.49 0.0088 0.0073
 Neptune -93625-10-13 10:32 J -32474822.10 -32474822.06 -32474821.98 0.0088 0.0086
 Saturn -93623-12-16 04:47 J -32474028.46 -32474028.30 -32474028.15 0.0281 0.0189
 Saturn -93622-08-02 15:06 J -32473799.06 -32473798.87 -32473798.68 0.0281 0.0117
 Pluto -93616-07-30 15:49 J -32471610.03 -32471609.84 -32471609.62 0.0082 0.0024
 Pluto -93615-03-13 01:54 J -32471384.58 -32471384.42 -32471384.22 0.0082 0.0047
 Jupiter -93610-03-27 04:18 J -32469544.46 -32469544.32 -32469544.17 0.0518 0.0354
 Saturn -93608-06-04 10:03 J -32468744.22 -32468744.08 -32468743.94 0.0278 0.0205
 Saturn -93607-01-19 23:01 J -32468514.74 -32468514.54 -32468514.34 0.0278 0.0100
 Uranus -93603-08-15 19:39 J -32466845.71 -32466845.68 -32466845.61 0.0143 0.0139
 Uranus -93602-03-30 05:01 J -32466619.47 -32466619.29 -32466619.09 0.0143 0.0069
 Uranus -93602-11-11 14:51 J -32466393.10 -32466392.88 -32466392.67 0.0143 0.0002
 Uranus -93601-06-25 00:13 J -32466166.66 -32466166.49 -32466166.29 0.0144 0.0074
 Jupiter -93599-11-30 03:49 J -32465278.54 -32465278.34 -32465278.14 0.0520 0.0094
 Mars -93595-01-21 11:01 J -32464130.16 -32464130.04 -32464129.92 0.1602 0.1118
 Mars -93595-12-29 02:37 J -32463788.44 -32463788.39 -32463788.34 0.1927 0.1839
 Saturn -93593-06-27 07:11 J -32463242.36 -32463242.20 -32463242.02 0.0281 0.0156
 Saturn -93592-02-11 17:30 J -32463012.94 -32463012.77 -32463012.59 0.0281 0.0151
 Jupiter -93592-05-21 14:08 J -32462914.10 -32462913.91 -32462913.71 0.0510 0.0178
 Jupiter -93580-01-24 09:35 J -32458648.28 -32458648.10 -32458647.92 0.0507 0.0265
 Saturn -93579-12-15 12:27 J -32457958.15 -32457957.98 -32457957.81 0.0278 0.0169
 Saturn -93578-08-02 01:11 J -32457728.63 -32457728.45 -32457728.25 0.0278 0.0136
 Saturn -93563-01-07 15:49 J -32452456.03 -32452455.84 -32452455.64 0.0281 0.0103
 Uranus -93563-04-25 13:25 J -32452348.09 -32452347.94 -32452347.76 0.0136 0.0092
 Jupiter -93563-08-07 13:25 J -32452244.13 -32452243.94 -32452243.75 0.0519 0.0154
 Saturn -93563-08-25 02:37 J -32452226.53 -32452226.39 -32452226.25 0.0281 0.0206
 Uranus -93563-12-07 21:35 J -32452121.81 -32452121.60 -32452121.38 0.0136 0.0029
 Uranus -93562-07-22 05:15 J -32451895.50 -32451895.28 -32451895.07 0.0135 0.0033
 Mars -93562-11-20 09:49 J -32451774.26 -32451774.09 -32451773.93 0.1602 0.0446
 Uranus -93561-03-04 11:59 J -32451669.14 -32451669.00 -32451668.82 0.0135 0.0094

Jupiter -93556-01-27 03:20 J -32449879.47 -32449879.36 -32449879.25 0.0511 0.0434
 Jupiter -93551-04-12 11:59 J -32447978.16 -32447978.00 -32447977.83 0.0522 0.0299
 Neptune -93550-06-29 21:35 J -32447534.69 -32447534.60 -32447534.48 0.0089 0.0078
 Neptune -93549-02-10 10:03 J -32447309.23 -32447309.08 -32447308.94 0.0089 0.0065
 Saturn -93549-06-26 23:15 J -32447171.72 -32447171.53 -32447171.33 0.0278 0.0115
 Neptune -93549-09-22 21:49 J -32447083.75 -32447083.59 -32447083.41 0.0089 0.0053
 Saturn -93548-02-11 11:44 J -32446942.16 -32446942.01 -32446941.85 0.0278 0.0189
 Neptune -93548-05-06 09:49 J -32446858.27 -32446858.09 -32446857.89 0.0089 0.0041
 Neptune -93548-12-17 22:03 J -32446632.78 -32446632.58 -32446632.37 0.0089 0.0028
 Neptune -93547-07-31 10:03 J -32446407.29 -32446407.08 -32446406.86 0.0089 0.0015
 Neptune -93546-03-13 22:18 J -32446181.79 -32446181.57 -32446181.36 0.0089 0.0003
 Neptune -93546-10-25 10:18 J -32445956.28 -32445956.07 -32445955.85 0.0089 0.0010
 Neptune -93545-06-06 22:32 J -32445730.77 -32445730.56 -32445730.35 0.0089 0.0022
 Jupiter -93545-10-01 21:06 J -32445613.82 -32445613.62 -32445613.41 0.0508 0.0021
 Neptune -93544-01-18 10:18 J -32445505.25 -32445505.07 -32445504.86 0.0089 0.0035
 Neptune -93544-08-31 22:47 J -32445279.73 -32445279.55 -32445279.37 0.0089 0.0047
 Neptune -93543-04-14 10:32 J -32445054.20 -32445054.06 -32445053.88 0.0089 0.0060
 Neptune -93543-11-25 22:47 J -32444828.65 -32444828.55 -32444828.41 0.0089 0.0073
 Neptune -93542-07-09 11:01 J -32444603.08 -32444603.04 -32444602.96 0.0089 0.0085
 Saturn -93534-07-20 18:42 J -32441669.92 -32441669.72 -32441669.51 0.0281 0.0069
 Saturn -93533-03-06 05:15 J -32441440.39 -32441440.28 -32441440.17 0.0281 0.0240
 Jupiter -93533-06-06 16:03 J -32441347.91 -32441347.83 -32441347.75 0.0506 0.0461
 Mars -93530-11-18 23:59 J -32440087.64 -32440087.50 -32440087.37 0.1602 0.0949
 Mars -93529-10-25 04:32 J -32439746.45 -32439746.31 -32439746.18 0.1927 0.1206
 Jupiter -93527-04-15 03:20 J -32439209.46 -32439209.36 -32439209.24 0.0517 0.0427
 Saturn -93519-01-07 01:11 J -32436385.66 -32436385.45 -32436385.25 0.0278 0.0081
 Saturn -93519-08-24 13:39 J -32436156.05 -32436155.93 -32436155.80 0.0277 0.0223
 Uranus -93519-11-27 11:44 J -32436061.15 -32436061.01 -32436060.86 0.0143 0.0105
 Uranus -93518-07-11 21:06 J -32435834.83 -32435834.62 -32435834.41 0.0143 0.0035
 Uranus -93517-02-23 06:27 J -32435608.43 -32435608.23 -32435608.01 0.0143 0.0037

Uranus -93517-10-06 16:32 J -32435381.95 -32435381.81 -32435381.67 0.0144 0.0108
 Jupiter -93516-12-19 00:13 J -32434943.68 -32434943.49 -32434943.29 0.0520 0.0036
 Jupiter -93509-06-09 13:39 J -32432579.11 -32432578.93 -32432578.75 0.0510 0.0252
 Saturn -93504-01-30 01:39 J -32430883.64 -32430883.43 -32430883.22 0.0281 0.0020
 Moon -93504-02-01 08:08 J -32430881.32 -32430881.16 -32430881.00 0.2714 0.0484
 Earth -93504-02-01 12:56 J -32430881.09 -32430880.96 -32430880.83 0.2716 0.1418 *
 Jupiter -93504-08-23 21:20 J -32430677.66 -32430677.61 -32430677.54 0.0523 0.0499
 Jupiter -93497-02-13 05:30 J -32428313.46 -32428313.27 -32428313.08 0.0507 0.0208
 Mars -93496-09-16 22:32 J -32427731.72 -32427731.56 -32427731.40 0.1602 0.0615
 Saturn -93490-07-20 11:44 J -32425599.22 -32425599.01 -32425598.79 0.0278 0.0028
 Saturn -93489-03-05 23:44 J -32425369.52 -32425369.51 -32425369.48 0.0277 0.0276
 Jupiter -93480-08-26 13:11 J -32421909.12 -32421908.95 -32421908.77 0.0519 0.0234
 Uranus -93480-12-23 20:23 J -32421789.72 -32421789.65 -32421789.54 0.0136 0.0124
 Uranus -93479-08-07 04:47 J -32421563.50 -32421563.30 -32421563.10 0.0136 0.0061
 Uranus -93478-03-21 12:27 J -32421337.20 -32421336.98 -32421336.76 0.0135 0.0001
 Uranus -93478-11-02 19:54 J -32421110.86 -32421110.67 -32421110.47 0.0135 0.0063
 Uranus -93477-06-16 02:37 J -32420884.45 -32420884.39 -32420884.28 0.0135 0.0124
 Saturn -93475-08-12 04:47 J -32420097.50 -32420097.30 -32420097.08 0.0281 0.0017
 Jupiter -93473-02-16 02:08 J -32419544.44 -32419544.41 -32419544.38 0.0511 0.0505
 Neptune -93468-01-04 08:37 J -32417760.16 -32417760.14 -32417760.07 0.0089 0.0087
 Jupiter -93468-05-01 12:13 J -32417643.17 -32417642.99 -32417642.81 0.0521 0.0219
 Neptune -93468-08-17 22:47 J -32417534.66 -32417534.55 -32417534.41 0.0089 0.0074
 Neptune -93467-03-31 12:56 J -32417309.11 -32417308.96 -32417308.78 0.0089 0.0061
 Neptune -93467-11-12 02:51 J -32417083.55 -32417083.38 -32417083.17 0.0089 0.0048
 Neptune -93466-06-25 16:47 J -32416857.99 -32416857.80 -32416857.57 0.0089 0.0035
 Neptune -93465-02-06 06:56 J -32416632.42 -32416632.21 -32416631.98 0.0089 0.0021
 Neptune -93465-09-18 21:06 J -32416406.85 -32416406.62 -32416406.40 0.0088 0.0008
 Neptune -93464-05-02 11:01 J -32416181.26 -32416181.04 -32416180.81 0.0088 0.0006
 Mars -93464-09-15 12:42 J -32416045.11 -32416044.97 -32416044.81 0.1601 0.0786
 Neptune -93464-12-14 00:56 J -32415955.67 -32415955.46 -32415955.23 0.0088 0.0018

Neptune -93463-07-27 14:37 J -32415730.08 -32415729.89 -32415729.66 0.0088 0.0032
 Mars -93463-08-22 05:15 J -32415704.45 -32415704.28 -32415704.11 0.1928 0.0521
 Neptune -93462-03-10 04:32 J -32415504.49 -32415504.31 -32415504.10 0.0088 0.0045
 Neptune -93462-10-21 18:27 J -32415278.89 -32415278.73 -32415278.55 0.0088 0.0058
 Jupiter -93462-10-21 21:20 J -32415278.82 -32415278.61 -32415278.40 0.0509 0.0058 *
 Neptune -93461-06-03 08:08 J -32415053.27 -32415053.16 -32415053.00 0.0088 0.0071
 Neptune -93460-01-14 21:49 J -32414827.64 -32414827.59 -32414827.49 0.0088 0.0084
 Saturn -93460-01-29 12:56 J -32414813.18 -32414812.96 -32414812.75 0.0278 0.0006
 Pluto -93458-05-16 05:59 J -32413976.41 -32413976.25 -32413976.04 0.0062 0.0037
 Pluto -93458-12-27 10:32 J -32413751.29 -32413751.06 -32413750.83 0.0062 0.0005
 Pluto -93457-08-08 14:08 J -32413526.09 -32413525.91 -32413525.69 0.0062 0.0028
 Pluto -93456-03-21 18:27 J -32413300.76 -32413300.73 -32413300.67 0.0063 0.0061
 Jupiter -93450-06-26 16:03 J -32411012.96 -32411012.83 -32411012.69 0.0506 0.0385
 Saturn -93446-07-07 23:59 J -32409540.58 -32409540.50 -32409540.39 0.0281 0.0249
 Saturn -93445-02-22 10:18 J -32409311.27 -32409311.07 -32409310.86 0.0281 0.0059
 Jupiter -93444-05-03 23:59 J -32408874.56 -32408874.50 -32408874.43 0.0517 0.0486
 Uranus -93435-07-27 18:27 J -32405502.75 -32405502.73 -32405502.69 0.0143 0.0141
 Uranus -93434-03-11 03:35 J -32405276.53 -32405276.35 -32405276.16 0.0143 0.0071
 Uranus -93434-10-23 13:25 J -32405050.16 -32405049.94 -32405049.73 0.0143 0.0003
 Uranus -93433-06-05 22:47 J -32404823.72 -32404823.55 -32404823.35 0.0144 0.0072
 Jupiter -93432-01-06 22:47 J -32404608.75 -32404608.55 -32404608.35 0.0520 0.0037
 Uranus -93432-01-18 08:51 J -32404597.13 -32404597.13 -32404597.11 0.0144 0.0144
 Saturn -93432-12-25 09:49 J -32404256.17 -32404256.09 -32404255.99 0.0278 0.0250
 Saturn -93431-08-11 23:15 J -32404026.74 -32404026.53 -32404026.32 0.0278 0.0058
 Mars -93430-07-15 11:59 J -32403689.15 -32403689.00 -32403688.85 0.1601 0.0776
 Jupiter -93426-06-29 10:03 J -32402244.24 -32402244.08 -32402243.91 0.0510 0.0312
 Jupiter -93421-09-11 21:35 J -32400342.71 -32400342.60 -32400342.48 0.0523 0.0419
 Saturn -93416-01-17 03:35 J -32398754.47 -32398754.35 -32398754.20 0.0280 0.0212
 Saturn -93416-09-03 13:39 J -32398525.12 -32398524.93 -32398524.73 0.0281 0.0096
 Earth -93415-08-11 13:11 J -32398183.07 -32398182.95 -32398182.83 0.2622 0.1737

Moon -93415-08-11 16:03 J -32398182.94 -32398182.83 -32398182.71 0.2617 0.1872 *
 Jupiter -93414-03-04 04:32 J -32397978.51 -32397978.31 -32397978.11 0.0507 0.0137
 Moon -93407-08-09 04:18 J -32395263.44 -32395263.32 -32395263.20 0.2612 0.1842
 Earth -93407-08-09 05:59 J -32395263.35 -32395263.25 -32395263.15 0.2619 0.1978 *
 Saturn -93402-07-07 10:18 J -32393470.19 -32393470.07 -32393469.93 0.0278 0.0218
 Saturn -93401-02-21 23:44 J -32393240.72 -32393240.51 -32393240.31 0.0277 0.0089
 Mars -93398-07-14 01:54 J -32392002.58 -32392002.42 -32392002.26 0.1601 0.0617
 Mars -93397-06-18 06:56 J -32391662.39 -32391662.21 -32391662.04 0.1928 0.0141
 Jupiter -93397-09-14 11:59 J -32391574.16 -32391574.00 -32391573.84 0.0518 0.0304
 Uranus -93395-04-06 11:59 J -32391005.16 -32391005.00 -32391004.84 0.0136 0.0093
 Uranus -93395-11-18 19:54 J -32390778.88 -32390778.67 -32390778.45 0.0136 0.0031
 Uranus -93394-07-03 03:35 J -32390552.56 -32390552.35 -32390552.13 0.0135 0.0032
 Uranus -93393-02-14 10:47 J -32390326.20 -32390326.05 -32390325.88 0.0135 0.0093
 Saturn -93387-07-30 07:11 J -32387968.36 -32387968.20 -32387968.03 0.0281 0.0174
 Saturn -93386-03-16 17:30 J -32387738.95 -32387738.77 -32387738.58 0.0281 0.0136
 Neptune -93386-10-01 10:18 J -32387540.13 -32387540.07 -32387539.96 0.0089 0.0081
 Neptune -93385-05-13 22:47 J -32387314.68 -32387314.55 -32387314.41 0.0089 0.0068
 Jupiter -93385-05-20 09:49 J -32387308.27 -32387308.09 -32387307.89 0.0521 0.0154
 Neptune -93385-12-25 10:32 J -32387089.21 -32387089.06 -32387088.88 0.0089 0.0056
 Neptune -93384-08-07 22:47 J -32386863.73 -32386863.55 -32386863.36 0.0089 0.0043
 Neptune -93383-03-21 10:47 J -32386638.24 -32386638.05 -32386637.84 0.0089 0.0031
 Neptune -93383-11-01 23:01 J -32386412.74 -32386412.54 -32386412.32 0.0089 0.0018
 Neptune -93382-06-15 11:15 J -32386187.24 -32386187.03 -32386186.81 0.0089 0.0005
 Neptune -93381-01-26 23:15 J -32385961.74 -32385961.53 -32385961.31 0.0089 0.0007
 Neptune -93381-09-08 11:15 J -32385736.23 -32385736.03 -32385735.81 0.0089 0.0020
 Neptune -93380-04-21 23:15 J -32385510.72 -32385510.53 -32385510.32 0.0089 0.0033
 Neptune -93380-12-03 11:44 J -32385285.19 -32385285.01 -32385284.82 0.0089 0.0045
 Neptune -93379-07-16 23:30 J -32385059.66 -32385059.52 -32385059.34 0.0089 0.0058
 Jupiter -93379-11-09 19:25 J -32384943.89 -32384943.69 -32384943.49 0.0508 0.0126
 Neptune -93378-02-27 11:30 J -32384834.13 -32384834.02 -32384833.87 0.0089 0.0071

Neptune -93378-10-10 23:59 J -32384608.56 -32384608.50 -32384608.41 0.0089 0.0083
 Saturn -93372-01-16 20:23 J -32382683.82 -32382683.65 -32382683.48 0.0278 0.0168
 Saturn -93372-09-03 09:06 J -32382454.29 -32382454.12 -32382453.92 0.0278 0.0140
 Pluto -93367-02-12 12:27 J -32380831.14 -32380830.98 -32380830.80 0.0082 0.0048
 Jupiter -93367-07-15 13:54 J -32380678.08 -32380677.92 -32380677.76 0.0506 0.0320
 Pluto -93367-09-25 23:01 J -32380605.74 -32380605.54 -32380605.33 0.0082 0.0022
 Mars -93364-05-12 00:56 J -32379646.60 -32379646.46 -32379646.32 0.1602 0.0945
 Saturn -93357-02-09 11:30 J -32377182.20 -32377182.02 -32377181.84 0.0280 0.0135
 Saturn -93357-09-25 21:20 J -32376952.77 -32376952.61 -32376952.44 0.0281 0.0174
 Uranus -93351-11-08 10:18 J -32374718.19 -32374718.07 -32374717.92 0.0143 0.0108
 Uranus -93350-06-22 19:54 J -32374491.87 -32374491.67 -32374491.46 0.0143 0.0037
 Jupiter -93349-01-27 00:13 J -32374273.68 -32374273.49 -32374273.30 0.0520 0.0123
 Uranus -93349-02-04 05:15 J -32374265.48 -32374265.28 -32374265.06 0.0143 0.0035
 Uranus -93349-09-17 15:20 J -32374039.00 -32374038.86 -32374038.72 0.0144 0.0106
 Jupiter -93343-07-18 11:15 J -32371909.15 -32371909.03 -32371908.89 0.0510 0.0395
 Saturn -93343-07-29 20:08 J -32371897.84 -32371897.66 -32371897.47 0.0278 0.0138
 Saturn -93342-03-16 09:06 J -32371668.28 -32371668.12 -32371667.95 0.0277 0.0169
 Jupiter -93338-10-01 21:35 J -32370007.75 -32370007.60 -32370007.45 0.0522 0.0340
 Mars -93332-05-10 15:06 J -32367960.04 -32367959.87 -32367959.71 0.1601 0.0458
 Jupiter -93331-03-23 06:13 J -32367643.45 -32367643.24 -32367643.03 0.0508 0.0052
 Mars -93331-04-15 07:54 J -32367620.33 -32367620.17 -32367620.01 0.1928 0.0822
 Saturn -93328-08-21 13:25 J -32366396.13 -32366395.94 -32366395.74 0.0281 0.0101
 Saturn -93327-04-07 23:44 J -32366166.64 -32366166.51 -32366166.36 0.0281 0.0211
 Jupiter -93320-11-25 23:59 J -32363377.53 -32363377.50 -32363377.47 0.0504 0.0498
 Jupiter -93314-10-04 11:01 J -32361239.18 -32361239.04 -32361238.91 0.0519 0.0378
 Saturn -93313-02-09 05:15 J -32361111.48 -32361111.28 -32361111.08 0.0279 0.0089
 Saturn -93313-09-25 17:59 J -32360881.87 -32360881.75 -32360881.61 0.0278 0.0219
 Uranus -93312-12-04 19:11 J -32360446.78 -32360446.70 -32360446.61 0.0136 0.0125
 Uranus -93311-07-19 03:06 J -32360220.56 -32360220.37 -32360220.17 0.0136 0.0062
 Uranus -93310-03-02 11:01 J -32359994.26 -32359994.04 -32359993.82 0.0135 0.0001

Uranus -93310-10-14 18:27 J -32359767.92 -32359767.73 -32359767.53 0.0135 0.0062
 Uranus -93309-05-28 01:39 J -32359541.50 -32359541.43 -32359541.32 0.0135 0.0123
 Neptune -93304-11-19 10:03 J -32357540.17 -32357540.08 -32357539.95 0.0089 0.0077
 Neptune -93303-07-02 23:59 J -32357314.64 -32357314.50 -32357314.32 0.0089 0.0064
 Neptune -93302-02-13 14:23 J -32357089.09 -32357088.90 -32357088.71 0.0089 0.0050
 Jupiter -93302-06-09 10:03 J -32356973.27 -32356973.08 -32356972.88 0.0521 0.0074
 Neptune -93302-09-27 04:18 J -32356863.52 -32356863.32 -32356863.11 0.0089 0.0037
 Neptune -93301-05-09 18:13 J -32356637.95 -32356637.74 -32356637.51 0.0089 0.0024
 Neptune -93301-12-21 08:23 J -32356412.38 -32356412.15 -32356411.93 0.0089 0.0011
 Neptune -93300-08-03 22:18 J -32356186.80 -32356186.57 -32356186.35 0.0089 0.0003
 Neptune -93299-03-17 11:59 J -32355961.21 -32355961.00 -32355960.77 0.0089 0.0016
 Neptune -93299-10-29 01:54 J -32355735.63 -32355735.42 -32355735.20 0.0088 0.0029
 Saturn -93298-03-03 17:59 J -32355609.95 -32355609.75 -32355609.54 0.0280 0.0060
 Mars -93298-03-09 14:23 J -32355604.03 -32355603.90 -32355603.78 0.1602 0.1106
 Neptune -93298-06-11 15:35 J -32355510.03 -32355509.85 -32355509.64 0.0088 0.0042
 Saturn -93298-10-19 04:18 J -32355380.41 -32355380.32 -32355380.22 0.0281 0.0250
 Neptune -93297-01-23 05:15 J -32355284.43 -32355284.28 -32355284.08 0.0088 0.0056
 Neptune -93297-09-04 18:56 J -32355058.82 -32355058.71 -32355058.54 0.0088 0.0069
 Neptune -93296-04-18 08:51 J -32354833.19 -32354833.13 -32354833.01 0.0088 0.0082
 Jupiter -93296-11-28 19:25 J -32354608.88 -32354608.69 -32354608.50 0.0509 0.0202
 Jupiter -93284-08-03 15:06 J -32350343.05 -32350342.87 -32350342.69 0.0506 0.0239
 Saturn -93284-08-21 05:15 J -32350325.49 -32350325.28 -32350325.07 0.0278 0.0059
 Saturn -93283-04-07 17:44 J -32350095.84 -32350095.76 -32350095.65 0.0277 0.0248
 Saturn -93269-09-12 19:11 J -32344823.91 -32344823.70 -32344823.49 0.0281 0.0029
 Jupiter -93266-02-14 23:15 J -32343938.71 -32343938.53 -32343938.34 0.0519 0.0197
 Uranus -93266-02-20 02:08 J -32343933.59 -32343933.41 -32343933.22 0.0143 0.0074
 Mars -93266-03-08 04:03 J -32343917.50 -32343917.33 -32343917.16 0.1601 0.0291
 Uranus -93266-10-04 11:44 J -32343707.22 -32343707.01 -32343706.79 0.0143 0.0003
 Mars -93265-02-10 08:37 J -32343578.25 -32343578.14 -32343578.03 0.1928 0.1515
 Uranus -93265-05-17 21:20 J -32343480.79 -32343480.61 -32343480.41 0.0144 0.0069

Uranus -93265-12-30 07:11 J -32343254.22 -32343254.20 -32343254.14 0.0144 0.0141
 Earth -93261-02-02 11:59 J -32342125.15 -32342125.00 -32342124.85 0.2719 0.1041
 Moon -93261-02-02 15:35 J -32342124.97 -32342124.85 -32342124.73 0.2724 0.1592 *
 Jupiter -93260-08-06 11:01 J -32341574.11 -32341574.04 -32341573.95 0.0510 0.0472
 Jupiter -93255-10-20 20:08 J -32339672.83 -32339672.66 -32339672.49 0.0523 0.0269
 Saturn -93254-03-03 13:11 J -32339539.17 -32339538.95 -32339538.74 0.0279 0.0012
 Jupiter -93248-04-11 05:30 J -32337308.47 -32337308.27 -32337308.06 0.0507 0.0024
 Saturn -93239-03-26 00:42 J -32334037.68 -32334037.47 -32334037.26 0.0280 0.0016
 Jupiter -93237-12-14 23:59 J -32333042.61 -32333042.50 -32333042.38 0.0505 0.0423
 Mars -93232-01-04 03:20 J -32331561.46 -32331561.36 -32331561.26 0.1602 0.1272
 Jupiter -93231-10-23 13:11 J -32330904.03 -32330903.95 -32330903.87 0.0518 0.0468
 Uranus -93227-03-18 10:32 J -32329662.21 -32329662.06 -32329661.89 0.0136 0.0094
 Uranus -93227-10-30 18:42 J -32329435.93 -32329435.72 -32329435.50 0.0135 0.0031
 Uranus -93226-06-14 02:23 J -32329209.61 -32329209.40 -32329209.17 0.0135 0.0031
 Uranus -93225-01-26 10:03 J -32328983.24 -32328983.08 -32328982.92 0.0135 0.0092
 Saturn -93225-09-12 13:11 J -32328753.16 -32328752.95 -32328752.73 0.0278 0.0019
 Neptune -93221-01-02 22:47 J -32327545.60 -32327545.55 -32327545.47 0.0089 0.0084
 Neptune -93221-08-15 10:32 J -32327320.16 -32327320.06 -32327319.91 0.0089 0.0072
 Neptune -93220-03-28 22:47 J -32327094.69 -32327094.55 -32327094.37 0.0089 0.0059
 Neptune -93220-11-09 11:15 J -32326869.21 -32326869.03 -32326868.84 0.0089 0.0046
 Neptune -93219-06-22 23:01 J -32326643.72 -32326643.54 -32326643.33 0.0089 0.0034
 Jupiter -93219-06-28 11:30 J -32326638.22 -32326638.02 -32326637.82 0.0521 0.0015
 Neptune -93218-02-03 11:15 J -32326418.23 -32326418.03 -32326417.81 0.0089 0.0021
 Neptune -93218-09-16 23:30 J -32326192.73 -32326192.52 -32326192.30 0.0089 0.0008
 Neptune -93217-04-29 11:44 J -32325967.22 -32325967.01 -32325966.80 0.0089 0.0005
 Neptune -93217-12-10 23:44 J -32325741.71 -32325741.51 -32325741.29 0.0089 0.0017
 Neptune -93216-07-24 11:44 J -32325516.20 -32325516.01 -32325515.80 0.0089 0.0030
 Neptune -93215-03-06 23:44 J -32325290.68 -32325290.51 -32325290.31 0.0089 0.0043
 Neptune -93215-10-18 11:59 J -32325065.15 -32325065.00 -32325064.82 0.0089 0.0056
 Neptune -93214-06-01 00:13 J -32324839.61 -32324839.49 -32324839.34 0.0089 0.0068

Neptune -93213-01-12 12:13 J -32324614.06 -32324613.99 -32324613.88 0.0089 0.0081
 Jupiter -93213-12-17 22:03 J -32324273.75 -32324273.58 -32324273.41 0.0509 0.0293
 Saturn -93210-02-18 15:20 J -32323480.91 -32323480.86 -32323480.78 0.0280 0.0264
 Saturn -93210-10-06 00:56 J -32323251.67 -32323251.46 -32323251.25 0.0281 0.0043
 Pluto -93210-11-29 07:39 J -32323197.34 -32323197.18 -32323196.99 0.0062 0.0039
 Pluto -93209-07-11 11:44 J -32322972.23 -32322972.01 -32322971.77 0.0062 0.0008
 Pluto -93208-02-21 15:49 J -32322747.03 -32322746.84 -32322746.61 0.0062 0.0026
 Pluto -93208-10-04 19:39 J -32322521.73 -32322521.68 -32322521.57 0.0063 0.0059
 Jupiter -93207-03-03 08:51 J -32322372.23 -32322372.13 -32322372.03 0.0524 0.0450
 Jupiter -93201-08-22 15:49 J -32320008.03 -32320007.84 -32320007.64 0.0506 0.0158
 Mars -93200-01-02 17:30 J -32319874.95 -32319874.77 -32319874.60 0.1601 0.0136
 Saturn -93196-08-08 06:13 J -32318196.32 -32318196.24 -32318196.13 0.0279 0.0249
 Saturn -93195-03-25 20:37 J -32317966.85 -32317966.64 -32317966.43 0.0279 0.0064
 Jupiter -93183-03-05 23:01 J -32313603.70 -32313603.54 -32313603.36 0.0520 0.0275
 Uranus -93183-10-20 08:37 J -32313375.25 -32313375.14 -32313374.99 0.0143 0.0111
 Uranus -93182-06-03 18:13 J -32313148.94 -32313148.74 -32313148.53 0.0143 0.0040
 Uranus -93181-01-16 03:49 J -32312922.55 -32312922.34 -32312922.13 0.0143 0.0031
 Uranus -93181-08-29 13:25 J -32312696.08 -32312695.94 -32312695.78 0.0144 0.0103
 Saturn -93181-08-30 21:49 J -32312694.71 -32312694.59 -32312694.45 0.0280 0.0217
 Saturn -93180-04-17 07:11 J -32312465.40 -32312465.20 -32312465.00 0.0280 0.0090
 Moon -93172-08-11 11:44 J -32309427.14 -32309427.01 -32309426.88 0.2624 0.1387
 Earth -93172-08-11 16:03 J -32309426.94 -32309426.83 -32309426.73 0.2620 0.1914 *
 Jupiter -93172-11-08 22:32 J -32309337.74 -32309337.56 -32309337.37 0.0522 0.0178
 Mars -93168-01-01 07:39 J -32308188.22 -32308188.18 -32308188.14 0.1601 0.1542
 Mars -93168-12-07 15:35 J -32307847.98 -32307847.85 -32307847.72 0.1929 0.1297
 Mars -93167-11-01 16:47 J -32307518.88 -32307518.80 -32307518.73 0.1602 0.1434
 Saturn -93166-02-18 06:56 J -32307410.34 -32307410.21 -32307410.08 0.0279 0.0217
 Saturn -93166-10-05 20:51 J -32307180.83 -32307180.63 -32307180.43 0.0278 0.0095
 Jupiter -93165-04-30 06:42 J -32306973.42 -32306973.22 -32306973.01 0.0508 0.0104
 Earth -93164-08-09 08:51 J -32306507.25 -32306507.13 -32306507.02 0.2616 0.1791

Moon -93164-08-09 08:23 J -32306507.24 -32306507.15 -32306507.07 0.2623 0.2148 *
 Jupiter -93153-01-04 02:23 J -32302707.55 -32302707.40 -32302707.24 0.0505 0.0336
 Saturn -93151-03-12 21:49 J -32301908.74 -32301908.59 -32301908.43 0.0280 0.0190
 Saturn -93151-10-28 07:11 J -32301679.39 -32301679.20 -32301679.01 0.0281 0.0118
 Uranus -93144-11-15 17:59 J -32299103.81 -32299103.75 -32299103.65 0.0136 0.0126
 Uranus -93143-06-30 02:23 J -32298877.59 -32298877.40 -32298877.19 0.0136 0.0063
 Uranus -93142-02-11 10:32 J -32298651.29 -32298651.06 -32298650.84 0.0135 0.0002
 Uranus -93142-09-25 17:59 J -32298424.94 -32298424.75 -32298424.55 0.0135 0.0062
 Uranus -93141-05-09 01:25 J -32298198.52 -32298198.44 -32298198.34 0.0135 0.0123
 Neptune -93139-02-20 20:51 J -32297545.72 -32297545.63 -32297545.53 0.0089 0.0080
 Neptune -93139-10-04 10:47 J -32297320.18 -32297320.05 -32297319.89 0.0089 0.0067
 Neptune -93138-05-18 00:42 J -32297094.63 -32297094.47 -32297094.27 0.0089 0.0054
 Neptune -93138-12-29 15:20 J -32296869.06 -32296868.86 -32296868.66 0.0089 0.0040
 Neptune -93137-08-11 05:01 J -32296643.50 -32296643.29 -32296643.07 0.0089 0.0027
 Saturn -93137-08-30 13:25 J -32296624.11 -32296623.94 -32296623.77 0.0279 0.0174
 Neptune -93136-03-24 19:11 J -32296417.92 -32296417.70 -32296417.47 0.0089 0.0014
 Saturn -93136-04-17 03:20 J -32296394.53 -32296394.36 -32296394.16 0.0279 0.0140
 Jupiter -93136-07-17 09:35 J -32296303.30 -32296303.10 -32296302.90 0.0521 0.0081
 Neptune -93136-11-05 09:06 J -32296192.34 -32296192.12 -32296191.89 0.0089 0.0002
 Neptune -93135-06-18 22:47 J -32295966.76 -32295966.55 -32295966.31 0.0089 0.0014
 Mars -93135-10-31 06:27 J -32295832.40 -32295832.23 -32295832.06 0.1601 0.0039
 Neptune -93134-01-30 12:42 J -32295741.18 -32295740.97 -32295740.74 0.0089 0.0026
 Neptune -93134-09-13 02:23 J -32295515.58 -32295515.40 -32295515.18 0.0088 0.0040
 Neptune -93133-04-25 16:32 J -32295289.98 -32295289.81 -32295289.62 0.0088 0.0053
 Neptune -93133-12-07 06:27 J -32295064.37 -32295064.23 -32295064.07 0.0088 0.0066
 Neptune -93132-07-20 20:08 J -32294838.75 -32294838.66 -32294838.54 0.0088 0.0079
 Jupiter -93129-01-06 22:03 J -32293938.72 -32293938.58 -32293938.43 0.0509 0.0369
 Jupiter -93124-03-22 07:39 J -32292037.31 -32292037.18 -32292037.04 0.0524 0.0380
 Saturn -93122-09-23 04:47 J -32291122.47 -32291122.30 -32291122.11 0.0279 0.0141
 Saturn -93121-05-09 14:08 J -32290893.07 -32290892.91 -32290892.74 0.0280 0.0167

Pluto	-93119-08-28 13:54 J	-32290052.06	-32290051.92	-32290051.74	0.0082	0.0055
Pluto	-93118-04-11 00:27 J	-32289826.68	-32289826.48	-32289826.26	0.0082	0.0016
Jupiter	-93118-09-11 15:35 J	-32289673.05	-32289672.85	-32289672.64	0.0506	0.0085
Saturn	-93107-03-12 14:51 J	-32285838.06	-32285837.88	-32285837.69	0.0279	0.0140
Saturn	-93107-10-28 04:47 J	-32285608.46	-32285608.30	-32285608.13	0.0278	0.0173
Mars	-93103-10-29 20:23 J	-32284145.74	-32284145.65	-32284145.56	0.1601	0.1369
Mars	-93102-10-04 17:01 J	-32283805.96	-32283805.79	-32283805.62	0.1929	0.0636
Jupiter	-93100-03-25 00:27 J	-32283268.61	-32283268.48	-32283268.33	0.0519	0.0362
Uranus	-93098-02-01 00:42 J	-32282590.64	-32282590.47	-32282590.28	0.0143	0.0077
Uranus	-93098-09-15 10:18 J	-32282364.29	-32282364.07	-32282363.86	0.0143	0.0006
Uranus	-93097-04-28 19:39 J	-32282137.86	-32282137.68	-32282137.48	0.0144	0.0066
Uranus	-93097-12-11 05:44 J	-32281911.31	-32281911.26	-32281911.19	0.0144	0.0138
Saturn	-93092-04-04 04:32 J	-32280336.49	-32280336.31	-32280336.11	0.0280	0.0115
Saturn	-93092-11-19 14:08 J	-32280107.06	-32280106.91	-32280106.76	0.0280	0.0195
Jupiter	-93089-11-27 22:47 J	-32279002.74	-32279002.55	-32279002.35	0.0522	0.0097
Jupiter	-93082-05-20 08:23 J	-32276638.34	-32276638.15	-32276637.96	0.0508	0.0188
Saturn	-93078-09-22 20:37 J	-32275051.84	-32275051.64	-32275051.43	0.0280	0.0097
Saturn	-93077-05-09 10:47 J	-32274822.18	-32274822.05	-32274821.91	0.0279	0.0216
Jupiter	-93070-01-23 02:51 J	-32272372.55	-32272372.38	-32272372.19	0.0505	0.0258
Mars	-93069-08-27 19:25 J	-32271789.86	-32271789.69	-32271789.52	0.1601	0.0206
Saturn	-93063-10-15 12:56 J	-32269550.16	-32269549.96	-32269549.75	0.0279	0.0061
Saturn	-93062-06-01 22:03 J	-32269320.66	-32269320.58	-32269320.47	0.0280	0.0248
Uranus	-93059-02-27 10:32 J	-32268319.22	-32268319.06	-32268318.90	0.0136	0.0093
Uranus	-93059-10-11 18:27 J	-32268092.94	-32268092.73	-32268092.50	0.0136	0.0031
Uranus	-93058-05-26 02:23 J	-32267866.60	-32267866.40	-32267866.17	0.0135	0.0033
Uranus	-93057-01-07 10:18 J	-32267640.23	-32267640.07	-32267639.92	0.0135	0.0093
Neptune	-93057-04-05 11:30 J	-32267551.05	-32267551.02	-32267550.97	0.0089	0.0087
Neptune	-93057-11-16 23:15 J	-32267325.63	-32267325.53	-32267325.40	0.0089	0.0075
Neptune	-93056-06-30 11:15 J	-32267100.17	-32267100.03	-32267099.86	0.0089	0.0062
Neptune	-93055-02-10 23:15 J	-32266874.69	-32266874.53	-32266874.34	0.0089	0.0050

Neptune -93055-09-24 11:30 J -32266649.21 -32266649.02 -32266648.82 0.0089 0.0037
 Neptune -93054-05-07 23:44 J -32266423.71 -32266423.51 -32266423.30 0.0089 0.0024
 Neptune -93054-12-19 11:44 J -32266198.22 -32266198.01 -32266197.79 0.0089 0.0011
 Neptune -93053-07-31 23:59 J -32265972.72 -32265972.50 -32265972.29 0.0089 0.0002
 Jupiter -93053-08-05 11:01 J -32265968.22 -32265968.04 -32265967.85 0.0521 0.0169
 Neptune -93052-03-14 11:44 J -32265747.21 -32265747.01 -32265746.79 0.0089 0.0015
 Neptune -93052-10-26 00:13 J -32265521.69 -32265521.49 -32265521.28 0.0089 0.0027
 Neptune -93051-06-08 12:13 J -32265296.17 -32265295.99 -32265295.79 0.0089 0.0040
 Neptune -93050-01-20 00:13 J -32265070.65 -32265070.49 -32265070.31 0.0089 0.0053
 Neptune -93050-09-02 12:13 J -32264845.12 -32264844.99 -32264844.83 0.0089 0.0066
 Neptune -93049-04-15 00:42 J -32264619.56 -32264619.47 -32264619.37 0.0089 0.0078
 Saturn -93048-04-03 23:15 J -32264265.73 -32264265.53 -32264265.31 0.0279 0.0061
 Saturn -93048-11-19 12:56 J -32264036.04 -32264035.96 -32264035.86 0.0278 0.0252
 Jupiter -93046-01-25 22:03 J -32263603.67 -32263603.58 -32263603.48 0.0509 0.0446
 Jupiter -93041-04-10 09:20 J -32261702.27 -32261702.11 -32261701.94 0.0523 0.0291
 Mars -93037-08-26 09:20 J -32260103.22 -32260103.11 -32260102.99 0.1600 0.1207
 Mars -93036-07-31 17:15 J -32259763.95 -32259763.78 -32259763.60 0.1929 0.0084
 Jupiter -93035-09-30 17:30 J -32259337.98 -32259337.77 -32259337.56 0.0507 0.0003
 Saturn -93033-04-26 12:42 J -32258764.18 -32258763.97 -32258763.76 0.0280 0.0035
 Saturn -93033-12-11 22:03 J -32258534.61 -32258534.58 -32258534.53 0.0280 0.0275
 Jupiter -93023-06-05 13:11 J -32255072.05 -32255071.95 -32255071.84 0.0504 0.0436
 Saturn -93019-10-15 04:47 J -32253479.51 -32253479.30 -32253479.08 0.0280 0.0018
 Moon -93018-02-02 08:37 J -32253369.30 -32253369.14 -32253368.98 0.2716 0.0515
 Earth -93018-02-02 11:01 J -32253369.19 -32253369.04 -32253368.89 0.2722 0.0654 *
 Jupiter -93017-04-12 21:35 J -32252933.71 -32252933.60 -32252933.48 0.0519 0.0421
 Uranus -93015-10-01 07:39 J -32252032.30 -32252032.18 -32252032.04 0.0143 0.0113
 Uranus -93014-05-15 17:01 J -32251805.99 -32251805.79 -32251805.58 0.0143 0.0042
 Uranus -93014-12-28 02:37 J -32251579.60 -32251579.39 -32251579.18 0.0143 0.0029
 Uranus -93013-08-10 12:13 J -32251353.14 -32251352.99 -32251352.83 0.0144 0.0101
 Jupiter -93006-12-17 19:54 J -32248667.87 -32248667.67 -32248667.47 0.0522 0.0036

Saturn -93004-11-06 22:03 J -32247977.79 -32247977.58 -32247977.38 0.0279 0.0022

Mars -93003-06-25 08:37 J -32247747.31 -32247747.14 -32247746.97 0.1601 0.0370

93RD MILLENNIUM BCE

This is a list of transits of Venus in the 93rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-92999-06-08 06:42 J	-32246303.40	-32246303.22	-32246303.04	0.0508	0.0255		
Jupiter	-92994-08-22 18:42 J	-32244401.79	-32244401.72	-32244401.66	0.0525	0.0496		
Saturn	-92989-04-26 08:51 J	-32242693.34	-32242693.13	-32242692.91	0.0279	0.0022		
Jupiter	-92987-02-11 01:54 J	-32242037.61	-32242037.42	-32242037.23	0.0505	0.0188		
Uranus	-92976-10-27 18:13 J	-32237760.81	-32237760.74	-32237760.63	0.0136	0.0124		
Neptune	-92975-05-25 06:42 J	-32237551.28	-32237551.22	-32237551.13	0.0089	0.0084		
Uranus	-92975-06-11 02:51 J	-32237534.57	-32237534.38	-32237534.17	0.0136	0.0061		
Saturn	-92975-10-02 13:54 J	-32237421.00	-32237420.92	-32237420.84	0.0279	0.0256		
Neptune	-92974-01-05 20:37 J	-32237325.75	-32237325.64	-32237325.48	0.0089	0.0071		
Uranus	-92974-01-23 11:01 J	-32237308.26	-32237308.04	-32237307.82	0.0135	0.0002		
Saturn	-92974-05-19 22:18 J	-32237191.78	-32237191.57	-32237191.36	0.0280	0.0049		
Neptune	-92974-08-19 11:01 J	-32237100.20	-32237100.04	-32237099.86	0.0089	0.0057		
Uranus	-92974-09-06 18:27 J	-32237081.91	-32237081.73	-32237081.52	0.0135	0.0064		
Neptune	-92973-04-01 01:11 J	-32236874.63	-32236874.45	-32236874.24	0.0089	0.0044		
Uranus	-92973-04-20 02:08 J	-32236855.49	-32236855.41	-32236855.33	0.0135	0.0125		
Neptune	-92973-11-12 15:06 J	-32236649.07	-32236648.87	-32236648.64	0.0089	0.0031		
Neptune	-92972-06-26 05:15 J	-32236423.49	-32236423.28	-32236423.05	0.0089	0.0017		

Neptune -92971-02-06 19:25 J -32236197.92 -32236197.69 -32236197.47 0.0089 0.0004
 Mars -92971-06-23 22:18 J -32236060.70 -32236060.57 -32236060.44 0.1600 0.1036
 Neptune -92971-09-20 09:20 J -32235972.34 -32235972.11 -32235971.89 0.0089 0.0010
 Neptune -92970-05-03 23:01 J -32235746.74 -32235746.54 -32235746.31 0.0089 0.0024
 Mars -92970-05-28 18:42 J -32235721.88 -32235721.72 -32235721.55 0.1929 0.0755
 Jupiter -92970-08-25 10:32 J -32235633.24 -32235633.06 -32235632.88 0.0520 0.0244
 Neptune -92970-12-15 12:56 J -32235521.15 -32235520.96 -32235520.74 0.0089 0.0037
 Neptune -92969-07-28 02:37 J -32235295.56 -32235295.39 -32235295.19 0.0088 0.0050
 Neptune -92968-03-10 16:32 J -32235069.96 -32235069.81 -32235069.64 0.0088 0.0063
 Neptune -92968-10-22 06:27 J -32234844.34 -32234844.23 -32234844.11 0.0088 0.0076
 Pluto -92961-06-13 09:35 J -32232418.25 -32232418.10 -32232417.91 0.0062 0.0041
 Pluto -92960-01-24 13:54 J -32232193.14 -32232192.92 -32232192.69 0.0062 0.0009
 Saturn -92960-03-21 22:32 J -32232136.64 -32232136.56 -32232136.46 0.0280 0.0254
 Pluto -92960-09-06 17:59 J -32231967.95 -32231967.75 -32231967.53 0.0062 0.0023
 Saturn -92960-11-06 13:54 J -32231907.13 -32231906.92 -32231906.71 0.0280 0.0064
 Pluto -92959-04-19 22:18 J -32231742.67 -32231742.57 -32231742.47 0.0063 0.0056
 Jupiter -92958-04-30 05:30 J -32231367.44 -32231367.27 -32231367.09 0.0523 0.0237
 Jupiter -92952-10-19 17:30 J -32229002.97 -32229002.77 -32229002.56 0.0506 0.0077
 Saturn -92945-04-13 23:30 J -32226634.66 -32226634.52 -32226634.37 0.0279 0.0199
 Saturn -92945-11-29 08:08 J -32226405.35 -32226405.16 -32226404.96 0.0279 0.0108
 Jupiter -92940-06-24 10:47 J -32224737.19 -32224737.05 -32224736.91 0.0504 0.0374
 Mars -92937-04-21 21:35 J -32223704.76 -32223704.60 -32223704.44 0.1601 0.0542
 Jupiter -92934-05-02 21:35 J -32222598.64 -32222598.60 -32222598.54 0.0519 0.0501
 Saturn -92931-10-02 04:32 J -32221350.44 -32221350.31 -32221350.16 0.0280 0.0210
 Uranus -92930-01-12 23:59 J -32221247.66 -32221247.50 -32221247.31 0.0143 0.0078
 Saturn -92930-05-19 19:25 J -32221120.88 -32221120.69 -32221120.49 0.0279 0.0108
 Uranus -92930-08-27 09:35 J -32221021.31 -32221021.10 -32221020.89 0.0143 0.0007
 Uranus -92929-04-09 18:56 J -32220794.89 -32220794.71 -32220794.51 0.0144 0.0065
 Earth -92929-08-11 18:42 J -32220670.82 -32220670.72 -32220670.63 0.2617 0.2061
 Uranus -92929-11-22 04:47 J -32220568.35 -32220568.30 -32220568.23 0.0144 0.0137

Jupiter -92922-01-05 20:37 J -32218332.84 -32218332.64 -32218332.44 0.0522 0.0047
 Earth -92921-08-09 11:44 J -32217751.14 -32217751.01 -32217750.89 0.2614 0.1616
 Moon -92921-08-09 14:08 J -32217751.05 -32217750.91 -32217750.76 0.2608 0.1272 *
 Jupiter -92916-06-27 06:56 J -32215968.36 -32215968.21 -32215968.05 0.0508 0.0334
 Saturn -92916-10-25 00:13 J -32215848.64 -32215848.49 -32215848.31 0.0279 0.0171
 Saturn -92915-06-11 08:51 J -32215619.30 -32215619.13 -32215618.94 0.0280 0.0138
 Jupiter -92911-09-10 17:59 J -32214066.87 -32214066.75 -32214066.63 0.0524 0.0421
 Mars -92905-04-20 11:30 J -32212018.16 -32212018.02 -32212017.88 0.1600 0.0874
 Jupiter -92904-03-02 02:37 J -32211702.59 -32211702.39 -32211702.18 0.0505 0.0110
 Mars -92904-03-24 19:25 J -32211679.81 -32211679.69 -32211679.58 0.1928 0.1459
 Saturn -92901-04-13 09:20 J -32210564.28 -32210564.11 -32210563.94 0.0280 0.0168
 Saturn -92901-11-29 00:13 J -32210334.67 -32210334.49 -32210334.31 0.0279 0.0149
 Neptune -92892-02-18 11:30 J -32207331.11 -32207331.02 -32207330.92 0.0089 0.0078
 Neptune -92892-10-01 23:15 J -32207105.66 -32207105.53 -32207105.37 0.0089 0.0066
 Uranus -92891-02-08 11:15 J -32206976.18 -32206976.03 -32206975.85 0.0136 0.0091
 Neptune -92891-05-15 11:15 J -32206880.19 -32206880.03 -32206879.84 0.0089 0.0053
 Uranus -92891-09-22 19:39 J -32206749.89 -32206749.68 -32206749.46 0.0136 0.0027
 Neptune -92891-12-26 23:30 J -32206654.71 -32206654.52 -32206654.33 0.0089 0.0040
 Uranus -92890-05-07 03:35 J -32206523.56 -32206523.35 -32206523.13 0.0135 0.0035
 Neptune -92890-08-09 11:15 J -32206429.22 -32206429.03 -32206428.82 0.0089 0.0028
 Uranus -92890-12-19 11:15 J -32206297.18 -32206297.03 -32206296.87 0.0135 0.0096
 Neptune -92889-03-21 23:30 J -32206203.73 -32206203.52 -32206203.31 0.0089 0.0015
 Neptune -92889-11-02 11:44 J -32205978.23 -32205978.01 -32205977.80 0.0089 0.0002
 Neptune -92888-06-15 23:44 J -32205752.72 -32205752.51 -32205752.29 0.0089 0.0011
 Neptune -92887-01-27 11:44 J -32205527.21 -32205527.01 -32205526.80 0.0089 0.0024
 Neptune -92887-09-09 23:44 J -32205301.69 -32205301.51 -32205301.30 0.0089 0.0037
 Jupiter -92887-09-13 05:59 J -32205298.41 -32205298.25 -32205298.09 0.0520 0.0294
 Neptune -92886-04-23 11:59 J -32205076.17 -32205076.00 -32205075.81 0.0089 0.0050
 Saturn -92886-05-07 10:32 J -32205062.25 -32205062.06 -32205061.87 0.0279 0.0111
 Neptune -92886-12-04 23:59 J -32204850.63 -32204850.50 -32204850.33 0.0089 0.0063

Saturn -92886-12-22 19:25 J -32204832.83 -32204832.69 -32204832.54 0.0280 0.0198
 Neptune -92885-07-17 11:59 J -32204625.08 -32204625.00 -32204624.86 0.0089 0.0076
 Neptune -92884-02-28 00:42 J -32204399.49 -32204399.47 -32204399.44 0.0089 0.0088
 Jupiter -92875-05-19 04:47 J -32201032.48 -32201032.30 -32201032.10 0.0523 0.0162
 Saturn -92872-10-24 16:47 J -32199777.99 -32199777.80 -32199777.61 0.0279 0.0120
 Mars -92871-02-17 11:01 J -32199662.20 -32199662.04 -32199661.89 0.1601 0.0704
 Saturn -92871-06-11 06:56 J -32199548.35 -32199548.21 -32199548.05 0.0279 0.0197
 Pluto -92870-03-13 15:35 J -32199272.98 -32199272.85 -32199272.68 0.0082 0.0059
 Pluto -92870-10-25 02:23 J -32199047.61 -32199047.40 -32199047.18 0.0082 0.0012
 Pluto -92869-06-06 12:13 J -32198821.99 -32198821.99 -32198821.96 0.0081 0.0081
 Jupiter -92869-11-07 14:37 J -32198668.09 -32198667.89 -32198667.69 0.0507 0.0137
 Jupiter -92857-07-13 10:03 J -32194402.25 -32194402.08 -32194401.91 0.0504 0.0304
 Saturn -92857-11-16 11:59 J -32194276.19 -32194276.00 -32194275.79 0.0279 0.0081
 Saturn -92856-07-03 20:51 J -32194046.74 -32194046.63 -32194046.51 0.0280 0.0229
 Uranus -92847-09-12 07:54 J -32190689.29 -32190689.17 -32190689.03 0.0143 0.0112
 Uranus -92846-04-26 17:01 J -32190462.99 -32190462.79 -32190462.58 0.0143 0.0042
 Uranus -92846-12-09 02:37 J -32190236.60 -32190236.39 -32190236.18 0.0143 0.0029
 Uranus -92845-07-22 12:13 J -32190010.14 -32190009.99 -32190009.84 0.0144 0.0101
 Saturn -92842-05-06 21:06 J -32188991.83 -32188991.62 -32188991.42 0.0280 0.0079
 Saturn -92842-12-22 11:15 J -32188762.13 -32188762.03 -32188761.91 0.0279 0.0238
 Jupiter -92839-01-24 15:35 J -32187998.05 -32187997.85 -32187997.66 0.0522 0.0096
 Mars -92839-02-16 00:27 J -32187975.63 -32187975.48 -32187975.32 0.1600 0.0707
 Jupiter -92833-07-16 06:13 J -32185633.37 -32185633.24 -32185633.12 0.0508 0.0403
 Jupiter -92828-09-29 12:27 J -32183732.11 -32183731.98 -32183731.84 0.0525 0.0374
 Saturn -92827-05-29 22:32 J -32183489.77 -32183489.56 -32183489.36 0.0279 0.0021
 Jupiter -92821-03-20 22:32 J -32181367.77 -32181367.56 -32181367.35 0.0505 0.0055
 Saturn -92813-11-16 05:59 J -32178205.46 -32178205.25 -32178205.04 0.0279 0.0027
 Neptune -92811-08-26 16:18 J -32177556.84 -32177556.82 -32177556.78 0.0089 0.0088
 Neptune -92810-04-09 06:13 J -32177331.33 -32177331.24 -32177331.09 0.0089 0.0075
 Neptune -92810-11-20 20:51 J -32177105.79 -32177105.63 -32177105.46 0.0089 0.0061

Jupiter -92810-11-24 17:44 J -32177101.79 -32177101.76 -32177101.72 0.0503 0.0494
 Neptune -92809-07-03 10:47 J -32176880.23 -32176880.05 -32176879.85 0.0089 0.0048
 Neptune -92808-02-14 01:11 J -32176654.66 -32176654.45 -32176654.25 0.0089 0.0034
 Neptune -92808-09-27 14:51 J -32176429.09 -32176428.88 -32176428.65 0.0089 0.0021
 Uranus -92808-10-08 20:08 J -32176417.76 -32176417.66 -32176417.56 0.0136 0.0121
 Neptune -92807-05-11 05:15 J -32176203.50 -32176203.28 -32176203.05 0.0089 0.0007
 Uranus -92807-05-23 04:32 J -32176191.51 -32176191.31 -32176191.11 0.0136 0.0057
 Neptune -92807-12-22 19:11 J -32175977.92 -32175977.70 -32175977.47 0.0089 0.0007
 Uranus -92806-01-04 12:27 J -32175965.20 -32175964.98 -32175964.76 0.0135 0.0006
 Mars -92806-01-20 02:23 J -32175949.52 -32175949.40 -32175949.28 0.1930 0.1388
 Neptune -92806-08-05 09:06 J -32175752.34 -32175752.12 -32175751.90 0.0089 0.0020
 Uranus -92806-08-18 20:08 J -32175738.85 -32175738.66 -32175738.47 0.0135 0.0067
 Mars -92806-12-15 23:59 J -32175619.64 -32175619.50 -32175619.36 0.1602 0.0876
 Neptune -92805-03-17 22:47 J -32175526.74 -32175526.55 -32175526.33 0.0089 0.0034
 Uranus -92805-04-01 03:06 J -32175512.42 -32175512.37 -32175512.29 0.0135 0.0129
 Neptune -92805-10-29 12:42 J -32175301.15 -32175300.97 -32175300.77 0.0089 0.0047
 Neptune -92804-06-12 02:37 J -32175075.54 -32175075.39 -32175075.21 0.0089 0.0060
 Jupiter -92804-10-02 05:30 J -32174963.40 -32174963.27 -32174963.13 0.0520 0.0372
 Neptune -92803-01-23 16:32 J -32174849.93 -32174849.81 -32174849.68 0.0088 0.0073
 Neptune -92803-09-06 05:44 J -32174624.28 -32174624.26 -32174624.18 0.0088 0.0087
 Saturn -92798-12-10 00:27 J -32172703.69 -32172703.48 -32172703.27 0.0280 0.0013
 Jupiter -92792-06-07 03:35 J -32170697.55 -32170697.35 -32170697.16 0.0523 0.0090
 Jupiter -92786-11-27 14:08 J -32168333.09 -32168332.91 -32168332.71 0.0507 0.0211
 Saturn -92783-05-29 09:49 J -32167419.31 -32167419.09 -32167418.88 0.0279 0.0013
 Earth -92775-02-02 10:03 J -32164613.24 -32164613.08 -32164612.93 0.2724 0.0272
 Moon -92775-02-02 10:32 J -32164613.21 -32164613.06 -32164612.91 0.2731 0.0029 *
 Jupiter -92774-08-02 08:51 J -32164067.31 -32164067.13 -32164066.94 0.0504 0.0235
 Mars -92774-12-14 13:54 J -32163933.08 -32163932.92 -32163932.76 0.1601 0.0543
 Saturn -92769-11-04 01:54 J -32162146.52 -32162146.42 -32162146.30 0.0279 0.0237
 Saturn -92768-06-21 10:32 J -32161917.26 -32161917.06 -32161916.86 0.0279 0.0071

Uranus -92763-12-25 00:27 J -32159904.66 -32159904.48 -32159904.30 0.0143 0.0077
 Uranus -92762-08-08 09:35 J -32159678.31 -32159678.10 -32159677.88 0.0143 0.0008
 Uranus -92761-03-21 19:11 J -32159451.89 -32159451.70 -32159451.51 0.0144 0.0065
 Uranus -92761-11-03 05:01 J -32159225.35 -32159225.29 -32159225.22 0.0144 0.0137
 Jupiter -92756-02-12 13:39 J -32157663.12 -32157662.93 -32157662.74 0.0522 0.0165
 Saturn -92754-04-24 04:32 J -32156862.39 -32156862.31 -32156862.21 0.0280 0.0253
 Saturn -92754-12-09 19:39 J -32156632.88 -32156632.68 -32156632.47 0.0279 0.0067
 Jupiter -92750-08-05 01:25 J -32155298.52 -32155298.44 -32155298.34 0.0508 0.0456
 Jupiter -92745-10-18 11:59 J -32153397.16 -32153397.00 -32153396.83 0.0524 0.0297
 Mars -92741-11-16 03:06 J -32151907.54 -32151907.37 -32151907.21 0.1929 0.0686
 Mars -92740-10-12 13:11 J -32151577.08 -32151576.95 -32151576.82 0.1602 0.1041
 Saturn -92739-05-17 04:32 J -32151360.44 -32151360.31 -32151360.16 0.0279 0.0203
 Saturn -92738-01-01 12:56 J -32151131.15 -32151130.96 -32151130.76 0.0280 0.0106
 Jupiter -92738-04-09 20:37 J -32151032.85 -32151032.64 -32151032.43 0.0506 0.0011
 Neptune -92728-05-22 23:01 J -32147336.60 -32147336.54 -32147336.44 0.0089 0.0082
 Neptune -92727-01-03 11:01 J -32147111.16 -32147111.04 -32147110.90 0.0089 0.0069
 Neptune -92727-08-16 22:47 J -32146885.70 -32146885.55 -32146885.37 0.0089 0.0057
 Jupiter -92727-12-13 17:01 J -32146766.90 -32146766.79 -32146766.68 0.0503 0.0425
 Neptune -92726-03-30 10:47 J -32146660.22 -32146660.05 -32146659.85 0.0089 0.0044
 Neptune -92726-11-10 23:01 J -32146434.74 -32146434.54 -32146434.33 0.0089 0.0031
 Neptune -92725-06-23 11:01 J -32146209.25 -32146209.04 -32146208.83 0.0089 0.0018
 Saturn -92725-11-03 07:54 J -32146076.30 -32146076.17 -32146076.03 0.0280 0.0214
 Neptune -92724-02-03 23:01 J -32145983.75 -32145983.54 -32145983.33 0.0089 0.0005
 Saturn -92724-06-20 23:01 J -32145846.73 -32145846.54 -32145846.34 0.0279 0.0106
 Neptune -92724-09-17 11:01 J -32145758.25 -32145758.04 -32145757.82 0.0089 0.0008
 Uranus -92723-01-20 13:11 J -32145633.11 -32145632.95 -32145632.77 0.0136 0.0087
 Neptune -92723-04-30 23:01 J -32145532.74 -32145532.54 -32145532.33 0.0089 0.0021
 Uranus -92723-09-03 21:35 J -32145406.82 -32145406.60 -32145406.38 0.0136 0.0024
 Neptune -92723-12-12 11:01 J -32145307.23 -32145307.04 -32145306.83 0.0089 0.0034
 Uranus -92722-04-18 05:30 J -32145180.49 -32145180.27 -32145180.06 0.0135 0.0039

Neptune -92722-07-25 23:01 J -32145081.71 -32145081.54 -32145081.34 0.0089 0.0047
 Uranus -92722-11-30 12:42 J -32144954.11 -32144953.97 -32144953.81 0.0135 0.0100
 Neptune -92721-03-07 11:30 J -32144856.18 -32144856.02 -32144855.86 0.0089 0.0059
 Neptune -92721-10-18 23:30 J -32144630.63 -32144630.52 -32144630.39 0.0089 0.0072
 Jupiter -92721-10-21 00:42 J -32144628.58 -32144628.47 -32144628.35 0.0520 0.0421
 Neptune -92720-06-01 11:44 J -32144405.06 -32144405.01 -32144404.94 0.0089 0.0085
 Pluto -92713-12-27 13:39 J -32141639.09 -32141638.93 -32141638.71 0.0062 0.0037
 Pluto -92712-08-09 18:13 J -32141413.96 -32141413.74 -32141413.50 0.0062 0.0004
 Pluto -92711-03-22 22:18 J -32141188.76 -32141188.57 -32141188.35 0.0062 0.0029
 Pluto -92711-11-03 01:54 J -32140963.43 -32140963.42 -32140963.34 0.0063 0.0062
 Saturn -92710-11-27 13:39 J -32140574.10 -32140573.93 -32140573.75 0.0279 0.0148
 Jupiter -92709-06-25 21:49 J -32140362.79 -32140362.59 -32140362.39 0.0523 0.0044
 Saturn -92709-07-13 22:18 J -32140344.74 -32140344.57 -32140344.40 0.0280 0.0163
 Mars -92708-10-11 02:51 J -32139890.55 -32139890.38 -32139890.21 0.1601 0.0374
 Jupiter -92703-12-16 09:20 J -32137998.29 -32137998.11 -32137997.93 0.0507 0.0262
 Jupiter -92697-02-29 19:25 J -32136096.73 -32136096.69 -32136096.64 0.0526 0.0511
 Saturn -92695-05-16 19:11 J -32135289.87 -32135289.70 -32135289.51 0.0280 0.0157
 Saturn -92694-01-01 09:49 J -32135060.26 -32135060.09 -32135059.91 0.0279 0.0163
 Jupiter -92691-08-21 04:03 J -32133732.52 -32133732.33 -32133732.13 0.0504 0.0183
 Moon -92686-08-12 16:18 J -32131914.96 -32131914.82 -32131914.68 0.2615 0.1342
 Earth -92686-08-12 21:49 J -32131914.67 -32131914.59 -32131914.52 0.2615 0.2284
 Saturn -92680-06-08 16:47 J -32129787.99 -32129787.80 -32129787.61 0.0279 0.0112
 Saturn -92679-01-24 01:11 J -32129558.59 -32129558.45 -32129558.30 0.0280 0.0199
 Uranus -92679-08-24 08:08 J -32129346.28 -32129346.16 -32129346.02 0.0143 0.0112
 Uranus -92678-04-07 17:15 J -32129119.98 -32129119.78 -32129119.57 0.0143 0.0042
 Moon -92678-08-10 10:32 J -32128995.18 -32128995.06 -32128994.94 0.2616 0.1668
 Earth -92678-08-10 14:37 J -32128995.03 -32128994.89 -32128994.76 0.2612 0.1421 *
 Uranus -92678-11-20 02:37 J -32128893.59 -32128893.39 -32128893.17 0.0143 0.0030
 Uranus -92677-07-03 12:27 J -32128667.13 -32128666.98 -32128666.83 0.0144 0.0101
 Mars -92675-09-13 04:32 J -32127865.48 -32127865.31 -32127865.13 0.1929 0.0035

Mars -92674-08-10 02:08 J -32127534.52 -32127534.41 -32127534.29 0.1602 0.1214
 Jupiter -92673-03-03 12:13 J -32127328.16 -32127327.99 -32127327.81 0.0521 0.0237
 Saturn -92666-11-26 21:49 J -32124503.79 -32124503.59 -32124503.40 0.0279 0.0120
 Saturn -92665-07-13 11:59 J -32124274.13 -32124274.00 -32124273.84 0.0279 0.0200
 Jupiter -92662-11-07 07:54 J -32123062.35 -32123062.17 -32123061.99 0.0524 0.0242
 Jupiter -92655-04-28 19:39 J -32120697.89 -32120697.68 -32120697.48 0.0506 0.0081
 Saturn -92651-12-20 00:42 J -32119001.67 -32119001.47 -32119001.26 0.0279 0.0060
 Saturn -92650-08-06 09:35 J -32118772.18 -32118772.10 -32118772.00 0.0280 0.0253
 Neptune -92646-07-11 15:20 J -32117336.95 -32117336.86 -32117336.75 0.0089 0.0079
 Neptune -92645-02-22 05:15 J -32117111.42 -32117111.28 -32117111.12 0.0089 0.0066
 Neptune -92645-10-04 19:39 J -32116885.86 -32116885.68 -32116885.50 0.0089 0.0052
 Neptune -92644-05-18 09:35 J -32116660.29 -32116660.10 -32116659.88 0.0089 0.0039
 Neptune -92644-12-29 23:59 J -32116434.72 -32116434.50 -32116434.28 0.0089 0.0025
 Jupiter -92643-01-01 12:13 J -32116432.12 -32116431.99 -32116431.84 0.0503 0.0371
 Neptune -92643-08-12 13:54 J -32116209.14 -32116208.92 -32116208.69 0.0089 0.0012
 Neptune -92642-03-26 04:03 J -32115983.55 -32115983.33 -32115983.10 0.0089 0.0003
 Mars -92642-08-08 16:03 J -32115848.00 -32115847.83 -32115847.66 0.1601 0.0211
 Neptune -92642-11-06 17:59 J -32115757.96 -32115757.75 -32115757.52 0.0089 0.0016
 Neptune -92641-06-19 07:54 J -32115532.37 -32115532.17 -32115531.95 0.0088 0.0029
 Neptune -92640-01-30 21:49 J -32115306.78 -32115306.59 -32115306.38 0.0088 0.0043
 Neptune -92640-09-13 11:30 J -32115081.18 -32115081.02 -32115080.83 0.0088 0.0056
 Uranus -92640-09-19 22:03 J -32115074.68 -32115074.58 -32115074.46 0.0136 0.0116
 Neptune -92639-04-27 01:25 J -32114855.55 -32114855.44 -32114855.28 0.0088 0.0070
 Uranus -92639-05-04 06:27 J -32114848.43 -32114848.23 -32114848.02 0.0136 0.0053
 Neptune -92639-12-08 15:35 J -32114629.92 -32114629.85 -32114629.76 0.0088 0.0083
 Uranus -92639-12-16 14:37 J -32114622.11 -32114621.89 -32114621.67 0.0135 0.0010
 Uranus -92638-07-30 21:49 J -32114395.76 -32114395.59 -32114395.39 0.0135 0.0072
 Jupiter -92638-11-09 22:18 J -32114293.63 -32114293.57 -32114293.50 0.0520 0.0490
 Uranus -92637-03-13 05:15 J -32114169.30 -32114169.28 -32114169.23 0.0135 0.0133
 Saturn -92636-06-08 09:20 J -32113717.32 -32113717.11 -32113716.90 0.0280 0.0062

Saturn -92635-01-23 23:30 J -32113487.60 -32113487.52 -32113487.44 0.0279 0.0256
 Jupiter -92626-07-15 21:20 J -32110027.81 -32110027.61 -32110027.42 0.0523 0.0035
 Pluto -92622-09-26 22:32 J -32108493.74 -32108493.56 -32108493.38 0.0082 0.0044
 Pluto -92621-05-09 08:51 J -32108268.33 -32108268.13 -32108267.93 0.0082 0.0025
 Saturn -92621-07-01 04:03 J -32108215.54 -32108215.33 -32108215.12 0.0279 0.0023
 Jupiter -92619-01-04 07:11 J -32107663.35 -32107663.20 -32107663.04 0.0507 0.0328
 Jupiter -92614-03-20 18:42 J -32105761.82 -32105761.72 -32105761.60 0.0525 0.0435
 Mars -92609-07-10 04:47 J -32103823.46 -32103823.30 -32103823.13 0.1928 0.0716
 Mars -92608-06-06 15:35 J -32103491.94 -32103491.85 -32103491.77 0.1603 0.1379
 Jupiter -92608-09-09 03:06 J -32103397.57 -32103397.37 -32103397.16 0.0505 0.0113
 Saturn -92607-12-19 11:15 J -32102931.24 -32102931.03 -32102930.81 0.0279 0.0026
 Uranus -92595-12-06 00:27 J -32098561.65 -32098561.48 -32098561.29 0.0143 0.0078
 Uranus -92594-07-20 09:49 J -32098335.30 -32098335.09 -32098334.88 0.0143 0.0007
 Uranus -92593-03-02 19:11 J -32098108.89 -32098108.70 -32098108.51 0.0144 0.0065
 Uranus -92593-10-15 05:01 J -32097882.35 -32097882.29 -32097882.23 0.0144 0.0137
 Saturn -92591-01-11 10:32 J -32097429.26 -32097429.06 -32097428.85 0.0280 0.0027
 Jupiter -92590-03-23 07:39 J -32096993.34 -32096993.18 -32096993.01 0.0521 0.0290
 Jupiter -92579-11-26 05:30 J -32092727.46 -32092727.27 -32092727.09 0.0524 0.0175
 Saturn -92577-06-30 22:18 J -32092144.78 -32092144.57 -32092144.35 0.0280 0.0031
 Mars -92576-06-05 05:15 J -32091805.45 -32091805.28 -32091805.11 0.1601 0.0043
 Jupiter -92572-05-17 15:20 J -32090363.06 -32090362.86 -32090362.66 0.0506 0.0136
 Neptune -92564-08-24 10:18 J -32087342.11 -32087342.07 -32087342.01 0.0089 0.0086
 Neptune -92563-04-06 21:49 J -32087116.68 -32087116.59 -32087116.45 0.0089 0.0074
 Neptune -92563-11-18 10:03 J -32086891.22 -32086891.08 -32086890.91 0.0089 0.0061
 Saturn -92563-12-07 06:13 J -32086872.33 -32086872.24 -32086872.13 0.0279 0.0245
 Neptune -92562-07-01 22:03 J -32086665.75 -32086665.58 -32086665.39 0.0089 0.0048
 Saturn -92562-07-24 14:23 J -32086643.10 -32086642.90 -32086642.70 0.0279 0.0064
 Neptune -92561-02-12 10:03 J -32086440.27 -32086440.08 -32086439.88 0.0089 0.0035
 Neptune -92561-09-24 22:03 J -32086214.78 -32086214.58 -32086214.36 0.0089 0.0022
 Jupiter -92560-01-20 10:18 J -32086097.23 -32086097.07 -32086096.90 0.0503 0.0306

Neptune -92560-05-08 10:18 J -32085989.29 -32085989.07 -32085988.86 0.0089 0.0009
 Neptune -92560-12-19 22:18 J -32085763.79 -32085763.57 -32085763.36 0.0089 0.0004
 Neptune -92559-08-02 10:03 J -32085538.29 -32085538.08 -32085537.86 0.0089 0.0017
 Neptune -92558-03-15 22:03 J -32085312.78 -32085312.58 -32085312.37 0.0089 0.0030
 Neptune -92558-10-27 10:03 J -32085087.25 -32085087.08 -32085086.88 0.0089 0.0043
 Neptune -92557-06-08 22:03 J -32084861.73 -32084861.58 -32084861.40 0.0089 0.0056
 Neptune -92556-01-20 10:03 J -32084636.20 -32084636.08 -32084635.93 0.0089 0.0069
 Neptune -92556-09-02 22:03 J -32084410.64 -32084410.58 -32084410.47 0.0089 0.0082
 Uranus -92555-01-01 15:35 J -32084290.01 -32084289.85 -32084289.66 0.0136 0.0082
 Uranus -92555-08-15 23:59 J -32084063.72 -32084063.50 -32084063.28 0.0136 0.0019
 Uranus -92554-03-30 07:39 J -32083837.38 -32083837.18 -32083836.96 0.0135 0.0044
 Uranus -92554-11-11 15:06 J -32083611.00 -32083610.87 -32083610.72 0.0135 0.0105
 Saturn -92548-05-26 08:37 J -32081588.22 -32081588.14 -32081588.06 0.0280 0.0257
 Saturn -92547-01-10 23:44 J -32081358.72 -32081358.51 -32081358.30 0.0279 0.0065
 Mars -92544-06-03 18:56 J -32080118.78 -32080118.71 -32080118.64 0.1600 0.1460
 Mars -92543-05-07 06:13 J -32079781.36 -32079781.24 -32079781.12 0.1928 0.1397
 Jupiter -92543-08-03 18:42 J -32079692.92 -32079692.72 -32079692.52 0.0522 0.0099
 Mars -92542-04-04 04:32 J -32079449.35 -32079449.31 -32079449.27 0.1603 0.1550
 Jupiter -92536-01-23 06:56 J -32077328.33 -32077328.21 -32077328.08 0.0508 0.0405
 Saturn -92533-06-18 10:47 J -32076086.18 -32076086.05 -32076085.90 0.0279 0.0204
 Earth -92532-02-02 08:51 J -32075857.29 -32075857.13 -32075856.97 0.2727 0.0159
 Moon -92532-02-02 10:18 J -32075857.24 -32075857.07 -32075856.90 0.2721 0.0283 *
 Saturn -92532-02-02 19:25 J -32075856.88 -32075856.69 -32075856.50 0.0280 0.0108
 Jupiter -92531-04-08 15:20 J -32075427.00 -32075426.86 -32075426.72 0.0525 0.0375
 Jupiter -92525-09-27 23:59 J -32073062.70 -32073062.50 -32073062.29 0.0504 0.0052
 Saturn -92519-12-06 19:39 J -32070801.83 -32070801.68 -32070801.53 0.0280 0.0201
 Saturn -92518-07-24 10:32 J -32070572.25 -32070572.06 -32070571.86 0.0279 0.0121
 Jupiter -92513-06-02 19:39 J -32068796.72 -32068796.68 -32068796.63 0.0502 0.0487
 Uranus -92511-08-05 08:23 J -32068003.26 -32068003.15 -32068003.00 0.0143 0.0112
 Uranus -92510-03-19 17:44 J -32067776.96 -32067776.76 -32067776.55 0.0143 0.0041

Mars -92510-04-02 18:27 J -32067762.90 -32067762.73 -32067762.56 0.1601 0.0129
 Uranus -92510-11-01 03:06 J -32067550.57 -32067550.37 -32067550.15 0.0143 0.0031
 Uranus -92509-06-14 12:27 J -32067324.11 -32067323.98 -32067323.81 0.0144 0.0103
 Jupiter -92507-04-11 07:25 J -32066658.32 -32066658.19 -32066658.04 0.0521 0.0369
 Saturn -92504-12-29 15:20 J -32065300.03 -32065299.86 -32065299.69 0.0279 0.0163
 Saturn -92503-08-15 23:15 J -32065070.70 -32065070.53 -32065070.35 0.0279 0.0148
 Jupiter -92496-12-15 06:13 J -32062392.44 -32062392.24 -32062392.04 0.0524 0.0091
 Jupiter -92489-06-05 15:20 J -32060028.05 -32060027.86 -32060027.67 0.0506 0.0212
 Saturn -92489-06-17 20:08 J -32060015.82 -32060015.66 -32060015.48 0.0279 0.0169
 Saturn -92488-02-02 11:01 J -32059786.21 -32059786.04 -32059785.85 0.0279 0.0153
 Neptune -92482-10-12 23:44 J -32057342.58 -32057342.51 -32057342.44 0.0089 0.0084
 Neptune -92481-05-25 13:25 J -32057117.05 -32057116.94 -32057116.78 0.0089 0.0071
 Neptune -92480-01-06 03:49 J -32056891.50 -32056891.34 -32056891.16 0.0089 0.0057
 Neptune -92480-08-19 17:44 J -32056665.94 -32056665.76 -32056665.55 0.0089 0.0044
 Neptune -92479-04-02 08:08 J -32056440.37 -32056440.16 -32056439.94 0.0089 0.0030
 Neptune -92479-11-13 22:18 J -32056214.79 -32056214.57 -32056214.34 0.0089 0.0016
 Mars -92478-04-01 08:23 J -32056076.25 -32056076.15 -32056076.06 0.1600 0.1303
 Neptune -92478-06-27 12:27 J -32055989.21 -32055988.98 -32055988.76 0.0089 0.0003
 Neptune -92477-02-08 02:08 J -32055763.63 -32055763.41 -32055763.18 0.0089 0.0012
 Jupiter -92477-02-09 10:47 J -32055762.23 -32055762.05 -32055761.86 0.0504 0.0228
 Neptune -92477-09-20 16:18 J -32055538.03 -32055537.82 -32055537.60 0.0089 0.0025
 Neptune -92476-05-04 06:13 J -32055312.43 -32055312.24 -32055312.02 0.0089 0.0039
 Neptune -92476-12-15 20:23 J -32055086.83 -32055086.65 -32055086.46 0.0088 0.0052
 Neptune -92475-07-29 09:49 J -32054861.22 -32054861.09 -32054860.92 0.0088 0.0066
 Neptune -92474-03-11 23:59 J -32054635.59 -32054635.50 -32054635.39 0.0088 0.0079
 Saturn -92474-07-11 18:27 J -32054513.91 -32054513.73 -32054513.54 0.0279 0.0126
 Saturn -92473-02-26 02:51 J -32054284.52 -32054284.38 -32054284.21 0.0280 0.0188
 Uranus -92472-09-01 01:11 J -32053731.57 -32053731.45 -32053731.32 0.0136 0.0111
 Uranus -92471-04-15 09:35 J -32053505.31 -32053505.10 -32053504.89 0.0136 0.0047
 Uranus -92471-11-27 17:30 J -32053278.99 -32053278.77 -32053278.54 0.0136 0.0016

Uranus	-92470-07-12 00:56 J	-32053052.63	-32053052.46	-32053052.27	0.0135	0.0078
Pluto	-92465-11-29 14:37 J	-32051084.89	-32051084.89	-32051084.87	0.0062	0.0062
Pluto	-92464-07-12 18:42 J	-32050859.91	-32050859.72	-32050859.51	0.0062	0.0030
Pluto	-92463-02-22 23:01 J	-32050634.76	-32050634.54	-32050634.31	0.0062	0.0002
Pluto	-92463-10-06 03:06 J	-32050409.55	-32050409.37	-32050409.17	0.0062	0.0034
Jupiter	-92460-08-22 16:47 J	-32049357.98	-32049357.80	-32049357.61	0.0523	0.0169
Saturn	-92460-12-29 06:27 J	-32049229.42	-32049229.23	-32049229.03	0.0280	0.0115
Saturn	-92459-08-15 21:06 J	-32048999.76	-32048999.62	-32048999.47	0.0279	0.0207
Jupiter	-92453-02-12 04:32 J	-32046993.39	-32046993.31	-32046993.24	0.0507	0.0468
Jupiter	-92448-04-27 15:06 J	-32045092.03	-32045091.87	-32045091.70	0.0526	0.0297
Mars	-92445-03-03 12:56 J	-32044051.07	-32044050.96	-32044050.84	0.1930	0.1473
Saturn	-92444-01-20 23:01 J	-32043727.74	-32043727.54	-32043727.34	0.0279	0.0084
Mars	-92444-01-28 07:54 J	-32043720.34	-32043720.17	-32043720.00	0.1602	0.0288
Saturn	-92444-09-07 07:11 J	-32043498.31	-32043498.20	-32043498.07	0.0279	0.0228
Earth	-92443-08-13 00:27 J	-32043158.54	-32043158.48	-32043158.43	0.2613	0.2429
Jupiter	-92442-10-17 23:15 J	-32042727.74	-32042727.53	-32042727.32	0.0505	0.0020
Earth	-92435-08-10 17:30 J	-32040238.91	-32040238.77	-32040238.63	0.2610	0.1234
Moon	-92435-08-10 22:47 J	-32040238.70	-32040238.55	-32040238.40	0.2608	0.0984 *
Jupiter	-92430-06-22 19:54 J	-32038461.78	-32038461.67	-32038461.55	0.0502	0.0412
Saturn	-92430-07-11 06:56 J	-32038443.42	-32038443.21	-32038443.00	0.0280	0.0083
Saturn	-92429-02-25 21:20 J	-32038213.71	-32038213.61	-32038213.49	0.0279	0.0239
Uranus	-92427-11-17 01:25 J	-32037218.61	-32037218.44	-32037218.25	0.0143	0.0076
Uranus	-92426-07-01 11:01 J	-32036992.26	-32036992.04	-32036991.83	0.0143	0.0006
Uranus	-92425-02-12 20:23 J	-32036765.84	-32036765.65	-32036765.46	0.0144	0.0067
Uranus	-92425-09-26 06:13 J	-32036539.29	-32036539.24	-32036539.19	0.0144	0.0139
Jupiter	-92424-04-30 07:11 J	-32036323.30	-32036323.20	-32036323.09	0.0520	0.0446
Saturn	-92415-08-03 00:56 J	-32032941.67	-32032941.46	-32032941.25	0.0279	0.0050
Saturn	-92414-03-20 09:20 J	-32032712.16	-32032712.11	-32032712.03	0.0280	0.0264
Jupiter	-92412-01-03 04:32 J	-32032057.50	-32032057.31	-32032057.11	0.0523	0.0022
Mars	-92412-01-26 21:35 J	-32032033.72	-32032033.60	-32032033.48	0.1600	0.1138

Jupiter -92406-06-25 14:23 J -32029693.07 -32029692.90 -32029692.73 0.0506 0.0285
 Jupiter -92401-09-08 00:13 J -32027791.54 -32027791.49 -32027791.43 0.0527 0.0501
 Saturn -92400-01-20 16:03 J -32027657.04 -32027656.83 -32027656.62 0.0280 0.0031
 Neptune -92399-07-09 08:37 J -32027122.23 -32027122.14 -32027122.02 0.0089 0.0078
 Neptune -92398-02-19 20:37 J -32026896.77 -32026896.64 -32026896.49 0.0089 0.0065
 Neptune -92398-10-03 08:51 J -32026671.30 -32026671.13 -32026670.96 0.0089 0.0052
 Neptune -92397-05-15 20:51 J -32026445.82 -32026445.63 -32026445.44 0.0089 0.0039
 Neptune -92397-12-27 08:23 J -32026220.34 -32026220.15 -32026219.93 0.0089 0.0027
 Neptune -92396-08-09 20:23 J -32025994.85 -32025994.65 -32025994.43 0.0089 0.0014
 Neptune -92395-03-23 08:37 J -32025769.35 -32025769.14 -32025768.93 0.0089 0.0000
 Neptune -92395-11-03 20:37 J -32025543.85 -32025543.64 -32025543.42 0.0089 0.0013
 Jupiter -92394-02-28 09:35 J -32025427.30 -32025427.10 -32025426.90 0.0503 0.0158
 Neptune -92394-06-17 08:23 J -32025318.34 -32025318.15 -32025317.93 0.0089 0.0026
 Neptune -92393-01-28 20:23 J -32025092.83 -32025092.65 -32025092.45 0.0089 0.0039
 Neptune -92393-09-10 08:23 J -32024867.31 -32024867.15 -32024866.96 0.0089 0.0052
 Neptune -92392-04-23 20:23 J -32024641.78 -32024641.65 -32024641.49 0.0089 0.0065
 Neptune -92392-12-05 08:23 J -32024416.23 -32024416.15 -32024416.02 0.0089 0.0078
 Uranus -92388-12-13 19:25 J -32022946.87 -32022946.69 -32022946.50 0.0136 0.0075
 Uranus -92387-07-28 03:35 J -32022720.57 -32022720.35 -32022720.12 0.0136 0.0012
 Uranus -92386-03-11 11:15 J -32022494.23 -32022494.03 -32022493.81 0.0135 0.0051
 Uranus -92386-10-23 18:42 J -32022267.82 -32022267.72 -32022267.58 0.0135 0.0113
 Saturn -92385-02-13 05:44 J -32022155.46 -32022155.26 -32022155.05 0.0279 0.0009
 Mars -92380-12-29 14:23 J -32020009.06 -32020008.90 -32020008.74 0.1929 0.0786
 Mars -92379-11-25 21:06 J -32019677.79 -32019677.62 -32019677.46 0.1602 0.0461
 Jupiter -92377-09-10 18:56 J -32019022.89 -32019022.71 -32019022.54 0.0522 0.0259
 Pluto -92373-04-11 05:01 J -32017714.48 -32017714.29 -32017714.08 0.0082 0.0030
 Pluto -92373-11-22 15:06 J -32017489.04 -32017488.87 -32017488.67 0.0082 0.0040
 Saturn -92371-08-02 16:18 J -32016871.04 -32016870.82 -32016870.61 0.0280 0.0006
 Jupiter -92365-05-16 16:03 J -32014757.01 -32014756.83 -32014756.65 0.0525 0.0211
 Jupiter -92359-11-06 01:11 J -32012392.65 -32012392.45 -32012392.25 0.0505 0.0107

Saturn -92356-08-25 06:42 J -32011369.43 -32011369.22 -32011369.01 0.0279 0.0024
 Jupiter -92347-07-11 20:08 J -32008126.81 -32008126.66 -32008126.50 0.0502 0.0335
 Mars -92347-11-24 10:47 J -32007991.18 -32007991.05 -32007990.91 0.1600 0.0976
 Uranus -92343-07-17 10:47 J -32006660.18 -32006660.05 -32006659.90 0.0143 0.0107
 Uranus -92342-02-28 19:54 J -32006433.87 -32006433.67 -32006433.46 0.0143 0.0037
 Saturn -92342-06-28 08:08 J -32006314.18 -32006314.16 -32006314.12 0.0281 0.0278
 Uranus -92342-10-13 05:30 J -32006207.48 -32006207.27 -32006207.06 0.0143 0.0034
 Saturn -92341-02-13 00:13 J -32006084.70 -32006084.49 -32006084.27 0.0280 0.0050
 Jupiter -92341-05-19 05:44 J -32005988.27 -32005988.26 -32005988.23 0.0521 0.0517
 Uranus -92341-05-26 14:51 J -32005981.01 -32005980.88 -32005980.73 0.0144 0.0107
 Jupiter -92329-01-23 04:18 J -32001722.52 -32001722.32 -32001722.12 0.0524 0.0057
 Saturn -92327-07-21 04:32 J -32000812.40 -32000812.31 -32000812.20 0.0278 0.0240
 Saturn -92326-03-07 11:59 J -32000583.20 -32000583.00 -32000582.79 0.0279 0.0070
 Jupiter -92323-07-14 14:08 J -31999358.05 -31999357.91 -31999357.76 0.0506 0.0360
 Jupiter -92318-09-28 02:51 J -31997456.51 -31997456.38 -31997456.26 0.0527 0.0408
 Neptune -92317-08-26 21:06 J -31997122.73 -31997122.62 -31997122.50 0.0089 0.0076
 Neptune -92316-04-09 11:01 J -31996897.18 -31996897.04 -31996896.86 0.0089 0.0063
 Neptune -92316-11-21 01:25 J -31996671.62 -31996671.44 -31996671.24 0.0089 0.0049
 Neptune -92315-07-04 15:35 J -31996446.05 -31996445.85 -31996445.64 0.0089 0.0035
 Neptune -92314-02-15 05:30 J -31996220.48 -31996220.27 -31996220.04 0.0089 0.0022
 Neptune -92314-09-28 19:39 J -31995994.90 -31995994.68 -31995994.45 0.0089 0.0008
 Mars -92314-10-26 15:06 J -31995967.05 -31995966.87 -31995966.69 0.1929 0.0077
 Neptune -92313-05-11 09:49 J -31995769.31 -31995769.09 -31995768.86 0.0089 0.0006
 Mars -92313-09-22 10:18 J -31995635.23 -31995635.07 -31995634.92 0.1603 0.0627
 Neptune -92313-12-22 23:59 J -31995543.72 -31995543.50 -31995543.28 0.0088 0.0020
 Saturn -92312-01-07 08:51 J -31995528.23 -31995528.13 -31995528.02 0.0280 0.0245
 Neptune -92312-08-05 13:39 J -31995318.13 -31995317.93 -31995317.71 0.0088 0.0034
 Saturn -92312-08-25 00:42 J -31995298.67 -31995298.47 -31995298.26 0.0280 0.0081
 Neptune -92311-03-19 03:35 J -31995092.52 -31995092.35 -31995092.14 0.0088 0.0047
 Jupiter -92311-03-19 10:32 J -31995092.27 -31995092.06 -31995091.86 0.0504 0.0079 *

Neptune -92311-10-30 17:44 J -31994866.91 -31994866.76 -31994866.59 0.0088 0.0061
 Neptune -92310-06-13 07:25 J -31994641.29 -31994641.19 -31994641.05 0.0088 0.0075
 Neptune -92309-01-24 21:20 J -31994415.62 -31994415.61 -31994415.56 0.0088 0.0088
 Uranus -92304-08-13 05:01 J -31992388.42 -31992388.29 -31992388.13 0.0136 0.0103
 Uranus -92303-03-27 13:39 J -31992162.14 -31992161.93 -31992161.72 0.0136 0.0039
 Uranus -92303-11-08 21:35 J -31991935.81 -31991935.60 -31991935.38 0.0136 0.0024
 Uranus -92302-06-23 05:15 J -31991709.44 -31991709.28 -31991709.10 0.0135 0.0086
 Saturn -92297-01-31 04:32 J -31990026.44 -31990026.31 -31990026.18 0.0279 0.0213
 Saturn -92297-09-16 11:59 J -31989797.19 -31989797.00 -31989796.80 0.0279 0.0098
 Jupiter -92294-09-30 18:42 J -31988687.87 -31988687.72 -31988687.57 0.0522 0.0337
 Moon -92289-02-03 04:47 J -31987101.44 -31987101.30 -31987101.16 0.2735 0.0981
 Earth -92289-02-03 07:54 J -31987101.33 -31987101.17 -31987101.02 0.2729 0.0576 *
 Saturn -92283-07-20 15:49 J -31984741.98 -31984741.84 -31984741.68 0.0281 0.0199
 Saturn -92282-03-07 07:39 J -31984512.36 -31984512.18 -31984511.98 0.0280 0.0130
 Jupiter -92282-06-05 14:08 J -31984422.10 -31984421.91 -31984421.71 0.0525 0.0143
 Mars -92281-09-20 23:44 J -31983948.65 -31983948.51 -31983948.36 0.1601 0.0807
 Jupiter -92276-11-25 01:25 J -31982057.64 -31982057.44 -31982057.25 0.0505 0.0183
 Saturn -92268-08-12 10:47 J -31979240.22 -31979240.05 -31979239.88 0.0278 0.0164
 Saturn -92267-03-29 17:59 J -31979010.91 -31979010.75 -31979010.56 0.0279 0.0147
 Jupiter -92264-07-30 20:08 J -31977791.84 -31977791.66 -31977791.48 0.0502 0.0261
 Uranus -92259-03-16 19:39 J -31976101.71 -31976101.68 -31976101.64 0.0142 0.0140
 Uranus -92259-10-29 04:47 J -31975875.48 -31975875.30 -31975875.11 0.0143 0.0070
 Uranus -92258-06-12 13:54 J -31975649.13 -31975648.92 -31975648.70 0.0143 0.0003
 Uranus -92257-01-24 23:15 J -31975422.71 -31975422.53 -31975422.34 0.0143 0.0073
 Saturn -92253-01-30 17:01 J -31973955.96 -31973955.79 -31973955.62 0.0280 0.0165
 Saturn -92253-09-16 08:23 J -31973726.31 -31973726.15 -31973725.96 0.0280 0.0162
 Mars -92248-08-22 16:32 J -31971924.98 -31971924.81 -31971924.64 0.1928 0.0615
 Mars -92247-07-20 23:30 J -31971592.67 -31971592.52 -31971592.37 0.1603 0.0797
 Jupiter -92246-02-11 06:13 J -31971387.43 -31971387.24 -31971387.05 0.0523 0.0148
 Jupiter -92240-08-02 16:47 J -31969022.89 -31969022.80 -31969022.70 0.0507 0.0450

Saturn -92238-02-22 10:18 J -31968454.25 -31968454.07 -31968453.89 0.0278 0.0139
 Saturn -92238-10-09 17:44 J -31968224.92 -31968224.76 -31968224.59 0.0279 0.0173
 Neptune -92235-10-10 18:42 J -31967127.78 -31967127.72 -31967127.63 0.0089 0.0083
 Jupiter -92235-10-17 03:20 J -31967121.52 -31967121.36 -31967121.20 0.0526 0.0325
 Neptune -92234-05-24 06:56 J -31966902.33 -31966902.21 -31966902.07 0.0089 0.0070
 Neptune -92233-01-04 18:42 J -31966676.87 -31966676.72 -31966676.55 0.0089 0.0057
 Neptune -92233-08-17 06:42 J -31966451.40 -31966451.22 -31966451.03 0.0089 0.0044
 Neptune -92232-03-30 18:42 J -31966225.91 -31966225.72 -31966225.51 0.0089 0.0031
 Neptune -92232-11-11 06:56 J -31966000.42 -31966000.21 -31966000.00 0.0089 0.0018
 Neptune -92231-06-24 18:56 J -31965774.93 -31965774.71 -31965774.50 0.0089 0.0005
 Neptune -92230-02-05 06:42 J -31965549.43 -31965549.22 -31965549.00 0.0089 0.0008
 Neptune -92230-09-18 18:27 J -31965323.92 -31965323.73 -31965323.51 0.0089 0.0022
 Neptune -92229-05-01 06:27 J -31965098.41 -31965098.23 -31965098.02 0.0089 0.0035
 Neptune -92229-12-12 18:27 J -31964872.89 -31964872.73 -31964872.53 0.0089 0.0048
 Jupiter -92228-04-07 12:13 J -31964757.20 -31964756.99 -31964756.78 0.0504 0.0007
 Neptune -92228-07-26 06:27 J -31964647.37 -31964647.23 -31964647.06 0.0089 0.0061
 Neptune -92227-03-08 18:13 J -31964421.83 -31964421.74 -31964421.59 0.0089 0.0074
 Neptune -92227-10-20 06:27 J -31964196.25 -31964196.23 -31964196.16 0.0089 0.0087
 Saturn -92224-08-11 23:15 J -31963169.72 -31963169.53 -31963169.33 0.0281 0.0120
 Saturn -92223-03-29 14:51 J -31962940.01 -31962939.88 -31962939.73 0.0280 0.0209
 Uranus -92220-04-12 15:20 J -31961829.91 -31961829.86 -31961829.79 0.0136 0.0131
 Uranus -92220-11-24 23:59 J -31961603.69 -31961603.50 -31961603.30 0.0136 0.0067
 Uranus -92219-07-09 08:23 J -31961377.37 -31961377.15 -31961376.93 0.0136 0.0003
 Uranus -92218-02-20 16:18 J -31961151.02 -31961150.82 -31961150.62 0.0135 0.0060
 Uranus -92218-10-04 23:30 J -31960924.59 -31960924.52 -31960924.41 0.0135 0.0122
 Jupiter -92217-12-11 08:08 J -31960491.27 -31960491.16 -31960491.06 0.0501 0.0430
 Pluto -92216-06-14 20:51 J -31960305.73 -31960305.63 -31960305.47 0.0062 0.0051
 Pluto -92215-01-26 01:25 J -31960080.64 -31960080.44 -31960080.21 0.0062 0.0019
 Mars -92215-07-19 13:25 J -31959906.10 -31959905.94 -31959905.79 0.1601 0.0642
 Pluto -92215-09-08 05:30 J -31959855.48 -31959855.27 -31959855.03 0.0062 0.0013

Pluto	-92214-04-21 09:20 J	-31959630.24	-31959630.11	-31959629.93	0.0063	0.0046
Jupiter	-92211-10-19 17:44 J	-31958352.88	-31958352.76	-31958352.64	0.0522	0.0409
Saturn	-92209-09-03 17:01 J	-31957667.98	-31957667.79	-31957667.59	0.0278	0.0088
Saturn	-92208-04-21 00:42 J	-31957438.59	-31957438.47	-31957438.34	0.0278	0.0224
Moon	-92200-08-12 23:15 J	-31954402.60	-31954402.53	-31954402.45	0.2606	0.2339
Jupiter	-92199-06-24 16:32 J	-31954087.01	-31954086.81	-31954086.61	0.0525	0.0051
Saturn	-92194-02-22 01:11 J	-31952383.66	-31952383.45	-31952383.25	0.0280	0.0084
Saturn	-92194-10-09 16:18 J	-31952153.91	-31952153.82	-31952153.70	0.0280	0.0243
Jupiter	-92193-12-14 01:54 J	-31951722.59	-31951722.42	-31951722.24	0.0505	0.0263
Moon	-92192-08-10 14:37 J	-31951483.02	-31951482.89	-31951482.76	0.2608	0.1428
Earth	-92192-08-10 20:23 J	-31951482.80	-31951482.65	-31951482.50	0.2608	0.1042 *
Jupiter	-92187-02-27 13:54 J	-31949820.94	-31949820.92	-31949820.89	0.0527	0.0522
Mars	-92182-06-19 17:01 J	-31947882.91	-31947882.79	-31947882.66	0.1927	0.1340
Mars	-92181-05-17 12:42 J	-31947550.10	-31947549.97	-31947549.83	0.1604	0.0966
Jupiter	-92181-08-18 22:18 J	-31947456.77	-31947456.57	-31947456.37	0.0503	0.0174
Saturn	-92179-03-16 16:32 J	-31946882.01	-31946881.81	-31946881.60	0.0278	0.0062
Saturn	-92179-10-31 23:59 J	-31946652.57	-31946652.50	-31946652.39	0.0279	0.0251
Uranus	-92175-06-28 14:23 J	-31945317.04	-31945316.90	-31945316.74	0.0143	0.0102
Uranus	-92174-02-09 23:30 J	-31945090.73	-31945090.52	-31945090.31	0.0143	0.0031
Uranus	-92174-09-24 08:37 J	-31944864.34	-31944864.14	-31944863.93	0.0143	0.0040
Uranus	-92173-05-07 18:27 J	-31944637.86	-31944637.73	-31944637.60	0.0144	0.0112
Saturn	-92165-09-03 06:42 J	-31941597.44	-31941597.22	-31941597.01	0.0281	0.0041
Jupiter	-92163-03-02 03:49 J	-31941052.52	-31941052.34	-31941052.16	0.0523	0.0212
Neptune	-92153-11-28 04:03 J	-31937128.40	-31937128.33	-31937128.23	0.0089	0.0082
Neptune	-92152-07-11 18:27 J	-31936902.87	-31936902.73	-31936902.58	0.0089	0.0068
Jupiter	-92152-11-05 01:11 J	-31936786.62	-31936786.45	-31936786.28	0.0526	0.0260
Neptune	-92151-02-22 08:08 J	-31936677.32	-31936677.16	-31936676.97	0.0089	0.0055
Neptune	-92151-10-05 22:18 J	-31936451.76	-31936451.57	-31936451.36	0.0089	0.0041
Neptune	-92150-05-19 12:42 J	-31936226.18	-31936225.97	-31936225.75	0.0089	0.0027
Saturn	-92150-09-27 00:27 J	-31936095.69	-31936095.48	-31936095.27	0.0278	0.0008

Neptune -92150-12-31 02:37 J -31936000.61 -31936000.39 -31936000.16 0.0089 0.0013
 Mars -92149-05-16 02:37 J -31935863.56 -31935863.39 -31935863.23 0.1601 0.0476
 Neptune -92149-08-12 16:47 J -31935775.03 -31935774.80 -31935774.58 0.0089 0.0001
 Neptune -92148-03-26 06:42 J -31935549.44 -31935549.22 -31935548.99 0.0089 0.0014
 Neptune -92148-11-06 20:51 J -31935323.85 -31935323.63 -31935323.42 0.0089 0.0028
 Neptune -92147-06-20 10:32 J -31935098.25 -31935098.06 -31935097.85 0.0088 0.0042
 Neptune -92146-02-01 00:13 J -31934872.64 -31934872.49 -31934872.29 0.0088 0.0056
 Neptune -92146-09-14 14:37 J -31934647.03 -31934646.89 -31934646.75 0.0088 0.0069
 Jupiter -92145-04-26 11:30 J -31934422.22 -31934422.02 -31934421.81 0.0504 0.0078
 Neptune -92145-04-27 04:18 J -31934421.38 -31934421.32 -31934421.22 0.0088 0.0083
 Uranus -92136-07-25 10:03 J -31931045.23 -31931045.08 -31931044.91 0.0136 0.0094
 Uranus -92135-03-08 18:42 J -31930818.94 -31930818.72 -31930818.50 0.0136 0.0030
 Saturn -92135-03-16 09:35 J -31930811.32 -31930811.10 -31930810.89 0.0281 0.0002
 Uranus -92135-10-21 02:37 J -31930592.60 -31930592.39 -31930592.16 0.0136 0.0034
 Uranus -92134-06-04 10:47 J -31930366.20 -31930366.05 -31930365.89 0.0135 0.0095
 Jupiter -92134-12-31 07:54 J -31930156.32 -31930156.17 -31930156.02 0.0501 0.0357
 Jupiter -92128-11-07 19:25 J -31928017.74 -31928017.69 -31928017.63 0.0521 0.0498
 Pluto -92125-03-14 04:47 J -31927160.39 -31927160.30 -31927160.20 0.0082 0.0073
 Pluto -92125-10-25 15:06 J -31926935.08 -31926934.87 -31926934.65 0.0082 0.0004
 Pluto -92124-06-08 00:56 J -31926709.57 -31926709.46 -31926709.31 0.0081 0.0066
 Saturn -92120-04-07 23:59 J -31925309.71 -31925309.50 -31925309.30 0.0278 0.0019
 Jupiter -92116-07-13 16:47 J -31923751.99 -31923751.80 -31923751.60 0.0524 0.0033
 Mars -92115-03-15 02:08 J -31923507.53 -31923507.41 -31923507.29 0.1604 0.1134
 Jupiter -92109-01-03 03:49 J -31921387.49 -31921387.34 -31921387.19 0.0505 0.0346
 Saturn -92106-09-26 14:37 J -31920025.10 -31920024.89 -31920024.68 0.0281 0.0041
 Jupiter -92104-03-18 10:32 J -31919486.14 -31919486.06 -31919485.96 0.0528 0.0464
 Jupiter -92098-09-07 23:01 J -31917121.74 -31917121.54 -31917121.33 0.0503 0.0096
 Uranus -92091-02-25 23:01 J -31914758.60 -31914758.54 -31914758.47 0.0142 0.0135
 Saturn -92091-03-04 01:54 J -31914752.52 -31914752.42 -31914752.30 0.0277 0.0233
 Uranus -92091-10-10 07:54 J -31914532.36 -31914532.17 -31914531.98 0.0143 0.0065

Saturn -92091-10-19 08:37 J -31914523.34 -31914523.14 -31914522.93 0.0278 0.0075
 Uranus -92090-05-24 17:01 J -31914306.00 -31914305.79 -31914305.57 0.0143 0.0006
 Uranus -92089-01-06 02:23 J -31914079.57 -31914079.40 -31914079.21 0.0143 0.0077
 Mars -92084-04-16 00:56 J -31912152.56 -31912152.46 -31912152.37 0.1930 0.1603
 Mars -92083-03-13 15:49 J -31911821.01 -31911820.84 -31911820.67 0.1602 0.0308
 Jupiter -92080-03-21 04:47 J -31910717.46 -31910717.30 -31910717.13 0.0523 0.0298
 Saturn -92077-08-21 01:54 J -31909468.50 -31909468.42 -31909468.31 0.0281 0.0250
 Saturn -92076-04-07 18:42 J -31909238.92 -31909238.72 -31909238.51 0.0281 0.0083
 Neptune -92070-01-12 04:03 J -31907133.33 -31907133.33 -31907133.31 0.0089 0.0089
 Neptune -92070-08-25 15:49 J -31906907.93 -31906907.84 -31906907.71 0.0089 0.0076
 Neptune -92069-04-07 03:49 J -31906682.47 -31906682.34 -31906682.17 0.0089 0.0063
 Neptune -92069-11-18 15:49 J -31906457.00 -31906456.84 -31906456.65 0.0089 0.0050
 Jupiter -92069-11-24 02:51 J -31906451.56 -31906451.38 -31906451.19 0.0526 0.0169
 Neptune -92068-07-02 03:49 J -31906231.52 -31906231.34 -31906231.13 0.0089 0.0037
 Neptune -92067-02-12 15:49 J -31906006.03 -31906005.84 -31906005.62 0.0089 0.0024
 Neptune -92067-09-26 04:03 J -31905780.54 -31905780.33 -31905780.11 0.0089 0.0010
 Neptune -92066-05-09 16:03 J -31905555.04 -31905554.83 -31905554.61 0.0089 0.0004
 Neptune -92066-12-21 04:03 J -31905329.53 -31905329.33 -31905329.11 0.0089 0.0016
 Neptune -92065-08-02 15:49 J -31905104.03 -31905103.84 -31905103.62 0.0089 0.0030
 Neptune -92064-03-16 03:49 J -31904878.51 -31904878.34 -31904878.14 0.0089 0.0043
 Neptune -92064-10-27 16:03 J -31904652.99 -31904652.83 -31904652.65 0.0089 0.0056
 Neptune -92063-06-10 04:03 J -31904427.45 -31904427.33 -31904427.18 0.0089 0.0069
 Neptune -92062-01-21 16:03 J -31904201.90 -31904201.83 -31904201.74 0.0089 0.0082
 Jupiter -92062-05-16 12:42 J -31904087.17 -31904086.97 -31904086.77 0.0505 0.0159
 Saturn -92062-09-14 01:54 J -31903966.55 -31903966.42 -31903966.28 0.0278 0.0206
 Saturn -92061-04-30 08:37 J -31903737.33 -31903737.14 -31903736.94 0.0278 0.0103
 Uranus -92052-03-24 20:23 J -31900486.73 -31900486.65 -31900486.53 0.0136 0.0122
 Uranus -92052-11-06 05:15 J -31900260.47 -31900260.28 -31900260.07 0.0136 0.0057
 Uranus -92051-06-20 13:39 J -31900034.15 -31900033.93 -31900033.70 0.0136 0.0008
 Jupiter -92050-01-19 09:06 J -31899821.29 -31899821.12 -31899820.94 0.0502 0.0276

Uranus	-92050-02-01 21:35 J	-31899807.78	-31899807.60	-31899807.40	0.0135	0.0070
Uranus	-92050-09-16 05:30 J	-31899581.31	-31899581.27	-31899581.22	0.0135	0.0132
Mars	-92049-01-10 15:35 J	-31899464.95	-31899464.85	-31899464.75	0.1605	0.1299
Saturn	-92047-03-03 06:27 J	-31898682.37	-31898682.23	-31898682.09	0.0282	0.0208
Saturn	-92047-10-18 23:15 J	-31898452.72	-31898452.53	-31898452.33	0.0281	0.0126
Earth	-92046-02-03 06:27 J	-31898345.38	-31898345.23	-31898345.09	0.2732	0.1037
Moon	-92046-02-03 11:01 J	-31898345.20	-31898345.04	-31898344.88	0.2728	0.0715 *
Jupiter	-92033-08-01 13:11 J	-31893417.15	-31893416.95	-31893416.76	0.0525	0.0088
Saturn	-92032-03-26 11:01 J	-31893180.21	-31893180.04	-31893179.85	0.0277	0.0149
Saturn	-92032-11-10 17:59 J	-31892950.91	-31892950.75	-31892950.57	0.0278	0.0162
Jupiter	-92026-01-22 01:25 J	-31891052.55	-31891052.44	-31891052.32	0.0505	0.0411
Jupiter	-92021-04-06 11:01 J	-31889151.17	-31889151.04	-31889150.90	0.0527	0.0382
Mars	-92018-02-11 01:39 J	-31888110.59	-31888110.43	-31888110.27	0.1929	0.0886
Saturn	-92018-09-13 12:42 J	-31887896.14	-31887895.97	-31887895.78	0.0281	0.0162
Mars	-92017-01-09 05:30 J	-31887778.44	-31887778.27	-31887778.10	0.1602	0.0150
Saturn	-92017-04-30 05:15 J	-31887666.44	-31887666.28	-31887666.11	0.0281	0.0171
Jupiter	-92015-09-26 21:06 J	-31886786.83	-31886786.62	-31886786.41	0.0503	0.0031
Uranus	-92007-06-09 17:30 J	-31883973.91	-31883973.77	-31883973.60	0.0142	0.0097
Uranus	-92006-01-22 02:37 J	-31883747.60	-31883747.39	-31883747.18	0.0143	0.0026
Uranus	-92006-09-05 11:44 J	-31883521.21	-31883521.01	-31883520.80	0.0143	0.0045
Uranus	-92005-04-18 21:20 J	-31883294.73	-31883294.61	-31883294.49	0.0144	0.0117
Jupiter	-92003-06-01 17:44 J	-31882520.84	-31882520.76	-31882520.68	0.0501	0.0462
Saturn	-92003-10-06 11:59 J	-31882394.19	-31882394.00	-31882393.81	0.0278	0.0119
Saturn	-92002-05-23 18:42 J	-31882164.86	-31882164.72	-31882164.56	0.0278	0.0192

92ND MILLENNIUM BCE

This is a list of transits of Venus in the 92nd millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-91997-04-09 04:18 J	-31880382.45	-31880382.32	-31880382.18	0.0523	0.0374		
Neptune	-91988-03-01 10:47 J	-31877134.07	-31877134.05	-31877134.03	0.0089	0.0088		
Saturn	-91988-03-25 16:47 J	-31877110.00	-31877109.80	-31877109.61	0.0281	0.0120		
Neptune	-91988-10-13 00:27 J	-31876908.58	-31876908.48	-31876908.34	0.0089	0.0075		
Saturn	-91988-11-10 09:20 J	-31876880.25	-31876880.11	-31876879.97	0.0281	0.0213		
Neptune	-91987-05-26 14:51 J	-31876683.03	-31876682.88	-31876682.70	0.0089	0.0061		
Neptune	-91986-01-07 05:01 J	-31876457.47	-31876457.29	-31876457.09	0.0089	0.0047		
Neptune	-91986-08-20 19:11 J	-31876231.91	-31876231.70	-31876231.49	0.0089	0.0033		
Jupiter	-91986-12-13 22:47 J	-31876116.75	-31876116.55	-31876116.36	0.0526	0.0116		
Mars	-91985-01-07 18:56 J	-31876091.72	-31876091.71	-31876091.69	0.1600	0.1591		
Neptune	-91985-04-02 09:06 J	-31876006.33	-31876006.12	-31876005.89	0.0089	0.0020		
Neptune	-91985-11-13 23:15 J	-31875780.75	-31875780.53	-31875780.30	0.0089	0.0006		
Neptune	-91984-06-27 13:25 J	-31875555.17	-31875554.94	-31875554.72	0.0089	0.0009		
Mars	-91984-11-07 05:01 J	-31875422.36	-31875422.29	-31875422.23	0.1606	0.1468		
Neptune	-91983-02-08 03:06 J	-31875329.58	-31875329.37	-31875329.14	0.0089	0.0023		
Neptune	-91983-09-21 17:01 J	-31875103.98	-31875103.79	-31875103.57	0.0088	0.0036		
Neptune	-91982-05-05 07:11 J	-31874878.37	-31874878.20	-31874878.00	0.0088	0.0050		
Neptune	-91982-12-16 21:06 J	-31874652.76	-31874652.62	-31874652.45	0.0088	0.0064		
Neptune	-91981-07-29 10:47 J	-31874427.14	-31874427.05	-31874426.92	0.0088	0.0078		
Jupiter	-91979-06-04 12:42 J	-31873752.16	-31873751.97	-31873751.79	0.0504	0.0234		
Saturn	-91973-04-17 21:49 J	-31871607.80	-31871607.59	-31871607.39	0.0277	0.0060		
Saturn	-91973-12-03 04:47 J	-31871378.38	-31871378.30	-31871378.20	0.0278	0.0252		
Uranus	-91968-07-06 16:03 J	-31869702.00	-31869701.83	-31869701.65	0.0136	0.0084		
Pluto	-91968-12-29 04:18 J	-31869526.50	-31869526.32	-31869526.15	0.0062	0.0040		
Jupiter	-91967-02-07 06:13 J	-31869486.43	-31869486.24	-31869486.05	0.0502	0.0215		

Uranus -91967-02-18 00:27 J -31869475.70 -31869475.48 -31869475.26 0.0136 0.0020
 Pluto -91967-08-11 08:08 J -31869301.38 -31869301.16 -31869300.93 0.0062 0.0008
 Uranus -91967-10-02 08:37 J -31869249.34 -31869249.14 -31869248.92 0.0136 0.0044
 Pluto -91966-03-24 12:13 J -31869076.18 -31869075.99 -31869075.76 0.0062 0.0024
 Uranus -91966-05-16 16:32 J -31869022.93 -31869022.81 -31869022.66 0.0135 0.0106
 Pluto -91966-11-04 16:03 J -31868850.90 -31868850.83 -31868850.70 0.0063 0.0057
 Saturn -91959-10-06 00:42 J -31866323.68 -31866323.47 -31866323.26 0.0281 0.0069
 Saturn -91958-05-23 16:32 J -31866093.87 -31866093.81 -31866093.72 0.0281 0.0263
 Mars -91953-12-08 03:06 J -31864068.55 -31864068.37 -31864068.20 0.1928 0.0194
 Mars -91952-11-05 18:27 J -31863735.90 -31863735.73 -31863735.55 0.1603 0.0048
 Jupiter -91950-08-21 13:39 J -31863082.12 -31863081.93 -31863081.74 0.0524 0.0171
 Earth -91949-08-10 23:01 J -31862726.69 -31862726.54 -31862726.39 0.2606 0.0872
 Moon -91949-08-11 04:18 J -31862726.48 -31862726.32 -31862726.17 0.2609 0.0250 *
 Saturn -91944-10-28 23:01 J -31860821.75 -31860821.54 -31860821.33 0.0278 0.0028
 Jupiter -91943-02-10 00:56 J -31860717.51 -31860717.46 -31860717.40 0.0506 0.0485
 Jupiter -91938-04-26 10:32 J -31858816.22 -31858816.06 -31858815.90 0.0527 0.0305
 Jupiter -91932-10-15 21:35 J -31856451.81 -31856451.60 -31856451.39 0.0503 0.0046
 Saturn -91929-04-17 04:32 J -31855537.52 -31855537.31 -31855537.09 0.0281 0.0028
 Uranus -91923-02-07 02:37 J -31853415.48 -31853415.39 -31853415.30 0.0142 0.0129
 Uranus -91923-09-21 11:01 J -31853189.22 -31853189.04 -31853188.83 0.0143 0.0060
 Uranus -91922-05-05 20:23 J -31852962.86 -31852962.65 -31852962.44 0.0143 0.0011
 Uranus -91922-12-18 05:30 J -31852736.43 -31852736.27 -31852736.09 0.0143 0.0083
 Jupiter -91920-06-20 17:15 J -31852185.91 -31852185.78 -31852185.65 0.0501 0.0390
 Mars -91920-11-04 08:23 J -31852049.23 -31852049.15 -31852049.08 0.1601 0.1427
 Jupiter -91914-04-28 23:01 J -31850047.65 -31850047.54 -31850047.42 0.0523 0.0422
 Saturn -91914-05-11 08:51 J -31850035.34 -31850035.13 -31850034.92 0.0278 0.0031
 Neptune -91906-11-27 00:42 J -31846913.52 -31846913.47 -31846913.36 0.0089 0.0082
 Neptune -91905-07-09 12:42 J -31846688.08 -31846687.97 -31846687.81 0.0089 0.0069
 Neptune -91904-02-20 01:11 J -31846462.62 -31846462.45 -31846462.28 0.0089 0.0055
 Neptune -91904-10-03 13:11 J -31846237.14 -31846236.95 -31846236.76 0.0089 0.0042

Neptune -91903-05-17 00:56 J -31846011.65 -31846011.46 -31846011.25 0.0089 0.0029
 Neptune -91903-12-28 12:56 J -31845786.16 -31845785.96 -31845785.74 0.0089 0.0016
 Jupiter -91902-01-01 21:20 J -31845781.81 -31845781.61 -31845781.41 0.0526 0.0043
 Neptune -91902-08-11 01:11 J -31845560.67 -31845560.45 -31845560.24 0.0089 0.0003
 Neptune -91901-03-23 12:56 J -31845335.17 -31845334.96 -31845334.74 0.0089 0.0011
 Neptune -91901-11-04 01:11 J -31845109.65 -31845109.45 -31845109.24 0.0089 0.0024
 Neptune -91900-06-17 12:56 J -31844884.14 -31844883.96 -31844883.75 0.0089 0.0038
 Saturn -91900-10-28 13:39 J -31844751.14 -31844750.93 -31844750.72 0.0281 0.0026
 Neptune -91899-01-29 00:42 J -31844658.62 -31844658.47 -31844658.27 0.0089 0.0051
 Neptune -91899-09-11 12:56 J -31844433.09 -31844432.96 -31844432.80 0.0089 0.0064
 Neptune -91898-04-25 00:56 J -31844207.55 -31844207.46 -31844207.34 0.0089 0.0077
 Jupiter -91896-06-23 08:51 J -31843417.30 -31843417.13 -31843416.96 0.0504 0.0291
 Jupiter -91891-09-06 18:42 J -31841515.76 -31841515.72 -31841515.68 0.0528 0.0518
 Mars -91887-10-05 03:49 J -31840026.51 -31840026.34 -31840026.17 0.1927 0.0531
 Mars -91886-09-03 07:54 J -31839693.34 -31839693.17 -31839693.00 0.1603 0.0192
 Saturn -91885-04-05 04:18 J -31839478.40 -31839478.32 -31839478.21 0.0277 0.0245
 Saturn -91885-11-20 11:01 J -31839249.24 -31839249.04 -31839248.84 0.0278 0.0065
 Jupiter -91884-02-26 04:32 J -31839151.50 -31839151.31 -31839151.10 0.0502 0.0150
 Uranus -91884-03-06 02:23 J -31839143.51 -31839143.40 -31839143.25 0.0137 0.0111
 Uranus -91884-10-18 11:15 J -31838917.23 -31838917.03 -31838916.81 0.0136 0.0046
 Uranus -91883-06-01 19:54 J -31838690.89 -31838690.67 -31838690.45 0.0136 0.0018
 Uranus -91882-01-14 04:03 J -31838464.51 -31838464.33 -31838464.15 0.0136 0.0081
 Pluto -91877-09-27 14:51 J -31836381.05 -31836380.88 -31836380.69 0.0082 0.0044
 Pluto -91876-05-11 01:11 J -31836155.65 -31836155.45 -31836155.24 0.0082 0.0025
 Saturn -91871-09-22 23:44 J -31834194.56 -31834194.51 -31834194.44 0.0281 0.0269
 Saturn -91870-05-10 17:15 J -31833964.99 -31833964.78 -31833964.57 0.0281 0.0067
 Jupiter -91867-09-09 08:37 J -31832747.32 -31832747.14 -31832746.96 0.0524 0.0221
 Saturn -91856-10-16 13:39 J -31828692.08 -31828691.93 -31828691.77 0.0277 0.0187
 Jupiter -91855-05-15 04:47 J -31828481.47 -31828481.30 -31828481.12 0.0527 0.0259
 Saturn -91855-06-02 20:37 J -31828462.83 -31828462.64 -31828462.46 0.0278 0.0124

Mars -91854-09-01 21:20 J -31828006.71 -31828006.61 -31828006.50 0.1601 0.1258
 Jupiter -91849-11-03 17:01 J -31826116.99 -31826116.79 -31826116.58 0.0503 0.0100
 Saturn -91841-04-04 11:01 J -31823408.18 -31823408.04 -31823407.90 0.0281 0.0211
 Saturn -91841-11-20 03:35 J -31823178.54 -31823178.35 -31823178.15 0.0281 0.0125
 Uranus -91839-05-21 21:35 J -31822630.75 -31822630.60 -31822630.42 0.0142 0.0089
 Uranus -91838-01-03 06:42 J -31822404.43 -31822404.22 -31822404.01 0.0143 0.0019
 Uranus -91838-08-17 15:35 J -31822178.04 -31822177.85 -31822177.65 0.0143 0.0052
 Uranus -91837-03-31 00:56 J -31821951.56 -31821951.46 -31821951.35 0.0144 0.0124
 Jupiter -91837-07-09 12:56 J -31821851.11 -31821850.96 -31821850.81 0.0501 0.0337
 Jupiter -91831-05-17 22:47 J -31819712.61 -31819712.55 -31819712.50 0.0523 0.0499
 Saturn -91826-04-28 16:32 J -31817905.99 -31817905.81 -31817905.64 0.0277 0.0152
 Saturn -91826-12-13 23:01 J -31817676.70 -31817676.54 -31817676.36 0.0278 0.0160
 Neptune -91823-01-14 06:42 J -31816914.30 -31816914.22 -31816914.12 0.0089 0.0081
 Neptune -91823-08-27 20:23 J -31816688.77 -31816688.65 -31816688.48 0.0089 0.0068
 Neptune -91822-04-10 10:47 J -31816463.21 -31816463.05 -31816462.85 0.0089 0.0054
 Neptune -91822-11-22 00:56 J -31816237.64 -31816237.46 -31816237.24 0.0089 0.0040
 Neptune -91821-07-04 15:06 J -31816012.08 -31816011.87 -31816011.64 0.0089 0.0026
 Mars -91821-08-01 04:47 J -31815984.44 -31815984.30 -31815984.16 0.1926 0.1237
 Neptune -91820-02-15 05:15 J -31815786.50 -31815786.28 -31815786.05 0.0089 0.0012
 Mars -91820-06-30 21:06 J -31815650.79 -31815650.62 -31815650.46 0.1604 0.0365
 Neptune -91820-09-28 19:25 J -31815560.92 -31815560.69 -31815560.47 0.0089 0.0002
 Jupiter -91819-01-20 20:08 J -31815446.86 -31815446.66 -31815446.46 0.0525 0.0030
 Neptune -91819-05-12 09:20 J -31815335.33 -31815335.11 -31815334.88 0.0089 0.0016
 Neptune -91819-12-23 23:30 J -31815109.73 -31815109.52 -31815109.31 0.0088 0.0030
 Neptune -91818-08-06 13:11 J -31814884.14 -31814883.95 -31814883.75 0.0088 0.0044
 Neptune -91817-03-19 02:51 J -31814658.53 -31814658.38 -31814658.19 0.0088 0.0058
 Neptune -91817-10-30 16:47 J -31814432.91 -31814432.80 -31814432.65 0.0088 0.0072
 Neptune -91816-06-13 07:11 J -31814207.26 -31814207.20 -31814207.14 0.0088 0.0085
 Jupiter -91813-07-12 08:08 J -31813082.30 -31813082.16 -31813082.02 0.0505 0.0362
 Saturn -91812-10-15 13:54 J -31812622.09 -31812621.92 -31812621.75 0.0281 0.0171

Moon -91811-02-05 10:47 J -31812509.13 -31812509.05 -31812508.97 0.2728 0.2367
 Saturn -91811-06-02 06:42 J -31812392.38 -31812392.22 -31812392.04 0.0281 0.0165
 Jupiter -91808-09-25 14:08 J -31811181.00 -31811180.91 -31811180.81 0.0528 0.0464
 Moon -91803-02-03 00:13 J -31809589.61 -31809589.49 -31809589.38 0.2737 0.1768
 Earth -91803-02-03 05:15 J -31809589.41 -31809589.28 -31809589.14 0.2734 0.1469 *
 Jupiter -91801-03-17 03:35 J -31808816.56 -31808816.35 -31808816.14 0.0502 0.0080
 Uranus -91800-06-17 22:03 J -31808358.76 -31808358.58 -31808358.38 0.0136 0.0073
 Uranus -91799-01-30 06:56 J -31808132.43 -31808132.21 -31808131.99 0.0136 0.0008
 Uranus -91799-09-13 15:06 J -31807906.07 -31807905.87 -31807905.67 0.0136 0.0055
 Uranus -91798-04-27 23:01 J -31807679.64 -31807679.54 -31807679.43 0.0135 0.0118
 Saturn -91797-11-08 00:56 J -31807119.65 -31807119.46 -31807119.26 0.0278 0.0097
 Saturn -91796-06-25 07:54 J -31806890.29 -31806890.17 -31806890.03 0.0278 0.0217
 Mars -91788-06-29 10:47 J -31803964.17 -31803964.05 -31803963.92 0.1602 0.1093
 Jupiter -91784-09-28 06:13 J -31802412.40 -31802412.24 -31802412.07 0.0524 0.0288
 Saturn -91782-04-28 01:54 J -31801835.62 -31801835.42 -31801835.22 0.0281 0.0111
 Saturn -91782-12-13 17:59 J -31801605.87 -31801605.75 -31801605.61 0.0281 0.0224
 Jupiter -91772-06-03 04:03 J -31798146.51 -31798146.33 -31798146.14 0.0527 0.0183
 Saturn -91767-05-21 04:18 J -31796333.53 -31796333.32 -31796333.12 0.0278 0.0060
 Saturn -91766-01-05 11:01 J -31796104.11 -31796104.04 -31796103.95 0.0278 0.0254
 Jupiter -91766-11-23 14:37 J -31795782.08 -31795781.89 -31795781.69 0.0504 0.0164
 Uranus -91755-01-19 07:39 J -31792072.29 -31792072.18 -31792072.06 0.0142 0.0119
 Uranus -91755-09-02 16:03 J -31791846.02 -31791845.83 -31791845.62 0.0143 0.0051
 Uranus -91754-04-17 01:11 J -31791619.66 -31791619.45 -31791619.24 0.0143 0.0020
 Mars -91754-04-28 10:18 J -31791608.23 -31791608.07 -31791607.91 0.1605 0.0534
 Jupiter -91754-07-29 11:30 J -31791516.19 -31791516.02 -31791515.84 0.0501 0.0270
 Uranus -91754-11-29 10:18 J -31791393.22 -31791393.07 -31791392.90 0.0143 0.0092
 Saturn -91753-11-07 04:18 J -31791049.52 -31791049.32 -31791049.11 0.0281 0.0072
 Saturn -91752-06-24 20:37 J -31790819.70 -31790819.64 -31790819.56 0.0281 0.0263
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 Neptune -91741-10-10 21:35 J -31786693.70 -31786693.60 -31786693.47 0.0089 0.0075

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 Neptune -91739-08-18 09:35 J -31786017.29 -31786017.10 -31786016.90 0.0089 0.0035
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 Jupiter -91725-10-14 11:15 J -31780846.15 -31780846.03 -31780845.90 0.0528 0.0400
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 Mars -91722-04-26 23:59 J -31779921.63 -31779921.50 -31779921.35 0.1602 0.0926
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Moon -91706-08-11 22:03 J -31773970.72 -31773970.58 -31773970.44 0.2599 0.1390
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 Jupiter -91701-10-17 05:30 J -31772077.41 -31772077.27 -31772077.12 0.0524 0.0363
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 Uranus -91632-05-30 04:18 J -31747015.50 -31747015.32 -31747015.10 0.0137 0.0062
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 Saturn -91591-12-11 04:18 J -31731845.51 -31731845.32 -31731845.13 0.0277 0.0107
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 Jupiter -91428-04-23 17:01 J -31672540.92 -31672540.79 -31672540.65 0.0529 0.0387
 Mars -91425-06-12 04:47 J -31671395.38 -31671395.30 -31671395.22 0.1609 0.1408
 Jupiter -91422-10-14 06:13 J -31670176.45 -31670176.24 -31670176.03 0.0501 0.0006
 Uranus -91420-12-12 18:13 J -31669385.89 -31669385.74 -31669385.59 0.0142 0.0101
 Uranus -91419-07-27 02:23 J -31669159.60 -31669159.40 -31669159.18 0.0142 0.0033
 Uranus -91418-03-10 11:01 J -31668933.23 -31668933.04 -31668932.82 0.0143 0.0039
 Uranus -91418-10-22 20:23 J -31668706.78 -31668706.65 -31668706.51 0.0143 0.0109
 Saturn -91414-07-02 19:39 J -31667357.83 -31667357.68 -31667357.52 0.0276 0.0179
 Saturn -91413-02-17 01:25 J -31667128.62 -31667128.44 -31667128.25 0.0277 0.0133
 Neptune -91412-04-15 14:08 J -31666704.92 -31666704.91 -31666704.85 0.0089 0.0088
 Neptune -91412-11-27 02:37 J -31666479.50 -31666479.39 -31666479.27 0.0089 0.0074
 Neptune -91411-07-10 14:23 J -31666254.05 -31666253.90 -31666253.74 0.0089 0.0061
 Neptune -91410-02-21 02:08 J -31666028.58 -31666028.41 -31666028.22 0.0089 0.0048
 Jupiter -91410-06-19 02:08 J -31665910.52 -31665910.41 -31665910.31 0.0499 0.0429
 Neptune -91410-10-04 13:54 J -31665803.10 -31665802.92 -31665802.70 0.0089 0.0035
 Neptune -91409-05-17 02:08 J -31665577.61 -31665577.41 -31665577.20 0.0089 0.0021
 Neptune -91409-12-28 14:08 J -31665352.12 -31665351.91 -31665351.69 0.0089 0.0008
 Neptune -91408-08-11 02:08 J -31665126.62 -31665126.41 -31665126.20 0.0089 0.0006
 Neptune -91407-03-24 13:54 J -31664901.12 -31664900.92 -31664900.70 0.0089 0.0020
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 Neptune -91405-01-30 01:54 J -31664224.56 -31664224.42 -31664224.25 0.0089 0.0060
 Neptune -91405-09-11 14:08 J -31663999.02 -31663998.91 -31663998.78 0.0089 0.0073
 Neptune -91404-04-25 01:54 J -31663773.44 -31663773.42 -31663773.35 0.0089 0.0087
 Jupiter -91404-04-26 12:27 J -31663772.10 -31663771.98 -31663771.84 0.0525 0.0388
 Saturn -91400-12-19 16:32 J -31662073.95 -31662073.81 -31662073.65 0.0282 0.0197
 Saturn -91399-08-06 10:18 J -31661844.25 -31661844.07 -31661843.89 0.0281 0.0146
 Mars -91394-07-11 16:32 J -31660043.84 -31660043.81 -31660043.78 0.1922 0.1893

Mars -91393-06-10 18:13 J -31659708.91 -31659708.74 -31659708.57 0.1606 0.0067
 Jupiter -91393-12-30 09:49 J -31659506.29 -31659506.09 -31659505.90 0.0527 0.0088
 Jupiter -91386-06-21 20:51 J -31657141.80 -31657141.63 -31657141.45 0.0503 0.0268
 Saturn -91384-01-11 19:25 J -31656571.86 -31656571.69 -31656571.51 0.0277 0.0152
 Saturn -91384-08-29 01:25 J -31656342.61 -31656342.44 -31656342.27 0.0278 0.0162
 Uranus -91380-01-08 20:23 J -31655113.83 -31655113.65 -31655113.47 0.0137 0.0078
 Pluto -91380-03-16 07:11 J -31655047.38 -31655047.20 -31655046.99 0.0082 0.0034
 Uranus -91380-08-23 05:01 J -31654887.51 -31654887.29 -31654887.06 0.0137 0.0014
 Pluto -91380-10-27 17:30 J -31654821.95 -31654821.77 -31654821.56 0.0082 0.0035
 Uranus -91379-04-06 13:39 J -31654661.14 -31654660.93 -31654660.73 0.0136 0.0051
 Uranus -91379-11-18 21:35 J -31654434.71 -31654434.60 -31654434.47 0.0136 0.0114
 Jupiter -91374-02-24 17:01 J -31652875.98 -31652875.79 -31652875.59 0.0500 0.0170
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 Mars -91362-07-11 23:15 J -31648355.59 -31648355.53 -31648355.47 0.1928 0.1814
 Mars -91361-06-09 07:54 J -31648022.22 -31648022.17 -31648022.12 0.1603 0.1536
 Mars -91359-04-09 17:30 J -31647352.79 -31647352.77 -31647352.75 0.1610 0.1595
 Jupiter -91357-09-06 21:35 J -31646471.78 -31646471.60 -31646471.41 0.0526 0.0181
 Saturn -91355-07-25 01:39 J -31645785.62 -31645785.43 -31645785.23 0.0276 0.0102
 Saturn -91354-03-11 07:25 J -31645556.32 -31645556.19 -31645556.05 0.0277 0.0211
 Jupiter -91345-05-12 19:39 J -31642205.84 -31642205.68 -31642205.51 0.0529 0.0292
 Saturn -91340-01-11 01:11 J -31640501.64 -31640501.45 -31640501.25 0.0282 0.0113
 Saturn -91340-08-28 18:27 J -31640271.84 -31640271.73 -31640271.60 0.0281 0.0230
 Jupiter -91339-11-02 06:56 J -31639841.42 -31639841.21 -31639841.01 0.0502 0.0085
 Uranus -91336-08-12 04:18 J -31638827.38 -31638827.32 -31638827.23 0.0142 0.0131
 Uranus -91335-03-26 12:42 J -31638601.15 -31638600.97 -31638600.77 0.0142 0.0062
 Uranus -91335-11-07 21:35 J -31638374.81 -31638374.60 -31638374.39 0.0142 0.0008
 Uranus -91334-06-22 06:13 J -31638148.40 -31638148.24 -31638148.05 0.0143 0.0079
 Neptune -91330-06-03 14:51 J -31636705.89 -31636705.88 -31636705.83 0.0089 0.0088
 Neptune -91329-01-15 05:01 J -31636480.40 -31636480.29 -31636480.15 0.0088 0.0074

Neptune -91329-08-27 19:11 J -31636254.85 -31636254.70 -31636254.52 0.0088 0.0060
 Neptune -91328-04-10 09:20 J -31636029.28 -31636029.11 -31636028.89 0.0088 0.0046
 Neptune -91328-11-21 23:30 J -31635803.71 -31635803.52 -31635803.29 0.0088 0.0032
 Mars -91327-04-08 07:25 J -31635666.36 -31635666.19 -31635666.02 0.1607 0.0112
 Neptune -91327-07-05 13:54 J -31635578.14 -31635577.92 -31635577.69 0.0088 0.0017
 Jupiter -91327-07-08 04:03 J -31635575.48 -31635575.33 -31635575.18 0.0499 0.0345
 Neptune -91326-02-16 04:03 J -31635352.56 -31635352.33 -31635352.11 0.0088 0.0003
 Neptune -91326-09-29 17:59 J -31635126.97 -31635126.75 -31635126.52 0.0088 0.0011
 Saturn -91325-02-04 00:56 J -31634999.66 -31634999.46 -31634999.26 0.0277 0.0076
 Moon -91325-02-06 11:01 J -31634997.13 -31634997.04 -31634996.95 0.2730 0.2252
 Earth -91325-02-06 13:11 J -31634997.04 -31634996.95 -31634996.86 0.2736 0.2218 *
 Neptune -91325-05-12 08:08 J -31634901.37 -31634901.16 -31634900.94 0.0088 0.0026
 Saturn -91325-09-20 06:42 J -31634770.32 -31634770.22 -31634770.10 0.0277 0.0238
 Neptune -91325-12-23 22:03 J -31634675.77 -31634675.58 -31634675.37 0.0088 0.0040
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 Neptune -91323-03-20 01:54 J -31634224.55 -31634224.42 -31634224.26 0.0088 0.0068
 Neptune -91323-10-31 15:35 J -31633998.91 -31633998.85 -31633998.74 0.0088 0.0082
 Jupiter -91321-05-15 13:11 J -31633437.04 -31633436.95 -31633436.87 0.0524 0.0470
 Earth -91317-02-04 02:51 J -31632077.45 -31632077.38 -31632077.30 0.2739 0.2377
 Saturn -91311-07-24 07:11 J -31629715.41 -31629715.20 -31629714.99 0.0283 0.0066
 Saturn -91310-03-11 00:27 J -31629485.51 -31629485.48 -31629485.44 0.0282 0.0277
 Jupiter -91309-01-19 07:25 J -31629171.39 -31629171.19 -31629170.99 0.0528 0.0023
 Jupiter -91303-07-10 21:49 J -31626806.74 -31626806.59 -31626806.44 0.0503 0.0347
 Jupiter -91298-09-24 03:49 J -31624905.39 -31624905.34 -31624905.28 0.0530 0.0507
 Uranus -91297-09-08 06:13 J -31624555.37 -31624555.24 -31624555.09 0.0137 0.0106
 Uranus -91296-04-22 15:20 J -31624329.06 -31624328.86 -31624328.64 0.0137 0.0041
 Mars -91296-05-07 23:59 J -31624313.65 -31624313.50 -31624313.36 0.1927 0.1081
 Saturn -91296-08-16 07:54 J -31624213.38 -31624213.17 -31624212.96 0.0276 0.0024
 Uranus -91296-12-05 00:13 J -31624102.71 -31624102.49 -31624102.27 0.0137 0.0024
 Mars -91295-04-06 21:06 J -31623979.71 -31623979.62 -31623979.53 0.1603 0.1366

Uranus -91295-07-19 08:08 J -31623876.31 -31623876.16 -31623875.97 0.0136 0.0089
 Jupiter -91291-03-15 17:01 J -31622540.99 -31622540.79 -31622540.58 0.0500 0.0096
 Saturn -91281-02-03 09:06 J -31618929.33 -31618929.12 -31618928.90 0.0282 0.0030
 Jupiter -91274-09-26 23:59 J -31616136.66 -31616136.50 -31616136.33 0.0526 0.0276
 Saturn -91266-02-26 06:56 J -31613427.42 -31613427.21 -31613427.00 0.0277 0.0004
 Jupiter -91262-06-01 20:37 J -31611870.82 -31611870.64 -31611870.46 0.0528 0.0206
 Mars -91261-02-03 20:37 J -31611623.81 -31611623.64 -31611623.47 0.1607 0.0286
 Jupiter -91256-11-21 08:51 J -31609506.32 -31609506.13 -31609505.93 0.0502 0.0169
 Saturn -91252-08-15 14:23 J -31608143.11 -31608142.90 -31608142.68 0.0283 0.0017
 Uranus -91252-11-23 23:44 J -31608042.67 -31608042.51 -31608042.35 0.0142 0.0091
 Uranus -91251-07-08 07:54 J -31607816.37 -31607816.17 -31607815.95 0.0142 0.0022
 Uranus -91250-02-19 16:32 J -31607590.00 -31607589.81 -31607589.60 0.0142 0.0048
 Uranus -91250-10-04 01:39 J -31607363.54 -31607363.43 -31607363.31 0.0143 0.0119
 Neptune -91247-02-28 10:32 J -31606485.13 -31606485.06 -31606484.96 0.0089 0.0081
 Neptune -91247-10-11 22:32 J -31606259.68 -31606259.56 -31606259.41 0.0089 0.0068
 Neptune -91246-05-25 10:47 J -31606034.22 -31606034.05 -31606033.88 0.0089 0.0054
 Neptune -91245-01-05 22:18 J -31605808.74 -31605808.57 -31605808.37 0.0089 0.0041
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 Jupiter -91244-07-27 05:30 J -31605240.45 -31605240.27 -31605240.09 0.0499 0.0264
 Neptune -91244-11-12 10:32 J -31605132.28 -31605132.06 -31605131.85 0.0089 0.0001
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 Neptune -91241-12-13 22:18 J -31604004.70 -31604004.57 -31604004.42 0.0089 0.0067
 Neptune -91240-07-27 10:03 J -31603779.14 -31603779.08 -31603778.97 0.0089 0.0081
 Saturn -91237-01-22 09:20 J -31602870.17 -31602870.11 -31602870.01 0.0276 0.0254
 Saturn -91237-09-07 14:37 J -31602641.10 -31602640.89 -31602640.69 0.0276 0.0056
 Mars -91230-03-05 00:42 J -31600271.64 -31600271.47 -31600271.29 0.1925 0.0354

Mars -91229-02-02 10:18 J -31599937.18 -31599937.07 -31599936.95 0.1604 0.1195
 Jupiter -91226-02-07 09:35 J -31598836.30 -31598836.10 -31598835.91 0.0527 0.0070
 Pluto -91223-05-20 00:13 J -31597638.61 -31597638.49 -31597638.30 0.0062 0.0046
 Pluto -91223-12-31 04:47 J -31597413.51 -31597413.30 -31597413.06 0.0062 0.0015
 Saturn -91222-02-25 17:30 J -31597356.98 -31597356.77 -31597356.55 0.0282 0.0056
 Pluto -91222-08-13 09:06 J -31597188.33 -31597188.12 -31597187.89 0.0062 0.0018
 Pluto -91221-03-25 13:11 J -31596963.07 -31596962.95 -31596962.79 0.0063 0.0050
 Jupiter -91220-07-29 22:03 J -31596471.69 -31596471.58 -31596471.47 0.0503 0.0422
 Moon -91220-08-12 07:54 J -31596458.34 -31596458.17 -31596458.01 0.2594 0.0388
 Earth -91220-08-12 08:08 J -31596458.32 -31596458.16 -31596458.00 0.2601 0.0250 *
 Jupiter -91215-10-13 06:42 J -31594570.34 -31594570.22 -31594570.09 0.0530 0.0409
 Uranus -91213-05-08 15:20 J -31593996.88 -31593996.86 -31593996.80 0.0138 0.0136
 Uranus -91213-12-21 00:56 J -31593770.65 -31593770.46 -31593770.27 0.0137 0.0069
 Uranus -91212-08-04 09:49 J -31593544.31 -31593544.09 -31593543.87 0.0137 0.0004
 Uranus -91211-03-18 18:13 J -31593317.93 -31593317.74 -31593317.53 0.0136 0.0060
 Uranus -91211-10-31 02:23 J -31593091.47 -31593091.40 -31593091.30 0.0136 0.0124
 Jupiter -91208-04-03 18:56 J -31592205.92 -31592205.71 -31592205.51 0.0501 0.0016
 Saturn -91208-08-03 08:51 J -31592084.24 -31592084.13 -31592084.01 0.0276 0.0228
 Saturn -91207-03-20 13:39 J -31591855.12 -31591854.93 -31591854.72 0.0277 0.0083
 Jupiter -91197-12-07 16:32 J -31587939.91 -31587939.81 -31587939.71 0.0498 0.0438
 Mars -91196-12-01 09:49 J -31587581.25 -31587581.09 -31587580.92 0.1608 0.0464
 Saturn -91193-01-21 03:06 J -31586800.46 -31586800.37 -31586800.26 0.0283 0.0249
 Saturn -91193-09-06 22:03 J -31586570.78 -31586570.58 -31586570.38 0.0283 0.0100
 Jupiter -91191-10-15 21:20 J -31585801.76 -31585801.61 -31585801.46 0.0526 0.0337
 Jupiter -91179-06-20 17:44 J -31581535.95 -31581535.76 -31581535.57 0.0529 0.0145
 Saturn -91178-02-13 16:47 J -31581297.95 -31581297.80 -31581297.63 0.0276 0.0173
 Saturn -91178-09-30 22:03 J -31581068.76 -31581068.58 -31581068.40 0.0276 0.0139
 Jupiter -91173-12-10 07:54 J -31579171.35 -31579171.17 -31579170.98 0.0502 0.0240
 Uranus -91168-07-24 10:32 J -31577484.16 -31577484.06 -31577483.94 0.0141 0.0120
 Uranus -91167-03-07 18:56 J -31577257.91 -31577257.71 -31577257.51 0.0142 0.0051

Uranus -91167-10-20 03:35 J -31577031.56 -31577031.35 -31577031.14 0.0142 0.0019
 Uranus -91166-06-03 12:13 J -31576805.14 -31576804.99 -31576804.81 0.0143 0.0090
 Neptune -91165-04-17 12:13 J -31576486.08 -31576485.99 -31576485.89 0.0088 0.0080
 Neptune -91165-11-29 02:08 J -31576260.54 -31576260.41 -31576260.24 0.0088 0.0066
 Mars -91165-12-30 01:11 J -31576229.62 -31576229.45 -31576229.27 0.1924 0.0395
 Neptune -91164-07-12 16:18 J -31576034.99 -31576034.82 -31576034.62 0.0088 0.0052
 Saturn -91164-08-02 08:08 J -31576014.30 -31576014.16 -31576014.01 0.0283 0.0205
 Mars -91164-11-29 23:44 J -31575894.64 -31575894.51 -31575894.38 0.1605 0.1023
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 Neptune -91162-05-20 11:01 J -31575358.27 -31575358.04 -31575357.82 0.0088 0.0009
 Neptune -91161-01-01 00:56 J -31575132.68 -31575132.46 -31575132.23 0.0088 0.0006
 Neptune -91161-08-13 14:51 J -31574907.09 -31574906.88 -31574906.65 0.0088 0.0020
 Jupiter -91161-08-15 04:32 J -31574905.50 -31574905.31 -31574905.11 0.0499 0.0194
 Neptune -91160-03-27 05:01 J -31574681.49 -31574681.29 -31574681.07 0.0088 0.0034
 Neptune -91160-11-07 19:11 J -31574455.89 -31574455.70 -31574455.51 0.0088 0.0048
 Neptune -91159-06-21 08:37 J -31574230.27 -31574230.14 -31574229.95 0.0088 0.0063
 Neptune -91158-02-01 22:32 J -31574004.65 -31574004.56 -31574004.42 0.0088 0.0077
 Saturn -91149-08-25 16:32 J -31570511.98 -31570511.81 -31570511.63 0.0276 0.0145
 Saturn -91148-04-11 21:35 J -31570282.76 -31570282.60 -31570282.43 0.0277 0.0167
 Jupiter -91143-02-26 10:03 J -31568501.27 -31568501.08 -31568500.89 0.0527 0.0153
 Saturn -91134-02-12 11:59 J -31565228.17 -31565228.00 -31565227.82 0.0283 0.0162
 Saturn -91134-09-30 06:42 J -31564998.38 -31564998.22 -31564998.06 0.0283 0.0187
 Pluto -91132-02-16 12:56 J -31564493.11 -31564492.96 -31564492.78 0.0082 0.0051
 Pluto -91132-09-29 23:44 J -31564267.72 -31564267.51 -31564267.30 0.0082 0.0018
 Jupiter -91132-11-01 03:06 J -31564235.51 -31564235.37 -31564235.22 0.0530 0.0351
 Mars -91130-09-28 22:47 J -31563538.71 -31563538.55 -31563538.39 0.1609 0.0646
 Uranus -91129-08-20 10:47 J -31563212.20 -31563212.05 -31563211.89 0.0137 0.0098
 Uranus -91128-04-03 19:39 J -31562985.89 -31562985.68 -31562985.45 0.0137 0.0032

Uranus	-91128-11-16 04:47 J	-31562759.52	-31562759.30	-31562759.09	0.0137	0.0033
Uranus	-91127-06-30 12:56 J	-31562533.10	-31562532.96	-31562532.79	0.0136	0.0097
Jupiter	-91125-04-22 19:54 J	-31561870.88	-31561870.67	-31561870.47	0.0501	0.0068
Saturn	-91119-03-08 01:11 J	-31559725.64	-31559725.45	-31559725.25	0.0276	0.0088
Saturn	-91119-10-23 06:27 J	-31559496.34	-31559496.23	-31559496.10	0.0276	0.0225
Jupiter	-91114-12-27 14:51 J	-31557605.02	-31557604.88	-31557604.74	0.0498	0.0372
Jupiter	-91108-11-03 21:35 J	-31555466.71	-31555466.60	-31555466.47	0.0526	0.0421
Saturn	-91105-08-24 18:42 J	-31554441.91	-31554441.72	-31554441.52	0.0283	0.0114
Saturn	-91104-04-11 12:56 J	-31554212.08	-31554211.96	-31554211.84	0.0282	0.0234
Mars	-91099-10-27 01:54 J	-31552187.56	-31552187.42	-31552187.27	0.1922	0.1119
Mars	-91098-09-27 12:27 J	-31551852.13	-31551851.98	-31551851.83	0.1606	0.0839
Jupiter	-91096-07-09 19:11 J	-31551200.89	-31551200.70	-31551200.50	0.0528	0.0055
Saturn	-91090-09-18 01:25 J	-31548939.64	-31548939.44	-31548939.23	0.0276	0.0059
Jupiter	-91090-12-30 08:08 J	-31548836.31	-31548836.16	-31548835.99	0.0502	0.0317
Saturn	-91089-05-04 06:42 J	-31548710.29	-31548710.22	-31548710.13	0.0277	0.0255
Uranus	-91084-11-05 05:30 J	-31546699.43	-31546699.27	-31546699.08	0.0142	0.0081
Neptune	-91083-06-01 19:11 J	-31546490.71	-31546490.70	-31546490.64	0.0089	0.0088
Uranus	-91083-06-19 14:08 J	-31546473.12	-31546472.91	-31546472.69	0.0142	0.0011
Neptune	-91082-01-13 07:11 J	-31546265.30	-31546265.20	-31546265.07	0.0089	0.0074
Uranus	-91082-01-31 22:32 J	-31546246.74	-31546246.56	-31546246.35	0.0142	0.0060
Earth	-91082-02-06 11:59 J	-31546241.12	-31546241.00	-31546240.88	0.2737	0.1780
Moon	-91082-02-06 12:13 J	-31546241.11	-31546240.99	-31546240.87	0.2744	0.1550 *
Neptune	-91082-08-26 18:56 J	-31546039.84	-31546039.71	-31546039.53	0.0089	0.0061
Uranus	-91082-09-15 07:25 J	-31546020.26	-31546020.19	-31546020.09	0.0143	0.0130
Neptune	-91081-04-08 07:11 J	-31545814.37	-31545814.20	-31545814.01	0.0089	0.0047
Neptune	-91081-11-19 19:11 J	-31545588.89	-31545588.70	-31545588.49	0.0089	0.0034
Neptune	-91080-07-03 07:11 J	-31545363.40	-31545363.20	-31545362.99	0.0089	0.0020
Neptune	-91079-02-13 19:11 J	-31545137.91	-31545137.70	-31545137.49	0.0089	0.0006
Neptune	-91079-09-27 07:11 J	-31544912.41	-31544912.20	-31544911.99	0.0089	0.0007
Neptune	-91078-05-10 18:56 J	-31544686.91	-31544686.71	-31544686.49	0.0089	0.0021

Jupiter -91078-09-04 05:30 J -31544570.47 -31544570.27 -31544570.06 0.0500 0.0115
 Neptune -91078-12-22 06:42 J -31544461.40 -31544461.22 -31544461.00 0.0089 0.0035
 Neptune -91077-08-03 18:42 J -31544235.88 -31544235.72 -31544235.52 0.0089 0.0048
 Neptune -91076-03-17 06:27 J -31544010.36 -31544010.23 -31544010.05 0.0089 0.0062
 Neptune -91076-10-28 18:56 J -31543784.81 -31543784.71 -31543784.59 0.0089 0.0075
 Saturn -91075-03-06 22:03 J -31543655.78 -31543655.58 -31543655.37 0.0283 0.0072
 Neptune -91075-06-11 06:56 J -31543559.21 -31543559.21 -31543559.18 0.0089 0.0089
 Saturn -91075-10-22 16:18 J -31543425.85 -31543425.82 -31543425.77 0.0282 0.0277
 Moon -91074-02-04 05:44 J -31543321.36 -31543321.26 -31543321.17 0.2745 0.2092
 Mars -91064-07-26 11:59 J -31539496.14 -31539496.00 -31539495.85 0.1610 0.0829
 Jupiter -91060-03-17 05:30 J -31538166.45 -31538166.27 -31538166.09 0.0527 0.0206
 Saturn -91060-03-30 10:47 J -31538153.26 -31538153.05 -31538152.84 0.0276 0.0002
 Jupiter -91049-11-20 02:51 J -31533900.55 -31533900.38 -31533900.21 0.0530 0.0273
 Saturn -91046-09-17 06:27 J -31532869.44 -31532869.23 -31532869.01 0.0283 0.0019
 Uranus -91045-04-19 19:11 J -31532653.76 -31532653.70 -31532653.60 0.0138 0.0128
 Uranus -91045-12-02 04:47 J -31532427.49 -31532427.30 -31532427.10 0.0137 0.0061
 Uranus -91044-07-16 13:54 J -31532201.14 -31532200.92 -31532200.70 0.0137 0.0004
 Uranus -91043-02-27 22:32 J -31531974.75 -31531974.56 -31531974.37 0.0136 0.0069
 Uranus -91043-10-12 06:56 J -31531748.25 -31531748.21 -31531748.16 0.0136 0.0132
 Jupiter -91042-05-12 17:15 J -31531535.98 -31531535.78 -31531535.58 0.0501 0.0130
 Mars -91033-08-23 02:37 J -31528145.43 -31528145.39 -31528145.35 0.1920 0.1863
 Mars -91032-07-25 01:54 J -31527809.57 -31527809.42 -31527809.26 0.1607 0.0669
 Saturn -91031-10-10 11:44 J -31527367.22 -31527367.01 -31527366.80 0.0276 0.0032
 Jupiter -91030-01-15 13:54 J -31527270.08 -31527269.92 -31527269.75 0.0499 0.0302
 Jupiter -91025-11-22 21:20 J -31525131.67 -31525131.61 -31525131.55 0.0525 0.0497
 Saturn -91016-03-29 09:49 J -31522083.30 -31522083.09 -31522082.87 0.0283 0.0023
 Jupiter -91013-07-28 14:51 J -31520866.07 -31520865.88 -31520865.68 0.0528 0.0010
 Jupiter -91006-01-18 08:08 J -31518501.29 -31518501.16 -31518501.03 0.0502 0.0391
 Saturn -91002-09-05 15:49 J -31516809.95 -31516809.84 -31516809.70 0.0276 0.0222
 Jupiter -91001-04-02 10:03 J -31516600.15 -31516600.08 -31516600.01 0.0531 0.0493

Saturn -91001-04-21 20:51 J -31516580.82 -31516580.63 -31516580.43 0.0276 0.0091

Neptune -91001-07-19 19:25 J -31516491.73 -31516491.69 -31516491.63 0.0089 0.0086

Mars -91001-08-23 10:03 J -31516457.11 -31516457.08 -31516457.06 0.1927 0.1898

91ST MILLENNIUM BCE

This is a list of transits of Venus in the 91st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-91000-03-02 09:35 J	-31516266.22	-31516266.10	-31516265.96	0.0089	0.0072		
Uranus	-91000-07-05 16:03 J	-31516140.95	-31516140.83	-31516140.69	0.0141	0.0110		
Neptune	-91000-10-13 23:30 J	-31516040.68	-31516040.52	-31516040.33	0.0088	0.0058		
Uranus	-90999-02-17 00:13 J	-31515914.69	-31515914.49	-31515914.28	0.0142	0.0042		
Neptune	-90999-05-27 13:39 J	-31515815.11	-31515814.93	-31515814.72	0.0088	0.0044		
Uranus	-90999-10-01 08:37 J	-31515688.34	-31515688.14	-31515687.92	0.0142	0.0028		
Neptune	-90998-01-08 03:49 J	-31515589.54	-31515589.34	-31515589.12	0.0088	0.0029		
Uranus	-90998-05-15 17:15 J	-31515461.92	-31515461.78	-31515461.61	0.0142	0.0099		
Mars	-90998-05-24 01:11 J	-31515453.58	-31515453.45	-31515453.32	0.1612	0.1009		
Neptune	-90998-08-21 18:13 J	-31515363.97	-31515363.74	-31515363.52	0.0088	0.0015		
Neptune	-90997-04-03 08:23 J	-31515138.38	-31515138.15	-31515137.93	0.0088	0.0001		
Neptune	-90997-11-14 22:18 J	-31514912.79	-31514912.57	-31514912.34	0.0088	0.0014		
Neptune	-90996-06-28 11:59 J	-31514687.20	-31514687.00	-31514686.77	0.0088	0.0029		
Neptune	-90995-02-09 01:54 J	-31514461.60	-31514461.42	-31514461.20	0.0088	0.0043		
Neptune	-90995-09-22 16:03 J	-31514235.99	-31514235.83	-31514235.64	0.0088	0.0057		
Jupiter	-90995-09-23 02:23 J	-31514235.61	-31514235.40	-31514235.19	0.0500	0.0055		

Neptune -90994-05-06 06:13 J -31514010.36 -31514010.24 -31514010.09 0.0088 0.0071
 Neptune -90994-12-17 20:08 J -31513784.70 -31513784.66 -31513784.58 0.0088 0.0085
 Saturn -90987-02-22 00:27 J -31511526.53 -31511526.48 -31511526.42 0.0283 0.0272
 Saturn -90987-10-09 19:25 J -31511296.90 -31511296.69 -31511296.48 0.0283 0.0079
 Jupiter -90983-05-28 23:01 J -31509969.58 -31509969.54 -31509969.49 0.0497 0.0484
 Jupiter -90977-04-05 05:44 J -31507831.42 -31507831.26 -31507831.09 0.0527 0.0288
 Moon -90977-08-12 09:20 J -31507702.26 -31507702.11 -31507701.96 0.2605 0.0389
 Earth -90977-08-12 11:01 J -31507702.20 -31507702.04 -31507701.88 0.2599 0.0037 *
 Pluto -90975-04-22 08:08 J -31507084.26 -31507084.16 -31507084.02 0.0062 0.0052
 Pluto -90975-12-03 12:13 J -31506859.18 -31506858.99 -31506858.76 0.0062 0.0022
 Pluto -90974-07-16 16:47 J -31506634.02 -31506633.80 -31506633.57 0.0062 0.0011
 Pluto -90973-02-26 20:51 J -31506408.78 -31506408.63 -31506408.45 0.0063 0.0043
 Saturn -90972-03-17 18:13 J -31506023.89 -31506023.74 -31506023.59 0.0276 0.0187
 Saturn -90972-11-01 23:01 J -31505794.73 -31505794.54 -31505794.35 0.0276 0.0125
 Mars -90966-05-22 14:51 J -31503767.05 -31503766.88 -31503766.72 0.1608 0.0486
 Jupiter -90966-12-10 02:23 J -31503565.58 -31503565.40 -31503565.22 0.0529 0.0195
 Uranus -90961-08-01 14:08 J -31501869.07 -31501868.91 -31501868.73 0.0137 0.0091
 Uranus -90960-03-15 23:30 J -31501642.74 -31501642.52 -31501642.30 0.0137 0.0025
 Uranus -90960-10-28 08:23 J -31501416.36 -31501416.15 -31501415.93 0.0137 0.0041
 Jupiter -90959-05-31 16:47 J -31501200.98 -31501200.80 -31501200.60 0.0501 0.0204
 Uranus -90959-06-11 17:15 J -31501189.92 -31501189.78 -31501189.64 0.0136 0.0105
 Saturn -90958-09-04 03:35 J -31500740.46 -31500740.35 -31500740.22 0.0283 0.0231
 Saturn -90957-04-20 22:32 J -31500510.74 -31500510.56 -31500510.36 0.0283 0.0122
 Jupiter -90947-02-03 13:11 J -31496935.13 -31496934.95 -31496934.76 0.0499 0.0231
 Saturn -90943-09-28 02:37 J -31495237.57 -31495237.39 -31495237.20 0.0276 0.0131
 Saturn -90942-05-15 07:39 J -31495008.32 -31495008.18 -31495008.01 0.0276 0.0184
 Mars -90935-06-20 10:18 J -31492415.21 -31492415.07 -31492414.93 0.1925 0.1142
 Mars -90932-03-20 14:08 J -31491411.02 -31491410.91 -31491410.80 0.1613 0.1199
 Jupiter -90930-08-17 12:56 J -31490531.16 -31490530.96 -31490530.77 0.0528 0.0070
 Saturn -90928-03-16 14:51 J -31489954.04 -31489953.88 -31489953.69 0.0283 0.0170

Saturn -90928-11-01 09:35 J -31489724.26 -31489724.10 -31489723.93 0.0283 0.0182
 Jupiter -90923-02-06 03:49 J -31488166.43 -31488166.34 -31488166.24 0.0502 0.0446
 Neptune -90918-04-16 16:32 J -31486270.90 -31486270.81 -31486270.72 0.0089 0.0080
 Jupiter -90918-04-22 09:49 J -31486265.21 -31486265.09 -31486264.97 0.0531 0.0413
 Neptune -90918-11-28 04:18 J -31486045.45 -31486045.32 -31486045.17 0.0089 0.0067
 Neptune -90917-07-10 16:18 J -31485819.98 -31485819.82 -31485819.64 0.0089 0.0053
 Neptune -90916-02-21 04:03 J -31485594.51 -31485594.33 -31485594.12 0.0089 0.0040
 Uranus -90916-03-05 02:08 J -31485582.42 -31485582.41 -31485582.39 0.0141 0.0140
 Neptune -90916-10-04 16:18 J -31485369.02 -31485368.82 -31485368.61 0.0089 0.0026
 Uranus -90916-10-17 10:03 J -31485356.25 -31485356.08 -31485355.89 0.0141 0.0073
 Neptune -90915-05-18 04:32 J -31485143.53 -31485143.31 -31485143.10 0.0089 0.0012
 Uranus -90915-05-31 18:42 J -31485129.94 -31485129.72 -31485129.51 0.0142 0.0004
 Neptune -90915-12-29 16:18 J -31484918.03 -31484917.82 -31484917.60 0.0089 0.0002
 Uranus -90914-01-13 03:06 J -31484903.56 -31484903.37 -31484903.18 0.0142 0.0066
 Neptune -90914-08-12 04:18 J -31484692.53 -31484692.32 -31484692.11 0.0089 0.0015
 Uranus -90914-08-27 11:44 J -31484677.06 -31484677.01 -31484676.95 0.0143 0.0137
 Neptune -90913-03-24 16:03 J -31484467.02 -31484466.83 -31484466.62 0.0089 0.0029
 Saturn -90913-04-09 05:30 J -31484451.46 -31484451.27 -31484451.07 0.0276 0.0094
 Neptune -90913-11-05 04:03 J -31484241.51 -31484241.33 -31484241.13 0.0089 0.0043
 Saturn -90913-11-24 10:32 J -31484222.18 -31484222.06 -31484221.93 0.0276 0.0221
 Neptune -90912-06-18 16:03 J -31484015.98 -31484015.83 -31484015.65 0.0089 0.0056
 Jupiter -90912-10-11 23:59 J -31483900.71 -31483900.50 -31483900.29 0.0500 0.0013
 Neptune -90911-01-30 03:49 J -31483790.45 -31483790.34 -31483790.19 0.0089 0.0070
 Neptune -90911-09-12 16:18 J -31483564.89 -31483564.82 -31483564.75 0.0089 0.0083
 Mars -90900-03-19 04:03 J -31479724.50 -31479724.33 -31479724.16 0.1609 0.0310
 Jupiter -90900-06-16 21:49 J -31479634.70 -31479634.59 -31479634.47 0.0498 0.0416
 Saturn -90899-09-26 17:59 J -31479167.94 -31479167.75 -31479167.56 0.0283 0.0129
 Saturn -90898-05-14 12:13 J -31478938.11 -31478937.99 -31478937.84 0.0282 0.0223
 Jupiter -90894-04-25 01:11 J -31477496.60 -31477496.45 -31477496.30 0.0526 0.0341
 Pluto -90884-01-19 21:06 J -31473938.75 -31473938.62 -31473938.46 0.0082 0.0060

Pluto -90884-09-02 07:54 J -31473713.38 -31473713.17 -31473712.95 0.0082 0.0008
 Saturn -90884-10-20 13:39 J -31473665.13 -31473664.93 -31473664.72 0.0276 0.0039
 Pluto -90883-04-15 17:30 J -31473487.82 -31473487.77 -31473487.66 0.0081 0.0076
 Jupiter -90883-12-28 20:37 J -31473230.83 -31473230.64 -31473230.45 0.0529 0.0147
 Uranus -90877-03-31 22:03 J -31471310.67 -31471310.58 -31471310.46 0.0138 0.0122
 Uranus -90877-11-13 07:39 J -31471084.37 -31471084.18 -31471083.97 0.0137 0.0055
 Jupiter -90876-06-19 12:27 J -31470866.16 -31470865.98 -31470865.80 0.0501 0.0257
 Uranus -90876-06-27 17:01 J -31470858.01 -31470857.79 -31470857.57 0.0137 0.0011
 Uranus -90875-02-09 01:39 J -31470631.61 -31470631.43 -31470631.24 0.0137 0.0075
 Saturn -90869-04-08 05:59 J -31468381.45 -31468381.25 -31468381.04 0.0283 0.0066
 Mars -90869-04-16 10:47 J -31468373.22 -31468373.05 -31468372.87 0.1923 0.0403
 Mars -90866-01-16 03:35 J -31467368.44 -31467368.35 -31467368.26 0.1614 0.1374
 Jupiter -90864-02-22 08:37 J -31466600.33 -31466600.14 -31466599.94 0.0499 0.0178
 Saturn -90854-05-02 17:01 J -31462878.99 -31462878.79 -31462878.58 0.0276 0.0005
 Jupiter -90847-09-05 11:59 J -31460196.19 -31460196.00 -31460195.81 0.0528 0.0145
 Saturn -90840-10-19 08:51 J -31457595.34 -31457595.13 -31457594.91 0.0283 0.0025
 Earth -90839-02-06 10:47 J -31457485.18 -31457485.05 -31457484.91 0.2740 0.1318
 Moon -90839-02-06 12:42 J -31457485.11 -31457484.97 -31457484.84 0.2733 0.1549 *
 Neptune -90836-06-03 17:15 J -31456271.86 -31456271.78 -31456271.64 0.0089 0.0078
 Neptune -90835-01-15 07:54 J -31456046.32 -31456046.17 -31456046.01 0.0089 0.0063
 Jupiter -90835-05-11 05:59 J -31455930.40 -31455930.25 -31455930.10 0.0530 0.0354
 Neptune -90835-08-28 21:49 J -31455820.77 -31455820.59 -31455820.39 0.0089 0.0049
 Mars -90834-01-14 17:15 J -31455681.95 -31455681.78 -31455681.61 0.1610 0.0134
 Neptune -90834-04-11 11:59 J -31455595.20 -31455595.00 -31455594.78 0.0088 0.0035
 Neptune -90834-11-23 02:08 J -31455369.62 -31455369.41 -31455369.18 0.0088 0.0020
 Neptune -90833-07-05 16:18 J -31455144.04 -31455143.82 -31455143.59 0.0088 0.0006
 Neptune -90832-02-16 06:13 J -31454918.46 -31454918.24 -31454918.01 0.0088 0.0009
 Uranus -90832-06-16 19:39 J -31454797.81 -31454797.68 -31454797.53 0.0141 0.0104
 Neptune -90832-09-29 20:23 J -31454692.87 -31454692.65 -31454692.43 0.0088 0.0023
 Uranus -90831-01-29 03:49 J -31454571.54 -31454571.34 -31454571.13 0.0142 0.0036

Neptune -90831-05-13 10:18 J -31454467.26 -31454467.07 -31454466.85 0.0088 0.0037
 Uranus -90831-09-12 12:13 J -31454345.20 -31454344.99 -31454344.78 0.0142 0.0034
 Neptune -90831-12-25 00:13 J -31454241.66 -31454241.49 -31454241.29 0.0088 0.0052
 Uranus -90830-04-26 20:37 J -31454118.77 -31454118.64 -31454118.48 0.0142 0.0104
 Neptune -90830-08-07 14:23 J -31454016.04 -31454015.90 -31454015.74 0.0088 0.0066
 Neptune -90829-03-20 04:32 J -31453790.40 -31453790.31 -31453790.22 0.0088 0.0080
 Jupiter -90829-10-30 22:47 J -31453565.75 -31453565.55 -31453565.34 0.0500 0.0078
 Saturn -90825-03-27 19:25 J -31452321.75 -31452321.69 -31452321.62 0.0276 0.0262
 Saturn -90825-11-12 00:27 J -31452092.69 -31452092.48 -31452092.28 0.0276 0.0052
 Jupiter -90817-07-05 17:44 J -31449299.90 -31449299.76 -31449299.62 0.0498 0.0361
 Jupiter -90811-05-13 22:18 J -31447161.69 -31447161.57 -31447161.44 0.0526 0.0406
 Saturn -90810-05-01 21:20 J -31446808.82 -31446808.61 -31446808.40 0.0283 0.0039
 Mars -90803-02-11 11:59 J -31444331.18 -31444331.00 -31444330.83 0.1921 0.0325
 Mars -90801-11-12 16:32 J -31443325.85 -31443325.81 -31443325.77 0.1615 0.1566
 Jupiter -90799-01-16 19:25 J -31442895.88 -31442895.69 -31442895.49 0.0529 0.0073
 Saturn -90796-10-07 23:44 J -31441535.63 -31441535.51 -31441535.38 0.0276 0.0220
 Saturn -90795-05-25 04:18 J -31441306.51 -31441306.32 -31441306.12 0.0276 0.0094
 Jupiter -90793-07-08 09:49 J -31440531.25 -31440531.09 -31440530.93 0.0501 0.0319
 Uranus -90793-07-13 16:47 J -31440525.97 -31440525.80 -31440525.62 0.0137 0.0085
 Uranus -90792-02-25 01:54 J -31440299.63 -31440299.42 -31440299.19 0.0137 0.0019
 Uranus -90792-10-09 10:47 J -31440073.25 -31440073.05 -31440072.83 0.0137 0.0047
 Uranus -90791-05-23 19:54 J -31439846.79 -31439846.67 -31439846.54 0.0136 0.0111
 Jupiter -90781-03-13 07:11 J -31436265.40 -31436265.20 -31436265.00 0.0499 0.0112
 Saturn -90781-03-26 04:32 J -31436252.35 -31436252.31 -31436252.26 0.0283 0.0275
 Saturn -90781-11-10 23:44 J -31436022.72 -31436022.51 -31436022.31 0.0282 0.0078
 Mars -90769-11-11 06:27 J -31431639.40 -31431639.23 -31431639.06 0.1611 0.0047
 Saturn -90766-04-20 05:15 J -31430749.44 -31430749.28 -31430749.12 0.0276 0.0175
 Saturn -90766-12-05 10:32 J -31430520.24 -31430520.06 -31430519.88 0.0277 0.0142
 Jupiter -90764-09-24 07:11 J -31429861.38 -31429861.20 -31429861.01 0.0527 0.0198
 Neptune -90754-07-19 01:54 J -31426276.45 -31426276.42 -31426276.35 0.0089 0.0086

Neptune -90753-02-29 13:39 J -31426051.03 -31426050.93 -31426050.79 0.0089 0.0073
 Neptune -90753-10-12 01:54 J -31425825.57 -31425825.42 -31425825.25 0.0089 0.0059
 Neptune -90752-05-25 14:08 J -31425600.09 -31425599.91 -31425599.72 0.0089 0.0045
 Jupiter -90752-05-30 02:37 J -31425595.55 -31425595.39 -31425595.22 0.0530 0.0293
 Saturn -90752-10-06 17:01 J -31425465.92 -31425465.79 -31425465.64 0.0283 0.0211
 Neptune -90751-01-06 01:39 J -31425374.61 -31425374.43 -31425374.21 0.0089 0.0032
 Saturn -90751-05-24 12:13 J -31425236.17 -31425235.99 -31425235.80 0.0283 0.0143
 Neptune -90751-08-19 13:54 J -31425149.12 -31425148.92 -31425148.71 0.0089 0.0018
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 Uranus -90748-02-14 05:44 J -31424239.32 -31424239.26 -31424239.20 0.0141 0.0134
 Neptune -90748-09-20 01:39 J -31424021.59 -31424021.43 -31424021.24 0.0089 0.0051
 Uranus -90748-09-28 13:25 J -31424013.12 -31424012.94 -31424012.74 0.0141 0.0067
 Neptune -90747-05-03 13:25 J -31423796.06 -31423795.94 -31423795.77 0.0089 0.0065
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 Jupiter -90746-11-19 18:42 J -31423230.92 -31423230.72 -31423230.52 0.0500 0.0132
 Mars -90738-12-09 12:27 J -31420289.13 -31420288.98 -31420288.84 0.1919 0.1073
 Saturn -90737-10-30 10:03 J -31419963.26 -31419963.08 -31419962.90 0.0276 0.0130
 Mars -90737-11-09 20:23 J -31419952.72 -31419952.65 -31419952.58 0.1607 0.1462
 Saturn -90736-06-16 14:51 J -31419734.03 -31419733.88 -31419733.72 0.0276 0.0185
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 Earth -90734-08-13 13:54 J -31418946.08 -31418945.92 -31418945.76 0.2597 0.0164
 Moon -90734-08-13 17:30 J -31418945.93 -31418945.77 -31418945.61 0.2592 0.0900 *
 Jupiter -90728-06-01 22:03 J -31416826.65 -31416826.58 -31416826.50 0.0526 0.0484
 Pluto -90727-03-25 19:11 J -31416529.83 -31416529.70 -31416529.58 0.0062 0.0052

Pluto -90727-11-05 23:01 J -31416304.75 -31416304.54 -31416304.32 0.0062 0.0021
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 Jupiter -90710-07-28 08:51 J -31410196.25 -31410196.13 -31410195.99 0.0502 0.0392
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 Uranus -90708-06-08 19:11 J -31409514.92 -31409514.70 -31409514.48 0.0137 0.0015
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 Saturn -90707-12-27 19:39 J -31408947.80 -31408947.68 -31408947.57 0.0277 0.0229
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 Jupiter -90698-04-02 04:03 J -31405930.54 -31405930.33 -31405930.12 0.0499 0.0051
 Saturn -90693-10-29 06:56 J -31403893.40 -31403893.21 -31403893.01 0.0283 0.0110
 Saturn -90692-06-16 01:39 J -31403663.53 -31403663.43 -31403663.32 0.0283 0.0244
 Jupiter -90687-12-06 00:56 J -31401664.51 -31401664.46 -31401664.40 0.0497 0.0479
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 Saturn -90677-07-09 00:13 J -31398161.51 -31398161.49 -31398161.46 0.0276 0.0273
 Neptune -90672-09-05 01:54 J -31396277.48 -31396277.42 -31396277.33 0.0089 0.0083
 Mars -90672-10-05 13:25 J -31396247.00 -31396246.94 -31396246.88 0.1917 0.1790
 Neptune -90671-04-18 16:03 J -31396051.95 -31396051.83 -31396051.67 0.0089 0.0069
 Mars -90671-09-07 09:20 J -31395910.21 -31395910.11 -31395910.01 0.1608 0.1279
 Neptune -90671-11-30 06:27 J -31395826.40 -31395826.23 -31395826.04 0.0089 0.0054
 Neptune -90670-07-13 20:23 J -31395600.84 -31395600.65 -31395600.43 0.0089 0.0040
 Neptune -90669-02-24 10:32 J -31395375.27 -31395375.06 -31395374.83 0.0088 0.0025
 Jupiter -90669-06-18 03:06 J -31395260.55 -31395260.37 -31395260.19 0.0530 0.0210

Neptune -90669-10-07 00:42 J -31395149.69 -31395149.47 -31395149.24 0.0088 0.0011
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 Neptune -90665-06-21 12:42 J -31393796.07 -31393795.97 -31393795.84 0.0088 0.0076
 Uranus -90664-05-28 23:30 J -31393454.67 -31393454.52 -31393454.37 0.0141 0.0098
 Uranus -90663-01-10 07:11 J -31393228.40 -31393228.20 -31393227.98 0.0142 0.0030
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 Pluto -90637-12-23 07:39 J -31383384.31 -31383384.18 -31383384.01 0.0082 0.0059
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 Pluto -90635-03-19 04:18 J -31382933.37 -31382933.32 -31382933.22 0.0081 0.0077
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 Jupiter -90633-02-24 14:08 J -31382226.11 -31382225.91 -31382225.71 0.0529 0.0058
 Jupiter -90627-08-16 06:13 J -31379861.32 -31379861.24 -31379861.15 0.0501 0.0452
 Uranus -90625-06-24 17:44 J -31379182.93 -31379182.76 -31379182.57 0.0138 0.0082
 Uranus -90624-02-06 03:20 J -31378956.58 -31378956.36 -31378956.14 0.0137 0.0015
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 Uranus -90623-05-04 21:06 J -31378503.73 -31378503.62 -31378503.49 0.0137 0.0115
 Jupiter -90622-10-30 10:47 J -31377960.17 -31377960.05 -31377959.94 0.0532 0.0429
 Saturn -90619-04-29 22:47 J -31377047.57 -31377047.55 -31377047.51 0.0275 0.0272
 Saturn -90619-12-15 03:06 J -31376818.57 -31376818.37 -31376818.16 0.0276 0.0042

Jupiter -90615-04-21 02:23 J -31375595.61 -31375595.40 -31375595.19 0.0499 0.0015
 Mars -90605-07-04 22:47 J -31371867.67 -31371867.55 -31371867.43 0.1609 0.1107
 Saturn -90604-06-02 21:06 J -31371534.83 -31371534.62 -31371534.40 0.0283 0.0025
 Jupiter -90604-12-25 00:13 J -31371329.61 -31371329.49 -31371329.37 0.0497 0.0409
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 Moon -90596-02-06 06:27 J -31368729.37 -31368729.23 -31368729.08 0.2747 0.0685
 Earth -90596-02-06 09:49 J -31368729.24 -31368729.09 -31368728.94 0.2741 0.0860 *
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 Saturn -90589-06-26 04:47 J -31366032.50 -31366032.30 -31366032.10 0.0276 0.0076
 Neptune -90588-01-13 12:13 J -31365831.12 -31365830.99 -31365830.83 0.0089 0.0064
 Neptune -90588-08-26 23:59 J -31365605.66 -31365605.50 -31365605.31 0.0089 0.0051
 Neptune -90587-04-09 11:59 J -31365380.18 -31365380.00 -31365379.79 0.0089 0.0037
 Neptune -90587-11-21 00:13 J -31365154.69 -31365154.49 -31365154.28 0.0089 0.0023
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 Neptune -90582-10-29 23:59 J -31363350.51 -31363350.50 -31363350.45 0.0089 0.0088
 Uranus -90580-01-26 09:06 J -31362896.19 -31362896.12 -31362896.02 0.0141 0.0128
 Uranus -90580-09-09 17:01 J -31362669.97 -31362669.79 -31362669.59 0.0141 0.0060
 Jupiter -90580-12-27 16:32 J -31362560.99 -31362560.81 -31362560.64 0.0500 0.0272
 Uranus -90579-04-24 01:11 J -31362443.66 -31362443.45 -31362443.24 0.0142 0.0009
 Uranus -90579-12-06 09:20 J -31362217.27 -31362217.11 -31362216.92 0.0142 0.0078
 Saturn -90575-04-28 11:15 J -31360978.08 -31360978.03 -31360977.98 0.0284 0.0275
 Saturn -90575-12-14 06:42 J -31360748.42 -31360748.22 -31360748.01 0.0283 0.0083

Mars -90574-08-02 21:06 J -31360516.75 -31360516.62 -31360516.48 0.1923 0.1239
 Mars -90571-05-03 21:49 J -31359511.75 -31359511.59 -31359511.43 0.1614 0.0598
 Jupiter -90568-09-01 13:11 J -31358295.14 -31358294.95 -31358294.75 0.0498 0.0160
 Saturn -90560-05-22 05:59 J -31355475.40 -31355475.25 -31355475.10 0.0275 0.0190
 Saturn -90559-01-06 10:18 J -31355246.25 -31355246.07 -31355245.88 0.0276 0.0124
 Jupiter -90550-03-15 15:49 J -31351891.03 -31351890.84 -31351890.65 0.0529 0.0149
 Saturn -90546-11-08 12:27 J -31350192.09 -31350191.98 -31350191.86 0.0283 0.0239
 Saturn -90545-06-25 07:54 J -31349962.36 -31349962.17 -31349961.97 0.0283 0.0119
 Uranus -90541-02-23 00:42 J -31348624.58 -31348624.47 -31348624.33 0.0138 0.0115
 Uranus -90541-10-06 10:32 J -31348398.27 -31348398.06 -31348397.85 0.0137 0.0048
 Uranus -90540-05-20 19:54 J -31348171.89 -31348171.67 -31348171.44 0.0137 0.0018
 Uranus -90539-01-02 04:47 J -31347945.47 -31347945.30 -31347945.12 0.0137 0.0083
 Mars -90539-05-02 11:44 J -31347825.15 -31347825.01 -31347824.87 0.1610 0.0923
 Jupiter -90539-11-18 11:59 J -31347625.15 -31347625.00 -31347624.85 0.0531 0.0340
 Jupiter -90532-05-10 03:20 J -31345260.56 -31345260.36 -31345260.15 0.0500 0.0096
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 Jupiter -90520-01-13 00:13 J -31340994.64 -31340994.49 -31340994.34 0.0497 0.0335
 Saturn -90516-05-20 20:51 J -31339405.79 -31339405.63 -31339405.46 0.0284 0.0185
 Saturn -90515-01-05 16:32 J -31339175.98 -31339175.81 -31339175.64 0.0283 0.0174
 Jupiter -90515-11-21 03:20 J -31338856.47 -31338856.36 -31338856.24 0.0527 0.0417
 Mars -90508-05-29 22:03 J -31336474.75 -31336474.58 -31336474.41 0.1920 0.0498
 Neptune -90508-12-07 11:01 J -31336283.05 -31336283.04 -31336282.99 0.0089 0.0088
 Neptune -90507-07-21 00:56 J -31336057.56 -31336057.46 -31336057.30 0.0089 0.0074
 Neptune -90506-03-03 15:35 J -31335832.01 -31335831.85 -31335831.67 0.0089 0.0059
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 Mars -90505-02-29 11:01 J -31335469.19 -31335469.04 -31335468.89 0.1616 0.0786
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Neptune -90503-04-04 14:23 J -31334704.13 -31334703.90 -31334703.68 0.0089 0.0014
 Jupiter -90503-07-27 00:13 J -31334590.69 -31334590.49 -31334590.30 0.0530 0.0066
 Neptune -90503-11-16 04:03 J -31334478.53 -31334478.33 -31334478.10 0.0088 0.0029
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 Uranus -90496-05-10 02:23 J -31332111.55 -31332111.40 -31332111.23 0.0141 0.0092
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 Moon -90491-08-13 12:13 J -31330190.15 -31330189.99 -31330189.84 0.2599 0.0413
 Earth -90491-08-13 17:01 J -31330189.95 -31330189.79 -31330189.63 0.2596 0.0400 *
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Saturn -90456-01-28 00:56 J -31317603.54 -31317603.46 -31317603.38 0.0283 0.0261
 Uranus -90456-09-01 12:42 J -31317387.17 -31317386.97 -31317386.76 0.0137 0.0052
 Jupiter -90456-12-07 09:20 J -31317290.28 -31317290.11 -31317289.94 0.0531 0.0276
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 Mars -90440-12-27 00:27 J -31311426.62 -31311426.48 -31311426.35 0.1617 0.0963
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 Jupiter -90432-12-10 05:44 J -31308521.30 -31308521.26 -31308521.21 0.0527 0.0510
 Saturn -90428-12-23 07:11 J -31307047.41 -31307047.20 -31307046.99 0.0284 0.0061
 Neptune -90425-09-03 11:01 J -31306062.09 -31306062.04 -31306061.94 0.0089 0.0083
 Neptune -90424-04-16 23:01 J -31305836.66 -31305836.54 -31305836.39 0.0089 0.0069
 Neptune -90424-11-28 11:15 J -31305611.19 -31305611.03 -31305610.86 0.0089 0.0055
 Neptune -90423-07-11 22:47 J -31305385.72 -31305385.55 -31305385.34 0.0089 0.0042
 Neptune -90422-02-22 10:47 J -31305160.24 -31305160.05 -31305159.83 0.0089 0.0028
 Neptune -90422-10-05 23:01 J -31304934.75 -31304934.54 -31304934.32 0.0089 0.0014
 Neptune -90421-05-18 11:01 J -31304709.25 -31304709.04 -31304708.82 0.0089 0.0001
 Neptune -90421-12-29 23:01 J -31304483.75 -31304483.54 -31304483.33 0.0089 0.0014
 Neptune -90420-08-12 10:47 J -31304258.24 -31304258.05 -31304257.84 0.0089 0.0028
 Jupiter -90420-08-15 02:37 J -31304255.59 -31304255.39 -31304255.19 0.0529 0.0031
 Neptune -90419-03-25 22:47 J -31304032.73 -31304032.55 -31304032.35 0.0089 0.0042
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 Neptune -90418-06-19 22:47 J -31303581.66 -31303581.55 -31303581.40 0.0089 0.0070
 Neptune -90417-01-31 10:32 J -31303356.10 -31303356.06 -31303355.96 0.0089 0.0084
 Jupiter -90413-02-04 17:30 J -31301890.87 -31301890.77 -31301890.65 0.0501 0.0431
 Uranus -90412-01-07 11:15 J -31301553.11 -31301553.03 -31301552.92 0.0141 0.0125
 Saturn -90412-01-15 17:15 J -31301544.99 -31301544.78 -31301544.57 0.0275 0.0006
 Uranus -90412-08-21 18:56 J -31301326.89 -31301326.71 -31301326.51 0.0141 0.0057
 Uranus -90411-04-05 03:06 J -31301100.58 -31301100.37 -31301100.16 0.0142 0.0012

Uranus -90411-11-17 11:30 J -31300874.19 -31300874.02 -31300873.84 0.0142 0.0081
 Jupiter -90408-04-19 22:03 J -31299989.67 -31299989.58 -31299989.48 0.0532 0.0464
 Mars -90408-12-25 14:23 J -31299740.06 -31299739.90 -31299739.74 0.1612 0.0571
 Jupiter -90402-10-10 14:51 J -31297625.09 -31297624.88 -31297624.67 0.0498 0.0009
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 Jupiter -90390-06-15 12:27 J -31293359.08 -31293358.98 -31293358.87 0.0496 0.0427
 Pluto -90389-11-25 22:03 J -31292829.74 -31292829.58 -31292829.39 0.0082 0.0045
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 Jupiter -90384-04-22 14:08 J -31291221.07 -31291220.91 -31291220.74 0.0529 0.0299
 Saturn -90384-12-11 20:23 J -31290987.69 -31290987.65 -31290987.58 0.0274 0.0265
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 Mars -90376-01-21 00:13 J -31288390.65 -31288390.49 -31288390.34 0.1916 0.0962
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 Jupiter -90373-12-26 11:44 J -31286955.20 -31286955.01 -31286954.82 0.0531 0.0181
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 Moon -90353-02-07 13:11 J -31279973.11 -31279972.95 -31279972.80 0.2740 0.0619 *
 Saturn -90353-02-07 22:47 J -31279972.75 -31279972.55 -31279972.34 0.0275 0.0073
 Neptune -90343-10-22 10:47 J -31276063.15 -31276063.05 -31276062.94 0.0089 0.0078
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 Neptune -90341-08-29 05:15 J -31275386.48 -31275386.28 -31275386.06 0.0089 0.0035

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 Jupiter -90325-05-08 19:39 J -31269654.80 -31269654.68 -31269654.55 0.0532 0.0400
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 Jupiter -90319-10-29 14:51 J -31267290.09 -31267289.88 -31267289.68 0.0498 0.0072
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 Saturn -90310-06-22 03:20 J -31264132.46 -31264132.36 -31264132.25 0.0284 0.0249
 Saturn -90309-02-06 23:44 J -31263902.71 -31263902.51 -31263902.31 0.0284 0.0114
 Mars -90308-08-21 02:23 J -31263341.49 -31263341.40 -31263341.30 0.1620 0.1344
 Jupiter -90307-07-04 12:27 J -31263024.12 -31263023.98 -31263023.83 0.0496 0.0353
 Jupiter -90301-05-11 17:01 J -31260885.92 -31260885.79 -31260885.66 0.0528 0.0395
 Saturn -90295-07-16 01:54 J -31258629.58 -31258629.42 -31258629.24 0.0275 0.0159
 Saturn -90294-03-02 05:15 J -31258400.44 -31258400.28 -31258400.10 0.0275 0.0156
 Jupiter -90289-01-15 12:56 J -31256620.15 -31256619.96 -31256619.76 0.0530 0.0094
 Uranus -90289-05-17 17:30 J -31256496.94 -31256496.77 -31256496.58 0.0138 0.0080
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 Uranus -90288-08-13 11:59 J -31256044.20 -31256044.00 -31256043.79 0.0137 0.0052

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 Saturn -90280-08-19 03:35 J -31253116.52 -31253116.35 -31253116.16 0.0284 0.0160
 Mars -90276-08-19 16:47 J -31251654.97 -31251654.80 -31251654.63 0.1615 0.0208
 Jupiter -90271-03-12 03:20 J -31249989.56 -31249989.36 -31249989.15 0.0497 0.0096
 Saturn -90265-01-26 09:49 J -31247843.28 -31247843.09 -31247842.90 0.0274 0.0102
 Saturn -90265-09-11 13:11 J -31247614.07 -31247613.95 -31247613.81 0.0275 0.0212
 Neptune -90261-12-05 23:01 J -31246067.56 -31246067.54 -31246067.48 0.0089 0.0087
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 Neptune -90259-03-01 22:32 J -31245616.69 -31245616.56 -31245616.38 0.0089 0.0060
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 Neptune -90256-11-13 22:32 J -31244263.76 -31244263.56 -31244263.35 0.0089 0.0024
 Neptune -90255-06-27 10:32 J -31244038.25 -31244038.06 -31244037.86 0.0089 0.0038
 Neptune -90254-02-07 22:18 J -31243812.73 -31243812.57 -31243812.38 0.0089 0.0052
 Neptune -90254-09-21 10:18 J -31243587.20 -31243587.07 -31243586.91 0.0089 0.0066
 Jupiter -90254-09-23 01:39 J -31243585.62 -31243585.43 -31243585.25 0.0530 0.0184
 Neptune -90253-05-03 22:18 J -31243361.64 -31243361.57 -31243361.46 0.0089 0.0080
 Saturn -90251-07-14 12:42 J -31242560.15 -31242559.97 -31242559.79 0.0284 0.0159
 Saturn -90250-03-01 08:37 J -31242330.28 -31242330.14 -31242329.99 0.0284 0.0204
 Earth -90248-08-13 19:39 J -31241433.84 -31241433.68 -31241433.52 0.2594 0.0578
 Moon -90248-08-14 01:25 J -31241433.59 -31241433.44 -31241433.30 0.2594 0.1202 *
 Uranus -90245-12-19 11:44 J -31240210.10 -31240210.01 -31240209.90 0.0141 0.0124
 Uranus -90244-08-02 19:39 J -31239983.88 -31239983.68 -31239983.49 0.0141 0.0056
 Uranus -90243-03-17 03:35 J -31239757.56 -31239757.35 -31239757.14 0.0141 0.0012
 Uranus -90243-10-29 11:44 J -31239531.18 -31239531.01 -31239530.83 0.0142 0.0082

Jupiter -90242-05-28 22:18 J -31239319.72 -31239319.57 -31239319.40 0.0532 0.0303
 Mars -90242-06-18 15:35 J -31239298.90 -31239298.85 -31239298.80 0.1622 0.1538
 Saturn -90236-08-07 09:20 J -31237057.31 -31237057.11 -31237056.91 0.0275 0.0075
 Jupiter -90236-11-17 15:49 J -31236955.04 -31236954.84 -31236954.64 0.0499 0.0152
 Saturn -90235-03-24 12:56 J -31236828.06 -31236827.96 -31236827.86 0.0275 0.0240
 Pluto -90231-01-29 20:23 J -31235420.81 -31235420.65 -31235420.45 0.0062 0.0038
 Pluto -90231-09-12 00:42 J -31235195.68 -31235195.47 -31235195.23 0.0062 0.0007
 Pluto -90230-04-25 04:47 J -31234970.49 -31234970.30 -31234970.08 0.0063 0.0026
 Pluto -90230-12-06 08:37 J -31234745.20 -31234745.14 -31234745.02 0.0063 0.0058
 Jupiter -90224-07-23 14:08 J -31232689.08 -31232688.91 -31232688.73 0.0497 0.0272
 Saturn -90221-01-24 15:49 J -31231774.03 -31231773.84 -31231773.64 0.0284 0.0117
 Saturn -90221-09-10 11:59 J -31231544.09 -31231544.00 -31231543.89 0.0284 0.0247
 Jupiter -90218-05-31 13:39 J -31230551.02 -31230550.93 -31230550.82 0.0528 0.0456
 Mars -90213-09-14 08:37 J -31228618.26 -31228618.14 -31228618.01 0.1919 0.1344
 Mars -90210-06-17 05:44 J -31227612.43 -31227612.26 -31227612.09 0.1616 0.0038
 Jupiter -90206-02-03 09:20 J -31226285.31 -31226285.11 -31226284.91 0.0531 0.0035
 Saturn -90206-02-17 17:44 J -31226270.97 -31226270.76 -31226270.56 0.0274 0.0018
 Uranus -90205-01-15 23:15 J -31225938.63 -31225938.53 -31225938.39 0.0138 0.0115
 Uranus -90205-08-29 09:06 J -31225712.32 -31225712.12 -31225711.90 0.0138 0.0048
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 Uranus -90204-11-25 03:20 J -31225259.52 -31225259.36 -31225259.17 0.0137 0.0084
 Jupiter -90200-07-26 04:47 J -31223920.42 -31223920.30 -31223920.18 0.0500 0.0403
 Jupiter -90195-10-09 05:44 J -31222019.29 -31222019.26 -31222019.22 0.0533 0.0524
 Saturn -90192-08-05 22:32 J -31220987.76 -31220987.56 -31220987.34 0.0284 0.0067
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 Neptune -90178-01-23 20:08 J -31216068.71 -31216068.66 -31216068.55 0.0089 0.0083
 Mars -90178-06-15 19:54 J -31215925.70 -31215925.67 -31215925.63 0.1611 0.1566
 Neptune -90178-09-06 10:47 J -31215843.19 -31215843.05 -31215842.90 0.0089 0.0068
 Neptune -90177-04-19 00:56 J -31215617.62 -31215617.46 -31215617.26 0.0089 0.0054
 Saturn -90177-08-29 17:44 J -31215484.97 -31215484.76 -31215484.55 0.0275 0.0012

Neptune -90177-11-30 15:20 J -31215392.05 -31215391.86 -31215391.65 0.0089 0.0039
 Jupiter -90177-12-03 23:44 J -31215388.59 -31215388.51 -31215388.43 0.0496 0.0452
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 Neptune -90172-11-09 08:08 J -31213587.25 -31213587.16 -31213587.05 0.0088 0.0079
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 Saturn -90162-02-16 01:39 J -31210201.64 -31210201.43 -31210201.21 0.0284 0.0025
 Uranus -90160-04-02 03:35 J -31209425.50 -31209425.35 -31209425.18 0.0141 0.0090
 Uranus -90160-11-14 11:44 J -31209199.22 -31209199.01 -31209198.80 0.0141 0.0022
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 Uranus -90159-06-28 19:54 J -31208972.87 -31208972.67 -31208972.47 0.0142 0.0047
 Uranus -90158-02-10 03:49 J -31208746.44 -31208746.34 -31208746.20 0.0142 0.0117
 Jupiter -90153-12-06 16:47 J -31206619.99 -31206619.80 -31206619.62 0.0499 0.0231
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 Saturn -90147-03-12 02:08 J -31204698.61 -31204698.41 -31204698.20 0.0275 0.0071
 Mars -90147-07-12 09:49 J -31204576.26 -31204576.09 -31204575.92 0.1917 0.0619
 Mars -90144-04-13 18:56 J -31203569.88 -31203569.71 -31203569.54 0.1618 0.0165
 Jupiter -90141-08-11 12:13 J -31202354.18 -31202353.99 -31202353.80 0.0496 0.0206
 Pluto -90141-10-29 15:35 J -31202275.06 -31202274.85 -31202274.64 0.0082 0.0020
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 Jupiter -90112-10-28 06:27 J -31191684.34 -31191684.23 -31191684.12 0.0533 0.0440
 Moon -90110-02-07 01:54 J -31191217.57 -31191217.42 -31191217.27 0.2747 0.0518
 Earth -90110-02-07 07:11 J -31191217.35 -31191217.20 -31191217.04 0.2745 0.0113 *
 Jupiter -90105-04-19 02:23 J -31189319.60 -31189319.40 -31189319.19 0.0498 0.0049
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 Mars -90078-02-09 08:08 J -31179527.33 -31179527.16 -31179526.99 0.1619 0.0353
 Uranus -90077-11-30 12:27 J -31178867.06 -31178866.98 -31178866.86 0.0141 0.0123
 Jupiter -90076-07-05 17:30 J -31178649.95 -31178649.77 -31178649.58 0.0532 0.0170

Uranus -90076-07-14 20:23 J -31178640.84 -31178640.65 -31178640.45 0.0141 0.0055
 Uranus -90075-02-26 04:18 J -31178414.53 -31178414.32 -31178414.10 0.0141 0.0014
 Uranus -90075-10-10 12:27 J -31178188.14 -31178187.98 -31178187.80 0.0142 0.0083
 Saturn -90074-02-03 02:23 J -31178072.51 -31178072.40 -31178072.27 0.0285 0.0236
 Saturn -90074-09-20 23:01 J -31177842.73 -31177842.54 -31177842.34 0.0284 0.0132
 Jupiter -90070-12-26 13:39 J -31176285.10 -31176284.93 -31176284.76 0.0499 0.0290
 Saturn -90059-02-27 10:18 J -31172569.25 -31172569.07 -31172568.88 0.0274 0.0119
 Saturn -90059-10-14 13:39 J -31172340.07 -31172339.93 -31172339.78 0.0275 0.0196
 Jupiter -90058-08-31 10:32 J -31172019.26 -31172019.06 -31172018.86 0.0497 0.0141
 Mars -90046-02-07 22:18 J -31167840.68 -31167840.57 -31167840.45 0.1614 0.1208
 Saturn -90045-08-15 05:30 J -31167286.42 -31167286.27 -31167286.11 0.0284 0.0194
 Saturn -90044-04-02 01:54 J -31167056.58 -31167056.42 -31167056.24 0.0284 0.0174
 Jupiter -90040-03-13 06:27 J -31165615.42 -31165615.23 -31165615.03 0.0530 0.0111
 Uranus -90038-12-27 21:49 J -31164595.71 -31164595.59 -31164595.48 0.0138 0.0117
 Uranus -90037-08-10 07:11 J -31164369.40 -31164369.20 -31164368.98 0.0138 0.0050
 Uranus -90036-03-24 16:47 J -31164143.02 -31164142.80 -31164142.58 0.0137 0.0017
 Uranus -90036-11-06 01:25 J -31163916.60 -31163916.44 -31163916.24 0.0137 0.0083
 Saturn -90030-09-09 18:13 J -31161782.94 -31161782.74 -31161782.53 0.0275 0.0065
 Saturn -90029-04-25 22:03 J -31161553.66 -31161553.58 -31161553.50 0.0275 0.0253
 Jupiter -90029-11-16 00:56 J -31161349.59 -31161349.46 -31161349.32 0.0532 0.0391
 Jupiter -90022-05-08 23:01 J -31158984.75 -31158984.54 -31158984.34 0.0498 0.0107
 Saturn -90015-02-25 17:01 J -31156499.98 -31156499.79 -31156499.60 0.0284 0.0130
 Mars -90015-03-05 11:59 J -31156492.16 -31156492.00 -31156491.84 0.1912 0.0847
 Saturn -90015-10-13 13:11 J -31156270.06 -31156269.95 -31156269.83 0.0284 0.0236
 Neptune -90014-04-27 06:56 J -31156074.23 -31156074.21 -31156074.15 0.0089 0.0087
 Neptune -90014-12-08 21:20 J -31155848.73 -31155848.61 -31155848.47 0.0089 0.0072
 Neptune -90013-07-21 11:15 J -31155623.18 -31155623.03 -31155622.84 0.0089 0.0058
 Mars -90013-12-06 21:35 J -31155484.76 -31155484.60 -31155484.44 0.1621 0.0537
 Neptune -90012-03-04 01:39 J -31155397.62 -31155397.43 -31155397.22 0.0089 0.0043
 Neptune -90012-10-15 16:03 J -31155172.04 -31155171.83 -31155171.61 0.0089 0.0028

Neptune -90011-05-29 06:27 J -31154946.45 -31154946.23 -31154946.01 0.0089 0.0013

Neptune -90010-01-09 20:37 J -31154720.87 -31154720.64 -31154720.41 0.0089 0.0002

Jupiter -90010-01-11 20:08 J -31154718.82 -31154718.66 -31154718.50 0.0496 0.0321

Neptune -90010-08-23 10:47 J -31154495.27 -31154495.05 -31154494.83 0.0089 0.0017

Neptune -90009-04-05 00:42 J -31154269.67 -31154269.47 -31154269.25 0.0089 0.0032

Neptune -90009-11-16 14:37 J -31154044.06 -31154043.89 -31154043.68 0.0089 0.0047

Neptune -90008-06-30 05:01 J -31153818.45 -31153818.29 -31153818.12 0.0089 0.0061

Neptune -90007-02-10 18:42 J -31153592.81 -31153592.72 -31153592.58 0.0089 0.0076

Moon -90005-08-13 17:01 J -31152677.95 -31152677.79 -31152677.62 0.2592 0.0436

Earth -90005-08-13 22:47 J -31152677.70 -31152677.55 -31152677.40 0.2593 0.0813 *

Jupiter -90005-11-18 21:06 J -31152580.75 -31152580.62 -31152580.49 0.0529 0.0399

90TH MILLENNIUM BCE

This is a list of transits of Venus in the 90th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-90000-03-21	21:20 J	-31150996.82	-31150996.61	-31150996.41	0.0275	0.0026	
Jupiter	-89993-07-24	17:15 J	-31148314.98	-31148314.78	-31148314.59	0.0531	0.0091	
Uranus	-89992-03-14	05:01 J	-31148082.45	-31148082.29	-31148082.12	0.0141	0.0088	
Uranus	-89992-10-26	12:56 J	-31147856.17	-31147855.96	-31147855.75	0.0141	0.0020	
Uranus	-89991-06-09	21:06 J	-31147629.82	-31147629.62	-31147629.42	0.0141	0.0049	
Uranus	-89990-01-22	05:01 J	-31147403.39	-31147403.29	-31147403.16	0.0142	0.0119	
Jupiter	-89986-01-14	12:27 J	-31145950.11	-31145949.98	-31145949.83	0.0499	0.0361	
Saturn	-89986-09-07	19:54 J	-31145713.87	-31145713.67	-31145713.46	0.0284	0.0088	

Saturn -89985-04-24 16:03 J -31145483.87 -31145483.83 -31145483.79 0.0284 0.0278
 Pluto -89984-05-22 08:08 J -31145091.25 -31145091.16 -31145091.03 0.0062 0.0054
 Pluto -89983-01-02 12:27 J -31144866.18 -31144865.98 -31144865.76 0.0062 0.0023
 Pluto -89983-08-15 16:47 J -31144641.02 -31144640.80 -31144640.57 0.0063 0.0009
 Pluto -89982-03-28 20:37 J -31144415.79 -31144415.64 -31144415.44 0.0063 0.0041
 Mars -89981-12-05 11:30 J -31143798.15 -31143798.02 -31143797.89 0.1615 0.1023
 Jupiter -89975-09-19 09:35 J -31141684.31 -31141684.10 -31141683.89 0.0497 0.0070
 Saturn -89971-10-02 04:32 J -31140210.51 -31140210.31 -31140210.10 0.0275 0.0029
 Jupiter -89957-04-01 03:35 J -31135280.53 -31135280.35 -31135280.16 0.0530 0.0177
 Saturn -89956-03-20 08:23 J -31134927.36 -31134927.15 -31134926.93 0.0284 0.0022
 Uranus -89953-04-09 13:25 J -31133811.10 -31133810.94 -31133810.75 0.0138 0.0084
 Uranus -89953-11-21 23:30 J -31133584.74 -31133584.52 -31133584.30 0.0137 0.0017
 Uranus -89952-07-06 08:51 J -31133358.34 -31133358.13 -31133357.93 0.0137 0.0050
 Uranus -89951-02-17 17:30 J -31133131.88 -31133131.77 -31133131.64 0.0137 0.0115
 Mars -89950-12-31 13:25 J -31132450.05 -31132449.94 -31132449.84 0.1910 0.1565
 Mars -89947-10-04 10:03 J -31131442.23 -31131442.08 -31131441.92 0.1622 0.0737
 Jupiter -89946-12-05 23:59 J -31131014.65 -31131014.50 -31131014.34 0.0533 0.0315
 Saturn -89942-08-28 05:01 J -31129653.37 -31129653.29 -31129653.19 0.0274 0.0246
 Saturn -89941-04-13 08:08 J -31129424.36 -31129424.16 -31129423.96 0.0275 0.0069
 Jupiter -89939-05-27 20:08 J -31128649.86 -31128649.66 -31128649.46 0.0498 0.0167
 Neptune -89931-01-22 11:44 J -31125853.08 -31125853.01 -31125852.91 0.0089 0.0081
 Neptune -89931-09-04 23:44 J -31125627.64 -31125627.51 -31125627.36 0.0089 0.0067
 Neptune -89930-04-18 11:44 J -31125402.18 -31125402.01 -31125401.84 0.0089 0.0053
 Neptune -89930-11-29 23:44 J -31125176.70 -31125176.51 -31125176.32 0.0089 0.0039
 Neptune -89929-07-12 11:30 J -31124951.22 -31124951.02 -31124950.81 0.0089 0.0025
 Neptune -89928-02-22 23:15 J -31124725.74 -31124725.53 -31124725.31 0.0089 0.0011
 Neptune -89928-10-06 11:15 J -31124500.24 -31124500.03 -31124499.81 0.0089 0.0003
 Jupiter -89927-01-30 18:13 J -31124383.92 -31124383.74 -31124383.56 0.0496 0.0256
 Neptune -89927-05-19 23:01 J -31124274.74 -31124274.54 -31124274.32 0.0089 0.0017
 Saturn -89927-09-30 11:15 J -31124141.24 -31124141.03 -31124140.81 0.0284 0.0021

Neptune -89927-12-31 11:01 J -31124049.24 -31124049.04 -31124048.84 0.0089 0.0031
 Neptune -89926-08-13 22:47 J -31123823.73 -31123823.55 -31123823.36 0.0089 0.0045
 Neptune -89925-03-26 10:32 J -31123598.20 -31123598.06 -31123597.89 0.0089 0.0059
 Neptune -89925-11-06 22:32 J -31123372.66 -31123372.56 -31123372.42 0.0089 0.0073
 Neptune -89924-06-20 10:32 J -31123147.08 -31123147.06 -31123147.00 0.0089 0.0087
 Jupiter -89922-12-08 17:01 J -31122245.89 -31122245.79 -31122245.69 0.0528 0.0456
 Mars -89915-10-03 00:27 J -31119755.62 -31119755.48 -31119755.33 0.1617 0.0836
 Saturn -89912-03-09 11:15 J -31118867.16 -31118867.03 -31118866.88 0.0275 0.0198
 Saturn -89912-10-24 14:51 J -31118638.06 -31118637.88 -31118637.69 0.0275 0.0120
 Jupiter -89910-08-13 11:44 J -31117980.20 -31117980.01 -31117979.81 0.0531 0.0040
 Uranus -89909-11-11 13:25 J -31117524.04 -31117523.94 -31117523.83 0.0141 0.0122
 Uranus -89908-06-25 21:06 J -31117297.81 -31117297.62 -31117297.42 0.0141 0.0054
 Uranus -89907-02-07 05:01 J -31117071.50 -31117071.29 -31117071.08 0.0141 0.0014
 Uranus -89907-09-21 12:56 J -31116845.12 -31116844.96 -31116844.78 0.0142 0.0084
 Jupiter -89903-02-02 08:23 J -31115615.26 -31115615.15 -31115615.04 0.0499 0.0415
 Saturn -89898-08-26 03:06 J -31113584.39 -31113584.37 -31113584.34 0.0285 0.0282
 Saturn -89897-04-11 23:59 J -31113354.71 -31113354.50 -31113354.30 0.0284 0.0088
 Pluto -89893-02-20 01:39 J -31111945.59 -31111945.43 -31111945.24 0.0082 0.0049
 Pluto -89893-10-02 12:13 J -31111720.19 -31111719.99 -31111719.77 0.0082 0.0019
 Jupiter -89892-10-08 05:01 J -31111349.50 -31111349.29 -31111349.08 0.0497 0.0018
 Saturn -89883-09-19 15:49 J -31108081.01 -31108080.84 -31108080.66 0.0274 0.0153
 Saturn -89882-05-06 19:11 J -31107851.87 -31107851.70 -31107851.53 0.0275 0.0164
 Mars -89881-07-31 23:15 J -31107399.67 -31107399.53 -31107399.39 0.1624 0.0928
 Jupiter -89880-06-13 02:23 J -31107083.49 -31107083.40 -31107083.31 0.0495 0.0443
 Jupiter -89874-04-21 03:06 J -31104945.54 -31104945.37 -31104945.20 0.0530 0.0254
 Uranus -89870-12-08 19:39 J -31103252.78 -31103252.68 -31103252.56 0.0138 0.0118
 Uranus -89869-07-22 05:30 J -31103026.47 -31103026.27 -31103026.06 0.0138 0.0051
 Uranus -89868-03-05 15:06 J -31102800.09 -31102799.87 -31102799.65 0.0137 0.0016
 Saturn -89868-03-07 05:44 J -31102798.36 -31102798.26 -31102798.13 0.0284 0.0240
 Uranus -89868-10-18 00:13 J -31102573.66 -31102573.49 -31102573.31 0.0137 0.0081

Saturn -89868-10-23 02:37 J -31102568.58 -31102568.39 -31102568.19 0.0284 0.0129
 Earth -89867-02-07 05:59 J -31102461.41 -31102461.25 -31102461.10 0.2747 0.0608
 Moon -89867-02-07 11:15 J -31102461.18 -31102461.03 -31102460.87 0.2747 0.0137 *
 Jupiter -89863-12-24 21:06 J -31100679.79 -31100679.62 -31100679.44 0.0532 0.0249
 Jupiter -89856-06-15 18:42 J -31098314.90 -31098314.72 -31098314.53 0.0499 0.0236
 Saturn -89853-03-31 20:51 J -31097294.81 -31097294.63 -31097294.43 0.0275 0.0108
 Saturn -89853-11-16 00:42 J -31097065.60 -31097065.47 -31097065.33 0.0275 0.0211
 Mars -89852-10-27 20:37 J -31096719.76 -31096719.64 -31096719.53 0.1916 0.1475
 Neptune -89849-03-11 07:54 J -31095854.28 -31095854.17 -31095854.05 0.0089 0.0076
 Mars -89849-07-30 13:39 J -31095713.08 -31095712.93 -31095712.77 0.1618 0.0651
 Neptune -89849-10-22 21:49 J -31095628.73 -31095628.59 -31095628.41 0.0089 0.0062
 Neptune -89848-06-05 12:13 J -31095403.17 -31095402.99 -31095402.78 0.0089 0.0047
 Neptune -89847-01-17 02:23 J -31095177.60 -31095177.40 -31095177.17 0.0089 0.0032
 Neptune -89847-08-30 16:47 J -31094952.02 -31094951.80 -31094951.57 0.0089 0.0017
 Neptune -89846-04-13 07:11 J -31094726.42 -31094726.20 -31094725.97 0.0089 0.0002
 Neptune -89846-11-24 21:06 J -31094500.83 -31094500.62 -31094500.38 0.0089 0.0014
 Neptune -89845-07-07 11:30 J -31094275.23 -31094275.02 -31094274.80 0.0089 0.0028
 Neptune -89844-02-18 01:25 J -31094049.63 -31094049.44 -31094049.23 0.0089 0.0043
 Jupiter -89844-02-18 14:23 J -31094049.09 -31094048.90 -31094048.71 0.0496 0.0200
 Neptune -89844-10-01 15:20 J -31093824.01 -31093823.86 -31093823.67 0.0089 0.0058
 Neptune -89843-05-15 05:30 J -31093598.37 -31093598.27 -31093598.12 0.0088 0.0073
 Neptune -89843-12-26 19:54 J -31093372.70 -31093372.67 -31093372.62 0.0088 0.0087
 Saturn -89839-09-17 18:56 J -31092011.88 -31092011.71 -31092011.53 0.0285 0.0172
 Jupiter -89839-12-27 13:39 J -31091910.96 -31091910.93 -31091910.89 0.0529 0.0518
 Saturn -89838-05-05 15:20 J -31091782.00 -31091781.86 -31091781.70 0.0284 0.0198
 Jupiter -89827-09-01 10:03 J -31087645.27 -31087645.08 -31087644.88 0.0531 0.0035
 Uranus -89824-02-23 04:47 J -31086739.46 -31086739.30 -31086739.13 0.0141 0.0089
 Uranus -89824-10-07 12:27 J -31086513.19 -31086512.98 -31086512.76 0.0141 0.0021
 Saturn -89824-10-12 02:08 J -31086508.61 -31086508.41 -31086508.21 0.0274 0.0061
 Uranus -89823-05-21 20:23 J -31086286.84 -31086286.65 -31086286.44 0.0141 0.0048

Saturn -89823-05-29 05:30 J -31086279.34 -31086279.27 -31086279.20 0.0275 0.0257
 Uranus -89822-01-03 04:47 J -31086060.42 -31086060.30 -31086060.18 0.0142 0.0117
 Jupiter -89820-02-21 05:15 J -31085280.33 -31085280.28 -31085280.21 0.0499 0.0476
 Jupiter -89815-05-07 06:13 J -31083379.33 -31083379.24 -31083379.14 0.0534 0.0462
 Mars -89815-05-29 12:13 J -31083357.11 -31083356.99 -31083356.87 0.1626 0.1129
 Saturn -89809-03-29 21:06 J -31081225.80 -31081225.62 -31081225.42 0.0284 0.0133
 Jupiter -89809-10-27 03:20 J -31081014.57 -31081014.36 -31081014.15 0.0497 0.0048
 Saturn -89809-11-14 17:44 J -31080995.88 -31080995.76 -31080995.64 0.0284 0.0236
 Jupiter -89797-07-02 00:56 J -31076748.59 -31076748.46 -31076748.32 0.0495 0.0376
 Saturn -89794-04-24 06:13 J -31075722.45 -31075722.24 -31075722.04 0.0275 0.0020
 Jupiter -89791-05-09 23:01 J -31074610.69 -31074610.54 -31074610.38 0.0529 0.0312
 Mars -89786-08-24 21:20 J -31072677.78 -31072677.61 -31072677.45 0.1914 0.0723
 Uranus -89785-03-21 11:30 J -31072468.18 -31072468.02 -31072467.83 0.0138 0.0086
 Uranus -89785-11-02 21:35 J -31072241.82 -31072241.60 -31072241.38 0.0137 0.0018
 Uranus -89784-06-17 06:56 J -31072015.41 -31072015.21 -31072014.99 0.0137 0.0048
 Uranus -89783-01-29 16:03 J -31071788.95 -31071788.83 -31071788.70 0.0137 0.0113
 Mars -89783-05-28 02:37 J -31071670.55 -31071670.39 -31071670.22 0.1620 0.0459
 Saturn -89780-10-10 09:35 J -31070439.31 -31070439.10 -31070438.89 0.0285 0.0065
 Jupiter -89779-01-12 17:15 J -31070344.96 -31070344.78 -31070344.59 0.0532 0.0191
 Jupiter -89773-07-04 15:06 J -31067980.04 -31067979.87 -31067979.70 0.0498 0.0293
 Neptune -89767-04-26 00:42 J -31065858.51 -31065858.47 -31065858.39 0.0089 0.0085
 Neptune -89767-12-07 12:42 J -31065633.09 -31065632.97 -31065632.83 0.0089 0.0071
 Neptune -89766-07-21 00:27 J -31065407.63 -31065407.48 -31065407.30 0.0089 0.0057
 Neptune -89765-03-02 12:27 J -31065182.16 -31065181.98 -31065181.79 0.0089 0.0043
 Neptune -89765-10-14 00:27 J -31064956.67 -31064956.48 -31064956.27 0.0089 0.0029
 Saturn -89765-11-03 11:30 J -31064936.23 -31064936.02 -31064935.81 0.0274 0.0029
 Neptune -89764-05-27 12:27 J -31064731.19 -31064730.98 -31064730.77 0.0089 0.0015
 Neptune -89763-01-08 00:27 J -31064505.70 -31064505.48 -31064505.27 0.0089 0.0001
 Neptune -89763-08-21 11:59 J -31064280.20 -31064280.00 -31064279.78 0.0089 0.0014
 Neptune -89762-04-03 23:59 J -31064054.70 -31064054.50 -31064054.29 0.0089 0.0028

Earth -89762-08-15 01:25 J -31063921.59 -31063921.44 -31063921.29 0.2592 0.1003
 Moon -89762-08-15 05:59 J -31063921.39 -31063921.25 -31063921.11 0.2596 0.1179 *
 Neptune -89762-11-15 11:59 J -31063829.18 -31063829.00 -31063828.81 0.0089 0.0042
 Jupiter -89761-03-09 11:59 J -31063714.21 -31063714.00 -31063713.80 0.0496 0.0139
 Neptune -89761-06-27 23:44 J -31063603.66 -31063603.51 -31063603.33 0.0089 0.0056
 Neptune -89760-02-08 11:44 J -31063378.13 -31063378.01 -31063377.87 0.0089 0.0070
 Neptune -89760-09-21 23:44 J -31063152.57 -31063152.51 -31063152.44 0.0089 0.0084
 Moon -89754-08-13 00:13 J -31061001.60 -31061001.49 -31061001.38 0.2589 0.1864
 Saturn -89750-04-22 11:44 J -31059653.22 -31059653.01 -31059652.79 0.0284 0.0026
 Mars -89749-03-26 01:11 J -31059314.55 -31059314.45 -31059314.36 0.1627 0.1328
 Jupiter -89744-09-20 08:51 J -31057310.32 -31057310.13 -31057309.93 0.0530 0.0108
 Uranus -89741-10-23 11:59 J -31056181.08 -31056181.00 -31056180.88 0.0140 0.0125
 Uranus -89740-06-06 19:39 J -31055954.86 -31055954.68 -31055954.47 0.0141 0.0057
 Uranus -89739-01-19 03:35 J -31055728.56 -31055728.35 -31055728.13 0.0141 0.0012
 Uranus -89739-09-02 11:30 J -31055502.19 -31055502.02 -31055501.84 0.0142 0.0081
 Pluto -89736-04-25 02:23 J -31054536.58 -31054536.40 -31054536.19 0.0062 0.0032
 Saturn -89736-09-29 10:47 J -31054379.12 -31054379.05 -31054378.95 0.0275 0.0251
 Pluto -89736-12-06 06:56 J -31054311.44 -31054311.21 -31054310.98 0.0063 0.0001
 Saturn -89735-05-16 14:08 J -31054150.11 -31054149.91 -31054149.71 0.0275 0.0067
 Pluto -89735-07-19 10:47 J -31054086.23 -31054086.05 -31054085.84 0.0063 0.0031
 Pluto -89734-03-01 15:06 J -31053860.87 -31053860.87 -31053860.83 0.0063 0.0063
 Jupiter -89732-05-26 03:35 J -31053044.48 -31053044.35 -31053044.22 0.0533 0.0396
 Jupiter -89726-11-16 00:56 J -31050679.66 -31050679.46 -31050679.25 0.0497 0.0111
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 Mars -89717-03-24 15:49 J -31047628.01 -31047627.84 -31047627.67 0.1621 0.0269
 Jupiter -89714-07-21 22:32 J -31046413.72 -31046413.56 -31046413.40 0.0495 0.0314
 Jupiter -89708-05-28 21:35 J -31044275.74 -31044275.60 -31044275.47 0.0530 0.0383
 Saturn -89706-04-11 17:01 J -31043592.93 -31043592.79 -31043592.65 0.0274 0.0199
 Saturn -89706-11-26 19:39 J -31043363.86 -31043363.68 -31043363.48 0.0274 0.0118

Uranus -89702-11-19 17:30 J -31041909.87 -31041909.77 -31041909.65 0.0138 0.0120
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 Uranus -89700-02-14 13:11 J -31041457.17 -31041456.95 -31041456.73 0.0137 0.0014
 Uranus -89700-09-28 22:18 J -31041230.75 -31041230.57 -31041230.38 0.0137 0.0079
 Jupiter -89696-01-31 18:13 J -31040009.94 -31040009.74 -31040009.55 0.0532 0.0105
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 Mars -89651-01-20 04:47 J -31023585.47 -31023585.30 -31023585.13 0.1623 0.0079
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 Moon -89624-02-06 23:44 J -31013705.62 -31013705.51 -31013705.40 0.2746 0.1977
 Earth -89624-02-07 04:47 J -31013705.44 -31013705.30 -31013705.16 0.2748 0.1076 *
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 Neptune -89603-07-28 13:39 J -31005863.93 -31005863.93 -31005863.90 0.0089 0.0089
 Saturn -89603-12-17 20:37 J -31005721.76 -31005721.64 -31005721.51 0.0285 0.0233
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 Neptune -89596-05-13 00:42 J -31003383.60 -31003383.47 -31003383.32 0.0089 0.0067
 Neptune -89596-12-24 12:42 J -31003158.05 -31003157.97 -31003157.88 0.0089 0.0081
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 Saturn -89588-05-26 06:42 J -31000448.43 -31000448.22 -31000448.01 0.0274 0.0033
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 Uranus -89532-01-26 10:47 J -30980114.27 -30980114.05 -30980113.83 0.0137 0.0011

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 Neptune -89521-09-14 05:59 J -30975865.31 -30975865.25 -30975865.16 0.0089 0.0084
 Neptune -89520-04-27 20:23 J -30975639.78 -30975639.65 -30975639.49 0.0089 0.0069
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 Neptune -89514-07-01 18:13 J -30973383.82 -30973383.74 -30973383.64 0.0089 0.0081
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 Mars -89491-12-10 06:56 J -30964821.31 -30964821.21 -30964821.10 0.1912 0.1541
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Pluto -89488-03-28 22:18 J -30963981.79 -30963981.57 -30963981.34 0.0063 0.0007
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 Uranus -89487-04-13 17:15 J -30963600.97 -30963600.78 -30963600.57 0.0141 0.0043
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 Mars -89454-07-12 19:39 J -30951457.85 -30951457.68 -30951457.52 0.1628 0.0522
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Neptune -89434-10-08 02:08 J -30944065.61 -30944065.41 -30944065.19 0.0089 0.0022
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 Saturn -89397-06-02 05:30 J -30930678.41 -30930678.27 -30930678.11 0.0286 0.0209
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 Mars -89388-05-09 07:54 J -30927415.32 -30927415.17 -30927415.01 0.1630 0.0734
 Saturn -89382-06-27 20:37 J -30925174.84 -30925174.64 -30925174.44 0.0273 0.0081
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 Earth -89381-02-08 03:49 J -30924949.47 -30924949.34 -30924949.22 0.2750 0.1564
 Moon -89381-02-08 07:39 J -30924949.33 -30924949.18 -30924949.04 0.2754 0.0716 *

Saturn -89381-02-11 22:47 J -30924945.65 -30924945.55 -30924945.44 0.0274 0.0235
 Jupiter -89370-06-11 23:01 J -30920807.64 -30920807.54 -30920807.43 0.0494 0.0427
 Saturn -89368-12-13 09:06 J -30919892.30 -30919892.12 -30919891.94 0.0286 0.0164
 Saturn -89367-07-31 07:11 J -30919662.34 -30919662.20 -30919662.06 0.0286 0.0216
 Uranus -89366-10-12 12:42 J -30919224.05 -30919223.97 -30919223.87 0.0138 0.0125
 Uranus -89365-05-25 22:47 J -30918997.74 -30918997.55 -30918997.34 0.0138 0.0058
 Uranus -89364-01-07 08:37 J -30918771.36 -30918771.14 -30918770.92 0.0137 0.0009
 Jupiter -89364-04-18 16:03 J -30918670.01 -30918669.83 -30918669.65 0.0531 0.0205
 Uranus -89364-08-21 17:44 J -30918544.94 -30918544.76 -30918544.57 0.0137 0.0075
 Mars -89359-08-03 09:06 J -30916737.30 -30916737.12 -30916736.94 0.1906 0.0073
 Neptune -89357-12-16 17:01 J -30915870.80 -30915870.79 -30915870.73 0.0089 0.0088
 Mars -89356-05-07 22:47 J -30915728.69 -30915728.55 -30915728.41 0.1624 0.0882
 Neptune -89356-07-30 07:25 J -30915645.30 -30915645.19 -30915645.04 0.0089 0.0073
 Neptune -89355-03-12 21:35 J -30915419.75 -30915419.60 -30915419.41 0.0089 0.0058
 Neptune -89355-10-24 11:59 J -30915194.18 -30915194.00 -30915193.79 0.0089 0.0043
 Neptune -89354-06-07 02:37 J -30914968.61 -30914968.39 -30914968.18 0.0089 0.0027
 Neptune -89353-01-18 16:47 J -30914743.03 -30914742.80 -30914742.58 0.0089 0.0012
 Neptune -89353-08-31 06:42 J -30914517.44 -30914517.22 -30914516.99 0.0089 0.0004
 Jupiter -89353-12-22 11:01 J -30914404.20 -30914404.04 -30914403.87 0.0534 0.0297
 Saturn -89352-01-07 03:49 J -30914388.54 -30914388.34 -30914388.13 0.0273 0.0026
 Neptune -89352-04-13 21:06 J -30914291.84 -30914291.62 -30914291.40 0.0089 0.0018
 Neptune -89352-11-25 11:15 J -30914066.24 -30914066.03 -30914065.82 0.0089 0.0033
 Neptune -89351-07-09 01:11 J -30913840.64 -30913840.45 -30913840.26 0.0089 0.0048
 Neptune -89350-02-19 15:06 J -30913615.02 -30913614.87 -30913614.70 0.0089 0.0063
 Neptune -89350-10-03 05:15 J -30913389.38 -30913389.28 -30913389.17 0.0089 0.0078
 Jupiter -89346-06-14 13:11 J -30912039.13 -30912038.95 -30912038.77 0.0497 0.0240
 Saturn -89338-06-25 14:37 J -30909106.08 -30909105.89 -30909105.69 0.0286 0.0117
 Saturn -89337-02-10 12:13 J -30908876.06 -30908875.99 -30908875.90 0.0285 0.0263
 Jupiter -89334-02-17 11:01 J -30907773.23 -30907773.04 -30907772.84 0.0495 0.0183
 Jupiter -89329-12-25 09:06 J -30905635.17 -30905635.12 -30905635.06 0.0530 0.0509

Saturn -89323-07-20 03:20 J -30903602.57 -30903602.36 -30903602.15 0.0273 0.0004
 Mars -89322-03-06 20:51 J -30903372.77 -30903372.63 -30903372.49 0.1632 0.0939
 Uranus -89321-12-28 01:11 J -30902710.60 -30902710.45 -30902710.29 0.0141 0.0096
 Uranus -89320-08-11 08:37 J -30902484.34 -30902484.14 -30902483.93 0.0141 0.0028
 Uranus -89319-03-25 16:18 J -30902258.02 -30902257.82 -30902257.61 0.0141 0.0041
 Uranus -89319-11-07 00:27 J -30902031.60 -30902031.48 -30902031.34 0.0142 0.0110
 Jupiter -89317-08-30 04:47 J -30901369.49 -30901369.30 -30901369.10 0.0532 0.0017
 Saturn -89308-01-04 17:30 J -30898319.98 -30898319.77 -30898319.56 0.0286 0.0074
 Jupiter -89305-05-04 20:23 J -30897103.70 -30897103.65 -30897103.58 0.0535 0.0508
 Jupiter -89299-10-26 01:39 J -30894738.63 -30894738.43 -30894738.22 0.0496 0.0073
 Saturn -89294-06-15 09:06 J -30893045.18 -30893045.12 -30893045.04 0.0273 0.0256
 Saturn -89293-01-30 11:01 J -30892816.24 -30892816.04 -30892815.84 0.0273 0.0059
 Mars -89293-05-30 11:01 J -30892695.21 -30892695.04 -30892694.87 0.1904 0.0638
 Mars -89290-03-05 11:59 J -30891686.16 -30891686.00 -30891685.85 0.1625 0.0690
 Jupiter -89287-06-30 22:18 J -30890472.71 -30890472.57 -30890472.42 0.0494 0.0355
 Uranus -89281-01-24 05:15 J -30888439.45 -30888439.28 -30888439.12 0.0138 0.0092
 Jupiter -89281-05-07 17:01 J -30888334.96 -30888334.79 -30888334.63 0.0532 0.0292
 Uranus -89281-09-06 14:51 J -30888213.10 -30888212.88 -30888212.66 0.0138 0.0025
 Uranus -89280-04-21 00:13 J -30887986.70 -30887986.49 -30887986.27 0.0137 0.0041
 Uranus -89280-12-03 09:20 J -30887760.24 -30887760.11 -30887759.96 0.0137 0.0106
 Saturn -89279-07-18 00:27 J -30887533.69 -30887533.48 -30887533.26 0.0286 0.0022
 Earth -89276-08-15 07:25 J -30886409.32 -30886409.19 -30886409.06 0.2589 0.1448
 Moon -89276-08-15 08:23 J -30886409.26 -30886409.15 -30886409.03 0.2596 0.1680 *
 Neptune -89274-09-14 03:49 J -30885649.41 -30885649.34 -30885649.25 0.0089 0.0082
 Neptune -89273-04-26 15:35 J -30885423.97 -30885423.85 -30885423.70 0.0089 0.0068
 Neptune -89273-12-08 03:20 J -30885198.51 -30885198.36 -30885198.17 0.0089 0.0054
 Neptune -89272-07-21 15:35 J -30884973.04 -30884972.85 -30884972.66 0.0089 0.0039
 Neptune -89271-03-04 03:20 J -30884747.56 -30884747.36 -30884747.15 0.0089 0.0025
 Neptune -89271-10-15 15:20 J -30884522.07 -30884521.86 -30884521.64 0.0089 0.0011
 Neptune -89270-05-29 03:20 J -30884296.57 -30884296.36 -30884296.15 0.0089 0.0004

Neptune -89269-01-09 15:20 J -30884071.07 -30884070.86 -30884070.65 0.0089 0.0018
 Jupiter -89269-01-11 13:25 J -30884069.12 -30884068.94 -30884068.75 0.0534 0.0200
 Neptune -89269-08-22 02:51 J -30883845.57 -30883845.38 -30883845.17 0.0089 0.0033
 Neptune -89268-04-04 14:51 J -30883620.05 -30883619.88 -30883619.69 0.0089 0.0047
 Earth -89268-08-13 00:13 J -30883489.57 -30883489.49 -30883489.41 0.2587 0.2232
 Moon -89268-08-13 04:47 J -30883489.43 -30883489.30 -30883489.17 0.2592 0.1446 *
 Neptune -89268-11-16 03:06 J -30883394.52 -30883394.37 -30883394.21 0.0089 0.0061
 Neptune -89267-06-29 14:37 J -30883168.98 -30883168.89 -30883168.76 0.0089 0.0076
 Saturn -89265-12-25 09:06 J -30882259.22 -30882259.12 -30882259.00 0.0273 0.0226
 Saturn -89264-08-11 10:47 J -30882030.24 -30882030.05 -30882029.85 0.0273 0.0089
 Jupiter -89263-07-03 13:25 J -30881704.09 -30881703.94 -30881703.77 0.0497 0.0317
 Mars -89256-01-01 09:49 J -30879330.21 -30879330.09 -30879329.97 0.1634 0.1144
 Jupiter -89251-03-08 12:27 J -30877438.19 -30877437.98 -30877437.78 0.0495 0.0104
 Saturn -89249-01-28 03:06 J -30876747.58 -30876747.37 -30876747.15 0.0286 0.0021
 Pluto -89242-12-07 10:18 J -30873877.22 -30873877.07 -30873876.87 0.0062 0.0041
 Pluto -89241-07-19 14:51 J -30873652.09 -30873651.88 -30873651.64 0.0063 0.0010
 Pluto -89240-03-01 19:25 J -30873426.90 -30873426.69 -30873426.47 0.0063 0.0022
 Pluto -89240-10-12 23:15 J -30873201.62 -30873201.53 -30873201.39 0.0063 0.0054
 Uranus -89237-08-27 08:08 J -30872152.22 -30872152.16 -30872152.08 0.0140 0.0131
 Uranus -89236-04-10 15:49 J -30871926.03 -30871925.84 -30871925.65 0.0141 0.0064
 Uranus -89236-11-22 23:30 J -30871699.73 -30871699.52 -30871699.31 0.0141 0.0004
 Uranus -89235-07-07 07:25 J -30871473.37 -30871473.19 -30871473.01 0.0141 0.0073
 Saturn -89235-07-07 17:01 J -30871472.95 -30871472.79 -30871472.63 0.0273 0.0171
 Saturn -89234-02-21 18:42 J -30871243.89 -30871243.72 -30871243.54 0.0273 0.0146
 Jupiter -89234-09-19 00:42 J -30871034.67 -30871034.47 -30871034.28 0.0532 0.0072
 Mars -89227-03-27 11:44 J -30868653.13 -30868653.01 -30868652.89 0.1900 0.1375
 Mars -89225-12-31 00:42 J -30867643.63 -30867643.47 -30867643.30 0.1627 0.0490
 Jupiter -89222-05-24 20:23 J -30866768.77 -30866768.65 -30866768.53 0.0535 0.0426
 Saturn -89220-08-09 11:30 J -30865961.22 -30865961.02 -30865960.81 0.0286 0.0077
 Jupiter -89216-11-13 23:44 J -30864403.71 -30864403.51 -30864403.31 0.0496 0.0138

Saturn -89205-01-17 17:59 J -30860686.92 -30860686.75 -30860686.57 0.0273 0.0137
 Saturn -89205-09-02 19:39 J -30860457.83 -30860457.68 -30860457.52 0.0273 0.0180
 Jupiter -89204-07-19 21:35 J -30860137.76 -30860137.60 -30860137.42 0.0494 0.0285
 Jupiter -89198-05-27 17:44 J -30857999.90 -30857999.76 -30857999.62 0.0531 0.0377
 Uranus -89198-09-23 10:47 J -30857881.12 -30857881.05 -30857880.95 0.0138 0.0127
 Uranus -89197-05-06 20:51 J -30857654.82 -30857654.63 -30857654.42 0.0138 0.0060
 Uranus -89197-12-19 06:42 J -30857428.44 -30857428.22 -30857428.00 0.0137 0.0007
 Uranus -89196-08-02 15:49 J -30857202.02 -30857201.84 -30857201.65 0.0137 0.0073
 Neptune -89192-10-31 18:13 J -30855650.83 -30855650.74 -30855650.60 0.0089 0.0077
 Neptune -89191-06-14 08:37 J -30855425.28 -30855425.14 -30855424.96 0.0089 0.0062
 Saturn -89191-07-04 15:20 J -30855404.93 -30855404.86 -30855404.77 0.0286 0.0264
 Mars -89191-10-29 22:18 J -30855287.66 -30855287.57 -30855287.47 0.1636 0.1359
 Neptune -89190-01-25 23:15 J -30855199.72 -30855199.53 -30855199.33 0.0089 0.0046
 Saturn -89190-02-19 13:54 J -30855175.11 -30855174.92 -30855174.71 0.0286 0.0120
 Neptune -89190-09-08 13:25 J -30854974.14 -30854973.94 -30854973.72 0.0089 0.0031
 Neptune -89189-04-21 03:49 J -30854748.56 -30854748.34 -30854748.11 0.0089 0.0016
 Neptune -89189-12-02 18:13 J -30854522.97 -30854522.74 -30854522.51 0.0089 0.0001
 Neptune -89188-07-16 08:08 J -30854297.38 -30854297.16 -30854296.93 0.0089 0.0015
 Neptune -89187-02-26 22:18 J -30854071.78 -30854071.57 -30854071.35 0.0089 0.0030
 Neptune -89187-10-10 12:27 J -30853846.17 -30853845.98 -30853845.78 0.0089 0.0045
 Jupiter -89186-01-30 10:03 J -30853734.27 -30853734.08 -30853733.89 0.0533 0.0140
 Neptune -89186-05-24 02:37 J -30853620.55 -30853620.39 -30853620.22 0.0089 0.0060
 Neptune -89185-01-04 16:32 J -30853394.91 -30853394.81 -30853394.68 0.0089 0.0075
 Jupiter -89180-07-22 13:54 J -30851369.04 -30851368.92 -30851368.79 0.0497 0.0395
 Saturn -89176-07-30 01:25 J -30849900.63 -30849900.44 -30849900.23 0.0273 0.0083
 Saturn -89175-03-16 03:35 J -30849671.45 -30849671.35 -30849671.24 0.0273 0.0237
 Jupiter -89168-03-27 10:03 J -30847103.29 -30847103.08 -30847102.87 0.0495 0.0040
 Saturn -89161-01-15 02:23 J -30844618.55 -30844618.40 -30844618.25 0.0286 0.0201
 Saturn -89161-09-01 00:27 J -30844388.65 -30844388.48 -30844388.31 0.0286 0.0181
 Mars -89159-10-28 13:39 J -30843601.10 -30843600.93 -30843600.76 0.1629 0.0291

Jupiter -89157-11-30 08:08 J -30842837.23 -30842837.16 -30842837.08 0.0493 0.0459
 Uranus -89153-12-08 22:47 J -30841367.69 -30841367.55 -30841367.40 0.0141 0.0100
 Uranus -89152-07-23 06:13 J -30841141.44 -30841141.24 -30841141.03 0.0141 0.0033
 Pluto -89151-01-24 00:42 J -30840956.54 -30840956.47 -30840956.36 0.0082 0.0075
 Uranus -89151-03-06 13:54 J -30840915.12 -30840914.92 -30840914.70 0.0141 0.0037
 Pluto -89151-09-06 11:44 J -30840731.22 -30840731.01 -30840730.79 0.0082 0.0007
 Jupiter -89151-10-08 01:25 J -30840699.63 -30840699.44 -30840699.25 0.0532 0.0159
 Uranus -89151-10-18 22:03 J -30840688.71 -30840688.58 -30840688.43 0.0142 0.0106
 Pluto -89150-04-19 21:35 J -30840505.73 -30840505.60 -30840505.43 0.0081 0.0059
 Saturn -89146-02-09 03:35 J -30839114.55 -30839114.35 -30839114.14 0.0273 0.0045
 Earth -89146-02-10 12:56 J -30839112.99 -30839112.96 -30839112.92 0.2749 0.2665
 Moon -89146-02-10 15:20 J -30839112.89 -30839112.86 -30839112.83 0.2742 0.2698
 Saturn -89146-09-26 05:30 J -30838885.27 -30838885.27 -30838885.26 0.0273 0.0273
 Jupiter -89139-06-12 20:51 J -30836433.78 -30836433.63 -30836433.48 0.0534 0.0342
 Moon -89138-02-08 00:13 J -30836193.55 -30836193.49 -30836193.44 0.2745 0.2584
 Earth -89138-02-08 02:37 J -30836193.49 -30836193.39 -30836193.28 0.2751 0.2038 *
 Jupiter -89133-12-02 23:44 J -30834068.70 -30834068.51 -30834068.32 0.0496 0.0212
 Saturn -89132-07-27 04:32 J -30833832.48 -30833832.31 -30833832.12 0.0286 0.0160
 Saturn -89131-03-14 02:37 J -30833602.52 -30833602.39 -30833602.25 0.0285 0.0223
 Mars -89129-01-22 17:59 J -30832922.84 -30832922.75 -30832922.66 0.1908 0.1638
 Mars -89125-08-26 11:15 J -30831245.08 -30831245.03 -30831244.99 0.1638 0.1571
 Jupiter -89121-08-07 21:35 J -30829802.79 -30829802.60 -30829802.41 0.0494 0.0212
 Saturn -89117-08-21 11:15 J -30828328.24 -30828328.03 -30828327.82 0.0273 0.0010
 Jupiter -89115-06-15 12:27 J -30827665.09 -30827664.98 -30827664.86 0.0531 0.0428
 Uranus -89113-01-05 03:06 J -30827096.52 -30827096.37 -30827096.20 0.0138 0.0094
 Uranus -89113-08-18 12:56 J -30826870.18 -30826869.96 -30826869.74 0.0138 0.0027
 Uranus -89112-04-01 22:18 J -30826643.78 -30826643.57 -30826643.35 0.0137 0.0040
 Uranus -89112-11-14 07:25 J -30826417.32 -30826417.19 -30826417.04 0.0137 0.0105
 Neptune -89110-12-16 16:47 J -30825654.83 -30825654.80 -30825654.72 0.0089 0.0086
 Neptune -89109-07-29 05:01 J -30825429.41 -30825429.29 -30825429.16 0.0089 0.0071

Neptune -89108-03-11 16:47 J -30825203.96 -30825203.80 -30825203.63 0.0089 0.0057
 Neptune -89108-10-23 04:32 J -30824978.48 -30824978.31 -30824978.11 0.0089 0.0043
 Neptune -89107-06-05 16:18 J -30824753.01 -30824752.82 -30824752.60 0.0089 0.0029
 Neptune -89106-01-17 04:18 J -30824527.53 -30824527.32 -30824527.10 0.0089 0.0014
 Neptune -89106-08-30 16:18 J -30824302.04 -30824301.82 -30824301.61 0.0089 0.0001
 Neptune -89105-04-12 04:03 J -30824076.54 -30824076.33 -30824076.12 0.0089 0.0015
 Neptune -89105-11-23 16:03 J -30823851.03 -30823850.83 -30823850.63 0.0089 0.0029
 Neptune -89104-07-07 03:35 J -30823625.52 -30823625.35 -30823625.15 0.0089 0.0044
 Neptune -89103-02-17 15:35 J -30823400.00 -30823399.85 -30823399.68 0.0089 0.0058
 Jupiter -89103-02-18 07:54 J -30823399.37 -30823399.17 -30823398.98 0.0534 0.0070
 Neptune -89103-10-01 03:20 J -30823174.46 -30823174.36 -30823174.21 0.0089 0.0073
 Saturn -89102-02-06 16:32 J -30823046.02 -30823045.81 -30823045.61 0.0286 0.0094
 Neptune -89102-05-14 15:20 J -30822948.88 -30822948.86 -30822948.79 0.0089 0.0087
 Jupiter -89097-08-10 10:32 J -30821034.14 -30821034.06 -30821033.97 0.0497 0.0451
 Mars -89093-08-25 02:23 J -30819558.57 -30819558.40 -30819558.23 0.1631 0.0090
 Saturn -89088-07-17 12:42 J -30817771.01 -30817770.97 -30817770.93 0.0273 0.0267
 Saturn -89087-03-03 14:08 J -30817542.11 -30817541.91 -30817541.70 0.0273 0.0050
 Jupiter -89085-04-15 07:54 J -30816768.38 -30816768.17 -30816767.96 0.0495 0.0024
 Jupiter -89074-12-20 06:42 J -30812502.33 -30812502.22 -30812502.08 0.0493 0.0394
 Saturn -89073-08-18 19:25 J -30812259.90 -30812259.69 -30812259.48 0.0285 0.0051
 Uranus -89069-08-08 05:44 J -30810809.30 -30810809.26 -30810809.19 0.0140 0.0136
 Uranus -89068-03-22 13:11 J -30810583.12 -30810582.95 -30810582.75 0.0141 0.0069
 Jupiter -89068-10-26 21:49 J -30810364.77 -30810364.59 -30810364.41 0.0532 0.0218
 Uranus -89068-11-03 21:20 J -30810356.83 -30810356.61 -30810356.40 0.0141 0.0002
 Uranus -89067-06-18 05:01 J -30810130.47 -30810130.29 -30810130.10 0.0141 0.0069
 Uranus -89066-01-30 13:11 J -30809903.99 -30809903.95 -30809903.90 0.0142 0.0138
 Mars -89064-11-18 18:56 J -30808880.87 -30808880.71 -30808880.55 0.1905 0.0890
 Saturn -89058-01-27 19:11 J -30806984.82 -30806984.70 -30806984.57 0.0274 0.0216
 Saturn -89058-09-13 21:06 J -30806755.81 -30806755.62 -30806755.42 0.0274 0.0103
 Jupiter -89056-07-01 15:35 J -30806099.01 -30806098.85 -30806098.68 0.0534 0.0291

Jupiter -89050-12-22 19:54 J -30803733.84 -30803733.67 -30803733.49 0.0496 0.0269
 Saturn -89043-03-01 07:54 J -30801473.39 -30801473.17 -30801472.95 0.0286 0.0018
 Jupiter -89038-08-27 17:30 J -30799467.97 -30799467.77 -30799467.57 0.0494 0.0157
 Earth -89033-08-15 10:18 J -30797653.19 -30797653.07 -30797652.95 0.2588 0.1676
 Moon -89033-08-15 11:30 J -30797653.16 -30797653.02 -30797652.88 0.2582 0.1480 *
 Jupiter -89032-07-04 11:44 J -30797330.07 -30797330.01 -30797329.95 0.0531 0.0504
 Uranus -89030-09-04 09:06 J -30796538.19 -30796538.12 -30796538.04 0.0138 0.0129
 Uranus -89029-04-17 18:56 J -30796311.90 -30796311.71 -30796311.50 0.0138 0.0061
 Saturn -89029-08-08 23:15 J -30796198.69 -30796198.53 -30796198.37 0.0273 0.0172
 Uranus -89029-11-30 04:47 J -30796085.52 -30796085.30 -30796085.07 0.0138 0.0007
 Saturn -89028-03-26 00:56 J -30795969.63 -30795969.46 -30795969.28 0.0273 0.0146
 Uranus -89028-07-14 14:08 J -30795859.09 -30795858.91 -30795858.71 0.0137 0.0072
 Neptune -89027-02-02 05:01 J -30795656.37 -30795656.29 -30795656.19 0.0089 0.0081
 Mars -89027-06-22 15:06 J -30795516.04 -30795515.87 -30795515.70 0.1633 0.0127
 Neptune -89027-09-15 19:11 J -30795430.83 -30795430.70 -30795430.53 0.0089 0.0066
 Neptune -89026-04-29 09:35 J -30795205.26 -30795205.10 -30795204.89 0.0089 0.0051
 Neptune -89026-12-11 00:13 J -30794979.69 -30794979.49 -30794979.28 0.0089 0.0035
 Neptune -89025-07-23 14:23 J -30794754.11 -30794753.90 -30794753.67 0.0089 0.0020
 Moon -89025-08-12 23:59 J -30794733.56 -30794733.50 -30794733.44 0.2581 0.2392
 Earth -89025-08-13 03:20 J -30794733.46 -30794733.36 -30794733.26 0.2587 0.1983 *
 Neptune -89024-03-06 04:47 J -30794528.53 -30794528.30 -30794528.07 0.0089 0.0005
 Neptune -89024-10-17 18:56 J -30794302.93 -30794302.71 -30794302.48 0.0089 0.0011
 Neptune -89023-05-31 09:20 J -30794077.33 -30794077.11 -30794076.90 0.0089 0.0026
 Neptune -89022-01-11 23:01 J -30793851.72 -30793851.54 -30793851.32 0.0089 0.0042
 Neptune -89022-08-25 13:11 J -30793626.11 -30793625.95 -30793625.76 0.0089 0.0057
 Neptune -89021-04-07 03:20 J -30793400.48 -30793400.36 -30793400.21 0.0089 0.0072
 Neptune -89021-11-18 17:15 J -30793174.80 -30793174.78 -30793174.71 0.0089 0.0087
 Jupiter -89020-03-09 07:25 J -30793064.38 -30793064.19 -30793063.99 0.0533 0.0013
 Saturn -89014-09-11 10:47 J -30790687.26 -30790687.05 -30790686.84 0.0285 0.0061
 Jupiter -89009-11-12 00:13 J -30788798.54 -30788798.49 -30788798.42 0.0535 0.0505

Jupiter -89002-05-05 06:27 J -30786433.43 -30786433.23 -30786433.02 0.0496 0.0092

89TH MILLENNIUM BCE

This is a list of transits of Venus in the 89th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-88999-02-19 05:01 J		-30785412.47	-30785412.29	-30785412.10	0.0274	0.0124	
Saturn	-88999-10-06 06:56 J		-30785183.34	-30785183.21	-30785183.05	0.0274	0.0197	
Mars	-88998-09-15 20:51 J		-30784838.81	-30784838.63	-30784838.45	0.1902	0.0185	
Mars	-88995-06-21 05:59 J		-30783829.31	-30783829.25	-30783829.19	0.1626	0.1510	
Pluto	-88994-03-30 04:18 J		-30783547.48	-30783547.32	-30783547.13	0.0062	0.0040	
Pluto	-88994-11-10 08:37 J		-30783322.36	-30783322.14	-30783321.91	0.0063	0.0009	
Pluto	-88993-06-22 12:42 J		-30783097.17	-30783096.97	-30783096.74	0.0063	0.0023	
Pluto	-88992-02-02 17:01 J		-30782871.89	-30782871.79	-30782871.66	0.0063	0.0054	
Jupiter	-88990-01-08 02:51 J		-30782167.52	-30782167.38	-30782167.22	0.0493	0.0338	
Saturn	-88985-08-06 01:39 J		-30780130.53	-30780130.43	-30780130.33	0.0286	0.0252	
Jupiter	-88985-11-14 18:13 J		-30780029.91	-30780029.74	-30780029.57	0.0532	0.0279	
Uranus	-88985-11-19 21:06 J		-30780024.75	-30780024.62	-30780024.47	0.0140	0.0103	
Saturn	-88984-03-23 23:59 J		-30779900.69	-30779900.50	-30779900.31	0.0286	0.0132	
Uranus	-88984-07-04 04:47 J		-30779798.50	-30779798.30	-30779798.09	0.0141	0.0035	
Uranus	-88983-02-15 12:27 J		-30779572.18	-30779571.98	-30779571.77	0.0141	0.0033	
Uranus	-88983-09-29 20:08 J		-30779345.79	-30779345.66	-30779345.50	0.0142	0.0103	
Jupiter	-88973-07-20 13:54 J		-30775764.10	-30775763.92	-30775763.74	0.0535	0.0219	
Saturn	-88970-09-01 09:49 J		-30774626.29	-30774626.09	-30774625.89	0.0273	0.0077	

Saturn -88969-04-17 11:30 J -30774397.10 -30774397.02 -30774396.92 0.0273 0.0243
 Jupiter -88966-01-10 16:47 J -30773398.96 -30773398.80 -30773398.64 0.0496 0.0327
 Mars -88961-04-19 03:35 J -30771473.52 -30771473.35 -30771473.19 0.1635 0.0339
 Saturn -88955-02-16 04:47 J -30769344.45 -30769344.30 -30769344.16 0.0285 0.0209
 Jupiter -88955-09-15 15:06 J -30769133.07 -30769132.87 -30769132.66 0.0494 0.0095
 Saturn -88955-10-04 02:37 J -30769114.55 -30769114.39 -30769114.21 0.0285 0.0176
 Uranus -88946-12-17 01:11 J -30765753.60 -30765753.45 -30765753.28 0.0138 0.0095
 Uranus -88945-07-30 11:15 J -30765527.25 -30765527.03 -30765526.81 0.0138 0.0028
 Neptune -88945-10-30 17:59 J -30765434.86 -30765434.75 -30765434.63 0.0089 0.0075
 Uranus -88944-03-13 20:37 J -30765300.84 -30765300.64 -30765300.41 0.0137 0.0040
 Neptune -88944-06-13 05:30 J -30765209.41 -30765209.27 -30765209.10 0.0089 0.0061
 Uranus -88944-10-26 05:44 J -30765074.38 -30765074.26 -30765074.10 0.0137 0.0105
 Neptune -88943-01-24 17:15 J -30764983.95 -30764983.78 -30764983.58 0.0089 0.0047
 Neptune -88943-09-07 05:15 J -30764758.47 -30764758.28 -30764758.08 0.0089 0.0032
 Neptune -88942-04-20 17:01 J -30764532.99 -30764532.79 -30764532.57 0.0089 0.0018
 Neptune -88942-12-02 05:01 J -30764307.50 -30764307.29 -30764307.07 0.0089 0.0004
 Neptune -88941-07-14 17:01 J -30764082.01 -30764081.79 -30764081.58 0.0089 0.0011
 Neptune -88940-02-25 04:32 J -30763856.51 -30763856.31 -30763856.10 0.0089 0.0026
 Saturn -88940-03-13 14:37 J -30763840.10 -30763839.89 -30763839.68 0.0274 0.0032
 Neptune -88940-10-08 16:32 J -30763630.99 -30763630.81 -30763630.61 0.0089 0.0040
 Neptune -88939-05-22 04:18 J -30763405.47 -30763405.32 -30763405.14 0.0089 0.0055
 Neptune -88938-01-02 16:18 J -30763179.94 -30763179.82 -30763179.68 0.0089 0.0069
 Neptune -88938-08-16 03:49 J -30762954.38 -30762954.34 -30762954.24 0.0089 0.0084
 Jupiter -88937-03-28 02:37 J -30762729.58 -30762729.39 -30762729.19 0.0533 0.0065
 Mars -88932-07-12 21:35 J -30760796.77 -30760796.60 -30760796.43 0.1898 0.0562
 Mars -88929-04-17 18:42 J -30759786.82 -30759786.72 -30759786.62 0.1628 0.1309
 Saturn -88926-08-29 17:44 J -30758557.95 -30758557.76 -30758557.57 0.0286 0.0138
 Jupiter -88926-12-01 20:08 J -30758463.76 -30758463.66 -30758463.55 0.0535 0.0449
 Saturn -88925-04-15 15:49 J -30758327.95 -30758327.84 -30758327.73 0.0286 0.0246
 Jupiter -88919-05-24 02:23 J -30756098.60 -30756098.40 -30756098.20 0.0495 0.0145

Saturn -88911-09-23 19:54 J -30753053.88 -30753053.67 -30753053.46 0.0273 0.0017
 Jupiter -88907-01-26 23:44 J -30751832.68 -30751832.51 -30751832.34 0.0493 0.0280
 Pluto -88904-05-16 20:51 J -30750626.75 -30750626.63 -30750626.50 0.0082 0.0066
 Pluto -88904-12-28 07:25 J -30750401.40 -30750401.19 -30750400.97 0.0082 0.0001
 Moon -88903-02-10 08:08 J -30750357.25 -30750357.16 -30750357.06 0.2755 0.2059
 Earth -88903-02-10 11:59 J -30750357.10 -30750357.00 -30750356.91 0.2750 0.2169 *
 Pluto -88903-08-10 17:30 J -30750175.88 -30750175.77 -30750175.63 0.0081 0.0066
 Jupiter -88902-12-04 17:44 J -30749694.90 -30749694.76 -30749694.61 0.0532 0.0358
 Uranus -88901-07-20 05:44 J -30749466.30 -30749466.26 -30749466.20 0.0140 0.0136
 Uranus -88900-03-03 13:11 J -30749240.13 -30749239.95 -30749239.77 0.0141 0.0069
 Uranus -88900-10-15 20:51 J -30749013.84 -30749013.63 -30749013.42 0.0141 0.0002
 Uranus -88899-05-30 04:32 J -30748787.49 -30748787.31 -30748787.12 0.0141 0.0068
 Uranus -88898-01-11 12:42 J -30748561.02 -30748560.97 -30748560.91 0.0142 0.0137
 Saturn -88896-03-10 20:37 J -30747771.84 -30747771.64 -30747771.44 0.0285 0.0095
 Earth -88895-02-08 01:39 J -30747437.49 -30747437.43 -30747437.36 0.2752 0.2511
 Moon -88895-02-08 02:23 J -30747437.46 -30747437.40 -30747437.34 0.2759 0.2509 *
 Mars -88895-02-14 16:32 J -30747430.97 -30747430.81 -30747430.65 0.1637 0.0546
 Jupiter -88890-08-09 11:44 J -30745429.19 -30745429.01 -30745428.81 0.0534 0.0149
 Jupiter -88883-01-29 15:06 J -30743063.99 -30743063.87 -30743063.74 0.0497 0.0395
 Saturn -88882-08-19 21:49 J -30742496.64 -30742496.59 -30742496.52 0.0274 0.0262
 Saturn -88881-04-04 23:44 J -30742267.71 -30742267.51 -30742267.31 0.0274 0.0059
 Jupiter -88872-10-04 11:59 J -30738798.21 -30738798.00 -30738797.79 0.0494 0.0037
 Saturn -88867-09-21 09:20 J -30736985.32 -30736985.11 -30736984.89 0.0286 0.0025
 Mars -88866-05-09 23:44 J -30736754.64 -30736754.51 -30736754.37 0.1895 0.1250
 Mars -88863-02-13 07:54 J -30735744.30 -30735744.17 -30735744.05 0.1630 0.1116
 Neptune -88863-05-06 15:20 J -30735661.89 -30735661.86 -30735661.77 0.0089 0.0086
 Neptune -88863-12-18 05:59 J -30735436.38 -30735436.25 -30735436.10 0.0089 0.0070
 Neptune -88862-07-31 20:08 J -30735210.82 -30735210.66 -30735210.47 0.0089 0.0055
 Uranus -88862-08-16 07:39 J -30735195.24 -30735195.18 -30735195.09 0.0138 0.0129
 Neptune -88861-03-13 10:18 J -30734985.25 -30734985.07 -30734984.85 0.0089 0.0040

Uranus -88861-03-29 17:59 J -30734968.95 -30734968.75 -30734968.55 0.0138 0.0061
 Neptune -88861-10-25 00:56 J -30734759.67 -30734759.46 -30734759.24 0.0089 0.0024
 Uranus -88861-11-11 03:49 J -30734742.56 -30734742.34 -30734742.11 0.0138 0.0006
 Neptune -88860-06-07 15:20 J -30734534.09 -30734533.86 -30734533.63 0.0089 0.0009
 Jupiter -88860-06-09 10:18 J -30734532.15 -30734532.07 -30734532.00 0.0492 0.0455
 Uranus -88860-06-25 13:25 J -30734516.13 -30734515.94 -30734515.75 0.0137 0.0072
 Neptune -88859-01-19 05:30 J -30734308.49 -30734308.27 -30734308.04 0.0089 0.0007
 Neptune -88859-09-01 19:25 J -30734082.89 -30734082.69 -30734082.45 0.0089 0.0023
 Neptune -88858-04-15 09:49 J -30733857.28 -30733857.09 -30733856.87 0.0089 0.0038
 Neptune -88858-11-26 23:59 J -30733631.67 -30733631.50 -30733631.30 0.0089 0.0053
 Neptune -88857-07-09 14:23 J -30733406.04 -30733405.90 -30733405.75 0.0089 0.0068
 Neptune -88856-02-20 03:49 J -30733180.39 -30733180.34 -30733180.24 0.0089 0.0084
 Jupiter -88854-04-17 00:27 J -30732394.67 -30732394.48 -30732394.29 0.0533 0.0132
 Saturn -88852-03-01 03:35 J -30731710.48 -30731710.35 -30731710.21 0.0273 0.0210
 Saturn -88852-10-16 05:15 J -30731481.47 -30731481.28 -30731481.09 0.0273 0.0109
 Jupiter -88843-12-20 20:23 J -30728128.79 -30728128.65 -30728128.51 0.0535 0.0367
 Saturn -88837-04-02 11:59 J -30726199.22 -30726199.00 -30726198.78 0.0285 0.0017
 Jupiter -88836-06-12 00:27 J -30725763.67 -30725763.48 -30725763.29 0.0496 0.0210
 Mars -88830-12-13 05:15 J -30723388.43 -30723388.28 -30723388.13 0.1639 0.0759
 Jupiter -88824-02-14 22:18 J -30721497.76 -30721497.57 -30721497.38 0.0494 0.0213
 Saturn -88823-09-11 05:59 J -30720924.40 -30720924.25 -30720924.08 0.0274 0.0174
 Saturn -88822-04-28 07:54 J -30720695.34 -30720695.17 -30720694.99 0.0274 0.0147
 Jupiter -88819-12-23 14:37 J -30719360.00 -30719359.89 -30719359.77 0.0531 0.0421
 Uranus -88817-10-31 21:20 J -30718681.75 -30718681.61 -30718681.46 0.0140 0.0103
 Uranus -88816-06-15 05:01 J -30718455.50 -30718455.29 -30718455.09 0.0141 0.0035
 Uranus -88815-01-27 12:27 J -30718229.18 -30718228.98 -30718228.76 0.0141 0.0034
 Uranus -88815-09-10 20:08 J -30718002.79 -30718002.66 -30718002.50 0.0142 0.0103
 Saturn -88808-10-13 23:15 J -30715412.73 -30715412.53 -30715412.32 0.0286 0.0084
 Jupiter -88807-08-28 07:39 J -30715094.37 -30715094.18 -30715093.98 0.0534 0.0093
 Jupiter -88800-02-17 12:27 J -30712729.06 -30712728.98 -30712728.90 0.0496 0.0455

Mars -88798-12-11 20:37 J -30711701.78 -30711701.64 -30711701.50 0.1632 0.0909
 Saturn -88793-03-23 11:59 J -30710138.18 -30710138.00 -30710137.81 0.0273 0.0121
 Saturn -88793-11-07 13:39 J -30709909.06 -30709908.93 -30709908.78 0.0273 0.0199
 Moon -88790-08-16 10:18 J -30708897.18 -30708897.07 -30708896.97 0.2593 0.1881
 Earth -88790-08-16 13:11 J -30708897.06 -30708896.95 -30708896.84 0.2587 0.1891 *
 Jupiter -88789-10-23 09:35 J -30708463.31 -30708463.10 -30708462.89 0.0494 0.0026
 Earth -88782-08-14 05:59 J -30705977.36 -30705977.25 -30705977.13 0.2586 0.1789
 Moon -88782-08-14 07:25 J -30705977.30 -30705977.19 -30705977.09 0.2592 0.1895 *
 Neptune -88780-02-01 06:42 J -30705440.31 -30705440.22 -30705440.13 0.0089 0.0079
 Neptune -88780-09-14 18:13 J -30705214.87 -30705214.74 -30705214.58 0.0089 0.0065
 Neptune -88779-04-28 05:44 J -30704989.41 -30704989.26 -30704989.06 0.0089 0.0051
 Saturn -88779-09-08 03:20 J -30704856.44 -30704856.36 -30704856.28 0.0286 0.0262
 Neptune -88779-12-09 17:59 J -30704763.94 -30704763.75 -30704763.55 0.0089 0.0036
 Saturn -88778-04-26 01:54 J -30704626.61 -30704626.42 -30704626.22 0.0286 0.0125
 Neptune -88778-07-23 05:30 J -30704538.46 -30704538.27 -30704538.05 0.0089 0.0022
 Uranus -88778-11-28 00:56 J -30704410.61 -30704410.46 -30704410.28 0.0138 0.0094
 Neptune -88777-03-04 17:30 J -30704312.98 -30704312.77 -30704312.55 0.0089 0.0007
 Jupiter -88777-06-28 08:23 J -30704197.27 -30704197.15 -30704197.02 0.0493 0.0390
 Uranus -88777-07-11 11:01 J -30704184.25 -30704184.04 -30704183.81 0.0138 0.0027
 Neptune -88777-10-16 05:30 J -30704087.48 -30704087.27 -30704087.06 0.0089 0.0007
 Uranus -88776-02-22 20:37 J -30703957.84 -30703957.64 -30703957.42 0.0137 0.0041
 Neptune -88776-05-29 17:15 J -30703861.98 -30703861.78 -30703861.57 0.0089 0.0022
 Uranus -88776-10-07 05:59 J -30703731.38 -30703731.25 -30703731.10 0.0137 0.0106
 Neptune -88775-01-10 04:47 J -30703636.48 -30703636.30 -30703636.09 0.0089 0.0037
 Neptune -88775-08-23 16:32 J -30703410.97 -30703410.81 -30703410.62 0.0089 0.0051
 Neptune -88774-04-06 04:32 J -30703185.44 -30703185.31 -30703185.16 0.0089 0.0065
 Neptune -88774-11-17 16:18 J -30702959.89 -30702959.82 -30702959.71 0.0089 0.0080
 Jupiter -88771-05-06 00:13 J -30702059.67 -30702059.49 -30702059.30 0.0532 0.0213
 Mars -88768-03-06 05:01 J -30701024.36 -30701024.29 -30701024.22 0.1903 0.1735
 Saturn -88764-10-03 13:25 J -30699352.14 -30699351.94 -30699351.75 0.0273 0.0088

Mars -88764-10-09 17:44 J -30699345.90 -30699345.76 -30699345.62 0.1641 0.0977
 Saturn -88763-05-20 14:51 J -30699122.97 -30699122.88 -30699122.76 0.0274 0.0234
 Jupiter -88759-01-08 18:42 J -30697793.89 -30697793.72 -30697793.56 0.0535 0.0295
 Jupiter -88753-06-30 22:47 J -30695428.72 -30695428.55 -30695428.38 0.0496 0.0275
 Saturn -88749-03-20 12:56 J -30694070.10 -30694069.96 -30694069.79 0.0286 0.0200
 Saturn -88749-11-05 11:59 J -30693840.16 -30693840.00 -30693839.84 0.0286 0.0190
 Pluto -88747-07-20 23:44 J -30693217.69 -30693217.51 -30693217.31 0.0062 0.0035
 Pluto -88746-03-03 04:18 J -30692992.54 -30692992.32 -30692992.09 0.0063 0.0004
 Pluto -88746-10-14 08:08 J -30692767.34 -30692767.16 -30692766.93 0.0063 0.0028
 Pluto -88745-05-26 12:27 J -30692542.03 -30692541.98 -30692541.88 0.0063 0.0059
 Jupiter -88741-03-05 20:51 J -30691162.83 -30691162.63 -30691162.43 0.0493 0.0147
 Jupiter -88735-01-11 12:27 J -30689025.05 -30689024.98 -30689024.90 0.0532 0.0489
 Saturn -88734-04-15 19:25 J -30688565.89 -30688565.69 -30688565.48 0.0273 0.0035
 Uranus -88733-07-01 05:30 J -30688123.30 -30688123.27 -30688123.21 0.0140 0.0136
 Uranus -88732-02-12 12:42 J -30687897.14 -30687896.97 -30687896.77 0.0141 0.0070
 Uranus -88732-09-26 20:37 J -30687670.86 -30687670.64 -30687670.43 0.0141 0.0002
 Mars -88732-10-08 09:20 J -30687659.26 -30687659.11 -30687658.95 0.1634 0.0709
 Uranus -88731-05-11 04:03 J -30687444.50 -30687444.33 -30687444.13 0.0141 0.0067
 Uranus -88731-12-23 11:59 J -30687218.03 -30687218.00 -30687217.92 0.0142 0.0137
 Jupiter -88724-09-16 08:51 J -30684759.33 -30684759.13 -30684758.93 0.0534 0.0004
 Saturn -88720-09-30 15:20 J -30683284.03 -30683283.86 -30683283.67 0.0286 0.0159
 Saturn -88719-05-18 14:23 J -30683054.03 -30683053.90 -30683053.78 0.0286 0.0229
 Jupiter -88712-05-22 03:49 J -30680493.39 -30680493.34 -30680493.27 0.0536 0.0508
 Jupiter -88706-11-12 09:35 J -30678128.31 -30678128.10 -30678127.90 0.0495 0.0100
 Saturn -88705-10-25 19:54 J -30677779.88 -30677779.67 -30677779.46 0.0273 0.0004
 Mars -88702-01-01 06:56 J -30676982.36 -30676982.21 -30676982.06 0.1900 0.1027
 Neptune -88698-03-21 15:35 J -30675441.96 -30675441.85 -30675441.72 0.0089 0.0075
 Mars -88698-08-07 06:27 J -30675303.34 -30675303.23 -30675303.11 0.1643 0.1193
 Neptune -88698-11-02 05:44 J -30675216.41 -30675216.26 -30675216.07 0.0089 0.0060
 Neptune -88697-06-14 20:23 J -30674990.84 -30674990.65 -30674990.45 0.0089 0.0044

Neptune -88696-01-26 10:32 J -30674765.27 -30674765.06 -30674764.84 0.0089 0.0029
 Neptune -88696-09-09 00:42 J -30674539.68 -30674539.47 -30674539.23 0.0089 0.0014
 Neptune -88695-04-22 15:20 J -30674314.09 -30674313.86 -30674313.63 0.0089 0.0002
 Neptune -88695-12-04 05:30 J -30674088.49 -30674088.27 -30674088.04 0.0089 0.0018
 Neptune -88694-07-17 19:54 J -30673862.88 -30673862.67 -30673862.46 0.0089 0.0033
 Jupiter -88694-07-18 07:54 J -30673862.33 -30673862.17 -30673862.01 0.0493 0.0320
 Uranus -88694-07-28 08:23 J -30673852.23 -30673852.15 -30673852.06 0.0138 0.0127
 Neptune -88693-02-28 09:35 J -30673637.27 -30673637.10 -30673636.89 0.0089 0.0049
 Uranus -88693-03-10 18:13 J -30673625.93 -30673625.74 -30673625.53 0.0138 0.0059
 Neptune -88693-10-10 23:59 J -30673411.65 -30673411.50 -30673411.33 0.0089 0.0064
 Uranus -88693-10-23 04:18 J -30673399.54 -30673399.32 -30673399.09 0.0138 0.0008
 Neptune -88692-05-24 14:23 J -30673185.99 -30673185.90 -30673185.79 0.0089 0.0079
 Uranus -88692-06-06 13:54 J -30673173.10 -30673172.92 -30673172.72 0.0137 0.0075
 Saturn -88690-04-12 23:59 J -30672497.70 -30672497.50 -30672497.29 0.0286 0.0099
 Jupiter -88688-05-24 21:06 J -30671724.79 -30671724.62 -30671724.45 0.0533 0.0273
 Jupiter -88676-01-27 16:03 J -30667459.01 -30667458.83 -30667458.65 0.0535 0.0230
 Saturn -88676-09-21 01:11 J -30667222.49 -30667222.45 -30667222.41 0.0272 0.0267
 Saturn -88675-05-08 02:08 J -30666993.62 -30666993.41 -30666993.21 0.0272 0.0050
 Jupiter -88670-07-20 21:49 J -30665093.74 -30665093.59 -30665093.44 0.0495 0.0345
 Mars -88666-08-05 22:03 J -30663616.74 -30663616.58 -30663616.42 0.1636 0.0496
 Saturn -88661-10-23 02:37 J -30661711.60 -30661711.39 -30661711.17 0.0286 0.0058
 Earth -88660-02-10 10:47 J -30661601.17 -30661601.05 -30661600.92 0.2751 0.1696
 Moon -88660-02-10 15:49 J -30661600.94 -30661600.84 -30661600.74 0.2748 0.2115 *
 Jupiter -88658-03-25 20:23 J -30660827.86 -30660827.65 -30660827.44 0.0494 0.0076
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 Uranus -88649-10-12 20:23 J -30657338.78 -30657338.65 -30657338.50 0.0140 0.0105
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Uranus -88647-01-08 11:30 J -30656886.22 -30656886.02 -30656885.80 0.0141 0.0032
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 Saturn -88646-04-03 00:27 J -30656436.57 -30656436.48 -30656436.38 0.0273 0.0239
 Saturn -88646-11-18 01:39 J -30656207.62 -30656207.43 -30656207.23 0.0273 0.0080
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 Mars -88632-06-03 18:56 J -30651260.79 -30651260.71 -30651260.62 0.1646 0.1419
 Saturn -88631-05-05 09:35 J -30650925.32 -30650925.10 -30650924.89 0.0287 0.0005
 Jupiter -88629-06-10 00:56 J -30650158.56 -30650158.46 -30650158.35 0.0536 0.0447
 Jupiter -88623-12-01 10:18 J -30647793.27 -30647793.07 -30647792.88 0.0495 0.0176
 Saturn -88617-10-13 07:11 J -30645650.34 -30645650.20 -30645650.04 0.0272 0.0184
 Neptune -88616-05-05 18:27 J -30645445.78 -30645445.73 -30645445.64 0.0089 0.0084
 Saturn -88616-05-30 08:08 J -30645421.33 -30645421.16 -30645420.97 0.0272 0.0134
 Neptune -88616-12-17 06:13 J -30645220.35 -30645220.24 -30645220.08 0.0089 0.0070
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 Neptune -88612-01-17 17:44 J -30644092.97 -30644092.76 -30644092.54 0.0089 0.0004
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 Neptune -88611-04-13 17:01 J -30643641.97 -30643641.79 -30643641.58 0.0089 0.0033
 Jupiter -88611-08-06 07:39 J -30643527.36 -30643527.18 -30643527.00 0.0493 0.0248
 Neptune -88611-11-25 05:01 J -30643416.46 -30643416.29 -30643416.10 0.0089 0.0047
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 Uranus -88610-11-09 01:54 J -30643067.58 -30643067.42 -30643067.24 0.0138 0.0091
 Neptune -88609-02-19 04:32 J -30642965.40 -30642965.31 -30642965.18 0.0089 0.0076
 Uranus -88609-06-22 12:13 J -30642841.21 -30642840.99 -30642840.77 0.0138 0.0024
 Uranus -88608-02-03 21:35 J -30642614.80 -30642614.60 -30642614.37 0.0137 0.0044
 Uranus -88608-09-18 06:56 J -30642388.33 -30642388.21 -30642388.06 0.0137 0.0109

Jupiter -88605-06-12 23:01 J -30641389.68 -30641389.54 -30641389.39 0.0533 0.0367
 Saturn -88602-11-15 12:13 J -30640139.20 -30640138.99 -30640138.77 0.0286 0.0038
 Mars -88600-06-02 10:47 J -30639574.21 -30639574.05 -30639573.88 0.1638 0.0292
 Jupiter -88593-02-16 18:56 J -30637123.90 -30637123.71 -30637123.52 0.0535 0.0131
 Saturn -88587-04-25 05:59 J -30634864.41 -30634864.25 -30634864.07 0.0273 0.0158
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 Saturn -88587-12-10 07:11 J -30634635.36 -30634635.20 -30634635.03 0.0273 0.0161
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 Saturn -88572-05-27 17:59 J -30629352.96 -30629352.75 -30629352.55 0.0287 0.0090
 Mars -88571-08-25 10:32 J -30628898.23 -30628898.06 -30628897.88 0.1893 0.0395
 Mars -88566-04-01 07:39 J -30627218.19 -30627218.18 -30627218.16 0.1648 0.1637
 Uranus -88565-06-12 04:32 J -30626780.33 -30626780.31 -30626780.27 0.0140 0.0138
 Uranus -88564-01-24 11:44 J -30626554.18 -30626554.01 -30626553.82 0.0141 0.0072
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 Uranus -88563-04-22 02:51 J -30626101.56 -30626101.38 -30626101.18 0.0141 0.0065
 Uranus -88563-12-04 10:47 J -30625875.10 -30625875.05 -30625874.97 0.0142 0.0134
 Jupiter -88558-10-25 06:56 J -30624089.40 -30624089.21 -30624089.02 0.0534 0.0146
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 Earth -88547-08-16 15:49 J -30620140.93 -30620140.84 -30620140.75 0.2586 0.2096
 Moon -88547-08-16 20:37 J -30620140.67 -30620140.64 -30620140.62 0.2583 0.2543
 Jupiter -88546-06-30 02:51 J -30619823.52 -30619823.38 -30619823.23 0.0536 0.0353
 Saturn -88543-04-21 21:35 J -30618796.68 -30618796.60 -30618796.51 0.0287 0.0261
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 Jupiter -88540-12-20 10:18 J -30617458.25 -30617458.07 -30617457.89 0.0495 0.0252
 Earth -88539-08-14 08:51 J -30617221.26 -30617221.13 -30617221.00 0.2585 0.1582
 Moon -88539-08-14 09:35 J -30617221.25 -30617221.10 -30617220.95 0.2578 0.1149 *
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 Neptune -88534-06-23 01:11 J -30615447.53 -30615447.45 -30615447.34 0.0089 0.0080

Neptune -88533-02-03 15:06 J -30615222.00 -30615221.87 -30615221.69 0.0089 0.0065
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 Neptune -88532-12-11 10:18 J -30614545.28 -30614545.07 -30614544.84 0.0089 0.0019
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 Neptune -88530-03-07 14:51 J -30614094.10 -30614093.88 -30614093.65 0.0089 0.0013
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 Neptune -88529-05-31 19:11 J -30613642.88 -30613642.70 -30613642.49 0.0089 0.0044
 Neptune -88528-01-12 09:06 J -30613417.26 -30613417.12 -30613416.93 0.0089 0.0060
 Saturn -88528-05-17 11:30 J -30613292.21 -30613292.02 -30613291.81 0.0272 0.0077
 Jupiter -88528-08-25 08:37 J -30613192.33 -30613192.14 -30613191.94 0.0493 0.0169
 Neptune -88528-08-25 23:15 J -30613191.63 -30613191.53 -30613191.39 0.0089 0.0075
 Saturn -88527-01-01 12:42 J -30613063.06 -30613062.97 -30613062.87 0.0273 0.0243
 Uranus -88526-07-09 09:20 J -30612509.20 -30612509.11 -30612509.01 0.0138 0.0124
 Uranus -88525-02-20 19:25 J -30612282.89 -30612282.69 -30612282.48 0.0138 0.0056
 Uranus -88525-10-04 05:30 J -30612056.49 -30612056.27 -30612056.05 0.0138 0.0011
 Uranus -88524-05-18 15:06 J -30611830.05 -30611829.87 -30611829.68 0.0137 0.0078
 Jupiter -88522-07-03 00:42 J -30611054.57 -30611054.47 -30611054.37 0.0532 0.0456
 Saturn -88514-11-02 01:11 J -30608010.59 -30608010.45 -30608010.30 0.0287 0.0215
 Saturn -88513-06-19 01:11 J -30607780.62 -30607780.45 -30607780.28 0.0287 0.0180
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 Mars -88505-06-21 11:59 J -30604856.15 -30604856.00 -30604855.86 0.1889 0.1120
 Pluto -88500-03-30 17:01 J -30603112.87 -30603112.79 -30603112.65 0.0062 0.0055
 Pluto -88500-11-10 21:35 J -30602887.80 -30602887.60 -30602887.38 0.0063 0.0024
 Pluto -88499-06-24 01:39 J -30602662.65 -30602662.43 -30602662.19 0.0063 0.0008
 Saturn -88499-11-27 18:27 J -30602505.93 -30602505.73 -30602505.52 0.0272 0.0022
 Pluto -88498-02-04 05:30 J -30602437.42 -30602437.27 -30602437.06 0.0063 0.0039
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 Saturn -88484-05-14 06:13 J -30597224.41 -30597224.24 -30597224.06 0.0287 0.0168
 Saturn -88484-12-30 05:30 J -30596994.40 -30596994.27 -30596994.13 0.0287 0.0225

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 Jupiter -88480-01-05 20:37 J -30595891.79 -30595891.64 -30595891.48 0.0492 0.0336
 Uranus -88480-05-08 02:51 J -30595769.58 -30595769.38 -30595769.17 0.0141 0.0039
 Uranus -88480-12-20 10:18 J -30595543.27 -30595543.07 -30595542.85 0.0141 0.0030
 Uranus -88479-08-03 18:13 J -30595316.89 -30595316.74 -30595316.58 0.0142 0.0098
 Jupiter -88475-11-13 10:18 J -30593754.25 -30593754.07 -30593753.90 0.0533 0.0247
 Saturn -88469-06-08 17:30 J -30591719.98 -30591719.77 -30591719.57 0.0272 0.0009
 Mars -88468-01-25 12:13 J -30591489.16 -30591488.99 -30591488.82 0.1643 0.0135
 Jupiter -88463-07-19 05:15 J -30589488.45 -30589488.28 -30589488.11 0.0536 0.0258
 Jupiter -88456-01-08 12:13 J -30587123.14 -30587122.99 -30587122.83 0.0495 0.0335
 Saturn -88455-11-24 09:06 J -30586438.32 -30586438.12 -30586437.93 0.0287 0.0124
 Saturn -88454-07-12 08:23 J -30586208.21 -30586208.15 -30586208.07 0.0287 0.0271
 Neptune -88452-08-07 06:27 J -30585451.23 -30585451.23 -30585451.23 0.0089 0.0089
 Neptune -88451-03-20 17:44 J -30585225.85 -30585225.76 -30585225.62 0.0089 0.0075
 Neptune -88451-11-01 05:44 J -30585000.40 -30585000.26 -30585000.09 0.0089 0.0060
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 Neptune -88448-04-21 05:15 J -30584098.49 -30584098.28 -30584098.06 0.0089 0.0002
 Neptune -88448-12-02 17:01 J -30583872.99 -30583872.79 -30583872.57 0.0089 0.0014
 Neptune -88447-07-16 04:47 J -30583647.49 -30583647.30 -30583647.09 0.0089 0.0028
 Neptune -88446-02-26 16:32 J -30583421.99 -30583421.81 -30583421.61 0.0089 0.0043
 Neptune -88446-10-10 04:32 J -30583196.46 -30583196.31 -30583196.14 0.0089 0.0057
 Neptune -88445-05-22 16:03 J -30582970.93 -30582970.83 -30582970.68 0.0089 0.0072
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 Neptune -88444-01-03 04:18 J -30582745.36 -30582745.32 -30582745.27 0.0089 0.0086
 Uranus -88442-10-21 02:51 J -30581724.54 -30581724.38 -30581724.19 0.0138 0.0088
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 Uranus -88440-01-15 23:01 J -30581271.75 -30581271.54 -30581271.33 0.0138 0.0047
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Uranus -88440-08-30 08:23 J -30581045.27 -30581045.15 -30581045.02 0.0137 0.0112
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 Mars -88439-04-18 14:23 J -30580813.95 -30580813.90 -30580813.84 0.1886 0.1788
 Jupiter -88439-07-21 21:49 J -30580719.63 -30580719.59 -30580719.55 0.0532 0.0519
 Mars -88436-01-24 04:03 J -30579802.38 -30579802.33 -30579802.29 0.1635 0.1560
 Jupiter -88427-03-26 17:59 J -30576453.95 -30576453.75 -30576453.55 0.0535 0.0026
 Saturn -88425-06-05 14:51 J -30575652.08 -30575651.88 -30575651.67 0.0287 0.0075
 Moon -88417-02-11 04:32 J -30572845.47 -30572845.31 -30572845.16 0.2754 0.0496
 Earth -88417-02-11 09:49 J -30572845.23 -30572845.09 -30572844.95 0.2752 0.1194 *
 Jupiter -88416-11-29 13:54 J -30572188.01 -30572187.92 -30572187.83 0.0537 0.0476
 Saturn -88411-11-14 23:15 J -30570376.64 -30570376.53 -30570376.42 0.0272 0.0228
 Saturn -88410-07-01 23:30 J -30570147.71 -30570147.52 -30570147.32 0.0272 0.0091
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 Jupiter -88409-05-21 22:47 J -30569822.74 -30569822.55 -30569822.35 0.0494 0.0159
 Pluto -88409-08-11 05:01 J -30569741.47 -30569741.29 -30569741.08 0.0082 0.0037
 Mars -88403-11-23 00:56 J -30567446.63 -30567446.46 -30567446.29 0.1645 0.0353
 Jupiter -88397-01-25 22:18 J -30565556.74 -30565556.57 -30565556.38 0.0492 0.0255
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 Uranus -88396-08-19 19:39 J -30564984.90 -30564984.68 -30564984.47 0.0141 0.0004
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 Uranus -88395-04-03 03:06 J -30564758.55 -30564758.37 -30564758.18 0.0141 0.0065
 Uranus -88395-11-15 11:01 J -30564532.10 -30564532.04 -30564531.97 0.0142 0.0134
 Jupiter -88392-12-02 07:39 J -30563419.34 -30563419.18 -30563419.02 0.0533 0.0312
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 Jupiter -88380-08-07 01:54 J -30559153.60 -30559153.42 -30559153.24 0.0536 0.0196
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 Neptune -88370-09-24 09:49 J -30555453.13 -30555453.09 -30555453.02 0.0089 0.0086

Neptune -88369-05-07 00:42 J -30555227.61 -30555227.47 -30555227.34 0.0089 0.0070
 Neptune -88369-12-18 14:37 J -30555002.06 -30555001.89 -30555001.70 0.0089 0.0055
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 Neptune -88367-10-26 09:20 J -30554325.33 -30554325.11 -30554324.88 0.0089 0.0009
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 Neptune -88365-09-02 03:49 J -30553648.53 -30553648.34 -30553648.12 0.0089 0.0039
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 Neptune -88363-07-10 22:32 J -30552971.61 -30552971.56 -30552971.48 0.0089 0.0085
 Jupiter -88362-10-03 10:03 J -30552522.29 -30552522.08 -30552521.87 0.0493 0.0016
 Uranus -88358-06-20 10:32 J -30551166.15 -30551166.06 -30551165.93 0.0139 0.0121
 Uranus -88357-02-01 20:51 J -30550939.83 -30550939.63 -30550939.41 0.0138 0.0053
 Uranus -88357-09-15 06:56 J -30550713.43 -30550713.21 -30550712.99 0.0138 0.0015
 Uranus -88356-04-29 16:32 J -30550486.99 -30550486.81 -30550486.63 0.0137 0.0082
 Saturn -88352-12-07 05:59 J -30548804.42 -30548804.25 -30548804.07 0.0272 0.0143
 Saturn -88351-07-24 06:27 J -30548575.38 -30548575.23 -30548575.07 0.0272 0.0177
 Jupiter -88350-06-08 08:37 J -30548256.23 -30548256.14 -30548256.03 0.0492 0.0430
 Jupiter -88344-04-14 19:54 J -30546118.86 -30546118.67 -30546118.48 0.0534 0.0118
 Mars -88341-02-13 19:25 J -30545083.83 -30545083.69 -30545083.55 0.1895 0.1175
 Mars -88337-09-19 13:25 J -30543404.10 -30543403.94 -30543403.78 0.1647 0.0576
 Saturn -88336-01-08 02:37 J -30543293.60 -30543293.39 -30543293.18 0.0287 0.0064
 Jupiter -88333-12-18 11:15 J -30541853.15 -30541853.03 -30541852.90 0.0536 0.0409
 Jupiter -88326-06-11 00:27 J -30539487.66 -30539487.48 -30539487.30 0.0494 0.0242
 Saturn -88322-06-19 12:56 J -30538018.15 -30538017.96 -30538017.76 0.0272 0.0088
 Saturn -88321-02-03 13:39 J -30537789.03 -30537788.93 -30537788.82 0.0272 0.0232
 Jupiter -88314-02-13 21:20 J -30535221.80 -30535221.61 -30535221.41 0.0492 0.0184
 Uranus -88313-09-04 21:06 J -30534652.75 -30534652.62 -30534652.46 0.0140 0.0104

Uranus	-88312-04-19 04:32 J	-30534426.51	-30534426.31	-30534426.10	0.0141	0.0036
Uranus	-88312-12-01 11:59 J	-30534200.20	-30534200.00	-30534199.78	0.0141	0.0032
Uranus	-88311-07-15 19:54 J	-30533973.81	-30533973.67	-30533973.52	0.0141	0.0101
Jupiter	-88309-12-21 07:39 J	-30533084.31	-30533084.18	-30533084.04	0.0533	0.0396
Saturn	-88308-12-03 11:30 J	-30532737.08	-30532737.02	-30532736.95	0.0287	0.0274
Saturn	-88307-07-21 11:15 J	-30532507.22	-30532507.03	-30532506.83	0.0287	0.0123
Mars	-88305-09-18 05:30 J	-30531717.39	-30531717.27	-30531717.15	0.1639	0.1146
Moon	-88304-08-16 13:11 J	-30531385.08	-30531384.95	-30531384.82	0.2587	0.1514
Earth	-88304-08-16 18:27 J	-30531384.80	-30531384.73	-30531384.65	0.2585	0.2306
Jupiter	-88297-08-26 03:49 J	-30528818.54	-30528818.34	-30528818.15	0.0535	0.0103
Moon	-88296-08-14 08:37 J	-30528465.24	-30528465.14	-30528465.03	0.2590	0.1905
Earth	-88296-08-14 11:30 J	-30528465.16	-30528465.02	-30528464.88	0.2584	0.1376 *
Saturn	-88293-12-29 13:54 J	-30527232.12	-30527231.92	-30527231.71	0.0272	0.0054
Saturn	-88292-08-15 14:23 J	-30527002.93	-30527002.90	-30527002.85	0.0272	0.0266
Jupiter	-88290-02-16 11:30 J	-30526453.06	-30526453.02	-30526452.97	0.0495	0.0482
Neptune	-88287-06-22 05:01 J	-30525231.36	-30525231.29	-30525231.17	0.0089	0.0080
Neptune	-88286-02-02 17:01 J	-30525005.92	-30525005.79	-30525005.63	0.0089	0.0065
Neptune	-88286-09-16 04:47 J	-30524780.46	-30524780.30	-30524780.11	0.0089	0.0051
Neptune	-88285-04-28 16:47 J	-30524554.98	-30524554.80	-30524554.59	0.0089	0.0036
Neptune	-88285-12-10 04:47 J	-30524329.50	-30524329.30	-30524329.09	0.0089	0.0021
Neptune	-88284-07-23 16:32 J	-30524104.02	-30524103.81	-30524103.59	0.0089	0.0007
Neptune	-88283-03-06 04:18 J	-30523878.52	-30523878.32	-30523878.10	0.0089	0.0009
Neptune	-88283-10-17 16:03 J	-30523653.02	-30523652.83	-30523652.61	0.0089	0.0024
Neptune	-88282-05-31 04:03 J	-30523427.51	-30523427.33	-30523427.13	0.0089	0.0038
Neptune	-88281-01-11 15:35 J	-30523202.00	-30523201.85	-30523201.66	0.0089	0.0053
Neptune	-88281-08-24 03:49 J	-30522976.48	-30522976.34	-30522976.20	0.0089	0.0067
Neptune	-88280-04-06 15:20 J	-30522750.93	-30522750.86	-30522750.77	0.0089	0.0082
Jupiter	-88279-10-22 10:47 J	-30522187.26	-30522187.05	-30522186.84	0.0494	0.0064
Saturn	-88278-06-15 13:25 J	-30521951.05	-30521950.94	-30521950.80	0.0287	0.0233
Saturn	-88277-01-31 13:25 J	-30521721.11	-30521720.94	-30521720.76	0.0287	0.0165

Mars -88276-12-10 21:20 J -30521041.78 -30521041.61 -30521041.43 0.1891 0.0480
 Uranus -88274-10-02 05:01 J -30520381.45 -30520381.29 -30520381.09 0.0138 0.0084
 Uranus -88273-05-15 15:35 J -30520155.07 -30520154.85 -30520154.63 0.0138 0.0015
 Uranus -88273-12-28 01:11 J -30519928.65 -30519928.45 -30519928.24 0.0138 0.0052
 Uranus -88272-08-11 10:32 J -30519702.17 -30519702.06 -30519701.94 0.0137 0.0118
 Mars -88271-07-18 02:08 J -30519361.56 -30519361.41 -30519361.26 0.1649 0.0796
 Jupiter -88267-06-27 09:35 J -30517921.24 -30517921.10 -30517920.95 0.0492 0.0351
 Saturn -88263-07-11 20:51 J -30516445.84 -30516445.63 -30516445.43 0.0272 0.0006
 Jupiter -88261-05-03 15:35 J -30515784.04 -30515783.85 -30515783.67 0.0534 0.0174
 Pluto -88253-07-21 18:27 J -30512782.90 -30512782.73 -30512782.53 0.0062 0.0035
 Pluto -88252-03-03 23:01 J -30512557.76 -30512557.54 -30512557.31 0.0063 0.0004
 Pluto -88252-10-15 03:20 J -30512332.56 -30512332.36 -30512332.15 0.0063 0.0027
 Pluto -88251-05-28 06:56 J -30512107.25 -30512107.21 -30512107.10 0.0063 0.0060
 Jupiter -88249-01-07 10:18 J -30511518.23 -30511518.07 -30511517.92 0.0536 0.0332
 Saturn -88249-12-25 23:59 J -30511164.66 -30511164.50 -30511164.32 0.0287 0.0169
 Saturn -88248-08-12 23:30 J -30510934.64 -30510934.52 -30510934.38 0.0287 0.0228
 Jupiter -88243-06-29 21:49 J -30509152.75 -30509152.59 -30509152.42 0.0494 0.0305
 Mars -88239-07-16 17:59 J -30507674.89 -30507674.75 -30507674.61 0.1641 0.0931
 Saturn -88233-01-21 22:47 J -30505659.76 -30505659.55 -30505659.35 0.0272 0.0038
 Jupiter -88231-03-04 19:54 J -30504886.87 -30504886.67 -30504886.46 0.0493 0.0118
 Uranus -88229-05-05 06:56 J -30504094.25 -30504094.21 -30504094.13 0.0140 0.0135
 Uranus -88229-12-17 14:23 J -30503868.07 -30503867.90 -30503867.70 0.0140 0.0068
 Uranus -88228-07-31 22:03 J -30503641.79 -30503641.58 -30503641.37 0.0141 0.0001
 Uranus -88227-03-15 05:30 J -30503415.45 -30503415.27 -30503415.08 0.0141 0.0069
 Uranus -88227-10-27 13:11 J -30503188.97 -30503188.95 -30503188.89 0.0142 0.0139
 Jupiter -88225-01-10 08:23 J -30502749.23 -30502749.15 -30502749.06 0.0533 0.0481
 Saturn -88219-07-08 02:23 J -30500378.59 -30500378.40 -30500378.21 0.0287 0.0127
 Saturn -88218-02-23 01:39 J -30500148.49 -30500148.43 -30500148.35 0.0287 0.0270
 Jupiter -88214-09-15 00:42 J -30498483.67 -30498483.47 -30498483.28 0.0535 0.0039
 Mars -88210-10-07 23:15 J -30496999.71 -30496999.53 -30496999.35 0.1887 0.0235

Mars -88205-05-14 14:23 J -30495319.03 -30495318.90 -30495318.77 0.1652 0.1031
 Neptune -88205-08-08 07:54 J -30495233.26 -30495233.17 -30495233.03 0.0089 0.0077
 Saturn -88205-12-17 04:47 J -30495102.41 -30495102.30 -30495102.19 0.0273 0.0231
 Neptune -88204-03-21 22:32 J -30495007.71 -30495007.56 -30495007.38 0.0089 0.0061
 Saturn -88204-08-03 05:30 J -30494873.47 -30494873.27 -30494873.08 0.0272 0.0091
 Neptune -88204-11-02 12:42 J -30494782.15 -30494781.97 -30494781.76 0.0089 0.0046
 Neptune -88203-06-16 03:06 J -30494556.58 -30494556.37 -30494556.15 0.0089 0.0030
 Neptune -88202-01-27 17:30 J -30494330.99 -30494330.77 -30494330.55 0.0089 0.0014
 Neptune -88202-09-10 07:39 J -30494105.41 -30494105.18 -30494104.95 0.0089 0.0002
 Neptune -88201-04-22 21:49 J -30493879.80 -30493879.59 -30493879.36 0.0089 0.0017
 Neptune -88201-12-04 11:59 J -30493654.20 -30493654.00 -30493653.78 0.0089 0.0033
 Neptune -88200-07-18 01:54 J -30493428.59 -30493428.42 -30493428.21 0.0089 0.0049
 Neptune -88199-02-28 16:03 J -30493202.97 -30493202.83 -30493202.66 0.0089 0.0064
 Neptune -88199-10-12 05:59 J -30492977.32 -30492977.25 -30492977.12 0.0089 0.0080
 Jupiter -88196-11-10 08:08 J -30491852.36 -30491852.16 -30491851.95 0.0493 0.0127
 Uranus -88190-06-01 13:54 J -30489823.04 -30489822.92 -30489822.79 0.0139 0.0114
 Uranus -88189-01-13 23:59 J -30489596.70 -30489596.50 -30489596.28 0.0138 0.0046
 Saturn -88189-01-18 14:08 J -30489592.12 -30489591.91 -30489591.69 0.0287 0.0059
 Uranus -88189-08-27 10:03 J -30489370.30 -30489370.08 -30489369.86 0.0138 0.0022
 Uranus -88188-04-10 19:25 J -30489143.85 -30489143.69 -30489143.51 0.0137 0.0088
 Jupiter -88184-07-16 06:27 J -30487586.39 -30487586.23 -30487586.06 0.0492 0.0292
 Jupiter -88178-05-23 15:35 J -30485449.02 -30485448.85 -30485448.68 0.0534 0.0256
 Saturn -88175-06-29 07:54 J -30484316.32 -30484316.17 -30484316.02 0.0272 0.0189
 Earth -88174-02-11 08:51 J -30484089.28 -30484089.13 -30484088.98 0.2753 0.0701
 Moon -88174-02-11 13:54 J -30484089.04 -30484088.92 -30484088.80 0.2755 0.1666 *
 Saturn -88174-02-13 08:08 J -30484087.33 -30484087.16 -30484086.97 0.0272 0.0132
 Mars -88173-05-13 06:42 J -30483632.37 -30483632.22 -30483632.07 0.1644 0.0717
 Jupiter -88166-01-26 10:47 J -30481183.23 -30481183.05 -30481182.88 0.0536 0.0248
 Pluto -88163-09-08 13:54 J -30479862.06 -30479861.92 -30479861.74 0.0082 0.0053
 Pluto -88162-04-22 00:42 J -30479636.68 -30479636.47 -30479636.26 0.0082 0.0013

Pluto -88162-12-03 10:47 J -30479411.10 -30479411.05 -30479410.98 0.0081 0.0078
 Jupiter -88160-07-18 20:51 J -30478817.76 -30478817.63 -30478817.49 0.0495 0.0375
 Saturn -88160-07-30 17:01 J -30478806.01 -30478805.79 -30478805.58 0.0287 0.0016
 Jupiter -88148-03-23 19:11 J -30474551.91 -30474551.70 -30474551.49 0.0493 0.0047
 Saturn -88145-01-09 13:54 J -30473530.10 -30473529.92 -30473529.74 0.0273 0.0139
 Uranus -88145-08-16 23:30 J -30473309.66 -30473309.52 -30473309.37 0.0140 0.0100
 Saturn -88145-08-25 14:37 J -30473301.04 -30473300.89 -30473300.73 0.0273 0.0184
 Uranus -88144-03-31 06:42 J -30473083.42 -30473083.22 -30473083.01 0.0141 0.0033
 Mars -88144-08-04 01:25 J -30472957.59 -30472957.44 -30472957.28 0.1884 0.0919
 Uranus -88144-11-12 14:23 J -30472857.10 -30472856.90 -30472856.69 0.0141 0.0036
 Uranus -88143-06-26 22:03 J -30472630.71 -30472630.58 -30472630.43 0.0141 0.0105
 Jupiter -88142-01-29 03:20 J -30472414.36 -30472414.36 -30472414.35 0.0532 0.0532
 Mars -88139-03-12 03:06 J -30471276.48 -30471276.37 -30471276.26 0.1654 0.1254
 Jupiter -88137-11-26 16:32 J -30470285.86 -30470285.81 -30470285.74 0.0491 0.0468
 Jupiter -88131-10-03 21:49 J -30468148.79 -30468148.59 -30468148.40 0.0535 0.0027
 Saturn -88130-02-10 05:30 J -30468019.48 -30468019.27 -30468019.06 0.0287 0.0056
 Neptune -88123-09-23 15:35 J -30465236.88 -30465236.85 -30465236.77 0.0089 0.0086
 Neptune -88122-05-07 03:35 J -30465011.46 -30465011.35 -30465011.20 0.0089 0.0071
 Neptune -88122-12-18 15:35 J -30464786.01 -30464785.85 -30464785.68 0.0089 0.0056
 Neptune -88121-07-31 03:06 J -30464560.54 -30464560.37 -30464560.16 0.0089 0.0042
 Neptune -88120-03-13 15:06 J -30464335.06 -30464334.87 -30464334.66 0.0089 0.0027
 Neptune -88120-10-25 03:20 J -30464109.57 -30464109.36 -30464109.15 0.0089 0.0012
 Neptune -88119-06-07 15:06 J -30463884.08 -30463883.87 -30463883.65 0.0089 0.0003
 Jupiter -88119-06-08 16:47 J -30463882.88 -30463882.80 -30463882.71 0.0537 0.0481
 Neptune -88118-01-19 02:51 J -30463658.58 -30463658.38 -30463658.17 0.0089 0.0018
 Neptune -88118-09-01 14:37 J -30463433.08 -30463432.89 -30463432.68 0.0089 0.0033
 Neptune -88117-04-14 02:37 J -30463207.57 -30463207.39 -30463207.21 0.0089 0.0047
 Neptune -88117-11-25 14:23 J -30462982.04 -30462981.90 -30462981.74 0.0089 0.0062
 Neptune -88116-07-09 01:54 J -30462756.50 -30462756.42 -30462756.29 0.0089 0.0077
 Saturn -88116-07-21 17:59 J -30462743.94 -30462743.75 -30462743.55 0.0272 0.0093

Saturn	-88115-03-07 18:42 J	-30462514.83	-30462514.72	-30462514.61	0.0272	0.0228
Jupiter	-88113-11-29 05:30 J	-30461517.46	-30461517.27	-30461517.08	0.0494	0.0187
Mars	-88107-03-10 19:11 J	-30459589.86	-30459589.70	-30459589.54	0.1646	0.0494
Uranus	-88106-09-13 09:06 J	-30459038.30	-30459038.12	-30459037.93	0.0138	0.0076
Uranus	-88105-04-26 19:25 J	-30458811.91	-30458811.69	-30458811.47	0.0138	0.0008
Uranus	-88105-12-09 05:01 J	-30458585.48	-30458585.29	-30458585.08	0.0138	0.0059
Uranus	-88104-07-23 14:23 J	-30458358.98	-30458358.90	-30458358.80	0.0137	0.0126
Jupiter	-88101-08-04 04:32 J	-30457251.49	-30457251.31	-30457251.12	0.0492	0.0229
Saturn	-88101-08-22 08:23 J	-30457233.35	-30457233.15	-30457232.94	0.0287	0.0100
Jupiter	-88095-06-11 12:13 J	-30455114.14	-30455113.99	-30455113.82	0.0533	0.0321
Saturn	-88086-01-31 23:30 J	-30451957.73	-30451957.52	-30451957.32	0.0273	0.0046
Jupiter	-88083-02-14 05:44 J	-30450848.44	-30450848.26	-30450848.07	0.0535	0.0194
Mars	-88078-06-01 03:35 J	-30448915.44	-30448915.35	-30448915.27	0.1880	0.1619
Jupiter	-88077-08-06 17:15 J	-30448482.88	-30448482.78	-30448482.68	0.0495	0.0430
Mars	-88073-01-07 15:20 J	-30447233.93	-30447233.86	-30447233.78	0.1657	0.1490
Saturn	-88072-07-17 22:03 J	-30446676.71	-30446676.58	-30446676.45	0.0287	0.0225
Saturn	-88071-03-04 21:35 J	-30446446.76	-30446446.60	-30446446.42	0.0287	0.0174
Jupiter	-88065-04-11 15:20 J	-30444217.07	-30444216.86	-30444216.65	0.0493	0.0008
Uranus	-88061-04-16 09:20 J	-30442751.18	-30442751.11	-30442751.03	0.0140	0.0130
Earth	-88061-08-16 21:20 J	-30442628.65	-30442628.61	-30442628.58	0.2585	0.2504
Uranus	-88061-11-28 16:18 J	-30442524.99	-30442524.82	-30442524.62	0.0140	0.0065
Uranus	-88060-07-12 23:59 J	-30442298.71	-30442298.50	-30442298.28	0.0141	0.0004
Uranus	-88059-02-24 07:25 J	-30442072.36	-30442072.19	-30442072.00	0.0141	0.0072
Uranus	-88059-10-08 15:20 J	-30441845.86	-30441845.86	-30441845.83	0.0142	0.0141
Saturn	-88057-08-13 04:18 J	-30441171.52	-30441171.32	-30441171.11	0.0272	0.0005
Jupiter	-88054-12-16 13:25 J	-30439951.05	-30439950.94	-30439950.83	0.0491	0.0412
Earth	-88053-08-14 13:54 J	-30439709.06	-30439708.92	-30439708.77	0.2583	0.1193
Moon	-88053-08-14 18:42 J	-30439708.88	-30439708.72	-30439708.56	0.2579	0.0763 *
Jupiter	-88048-10-22 21:20 J	-30437813.80	-30437813.61	-30437813.41	0.0535	0.0106
Saturn	-88042-01-28 00:56 J	-30435890.62	-30435890.46	-30435890.29	0.0286	0.0181

Saturn -88042-09-15 00:42 J -30435660.61 -30435660.47 -30435660.33 0.0286 0.0217

Mars -88041-01-06 07:54 J -30435547.34 -30435547.17 -30435547.00 0.1648 0.0279

Neptune -88041-11-09 15:20 J -30435238.91 -30435238.86 -30435238.76 0.0089 0.0084

Neptune -88040-06-23 05:44 J -30435013.38 -30435013.26 -30435013.09 0.0089 0.0068

Neptune -88039-02-03 20:08 J -30434787.83 -30434787.66 -30434787.46 0.0089 0.0052

Neptune -88039-09-17 10:47 J -30434562.26 -30434562.05 -30434561.84 0.0089 0.0036

Neptune -88038-05-01 00:56 J -30434336.67 -30434336.46 -30434336.23 0.0089 0.0021

Neptune -88038-12-12 15:20 J -30434111.08 -30434110.86 -30434110.63 0.0089 0.0005

Neptune -88037-07-25 05:30 J -30433885.49 -30433885.27 -30433885.04 0.0089 0.0011

Neptune -88036-03-07 19:25 J -30433659.89 -30433659.69 -30433659.46 0.0089 0.0027

Jupiter -88036-06-27 14:23 J -30433548.02 -30433547.90 -30433547.77 0.0536 0.0411

Neptune -88036-10-19 09:35 J -30433434.28 -30433434.10 -30433433.89 0.0089 0.0043

Neptune -88035-06-01 23:59 J -30433208.66 -30433208.50 -30433208.32 0.0089 0.0058

Neptune -88034-01-13 13:54 J -30432983.03 -30432982.92 -30432982.78 0.0089 0.0074

Jupiter -88030-12-19 03:35 J -30431182.53 -30431182.35 -30431182.17 0.0494 0.0253

Saturn -88027-02-23 09:06 J -30430385.32 -30430385.12 -30430384.92 0.0273 0.0049

Uranus -88022-05-13 17:44 J -30428479.89 -30428479.76 -30428479.60 0.0139 0.0106

Uranus -88022-12-26 04:18 J -30428253.53 -30428253.32 -30428253.10 0.0138 0.0038

Uranus -88021-08-08 14:08 J -30428027.12 -30428026.91 -30428026.69 0.0138 0.0030

Uranus -88020-03-22 23:44 J -30427800.66 -30427800.51 -30427800.35 0.0138 0.0097

Jupiter -88018-08-24 00:56 J -30426916.66 -30426916.46 -30426916.27 0.0492 0.0173

Saturn -88013-08-09 14:23 J -30425104.10 -30425103.90 -30425103.70 0.0287 0.0107

Jupiter -88012-06-30 08:08 J -30424779.30 -30424779.16 -30424779.02 0.0534 0.0376

Pluto -88006-04-01 18:13 J -30422677.90 -30422677.74 -30422677.55 0.0063 0.0039

Pluto -88006-11-12 22:47 J -30422452.78 -30422452.55 -30422452.32 0.0063 0.0008

Pluto -88005-06-25 02:51 J -30422227.58 -30422227.38 -30422227.16 0.0063 0.0023

Pluto -88004-02-05 07:25 J -30422002.30 -30422002.19 -30422002.08 0.0063 0.0055

88TH MILLENNIUM BCE

This is a list of transits of Venus in the 88th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-88000-03-05 03:20 J	-30420513.55	-30420513.36	-30420513.17	0.0536	0.0128		
Saturn	-87998-01-19 13:54 J	-30419828.03	-30419827.92	-30419827.79	0.0272	0.0222		
Saturn	-87998-09-05 14:23 J	-30419599.08	-30419598.90	-30419598.70	0.0272	0.0100		
Jupiter	-87994-08-26 13:54 J	-30418147.95	-30418147.92	-30418147.89	0.0495	0.0487		
Saturn	-87983-02-19 17:44 J	-30414317.97	-30414317.76	-30414317.55	0.0287	0.0062		
Jupiter	-87982-05-01 12:42 J	-30413882.17	-30413881.97	-30413881.76	0.0493	0.0070		
Mars	-87980-03-28 08:23 J	-30413185.27	-30413185.15	-30413185.02	0.1889	0.1367		
Uranus	-87977-07-29 01:25 J	-30411966.59	-30411966.44	-30411966.29	0.0140	0.0097		
Uranus	-87976-03-12 08:37 J	-30411740.35	-30411740.14	-30411739.93	0.0141	0.0030		
Uranus	-87976-10-24 16:18 J	-30411514.03	-30411513.82	-30411513.62	0.0141	0.0038		
Mars	-87976-11-02 20:08 J	-30411504.83	-30411504.66	-30411504.49	0.1651	0.0062		
Uranus	-87975-06-07 23:30 J	-30411287.64	-30411287.52	-30411287.36	0.0141	0.0108		
Jupiter	-87970-01-04 11:01 J	-30409616.18	-30409616.04	-30409615.89	0.0492	0.0349		
Saturn	-87969-07-31 17:30 J	-30409041.92	-30409041.77	-30409041.61	0.0273	0.0182		
Saturn	-87968-03-17 18:13 J	-30408812.91	-30408812.74	-30408812.56	0.0273	0.0142		
Jupiter	-87965-11-10 17:15 J	-30407478.96	-30407478.78	-30407478.59	0.0534	0.0165		
Neptune	-87958-08-08 13:54 J	-30405017.01	-30405016.92	-30405016.80	0.0089	0.0077		
Neptune	-87957-03-21 01:54 J	-30404791.57	-30404791.42	-30404791.27	0.0089	0.0062		
Neptune	-87957-11-01 13:25 J	-30404566.10	-30404565.94	-30404565.74	0.0089	0.0048		
Neptune	-87956-06-15 01:25 J	-30404340.63	-30404340.44	-30404340.24	0.0089	0.0033		
Neptune	-87955-01-26 13:11 J	-30404115.16	-30404114.95	-30404114.74	0.0089	0.0018		
Neptune	-87955-09-09 00:56 J	-30403889.67	-30403889.46	-30403889.24	0.0089	0.0004		

Neptune -87954-04-22 12:42 J -30403664.17 -30403663.97 -30403663.75 0.0089 0.0012
 Saturn -87954-09-02 06:27 J -30403531.45 -30403531.23 -30403531.01 0.0287 0.0011
 Neptune -87954-12-04 00:27 J -30403438.67 -30403438.48 -30403438.26 0.0089 0.0027
 Jupiter -87953-07-16 09:49 J -30403213.24 -30403213.09 -30403212.95 0.0537 0.0359
 Neptune -87953-07-16 12:13 J -30403213.16 -30403212.99 -30403212.78 0.0089 0.0042 *
 Neptune -87952-02-27 00:27 J -30402987.64 -30402987.48 -30402987.32 0.0089 0.0056
 Neptune -87952-10-10 12:13 J -30402762.11 -30402761.99 -30402761.86 0.0089 0.0071
 Neptune -87951-05-23 23:59 J -30402536.54 -30402536.50 -30402536.44 0.0089 0.0086
 Jupiter -87946-01-07 00:13 J -30400847.66 -30400847.49 -30400847.33 0.0494 0.0308
 Saturn -87939-02-10 23:44 J -30398255.69 -30398255.51 -30398255.32 0.0272 0.0127
 Saturn -87939-09-28 00:13 J -30398026.63 -30398026.49 -30398026.34 0.0272 0.0195
 Uranus -87938-01-11 02:37 J -30397921.42 -30397921.39 -30397921.33 0.0139 0.0136
 Uranus -87938-08-25 13:11 J -30397695.13 -30397694.95 -30397694.74 0.0139 0.0067
 Uranus -87937-04-07 23:30 J -30397468.74 -30397468.52 -30397468.29 0.0138 0.0002
 Uranus -87937-11-20 09:20 J -30397242.30 -30397242.11 -30397241.91 0.0138 0.0068
 Uranus -87936-07-04 18:42 J -30397015.74 -30397015.72 -30397015.66 0.0137 0.0135
 Jupiter -87935-09-11 21:49 J -30396581.80 -30396581.59 -30396581.39 0.0492 0.0115
 Moon -87931-02-11 03:20 J -30395333.52 -30395333.36 -30395333.21 0.2751 0.0732
 Earth -87931-02-11 07:54 J -30395333.33 -30395333.17 -30395333.02 0.2754 0.0223 *
 Jupiter -87929-07-19 07:54 J -30394444.27 -30394444.17 -30394444.07 0.0534 0.0457
 Saturn -87924-03-14 09:35 J -30392745.31 -30392745.10 -30392744.89 0.0287 0.0055
 Jupiter -87917-03-24 02:08 J -30390178.60 -30390178.41 -30390178.21 0.0535 0.0052
 Pluto -87916-05-19 15:20 J -30389757.00 -30389756.86 -30389756.68 0.0082 0.0053
 Pluto -87916-12-31 02:08 J -30389531.62 -30389531.41 -30389531.20 0.0082 0.0013
 Pluto -87915-08-13 12:27 J -30389306.05 -30389305.98 -30389305.91 0.0081 0.0077
 Mars -87914-01-23 10:18 J -30389143.24 -30389143.07 -30389142.90 0.1885 0.0643
 Saturn -87910-08-24 02:08 J -30387469.60 -30387469.41 -30387469.21 0.0273 0.0090
 Mars -87910-08-31 08:37 J -30387462.31 -30387462.14 -30387461.97 0.1653 0.0179
 Saturn -87909-04-09 02:51 J -30387240.48 -30387240.38 -30387240.27 0.0273 0.0235
 Jupiter -87899-05-20 10:03 J -30383547.28 -30383547.08 -30383546.88 0.0493 0.0128

Saturn -87895-02-06 21:06 J -30382188.67 -30382188.62 -30382188.55 0.0287 0.0276
 Saturn -87895-09-24 21:20 J -30381958.80 -30381958.61 -30381958.41 0.0287 0.0126
 Uranus -87893-03-28 11:44 J -30381408.09 -30381408.01 -30381407.91 0.0140 0.0126
 Uranus -87893-11-09 18:56 J -30381181.89 -30381181.71 -30381181.51 0.0140 0.0060
 Uranus -87892-06-24 02:23 J -30380955.61 -30380955.40 -30380955.19 0.0141 0.0007
 Uranus -87891-02-05 09:35 J -30380729.26 -30380729.10 -30380728.91 0.0141 0.0076
 Jupiter -87887-01-23 08:37 J -30379281.30 -30379281.14 -30379280.97 0.0491 0.0289
 Jupiter -87882-11-30 14:37 J -30377144.07 -30377143.89 -30377143.71 0.0535 0.0228
 Saturn -87880-03-05 08:37 J -30376683.35 -30376683.14 -30376682.94 0.0272 0.0035
 Mars -87878-08-30 01:11 J -30375775.50 -30375775.45 -30375775.41 0.1645 0.1579
 Neptune -87876-09-24 12:27 J -30375019.09 -30375018.98 -30375018.85 0.0089 0.0075
 Neptune -87875-05-08 02:37 J -30374793.53 -30374793.39 -30374793.20 0.0089 0.0060
 Neptune -87875-12-19 17:15 J -30374567.97 -30374567.78 -30374567.57 0.0089 0.0044
 Neptune -87874-08-02 07:39 J -30374342.39 -30374342.18 -30374341.96 0.0089 0.0028
 Neptune -87873-03-14 22:03 J -30374116.81 -30374116.58 -30374116.36 0.0089 0.0012
 Neptune -87873-10-26 12:13 J -30373891.22 -30373890.99 -30373890.76 0.0089 0.0004
 Neptune -87872-06-09 02:23 J -30373665.61 -30373665.40 -30373665.17 0.0089 0.0020
 Neptune -87871-01-20 16:32 J -30373440.01 -30373439.81 -30373439.59 0.0089 0.0036
 Neptune -87871-09-03 06:56 J -30373214.40 -30373214.21 -30373214.03 0.0089 0.0051
 Neptune -87870-04-16 20:51 J -30372988.76 -30372988.63 -30372988.47 0.0089 0.0067
 Jupiter -87870-08-05 10:03 J -30372878.25 -30372878.08 -30372877.91 0.0537 0.0275
 Neptune -87870-11-28 10:47 J -30372763.11 -30372763.05 -30372762.95 0.0089 0.0083
 Saturn -87866-08-20 00:27 J -30371402.60 -30371402.48 -30371402.35 0.0287 0.0232
 Saturn -87865-04-06 00:27 J -30371172.65 -30371172.48 -30371172.31 0.0287 0.0169
 Jupiter -87863-01-25 22:03 J -30370512.71 -30370512.58 -30370512.44 0.0494 0.0372
 Uranus -87854-04-24 21:49 J -30367136.73 -30367136.59 -30367136.42 0.0139 0.0098
 Uranus -87854-12-07 08:37 J -30366910.36 -30366910.14 -30366909.92 0.0138 0.0029
 Uranus -87853-07-20 18:42 J -30366683.93 -30366683.72 -30366683.50 0.0138 0.0039
 Uranus -87852-03-04 04:18 J -30366457.45 -30366457.32 -30366457.17 0.0138 0.0106
 Jupiter -87852-09-30 20:23 J -30366246.86 -30366246.65 -30366246.44 0.0493 0.0048

Saturn -87851-09-15 09:49 J -30365897.29 -30365897.09 -30365896.88 0.0273 0.0004
 Mars -87849-11-19 12:27 J -30365101.16 -30365100.98 -30365100.80 0.1881 0.0050
 Jupiter -87846-08-08 05:44 J -30364109.28 -30364109.26 -30364109.22 0.0533 0.0525
 Mars -87844-06-27 21:20 J -30363419.78 -30363419.61 -30363419.45 0.1656 0.0407
 Jupiter -87840-06-05 19:11 J -30361980.76 -30361980.70 -30361980.63 0.0491 0.0464
 Saturn -87836-03-01 10:32 J -30360616.23 -30360616.06 -30360615.88 0.0287 0.0166
 Saturn -87836-10-17 10:32 J -30360386.17 -30360386.06 -30360385.93 0.0287 0.0237
 Jupiter -87834-04-12 22:03 J -30359843.78 -30359843.58 -30359843.38 0.0536 0.0004
 Jupiter -87823-12-16 16:18 J -30355577.88 -30355577.82 -30355577.75 0.0538 0.0509
 Saturn -87822-08-11 16:18 J -30355339.86 -30355339.82 -30355339.78 0.0272 0.0266
 Saturn -87821-03-27 16:18 J -30355111.02 -30355110.82 -30355110.62 0.0272 0.0055
 Moon -87818-08-17 18:42 J -30353872.83 -30353872.72 -30353872.60 0.2581 0.1880
 Jupiter -87816-06-08 08:08 J -30353212.35 -30353212.16 -30353211.97 0.0493 0.0192
 Mars -87812-06-26 13:25 J -30351733.03 -30351732.94 -30351732.84 0.1647 0.1357
 Moon -87810-08-15 11:15 J -30350953.17 -30350953.03 -30350952.89 0.2585 0.1289
 Earth -87810-08-15 16:47 J -30350952.95 -30350952.80 -30350952.65 0.2583 0.0973 *
 Uranus -87809-07-10 05:15 J -30350623.43 -30350623.28 -30350623.11 0.0140 0.0090
 Uranus -87808-02-21 12:27 J -30350397.19 -30350396.98 -30350396.77 0.0140 0.0023
 Uranus -87808-10-05 19:39 J -30350170.87 -30350170.68 -30350170.47 0.0141 0.0045
 Uranus -87807-05-20 03:06 J -30349944.48 -30349944.37 -30349944.23 0.0141 0.0113
 Saturn -87807-09-11 13:39 J -30349830.12 -30349829.93 -30349829.73 0.0287 0.0123
 Saturn -87806-04-29 13:39 J -30349599.97 -30349599.93 -30349599.88 0.0287 0.0279
 Jupiter -87804-02-11 06:56 J -30348946.39 -30348946.21 -30348946.02 0.0491 0.0223
 Jupiter -87799-12-19 15:20 J -30346809.02 -30346808.86 -30346808.70 0.0534 0.0315
 Neptune -87794-11-09 23:30 J -30345022.57 -30345022.52 -30345022.43 0.0089 0.0084
 Neptune -87793-06-22 11:15 J -30344797.15 -30344797.03 -30344796.88 0.0089 0.0069
 Neptune -87792-02-02 23:15 J -30344571.69 -30344571.53 -30344571.36 0.0089 0.0054
 Saturn -87792-02-20 16:18 J -30344553.91 -30344553.82 -30344553.71 0.0272 0.0236
 Neptune -87792-09-16 10:47 J -30344346.22 -30344346.05 -30344345.84 0.0089 0.0040
 Saturn -87792-10-07 16:32 J -30344325.00 -30344324.81 -30344324.61 0.0272 0.0087

Neptune -87791-04-29 22:47 J -30344120.75 -30344120.55 -30344120.34 0.0089 0.0025
 Neptune -87791-12-11 10:47 J -30343895.26 -30343895.05 -30343894.84 0.0089 0.0010
 Neptune -87790-07-24 22:32 J -30343669.77 -30343669.56 -30343669.35 0.0089 0.0005
 Neptune -87789-03-06 10:03 J -30343444.28 -30343444.08 -30343443.86 0.0089 0.0021
 Neptune -87789-10-17 22:18 J -30343218.77 -30343218.57 -30343218.38 0.0089 0.0035
 Neptune -87788-05-31 10:03 J -30342993.25 -30342993.08 -30342992.90 0.0089 0.0050
 Neptune -87787-01-11 21:49 J -30342767.73 -30342767.59 -30342767.44 0.0089 0.0065
 Jupiter -87787-08-24 09:20 J -30342543.29 -30342543.11 -30342542.93 0.0536 0.0197
 Neptune -87787-08-25 09:20 J -30342542.18 -30342542.11 -30342542.00 0.0089 0.0080
 Mars -87783-09-16 14:23 J -30341059.06 -30341058.90 -30341058.74 0.1877 0.0751
 Jupiter -87780-02-13 21:06 J -30340177.71 -30340177.62 -30340177.52 0.0494 0.0441
 Mars -87778-04-25 09:06 J -30339377.28 -30339377.12 -30339376.96 0.1659 0.0653
 Saturn -87777-03-23 22:18 J -30339043.78 -30339043.57 -30339043.36 0.0287 0.0061
 Uranus -87771-12-23 06:56 J -30336578.28 -30336578.21 -30336578.11 0.0139 0.0127
 Uranus -87770-08-06 17:30 J -30336351.96 -30336351.77 -30336351.55 0.0139 0.0059
 Uranus -87769-03-20 04:03 J -30336125.55 -30336125.33 -30336125.10 0.0138 0.0010
 Jupiter -87769-10-19 19:54 J -30335911.88 -30335911.67 -30335911.46 0.0492 0.0023
 Uranus -87769-11-01 13:54 J -30335899.09 -30335898.92 -30335898.73 0.0138 0.0078
 Saturn -87763-09-02 22:47 J -30333767.70 -30333767.55 -30333767.39 0.0272 0.0180
 Saturn -87762-04-19 23:01 J -30333538.72 -30333538.54 -30333538.36 0.0272 0.0142
 Pluto -87760-12-10 20:37 J -30332572.81 -30332572.64 -30332572.43 0.0063 0.0035
 Pluto -87759-07-24 01:11 J -30332347.67 -30332347.45 -30332347.22 0.0063 0.0004
 Pluto -87758-03-06 05:30 J -30332122.46 -30332122.27 -30332122.05 0.0063 0.0027
 Pluto -87758-10-17 10:18 J -30331897.15 -30331897.07 -30331896.99 0.0063 0.0059
 Jupiter -87757-06-24 18:13 J -30331645.87 -30331645.74 -30331645.62 0.0490 0.0395
 Jupiter -87751-05-01 23:15 J -30329508.72 -30329508.53 -30329508.33 0.0536 0.0093
 Saturn -87748-10-04 01:25 J -30328257.65 -30328257.44 -30328257.22 0.0287 0.0019
 Mars -87746-04-24 01:39 J -30327690.55 -30327690.43 -30327690.30 0.1650 0.1132
 Jupiter -87739-01-04 18:27 J -30325242.85 -30325242.73 -30325242.60 0.0537 0.0414
 Saturn -87733-03-14 22:18 J -30322981.73 -30322981.57 -30322981.39 0.0272 0.0151

Jupiter -87733-06-27 08:08 J -30322877.34 -30322877.16 -30322876.99 0.0493 0.0267
 Saturn -87733-10-29 22:32 J -30322752.71 -30322752.56 -30322752.40 0.0272 0.0172
 Uranus -87725-03-09 17:15 J -30320064.89 -30320064.78 -30320064.67 0.0140 0.0117
 Uranus -87725-10-21 23:59 J -30319838.69 -30319838.50 -30319838.29 0.0140 0.0052
 Uranus -87724-06-05 07:25 J -30319612.40 -30319612.19 -30319611.98 0.0141 0.0016
 Uranus -87723-01-17 14:51 J -30319386.04 -30319385.88 -30319385.71 0.0141 0.0084
 Jupiter -87721-03-02 07:11 J -30318611.40 -30318611.20 -30318611.00 0.0492 0.0150
 Saturn -87718-04-16 08:23 J -30317471.37 -30317471.15 -30317470.94 0.0287 0.0040
 Mars -87717-07-13 16:47 J -30317016.91 -30317016.80 -30317016.68 0.1873 0.1427
 Jupiter -87715-01-07 11:59 J -30316474.13 -30316474.00 -30316473.85 0.0534 0.0376
 Mars -87712-02-19 21:35 J -30315334.74 -30315334.60 -30315334.45 0.1661 0.0886
 Neptune -87712-12-26 18:42 J -30315024.78 -30315024.72 -30315024.62 0.0089 0.0083
 Neptune -87711-08-09 09:06 J -30314799.26 -30314799.12 -30314798.96 0.0089 0.0067
 Neptune -87710-03-22 23:30 J -30314573.70 -30314573.52 -30314573.33 0.0089 0.0051
 Neptune -87710-11-03 13:39 J -30314348.12 -30314347.93 -30314347.71 0.0089 0.0036
 Neptune -87709-06-16 04:03 J -30314122.54 -30314122.33 -30314122.10 0.0089 0.0020
 Neptune -87708-01-27 18:27 J -30313896.95 -30313896.73 -30313896.50 0.0089 0.0004
 Neptune -87708-09-10 08:37 J -30313671.36 -30313671.14 -30313670.91 0.0089 0.0013
 Neptune -87707-04-23 22:47 J -30313445.75 -30313445.55 -30313445.32 0.0089 0.0029
 Neptune -87707-12-05 13:25 J -30313220.14 -30313219.94 -30313219.75 0.0089 0.0044
 Neptune -87706-07-19 03:20 J -30312994.52 -30312994.36 -30312994.19 0.0089 0.0060
 Neptune -87705-02-29 17:15 J -30312768.88 -30312768.78 -30312768.65 0.0089 0.0076
 Jupiter -87704-09-12 06:27 J -30312208.42 -30312208.23 -30312208.03 0.0537 0.0135
 Saturn -87704-09-25 05:01 J -30312195.48 -30312195.29 -30312195.10 0.0271 0.0095
 Saturn -87703-05-12 05:01 J -30311966.40 -30311966.29 -30311966.18 0.0271 0.0227
 Saturn -87689-10-26 11:44 J -30306685.21 -30306685.01 -30306684.80 0.0287 0.0084
 Earth -87688-02-11 06:56 J -30306577.36 -30306577.21 -30306577.05 0.2755 0.0266
 Moon -87688-02-11 10:03 J -30306577.23 -30306577.08 -30306576.93 0.2760 0.0338 *
 Uranus -87686-04-06 03:20 J -30305793.53 -30305793.36 -30305793.18 0.0139 0.0087
 Jupiter -87686-11-08 19:39 J -30305576.89 -30305576.68 -30305576.48 0.0492 0.0095

Uranus -87686-11-18 13:54 J -30305567.14 -30305566.92 -30305566.70 0.0138 0.0019
 Uranus -87685-07-02 00:13 J -30305340.70 -30305340.49 -30305340.28 0.0138 0.0049
 Uranus -87684-02-13 09:35 J -30305114.19 -30305114.10 -30305113.96 0.0138 0.0117
 Mars -87680-02-18 14:08 J -30303648.05 -30303647.91 -30303647.77 0.1652 0.0903
 Saturn -87674-04-07 03:49 J -30301409.54 -30301409.34 -30301409.14 0.0272 0.0068
 Jupiter -87674-07-14 18:27 J -30301310.88 -30301310.73 -30301310.57 0.0491 0.0321
 Saturn -87674-11-22 03:49 J -30301180.40 -30301180.34 -30301180.26 0.0272 0.0255
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 Pluto -87669-09-10 06:56 J -30299426.41 -30299426.21 -30299426.00 0.0082 0.0024
 Jupiter -87668-05-21 00:42 J -30299173.66 -30299173.47 -30299173.29 0.0535 0.0182
 Saturn -87660-09-20 16:03 J -30296128.90 -30296128.83 -30296128.76 0.0287 0.0271
 Saturn -87659-05-08 16:47 J -30295898.98 -30295898.80 -30295898.60 0.0288 0.0137
 Jupiter -87656-01-23 15:35 J -30294907.99 -30294907.85 -30294907.70 0.0537 0.0351
 Jupiter -87650-07-17 09:35 J -30292542.25 -30292542.10 -30292541.95 0.0493 0.0347
 Mars -87647-12-18 09:49 J -30291292.22 -30291292.09 -30291291.97 0.1664 0.1134
 Saturn -87645-10-17 10:32 J -30290623.27 -30290623.06 -30290622.85 0.0271 0.0012
 Uranus -87641-06-21 11:01 J -30289280.21 -30289280.04 -30289279.86 0.0140 0.0080
 Uranus -87640-02-02 17:59 J -30289053.96 -30289053.75 -30289053.53 0.0140 0.0014
 Uranus -87640-09-17 01:11 J -30288827.64 -30288827.45 -30288827.25 0.0141 0.0054
 Uranus -87639-05-01 08:37 J -30288601.23 -30288601.14 -30288601.03 0.0141 0.0122
 Jupiter -87638-03-22 07:25 J -30288276.40 -30288276.19 -30288275.98 0.0491 0.0075
 Jupiter -87632-01-26 13:54 J -30286139.00 -30286138.92 -30286138.82 0.0535 0.0469
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 Saturn -87630-11-18 20:37 J -30285112.80 -30285112.64 -30285112.47 0.0287 0.0181
 Neptune -87629-09-23 20:23 J -30284802.74 -30284802.65 -30284802.52 0.0089 0.0076
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 Neptune -87627-08-01 07:39 J -30284126.36 -30284126.18 -30284125.97 0.0089 0.0032
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 Neptune -87626-03-14 19:39 J -30283900.89 -30283900.68 -30283900.47 0.0089 0.0017

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 Neptune -87623-11-26 18:27 J -30282547.84 -30282547.73 -30282547.60 0.0089 0.0073
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 Saturn -87615-04-29 09:20 J -30279837.32 -30279837.11 -30279836.91 0.0272 0.0016
 Mars -87615-12-17 02:37 J -30279605.55 -30279605.39 -30279605.24 0.1655 0.0675
 Jupiter -87603-11-27 21:20 J -30275241.81 -30275241.61 -30275241.41 0.0493 0.0176
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 Uranus -87602-07-18 23:44 J -30275008.71 -30275008.51 -30275008.29 0.0139 0.0047
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 Saturn -87601-10-12 23:30 J -30274556.68 -30274556.52 -30274556.34 0.0288 0.0179
 Uranus -87601-10-13 20:08 J -30274555.82 -30274555.66 -30274555.48 0.0138 0.0089
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 Saturn -87586-11-09 15:49 J -30269051.04 -30269050.84 -30269050.64 0.0271 0.0070
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 Mars -87581-10-14 21:49 J -30267249.68 -30267249.59 -30267249.50 0.1667 0.1379
 Jupiter -87573-02-12 17:30 J -30264572.95 -30264572.77 -30264572.60 0.0538 0.0258
 Saturn -87571-04-25 04:47 J -30263770.49 -30263770.30 -30263770.10 0.0288 0.0130
 Saturn -87571-12-11 05:15 J -30263540.33 -30263540.28 -30263540.22 0.0288 0.0277
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 Earth -87567-08-15 19:11 J -30262196.85 -30262196.70 -30262196.54 0.2582 0.0784
 Moon -87567-08-16 00:56 J -30262196.61 -30262196.46 -30262196.30 0.2583 0.0469 *
 Uranus -87557-02-19 22:03 J -30258721.70 -30258721.58 -30258721.43 0.0140 0.0109

Uranus -87557-10-03 05:15 J -30258495.48 -30258495.28 -30258495.08 0.0140 0.0042
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 Uranus -87556-05-17 12:13 J -30258269.19 -30258268.99 -30258268.77 0.0141 0.0025
 Saturn -87556-05-21 14:23 J -30258265.09 -30258264.90 -30258264.70 0.0271 0.0098
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 Jupiter -87555-04-10 08:23 J -30257941.36 -30257941.15 -30257940.94 0.0492 0.0006
 Mars -87553-03-06 23:15 J -30257244.69 -30257244.53 -30257244.37 0.1879 0.0826
 Mars -87549-10-13 14:37 J -30255563.06 -30255562.89 -30255562.73 0.1657 0.0436
 Neptune -87547-11-10 15:06 J -30254804.98 -30254804.87 -30254804.75 0.0089 0.0075
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 Jupiter -87544-12-14 08:37 J -30253675.25 -30253675.14 -30253675.02 0.0490 0.0405
 Neptune -87543-07-26 04:47 J -30253451.51 -30253451.30 -30253451.07 0.0089 0.0021
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 Neptune -87542-10-20 09:06 J -30253000.29 -30253000.12 -30252999.92 0.0089 0.0053
 Saturn -87542-11-05 06:56 J -30252984.41 -30252984.21 -30252984.00 0.0288 0.0087
 Neptune -87541-06-01 23:15 J -30252774.65 -30252774.53 -30252774.36 0.0089 0.0069
 Neptune -87540-01-13 13:39 J -30252548.99 -30252548.93 -30252548.85 0.0089 0.0084
 Jupiter -87538-10-21 07:39 J -30251538.38 -30251538.18 -30251537.98 0.0536 0.0036
 Saturn -87527-04-16 21:20 J -30247707.76 -30247707.61 -30247707.44 0.0271 0.0169
 Saturn -87527-12-01 21:06 J -30247478.78 -30247478.62 -30247478.44 0.0271 0.0154
 Jupiter -87526-06-26 01:11 J -30247272.53 -30247272.45 -30247272.36 0.0538 0.0482
 Jupiter -87520-12-16 21:35 J -30244906.78 -30244906.60 -30244906.42 0.0492 0.0253
 Uranus -87518-03-18 09:35 J -30244450.28 -30244450.10 -30244449.90 0.0139 0.0075
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 Uranus -87517-06-13 06:42 J -30243997.41 -30243997.22 -30243997.02 0.0138 0.0062
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Mars -87515-08-12 09:35 J -30243207.13 -30243207.10 -30243207.07 0.1670 0.1639
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 Pluto -87513-08-21 00:56 J -30242467.65 -30242467.46 -30242467.24 0.0063 0.0027
 Pluto -87512-04-03 05:44 J -30242242.49 -30242242.26 -30242242.03 0.0063 0.0004
 Saturn -87512-05-17 13:25 J -30242198.16 -30242197.94 -30242197.73 0.0288 0.0035
 Pluto -87512-11-14 09:49 J -30242017.27 -30242017.09 -30242016.89 0.0063 0.0035
 Jupiter -87508-08-21 20:37 J -30240640.84 -30240640.64 -30240640.44 0.0491 0.0163
 Jupiter -87502-06-29 01:25 J -30238503.59 -30238503.44 -30238503.30 0.0535 0.0349
 Saturn -87498-10-27 20:51 J -30236921.81 -30236921.63 -30236921.45 0.0271 0.0139
 Saturn -87497-06-12 20:23 J -30236692.80 -30236692.65 -30236692.50 0.0271 0.0182
 Jupiter -87490-03-03 19:54 J -30234237.85 -30234237.67 -30234237.48 0.0537 0.0160
 Mars -87487-01-02 00:56 J -30233202.64 -30233202.46 -30233202.28 0.1875 0.0115
 Mars -87483-08-11 02:51 J -30231520.55 -30231520.38 -30231520.21 0.1660 0.0197
 Saturn -87483-11-27 15:20 J -30231412.08 -30231411.86 -30231411.65 0.0288 0.0008
 Uranus -87474-10-20 08:51 J -30228163.16 -30228163.13 -30228163.10 0.0139 0.0138
 Uranus -87473-06-02 15:20 J -30227937.03 -30227936.86 -30227936.67 0.0140 0.0073
 Uranus -87472-01-14 22:32 J -30227710.78 -30227710.56 -30227710.35 0.0140 0.0007
 Jupiter -87472-04-29 10:47 J -30227606.26 -30227606.05 -30227605.84 0.0492 0.0090
 Uranus -87472-08-29 05:30 J -30227484.46 -30227484.27 -30227484.08 0.0141 0.0061
 Uranus -87471-04-12 12:42 J -30227258.04 -30227257.97 -30227257.87 0.0141 0.0129
 Saturn -87468-05-09 03:20 J -30226135.56 -30226135.36 -30226135.16 0.0271 0.0086
 Saturn -87468-12-24 03:06 J -30225906.46 -30225906.37 -30225906.27 0.0271 0.0237
 Neptune -87465-12-26 05:01 J -30224808.34 -30224808.29 -30224808.20 0.0089 0.0084
 Neptune -87464-08-08 16:47 J -30224582.91 -30224582.80 -30224582.64 0.0089 0.0069
 Neptune -87463-03-22 04:47 J -30224357.46 -30224357.30 -30224357.12 0.0089 0.0054
 Neptune -87463-11-02 16:47 J -30224131.99 -30224131.80 -30224131.60 0.0089 0.0039
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 Neptune -87461-01-27 16:18 J -30223681.03 -30223680.82 -30223680.60 0.0089 0.0009
 Neptune -87461-09-09 04:03 J -30223455.54 -30223455.33 -30223455.11 0.0089 0.0007
 Jupiter -87460-01-02 08:37 J -30223340.29 -30223340.14 -30223339.98 0.0490 0.0329

Neptune -87460-04-22 15:35 J -30223230.04 -30223229.85 -30223229.63 0.0089 0.0022
 Neptune -87460-12-04 03:49 J -30223004.54 -30223004.34 -30223004.15 0.0089 0.0036
 Neptune -87459-07-17 15:35 J -30222779.02 -30222778.85 -30222778.68 0.0089 0.0051
 Neptune -87458-02-28 03:20 J -30222553.50 -30222553.36 -30222553.22 0.0089 0.0066
 Neptune -87458-10-11 15:06 J -30222327.95 -30222327.87 -30222327.78 0.0089 0.0081
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 Saturn -87453-06-08 22:32 J -30220625.77 -30220625.56 -30220625.35 0.0288 0.0063
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 Earth -87445-02-12 06:13 J -30217821.39 -30217821.24 -30217821.09 0.2756 0.0732 *
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 Mars -87422-10-30 03:35 J -30209160.52 -30209160.35 -30209160.18 0.1871 0.0563
 Jupiter -87419-07-17 22:47 J -30208168.67 -30208168.55 -30208168.42 0.0535 0.0416
 Mars -87417-06-07 15:06 J -30207478.04 -30207477.87 -30207477.70 0.1663 0.0042
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Jupiter -87389-05-18 09:35 J -30197271.30 -30197271.10 -30197270.90 0.0492 0.0159
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 Uranus -87388-12-10 23:15 J -30196699.67 -30196699.53 -30196699.37 0.0141 0.0099
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 Neptune -87381-12-19 15:49 J -30194134.04 -30194133.84 -30194133.62 0.0089 0.0035
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 Neptune -87379-03-15 20:23 J -30193682.87 -30193682.65 -30193682.42 0.0089 0.0004
 Neptune -87379-10-27 10:32 J -30193457.28 -30193457.06 -30193456.83 0.0089 0.0013
 Neptune -87378-06-10 00:56 J -30193231.67 -30193231.46 -30193231.24 0.0089 0.0029
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 Neptune -87376-04-16 19:11 J -30192554.79 -30192554.70 -30192554.56 0.0089 0.0077
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 Jupiter -87360-08-03 01:54 J -30186602.58 -30186602.42 -30186602.26 0.0537 0.0311
 Mars -87356-08-26 05:44 J -30185118.39 -30185118.26 -30185118.13 0.1867 0.1254
 Jupiter -87353-01-24 23:15 J -30184236.64 -30184236.53 -30184236.41 0.0493 0.0410
 Mars -87351-04-05 02:51 J -30183435.54 -30183435.38 -30183435.21 0.1666 0.0298
 Uranus -87351-07-16 04:18 J -30183333.37 -30183333.32 -30183333.25 0.0140 0.0134
 Saturn -87351-11-06 17:30 J -30183219.86 -30183219.77 -30183219.66 0.0272 0.0236
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 Saturn -87350-06-23 17:15 J -30182990.97 -30182990.78 -30182990.58 0.0272 0.0090
 Uranus -87350-10-12 01:54 J -30182880.64 -30182880.42 -30182880.19 0.0139 0.0006
 Uranus -87349-05-25 12:13 J -30182654.17 -30182653.99 -30182653.79 0.0138 0.0073

Jupiter -87342-09-29 20:37 J -30179970.85 -30179970.64 -30179970.43 0.0491 0.0014
 Jupiter -87336-08-05 21:49 J -30177833.65 -30177833.59 -30177833.51 0.0535 0.0494
 Saturn -87336-12-06 19:54 J -30177710.85 -30177710.67 -30177710.47 0.0288 0.0140
 Saturn -87335-07-24 20:37 J -30177480.70 -30177480.64 -30177480.56 0.0288 0.0271
 Jupiter -87330-06-04 19:39 J -30175704.78 -30175704.68 -30175704.57 0.0490 0.0426
 Jupiter -87324-04-10 17:44 J -30173567.96 -30173567.76 -30173567.57 0.0537 0.0015
 Moon -87324-08-15 16:47 J -30173440.96 -30173440.80 -30173440.65 0.2579 0.1011
 Earth -87324-08-15 22:03 J -30173440.74 -30173440.58 -30173440.42 0.2582 0.0566 *
 Saturn -87321-05-18 19:39 J -30172433.82 -30172433.68 -30172433.53 0.0271 0.0196
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 Mars -87319-04-03 20:08 J -30171748.72 -30171748.66 -30171748.60 0.1656 0.1530
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 Jupiter -87306-06-07 09:20 J -30166936.29 -30166936.11 -30166935.92 0.0492 0.0232
 Saturn -87306-06-18 22:18 J -30166924.77 -30166924.57 -30166924.36 0.0287 0.0097
 Uranus -87306-10-01 13:25 J -30166820.01 -30166819.94 -30166819.86 0.0139 0.0130
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 Uranus -87305-12-27 02:51 J -30166367.59 -30166367.38 -30166367.17 0.0140 0.0002
 Uranus -87304-08-10 09:49 J -30166141.27 -30166141.09 -30166140.90 0.0140 0.0069
 Uranus -87303-03-24 16:47 J -30165914.83 -30165914.80 -30165914.73 0.0141 0.0137
 Neptune -87300-11-10 01:11 J -30164588.54 -30164588.45 -30164588.33 0.0089 0.0077
 Neptune -87299-06-23 12:56 J -30164363.09 -30164362.96 -30164362.79 0.0089 0.0062
 Neptune -87298-02-04 00:42 J -30164137.63 -30164137.47 -30164137.27 0.0089 0.0047
 Neptune -87298-09-17 12:42 J -30163912.16 -30163911.97 -30163911.76 0.0089 0.0032
 Neptune -87297-04-30 00:27 J -30163686.68 -30163686.48 -30163686.26 0.0089 0.0017
 Neptune -87297-12-11 12:27 J -30163461.19 -30163460.98 -30163460.76 0.0089 0.0002
 Neptune -87296-07-25 00:13 J -30163235.70 -30163235.49 -30163235.27 0.0089 0.0014
 Neptune -87295-03-07 11:59 J -30163010.20 -30163010.00 -30163009.79 0.0089 0.0029
 Neptune -87295-10-18 23:44 J -30162784.68 -30162784.51 -30162784.31 0.0089 0.0044
 Jupiter -87294-02-10 08:23 J -30162670.35 -30162670.15 -30162669.96 0.0491 0.0182
 Neptune -87294-06-01 11:30 J -30162559.17 -30162559.02 -30162558.85 0.0089 0.0059

Neptune -87293-01-12 23:15 J -30162333.63 -30162333.53 -30162333.40 0.0089 0.0074
 Saturn -87292-11-29 01:54 J -30161647.60 -30161647.42 -30161647.25 0.0272 0.0145
 Saturn -87291-07-16 01:25 J -30161418.58 -30161418.44 -30161418.28 0.0272 0.0181
 Jupiter -87289-12-17 05:59 J -30160533.42 -30160533.25 -30160533.08 0.0535 0.0273
 Mars -87285-01-31 15:20 J -30159393.02 -30159392.86 -30159392.70 0.1668 0.0533
 Jupiter -87277-08-21 23:44 J -30156267.68 -30156267.51 -30156267.33 0.0538 0.0242
 Saturn -87277-12-29 10:03 J -30156138.30 -30156138.08 -30156137.87 0.0288 0.0027
 Jupiter -87270-02-12 20:23 J -30153901.71 -30153901.65 -30153901.59 0.0493 0.0470
 Pluto -87267-09-19 03:49 J -30152587.50 -30152587.34 -30152587.17 0.0063 0.0043
 Uranus -87267-10-27 23:44 J -30152548.67 -30152548.51 -30152548.35 0.0139 0.0095
 Pluto -87266-05-02 07:54 J -30152362.38 -30152362.17 -30152361.93 0.0063 0.0013
 Uranus -87266-06-11 10:47 J -30152322.27 -30152322.05 -30152321.83 0.0139 0.0026
 Pluto -87266-12-13 12:27 J -30152137.20 -30152136.98 -30152136.76 0.0063 0.0019
 Uranus -87265-01-23 21:06 J -30152095.83 -30152095.62 -30152095.40 0.0139 0.0043
 Pluto -87265-07-25 16:18 J -30151911.93 -30151911.82 -30151911.66 0.0063 0.0050
 Uranus -87265-09-06 07:11 J -30151869.32 -30151869.20 -30151869.06 0.0138 0.0111
 Saturn -87262-06-11 04:47 J -30150861.49 -30150861.30 -30150861.10 0.0271 0.0102
 Saturn -87261-01-26 04:18 J -30150632.42 -30150632.32 -30150632.19 0.0271 0.0223
 Jupiter -87259-10-18 18:27 J -30149635.94 -30149635.73 -30149635.52 0.0491 0.0050
 Mars -87258-06-23 09:35 J -30149388.17 -30149388.10 -30149388.02 0.1877 0.1687
 Mars -87253-01-30 08:23 J -30147706.26 -30147706.15 -30147706.05 0.1659 0.1297
 Jupiter -87247-06-23 18:27 J -30145369.87 -30145369.73 -30145369.59 0.0490 0.0359
 Saturn -87247-07-11 12:27 J -30145352.20 -30145351.98 -30145351.76 0.0287 0.0017
 Jupiter -87241-04-29 14:51 J -30143233.07 -30143232.88 -30143232.68 0.0536 0.0060
 Saturn -87233-12-21 10:32 J -30140075.27 -30140075.06 -30140074.86 0.0272 0.0053
 Jupiter -87229-01-03 07:54 J -30138967.27 -30138967.17 -30138967.07 0.0538 0.0463
 Jupiter -87223-06-26 06:27 J -30136601.40 -30136601.23 -30136601.06 0.0492 0.0292
 Uranus -87221-01-13 08:23 J -30136035.31 -30136035.15 -30136034.99 0.0139 0.0091
 Uranus -87221-08-26 15:06 J -30135809.08 -30135808.87 -30135808.66 0.0140 0.0025
 Uranus -87220-04-09 21:49 J -30135582.79 -30135582.59 -30135582.38 0.0140 0.0042

Uranus -87220-11-22 05:01 J -30135356.41 -30135356.29 -30135356.15 0.0141 0.0109
 Mars -87220-11-28 03:06 J -30135350.52 -30135350.37 -30135350.22 0.1671 0.0794
 Neptune -87218-12-27 17:01 J -30134590.88 -30134590.79 -30134590.64 0.0089 0.0076
 Saturn -87217-01-22 01:11 J -30134565.65 -30134565.45 -30134565.24 0.0288 0.0090
 Neptune -87217-08-09 07:25 J -30134365.34 -30134365.19 -30134365.00 0.0089 0.0060
 Neptune -87216-03-22 21:35 J -30134139.78 -30134139.60 -30134139.38 0.0089 0.0044
 Neptune -87216-11-03 11:59 J -30133914.20 -30133914.00 -30133913.77 0.0089 0.0028
 Neptune -87215-06-17 02:23 J -30133688.62 -30133688.40 -30133688.17 0.0089 0.0012
 Neptune -87214-01-28 16:47 J -30133463.03 -30133462.80 -30133462.57 0.0089 0.0005
 Neptune -87214-09-11 06:56 J -30133237.43 -30133237.21 -30133236.99 0.0089 0.0021
 Neptune -87213-04-23 21:20 J -30133011.81 -30133011.61 -30133011.40 0.0089 0.0037
 Neptune -87213-12-05 11:30 J -30132786.20 -30132786.02 -30132785.83 0.0088 0.0053
 Neptune -87212-07-19 01:39 J -30132560.57 -30132560.43 -30132560.28 0.0088 0.0069
 Jupiter -87211-03-01 05:01 J -30132335.49 -30132335.29 -30132335.09 0.0491 0.0125
 Neptune -87211-03-01 15:35 J -30132334.90 -30132334.85 -30132334.77 0.0088 0.0085
 Jupiter -87205-01-06 05:01 J -30130198.43 -30130198.29 -30130198.14 0.0536 0.0350
 Saturn -87203-07-03 14:37 J -30129289.09 -30129288.89 -30129288.68 0.0271 0.0007
 Moon -87202-02-12 05:15 J -30129065.40 -30129065.28 -30129065.16 0.2763 0.1551
 Earth -87202-02-12 05:44 J -30129065.40 -30129065.26 -30129065.12 0.2756 0.1178 *
 Jupiter -87194-09-10 23:59 J -30125932.69 -30125932.50 -30125932.31 0.0537 0.0158
 Mars -87192-04-19 11:44 J -30125346.16 -30125346.01 -30125345.85 0.1873 0.0992
 Saturn -87189-12-16 03:20 J -30124009.41 -30124009.36 -30124009.30 0.0287 0.0275
 Saturn -87188-08-03 04:18 J -30123779.51 -30123779.32 -30123779.13 0.0287 0.0135
 Mars -87188-11-26 20:37 J -30123663.77 -30123663.64 -30123663.51 0.1662 0.1061
 Uranus -87183-06-27 08:51 J -30121990.22 -30121990.13 -30121990.02 0.0140 0.0125
 Uranus -87182-02-08 19:39 J -30121763.87 -30121763.68 -30121763.46 0.0139 0.0056
 Uranus -87182-09-23 06:42 J -30121537.44 -30121537.22 -30121537.00 0.0139 0.0014
 Uranus -87181-05-06 16:47 J -30121310.97 -30121310.80 -30121310.61 0.0139 0.0082
 Pluto -87177-11-06 05:15 J -30119666.44 -30119666.28 -30119666.09 0.0082 0.0047
 Pluto -87176-06-19 15:49 J -30119441.04 -30119440.84 -30119440.62 0.0082 0.0018

Jupiter -87176-11-06 17:01 J -30119300.99 -30119300.79 -30119300.58 0.0492 0.0117
 Saturn -87173-01-13 19:39 J -30118502.89 -30118502.68 -30118502.48 0.0272 0.0042
 Jupiter -87164-07-12 14:51 J -30115035.04 -30115034.88 -30115034.71 0.0490 0.0303
 Saturn -87159-06-28 16:32 J -30113222.95 -30113222.81 -30113222.64 0.0287 0.0201
 Saturn -87158-02-13 17:30 J -30112992.91 -30112992.77 -30112992.62 0.0288 0.0211
 Jupiter -87158-05-19 11:15 J -30112898.23 -30112898.03 -30112897.84 0.0536 0.0117
 Mars -87154-09-25 15:06 J -30111308.00 -30111307.87 -30111307.74 0.1674 0.1047
 Jupiter -87146-01-22 05:44 J -30108632.39 -30108632.26 -30108632.13 0.0538 0.0395
 Saturn -87145-12-09 00:56 J -30107945.56 -30107945.46 -30107945.36 0.0272 0.0234
 Saturn -87144-07-26 00:42 J -30107716.67 -30107716.47 -30107716.28 0.0271 0.0092
 Jupiter -87140-07-15 03:06 J -30106266.51 -30106266.37 -30106266.22 0.0492 0.0350
 Uranus -87138-09-12 20:23 J -30105476.75 -30105476.65 -30105476.53 0.0139 0.0117
 Uranus -87137-04-26 03:06 J -30105250.56 -30105250.37 -30105250.17 0.0140 0.0052
 Uranus -87137-12-08 10:03 J -30105024.29 -30105024.08 -30105023.87 0.0140 0.0014
 Uranus -87136-07-22 16:47 J -30104797.96 -30104797.80 -30104797.62 0.0140 0.0082
 Neptune -87135-02-11 09:20 J -30104594.15 -30104594.11 -30104594.03 0.0089 0.0085
 Neptune -87135-09-24 21:20 J -30104368.73 -30104368.61 -30104368.47 0.0089 0.0070
 Neptune -87134-05-08 09:06 J -30104143.27 -30104143.12 -30104142.94 0.0089 0.0055
 Neptune -87134-12-19 20:51 J -30103917.80 -30103917.63 -30103917.42 0.0089 0.0040
 Neptune -87133-08-01 08:51 J -30103692.33 -30103692.13 -30103691.91 0.0089 0.0025
 Neptune -87132-03-14 20:51 J -30103466.84 -30103466.63 -30103466.42 0.0089 0.0009
 Neptune -87132-10-26 08:51 J -30103241.34 -30103241.13 -30103240.92 0.0089 0.0006
 Neptune -87131-06-08 20:23 J -30103015.85 -30103015.65 -30103015.43 0.0089 0.0022
 Neptune -87130-01-20 08:08 J -30102790.34 -30102790.16 -30102789.96 0.0089 0.0037
 Neptune -87130-09-02 19:39 J -30102564.83 -30102564.68 -30102564.49 0.0089 0.0052
 Saturn -87129-01-08 20:08 J -30102436.84 -30102436.66 -30102436.48 0.0287 0.0155
 Neptune -87129-04-15 07:25 J -30102339.31 -30102339.19 -30102339.03 0.0089 0.0067
 Saturn -87129-08-25 20:37 J -30102206.73 -30102206.64 -30102206.54 0.0287 0.0257
 Neptune -87129-11-26 19:25 J -30102113.75 -30102113.69 -30102113.59 0.0089 0.0082
 Jupiter -87128-03-20 02:37 J -30102000.60 -30102000.39 -30102000.19 0.0491 0.0065

Mars	-87126-02-14 14:37 J	-30101304.07	-30101303.89	-30101303.71	0.1869	0.0318
Jupiter	-87122-01-25 02:37 J	-30099863.51	-30099863.39	-30099863.27	0.0535	0.0417
Mars	-87122-09-24 08:23 J	-30099621.29	-30099621.15	-30099621.00	0.1664	0.0816
Jupiter	-87117-11-23 01:11 J	-30097734.48	-30097734.45	-30097734.40	0.0490	0.0478
Saturn	-87115-06-21 05:01 J	-30097159.43	-30097159.29	-30097159.14	0.0272	0.0190
Saturn	-87114-02-05 05:01 J	-30096930.47	-30096930.29	-30096930.11	0.0272	0.0137
Jupiter	-87111-09-29 19:39 J	-30095597.87	-30095597.68	-30095597.48	0.0537	0.0101
Saturn	-87100-07-21 09:35 J	-30091650.31	-30091650.10	-30091649.89	0.0288	0.0077
Uranus	-87099-10-09 04:18 J	-30091205.48	-30091205.32	-30091205.13	0.0140	0.0086
Uranus	-87098-05-23 15:35 J	-30090979.07	-30090978.85	-30090978.63	0.0139	0.0016
Uranus	-87097-01-05 01:54 J	-30090752.62	-30090752.42	-30090752.20	0.0139	0.0053
Uranus	-87097-08-18 12:13 J	-30090526.09	-30090525.99	-30090525.88	0.0138	0.0121
Jupiter	-87093-11-25 13:11 J	-30088966.14	-30088965.95	-30088965.75	0.0492	0.0172
Mars	-87088-07-23 02:51 J	-30087265.48	-30087265.38	-30087265.28	0.1677	0.1314
Saturn	-87085-01-01 10:47 J	-30086373.22	-30086373.05	-30086372.87	0.0272	0.0137
Saturn	-87085-08-17 10:32 J	-30086144.21	-30086144.06	-30086143.91	0.0271	0.0189
Jupiter	-87081-07-31 11:30 J	-30084700.20	-30084700.02	-30084699.84	0.0490	0.0247
Earth	-87081-08-16 00:27 J	-30084684.64	-30084684.48	-30084684.32	0.2581	0.0384
Moon	-87081-08-16 04:03 J	-30084684.48	-30084684.33	-30084684.17	0.2586	0.0195 *
Jupiter	-87075-06-07 10:47 J	-30082563.24	-30082563.05	-30082562.87	0.0536	0.0196
Saturn	-87070-01-31 13:11 J	-30080864.16	-30080863.95	-30080863.73	0.0287	0.0032
Jupiter	-87063-02-10 04:03 J	-30078297.49	-30078297.33	-30078297.17	0.0538	0.0322
Mars	-87061-12-11 16:47 J	-30077261.98	-30077261.80	-30077261.63	0.1864	0.0381
Jupiter	-87057-08-03 00:56 J	-30075931.57	-30075931.46	-30075931.35	0.0493	0.0413
Saturn	-87056-07-13 14:08 J	-30075587.10	-30075586.91	-30075586.71	0.0272	0.0095
Mars	-87056-07-21 20:37 J	-30075578.80	-30075578.64	-30075578.48	0.1667	0.0569
Saturn	-87055-02-27 14:08 J	-30075358.02	-30075357.91	-30075357.81	0.0272	0.0233
Uranus	-87054-12-25 15:20 J	-30074692.03	-30074691.86	-30074691.69	0.0139	0.0079
Neptune	-87053-03-29 23:59 J	-30074596.58	-30074596.50	-30074596.42	0.0089	0.0083
Uranus	-87053-08-07 21:49 J	-30074465.80	-30074465.59	-30074465.37	0.0140	0.0013

Neptune -87053-11-10 14:08 J -30074371.05 -30074370.91 -30074370.76 0.0089 0.0067
 Uranus -87052-03-22 04:47 J -30074239.49 -30074239.30 -30074239.10 0.0140 0.0053
 Neptune -87052-06-24 04:18 J -30074145.50 -30074145.32 -30074145.13 0.0089 0.0051
 Uranus -87052-11-03 11:59 J -30074013.10 -30074013.00 -30074012.89 0.0140 0.0121
 Neptune -87051-02-04 18:27 J -30073919.94 -30073919.73 -30073919.52 0.0089 0.0035
 Neptune -87051-09-18 08:23 J -30073694.36 -30073694.15 -30073693.91 0.0089 0.0020
 Neptune -87050-05-01 23:01 J -30073468.76 -30073468.54 -30073468.31 0.0089 0.0003
 Neptune -87050-12-13 13:11 J -30073243.17 -30073242.95 -30073242.72 0.0089 0.0013
 Neptune -87049-07-26 03:06 J -30073017.57 -30073017.37 -30073017.14 0.0089 0.0030
 Neptune -87048-03-08 17:15 J -30072791.96 -30072791.78 -30072791.57 0.0088 0.0045
 Neptune -87048-10-20 07:11 J -30072566.34 -30072566.20 -30072566.01 0.0088 0.0062
 Neptune -87047-06-02 21:35 J -30072340.69 -30072340.60 -30072340.47 0.0088 0.0078
 Jupiter -87045-04-07 23:01 J -30071665.75 -30071665.54 -30071665.33 0.0491 0.0010
 Saturn -87041-08-13 02:08 J -30070077.63 -30070077.41 -30070077.20 0.0288 0.0045
 Jupiter -87039-02-12 21:49 J -30069528.68 -30069528.59 -30069528.50 0.0535 0.0469
 Jupiter -87034-12-12 22:03 J -30067399.68 -30067399.58 -30067399.47 0.0489 0.0421
 Jupiter -87028-10-18 16:32 J -30065263.01 -30065262.81 -30065262.62 0.0537 0.0042
 Saturn -87026-01-23 20:37 J -30064800.85 -30064800.64 -30064800.44 0.0271 0.0039
 Mars -87022-05-20 14:37 J -30063222.95 -30063222.89 -30063222.84 0.1680 0.1582
 Pluto -87021-10-17 06:56 J -30062707.29 -30062707.21 -30062707.10 0.0063 0.0057
 Pluto -87020-05-30 11:01 J -30062482.23 -30062482.04 -30062481.81 0.0063 0.0027
 Pluto -87019-01-10 15:49 J -30062257.07 -30062256.84 -30062256.61 0.0063 0.0004
 Pluto -87019-08-23 19:54 J -30062031.84 -30062031.67 -30062031.47 0.0063 0.0036
 Uranus -87015-06-08 13:54 J -30060647.03 -30060646.92 -30060646.78 0.0140 0.0115
 Uranus -87014-01-21 01:11 J -30060420.66 -30060420.45 -30060420.24 0.0139 0.0045
 Uranus -87014-09-04 11:44 J -30060194.22 -30060194.01 -30060193.78 0.0139 0.0025
 Uranus -87013-04-17 22:03 J -30059967.73 -30059967.58 -30059967.40 0.0139 0.0093
 Saturn -87011-02-23 05:44 J -30059291.46 -30059291.26 -30059291.05 0.0287 0.0091
 Jupiter -87010-12-15 10:32 J -30058631.24 -30058631.06 -30058630.87 0.0492 0.0231

87TH MILLENNIUM BCE

This is a list of transits of Venus in the 87th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-86998-08-20 09:06 J	-30054365.31	-30054365.12	-30054364.92	0.0491	0.0186		
Saturn	-86997-08-04 22:47 J	-30054014.75	-30054014.55	-30054014.34	0.0272	0.0003		
Mars	-86995-10-08 19:54 J	-30053219.82	-30053219.67	-30053219.52	0.1860	0.1024		
Jupiter	-86992-06-26 07:39 J	-30052228.35	-30052228.18	-30052228.01	0.0536	0.0259		
Mars	-86990-05-19 08:37 J	-30051536.31	-30051536.14	-30051535.97	0.1670	0.0320		
Saturn	-86982-01-18 16:32 J	-30048734.91	-30048734.81	-30048734.69	0.0288	0.0249		
Saturn	-86982-09-05 17:59 J	-30048504.93	-30048504.75	-30048504.58	0.0288	0.0165		
Jupiter	-86980-02-28 23:01 J	-30047962.71	-30047962.54	-30047962.37	0.0538	0.0272		
Jupiter	-86974-08-22 22:03 J	-30045596.63	-30045596.58	-30045596.51	0.0493	0.0470		
Neptune	-86971-12-27 05:30 J	-30044374.35	-30044374.27	-30044374.15	0.0089	0.0078		
Neptune	-86970-08-09 17:15 J	-30044148.91	-30044148.78	-30044148.61	0.0089	0.0063		
Uranus	-86970-08-25 02:37 J	-30044133.52	-30044133.39	-30044133.24	0.0139	0.0106		
Neptune	-86969-03-22 05:01 J	-30043923.45	-30043923.29	-30043923.09	0.0089	0.0048		
Uranus	-86969-04-07 09:20 J	-30043907.31	-30043907.11	-30043906.91	0.0139	0.0041		
Neptune	-86969-11-02 17:30 J	-30043697.97	-30043697.77	-30043697.57	0.0089	0.0032		
Uranus	-86969-11-19 16:18 J	-30043681.03	-30043680.82	-30043680.61	0.0140	0.0025		
Neptune	-86968-06-16 05:15 J	-30043472.49	-30043472.28	-30043472.07	0.0089	0.0017		
Saturn	-86968-07-01 05:59 J	-30043457.26	-30043457.25	-30043457.23	0.0272	0.0270		
Uranus	-86968-07-03 23:01 J	-30043454.69	-30043454.54	-30043454.37	0.0140	0.0092		
Neptune	-86967-01-27 17:01 J	-30043247.00	-30043246.79	-30043246.57	0.0089	0.0003		

Saturn -86967-02-15 05:30 J -30043228.47 -30043228.27 -30043228.07 0.0271 0.0056
 Neptune -86967-09-10 04:47 J -30043021.50 -30043021.30 -30043021.08 0.0089 0.0014
 Neptune -86966-04-23 16:32 J -30042796.00 -30042795.81 -30042795.60 0.0089 0.0029
 Neptune -86966-12-05 04:32 J -30042570.49 -30042570.31 -30042570.12 0.0089 0.0044
 Neptune -86965-07-17 16:03 J -30042344.97 -30042344.83 -30042344.65 0.0089 0.0060
 Neptune -86964-02-28 03:49 J -30042119.43 -30042119.34 -30042119.20 0.0089 0.0075
 Jupiter -86962-04-27 20:08 J -30041330.86 -30041330.66 -30041330.45 0.0491 0.0051
 Earth -86959-02-12 05:01 J -30040309.41 -30040309.29 -30040309.17 0.2757 0.1663
 Moon -86959-02-12 07:25 J -30040309.34 -30040309.19 -30040309.03 0.2751 0.1016 *
 Saturn -86953-07-30 20:08 J -30037948.80 -30037948.66 -30037948.50 0.0287 0.0203
 Saturn -86952-03-17 21:06 J -30037718.76 -30037718.62 -30037718.47 0.0288 0.0211
 Jupiter -86951-12-31 19:39 J -30037064.82 -30037064.68 -30037064.54 0.0490 0.0361
 Jupiter -86945-11-06 16:18 J -30034928.01 -30034927.82 -30034927.62 0.0537 0.0043
 Saturn -86938-01-11 07:11 J -30032671.29 -30032671.20 -30032671.09 0.0272 0.0235
 Saturn -86938-08-28 06:56 J -30032442.40 -30032442.21 -30032442.01 0.0272 0.0092
 Jupiter -86933-07-12 09:35 J -30030662.19 -30030662.10 -30030662.02 0.0538 0.0480
 Uranus -86931-09-20 09:06 J -30029862.30 -30029862.12 -30029861.92 0.0140 0.0076
 Pluto -86931-12-05 08:23 J -30029786.25 -30029786.15 -30029786.03 0.0082 0.0069
 Uranus -86930-05-04 20:23 J -30029635.87 -30029635.65 -30029635.43 0.0139 0.0006
 Pluto -86930-07-18 18:56 J -30029560.92 -30029560.71 -30029560.49 0.0082 0.0004
 Uranus -86930-12-17 06:56 J -30029409.40 -30029409.21 -30029409.01 0.0139 0.0063
 Pluto -86929-02-29 04:47 J -30029335.43 -30029335.30 -30029335.14 0.0081 0.0060
 Uranus -86929-07-30 17:15 J -30029182.84 -30029182.78 -30029182.70 0.0138 0.0131
 Mars -86929-08-04 22:18 J -30029177.64 -30029177.57 -30029177.50 0.1855 0.1693
 Jupiter -86926-01-03 08:23 J -30028296.31 -30028296.15 -30028295.98 0.0492 0.0292
 Mars -86924-03-15 20:37 J -30027493.81 -30027493.64 -30027493.47 0.1673 0.0074
 Saturn -86923-02-10 06:27 J -30027162.41 -30027162.23 -30027162.03 0.0288 0.0135
 Saturn -86923-09-28 07:54 J -30026932.21 -30026932.17 -30026932.12 0.0288 0.0280
 Jupiter -86915-09-08 07:39 J -30024030.39 -30024030.18 -30024029.98 0.0490 0.0122
 Jupiter -86909-07-15 04:03 J -30021893.48 -30021893.33 -30021893.17 0.0536 0.0319

Saturn -86909-07-23 14:08 J -30021885.06 -30021884.91 -30021884.75 0.0271 0.0177
 Saturn -86908-03-09 13:39 J -30021656.10 -30021655.93 -30021655.75 0.0271 0.0149
 Jupiter -86897-03-19 23:15 J -30017627.71 -30017627.53 -30017627.34 0.0538 0.0188
 Saturn -86894-08-23 10:32 J -30016376.26 -30016376.06 -30016375.85 0.0288 0.0088
 Neptune -86888-02-11 20:37 J -30014376.74 -30014376.64 -30014376.50 0.0089 0.0075
 Neptune -86888-09-25 11:01 J -30014151.20 -30014151.04 -30014150.86 0.0089 0.0059
 Neptune -86887-05-09 01:25 J -30013925.63 -30013925.44 -30013925.23 0.0089 0.0043
 Neptune -86887-12-20 15:35 J -30013700.05 -30013699.85 -30013699.62 0.0089 0.0027
 Uranus -86886-04-24 14:08 J -30013574.96 -30013574.91 -30013574.86 0.0139 0.0134
 Neptune -86886-08-03 05:44 J -30013474.47 -30013474.26 -30013474.02 0.0089 0.0011
 Uranus -86886-12-06 20:37 J -30013348.82 -30013348.64 -30013348.46 0.0139 0.0070
 Neptune -86885-03-15 20:08 J -30013248.89 -30013248.66 -30013248.43 0.0089 0.0006
 Uranus -86885-07-20 03:06 J -30013122.58 -30013122.37 -30013122.15 0.0140 0.0005
 Neptune -86885-10-27 10:03 J -30013023.29 -30013023.08 -30013022.85 0.0089 0.0022
 Uranus -86884-03-03 10:03 J -30012896.27 -30012896.08 -30012895.89 0.0140 0.0062
 Neptune -86884-06-10 00:13 J -30012797.68 -30012797.49 -30012797.27 0.0089 0.0039
 Uranus -86884-10-15 17:01 J -30012669.86 -30012669.79 -30012669.70 0.0140 0.0130
 Neptune -86883-01-21 14:23 J -30012572.06 -30012571.90 -30012571.71 0.0089 0.0055
 Neptune -86883-09-04 04:18 J -30012346.43 -30012346.32 -30012346.16 0.0089 0.0071
 Neptune -86882-04-17 18:27 J -30012120.75 -30012120.73 -30012120.66 0.0088 0.0087
 Saturn -86879-02-02 14:37 J -30011099.06 -30011098.89 -30011098.71 0.0272 0.0145
 Jupiter -86879-05-16 18:56 J -30010995.91 -30010995.71 -30010995.50 0.0491 0.0117
 Saturn -86879-09-19 14:08 J -30010870.06 -30010869.91 -30010869.75 0.0272 0.0183
 Jupiter -86867-01-19 18:27 J -30006729.90 -30006729.73 -30006729.56 0.0490 0.0296
 Saturn -86864-03-04 18:56 J -30005589.93 -30005589.71 -30005589.50 0.0288 0.0025
 Jupiter -86862-11-26 12:13 J -30004593.18 -30004592.99 -30004592.80 0.0537 0.0096
 Mars -86858-01-11 08:51 J -30003451.30 -30003451.13 -30003450.96 0.1676 0.0180
 Jupiter -86850-08-01 05:44 J -30000327.37 -30000327.26 -30000327.13 0.0539 0.0422
 Saturn -86850-08-15 21:35 J -30000312.79 -30000312.60 -30000312.40 0.0271 0.0087
 Saturn -86849-03-31 20:51 J -30000083.72 -30000083.63 -30000083.53 0.0271 0.0239

Uranus	-86847-05-20 17:59 J	-29999303.88	-29999303.75	-29999303.60	0.0140	0.0106
Uranus	-86846-01-02 05:15 J	-29999077.49	-29999077.28	-29999077.06	0.0139	0.0036
Uranus	-86846-08-16 15:49 J	-29998851.04	-29998850.84	-29998850.61	0.0139	0.0034
Uranus	-86845-03-30 02:23 J	-29998624.54	-29998624.40	-29998624.24	0.0139	0.0102
Jupiter	-86843-01-22 06:56 J	-29997961.35	-29997961.21	-29997961.06	0.0492	0.0359
Moon	-86838-08-17 00:56 J	-29995928.62	-29995928.46	-29995928.30	0.2575	0.0720
Earth	-86838-08-17 02:51 J	-29995928.54	-29995928.38	-29995928.22	0.2581	0.0184 *
Saturn	-86835-09-14 22:47 J	-29994803.77	-29994803.55	-29994803.33	0.0288	0.0021
Jupiter	-86832-09-27 06:13 J	-29993695.45	-29993695.24	-29993695.03	0.0490	0.0055
Mars	-86831-06-02 01:54 J	-29993447.56	-29993447.42	-29993447.29	0.1866	0.1214
Jupiter	-86826-08-04 05:59 J	-29991558.38	-29991558.25	-29991558.13	0.0536	0.0411
Saturn	-86820-02-24 21:20 J	-29989526.81	-29989526.61	-29989526.41	0.0272	0.0056
Jupiter	-86820-06-02 05:30 J	-29989429.33	-29989429.27	-29989429.21	0.0489	0.0466
Saturn	-86820-10-11 20:37 J	-29989297.65	-29989297.64	-29989297.62	0.0271	0.0270
Jupiter	-86814-04-08 23:44 J	-29987292.70	-29987292.51	-29987292.31	0.0538	0.0104
Neptune	-86806-03-30 13:54 J	-29984379.95	-29984379.92	-29984379.84	0.0089	0.0086
Neptune	-86806-11-11 01:54 J	-29984154.53	-29984154.42	-29984154.27	0.0089	0.0071
Saturn	-86805-03-27 05:30 J	-29984017.48	-29984017.27	-29984017.06	0.0288	0.0080
Neptune	-86805-06-23 14:08 J	-29983929.07	-29983928.91	-29983928.74	0.0089	0.0055
Neptune	-86804-02-04 01:39 J	-29983703.61	-29983703.43	-29983703.23	0.0089	0.0040
Neptune	-86804-09-17 13:39 J	-29983478.13	-29983477.93	-29983477.72	0.0089	0.0025
Neptune	-86803-05-01 01:25 J	-29983252.64	-29983252.44	-29983252.22	0.0089	0.0010
Neptune	-86803-12-12 13:25 J	-29983027.15	-29983026.94	-29983026.72	0.0089	0.0006
Neptune	-86802-07-26 01:11 J	-29982801.65	-29982801.45	-29982801.24	0.0089	0.0022
Uranus	-86802-08-06 07:11 J	-29982790.33	-29982790.20	-29982790.03	0.0139	0.0098
Neptune	-86801-03-07 12:56 J	-29982576.14	-29982575.96	-29982575.76	0.0089	0.0037
Uranus	-86801-03-19 13:54 J	-29982564.12	-29982563.92	-29982563.71	0.0139	0.0033
Neptune	-86801-10-19 00:56 J	-29982350.62	-29982350.46	-29982350.28	0.0089	0.0052
Uranus	-86801-10-31 20:37 J	-29982337.84	-29982337.64	-29982337.43	0.0140	0.0033
Neptune	-86800-06-01 12:56 J	-29982125.09	-29982124.96	-29982124.82	0.0089	0.0067

Uranus -86800-06-15 03:20 J -29982111.49 -29982111.36 -29982111.20 0.0140 0.0100
 Neptune -86799-01-13 00:13 J -29981899.54 -29981899.49 -29981899.39 0.0089 0.0083
 Jupiter -86796-06-04 19:39 J -29980660.88 -29980660.68 -29980660.49 0.0491 0.0192
 Mars -86793-11-07 20:23 J -29979408.81 -29979408.65 -29979408.48 0.1679 0.0447
 Saturn -86791-09-07 04:03 J -29978740.54 -29978740.33 -29978740.13 0.0271 0.0003
 Jupiter -86784-02-07 17:59 J -29976394.94 -29976394.75 -29976394.57 0.0490 0.0224
 Jupiter -86779-12-15 13:25 J -29974258.12 -29974257.94 -29974257.75 0.0537 0.0187
 Saturn -86776-10-07 09:20 J -29973231.30 -29973231.11 -29973230.91 0.0288 0.0126
 Pluto -86774-06-28 17:15 J -29972601.96 -29972601.78 -29972601.58 0.0063 0.0034
 Pluto -86773-02-08 21:35 J -29972376.82 -29972376.60 -29972376.37 0.0063 0.0004
 Pluto -86773-09-21 02:08 J -29972151.61 -29972151.41 -29972151.20 0.0063 0.0028
 Pluto -86772-05-04 05:59 J -29971926.30 -29971926.25 -29971926.14 0.0063 0.0060
 Jupiter -86767-08-20 08:37 J -29969992.30 -29969992.14 -29969991.98 0.0539 0.0322
 Mars -86765-03-29 04:32 J -29969405.48 -29969405.31 -29969405.14 0.1862 0.0545
 Uranus -86763-01-18 00:42 J -29968745.48 -29968745.47 -29968745.43 0.0140 0.0140
 Uranus -86763-09-01 12:13 J -29968519.18 -29968518.99 -29968518.79 0.0140 0.0069
 Uranus -86762-04-15 23:30 J -29968292.75 -29968292.52 -29968292.30 0.0139 0.0002
 Uranus -86762-11-28 09:49 J -29968066.26 -29968066.09 -29968065.88 0.0139 0.0071
 Saturn -86761-03-19 03:06 J -29967954.57 -29967954.37 -29967954.16 0.0271 0.0030
 Mars -86761-11-06 14:23 J -29967721.98 -29967721.90 -29967721.82 0.1669 0.1457
 Jupiter -86760-02-10 07:11 J -29967626.29 -29967626.20 -29967626.10 0.0492 0.0433
 Jupiter -86749-10-16 06:56 J -29963360.42 -29963360.21 -29963360.00 0.0491 0.0022
 Saturn -86747-09-01 12:27 J -29962675.09 -29962674.98 -29962674.85 0.0288 0.0240
 Saturn -86746-04-19 14:08 J -29962445.07 -29962444.91 -29962444.73 0.0288 0.0180
 Jupiter -86743-08-23 02:51 J -29961223.47 -29961223.38 -29961223.29 0.0536 0.0474
 Jupiter -86737-06-21 07:11 J -29959094.33 -29959094.20 -29959094.07 0.0489 0.0385
 Saturn -86732-02-12 10:18 J -29957397.15 -29957397.07 -29957396.96 0.0271 0.0240
 Saturn -86732-09-29 09:35 J -29957168.29 -29957168.10 -29957167.90 0.0271 0.0086
 Jupiter -86731-04-27 20:51 J -29956957.82 -29956957.63 -29956957.43 0.0538 0.0041
 Mars -86727-09-05 08:23 J -29955366.30 -29955366.15 -29955365.99 0.1682 0.0704

Moon -86724-02-14 09:06 J -29954473.25 -29954473.12 -29954473.00 0.2755 0.1595
 Earth -86724-02-14 14:23 J -29954472.95 -29954472.90 -29954472.85 0.2756 0.2586
 Neptune -86724-05-16 03:35 J -29954382.41 -29954382.35 -29954382.24 0.0089 0.0083
 Neptune -86724-12-27 18:13 J -29954156.88 -29954156.74 -29954156.58 0.0089 0.0066
 Neptune -86723-08-10 08:23 J -29953931.32 -29953931.15 -29953930.95 0.0089 0.0050
 Neptune -86722-03-23 22:47 J -29953705.75 -29953705.55 -29953705.33 0.0089 0.0034
 Neptune -86722-11-04 12:56 J -29953480.17 -29953479.96 -29953479.73 0.0089 0.0018
 Neptune -86721-06-17 03:20 J -29953254.58 -29953254.36 -29953254.13 0.0089 0.0002
 Neptune -86720-01-28 17:30 J -29953028.99 -29953028.77 -29953028.54 0.0089 0.0015
 Neptune -86720-09-11 07:25 J -29952803.39 -29952803.19 -29952802.96 0.0089 0.0032
 Neptune -86719-04-24 21:49 J -29952577.77 -29952577.59 -29952577.39 0.0089 0.0048
 Neptune -86719-12-06 11:59 J -29952352.15 -29952352.00 -29952351.83 0.0089 0.0064
 Uranus -86718-04-05 18:42 J -29952231.79 -29952231.72 -29952231.61 0.0139 0.0126
 Neptune -86718-07-20 01:54 J -29952126.50 -29952126.42 -29952126.30 0.0088 0.0080
 Uranus -86718-11-18 01:25 J -29952005.62 -29952005.44 -29952005.24 0.0139 0.0061
 Saturn -86717-03-13 17:15 J -29951888.94 -29951888.78 -29951888.61 0.0288 0.0191
 Uranus -86717-07-01 07:54 J -29951779.38 -29951779.17 -29951778.95 0.0139 0.0006
 Saturn -86717-10-29 18:42 J -29951658.84 -29951658.72 -29951658.58 0.0288 0.0227
 Moon -86716-02-12 00:42 J -29951553.49 -29951553.47 -29951553.46 0.2762 0.2745
 Earth -86716-02-12 04:32 J -29951553.41 -29951553.31 -29951553.21 0.2757 0.2097
 Uranus -86716-02-12 14:23 J -29951553.07 -29951552.90 -29951552.70 0.0140 0.0071
 Uranus -86716-09-26 21:20 J -29951326.64 -29951326.61 -29951326.56 0.0140 0.0138
 Jupiter -86713-06-23 19:25 J -29950325.87 -29950325.69 -29950325.51 0.0491 0.0266
 Saturn -86703-08-25 09:20 J -29946611.23 -29946611.11 -29946610.97 0.0271 0.0211
 Saturn -86702-04-11 08:23 J -29946382.33 -29946382.15 -29946381.96 0.0271 0.0115
 Jupiter -86701-02-27 18:27 J -29946059.93 -29946059.73 -29946059.53 0.0490 0.0149
 Mars -86699-01-24 07:54 J -29945363.35 -29945363.17 -29945362.99 0.1857 0.0107
 Jupiter -86695-01-03 15:35 J -29943923.01 -29943922.85 -29943922.68 0.0537 0.0282
 Mars -86695-09-04 02:23 J -29943679.51 -29943679.40 -29943679.28 0.1672 0.1207
 Saturn -86688-09-23 20:37 J -29941102.83 -29941102.64 -29941102.45 0.0288 0.0144

Saturn -86687-05-11 22:32 J -29940872.62 -29940872.56 -29940872.50 0.0288 0.0276
 Pluto -86684-01-02 13:54 J -29939905.92 -29939905.92 -29939905.90 0.0082 0.0082
 Pluto -86684-08-16 00:27 J -29939680.69 -29939680.48 -29939680.27 0.0082 0.0017
 Jupiter -86684-09-08 06:13 J -29939657.41 -29939657.24 -29939657.06 0.0538 0.0255
 Pluto -86683-03-29 10:32 J -29939455.22 -29939455.06 -29939454.87 0.0081 0.0047
 Uranus -86679-05-01 19:39 J -29937960.81 -29937960.68 -29937960.50 0.0140 0.0101
 Uranus -86679-12-14 07:25 J -29937734.41 -29937734.19 -29937733.97 0.0140 0.0030
 Uranus -86678-07-28 18:27 J -29937507.94 -29937507.73 -29937507.51 0.0139 0.0040
 Uranus -86677-03-11 05:01 J -29937281.42 -29937281.29 -29937281.15 0.0139 0.0108
 Saturn -86673-03-06 15:35 J -29935825.02 -29935824.85 -29935824.68 0.0271 0.0157
 Saturn -86673-10-21 14:37 J -29935596.05 -29935595.89 -29935595.73 0.0271 0.0169
 Jupiter -86666-11-05 07:39 J -29933025.39 -29933025.18 -29933024.97 0.0490 0.0099
 Mars -86661-07-02 20:08 J -29931323.80 -29931323.66 -29931323.52 0.1685 0.0976
 Saturn -86658-04-06 01:54 J -29930316.62 -29930316.42 -29930316.21 0.0288 0.0094
 Jupiter -86654-07-11 07:11 J -29928759.36 -29928759.20 -29928759.03 0.0489 0.0310
 Jupiter -86648-05-17 00:27 J -29926622.67 -29926622.48 -29926622.28 0.0538 0.0065
 Saturn -86644-09-16 14:37 J -29925039.07 -29925038.89 -29925038.71 0.0271 0.0128
 Saturn -86643-05-03 13:25 J -29924810.07 -29924809.94 -29924809.79 0.0271 0.0198
 Neptune -86641-02-12 11:15 J -29924160.11 -29924160.03 -29924159.91 0.0089 0.0078
 Neptune -86641-09-24 23:01 J -29923934.66 -29923934.54 -29923934.36 0.0089 0.0063
 Neptune -86640-05-08 11:15 J -29923709.20 -29923709.03 -29923708.84 0.0089 0.0047
 Neptune -86640-12-19 23:01 J -29923483.73 -29923483.54 -29923483.33 0.0089 0.0032
 Neptune -86639-08-02 10:47 J -29923258.25 -29923258.05 -29923257.83 0.0089 0.0017
 Neptune -86638-03-15 22:47 J -29923032.76 -29923032.55 -29923032.34 0.0089 0.0001
 Neptune -86638-10-27 10:32 J -29922807.26 -29922807.06 -29922806.84 0.0089 0.0015
 Neptune -86637-06-08 22:18 J -29922581.76 -29922581.57 -29922581.36 0.0089 0.0030
 Jupiter -86636-01-19 18:42 J -29922356.82 -29922356.72 -29922356.61 0.0539 0.0452
 Neptune -86636-01-20 10:18 J -29922356.25 -29922356.07 -29922355.88 0.0089 0.0045
 Neptune -86636-09-02 21:49 J -29922130.73 -29922130.59 -29922130.42 0.0089 0.0061
 Neptune -86635-04-16 09:49 J -29921905.19 -29921905.09 -29921904.97 0.0089 0.0076

Uranus -86634-07-18 13:25 J -29921447.09 -29921446.94 -29921446.77 0.0139 0.0088
 Mars -86634-11-21 10:18 J -29921321.23 -29921321.07 -29921320.90 0.1853 0.0778
 Uranus -86633-02-29 19:54 J -29921220.88 -29921220.67 -29921220.46 0.0139 0.0023
 Uranus -86633-10-13 02:23 J -29920994.60 -29920994.40 -29920994.19 0.0140 0.0043
 Uranus -86632-05-27 09:06 J -29920768.24 -29920768.12 -29920767.98 0.0140 0.0109
 Jupiter -86630-07-13 21:06 J -29919990.76 -29919990.62 -29919990.47 0.0492 0.0349
 Mars -86629-07-01 14:37 J -29919637.03 -29919636.89 -29919636.76 0.1675 0.0958
 Saturn -86629-10-16 04:03 J -29919530.55 -29919530.33 -29919530.12 0.0288 0.0050
 Jupiter -86618-03-18 21:06 J -29915724.83 -29915724.62 -29915724.41 0.0490 0.0062
 Saturn -86614-03-29 20:37 J -29914252.84 -29914252.64 -29914252.44 0.0271 0.0074
 Saturn -86614-11-13 19:39 J -29914023.75 -29914023.68 -29914023.60 0.0271 0.0253
 Jupiter -86612-01-22 12:56 J -29913588.11 -29913587.96 -29913587.81 0.0537 0.0346
 Jupiter -86607-11-21 19:39 J -29911458.72 -29911458.68 -29911458.62 0.0489 0.0474
 Jupiter -86601-09-27 07:39 J -29909322.36 -29909322.18 -29909321.99 0.0539 0.0164
 Saturn -86599-04-28 10:18 J -29908744.28 -29908744.07 -29908743.85 0.0288 0.0005
 Uranus -86596-12-30 02:37 J -29907402.44 -29907402.39 -29907402.32 0.0140 0.0134
 Mars -86595-04-30 07:39 J -29907281.29 -29907281.18 -29907281.07 0.1689 0.1253
 Uranus -86595-08-13 13:54 J -29907176.10 -29907175.92 -29907175.70 0.0140 0.0064
 Moon -86595-08-17 05:01 J -29907172.45 -29907172.29 -29907172.14 0.2587 0.0231
 Earth -86595-08-17 05:15 J -29907172.44 -29907172.28 -29907172.12 0.2581 0.0017 *
 Uranus -86594-03-28 01:25 J -29906949.66 -29906949.44 -29906949.21 0.0139 0.0007
 Uranus -86594-11-09 11:59 J -29906723.17 -29906723.00 -29906722.80 0.0139 0.0076
 Saturn -86585-10-08 19:54 J -29903466.88 -29903466.67 -29903466.47 0.0271 0.0044
 Jupiter -86583-11-24 08:23 J -29902690.34 -29902690.15 -29902689.95 0.0491 0.0177
 Jupiter -86571-07-30 08:51 J -29898424.31 -29898424.13 -29898423.94 0.0489 0.0230
 Saturn -86570-11-08 11:30 J -29897958.23 -29897958.02 -29897957.80 0.0288 0.0045
 Mars -86568-09-17 14:08 J -29897279.02 -29897278.91 -29897278.79 0.1849 0.1395
 Jupiter -86565-06-04 22:47 J -29896287.74 -29896287.55 -29896287.36 0.0537 0.0135
 Mars -86563-04-29 02:23 J -29895594.56 -29895594.40 -29895594.25 0.1678 0.0701
 Neptune -86559-03-31 01:54 J -29894162.54 -29894162.42 -29894162.29 0.0089 0.0073

Neptune -86559-11-11 16:03 J -29893936.99 -29893936.83 -29893936.64 0.0089 0.0057
 Neptune -86558-06-25 06:13 J -29893711.43 -29893711.24 -29893711.02 0.0089 0.0041
 Neptune -86557-02-05 20:51 J -29893485.85 -29893485.63 -29893485.41 0.0089 0.0024
 Neptune -86557-09-18 11:01 J -29893260.26 -29893260.04 -29893259.81 0.0089 0.0008
 Neptune -86556-05-02 01:25 J -29893034.66 -29893034.44 -29893034.21 0.0089 0.0009
 Neptune -86556-12-13 15:35 J -29892809.06 -29892808.85 -29892808.63 0.0089 0.0025
 Saturn -86555-04-21 01:39 J -29892680.63 -29892680.43 -29892680.22 0.0271 0.0010
 Neptune -86555-07-27 05:30 J -29892583.46 -29892583.27 -29892583.06 0.0089 0.0042
 Neptune -86554-03-09 19:25 J -29892357.84 -29892357.69 -29892357.50 0.0089 0.0058
 Neptune -86554-10-21 09:35 J -29892132.20 -29892132.10 -29892131.95 0.0089 0.0074
 Jupiter -86553-02-08 15:49 J -29892021.97 -29892021.84 -29892021.70 0.0539 0.0386
 Uranus -86550-03-18 01:11 J -29890888.56 -29890888.45 -29890888.33 0.0139 0.0115
 Uranus -86550-10-30 07:25 J -29890662.38 -29890662.19 -29890661.99 0.0139 0.0051
 Uranus -86549-06-12 13:54 J -29890436.13 -29890435.92 -29890435.70 0.0139 0.0015
 Uranus -86548-01-24 20:23 J -29890209.81 -29890209.65 -29890209.47 0.0140 0.0081
 Jupiter -86547-08-01 21:35 J -29889655.70 -29889655.60 -29889655.49 0.0491 0.0425
 Saturn -86540-05-20 18:56 J -29887171.91 -29887171.71 -29887171.50 0.0288 0.0102
 Jupiter -86535-04-06 20:51 J -29885389.84 -29885389.63 -29885389.42 0.0490 0.0012
 Jupiter -86529-02-11 15:49 J -29883252.94 -29883252.84 -29883252.72 0.0537 0.0447
 Mars -86529-02-25 19:11 J -29883238.77 -29883238.70 -29883238.63 0.1692 0.1535
 Pluto -86528-07-26 23:30 J -29882721.69 -29882721.52 -29882721.34 0.0063 0.0040
 Pluto -86527-03-09 03:49 J -29882496.56 -29882496.34 -29882496.11 0.0063 0.0010
 Pluto -86527-10-20 08:08 J -29882271.36 -29882271.16 -29882270.94 0.0063 0.0021
 Pluto -86526-06-02 12:27 J -29882046.09 -29882045.98 -29882045.84 0.0063 0.0053
 Saturn -86526-11-01 01:54 J -29881894.63 -29881894.42 -29881894.22 0.0271 0.0042
 Jupiter -86524-12-10 20:08 J -29881123.77 -29881123.66 -29881123.54 0.0489 0.0399
 Jupiter -86518-10-17 10:47 J -29878987.25 -29878987.05 -29878986.86 0.0538 0.0063
 Uranus -86511-04-12 22:03 J -29876617.73 -29876617.58 -29876617.40 0.0140 0.0095
 Saturn -86511-04-14 18:13 J -29876615.78 -29876615.74 -29876615.68 0.0288 0.0279
 Uranus -86511-11-25 09:35 J -29876391.31 -29876391.10 -29876390.87 0.0140 0.0025

Saturn -86511-11-30 20:08 J -29876385.84 -29876385.66 -29876385.47 0.0288 0.0142
 Uranus -86510-07-09 20:37 J -29876164.84 -29876164.64 -29876164.42 0.0139 0.0046
 Uranus -86509-02-21 07:25 J -29875938.31 -29875938.19 -29875938.05 0.0139 0.0114
 Jupiter -86500-12-13 10:32 J -29872355.23 -29872355.06 -29872354.88 0.0491 0.0263
 Mars -86497-02-24 14:08 J -29871552.07 -29871551.91 -29871551.74 0.1681 0.0439
 Saturn -86497-09-26 08:08 J -29871337.25 -29871337.16 -29871337.05 0.0272 0.0236
 Saturn -86496-05-13 07:25 J -29871108.38 -29871108.19 -29871107.99 0.0271 0.0093
 Jupiter -86488-08-18 08:51 J -29868089.33 -29868089.13 -29868088.93 0.0489 0.0155
 Jupiter -86482-06-24 23:01 J -29865952.72 -29865952.54 -29865952.36 0.0537 0.0220
 Saturn -86482-10-26 03:06 J -29865829.51 -29865829.37 -29865829.22 0.0288 0.0218
 Earth -86481-02-15 13:25 J -29865717.04 -29865716.94 -29865716.84 0.2756 0.2084
 Saturn -86481-06-12 05:01 J -29865599.44 -29865599.29 -29865599.14 0.0289 0.0204
 Neptune -86477-05-15 21:06 J -29864165.66 -29864165.62 -29864165.53 0.0089 0.0085
 Neptune -86477-12-27 09:20 J -29863940.24 -29863940.11 -29863939.97 0.0089 0.0069
 Neptune -86476-08-09 20:51 J -29863714.78 -29863714.63 -29863714.45 0.0089 0.0054
 Neptune -86475-03-23 08:37 J -29863489.32 -29863489.14 -29863488.93 0.0089 0.0039
 Neptune -86475-11-03 20:51 J -29863263.84 -29863263.63 -29863263.42 0.0089 0.0023
 Neptune -86474-06-17 08:37 J -29863038.35 -29863038.14 -29863037.93 0.0089 0.0008
 Neptune -86473-01-28 20:23 J -29862812.86 -29862812.65 -29862812.44 0.0089 0.0008
 Earth -86473-02-13 03:49 J -29862797.39 -29862797.34 -29862797.29 0.2757 0.2589
 Moon -86473-02-13 08:51 J -29862797.23 -29862797.13 -29862797.03 0.2755 0.2103
 Neptune -86473-09-10 08:08 J -29862587.36 -29862587.16 -29862586.95 0.0089 0.0023
 Neptune -86472-04-23 19:39 J -29862361.86 -29862361.68 -29862361.47 0.0089 0.0039
 Neptune -86472-12-05 07:39 J -29862136.34 -29862136.18 -29862136.00 0.0089 0.0054
 Neptune -86471-07-18 19:11 J -29861910.81 -29861910.70 -29861910.54 0.0089 0.0070
 Jupiter -86470-02-27 18:13 J -29861686.91 -29861686.74 -29861686.57 0.0539 0.0290
 Neptune -86470-03-01 07:11 J -29861685.24 -29861685.20 -29861685.12 0.0089 0.0085
 Mars -86470-07-15 16:47 J -29861548.90 -29861548.80 -29861548.69 0.1859 0.1484
 Saturn -86467-04-08 09:20 J -29860551.24 -29860551.11 -29860550.96 0.0271 0.0198
 Saturn -86467-11-23 08:23 J -29860322.33 -29860322.15 -29860321.96 0.0271 0.0130

Uranus	-86466-06-29 18:42 J	-29860103.88	-29860103.72	-29860103.54	0.0139	0.0079
Uranus	-86465-02-11 01:11 J	-29859877.66	-29859877.45	-29859877.24	0.0139	0.0014
Uranus	-86465-09-24 07:25 J	-29859651.38	-29859651.19	-29859650.99	0.0140	0.0052
Uranus	-86464-05-08 13:54 J	-29859425.01	-29859424.92	-29859424.79	0.0140	0.0118
Jupiter	-86452-04-25 21:49 J	-29855054.80	-29855054.59	-29855054.38	0.0490	0.0090
Saturn	-86452-05-07 04:18 J	-29855043.49	-29855043.32	-29855043.15	0.0288	0.0178
Saturn	-86452-12-23 06:13 J	-29854813.36	-29854813.24	-29854813.13	0.0288	0.0244
Jupiter	-86446-03-02 13:54 J	-29852917.97	-29852917.92	-29852917.87	0.0536	0.0516
Jupiter	-86441-12-29 21:20 J	-29850788.76	-29850788.61	-29850788.45	0.0489	0.0319
Pluto	-86438-09-14 07:39 J	-29849800.38	-29849800.18	-29849799.97	0.0082	0.0024
Saturn	-86438-10-19 15:06 J	-29849765.04	-29849764.87	-29849764.70	0.0272	0.0148
Pluto	-86437-04-26 17:44 J	-29849574.94	-29849574.76	-29849574.56	0.0081	0.0040
Saturn	-86437-06-04 14:08 J	-29849536.06	-29849535.91	-29849535.75	0.0271	0.0182
Jupiter	-86435-11-05 07:25 J	-29848652.39	-29848652.19	-29848652.00	0.0538	0.0009
Mars	-86432-12-22 02:23 J	-29847509.57	-29847509.40	-29847509.23	0.1684	0.0188
Uranus	-86428-12-11 05:15 J	-29846059.36	-29846059.28	-29846059.19	0.0140	0.0129
Uranus	-86427-07-25 16:32 J	-29845833.00	-29845832.81	-29845832.60	0.0140	0.0058
Uranus	-86426-03-09 04:03 J	-29845606.56	-29845606.33	-29845606.11	0.0139	0.0012
Uranus	-86426-10-21 14:51 J	-29845380.06	-29845379.88	-29845379.70	0.0139	0.0081
Jupiter	-86423-07-11 00:42 J	-29844386.51	-29844386.47	-29844386.42	0.0540	0.0522
Saturn	-86423-11-17 14:23 J	-29844257.09	-29844256.90	-29844256.69	0.0288	0.0112
Jupiter	-86416-01-01 09:06 J	-29842020.27	-29842020.12	-29842019.96	0.0491	0.0329
Saturn	-86408-04-30 17:01 J	-29838978.98	-29838978.79	-29838978.60	0.0271	0.0107
Saturn	-86408-12-15 16:03 J	-29838749.95	-29838749.83	-29838749.71	0.0271	0.0221
Jupiter	-86405-09-06 07:54 J	-29837754.38	-29837754.17	-29837753.96	0.0490	0.0086
Mars	-86404-05-11 19:39 J	-29837506.84	-29837506.68	-29837506.51	0.1855	0.0820
Jupiter	-86399-07-14 00:42 J	-29835617.62	-29835617.47	-29835617.30	0.0537	0.0313
Neptune	-86395-07-02 09:49 J	-29834168.17	-29834168.09	-29834167.98	0.0089	0.0080
Neptune	-86394-02-12 23:59 J	-29833942.64	-29833942.50	-29833942.32	0.0089	0.0064
Neptune	-86394-09-26 14:37 J	-29833717.08	-29833716.89	-29833716.69	0.0089	0.0047

Neptune -86393-05-09 05:01 J -29833491.49 -29833491.29 -29833491.07 0.0089 0.0031
 Saturn -86393-05-29 16:18 J -29833471.02 -29833470.82 -29833470.60 0.0288 0.0070
 Neptune -86393-12-20 19:11 J -29833265.91 -29833265.70 -29833265.46 0.0089 0.0015
 Neptune -86392-08-03 09:49 J -29833040.32 -29833040.09 -29833039.87 0.0089 0.0003
 Neptune -86391-03-16 23:59 J -29832814.72 -29832814.50 -29832814.28 0.0089 0.0019
 Neptune -86391-10-28 13:54 J -29832589.11 -29832588.92 -29832588.70 0.0089 0.0036
 Neptune -86390-06-11 04:18 J -29832363.49 -29832363.32 -29832363.12 0.0089 0.0052
 Neptune -86389-01-22 18:27 J -29832137.86 -29832137.73 -29832137.57 0.0089 0.0068
 Neptune -86389-09-04 08:23 J -29831912.19 -29831912.15 -29831912.06 0.0089 0.0085
 Jupiter -86387-03-18 16:18 J -29831351.99 -29831351.82 -29831351.63 0.0538 0.0216
 Uranus -86382-02-27 05:01 J -29829545.41 -29829545.29 -29829545.15 0.0139 0.0109
 Uranus -86382-10-11 11:15 J -29829319.23 -29829319.03 -29829318.83 0.0139 0.0044
 Uranus -86381-05-24 17:30 J -29829092.97 -29829092.77 -29829092.55 0.0139 0.0021
 Uranus -86380-01-05 23:59 J -29828866.65 -29828866.50 -29828866.32 0.0140 0.0087
 Saturn -86379-11-10 22:32 J -29828192.76 -29828192.56 -29828192.36 0.0272 0.0058
 Jupiter -86369-05-14 20:08 J -29824719.86 -29824719.66 -29824719.46 0.0490 0.0156
 Mars -86366-10-19 13:39 J -29823467.09 -29823466.93 -29823466.76 0.1687 0.0100
 Saturn -86364-12-10 03:35 J -29822684.57 -29822684.35 -29822684.13 0.0288 0.0000
 Jupiter -86357-01-18 19:11 J -29820453.87 -29820453.70 -29820453.52 0.0489 0.0256
 Earth -86352-08-17 07:25 J -29818416.35 -29818416.19 -29818416.03 0.2581 0.0160
 Moon -86352-08-17 09:49 J -29818416.26 -29818416.09 -29818415.92 0.2575 0.0413 *
 Jupiter -86352-11-24 07:25 J -29818317.38 -29818317.19 -29818316.99 0.0538 0.0082
 Saturn -86349-05-23 01:39 J -29817406.64 -29817406.43 -29817406.22 0.0271 0.0013
 Uranus -86343-03-24 23:44 J -29815274.66 -29815274.51 -29815274.33 0.0140 0.0091
 Uranus -86343-11-06 11:30 J -29815048.24 -29815048.02 -29815047.80 0.0140 0.0020
 Uranus -86342-06-20 22:32 J -29814821.76 -29814821.56 -29814821.34 0.0139 0.0050
 Uranus -86341-02-02 09:20 J -29814595.22 -29814595.11 -29814594.99 0.0139 0.0118
 Jupiter -86340-07-30 01:54 J -29814051.54 -29814051.42 -29814051.30 0.0539 0.0431
 Mars -86338-03-08 23:01 J -29813464.72 -29813464.54 -29813464.36 0.1851 0.0172
 Saturn -86334-06-22 05:59 J -29811898.46 -29811898.25 -29811898.03 0.0288 0.0044

Jupiter -86333-01-21 08:08 J -29811685.27 -29811685.16 -29811685.03 0.0491 0.0399
 Jupiter -86322-09-26 07:11 J -29807419.41 -29807419.20 -29807418.99 0.0490 0.0015
 Saturn -86320-12-03 06:56 J -29806620.42 -29806620.21 -29806620.01 0.0272 0.0036
 Jupiter -86316-08-01 20:37 J -29805282.79 -29805282.64 -29805282.50 0.0536 0.0370
 Neptune -86312-03-30 20:08 J -29803945.77 -29803945.66 -29803945.55 0.0089 0.0075
 Neptune -86312-11-11 07:39 J -29803720.32 -29803720.18 -29803720.01 0.0089 0.0060
 Neptune -86311-06-24 19:25 J -29803494.86 -29803494.69 -29803494.49 0.0089 0.0045
 Neptune -86310-02-05 07:25 J -29803269.39 -29803269.19 -29803268.99 0.0089 0.0029
 Jupiter -86310-06-01 05:59 J -29803153.35 -29803153.25 -29803153.16 0.0489 0.0429
 Neptune -86310-09-18 19:11 J -29803043.91 -29803043.70 -29803043.49 0.0089 0.0014
 Neptune -86309-05-01 06:56 J -29802818.42 -29802818.21 -29802817.99 0.0089 0.0002
 Neptune -86309-12-12 18:42 J -29802592.92 -29802592.72 -29802592.51 0.0089 0.0017
 Neptune -86308-07-26 06:13 J -29802367.42 -29802367.24 -29802367.03 0.0089 0.0033
 Neptune -86307-03-08 18:13 J -29802141.91 -29802141.74 -29802141.56 0.0089 0.0048
 Neptune -86307-10-20 05:44 J -29801916.39 -29801916.26 -29801916.09 0.0089 0.0064
 Neptune -86306-06-02 17:44 J -29801690.84 -29801690.76 -29801690.65 0.0089 0.0079
 Saturn -86304-01-01 18:42 J -29801111.92 -29801111.72 -29801111.52 0.0288 0.0120
 Jupiter -86304-04-06 13:25 J -29801017.13 -29801016.94 -29801016.75 0.0539 0.0152
 Mars -86300-08-16 01:39 J -29799424.60 -29799424.43 -29799424.27 0.1690 0.0358
 Uranus -86298-06-10 21:06 J -29798760.79 -29798760.62 -29798760.44 0.0139 0.0075
 Uranus -86297-01-23 03:20 J -29798534.57 -29798534.36 -29798534.14 0.0139 0.0011
 Uranus -86297-09-05 09:35 J -29798308.28 -29798308.10 -29798307.90 0.0139 0.0055
 Uranus -86296-04-19 16:18 J -29798081.92 -29798081.82 -29798081.71 0.0140 0.0121
 Saturn -86291-10-29 11:44 J -29796063.08 -29796063.01 -29796062.91 0.0271 0.0246
 Saturn -86290-06-15 11:01 J -29795834.23 -29795834.04 -29795833.84 0.0271 0.0085
 Jupiter -86286-06-03 17:30 J -29794384.96 -29794384.77 -29794384.58 0.0490 0.0217
 Pluto -86282-08-25 08:08 J -29792841.31 -29792841.16 -29792840.97 0.0063 0.0040
 Pluto -86281-04-06 13:11 J -29792616.18 -29792615.95 -29792615.73 0.0063 0.0009
 Pluto -86281-11-17 17:15 J -29792390.98 -29792390.78 -29792390.56 0.0063 0.0022
 Pluto -86280-06-30 21:49 J -29792165.71 -29792165.59 -29792165.46 0.0063 0.0053

Saturn -86276-11-26 19:25 J -29790555.77 -29790555.69 -29790555.59 0.0287 0.0258
 Saturn -86275-07-14 21:20 J -29790325.79 -29790325.61 -29790325.43 0.0288 0.0164
 Jupiter -86274-02-06 17:15 J -29790118.97 -29790118.78 -29790118.59 0.0489 0.0192
 Mars -86272-01-03 02:37 J -29789422.56 -29789422.39 -29789422.22 0.1846 0.0459
 Jupiter -86269-12-13 05:15 J -29787982.47 -29787982.28 -29787982.09 0.0537 0.0153
 Mars -86268-08-14 20:08 J -29787737.70 -29787737.66 -29787737.61 0.1680 0.1602
 Saturn -86261-05-10 16:18 J -29785276.95 -29785276.82 -29785276.67 0.0272 0.0200
 Saturn -86261-12-25 15:49 J -29785048.01 -29785047.84 -29785047.65 0.0272 0.0132
 Uranus -86260-11-22 05:30 J -29784716.35 -29784716.27 -29784716.16 0.0140 0.0126
 Uranus -86259-07-06 17:15 J -29784489.98 -29784489.78 -29784489.56 0.0140 0.0055
 Uranus -86258-02-18 04:32 J -29784263.53 -29784263.31 -29784263.08 0.0140 0.0016
 Uranus -86258-10-02 15:20 J -29784037.03 -29784036.86 -29784036.67 0.0139 0.0085
 Jupiter -86257-08-17 21:49 J -29783716.73 -29783716.59 -29783716.45 0.0539 0.0372
 Jupiter -86250-02-09 04:47 J -29781350.36 -29781350.30 -29781350.21 0.0491 0.0457
 Saturn -86246-06-09 08:51 J -29779769.29 -29779769.13 -29779768.95 0.0288 0.0181
 Saturn -86245-01-25 10:32 J -29779539.17 -29779539.06 -29779538.93 0.0288 0.0242
 Jupiter -86239-10-15 03:49 J -29777084.55 -29777084.34 -29777084.13 0.0490 0.0041
 Moon -86238-02-15 09:20 J -29776961.26 -29776961.11 -29776960.96 0.2752 0.0977
 Earth -86238-02-15 13:11 J -29776961.08 -29776960.95 -29776960.83 0.2757 0.1654 *
 Mars -86234-06-13 12:56 J -29775382.11 -29775381.96 -29775381.80 0.1694 0.0640
 Jupiter -86233-08-20 18:27 J -29774947.84 -29774947.73 -29774947.61 0.0537 0.0439
 Saturn -86232-11-20 22:03 J -29774490.75 -29774490.58 -29774490.41 0.0271 0.0146
 Saturn -86231-07-07 21:06 J -29774261.77 -29774261.62 -29774261.46 0.0271 0.0184
 Neptune -86231-10-03 18:27 J -29774173.77 -29774173.73 -29774173.66 0.0089 0.0086
 Neptune -86230-05-17 08:37 J -29773948.25 -29773948.14 -29773947.98 0.0089 0.0070
 Neptune -86230-12-28 23:30 J -29773722.70 -29773722.52 -29773722.34 0.0089 0.0053
 Neptune -86229-08-10 13:25 J -29773497.13 -29773496.94 -29773496.72 0.0089 0.0037
 Neptune -86228-03-24 03:49 J -29773271.55 -29773271.34 -29773271.11 0.0089 0.0020
 Neptune -86228-11-04 18:13 J -29773045.96 -29773045.74 -29773045.51 0.0089 0.0004
 Neptune -86227-06-18 08:37 J -29772820.36 -29772820.14 -29772819.91 0.0089 0.0013

Jupiter -86227-06-20 02:37 J -29772818.52 -29772818.39 -29772818.25 0.0489 0.0372
 Neptune -86226-01-29 22:32 J -29772594.76 -29772594.56 -29772594.33 0.0089 0.0030
 Neptune -86226-09-12 12:56 J -29772369.14 -29772368.96 -29772368.76 0.0089 0.0046
 Neptune -86225-04-25 03:06 J -29772143.51 -29772143.37 -29772143.19 0.0089 0.0063
 Neptune -86225-12-06 17:15 J -29771917.86 -29771917.78 -29771917.66 0.0089 0.0079
 Jupiter -86221-04-25 13:25 J -29770682.14 -29770681.94 -29770681.75 0.0538 0.0071
 Saturn -86217-12-19 12:27 J -29768983.16 -29768982.98 -29768982.78 0.0288 0.0134
 Uranus -86214-02-08 06:42 J -29768202.35 -29768202.22 -29768202.08 0.0138 0.0106
 Uranus -86214-09-22 12:42 J -29767976.17 -29767975.97 -29767975.76 0.0139 0.0042
 Uranus -86213-05-05 18:56 J -29767749.91 -29767749.71 -29767749.50 0.0139 0.0023
 Uranus -86213-12-18 01:25 J -29767523.59 -29767523.44 -29767523.27 0.0140 0.0089
 Mars -86207-10-31 05:44 J -29765380.41 -29765380.26 -29765380.12 0.1841 0.1106
 Jupiter -86203-06-22 15:06 J -29764050.04 -29764049.87 -29764049.69 0.0491 0.0280
 Saturn -86202-06-03 01:54 J -29763704.61 -29763704.42 -29763704.23 0.0272 0.0103
 Mars -86202-06-12 07:54 J -29763695.27 -29763695.17 -29763695.07 0.1683 0.1343
 Saturn -86201-01-18 01:11 J -29763475.55 -29763475.45 -29763475.33 0.0272 0.0230
 Pluto -86192-10-12 17:59 J -29759919.95 -29759919.75 -29759919.53 0.0082 0.0020
 Jupiter -86191-02-25 13:39 J -29759784.13 -29759783.93 -29759783.73 0.0489 0.0138
 Pluto -86191-05-26 04:18 J -29759694.50 -29759694.32 -29759694.13 0.0081 0.0044
 Saturn -86187-07-02 02:08 J -29758196.62 -29758196.41 -29758196.19 0.0288 0.0055
 Jupiter -86185-01-02 00:42 J -29757647.65 -29757647.47 -29757647.29 0.0537 0.0206
 Uranus -86175-03-05 23:01 J -29753931.70 -29753931.54 -29753931.35 0.0140 0.0091
 Uranus -86175-10-18 10:47 J -29753705.27 -29753705.05 -29753704.83 0.0140 0.0020
 Uranus -86174-06-01 21:49 J -29753478.79 -29753478.59 -29753478.37 0.0140 0.0050
 Jupiter -86174-09-06 18:42 J -29753381.88 -29753381.72 -29753381.56 0.0539 0.0312
 Uranus -86173-01-14 08:23 J -29753252.25 -29753252.15 -29753252.02 0.0139 0.0119
 Saturn -86173-12-13 08:08 J -29752918.36 -29752918.16 -29752917.96 0.0271 0.0047
 Mars -86168-04-10 00:13 J -29751339.63 -29751339.49 -29751339.35 0.1697 0.0930
 Saturn -86157-01-12 06:13 J -29747410.46 -29747410.24 -29747410.02 0.0288 0.0006
 Jupiter -86156-11-03 00:42 J -29746749.67 -29746749.47 -29746749.26 0.0490 0.0100

Jupiter -86150-09-09 16:47 J -29744612.86 -29744612.80 -29744612.75 0.0536 0.0509
 Neptune -86148-07-02 07:25 J -29743951.28 -29743951.19 -29743951.11 0.0089 0.0081
 Neptune -86147-02-12 18:42 J -29743725.84 -29743725.72 -29743725.56 0.0089 0.0066
 Neptune -86147-09-26 06:56 J -29743500.38 -29743500.21 -29743500.03 0.0089 0.0050
 Neptune -86146-05-09 18:27 J -29743274.91 -29743274.73 -29743274.52 0.0089 0.0035
 Neptune -86146-12-21 06:13 J -29743049.44 -29743049.24 -29743049.02 0.0089 0.0020
 Neptune -86145-08-02 18:13 J -29742823.95 -29742823.74 -29742823.53 0.0089 0.0004
 Neptune -86144-03-16 05:59 J -29742598.46 -29742598.25 -29742598.04 0.0089 0.0012
 Jupiter -86144-07-08 23:30 J -29742483.67 -29742483.52 -29742483.35 0.0489 0.0315
 Neptune -86144-10-27 17:30 J -29742372.96 -29742372.77 -29742372.55 0.0089 0.0028
 Neptune -86143-06-10 05:30 J -29742147.45 -29742147.27 -29742147.08 0.0089 0.0043
 Saturn -86143-06-25 11:30 J -29742132.23 -29742132.02 -29742131.82 0.0272 0.0007
 Neptune -86142-01-21 17:01 J -29741921.93 -29741921.79 -29741921.61 0.0089 0.0059
 Neptune -86142-09-04 04:47 J -29741696.40 -29741696.30 -29741696.17 0.0089 0.0074
 Mars -86141-08-27 09:35 J -29741338.16 -29741338.10 -29741338.04 0.1837 0.1711
 Jupiter -86138-05-15 09:49 J -29740347.29 -29740347.09 -29740346.90 0.0538 0.0015
 Mars -86136-04-08 19:39 J -29739652.81 -29739652.68 -29739652.55 0.1686 0.1074
 Uranus -86131-10-08 17:01 J -29737643.82 -29737643.79 -29737643.74 0.0138 0.0135
 Uranus -86130-05-22 23:01 J -29737417.72 -29737417.54 -29737417.36 0.0139 0.0072
 Uranus -86129-01-04 05:15 J -29737191.49 -29737191.28 -29737191.07 0.0139 0.0007
 Uranus -86129-08-17 11:15 J -29736965.21 -29736965.03 -29736964.83 0.0139 0.0058
 Uranus -86128-03-31 17:59 J -29736738.84 -29736738.75 -29736738.65 0.0140 0.0124
 Saturn -86128-07-24 19:11 J -29736623.90 -29736623.70 -29736623.48 0.0288 0.0073
 Jupiter -86120-07-11 11:44 J -29733715.16 -29733715.01 -29733714.86 0.0491 0.0335
 Saturn -86113-01-05 17:59 J -29731345.95 -29731345.75 -29731345.54 0.0271 0.0054
 Moon -86109-08-17 05:44 J -29729660.41 -29729660.26 -29729660.10 0.2585 0.0337
 Earth -86109-08-17 09:35 J -29729660.26 -29729660.10 -29729659.93 0.2580 0.0345 *
 Mars -86109-08-27 07:39 J -29729650.24 -29729650.18 -29729650.12 0.1852 0.1744
 Jupiter -86108-03-16 10:03 J -29729449.28 -29729449.08 -29729448.87 0.0489 0.0082
 Jupiter -86102-01-20 23:59 J -29727312.66 -29727312.50 -29727312.33 0.0538 0.0284

Mars -86102-02-05 11:30 J -29727297.13 -29727297.02 -29727296.90 0.1701 0.1222
 Saturn -86098-02-03 23:30 J -29725837.71 -29725837.52 -29725837.32 0.0288 0.0122
 Uranus -86092-11-03 03:49 J -29723373.42 -29723373.34 -29723373.24 0.0140 0.0128
 Uranus -86091-06-17 15:35 J -29723147.05 -29723146.85 -29723146.64 0.0140 0.0057
 Jupiter -86091-09-25 17:44 J -29723046.94 -29723046.76 -29723046.58 0.0539 0.0234
 Uranus -86090-01-30 03:06 J -29722920.60 -29722920.37 -29722920.15 0.0140 0.0014
 Uranus -86090-09-13 13:39 J -29722694.10 -29722693.93 -29722693.74 0.0139 0.0084
 Saturn -86085-11-30 20:37 J -29720788.72 -29720788.64 -29720788.53 0.0272 0.0241
 Saturn -86084-07-17 20:08 J -29720559.85 -29720559.66 -29720559.46 0.0272 0.0094
 Jupiter -86073-11-21 21:35 J -29716414.80 -29716414.60 -29716414.40 0.0490 0.0154
 Mars -86070-02-04 07:11 J -29715610.35 -29715610.20 -29715610.05 0.1689 0.0806
 Saturn -86070-12-30 09:35 J -29715281.22 -29715281.10 -29715280.95 0.0288 0.0227
 Saturn -86069-08-16 11:30 J -29715051.17 -29715051.02 -29715050.86 0.0288 0.0198
 Neptune -86066-08-18 17:59 J -29713953.84 -29713953.75 -29713953.61 0.0089 0.0076
 Neptune -86065-03-31 08:37 J -29713728.30 -29713728.14 -29713727.96 0.0089 0.0059
 Neptune -86065-11-11 22:47 J -29713502.73 -29713502.55 -29713502.34 0.0089 0.0043
 Neptune -86064-06-25 13:11 J -29713277.16 -29713276.95 -29713276.72 0.0089 0.0026
 Neptune -86063-02-06 03:35 J -29713051.57 -29713051.35 -29713051.12 0.0089 0.0009
 Neptune -86063-09-19 17:59 J -29712825.98 -29712825.75 -29712825.53 0.0089 0.0007
 Neptune -86062-05-03 08:23 J -29712600.37 -29712600.15 -29712599.93 0.0089 0.0024
 Neptune -86062-12-14 22:18 J -29712374.76 -29712374.57 -29712374.35 0.0089 0.0041
 Neptune -86061-07-27 12:56 J -29712149.14 -29712148.96 -29712148.79 0.0089 0.0057
 Jupiter -86061-07-27 21:06 J -29712148.80 -29712148.62 -29712148.44 0.0489 0.0255 *
 Neptune -86060-03-10 02:37 J -29711923.49 -29711923.39 -29711923.25 0.0089 0.0074
 Jupiter -86055-06-03 05:44 J -29710012.46 -29710012.26 -29710012.07 0.0538 0.0046
 Saturn -86055-06-13 04:03 J -29710002.48 -29710002.33 -29710002.17 0.0271 0.0180
 Saturn -86054-01-28 03:06 J -29709773.53 -29709773.37 -29709773.19 0.0271 0.0152
 Uranus -86046-01-20 09:20 J -29706859.24 -29706859.11 -29706858.96 0.0138 0.0101
 Uranus -86046-09-03 15:20 J -29706633.06 -29706632.86 -29706632.65 0.0139 0.0038
 Uranus -86045-04-16 21:35 J -29706406.80 -29706406.60 -29706406.39 0.0139 0.0028

Uranus -86045-11-29 04:03 J -29706180.48 -29706180.33 -29706180.16 0.0139 0.0093
 Jupiter -86043-02-05 23:59 J -29705746.59 -29705746.50 -29705746.39 0.0540 0.0469
 Mars -86043-06-24 11:15 J -29705608.17 -29705608.03 -29705607.89 0.1848 0.1104
 Saturn -86040-07-11 14:08 J -29704495.07 -29704494.91 -29704494.73 0.0288 0.0178
 Saturn -86039-02-26 15:35 J -29704264.94 -29704264.85 -29704264.73 0.0288 0.0248
 Jupiter -86037-07-30 08:51 J -29703380.25 -29703380.13 -29703380.00 0.0491 0.0394
 Mars -86037-12-02 23:01 J -29703254.62 -29703254.54 -29703254.47 0.1704 0.1516
 Pluto -86036-09-22 17:15 J -29702960.93 -29702960.78 -29702960.58 0.0063 0.0040
 Pluto -86035-05-05 22:03 J -29702735.80 -29702735.58 -29702735.35 0.0063 0.0009
 Pluto -86035-12-17 02:37 J -29702510.60 -29702510.39 -29702510.17 0.0063 0.0022
 Pluto -86034-07-30 06:56 J -29702285.32 -29702285.21 -29702285.08 0.0064 0.0053
 Saturn -86026-12-24 05:30 J -29699216.44 -29699216.27 -29699216.09 0.0272 0.0143
 Jupiter -86025-04-04 07:39 J -29699114.39 -29699114.18 -29699113.97 0.0490 0.0022
 Saturn -86025-08-09 04:32 J -29698987.45 -29698987.31 -29698987.15 0.0271 0.0190
 Jupiter -86019-02-08 21:49 J -29696977.73 -29696977.59 -29696977.44 0.0537 0.0352
 Jupiter -86014-12-09 07:25 J -29694848.29 -29694848.19 -29694848.10 0.0488 0.0432
 Saturn -86010-01-22 00:56 J -29693708.66 -29693708.46 -29693708.26 0.0288 0.0106
 Jupiter -86008-10-14 12:42 J -29692712.15 -29692711.97 -29692711.78 0.0539 0.0184
 Uranus -86007-02-14 21:35 J -29692588.77 -29692588.60 -29692588.43 0.0140 0.0092
 Uranus -86007-09-29 08:51 J -29692362.35 -29692362.13 -29692361.91 0.0140 0.0021
 Uranus -86006-05-13 20:08 J -29692135.87 -29692135.66 -29692135.45 0.0140 0.0049
 Uranus -86006-12-26 06:27 J -29691909.32 -29691909.23 -29691909.09 0.0139 0.0119
 Mars -86005-12-01 19:11 J -29691567.86 -29691567.70 -29691567.54 0.1692 0.0540

86TH MILLENNIUM BCE

This is a list of transits of Venus in the 86th millennium BCE.

	FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT								
	TIME								
Saturn	-85996-07-05	12:27	J	-29688430.17	-29688429.98	-29688429.77	0.0271	0.0085	
Earth	-85995-02-15	12:27	J	-29688205.11	-29688204.98	-29688204.84	0.2757	0.1194	
Moon	-85995-02-15	14:23	J	-29688205.03	-29688204.90	-29688204.77	0.2763	0.1329	*
Saturn	-85995-02-19	11:15	J	-29688201.09	-29688201.03	-29688200.93	0.0271	0.0248	
Jupiter	-85990-12-11	19:11	J	-29686079.89	-29686079.70	-29686079.51	0.0490	0.0216	
Neptune	-85984-10-03	18:42	J	-29683956.74	-29683956.72	-29683956.66	0.0089	0.0087	
Neptune	-85983-05-17	06:42	J	-29683731.33	-29683731.22	-29683731.08	0.0089	0.0071	
Neptune	-85983-12-28	18:27	J	-29683505.88	-29683505.73	-29683505.55	0.0089	0.0056	
Neptune	-85982-08-11	06:13	J	-29683280.42	-29683280.24	-29683280.04	0.0089	0.0040	
Neptune	-85981-03-23	17:59	J	-29683054.94	-29683054.75	-29683054.53	0.0089	0.0025	
Saturn	-85981-08-03	05:15	J	-29682922.49	-29682922.28	-29682922.06	0.0288	0.0057	
Neptune	-85981-11-04	06:13	J	-29682829.46	-29682829.24	-29682829.03	0.0089	0.0009	
Neptune	-85980-06-17	17:59	J	-29682603.97	-29682603.75	-29682603.54	0.0089	0.0007	
Neptune	-85979-01-29	05:30	J	-29682378.47	-29682378.27	-29682378.06	0.0089	0.0022	
Neptune	-85979-09-11	17:15	J	-29682152.97	-29682152.78	-29682152.58	0.0089	0.0038	
Neptune	-85978-04-25	04:47	J	-29681927.45	-29681927.30	-29681927.12	0.0089	0.0054	
Jupiter	-85978-08-16	18:56	J	-29681813.91	-29681813.71	-29681813.52	0.0489	0.0194	
Neptune	-85978-12-06	16:47	J	-29681701.92	-29681701.80	-29681701.66	0.0089	0.0069	
Mars	-85977-04-20	14:23	J	-29681566.07	-29681565.90	-29681565.73	0.1843	0.0457	
Neptune	-85977-07-19	04:03	J	-29681476.36	-29681476.33	-29681476.24	0.0089	0.0085	
Jupiter	-85972-06-22	06:27	J	-29679677.42	-29679677.23	-29679677.04	0.0538	0.0131	
Saturn	-85966-01-15	13:11	J	-29677644.15	-29677643.95	-29677643.74	0.0272	0.0050	
Uranus	-85963-09-19	19:25	J	-29676300.73	-29676300.69	-29676300.61	0.0138	0.0131	
Uranus	-85962-05-04	01:25	J	-29676074.61	-29676074.44	-29676074.24	0.0139	0.0068	
Uranus	-85962-12-16	07:54	J	-29675848.38	-29675848.17	-29675847.95	0.0139	0.0004	
Uranus	-85961-07-29	14:08	J	-29675622.09	-29675621.91	-29675621.71	0.0139	0.0063	

Jupiter -85960-02-24 23:30 J -29675411.65 -29675411.52 -29675411.38 0.0539 0.0391
 Uranus -85960-03-12 20:37 J -29675395.70 -29675395.64 -29675395.54 0.0140 0.0129
 Jupiter -85954-08-19 07:25 J -29673045.26 -29673045.19 -29673045.12 0.0491 0.0456
 Saturn -85951-02-13 13:39 J -29672136.14 -29672135.93 -29672135.71 0.0288 0.0010
 Pluto -85946-03-30 18:56 J -29670264.78 -29670264.71 -29670264.63 0.0082 0.0076
 Pluto -85946-11-11 05:15 J -29670039.49 -29670039.28 -29670039.06 0.0082 0.0013
 Pluto -85945-06-23 15:20 J -29669814.02 -29669813.86 -29669813.68 0.0081 0.0051
 Jupiter -85942-04-24 07:11 J -29668779.41 -29668779.20 -29668778.99 0.0489 0.0047
 Mars -85939-09-29 06:13 J -29667525.41 -29667525.24 -29667525.07 0.1696 0.0248
 Saturn -85937-07-27 20:23 J -29666857.86 -29666857.65 -29666857.45 0.0271 0.0010
 Jupiter -85936-02-27 17:59 J -29666642.87 -29666642.75 -29666642.62 0.0537 0.0409
 Jupiter -85931-12-28 05:59 J -29664513.39 -29664513.25 -29664513.11 0.0488 0.0365
 Jupiter -85925-11-02 13:11 J -29662377.15 -29662376.95 -29662376.76 0.0539 0.0101
 Uranus -85924-10-15 02:37 J -29662030.47 -29662030.39 -29662030.29 0.0140 0.0128
 Uranus -85923-05-29 14:23 J -29661804.10 -29661803.90 -29661803.69 0.0140 0.0057
 Uranus -85922-01-11 01:54 J -29661577.64 -29661577.42 -29661577.20 0.0140 0.0014
 Uranus -85922-08-25 12:27 J -29661351.14 -29661350.98 -29661350.78 0.0139 0.0084
 Saturn -85922-08-26 18:27 J -29661349.94 -29661349.73 -29661349.52 0.0288 0.0057
 Mars -85911-02-15 18:13 J -29657523.92 -29657523.74 -29657523.56 0.1839 0.0167
 Saturn -85907-02-06 20:08 J -29656071.87 -29656071.66 -29656071.46 0.0271 0.0042
 Jupiter -85907-12-30 17:59 J -29655744.91 -29655744.75 -29655744.57 0.0490 0.0284
 Neptune -85902-11-20 03:49 J -29653959.41 -29653959.34 -29653959.23 0.0089 0.0081
 Neptune -85901-07-02 17:59 J -29653733.88 -29653733.75 -29653733.57 0.0089 0.0065
 Neptune -85900-02-13 08:23 J -29653508.32 -29653508.15 -29653507.94 0.0089 0.0048
 Neptune -85900-09-26 23:01 J -29653282.75 -29653282.54 -29653282.33 0.0089 0.0031
 Neptune -85899-05-10 13:25 J -29653057.16 -29653056.94 -29653056.71 0.0089 0.0015
 Neptune -85899-12-22 03:49 J -29652831.57 -29652831.34 -29652831.12 0.0089 0.0002
 Neptune -85898-08-04 17:44 J -29652605.97 -29652605.76 -29652605.53 0.0089 0.0019
 Neptune -85897-03-17 07:54 J -29652380.37 -29652380.17 -29652379.95 0.0089 0.0036
 Neptune -85897-10-28 22:18 J -29652154.74 -29652154.57 -29652154.38 0.0089 0.0052

Neptune -85896-06-11 12:27 J -29651929.10 -29651928.98 -29651928.82 0.0089 0.0069
 Neptune -85895-01-23 03:06 J -29651703.43 -29651703.37 -29651703.31 0.0089 0.0085
 Jupiter -85895-09-04 17:59 J -29651478.95 -29651478.75 -29651478.54 0.0489 0.0127
 Saturn -85892-03-08 00:56 J -29650563.65 -29650563.46 -29650563.26 0.0288 0.0117
 Jupiter -85889-07-11 02:23 J -29649342.58 -29649342.40 -29649342.21 0.0538 0.0188
 Uranus -85878-01-01 11:15 J -29645516.17 -29645516.03 -29645515.88 0.0138 0.0098
 Saturn -85878-01-03 03:49 J -29645514.44 -29645514.34 -29645514.23 0.0271 0.0233
 Uranus -85878-08-15 17:15 J -29645289.98 -29645289.78 -29645289.57 0.0139 0.0035
 Saturn -85878-08-20 02:37 J -29645285.57 -29645285.39 -29645285.19 0.0271 0.0100
 Jupiter -85877-03-15 19:39 J -29645076.83 -29645076.68 -29645076.52 0.0540 0.0333
 Uranus -85877-03-28 23:44 J -29645063.72 -29645063.51 -29645063.31 0.0139 0.0030
 Uranus -85877-11-10 05:59 J -29644837.39 -29644837.25 -29644837.08 0.0139 0.0096
 Mars -85873-07-26 17:44 J -29643482.93 -29643482.76 -29643482.59 0.1699 0.0046
 Earth -85866-08-18 11:44 J -29640904.17 -29640904.01 -29640903.85 0.2580 0.0498
 Moon -85866-08-18 17:01 J -29640903.93 -29640903.79 -29640903.65 0.2578 0.1426 *
 Saturn -85863-01-31 03:35 J -29640007.44 -29640007.35 -29640007.26 0.0288 0.0261
 Saturn -85863-09-18 05:30 J -29639777.45 -29639777.27 -29639777.09 0.0288 0.0166
 Jupiter -85859-05-13 06:13 J -29638444.44 -29638444.24 -29638444.04 0.0489 0.0116
 Jupiter -85853-03-18 20:08 J -29636307.71 -29636307.66 -29636307.58 0.0537 0.0506
 Saturn -85849-07-15 03:20 J -29634728.49 -29634728.36 -29634728.21 0.0271 0.0202
 Saturn -85848-03-01 02:08 J -29634499.59 -29634499.41 -29634499.23 0.0271 0.0131
 Jupiter -85847-01-16 05:30 J -29634178.44 -29634178.27 -29634178.11 0.0489 0.0296
 Mars -85846-12-13 21:49 J -29633481.75 -29633481.59 -29633481.43 0.1834 0.0789
 Jupiter -85842-11-22 14:37 J -29632042.09 -29632041.89 -29632041.70 0.0539 0.0014
 Uranus -85839-01-26 20:08 J -29631245.82 -29631245.66 -29631245.48 0.0140 0.0092
 Uranus -85839-09-10 07:54 J -29631019.39 -29631019.17 -29631018.95 0.0140 0.0021
 Uranus -85838-04-24 18:56 J -29630792.91 -29630792.71 -29630792.50 0.0140 0.0049
 Uranus -85838-12-07 05:30 J -29630566.37 -29630566.27 -29630566.13 0.0139 0.0118
 Saturn -85834-08-13 07:54 J -29629221.31 -29629221.17 -29629221.02 0.0288 0.0209
 Saturn -85833-03-30 10:18 J -29628991.21 -29628991.07 -29628990.93 0.0289 0.0220

Jupiter -85823-01-18 19:25 J -29625409.82 -29625409.69 -29625409.54 0.0490 0.0363
 Saturn -85819-01-25 09:49 J -29623942.26 -29623942.09 -29623941.91 0.0271 0.0145
 Neptune -85819-08-18 18:56 J -29623736.81 -29623736.71 -29623736.60 0.0089 0.0076
 Saturn -85819-09-11 08:37 J -29623713.29 -29623713.14 -29623712.99 0.0270 0.0187
 Neptune -85818-04-01 06:28 J -29623511.37 -29623511.23 -29623511.06 0.0089 0.0061
 Neptune -85818-11-12 18:42 J -29623285.90 -29623285.72 -29623285.53 0.0089 0.0045
 Neptune -85817-06-25 06:28 J -29623060.42 -29623060.23 -29623060.02 0.0089 0.0029
 Neptune -85816-02-05 18:13 J -29622834.94 -29622834.74 -29622834.52 0.0089 0.0014
 Neptune -85816-09-19 06:13 J -29622609.45 -29622609.24 -29622609.03 0.0089 0.0002
 Neptune -85815-05-02 17:59 J -29622383.96 -29622383.75 -29622383.54 0.0089 0.0018
 Neptune -85815-12-14 05:30 J -29622158.45 -29622158.27 -29622158.06 0.0089 0.0034
 Neptune -85814-07-27 17:30 J -29621932.94 -29621932.77 -29621932.59 0.0089 0.0049
 Neptune -85813-03-09 05:01 J -29621707.42 -29621707.29 -29621707.13 0.0089 0.0065
 Neptune -85813-10-20 16:32 J -29621481.87 -29621481.81 -29621481.69 0.0089 0.0081
 Jupiter -85812-09-23 18:13 J -29621143.95 -29621143.74 -29621143.53 0.0489 0.0051
 Mars -85807-05-24 04:47 J -29619440.47 -29619440.30 -29619440.14 0.1703 0.0336
 Jupiter -85806-07-31 03:35 J -29619007.51 -29619007.35 -29619007.18 0.0538 0.0279
 Saturn -85804-02-22 13:11 J -29618435.12 -29618434.95 -29618434.76 0.0288 0.0158
 Saturn -85804-10-10 15:06 J -29618204.93 -29618204.87 -29618204.78 0.0289 0.0271
 Jupiter -85800-05-29 18:13 J -29616877.81 -29616877.74 -29616877.66 0.0488 0.0456
 Uranus -85795-08-31 20:08 J -29614957.71 -29614957.66 -29614957.58 0.0138 0.0130
 Jupiter -85794-04-04 22:47 J -29614741.72 -29614741.55 -29614741.37 0.0539 0.0232
 Uranus -85794-04-15 02:08 J -29614731.59 -29614731.41 -29614731.22 0.0138 0.0067
 Uranus -85794-11-27 08:37 J -29614505.35 -29614505.14 -29614504.93 0.0139 0.0002
 Uranus -85793-07-10 14:52 J -29614279.06 -29614278.88 -29614278.69 0.0139 0.0063
 Uranus -85792-02-21 21:20 J -29614052.68 -29614052.61 -29614052.52 0.0140 0.0129
 Saturn -85790-08-07 09:06 J -29613156.30 -29613156.12 -29613155.93 0.0271 0.0114
 Pluto -85790-10-22 04:18 J -29613080.50 -29613080.32 -29613080.12 0.0063 0.0034
 Saturn -85789-03-23 07:40 J -29612927.30 -29612927.18 -29612927.06 0.0271 0.0217
 Pluto -85789-06-03 08:52 J -29612855.35 -29612855.13 -29612854.90 0.0063 0.0004

Pluto	-85788-01-14 12:56 J	-29612630.14	-29612629.96	-29612629.73	0.0063	0.0028
Pluto	-85788-08-27 17:30 J	-29612404.83	-29612404.77	-29612404.66	0.0064	0.0059
Mars	-85780-10-10 01:11 J	-29609439.56	-29609439.45	-29609439.34	0.1829	0.1416
Jupiter	-85776-06-01 07:25 J	-29608109.39	-29608109.19	-29608109.00	0.0490	0.0194
Saturn	-85775-09-04 15:49 J	-29607649.03	-29607648.84	-29607648.63	0.0288	0.0113
Jupiter	-85764-02-04 07:25 J	-29603843.37	-29603843.19	-29603842.99	0.0489	0.0212
Saturn	-85760-02-16 15:20 J	-29602370.06	-29602369.86	-29602369.66	0.0271	0.0059
Jupiter	-85759-12-11 11:30 J	-29601707.21	-29601707.02	-29601706.82	0.0539	0.0055
Uranus	-85756-09-26 00:56 J	-29600687.53	-29600687.46	-29600687.35	0.0140	0.0129
Uranus	-85755-05-10 12:56 J	-29600461.16	-29600460.96	-29600460.75	0.0140	0.0057
Uranus	-85755-12-23 00:28 J	-29600234.70	-29600234.48	-29600234.25	0.0140	0.0013
Uranus	-85754-08-06 11:30 J	-29600008.20	-29600008.02	-29600007.84	0.0139	0.0083
Moon	-85752-02-15 12:28 J	-29599449.13	-29599448.98	-29599448.83	0.2750	0.1083
Earth	-85752-02-15 12:28 J	-29599449.13	-29599448.98	-29599448.84	0.2757	0.0769 *
Jupiter	-85747-08-16 05:44 J	-29597441.35	-29597441.26	-29597441.15	0.0540	0.0461
Saturn	-85745-03-16 21:35 J	-29596862.81	-29596862.60	-29596862.38	0.0288	0.0060
Mars	-85741-03-20 15:49 J	-29595398.00	-29595397.84	-29595397.69	0.1707	0.0638
Jupiter	-85740-02-06 19:25 J	-29595074.77	-29595074.69	-29595074.59	0.0490	0.0438
Neptune	-85737-02-21 14:08 J	-29593964.94	-29593964.91	-29593964.83	0.0089	0.0086
Neptune	-85737-10-04 05:01 J	-29593739.43	-29593739.29	-29593739.15	0.0089	0.0069
Neptune	-85736-05-17 18:56 J	-29593513.87	-29593513.71	-29593513.51	0.0089	0.0053
Neptune	-85736-12-29 09:20 J	-29593288.31	-29593288.11	-29593287.89	0.0089	0.0036
Neptune	-85735-08-11 23:30 J	-29593062.73	-29593062.52	-29593062.29	0.0089	0.0020
Neptune	-85734-03-25 14:08 J	-29592837.14	-29592836.91	-29592836.69	0.0089	0.0003
Neptune	-85734-11-06 04:18 J	-29592611.54	-29592611.32	-29592611.10	0.0089	0.0014
Neptune	-85733-06-18 18:28 J	-29592385.94	-29592385.73	-29592385.51	0.0089	0.0031
Neptune	-85732-01-30 08:23 J	-29592160.32	-29592160.15	-29592159.94	0.0089	0.0048
Neptune	-85732-09-12 22:47 J	-29591934.69	-29591934.55	-29591934.38	0.0089	0.0064
Neptune	-85731-04-26 12:56 J	-29591709.03	-29591708.96	-29591708.85	0.0089	0.0081
Saturn	-85731-08-29 14:37 J	-29591584.10	-29591583.89	-29591583.69	0.0271	0.0028

Jupiter -85729-10-12 18:56 J -29590808.92 -29590808.71 -29590808.50 0.0489 0.0027
 Jupiter -85723-08-19 06:28 J -29588672.36 -29588672.23 -29588672.08 0.0538 0.0378
 Jupiter -85717-06-17 19:40 J -29586542.81 -29586542.68 -29586542.54 0.0488 0.0377
 Saturn -85716-09-26 23:44 J -29586076.73 -29586076.51 -29586076.29 0.0288 0.0016
 Jupiter -85711-04-23 21:06 J -29584406.80 -29584406.62 -29584406.43 0.0539 0.0160
 Uranus -85711-12-13 10:47 J -29584173.19 -29584173.05 -29584172.90 0.0138 0.0100
 Uranus -85710-07-27 16:47 J -29583947.00 -29583946.80 -29583946.59 0.0139 0.0036
 Uranus -85709-03-09 23:01 J -29583720.74 -29583720.54 -29583720.33 0.0139 0.0029
 Mars -85709-03-19 11:44 J -29583711.10 -29583711.01 -29583710.92 0.1695 0.1421
 Uranus -85709-10-22 05:16 J -29583494.42 -29583494.28 -29583494.11 0.0139 0.0095
 Saturn -85701-03-10 20:23 J -29580797.86 -29580797.65 -29580797.45 0.0271 0.0025
 Pluto -85700-04-28 08:23 J -29580384.27 -29580384.15 -29580383.98 0.0082 0.0060
 Pluto -85700-12-09 19:11 J -29580158.91 -29580158.70 -29580158.48 0.0081 0.0004
 Pluto -85699-07-23 05:01 J -29579933.39 -29579933.29 -29579933.15 0.0081 0.0066
 Jupiter -85693-06-20 08:08 J -29577774.33 -29577774.16 -29577773.98 0.0490 0.0273
 Saturn -85686-04-09 05:44 J -29575290.47 -29575290.26 -29575290.04 0.0289 0.0039
 Mars -85682-08-07 01:54 J -29573709.54 -29573709.42 -29573709.30 0.1840 0.1364
 Jupiter -85681-02-24 07:54 J -29573508.37 -29573508.17 -29573507.97 0.0488 0.0135
 Jupiter -85676-12-30 15:06 J -29571372.06 -29571371.87 -29571371.68 0.0539 0.0158
 Mars -85675-01-16 02:52 J -29571355.52 -29571355.38 -29571355.24 0.1710 0.0942
 Saturn -85672-09-20 19:54 J -29570011.87 -29570011.67 -29570011.47 0.0271 0.0058
 Uranus -85671-01-07 17:44 J -29569902.91 -29569902.76 -29569902.58 0.0140 0.0094
 Uranus -85671-08-22 05:30 J -29569676.49 -29569676.27 -29569676.04 0.0140 0.0023
 Uranus -85670-04-05 16:32 J -29569450.01 -29569449.81 -29569449.58 0.0140 0.0048
 Uranus -85670-11-18 03:35 J -29569223.46 -29569223.35 -29569223.21 0.0139 0.0116
 Jupiter -85664-09-04 09:20 J -29567106.26 -29567106.11 -29567105.96 0.0540 0.0358
 Saturn -85657-10-19 06:56 J -29564504.42 -29564504.21 -29564504.00 0.0288 0.0080
 Neptune -85655-11-20 07:25 J -29563742.26 -29563742.19 -29563742.09 0.0089 0.0081
 Neptune -85654-07-03 18:56 J -29563516.83 -29563516.71 -29563516.54 0.0089 0.0066
 Neptune -85653-02-14 06:56 J -29563291.37 -29563291.21 -29563291.02 0.0089 0.0050

Neptune -85653-09-26 18:56 J -29563065.90 -29563065.71 -29563065.51 0.0089 0.0034
 Neptune -85652-05-10 06:42 J -29562840.42 -29562840.22 -29562840.00 0.0089 0.0019
 Neptune -85652-12-21 18:42 J -29562614.93 -29562614.72 -29562614.50 0.0089 0.0003
 Neptune -85651-08-04 06:28 J -29562389.44 -29562389.23 -29562389.01 0.0089 0.0013
 Neptune -85650-03-17 18:13 J -29562163.94 -29562163.74 -29562163.53 0.0089 0.0029
 Neptune -85650-10-29 05:59 J -29561938.42 -29561938.25 -29561938.05 0.0089 0.0045
 Neptune -85649-06-10 17:44 J -29561712.90 -29561712.76 -29561712.59 0.0089 0.0061
 Neptune -85648-01-22 05:44 J -29561487.36 -29561487.26 -29561487.15 0.0089 0.0076
 Jupiter -85646-11-01 21:20 J -29560473.81 -29560473.61 -29560473.40 0.0489 0.0113
 Mars -85643-01-14 23:01 J -29559668.66 -29559668.54 -29559668.41 0.1698 0.1139
 Saturn -85643-08-17 02:37 J -29559454.50 -29559454.39 -29559454.27 0.0272 0.0224
 Saturn -85642-04-03 01:25 J -29559225.63 -29559225.44 -29559225.25 0.0271 0.0110
 Jupiter -85640-09-07 03:49 J -29558337.45 -29558337.34 -29558337.23 0.0537 0.0443
 Jupiter -85634-07-07 20:23 J -29556207.81 -29556207.65 -29556207.48 0.0488 0.0298
 Jupiter -85628-05-12 22:04 J -29554071.77 -29554071.58 -29554071.38 0.0539 0.0072
 Saturn -85627-05-01 14:23 J -29553718.09 -29553717.90 -29553717.71 0.0289 0.0138
 Uranus -85627-08-12 19:11 J -29553614.74 -29553614.70 -29553614.62 0.0138 0.0132
 Uranus -85626-03-27 01:11 J -29553388.63 -29553388.45 -29553388.26 0.0138 0.0069
 Uranus -85626-11-08 07:25 J -29553162.40 -29553162.19 -29553161.98 0.0139 0.0005
 Uranus -85625-06-21 13:40 J -29552936.12 -29552935.93 -29552935.74 0.0139 0.0060
 Uranus -85624-02-02 20:08 J -29552709.74 -29552709.66 -29552709.57 0.0140 0.0126
 Moon -85623-08-18 08:23 J -29552148.31 -29552148.15 -29552147.99 0.2581 0.0193
 Earth -85623-08-18 13:54 J -29552148.07 -29552147.92 -29552147.76 0.2580 0.0680 *
 Mars -85616-06-03 05:59 J -29549667.42 -29549667.25 -29549667.09 0.1835 0.0747
 Saturn -85613-02-27 02:52 J -29548668.52 -29548668.38 -29548668.23 0.0271 0.0189
 Saturn -85613-10-13 01:25 J -29548439.61 -29548439.44 -29548439.26 0.0270 0.0144
 Jupiter -85610-07-10 08:37 J -29547439.28 -29547439.14 -29547438.99 0.0490 0.0350
 Mars -85610-11-13 13:40 J -29547313.04 -29547312.93 -29547312.81 0.1714 0.1255
 Jupiter -85598-03-15 09:20 J -29543173.32 -29543173.11 -29543172.90 0.0489 0.0056
 Saturn -85598-03-26 12:42 J -29543162.06 -29543161.97 -29543161.86 0.0288 0.0253

Saturn -85598-11-11 15:06 J -29542932.04 -29542931.87 -29542931.70 0.0288 0.0178
 Jupiter -85592-01-18 13:40 J -29541037.10 -29541036.93 -29541036.75 0.0538 0.0234
 Uranus -85588-09-06 22:04 J -29539344.65 -29539344.58 -29539344.50 0.0141 0.0132
 Uranus -85587-04-21 09:49 J -29539118.29 -29539118.09 -29539117.89 0.0140 0.0061
 Jupiter -85587-11-18 09:35 J -29538907.17 -29538907.10 -29538907.03 0.0488 0.0458
 Uranus -85587-12-03 21:20 J -29538891.83 -29538891.61 -29538891.38 0.0140 0.0010
 Uranus -85586-07-18 08:37 J -29538665.32 -29538665.14 -29538664.96 0.0139 0.0080
 Saturn -85584-09-08 07:54 J -29537882.34 -29537882.17 -29537881.99 0.0272 0.0140
 Saturn -85583-04-25 06:42 J -29537653.36 -29537653.22 -29537653.07 0.0271 0.0195
 Jupiter -85581-09-23 06:42 J -29536771.39 -29536771.22 -29536771.06 0.0539 0.0290
 Mars -85578-11-12 10:32 J -29535626.20 -29535626.06 -29535625.91 0.1701 0.0859
 Neptune -85572-01-05 14:52 J -29533744.97 -29533744.88 -29533744.73 0.0089 0.0075
 Neptune -85572-08-19 05:30 J -29533519.43 -29533519.27 -29533519.09 0.0089 0.0058
 Neptune -85571-04-01 19:54 J -29533293.86 -29533293.67 -29533293.46 0.0089 0.0041
 Neptune -85571-11-13 10:18 J -29533068.28 -29533068.07 -29533067.84 0.0089 0.0024
 Neptune -85570-06-27 00:42 J -29532842.70 -29532842.47 -29532842.24 0.0089 0.0007
 Neptune -85569-02-07 14:52 J -29532617.10 -29532616.88 -29532616.65 0.0089 0.0010
 Neptune -85569-09-20 04:47 J -29532391.50 -29532391.30 -29532391.06 0.0089 0.0027
 Saturn -85569-10-05 21:20 J -29532375.77 -29532375.61 -29532375.44 0.0288 0.0191
 Neptune -85568-05-03 19:25 J -29532165.88 -29532165.69 -29532165.48 0.0089 0.0043
 Saturn -85568-05-23 23:44 J -29532145.63 -29532145.51 -29532145.39 0.0289 0.0240
 Neptune -85568-12-15 09:35 J -29531940.26 -29531940.10 -29531939.92 0.0089 0.0060
 Neptune -85567-07-28 23:30 J -29531714.61 -29531714.52 -29531714.38 0.0089 0.0077
 Jupiter -85563-11-20 21:06 J -29530138.81 -29530138.62 -29530138.42 0.0489 0.0185
 Saturn -85554-03-21 09:06 J -29527096.31 -29527096.12 -29527095.93 0.0271 0.0101
 Saturn -85554-11-05 07:25 J -29526867.28 -29526867.19 -29526867.07 0.0270 0.0233
 Jupiter -85551-07-26 20:23 J -29525872.83 -29525872.65 -29525872.46 0.0488 0.0225
 Mars -85550-03-31 09:20 J -29525625.29 -29525625.11 -29525624.93 0.1831 0.0125
 Jupiter -85545-06-01 01:11 J -29523736.65 -29523736.45 -29523736.25 0.0539 0.0030
 Pluto -85544-04-08 09:49 J -29523425.11 -29523425.09 -29523425.05 0.0063 0.0062

Mars	-85544-09-10 00:28 J	-29523270.54	-29523270.48	-29523270.41	0.1717	0.1575
Pluto	-85544-11-19 13:54 J	-29523200.10	-29523199.92	-29523199.71	0.0063	0.0032
Pluto	-85543-07-02 18:42 J	-29522974.95	-29522974.72	-29522974.49	0.0063	0.0002
Uranus	-85543-11-24 10:32 J	-29522830.20	-29522830.06	-29522829.91	0.0138	0.0100
Pluto	-85542-02-12 22:47 J	-29522749.73	-29522749.55	-29522749.33	0.0063	0.0030
Uranus	-85542-07-08 16:32 J	-29522604.01	-29522603.81	-29522603.60	0.0139	0.0037
Pluto	-85542-09-26 03:20 J	-29522524.40	-29522524.36	-29522524.27	0.0064	0.0061
Uranus	-85541-02-19 22:32 J	-29522377.76	-29522377.56	-29522377.35	0.0139	0.0028
Uranus	-85541-10-03 04:32 J	-29522151.45	-29522151.31	-29522151.14	0.0139	0.0094
Saturn	-85539-04-17 22:18 J	-29521589.75	-29521589.57	-29521589.38	0.0288	0.0151
Saturn	-85539-12-04 00:42 J	-29521359.52	-29521359.47	-29521359.42	0.0289	0.0280
Jupiter	-85533-02-04 16:18 J	-29519470.89	-29519470.82	-29519470.75	0.0540	0.0503
Jupiter	-85527-07-29 10:18 J	-29517104.16	-29517104.07	-29517103.97	0.0490	0.0433
Saturn	-85525-09-30 14:08 J	-29516310.11	-29516309.91	-29516309.71	0.0272	0.0052
Jupiter	-85515-04-03 09:06 J	-29512838.33	-29512838.12	-29512837.91	0.0489	0.0020
Mars	-85512-09-08 21:35 J	-29511583.76	-29511583.60	-29511583.44	0.1705	0.0558
Saturn	-85510-10-29 08:23 J	-29510803.36	-29510803.15	-29510802.94	0.0288	0.0084
Jupiter	-85509-02-07 13:25 J	-29510702.10	-29510701.94	-29510701.78	0.0538	0.0312
Moon	-85509-02-16 10:04 J	-29510693.22	-29510693.08	-29510692.93	0.2763	0.0237
Earth	-85509-02-16 12:13 J	-29510693.14	-29510692.99	-29510692.84	0.2757	0.0350 *
Jupiter	-85504-12-07 08:52 J	-29508572.26	-29508572.13	-29508572.01	0.0488	0.0389
Uranus	-85504-12-19 14:08 J	-29508560.06	-29508559.91	-29508559.74	0.0140	0.0098
Uranus	-85503-08-03 01:54 J	-29508333.63	-29508333.42	-29508333.19	0.0140	0.0027
Uranus	-85502-03-17 13:25 J	-29508107.15	-29508106.94	-29508106.73	0.0140	0.0043
Uranus	-85502-10-30 00:13 J	-29507880.61	-29507880.49	-29507880.34	0.0139	0.0113
Jupiter	-85498-10-13 08:08 J	-29506436.34	-29506436.16	-29506435.98	0.0540	0.0200
Saturn	-85495-04-12 16:04 J	-29505524.04	-29505523.83	-29505523.63	0.0271	0.0011
Neptune	-85490-02-21 20:23 J	-29503747.68	-29503747.65	-29503747.57	0.0089	0.0086
Neptune	-85490-10-05 08:23 J	-29503522.27	-29503522.15	-29503522.00	0.0089	0.0070
Neptune	-85489-05-17 20:23 J	-29503296.81	-29503296.65	-29503296.48	0.0089	0.0054

Neptune -85489-12-29 07:54 J -29503071.35 -29503071.17 -29503070.96 0.0089 0.0039
 Neptune -85488-08-11 19:54 J -29502845.87 -29502845.67 -29502845.46 0.0089 0.0023
 Neptune -85487-03-25 07:40 J -29502620.39 -29502620.18 -29502619.96 0.0089 0.0007
 Neptune -85487-11-05 19:40 J -29502394.89 -29502394.68 -29502394.47 0.0089 0.0009
 Neptune -85486-06-19 07:25 J -29502169.39 -29502169.19 -29502168.98 0.0089 0.0025
 Neptune -85485-01-30 18:56 J -29501943.88 -29501943.71 -29501943.50 0.0089 0.0041
 Neptune -85485-09-12 06:42 J -29501718.37 -29501718.22 -29501718.04 0.0089 0.0057
 Mars -85484-01-25 13:40 J -29501583.10 -29501582.93 -29501582.76 0.1826 0.0484
 Neptune -85484-04-25 18:42 J -29501492.83 -29501492.72 -29501492.59 0.0089 0.0072
 Neptune -85484-12-07 06:28 J -29501267.24 -29501267.23 -29501267.19 0.0089 0.0088
 Saturn -85480-05-10 09:49 J -29500017.31 -29500017.09 -29500016.87 0.0288 0.0043
 Jupiter -85480-12-09 21:20 J -29499803.78 -29499803.61 -29499803.43 0.0490 0.0260
 Jupiter -85468-08-14 20:52 J -29495537.83 -29495537.63 -29495537.43 0.0489 0.0149
 Saturn -85466-10-23 20:52 J -29494737.84 -29494737.63 -29494737.43 0.0272 0.0038
 Jupiter -85462-06-20 21:49 J -29493401.78 -29493401.59 -29493401.39 0.0538 0.0094
 Uranus -85459-07-24 20:08 J -29492271.71 -29492271.66 -29492271.59 0.0138 0.0131
 Uranus -85458-03-08 01:40 J -29492045.60 -29492045.43 -29492045.23 0.0138 0.0069
 Uranus -85458-10-20 07:54 J -29491819.38 -29491819.17 -29491818.95 0.0139 0.0005
 Uranus -85457-06-02 13:54 J -29491593.10 -29491592.92 -29491592.72 0.0139 0.0061
 Uranus -85456-01-14 20:23 J -29491366.73 -29491366.65 -29491366.55 0.0139 0.0126
 Pluto -85454-05-27 20:23 J -29490503.80 -29490503.65 -29490503.45 0.0082 0.0049
 Pluto -85453-01-08 07:11 J -29490278.41 -29490278.20 -29490277.99 0.0081 0.0015
 Pluto -85453-08-20 17:16 J -29490052.84 -29490052.78 -29490052.71 0.0081 0.0077
 Saturn -85451-11-20 20:52 J -29489230.85 -29489230.63 -29489230.42 0.0288 0.0028
 Jupiter -85450-02-23 14:23 J -29489136.01 -29489135.90 -29489135.78 0.0540 0.0433
 Mars -85446-07-07 08:52 J -29487541.30 -29487541.13 -29487540.96 0.1709 0.0266
 Saturn -85437-09-18 00:42 J -29484180.53 -29484180.47 -29484180.38 0.0272 0.0253
 Saturn -85436-05-04 23:44 J -29483951.70 -29483951.51 -29483951.31 0.0271 0.0084
 Jupiter -85432-04-22 07:25 J -29482503.40 -29482503.19 -29482502.98 0.0489 0.0084
 Jupiter -85426-02-26 14:37 J -29480367.01 -29480366.89 -29480366.75 0.0538 0.0404

Saturn -85421-06-01 23:01 J -29478444.75 -29478444.54 -29478444.32 0.0288 0.0072
 Jupiter -85421-12-26 07:40 J -29478237.33 -29478237.18 -29478237.01 0.0488 0.0322
 Uranus -85420-08-18 19:11 J -29478001.76 -29478001.70 -29478001.64 0.0141 0.0135
 Uranus -85419-04-02 06:42 J -29477775.41 -29477775.22 -29477775.01 0.0140 0.0064
 Uranus -85419-11-14 18:28 J -29477548.95 -29477548.73 -29477548.50 0.0140 0.0007
 Mars -85419-11-22 17:30 J -29477540.91 -29477540.77 -29477540.62 0.1821 0.1085
 Uranus -85418-06-29 05:44 J -29477322.44 -29477322.26 -29477322.06 0.0139 0.0077
 Jupiter -85415-11-01 06:56 J -29476101.40 -29476101.21 -29476101.02 0.0539 0.0123
 Neptune -85408-04-09 02:08 J -29473750.50 -29473750.41 -29473750.30 0.0089 0.0079
 Neptune -85408-11-20 16:04 J -29473524.97 -29473524.83 -29473524.65 0.0089 0.0063
 Saturn -85407-03-31 05:01 J -29473394.41 -29473394.29 -29473394.15 0.0272 0.0207
 Neptune -85407-07-04 06:28 J -29473299.41 -29473299.23 -29473299.02 0.0089 0.0046
 Saturn -85407-11-15 04:18 J -29473165.50 -29473165.32 -29473165.13 0.0272 0.0131
 Neptune -85406-02-14 20:52 J -29473073.83 -29473073.63 -29473073.40 0.0089 0.0029
 Neptune -85406-09-28 11:30 J -29472848.25 -29472848.02 -29472847.79 0.0089 0.0012
 Neptune -85405-05-11 01:54 J -29472622.64 -29472622.42 -29472622.19 0.0089 0.0005
 Neptune -85405-12-22 16:04 J -29472397.04 -29472396.83 -29472396.60 0.0089 0.0022
 Neptune -85404-08-05 06:13 J -29472171.44 -29472171.24 -29472171.03 0.0089 0.0039
 Neptune -85403-03-18 20:08 J -29471945.82 -29471945.66 -29471945.46 0.0089 0.0056
 Neptune -85403-10-30 10:47 J -29471720.18 -29471720.05 -29471719.92 0.0089 0.0072
 Jupiter -85397-12-28 19:11 J -29469468.85 -29469468.70 -29469468.54 0.0490 0.0323
 Saturn -85392-04-27 09:06 J -29467888.14 -29467888.12 -29467888.07 0.0288 0.0283
 Saturn -85392-12-13 11:01 J -29467658.21 -29467658.04 -29467657.84 0.0288 0.0149
 Jupiter -85385-09-02 18:28 J -29465202.93 -29465202.73 -29465202.52 0.0489 0.0088
 Mars -85380-05-03 19:25 J -29463498.86 -29463498.69 -29463498.52 0.1712 0.0053
 Earth -85380-08-18 16:04 J -29463391.98 -29463391.83 -29463391.68 0.2580 0.0843
 Moon -85380-08-18 21:20 J -29463391.74 -29463391.61 -29463391.47 0.2583 0.1370 *
 Jupiter -85379-07-09 20:52 J -29463066.82 -29463066.63 -29463066.44 0.0539 0.0169
 Saturn -85378-10-11 09:35 J -29462608.26 -29462608.10 -29462607.93 0.0272 0.0156
 Saturn -85377-05-27 08:23 J -29462379.29 -29462379.15 -29462378.99 0.0271 0.0181

Uranus	-85375-11-05 11:01 J	-29461487.18	-29461487.04	-29461486.88	0.0138	0.0100
Uranus	-85374-06-19 17:01 J	-29461260.99	-29461260.79	-29461260.58	0.0139	0.0036
Uranus	-85373-01-31 23:01 J	-29461034.74	-29461034.54	-29461034.33	0.0139	0.0029
Uranus	-85373-09-14 05:16 J	-29460808.43	-29460808.28	-29460808.12	0.0139	0.0093
Jupiter	-85367-03-14 15:06 J	-29458801.01	-29458800.87	-29458800.71	0.0540	0.0346
Saturn	-85363-11-07 11:44 J	-29457102.12	-29457102.01	-29457101.88	0.0287	0.0238
Saturn	-85362-06-25 13:54 J	-29456872.07	-29456871.92	-29456871.75	0.0288	0.0193
Mars	-85353-09-18 21:35 J	-29453498.66	-29453498.60	-29453498.53	0.1817	0.1684
Jupiter	-85349-05-11 05:59 J	-29452168.45	-29452168.25	-29452168.05	0.0490	0.0150
Saturn	-85348-04-22 13:40 J	-29451822.11	-29451821.93	-29451821.74	0.0272	0.0110
Saturn	-85348-12-07 12:56 J	-29451593.07	-29451592.96	-29451592.85	0.0272	0.0228
Jupiter	-85343-03-17 10:47 J	-29450032.15	-29450032.05	-29450031.95	0.0537	0.0461
Jupiter	-85337-01-15 04:47 J	-29447902.48	-29447902.30	-29447902.12	0.0488	0.0264
Uranus	-85336-11-30 12:13 J	-29447217.14	-29447216.99	-29447216.83	0.0140	0.0100
Uranus	-85335-07-14 23:59 J	-29446990.71	-29446990.50	-29446990.27	0.0140	0.0029
Uranus	-85334-02-26 11:16 J	-29446764.23	-29446764.03	-29446763.80	0.0140	0.0042
Uranus	-85334-10-10 22:32 J	-29446537.69	-29446537.56	-29446537.42	0.0139	0.0111
Saturn	-85333-05-20 01:11 J	-29446315.63	-29446315.45	-29446315.27	0.0288	0.0159
Saturn	-85332-01-05 03:06 J	-29446085.43	-29446085.37	-29446085.29	0.0289	0.0273
Jupiter	-85332-11-20 03:06 J	-29445766.57	-29445766.37	-29445766.18	0.0539	0.0067
Neptune	-85325-01-06 21:49 J	-29443527.70	-29443527.59	-29443527.47	0.0089	0.0074
Neptune	-85325-08-19 09:06 J	-29443302.26	-29443302.12	-29443301.94	0.0089	0.0059
Neptune	-85324-04-01 21:06 J	-29443076.80	-29443076.62	-29443076.42	0.0089	0.0043
Neptune	-85324-11-13 09:06 J	-29442851.32	-29442851.12	-29442850.91	0.0089	0.0027
Neptune	-85323-06-26 20:52 J	-29442625.84	-29442625.63	-29442625.41	0.0089	0.0011
Neptune	-85322-02-07 08:37 J	-29442400.35	-29442400.14	-29442399.92	0.0089	0.0005
Neptune	-85322-09-20 20:23 J	-29442174.85	-29442174.65	-29442174.44	0.0089	0.0021
Neptune	-85321-05-03 07:54 J	-29441949.35	-29441949.17	-29441948.96	0.0089	0.0037
Mars	-85321-09-18 17:44 J	-29441810.83	-29441810.76	-29441810.69	0.1832	0.1663
Neptune	-85321-12-14 19:40 J	-29441723.83	-29441723.68	-29441723.49	0.0089	0.0053

Neptune -85320-07-28 07:54 J -29441498.30 -29441498.17 -29441498.03 0.0089 0.0068
 Neptune -85319-03-10 19:25 J -29441272.74 -29441272.69 -29441272.61 0.0089 0.0084
 Saturn -85319-11-02 19:11 J -29441035.90 -29441035.70 -29441035.50 0.0271 0.0056
 Mars -85314-03-01 06:28 J -29439456.40 -29439456.23 -29439456.07 0.1716 0.0363
 Jupiter -85313-01-17 16:04 J -29439133.96 -29439133.83 -29439133.69 0.0490 0.0381
 Saturn -85304-11-30 04:47 J -29435529.50 -29435529.30 -29435529.10 0.0288 0.0112
 Jupiter -85302-09-22 15:49 J -29434868.05 -29434867.84 -29434867.63 0.0489 0.0029
 Pluto -85298-05-07 20:08 J -29433544.72 -29433544.66 -29433544.55 0.0063 0.0058
 Pluto -85298-12-19 00:28 J -29433319.66 -29433319.48 -29433319.25 0.0063 0.0029
 Pluto -85297-07-31 05:16 J -29433094.50 -29433094.28 -29433094.05 0.0063 0.0003
 Pluto -85296-03-13 09:49 J -29432869.28 -29432869.09 -29432868.89 0.0064 0.0034
 Jupiter -85296-07-28 19:11 J -29432731.87 -29432731.70 -29432731.52 0.0538 0.0242
 Uranus -85291-07-05 19:40 J -29430928.72 -29430928.68 -29430928.60 0.0138 0.0132
 Uranus -85290-02-17 01:25 J -29430702.61 -29430702.44 -29430702.24 0.0138 0.0069
 Jupiter -85290-05-28 15:06 J -29430601.96 -29430601.87 -29430601.78 0.0488 0.0439
 Uranus -85290-10-01 07:40 J -29430476.39 -29430476.18 -29430475.97 0.0139 0.0005
 Uranus -85289-05-14 13:25 J -29430250.12 -29430249.94 -29430249.74 0.0139 0.0060
 Saturn -85289-05-14 22:47 J -29430249.75 -29430249.55 -29430249.34 0.0272 0.0011 *
 Uranus -85289-12-26 19:40 J -29430023.75 -29430023.68 -29430023.56 0.0139 0.0126
 Jupiter -85284-04-02 11:44 J -29428466.18 -29428466.01 -29428465.84 0.0539 0.0284
 Saturn -85274-06-12 17:59 J -29424742.96 -29424742.75 -29424742.53 0.0288 0.0032
 Earth -85266-02-16 11:59 J -29421937.15 -29421937.00 -29421936.84 0.2757 0.0082
 Moon -85266-02-16 16:04 J -29421936.99 -29421936.83 -29421936.67 0.2752 0.0515 *
 Jupiter -85266-05-31 02:37 J -29421833.58 -29421833.39 -29421833.20 0.0489 0.0204
 Jupiter -85260-04-05 07:40 J -29419697.22 -29419697.18 -29419697.14 0.0538 0.0523
 Saturn -85260-11-25 05:16 J -29419463.48 -29419463.28 -29419463.07 0.0271 0.0047
 Mars -85255-07-16 21:06 J -29417768.76 -29417768.62 -29417768.47 0.1827 0.1030
 Jupiter -85254-02-03 01:11 J -29417567.63 -29417567.45 -29417567.25 0.0488 0.0208
 Uranus -85252-07-30 17:30 J -29416658.82 -29416658.77 -29416658.71 0.0141 0.0136
 Uranus -85251-03-14 05:30 J -29416432.47 -29416432.27 -29416432.07 0.0140 0.0064

Uranus -85251-10-26 17:01 J -29416206.01 -29416205.79 -29416205.57 0.0140 0.0006
 Uranus -85250-06-10 04:18 J -29415979.50 -29415979.32 -29415979.13 0.0139 0.0076
 Jupiter -85249-12-09 02:23 J -29415431.59 -29415431.40 -29415431.20 0.0539 0.0015
 Mars -85249-12-26 17:16 J -29415413.93 -29415413.78 -29415413.63 0.1720 0.0683
 Saturn -85245-12-22 22:18 J -29413956.79 -29413956.57 -29413956.35 0.0288 0.0018
 Neptune -85244-07-11 12:56 J -29413756.02 -29413755.96 -29413755.88 0.0089 0.0084
 Neptune -85243-02-22 02:52 J -29413530.50 -29413530.38 -29413530.21 0.0089 0.0068
 Neptune -85243-10-05 17:16 J -29413304.94 -29413304.78 -29413304.57 0.0089 0.0051
 Neptune -85242-05-19 08:08 J -29413079.36 -29413079.16 -29413078.94 0.0089 0.0034
 Neptune -85242-12-30 22:32 J -29412853.78 -29412853.56 -29412853.33 0.0089 0.0017
 Neptune -85241-08-12 12:56 J -29412628.19 -29412627.96 -29412627.73 0.0089 0.0001
 Neptune -85240-03-26 03:06 J -29412402.58 -29412402.37 -29412402.14 0.0089 0.0018
 Neptune -85240-11-06 17:16 J -29412176.97 -29412176.78 -29412176.56 0.0089 0.0035
 Neptune -85239-06-20 07:25 J -29411951.35 -29411951.19 -29411950.98 0.0089 0.0052
 Neptune -85238-01-31 21:35 J -29411725.72 -29411725.60 -29411725.43 0.0089 0.0069
 Neptune -85238-09-14 12:13 J -29411500.04 -29411499.99 -29411499.92 0.0089 0.0085
 Jupiter -85237-08-13 19:25 J -29411165.74 -29411165.69 -29411165.62 0.0540 0.0510
 Saturn -85231-10-21 09:06 J -29408906.20 -29408906.12 -29408906.04 0.0273 0.0250
 Jupiter -85230-02-05 13:11 J -29408799.04 -29408798.95 -29408798.86 0.0490 0.0439
 Saturn -85230-06-07 08:23 J -29408677.35 -29408677.15 -29408676.96 0.0272 0.0090
 Jupiter -85219-10-11 11:59 J -29404533.21 -29404533.00 -29404532.79 0.0489 0.0026
 Mars -85217-12-25 14:23 J -29403726.99 -29403726.90 -29403726.82 0.1708 0.1461
 Saturn -85215-07-05 11:30 J -29403170.22 -29403170.02 -29403169.82 0.0288 0.0099
 Jupiter -85213-08-16 13:54 J -29402397.08 -29402396.92 -29402396.75 0.0538 0.0291
 Pluto -85208-06-25 09:35 J -29400623.28 -29400623.10 -29400622.89 0.0082 0.0035
 Pluto -85207-02-05 19:40 J -29400397.86 -29400397.68 -29400397.46 0.0081 0.0029
 Jupiter -85207-06-16 11:59 J -29400267.13 -29400267.00 -29400266.87 0.0488 0.0382
 Uranus -85207-10-17 09:35 J -29400144.23 -29400144.10 -29400143.95 0.0138 0.0102
 Uranus -85206-05-31 15:35 J -29399918.06 -29399917.85 -29399917.65 0.0139 0.0039
 Uranus -85205-01-12 21:35 J -29399691.81 -29399691.60 -29399691.39 0.0139 0.0025

Uranus -85205-08-26 03:35 J -29399465.50 -29399465.35 -29399465.18 0.0139 0.0090
 Jupiter -85201-04-21 07:25 J -29398131.36 -29398131.19 -29398131.01 0.0540 0.0230
 Saturn -85201-05-02 16:04 J -29398119.97 -29398119.83 -29398119.68 0.0272 0.0189
 Saturn -85201-12-17 15:20 J -29397891.03 -29397890.86 -29397890.69 0.0271 0.0149
 Mars -85189-05-13 01:54 J -29393726.60 -29393726.42 -29393726.25 0.1823 0.0449
 Saturn -85186-05-30 13:54 J -29392613.95 -29392613.92 -29392613.87 0.0287 0.0282
 Saturn -85185-01-15 15:49 J -29392384.02 -29392383.84 -29392383.65 0.0288 0.0149
 Jupiter -85183-06-18 23:16 J -29391498.71 -29391498.53 -29391498.35 0.0489 0.0261
 Mars -85183-10-24 03:49 J -29391371.47 -29391371.34 -29391371.20 0.1724 0.1009
 Saturn -85172-11-12 18:42 J -29387333.89 -29387333.72 -29387333.55 0.0272 0.0148
 Jupiter -85171-02-21 21:49 J -29387232.79 -29387232.59 -29387232.39 0.0489 0.0153
 Saturn -85171-06-29 17:59 J -29387104.90 -29387104.75 -29387104.61 0.0272 0.0191
 Uranus -85168-11-11 10:04 J -29385874.21 -29385874.08 -29385873.91 0.0140 0.0102
 Uranus -85167-06-25 22:18 J -29385647.79 -29385647.57 -29385647.35 0.0140 0.0030
 Uranus -85166-02-07 09:35 J -29385421.31 -29385421.10 -29385420.88 0.0140 0.0040
 Uranus -85166-09-21 20:23 J -29385194.77 -29385194.65 -29385194.50 0.0139 0.0109
 Jupiter -85166-12-28 23:30 J -29385096.71 -29385096.52 -29385096.32 0.0538 0.0077
 Neptune -85161-04-09 10:47 J -29383533.12 -29383533.05 -29383532.93 0.0089 0.0079
 Neptune -85161-11-20 22:47 J -29383307.68 -29383307.55 -29383307.38 0.0089 0.0063
 Neptune -85160-07-04 10:32 J -29383082.23 -29383082.06 -29383081.87 0.0089 0.0047
 Neptune -85159-02-14 22:32 J -29382856.76 -29382856.56 -29382856.36 0.0089 0.0031
 Neptune -85159-09-28 10:18 J -29382631.28 -29382631.07 -29382630.86 0.0089 0.0015
 Neptune -85158-05-11 22:04 J -29382405.79 -29382405.58 -29382405.37 0.0089 0.0001
 Neptune -85158-12-23 09:35 J -29382180.30 -29382180.10 -29382179.88 0.0089 0.0017
 Neptune -85157-08-04 21:20 J -29381954.80 -29381954.61 -29381954.40 0.0089 0.0033
 Saturn -85157-12-10 01:40 J -29381827.57 -29381827.43 -29381827.27 0.0288 0.0206
 Neptune -85156-03-18 08:52 J -29381729.29 -29381729.13 -29381728.93 0.0089 0.0049
 Saturn -85156-07-28 03:49 J -29381597.46 -29381597.34 -29381597.20 0.0288 0.0228
 Neptune -85156-10-29 20:37 J -29381503.76 -29381503.64 -29381503.47 0.0089 0.0065
 Neptune -85155-06-12 08:52 J -29381278.21 -29381278.13 -29381278.04 0.0089 0.0080

Jupiter -85154-09-02 13:54 J -29380831.02 -29380830.92 -29380830.82 0.0540 0.0464
 Mars -85151-10-23 01:25 J -29379684.56 -29379684.44 -29379684.31 0.1711 0.1170
 Saturn -85142-05-26 02:08 J -29376547.60 -29376547.41 -29376547.21 0.0272 0.0086
 Saturn -85141-01-10 00:56 J -29376318.53 -29376318.46 -29376318.38 0.0271 0.0251
 Moon -85137-08-18 13:40 J -29374636.09 -29374635.93 -29374635.77 0.2577 0.0765
 Earth -85137-08-18 17:59 J -29374635.90 -29374635.75 -29374635.60 0.2581 0.0988 *
 Jupiter -85136-10-30 08:52 J -29374198.34 -29374198.13 -29374197.92 0.0489 0.0081
 Jupiter -85130-09-05 12:56 J -29372062.10 -29372061.96 -29372061.81 0.0538 0.0368
 Saturn -85127-06-22 06:56 J -29371041.39 -29371041.21 -29371041.02 0.0288 0.0154
 Saturn -85126-02-07 09:06 J -29370811.17 -29370811.12 -29370811.07 0.0288 0.0280
 Jupiter -85124-07-05 08:37 J -29369932.29 -29369932.14 -29369931.98 0.0488 0.0325
 Mars -85123-03-10 05:59 J -29369684.43 -29369684.25 -29369684.07 0.1818 0.0149
 Uranus -85123-06-16 17:16 J -29369585.80 -29369585.78 -29369585.73 0.0138 0.0136
 Uranus -85122-01-28 23:01 J -29369359.71 -29369359.54 -29369359.35 0.0138 0.0073
 Uranus -85122-09-12 05:01 J -29369133.50 -29369133.29 -29369133.08 0.0139 0.0010
 Uranus -85121-04-25 11:01 J -29368907.23 -29368907.04 -29368906.84 0.0139 0.0055
 Uranus -85121-12-07 17:16 J -29368680.87 -29368680.78 -29368680.66 0.0139 0.0121
 Jupiter -85118-05-11 07:25 J -29367796.38 -29367796.19 -29367796.00 0.0539 0.0149
 Mars -85117-08-20 14:37 J -29367329.00 -29367328.89 -29367328.79 0.1727 0.1340
 Saturn -85113-12-05 03:49 J -29365761.54 -29365761.34 -29365761.13 0.0272 0.0048
 Jupiter -85100-07-07 20:08 J -29361163.82 -29361163.66 -29361163.50 0.0490 0.0317
 Saturn -85097-01-02 17:16 J -29360254.99 -29360254.78 -29360254.57 0.0288 0.0082
 Jupiter -85088-03-12 20:08 J -29356897.87 -29356897.66 -29356897.46 0.0488 0.0091
 Mars -85085-08-19 12:13 J -29355642.13 -29355641.99 -29355641.84 0.1715 0.0860
 Uranus -85084-07-11 15:06 J -29355315.91 -29355315.87 -29355315.83 0.0141 0.0138
 Uranus -85083-02-23 02:37 J -29355089.58 -29355089.39 -29355089.18 0.0140 0.0067
 Saturn -85083-06-17 11:16 J -29354975.23 -29354975.03 -29354974.82 0.0271 0.0015
 Uranus -85083-10-07 14:23 J -29354863.12 -29354862.90 -29354862.68 0.0140 0.0003
 Jupiter -85082-01-16 18:56 J -29354761.90 -29354761.71 -29354761.52 0.0539 0.0130
 Uranus -85082-05-22 01:25 J -29354636.62 -29354636.44 -29354636.24 0.0140 0.0074

Neptune -85079-05-26 14:23 J -29353536.03 -29353535.90 -29353535.77 0.0089 0.0072
 Neptune -85078-01-07 04:04 J -29353310.48 -29353310.33 -29353310.13 0.0089 0.0056
 Neptune -85078-08-20 18:28 J -29353084.91 -29353084.73 -29353084.50 0.0089 0.0039
 Neptune -85077-04-02 09:06 J -29352859.33 -29352859.12 -29352858.89 0.0089 0.0022
 Neptune -85077-11-13 23:44 J -29352633.74 -29352633.51 -29352633.28 0.0089 0.0004
 Neptune -85076-06-27 13:54 J -29352408.14 -29352407.92 -29352407.69 0.0089 0.0013
 Neptune -85075-02-08 04:18 J -29352182.53 -29352182.32 -29352182.10 0.0089 0.0030
 Neptune -85075-09-21 18:28 J -29351956.91 -29351956.73 -29351956.53 0.0089 0.0047
 Neptune -85074-05-05 08:52 J -29351731.27 -29351731.13 -29351730.96 0.0089 0.0064
 Neptune -85074-12-16 23:01 J -29351505.61 -29351505.54 -29351505.43 0.0089 0.0081
 Jupiter -85071-09-21 13:11 J -29350496.08 -29350495.95 -29350495.81 0.0540 0.0386
 Saturn -85068-07-14 22:32 J -29349468.78 -29349468.56 -29349468.34 0.0288 0.0029
 Mars -85057-01-05 10:47 J -29345642.22 -29345642.05 -29345641.89 0.1814 0.0726
 Saturn -85054-12-28 12:13 J -29344189.19 -29344188.99 -29344188.78 0.0272 0.0051
 Jupiter -85053-11-18 06:28 J -29343863.43 -29343863.23 -29343863.03 0.0489 0.0141
 Pluto -85052-06-05 05:59 J -29343664.35 -29343664.25 -29343664.15 0.0063 0.0056
 Pluto -85051-01-16 10:04 J -29343439.28 -29343439.08 -29343438.86 0.0063 0.0026
 Mars -85051-06-18 01:11 J -29343286.49 -29343286.45 -29343286.41 0.1731 0.1676
 Pluto -85051-08-29 14:37 J -29343214.11 -29343213.89 -29343213.66 0.0063 0.0004
 Pluto -85050-04-11 19:25 J -29342988.88 -29342988.69 -29342988.50 0.0064 0.0035
 Jupiter -85047-09-24 11:59 J -29341727.10 -29341727.00 -29341726.88 0.0538 0.0441
 Jupiter -85041-07-24 06:28 J -29339597.40 -29339597.23 -29339597.05 0.0488 0.0266
 Uranus -85039-09-28 07:11 J -29338801.33 -29338801.20 -29338801.06 0.0138 0.0107
 Saturn -85038-01-25 07:11 J -29338682.41 -29338682.20 -29338681.98 0.0288 0.0038
 Uranus -85038-05-12 12:42 J -29338575.16 -29338574.97 -29338574.76 0.0138 0.0044
 Uranus -85038-12-24 18:56 J -29338348.92 -29338348.71 -29338348.50 0.0139 0.0021
 Uranus -85037-08-07 01:11 J -29338122.61 -29338122.45 -29338122.28 0.0139 0.0086
 Jupiter -85035-05-30 02:37 J -29337461.59 -29337461.39 -29337461.20 0.0539 0.0098
 Saturn -85025-11-22 20:37 J -29333631.75 -29333631.64 -29333631.53 0.0272 0.0228
 Saturn -85024-07-09 19:25 J -29333402.87 -29333402.69 -29333402.50 0.0271 0.0111

Moon	-85023-02-16 06:56 J	-29333181.35	-29333181.21	-29333181.06	0.2759	0.0936
Earth	-85023-02-16 11:59 J	-29333181.15	-29333181.00	-29333180.84	0.2756	0.0482 *
Mars	-85019-06-16 23:30 J	-29331599.68	-29331599.52	-29331599.36	0.1718	0.0562
Jupiter	-85017-07-26 18:28 J	-29330828.86	-29330828.73	-29330828.60	0.0489	0.0382
Saturn	-85009-08-06 12:28 J	-29327896.19	-29327895.98	-29327895.77	0.0288	0.0090
Jupiter	-85005-03-31 18:13 J	-29326562.95	-29326562.74	-29326562.53	0.0488	0.0027

85TH MILLENNIUM BCE

This is a list of transits of Venus in the 85th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-85000-10-23 06:56 J	-29324531.36	-29324531.21	-29324531.06	0.0141	0.0105		
Jupiter	-84999-02-04 20:23 J	-29324426.83	-29324426.65	-29324426.47	0.0539	0.0219		
Uranus	-84999-06-06 18:42 J	-29324304.93	-29324304.72	-29324304.50	0.0140	0.0034		
Uranus	-84998-01-19 06:13 J	-29324078.46	-29324078.24	-29324078.02	0.0140	0.0036		
Uranus	-84998-09-02 17:01 J	-29323851.92	-29323851.79	-29323851.63	0.0139	0.0106		
Neptune	-84997-07-12 00:28 J	-29323538.54	-29323538.48	-29323538.39	0.0089	0.0083		
Neptune	-84996-02-22 12:13 J	-29323313.12	-29323312.99	-29323312.84	0.0089	0.0067		
Neptune	-84996-10-06 00:13 J	-29323087.66	-29323087.49	-29323087.31	0.0089	0.0051		
Neptune	-84995-05-19 11:59 J	-29322862.19	-29322862.00	-29322861.80	0.0089	0.0035		
Saturn	-84995-06-04 20:37 J	-29322845.78	-29322845.64	-29322845.49	0.0272	0.0194		
Neptune	-84995-12-30 23:30 J	-29322636.72	-29322636.52	-29322636.30	0.0089	0.0020		
Saturn	-84994-01-19 19:25 J	-29322616.85	-29322616.69	-29322616.51	0.0271	0.0146		
Neptune	-84994-08-13 11:30 J	-29322411.23	-29322411.02	-29322410.81	0.0089	0.0003		

Jupiter -84994-12-05 17:30 J -29322296.86 -29322296.77 -29322296.68 0.0488 0.0436
 Neptune -84993-03-25 23:01 J -29322185.74 -29322185.54 -29322185.32 0.0089 0.0013
 Neptune -84993-11-06 10:47 J -29321960.24 -29321960.05 -29321959.84 0.0089 0.0029
 Neptune -84992-06-19 22:32 J -29321734.73 -29321734.56 -29321734.36 0.0089 0.0045
 Mars -84992-11-01 15:20 J -29321599.99 -29321599.86 -29321599.74 0.1809 0.1294
 Neptune -84991-01-31 10:04 J -29321509.22 -29321509.08 -29321508.90 0.0089 0.0061
 Neptune -84991-09-13 22:18 J -29321283.68 -29321283.57 -29321283.46 0.0089 0.0076
 Jupiter -84988-10-10 13:40 J -29320161.09 -29320160.93 -29320160.76 0.0540 0.0302
 Saturn -84980-07-01 16:32 J -29317339.83 -29317339.81 -29317339.77 0.0287 0.0284
 Saturn -84979-02-16 18:56 J -29317109.89 -29317109.71 -29317109.52 0.0288 0.0151
 Jupiter -84970-12-08 06:56 J -29313528.40 -29313528.21 -29313528.02 0.0489 0.0215
 Saturn -84966-12-16 03:49 J -29312059.52 -29312059.34 -29312059.16 0.0272 0.0135
 Saturn -84965-08-01 02:23 J -29311830.53 -29311830.40 -29311830.26 0.0271 0.0204
 Jupiter -84964-10-13 08:08 J -29311392.23 -29311392.16 -29311392.09 0.0538 0.0498
 Pluto -84962-07-24 20:23 J -29310742.84 -29310742.65 -29310742.44 0.0082 0.0031
 Pluto -84961-03-06 06:28 J -29310517.41 -29310517.23 -29310517.02 0.0081 0.0032
 Jupiter -84958-08-13 05:59 J -29309262.44 -29309262.25 -29309262.06 0.0488 0.0195
 Uranus -84954-01-09 21:49 J -29308016.76 -29308016.59 -29308016.40 0.0138 0.0075
 Uranus -84954-08-24 03:49 J -29307790.55 -29307790.34 -29307790.13 0.0139 0.0012
 Uranus -84953-04-06 09:49 J -29307564.28 -29307564.09 -29307563.89 0.0139 0.0053
 Mars -84953-04-13 10:04 J -29307557.25 -29307557.08 -29307556.92 0.1722 0.0233
 Uranus -84953-11-18 15:49 J -29307337.93 -29307337.84 -29307337.71 0.0139 0.0119
 Jupiter -84952-06-18 02:52 J -29307126.57 -29307126.38 -29307126.18 0.0540 0.0016
 Saturn -84950-01-11 22:04 J -29306553.70 -29306553.58 -29306553.45 0.0288 0.0233
 Saturn -84950-08-30 00:13 J -29306323.64 -29306323.49 -29306323.33 0.0289 0.0203
 Jupiter -84940-02-20 21:35 J -29302860.64 -29302860.60 -29302860.56 0.0541 0.0527
 Saturn -84936-06-27 03:35 J -29301273.54 -29301273.35 -29301273.16 0.0272 0.0102
 Saturn -84935-02-11 01:54 J -29301044.51 -29301044.42 -29301044.31 0.0271 0.0237
 Jupiter -84934-08-15 17:44 J -29300493.84 -29300493.76 -29300493.68 0.0490 0.0450
 Jupiter -84922-04-20 18:13 J -29296227.95 -29296227.74 -29296227.53 0.0489 0.0045

Saturn -84921-07-24 02:23 J -29295767.56 -29295767.40 -29295767.22 0.0288 0.0180
 Saturn -84920-03-11 04:47 J -29295537.38 -29295537.30 -29295537.19 0.0289 0.0258
 Jupiter -84916-02-23 17:01 J -29294091.96 -29294091.79 -29294091.62 0.0539 0.0280
 Uranus -84915-02-03 23:01 J -29293746.72 -29293746.54 -29293746.34 0.0140 0.0071
 Neptune -84915-08-28 00:56 J -29293541.55 -29293541.46 -29293541.33 0.0089 0.0077
 Uranus -84915-09-18 10:47 J -29293520.27 -29293520.05 -29293519.82 0.0140 0.0001
 Neptune -84914-04-10 15:20 J -29293316.01 -29293315.86 -29293315.68 0.0089 0.0060
 Uranus -84914-05-02 21:49 J -29293293.77 -29293293.59 -29293293.38 0.0140 0.0070
 Neptune -84914-11-22 05:44 J -29293090.45 -29293090.26 -29293090.05 0.0089 0.0043
 Uranus -84914-12-15 08:52 J -29293067.14 -29293067.13 -29293067.09 0.0139 0.0139
 Neptune -84913-07-04 20:08 J -29292864.87 -29292864.66 -29292864.44 0.0089 0.0026
 Neptune -84912-02-15 10:32 J -29292639.28 -29292639.06 -29292638.83 0.0089 0.0009
 Neptune -84912-09-29 00:42 J -29292413.69 -29292413.47 -29292413.23 0.0089 0.0009
 Neptune -84911-05-12 15:06 J -29292188.07 -29292187.87 -29292187.64 0.0089 0.0026
 Neptune -84911-12-24 05:16 J -29291962.46 -29291962.28 -29291962.06 0.0089 0.0043
 Jupiter -84911-12-24 18:56 J -29291961.85 -29291961.71 -29291961.57 0.0488 0.0357
 Neptune -84910-08-06 19:40 J -29291736.83 -29291736.68 -29291736.50 0.0089 0.0060
 Neptune -84909-03-19 09:49 J -29291511.18 -29291511.09 -29291510.96 0.0089 0.0077
 Saturn -84906-01-07 09:49 J -29290487.30 -29290487.09 -29290486.89 0.0271 0.0045
 Jupiter -84905-10-29 10:04 J -29289826.25 -29289826.08 -29289825.90 0.0540 0.0242
 Earth -84894-08-19 19:54 J -29285879.82 -29285879.67 -29285879.52 0.2581 0.1141
 Moon -84894-08-19 22:18 J -29285879.71 -29285879.57 -29285879.43 0.2587 0.1108 *
 Mars -84894-08-29 14:23 J -29285870.01 -29285869.90 -29285869.79 0.1820 0.1395
 Saturn -84891-02-03 08:08 J -29284981.35 -29284981.16 -29284980.96 0.0288 0.0127
 Mars -84887-02-08 20:52 J -29283514.80 -29283514.63 -29283514.46 0.1726 0.0086
 Jupiter -84887-12-27 06:28 J -29283193.40 -29283193.23 -29283193.06 0.0489 0.0287
 Moon -84886-08-17 17:16 J -29282959.89 -29282959.78 -29282959.68 0.2583 0.1917
 Saturn -84877-07-19 09:06 J -29279701.32 -29279701.12 -29279700.91 0.0271 0.0014
 Jupiter -84875-09-01 05:44 J -29278927.46 -29278927.26 -29278927.06 0.0488 0.0124
 Uranus -84871-09-09 06:42 J -29277458.33 -29277458.22 -29277458.07 0.0138 0.0107

Uranus -84870-04-23 12:42 J -29277232.16 -29277231.97 -29277231.76 0.0138 0.0044
 Uranus -84870-12-05 18:56 J -29277005.91 -29277005.71 -29277005.50 0.0139 0.0021
 Jupiter -84869-07-07 05:16 J -29276791.47 -29276791.28 -29276791.08 0.0539 0.0083
 Uranus -84869-07-19 01:11 J -29276779.61 -29276779.45 -29276779.28 0.0139 0.0085
 Saturn -84862-08-16 10:47 J -29274195.26 -29274195.05 -29274194.84 0.0288 0.0080
 Jupiter -84857-03-11 19:11 J -29272525.79 -29272525.70 -29272525.59 0.0540 0.0458
 Saturn -84847-01-29 15:06 J -29268915.07 -29268914.87 -29268914.67 0.0271 0.0042
 Jupiter -84839-05-09 18:56 J -29265892.91 -29265892.71 -29265892.50 0.0488 0.0123
 Jupiter -84833-03-14 18:13 J -29263756.88 -29263756.74 -29263756.60 0.0539 0.0371
 Neptune -84833-10-13 13:25 J -29263543.95 -29263543.94 -29263543.89 0.0089 0.0088
 Saturn -84832-02-25 16:47 J -29263409.02 -29263408.80 -29263408.58 0.0288 0.0026
 Neptune -84832-05-27 01:11 J -29263318.55 -29263318.45 -29263318.30 0.0089 0.0072
 Uranus -84832-10-04 04:04 J -29263188.46 -29263188.33 -29263188.17 0.0141 0.0108
 Neptune -84831-01-07 12:56 J -29263093.10 -29263092.96 -29263092.77 0.0089 0.0056
 Uranus -84831-05-18 16:04 J -29262962.04 -29262961.83 -29262961.60 0.0140 0.0037
 Neptune -84831-08-21 00:56 J -29262867.64 -29262867.46 -29262867.26 0.0089 0.0040
 Uranus -84831-12-31 03:49 J -29262735.56 -29262735.34 -29262735.12 0.0140 0.0034
 Neptune -84830-04-03 12:42 J -29262642.17 -29262641.97 -29262641.76 0.0089 0.0024
 Uranus -84830-08-14 14:52 J -29262509.02 -29262508.88 -29262508.73 0.0139 0.0104
 Neptune -84830-11-15 00:42 J -29262416.68 -29262416.47 -29262416.26 0.0089 0.0008
 Neptune -84829-06-27 12:28 J -29262191.19 -29262190.98 -29262190.77 0.0089 0.0008
 Neptune -84828-02-07 23:59 J -29261965.70 -29261965.50 -29261965.29 0.0089 0.0024
 Mars -84828-06-25 18:42 J -29261827.88 -29261827.72 -29261827.56 0.1815 0.0793
 Neptune -84828-09-21 11:30 J -29261740.20 -29261740.02 -29261739.82 0.0089 0.0041
 Jupiter -84827-01-12 18:56 J -29261626.87 -29261626.71 -29261626.53 0.0487 0.0283
 Neptune -84827-05-04 23:01 J -29261514.68 -29261514.54 -29261514.35 0.0089 0.0057
 Neptune -84827-12-16 11:16 J -29261289.15 -29261289.03 -29261288.90 0.0089 0.0072
 Neptune -84826-07-29 22:47 J -29261063.56 -29261063.55 -29261063.52 0.0089 0.0088
 Jupiter -84822-11-18 13:40 J -29259491.12 -29259490.93 -29259490.74 0.0540 0.0139
 Mars -84822-12-07 07:25 J -29259472.35 -29259472.19 -29259472.02 0.1730 0.0419

Saturn	-84819-12-25 15:35 J	-29258357.88	-29258357.85	-29258357.81	0.0272	0.0266
Saturn	-84818-08-11 14:08 J	-29258129.10	-29258128.91	-29258128.70	0.0271	0.0074
Pluto	-84806-07-04 17:16 J	-29253783.90	-29253783.78	-29253783.62	0.0063	0.0049
Pluto	-84805-02-14 21:49 J	-29253558.79	-29253558.59	-29253558.36	0.0063	0.0019
Pluto	-84805-09-27 02:37 J	-29253333.61	-29253333.39	-29253333.16	0.0063	0.0012
Pluto	-84804-05-10 06:56 J	-29253108.36	-29253108.21	-29253108.02	0.0064	0.0043
Jupiter	-84803-01-15 07:54 J	-29252858.31	-29252858.17	-29252858.03	0.0489	0.0367
Saturn	-84803-09-07 18:13 J	-29252622.96	-29252622.74	-29252622.52	0.0288	0.0017
Jupiter	-84792-09-20 08:23 J	-29248592.36	-29248592.15	-29248591.94	0.0488	0.0037
Saturn	-84789-07-06 20:52 J	-29247571.74	-29247571.63	-29247571.49	0.0272	0.0214
Saturn	-84788-02-20 19:40 J	-29247342.86	-29247342.68	-29247342.49	0.0271	0.0127
Uranus	-84787-12-21 22:04 J	-29246673.75	-29246673.58	-29246673.39	0.0138	0.0075
Jupiter	-84786-07-27 02:37 J	-29246456.58	-29246456.39	-29246456.20	0.0539	0.0150
Uranus	-84786-08-05 04:04 J	-29246447.54	-29246447.33	-29246447.11	0.0139	0.0012
Uranus	-84785-03-18 10:04 J	-29246221.27	-29246221.08	-29246220.88	0.0139	0.0053
Uranus	-84785-10-30 16:18 J	-29245994.91	-29245994.82	-29245994.69	0.0139	0.0118
Earth	-84780-02-16 11:59 J	-29244425.15	-29244425.00	-29244424.86	0.2756	0.0889
Moon	-84780-02-16 17:30 J	-29244424.92	-29244424.77	-29244424.62	0.2757	0.0543 *
Jupiter	-84780-05-26 07:54 J	-29244326.25	-29244326.17	-29244326.08	0.0487	0.0443
Jupiter	-84774-03-31 20:23 J	-29242190.79	-29242190.65	-29242190.50	0.0540	0.0369
Saturn	-84773-03-20 00:13 J	-29241836.69	-29241836.49	-29241836.27	0.0288	0.0073
Mars	-84762-04-22 23:44 J	-29237785.69	-29237785.51	-29237785.33	0.1811	0.0238
Saturn	-84759-01-16 20:52 J	-29236785.78	-29236785.63	-29236785.47	0.0271	0.0179
Saturn	-84759-09-02 19:11 J	-29236556.86	-29236556.70	-29236556.53	0.0271	0.0161
Jupiter	-84756-05-28 19:40 J	-29235557.87	-29235557.68	-29235557.48	0.0489	0.0200
Mars	-84756-10-03 17:59 J	-29235429.90	-29235429.75	-29235429.60	0.1734	0.0755
Neptune	-84751-11-29 11:44 J	-29233547.08	-29233547.01	-29233546.91	0.0089	0.0082
Jupiter	-84750-04-03 21:35 J	-29233421.68	-29233421.60	-29233421.50	0.0538	0.0474
Neptune	-84750-07-13 02:08 J	-29233321.56	-29233321.41	-29233321.25	0.0089	0.0065
Neptune	-84749-02-23 16:18 J	-29233096.00	-29233095.82	-29233095.62	0.0089	0.0048

Neptune -84749-10-06 06:42 J -29232870.43 -29232870.22 -29232870.00 0.0089 0.0031
 Neptune -84748-05-19 21:20 J -29232644.84 -29232644.61 -29232644.39 0.0089 0.0014
 Neptune -84748-12-31 11:30 J -29232419.24 -29232419.02 -29232418.79 0.0089 0.0004
 Uranus -84747-01-15 21:49 J -29232403.77 -29232403.59 -29232403.38 0.0140 0.0072
 Neptune -84747-08-14 01:40 J -29232193.64 -29232193.43 -29232193.20 0.0089 0.0021
 Uranus -84747-08-30 09:49 J -29232177.32 -29232177.09 -29232176.87 0.0140 0.0001
 Neptune -84746-03-27 15:49 J -29231968.03 -29231967.84 -29231967.62 0.0089 0.0038
 Uranus -84746-04-13 20:52 J -29231950.81 -29231950.63 -29231950.42 0.0140 0.0070
 Neptune -84746-11-08 06:13 J -29231742.40 -29231742.24 -29231742.05 0.0089 0.0055
 Uranus -84746-11-26 08:08 J -29231724.17 -29231724.16 -29231724.13 0.0139 0.0138
 Neptune -84745-06-20 20:37 J -29231516.76 -29231516.64 -29231516.49 0.0089 0.0072
 Jupiter -84744-01-31 20:37 J -29231291.83 -29231291.64 -29231291.45 0.0488 0.0202
 Saturn -84744-09-30 01:11 J -29231050.64 -29231050.45 -29231050.24 0.0288 0.0113
 Jupiter -84739-12-07 12:42 J -29229156.17 -29229155.97 -29229155.78 0.0539 0.0062
 Saturn -84730-07-30 01:54 J -29225999.60 -29225999.42 -29225999.24 0.0272 0.0129
 Saturn -84729-03-15 00:13 J -29225770.61 -29225770.49 -29225770.36 0.0271 0.0211
 Mars -84724-10-02 16:32 J -29223742.89 -29223742.81 -29223742.73 0.1721 0.1491
 Jupiter -84720-02-03 08:52 J -29222523.20 -29222523.13 -29222523.04 0.0489 0.0447
 Pluto -84716-01-09 00:13 J -29221087.56 -29221087.49 -29221087.41 0.0082 0.0076
 Pluto -84716-08-22 10:32 J -29220862.26 -29220862.06 -29220861.84 0.0081 0.0014
 Pluto -84715-04-04 20:37 J -29220636.80 -29220636.64 -29220636.46 0.0081 0.0049
 Saturn -84715-08-25 05:59 J -29220494.32 -29220494.25 -29220494.16 0.0288 0.0266
 Saturn -84714-04-12 08:23 J -29220264.32 -29220264.15 -29220263.97 0.0289 0.0172
 Jupiter -84709-10-09 08:52 J -29218257.34 -29218257.13 -29218256.92 0.0488 0.0041
 Jupiter -84703-08-15 05:44 J -29216121.43 -29216121.26 -29216121.08 0.0539 0.0252
 Uranus -84703-08-21 06:28 J -29216115.35 -29216115.23 -29216115.09 0.0138 0.0108
 Uranus -84702-04-04 12:28 J -29215889.18 -29215888.98 -29215888.78 0.0138 0.0045
 Uranus -84702-11-16 18:42 J -29215662.93 -29215662.72 -29215662.51 0.0139 0.0020
 Uranus -84701-06-30 00:42 J -29215436.63 -29215436.47 -29215436.29 0.0139 0.0085
 Saturn -84700-02-08 02:08 J -29215213.61 -29215213.41 -29215213.22 0.0271 0.0093

Saturn -84700-09-25 00:13 J -29214984.56 -29214984.49 -29214984.40 0.0270 0.0247
 Jupiter -84697-06-14 08:23 J -29213991.28 -29213991.15 -29213991.01 0.0487 0.0367
 Mars -84696-02-17 04:47 J -29213743.48 -29213743.30 -29213743.13 0.1806 0.0331
 Jupiter -84691-04-20 00:13 J -29211855.66 -29211855.49 -29211855.32 0.0540 0.0263
 Mars -84690-08-01 04:32 J -29211387.44 -29211387.31 -29211387.18 0.1738 0.1098
 Saturn -84685-03-06 06:13 J -29209708.37 -29209708.24 -29209708.11 0.0287 0.0228
 Saturn -84685-10-22 08:37 J -29209478.28 -29209478.14 -29209477.99 0.0288 0.0210
 Jupiter -84673-06-16 22:04 J -29205222.75 -29205222.58 -29205222.41 0.0489 0.0287
 Saturn -84671-08-21 06:42 J -29204427.42 -29204427.22 -29204427.01 0.0272 0.0044
 Neptune -84668-08-28 13:54 J -29203324.00 -29203323.92 -29203323.78 0.0089 0.0077
 Neptune -84667-04-11 01:54 J -29203098.56 -29203098.42 -29203098.24 0.0089 0.0061
 Neptune -84667-11-22 13:54 J -29202873.09 -29202872.92 -29202872.72 0.0089 0.0045
 Neptune -84666-07-06 01:40 J -29202647.62 -29202647.43 -29202647.21 0.0089 0.0029
 Neptune -84665-02-16 13:40 J -29202422.14 -29202421.93 -29202421.71 0.0089 0.0012
 Neptune -84665-09-29 01:25 J -29202196.65 -29202196.44 -29202196.22 0.0089 0.0005
 Neptune -84664-05-12 12:56 J -29201971.15 -29201970.96 -29201970.74 0.0089 0.0021
 Uranus -84664-09-15 04:04 J -29201845.48 -29201845.33 -29201845.19 0.0141 0.0106
 Neptune -84664-12-24 00:42 J -29201745.65 -29201745.47 -29201745.26 0.0089 0.0037
 Uranus -84663-04-29 15:35 J -29201619.06 -29201618.85 -29201618.62 0.0140 0.0036
 Neptune -84663-08-06 12:13 J -29201520.14 -29201519.99 -29201519.80 0.0089 0.0053
 Uranus -84663-12-12 03:20 J -29201392.57 -29201392.36 -29201392.14 0.0140 0.0036
 Neptune -84662-03-20 00:28 J -29201294.62 -29201294.48 -29201294.35 0.0089 0.0068
 Uranus -84662-07-26 14:23 J -29201166.03 -29201165.90 -29201165.74 0.0139 0.0105
 Neptune -84662-10-31 12:13 J -29201069.05 -29201068.99 -29201068.92 0.0089 0.0084
 Jupiter -84661-02-20 21:20 J -29200956.82 -29200956.61 -29200956.41 0.0488 0.0124
 Mars -84658-07-31 03:06 J -29199700.49 -29199700.37 -29199700.24 0.1725 0.1171
 Saturn -84656-09-16 14:37 J -29198922.07 -29198921.89 -29198921.71 0.0288 0.0166
 Jupiter -84656-12-26 13:11 J -29198821.15 -29198820.95 -29198820.76 0.0540 0.0027
 Saturn -84655-05-04 16:47 J -29198691.86 -29198691.80 -29198691.73 0.0289 0.0273
 Moon -84651-08-19 21:20 J -29197123.76 -29197123.61 -29197123.46 0.2575 0.1335

Earth -84651-08-19 21:35 J -29197123.74 -29197123.60 -29197123.46 0.2581 0.1259 *
 Jupiter -84644-08-31 07:40 J -29194555.26 -29194555.18 -29194555.10 0.0541 0.0491
 Saturn -84641-03-02 07:54 J -29193641.38 -29193641.17 -29193640.97 0.0271 0.0007
 Mars -84631-12-15 09:35 J -29189701.25 -29189701.10 -29189700.94 0.1802 0.0884
 Saturn -84626-03-29 15:06 J -29188136.06 -29188135.87 -29188135.67 0.0288 0.0127
 Jupiter -84626-10-29 09:49 J -29187922.30 -29187922.09 -29187921.89 0.0489 0.0119
 Mars -84624-05-28 14:52 J -29187344.98 -29187344.88 -29187344.79 0.1742 0.1451
 Jupiter -84620-09-03 05:16 J -29185786.44 -29185786.28 -29185786.13 0.0538 0.0331
 Uranus -84619-12-02 20:37 J -29185330.80 -29185330.64 -29185330.45 0.0138 0.0078
 Uranus -84618-07-17 02:52 J -29185104.59 -29185104.38 -29185104.17 0.0138 0.0014
 Uranus -84617-02-28 08:52 J -29184878.33 -29184878.13 -29184877.93 0.0139 0.0050
 Uranus -84617-10-11 14:52 J -29184651.99 -29184651.88 -29184651.75 0.0139 0.0115
 Jupiter -84614-07-04 09:49 J -29183656.26 -29183656.09 -29183655.92 0.0488 0.0286
 Saturn -84612-09-12 12:13 J -29182855.19 -29182854.99 -29182854.78 0.0272 0.0045
 Jupiter -84608-05-08 21:49 J -29181520.77 -29181520.59 -29181520.40 0.0539 0.0194
 Saturn -84597-10-09 00:28 J -29177349.69 -29177349.48 -29177349.26 0.0288 0.0061
 Mars -84592-05-27 13:54 J -29175658.06 -29175657.92 -29175657.77 0.1729 0.0858
 Jupiter -84590-07-06 21:35 J -29174887.74 -29174887.60 -29174887.46 0.0489 0.0358
 Neptune -84586-03-02 21:49 J -29173552.60 -29173552.59 -29173552.53 0.0089 0.0088
 Neptune -84586-10-14 12:42 J -29173327.11 -29173326.97 -29173326.83 0.0089 0.0070
 Neptune -84585-05-27 03:06 J -29173101.55 -29173101.37 -29173101.19 0.0089 0.0053
 Neptune -84584-01-07 17:16 J -29172875.98 -29172875.78 -29172875.57 0.0089 0.0036
 Neptune -84584-08-21 07:25 J -29172650.40 -29172650.19 -29172649.96 0.0089 0.0019
 Neptune -84583-04-03 21:49 J -29172424.81 -29172424.59 -29172424.36 0.0089 0.0002
 Saturn -84583-08-08 15:20 J -29172297.92 -29172297.86 -29172297.78 0.0272 0.0255
 Neptune -84583-11-15 11:59 J -29172199.22 -29172199.00 -29172198.77 0.0089 0.0016
 Saturn -84582-03-25 14:23 J -29172069.09 -29172068.90 -29172068.70 0.0271 0.0088
 Neptune -84582-06-29 02:08 J -29171973.61 -29171973.41 -29171973.18 0.0089 0.0033
 Neptune -84581-02-09 16:32 J -29171747.99 -29171747.81 -29171747.61 0.0089 0.0050
 Neptune -84581-09-22 06:42 J -29171522.35 -29171522.22 -29171522.06 0.0089 0.0067

Neptune -84580-05-05 21:20 J -29171296.67 -29171296.61 -29171296.53 0.0089 0.0084
 Uranus -84580-12-27 21:35 J -29171060.79 -29171060.60 -29171060.40 0.0140 0.0070
 Uranus -84579-08-11 09:20 J -29170834.33 -29170834.11 -29170833.88 0.0140 0.0001
 Jupiter -84578-03-11 20:52 J -29170621.84 -29170621.63 -29170621.42 0.0488 0.0053
 Uranus -84578-03-25 20:37 J -29170607.83 -29170607.64 -29170607.44 0.0140 0.0071
 Jupiter -84572-01-14 15:49 J -29168486.03 -29168485.84 -29168485.65 0.0539 0.0123
 Saturn -84567-04-21 01:40 J -29166563.65 -29166563.43 -29166563.22 0.0288 0.0021
 Jupiter -84567-11-14 21:20 J -29166355.67 -29166355.61 -29166355.52 0.0487 0.0454
 Mars -84565-10-11 14:52 J -29165658.99 -29165658.88 -29165658.77 0.1797 0.1425
 Jupiter -84561-09-19 07:25 J -29164220.32 -29164220.19 -29164220.06 0.0540 0.0408
 Pluto -84560-08-02 04:47 J -29163903.44 -29163903.30 -29163903.11 0.0063 0.0043
 Pluto -84559-03-15 09:49 J -29163678.31 -29163678.09 -29163677.87 0.0063 0.0013
 Pluto -84559-10-26 13:54 J -29163453.12 -29163452.92 -29163452.68 0.0063 0.0019
 Pluto -84558-06-08 18:42 J -29163227.85 -29163227.72 -29163227.57 0.0064 0.0049
 Saturn -84553-02-18 19:40 J -29161511.80 -29161511.68 -29161511.54 0.0273 0.0209
 Saturn -84553-10-04 18:42 J -29161282.89 -29161282.72 -29161282.54 0.0272 0.0136
 Jupiter -84543-11-17 09:06 J -29157587.32 -29157587.12 -29157586.93 0.0489 0.0188
 Saturn -84538-11-01 12:28 J -29155777.19 -29155776.98 -29155776.76 0.0288 0.0053
 Moon -84537-02-17 06:56 J -29155669.34 -29155669.21 -29155669.09 0.2753 0.1662
 Earth -84537-02-17 11:59 J -29155669.13 -29155669.00 -29155668.86 0.2756 0.1290 *
 Jupiter -84537-09-22 03:49 J -29155451.47 -29155451.34 -29155451.21 0.0539 0.0404
 Uranus -84535-08-02 04:47 J -29154772.42 -29154772.30 -29154772.17 0.0138 0.0111
 Uranus -84534-03-16 10:18 J -29154546.26 -29154546.07 -29154545.86 0.0138 0.0049
 Uranus -84534-10-28 16:18 J -29154320.02 -29154319.82 -29154319.60 0.0139 0.0016
 Uranus -84533-06-10 22:18 J -29154093.73 -29154093.57 -29154093.39 0.0139 0.0080
 Mars -84533-10-11 07:54 J -29153971.21 -29153971.17 -29153971.14 0.1812 0.1764
 Jupiter -84531-07-23 08:52 J -29153321.32 -29153321.13 -29153320.94 0.0488 0.0218
 Mars -84526-03-25 00:13 J -29151615.65 -29151615.49 -29151615.33 0.1732 0.0515
 Jupiter -84525-05-27 22:18 J -29151185.76 -29151185.57 -29151185.37 0.0540 0.0110
 Saturn -84524-08-30 23:01 J -29150725.70 -29150725.54 -29150725.37 0.0272 0.0160

Saturn -84523-04-16 22:04 J -29150496.73 -29150496.58 -29150496.43 0.0271 0.0182
 Saturn -84508-05-13 14:08 J -29144991.11 -29144990.91 -29144990.70 0.0288 0.0095
 Jupiter -84507-07-25 21:06 J -29144552.72 -29144552.62 -29144552.52 0.0489 0.0429
 Neptune -84504-11-30 02:37 J -29143329.45 -29143329.39 -29143329.29 0.0089 0.0082
 Neptune -84503-07-13 14:23 J -29143104.02 -29143103.90 -29143103.74 0.0089 0.0066
 Neptune -84502-02-24 02:08 J -29142878.57 -29142878.41 -29142878.21 0.0089 0.0050
 Neptune -84502-10-07 14:08 J -29142653.09 -29142652.91 -29142652.70 0.0089 0.0034
 Neptune -84501-05-20 02:23 J -29142427.61 -29142427.40 -29142427.19 0.0089 0.0017
 Neptune -84501-12-31 14:08 J -29142202.13 -29142201.91 -29142201.70 0.0089 0.0001
 Neptune -84500-08-14 01:40 J -29141976.63 -29141976.43 -29141976.21 0.0089 0.0016
 Neptune -84499-03-27 13:11 J -29141751.13 -29141750.95 -29141750.73 0.0089 0.0032
 Neptune -84499-11-08 01:11 J -29141525.62 -29141525.45 -29141525.26 0.0089 0.0048
 Neptune -84498-06-21 12:56 J -29141300.09 -29141299.96 -29141299.80 0.0089 0.0064
 Neptune -84497-02-02 00:28 J -29141074.55 -29141074.48 -29141074.37 0.0089 0.0080
 Uranus -84496-08-27 02:37 J -29140502.52 -29140502.39 -29140502.23 0.0141 0.0106
 Jupiter -84495-03-30 20:23 J -29140286.86 -29140286.65 -29140286.44 0.0489 0.0020
 Uranus -84495-04-10 14:52 J -29140276.10 -29140275.88 -29140275.66 0.0140 0.0035
 Uranus -84495-11-23 02:23 J -29140049.61 -29140049.40 -29140049.18 0.0140 0.0036
 Saturn -84494-03-13 02:52 J -29139939.56 -29139939.38 -29139939.18 0.0273 0.0115
 Uranus -84494-07-07 13:40 J -29139823.06 -29139822.93 -29139822.77 0.0140 0.0106
 Saturn -84494-10-28 01:54 J -29139710.51 -29139710.42 -29139710.30 0.0272 0.0231
 Jupiter -84489-02-03 12:42 J -29138151.15 -29138150.97 -29138150.78 0.0539 0.0187
 Jupiter -84484-12-03 19:40 J -29136020.80 -29136020.68 -29136020.55 0.0488 0.0390
 Saturn -84479-04-07 23:59 J -29134434.57 -29134434.50 -29134434.41 0.0287 0.0266
 Saturn -84479-11-24 02:08 J -29134204.58 -29134204.41 -29134204.23 0.0288 0.0172
 Jupiter -84478-10-09 04:47 J -29133885.45 -29133885.30 -29133885.15 0.0540 0.0343
 Pluto -84470-02-07 14:08 J -29131207.03 -29131206.91 -29131206.74 0.0082 0.0059
 Pluto -84470-09-21 00:56 J -29130981.67 -29130981.46 -29130981.24 0.0081 0.0005
 Pluto -84469-05-03 10:47 J -29130756.16 -29130756.05 -29130755.90 0.0081 0.0065
 Mars -84467-08-08 12:56 J -29129929.09 -29129928.96 -29129928.83 0.1808 0.1205

Saturn -84465-09-22 07:40 J -29129153.38 -29129153.18 -29129152.98 0.0272 0.0062
 Mars -84460-01-19 11:01 J -29127573.21 -29127573.04 -29127572.87 0.1737 0.0188
 Jupiter -84460-12-06 06:56 J -29127252.39 -29127252.21 -29127252.03 0.0489 0.0251
 Jupiter -84454-10-12 04:47 J -29125116.38 -29125116.30 -29125116.22 0.0539 0.0492
 Uranus -84451-11-13 19:25 J -29123987.86 -29123987.69 -29123987.51 0.0138 0.0080
 Uranus -84450-06-28 01:11 J -29123761.66 -29123761.45 -29123761.24 0.0138 0.0017
 Saturn -84450-10-19 03:06 J -29123648.51 -29123648.37 -29123648.23 0.0287 0.0220
 Uranus -84449-02-09 06:56 J -29123535.40 -29123535.21 -29123535.00 0.0139 0.0047
 Saturn -84449-06-05 04:47 J -29123418.43 -29123418.30 -29123418.14 0.0288 0.0218
 Uranus -84449-09-22 12:56 J -29123309.07 -29123308.96 -29123308.82 0.0139 0.0112
 Jupiter -84448-08-11 06:56 J -29122986.40 -29122986.21 -29122986.00 0.0488 0.0155
 Jupiter -84442-06-16 21:35 J -29120850.80 -29120850.60 -29120850.41 0.0539 0.0033
 Saturn -84435-04-04 11:30 J -29118367.23 -29118367.02 -29118366.82 0.0273 0.0017
 Jupiter -84424-08-13 17:59 J -29114217.76 -29114217.75 -29114217.72 0.0489 0.0487
 Neptune -84421-01-15 22:32 J -29113332.67 -29113332.56 -29113332.44 0.0089 0.0076
 Neptune -84421-08-28 12:42 J -29113107.13 -29113106.97 -29113106.79 0.0089 0.0059
 Neptune -84420-04-11 03:06 J -29112881.56 -29112881.37 -29112881.16 0.0089 0.0042
 Saturn -84420-04-30 16:04 J -29112862.02 -29112861.83 -29112861.64 0.0287 0.0140
 Neptune -84420-11-22 17:16 J -29112655.98 -29112655.78 -29112655.54 0.0089 0.0025
 Neptune -84419-07-06 07:54 J -29112430.40 -29112430.17 -29112429.94 0.0089 0.0007
 Neptune -84418-02-16 22:04 J -29112204.80 -29112204.58 -29112204.35 0.0089 0.0010
 Neptune -84418-09-30 12:13 J -29111979.20 -29111978.99 -29111978.76 0.0089 0.0028
 Neptune -84417-05-13 02:37 J -29111753.58 -29111753.39 -29111753.18 0.0089 0.0045
 Neptune -84417-12-24 16:47 J -29111527.95 -29111527.80 -29111527.62 0.0089 0.0062
 Neptune -84416-08-07 07:11 J -29111302.29 -29111302.20 -29111302.09 0.0089 0.0079
 Jupiter -84412-04-18 17:44 J -29109951.97 -29109951.76 -29109951.55 0.0488 0.0077
 Uranus -84412-12-08 19:54 J -29109717.86 -29109717.67 -29109717.47 0.0141 0.0071
 Uranus -84411-07-23 07:54 J -29109491.40 -29109491.17 -29109490.95 0.0140 0.0001
 Uranus -84410-03-06 19:11 J -29109264.88 -29109264.70 -29109264.50 0.0140 0.0071
 Moon -84408-08-19 21:20 J -29108367.74 -29108367.61 -29108367.48 0.2587 0.1341

Earth -84408-08-19 23:16 J -29108367.67 -29108367.53 -29108367.39 0.2581 0.1392 *
 Jupiter -84406-02-22 10:18 J -29107816.24 -29107816.07 -29107815.89 0.0539 0.0254
 Saturn -84406-10-15 16:47 J -29107581.00 -29107580.80 -29107580.59 0.0272 0.0040
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 Jupiter -84401-12-22 16:47 J -29105685.95 -29105685.80 -29105685.64 0.0487 0.0332
 Earth -84400-08-17 15:06 J -29105447.91 -29105447.87 -29105447.83 0.2581 0.2483
 Moon -84400-08-17 17:30 J -29105447.87 -29105447.77 -29105447.67 0.2587 0.1979 *
 Jupiter -84395-10-28 04:47 J -29103550.47 -29103550.30 -29103550.12 0.0540 0.0261
 Mars -84395-11-16 21:20 J -29103530.78 -29103530.61 -29103530.45 0.1740 0.0168
 Saturn -84391-11-10 19:40 J -29102075.89 -29102075.68 -29102075.48 0.0287 0.0092
 Saturn -84377-09-09 20:37 J -29097023.69 -29097023.64 -29097023.58 0.0274 0.0263
 Jupiter -84377-12-25 04:18 J -29096917.48 -29096917.32 -29096917.15 0.0489 0.0311
 Saturn -84376-04-26 20:08 J -29096794.85 -29096794.66 -29096794.46 0.0272 0.0086
 Uranus -84367-07-14 05:01 J -29093429.41 -29093429.29 -29093429.17 0.0138 0.0111
 Uranus -84366-02-25 10:18 J -29093203.26 -29093203.07 -29093202.86 0.0138 0.0049
 Uranus -84366-10-09 16:18 J -29092977.03 -29092976.82 -29092976.61 0.0139 0.0015
 Uranus -84365-05-22 22:04 J -29092750.75 -29092750.58 -29092750.40 0.0139 0.0079
 Jupiter -84365-08-30 03:20 J -29092651.56 -29092651.36 -29092651.15 0.0488 0.0102
 Saturn -84361-05-23 08:52 J -29091289.35 -29091289.13 -29091288.91 0.0287 0.0011
 Jupiter -84359-07-05 16:47 J -29090516.00 -29090515.80 -29090515.60 0.0539 0.0019
 Jupiter -84347-03-10 09:49 J -29086250.16 -29086250.09 -29086250.02 0.0540 0.0504
 Saturn -84347-03-23 03:35 J -29086237.49 -29086237.35 -29086237.21 0.0273 0.0202
 Saturn -84347-11-07 02:52 J -29086008.55 -29086008.38 -29086008.20 0.0272 0.0144
 Neptune -84339-03-03 15:06 J -29083334.90 -29083334.87 -29083334.81 0.0089 0.0087
 Neptune -84339-10-15 02:52 J -29083109.49 -29083109.38 -29083109.23 0.0089 0.0071
 Neptune -84338-05-28 14:37 J -29082884.04 -29082883.89 -29082883.70 0.0089 0.0055
 Neptune -84337-01-09 02:23 J -29082658.57 -29082658.40 -29082658.19 0.0089 0.0039
 Neptune -84337-08-21 14:08 J -29082433.10 -29082432.91 -29082432.69 0.0089 0.0023
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Mars -84335-04-01 23:01 J -29081844.71 -29081844.54 -29081844.36 0.1798 0.0104
 Neptune -84335-06-29 01:40 J -29081756.62 -29081756.43 -29081756.21 0.0089 0.0027
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 Saturn -84332-12-03 13:25 J -29080503.15 -29080502.94 -29080502.72 0.0287 0.0041
 Jupiter -84329-05-07 14:37 J -29079617.09 -29079616.89 -29079616.69 0.0488 0.0135
 Mars -84329-09-13 07:25 J -29079488.35 -29079488.19 -29079488.03 0.1745 0.0517
 Uranus -84328-08-08 01:40 J -29079159.57 -29079159.43 -29079159.28 0.0141 0.0106
 Uranus -84327-03-22 13:40 J -29078933.14 -29078932.93 -29078932.71 0.0140 0.0035
 Uranus -84327-11-04 01:25 J -29078706.65 -29078706.44 -29078706.22 0.0140 0.0036
 Uranus -84326-06-18 12:56 J -29078480.10 -29078479.96 -29078479.81 0.0140 0.0106
 Jupiter -84323-03-13 09:20 J -29077481.27 -29077481.11 -29077480.96 0.0538 0.0328
 Saturn -84318-10-03 06:13 J -29075451.40 -29075451.24 -29075451.07 0.0273 0.0160
 Jupiter -84317-01-11 13:11 J -29075351.12 -29075350.95 -29075350.77 0.0488 0.0279
 Saturn -84317-05-19 05:30 J -29075222.41 -29075222.27 -29075222.11 0.0272 0.0188
 Pluto -84314-01-18 13:40 J -29074247.94 -29074247.93 -29074247.85 0.0063 0.0063
 Pluto -84314-08-31 18:56 J -29074022.90 -29074022.71 -29074022.51 0.0063 0.0032
 Pluto -84313-04-12 23:30 J -29073797.74 -29073797.52 -29073797.29 0.0063 0.0002
 Pluto -84313-11-24 03:49 J -29073572.53 -29073572.34 -29073572.13 0.0064 0.0030
 Pluto -84312-07-07 08:08 J -29073347.20 -29073347.16 -29073347.07 0.0064 0.0061
 Jupiter -84312-11-16 01:54 J -29073215.60 -29073215.42 -29073215.24 0.0539 0.0197
 Moon -84302-02-19 21:20 J -29069832.65 -29069832.61 -29069832.56 0.2763 0.2595
 Saturn -84302-06-16 02:23 J -29069716.59 -29069716.40 -29069716.20 0.0288 0.0123
 Earth -84294-02-17 12:13 J -29066913.11 -29066912.99 -29066912.87 0.2755 0.1679
 Moon -84294-02-17 16:04 J -29066912.96 -29066912.83 -29066912.69 0.2760 0.1190 *
 Jupiter -84293-01-14 01:11 J -29066582.59 -29066582.45 -29066582.31 0.0489 0.0365
 Saturn -84288-04-14 13:40 J -29064665.12 -29064664.93 -29064664.73 0.0272 0.0097
 Saturn -84288-11-29 12:56 J -29064436.04 -29064435.96 -29064435.88 0.0271 0.0249
 Uranus -84283-10-25 20:52 J -29062644.80 -29062644.63 -29062644.46 0.0138 0.0078

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 Jupiter -84282-09-18 23:59 J -29062316.71 -29062316.50 -29062316.29 0.0488 0.0046
 Uranus -84281-01-21 08:08 J -29062192.35 -29062192.16 -29062191.95 0.0139 0.0049
 Uranus -84281-09-03 14:08 J -29061966.02 -29061965.91 -29061965.77 0.0139 0.0113
 Jupiter -84276-07-24 15:35 J -29060181.04 -29060180.85 -29060180.66 0.0540 0.0094
 Saturn -84273-05-10 05:30 J -29059160.34 -29059160.27 -29059160.17 0.0287 0.0262
 Saturn -84273-12-26 07:25 J -29058930.36 -29058930.19 -29058930.02 0.0288 0.0176
 Jupiter -84270-05-24 23:59 J -29058050.57 -29058050.50 -29058050.42 0.0487 0.0450
 Mars -84269-01-28 04:32 J -29057802.48 -29057802.31 -29057802.14 0.1794 0.0454
 Jupiter -84264-03-29 09:06 J -29055915.23 -29055915.12 -29055914.99 0.0540 0.0426
 Mars -84263-07-11 17:44 J -29055445.91 -29055445.76 -29055445.62 0.1748 0.0877
 Saturn -84259-10-25 16:04 J -29053879.03 -29053878.83 -29053878.62 0.0273 0.0055
 Neptune -84257-04-18 07:11 J -29053338.25 -29053338.20 -29053338.09 0.0089 0.0083
 Neptune -84257-11-29 22:04 J -29053112.72 -29053112.58 -29053112.42 0.0089 0.0065
 Neptune -84256-07-13 12:13 J -29052887.17 -29052886.99 -29052886.79 0.0089 0.0048
 Neptune -84255-02-24 02:23 J -29052661.60 -29052661.40 -29052661.17 0.0089 0.0031
 Neptune -84255-10-07 16:47 J -29052436.01 -29052435.80 -29052435.56 0.0089 0.0014
 Neptune -84254-05-21 07:25 J -29052210.41 -29052210.19 -29052209.96 0.0089 0.0005
 Neptune -84253-01-01 21:35 J -29051984.81 -29051984.60 -29051984.37 0.0089 0.0022
 Neptune -84253-08-14 11:44 J -29051759.20 -29051759.01 -29051758.79 0.0089 0.0039
 Neptune -84252-03-28 02:08 J -29051533.58 -29051533.41 -29051533.23 0.0089 0.0056
 Neptune -84252-11-08 16:32 J -29051307.93 -29051307.81 -29051307.68 0.0089 0.0073
 Jupiter -84246-05-27 10:47 J -29049282.25 -29049282.05 -29049281.86 0.0489 0.0185
 Uranus -84244-04-07 07:54 J -29048601.18 -29048601.17 -29048601.13 0.0141 0.0140
 Uranus -84244-11-19 20:08 J -29048374.84 -29048374.66 -29048374.45 0.0141 0.0069
 Saturn -84244-11-20 17:30 J -29048373.93 -29048373.77 -29048373.60 0.0287 0.0184
 Uranus -84243-07-04 08:23 J -29048148.37 -29048148.15 -29048147.92 0.0140 0.0004
 Saturn -84243-07-08 19:40 J -29048143.77 -29048143.68 -29048143.58 0.0288 0.0256
 Uranus -84242-02-15 19:54 J -29047921.85 -29047921.67 -29047921.47 0.0140 0.0073
 Jupiter -84240-04-01 03:20 J -29047146.49 -29047146.36 -29047146.21 0.0539 0.0374

Jupiter -84234-01-30 10:32 J -29045016.24 -29045016.06 -29045015.87 0.0488 0.0220
 Mars -84231-07-10 17:16 J -29043758.87 -29043758.78 -29043758.69 0.1735 0.1462
 Saturn -84229-05-06 23:44 J -29043092.72 -29043092.51 -29043092.30 0.0272 0.0009
 Jupiter -84229-12-04 20:37 J -29042880.82 -29042880.64 -29042880.44 0.0540 0.0149
 Pluto -84224-03-08 08:52 J -29041326.32 -29041326.13 -29041325.92 0.0082 0.0029
 Pluto -84224-10-19 19:11 J -29041100.89 -29041100.70 -29041100.49 0.0081 0.0033
 Saturn -84214-06-02 23:30 J -29037587.72 -29037587.52 -29037587.33 0.0287 0.0129
 Jupiter -84210-02-01 21:49 J -29036247.70 -29036247.59 -29036247.49 0.0489 0.0421
 Mars -84204-11-24 09:49 J -29033760.24 -29033760.09 -29033759.94 0.1789 0.0991
 Saturn -84200-11-17 01:40 J -29032306.63 -29032306.43 -29032306.23 0.0272 0.0049
 Uranus -84199-06-25 06:28 J -29032086.36 -29032086.23 -29032086.10 0.0138 0.0109
 Jupiter -84199-10-07 20:23 J -29031981.86 -29031981.65 -29031981.44 0.0488 0.0008
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 Uranus -84198-09-20 17:44 J -29031633.97 -29031633.76 -29031633.55 0.0139 0.0017
 Uranus -84197-05-03 23:30 J -29031407.68 -29031407.52 -29031407.34 0.0139 0.0081
 Mars -84197-05-08 03:20 J -29031403.48 -29031403.36 -29031403.24 0.1753 0.1254
 Jupiter -84193-08-12 13:25 J -29029846.12 -29029845.94 -29029845.75 0.0539 0.0163
 Jupiter -84187-06-12 20:23 J -29027715.77 -29027715.65 -29027715.53 0.0487 0.0398
 Saturn -84185-12-13 09:20 J -29026801.32 -29026801.11 -29026800.89 0.0287 0.0057
 Jupiter -84181-04-17 03:20 J -29025580.49 -29025580.36 -29025580.21 0.0540 0.0380
 Neptune -84174-01-16 14:37 J -29023114.97 -29023114.89 -29023114.76 0.0089 0.0077
 Neptune -84174-08-30 02:23 J -29022889.54 -29022889.40 -29022889.23 0.0089 0.0061
 Neptune -84173-04-11 14:08 J -29022664.08 -29022663.91 -29022663.71 0.0089 0.0045
 Neptune -84173-11-23 02:23 J -29022438.60 -29022438.40 -29022438.20 0.0089 0.0028
 Neptune -84172-07-06 14:08 J -29022213.12 -29022212.91 -29022212.70 0.0089 0.0012
 Neptune -84171-02-17 01:54 J -29021987.64 -29021987.42 -29021987.21 0.0089 0.0005
 Neptune -84171-09-30 13:25 J -29021762.14 -29021761.94 -29021761.72 0.0089 0.0021
 Saturn -84171-10-13 10:04 J -29021749.18 -29021749.08 -29021748.98 0.0273 0.0235
 Neptune -84170-05-14 01:25 J -29021536.63 -29021536.44 -29021536.25 0.0089 0.0037
 Saturn -84170-05-30 09:06 J -29021520.30 -29021520.12 -29021519.92 0.0272 0.0113

Neptune -84170-12-25 12:42 J -29021311.12 -29021310.97 -29021310.78 0.0089 0.0054
 Neptune -84169-08-07 00:28 J -29021085.59 -29021085.48 -29021085.33 0.0089 0.0070
 Neptune -84168-03-20 12:28 J -29020860.02 -29020859.98 -29020859.92 0.0089 0.0086
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 Earth -84165-08-20 00:42 J -29019611.60 -29019611.47 -29019611.33 0.2582 0.1509
 Moon -84165-08-20 04:47 J -29019611.43 -29019611.30 -29019611.17 0.2578 0.1627 *
 Jupiter -84163-06-15 07:54 J -29018947.35 -29018947.17 -29018946.99 0.0488 0.0244
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 Uranus -84159-03-03 15:49 J -29017590.06 -29017589.84 -29017589.62 0.0140 0.0030
 Uranus -84159-10-16 03:35 J -29017363.56 -29017363.35 -29017363.13 0.0140 0.0041
 Uranus -84158-05-30 14:52 J -29017137.00 -29017136.88 -29017136.73 0.0140 0.0111
 Jupiter -84157-04-20 02:23 J -29016811.51 -29016811.40 -29016811.29 0.0539 0.0449
 Moon -84157-08-17 16:04 J -29016691.88 -29016691.83 -29016691.77 0.2576 0.2410
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 Saturn -84155-06-25 15:35 J -29016015.07 -29016014.85 -29016014.64 0.0287 0.0006
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 Saturn -84141-04-24 11:01 J -29010963.17 -29010963.04 -29010962.89 0.0273 0.0197
 Saturn -84141-12-09 10:18 J -29010734.23 -29010734.07 -29010733.89 0.0272 0.0151
 Mars -84138-09-21 15:20 J -29009717.95 -29009717.86 -29009717.77 0.1784 0.1514
 Mars -84131-03-05 13:25 J -29007361.00 -29007360.94 -29007360.88 0.1757 0.1626
 Jupiter -84127-02-20 18:56 J -29005912.74 -29005912.71 -29005912.66 0.0489 0.0479
 Saturn -84125-01-05 23:59 J -29005228.71 -29005228.50 -29005228.29 0.0288 0.0067
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 Saturn -84111-06-21 17:44 J -28999947.88 -28999947.76 -28999947.62 0.0271 0.0213

Jupiter -84110-09-01 08:37 J -28999511.32 -28999511.14 -28999510.96 0.0539 0.0214
 Mars -84106-09-21 06:42 J -28998030.30 -28998030.22 -28998030.14 0.1800 0.1589
 Jupiter -84104-07-01 18:42 J -28997380.87 -28997380.72 -28997380.57 0.0487 0.0333
 Mars -84099-03-04 13:40 J -28995674.08 -28995673.93 -28995673.78 0.1743 0.0772
 Jupiter -84098-05-07 02:37 J -28995245.55 -28995245.39 -28995245.22 0.0540 0.0303
 Saturn -84096-07-18 05:30 J -28994442.46 -28994442.27 -28994442.07 0.0288 0.0122
 Neptune -84092-03-03 06:28 J -28993118.35 -28993118.23 -28993118.08 0.0089 0.0072
 Neptune -84092-10-14 20:52 J -28992892.80 -28992892.63 -28992892.44 0.0089 0.0055
 Neptune -84091-05-28 11:44 J -28992667.22 -28992667.01 -28992666.81 0.0089 0.0037
 Neptune -84090-01-09 01:54 J -28992441.64 -28992441.42 -28992441.20 0.0089 0.0020
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 Neptune -84089-11-15 20:37 J -28991764.84 -28991764.64 -28991764.42 0.0089 0.0033
 Neptune -84088-06-29 11:01 J -28991539.22 -28991539.04 -28991538.84 0.0089 0.0050
 Neptune -84087-02-10 01:25 J -28991313.59 -28991313.44 -28991313.29 0.0089 0.0067
 Neptune -84087-09-23 15:06 J -28991087.91 -28991087.87 -28991087.78 0.0089 0.0085
 Saturn -84082-05-17 19:40 J -28989390.87 -28989390.68 -28989390.49 0.0272 0.0097
 Saturn -84081-01-01 18:28 J -28989161.80 -28989161.73 -28989161.64 0.0271 0.0249
 Jupiter -84080-07-04 05:44 J -28988612.42 -28988612.26 -28988612.10 0.0489 0.0305
 Uranus -84076-03-19 10:32 J -28987258.11 -28987258.06 -28987257.97 0.0141 0.0134
 Uranus -84076-10-31 22:47 J -28987031.74 -28987031.55 -28987031.33 0.0141 0.0063
 Uranus -84075-06-15 11:01 J -28986805.26 -28986805.04 -28986804.81 0.0140 0.0009
 Uranus -84074-01-27 22:18 J -28986578.74 -28986578.57 -28986578.37 0.0140 0.0079
 Jupiter -84074-05-10 02:23 J -28986476.43 -28986476.40 -28986476.36 0.0538 0.0529
 Pluto -84068-02-16 02:37 J -28984367.48 -28984367.39 -28984367.24 0.0063 0.0054
 Jupiter -84068-03-09 05:59 J -28984346.46 -28984346.25 -28984346.05 0.0488 0.0100
 Pluto -84068-09-29 07:25 J -28984142.39 -28984142.19 -28984141.96 0.0063 0.0023
 Pluto -84067-05-12 12:13 J -28983917.21 -28983916.99 -28983916.75 0.0064 0.0008
 Saturn -84067-06-12 10:04 J -28983886.17 -28983886.08 -28983885.98 0.0287 0.0258
 Pluto -84067-12-23 16:32 J -28983691.97 -28983691.81 -28983691.61 0.0064 0.0039

Saturn -84066-01-28 11:59 J -28983656.15 -28983656.00 -28983655.82 0.0288 0.0183
 Jupiter -84062-01-12 16:47 J -28982211.00 -28982210.80 -28982210.61 0.0540 0.0013
 Earth -84059-02-19 21:20 J -28981076.67 -28981076.61 -28981076.55 0.2755 0.2501
 Saturn -84053-11-27 02:52 J -28978604.58 -28978604.38 -28978604.18 0.0272 0.0036
 Moon -84051-02-17 10:04 J -28978157.13 -28978157.08 -28978157.03 0.2748 0.2587
 Earth -84051-02-17 12:28 J -28978157.08 -28978156.98 -28978156.87 0.2755 0.2044 *
 Jupiter -84051-09-17 09:20 J -28977945.13 -28977945.11 -28977945.09 0.0540 0.0535
 Mars -84040-07-18 11:59 J -28973988.14 -28973988.00 -28973987.85 0.1795 0.1040
 Saturn -84038-12-23 16:04 J -28973099.97 -28973099.83 -28973099.67 0.0287 0.0203
 Saturn -84037-08-09 17:59 J -28972869.86 -28972869.75 -28972869.62 0.0288 0.0239
 Mars -84034-12-30 23:59 J -28971631.67 -28971631.50 -28971631.34 0.1747 0.0424
 Jupiter -84033-11-14 17:59 J -28971311.95 -28971311.75 -28971311.55 0.0488 0.0140
 Uranus -84031-06-06 06:28 J -28970743.34 -28970743.23 -28970743.09 0.0138 0.0109
 Uranus -84030-01-18 12:13 J -28970517.18 -28970516.99 -28970516.79 0.0138 0.0046
 Uranus -84030-09-01 17:59 J -28970290.96 -28970290.75 -28970290.54 0.0138 0.0017
 Uranus -84029-04-14 23:44 J -28970064.67 -28970064.51 -28970064.33 0.0139 0.0081
 Jupiter -84027-09-20 10:32 J -28969176.22 -28969176.06 -28969175.90 0.0539 0.0306
 Saturn -84023-06-09 02:52 J -28967818.58 -28967818.38 -28967818.17 0.0272 0.0005
 Jupiter -84021-07-20 17:16 J -28967045.96 -28967045.78 -28967045.61 0.0487 0.0269
 Jupiter -84015-05-26 04:04 J -28964910.50 -28964910.33 -28964910.14 0.0540 0.0213
 Neptune -84010-04-20 02:08 J -28963120.47 -28963120.41 -28963120.32 0.0089 0.0083
 Neptune -84010-12-01 13:54 J -28962895.04 -28962894.92 -28962894.76 0.0089 0.0067
 Neptune -84009-07-14 01:25 J -28962669.59 -28962669.44 -28962669.24 0.0089 0.0051
 Neptune -84008-02-24 13:40 J -28962444.13 -28962443.93 -28962443.73 0.0089 0.0034
 Saturn -84008-07-04 20:08 J -28962313.84 -28962313.66 -28962313.47 0.0287 0.0151
 Neptune -84008-10-08 01:25 J -28962218.65 -28962218.44 -28962218.23 0.0089 0.0018
 Neptune -84007-05-21 13:11 J -28961993.16 -28961992.95 -28961992.74 0.0089 0.0001
 Neptune -84006-01-02 00:56 J -28961767.67 -28961767.46 -28961767.25 0.0089 0.0015
 Neptune -84006-08-15 12:13 J -28961542.17 -28961541.99 -28961541.77 0.0089 0.0032
 Neptune -84005-03-27 23:59 J -28961316.67 -28961316.50 -28961316.31 0.0089 0.0048

Neptune -84005-11-08 11:59 J -28961091.14 -28961091.00 -28961090.84 0.0089 0.0064

Neptune -84004-06-21 23:44 J -28960865.59 -28960865.51 -28960865.41 0.0089 0.0080

84TH MILLENNIUM BCE

This is a list of transits of Venus in the 84th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-83997-07-23 06:42 J	-28958277.34	-28958277.22	-28958277.09	0.0489	0.0384		
Saturn	-83994-12-20 09:35 J	-28957032.30	-28957032.10	-28957031.90	0.0272	0.0058		
Uranus	-83992-07-01 06:13 J	-28956473.39	-28956473.24	-28956473.06	0.0141	0.0095		
Uranus	-83991-02-12 18:28 J	-28956246.95	-28956246.73	-28956246.51	0.0141	0.0024		
Uranus	-83991-09-27 05:59 J	-28956020.45	-28956020.25	-28956020.03	0.0140	0.0047		
Uranus	-83990-05-11 17:16 J	-28955793.89	-28955793.78	-28955793.64	0.0140	0.0117		
Jupiter	-83985-03-28 05:59 J	-28954011.46	-28954011.25	-28954011.03	0.0488	0.0027		
Jupiter	-83979-01-31 17:01 J	-28951875.98	-28951875.79	-28951875.59	0.0540	0.0075		
Pluto	-83979-08-24 14:37 J	-28951671.00	-28951670.89	-28951670.77	0.0082	0.0068		
Saturn	-83978-01-15 02:08 J	-28951527.61	-28951527.41	-28951527.20	0.0287	0.0096		
Pluto	-83978-04-07 00:56 J	-28951445.67	-28951445.46	-28951445.24	0.0081	0.0007		
Pluto	-83978-11-18 10:47 J	-28951220.19	-28951220.05	-28951219.87	0.0081	0.0055		
Mars	-83974-05-15 17:01 J	-28949945.96	-28949945.79	-28949945.61	0.1790	0.0487		
Jupiter	-83974-12-02 06:28 J	-28949745.33	-28949745.23	-28949745.13	0.0487	0.0427		
Jupiter	-83968-10-06 11:59 J	-28947610.11	-28947610.00	-28947609.89	0.0541	0.0438		
Mars	-83968-10-27 09:35 J	-28947589.27	-28947589.10	-28947588.93	0.1751	0.0050		
Saturn	-83965-11-14 10:04 J	-28946475.13	-28946475.08	-28946475.00	0.0273	0.0256		

Saturn -83964-07-01 09:20 J -28946246.30 -28946246.11 -28946245.91 0.0272 0.0093
 Jupiter -83950-12-04 18:13 J -28940976.92 -28940976.74 -28940976.54 0.0488 0.0216
 Saturn -83949-07-27 05:01 J -28940741.51 -28940741.29 -28940741.08 0.0287 0.0048
 Uranus -83947-09-17 21:49 J -28939958.76 -28939958.59 -28939958.41 0.0138 0.0077
 Uranus -83946-05-02 03:35 J -28939732.56 -28939732.35 -28939732.14 0.0138 0.0014
 Uranus -83946-12-14 09:20 J -28939506.30 -28939506.11 -28939505.91 0.0139 0.0050
 Uranus -83945-07-27 15:20 J -28939279.97 -28939279.86 -28939279.73 0.0139 0.0114
 Jupiter -83944-10-09 07:54 J -28938841.30 -28938841.17 -28938841.02 0.0539 0.0374
 Jupiter -83938-08-09 19:11 J -28936710.90 -28936710.70 -28936710.51 0.0488 0.0186
 Saturn -83935-05-27 16:04 J -28935688.96 -28935688.83 -28935688.68 0.0273 0.0201
 Saturn -83934-01-11 15:20 J -28935460.03 -28935459.86 -28935459.69 0.0272 0.0148
 Jupiter -83932-06-14 01:11 J -28934575.64 -28934575.45 -28934575.26 0.0540 0.0149
 Neptune -83928-06-04 14:08 J -28933123.99 -28933123.91 -28933123.79 0.0089 0.0080
 Neptune -83927-01-16 04:47 J -28932898.45 -28932898.30 -28932898.13 0.0089 0.0062
 Neptune -83927-08-29 18:56 J -28932672.89 -28932672.71 -28932672.50 0.0089 0.0045
 Neptune -83926-04-12 09:20 J -28932447.31 -28932447.11 -28932446.88 0.0089 0.0028
 Neptune -83926-11-23 23:59 J -28932221.73 -28932221.50 -28932221.27 0.0089 0.0010
 Neptune -83925-07-06 14:23 J -28931996.13 -28931995.90 -28931995.68 0.0089 0.0008
 Neptune -83924-02-17 04:18 J -28931770.52 -28931770.32 -28931770.09 0.0089 0.0026
 Neptune -83924-09-30 18:42 J -28931544.91 -28931544.72 -28931544.51 0.0089 0.0043
 Neptune -83923-05-14 09:20 J -28931319.27 -28931319.11 -28931318.94 0.0089 0.0060
 Neptune -83923-12-25 23:16 J -28931093.62 -28931093.53 -28931093.40 0.0089 0.0078
 Moon -83922-08-20 21:35 J -28930855.74 -28930855.60 -28930855.47 0.2585 0.1349
 Earth -83922-08-21 02:23 J -28930855.52 -28930855.40 -28930855.27 0.2582 0.1637 *
 Saturn -83919-02-06 11:01 J -28929955.26 -28929955.04 -28929954.82 0.0288 0.0007
 Jupiter -83914-08-12 06:56 J -28927942.28 -28927942.21 -28927942.14 0.0489 0.0458
 Earth -83914-08-18 18:13 J -28927935.82 -28927935.74 -28927935.66 0.2583 0.2258
 Uranus -83908-02-28 12:28 J -28925915.06 -28925914.98 -28925914.89 0.0141 0.0130
 Mars -83908-03-11 23:01 J -28925903.72 -28925903.54 -28925903.36 0.1786 0.0039
 Uranus -83908-10-13 00:42 J -28925688.67 -28925688.47 -28925688.26 0.0141 0.0058

Uranus -83907-05-27 12:56 J -28925462.19 -28925461.96 -28925461.74 0.0141 0.0014
 Uranus -83906-01-09 00:13 J -28925235.66 -28925235.49 -28925235.30 0.0140 0.0084
 Saturn -83906-12-07 16:04 J -28924902.99 -28924902.83 -28924902.67 0.0272 0.0165
 Saturn -83905-07-23 14:37 J -28924674.03 -28924673.89 -28924673.73 0.0271 0.0182
 Jupiter -83902-04-17 06:13 J -28923676.45 -28923676.24 -28923676.03 0.0488 0.0050
 Mars -83902-08-24 19:25 J -28923546.86 -28923546.69 -28923546.52 0.1756 0.0325
 Jupiter -83896-02-19 20:08 J -28921540.84 -28921540.66 -28921540.47 0.0540 0.0177
 Jupiter -83891-12-21 07:25 J -28919410.34 -28919410.19 -28919410.05 0.0487 0.0351
 Saturn -83890-08-19 12:13 J -28919169.20 -28919168.99 -28919168.77 0.0288 0.0050
 Jupiter -83885-10-25 10:47 J -28917275.19 -28917275.05 -28917274.90 0.0540 0.0361
 Saturn -83876-06-18 21:20 J -28914116.80 -28914116.61 -28914116.42 0.0273 0.0113
 Saturn -83875-02-02 19:54 J -28913887.76 -28913887.67 -28913887.56 0.0271 0.0236
 Jupiter -83867-12-23 19:40 J -28910641.84 -28910641.68 -28910641.51 0.0488 0.0296
 Uranus -83863-05-18 07:54 J -28909400.30 -28909400.17 -28909400.03 0.0138 0.0107
 Uranus -83863-12-30 13:11 J -28909174.14 -28909173.95 -28909173.74 0.0138 0.0045
 Uranus -83862-08-13 19:11 J -28908947.91 -28908947.70 -28908947.49 0.0138 0.0019
 Uranus -83861-03-27 00:42 J -28908721.63 -28908721.47 -28908721.29 0.0139 0.0083
 Jupiter -83861-10-28 09:06 J -28908506.21 -28908506.12 -28908506.01 0.0539 0.0463
 Saturn -83860-02-28 18:42 J -28908382.92 -28908382.72 -28908382.52 0.0288 0.0107
 Jupiter -83855-08-28 19:54 J -28906375.88 -28906375.67 -28906375.47 0.0487 0.0109
 Jupiter -83849-07-03 04:32 J -28904240.51 -28904240.31 -28904240.12 0.0540 0.0048
 Saturn -83847-12-29 21:06 J -28903330.81 -28903330.62 -28903330.42 0.0272 0.0077
 Saturn -83846-08-15 19:54 J -28903101.69 -28903101.67 -28903101.65 0.0271 0.0269
 Neptune -83845-03-04 00:56 J -28902900.57 -28902900.46 -28902900.33 0.0089 0.0073
 Neptune -83845-10-15 12:42 J -28902675.12 -28902674.97 -28902674.79 0.0089 0.0057
 Neptune -83844-05-29 00:28 J -28902449.66 -28902449.48 -28902449.28 0.0089 0.0041
 Neptune -83843-01-09 12:28 J -28902224.19 -28902223.98 -28902223.78 0.0089 0.0024
 Neptune -83843-08-22 23:59 J -28901998.71 -28901998.50 -28901998.28 0.0089 0.0008
 Mars -83842-01-07 04:32 J -28901861.48 -28901861.31 -28901861.14 0.1781 0.0559
 Neptune -83842-04-05 11:44 J -28901773.22 -28901773.01 -28901772.80 0.0089 0.0009

Neptune -83842-11-16 23:30 J -28901547.72 -28901547.52 -28901547.31 0.0089 0.0025
 Neptune -83841-06-29 11:01 J -28901322.21 -28901322.04 -28901321.84 0.0089 0.0042
 Neptune -83840-02-09 22:32 J -28901096.70 -28901096.56 -28901096.38 0.0089 0.0058
 Neptune -83840-09-23 10:32 J -28900871.17 -28900871.06 -28900870.94 0.0089 0.0074
 Mars -83836-06-21 05:16 J -28899504.44 -28899504.28 -28899504.13 0.1760 0.0707
 Saturn -83831-09-10 19:11 J -28897596.88 -28897596.70 -28897596.50 0.0288 0.0147
 Uranus -83824-06-12 07:25 J -28895130.35 -28895130.19 -28895130.01 0.0141 0.0092
 Uranus -83823-01-24 19:40 J -28894903.90 -28894903.68 -28894903.46 0.0141 0.0020
 Uranus -83823-09-08 07:11 J -28894677.39 -28894677.20 -28894676.98 0.0140 0.0052
 Pluto -83822-03-17 16:18 J -28894486.96 -28894486.82 -28894486.63 0.0063 0.0043
 Uranus -83822-04-22 18:42 J -28894450.81 -28894450.72 -28894450.59 0.0140 0.0121
 Pluto -83822-10-28 21:20 J -28894261.83 -28894261.61 -28894261.38 0.0063 0.0012
 Pluto -83821-06-10 01:54 J -28894036.63 -28894036.42 -28894036.20 0.0064 0.0019
 Pluto -83820-01-21 06:13 J -28893811.36 -28893811.24 -28893811.08 0.0064 0.0050
 Jupiter -83819-05-06 09:06 J -28893341.32 -28893341.12 -28893340.92 0.0488 0.0137
 Saturn -83817-07-11 01:54 J -28892544.63 -28892544.42 -28892544.22 0.0272 0.0028
 Moon -83816-02-19 18:13 J -28892320.86 -28892320.74 -28892320.62 0.2760 0.1591
 Earth -83816-02-19 21:49 J -28892320.69 -28892320.59 -28892320.50 0.2754 0.2134 *
 Jupiter -83813-03-10 17:59 J -28891205.92 -28891205.75 -28891205.57 0.0539 0.0247
 Moon -83808-02-17 13:25 J -28889401.04 -28889400.94 -28889400.84 0.2761 0.2011
 Earth -83808-02-17 13:11 J -28889401.03 -28889400.95 -28889400.88 0.2754 0.2399 *
 Jupiter -83807-01-09 08:52 J -28889075.31 -28889075.13 -28889074.96 0.0487 0.0269
 Mars -83804-06-20 05:44 J -28887817.30 -28887817.26 -28887817.23 0.1746 0.1708
 Saturn -83802-08-06 00:13 J -28887040.61 -28887040.49 -28887040.36 0.0287 0.0237
 Jupiter -83802-11-14 11:44 J -28886940.18 -28886940.01 -28886939.84 0.0540 0.0274
 Saturn -83801-03-23 01:54 J -28886810.56 -28886810.42 -28886810.26 0.0288 0.0206
 Saturn -83787-01-21 02:08 J -28881758.62 -28881758.41 -28881758.21 0.0272 0.0011
 Jupiter -83783-01-11 20:37 J -28880306.78 -28880306.64 -28880306.51 0.0488 0.0373
 Uranus -83779-01-15 19:40 J -28878841.71 -28878841.68 -28878841.61 0.0137 0.0134
 Uranus -83779-08-30 01:11 J -28878615.62 -28878615.45 -28878615.26 0.0138 0.0071

Uranus -83778-04-13 06:56 J -28878389.42 -28878389.21 -28878389.00 0.0138 0.0009
 Uranus -83778-11-25 12:56 J -28878163.16 -28878162.96 -28878162.77 0.0138 0.0055
 Uranus -83777-07-08 18:42 J -28877936.82 -28877936.72 -28877936.60 0.0139 0.0119
 Mars -83777-11-03 10:18 J -28877819.21 -28877819.07 -28877818.93 0.1777 0.1072
 Saturn -83772-02-15 00:13 J -28876254.64 -28876254.49 -28876254.33 0.0287 0.0199
 Jupiter -83772-09-16 21:20 J -28876040.82 -28876040.61 -28876040.40 0.0488 0.0028
 Saturn -83772-10-03 02:08 J -28876024.51 -28876024.41 -28876024.29 0.0288 0.0244
 Mars -83770-04-18 14:23 J -28875462.03 -28875461.90 -28875461.76 0.1764 0.1108
 Jupiter -83766-07-23 04:18 J -28873905.51 -28873905.32 -28873905.12 0.0539 0.0037
 Neptune -83764-09-05 21:20 J -28873129.62 -28873129.61 -28873129.55 0.0089 0.0088
 Neptune -83763-04-19 11:59 J -28872904.12 -28872904.00 -28872903.85 0.0089 0.0070
 Neptune -83763-12-01 02:08 J -28872678.57 -28872678.41 -28872678.21 0.0089 0.0053
 Neptune -83762-07-14 16:47 J -28872453.00 -28872452.80 -28872452.59 0.0089 0.0035
 Neptune -83761-02-25 06:56 J -28872227.42 -28872227.21 -28872226.98 0.0089 0.0018
 Neptune -83761-10-07 21:35 J -28872001.83 -28872001.60 -28872001.37 0.0089 0.0001
 Neptune -83760-05-21 11:44 J -28871776.22 -28871776.01 -28871775.78 0.0089 0.0018
 Jupiter -83760-05-22 21:49 J -28871774.69 -28871774.59 -28871774.49 0.0488 0.0429
 Neptune -83759-01-02 02:23 J -28871550.61 -28871550.40 -28871550.19 0.0089 0.0035
 Neptune -83759-08-15 16:18 J -28871324.99 -28871324.82 -28871324.62 0.0089 0.0053
 Neptune -83758-03-29 06:42 J -28871099.35 -28871099.22 -28871099.07 0.0089 0.0070
 Saturn -83758-08-03 06:13 J -28870972.44 -28870972.24 -28870972.03 0.0272 0.0059
 Neptune -83758-11-09 20:37 J -28870873.65 -28870873.64 -28870873.58 0.0089 0.0088
 Jupiter -83754-03-27 20:52 J -28869639.71 -28869639.63 -28869639.54 0.0540 0.0488
 Saturn -83743-08-28 08:08 J -28865468.34 -28865468.16 -28865467.96 0.0287 0.0137
 Uranus -83740-02-09 14:23 J -28864571.99 -28864571.90 -28864571.78 0.0141 0.0125
 Uranus -83740-09-24 02:52 J -28864345.58 -28864345.38 -28864345.17 0.0141 0.0052
 Uranus -83739-05-08 15:06 J -28864119.09 -28864118.87 -28864118.65 0.0141 0.0019
 Uranus -83739-12-21 02:52 J -28863892.55 -28863892.38 -28863892.21 0.0140 0.0090
 Mars -83738-04-17 15:35 J -28863774.95 -28863774.85 -28863774.74 0.1750 0.1354
 Jupiter -83736-05-25 09:35 J -28863006.28 -28863006.10 -28863005.91 0.0488 0.0213

Pluto -83733-09-22 08:52 J -28861790.31 -28861790.13 -28861789.93 0.0081 0.0038
 Pluto -83732-05-05 19:11 J -28861564.90 -28861564.70 -28861564.49 0.0081 0.0023
 Jupiter -83730-03-30 20:37 J -28860870.78 -28860870.64 -28860870.48 0.0540 0.0345
 Saturn -83729-06-28 07:40 J -28860415.25 -28860415.18 -28860415.10 0.0273 0.0253
 Saturn -83728-02-12 07:11 J -28860186.39 -28860186.20 -28860186.01 0.0272 0.0098
 Jupiter -83724-01-28 09:06 J -28858740.31 -28858740.12 -28858739.92 0.0487 0.0194
 Jupiter -83719-12-03 15:35 J -28856605.04 -28856604.85 -28856604.67 0.0540 0.0169
 Saturn -83713-03-09 08:08 J -28854682.36 -28854682.16 -28854681.95 0.0287 0.0100
 Mars -83711-08-31 16:18 J -28853776.90 -28853776.82 -28853776.74 0.1772 0.1580
 Mars -83704-02-13 00:13 J -28851419.57 -28851419.49 -28851419.40 0.1768 0.1495
 Jupiter -83700-01-30 22:32 J -28849971.63 -28849971.56 -28849971.49 0.0489 0.0457
 Saturn -83699-01-08 11:30 J -28849629.15 -28849629.02 -28849628.88 0.0274 0.0207
 Saturn -83699-08-25 10:47 J -28849400.21 -28849400.05 -28849399.87 0.0272 0.0147
 Uranus -83695-04-29 12:42 J -28848057.11 -28848056.97 -28848056.82 0.0137 0.0099
 Uranus -83695-12-11 18:13 J -28847830.94 -28847830.74 -28847830.53 0.0138 0.0037
 Uranus -83694-07-25 23:59 J -28847604.70 -28847604.50 -28847604.29 0.0138 0.0027
 Uranus -83693-03-08 05:59 J -28847378.41 -28847378.25 -28847378.09 0.0139 0.0090
 Jupiter -83689-10-05 21:49 J -28845705.80 -28845705.59 -28845705.38 0.0488 0.0048
 Saturn -83684-09-19 17:16 J -28843896.00 -28843895.78 -28843895.56 0.0287 0.0033
 Jupiter -83683-08-11 04:18 J -28843570.52 -28843570.32 -28843570.13 0.0540 0.0118
 Neptune -83681-06-05 10:47 J -28842906.11 -28842906.05 -28842905.94 0.0089 0.0081
 Neptune -83680-01-16 23:01 J -28842680.68 -28842680.54 -28842680.39 0.0089 0.0064
 Neptune -83680-08-30 10:32 J -28842455.23 -28842455.06 -28842454.87 0.0089 0.0048
 Neptune -83679-04-12 22:04 J -28842229.76 -28842229.58 -28842229.36 0.0089 0.0032
 Earth -83679-08-21 03:49 J -28842099.46 -28842099.34 -28842099.22 0.2583 0.1730
 Moon -83679-08-21 09:20 J -28842099.18 -28842099.11 -28842099.05 0.2583 0.2349
 Mars -83679-08-31 05:59 J -28842089.35 -28842089.25 -28842089.14 0.1787 0.1439
 Neptune -83679-11-24 10:18 J -28842004.28 -28842004.07 -28842003.86 0.0089 0.0015
 Neptune -83678-07-07 22:04 J -28841778.80 -28841778.58 -28841778.37 0.0089 0.0002
 Neptune -83677-02-18 09:35 J -28841553.30 -28841553.10 -28841552.89 0.0089 0.0018

Jupiter -83677-06-10 21:49 J -28841439.72 -28841439.59 -28841439.44 0.0487 0.0356
 Neptune -83677-09-30 21:06 J -28841327.80 -28841327.62 -28841327.41 0.0089 0.0035
 Neptune -83676-05-14 08:52 J -28841102.29 -28841102.13 -28841101.94 0.0089 0.0051
 Neptune -83676-12-25 20:37 J -28840876.77 -28840876.64 -28840876.49 0.0089 0.0067
 Neptune -83675-08-08 07:54 J -28840651.21 -28840651.17 -28840651.07 0.0089 0.0084
 Mars -83672-02-12 01:25 J -28839732.58 -28839732.44 -28839732.30 0.1754 0.0984
 Jupiter -83671-04-15 22:32 J -28839304.69 -28839304.56 -28839304.43 0.0541 0.0398
 Earth -83671-08-18 19:25 J -28839179.77 -28839179.69 -28839179.60 0.2583 0.2184
 Moon -83671-08-18 23:16 J -28839179.67 -28839179.53 -28839179.39 0.2579 0.1439 *
 Saturn -83670-07-21 13:40 J -28838843.09 -28838842.93 -28838842.76 0.0273 0.0162
 Saturn -83669-03-06 12:56 J -28838614.11 -28838613.96 -28838613.81 0.0272 0.0189
 Uranus -83656-05-24 11:16 J -28833787.20 -28833787.03 -28833786.83 0.0141 0.0083
 Uranus -83655-01-05 23:44 J -28833560.73 -28833560.51 -28833560.28 0.0141 0.0011
 Uranus -83655-08-20 11:30 J -28833334.21 -28833334.02 -28833333.81 0.0140 0.0060
 Saturn -83654-04-01 17:44 J -28833109.98 -28833109.76 -28833109.54 0.0287 0.0007
 Uranus -83654-04-03 23:01 J -28833107.60 -28833107.54 -28833107.44 0.0140 0.0130
 Jupiter -83653-06-13 10:18 J -28832671.24 -28832671.07 -28832670.90 0.0488 0.0290
 Jupiter -83647-04-18 20:37 J -28830535.75 -28830535.64 -28830535.51 0.0539 0.0427
 Jupiter -83641-02-17 09:49 J -28828405.29 -28828405.09 -28828404.88 0.0488 0.0117
 Saturn -83640-01-30 17:16 J -28828056.97 -28828056.78 -28828056.59 0.0274 0.0116
 Saturn -83640-09-16 16:18 J -28827827.91 -28827827.82 -28827827.71 0.0272 0.0236
 Jupiter -83636-12-22 13:40 J -28826270.13 -28826269.93 -28826269.74 0.0539 0.0097
 Saturn -83625-10-12 04:04 J -28822323.54 -28822323.33 -28822323.12 0.0287 0.0078
 Mars -83613-06-27 11:44 J -28818047.16 -28818047.01 -28818046.85 0.1782 0.0912
 Uranus -83612-12-28 01:11 J -28817498.53 -28817498.45 -28817498.36 0.0137 0.0125
 Uranus -83611-08-11 06:28 J -28817272.41 -28817272.23 -28817272.04 0.0138 0.0063
 Saturn -83611-08-12 20:23 J -28817270.84 -28817270.65 -28817270.45 0.0273 0.0068
 Uranus -83610-03-25 11:59 J -28817046.21 -28817046.00 -28817045.78 0.0138 0.0002
 Uranus -83610-11-06 17:30 J -28816819.94 -28816819.77 -28816819.57 0.0138 0.0064
 Uranus -83609-06-19 23:44 J -28816593.59 -28816593.51 -28816593.42 0.0139 0.0127

Mars -83607-12-10 11:30 J -28815690.18 -28815690.02 -28815689.87 0.1759 0.0617
 Jupiter -83606-10-25 20:52 J -28815370.83 -28815370.63 -28815370.42 0.0488 0.0117
 Jupiter -83600-08-30 06:28 J -28813235.41 -28813235.23 -28813235.05 0.0540 0.0214
 Neptune -83599-07-21 18:28 J -28812909.81 -28812909.73 -28812909.60 0.0089 0.0079
 Neptune -83598-03-04 09:06 J -28812684.28 -28812684.12 -28812683.95 0.0089 0.0061
 Neptune -83598-10-15 23:16 J -28812458.71 -28812458.53 -28812458.32 0.0089 0.0044
 Neptune -83597-05-28 13:54 J -28812233.13 -28812232.92 -28812232.70 0.0089 0.0026
 Neptune -83596-01-09 04:18 J -28812007.55 -28812007.32 -28812007.09 0.0089 0.0008
 Neptune -83596-08-22 18:28 J -28811781.95 -28811781.73 -28811781.50 0.0089 0.0009
 Neptune -83595-04-05 08:52 J -28811556.34 -28811556.13 -28811555.91 0.0089 0.0027
 Saturn -83595-04-24 05:16 J -28811537.47 -28811537.28 -28811537.08 0.0287 0.0119
 Neptune -83595-11-16 22:47 J -28811330.73 -28811330.55 -28811330.33 0.0089 0.0045
 Neptune -83594-06-30 13:25 J -28811105.09 -28811104.94 -28811104.77 0.0089 0.0062
 Jupiter -83594-06-30 21:20 J -28811104.77 -28811104.61 -28811104.43 0.0487 0.0285 *
 Neptune -83593-02-11 03:20 J -28810879.43 -28810879.36 -28810879.24 0.0089 0.0080
 Jupiter -83588-05-04 22:47 J -28808969.71 -28808969.55 -28808969.39 0.0540 0.0313
 Saturn -83581-02-22 23:59 J -28806484.70 -28806484.50 -28806484.29 0.0273 0.0022
 Pluto -83576-04-15 05:01 J -28804606.46 -28804606.29 -28804606.08 0.0063 0.0034
 Pluto -83576-11-26 10:04 J -28804381.31 -28804381.08 -28804380.86 0.0064 0.0004
 Pluto -83575-07-09 14:23 J -28804156.10 -28804155.90 -28804155.69 0.0064 0.0027
 Pluto -83574-02-19 18:56 J -28803930.79 -28803930.71 -28803930.61 0.0064 0.0058
 Earth -83573-02-20 22:18 J -28803564.69 -28803564.57 -28803564.45 0.2754 0.1781
 Moon -83573-02-21 03:35 J -28803564.45 -28803564.35 -28803564.26 0.2751 0.2209 *
 Uranus -83572-01-21 19:54 J -28803228.78 -28803228.67 -28803228.52 0.0141 0.0114
 Uranus -83572-09-05 08:37 J -28803002.35 -28803002.14 -28803001.92 0.0141 0.0041
 Uranus -83571-04-19 20:37 J -28802775.85 -28802775.64 -28802775.41 0.0141 0.0031
 Uranus -83571-12-02 08:23 J -28802549.29 -28802549.15 -28802548.98 0.0140 0.0101
 Jupiter -83570-07-03 08:37 J -28802336.28 -28802336.14 -28802335.99 0.0489 0.0355
 Saturn -83566-03-19 15:06 J -28800980.97 -28800980.87 -28800980.75 0.0286 0.0247
 Saturn -83566-11-04 16:47 J -28800750.95 -28800750.80 -28800750.64 0.0288 0.0195

Earth	-83565-02-18 13:25 J	-28800644.94	-28800644.94	-28800644.93	0.2753	0.2746
Moon	-83565-02-18 15:20 J	-28800644.88	-28800644.86	-28800644.84	0.2746	0.2711
Jupiter	-83564-05-07 18:28 J	-28800200.80	-28800200.73	-28800200.65	0.0539	0.0493
Jupiter	-83558-03-08 08:23 J	-28798070.36	-28798070.15	-28798069.94	0.0488	0.0052
Jupiter	-83552-01-10 12:42 J	-28795935.16	-28795934.97	-28795934.77	0.0540	0.0023
Saturn	-83552-09-04 04:18 J	-28795698.52	-28795698.32	-28795698.11	0.0273	0.0032
Mars	-83547-04-24 17:16 J	-28794004.95	-28794004.78	-28794004.60	0.1778	0.0385
Jupiter	-83547-11-11 07:54 J	-28793804.24	-28793804.17	-28793804.10	0.0487	0.0458
Jupiter	-83541-09-15 06:56 J	-28791669.23	-28791669.21	-28791669.19	0.0540	0.0537
Mars	-83541-10-06 20:52 J	-28791647.80	-28791647.63	-28791647.46	0.1763	0.0227
Saturn	-83537-09-28 17:59 J	-28790194.90	-28790194.75	-28790194.60	0.0286	0.0201
Saturn	-83536-05-16 19:25 J	-28789964.80	-28789964.69	-28789964.57	0.0287	0.0241
Uranus	-83527-04-10 17:16 J	-28786713.93	-28786713.78	-28786713.61	0.0137	0.0091
Uranus	-83527-11-22 23:01 J	-28786487.75	-28786487.54	-28786487.33	0.0138	0.0029
Uranus	-83526-07-07 04:32 J	-28786261.51	-28786261.31	-28786261.10	0.0138	0.0034
Uranus	-83525-02-18 10:04 J	-28786035.21	-28786035.08	-28786034.92	0.0139	0.0098
Jupiter	-83523-11-13 19:25 J	-28785035.89	-28785035.69	-28785035.50	0.0489	0.0182
Saturn	-83522-03-17 07:40 J	-28784912.37	-28784912.18	-28784911.98	0.0273	0.0077
Neptune	-83517-09-06 20:37 J	-28782911.64	-28782911.64	-28782911.62	0.0089	0.0088
Jupiter	-83517-09-18 03:49 J	-28782900.51	-28782900.34	-28782900.17	0.0539	0.0278
Neptune	-83516-04-20 08:23 J	-28782686.26	-28782686.15	-28782686.02	0.0089	0.0072
Neptune	-83516-12-01 20:08 J	-28782460.81	-28782460.66	-28782460.48	0.0089	0.0056
Neptune	-83515-07-15 08:08 J	-28782235.35	-28782235.16	-28782234.96	0.0089	0.0039
Neptune	-83514-02-25 19:54 J	-28782009.87	-28782009.67	-28782009.46	0.0089	0.0023
Neptune	-83514-10-09 07:40 J	-28781784.39	-28781784.18	-28781783.96	0.0089	0.0006
Neptune	-83513-05-21 19:25 J	-28781558.90	-28781558.69	-28781558.47	0.0089	0.0011
Neptune	-83512-01-02 07:11 J	-28781333.40	-28781333.20	-28781332.99	0.0089	0.0027
Neptune	-83512-08-15 18:28 J	-28781107.90	-28781107.73	-28781107.53	0.0089	0.0044
Neptune	-83511-03-29 06:13 J	-28780882.38	-28780882.24	-28780882.07	0.0089	0.0060
Jupiter	-83511-07-19 18:42 J	-28780769.90	-28780769.72	-28780769.53	0.0488	0.0227

Neptune -83511-11-09 18:28 J -28780656.84 -28780656.73 -28780656.62 0.0089 0.0076
 Saturn -83507-04-11 05:59 J -28779408.45 -28779408.25 -28779408.05 0.0286 0.0123
 Jupiter -83505-05-23 19:25 J -28778634.86 -28778634.69 -28778634.52 0.0540 0.0254
 Saturn -83493-02-10 13:25 J -28774355.05 -28774354.94 -28774354.81 0.0274 0.0221
 Saturn -83493-09-26 13:25 J -28774126.12 -28774125.94 -28774125.76 0.0272 0.0134
 Uranus -83488-05-05 17:16 J -28772443.96 -28772443.78 -28772443.57 0.0141 0.0071
 Uranus -83488-12-18 05:59 J -28772217.48 -28772217.25 -28772217.03 0.0141 0.0002
 Pluto -83487-03-10 13:54 J -28772134.95 -28772134.92 -28772134.87 0.0082 0.0080
 Jupiter -83487-07-22 05:59 J -28772001.35 -28772001.25 -28772001.13 0.0488 0.0414
 Uranus -83487-08-01 17:59 J -28771990.94 -28771990.75 -28771990.56 0.0140 0.0072
 Pluto -83487-10-22 00:28 J -28771909.69 -28771909.48 -28771909.27 0.0081 0.0018
 Pluto -83486-06-04 10:18 J -28771684.24 -28771684.07 -28771683.88 0.0081 0.0042
 Mars -83481-02-19 23:59 J -28769962.68 -28769962.50 -28769962.32 0.1773 0.0109
 Saturn -83478-10-22 09:35 J -28768622.31 -28768622.10 -28768621.89 0.0286 0.0074
 Jupiter -83475-03-27 05:59 J -28767735.46 -28767735.25 -28767735.03 0.0488 0.0013
 Mars -83475-08-04 06:13 J -28767605.40 -28767605.24 -28767605.07 0.1767 0.0176
 Jupiter -83469-01-30 12:13 J -28765600.19 -28765599.99 -28765599.79 0.0539 0.0057
 Saturn -83464-08-22 16:32 J -28763568.96 -28763568.81 -28763568.64 0.0274 0.0176
 Jupiter -83464-11-30 04:47 J -28763469.41 -28763469.30 -28763469.18 0.0488 0.0402
 Saturn -83463-04-08 16:32 J -28763339.96 -28763339.81 -28763339.65 0.0273 0.0180
 Jupiter -83458-10-05 04:32 J -28761334.40 -28761334.31 -28761334.22 0.0540 0.0470
 Saturn -83448-05-03 22:32 J -28757835.78 -28757835.56 -28757835.34 0.0287 0.0009
 Uranus -83444-12-09 05:01 J -28756155.39 -28756155.29 -28756155.18 0.0137 0.0118
 Uranus -83443-07-23 10:18 J -28755929.26 -28755929.07 -28755928.88 0.0138 0.0057
 Uranus -83442-03-06 15:49 J -28755703.05 -28755702.84 -28755702.63 0.0138 0.0006
 Uranus -83442-10-18 21:06 J -28755476.79 -28755476.62 -28755476.43 0.0138 0.0069
 Uranus -83441-06-01 03:06 J -28755250.43 -28755250.37 -28755250.30 0.0139 0.0132
 Jupiter -83440-12-02 16:32 J -28754700.99 -28754700.81 -28754700.62 0.0488 0.0239
 Moon -83436-08-21 00:13 J -28753343.64 -28753343.49 -28753343.34 0.2582 0.1052
 Earth -83436-08-21 05:30 J -28753343.39 -28753343.27 -28753343.16 0.2584 0.1864 *

Neptune -83435-10-23 00:42 J -28752915.47 -28752915.47 -28752915.40 0.0089 0.0088
 Saturn -83434-03-04 23:44 J -28752782.70 -28752782.51 -28752782.32 0.0273 0.0114
 Neptune -83434-06-05 15:20 J -28752689.98 -28752689.86 -28752689.70 0.0089 0.0070
 Jupiter -83434-10-08 00:13 J -28752565.64 -28752565.49 -28752565.33 0.0539 0.0338
 Saturn -83434-10-19 23:16 J -28752553.62 -28752553.53 -28752553.43 0.0272 0.0240
 Neptune -83433-01-17 05:30 J -28752464.43 -28752464.27 -28752464.07 0.0089 0.0053
 Neptune -83433-08-29 19:54 J -28752238.87 -28752238.67 -28752238.45 0.0089 0.0035
 Neptune -83432-04-12 10:32 J -28752013.28 -28752013.06 -28752012.84 0.0089 0.0017
 Neptune -83432-11-24 00:42 J -28751787.69 -28751787.47 -28751787.24 0.0089 0.0001
 Neptune -83431-07-07 14:52 J -28751562.09 -28751561.88 -28751561.65 0.0089 0.0018
 Neptune -83430-02-18 05:01 J -28751336.49 -28751336.29 -28751336.07 0.0089 0.0036
 Neptune -83430-10-01 19:11 J -28751110.86 -28751110.70 -28751110.50 0.0089 0.0054
 Neptune -83429-05-14 09:49 J -28750885.21 -28750885.09 -28750884.95 0.0089 0.0071
 Neptune -83429-12-26 00:13 J -28750659.49 -28750659.49 -28750659.47 0.0089 0.0088
 Jupiter -83428-08-07 15:35 J -28750435.04 -28750434.85 -28750434.65 0.0487 0.0170
 Earth -83428-08-18 20:52 J -28750423.72 -28750423.63 -28750423.53 0.2584 0.2080
 Jupiter -83422-06-12 18:42 J -28748299.91 -28748299.72 -28748299.53 0.0540 0.0177
 Saturn -83419-11-14 02:52 J -28747049.59 -28747049.38 -28747049.16 0.0287 0.0060
 Mars -83416-12-17 05:44 J -28745920.43 -28745920.26 -28745920.09 0.1768 0.0616
 Mars -83409-05-31 15:35 J -28743563.00 -28743562.85 -28743562.69 0.1772 0.0572
 Saturn -83405-09-14 02:37 J -28741996.59 -28741996.39 -28741996.19 0.0274 0.0069
 Uranus -83404-01-03 01:54 J -28741885.58 -28741885.42 -28741885.27 0.0142 0.0102
 Jupiter -83404-08-10 02:37 J -28741666.44 -28741666.39 -28741666.33 0.0489 0.0468
 Uranus -83404-08-17 14:08 J -28741659.12 -28741658.91 -28741658.68 0.0141 0.0030
 Uranus -83403-04-01 02:23 J -28741432.61 -28741432.40 -28741432.18 0.0141 0.0042
 Uranus -83403-11-13 14:08 J -28741206.03 -28741205.91 -28741205.76 0.0140 0.0112
 Jupiter -83392-04-15 02:08 J -28737400.62 -28737400.41 -28737400.21 0.0488 0.0060
 Saturn -83389-05-26 15:49 J -28736263.03 -28736262.84 -28736262.65 0.0287 0.0142
 Jupiter -83386-02-18 06:42 J -28735265.41 -28735265.22 -28735265.02 0.0539 0.0104
 Jupiter -83381-12-19 02:08 J -28733134.56 -28733134.41 -28733134.26 0.0487 0.0345

Saturn -83375-03-27 10:18 J -28731210.28 -28731210.07 -28731209.86 0.0273 0.0004
 Jupiter -83375-10-23 23:44 J -28730999.63 -28730999.51 -28730999.39 0.0540 0.0419
 Saturn -83360-04-20 20:23 J -28725706.76 -28725706.65 -28725706.54 0.0286 0.0243
 Saturn -83360-12-06 21:20 J -28725476.76 -28725476.61 -28725476.45 0.0287 0.0198
 Uranus -83359-03-22 20:52 J -28725370.78 -28725370.63 -28725370.45 0.0137 0.0085
 Uranus -83359-11-04 02:23 J -28725144.61 -28725144.40 -28725144.19 0.0138 0.0023
 Uranus -83358-06-18 07:40 J -28724918.37 -28724918.18 -28724917.97 0.0138 0.0039
 Uranus -83357-01-30 13:11 J -28724692.08 -28724691.95 -28724691.80 0.0138 0.0103
 Jupiter -83357-12-21 12:56 J -28724366.12 -28724365.96 -28724365.78 0.0488 0.0295
 Neptune -83352-07-22 17:01 J -28722691.86 -28722691.79 -28722691.69 0.0089 0.0081
 Neptune -83351-03-05 04:47 J -28722466.43 -28722466.30 -28722466.14 0.0089 0.0064
 Neptune -83351-10-16 16:47 J -28722240.96 -28722240.80 -28722240.61 0.0089 0.0048
 Jupiter -83351-10-26 23:30 J -28722230.64 -28722230.52 -28722230.39 0.0539 0.0412
 Neptune -83350-05-30 05:01 J -28722015.49 -28722015.29 -28722015.09 0.0089 0.0031
 Mars -83350-10-14 12:13 J -28721878.13 -28721877.99 -28721877.85 0.1764 0.1101
 Neptune -83349-01-10 16:32 J -28721790.01 -28721789.81 -28721789.59 0.0089 0.0015
 Neptune -83349-08-23 04:32 J -28721564.53 -28721564.31 -28721564.10 0.0089 0.0002
 Neptune -83348-04-05 16:04 J -28721339.03 -28721338.83 -28721338.61 0.0089 0.0019
 Neptune -83348-11-17 03:49 J -28721113.52 -28721113.34 -28721113.13 0.0089 0.0036
 Neptune -83347-06-30 15:35 J -28720888.01 -28720887.85 -28720887.67 0.0089 0.0052
 Neptune -83346-02-11 03:06 J -28720662.49 -28720662.37 -28720662.22 0.0089 0.0069
 Neptune -83346-09-24 14:52 J -28720436.92 -28720436.88 -28720436.80 0.0089 0.0085
 Saturn -83346-10-07 12:56 J -28720424.17 -28720423.96 -28720423.76 0.0274 0.0040
 Jupiter -83345-08-26 11:30 J -28720100.22 -28720100.02 -28720099.81 0.0488 0.0120
 Mars -83343-03-29 00:56 J -28719520.60 -28719520.46 -28719520.33 0.1776 0.0989
 Jupiter -83339-07-01 16:18 J -28717965.01 -28717964.82 -28717964.63 0.0539 0.0111
 Pluto -83331-10-01 13:54 J -28714951.01 -28714950.92 -28714950.78 0.0063 0.0055
 Saturn -83331-11-01 07:40 J -28714920.35 -28714920.18 -28714919.99 0.0286 0.0165
 Moon -83330-02-20 17:01 J -28714808.93 -28714808.79 -28714808.65 0.2754 0.1068
 Earth -83330-02-20 22:47 J -28714808.68 -28714808.55 -28714808.42 0.2753 0.1419 *

Pluto -83330-05-14 18:42 J -28714725.91 -28714725.72 -28714725.49 0.0063 0.0025
 Saturn -83330-06-19 09:20 J -28714690.15 -28714690.11 -28714690.05 0.0287 0.0278
 Pluto -83330-12-25 23:30 J -28714500.74 -28714500.52 -28714500.29 0.0064 0.0007
 Pluto -83329-08-07 04:04 J -28714275.50 -28714275.33 -28714275.14 0.0064 0.0037
 Uranus -83321-09-02 08:37 J -28711327.19 -28711327.14 -28711327.06 0.0142 0.0135
 Uranus -83320-04-16 21:20 J -28711100.80 -28711100.61 -28711100.40 0.0142 0.0063
 Uranus -83320-11-29 10:04 J -28710874.30 -28710874.08 -28710873.85 0.0141 0.0010
 Uranus -83319-07-13 22:18 J -28710647.75 -28710647.57 -28710647.38 0.0141 0.0081
 Saturn -83317-09-01 20:23 J -28709866.71 -28709866.65 -28709866.56 0.0274 0.0254
 Saturn -83316-04-18 20:37 J -28709637.82 -28709637.64 -28709637.44 0.0273 0.0105
 Mars -83311-03-28 03:06 J -28707833.45 -28707833.37 -28707833.29 0.1762 0.1559
 Jupiter -83309-05-03 22:47 J -28707065.75 -28707065.55 -28707065.34 0.0488 0.0115
 Jupiter -83303-03-09 05:01 J -28704930.47 -28704930.29 -28704930.10 0.0540 0.0175
 Saturn -83301-05-13 14:08 J -28704134.11 -28704133.91 -28704133.70 0.0286 0.0108
 Jupiter -83297-01-07 22:32 J -28702799.72 -28702799.56 -28702799.39 0.0487 0.0290
 Jupiter -83292-11-11 23:30 J -28700664.68 -28700664.52 -28700664.37 0.0540 0.0341
 Saturn -83287-03-14 22:47 J -28699080.67 -28699080.55 -28699080.41 0.0274 0.0210
 Saturn -83287-10-29 22:47 J -28698851.71 -28698851.55 -28698851.37 0.0273 0.0148
 Mars -83284-08-10 18:28 J -28697835.80 -28697835.73 -28697835.65 0.1759 0.1585
 Mars -83277-01-24 10:32 J -28695478.17 -28695478.06 -28695477.96 0.1780 0.1391
 Uranus -83276-11-20 09:49 J -28694812.21 -28694812.09 -28694811.96 0.0137 0.0110
 Uranus -83275-07-04 14:52 J -28694586.07 -28694585.88 -28694585.68 0.0137 0.0049
 Uranus -83274-02-15 20:08 J -28694359.87 -28694359.66 -28694359.45 0.0138 0.0013
 Uranus -83274-09-30 01:25 J -28694133.61 -28694133.44 -28694133.26 0.0138 0.0075
 Jupiter -83273-01-10 09:06 J -28694031.26 -28694031.12 -28694030.96 0.0488 0.0345
 Saturn -83272-11-24 00:28 J -28693347.70 -28693347.48 -28693347.26 0.0286 0.0034
 Neptune -83270-09-06 21:49 J -28692695.68 -28692695.59 -28692695.48 0.0089 0.0079
 Neptune -83269-04-19 12:28 J -28692470.14 -28692469.98 -28692469.82 0.0089 0.0061
 Neptune -83269-12-01 02:23 J -28692244.59 -28692244.40 -28692244.19 0.0089 0.0044
 Neptune -83268-07-14 16:47 J -28692019.02 -28692018.80 -28692018.58 0.0089 0.0026

Jupiter -83268-11-14 17:44 J -28691895.86 -28691895.76 -28691895.66 0.0539 0.0457
 Neptune -83267-02-25 06:56 J -28691793.43 -28691793.21 -28691792.98 0.0089 0.0008
 Neptune -83267-10-08 21:06 J -28691567.84 -28691567.62 -28691567.39 0.0089 0.0010
 Neptune -83266-05-22 11:30 J -28691342.23 -28691342.02 -28691341.80 0.0089 0.0027
 Neptune -83265-01-03 01:40 J -28691116.62 -28691116.43 -28691116.22 0.0089 0.0045
 Neptune -83265-08-15 15:35 J -28690890.99 -28690890.85 -28690890.67 0.0089 0.0063
 Neptune -83264-03-29 05:59 J -28690665.33 -28690665.25 -28690665.14 0.0089 0.0080
 Jupiter -83262-09-15 09:20 J -28689765.32 -28689765.11 -28689764.90 0.0488 0.0059
 Saturn -83258-09-25 07:11 J -28688294.37 -28688294.20 -28688294.02 0.0274 0.0144
 Saturn -83257-05-11 06:42 J -28688065.34 -28688065.22 -28688065.08 0.0272 0.0213
 Jupiter -83256-07-20 10:32 J -28687630.25 -28687630.06 -28687629.86 0.0540 0.0065
 Mars -83252-08-10 06:56 J -28686148.32 -28686148.21 -28686148.09 0.1775 0.1358
 Jupiter -83250-05-21 08:52 J -28685499.19 -28685499.13 -28685499.07 0.0487 0.0465
 Mars -83245-01-23 12:42 J -28683791.09 -28683790.97 -28683790.85 0.1766 0.1178
 Saturn -83242-06-06 07:11 J -28682561.41 -28682561.20 -28682560.98 0.0287 0.0025
 Pluto -83241-04-08 07:25 J -28682254.34 -28682254.19 -28682254.01 0.0081 0.0053
 Pluto -83241-11-19 17:59 J -28682028.96 -28682028.75 -28682028.53 0.0081 0.0008
 Pluto -83240-07-03 03:49 J -28681803.45 -28681803.34 -28681803.22 0.0081 0.0068
 Uranus -83237-12-15 04:47 J -28680542.45 -28680542.30 -28680542.12 0.0142 0.0095
 Uranus -83236-07-29 17:44 J -28680315.98 -28680315.76 -28680315.53 0.0141 0.0022
 Uranus -83235-03-13 05:59 J -28680089.45 -28680089.25 -28680089.03 0.0141 0.0050
 Uranus -83235-10-25 17:59 J -28679862.85 -28679862.75 -28679862.62 0.0141 0.0121
 Saturn -83228-04-06 08:37 J -28677508.33 -28677508.14 -28677507.95 0.0274 0.0103
 Saturn -83228-11-21 08:23 J -28677279.22 -28677279.15 -28677279.07 0.0273 0.0253
 Jupiter -83226-05-23 19:11 J -28676730.90 -28676730.70 -28676730.50 0.0488 0.0168
 Jupiter -83220-03-28 03:49 J -28674595.51 -28674595.34 -28674595.16 0.0539 0.0248
 Jupiter -83214-01-26 19:11 J -28672464.88 -28672464.70 -28672464.51 0.0488 0.0237
 Saturn -83213-12-16 15:35 J -28671775.05 -28671774.85 -28671774.64 0.0287 0.0093
 Jupiter -83209-11-30 17:59 J -28670329.92 -28670329.75 -28670329.59 0.0540 0.0293
 Saturn -83199-10-17 16:32 J -28666722.01 -28666721.81 -28666721.61 0.0273 0.0039

Earth -83193-08-21 06:28 J -28664587.34 -28664587.23 -28664587.12 0.2584 0.1915
 Uranus -83192-07-20 22:32 J -28664253.58 -28664253.56 -28664253.52 0.0137 0.0135
 Uranus -83191-03-04 03:20 J -28664027.53 -28664027.36 -28664027.17 0.0137 0.0075
 Uranus -83191-10-16 08:37 J -28663801.35 -28663801.14 -28663800.93 0.0138 0.0013
 Jupiter -83190-01-29 07:11 J -28663696.31 -28663696.20 -28663696.08 0.0488 0.0407
 Uranus -83190-05-30 13:40 J -28663575.11 -28663574.93 -28663574.72 0.0138 0.0050
 Uranus -83189-01-11 19:25 J -28663348.80 -28663348.69 -28663348.56 0.0138 0.0113
 Neptune -83187-06-06 13:40 J -28662472.04 -28662471.93 -28662471.80 0.0089 0.0073
 Neptune -83186-01-18 01:11 J -28662246.60 -28662246.45 -28662246.27 0.0089 0.0057
 Mars -83186-06-07 13:25 J -28662106.10 -28662105.94 -28662105.79 0.1770 0.0857
 Neptune -83186-08-31 13:11 J -28662021.13 -28662020.95 -28662020.75 0.0089 0.0040
 Neptune -83185-04-13 00:56 J -28661795.66 -28661795.46 -28661795.25 0.0089 0.0023
 Earth -83185-08-18 22:04 J -28661667.68 -28661667.58 -28661667.48 0.2585 0.2016
 Moon -83185-08-19 03:35 J -28661667.48 -28661667.35 -28661667.22 0.2584 0.1496 *
 Neptune -83185-11-24 12:56 J -28661570.17 -28661569.96 -28661569.74 0.0089 0.0007
 Jupiter -83185-12-03 16:32 J -28661560.84 -28661560.81 -28661560.78 0.0539 0.0531
 Neptune -83184-07-08 00:42 J -28661344.68 -28661344.47 -28661344.25 0.0089 0.0010
 Neptune -83183-02-18 12:28 J -28661119.18 -28661118.98 -28661118.77 0.0089 0.0027
 Saturn -83183-06-28 22:04 J -28660988.76 -28660988.58 -28660988.39 0.0287 0.0151
 Neptune -83183-10-01 23:59 J -28660893.67 -28660893.50 -28660893.30 0.0089 0.0044
 Neptune -83182-05-15 11:44 J -28660668.15 -28660668.01 -28660667.84 0.0089 0.0060
 Neptune -83182-12-26 23:16 J -28660442.61 -28660442.53 -28660442.40 0.0089 0.0077
 Mars -83180-11-19 22:18 J -28659748.72 -28659748.57 -28659748.42 0.1770 0.0795
 Jupiter -83179-10-04 06:56 J -28659430.42 -28659430.21 -28659430.00 0.0488 0.0006
 Jupiter -83173-08-08 11:16 J -28657295.23 -28657295.03 -28657294.83 0.0540 0.0020
 Saturn -83169-04-28 17:30 J -28655935.97 -28655935.77 -28655935.56 0.0273 0.0006
 Jupiter -83167-06-09 05:59 J -28655164.36 -28655164.25 -28655164.14 0.0487 0.0408
 Jupiter -83161-04-13 04:18 J -28653029.38 -28653029.32 -28653029.24 0.0540 0.0501
 Saturn -83154-05-24 03:35 J -28650432.48 -28650432.35 -28650432.23 0.0286 0.0230
 Saturn -83153-01-09 04:47 J -28650202.44 -28650202.30 -28650202.15 0.0287 0.0213

Uranus	-83153-08-14 12:42 J	-28649984.06	-28649983.97	-28649983.86	0.0142	0.0126
Uranus	-83152-03-29 01:25 J	-28649757.64	-28649757.44	-28649757.22	0.0142	0.0054
Uranus	-83152-11-10 14:08 J	-28649531.13	-28649530.91	-28649530.68	0.0141	0.0019
Uranus	-83151-06-25 02:37 J	-28649304.56	-28649304.39	-28649304.21	0.0141	0.0090
Jupiter	-83143-06-11 18:56 J	-28646395.89	-28646395.71	-28646395.53	0.0488	0.0239
Saturn	-83140-11-09 00:42 J	-28645149.66	-28645149.47	-28645149.26	0.0273	0.0063
Jupiter	-83137-04-15 23:01 J	-28644260.70	-28644260.54	-28644260.38	0.0539	0.0300
Jupiter	-83131-02-14 18:13 J	-28642129.93	-28642129.74	-28642129.54	0.0487	0.0168
Jupiter	-83126-12-20 17:01 J	-28639994.97	-28639994.79	-28639994.61	0.0540	0.0216
Saturn	-83125-12-03 09:35 J	-28639646.26	-28639646.10	-28639645.92	0.0286	0.0174
Saturn	-83124-07-21 10:47 J	-28639416.10	-28639416.05	-28639415.96	0.0287	0.0272
Mars	-83120-04-03 19:25 J	-28638063.86	-28638063.69	-28638063.51	0.1765	0.0358
Mars	-83114-09-17 07:25 J	-28635706.35	-28635706.19	-28635706.02	0.1775	0.0393
Saturn	-83111-10-05 01:11 J	-28634592.50	-28634592.45	-28634592.37	0.0274	0.0258
Saturn	-83110-05-22 01:11 J	-28634363.63	-28634363.45	-28634363.25	0.0273	0.0101
Uranus	-83108-11-01 17:01 J	-28633468.93	-28633468.79	-28633468.64	0.0137	0.0098
Jupiter	-83107-02-17 05:16 J	-28633361.33	-28633361.28	-28633361.22	0.0488	0.0470
Uranus	-83107-06-15 22:04 J	-28633242.78	-28633242.58	-28633242.37	0.0137	0.0037
Uranus	-83106-01-28 03:20 J	-28633016.57	-28633016.36	-28633016.15	0.0138	0.0025
Uranus	-83106-09-11 08:37 J	-28632790.30	-28632790.14	-28632789.97	0.0138	0.0087
Neptune	-83106-12-09 04:04 J	-28632701.35	-28632701.33	-28632701.31	0.0089	0.0088
Neptune	-83105-07-21 17:44 J	-28632475.87	-28632475.76	-28632475.60	0.0089	0.0071
Neptune	-83104-03-04 08:08 J	-28632250.33	-28632250.16	-28632249.96	0.0089	0.0053
Neptune	-83104-10-15 22:18 J	-28632024.76	-28632024.57	-28632024.34	0.0089	0.0036
Neptune	-83103-05-29 12:56 J	-28631799.18	-28631798.96	-28631798.73	0.0089	0.0018
Neptune	-83102-01-10 03:20 J	-28631573.59	-28631573.36	-28631573.13	0.0089	0.0001
Neptune	-83102-08-23 17:16 J	-28631347.99	-28631347.78	-28631347.55	0.0089	0.0018
Neptune	-83101-04-05 07:25 J	-28631122.39	-28631122.19	-28631121.97	0.0089	0.0036
Neptune	-83101-11-16 21:20 J	-28630896.77	-28630896.61	-28630896.40	0.0089	0.0054
Neptune	-83100-06-30 11:59 J	-28630671.12	-28630671.00	-28630670.86	0.0089	0.0071

Neptune -83099-02-11 02:08 J -28630445.41 -28630445.41 -28630445.39 0.0089 0.0089
 Jupiter -83096-10-23 05:44 J -28629095.47 -28629095.26 -28629095.05 0.0488 0.0067
 Saturn -83095-06-15 13:54 J -28628860.11 -28628859.92 -28628859.72 0.0286 0.0121
 Jupiter -83090-08-28 07:40 J -28626960.37 -28626960.18 -28626959.98 0.0540 0.0082
 Earth -83087-02-20 23:30 J -28626052.66 -28626052.52 -28626052.38 0.2752 0.1086
 Moon -83087-02-21 04:47 J -28626052.42 -28626052.30 -28626052.17 0.2755 0.1506 *
 Pluto -83085-10-30 02:08 J -28625070.53 -28625070.41 -28625070.23 0.0063 0.0047
 Pluto -83084-06-12 07:11 J -28624845.41 -28624845.20 -28624844.97 0.0064 0.0017
 Jupiter -83084-06-28 06:28 J -28624829.37 -28624829.23 -28624829.07 0.0487 0.0332
 Pluto -83083-01-23 11:44 J -28624620.22 -28624620.01 -28624619.78 0.0064 0.0014
 Pluto -83083-09-05 16:04 J -28624394.97 -28624394.83 -28624394.64 0.0064 0.0045
 Saturn -83081-04-16 08:08 J -28623806.29 -28623806.16 -28623806.01 0.0274 0.0199
 Saturn -83081-12-01 07:54 J -28623577.33 -28623577.17 -28623577.00 0.0273 0.0160
 Moon -83079-02-18 19:40 J -28623132.75 -28623132.68 -28623132.61 0.2748 0.2444
 Jupiter -83078-05-03 00:13 J -28622694.59 -28622694.49 -28622694.37 0.0540 0.0443
 Uranus -83069-11-26 10:47 J -28619199.22 -28619199.05 -28619198.86 0.0142 0.0083
 Uranus -83068-07-10 23:44 J -28618972.73 -28618972.51 -28618972.28 0.0141 0.0010
 Uranus -83067-02-22 11:59 J -28618746.20 -28618746.00 -28618745.79 0.0141 0.0061
 Uranus -83067-10-06 23:59 J -28618519.57 -28618519.50 -28618519.42 0.0141 0.0132
 Saturn -83066-12-26 20:08 J -28618073.87 -28618073.66 -28618073.44 0.0286 0.0064
 Jupiter -83060-06-30 18:13 J -28616060.90 -28616060.74 -28616060.58 0.0488 0.0309
 Mars -83054-01-30 02:37 J -28614021.57 -28614021.39 -28614021.21 0.1761 0.0108
 Jupiter -83054-05-06 01:25 J -28613925.58 -28613925.44 -28613925.31 0.0540 0.0395
 Saturn -83052-10-27 08:23 J -28613020.31 -28613020.15 -28613019.98 0.0274 0.0161
 Saturn -83051-06-13 07:54 J -28612791.31 -28612791.17 -28612791.02 0.0272 0.0196
 Jupiter -83048-03-05 17:16 J -28611794.98 -28611794.78 -28611794.57 0.0487 0.0100
 Mars -83048-07-14 17:01 J -28611663.96 -28611663.79 -28611663.62 0.1779 0.0028
 Jupiter -83042-01-08 19:25 J -28609659.88 -28609659.69 -28609659.50 0.0540 0.0120
 Saturn -83036-07-07 23:01 J -28607287.76 -28607287.54 -28607287.32 0.0286 0.0017
 Uranus -83024-07-02 05:44 J -28602910.34 -28602910.26 -28602910.16 0.0137 0.0123

Uranus	-83023-02-13 10:32 J	-28602684.24	-28602684.06	-28602683.86	0.0137	0.0062
Neptune	-83023-09-07 21:20 J	-28602477.66	-28602477.61	-28602477.51	0.0089	0.0083
Uranus	-83023-09-27 15:49 J	-28602458.05	-28602457.84	-28602457.63	0.0137	0.0001
Neptune	-83022-04-21 09:35 J	-28602252.23	-28602252.10	-28602251.95	0.0089	0.0066
Saturn	-83022-05-09 14:08 J	-28602234.09	-28602233.91	-28602233.71	0.0274	0.0106
Uranus	-83022-05-11 20:52 J	-28602231.81	-28602231.63	-28602231.43	0.0138	0.0062
Neptune	-83022-12-02 21:06 J	-28602026.77	-28602026.62	-28602026.42	0.0089	0.0050
Uranus	-83022-12-24 02:23 J	-28602005.47	-28602005.40	-28602005.29	0.0138	0.0125
Saturn	-83022-12-24 13:40 J	-28602004.99	-28602004.93	-28602004.84	0.0272	0.0252
Neptune	-83021-07-15 09:06 J	-28601801.30	-28601801.12	-28601800.91	0.0089	0.0033
Neptune	-83020-02-25 21:06 J	-28601575.82	-28601575.62	-28601575.40	0.0089	0.0016
Neptune	-83020-10-09 09:06 J	-28601350.33	-28601350.12	-28601349.91	0.0089	0.0001
Neptune	-83019-05-22 20:52 J	-28601124.84	-28601124.63	-28601124.42	0.0089	0.0018
Neptune	-83018-01-03 08:23 J	-28600899.33	-28600899.15	-28600898.94	0.0089	0.0035
Neptune	-83018-08-16 20:23 J	-28600673.82	-28600673.65	-28600673.47	0.0089	0.0051
Neptune	-83017-03-29 07:54 J	-28600448.29	-28600448.17	-28600448.02	0.0089	0.0068
Neptune	-83017-11-09 19:40 J	-28600222.72	-28600222.68	-28600222.59	0.0089	0.0085
Jupiter	-83013-11-11 06:28 J	-28598760.43	-28598760.23	-28598760.02	0.0488	0.0146
Jupiter	-83007-09-16 08:08 J	-28596625.35	-28596625.16	-28596624.97	0.0540	0.0166
Saturn	-83006-01-18 04:47 J	-28596501.51	-28596501.30	-28596501.08	0.0287	0.0040
Jupiter	-83001-07-17 06:42 J	-28594494.39	-28594494.22	-28594494.04	0.0487	0.0257

83RD MILLENNIUM BCE

This is a list of transits of Venus in the 83rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
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TRANSIT

TIME

Pluto	-82995-05-07 22:32 J	-28592373.75	-28592373.56	-28592373.36	0.0081	0.0035
Jupiter	-82995-05-22 03:06 J	-28592359.52	-28592359.37	-28592359.22	0.0540	0.0345
Pluto	-82995-12-19 08:37 J	-28592148.34	-28592148.14	-28592147.93	0.0081	0.0025
Saturn	-82993-11-18 14:37 J	-28591448.09	-28591447.89	-28591447.69	0.0273	0.0068
Mars	-82989-11-26 08:52 J	-28589979.30	-28589979.13	-28589978.96	0.1756	0.0593
Uranus	-82985-07-26 19:11 J	-28588640.83	-28588640.70	-28588640.56	0.0142	0.0114
Uranus	-82984-03-10 07:54 J	-28588414.38	-28588414.17	-28588413.95	0.0142	0.0041
Uranus	-82984-10-22 20:37 J	-28588187.86	-28588187.64	-28588187.42	0.0141	0.0031
Uranus	-82983-06-06 08:37 J	-28587961.28	-28587961.14	-28587960.97	0.0141	0.0103
Mars	-82982-05-12 01:54 J	-28587621.58	-28587621.42	-28587621.25	0.1784	0.0439
Jupiter	-82977-07-19 18:56 J	-28585725.83	-28585725.71	-28585725.58	0.0488	0.0386
Saturn	-82977-07-30 05:59 J	-28585715.46	-28585715.25	-28585715.04	0.0287	0.0083
Jupiter	-82971-05-24 23:59 J	-28583590.60	-28583590.50	-28583590.41	0.0539	0.0468
Jupiter	-82965-03-24 19:40 J	-28581459.89	-28581459.68	-28581459.47	0.0488	0.0015
Saturn	-82963-05-31 19:40 J	-28580661.88	-28580661.68	-28580661.47	0.0273	0.0015
Jupiter	-82959-01-27 17:01 J	-28579324.99	-28579324.79	-28579324.60	0.0540	0.0053
Jupiter	-82954-11-28 19:25 J	-28577193.78	-28577193.69	-28577193.57	0.0487	0.0419
Moon	-82950-08-22 05:30 J	-28575831.41	-28575831.27	-28575831.13	0.2580	0.1563
Earth	-82950-08-22 07:40 J	-28575831.28	-28575831.18	-28575831.08	0.2585	0.2026 *
Saturn	-82947-02-09 12:28 J	-28574929.17	-28574928.98	-28574928.79	0.0287	0.0140
Moon	-82942-08-19 17:44 J	-28572911.84	-28572911.76	-28572911.69	0.2584	0.2284
Earth	-82942-08-19 23:01 J	-28572911.64	-28572911.54	-28572911.43	0.2586	0.1960
Neptune	-82941-10-22 23:59 J	-28572481.58	-28572481.50	-28572481.38	0.0089	0.0080
Neptune	-82940-06-05 14:37 J	-28572256.04	-28572255.89	-28572255.72	0.0089	0.0062
Uranus	-82940-10-13 22:47 J	-28572125.70	-28572125.55	-28572125.37	0.0137	0.0088
Neptune	-82939-01-17 04:32 J	-28572030.49	-28572030.31	-28572030.09	0.0089	0.0045
Uranus	-82939-05-28 04:04 J	-28571899.53	-28571899.33	-28571899.12	0.0137	0.0027
Neptune	-82939-08-30 18:56 J	-28571804.91	-28571804.71	-28571804.48	0.0089	0.0027

Uranus -82938-01-09 09:20 J -28571673.31 -28571673.11 -28571672.90 0.0138 0.0035
 Neptune -82938-04-13 09:20 J -28571579.33 -28571579.11 -28571578.88 0.0089 0.0009
 Uranus -82938-08-23 14:52 J -28571447.03 -28571446.88 -28571446.73 0.0138 0.0097
 Neptune -82938-11-24 23:44 J -28571353.74 -28571353.51 -28571353.28 0.0089 0.0009
 Neptune -82937-07-07 13:54 J -28571128.13 -28571127.92 -28571127.70 0.0089 0.0027
 Neptune -82936-02-18 03:49 J -28570902.52 -28570902.34 -28570902.13 0.0089 0.0045
 Neptune -82936-10-01 17:44 J -28570676.90 -28570676.76 -28570676.58 0.0089 0.0063
 Neptune -82935-05-15 08:23 J -28570451.23 -28570451.15 -28570451.04 0.0089 0.0080
 Saturn -82934-12-11 19:54 J -28569875.88 -28569875.67 -28569875.47 0.0273 0.0023
 Jupiter -82930-12-01 07:11 J -28568425.39 -28568425.20 -28568425.01 0.0488 0.0221
 Jupiter -82924-10-05 11:59 J -28566290.17 -28566290.00 -28566289.83 0.0540 0.0271
 Mars -82923-09-23 16:04 J -28565936.98 -28565936.83 -28565936.69 0.1752 0.1054
 Saturn -82918-01-04 11:16 J -28564373.10 -28564373.03 -28564372.95 0.0285 0.0266
 Jupiter -82918-08-06 07:54 J -28564159.36 -28564159.17 -28564158.97 0.0488 0.0179
 Saturn -82918-08-22 12:13 J -28564143.15 -28564142.99 -28564142.81 0.0287 0.0179
 Mars -82916-03-08 10:47 J -28563579.19 -28563579.05 -28563578.90 0.1788 0.0875
 Jupiter -82912-06-10 03:06 J -28562024.54 -28562024.37 -28562024.20 0.0540 0.0262
 Saturn -82904-06-23 00:28 J -28559089.68 -28559089.48 -28559089.28 0.0273 0.0074
 Uranus -82901-11-07 16:47 J -28557855.99 -28557855.80 -28557855.60 0.0142 0.0071
 Uranus -82900-06-22 05:44 J -28557629.48 -28557629.26 -28557629.03 0.0142 0.0002
 Uranus -82899-02-03 17:59 J -28557402.93 -28557402.75 -28557402.55 0.0141 0.0073
 Jupiter -82894-08-08 20:37 J -28555390.70 -28555390.64 -28555390.58 0.0488 0.0467
 Saturn -82889-07-16 17:59 J -28553586.89 -28553586.75 -28553586.59 0.0286 0.0207
 Saturn -82888-03-03 19:11 J -28553356.81 -28553356.70 -28553356.57 0.0287 0.0239
 Mars -82884-03-07 14:23 J -28551891.91 -28551891.90 -28551891.89 0.1773 0.1767
 Jupiter -82882-04-13 20:37 J -28551124.85 -28551124.64 -28551124.43 0.0488 0.0064
 Jupiter -82876-02-15 19:54 J -28548989.86 -28548989.67 -28548989.47 0.0540 0.0048
 Saturn -82875-05-19 00:42 J -28548532.54 -28548532.47 -28548532.37 0.0274 0.0248
 Saturn -82874-01-03 00:56 J -28548303.65 -28548303.46 -28548303.27 0.0273 0.0112
 Jupiter -82871-12-17 20:23 J -28546858.79 -28546858.65 -28546858.50 0.0487 0.0341

Jupiter -82865-10-21 14:23 J -28544723.99 -28544723.90 -28544723.80 0.0540 0.0465
 Saturn -82859-01-26 17:59 J -28542800.92 -28542800.75 -28542800.57 0.0286 0.0170
 Saturn -82859-09-13 19:11 J -28542570.75 -28542570.70 -28542570.64 0.0287 0.0276
 Neptune -82858-07-23 17:44 J -28542257.86 -28542257.76 -28542257.64 0.0089 0.0075
 Neptune -82857-03-05 05:16 J -28542032.42 -28542032.28 -28542032.10 0.0089 0.0059
 Mars -82857-07-20 22:47 J -28541894.64 -28541894.55 -28541894.46 0.1747 0.1515
 Neptune -82857-10-16 17:16 J -28541806.95 -28541806.78 -28541806.58 0.0089 0.0042
 Neptune -82856-05-30 05:16 J -28541581.48 -28541581.28 -28541581.07 0.0089 0.0025
 Uranus -82856-06-13 10:47 J -28541567.15 -28541567.05 -28541566.92 0.0137 0.0114
 Neptune -82855-01-10 17:01 J -28541356.00 -28541355.79 -28541355.57 0.0089 0.0009
 Uranus -82855-01-25 15:49 J -28541341.03 -28541340.84 -28541340.64 0.0137 0.0053
 Neptune -82855-08-24 04:47 J -28541130.51 -28541130.30 -28541130.08 0.0089 0.0009
 Uranus -82855-09-08 20:52 J -28541114.84 -28541114.63 -28541114.42 0.0137 0.0008
 Neptune -82854-04-06 16:18 J -28540905.01 -28540904.82 -28540904.60 0.0089 0.0026
 Uranus -82854-04-23 02:08 J -28540888.59 -28540888.41 -28540888.23 0.0138 0.0070
 Neptune -82854-11-18 04:32 J -28540679.49 -28540679.31 -28540679.12 0.0089 0.0042
 Uranus -82854-12-05 07:11 J -28540662.23 -28540662.20 -28540662.12 0.0138 0.0134
 Neptune -82853-06-30 16:04 J -28540453.97 -28540453.83 -28540453.66 0.0089 0.0059
 Neptune -82852-02-11 03:35 J -28540228.43 -28540228.35 -28540228.21 0.0089 0.0076
 Mars -82850-01-03 20:08 J -28539536.77 -28539536.66 -28539536.54 0.1792 0.1295
 Jupiter -82847-12-20 09:35 J -28538090.26 -28538090.10 -28538089.93 0.0488 0.0308
 Saturn -82846-11-29 05:01 J -28537746.43 -28537746.29 -28537746.15 0.0275 0.0200
 Saturn -82845-07-15 05:01 J -28537517.45 -28537517.29 -28537517.12 0.0273 0.0161
 Moon -82844-02-20 19:25 J -28537296.84 -28537296.69 -28537296.53 0.2747 0.0200
 Earth -82844-02-20 23:59 J -28537296.64 -28537296.50 -28537296.35 0.2751 0.0746 *
 Jupiter -82841-10-24 10:32 J -28535955.21 -28535955.06 -28535954.91 0.0539 0.0344
 Pluto -82839-11-28 15:20 J -28535190.03 -28535189.86 -28535189.68 0.0063 0.0039
 Pluto -82838-07-11 19:54 J -28534964.89 -28534964.67 -28534964.44 0.0064 0.0009
 Pluto -82837-02-22 00:28 J -28534739.69 -28534739.48 -28534739.26 0.0064 0.0022
 Pluto -82837-10-04 05:01 J -28534514.40 -28534514.29 -28534514.15 0.0064 0.0053

Jupiter -82835-08-25 09:20 J -28533824.31 -28533824.11 -28533823.90 0.0488 0.0099
 Saturn -82830-08-09 01:25 J -28532014.64 -28532014.44 -28532014.24 0.0286 0.0108
 Jupiter -82829-06-29 03:35 J -28531689.53 -28531689.35 -28531689.16 0.0540 0.0178
 Mars -82825-07-20 09:49 J -28530207.20 -28530207.09 -28530206.98 0.1762 0.1351
 Mars -82818-01-02 23:44 J -28527849.62 -28527849.51 -28527849.41 0.1778 0.1367
 Uranus -82817-07-07 23:30 J -28527297.66 -28527297.52 -28527297.36 0.0142 0.0104
 Uranus -82816-02-19 12:28 J -28527071.19 -28527070.98 -28527070.76 0.0142 0.0031
 Saturn -82816-06-10 06:13 J -28526960.41 -28526960.24 -28526960.07 0.0274 0.0157
 Uranus -82816-10-04 01:11 J -28526844.67 -28526844.45 -28526844.24 0.0142 0.0041
 Saturn -82815-01-25 05:59 J -28526731.38 -28526731.25 -28526731.11 0.0272 0.0202
 Uranus -82815-05-18 13:25 J -28526618.07 -28526617.94 -28526617.80 0.0141 0.0112
 Saturn -82800-02-18 01:11 J -28521228.66 -28521228.45 -28521228.24 0.0286 0.0072
 Jupiter -82799-05-02 22:04 J -28520789.78 -28520789.58 -28520789.38 0.0488 0.0144
 Jupiter -82793-03-06 20:37 J -28518654.83 -28518654.64 -28518654.45 0.0539 0.0135
 Jupiter -82787-01-05 22:04 J -28516523.76 -28516523.58 -28516523.40 0.0488 0.0260
 Saturn -82787-12-21 09:49 J -28516174.28 -28516174.09 -28516173.90 0.0275 0.0111
 Saturn -82786-08-07 09:49 J -28515945.17 -28515945.09 -28515945.01 0.0273 0.0250
 Mars -82785-10-31 04:47 J -28515494.33 -28515494.30 -28515494.26 0.1797 0.1744
 Jupiter -82782-11-10 13:40 J -28514389.07 -28514388.93 -28514388.80 0.0539 0.0388
 Neptune -82776-09-06 20:23 J -28512261.76 -28512261.65 -28512261.50 0.0089 0.0072
 Neptune -82775-04-20 10:47 J -28512036.21 -28512036.05 -28512035.85 0.0089 0.0054
 Neptune -82775-12-02 01:11 J -28511810.64 -28511810.45 -28511810.23 0.0089 0.0036
 Neptune -82774-07-15 15:35 J -28511585.07 -28511584.85 -28511584.62 0.0089 0.0018
 Neptune -82773-02-26 05:59 J -28511359.48 -28511359.25 -28511359.02 0.0089 0.0001
 Neptune -82773-10-08 20:08 J -28511133.88 -28511133.66 -28511133.43 0.0089 0.0018
 Neptune -82772-05-22 10:18 J -28510908.26 -28510908.07 -28510907.85 0.0089 0.0036
 Uranus -82772-09-25 03:35 J -28510782.50 -28510782.35 -28510782.16 0.0137 0.0080
 Neptune -82771-01-03 00:28 J -28510682.64 -28510682.48 -28510682.28 0.0089 0.0054
 Uranus -82771-05-09 08:52 J -28510556.34 -28510556.13 -28510555.92 0.0137 0.0019
 Neptune -82771-08-16 14:23 J -28510457.01 -28510456.90 -28510456.74 0.0089 0.0072

Saturn	-82771-08-31 09:49 J	-28510442.30	-28510442.09	-28510441.87	0.0286	0.0008
Uranus	-82771-12-21 13:54 J	-28510330.11	-28510329.92	-28510329.71	0.0137	0.0043
Uranus	-82770-08-04 19:11 J	-28510103.82	-28510103.70	-28510103.55	0.0138	0.0105
Jupiter	-82763-01-08 10:18 J	-28507755.20	-28507755.07	-28507754.94	0.0488	0.0382
Mars	-82759-05-17 16:32 J	-28506164.96	-28506164.81	-28506164.65	0.1758	0.0879
Jupiter	-82758-11-13 12:13 J	-28505620.10	-28505619.99	-28505619.87	0.0539	0.0437
Saturn	-82757-07-02 11:59 J	-28505388.20	-28505388.00	-28505387.80	0.0274	0.0065
Mars	-82753-10-30 08:52 J	-28503807.27	-28503807.13	-28503806.99	0.1782	0.0964
Jupiter	-82752-09-13 09:35 J	-28503489.31	-28503489.10	-28503488.89	0.0488	0.0024
Pluto	-82750-10-24 04:47 J	-28502718.38	-28502718.30	-28502718.19	0.0081	0.0073
Pluto	-82749-06-05 15:06 J	-28502493.07	-28502492.87	-28502492.65	0.0081	0.0013
Pluto	-82748-01-17 01:11 J	-28502267.61	-28502267.45	-28502267.27	0.0081	0.0048
Jupiter	-82746-07-19 07:11 J	-28501354.40	-28501354.20	-28501354.01	0.0540	0.0075
Saturn	-82741-03-12 10:18 J	-28499656.29	-28499656.07	-28499655.86	0.0286	0.0034
Jupiter	-82740-05-19 10:32 J	-28499223.16	-28499223.06	-28499222.96	0.0487	0.0423
Uranus	-82733-03-07 06:13 J	-28496739.29	-28496739.24	-28496739.19	0.0143	0.0138
Uranus	-82733-10-19 19:11 J	-28496512.89	-28496512.70	-28496512.49	0.0142	0.0065
Uranus	-82732-06-03 08:08 J	-28496286.38	-28496286.16	-28496285.93	0.0142	0.0009
Uranus	-82731-01-15 20:37 J	-28496059.82	-28496059.64	-28496059.45	0.0141	0.0080
Saturn	-82727-01-12 15:06 J	-28494602.08	-28494601.87	-28494601.67	0.0275	0.0019
Jupiter	-82716-05-21 22:04 J	-28490454.77	-28490454.58	-28490454.39	0.0488	0.0216
Saturn	-82712-09-22 19:54 J	-28488869.87	-28488869.67	-28488869.46	0.0286	0.0105
Jupiter	-82710-03-26 19:40 J	-28488319.86	-28488319.68	-28488319.49	0.0539	0.0210
Moon	-82707-08-22 08:37 J	-28487075.24	-28487075.14	-28487075.05	0.2592	0.1997
Earth	-82707-08-22 08:37 J	-28487075.24	-28487075.14	-28487075.05	0.2586	0.2062 *
Jupiter	-82704-01-24 22:04 J	-28486188.78	-28486188.58	-28486188.39	0.0488	0.0188
Earth	-82699-08-19 23:59 J	-28484155.61	-28484155.50	-28484155.39	0.2586	0.1908
Moon	-82699-08-20 04:04 J	-28484155.44	-28484155.33	-28484155.21	0.2590	0.1735 *
Jupiter	-82699-11-29 13:54 J	-28484054.08	-28484053.92	-28484053.75	0.0540	0.0305
Saturn	-82698-07-25 18:28 J	-28483815.93	-28483815.73	-28483815.53	0.0274	0.0031

Neptune -82694-10-25 02:23 J -28482263.45 -28482263.40 -28482263.32 0.0089 0.0084
 Mars -82693-03-13 23:30 J -28482122.70 -28482122.52 -28482122.35 0.1753 0.0407
 Neptune -82693-06-06 13:54 J -28482038.03 -28482037.92 -28482037.76 0.0089 0.0068
 Neptune -82692-01-18 01:54 J -28481812.58 -28481812.42 -28481812.23 0.0089 0.0051
 Neptune -82692-08-31 13:40 J -28481587.12 -28481586.93 -28481586.72 0.0089 0.0034
 Neptune -82691-04-14 01:40 J -28481361.64 -28481361.43 -28481361.22 0.0089 0.0017
 Neptune -82691-11-25 13:40 J -28481136.15 -28481135.93 -28481135.72 0.0089 0.0002
 Neptune -82690-07-09 01:11 J -28480910.65 -28480910.45 -28480910.24 0.0089 0.0017
 Neptune -82689-02-19 12:42 J -28480685.15 -28480684.97 -28480684.76 0.0089 0.0034
 Neptune -82689-10-02 00:42 J -28480459.64 -28480459.47 -28480459.29 0.0089 0.0050
 Neptune -82688-05-15 12:13 J -28480234.11 -28480233.99 -28480233.84 0.0089 0.0067
 Uranus -82688-05-25 16:47 J -28480223.92 -28480223.80 -28480223.65 0.0136 0.0104
 Neptune -82688-12-26 23:59 J -28480008.55 -28480008.50 -28480008.41 0.0089 0.0084
 Uranus -82687-01-06 21:49 J -28479997.79 -28479997.59 -28479997.39 0.0137 0.0043
 Uranus -82687-08-21 02:52 J -28479771.59 -28479771.38 -28479771.17 0.0137 0.0018
 Mars -82687-08-27 17:59 J -28479764.91 -28479764.75 -28479764.59 0.1787 0.0542
 Uranus -82686-04-04 07:54 J -28479545.33 -28479545.17 -28479544.99 0.0137 0.0080
 Saturn -82682-04-04 21:06 J -28478083.80 -28478083.62 -28478083.43 0.0286 0.0146
 Jupiter -82680-01-27 10:04 J -28477420.15 -28477420.08 -28477420.00 0.0488 0.0455
 Jupiter -82675-12-02 12:42 J -28475285.01 -28475284.97 -28475284.92 0.0538 0.0519
 Jupiter -82669-10-02 09:20 J -28473154.32 -28473154.11 -28473153.90 0.0488 0.0048
 Saturn -82668-02-03 21:35 J -28473029.80 -28473029.60 -28473029.41 0.0274 0.0077
 Jupiter -82663-08-07 05:30 J -28471019.46 -28471019.27 -28471019.07 0.0539 0.0008
 Jupiter -82657-06-07 09:06 J -28468888.26 -28468888.12 -28468887.98 0.0488 0.0359
 Saturn -82653-02-28 07:54 J -28467527.31 -28467527.17 -28467527.04 0.0285 0.0220
 Saturn -82653-10-15 08:08 J -28467297.29 -28467297.16 -28467297.01 0.0286 0.0223
 Jupiter -82651-04-11 21:06 J -28466753.64 -28466753.62 -28466753.59 0.0540 0.0532
 Uranus -82649-06-19 00:56 J -28465954.62 -28465954.46 -28465954.30 0.0142 0.0100
 Uranus -82648-01-31 13:54 J -28465728.13 -28465727.92 -28465727.69 0.0142 0.0027
 Uranus -82648-09-15 02:37 J -28465501.60 -28465501.39 -28465501.17 0.0142 0.0046

Uranus -82647-04-29 15:06 J -28465274.98 -28465274.87 -28465274.74 0.0141 0.0118
 Saturn -82640-12-31 01:11 J -28462472.56 -28462472.45 -28462472.35 0.0275 0.0235
 Saturn -82639-08-17 01:40 J -28462243.61 -28462243.43 -28462243.25 0.0274 0.0130
 Jupiter -82633-06-09 20:37 J -28460119.81 -28460119.64 -28460119.47 0.0488 0.0281
 Mars -82627-01-09 06:42 J -28458080.40 -28458080.22 -28458080.04 0.1749 0.0059
 Jupiter -82627-04-14 21:20 J -28457984.77 -28457984.61 -28457984.45 0.0539 0.0301
 Saturn -82624-09-09 09:49 J -28456741.25 -28456741.09 -28456740.91 0.0285 0.0177
 Saturn -82623-04-27 10:18 J -28456511.13 -28456511.07 -28456510.98 0.0286 0.0267
 Jupiter -82621-02-13 20:52 J -28455853.84 -28455853.63 -28455853.43 0.0488 0.0121
 Mars -82621-06-24 02:52 J -28455722.55 -28455722.38 -28455722.21 0.1791 0.0113
 Jupiter -82616-12-18 14:37 J -28453719.07 -28453718.89 -28453718.71 0.0539 0.0220
 Neptune -82612-12-09 03:35 J -28452267.45 -28452267.35 -28452267.26 0.0089 0.0080
 Neptune -82611-07-22 17:16 J -28452041.92 -28452041.78 -28452041.60 0.0089 0.0063
 Neptune -82610-03-05 07:40 J -28451816.36 -28451816.18 -28451815.97 0.0089 0.0045
 Saturn -82610-07-13 03:49 J -28451686.48 -28451686.34 -28451686.19 0.0276 0.0191
 Neptune -82610-10-16 22:04 J -28451590.79 -28451590.58 -28451590.36 0.0089 0.0027
 Saturn -82609-02-27 04:47 J -28451457.46 -28451457.30 -28451457.14 0.0274 0.0176
 Neptune -82609-05-29 12:28 J -28451365.20 -28451364.98 -28451364.75 0.0089 0.0009
 Neptune -82608-01-10 02:37 J -28451139.61 -28451139.39 -28451139.15 0.0089 0.0010
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 Neptune -82606-07-01 11:30 J -28450237.10 -28450237.02 -28450236.91 0.0089 0.0081
 Uranus -82604-01-23 06:13 J -28449665.29 -28449665.24 -28449665.15 0.0136 0.0127
 Uranus -82604-09-06 11:16 J -28449439.21 -28449439.03 -28449438.84 0.0137 0.0067
 Uranus -82603-04-20 16:18 J -28449213.03 -28449212.82 -28449212.61 0.0137 0.0006
 Uranus -82603-12-02 21:20 J -28448986.80 -28448986.61 -28448986.41 0.0137 0.0055
 Uranus -82602-07-17 02:37 J -28448760.49 -28448760.39 -28448760.27 0.0138 0.0117
 Earth -82601-02-22 00:56 J -28448540.62 -28448540.46 -28448540.31 0.2750 0.0421
 Moon -82601-02-22 03:35 J -28448540.49 -28448540.35 -28448540.22 0.2757 0.1040 *

Saturn -82594-03-22 21:35 J -28445954.80 -28445954.60 -28445954.39 0.0285 0.0098
 Pluto -82593-12-27 02:37 J -28445309.56 -28445309.39 -28445309.18 0.0064 0.0035
 Pluto -82592-08-09 07:40 J -28445084.41 -28445084.18 -28445083.96 0.0064 0.0004
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 Pluto -82591-11-02 16:18 J -28444633.88 -28444633.82 -28444633.69 0.0064 0.0058
 Jupiter -82586-10-22 07:25 J -28442819.39 -28442819.19 -28442818.98 0.0488 0.0110
 Saturn -82580-01-22 09:49 J -28440900.27 -28440900.09 -28440899.91 0.0275 0.0131
 Jupiter -82580-08-26 03:20 J -28440684.56 -28440684.36 -28440684.17 0.0540 0.0065
 Saturn -82580-09-08 10:04 J -28440671.17 -28440671.08 -28440670.96 0.0273 0.0234
 Jupiter -82574-06-27 06:56 J -28438553.38 -28438553.21 -28438553.04 0.0488 0.0297
 Jupiter -82568-04-30 21:35 J -28436418.71 -28436418.60 -28436418.49 0.0540 0.0449
 Uranus -82565-02-17 08:23 J -28435396.22 -28435396.15 -28435396.06 0.0143 0.0132
 Uranus -82565-09-30 21:35 J -28435169.79 -28435169.60 -28435169.39 0.0142 0.0059
 Saturn -82565-10-02 01:25 J -28435168.66 -28435168.44 -28435168.23 0.0285 0.0049
 Uranus -82564-05-15 10:47 J -28434943.27 -28434943.05 -28434942.83 0.0142 0.0015
 Uranus -82564-12-27 23:30 J -28434716.70 -28434716.52 -28434716.34 0.0141 0.0087
 Mars -82562-11-06 13:40 J -28434038.10 -28434037.93 -28434037.76 0.1744 0.0508
 Mars -82555-04-21 11:30 J -28431680.19 -28431680.02 -28431679.86 0.1796 0.0337
 Saturn -82551-08-04 12:28 J -28430114.17 -28430113.98 -28430113.78 0.0276 0.0086
 Jupiter -82550-06-29 17:44 J -28429784.90 -28429784.76 -28429784.60 0.0489 0.0340
 Jupiter -82544-05-03 18:56 J -28427649.85 -28427649.71 -28427649.57 0.0539 0.0366
 Jupiter -82538-03-04 17:16 J -28425518.99 -28425518.78 -28425518.57 0.0488 0.0069
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 Jupiter -82532-01-06 10:04 J -28423384.27 -28423384.08 -28423383.89 0.0539 0.0167
 Neptune -82529-09-07 23:01 J -28422043.64 -28422043.54 -28422043.43 0.0089 0.0076
 Neptune -82528-04-21 10:32 J -28421818.20 -28421818.06 -28421817.89 0.0089 0.0060
 Neptune -82528-12-02 22:32 J -28421592.74 -28421592.56 -28421592.36 0.0089 0.0043
 Neptune -82527-07-16 10:18 J -28421367.27 -28421367.07 -28421366.86 0.0089 0.0026
 Jupiter -82527-11-07 17:30 J -28421252.82 -28421252.77 -28421252.72 0.0488 0.0471
 Neptune -82526-02-26 22:18 J -28421141.79 -28421141.57 -28421141.36 0.0089 0.0009

Neptune -82526-10-10 10:04 J -28420916.29 -28420916.08 -28420915.87 0.0089 0.0008
 Neptune -82525-05-22 21:35 J -28420690.80 -28420690.60 -28420690.39 0.0089 0.0025
 Neptune -82524-01-03 09:20 J -28420465.29 -28420465.11 -28420464.91 0.0089 0.0042
 Neptune -82524-08-16 20:52 J -28420239.77 -28420239.63 -28420239.45 0.0089 0.0059
 Neptune -82523-03-30 08:52 J -28420014.23 -28420014.13 -28420014.01 0.0089 0.0075
 Saturn -82521-02-14 19:25 J -28419327.89 -28419327.69 -28419327.48 0.0275 0.0023
 Uranus -82520-05-07 00:42 J -28418880.62 -28418880.47 -28418880.31 0.0136 0.0091
 Uranus -82520-12-19 05:30 J -28418654.47 -28418654.27 -28418654.06 0.0137 0.0031
 Uranus -82519-08-02 10:32 J -28418428.26 -28418428.06 -28418427.85 0.0137 0.0031
 Uranus -82518-03-16 15:35 J -28418201.99 -28418201.85 -28418201.68 0.0137 0.0092
 Saturn -82506-10-25 18:13 J -28413595.95 -28413595.74 -28413595.53 0.0285 0.0085
 Pluto -82504-11-21 18:13 J -28412837.87 -28412837.74 -28412837.58 0.0081 0.0061
 Pluto -82503-07-05 04:47 J -28412612.52 -28412612.30 -28412612.09 0.0081 0.0001
 Jupiter -82503-11-10 04:18 J -28412484.51 -28412484.32 -28412484.11 0.0488 0.0168
 Pluto -82502-02-15 14:08 J -28412387.03 -28412386.91 -28412386.74 0.0081 0.0060
 Jupiter -82497-09-14 02:52 J -28410349.57 -28410349.38 -28410349.19 0.0539 0.0142
 Mars -82496-09-02 20:52 J -28409995.77 -28409995.63 -28409995.48 0.1740 0.0951
 Saturn -82492-08-26 22:18 J -28408541.78 -28408541.57 -28408541.37 0.0275 0.0023
 Jupiter -82491-07-16 02:52 J -28408218.56 -28408218.38 -28408218.20 0.0488 0.0247
 Mars -82489-02-16 20:08 J -28407637.81 -28407637.66 -28407637.51 0.1800 0.0786
 Jupiter -82485-05-19 19:25 J -28406083.83 -28406083.69 -28406083.55 0.0539 0.0382
 Uranus -82481-05-31 04:32 J -28404611.47 -28404611.31 -28404611.12 0.0142 0.0091
 Uranus -82480-01-12 17:59 J -28404384.97 -28404384.75 -28404384.53 0.0142 0.0018
 Uranus -82480-08-27 06:42 J -28404158.42 -28404158.22 -28404158.01 0.0142 0.0055
 Uranus -82479-04-10 19:11 J -28403931.79 -28403931.70 -28403931.60 0.0141 0.0126
 Saturn -82477-09-19 06:13 J -28403039.29 -28403039.24 -28403039.18 0.0284 0.0274
 Saturn -82476-05-07 06:28 J -28402809.40 -28402809.23 -28402809.05 0.0286 0.0167
 Jupiter -82467-07-18 15:06 J -28399450.00 -28399449.87 -28399449.75 0.0488 0.0396
 Earth -82464-08-22 09:35 J -28398319.19 -28398319.10 -28398319.01 0.2587 0.2128
 Saturn -82462-03-09 05:44 J -28397755.45 -28397755.26 -28397755.06 0.0274 0.0089

Jupiter -82461-05-22 14:08 J -28397315.03 -28397314.91 -28397314.78 0.0539 0.0418
 Moon -82456-08-19 22:18 J -28395399.67 -28395399.57 -28395399.47 0.2582 0.2059
 Earth -82456-08-20 00:42 J -28395399.58 -28395399.47 -28395399.35 0.2587 0.1878 *
 Jupiter -82455-03-23 13:54 J -28395184.13 -28395183.92 -28395183.71 0.0488 0.0015
 Jupiter -82449-01-26 08:37 J -28393049.34 -28393049.14 -28393048.95 0.0540 0.0095
 Saturn -82447-04-01 11:59 J -28392253.13 -28392253.00 -28392252.85 0.0284 0.0219
 Neptune -82447-10-24 00:28 J -28392047.60 -28392047.48 -28392047.33 0.0089 0.0071
 Saturn -82447-11-17 11:59 J -28392023.12 -28392023.00 -28392022.85 0.0286 0.0224
 Neptune -82446-06-06 15:06 J -28391822.05 -28391821.87 -28391821.69 0.0089 0.0053
 Neptune -82445-01-18 05:16 J -28391596.48 -28391596.28 -28391596.07 0.0089 0.0035
 Neptune -82445-08-30 19:25 J -28391370.91 -28391370.69 -28391370.46 0.0089 0.0017
 Neptune -82444-04-13 09:49 J -28391145.31 -28391145.09 -28391144.86 0.0089 0.0001
 Neptune -82444-11-25 00:13 J -28390919.71 -28390919.49 -28390919.27 0.0089 0.0019
 Jupiter -82444-11-26 13:54 J -28390918.03 -28390917.92 -28390917.81 0.0488 0.0416
 Neptune -82443-07-08 14:23 J -28390694.10 -28390693.90 -28390693.69 0.0089 0.0037
 Neptune -82442-02-19 04:32 J -28390468.48 -28390468.31 -28390468.12 0.0089 0.0055
 Neptune -82442-10-02 18:42 J -28390242.84 -28390242.72 -28390242.58 0.0089 0.0073
 Uranus -82436-01-04 13:25 J -28388322.04 -28388321.94 -28388321.82 0.0136 0.0116
 Uranus -82436-08-18 18:13 J -28388095.93 -28388095.74 -28388095.54 0.0137 0.0056
 Uranus -82435-04-01 23:01 J -28387869.75 -28387869.54 -28387869.32 0.0137 0.0006
 Uranus -82435-11-14 04:04 J -28387643.51 -28387643.33 -28387643.14 0.0137 0.0066
 Uranus -82434-06-28 09:35 J -28387417.18 -28387417.10 -28387417.03 0.0138 0.0128
 Saturn -82433-02-02 07:25 J -28387198.29 -28387198.19 -28387198.08 0.0276 0.0236
 Saturn -82433-09-18 08:23 J -28386969.32 -28386969.15 -28386968.97 0.0275 0.0134
 Mars -82430-07-01 04:04 J -28385953.44 -28385953.33 -28385953.23 0.1736 0.1404
 Mars -82424-12-14 05:01 J -28383595.41 -28383595.29 -28383595.17 0.1805 0.1234
 Jupiter -82420-11-28 23:59 J -28382149.69 -28382149.50 -28382149.31 0.0488 0.0214
 Saturn -82418-10-12 23:16 J -28381466.72 -28381466.53 -28381466.34 0.0285 0.0141
 Jupiter -82414-10-03 20:52 J -28380014.81 -28380014.63 -28380014.44 0.0539 0.0186
 Jupiter -82408-08-04 00:13 J -28377883.68 -28377883.49 -28377883.30 0.0488 0.0189

Saturn -82404-08-14 16:04 J -28376411.99 -28376411.83 -28376411.67 0.0276 0.0167
 Saturn -82403-03-31 16:47 J -28376182.94 -28376182.80 -28376182.66 0.0274 0.0200
 Jupiter -82402-06-08 13:40 J -28375749.08 -28375748.93 -28375748.77 0.0540 0.0336
 Mars -82398-06-30 13:40 J -28374266.03 -28374265.93 -28374265.82 0.1750 0.1391
 Uranus -82397-01-29 12:28 J -28374053.07 -28374052.98 -28374052.85 0.0143 0.0123
 Uranus -82397-09-12 01:54 J -28373826.62 -28373826.42 -28373826.20 0.0142 0.0049
 Uranus -82396-04-26 15:06 J -28373600.09 -28373599.87 -28373599.65 0.0142 0.0024
 Uranus -82396-12-09 03:35 J -28373373.50 -28373373.35 -28373373.17 0.0141 0.0096
 Mars -82392-12-13 09:35 J -28371908.19 -28371908.10 -28371908.01 0.1790 0.1522
 Saturn -82388-04-24 05:59 J -28370680.46 -28370680.25 -28370680.04 0.0285 0.0082
 Jupiter -82384-08-06 11:01 J -28369115.11 -28369115.04 -28369114.95 0.0488 0.0449
 Jupiter -82378-06-11 13:40 J -28366980.00 -28366979.93 -28366979.85 0.0539 0.0493
 Saturn -82374-02-24 18:28 J -28365625.91 -28365625.73 -28365625.55 0.0276 0.0122
 Saturn -82374-10-11 18:56 J -28365396.79 -28365396.71 -28365396.61 0.0274 0.0245
 Jupiter -82372-04-11 09:35 J -28364849.31 -28364849.10 -28364848.89 0.0488 0.0036
 Jupiter -82366-02-14 06:42 J -28362714.42 -28362714.22 -28362714.02 0.0539 0.0027
 Neptune -82365-12-10 08:08 J -28362049.20 -28362049.16 -28362049.08 0.0089 0.0085
 Neptune -82364-07-23 19:54 J -28361823.79 -28361823.67 -28361823.51 0.0089 0.0068
 Neptune -82363-03-06 07:54 J -28361598.34 -28361598.17 -28361597.99 0.0089 0.0051
 Neptune -82363-10-17 19:54 J -28361372.86 -28361372.67 -28361372.47 0.0089 0.0034
 Neptune -82362-05-31 07:40 J -28361147.39 -28361147.18 -28361146.97 0.0089 0.0017
 Neptune -82361-01-11 19:25 J -28360921.90 -28360921.69 -28360921.47 0.0089 0.0001
 Neptune -82361-08-24 07:11 J -28360696.41 -28360696.20 -28360695.99 0.0089 0.0017
 Jupiter -82361-12-15 09:20 J -28360583.24 -28360583.11 -28360582.97 0.0488 0.0370
 Neptune -82360-04-06 18:42 J -28360470.91 -28360470.72 -28360470.51 0.0089 0.0034
 Neptune -82360-11-18 06:28 J -28360245.39 -28360245.23 -28360245.04 0.0089 0.0051
 Neptune -82359-07-01 18:28 J -28360019.86 -28360019.73 -28360019.59 0.0089 0.0067
 Saturn -82359-11-04 16:04 J -28359894.05 -28359893.83 -28359893.61 0.0285 0.0008
 Neptune -82358-02-12 05:59 J -28359794.30 -28359794.25 -28359794.17 0.0089 0.0084
 Moon -82358-02-22 00:56 J -28359784.62 -28359784.46 -28359784.30 0.2742 0.0361

Earth -82358-02-22 01:40 J -28359784.58 -28359784.43 -28359784.27 0.2749 0.0131 *
 Mars -82358-10-11 13:11 J -28359553.00 -28359552.95 -28359552.90 0.1809 0.1714
 Uranus -82352-04-18 06:13 J -28357537.40 -28357537.24 -28357537.07 0.0136 0.0082
 Uranus -82352-11-30 11:01 J -28357311.24 -28357311.04 -28357310.82 0.0137 0.0022
 Uranus -82351-07-14 16:04 J -28357085.03 -28357084.83 -28357084.63 0.0137 0.0039
 Uranus -82350-02-25 21:06 J -28356858.76 -28356858.62 -28356858.47 0.0137 0.0101
 Pluto -82347-06-14 08:23 J -28355654.16 -28355654.15 -28355654.09 0.0063 0.0063
 Pluto -82346-01-25 13:11 J -28355429.13 -28355428.95 -28355428.74 0.0064 0.0033
 Pluto -82346-09-07 18:13 J -28355203.97 -28355203.74 -28355203.52 0.0064 0.0002
 Pluto -82345-04-19 22:32 J -28354978.74 -28354978.56 -28354978.34 0.0064 0.0029
 Saturn -82345-09-06 02:52 J -28354839.58 -28354839.38 -28354839.17 0.0275 0.0054
 Pluto -82345-12-01 03:06 J -28354753.42 -28354753.37 -28354753.26 0.0064 0.0060
 Jupiter -82337-12-17 21:06 J -28351814.79 -28351814.62 -28351814.44 0.0488 0.0272
 Mars -82332-04-26 20:52 J -28350223.78 -28350223.63 -28350223.48 0.1746 0.0941
 Jupiter -82331-10-22 18:56 J -28349679.88 -28349679.71 -28349679.54 0.0540 0.0255
 Saturn -82329-05-16 23:01 J -28349107.76 -28349107.54 -28349107.33 0.0285 0.0052
 Mars -82326-10-10 18:28 J -28347865.87 -28347865.73 -28347865.60 0.1794 0.1094
 Jupiter -82325-08-22 20:52 J -28347548.83 -28347548.63 -28347548.43 0.0488 0.0133
 Jupiter -82319-06-27 13:25 J -28345414.11 -28345413.94 -28345413.76 0.0540 0.0258
 Saturn -82315-03-19 05:01 J -28344053.49 -28344053.29 -28344053.08 0.0275 0.0010
 Uranus -82313-05-12 08:23 J -28343268.33 -28343268.15 -28343267.97 0.0142 0.0083
 Uranus -82313-12-24 21:35 J -28343041.82 -28343041.60 -28343041.38 0.0142 0.0010
 Uranus -82312-08-08 10:18 J -28342815.26 -28342815.07 -28342814.86 0.0142 0.0063
 Uranus -82311-03-22 22:47 J -28342588.61 -28342588.55 -28342588.47 0.0141 0.0134
 Saturn -82300-11-27 07:11 J -28338321.39 -28338321.20 -28338321.00 0.0285 0.0121
 Jupiter -82289-04-30 07:54 J -28334514.37 -28334514.17 -28334513.96 0.0488 0.0100
 Saturn -82286-09-29 13:25 J -28333267.14 -28333266.94 -28333266.74 0.0275 0.0057
 Jupiter -82283-03-05 00:56 J -28332379.66 -28332379.46 -28332379.27 0.0539 0.0022
 Neptune -82282-01-25 08:08 J -28332053.25 -28332053.16 -28332053.05 0.0089 0.0079
 Neptune -82282-09-07 21:49 J -28331827.73 -28331827.59 -28331827.40 0.0089 0.0062

Neptune -82281-04-20 12:13 J -28331602.17 -28331601.99 -28331601.77 0.0089 0.0044
 Neptune -82281-12-02 02:37 J -28331376.59 -28331376.39 -28331376.16 0.0089 0.0026
 Neptune -82280-07-15 17:01 J -28331151.01 -28331150.79 -28331150.56 0.0089 0.0008
 Neptune -82279-02-26 07:25 J -28330925.42 -28330925.19 -28330924.96 0.0089 0.0011
 Neptune -82279-10-09 21:35 J -28330699.81 -28330699.60 -28330699.38 0.0089 0.0029
 Neptune -82278-05-23 11:59 J -28330474.19 -28330474.00 -28330473.80 0.0089 0.0047
 Neptune -82277-01-04 02:08 J -28330248.55 -28330248.41 -28330248.24 0.0089 0.0065
 Jupiter -82277-01-04 07:25 J -28330248.35 -28330248.19 -28330248.02 0.0488 0.0306 *
 Neptune -82277-08-16 16:18 J -28330022.88 -28330022.82 -28330022.73 0.0089 0.0083
 Jupiter -82272-11-07 18:42 J -28328113.80 -28328113.72 -28328113.65 0.0540 0.0497
 Saturn -82271-10-22 14:23 J -28327764.98 -28327764.90 -28327764.81 0.0284 0.0261
 Saturn -82270-06-09 14:23 J -28327535.06 -28327534.90 -28327534.72 0.0286 0.0182
 Uranus -82269-12-16 17:16 J -28326978.88 -28326978.78 -28326978.63 0.0136 0.0110
 Uranus -82268-07-30 22:04 J -28326752.77 -28326752.58 -28326752.37 0.0136 0.0050
 Uranus -82267-03-14 02:52 J -28326526.58 -28326526.38 -28326526.16 0.0137 0.0012
 Uranus -82267-10-26 07:40 J -28326300.35 -28326300.18 -28326299.99 0.0137 0.0072
 Mars -82266-02-22 04:04 J -28326181.50 -28326181.33 -28326181.16 0.1741 0.0482
 Uranus -82266-06-09 12:42 J -28326074.00 -28326073.97 -28326073.91 0.0138 0.0134
 Mars -82260-08-07 02:52 J -28323823.53 -28323823.38 -28323823.22 0.1799 0.0646
 Pluto -82258-12-21 08:08 J -28322957.32 -28322957.16 -28322956.97 0.0081 0.0048
 Pluto -82257-08-02 18:13 J -28322731.94 -28322731.74 -28322731.52 0.0081 0.0013
 Saturn -82257-08-24 13:54 J -28322709.96 -28322709.92 -28322709.88 0.0276 0.0270
 Pluto -82256-03-16 03:49 J -28322506.41 -28322506.34 -28322506.22 0.0081 0.0072
 Saturn -82256-04-10 14:52 J -28322481.07 -28322480.88 -28322480.69 0.0274 0.0100
 Jupiter -82253-01-06 17:59 J -28321479.91 -28321479.75 -28321479.60 0.0488 0.0326
 Jupiter -82248-11-10 18:42 J -28319344.87 -28319344.72 -28319344.57 0.0539 0.0334
 Jupiter -82242-09-11 17:59 J -28317213.96 -28317213.75 -28317213.54 0.0488 0.0077
 Saturn -82241-05-03 20:37 J -28316978.79 -28316978.64 -28316978.48 0.0284 0.0201
 Saturn -82241-12-19 20:52 J -28316748.74 -28316748.63 -28316748.51 0.0286 0.0243
 Jupiter -82236-07-16 08:52 J -28315079.32 -28315079.13 -28315078.95 0.0539 0.0204

Jupiter -82230-05-17 18:42 J -28312947.76 -28312947.72 -28312947.67 0.0488 0.0474
 Uranus -82229-01-10 14:08 J -28312710.02 -28312709.91 -28312709.77 0.0143 0.0118
 Uranus -82229-08-24 03:35 J -28312483.56 -28312483.35 -28312483.13 0.0142 0.0044
 Uranus -82228-04-07 16:47 J -28312257.02 -28312256.80 -28312256.58 0.0142 0.0029
 Uranus -82228-11-20 05:30 J -28312030.42 -28312030.27 -28312030.11 0.0142 0.0101
 Saturn -82227-03-06 21:49 J -28311923.73 -28311923.59 -28311923.46 0.0276 0.0206
 Saturn -82227-10-21 22:32 J -28311694.72 -28311694.56 -28311694.40 0.0274 0.0163
 Moon -82221-08-22 06:28 J -28309563.36 -28309563.23 -28309563.10 0.2592 0.1431
 Earth -82221-08-22 10:32 J -28309563.15 -28309563.06 -28309562.98 0.2587 0.2182 *
 Moon -82213-08-20 01:40 J -28306643.55 -28306643.43 -28306643.31 0.2594 0.1657
 Earth -82213-08-20 01:40 J -28306643.55 -28306643.43 -28306643.32 0.2588 0.1839 *
 Saturn -82212-11-14 03:20 J -28306192.55 -28306192.36 -28306192.17 0.0285 0.0142
 Jupiter -82206-05-20 06:13 J -28304179.44 -28304179.24 -28304179.04 0.0488 0.0163
 Mars -82201-12-19 11:30 J -28302139.20 -28302139.02 -28302138.84 0.1737 0.0056
 Jupiter -82200-03-24 01:54 J -28302044.61 -28302044.42 -28302044.23 0.0540 0.0106
 Neptune -82200-10-25 05:44 J -28301829.35 -28301829.26 -28301829.13 0.0089 0.0076
 Neptune -82199-06-07 17:44 J -28301603.90 -28301603.76 -28301603.59 0.0089 0.0059
 Neptune -82198-01-19 05:44 J -28301378.44 -28301378.26 -28301378.07 0.0089 0.0042
 Neptune -82198-09-01 17:30 J -28301152.97 -28301152.77 -28301152.56 0.0089 0.0025
 Saturn -82198-09-16 23:01 J -28301137.70 -28301137.54 -28301137.38 0.0275 0.0164
 Neptune -82197-04-14 05:30 J -28300927.49 -28300927.27 -28300927.06 0.0089 0.0008
 Saturn -82197-05-02 23:30 J -28300908.65 -28300908.52 -28300908.38 0.0274 0.0204
 Neptune -82197-11-25 17:16 J -28300701.99 -28300701.78 -28300701.56 0.0089 0.0009
 Neptune -82196-07-09 05:01 J -28300476.49 -28300476.29 -28300476.08 0.0089 0.0026
 Neptune -82195-02-19 16:47 J -28300250.99 -28300250.80 -28300250.61 0.0089 0.0043
 Neptune -82195-10-03 04:18 J -28300025.47 -28300025.32 -28300025.15 0.0089 0.0060
 Jupiter -82194-01-23 05:01 J -28299913.47 -28299913.29 -28299913.11 0.0488 0.0246
 Neptune -82194-05-16 15:49 J -28299799.93 -28299799.84 -28299799.72 0.0089 0.0077
 Mars -82194-06-04 11:16 J -28299781.20 -28299781.03 -28299780.86 0.1804 0.0189
 Jupiter -82189-11-26 19:40 J -28297778.81 -28297778.68 -28297778.55 0.0540 0.0410

Uranus	-82185-08-16 05:16 J	-28296420.29	-28296420.28	-28296420.25	0.0136	0.0135
Uranus	-82184-03-30 09:35 J	-28296194.26	-28296194.10	-28296193.92	0.0136	0.0076
Uranus	-82184-11-11 14:23 J	-28295968.11	-28295967.90	-28295967.69	0.0137	0.0016
Uranus	-82183-06-25 19:11 J	-28295741.90	-28295741.70	-28295741.50	0.0137	0.0044
Uranus	-82182-02-06 23:59 J	-28295515.62	-28295515.50	-28295515.36	0.0137	0.0106
Saturn	-82182-05-27 07:54 J	-28295406.37	-28295406.17	-28295405.96	0.0285	0.0088
Jupiter	-82170-01-25 18:13 J	-28291144.85	-28291144.74	-28291144.61	0.0488	0.0403
Saturn	-82168-03-29 05:59 J	-28290351.44	-28290351.25	-28290351.06	0.0275	0.0103
Saturn	-82168-11-13 06:13 J	-28290122.28	-28290122.24	-28290122.18	0.0274	0.0265
Jupiter	-82165-11-29 14:23 J	-28289010.04	-28289009.90	-28289009.77	0.0539	0.0389
Jupiter	-82159-09-30 17:59 J	-28286878.96	-28286878.75	-28286878.54	0.0488	0.0006
Jupiter	-82153-08-04 08:08 J	-28284744.35	-28284744.16	-28284743.97	0.0540	0.0127
Saturn	-82153-12-06 14:23 J	-28284620.12	-28284619.90	-28284619.68	0.0285	0.0030
Jupiter	-82147-06-05 17:59 J	-28282612.86	-28282612.75	-28282612.63	0.0487	0.0406
Uranus	-82145-04-23 07:40 J	-28281925.36	-28281925.18	-28281924.99	0.0143	0.0082
Uranus	-82145-12-05 21:06 J	-28281698.84	-28281698.62	-28281698.40	0.0142	0.0009
Uranus	-82144-07-20 10:04 J	-28281472.28	-28281472.08	-28281471.88	0.0142	0.0064
Uranus	-82143-03-03 22:32 J	-28281245.61	-28281245.56	-28281245.49	0.0141	0.0136
Saturn	-82139-10-09 06:28 J	-28279565.43	-28279565.23	-28279565.03	0.0275	0.0063
Mars	-82135-10-16 18:56 J	-28278096.89	-28278096.71	-28278096.54	0.1732	0.0402
Mars	-82128-03-31 19:25 J	-28275738.85	-28275738.69	-28275738.52	0.1808	0.0291
Jupiter	-82123-06-08 05:44 J	-28273844.44	-28273844.26	-28273844.07	0.0488	0.0233
Saturn	-82123-06-18 17:16 J	-28273834.00	-28273833.78	-28273833.57	0.0285	0.0019
Neptune	-82118-04-28 16:04 J	-28272058.85	-28272058.83	-28272058.76	0.0089	0.0087
Neptune	-82118-12-10 06:28 J	-28271833.35	-28271833.23	-28271833.07	0.0089	0.0069
Jupiter	-82117-04-11 23:30 J	-28271709.71	-28271709.52	-28271709.34	0.0539	0.0175
Neptune	-82117-07-22 20:37 J	-28271607.81	-28271607.64	-28271607.44	0.0089	0.0051
Neptune	-82116-03-05 11:01 J	-28271382.24	-28271382.04	-28271381.82	0.0089	0.0033
Neptune	-82116-10-17 01:11 J	-28271156.66	-28271156.45	-28271156.22	0.0089	0.0015
Moon	-82115-02-22 01:25 J	-28271028.58	-28271028.44	-28271028.29	0.2755	0.0138

Earth -82115-02-22 02:52 J -28271028.54 -28271028.38 -28271028.23 0.2748 0.0203 *
 Neptune -82115-05-30 15:49 J -28270931.07 -28270930.84 -28270930.61 0.0089 0.0004
 Neptune -82114-01-11 05:44 J -28270705.47 -28270705.26 -28270705.03 0.0089 0.0022
 Neptune -82114-08-24 19:54 J -28270479.86 -28270479.67 -28270479.45 0.0089 0.0040
 Neptune -82113-04-06 10:04 J -28270254.23 -28270254.08 -28270253.89 0.0089 0.0058
 Neptune -82113-11-18 00:28 J -28270028.58 -28270028.48 -28270028.35 0.0089 0.0076
 Jupiter -82111-02-11 06:28 J -28269578.43 -28269578.23 -28269578.03 0.0488 0.0166
 Saturn -82109-04-20 12:42 J -28268779.18 -28268778.97 -28268778.77 0.0275 0.0008
 Jupiter -82106-12-16 16:18 J -28267443.97 -28267443.82 -28267443.67 0.0539 0.0347
 Uranus -82101-11-27 21:49 J -28265635.72 -28265635.59 -28265635.44 0.0136 0.0102
 Pluto -82100-02-22 21:20 J -28265548.79 -28265548.61 -28265548.41 0.0064 0.0036
 Uranus -82100-07-12 02:23 J -28265409.60 -28265409.40 -28265409.19 0.0136 0.0043
 Pluto -82100-10-06 02:08 J -28265323.63 -28265323.41 -28265323.18 0.0064 0.0006
 Uranus -82099-02-23 06:56 J -28265183.41 -28265183.21 -28265182.99 0.0137 0.0018
 Pluto -82099-05-19 06:42 J -28265098.41 -28265098.22 -28265097.99 0.0064 0.0025
 Uranus -82099-10-07 11:44 J -28264957.18 -28264957.01 -28264956.83 0.0137 0.0078
 Pluto -82099-12-30 11:16 J -28264873.11 -28264873.03 -28264872.89 0.0064 0.0057
 Saturn -82094-12-29 23:16 J -28263047.74 -28263047.53 -28263047.32 0.0285 0.0076
 Jupiter -82087-02-13 18:13 J -28260809.78 -28260809.74 -28260809.69 0.0488 0.0475
 Jupiter -82082-12-19 16:47 J -28258674.88 -28258674.80 -28258674.71 0.0539 0.0485
 Saturn -82080-10-31 12:56 J -28257993.16 -28257992.96 -28257992.75 0.0274 0.0034
 Jupiter -82076-10-19 17:30 J -28256543.97 -28256543.77 -28256543.56 0.0488 0.0069
 Jupiter -82070-08-24 11:16 J -28254409.23 -28254409.03 -28254408.84 0.0540 0.0026
 Mars -82069-08-13 02:23 J -28254054.56 -28254054.40 -28254054.24 0.1728 0.0831
 Jupiter -82064-06-24 18:28 J -28252277.88 -28252277.73 -28252277.57 0.0488 0.0331
 Saturn -82064-07-11 00:28 J -28252261.67 -28252261.48 -28252261.27 0.0285 0.0119
 Mars -82062-01-27 03:35 J -28251696.50 -28251696.35 -28251696.19 0.1813 0.0769
 Uranus -82062-12-22 12:56 J -28251367.08 -28251366.96 -28251366.83 0.0143 0.0118
 Uranus -82061-08-05 02:23 J -28251140.61 -28251140.40 -28251140.18 0.0142 0.0044
 Uranus -82060-03-19 15:20 J -28250914.07 -28250913.86 -28250913.63 0.0142 0.0029

Uranus -82060-11-01 04:18 J -28250687.47 -28250687.32 -28250687.16 0.0142 0.0101
 Saturn -82050-05-13 17:44 J -28247206.95 -28247206.76 -28247206.56 0.0275 0.0086
 Jupiter -82040-06-27 07:11 J -28243509.36 -28243509.20 -28243509.04 0.0488 0.0314
 Neptune -82035-01-26 16:18 J -28241834.88 -28241834.82 -28241834.73 0.0089 0.0083
 Saturn -82035-06-05 06:42 J -28241705.28 -28241705.22 -28241705.14 0.0284 0.0266
 Neptune -82035-09-09 04:18 J -28241609.46 -28241609.32 -28241609.17 0.0089 0.0066
 Saturn -82034-01-21 06:42 J -28241475.39 -28241475.22 -28241475.05 0.0286 0.0177
 Neptune -82034-04-22 16:04 J -28241384.00 -28241383.83 -28241383.64 0.0089 0.0049
 Jupiter -82034-05-01 23:59 J -28241374.67 -28241374.50 -28241374.32 0.0539 0.0260
 Neptune -82034-12-04 04:04 J -28241158.52 -28241158.33 -28241158.13 0.0089 0.0032
 Neptune -82033-07-16 16:04 J -28240933.04 -28240932.83 -28240932.62 0.0089 0.0015
 Neptune -82032-02-27 03:49 J -28240707.56 -28240707.34 -28240707.13 0.0089 0.0002
 Neptune -82032-10-10 15:35 J -28240482.06 -28240481.85 -28240481.64 0.0089 0.0019
 Neptune -82031-05-24 03:20 J -28240256.55 -28240256.36 -28240256.16 0.0089 0.0036
 Neptune -82030-01-04 15:06 J -28240031.04 -28240030.87 -28240030.70 0.0089 0.0053
 Neptune -82030-08-18 02:37 J -28239805.51 -28239805.39 -28239805.25 0.0089 0.0070
 Neptune -82029-03-30 14:08 J -28239579.93 -28239579.91 -28239579.85 0.0089 0.0087
 Jupiter -82028-03-02 07:11 J -28239243.40 -28239243.20 -28239242.99 0.0488 0.0089
 Jupiter -82022-01-04 19:11 J -28237108.88 -28237108.70 -28237108.53 0.0540 0.0249
 Saturn -82021-04-07 17:01 J -28236649.87 -28236649.79 -28236649.69 0.0276 0.0246
 Saturn -82021-11-22 18:13 J -28236420.92 -28236420.74 -28236420.56 0.0274 0.0125
 Uranus -82017-07-28 10:18 J -28235077.14 -28235077.07 -28235077.00 0.0136 0.0127
 Uranus -82016-03-11 14:37 J -28234851.07 -28234850.89 -28234850.70 0.0136 0.0068
 Uranus -82016-10-23 19:11 J -28234624.91 -28234624.70 -28234624.49 0.0137 0.0009
 Uranus -82015-06-06 23:59 J -28234398.69 -28234398.50 -28234398.30 0.0137 0.0052
 Uranus -82014-01-19 04:47 J -28234172.41 -28234172.30 -28234172.17 0.0137 0.0113
 Pluto -82011-01-18 16:32 J -28233076.96 -28233076.81 -28233076.63 0.0081 0.0052
 Pluto -82011-09-01 02:52 J -28232851.59 -28232851.38 -28232851.16 0.0081 0.0007
 Pluto -82010-04-14 12:42 J -28232626.08 -28232625.97 -28232625.84 0.0080 0.0066
 Saturn -82006-12-16 06:28 J -28230919.35 -28230919.23 -28230919.10 0.0284 0.0230

Saturn -82005-08-02 06:42 J -28230689.36 -28230689.22 -28230689.08 0.0286 0.0215
Mars -82003-06-10 09:49 J -28230012.21 -28230012.09 -28230011.97 0.1724 0.1268

82ND MILLENNIUM BCE

This is a list of transits of Venus in the 82nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Mars	-81997-11-23 11:59 J	-28227654.12	-28227654.00	-28227653.88	0.1817	0.1244		
Jupiter	-81993-11-07 20:08 J	-28226208.86	-28226208.66	-28226208.46	0.0488	0.0154		
Saturn	-81992-10-18 21:20 J	-28225863.75	-28225863.61	-28225863.46	0.0276	0.0196		
Saturn	-81991-06-04 22:18 J	-28225634.72	-28225634.57	-28225634.41	0.0275	0.0176		
Jupiter	-81987-09-12 09:35 J	-28224074.29	-28224074.10	-28224073.90	0.0539	0.0048		
Jupiter	-81981-07-13 20:08 J	-28221942.84	-28221942.66	-28221942.48	0.0488	0.0249		
Earth	-81978-08-23 11:16 J	-28220807.11	-28220807.03	-28220806.95	0.2588	0.2220		
Uranus	-81977-04-04 07:25 J	-28220582.37	-28220582.19	-28220582.00	0.0143	0.0080		
Uranus	-81977-11-16 20:52 J	-28220355.85	-28220355.63	-28220355.41	0.0142	0.0007		
Saturn	-81976-06-27 13:11 J	-28220133.12	-28220132.95	-28220132.77	0.0284	0.0171		
Uranus	-81976-07-01 09:35 J	-28220129.28	-28220129.10	-28220128.88	0.0142	0.0066		
Saturn	-81975-02-12 13:11 J	-28219903.00	-28219902.95	-28219902.89	0.0286	0.0275		
Uranus	-81975-02-12 22:04 J	-28219902.61	-28219902.58	-28219902.50	0.0141	0.0138		
Jupiter	-81975-05-18 02:52 J	-28219808.47	-28219808.38	-28219808.29	0.0540	0.0473		
Mars	-81971-06-09 18:13 J	-28218324.84	-28218324.74	-28218324.65	0.1738	0.1458		
Earth	-81970-08-21 02:23 J	-28217887.52	-28217887.40	-28217887.29	0.2589	0.1812		
Moon	-81970-08-21 04:47 J	-28217887.42	-28217887.30	-28217887.18	0.2584	0.1841	*	

Mars -81965-11-22 17:44 J -28215966.83 -28215966.76 -28215966.69 0.1802 0.1613
 Saturn -81962-04-30 21:49 J -28215077.75 -28215077.59 -28215077.41 0.0275 0.0156
 Saturn -81962-12-15 22:47 J -28214848.67 -28214848.55 -28214848.42 0.0274 0.0215
 Jupiter -81957-07-16 08:08 J -28213174.29 -28213174.16 -28213174.04 0.0488 0.0392
 Neptune -81953-03-12 15:06 J -28211838.97 -28211838.87 -28211838.74 0.0089 0.0076
 Neptune -81953-10-24 05:16 J -28211613.44 -28211613.28 -28211613.10 0.0089 0.0058
 Neptune -81952-06-06 19:40 J -28211387.87 -28211387.68 -28211387.47 0.0089 0.0040
 Neptune -81951-01-18 10:04 J -28211162.30 -28211162.08 -28211161.86 0.0089 0.0022
 Jupiter -81951-05-21 04:18 J -28211039.46 -28211039.32 -28211039.18 0.0539 0.0367
 Neptune -81951-09-01 00:13 J -28210936.71 -28210936.49 -28210936.26 0.0089 0.0004
 Neptune -81950-04-14 14:23 J -28210711.12 -28210710.90 -28210710.67 0.0089 0.0015
 Neptune -81950-11-26 04:32 J -28210485.51 -28210485.31 -28210485.09 0.0089 0.0033
 Neptune -81949-07-08 18:42 J -28210259.89 -28210259.72 -28210259.52 0.0089 0.0051
 Neptune -81948-02-19 09:06 J -28210034.25 -28210034.12 -28210033.97 0.0089 0.0069
 Neptune -81948-10-02 23:16 J -28209808.56 -28209808.53 -28209808.48 0.0089 0.0087
 Saturn -81946-01-07 12:28 J -28209347.17 -28209346.98 -28209346.78 0.0284 0.0135
 Jupiter -81945-03-21 08:37 J -28208908.35 -28208908.14 -28208907.92 0.0488 0.0014
 Jupiter -81939-01-23 20:08 J -28206773.85 -28206773.66 -28206773.47 0.0539 0.0160
 Mars -81937-04-06 17:16 J -28205969.81 -28205969.78 -28205969.76 0.1720 0.1694
 Jupiter -81934-11-25 08:52 J -28204642.24 -28204642.13 -28204642.01 0.0488 0.0410
 Uranus -81933-11-09 02:08 J -28204292.54 -28204292.41 -28204292.24 0.0136 0.0095
 Saturn -81933-11-10 01:25 J -28204291.62 -28204291.44 -28204291.25 0.0276 0.0108
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 Uranus -81931-02-04 11:44 J -28203840.22 -28203840.01 -28203839.80 0.0137 0.0025
 Uranus -81931-09-18 16:04 J -28203613.98 -28203613.83 -28203613.65 0.0137 0.0086
 Mars -81931-09-20 19:40 J -28203611.72 -28203611.68 -28203611.63 0.1822 0.1752
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 Jupiter -81910-11-27 21:20 J -28195873.79 -28195873.61 -28195873.42 0.0488 0.0233
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Jupiter -81904-10-01 12:13 J -28193739.17 -28193738.99 -28193738.80 0.0540 0.0144
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 Saturn -81887-01-29 18:56 J -28187774.93 -28187774.71 -28187774.49 0.0284 0.0039
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 Jupiter -81862-04-10 09:49 J -28178573.30 -28178573.09 -28178572.88 0.0488 0.0069
 Saturn -81858-08-12 02:52 J -28176988.59 -28176988.38 -28176988.16 0.0285 0.0027
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 Neptune -81789-06-14 00:13 J -28151844.55 -28151844.49 -28151844.39 0.0089 0.0083
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 Mars -81767-05-14 18:13 J -28143839.91 -28143839.74 -28143839.57 0.1816 0.0202
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 Pluto -81764-05-12 18:42 J -28142745.86 -28142745.72 -28142745.54 0.0081 0.0054
 Uranus -81764-06-04 08:37 J -28142723.34 -28142723.14 -28142722.93 0.0136 0.0033
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 Uranus -81763-08-30 18:13 J -28142270.90 -28142270.74 -28142270.57 0.0137 0.0088
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 Saturn -81740-02-07 23:16 J -28134073.68 -28134073.53 -28134073.37 0.0283 0.0195
 Saturn -81740-09-25 22:47 J -28133843.66 -28133843.55 -28133843.45 0.0285 0.0246
 Jupiter -81738-11-09 12:13 J -28133069.15 -28133068.99 -28133068.82 0.0539 0.0304
 Moon -81735-08-23 06:13 J -28132051.35 -28132051.24 -28132051.12 0.2589 0.1774
 Earth -81735-08-23 11:59 J -28132051.07 -28132051.00 -28132050.92 0.2589 0.2264
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 Moon -81727-08-20 23:01 J -28129131.64 -28129131.54 -28129131.45 0.2595 0.2046

Earth -81727-08-21 03:06 J -28129131.49 -28129131.37 -28129131.26 0.2591 0.1790 *
 Saturn -81727-12-12 19:11 J -28129017.86 -28129017.70 -28129017.52 0.0277 0.0152
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 Saturn -81726-07-29 21:06 J -28128788.74 -28128788.62 -28128788.50 0.0275 0.0224
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 Saturn -81696-02-07 23:44 J -28118002.54 -28118002.51 -28118002.47 0.0276 0.0271
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 Uranus -81597-10-02 04:18 J -28081606.47 -28081606.32 -28081606.16 0.0136 0.0092
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 Uranus -81558-10-26 09:06 J -28067338.24 -28067338.12 -28067337.99 0.0143 0.0118
 Uranus -81557-06-08 22:32 J -28067111.77 -28067111.56 -28067111.34 0.0143 0.0045
 Uranus -81556-01-21 11:44 J -28066885.22 -28066885.01 -28066884.78 0.0142 0.0029
 Uranus -81556-09-05 00:28 J -28066658.62 -28066658.48 -28066658.31 0.0142 0.0101
 Jupiter -81554-06-23 15:35 J -28066002.01 -28066001.85 -28066001.69 0.0488 0.0317
 Saturn -81550-07-04 21:49 J -28064529.72 -28064529.59 -28064529.44 0.0278 0.0202
 Saturn -81549-02-19 00:13 J -28064300.64 -28064300.49 -28064300.33 0.0276 0.0179

Mars -81544-05-19 23:30 J -28062383.59 -28062383.52 -28062383.44 0.1726 0.1563
 Neptune -81542-06-16 15:35 J -28061625.89 -28061625.85 -28061625.77 0.0089 0.0085
 Neptune -81541-01-28 03:20 J -28061400.48 -28061400.36 -28061400.21 0.0089 0.0068
 Neptune -81541-09-09 15:06 J -28061175.03 -28061174.87 -28061174.68 0.0089 0.0051
 Neptune -81540-04-23 02:52 J -28060949.56 -28060949.38 -28060949.17 0.0089 0.0034
 Neptune -81540-12-04 14:52 J -28060724.08 -28060723.88 -28060723.66 0.0089 0.0017
 Neptune -81539-07-18 02:52 J -28060498.59 -28060498.38 -28060498.16 0.0089 0.0001
 Neptune -81538-02-28 14:37 J -28060273.10 -28060272.89 -28060272.68 0.0089 0.0018
 Neptune -81538-10-12 02:08 J -28060047.59 -28060047.41 -28060047.20 0.0089 0.0036
 Mars -81538-11-03 00:56 J -28060025.53 -28060025.46 -28060025.40 0.1815 0.1659
 Neptune -81537-05-24 13:54 J -28059822.08 -28059821.92 -28059821.73 0.0089 0.0053
 Neptune -81536-01-05 01:40 J -28059596.54 -28059596.43 -28059596.28 0.0089 0.0070
 Neptune -81536-08-18 13:25 J -28059370.96 -28059370.94 -28059370.88 0.0089 0.0087
 Saturn -81534-03-13 04:04 J -28058799.49 -28058799.33 -28058799.17 0.0283 0.0192
 Saturn -81534-10-29 02:23 J -28058569.49 -28058569.40 -28058569.28 0.0284 0.0248
 Jupiter -81530-06-26 02:37 J -28057233.54 -28057233.39 -28057233.22 0.0488 0.0322
 Jupiter -81524-04-29 17:59 J -28055098.92 -28055098.75 -28055098.57 0.0539 0.0228
 Saturn -81520-01-14 00:42 J -28053743.63 -28053743.47 -28053743.29 0.0278 0.0154
 Saturn -81520-08-31 02:52 J -28053514.49 -28053514.38 -28053514.26 0.0276 0.0227
 Pluto -81519-10-28 11:44 J -28053091.20 -28053091.01 -28053090.81 0.0081 0.0031
 Jupiter -81518-03-01 00:42 J -28052967.68 -28052967.47 -28052967.26 0.0488 0.0094
 Pluto -81518-06-10 21:35 J -28052865.79 -28052865.60 -28052865.39 0.0081 0.0028
 Uranus -81513-06-01 15:06 J -28051047.96 -28051047.87 -28051047.76 0.0136 0.0120
 Jupiter -81512-01-02 11:01 J -28050833.20 -28050833.04 -28050832.87 0.0539 0.0291
 Uranus -81512-01-13 19:25 J -28050821.86 -28050821.69 -28050821.49 0.0136 0.0061
 Uranus -81512-08-28 00:13 J -28050595.70 -28050595.49 -28050595.27 0.0136 0.0003
 Uranus -81511-04-11 05:01 J -28050369.48 -28050369.29 -28050369.10 0.0137 0.0059
 Uranus -81511-11-23 09:35 J -28050143.18 -28050143.10 -28050142.98 0.0137 0.0120
 Mars -81510-03-18 00:28 J -28050028.56 -28050028.48 -28050028.40 0.1709 0.1500
 Saturn -81505-09-22 14:52 J -28048013.07 -28048012.88 -28048012.67 0.0283 0.0115

Earth -81492-08-23 12:28 J -28043295.05 -28043294.98 -28043294.90 0.2590 0.2285
 Moon -81492-08-23 17:44 J -28043294.79 -28043294.76 -28043294.73 0.2594 0.2537
 Saturn -81491-07-27 09:35 J -28042957.29 -28042957.10 -28042956.90 0.0277 0.0084
 Jupiter -81488-01-05 05:01 J -28042064.36 -28042064.29 -28042064.22 0.0539 0.0500
 Earth -81484-08-21 03:20 J -28040375.47 -28040375.36 -28040375.24 0.2592 0.1801
 Moon -81484-08-21 08:52 J -28040375.28 -28040375.13 -28040374.98 0.2590 0.1095 *
 Jupiter -81483-11-06 12:13 J -28039933.19 -28039932.99 -28039932.79 0.0488 0.0141
 Mars -81478-03-17 07:54 J -28038341.31 -28038341.17 -28038341.04 0.1722 0.1155
 Jupiter -81477-09-09 23:16 J -28037798.73 -28037798.53 -28037798.34 0.0539 0.0016
 Saturn -81475-04-04 22:04 J -28037226.80 -28037226.58 -28037226.37 0.0283 0.0054
 Uranus -81473-02-07 01:40 J -28036553.60 -28036553.43 -28036553.24 0.0143 0.0084
 Uranus -81473-09-20 15:20 J -28036327.09 -28036326.86 -28036326.64 0.0142 0.0010
 Uranus -81472-05-05 04:18 J -28036100.52 -28036100.32 -28036100.12 0.0142 0.0062
 Mars -81472-08-30 09:06 J -28035983.25 -28035983.12 -28035983.00 0.1820 0.1185
 Uranus -81472-12-17 17:16 J -28035873.85 -28035873.78 -28035873.71 0.0142 0.0134
 Jupiter -81471-07-12 11:44 J -28035667.18 -28035667.01 -28035666.83 0.0488 0.0263
 Jupiter -81465-05-15 17:44 J -28033532.81 -28033532.76 -28033532.72 0.0539 0.0522
 Saturn -81461-02-06 12:13 J -28032171.19 -28032170.99 -28032170.79 0.0277 0.0036
 Neptune -81460-07-31 10:04 J -28031630.17 -28031630.08 -28031629.96 0.0089 0.0078
 Neptune -81459-03-14 00:13 J -28031404.64 -28031404.49 -28031404.30 0.0089 0.0060
 Neptune -81459-10-25 14:52 J -28031179.08 -28031178.88 -28031178.67 0.0089 0.0041
 Neptune -81458-06-08 05:16 J -28030953.49 -28030953.28 -28030953.06 0.0089 0.0023
 Neptune -81457-01-19 19:40 J -28030727.91 -28030727.68 -28030727.45 0.0089 0.0004
 Neptune -81457-09-01 09:49 J -28030502.31 -28030502.09 -28030501.86 0.0089 0.0014
 Neptune -81456-04-14 23:59 J -28030276.70 -28030276.50 -28030276.28 0.0089 0.0033
 Neptune -81456-11-26 14:08 J -28030051.08 -28030050.91 -28030050.71 0.0089 0.0051
 Neptune -81455-07-10 04:47 J -28029825.44 -28029825.30 -28029825.16 0.0089 0.0069
 Neptune -81454-02-20 18:28 J -28029599.74 -28029599.73 -28029599.67 0.0089 0.0088
 Jupiter -81447-07-14 22:04 J -28026898.72 -28026898.58 -28026898.44 0.0489 0.0367
 Saturn -81446-10-16 07:54 J -28026440.38 -28026440.17 -28026439.95 0.0283 0.0021

Jupiter -81441-05-18 11:59 J -28024764.17 -28024764.00 -28024763.83 0.0539 0.0271
 Jupiter -81435-03-19 22:04 J -28022632.79 -28022632.58 -28022632.37 0.0488 0.0036
 Saturn -81432-08-18 21:06 J -28021384.83 -28021384.62 -28021384.42 0.0277 0.0034
 Jupiter -81429-01-22 04:47 J -28020498.48 -28020498.30 -28020498.13 0.0539 0.0248
 Uranus -81429-09-13 06:13 J -28020263.39 -28020263.24 -28020263.07 0.0136 0.0089
 Uranus -81428-04-27 11:01 J -28020037.25 -28020037.04 -28020036.84 0.0136 0.0030
 Uranus -81428-12-09 15:35 J -28019811.05 -28019810.85 -28019810.64 0.0136 0.0031
 Uranus -81427-07-23 20:23 J -28019584.80 -28019584.65 -28019584.48 0.0137 0.0091
 Jupiter -81424-11-22 21:35 J -28018366.68 -28018366.60 -28018366.51 0.0488 0.0440
 Saturn -81416-04-27 15:06 J -28015654.07 -28015653.87 -28015653.66 0.0284 0.0082
 Mars -81412-01-11 15:35 J -28014299.01 -28014298.85 -28014298.68 0.1718 0.0733
 Mars -81406-06-27 17:01 J -28011940.95 -28011940.79 -28011940.64 0.1824 0.0693
 Saturn -81402-02-28 23:30 J -28010598.71 -28010598.52 -28010598.32 0.0276 0.0081
 Jupiter -81400-11-25 07:25 J -28009598.38 -28009598.19 -28009597.99 0.0488 0.0190
 Jupiter -81394-09-29 21:49 J -28007463.78 -28007463.59 -28007463.39 0.0539 0.0061
 Uranus -81390-10-07 05:59 J -28005995.35 -28005995.25 -28005995.11 0.0143 0.0121
 Uranus -81389-05-20 19:54 J -28005768.88 -28005768.67 -28005768.46 0.0142 0.0047
 Uranus -81388-01-02 09:06 J -28005542.34 -28005542.12 -28005541.90 0.0142 0.0026
 Jupiter -81388-07-31 07:25 J -28005332.38 -28005332.19 -28005332.00 0.0488 0.0215
 Uranus -81388-08-16 22:04 J -28005315.74 -28005315.58 -28005315.41 0.0142 0.0098
 Saturn -81387-11-07 23:44 J -28004867.69 -28004867.51 -28004867.32 0.0284 0.0151
 Earth -81386-02-23 06:28 J -28004760.37 -28004760.23 -28004760.09 0.2744 0.0996
 Moon -81386-02-23 11:44 J -28004760.16 -28004760.01 -28004759.85 0.2743 0.0075 *
 Jupiter -81382-06-04 11:59 J -28003198.09 -28003198.00 -28003197.91 0.0539 0.0475
 Neptune -81377-04-30 16:32 J -28001405.93 -28001405.81 -28001405.69 0.0089 0.0073
 Neptune -81377-12-12 04:18 J -28001180.48 -28001180.32 -28001180.15 0.0089 0.0056
 Neptune -81376-07-25 16:04 J -28000955.02 -28000954.83 -28000954.63 0.0089 0.0039
 Neptune -81375-03-08 03:49 J -28000729.54 -28000729.34 -28000729.13 0.0089 0.0022
 Neptune -81375-10-19 15:35 J -28000504.06 -28000503.85 -28000503.63 0.0089 0.0005
 Neptune -81374-06-02 03:35 J -28000278.56 -28000278.35 -28000278.14 0.0089 0.0013

Neptune -81373-01-13 15:20 J -28000053.06 -28000052.86 -28000052.66 0.0089 0.0030
 Saturn -81373-01-25 05:30 J -28000041.37 -28000041.27 -28000041.15 0.0278 0.0234
 Neptune -81373-08-26 02:37 J -27999827.55 -27999827.39 -27999827.19 0.0089 0.0048
 Saturn -81373-09-10 07:54 J -27999812.34 -27999812.17 -27999812.00 0.0276 0.0148
 Neptune -81372-04-08 14:23 J -27999602.03 -27999601.90 -27999601.74 0.0089 0.0065
 Neptune -81372-11-20 02:08 J -27999376.47 -27999376.41 -27999376.31 0.0089 0.0082
 Jupiter -81364-08-02 19:40 J -27996563.78 -27996563.68 -27996563.58 0.0488 0.0427
 Pluto -81362-12-31 17:01 J -27995682.95 -27995682.79 -27995682.61 0.0064 0.0042
 Pluto -81361-08-12 21:35 J -27995457.81 -27995457.60 -27995457.36 0.0064 0.0012
 Pluto -81360-03-26 02:08 J -27995232.61 -27995232.41 -27995232.17 0.0064 0.0020
 Pluto -81360-11-06 07:25 J -27995007.33 -27995007.19 -27995007.05 0.0064 0.0050
 Jupiter -81358-06-07 09:35 J -27994429.25 -27994429.10 -27994428.94 0.0539 0.0338
 Saturn -81358-10-03 08:37 J -27994311.27 -27994311.14 -27994311.01 0.0282 0.0227
 Saturn -81357-05-20 07:11 J -27994081.34 -27994081.20 -27994081.06 0.0284 0.0214
 Jupiter -81352-04-07 19:11 J -27992297.91 -27992297.70 -27992297.49 0.0488 0.0023
 Mars -81347-11-08 23:59 J -27990256.68 -27990256.50 -27990256.32 0.1714 0.0331
 Jupiter -81346-02-10 04:32 J -27990163.50 -27990163.31 -27990163.12 0.0539 0.0170
 Uranus -81345-05-13 17:01 J -27989704.90 -27989704.79 -27989704.69 0.0136 0.0117
 Uranus -81345-12-25 21:20 J -27989478.79 -27989478.61 -27989478.41 0.0136 0.0058
 Saturn -81344-08-06 07:54 J -27989255.32 -27989255.17 -27989255.02 0.0278 0.0188
 Uranus -81344-08-09 02:08 J -27989252.62 -27989252.41 -27989252.20 0.0136 0.0002
 Uranus -81343-03-23 06:42 J -27989026.40 -27989026.22 -27989026.03 0.0137 0.0061
 Saturn -81343-03-23 10:04 J -27989026.23 -27989026.08 -27989025.94 0.0276 0.0193 *
 Uranus -81343-11-04 11:16 J -27988800.11 -27988800.03 -27988799.92 0.0137 0.0122
 Jupiter -81341-12-11 17:44 J -27988031.89 -27988031.76 -27988031.63 0.0488 0.0388
 Mars -81340-04-24 00:28 J -27987898.65 -27987898.48 -27987898.32 0.1829 0.0181
 Saturn -81328-04-14 14:37 J -27983525.06 -27983524.89 -27983524.71 0.0282 0.0167
 Saturn -81328-11-30 13:25 J -27983294.98 -27983294.94 -27983294.88 0.0284 0.0275
 Jupiter -81317-12-14 06:28 J -27979263.40 -27979263.23 -27979263.04 0.0488 0.0258
 Saturn -81314-02-16 16:04 J -27978469.01 -27978468.83 -27978468.64 0.0277 0.0121

Saturn -81314-10-03 17:59 J -27978239.82 -27978239.75 -27978239.68 0.0276 0.0259
 Jupiter -81311-10-18 16:18 J -27977129.01 -27977128.82 -27977128.63 0.0539 0.0108
 Uranus -81305-01-19 00:56 J -27975210.65 -27975210.46 -27975210.28 0.0143 0.0083
 Jupiter -81305-08-19 05:59 J -27974997.44 -27974997.25 -27974997.04 0.0488 0.0149
 Uranus -81305-09-01 14:08 J -27974984.13 -27974983.91 -27974983.69 0.0142 0.0010
 Uranus -81304-04-16 02:52 J -27974757.57 -27974757.38 -27974757.16 0.0142 0.0063
 Uranus -81304-11-28 16:04 J -27974530.90 -27974530.83 -27974530.76 0.0142 0.0134
 Jupiter -81299-06-23 09:49 J -27972863.21 -27972863.09 -27972862.96 0.0539 0.0407
 Saturn -81299-10-25 21:49 J -27972738.79 -27972738.59 -27972738.39 0.0283 0.0106
 Neptune -81296-11-01 20:23 J -27971635.70 -27971635.65 -27971635.55 0.0089 0.0084
 Neptune -81295-06-15 11:16 J -27971410.18 -27971410.03 -27971409.87 0.0089 0.0065
 Neptune -81294-01-27 01:25 J -27971184.62 -27971184.44 -27971184.24 0.0089 0.0047
 Neptune -81294-09-09 15:35 J -27970959.05 -27970958.85 -27970958.62 0.0089 0.0029
 Neptune -81293-04-22 06:13 J -27970733.47 -27970733.24 -27970733.02 0.0089 0.0010
 Neptune -81293-12-03 20:23 J -27970507.87 -27970507.65 -27970507.42 0.0089 0.0009
 Neptune -81292-07-17 10:47 J -27970282.27 -27970282.05 -27970281.83 0.0089 0.0027
 Neptune -81291-02-28 00:42 J -27970056.65 -27970056.47 -27970056.26 0.0089 0.0046
 Neptune -81291-10-11 15:06 J -27969831.02 -27969830.87 -27969830.70 0.0089 0.0064
 Neptune -81290-05-25 05:44 J -27969605.34 -27969605.26 -27969605.18 0.0089 0.0082
 Saturn -81285-08-28 17:44 J -27967682.96 -27967682.76 -27967682.56 0.0277 0.0076
 Jupiter -81281-08-21 16:47 J -27966228.82 -27966228.80 -27966228.77 0.0488 0.0485
 Mars -81281-09-05 08:08 J -27966214.34 -27966214.16 -27966213.98 0.1710 0.0074
 Jupiter -81275-06-26 10:18 J -27964094.19 -27964094.07 -27964093.95 0.0539 0.0422
 Mars -81274-02-19 07:54 J -27963856.33 -27963856.17 -27963856.00 0.1834 0.0344
 Pluto -81273-11-25 14:52 J -27963211.02 -27963210.88 -27963210.70 0.0081 0.0055
 Pluto -81272-07-09 01:11 J -27962985.66 -27962985.45 -27962985.23 0.0081 0.0005
 Pluto -81271-02-19 10:47 J -27962760.17 -27962760.05 -27962759.90 0.0080 0.0062
 Jupiter -81269-04-26 17:01 J -27961963.00 -27961962.79 -27961962.58 0.0488 0.0083
 Saturn -81269-05-07 02:23 J -27961952.62 -27961952.40 -27961952.19 0.0283 0.0052
 Jupiter -81263-03-01 00:42 J -27959828.66 -27959828.47 -27959828.28 0.0539 0.0111

Uranus	-81261-08-25 06:56 J	-27958920.36	-27958920.21	-27958920.04	0.0136	0.0088
Uranus	-81260-04-08 11:30 J	-27958694.22	-27958694.02	-27958693.81	0.0136	0.0029
Uranus	-81260-11-20 16:18 J	-27958468.03	-27958467.82	-27958467.62	0.0137	0.0031
Uranus	-81259-07-04 20:52 J	-27958241.78	-27958241.63	-27958241.47	0.0137	0.0091
Jupiter	-81258-12-31 17:30 J	-27957696.92	-27957696.77	-27957696.60	0.0488	0.0316
Saturn	-81255-03-11 00:56 J	-27956896.66	-27956896.46	-27956896.25	0.0277	0.0014
Moon	-81249-08-23 09:06 J	-27954539.22	-27954539.12	-27954539.02	0.2587	0.2093
Earth	-81249-08-23 12:56 J	-27954539.03	-27954538.96	-27954538.88	0.2592	0.2286 *
Earth	-81241-08-21 04:04 J	-27951619.45	-27951619.33	-27951619.22	0.2593	0.1788
Saturn	-81240-11-17 08:37 J	-27951166.36	-27951166.14	-27951165.92	0.0283	0.0007
Jupiter	-81233-01-03 05:30 J	-27948928.42	-27948928.27	-27948928.11	0.0488	0.0324
Jupiter	-81228-11-06 17:30 J	-27946793.95	-27946793.77	-27946793.58	0.0539	0.0196
Saturn	-81226-09-21 02:23 J	-27946110.61	-27946110.40	-27946110.20	0.0276	0.0030
Jupiter	-81222-09-08 04:18 J	-27944662.52	-27944662.32	-27944662.11	0.0488	0.0086
Uranus	-81222-09-18 05:16 J	-27944652.39	-27944652.28	-27944652.15	0.0143	0.0120
Uranus	-81221-05-01 18:42 J	-27944425.92	-27944425.72	-27944425.50	0.0142	0.0047
Uranus	-81221-12-14 08:08 J	-27944199.38	-27944199.16	-27944198.94	0.0142	0.0027
Uranus	-81220-07-28 20:52 J	-27943972.77	-27943972.63	-27943972.45	0.0142	0.0099
Jupiter	-81216-07-12 11:44 J	-27942528.17	-27942528.01	-27942527.85	0.0539	0.0315
Mars	-81215-07-03 16:32 J	-27942171.98	-27942171.81	-27942171.64	0.1706	0.0471
Neptune	-81213-08-02 05:01 J	-27941411.36	-27941411.29	-27941411.16	0.0089	0.0079
Neptune	-81212-03-15 17:16 J	-27941185.92	-27941185.78	-27941185.62	0.0089	0.0061
Neptune	-81212-10-27 05:01 J	-27940960.46	-27940960.29	-27940960.09	0.0089	0.0044
Neptune	-81211-06-09 17:01 J	-27940734.99	-27940734.79	-27940734.58	0.0089	0.0027
Neptune	-81210-01-21 04:47 J	-27940509.51	-27940509.30	-27940509.08	0.0089	0.0009
Jupiter	-81210-05-14 05:01 J	-27940396.32	-27940396.29	-27940396.27	0.0488	0.0484
Saturn	-81210-05-30 11:30 J	-27940380.23	-27940380.02	-27940379.80	0.0283	0.0055
Neptune	-81210-09-03 16:32 J	-27940284.02	-27940283.81	-27940283.60	0.0089	0.0008
Neptune	-81209-04-16 04:18 J	-27940058.52	-27940058.32	-27940058.12	0.0089	0.0025
Neptune	-81209-11-27 15:49 J	-27939833.01	-27939832.84	-27939832.64	0.0089	0.0043

Mars -81209-12-16 15:35 J -27939814.00 -27939813.85 -27939813.70 0.1839 0.0867
 Neptune -81208-07-11 03:35 J -27939607.49 -27939607.35 -27939607.18 0.0089 0.0060
 Neptune -81207-02-21 15:06 J -27939381.95 -27939381.87 -27939381.74 0.0089 0.0077
 Saturn -81196-04-02 08:37 J -27935324.33 -27935324.14 -27935323.95 0.0277 0.0089
 Jupiter -81192-07-15 06:28 J -27933759.31 -27933759.23 -27933759.14 0.0539 0.0481
 Jupiter -81186-05-16 17:44 J -27931627.96 -27931627.76 -27931627.56 0.0488 0.0160
 Saturn -81181-12-09 17:44 J -27929593.95 -27929593.76 -27929593.56 0.0284 0.0114
 Jupiter -81180-03-20 00:13 J -27929493.69 -27929493.49 -27929493.29 0.0539 0.0033
 Uranus -81177-04-24 15:49 J -27928361.93 -27928361.84 -27928361.73 0.0136 0.0119
 Uranus -81177-12-06 20:23 J -27928135.83 -27928135.65 -27928135.45 0.0136 0.0060
 Uranus -81176-07-21 00:56 J -27927909.67 -27927909.46 -27927909.24 0.0136 0.0004
 Uranus -81175-03-04 05:30 J -27927683.45 -27927683.27 -27927683.07 0.0137 0.0059
 Uranus -81175-10-16 10:18 J -27927457.16 -27927457.07 -27927456.96 0.0137 0.0119
 Jupiter -81174-01-19 17:44 J -27927361.94 -27927361.76 -27927361.58 0.0488 0.0243
 Saturn -81167-02-26 06:56 J -27924767.28 -27924767.21 -27924767.11 0.0278 0.0253
 Saturn -81167-10-13 09:20 J -27924538.28 -27924538.11 -27924537.92 0.0276 0.0131
 Moon -81151-02-25 12:56 J -27918924.02 -27918923.96 -27918923.90 0.2739 0.2536
 Saturn -81151-06-21 18:56 J -27918807.89 -27918807.71 -27918807.53 0.0284 0.0156
 Jupiter -81150-01-22 05:44 J -27918593.38 -27918593.26 -27918593.14 0.0488 0.0397
 Mars -81149-04-30 00:42 J -27918129.62 -27918129.47 -27918129.31 0.1702 0.0864
 Jupiter -81145-11-25 16:18 J -27916458.98 -27916458.82 -27916458.64 0.0539 0.0272
 Moon -81143-02-23 02:37 J -27916004.48 -27916004.39 -27916004.29 0.2742 0.2120
 Earth -81143-02-23 07:54 J -27916004.30 -27916004.17 -27916004.03 0.2743 0.1224 *
 Mars -81143-10-13 23:01 J -27915771.64 -27915771.54 -27915771.43 0.1843 0.1398
 Jupiter -81139-09-27 05:59 J -27914327.46 -27914327.25 -27914327.03 0.0489 0.0011
 Saturn -81138-09-08 12:13 J -27913981.12 -27913980.99 -27913980.84 0.0278 0.0198
 Uranus -81138-12-30 22:47 J -27913867.72 -27913867.55 -27913867.36 0.0143 0.0084
 Saturn -81137-04-24 14:37 J -27913752.04 -27913751.89 -27913751.73 0.0276 0.0186
 Uranus -81137-08-13 12:13 J -27913641.21 -27913640.99 -27913640.76 0.0142 0.0011
 Uranus -81136-03-28 01:25 J -27913414.64 -27913414.44 -27913414.24 0.0142 0.0061

Uranus -81136-11-09 14:08 J -27913187.98 -27913187.91 -27913187.83 0.0142 0.0133
 Jupiter -81133-07-31 09:20 J -27912193.28 -27912193.11 -27912192.93 0.0539 0.0247
 Neptune -81131-09-16 21:35 J -27911415.72 -27911415.60 -27911415.45 0.0089 0.0071
 Neptune -81130-04-30 11:44 J -27911190.17 -27911190.01 -27911189.81 0.0089 0.0053
 Neptune -81130-12-12 02:23 J -27910964.61 -27910964.40 -27910964.19 0.0089 0.0034
 Neptune -81129-07-24 16:32 J -27910739.03 -27910738.81 -27910738.58 0.0089 0.0016
 Neptune -81128-03-07 06:56 J -27910513.44 -27910513.21 -27910512.98 0.0089 0.0003
 Neptune -81128-10-18 20:52 J -27910287.83 -27910287.63 -27910287.39 0.0089 0.0022
 Neptune -81127-06-01 11:30 J -27910062.21 -27910062.02 -27910061.81 0.0089 0.0040
 Jupiter -81127-06-02 06:13 J -27910061.35 -27910061.24 -27910061.12 0.0488 0.0405
 Neptune -81126-01-13 01:25 J -27909836.58 -27909836.44 -27909836.24 0.0089 0.0059
 Neptune -81126-08-26 15:49 J -27909610.93 -27909610.84 -27909610.71 0.0089 0.0077
 Saturn -81122-05-17 02:37 J -27908251.51 -27908251.39 -27908251.26 0.0282 0.0226
 Saturn -81121-01-02 00:56 J -27908021.59 -27908021.46 -27908021.31 0.0284 0.0215
 Pluto -81115-01-28 19:54 J -27905802.73 -27905802.67 -27905802.55 0.0064 0.0059
 Pluto -81115-09-11 00:42 J -27905577.65 -27905577.47 -27905577.24 0.0064 0.0029
 Pluto -81114-04-24 06:13 J -27905352.47 -27905352.24 -27905352.02 0.0064 0.0002
 Pluto -81114-12-05 10:18 J -27905127.24 -27905127.07 -27905126.85 0.0064 0.0034
 Pluto -81113-07-17 15:49 J -27904901.87 -27904901.84 -27904901.82 0.0064 0.0064
 Mars -81111-10-13 07:25 J -27904084.25 -27904084.19 -27904084.12 0.1828 0.1688
 Saturn -81108-03-20 13:25 J -27903195.11 -27903194.94 -27903194.77 0.0277 0.0155
 Saturn -81108-11-04 15:20 J -27902965.96 -27902965.86 -27902965.74 0.0276 0.0227
 Jupiter -81103-06-04 17:59 J -27901292.93 -27901292.75 -27901292.56 0.0488 0.0234
 Jupiter -81097-04-08 03:49 J -27899158.53 -27899158.34 -27899158.14 0.0539 0.0072
 Uranus -81093-08-06 04:47 J -27897577.44 -27897577.30 -27897577.13 0.0136 0.0092
 Saturn -81093-11-26 02:23 J -27897465.55 -27897465.40 -27897465.23 0.0282 0.0189
 Uranus -81092-03-20 09:20 J -27897351.31 -27897351.11 -27897350.90 0.0136 0.0033
 Saturn -81092-07-14 01:25 J -27897235.54 -27897235.44 -27897235.35 0.0284 0.0253
 Uranus -81092-11-01 13:54 J -27897125.13 -27897124.92 -27897124.71 0.0136 0.0026
 Jupiter -81091-02-07 18:28 J -27897026.92 -27897026.73 -27897026.53 0.0488 0.0166

Uranus -81091-06-15 18:13 J -27896898.89 -27896898.74 -27896898.56 0.0137 0.0087
 Jupiter -81086-12-12 19:40 J -27894892.78 -27894892.68 -27894892.57 0.0538 0.0454
 Mars -81083-02-25 09:35 J -27894087.22 -27894087.10 -27894086.98 0.1698 0.1244
 Saturn -81079-09-30 17:30 J -27892408.95 -27892408.77 -27892408.57 0.0278 0.0104
 Jupiter -81067-02-10 07:25 J -27888258.22 -27888258.19 -27888258.15 0.0489 0.0479
 Saturn -81063-06-08 09:06 J -27886679.31 -27886679.12 -27886678.93 0.0282 0.0130
 Jupiter -81062-12-15 17:01 J -27886123.93 -27886123.79 -27886123.64 0.0539 0.0356
 Jupiter -81056-10-16 07:25 J -27883992.39 -27883992.19 -27883991.98 0.0488 0.0077
 Uranus -81054-08-30 01:25 J -27883309.54 -27883309.44 -27883309.33 0.0143 0.0124
 Uranus -81053-04-12 14:52 J -27883083.08 -27883082.88 -27883082.66 0.0143 0.0051
 Uranus -81053-11-25 04:18 J -27882856.54 -27882856.32 -27882856.10 0.0142 0.0022
 Uranus -81052-07-09 17:30 J -27882629.93 -27882629.77 -27882629.60 0.0142 0.0094
 Mars -81051-02-24 15:35 J -27882399.96 -27882399.85 -27882399.74 0.1711 0.1350
 Jupiter -81050-08-20 11:59 J -27881858.19 -27881858.00 -27881857.81 0.0539 0.0151
 Saturn -81049-04-11 18:28 J -27881622.92 -27881622.73 -27881622.52 0.0277 0.0061
 Neptune -81049-11-03 18:28 J -27881416.77 -27881416.73 -27881416.63 0.0088 0.0084
 Neptune -81048-06-17 06:56 J -27881191.35 -27881191.21 -27881191.07 0.0089 0.0066
 Neptune -81047-01-28 18:28 J -27880965.90 -27880965.73 -27880965.54 0.0089 0.0049
 Neptune -81047-09-11 06:13 J -27880740.43 -27880740.24 -27880740.03 0.0089 0.0032
 Neptune -81046-04-24 17:59 J -27880514.95 -27880514.75 -27880514.53 0.0089 0.0015
 Neptune -81046-12-06 06:13 J -27880289.46 -27880289.24 -27880289.03 0.0089 0.0003
 Neptune -81045-07-18 17:44 J -27880063.96 -27880063.76 -27880063.55 0.0089 0.0021
 Mars -81045-08-09 15:35 J -27880041.98 -27880041.85 -27880041.72 0.1832 0.1195
 Neptune -81044-03-01 05:30 J -27879838.46 -27879838.27 -27879838.07 0.0089 0.0038
 Jupiter -81044-06-21 07:11 J -27879726.35 -27879726.20 -27879726.04 0.0488 0.0327
 Neptune -81044-10-12 17:16 J -27879612.94 -27879612.78 -27879612.61 0.0089 0.0055
 Neptune -81043-05-26 04:32 J -27879387.41 -27879387.31 -27879387.16 0.0089 0.0073
 Saturn -81034-12-19 08:08 J -27875893.36 -27875893.16 -27875892.95 0.0282 0.0095
 Pluto -81026-08-07 02:37 J -27873105.59 -27873105.39 -27873105.19 0.0081 0.0026
 Pluto -81025-03-19 12:13 J -27872880.17 -27872879.99 -27872879.78 0.0080 0.0033

Jupiter	-81020-06-23 20:23 J	-27870957.81	-27870957.65	-27870957.49	0.0489	0.0319
Saturn	-81020-10-22 22:04 J	-27870836.79	-27870836.58	-27870836.38	0.0278	0.0013
Mars	-81018-12-23 18:13 J	-27870044.79	-27870044.74	-27870044.68	0.1694	0.1610
Jupiter	-81014-04-28 03:20 J	-27868823.55	-27868823.36	-27868823.17	0.0538	0.0149
Uranus	-81009-04-05 14:08 J	-27867018.99	-27867018.91	-27867018.81	0.0136	0.0122
Uranus	-81009-11-17 18:28 J	-27866792.90	-27866792.73	-27866792.53	0.0136	0.0064
Jupiter	-81008-02-26 20:08 J	-27866691.87	-27866691.66	-27866691.45	0.0489	0.0085
Uranus	-81008-07-01 23:01 J	-27866566.75	-27866566.54	-27866566.32	0.0136	0.0005
Uranus	-81007-02-13 03:35 J	-27866340.54	-27866340.35	-27866340.15	0.0137	0.0055
Uranus	-81007-09-27 08:08 J	-27866114.26	-27866114.16	-27866114.04	0.0137	0.0115
Earth	-81006-08-24 13:25 J	-27865783.02	-27865782.94	-27865782.87	0.2593	0.2284
Moon	-81006-08-24 15:06 J	-27865782.91	-27865782.87	-27865782.83	0.2599	0.2490 *
Saturn	-81004-06-30 15:06 J	-27865107.09	-27865106.87	-27865106.65	0.0283	0.0034
Jupiter	-81003-12-31 20:23 J	-27864557.79	-27864557.65	-27864557.50	0.0539	0.0369

81ST MILLENNIUM BCE

This is a list of transits of Venus in the 81st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Earth	-80998-08-22 04:04 J	-27862863.45	-27862863.33	-27862863.22	0.2594	0.1851		
Moon	-80998-08-22 09:06 J	-27862863.27	-27862863.12	-27862862.97	0.2597	0.0915 *		
Jupiter	-80997-11-01 20:23 J	-27862425.67	-27862425.65	-27862425.63	0.0489	0.0486		
Saturn	-80990-05-04 23:30 J	-27860050.72	-27860050.52	-27860050.32	0.0277	0.0033		
Mars	-80986-12-22 23:44 J	-27858357.66	-27858357.51	-27858357.36	0.1707	0.0942		

Mars -80979-06-06 22:47 J -27855999.70 -27855999.55 -27855999.39 0.1837 0.0675
 Jupiter -80978-01-03 21:20 J -27855788.70 -27855788.61 -27855788.51 0.0539 0.0463
 Saturn -80974-01-10 14:23 J -27854321.12 -27854320.90 -27854320.68 0.0283 0.0002
 Jupiter -80973-11-04 09:06 J -27853657.32 -27853657.12 -27853656.92 0.0488 0.0158
 Uranus -80970-12-11 17:16 J -27852524.94 -27852524.78 -27852524.60 0.0143 0.0091
 Uranus -80969-07-25 06:56 J -27852298.43 -27852298.21 -27852297.99 0.0143 0.0018
 Uranus -80968-03-08 19:54 J -27852071.87 -27852071.67 -27852071.45 0.0142 0.0055
 Uranus -80968-10-21 09:06 J -27851845.22 -27851845.12 -27851845.02 0.0142 0.0126
 Jupiter -80967-09-08 13:54 J -27851523.11 -27851522.92 -27851522.72 0.0538 0.0059
 Neptune -80967-12-19 08:37 J -27851421.23 -27851421.14 -27851421.00 0.0089 0.0077
 Neptune -80966-08-01 23:01 J -27851195.70 -27851195.54 -27851195.36 0.0089 0.0058
 Neptune -80965-03-14 13:11 J -27850970.14 -27850969.95 -27850969.74 0.0089 0.0040
 Neptune -80965-10-26 03:35 J -27850744.57 -27850744.35 -27850744.13 0.0089 0.0021
 Neptune -80964-06-08 17:59 J -27850518.97 -27850518.75 -27850518.52 0.0089 0.0003
 Neptune -80963-01-20 08:08 J -27850293.38 -27850293.16 -27850292.93 0.0089 0.0016
 Neptune -80963-09-02 22:04 J -27850067.77 -27850067.58 -27850067.35 0.0089 0.0035
 Neptune -80962-04-16 12:42 J -27849842.15 -27849841.97 -27849841.78 0.0089 0.0053
 Neptune -80962-11-28 02:37 J -27849616.50 -27849616.39 -27849616.23 0.0089 0.0072
 Jupiter -80961-07-10 08:37 J -27849391.32 -27849391.14 -27849390.95 0.0489 0.0248
 Saturn -80961-11-14 01:54 J -27849264.61 -27849264.42 -27849264.22 0.0278 0.0078
 Saturn -80945-07-22 21:49 J -27843534.80 -27843534.59 -27843534.37 0.0283 0.0066
 Jupiter -80937-07-12 21:35 J -27840622.71 -27840622.60 -27840622.47 0.0489 0.0398
 Saturn -80932-10-10 00:42 J -27838707.52 -27838707.47 -27838707.39 0.0279 0.0264
 Jupiter -80931-05-17 05:16 J -27838488.45 -27838488.28 -27838488.10 0.0539 0.0241
 Saturn -80931-05-27 04:04 J -27838478.51 -27838478.33 -27838478.15 0.0277 0.0125
 Jupiter -80925-03-17 21:06 J -27836356.83 -27836356.62 -27836356.41 0.0488 0.0011
 Uranus -80925-07-18 04:18 J -27836234.46 -27836234.32 -27836234.15 0.0136 0.0093
 Uranus -80924-03-01 08:52 J -27836008.33 -27836008.13 -27836007.92 0.0136 0.0034
 Uranus -80924-10-13 13:11 J -27835782.15 -27835781.95 -27835781.74 0.0136 0.0025
 Uranus -80923-05-27 17:44 J -27835555.91 -27835555.76 -27835555.59 0.0137 0.0085

Mars -80920-10-19 08:37 J -27834315.31 -27834315.14 -27834314.97 0.1703 0.0563
 Jupiter -80919-01-20 00:28 J -27834222.65 -27834222.48 -27834222.31 0.0539 0.0264
 Saturn -80915-02-01 21:20 J -27832748.81 -27832748.61 -27832748.40 0.0283 0.0101
 Jupiter -80914-11-21 21:35 J -27832090.71 -27832090.60 -27832090.48 0.0489 0.0407
 Mars -80913-04-03 05:59 J -27831957.41 -27831957.25 -27831957.08 0.1842 0.0135
 Saturn -80902-04-22 02:52 J -27827921.50 -27827921.38 -27827921.25 0.0280 0.0220
 Saturn -80902-12-07 06:13 J -27827692.39 -27827692.24 -27827692.07 0.0278 0.0172
 Earth -80900-02-23 09:20 J -27827248.24 -27827248.11 -27827247.99 0.2742 0.1491
 Moon -80900-02-23 13:40 J -27827248.07 -27827247.93 -27827247.79 0.2746 0.1039 *
 Jupiter -80890-11-24 09:35 J -27823322.28 -27823322.10 -27823321.91 0.0489 0.0231
 Saturn -80887-12-28 08:23 J -27822192.21 -27822192.15 -27822192.07 0.0281 0.0266
 Uranus -80886-08-10 20:23 J -27821966.73 -27821966.65 -27821966.54 0.0143 0.0130
 Saturn -80886-08-15 05:44 J -27821962.42 -27821962.26 -27821962.08 0.0283 0.0171
 Uranus -80885-03-24 10:04 J -27821740.28 -27821740.08 -27821739.87 0.0143 0.0057
 Uranus -80885-11-05 23:30 J -27821513.74 -27821513.52 -27821513.29 0.0142 0.0016
 Neptune -80884-02-05 08:08 J -27821422.16 -27821422.16 -27821422.15 0.0088 0.0088
 Uranus -80884-06-20 12:42 J -27821287.14 -27821286.97 -27821286.79 0.0142 0.0088
 Neptune -80884-09-18 19:25 J -27821196.79 -27821196.69 -27821196.54 0.0089 0.0072
 Jupiter -80884-09-27 13:54 J -27821188.12 -27821187.92 -27821187.72 0.0538 0.0021
 Neptune -80883-05-02 07:40 J -27820971.34 -27820971.18 -27820971.00 0.0089 0.0054
 Neptune -80883-12-13 19:40 J -27820745.87 -27820745.68 -27820745.48 0.0089 0.0037
 Neptune -80882-07-27 07:25 J -27820520.39 -27820520.19 -27820519.97 0.0089 0.0019
 Neptune -80881-03-08 19:25 J -27820294.91 -27820294.69 -27820294.48 0.0089 0.0002
 Neptune -80881-10-20 07:11 J -27820069.41 -27820069.20 -27820068.99 0.0089 0.0016
 Neptune -80880-06-02 18:56 J -27819843.91 -27819843.71 -27819843.51 0.0089 0.0033
 Neptune -80879-01-14 06:13 J -27819618.39 -27819618.24 -27819618.04 0.0089 0.0051
 Neptune -80879-08-27 17:59 J -27819392.87 -27819392.75 -27819392.59 0.0089 0.0068
 Neptune -80878-04-10 05:44 J -27819167.30 -27819167.26 -27819167.18 0.0089 0.0085
 Jupiter -80878-07-30 09:49 J -27819056.29 -27819056.09 -27819055.90 0.0489 0.0171
 Saturn -80873-11-01 06:13 J -27817135.40 -27817135.24 -27817135.07 0.0279 0.0168

Jupiter -80872-06-02 08:08 J -27816922.24 -27816922.16 -27816922.08 0.0538 0.0489
 Saturn -80872-06-18 09:06 J -27816906.23 -27816906.12 -27816905.99 0.0277 0.0221
 Pluto -80869-10-09 02:37 J -27815697.52 -27815697.39 -27815697.23 0.0064 0.0049
 Pluto -80868-05-22 07:25 J -27815472.39 -27815472.19 -27815471.96 0.0064 0.0019
 Pluto -80867-01-02 12:13 J -27815247.20 -27815246.99 -27815246.75 0.0064 0.0012
 Pluto -80867-08-15 17:01 J -27815021.94 -27815021.79 -27815021.61 0.0064 0.0043
 Saturn -80857-07-09 08:52 J -27811406.25 -27811406.13 -27811406.00 0.0281 0.0228
 Saturn -80856-02-24 06:13 J -27811176.38 -27811176.24 -27811176.09 0.0283 0.0209
 Jupiter -80854-08-01 22:18 J -27810287.62 -27810287.57 -27810287.52 0.0489 0.0473
 Mars -80854-08-16 17:01 J -27810272.97 -27810272.79 -27810272.61 0.1699 0.0176
 Jupiter -80848-06-05 07:25 J -27808153.34 -27808153.19 -27808153.04 0.0538 0.0331
 Mars -80847-01-29 13:25 J -27807915.11 -27807914.94 -27807914.78 0.1847 0.0412
 Saturn -80843-05-14 08:08 J -27806349.34 -27806349.16 -27806348.97 0.0279 0.0124
 Saturn -80843-12-29 11:30 J -27806120.07 -27806120.02 -27806119.96 0.0277 0.0266
 Jupiter -80842-04-06 21:06 J -27806021.83 -27806021.62 -27806021.41 0.0489 0.0063
 Uranus -80841-03-17 14:23 J -27805675.97 -27805675.90 -27805675.79 0.0136 0.0122
 Uranus -80841-10-29 18:56 J -27805449.89 -27805449.71 -27805449.52 0.0136 0.0063
 Uranus -80840-06-12 23:30 J -27805223.73 -27805223.52 -27805223.31 0.0136 0.0005
 Uranus -80839-01-25 03:49 J -27804997.52 -27804997.34 -27804997.14 0.0137 0.0056
 Uranus -80839-09-08 08:23 J -27804771.24 -27804771.15 -27804771.02 0.0137 0.0116
 Jupiter -80836-02-08 00:42 J -27803887.66 -27803887.47 -27803887.29 0.0538 0.0184
 Jupiter -80831-12-10 20:52 J -27801755.78 -27801755.63 -27801755.48 0.0489 0.0342
 Saturn -80827-01-19 17:59 J -27800619.93 -27800619.75 -27800619.56 0.0281 0.0157
 Saturn -80827-09-06 15:20 J -27800389.87 -27800389.86 -27800389.82 0.0283 0.0282
 Saturn -80814-11-24 12:56 J -27795563.16 -27795562.96 -27795562.76 0.0279 0.0066
 Jupiter -80807-12-13 09:06 J -27792987.28 -27792987.12 -27792986.95 0.0489 0.0302
 Neptune -80802-03-22 19:54 J -27791426.74 -27791426.67 -27791426.58 0.0089 0.0082
 Neptune -80802-11-03 09:49 J -27791201.22 -27791201.09 -27791200.91 0.0089 0.0064
 Uranus -80802-11-22 14:37 J -27791182.05 -27791181.89 -27791181.71 0.0143 0.0093
 Neptune -80801-06-16 00:28 J -27790975.67 -27790975.48 -27790975.28 0.0089 0.0045

Uranus -80801-07-06 04:18 J -27790955.54 -27790955.32 -27790955.10 0.0143 0.0020
 Jupiter -80801-10-16 16:04 J -27790853.02 -27790852.83 -27790852.64 0.0539 0.0115
 Neptune -80800-01-27 14:37 J -27790750.10 -27790749.89 -27790749.67 0.0089 0.0027
 Uranus -80800-02-17 17:16 J -27790728.98 -27790728.78 -27790728.56 0.0142 0.0053
 Neptune -80800-09-10 05:01 J -27790524.52 -27790524.29 -27790524.07 0.0089 0.0008
 Uranus -80800-10-02 05:59 J -27790502.34 -27790502.25 -27790502.13 0.0142 0.0124
 Neptune -80799-04-23 19:11 J -27790298.92 -27790298.70 -27790298.47 0.0089 0.0011
 Neptune -80799-12-05 09:35 J -27790073.32 -27790073.10 -27790072.89 0.0089 0.0029
 Neptune -80798-07-18 23:30 J -27789847.70 -27789847.52 -27789847.32 0.0089 0.0048
 Saturn -80798-08-01 19:40 J -27789833.87 -27789833.68 -27789833.47 0.0281 0.0115
 Neptune -80797-02-29 13:25 J -27789622.06 -27789621.94 -27789621.76 0.0089 0.0067
 Neptune -80797-10-12 04:04 J -27789396.38 -27789396.33 -27789396.25 0.0089 0.0085
 Jupiter -80795-08-18 09:20 J -27788721.32 -27788721.11 -27788720.90 0.0489 0.0101
 Jupiter -80789-06-21 10:04 J -27786587.21 -27786587.08 -27786586.95 0.0538 0.0398
 Mars -80788-06-13 01:40 J -27786230.60 -27786230.43 -27786230.25 0.1695 0.0213
 Saturn -80784-06-05 14:52 J -27784777.09 -27784776.88 -27784776.68 0.0279 0.0022
 Mars -80782-11-26 20:23 J -27783872.79 -27783872.65 -27783872.50 0.1851 0.0966
 Pluto -80780-09-04 02:52 J -27783225.50 -27783225.38 -27783225.21 0.0081 0.0059
 Pluto -80779-04-17 13:25 J -27783000.15 -27782999.94 -27782999.72 0.0081 0.0000
 Pluto -80779-11-28 23:16 J -27782774.67 -27782774.53 -27782774.38 0.0080 0.0058
 Saturn -80768-02-11 05:59 J -27779047.46 -27779047.25 -27779047.03 0.0281 0.0040
 Jupiter -80765-06-24 05:01 J -27777818.42 -27777818.29 -27777818.16 0.0538 0.0396
 Earth -80763-08-24 13:25 J -27777027.02 -27777026.94 -27777026.86 0.2594 0.2254
 Moon -80763-08-24 13:54 J -27777027.02 -27777026.92 -27777026.81 0.2588 0.2051 *
 Jupiter -80759-04-25 20:23 J -27775686.85 -27775686.65 -27775686.45 0.0489 0.0130
 Uranus -80757-06-29 04:32 J -27774891.45 -27774891.31 -27774891.15 0.0136 0.0093
 Uranus -80756-02-10 08:52 J -27774665.32 -27774665.13 -27774664.92 0.0136 0.0035
 Uranus -80756-09-24 13:25 J -27774439.14 -27774438.94 -27774438.73 0.0136 0.0026
 Uranus -80755-05-08 18:13 J -27774212.90 -27774212.74 -27774212.57 0.0137 0.0085
 Moon -80755-08-22 00:13 J -27774107.53 -27774107.49 -27774107.45 0.2591 0.2512

Earth -80755-08-22 04:18 J -27774107.43 -27774107.32 -27774107.21 0.2596 0.1855
 Saturn -80755-12-16 20:37 J -27773990.84 -27773990.64 -27773990.43 0.0278 0.0039
 Jupiter -80753-02-27 22:47 J -27773552.74 -27773552.55 -27773552.36 0.0538 0.0116
 Jupiter -80748-12-29 19:54 J -27771420.85 -27771420.67 -27771420.50 0.0489 0.0275
 Saturn -80739-08-24 08:52 J -27768261.34 -27768261.13 -27768260.91 0.0282 0.0009
 Saturn -80725-06-27 23:01 J -27763204.73 -27763204.54 -27763204.34 0.0279 0.0086
 Jupiter -80723-01-01 06:42 J -27762652.36 -27762652.22 -27762652.08 0.0489 0.0358
 Mars -80722-04-10 10:32 J -27762188.23 -27762188.06 -27762187.89 0.1691 0.0582
 Neptune -80720-12-21 08:52 J -27761202.21 -27761202.13 -27761202.00 0.0088 0.0077
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 Uranus -80718-07-22 19:25 J -27760623.77 -27760623.69 -27760623.58 0.0143 0.0130
 Neptune -80718-10-28 21:06 J -27760525.83 -27760525.62 -27760525.42 0.0089 0.0024
 Jupiter -80718-11-05 15:06 J -27760518.05 -27760517.87 -27760517.68 0.0538 0.0188
 Uranus -80717-03-05 09:06 J -27760397.32 -27760397.12 -27760396.91 0.0143 0.0056
 Neptune -80717-06-10 08:52 J -27760300.34 -27760300.13 -27760299.91 0.0089 0.0007
 Uranus -80717-10-17 22:32 J -27760170.79 -27760170.56 -27760170.34 0.0142 0.0017
 Neptune -80716-01-21 20:37 J -27760074.85 -27760074.64 -27760074.42 0.0089 0.0011
 Uranus -80716-06-01 11:16 J -27759944.19 -27759944.03 -27759943.84 0.0142 0.0089
 Neptune -80716-09-04 08:08 J -27759849.35 -27759849.16 -27759848.94 0.0089 0.0029
 Mars -80716-09-23 03:35 J -27759830.44 -27759830.35 -27759830.26 0.1856 0.1525
 Neptune -80715-04-17 19:54 J -27759623.84 -27759623.67 -27759623.47 0.0089 0.0046
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 Neptune -80714-07-12 19:25 J -27759172.76 -27759172.69 -27759172.58 0.0089 0.0081
 Jupiter -80712-09-06 05:59 J -27758386.46 -27758386.25 -27758386.04 0.0489 0.0049
 Saturn -80709-03-05 19:54 J -27757474.88 -27757474.67 -27757474.46 0.0282 0.0085
 Jupiter -80706-07-11 06:13 J -27756252.38 -27756252.24 -27756252.08 0.0538 0.0341
 Jupiter -80700-05-12 06:13 J -27754120.32 -27754120.24 -27754120.16 0.0489 0.0449
 Saturn -80696-05-24 01:54 J -27752647.51 -27752647.42 -27752647.32 0.0280 0.0244
 Saturn -80695-01-08 05:59 J -27752418.42 -27752418.25 -27752418.07 0.0278 0.0151

Mars -80684-09-22 13:11 J -27748143.01 -27748142.95 -27748142.88 0.1840 0.1679
 Jupiter -80682-07-14 04:47 J -27747483.39 -27747483.30 -27747483.21 0.0538 0.0474
 Saturn -80680-09-16 00:42 J -27746688.66 -27746688.47 -27746688.28 0.0282 0.0138
 Jupiter -80676-05-14 17:59 J -27745351.94 -27745351.75 -27745351.56 0.0489 0.0190
 Uranus -80673-02-27 13:54 J -27744333.00 -27744332.92 -27744332.82 0.0136 0.0123
 Uranus -80673-10-10 18:28 J -27744106.92 -27744106.73 -27744106.55 0.0136 0.0064
 Uranus -80672-05-24 22:47 J -27743880.76 -27743880.55 -27743880.34 0.0136 0.0006
 Uranus -80671-01-06 03:20 J -27743654.54 -27743654.36 -27743654.16 0.0137 0.0055
 Uranus -80671-08-20 08:23 J -27743428.26 -27743428.15 -27743428.03 0.0137 0.0114
 Jupiter -80670-03-18 23:01 J -27743217.73 -27743217.54 -27743217.34 0.0538 0.0036
 Saturn -80667-12-04 04:32 J -27741861.45 -27741861.31 -27741861.16 0.0280 0.0196
 Saturn -80666-07-21 08:37 J -27741632.28 -27741632.14 -27741631.99 0.0278 0.0199
 Earth -80665-02-26 18:42 J -27741411.76 -27741411.72 -27741411.69 0.2742 0.2654
 Moon -80665-02-26 20:08 J -27741411.71 -27741411.66 -27741411.62 0.2735 0.2624 *
 Jupiter -80664-01-17 15:35 J -27741086.03 -27741085.85 -27741085.66 0.0489 0.0227
 Moon -80657-02-24 07:54 J -27738492.29 -27738492.17 -27738492.05 0.2734 0.1771
 Earth -80657-02-24 11:01 J -27738492.16 -27738492.04 -27738491.92 0.2740 0.1697 *
 Mars -80656-02-04 19:25 J -27738145.83 -27738145.69 -27738145.54 0.1688 0.0953
 Saturn -80651-08-11 14:37 J -27736132.02 -27736131.89 -27736131.75 0.0280 0.0217
 Saturn -80650-03-29 11:30 J -27735902.15 -27735902.02 -27735901.88 0.0282 0.0217
 Jupiter -80640-01-20 04:18 J -27732317.43 -27732317.32 -27732317.21 0.0489 0.0417
 Neptune -80638-06-24 06:42 J -27731432.23 -27731432.22 -27731432.16 0.0089 0.0088
 Neptune -80637-02-04 21:06 J -27731206.75 -27731206.62 -27731206.47 0.0089 0.0069
 Saturn -80637-06-15 12:56 J -27731075.14 -27731074.96 -27731074.77 0.0280 0.0126
 Neptune -80637-09-17 11:16 J -27730981.20 -27730981.03 -27730980.83 0.0089 0.0051
 Saturn -80636-01-30 16:32 J -27730845.86 -27730845.81 -27730845.75 0.0278 0.0267
 Neptune -80636-05-01 01:40 J -27730755.63 -27730755.43 -27730755.21 0.0089 0.0032
 Neptune -80636-12-12 15:49 J -27730530.05 -27730529.84 -27730529.61 0.0089 0.0014
 Neptune -80635-07-26 06:13 J -27730304.47 -27730304.24 -27730304.01 0.0089 0.0005
 Jupiter -80635-11-24 10:32 J -27730183.24 -27730183.06 -27730182.89 0.0538 0.0239

Neptune -80634-03-08 20:08 J -27730078.87 -27730078.66 -27730078.43 0.0089 0.0024
 Neptune -80634-10-20 10:04 J -27729853.26 -27729853.08 -27729852.86 0.0089 0.0043
 Uranus -80634-11-03 13:54 J -27729839.08 -27729838.92 -27729838.74 0.0143 0.0092
 Neptune -80633-06-02 00:42 J -27729627.62 -27729627.47 -27729627.29 0.0089 0.0061
 Uranus -80633-06-17 03:35 J -27729612.57 -27729612.35 -27729612.13 0.0143 0.0019
 Neptune -80632-01-13 14:37 J -27729401.96 -27729401.89 -27729401.77 0.0089 0.0080
 Uranus -80632-01-29 16:32 J -27729386.01 -27729385.81 -27729385.59 0.0142 0.0053
 Uranus -80632-09-13 05:16 J -27729159.37 -27729159.28 -27729159.16 0.0142 0.0125
 Jupiter -80629-09-25 03:20 J -27728051.57 -27728051.36 -27728051.15 0.0489 0.0010
 Mars -80624-02-04 00:28 J -27726458.54 -27726458.48 -27726458.42 0.1700 0.1585
 Jupiter -80623-07-30 04:32 J -27725917.48 -27725917.31 -27725917.14 0.0538 0.0271
 Pluto -80622-06-20 07:54 J -27725592.32 -27725592.17 -27725591.98 0.0064 0.0043
 Pluto -80621-01-31 12:42 J -27725367.18 -27725366.97 -27725366.73 0.0064 0.0013
 Saturn -80621-02-21 20:37 J -27725345.81 -27725345.64 -27725345.45 0.0281 0.0161
 Pluto -80621-09-12 17:30 J -27725141.97 -27725141.77 -27725141.54 0.0064 0.0018
 Saturn -80621-10-08 17:30 J -27725115.80 -27725115.77 -27725115.71 0.0283 0.0276
 Pluto -80620-04-25 22:04 J -27724916.69 -27724916.58 -27724916.40 0.0064 0.0050
 Mars -80618-07-20 20:52 J -27724100.76 -27724100.63 -27724100.50 0.1845 0.1154
 Jupiter -80617-05-31 02:52 J -27723785.50 -27723785.38 -27723785.25 0.0489 0.0394
 Saturn -80608-12-26 16:04 J -27720289.03 -27720288.83 -27720288.63 0.0280 0.0076
 Jupiter -80593-06-02 12:56 J -27715017.14 -27715016.96 -27715016.77 0.0489 0.0235
 Saturn -80592-09-03 07:25 J -27714559.40 -27714559.19 -27714558.98 0.0281 0.0084
 Mars -80591-12-03 04:32 J -27714103.42 -27714103.31 -27714103.20 0.1684 0.1307
 Uranus -80589-06-10 02:37 J -27713548.52 -27713548.39 -27713548.22 0.0136 0.0096
 Uranus -80588-01-22 07:11 J -27713322.39 -27713322.20 -27713321.99 0.0136 0.0037
 Uranus -80588-09-05 11:44 J -27713096.21 -27713096.01 -27713095.79 0.0136 0.0023
 Jupiter -80587-04-06 17:30 J -27712882.97 -27712882.77 -27712882.58 0.0538 0.0015
 Uranus -80587-04-19 16:32 J -27712869.97 -27712869.81 -27712869.64 0.0137 0.0082
 Jupiter -80581-02-06 12:56 J -27710751.15 -27710750.96 -27710750.76 0.0489 0.0168
 Saturn -80578-07-09 01:11 J -27709502.66 -27709502.45 -27709502.25 0.0279 0.0005

Jupiter -80576-12-10 10:18 J -27708617.13 -27708617.07 -27708617.01 0.0538 0.0505
 Saturn -80562-03-16 14:08 J -27703773.12 -27703772.91 -27703772.69 0.0281 0.0025
 Mars -80559-12-02 08:37 J -27702416.26 -27702416.14 -27702416.01 0.1696 0.1191
 Jupiter -80557-02-09 00:28 J -27701982.53 -27701982.48 -27701982.42 0.0489 0.0470
 Neptune -80555-03-24 22:04 J -27701207.65 -27701207.58 -27701207.49 0.0088 0.0082
 Neptune -80555-11-05 09:49 J -27700982.21 -27700982.09 -27700981.92 0.0088 0.0065
 Neptune -80554-06-18 22:04 J -27700756.75 -27700756.58 -27700756.39 0.0088 0.0047
 Neptune -80553-01-30 09:49 J -27700531.28 -27700531.09 -27700530.88 0.0089 0.0029
 Neptune -80553-09-11 21:49 J -27700305.80 -27700305.59 -27700305.38 0.0089 0.0012
 Neptune -80552-04-25 09:35 J -27700080.31 -27700080.10 -27700079.88 0.0089 0.0006
 Mars -80552-05-17 03:49 J -27700058.50 -27700058.34 -27700058.18 0.1850 0.0602
 Neptune -80552-12-06 21:20 J -27699854.81 -27699854.61 -27699854.39 0.0089 0.0024
 Jupiter -80552-12-13 09:49 J -27699848.25 -27699848.09 -27699847.93 0.0538 0.0313
 Neptune -80551-07-20 09:06 J -27699629.30 -27699629.12 -27699628.92 0.0089 0.0041
 Neptune -80550-03-02 21:06 J -27699403.78 -27699403.62 -27699403.45 0.0089 0.0058
 Uranus -80550-07-03 17:44 J -27699280.84 -27699280.76 -27699280.65 0.0143 0.0130
 Neptune -80550-10-14 08:37 J -27699178.23 -27699178.14 -27699178.01 0.0089 0.0076
 Uranus -80549-02-15 07:25 J -27699054.39 -27699054.19 -27699053.97 0.0143 0.0057
 Uranus -80549-09-28 20:52 J -27698827.85 -27698827.63 -27698827.40 0.0142 0.0016
 Saturn -80548-01-18 04:04 J -27698716.53 -27698716.33 -27698716.12 0.0279 0.0046
 Uranus -80548-05-13 09:49 J -27698601.26 -27698601.09 -27698600.91 0.0142 0.0088
 Jupiter -80546-10-14 22:04 J -27697716.79 -27697716.58 -27697716.37 0.0489 0.0055
 Jupiter -80540-08-18 02:52 J -27695582.56 -27695582.38 -27695582.19 0.0538 0.0202
 Jupiter -80534-06-19 21:35 J -27693450.74 -27693450.60 -27693450.45 0.0489 0.0351
 Pluto -80533-05-15 10:32 J -27693120.22 -27693120.06 -27693119.86 0.0081 0.0044
 Saturn -80533-09-25 23:59 J -27692986.71 -27692986.50 -27692986.28 0.0281 0.0050
 Pluto -80533-12-26 20:37 J -27692894.84 -27692894.64 -27692894.42 0.0080 0.0015
 Pluto -80532-08-09 06:13 J -27692669.32 -27692669.24 -27692669.13 0.0080 0.0072
 Mars -80525-09-29 13:25 J -27690060.95 -27690060.94 -27690060.93 0.1680 0.1672
 Moon -80520-08-24 11:16 J -27688271.10 -27688271.03 -27688270.96 0.2601 0.2303

Earth -80520-08-24 13:54 J -27688271.00 -27688270.92 -27688270.84 0.2595 0.2240 *
 Saturn -80520-12-14 09:06 J -27688159.13 -27688159.12 -27688159.10 0.0281 0.0280
 Saturn -80519-07-31 13:25 J -27687930.12 -27687929.94 -27687929.75 0.0279 0.0118
 Earth -80512-08-22 04:04 J -27685351.43 -27685351.33 -27685351.22 0.2597 0.1933
 Moon -80512-08-22 06:13 J -27685351.35 -27685351.24 -27685351.13 0.2603 0.1808 *
 Jupiter -80510-06-22 09:49 J -27684682.25 -27684682.09 -27684681.91 0.0489 0.0292
 Uranus -80505-02-08 11:59 J -27682990.07 -27682990.00 -27682989.92 0.0135 0.0126
 Uranus -80505-09-21 16:04 J -27682764.01 -27682763.83 -27682763.64 0.0136 0.0068
 Jupiter -80504-04-25 14:23 J -27682548.10 -27682547.90 -27682547.70 0.0538 0.0073
 Uranus -80504-05-05 20:37 J -27682537.85 -27682537.64 -27682537.43 0.0136 0.0009
 Uranus -80504-12-18 01:11 J -27682311.64 -27682311.45 -27682311.25 0.0136 0.0050
 Saturn -80503-04-08 07:40 J -27682200.38 -27682200.18 -27682199.98 0.0282 0.0114
 Uranus -80503-08-01 05:44 J -27682085.37 -27682085.26 -27682085.12 0.0137 0.0110
 Jupiter -80498-02-25 09:20 J -27680416.31 -27680416.11 -27680415.90 0.0489 0.0114
 Mars -80493-09-28 17:59 J -27678373.91 -27678373.75 -27678373.60 0.1692 0.0822
 Jupiter -80493-12-29 09:20 J -27678282.23 -27678282.11 -27678281.99 0.0538 0.0432
 Saturn -80490-06-26 12:13 J -27677373.10 -27677372.99 -27677372.87 0.0280 0.0228
 Saturn -80489-02-10 16:18 J -27677143.98 -27677143.82 -27677143.65 0.0278 0.0168
 Mars -80486-03-14 10:18 J -27676016.23 -27676016.07 -27676015.90 0.1855 0.0049
 Saturn -80474-03-03 19:25 J -27671643.78 -27671643.69 -27671643.59 0.0280 0.0251
 Saturn -80474-10-19 16:04 J -27671413.99 -27671413.83 -27671413.66 0.0282 0.0183
 Neptune -80473-05-08 07:54 J -27671212.27 -27671212.17 -27671212.03 0.0089 0.0075
 Neptune -80473-12-19 22:04 J -27670986.74 -27670986.58 -27670986.39 0.0089 0.0057
 Neptune -80472-08-02 12:28 J -27670761.18 -27670760.98 -27670760.77 0.0089 0.0038
 Neptune -80471-03-16 02:52 J -27670535.60 -27670535.38 -27670535.16 0.0089 0.0019
 Neptune -80471-10-27 17:01 J -27670310.01 -27670309.79 -27670309.56 0.0089 0.0001
 Neptune -80470-06-10 07:11 J -27670084.41 -27670084.20 -27670083.97 0.0089 0.0019
 Neptune -80469-01-21 21:35 J -27669858.80 -27669858.60 -27669858.39 0.0089 0.0037
 Neptune -80469-09-03 11:30 J -27669633.18 -27669633.02 -27669632.83 0.0089 0.0056
 Jupiter -80468-01-01 03:49 J -27669513.49 -27669513.34 -27669513.20 0.0538 0.0358

Neptune -80468-04-17 01:25 J -27669407.53 -27669407.44 -27669407.29 0.0089 0.0075
 Uranus -80466-10-15 10:04 J -27668496.23 -27668496.08 -27668495.90 0.0143 0.0096
 Uranus -80465-05-28 23:59 J -27668269.72 -27668269.50 -27668269.27 0.0143 0.0023
 Uranus -80464-01-10 13:11 J -27668043.15 -27668042.95 -27668042.73 0.0142 0.0050
 Uranus -80464-08-25 02:08 J -27667816.51 -27667816.41 -27667816.28 0.0142 0.0122
 Jupiter -80463-11-02 19:54 J -27667381.87 -27667381.67 -27667381.47 0.0489 0.0116
 Saturn -80460-01-05 21:20 J -27666586.77 -27666586.61 -27666586.43 0.0280 0.0157
 Saturn -80460-08-23 00:56 J -27666357.55 -27666357.46 -27666357.34 0.0278 0.0238
 Jupiter -80457-09-05 20:23 J -27665247.83 -27665247.65 -27665247.45 0.0538 0.0159
 Jupiter -80451-07-08 19:25 J -27663115.86 -27663115.69 -27663115.52 0.0489 0.0289
 Saturn -80445-09-13 02:52 J -27660857.53 -27660857.38 -27660857.21 0.0280 0.0190
 Saturn -80444-04-30 23:44 J -27660627.61 -27660627.51 -27660627.40 0.0282 0.0247
 Saturn -80431-07-19 00:28 J -27655800.67 -27655800.48 -27655800.29 0.0279 0.0107
 Jupiter -80427-07-11 05:44 J -27654347.41 -27654347.26 -27654347.11 0.0489 0.0341
 Mars -80427-07-27 02:37 J -27654331.56 -27654331.39 -27654331.21 0.1688 0.0445
 Moon -80422-02-26 17:16 J -27652655.88 -27652655.78 -27652655.68 0.2746 0.1968
 Earth -80422-02-26 20:23 J -27652655.72 -27652655.65 -27652655.58 0.2740 0.2431 *
 Jupiter -80421-05-14 13:40 J -27652213.11 -27652212.93 -27652212.74 0.0538 0.0150
 Uranus -80421-05-22 01:25 J -27652205.57 -27652205.44 -27652205.29 0.0136 0.0098
 Uranus -80420-01-03 05:59 J -27651979.45 -27651979.25 -27651979.04 0.0136 0.0040
 Mars -80420-01-08 17:16 J -27651973.94 -27651973.78 -27651973.62 0.1859 0.0552
 Uranus -80420-08-17 10:32 J -27651753.27 -27651753.06 -27651752.85 0.0136 0.0019
 Uranus -80419-03-31 14:52 J -27651527.04 -27651526.88 -27651526.70 0.0137 0.0079
 Jupiter -80415-03-16 05:16 J -27650081.49 -27650081.28 -27650081.07 0.0489 0.0063
 Saturn -80415-03-26 09:35 J -27650071.29 -27650071.10 -27650070.91 0.0280 0.0128
 Earth -80414-02-24 12:28 J -27649736.08 -27649735.98 -27649735.87 0.2739 0.1917
 Moon -80414-02-24 13:25 J -27649736.03 -27649735.94 -27649735.85 0.2746 0.2121 *
 Jupiter -80409-01-18 04:18 J -27647947.46 -27647947.32 -27647947.18 0.0538 0.0380
 Jupiter -80404-11-19 05:30 J -27645815.33 -27645815.27 -27645815.19 0.0489 0.0462
 Saturn -80401-01-29 09:06 J -27645014.33 -27645014.12 -27645013.92 0.0279 0.0038

Neptune -80391-06-26 11:30 J -27641213.05 -27641213.02 -27641212.97 0.0088 0.0087
 Neptune -80390-02-06 23:01 J -27640987.65 -27640987.54 -27640987.39 0.0089 0.0070
 Neptune -80390-09-20 11:16 J -27640762.20 -27640762.03 -27640761.86 0.0089 0.0052
 Neptune -80389-05-02 22:47 J -27640536.74 -27640536.55 -27640536.34 0.0089 0.0035
 Neptune -80389-12-14 10:47 J -27640311.25 -27640311.05 -27640310.83 0.0089 0.0017
 Neptune -80388-07-27 22:47 J -27640085.77 -27640085.55 -27640085.34 0.0089 0.0002
 Neptune -80387-03-10 10:32 J -27639860.27 -27639860.06 -27639859.85 0.0089 0.0018
 Neptune -80387-10-21 22:04 J -27639634.76 -27639634.58 -27639634.37 0.0089 0.0036
 Neptune -80386-06-04 10:04 J -27639409.25 -27639409.08 -27639408.91 0.0089 0.0053
 Saturn -80386-10-06 17:01 J -27639285.00 -27639284.79 -27639284.57 0.0281 0.0066
 Neptune -80385-01-15 21:35 J -27639183.71 -27639183.60 -27639183.46 0.0089 0.0071
 Jupiter -80385-01-21 01:25 J -27639178.56 -27639178.44 -27639178.32 0.0538 0.0424
 Neptune -80385-08-28 09:20 J -27638958.12 -27638958.11 -27638958.07 0.0089 0.0088
 Uranus -80382-06-14 13:11 J -27637938.01 -27637937.95 -27637937.87 0.0143 0.0135
 Uranus -80381-01-27 02:52 J -27637711.57 -27637711.38 -27637711.16 0.0143 0.0062
 Uranus -80381-09-09 16:32 J -27637485.03 -27637484.81 -27637484.58 0.0143 0.0012
 Uranus -80380-04-24 05:30 J -27637258.44 -27637258.27 -27637258.07 0.0142 0.0084
 Jupiter -80380-11-21 17:30 J -27637046.96 -27637046.77 -27637046.57 0.0489 0.0177
 Pluto -80375-02-28 10:32 J -27635487.20 -27635487.06 -27635486.87 0.0064 0.0044
 Pluto -80375-10-11 15:35 J -27635262.06 -27635261.85 -27635261.62 0.0064 0.0013
 Pluto -80374-05-24 20:37 J -27635036.85 -27635036.64 -27635036.41 0.0064 0.0018
 Jupiter -80374-09-25 20:23 J -27634912.85 -27634912.65 -27634912.46 0.0538 0.0080
 Pluto -80373-01-05 01:25 J -27634811.58 -27634811.44 -27634811.28 0.0064 0.0049
 Saturn -80372-08-10 11:01 J -27634228.24 -27634228.04 -27634227.83 0.0279 0.0011
 Jupiter -80368-07-27 16:04 J -27632781.01 -27632780.83 -27632780.65 0.0489 0.0234
 Mars -80361-05-23 11:30 J -27630289.20 -27630289.02 -27630288.84 0.1685 0.0080
 Saturn -80356-04-17 21:35 J -27628498.82 -27628498.60 -27628498.38 0.0281 0.0011
 Mars -80355-11-05 23:44 J -27627931.65 -27627931.51 -27627931.38 0.1864 0.1145
 Jupiter -80344-07-30 05:16 J -27624012.39 -27624012.28 -27624012.17 0.0489 0.0412
 Saturn -80342-02-20 18:42 J -27623441.92 -27623441.72 -27623441.52 0.0279 0.0075

Jupiter -80338-06-03 08:52 J -27621878.31 -27621878.13 -27621877.95 0.0538 0.0201
 Uranus -80337-01-20 12:13 J -27621647.06 -27621646.99 -27621646.91 0.0135 0.0125
 Uranus -80337-09-02 16:18 J -27621420.99 -27621420.82 -27621420.63 0.0136 0.0068
 Uranus -80336-04-16 20:52 J -27621194.84 -27621194.63 -27621194.42 0.0136 0.0009
 Uranus -80336-11-29 01:25 J -27620968.63 -27620968.44 -27620968.24 0.0136 0.0050
 Uranus -80335-07-13 05:59 J -27620742.36 -27620742.25 -27620742.11 0.0137 0.0110
 Jupiter -80332-04-04 04:47 J -27619746.51 -27619746.30 -27619746.09 0.0489 0.0007
 Saturn -80327-10-29 04:18 J -27617712.53 -27617712.32 -27617712.10 0.0281 0.0050
 Jupiter -80326-02-06 02:23 J -27617612.56 -27617612.40 -27617612.24 0.0538 0.0312
 Jupiter -80321-12-08 04:32 J -27615480.43 -27615480.31 -27615480.18 0.0489 0.0395
 Saturn -80313-01-16 16:04 J -27612884.84 -27612884.83 -27612884.79 0.0280 0.0277
 Saturn -80313-09-01 20:23 J -27612655.83 -27612655.65 -27612655.46 0.0278 0.0121
 Neptune -80309-08-09 17:44 J -27611217.82 -27611217.76 -27611217.65 0.0089 0.0082
 Neptune -80308-03-23 08:08 J -27610992.30 -27610992.16 -27610991.98 0.0089 0.0063
 Neptune -80308-11-03 22:32 J -27610766.74 -27610766.56 -27610766.35 0.0089 0.0044
 Neptune -80307-06-17 13:11 J -27610541.17 -27610540.95 -27610540.73 0.0089 0.0025
 Neptune -80306-01-29 03:20 J -27610315.58 -27610315.36 -27610315.13 0.0089 0.0007
 Neptune -80306-09-11 17:30 J -27610089.99 -27610089.77 -27610089.54 0.0089 0.0012
 Neptune -80305-04-24 07:54 J -27609864.38 -27609864.17 -27609863.96 0.0089 0.0031
 Neptune -80305-12-05 21:49 J -27609638.76 -27609638.59 -27609638.39 0.0089 0.0050
 Neptune -80304-07-19 11:59 J -27609413.12 -27609413.00 -27609412.84 0.0089 0.0069
 Neptune -80303-03-02 02:37 J -27609187.43 -27609187.39 -27609187.35 0.0089 0.0087
 Jupiter -80302-02-09 02:37 J -27608843.44 -27608843.39 -27608843.33 0.0538 0.0513
 Uranus -80298-09-26 07:25 J -27607153.35 -27607153.19 -27607153.03 0.0143 0.0098
 Uranus -80297-05-09 21:06 J -27606926.84 -27606926.62 -27606926.40 0.0143 0.0025
 Saturn -80297-05-10 07:11 J -27606926.40 -27606926.20 -27606925.99 0.0281 0.0098 *
 Jupiter -80297-12-10 16:04 J -27606712.01 -27606711.83 -27606711.64 0.0489 0.0242
 Uranus -80297-12-22 10:18 J -27606700.27 -27606700.07 -27606699.85 0.0142 0.0048
 Uranus -80296-08-05 23:30 J -27606473.63 -27606473.52 -27606473.39 0.0142 0.0119
 Mars -80295-03-20 20:37 J -27606246.82 -27606246.64 -27606246.46 0.1681 0.0287

Jupiter	-80291-10-14 17:59 J	-27604577.95	-27604577.75	-27604577.56	0.0538	0.0016
Mars	-80289-09-02 06:13 J	-27603889.30	-27603889.24	-27603889.18	0.1869	0.1741
Pluto	-80286-01-24 16:18 J	-27603015.01	-27603014.82	-27603014.63	0.0081	0.0037
Pluto	-80286-09-07 02:08 J	-27602789.62	-27602789.41	-27602789.20	0.0080	0.0021
Pluto	-80285-04-19 11:44 J	-27602564.05	-27602564.01	-27602563.95	0.0080	0.0077
Jupiter	-80285-08-15 16:18 J	-27602446.01	-27602445.82	-27602445.62	0.0489	0.0159
Saturn	-80284-07-28 22:32 J	-27602098.68	-27602098.56	-27602098.42	0.0281	0.0218
Saturn	-80283-03-15 02:37 J	-27601869.54	-27601869.39	-27601869.23	0.0279	0.0181
Jupiter	-80279-06-19 11:01 J	-27600312.07	-27600312.04	-27600312.00	0.0537	0.0526
Earth	-80277-08-24 13:40 J	-27599515.02	-27599514.93	-27599514.84	0.2597	0.2186
Moon	-80277-08-24 18:28 J	-27599514.77	-27599514.73	-27599514.69	0.2592	0.2511
Moon	-80269-08-22 04:18 J	-27596595.45	-27596595.32	-27596595.18	0.2592	0.1638
Earth	-80269-08-22 04:18 J	-27596595.42	-27596595.32	-27596595.21	0.2598	0.1966 *
Saturn	-80268-04-04 17:16 J	-27596369.81	-27596369.78	-27596369.75	0.0280	0.0276
Saturn	-80268-11-20 13:25 J	-27596140.11	-27596139.94	-27596139.75	0.0282	0.0158
Jupiter	-80261-08-18 04:47 J	-27593677.32	-27593677.30	-27593677.26	0.0489	0.0483
Mars	-80257-09-01 17:16 J	-27592201.86	-27592201.78	-27592201.69	0.1853	0.1585
Jupiter	-80255-06-22 10:18 J	-27591543.24	-27591543.07	-27591542.90	0.0538	0.0289
Saturn	-80254-02-08 00:13 J	-27591312.65	-27591312.49	-27591312.32	0.0280	0.0171
Saturn	-80254-09-25 03:49 J	-27591083.45	-27591083.34	-27591083.21	0.0278	0.0225
Uranus	-80253-05-03 02:23 J	-27590862.53	-27590862.40	-27590862.23	0.0136	0.0097
Uranus	-80253-12-15 07:11 J	-27590636.40	-27590636.20	-27590635.99	0.0136	0.0038
Uranus	-80252-07-29 11:30 J	-27590410.22	-27590410.02	-27590409.80	0.0136	0.0021
Uranus	-80251-03-12 16:18 J	-27590183.99	-27590183.82	-27590183.65	0.0137	0.0080
Jupiter	-80249-04-23 03:49 J	-27589411.54	-27589411.34	-27589411.13	0.0489	0.0077
Jupiter	-80243-02-25 05:01 J	-27587277.47	-27587277.29	-27587277.11	0.0538	0.0216
Saturn	-80239-10-15 17:59 J	-27585583.86	-27585583.75	-27585583.63	0.0280	0.0236
Saturn	-80238-06-02 14:37 J	-27585354.04	-27585353.89	-27585353.73	0.0282	0.0200
Jupiter	-80238-12-28 04:18 J	-27585145.48	-27585145.32	-27585145.16	0.0489	0.0324
Mars	-80229-01-16 05:44 J	-27582204.42	-27582204.26	-27582204.09	0.1677	0.0647

Neptune -80226-05-11 11:30 J -27580993.10 -27580993.02 -27580992.88 0.0088 0.0076
 Neptune -80226-12-22 23:44 J -27580767.66 -27580767.51 -27580767.34 0.0088 0.0058
 Neptune -80225-08-04 11:30 J -27580542.20 -27580542.02 -27580541.82 0.0089 0.0040
 Saturn -80225-08-20 05:30 J -27580526.45 -27580526.27 -27580526.08 0.0280 0.0115
 Neptune -80224-03-17 23:30 J -27580316.72 -27580316.52 -27580316.31 0.0089 0.0023
 Neptune -80224-10-29 11:30 J -27580091.23 -27580091.02 -27580090.81 0.0089 0.0005
 Neptune -80223-06-11 23:16 J -27579865.74 -27579865.53 -27579865.32 0.0089 0.0013
 Neptune -80222-01-23 10:47 J -27579640.24 -27579640.05 -27579639.84 0.0089 0.0030
 Neptune -80222-09-05 22:32 J -27579414.73 -27579414.56 -27579414.37 0.0089 0.0048
 Neptune -80221-04-18 10:04 J -27579189.20 -27579189.08 -27579188.91 0.0089 0.0066
 Neptune -80221-11-29 22:04 J -27578963.63 -27578963.58 -27578963.49 0.0089 0.0083
 Uranus -80214-05-26 12:42 J -27576595.03 -27576594.97 -27576594.87 0.0143 0.0134
 Jupiter -80214-12-30 17:16 J -27576376.93 -27576376.78 -27576376.62 0.0489 0.0320
 Uranus -80213-01-08 02:37 J -27576368.58 -27576368.39 -27576368.18 0.0143 0.0060
 Uranus -80213-08-21 16:18 J -27576142.04 -27576141.82 -27576141.59 0.0143 0.0013
 Uranus -80212-04-05 05:30 J -27575915.44 -27575915.27 -27575915.09 0.0142 0.0085
 Saturn -80209-04-26 23:59 J -27574797.66 -27574797.50 -27574797.32 0.0280 0.0178
 Saturn -80209-12-12 20:37 J -27574567.71 -27574567.64 -27574567.54 0.0282 0.0259
 Jupiter -80208-11-02 17:44 J -27574242.95 -27574242.76 -27574242.56 0.0538 0.0066
 Jupiter -80202-09-04 17:16 J -27572110.99 -27572110.78 -27572110.57 0.0489 0.0083
 Jupiter -80196-07-08 12:42 J -27569977.08 -27569976.97 -27569976.85 0.0538 0.0437
 Saturn -80195-03-02 06:56 J -27569740.41 -27569740.21 -27569740.01 0.0279 0.0070
 Mars -80191-06-30 00:28 J -27568159.62 -27568159.48 -27568159.34 0.1858 0.1032
 Jupiter -80190-05-10 16:32 J -27567844.82 -27567844.81 -27567844.79 0.0489 0.0487
 Saturn -80180-11-06 23:59 J -27564011.69 -27564011.50 -27564011.32 0.0280 0.0142
 Earth -80179-02-26 22:04 J -27563899.67 -27563899.58 -27563899.50 0.2739 0.2204
 Jupiter -80172-07-11 10:32 J -27561208.20 -27561208.06 -27561207.92 0.0538 0.0371
 Earth -80171-02-24 14:23 J -27560979.99 -27560979.90 -27560979.80 0.2737 0.2108
 Moon -80171-02-24 15:49 J -27560979.95 -27560979.84 -27560979.72 0.2731 0.1850 *
 Uranus -80169-01-01 13:40 J -27560304.01 -27560303.93 -27560303.85 0.0135 0.0124

Uranus -80169-08-14 17:44 J -27560077.94 -27560077.76 -27560077.57 0.0136 0.0066
 Uranus -80168-03-28 22:04 J -27559851.79 -27559851.58 -27559851.37 0.0136 0.0008
 Uranus -80168-11-10 02:23 J -27559625.59 -27559625.40 -27559625.20 0.0136 0.0051
 Uranus -80167-06-24 06:56 J -27559399.32 -27559399.21 -27559399.07 0.0137 0.0111
 Jupiter -80166-05-13 05:44 J -27559076.45 -27559076.26 -27559076.06 0.0489 0.0159
 Saturn -80166-09-12 10:47 J -27558954.25 -27558954.05 -27558953.84 0.0280 0.0018
 Mars -80164-11-12 15:06 J -27558162.01 -27558161.87 -27558161.73 0.1674 0.0992
 Jupiter -80160-03-16 03:49 J -27556942.52 -27556942.34 -27556942.14 0.0537 0.0142
 Jupiter -80154-01-16 05:44 J -27554810.44 -27554810.26 -27554810.08 0.0489 0.0246
 Saturn -80150-05-20 05:44 J -27553225.46 -27553225.26 -27553225.04 0.0280 0.0083
 Neptune -80145-11-11 04:04 J -27551223.34 -27551223.33 -27551223.29 0.0089 0.0088
 Neptune -80144-06-24 18:28 J -27550997.86 -27550997.73 -27550997.58 0.0089 0.0069
 Neptune -80143-02-05 08:23 J -27550772.32 -27550772.15 -27550771.95 0.0089 0.0051
 Neptune -80143-09-18 22:47 J -27550546.75 -27550546.55 -27550546.33 0.0089 0.0032
 Neptune -80142-05-02 13:11 J -27550321.17 -27550320.95 -27550320.72 0.0089 0.0013
 Neptune -80142-12-14 03:35 J -27550095.57 -27550095.35 -27550095.12 0.0089 0.0006
 Neptune -80141-07-26 17:44 J -27549869.97 -27549869.76 -27549869.54 0.0089 0.0025
 Neptune -80140-03-09 07:40 J -27549644.36 -27549644.18 -27549643.97 0.0089 0.0044
 Neptune -80140-10-20 21:49 J -27549418.73 -27549418.59 -27549418.41 0.0089 0.0063
 Neptune -80139-06-03 12:42 J -27549193.06 -27549192.97 -27549192.88 0.0089 0.0081
 Saturn -80136-03-24 12:13 J -27548168.19 -27548167.99 -27548167.78 0.0279 0.0028
 Mars -80132-11-11 18:13 J -27546474.83 -27546474.74 -27546474.65 0.1685 0.1451
 Jupiter -80130-01-18 18:13 J -27546041.86 -27546041.74 -27546041.61 0.0489 0.0397
 Uranus -80130-09-07 08:37 J -27545810.30 -27545810.14 -27545809.96 0.0143 0.0094
 Uranus -80129-04-20 22:32 J -27545583.79 -27545583.56 -27545583.34 0.0143 0.0021
 Pluto -80129-11-08 12:13 J -27545382.13 -27545381.99 -27545381.82 0.0064 0.0047
 Uranus -80129-12-03 11:44 J -27545357.21 -27545357.01 -27545356.79 0.0142 0.0052
 Pluto -80128-06-21 17:01 J -27545156.99 -27545156.79 -27545156.55 0.0064 0.0017
 Uranus -80128-07-18 00:56 J -27545130.56 -27545130.46 -27545130.34 0.0142 0.0123
 Pluto -80127-02-01 21:49 J -27544931.80 -27544931.59 -27544931.35 0.0064 0.0015

Pluto -80127-09-15 02:52 J -27544706.53 -27544706.38 -27544706.21 0.0064 0.0045
 Mars -80125-04-26 06:42 J -27544117.38 -27544117.22 -27544117.06 0.1863 0.0439
 Jupiter -80125-11-21 22:04 J -27543907.77 -27543907.58 -27543907.40 0.0538 0.0172
 Saturn -80121-11-29 04:47 J -27542439.51 -27542439.30 -27542439.08 0.0280 0.0050
 Jupiter -80119-09-23 18:42 J -27541775.93 -27541775.72 -27541775.51 0.0489 0.0005
 Jupiter -80113-07-27 14:37 J -27539642.04 -27539641.89 -27539641.74 0.0537 0.0345
 Jupiter -80107-05-29 18:13 J -27537509.85 -27537509.74 -27537509.62 0.0490 0.0408
 Saturn -80107-10-04 15:06 J -27537382.06 -27537381.87 -27537381.66 0.0280 0.0077
 Mars -80098-09-10 00:13 J -27534119.59 -27534119.49 -27534119.39 0.1670 0.1348
 Saturn -80091-06-11 11:30 J -27531653.24 -27531653.02 -27531652.80 0.0281 0.0012
 Jupiter -80089-07-30 11:16 J -27530873.13 -27530873.03 -27530872.92 0.0538 0.0455
 Uranus -80085-04-14 03:06 J -27529519.51 -27529519.37 -27529519.22 0.0136 0.0096
 Uranus -80085-11-26 07:25 J -27529293.39 -27529293.19 -27529292.98 0.0136 0.0038
 Uranus -80084-07-10 11:59 J -27529067.21 -27529067.00 -27529066.79 0.0136 0.0021
 Uranus -80083-02-21 16:18 J -27528840.98 -27528840.82 -27528840.64 0.0137 0.0080
 Jupiter -80083-06-01 07:40 J -27528741.36 -27528741.18 -27528740.99 0.0489 0.0239
 Saturn -80078-08-30 12:13 J -27526825.00 -27526824.99 -27526824.98 0.0281 0.0280
 Jupiter -80077-04-04 06:13 J -27526607.44 -27526607.24 -27526607.05 0.0538 0.0048
 Saturn -80077-04-15 16:47 J -27526595.98 -27526595.80 -27526595.61 0.0279 0.0122
 Jupiter -80071-02-04 07:11 J -27524475.40 -27524475.20 -27524475.00 0.0489 0.0166
 Mars -80066-09-09 03:35 J -27522432.49 -27522432.35 -27522432.22 0.1682 0.1094
 Neptune -80062-08-12 23:59 J -27520998.56 -27520998.50 -27520998.39 0.0088 0.0082
 Saturn -80062-12-22 10:04 J -27520867.30 -27520867.08 -27520866.86 0.0281 0.0044
 Neptune -80061-03-25 11:59 J -27520773.13 -27520773.00 -27520772.84 0.0088 0.0064
 Neptune -80061-11-06 00:13 J -27520547.67 -27520547.49 -27520547.31 0.0089 0.0046
 Neptune -80060-06-19 11:44 J -27520322.20 -27520322.01 -27520321.79 0.0089 0.0029
 Neptune -80059-01-30 23:44 J -27520096.72 -27520096.51 -27520096.29 0.0089 0.0011
 Mars -80059-02-21 12:56 J -27520075.13 -27520074.96 -27520074.80 0.1868 0.0172
 Neptune -80059-09-13 11:30 J -27519871.23 -27519871.02 -27519870.81 0.0089 0.0007
 Neptune -80058-04-26 23:01 J -27519645.73 -27519645.54 -27519645.32 0.0089 0.0025

Neptune -80058-12-08 11:01 J -27519420.22 -27519420.04 -27519419.85 0.0089 0.0042
 Neptune -80057-07-20 22:32 J -27519194.70 -27519194.56 -27519194.39 0.0089 0.0060
 Neptune -80056-03-03 10:18 J -27518969.16 -27518969.07 -27518968.95 0.0089 0.0077
 Saturn -80048-03-11 14:23 J -27516039.01 -27516038.90 -27516038.79 0.0282 0.0235
 Saturn -80048-10-26 19:11 J -27515809.85 -27515809.70 -27515809.53 0.0280 0.0170
 Jupiter -80047-02-06 19:54 J -27515706.70 -27515706.67 -27515706.61 0.0490 0.0479
 Uranus -80046-05-07 14:37 J -27515251.98 -27515251.89 -27515251.78 0.0143 0.0128
 Uranus -80046-12-20 04:32 J -27515025.51 -27515025.31 -27515025.10 0.0143 0.0055
 Uranus -80045-08-02 18:13 J -27514798.96 -27514798.74 -27514798.52 0.0143 0.0018
 Uranus -80044-03-17 07:11 J -27514572.36 -27514572.20 -27514572.01 0.0142 0.0090
 Jupiter -80042-12-11 22:18 J -27513572.74 -27513572.57 -27513572.39 0.0537 0.0253
 Pluto -80040-10-04 17:59 J -27512909.92 -27512909.75 -27512909.56 0.0081 0.0043
 Pluto -80039-05-18 03:49 J -27512684.54 -27512684.34 -27512684.12 0.0080 0.0016
 Pluto -80039-12-29 13:11 J -27512459.02 -27512458.95 -27512458.83 0.0080 0.0072
 Jupiter -80036-10-12 19:54 J -27511440.88 -27511440.67 -27511440.46 0.0490 0.0074
 Moon -80034-08-25 08:23 J -27510759.28 -27510759.15 -27510759.02 0.2601 0.1479
 Earth -80034-08-25 13:54 J -27510759.01 -27510758.92 -27510758.83 0.2598 0.2172
 Saturn -80032-07-03 17:01 J -27510080.99 -27510080.79 -27510080.58 0.0281 0.0108
 Jupiter -80030-08-16 15:20 J -27509307.04 -27509306.86 -27509306.69 0.0537 0.0263
 Earth -80026-08-23 04:18 J -27507839.42 -27507839.32 -27507839.22 0.2600 0.2035
 Jupiter -80024-06-17 20:08 J -27507174.81 -27507174.66 -27507174.50 0.0490 0.0327
 Saturn -80019-09-21 17:01 J -27505252.94 -27505252.79 -27505252.63 0.0281 0.0184
 Saturn -80018-05-08 21:35 J -27505023.72 -27505023.60 -27505023.47 0.0279 0.0218
 Saturn -80002-01-13 16:32 J -27499295.00 -27499294.81 -27499294.62 0.0281 0.0143
 Uranus -80002-12-13 12:42 J -27498961.03 -27498960.97 -27498960.88 0.0135 0.0125
 Uranus -80001-07-26 17:01 J -27498734.97 -27498734.79 -27498734.60 0.0136 0.0068

80TH MILLENNIUM BCE

This is a list of transits of Venus in the 80th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Uranus	-80000-03-09 21:20 J		-27498508.82	-27498508.61	-27498508.40	0.0136	0.0010	
Jupiter	-80000-06-20 09:06 J		-27498406.27	-27498406.12	-27498405.95	0.0489	0.0319	
Mars	-80000-07-06 12:42 J		-27498390.13	-27498389.97	-27498389.81	0.1678	0.0726	
Uranus	-80000-10-22 01:25 J		-27498282.63	-27498282.44	-27498282.23	0.0136	0.0050	
Uranus	-79999-06-05 05:44 J		-27498056.37	-27498056.26	-27498056.11	0.0137	0.0109	
Jupiter	-79994-04-24 08:52 J		-27496272.32	-27496272.13	-27496271.93	0.0537	0.0049	
Mars	-79994-12-19 19:11 J		-27496032.85	-27496032.70	-27496032.54	0.1872	0.0778	
Saturn	-79989-04-02 18:56 J		-27494466.89	-27494466.71	-27494466.54	0.0282	0.0140	
Saturn	-79989-11-17 23:30 J		-27494237.57	-27494237.52	-27494237.44	0.0279	0.0264	
Jupiter	-79988-02-23 07:54 J		-27494140.37	-27494140.17	-27494139.96	0.0490	0.0091	
Jupiter	-79983-12-28 02:37 J		-27492006.49	-27492006.39	-27492006.29	0.0537	0.0461	
Neptune	-79980-09-26 03:06 J		-27491003.46	-27491003.37	-27491003.23	0.0089	0.0077	
Neptune	-79979-05-09 17:44 J		-27490777.92	-27490777.76	-27490777.58	0.0089	0.0058	
Neptune	-79979-12-21 08:08 J		-27490552.36	-27490552.16	-27490551.95	0.0089	0.0039	
Neptune	-79978-08-03 22:18 J		-27490326.78	-27490326.57	-27490326.34	0.0089	0.0020	
Neptune	-79977-03-16 12:42 J		-27490101.20	-27490100.97	-27490100.74	0.0089	0.0001	
Neptune	-79977-10-28 02:52 J		-27489875.60	-27489875.38	-27489875.15	0.0089	0.0018	
Neptune	-79976-06-10 17:01 J		-27489649.98	-27489649.79	-27489649.57	0.0089	0.0037	
Neptune	-79975-01-22 07:11 J		-27489424.36	-27489424.20	-27489424.00	0.0089	0.0056	
Neptune	-79975-09-04 21:49 J		-27489198.71	-27489198.59	-27489198.46	0.0089	0.0074	
Saturn	-79974-12-09 04:32 J		-27488738.44	-27488738.31	-27488738.18	0.0279	0.0222	
Saturn	-79973-07-25 23:59 J		-27488508.63	-27488508.50	-27488508.34	0.0281	0.0210	

Uranus	-79962-08-19 09:06 J	-27484467.28	-27484467.12	-27484466.93	0.0143	0.0092
Uranus	-79961-04-01 23:01 J	-27484240.76	-27484240.54	-27484240.31	0.0143	0.0018
Uranus	-79961-11-14 12:28 J	-27484014.18	-27484013.98	-27484013.77	0.0143	0.0055
Uranus	-79960-06-29 01:40 J	-27483787.52	-27483787.43	-27483787.32	0.0142	0.0126
Saturn	-79960-10-13 22:18 J	-27483680.77	-27483680.57	-27483680.37	0.0281	0.0086
Jupiter	-79959-12-30 23:30 J	-27483237.67	-27483237.52	-27483237.37	0.0538	0.0339
Jupiter	-79953-10-31 20:52 J	-27481105.83	-27481105.63	-27481105.43	0.0489	0.0151
Jupiter	-79947-09-04 18:28 J	-27478971.91	-27478971.73	-27478971.54	0.0538	0.0163
Saturn	-79944-06-20 04:47 J	-27477952.45	-27477952.30	-27477952.13	0.0279	0.0185
Saturn	-79943-02-05 00:28 J	-27477722.58	-27477722.48	-27477722.38	0.0281	0.0247
Jupiter	-79941-07-06 21:06 J	-27476839.80	-27476839.62	-27476839.44	0.0490	0.0250
Moon	-79936-02-26 18:56 J	-27475143.85	-27475143.71	-27475143.57	0.2738	0.1050
Earth	-79936-02-26 23:59 J	-27475143.61	-27475143.50	-27475143.40	0.2737	0.2020 *
Mars	-79934-05-03 21:49 J	-27474347.77	-27474347.59	-27474347.42	0.1675	0.0370
Saturn	-79930-04-25 23:59 J	-27472894.70	-27472894.50	-27472894.29	0.0281	0.0042
Moon	-79928-02-24 13:11 J	-27472224.01	-27472223.95	-27472223.89	0.2741	0.2505
Earth	-79928-02-24 16:18 J	-27472223.90	-27472223.82	-27472223.73	0.2736	0.2285 *
Mars	-79928-10-16 01:11 J	-27471990.56	-27471990.45	-27471990.34	0.1877	0.1409
Uranus	-79917-03-26 02:23 J	-27468176.55	-27468176.40	-27468176.26	0.0135	0.0098
Jupiter	-79917-07-09 08:52 J	-27468071.26	-27468071.13	-27468071.00	0.0490	0.0386
Uranus	-79917-11-07 06:28 J	-27467950.43	-27467950.23	-27467950.03	0.0136	0.0040
Uranus	-79916-06-21 10:47 J	-27467724.26	-27467724.05	-27467723.84	0.0136	0.0018
Uranus	-79915-02-02 14:52 J	-27467498.04	-27467497.88	-27467497.69	0.0136	0.0077
Uranus	-79915-09-16 19:40 J	-27467271.69	-27467271.68	-27467271.66	0.0137	0.0136
Saturn	-79915-12-31 13:25 J	-27467166.13	-27467165.94	-27467165.73	0.0279	0.0115
Jupiter	-79911-05-13 08:08 J	-27465937.35	-27465937.16	-27465936.96	0.0537	0.0122
Jupiter	-79905-03-14 08:37 J	-27463805.35	-27463805.14	-27463804.93	0.0490	0.0016
Saturn	-79901-11-05 04:47 J	-27462108.51	-27462108.30	-27462108.09	0.0281	0.0016
Jupiter	-79899-01-16 02:23 J	-27461671.54	-27461671.40	-27461671.26	0.0537	0.0385
Neptune	-79898-11-14 12:13 J	-27461004.00	-27461003.99	-27461003.95	0.0088	0.0088

Neptune -79897-06-27 00:28 J -27460778.61 -27460778.48 -27460778.35 0.0088 0.0070
 Neptune -79896-02-07 11:59 J -27460553.16 -27460553.00 -27460552.81 0.0088 0.0053
 Neptune -79896-09-20 23:59 J -27460327.69 -27460327.50 -27460327.30 0.0088 0.0035
 Neptune -79895-05-04 11:44 J -27460102.22 -27460102.01 -27460101.80 0.0089 0.0017
 Neptune -79895-12-15 23:44 J -27459876.72 -27459876.51 -27459876.30 0.0089 0.0001
 Neptune -79894-07-29 11:16 J -27459651.23 -27459651.03 -27459650.81 0.0089 0.0019
 Jupiter -79894-11-18 08:08 J -27459539.26 -27459539.16 -27459539.05 0.0490 0.0420
 Neptune -79893-03-10 23:01 J -27459425.73 -27459425.54 -27459425.34 0.0089 0.0036
 Neptune -79893-10-22 10:32 J -27459200.21 -27459200.06 -27459199.87 0.0089 0.0054
 Neptune -79892-06-04 22:32 J -27458974.68 -27458974.56 -27458974.42 0.0089 0.0071
 Neptune -79891-01-16 10:18 J -27458749.07 -27458749.07 -27458749.05 0.0089 0.0088
 Saturn -79885-07-12 15:20 J -27456380.07 -27456379.86 -27456379.65 0.0279 0.0073
 Pluto -79882-07-20 10:47 J -27455277.12 -27455277.05 -27455276.93 0.0064 0.0058
 Pluto -79881-03-01 16:04 J -27455052.03 -27455051.83 -27455051.62 0.0064 0.0027
 Pluto -79881-10-12 20:52 J -27454826.85 -27454826.63 -27454826.40 0.0064 0.0003
 Pluto -79880-05-26 01:54 J -27454601.61 -27454601.42 -27454601.22 0.0064 0.0034
 Uranus -79878-04-18 13:11 J -27453909.04 -27453908.95 -27453908.85 0.0144 0.0129
 Uranus -79878-12-01 03:06 J -27453682.58 -27453682.37 -27453682.16 0.0143 0.0055
 Uranus -79877-07-14 16:47 J -27453456.02 -27453455.80 -27453455.57 0.0143 0.0018
 Uranus -79876-02-26 05:59 J -27453229.41 -27453229.25 -27453229.07 0.0142 0.0090
 Jupiter -79875-01-19 01:25 J -27452902.55 -27452902.44 -27452902.31 0.0537 0.0429
 Saturn -79871-05-18 06:13 J -27451322.44 -27451322.24 -27451322.04 0.0281 0.0062
 Jupiter -79870-11-20 19:25 J -27450770.87 -27450770.69 -27450770.50 0.0490 0.0215
 Mars -79868-02-28 07:25 J -27450305.37 -27450305.19 -27450305.01 0.1671 0.0028
 Jupiter -79864-09-23 19:11 J -27448636.90 -27448636.70 -27448636.51 0.0537 0.0081
 Jupiter -79858-07-26 18:56 J -27446504.90 -27446504.71 -27446504.51 0.0490 0.0191
 Saturn -79855-01-23 00:42 J -27445593.69 -27445593.47 -27445593.25 0.0279 0.0001
 Saturn -79842-11-28 12:13 J -27440536.17 -27440535.99 -27440535.80 0.0281 0.0124
 Jupiter -79834-07-29 07:54 J -27437736.24 -27437736.17 -27437736.09 0.0489 0.0454
 Uranus -79834-11-24 13:25 J -27437618.01 -27437617.94 -27437617.86 0.0135 0.0124

Uranus -79833-07-07 17:16 J -27437391.95 -27437391.78 -27437391.59 0.0135 0.0068
 Uranus -79832-02-18 21:35 J -27437165.81 -27437165.60 -27437165.39 0.0136 0.0010
 Uranus -79832-10-03 01:40 J -27436939.62 -27436939.43 -27436939.22 0.0136 0.0049
 Uranus -79831-05-17 06:13 J -27436713.36 -27436713.24 -27436713.11 0.0136 0.0108
 Mars -79830-08-12 19:54 J -27436260.77 -27436260.67 -27436260.56 0.1866 0.1423
 Jupiter -79828-06-01 09:20 J -27435602.29 -27435602.11 -27435601.93 0.0538 0.0208
 Saturn -79826-08-05 03:49 J -27434807.56 -27434807.34 -27434807.13 0.0279 0.0048
 Jupiter -79822-04-03 07:40 J -27433470.39 -27433470.18 -27433469.97 0.0490 0.0051
 Jupiter -79816-02-04 04:04 J -27431336.49 -27431336.33 -27431336.17 0.0537 0.0297
 Neptune -79816-12-28 12:28 J -27431009.04 -27431008.98 -27431008.90 0.0089 0.0084
 Neptune -79815-08-11 02:08 J -27430783.53 -27430783.41 -27430783.23 0.0089 0.0066
 Neptune -79814-03-24 16:32 J -27430557.99 -27430557.81 -27430557.60 0.0089 0.0047
 Neptune -79814-11-05 06:56 J -27430332.42 -27430332.21 -27430331.99 0.0089 0.0028
 Neptune -79813-06-17 21:20 J -27430106.83 -27430106.61 -27430106.38 0.0089 0.0009
 Saturn -79813-10-23 08:23 J -27429979.25 -27429979.15 -27429979.04 0.0283 0.0240
 Neptune -79812-01-29 11:30 J -27429881.24 -27429881.02 -27429880.79 0.0089 0.0010
 Saturn -79812-06-09 14:23 J -27429750.06 -27429749.90 -27429749.74 0.0281 0.0171
 Neptune -79812-09-12 01:40 J -27429655.64 -27429655.43 -27429655.21 0.0089 0.0029
 Neptune -79811-04-25 15:49 J -27429430.02 -27429429.84 -27429429.64 0.0089 0.0048
 Jupiter -79811-12-07 05:16 J -27429204.42 -27429204.28 -27429204.14 0.0490 0.0366
 Neptune -79811-12-07 05:59 J -27429204.38 -27429204.25 -27429204.08 0.0089 0.0067 *
 Neptune -79810-07-20 20:08 J -27428978.69 -27428978.66 -27428978.58 0.0089 0.0086
 Mars -79803-12-26 16:47 J -27426262.98 -27426262.80 -27426262.63 0.1668 0.0323
 Saturn -79796-02-14 13:54 J -27424021.10 -27424020.92 -27424020.71 0.0280 0.0125
 Uranus -79794-07-31 07:11 J -27423124.37 -27423124.20 -27423124.03 0.0143 0.0093
 Uranus -79793-03-13 20:52 J -27422897.85 -27422897.63 -27422897.40 0.0143 0.0020
 Pluto -79793-06-14 17:16 J -27422804.93 -27422804.78 -27422804.63 0.0081 0.0056
 Uranus -79793-10-26 10:32 J -27422671.27 -27422671.06 -27422670.85 0.0143 0.0053
 Pluto -79792-01-26 03:06 J -27422579.58 -27422579.37 -27422579.15 0.0080 0.0002
 Jupiter -79792-02-06 22:18 J -27422567.64 -27422567.57 -27422567.48 0.0537 0.0488

Uranus -79792-06-09 23:30 J -27422444.61 -27422444.52 -27422444.40 0.0142 0.0125
 Pluto -79792-09-08 12:28 J -27422354.11 -27422353.98 -27422353.82 0.0080 0.0058
 Earth -79791-08-25 13:40 J -27422003.03 -27422002.93 -27422002.83 0.2600 0.2085
 Jupiter -79787-12-09 18:13 J -27420435.90 -27420435.74 -27420435.56 0.0490 0.0280
 Saturn -79783-05-05 15:20 J -27419193.01 -27419192.86 -27419192.69 0.0282 0.0173
 Earth -79783-08-23 04:04 J -27419083.42 -27419083.33 -27419083.24 0.2601 0.2109
 Moon -79783-08-23 08:23 J -27419083.29 -27419083.15 -27419083.01 0.2596 0.1473 *
 Saturn -79783-12-20 21:06 J -27418963.72 -27418963.62 -27418963.50 0.0280 0.0235
 Jupiter -79781-10-12 16:04 J -27418302.03 -27418301.83 -27418301.64 0.0537 0.0023
 Jupiter -79775-08-14 17:30 J -27416169.97 -27416169.77 -27416169.56 0.0490 0.0127
 Jupiter -79769-06-17 10:18 J -27414036.10 -27414036.07 -27414036.02 0.0537 0.0525
 Saturn -79767-01-10 00:13 J -27413464.58 -27413464.49 -27413464.39 0.0278 0.0249
 Saturn -79767-08-27 18:42 J -27413234.89 -27413234.72 -27413234.55 0.0280 0.0177
 Mars -79764-06-09 02:23 J -27412218.55 -27412218.40 -27412218.25 0.1871 0.0836
 Saturn -79754-11-15 18:13 J -27408406.93 -27408406.74 -27408406.56 0.0282 0.0124
 Uranus -79749-03-07 04:18 J -27406833.46 -27406833.32 -27406833.16 0.0135 0.0095
 Uranus -79749-10-19 08:37 J -27406607.34 -27406607.14 -27406606.94 0.0136 0.0037
 Uranus -79748-06-02 12:56 J -27406381.17 -27406380.96 -27406380.75 0.0136 0.0021
 Uranus -79747-01-14 17:01 J -27406154.95 -27406154.79 -27406154.61 0.0136 0.0080
 Jupiter -79745-06-20 08:23 J -27405267.31 -27405267.15 -27405266.97 0.0537 0.0281
 Jupiter -79739-04-22 03:20 J -27403135.57 -27403135.36 -27403135.15 0.0490 0.0098
 Saturn -79738-07-23 10:04 J -27402678.24 -27402678.08 -27402677.90 0.0278 0.0175
 Saturn -79737-03-09 05:01 J -27402448.37 -27402448.29 -27402448.19 0.0280 0.0254
 Mars -79737-10-23 02:23 J -27402220.56 -27402220.40 -27402220.23 0.1664 0.0655
 Jupiter -79733-02-23 23:44 J -27401001.69 -27401001.51 -27401001.34 0.0537 0.0244
 Neptune -79733-09-28 11:01 J -27400784.12 -27400784.04 -27400783.92 0.0088 0.0078
 Neptune -79732-05-11 23:01 J -27400558.68 -27400558.54 -27400558.37 0.0088 0.0060
 Neptune -79732-12-23 11:16 J -27400333.22 -27400333.03 -27400332.84 0.0088 0.0042
 Neptune -79731-08-05 22:47 J -27400107.74 -27400107.55 -27400107.33 0.0088 0.0025
 Neptune -79730-03-19 10:47 J -27399882.26 -27399882.05 -27399881.83 0.0088 0.0007

Neptune -79730-10-30 22:47 J -27399656.76 -27399656.55 -27399656.34 0.0089 0.0011
 Neptune -79729-06-12 10:18 J -27399431.26 -27399431.07 -27399430.86 0.0089 0.0029
 Neptune -79728-01-23 22:04 J -27399205.75 -27399205.58 -27399205.39 0.0089 0.0047
 Neptune -79728-09-06 09:35 J -27398980.23 -27398980.10 -27398979.93 0.0089 0.0065
 Jupiter -79728-12-26 03:20 J -27398869.52 -27398869.36 -27398869.20 0.0490 0.0304
 Neptune -79727-04-19 21:35 J -27398754.67 -27398754.60 -27398754.51 0.0089 0.0082
 Saturn -79724-05-28 02:37 J -27397620.59 -27397620.39 -27397620.19 0.0282 0.0053
 Uranus -79710-03-30 13:11 J -27392566.05 -27392565.95 -27392565.85 0.0144 0.0127
 Uranus -79710-11-12 02:52 J -27392339.58 -27392339.38 -27392339.17 0.0143 0.0054
 Uranus -79709-06-25 16:47 J -27392113.02 -27392112.80 -27392112.58 0.0143 0.0019
 Saturn -79708-02-01 16:18 J -27391892.01 -27391891.82 -27391891.62 0.0278 0.0118
 Uranus -79708-02-07 05:59 J -27391886.41 -27391886.25 -27391886.07 0.0143 0.0092
 Jupiter -79704-12-28 15:20 J -27390101.01 -27390100.86 -27390100.71 0.0489 0.0335
 Mars -79698-04-06 08:23 J -27388176.32 -27388176.15 -27388175.99 0.1876 0.0207
 Jupiter -79698-11-01 15:49 J -27387967.03 -27387966.84 -27387966.64 0.0537 0.0057
 Saturn -79695-12-08 05:30 J -27386834.48 -27386834.27 -27386834.07 0.0282 0.0003
 Earth -79693-02-28 01:40 J -27386387.54 -27386387.43 -27386387.31 0.2736 0.1820
 Moon -79693-02-28 06:28 J -27386387.29 -27386387.23 -27386387.18 0.2739 0.2517
 Jupiter -79692-09-02 12:28 J -27385835.18 -27385834.98 -27385834.77 0.0490 0.0083
 Jupiter -79686-07-07 09:20 J -27383701.21 -27383701.11 -27383701.00 0.0537 0.0453
 Earth -79685-02-25 18:13 J -27383467.80 -27383467.74 -27383467.68 0.2734 0.2467
 Moon -79685-02-25 23:01 J -27383467.63 -27383467.54 -27383467.45 0.2731 0.2197
 Jupiter -79680-05-08 11:44 J -27381569.02 -27381569.01 -27381568.99 0.0490 0.0488
 Saturn -79679-08-15 02:08 J -27381105.62 -27381105.41 -27381105.19 0.0278 0.0044
 Mars -79671-08-20 11:59 J -27378178.14 -27378178.00 -27378177.86 0.1661 0.0993
 Uranus -79666-11-05 16:32 J -27376274.89 -27376274.81 -27376274.70 0.0135 0.0119
 Uranus -79665-06-18 20:37 J -27376048.82 -27376048.64 -27376048.44 0.0135 0.0062
 Saturn -79665-06-19 14:23 J -27376048.09 -27376047.90 -27376047.69 0.0281 0.0072
 Uranus -79664-01-31 00:56 J -27375822.67 -27375822.46 -27375822.25 0.0136 0.0005
 Uranus -79664-09-14 05:16 J -27375596.47 -27375596.28 -27375596.08 0.0136 0.0054

Uranus -79663-04-28 09:20 J -27375370.20 -27375370.11 -27375369.97 0.0136 0.0114
 Jupiter -79662-07-10 02:52 J -27374932.54 -27374932.38 -27374932.22 0.0537 0.0326
 Jupiter -79656-05-11 00:28 J -27372800.68 -27372800.48 -27372800.28 0.0490 0.0156
 Neptune -79651-11-12 10:32 J -27370789.16 -27370789.06 -27370788.91 0.0089 0.0074
 Jupiter -79650-03-14 20:52 J -27370666.82 -27370666.63 -27370666.45 0.0537 0.0181
 Neptune -79650-06-26 00:56 J -27370563.62 -27370563.46 -27370563.27 0.0089 0.0055
 Neptune -79649-02-06 15:06 J -27370338.06 -27370337.87 -27370337.65 0.0089 0.0036
 Saturn -79649-02-25 09:20 J -27370319.33 -27370319.11 -27370318.89 0.0279 0.0018
 Neptune -79649-09-19 05:30 J -27370112.49 -27370112.27 -27370112.05 0.0089 0.0017
 Neptune -79648-05-02 19:40 J -27369886.90 -27369886.68 -27369886.45 0.0089 0.0003
 Neptune -79648-12-14 09:49 J -27369661.30 -27369661.09 -27369660.86 0.0089 0.0021
 Neptune -79647-07-27 23:59 J -27369435.69 -27369435.50 -27369435.29 0.0089 0.0040
 Neptune -79646-03-10 14:08 J -27369210.07 -27369209.91 -27369209.73 0.0089 0.0059
 Neptune -79646-10-22 04:18 J -27368984.41 -27368984.32 -27368984.20 0.0089 0.0078
 Jupiter -79644-01-13 23:44 J -27368534.69 -27368534.51 -27368534.33 0.0490 0.0250
 Mars -79639-08-19 14:23 J -27366491.00 -27366490.90 -27366490.81 0.1672 0.1402
 Saturn -79636-12-30 17:59 J -27365261.94 -27365261.75 -27365261.57 0.0281 0.0124
 Pluto -79635-11-10 13:11 J -27364947.11 -27364946.95 -27364946.76 0.0064 0.0041
 Pluto -79634-06-23 18:28 J -27364721.95 -27364721.73 -27364721.51 0.0064 0.0011
 Pluto -79633-02-03 23:01 J -27364496.74 -27364496.54 -27364496.31 0.0064 0.0020
 Pluto -79633-09-16 03:35 J -27364271.46 -27364271.35 -27364271.18 0.0065 0.0052
 Mars -79632-01-31 14:23 J -27364134.07 -27364133.90 -27364133.74 0.1881 0.0424
 Uranus -79626-07-12 09:49 J -27361781.26 -27361781.09 -27361780.90 0.0144 0.0086
 Uranus -79625-02-23 23:44 J -27361554.73 -27361554.51 -27361554.28 0.0143 0.0013
 Uranus -79625-10-07 13:11 J -27361328.15 -27361327.95 -27361327.74 0.0143 0.0060
 Uranus -79624-05-22 02:23 J -27361101.47 -27361101.40 -27361101.31 0.0142 0.0132
 Jupiter -79620-01-16 10:04 J -27359766.22 -27359766.08 -27359765.95 0.0490 0.0378
 Saturn -79620-09-06 18:42 J -27359532.93 -27359532.72 -27359532.51 0.0279 0.0090
 Jupiter -79615-11-20 10:04 J -27357632.28 -27357632.08 -27357631.89 0.0537 0.0101
 Jupiter -79609-09-21 09:49 J -27355500.30 -27355500.09 -27355499.88 0.0490 0.0023

Saturn -79607-11-25 21:06 J -27354704.74 -27354704.62 -27354704.48 0.0283 0.0215
 Saturn -79606-07-13 03:20 J -27354475.51 -27354475.36 -27354475.22 0.0281 0.0197
 Mars -79605-06-16 21:49 J -27354135.69 -27354135.59 -27354135.48 0.1657 0.1313
 Jupiter -79603-07-26 02:52 J -27353366.50 -27353366.38 -27353366.25 0.0537 0.0412
 Jupiter -79597-05-27 09:06 J -27351234.22 -27351234.12 -27351234.02 0.0490 0.0429
 Saturn -79591-08-02 07:54 J -27348976.20 -27348976.17 -27348976.11 0.0278 0.0272
 Saturn -79590-03-20 02:08 J -27348746.58 -27348746.41 -27348746.22 0.0280 0.0155
 Uranus -79581-02-17 08:08 J -27345490.31 -27345490.16 -27345490.00 0.0135 0.0088
 Uranus -79581-09-30 12:13 J -27345264.19 -27345263.99 -27345263.78 0.0136 0.0031
 Uranus -79580-05-14 16:32 J -27345038.02 -27345037.81 -27345037.60 0.0136 0.0027
 Uranus -79580-12-26 21:06 J -27344811.78 -27344811.62 -27344811.46 0.0136 0.0086
 Jupiter -79579-07-29 01:40 J -27344597.56 -27344597.43 -27344597.30 0.0537 0.0397
 Saturn -79577-06-07 00:28 J -27343918.64 -27343918.48 -27343918.30 0.0282 0.0162
 Saturn -79576-01-22 06:28 J -27343689.32 -27343689.23 -27343689.13 0.0280 0.0249
 Jupiter -79573-05-29 19:11 J -27342465.89 -27342465.70 -27342465.51 0.0490 0.0200
 Mars -79573-06-15 23:30 J -27342448.66 -27342448.52 -27342448.38 0.1668 0.1043
 Neptune -79569-12-30 21:49 J -27340789.63 -27340789.59 -27340789.52 0.0088 0.0085
 Neptune -79568-08-13 09:35 J -27340564.22 -27340564.10 -27340563.94 0.0088 0.0067
 Neptune -79567-03-26 21:35 J -27340338.76 -27340338.60 -27340338.41 0.0088 0.0050
 Jupiter -79567-04-02 19:25 J -27340331.88 -27340331.69 -27340331.50 0.0537 0.0110
 Neptune -79567-11-07 09:49 J -27340113.29 -27340113.09 -27340112.89 0.0088 0.0032
 Mars -79567-11-28 20:08 J -27340091.79 -27340091.66 -27340091.52 0.1885 0.1062
 Neptune -79566-06-20 21:49 J -27339887.80 -27339887.59 -27339887.38 0.0088 0.0014
 Neptune -79565-02-01 09:35 J -27339662.31 -27339662.10 -27339661.88 0.0088 0.0004
 Neptune -79565-09-13 21:20 J -27339436.82 -27339436.61 -27339436.40 0.0089 0.0022
 Neptune -79564-04-27 08:52 J -27339211.31 -27339211.13 -27339210.93 0.0089 0.0040
 Neptune -79564-12-08 20:37 J -27338985.78 -27338985.64 -27338985.46 0.0089 0.0058
 Neptune -79563-07-22 08:37 J -27338760.24 -27338760.14 -27338760.02 0.0089 0.0075
 Jupiter -79561-02-02 18:28 J -27338199.92 -27338199.73 -27338199.54 0.0490 0.0206
 Saturn -79561-02-12 15:35 J -27338189.98 -27338189.85 -27338189.69 0.0278 0.0207

Saturn -79561-09-29 10:18 J -27337960.19 -27337960.07 -27337959.93 0.0280 0.0222
 Moon -79548-08-25 07:54 J -27333247.33 -27333247.17 -27333247.02 0.2599 0.0989
 Earth -79548-08-25 13:40 J -27333247.03 -27333246.93 -27333246.83 0.2601 0.2048 *
 Saturn -79548-12-18 10:32 J -27333132.25 -27333132.06 -27333131.86 0.0282 0.0086
 Pluto -79546-02-23 13:11 J -27332699.95 -27332699.95 -27332699.93 0.0081 0.0081
 Pluto -79546-10-06 23:16 J -27332474.73 -27332474.53 -27332474.32 0.0080 0.0023
 Pluto -79545-05-19 08:52 J -27332249.31 -27332249.13 -27332248.93 0.0080 0.0034
 Uranus -79542-03-11 17:16 J -27331222.89 -27331222.78 -27331222.64 0.0144 0.0118
 Uranus -79542-10-24 07:11 J -27330996.40 -27330996.20 -27330995.97 0.0143 0.0045
 Uranus -79541-06-06 21:06 J -27330769.83 -27330769.62 -27330769.39 0.0143 0.0029
 Uranus -79540-01-19 10:47 J -27330543.21 -27330543.05 -27330542.90 0.0143 0.0101
 Earth -79540-08-23 03:49 J -27330327.43 -27330327.34 -27330327.25 0.2603 0.2197
 Mars -79539-04-14 07:25 J -27330093.21 -27330093.19 -27330093.17 0.1654 0.1639
 Jupiter -79537-02-05 07:11 J -27329431.28 -27329431.20 -27329431.10 0.0490 0.0437
 Saturn -79532-08-24 23:30 J -27327403.71 -27327403.52 -27327403.33 0.0278 0.0143
 Jupiter -79532-12-09 06:28 J -27327297.42 -27327297.23 -27327297.04 0.0537 0.0160
 Jupiter -79526-10-11 06:28 J -27325165.44 -27325165.23 -27325165.02 0.0490 0.0032
 Jupiter -79520-08-14 01:25 J -27323031.59 -27323031.44 -27323031.28 0.0537 0.0341
 Saturn -79518-06-30 13:54 J -27322346.12 -27322345.92 -27322345.71 0.0282 0.0033
 Jupiter -79514-06-16 04:18 J -27320899.45 -27320899.32 -27320899.19 0.0490 0.0381
 Mars -79507-04-13 09:20 J -27318406.27 -27318406.11 -27318405.95 0.1665 0.0711
 Saturn -79502-03-07 05:59 J -27316617.46 -27316617.25 -27316617.04 0.0278 0.0083
 Mars -79501-09-25 01:40 J -27316049.49 -27316049.43 -27316049.36 0.1890 0.1724
 Uranus -79498-10-17 19:40 J -27314931.78 -27314931.68 -27314931.55 0.0135 0.0114
 Uranus -79497-05-30 23:44 J -27314705.69 -27314705.51 -27314705.31 0.0135 0.0057
 Uranus -79496-01-12 04:18 J -27314479.53 -27314479.32 -27314479.11 0.0136 0.0001
 Jupiter -79496-08-16 20:08 J -27314262.76 -27314262.66 -27314262.55 0.0537 0.0446
 Uranus -79496-08-26 08:23 J -27314253.33 -27314253.15 -27314252.95 0.0136 0.0059
 Uranus -79495-04-09 12:56 J -27314027.06 -27314026.96 -27314026.85 0.0136 0.0118
 Jupiter -79490-06-18 17:16 J -27312130.95 -27312130.78 -27312130.60 0.0490 0.0263

Saturn -79488-01-09 23:01 J -27311559.74 -27311559.54 -27311559.34 0.0282 0.0039
 Neptune -79486-02-13 18:42 J -27310794.80 -27310794.72 -27310794.64 0.0089 0.0082
 Neptune -79486-09-27 08:08 J -27310569.29 -27310569.16 -27310568.98 0.0089 0.0064
 Neptune -79485-05-09 22:32 J -27310343.74 -27310343.56 -27310343.35 0.0089 0.0045
 Neptune -79485-12-21 12:56 J -27310118.17 -27310117.96 -27310117.74 0.0089 0.0026
 Jupiter -79484-04-21 13:11 J -27309997.14 -27309996.95 -27309996.75 0.0537 0.0066
 Neptune -79484-08-04 03:06 J -27309892.59 -27309892.37 -27309892.14 0.0089 0.0007
 Neptune -79483-03-17 17:16 J -27309667.00 -27309666.78 -27309666.55 0.0089 0.0012
 Neptune -79483-10-29 07:25 J -27309441.40 -27309441.19 -27309440.98 0.0089 0.0031
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 Neptune -79481-01-23 11:44 J -27308990.14 -27308990.01 -27308989.86 0.0089 0.0069
 Neptune -79481-09-05 01:54 J -27308764.43 -27308764.42 -27308764.38 0.0089 0.0088
 Jupiter -79478-02-21 16:32 J -27307865.01 -27307864.81 -27307864.61 0.0490 0.0143
 Saturn -79473-09-16 13:11 J -27305831.17 -27305830.95 -27305830.73 0.0279 0.0021
 Mars -79469-09-24 15:35 J -27304361.88 -27304361.85 -27304361.81 0.1874 0.1835
 Saturn -79459-07-23 02:08 J -27300773.61 -27300773.41 -27300773.22 0.0281 0.0091
 Uranus -79458-06-23 14:37 J -27300438.07 -27300437.89 -27300437.69 0.0144 0.0076
 Uranus -79457-02-05 04:32 J -27300211.53 -27300211.31 -27300211.08 0.0143 0.0004
 Uranus -79457-09-18 17:59 J -27299984.94 -27299984.75 -27299984.55 0.0143 0.0070
 Uranus -79456-05-03 07:11 J -27299758.21 -27299758.20 -27299758.16 0.0142 0.0142
 Moon -79450-02-27 23:59 J -27297631.64 -27297631.50 -27297631.36 0.2729 0.1323
 Earth -79450-02-28 03:35 J -27297631.47 -27297631.35 -27297631.22 0.2734 0.1635 *
 Jupiter -79449-12-28 06:28 J -27296962.41 -27296962.23 -27296962.05 0.0537 0.0240
 Saturn -79443-03-29 17:59 J -27295044.97 -27295044.75 -27295044.54 0.0279 0.0035
 Jupiter -79443-10-30 03:06 J -27294830.58 -27294830.37 -27294830.16 0.0490 0.0087
 Earth -79442-02-25 20:23 J -27294711.69 -27294711.65 -27294711.60 0.2732 0.2614
 Mars -79441-02-08 19:25 J -27294363.87 -27294363.69 -27294363.52 0.1662 0.0382
 Jupiter -79437-09-01 21:35 J -27292696.77 -27292696.60 -27292696.43 0.0537 0.0283
 Jupiter -79431-07-05 03:06 J -27290564.53 -27290564.37 -27290564.21 0.0490 0.0314
 Saturn -79430-06-18 03:49 J -27290216.42 -27290216.34 -27290216.24 0.0283 0.0255

Saturn -79429-02-02 10:04 J -27289987.24 -27289987.08 -27289986.91 0.0281 0.0159
 Saturn -79414-10-10 00:56 J -27284258.66 -27284258.46 -27284258.25 0.0279 0.0098
 Uranus -79413-01-29 10:47 J -27284147.21 -27284147.05 -27284146.88 0.0135 0.0084
 Jupiter -79413-09-04 17:44 J -27283927.81 -27283927.76 -27283927.70 0.0537 0.0512
 Uranus -79413-09-11 14:52 J -27283921.09 -27283920.88 -27283920.67 0.0135 0.0027
 Uranus -79412-04-25 18:56 J -27283694.91 -27283694.71 -27283694.50 0.0136 0.0031
 Uranus -79412-12-07 23:16 J -27283468.68 -27283468.53 -27283468.36 0.0136 0.0089
 Jupiter -79407-07-07 15:49 J -27281796.00 -27281795.84 -27281795.69 0.0490 0.0327
 Neptune -79404-11-14 19:40 J -27280569.78 -27280569.68 -27280569.56 0.0088 0.0076
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 Mars -79403-07-22 21:49 J -27280319.72 -27280319.59 -27280319.46 0.1879 0.1215
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 Neptune -79402-09-22 07:25 J -27279893.39 -27279893.19 -27279892.97 0.0088 0.0022
 Neptune -79401-05-04 19:25 J -27279667.90 -27279667.69 -27279667.47 0.0088 0.0005
 Jupiter -79401-05-10 13:11 J -27279662.15 -27279661.95 -27279661.75 0.0537 0.0013
 Neptune -79401-12-16 07:25 J -27279442.40 -27279442.19 -27279441.97 0.0088 0.0014
 Saturn -79401-12-28 06:56 J -27279430.35 -27279430.21 -27279430.07 0.0282 0.0203
 Neptune -79400-07-29 19:11 J -27279216.89 -27279216.70 -27279216.49 0.0088 0.0031
 Saturn -79400-08-14 12:42 J -27279201.10 -27279200.97 -27279200.83 0.0280 0.0208
 Neptune -79399-03-12 06:42 J -27278991.38 -27278991.22 -27278991.02 0.0089 0.0050
 Neptune -79399-10-23 18:56 J -27278765.84 -27278765.71 -27278765.57 0.0089 0.0067
 Neptune -79398-06-06 06:28 J -27278540.27 -27278540.23 -27278540.16 0.0089 0.0085
 Jupiter -79395-03-12 14:08 J -27277530.12 -27277529.91 -27277529.70 0.0490 0.0083
 Jupiter -79389-01-14 07:40 J -27275396.25 -27275396.18 -27275396.09 0.0537 0.0488
 Pluto -79388-07-21 07:40 J -27274842.20 -27274842.18 -27274842.09 0.0064 0.0062
 Pluto -79387-03-03 12:56 J -27274617.15 -27274616.96 -27274616.75 0.0064 0.0032
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 Pluto -79386-05-27 23:01 J -27274166.74 -27274166.54 -27274166.33 0.0064 0.0030
 Pluto -79385-01-08 04:04 J -27273941.40 -27273941.33 -27273941.25 0.0065 0.0061
 Saturn -79384-04-21 03:49 J -27273472.52 -27273472.34 -27273472.15 0.0279 0.0145

Jupiter -79384-11-15 13:54 J -27273263.95 -27273263.92 -27273263.89 0.0490 0.0484
 Mars -79376-12-06 05:01 J -27270321.47 -27270321.29 -27270321.11 0.1658 0.0050
 Uranus -79374-02-20 20:23 J -27269879.78 -27269879.65 -27269879.49 0.0144 0.0111
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 Uranus -79373-05-19 00:42 J -27269426.69 -27269426.47 -27269426.26 0.0143 0.0037
 Uranus -79373-12-31 14:08 J -27269200.05 -27269199.91 -27269199.76 0.0143 0.0109
 Saturn -79371-07-10 13:40 J -27268644.11 -27268643.93 -27268643.75 0.0283 0.0140
 Saturn -79370-02-24 19:11 J -27268414.74 -27268414.70 -27268414.64 0.0281 0.0272
 Jupiter -79365-01-17 02:23 J -27266627.56 -27266627.40 -27266627.23 0.0537 0.0297
 Jupiter -79360-11-18 03:06 J -27264495.57 -27264495.37 -27264495.17 0.0490 0.0159
 Saturn -79355-03-16 16:04 J -27262915.95 -27262915.83 -27262915.69 0.0278 0.0222
 Saturn -79355-11-01 10:32 J -27262686.21 -27262686.06 -27262685.91 0.0280 0.0206
 Jupiter -79354-09-21 19:54 J -27262361.85 -27262361.67 -27262361.49 0.0537 0.0213
 Jupiter -79348-07-24 02:52 J -27260229.56 -27260229.38 -27260229.20 0.0490 0.0244
 Saturn -79341-01-20 16:04 J -27257858.02 -27257857.83 -27257857.63 0.0282 0.0090
 Mars -79337-05-19 03:49 J -27256277.50 -27256277.34 -27256277.18 0.1884 0.0603
 Uranus -79330-09-28 22:32 J -27253588.67 -27253588.56 -27253588.42 0.0135 0.0110
 Uranus -79329-05-12 02:37 J -27253362.58 -27253362.39 -27253362.19 0.0135 0.0053
 Uranus -79329-12-24 06:56 J -27253136.42 -27253136.21 -27253136.00 0.0135 0.0005
 Uranus -79328-08-07 11:16 J -27252910.22 -27252910.03 -27252909.84 0.0136 0.0062
 Uranus -79327-03-21 15:20 J -27252683.95 -27252683.86 -27252683.75 0.0136 0.0121
 Saturn -79326-09-26 17:16 J -27252129.94 -27252129.78 -27252129.61 0.0278 0.0181
 Saturn -79325-05-13 11:59 J -27251900.10 -27251900.00 -27251899.90 0.0280 0.0249
 Jupiter -79324-07-26 15:06 J -27251460.99 -27251460.87 -27251460.75 0.0490 0.0396
 Neptune -79322-12-29 15:35 J -27250574.95 -27250574.85 -27250574.70 0.0089 0.0073
 Neptune -79321-08-11 05:44 J -27250349.42 -27250349.26 -27250349.06 0.0089 0.0054
 Neptune -79320-03-24 19:54 J -27250123.86 -27250123.67 -27250123.45 0.0089 0.0035
 Neptune -79320-11-05 10:18 J -27249898.29 -27249898.07 -27249897.84 0.0089 0.0016
 Neptune -79319-06-19 00:42 J -27249672.70 -27249672.47 -27249672.25 0.0089 0.0003
 Neptune -79318-01-30 14:23 J -27249447.10 -27249446.90 -27249446.67 0.0089 0.0023

Jupiter -79318-05-30 12:13 J -27249327.19 -27249326.99 -27249326.80 0.0537 0.0087
 Neptune -79318-09-13 04:47 J -27249221.50 -27249221.30 -27249221.10 0.0089 0.0041
 Neptune -79317-04-25 18:28 J -27248995.87 -27248995.73 -27248995.54 0.0089 0.0061
 Neptune -79317-12-07 09:06 J -27248770.21 -27248770.12 -27248770.01 0.0089 0.0079
 Jupiter -79312-03-31 14:52 J -27247195.09 -27247194.88 -27247194.67 0.0490 0.0007
 Saturn -79312-08-01 21:35 J -27247071.80 -27247071.60 -27247071.39 0.0282 0.0031
 Mars -79310-10-03 15:06 J -27246279.04 -27246278.87 -27246278.69 0.1655 0.0271
 Jupiter -79306-02-02 05:30 J -27245061.38 -27245061.27 -27245061.14 0.0536 0.0421
 Earth -79305-08-25 13:11 J -27244491.06 -27244490.95 -27244490.84 0.2603 0.1931
 Jupiter -79301-12-04 14:37 J -27242929.00 -27242928.89 -27242928.77 0.0491 0.0410
 Pluto -79299-06-16 16:47 J -27242369.94 -27242369.80 -27242369.64 0.0081 0.0056
 Pluto -79298-01-28 02:52 J -27242144.60 -27242144.38 -27242144.17 0.0080 0.0002
 Pluto -79298-09-10 11:59 J -27241919.13 -27241919.00 -27241918.84 0.0080 0.0058
 Earth -79297-08-23 03:20 J -27241571.44 -27241571.36 -27241571.29 0.2604 0.2308
 Moon -79297-08-23 09:35 J -27241571.21 -27241571.10 -27241570.99 0.2604 0.1926
 Saturn -79296-04-07 23:30 J -27241343.71 -27241343.52 -27241343.32 0.0278 0.0121
 Uranus -79290-06-04 15:49 J -27239095.03 -27239094.84 -27239094.64 0.0144 0.0072
 Uranus -79289-01-17 05:59 J -27238868.47 -27238868.25 -27238868.02 0.0143 0.0002
 Uranus -79289-08-30 19:40 J -27238641.87 -27238641.68 -27238641.48 0.0143 0.0075
 Jupiter -79282-02-05 04:04 J -27236292.47 -27236292.33 -27236292.20 0.0537 0.0385
 Saturn -79282-02-11 23:16 J -27236285.73 -27236285.53 -27236285.32 0.0282 0.0016
 Jupiter -79277-12-07 03:06 J -27234160.55 -27234160.37 -27234160.18 0.0490 0.0232
 Mars -79271-03-16 09:20 J -27232235.27 -27232235.11 -27232234.94 0.1888 0.0078
 Jupiter -79271-10-10 23:16 J -27232026.73 -27232026.53 -27232026.34 0.0537 0.0114
 Saturn -79267-10-18 23:16 J -27230557.73 -27230557.53 -27230557.32 0.0278 0.0085
 Jupiter -79265-08-12 03:20 J -27229894.56 -27229894.36 -27229894.16 0.0490 0.0169
 Saturn -79253-08-24 03:20 J -27225499.56 -27225499.36 -27225499.16 0.0282 0.0070
 Uranus -79246-05-29 11:01 J -27223030.04 -27223030.04 -27223029.99 0.0135 0.0134
 Uranus -79245-01-10 15:20 J -27222804.03 -27222803.86 -27222803.68 0.0135 0.0077
 Uranus -79245-08-23 19:25 J -27222577.90 -27222577.69 -27222577.48 0.0135 0.0020

Uranus -79244-04-06 23:16 J -27222351.73 -27222351.53 -27222351.32 0.0136 0.0037
 Mars -79244-07-31 00:56 J -27222236.62 -27222236.46 -27222236.29 0.1652 0.0597
 Uranus -79244-11-19 03:20 J -27222125.50 -27222125.36 -27222125.20 0.0136 0.0095
 Jupiter -79241-08-14 16:32 J -27221125.85 -27221125.81 -27221125.76 0.0490 0.0475
 Neptune -79239-02-16 05:01 J -27220575.34 -27220575.29 -27220575.22 0.0088 0.0085
 Neptune -79239-09-29 17:01 J -27220349.92 -27220349.79 -27220349.64 0.0088 0.0067
 Neptune -79238-05-13 05:01 J -27220124.47 -27220124.29 -27220124.11 0.0088 0.0049
 Neptune -79238-12-24 16:32 J -27219898.99 -27219898.81 -27219898.59 0.0088 0.0032
 Saturn -79237-04-30 05:16 J -27219771.50 -27219771.28 -27219771.06 0.0278 0.0026
 Neptune -79237-08-06 04:47 J -27219673.51 -27219673.30 -27219673.09 0.0088 0.0013
 Neptune -79236-03-19 16:47 J -27219448.02 -27219447.80 -27219447.59 0.0089 0.0005
 Neptune -79236-10-31 04:32 J -27219222.51 -27219222.31 -27219222.10 0.0089 0.0023
 Neptune -79235-06-13 16:18 J -27218997.00 -27218996.82 -27218996.62 0.0089 0.0041
 Jupiter -79235-06-18 12:28 J -27218992.17 -27218991.98 -27218991.79 0.0537 0.0168
 Neptune -79234-01-25 03:49 J -27218771.48 -27218771.34 -27218771.16 0.0089 0.0059
 Neptune -79234-09-07 15:35 J -27218545.93 -27218545.85 -27218545.72 0.0089 0.0077
 Jupiter -79229-04-19 16:32 J -27216860.02 -27216859.81 -27216859.61 0.0490 0.0073
 Jupiter -79223-02-21 07:25 J -27214726.34 -27214726.19 -27214726.03 0.0537 0.0331
 Saturn -79223-03-06 05:16 J -27214713.47 -27214713.28 -27214713.10 0.0281 0.0117
 Jupiter -79218-12-24 15:49 J -27212593.99 -27212593.84 -27212593.68 0.0490 0.0331
 Saturn -79208-11-10 04:32 J -27208985.53 -27208985.31 -27208985.09 0.0278 0.0009
 Earth -79207-02-28 05:44 J -27208875.39 -27208875.26 -27208875.13 0.2732 0.1474
 Moon -79207-02-28 07:11 J -27208875.32 -27208875.20 -27208875.07 0.2739 0.1359 *
 Uranus -79206-02-01 21:20 J -27208536.75 -27208536.61 -27208536.45 0.0144 0.0107
 Uranus -79206-09-16 11:44 J -27208310.23 -27208310.01 -27208309.79 0.0144 0.0033
 Mars -79205-01-11 15:06 J -27208193.03 -27208192.87 -27208192.71 0.1893 0.0717
 Uranus -79205-04-30 01:54 J -27208083.64 -27208083.42 -27208083.21 0.0143 0.0041
 Uranus -79205-12-12 15:35 J -27207856.98 -27207856.85 -27207856.71 0.0143 0.0113
 Jupiter -79199-02-24 05:30 J -27205957.35 -27205957.27 -27205957.17 0.0537 0.0472
 Moon -79199-02-26 02:52 J -27205955.47 -27205955.38 -27205955.29 0.2734 0.2173

Saturn -79194-01-30 00:42 J -27204156.55 -27204156.47 -27204156.37 0.0284 0.0254
 Saturn -79194-09-16 07:40 J -27203927.34 -27203927.18 -27203927.01 0.0282 0.0165
 Jupiter -79194-12-27 05:01 J -27203825.45 -27203825.29 -27203825.13 0.0490 0.0313
 Jupiter -79188-10-29 23:30 J -27201691.71 -27201691.52 -27201691.32 0.0536 0.0034
 Jupiter -79182-09-01 04:47 J -27199559.50 -27199559.30 -27199559.09 0.0491 0.0092
 Saturn -79178-05-23 10:32 J -27198199.27 -27198199.06 -27198198.85 0.0278 0.0068
 Mars -79178-05-28 11:16 J -27198194.18 -27198194.03 -27198193.88 0.1649 0.0905
 Saturn -79165-08-11 02:52 J -27193370.51 -27193370.38 -27193370.23 0.0284 0.0205
 Saturn -79164-03-28 09:35 J -27193141.23 -27193141.10 -27193140.97 0.0281 0.0212
 Uranus -79162-09-10 04:47 J -27192245.42 -27192245.30 -27192245.14 0.0135 0.0100
 Uranus -79161-04-23 08:52 J -27192019.32 -27192019.13 -27192018.92 0.0135 0.0043
 Uranus -79161-12-05 13:11 J -27191793.16 -27191792.95 -27191792.74 0.0135 0.0014
 Uranus -79160-07-19 17:16 J -27191566.95 -27191566.78 -27191566.60 0.0136 0.0072
 Uranus -79159-03-02 21:06 J -27191340.66 -27191340.62 -27191340.54 0.0136 0.0130
 Neptune -79157-03-31 22:04 J -27190580.64 -27190580.58 -27190580.48 0.0089 0.0083
 Neptune -79157-11-12 12:13 J -27190355.13 -27190354.99 -27190354.81 0.0089 0.0064
 Neptune -79156-06-26 02:37 J -27190129.57 -27190129.39 -27190129.18 0.0089 0.0045
 Neptune -79155-02-06 16:47 J -27189904.01 -27189903.80 -27189903.57 0.0089 0.0026
 Neptune -79155-09-20 06:56 J -27189678.43 -27189678.21 -27189677.98 0.0089 0.0007
 Neptune -79154-05-03 21:06 J -27189452.84 -27189452.62 -27189452.39 0.0089 0.0013
 Neptune -79154-12-15 11:16 J -27189227.23 -27189227.03 -27189226.81 0.0089 0.0032
 Neptune -79153-07-28 01:11 J -27189001.62 -27189001.45 -27189001.25 0.0089 0.0051
 Neptune -79152-03-10 15:20 J -27188775.98 -27188775.86 -27188775.71 0.0089 0.0070
 Jupiter -79152-07-07 16:47 J -27188656.97 -27188656.80 -27188656.63 0.0537 0.0274
 Neptune -79152-10-22 05:44 J -27188550.26 -27188550.26 -27188550.25 0.0089 0.0089
 Saturn -79149-12-02 09:06 J -27187413.33 -27187413.12 -27187412.92 0.0278 0.0100
 Jupiter -79146-05-09 18:13 J -27186524.93 -27186524.74 -27186524.54 0.0490 0.0155
 Mars -79146-05-27 11:59 J -27186507.09 -27186507.00 -27186506.91 0.1659 0.1412
 Pluto -79141-11-11 06:28 J -27184512.32 -27184512.23 -27184512.10 0.0064 0.0055
 Jupiter -79140-03-12 10:32 J -27184391.24 -27184391.06 -27184390.88 0.0536 0.0235

Pluto	-79140-06-24 11:30 J	-27184287.22	-27184287.02	-27184286.80	0.0064	0.0025
Mars	-79140-11-07 20:37 J	-27184150.76	-27184150.64	-27184150.53	0.1897	0.1388
Pluto	-79139-02-04 16:32 J	-27184062.03	-27184061.81	-27184061.58	0.0064	0.0006
Pluto	-79139-09-17 21:06 J	-27183836.79	-27183836.62	-27183836.42	0.0065	0.0037
Saturn	-79135-02-21 04:47 J	-27182584.47	-27182584.30	-27182584.13	0.0284	0.0159
Saturn	-79135-10-08 11:30 J	-27182355.09	-27182355.02	-27182354.94	0.0282	0.0259
Jupiter	-79134-01-12 17:16 J	-27182258.96	-27182258.78	-27182258.60	0.0491	0.0255
Uranus	-79123-10-02 04:47 J	-27177978.34	-27177978.30	-27177978.22	0.0144	0.0139
Uranus	-79122-05-16 19:25 J	-27177751.88	-27177751.69	-27177751.48	0.0144	0.0064
Uranus	-79122-12-29 09:49 J	-27177525.31	-27177525.09	-27177524.87	0.0144	0.0010
Uranus	-79121-08-11 23:30 J	-27177298.69	-27177298.52	-27177298.33	0.0143	0.0083
Saturn	-79120-10-27 21:49 J	-27176856.64	-27176856.59	-27176856.50	0.0276	0.0261
Saturn	-79119-06-14 15:35 J	-27176627.03	-27176626.85	-27176626.67	0.0278	0.0162
Mars	-79112-03-24 21:20 J	-27174151.73	-27174151.61	-27174151.49	0.1645	0.1213
Jupiter	-79110-01-15 07:11 J	-27173490.32	-27173490.20	-27173490.07	0.0490	0.0394
Saturn	-79106-09-03 07:11 J	-27171798.39	-27171798.20	-27171798.01	0.0283	0.0108
Jupiter	-79105-11-18 01:25 J	-27171356.63	-27171356.44	-27171356.24	0.0537	0.0058
Jupiter	-79099-09-20 06:42 J	-27169224.43	-27169224.22	-27169224.01	0.0490	0.0014
Jupiter	-79093-07-23 20:52 J	-27167090.74	-27167090.63	-27167090.52	0.0536	0.0439
Saturn	-79090-05-09 21:06 J	-27166070.74	-27166070.62	-27166070.49	0.0276	0.0227
Saturn	-79090-12-25 14:37 J	-27165841.05	-27165840.89	-27165840.74	0.0278	0.0196
Jupiter	-79087-05-26 06:42 J	-27164958.33	-27164958.22	-27164958.10	0.0491	0.0411
Mars	-79080-03-23 22:18 J	-27162464.71	-27162464.57	-27162464.44	0.1656	0.1096
Uranus	-79078-05-10 18:28 J	-27161686.80	-27161686.73	-27161686.63	0.0135	0.0122
Uranus	-79078-12-22 22:18 J	-27161460.74	-27161460.57	-27161460.37	0.0135	0.0066
Uranus	-79077-08-05 02:37 J	-27161234.60	-27161234.39	-27161234.18	0.0135	0.0009
Saturn	-79076-03-15 08:37 J	-27161012.34	-27161012.14	-27161011.94	0.0284	0.0064
Uranus	-79076-03-19 06:13 J	-27161008.43	-27161008.24	-27161008.03	0.0136	0.0049
Uranus	-79076-10-31 10:18 J	-27160782.19	-27160782.07	-27160781.93	0.0136	0.0106
Neptune	-79074-01-01 01:40 J	-27160355.52	-27160355.43	-27160355.31	0.0088	0.0077

Neptune -79074-08-14 13:40 J -27160130.08 -27160129.93 -27160129.76 0.0088 0.0059
 Neptune -79073-03-27 01:40 J -27159904.61 -27159904.43 -27159904.23 0.0089 0.0041
 Neptune -79073-11-07 13:40 J -27159679.13 -27159678.93 -27159678.72 0.0089 0.0023
 Neptune -79072-06-21 01:40 J -27159453.64 -27159453.43 -27159453.21 0.0089 0.0005
 Neptune -79071-02-01 13:25 J -27159228.15 -27159227.94 -27159227.72 0.0089 0.0013
 Neptune -79071-09-15 00:56 J -27159002.64 -27159002.46 -27159002.24 0.0089 0.0032
 Neptune -79070-04-28 12:42 J -27158777.13 -27158776.97 -27158776.77 0.0089 0.0050
 Neptune -79070-12-10 01:11 J -27158551.59 -27158551.45 -27158551.31 0.0089 0.0067
 Neptune -79069-07-22 12:42 J -27158326.01 -27158325.97 -27158325.90 0.0089 0.0085
 Jupiter -79069-07-26 18:13 J -27158321.88 -27158321.74 -27158321.59 0.0536 0.0358
 Jupiter -79063-05-28 19:11 J -27156189.89 -27156189.70 -27156189.52 0.0491 0.0228
 Moon -79062-08-26 09:49 J -27155735.23 -27155735.09 -27155734.95 0.2598 0.1552
 Earth -79062-08-26 12:42 J -27155735.08 -27155734.97 -27155734.85 0.2604 0.1848 *
 Saturn -79061-11-19 03:35 J -27155284.52 -27155284.35 -27155284.17 0.0276 0.0165
 Saturn -79060-07-06 21:06 J -27155054.68 -27155054.62 -27155054.53 0.0279 0.0260
 Jupiter -79057-03-31 11:01 J -27154056.23 -27154056.04 -27154055.85 0.0536 0.0153
 Earth -79054-08-24 02:52 J -27152815.44 -27152815.38 -27152815.32 0.2606 0.2428
 Pluto -79052-10-07 17:16 J -27152039.95 -27152039.78 -27152039.59 0.0080 0.0041
 Jupiter -79051-01-31 18:56 J -27151923.90 -27151923.71 -27151923.51 0.0491 0.0175
 Pluto -79051-05-21 03:20 J -27151814.57 -27151814.36 -27151814.15 0.0080 0.0015
 Pluto -79050-01-01 12:42 J -27151589.06 -27151588.97 -27151588.87 0.0080 0.0071
 Saturn -79047-09-25 11:59 J -27150226.21 -27150226.00 -27150225.80 0.0283 0.0011
 Mars -79046-01-20 08:08 J -27150109.23 -27150109.16 -27150109.09 0.1643 0.1500
 Mars -79042-09-04 17:16 J -27148420.87 -27148420.78 -27148420.70 0.1887 0.1612
 Uranus -79038-01-14 03:35 J -27147193.50 -27147193.35 -27147193.17 0.0144 0.0094
 Uranus -79038-08-28 18:13 J -27146966.96 -27146966.74 -27146966.52 0.0144 0.0020
 Uranus -79037-04-11 07:54 J -27146740.37 -27146740.17 -27146739.95 0.0143 0.0054
 Uranus -79037-11-23 21:35 J -27146513.69 -27146513.60 -27146513.48 0.0143 0.0126
 Saturn -79031-06-01 03:35 J -27144498.54 -27144498.35 -27144498.15 0.0277 0.0129
 Jupiter -79027-02-03 08:37 J -27143155.19 -27143155.14 -27143155.09 0.0490 0.0472

Jupiter -79022-12-08 04:47 J -27141021.49 -27141021.30 -27141021.11 0.0536 0.0154

Saturn -79017-04-06 12:56 J -27139440.16 -27139439.96 -27139439.75 0.0284 0.0035

Jupiter -79016-10-09 06:42 J -27138889.43 -27138889.22 -27138889.01 0.0491 0.0060

Mars -79014-01-19 08:23 J -27138422.31 -27138422.15 -27138421.99 0.1653 0.0775

Jupiter -79010-08-12 22:47 J -27136755.70 -27136755.55 -27136755.40 0.0535 0.0350

Jupiter -79004-06-14 06:13 J -27134623.39 -27134623.24 -27134623.09 0.0491 0.0345

Saturn -79002-12-12 11:16 J -27133712.24 -27133712.03 -27133711.82 0.0277 0.0063

79TH MILLENNIUM BCE

This is a list of transits of Venus in the 79th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	-78994-08-22 12:13 J	-27130902.14	-27130901.99	-27130901.83	0.0135	0.0088		
Uranus	-78993-04-04 16:04 J	-27130676.03	-27130675.83	-27130675.62	0.0135	0.0032		
Uranus	-78993-11-16 19:54 J	-27130449.87	-27130449.67	-27130449.46	0.0135	0.0026		
Neptune	-78992-02-13 18:42 J	-27130360.83	-27130360.72	-27130360.58	0.0089	0.0074		
Uranus	-78992-06-30 23:59 J	-27130223.66	-27130223.50	-27130223.33	0.0136	0.0083		
Neptune	-78992-09-27 08:52 J	-27130135.29	-27130135.13	-27130134.94	0.0089	0.0055		
Neptune	-78991-05-10 23:01 J	-27129909.73	-27129909.54	-27129909.32	0.0089	0.0036		
Neptune	-78991-12-22 13:25 J	-27129684.16	-27129683.94	-27129683.71	0.0089	0.0017		
Neptune	-78990-08-05 03:35 J	-27129458.57	-27129458.35	-27129458.12	0.0089	0.0003		
Neptune	-78989-03-17 17:30 J	-27129232.98	-27129232.77	-27129232.54	0.0089	0.0022		
Neptune	-78989-10-29 07:40 J	-27129007.37	-27129007.18	-27129006.97	0.0089	0.0041		
Neptune	-78988-06-11 21:49 J	-27128781.74	-27128781.59	-27128781.41	0.0089	0.0060		

Saturn -78988-10-17 17:16 J -27128653.97 -27128653.78 -27128653.58 0.0283 0.0091
 Neptune -78987-01-23 11:59 J -27128556.09 -27128556.00 -27128555.89 0.0089 0.0079
 Jupiter -78986-08-15 18:28 J -27127986.84 -27127986.73 -27127986.62 0.0537 0.0438
 Jupiter -78980-06-16 19:54 J -27125854.83 -27125854.67 -27125854.50 0.0490 0.0303
 Mars -78976-07-01 22:47 J -27124378.70 -27124378.55 -27124378.41 0.1892 0.0962
 Jupiter -78974-04-20 13:40 J -27123721.13 -27123720.93 -27123720.73 0.0536 0.0059
 Saturn -78972-06-23 12:13 J -27122926.21 -27122925.99 -27122925.77 0.0277 0.0023
 Jupiter -78968-02-19 19:40 J -27121588.89 -27121588.68 -27121588.47 0.0491 0.0099
 Earth -78964-02-28 07:40 J -27120119.31 -27120119.18 -27120119.04 0.2731 0.1283
 Moon -78964-02-28 08:23 J -27120119.28 -27120119.15 -27120119.02 0.2724 0.1586 *
 Saturn -78958-04-29 18:42 J -27117867.90 -27117867.72 -27117867.54 0.0284 0.0137
 Uranus -78955-09-13 12:42 J -27116635.08 -27116634.97 -27116634.85 0.0144 0.0123
 Uranus -78954-04-28 03:06 J -27116408.57 -27116408.37 -27116408.15 0.0144 0.0049
 Uranus -78954-12-10 17:16 J -27116181.99 -27116181.78 -27116181.55 0.0144 0.0025
 Uranus -78953-07-24 07:11 J -27115955.35 -27115955.20 -27115955.02 0.0143 0.0098
 Mars -78949-11-15 18:28 J -27114379.90 -27114379.73 -27114379.56 0.1650 0.0454
 Saturn -78942-01-03 20:37 J -27112139.86 -27112139.64 -27112139.42 0.0277 0.0047
 Jupiter -78939-12-27 03:35 J -27110686.53 -27110686.35 -27110686.17 0.0536 0.0224
 Jupiter -78933-10-28 06:56 J -27108554.41 -27108554.21 -27108554.01 0.0491 0.0133
 Saturn -78929-03-24 16:32 J -27107310.93 -27107310.81 -27107310.68 0.0285 0.0227
 Saturn -78929-11-09 00:28 J -27107081.62 -27107081.48 -27107081.33 0.0283 0.0198
 Jupiter -78927-08-31 21:20 J -27106420.77 -27106420.61 -27106420.44 0.0536 0.0279
 Jupiter -78921-07-03 06:13 J -27104288.41 -27104288.24 -27104288.06 0.0491 0.0273
 Saturn -78913-07-15 23:16 J -27101353.73 -27101353.53 -27101353.32 0.0277 0.0093
 Neptune -78910-04-04 09:49 J -27100361.11 -27100361.09 -27100361.02 0.0089 0.0087
 Uranus -78910-04-22 00:42 J -27100343.57 -27100343.47 -27100343.34 0.0135 0.0112
 Mars -78910-04-29 04:32 J -27100336.48 -27100336.31 -27100336.15 0.1896 0.0314
 Neptune -78910-11-15 22:04 J -27100135.70 -27100135.58 -27100135.43 0.0089 0.0069
 Uranus -78910-12-04 04:32 J -27100117.49 -27100117.31 -27100117.10 0.0135 0.0056
 Neptune -78909-06-28 10:04 J -27099910.25 -27099910.08 -27099909.90 0.0089 0.0051

Uranus -78909-07-17 08:37 J -27099891.35 -27099891.14 -27099890.93 0.0135 0.0001
 Neptune -78908-02-08 21:49 J -27099684.78 -27099684.59 -27099684.38 0.0089 0.0033
 Uranus -78908-02-28 12:28 J -27099665.17 -27099664.98 -27099664.79 0.0135 0.0058
 Neptune -78908-09-22 09:49 J -27099459.30 -27099459.09 -27099458.87 0.0089 0.0015
 Uranus -78908-10-12 16:32 J -27099438.92 -27099438.81 -27099438.70 0.0136 0.0115
 Neptune -78907-05-05 21:49 J -27099233.81 -27099233.59 -27099233.38 0.0089 0.0003
 Neptune -78907-12-17 09:35 J -27099008.30 -27099008.10 -27099007.89 0.0089 0.0021
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 Neptune -78905-03-12 08:52 J -27098557.27 -27098557.13 -27098556.95 0.0089 0.0058
 Neptune -78905-10-23 21:20 J -27098331.72 -27098331.61 -27098331.50 0.0089 0.0075
 Jupiter -78903-09-03 20:23 J -27097651.68 -27097651.65 -27097651.61 0.0536 0.0526
 Saturn -78900-10-04 18:13 J -27096524.89 -27096524.74 -27096524.58 0.0285 0.0180
 Saturn -78899-05-22 02:08 J -27096295.51 -27096295.41 -27096295.31 0.0283 0.0245
 Jupiter -78897-07-05 17:30 J -27095519.91 -27095519.77 -27095519.63 0.0491 0.0361
 Pluto -78893-03-04 01:40 J -27094182.51 -27094182.43 -27094182.32 0.0064 0.0057
 Pluto -78893-10-15 06:28 J -27093957.42 -27093957.23 -27093957.01 0.0064 0.0027
 Pluto -78892-05-28 11:44 J -27093732.23 -27093732.01 -27093731.78 0.0064 0.0004
 Pluto -78891-01-08 16:18 J -27093506.99 -27093506.82 -27093506.61 0.0065 0.0035
 Jupiter -78891-05-09 14:23 J -27093386.10 -27093385.90 -27093385.70 0.0536 0.0023
 Jupiter -78885-03-10 16:32 J -27091254.02 -27091253.81 -27091253.60 0.0491 0.0046
 Saturn -78884-06-10 16:04 J -27090796.91 -27090796.83 -27090796.74 0.0275 0.0253
 Saturn -78883-01-26 08:08 J -27090567.32 -27090567.16 -27090566.97 0.0277 0.0166
 Mars -78883-09-13 04:47 J -27090337.48 -27090337.30 -27090337.12 0.1646 0.0146
 Jupiter -78879-01-12 06:13 J -27089120.31 -27089120.24 -27089120.16 0.0535 0.0492
 Jupiter -78874-11-14 16:32 J -27086987.90 -27086987.81 -27086987.73 0.0491 0.0448
 Uranus -78871-12-26 10:18 J -27085850.24 -27085850.07 -27085849.87 0.0144 0.0081
 Saturn -78870-04-17 01:40 J -27085738.62 -27085738.43 -27085738.24 0.0285 0.0111
 Uranus -78870-08-10 00:56 J -27085623.68 -27085623.46 -27085623.23 0.0144 0.0007
 Uranus -78869-03-23 14:52 J -27085397.07 -27085396.88 -27085396.67 0.0144 0.0067
 Uranus -78869-11-05 04:18 J -27085170.35 -27085170.32 -27085170.25 0.0143 0.0140

Jupiter -78855-01-15 03:20 J -27080351.51 -27080351.36 -27080351.19 0.0537 0.0304
 Saturn -78855-12-21 20:08 J -27080010.79 -27080010.66 -27080010.50 0.0275 0.0203
 Saturn -78854-08-08 12:28 J -27079781.10 -27079780.98 -27079780.83 0.0278 0.0218
 Jupiter -78850-11-17 05:16 J -27078219.47 -27078219.28 -27078219.08 0.0490 0.0196
 Mars -78844-02-23 09:35 J -27076294.27 -27076294.10 -27076293.94 0.1901 0.0387
 Jupiter -78844-09-19 22:47 J -27076085.74 -27076085.55 -27076085.37 0.0536 0.0195
 Saturn -78841-10-27 04:04 J -27074952.52 -27074952.33 -27074952.12 0.0285 0.0061
 Jupiter -78838-07-23 02:23 J -27073953.58 -27073953.40 -27073953.21 0.0491 0.0223
 Neptune -78828-05-18 01:11 J -27070366.51 -27070366.45 -27070366.37 0.0089 0.0084
 Neptune -78828-12-29 15:06 J -27070141.01 -27070140.87 -27070140.70 0.0089 0.0065
 Neptune -78827-08-12 05:16 J -27069915.46 -27069915.28 -27069915.08 0.0089 0.0046
 Neptune -78826-03-25 19:25 J -27069689.90 -27069689.69 -27069689.47 0.0089 0.0027
 Uranus -78826-08-03 17:30 J -27069558.94 -27069558.77 -27069558.60 0.0135 0.0080
 Neptune -78826-11-06 09:35 J -27069464.32 -27069464.10 -27069463.87 0.0089 0.0008
 Uranus -78825-03-16 21:06 J -27069332.82 -27069332.62 -27069332.41 0.0135 0.0024
 Neptune -78825-06-18 23:59 J -27069238.72 -27069238.50 -27069238.27 0.0089 0.0012
 Saturn -78825-07-03 05:59 J -27069224.44 -27069224.25 -27069224.06 0.0276 0.0130
 Uranus -78825-10-29 00:42 J -27069106.66 -27069106.47 -27069106.25 0.0135 0.0033
 Neptune -78824-01-30 13:54 J -27069013.12 -27069012.92 -27069012.70 0.0089 0.0031
 Uranus -78824-06-12 04:47 J -27068880.45 -27068880.30 -27068880.14 0.0136 0.0090
 Neptune -78824-09-13 04:04 J -27068787.51 -27068787.33 -27068787.13 0.0089 0.0050
 Neptune -78823-04-26 18:13 J -27068561.87 -27068561.74 -27068561.59 0.0089 0.0069
 Neptune -78823-12-08 08:37 J -27068336.16 -27068336.14 -27068336.12 0.0089 0.0088
 Earth -78819-08-26 12:13 J -27066979.11 -27066978.99 -27066978.87 0.2606 0.1731
 Moon -78819-08-26 12:42 J -27066979.09 -27066978.97 -27066978.84 0.2612 0.1512 *
 Mars -78817-07-10 14:52 J -27066295.06 -27066294.88 -27066294.70 0.1643 0.0175
 Jupiter -78814-07-25 15:49 J -27065184.94 -27065184.84 -27065184.73 0.0491 0.0424
 Saturn -78811-05-09 12:42 J -27064166.18 -27064165.97 -27064165.77 0.0284 0.0012
 Earth -78811-08-24 02:08 J -27064059.44 -27064059.41 -27064059.38 0.2608 0.2561
 Moon -78811-08-24 06:56 J -27064059.30 -27064059.21 -27064059.12 0.2612 0.2098

Jupiter -78808-05-28 10:04 J -27063051.27 -27063051.08 -27063050.88 0.0536 0.0077
 Pluto -78804-01-28 14:37 J -27061710.07 -27061709.89 -27061709.69 0.0080 0.0039
 Pluto -78804-09-11 00:28 J -27061484.68 -27061484.48 -27061484.27 0.0080 0.0018
 Pluto -78803-04-24 09:35 J -27061259.16 -27061259.10 -27061259.00 0.0080 0.0074
 Jupiter -78802-03-30 14:52 J -27060919.09 -27060918.88 -27060918.67 0.0491 0.0019
 Jupiter -78796-01-31 04:32 J -27058785.43 -27058785.31 -27058785.19 0.0536 0.0424
 Saturn -78795-01-13 11:44 J -27058438.22 -27058438.01 -27058437.80 0.0276 0.0073
 Jupiter -78791-12-03 13:54 J -27056653.04 -27056652.92 -27056652.79 0.0491 0.0389
 Uranus -78787-08-25 16:32 J -27055291.93 -27055291.81 -27055291.65 0.0145 0.0115
 Uranus -78786-04-09 07:11 J -27055065.40 -27055065.20 -27055064.97 0.0144 0.0041
 Uranus -78786-11-21 21:35 J -27054838.81 -27054838.60 -27054838.38 0.0144 0.0034
 Uranus -78785-07-05 11:30 J -27054612.15 -27054612.02 -27054611.86 0.0143 0.0107
 Saturn -78782-11-19 15:35 J -27053380.05 -27053379.85 -27053379.65 0.0284 0.0064
 Mars -78779-12-21 14:52 J -27052252.02 -27052251.88 -27052251.74 0.1905 0.1073
 Jupiter -78772-02-03 02:37 J -27050016.53 -27050016.39 -27050016.25 0.0536 0.0375
 Jupiter -78767-12-06 00:13 J -27047884.67 -27047884.49 -27047884.31 0.0491 0.0240
 Saturn -78766-07-26 21:20 J -27047651.83 -27047651.61 -27047651.39 0.0276 0.0001
 Jupiter -78761-10-08 17:44 J -27045750.95 -27045750.76 -27045750.57 0.0536 0.0145
 Jupiter -78755-08-10 23:59 J -27043618.70 -27043618.50 -27043618.30 0.0491 0.0163
 Saturn -78752-06-01 00:56 J -27042593.63 -27042593.46 -27042593.28 0.0284 0.0139
 Mars -78751-05-08 01:25 J -27042252.62 -27042252.44 -27042252.27 0.1640 0.0473
 Neptune -78745-02-17 06:13 J -27040141.32 -27040141.24 -27040141.13 0.0089 0.0079
 Neptune -78745-09-29 18:13 J -27039915.88 -27039915.74 -27039915.57 0.0089 0.0061
 Neptune -78744-05-13 06:13 J -27039690.42 -27039690.24 -27039690.05 0.0089 0.0043
 Neptune -78744-12-24 18:13 J -27039464.94 -27039464.74 -27039464.53 0.0089 0.0025
 Neptune -78743-08-07 06:13 J -27039239.46 -27039239.24 -27039239.03 0.0089 0.0007
 Neptune -78742-03-20 17:59 J -27039013.96 -27039013.75 -27039013.54 0.0089 0.0011
 Uranus -78742-04-03 06:28 J -27039000.36 -27039000.23 -27039000.09 0.0134 0.0103
 Neptune -78742-11-01 05:44 J -27038788.45 -27038788.26 -27038788.05 0.0089 0.0030
 Uranus -78742-11-15 09:49 J -27038774.28 -27038774.09 -27038773.88 0.0135 0.0048

Neptune -78741-06-13 17:30 J -27038562.94 -27038562.77 -27038562.58 0.0089 0.0048
 Uranus -78741-06-28 13:40 J -27038548.14 -27038547.93 -27038547.72 0.0135 0.0009
 Neptune -78740-01-25 05:01 J -27038337.41 -27038337.29 -27038337.12 0.0089 0.0066
 Uranus -78740-02-09 17:30 J -27038321.95 -27038321.77 -27038321.58 0.0135 0.0066
 Neptune -78740-09-07 16:47 J -27038111.85 -27038111.80 -27038111.71 0.0089 0.0084
 Uranus -78740-09-23 21:20 J -27038095.69 -27038095.61 -27038095.52 0.0136 0.0123
 Saturn -78736-02-05 04:18 J -27036865.53 -27036865.32 -27036865.10 0.0277 0.0062
 Jupiter -78731-08-13 12:28 J -27034850.03 -27034849.98 -27034849.94 0.0490 0.0477
 Jupiter -78725-06-16 09:20 J -27032716.29 -27032716.11 -27032715.92 0.0536 0.0150
 Saturn -78723-04-26 20:08 J -27032036.77 -27032036.66 -27032036.54 0.0286 0.0235
 Saturn -78723-12-12 04:47 J -27031807.45 -27031807.30 -27031807.15 0.0283 0.0194
 Moon -78721-02-29 07:11 J -27031363.34 -27031363.20 -27031363.06 0.2735 0.0843
 Earth -78721-02-29 10:04 J -27031363.22 -27031363.08 -27031362.94 0.2729 0.1152 *
 Jupiter -78719-04-18 09:20 J -27030584.32 -27030584.11 -27030583.90 0.0491 0.0060
 Jupiter -78713-02-20 03:20 J -27028450.50 -27028450.36 -27028450.21 0.0535 0.0353
 Moon -78713-02-27 04:04 J -27028443.37 -27028443.33 -27028443.30 0.2734 0.2636
 Mars -78713-10-17 19:40 J -27028209.74 -27028209.68 -27028209.62 0.1909 0.1786
 Jupiter -78708-12-22 08:08 J -27026318.30 -27026318.16 -27026318.01 0.0491 0.0348
 Saturn -78707-08-18 13:40 J -27026079.12 -27026078.93 -27026078.74 0.0277 0.0133
 Uranus -78703-12-07 11:30 J -27024507.20 -27024507.02 -27024506.82 0.0145 0.0077
 Uranus -78702-07-22 02:23 J -27024280.63 -27024280.40 -27024280.18 0.0144 0.0003
 Uranus -78701-03-04 16:18 J -27024054.01 -27024053.82 -27024053.62 0.0144 0.0071
 Saturn -78694-11-07 06:13 J -27021250.41 -27021250.24 -27021250.07 0.0285 0.0158
 Saturn -78693-06-23 14:08 J -27021020.97 -27021020.91 -27021020.84 0.0283 0.0269
 Jupiter -78689-02-22 20:08 J -27019681.78 -27019681.66 -27019681.53 0.0536 0.0417
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 Jupiter -78684-12-24 21:20 J -27017549.77 -27017549.61 -27017549.44 0.0491 0.0297
 Saturn -78678-07-14 05:16 J -27015522.40 -27015522.28 -27015522.14 0.0275 0.0221
 Jupiter -78678-10-28 14:08 J -27015416.10 -27015415.91 -27015415.71 0.0536 0.0087
 Saturn -78677-02-28 21:20 J -27015292.75 -27015292.61 -27015292.45 0.0277 0.0198

Jupiter -78672-08-29 20:23 J -27013283.86 -27013283.65 -27013283.45 0.0491 0.0110
 Saturn -78664-05-19 10:18 J -27010464.26 -27010464.07 -27010463.88 0.0285 0.0101
 Neptune -78663-04-01 21:35 J -27010146.72 -27010146.60 -27010146.48 0.0089 0.0075
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 Neptune -78662-06-27 01:40 J -27009695.63 -27009695.43 -27009695.22 0.0089 0.0037
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 Neptune -78660-05-03 19:54 J -27009018.88 -27009018.67 -27009018.44 0.0089 0.0021
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 Neptune -78659-07-29 00:13 J -27008567.65 -27008567.49 -27008567.31 0.0089 0.0059
 Uranus -78659-12-01 20:23 J -27008441.71 -27008441.65 -27008441.56 0.0134 0.0124
 Neptune -78658-03-11 14:23 J -27008342.00 -27008341.90 -27008341.79 0.0089 0.0078
 Uranus -78658-07-15 23:44 J -27008215.67 -27008215.51 -27008215.31 0.0134 0.0070
 Uranus -78657-02-27 03:35 J -27007989.55 -27007989.35 -27007989.13 0.0135 0.0014
 Uranus -78657-10-10 07:25 J -27007763.39 -27007763.19 -27007762.99 0.0135 0.0043
 Uranus -78656-05-24 11:01 J -27007537.17 -27007537.04 -27007536.89 0.0135 0.0100
 Mars -78653-03-03 11:44 J -27006523.08 -27006523.01 -27006522.94 0.1647 0.1497
 Saturn -78648-01-23 13:11 J -27004736.13 -27004735.95 -27004735.77 0.0275 0.0156
 Saturn -78648-09-10 05:30 J -27004506.32 -27004506.27 -27004506.20 0.0277 0.0265
 Pluto -78646-06-25 19:11 J -27003852.70 -27003852.70 -27003852.67 0.0064 0.0064
 Pluto -78645-02-05 23:44 J -27003627.68 -27003627.51 -27003627.30 0.0064 0.0034
 Pluto -78645-09-18 05:01 J -27003402.51 -27003402.29 -27003402.06 0.0064 0.0003
 Pluto -78644-05-01 09:49 J -27003177.28 -27003177.09 -27003176.87 0.0065 0.0028
 Pluto -78644-12-12 14:52 J -27002951.96 -27002951.88 -27002951.77 0.0065 0.0059
 Jupiter -78642-07-06 03:35 J -27002381.53 -27002381.35 -27002381.16 0.0536 0.0195
 Jupiter -78636-05-07 06:28 J -27000249.43 -27000249.23 -27000249.02 0.0491 0.0119
 Saturn -78635-11-29 20:37 J -26999677.85 -26999677.64 -26999677.44 0.0285 0.0023
 Jupiter -78630-03-10 20:37 J -26998115.80 -26998115.64 -26998115.48 0.0535 0.0313
 Jupiter -78624-01-10 05:44 J -26995983.43 -26995983.26 -26995983.09 0.0491 0.0289
 Mars -78620-12-30 22:32 J -26994167.69 -26994167.56 -26994167.42 0.1635 0.1056

Saturn -78619-08-05 21:20 J -26993949.82 -26993949.61 -26993949.41 0.0276 0.0091
 Uranus -78619-08-06 17:59 J -26993948.88 -26993948.75 -26993948.60 0.0145 0.0110
 Uranus -78618-03-21 08:37 J -26993722.36 -26993722.14 -26993721.92 0.0144 0.0036
 Uranus -78618-11-02 23:01 J -26993495.76 -26993495.54 -26993495.33 0.0144 0.0038
 Uranus -78617-06-16 12:42 J -26993269.09 -26993268.97 -26993268.81 0.0144 0.0112
 Mars -78615-08-14 17:16 J -26992479.90 -26992479.78 -26992479.66 0.1899 0.1311
 Jupiter -78606-03-13 18:28 J -26989346.80 -26989346.73 -26989346.64 0.0537 0.0486
 Saturn -78605-06-11 00:13 J -26988891.69 -26988891.49 -26988891.28 0.0284 0.0033
 Jupiter -78600-01-12 16:18 J -26987214.97 -26987214.82 -26987214.67 0.0490 0.0342
 Jupiter -78595-11-16 13:11 J -26985081.15 -26985080.95 -26985080.76 0.0536 0.0016
 Saturn -78589-02-16 03:35 J -26983163.56 -26983163.35 -26983163.13 0.0276 0.0031
 Jupiter -78589-09-17 15:20 J -26982949.07 -26982948.86 -26982948.65 0.0491 0.0063
 Mars -78588-12-29 22:04 J -26982480.71 -26982480.58 -26982480.46 0.1644 0.1183
 Jupiter -78583-07-22 04:18 J -26980815.34 -26980815.32 -26980815.30 0.0535 0.0531
 Neptune -78580-01-01 02:23 J -26979921.52 -26979921.40 -26979921.27 0.0088 0.0071
 Neptune -78580-08-14 14:23 J -26979696.07 -26979695.90 -26979695.73 0.0089 0.0053
 Neptune -78579-03-28 02:08 J -26979470.60 -26979470.41 -26979470.20 0.0089 0.0035
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 Jupiter -78577-05-23 14:52 J -26978682.94 -26978682.88 -26978682.81 0.0492 0.0466
 Neptune -78577-09-15 01:40 J -26978568.62 -26978568.43 -26978568.23 0.0089 0.0038
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 Earth -78576-08-26 11:30 J -26978223.14 -26978223.02 -26978222.89 0.2608 0.1610
 Moon -78576-08-26 13:11 J -26978223.04 -26978222.95 -26978222.85 0.2601 0.2132 *
 Neptune -78576-12-10 01:11 J -26978117.55 -26978117.45 -26978117.31 0.0089 0.0074
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Uranus -78572-01-22 01:25 J -26976978.61 -26976978.44 -26976978.26 0.0135 0.0078
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 Saturn -78560-08-28 11:16 J -26972377.25 -26972377.03 -26972376.81 0.0276 0.0033
 Jupiter -78559-07-24 23:59 J -26972046.67 -26972046.50 -26972046.33 0.0536 0.0252
 Pluto -78557-05-21 07:40 J -26971380.33 -26971380.18 -26971379.99 0.0080 0.0048
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 Mars -78549-06-10 22:04 J -26968437.74 -26968437.58 -26968437.42 0.1904 0.0618
 Jupiter -78547-03-29 18:56 J -26967780.88 -26967780.71 -26967780.53 0.0536 0.0244
 Saturn -78547-11-17 05:16 J -26967548.35 -26967548.28 -26967548.21 0.0285 0.0267
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 Jupiter -78541-01-30 01:25 J -26965648.62 -26965648.44 -26965648.25 0.0491 0.0237
 Uranus -78535-04-06 00:13 J -26963390.51 -26963390.49 -26963390.44 0.0145 0.0143
 Uranus -78535-11-18 14:52 J -26963164.06 -26963163.88 -26963163.67 0.0145 0.0069
 Uranus -78534-07-03 05:44 J -26962937.48 -26962937.26 -26962937.03 0.0144 0.0006
 Uranus -78533-02-14 19:54 J -26962710.85 -26962710.67 -26962710.48 0.0144 0.0079
 Saturn -78530-03-10 16:04 J -26961591.04 -26961590.83 -26961590.62 0.0277 0.0088
 Mars -78522-10-27 08:23 J -26958438.30 -26958438.15 -26958438.00 0.1641 0.0872
 Jupiter -78517-02-01 14:52 J -26956880.00 -26956879.88 -26956879.77 0.0491 0.0407
 Saturn -78517-05-29 13:25 J -26956762.08 -26956761.94 -26956761.78 0.0286 0.0197
 Saturn -78516-01-13 21:49 J -26956532.70 -26956532.59 -26956532.47 0.0284 0.0233
 Jupiter -78512-12-05 07:40 J -26954746.38 -26954746.18 -26954745.98 0.0536 0.0034
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 Neptune -78497-05-10 22:18 J -26949475.78 -26949475.57 -26949475.35 0.0089 0.0028
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 Neptune -78495-03-18 16:32 J -26948799.02 -26948798.81 -26948798.59 0.0089 0.0030
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 Neptune -78494-06-12 20:37 J -26948347.76 -26948347.64 -26948347.48 0.0089 0.0069
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 Uranus -78491-11-13 04:18 J -26947098.42 -26947098.32 -26947098.19 0.0134 0.0112
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 Uranus -78488-05-05 19:11 J -26946193.80 -26946193.70 -26946193.57 0.0135 0.0114
 Mars -78488-08-24 20:08 J -26946082.67 -26946082.66 -26946082.65 0.1629 0.1623
 Saturn -78488-12-09 17:16 J -26945975.95 -26945975.78 -26945975.60 0.0285 0.0141
 Mars -78483-04-08 03:20 J -26944395.53 -26944395.36 -26944395.20 0.1908 0.0092
 Earth -78478-03-01 12:13 J -26942607.13 -26942606.99 -26942606.85 0.2727 0.1000
 Moon -78478-03-01 16:47 J -26942606.94 -26942606.80 -26942606.66 0.2724 0.1276 *
 Jupiter -78476-08-13 00:28 J -26941711.64 -26941711.48 -26941711.33 0.0536 0.0335
 Saturn -78472-08-15 09:49 J -26940248.21 -26940248.09 -26940247.95 0.0275 0.0221
 Saturn -78471-04-02 01:54 J -26940018.56 -26940018.42 -26940018.26 0.0277 0.0199
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 Jupiter -78464-04-17 16:18 J -26937446.00 -26937445.82 -26937445.63 0.0535 0.0179
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 Saturn -78458-06-22 00:28 J -26935189.68 -26935189.48 -26935189.28 0.0285 0.0074
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 Uranus -78451-07-18 23:30 J -26932605.67 -26932605.52 -26932605.34 0.0145 0.0099
 Uranus -78450-03-02 14:08 J -26932379.12 -26932378.91 -26932378.68 0.0144 0.0024
 Uranus -78450-10-15 04:18 J -26932152.52 -26932152.32 -26932152.10 0.0144 0.0050

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 Saturn -78442-10-13 08:37 J -26929232.20 -26929232.14 -26929232.06 0.0277 0.0261
 Jupiter -78434-02-20 13:54 J -26926544.96 -26926544.92 -26926544.86 0.0491 0.0474
 Jupiter -78429-12-24 07:40 J -26924411.38 -26924411.18 -26924410.99 0.0536 0.0112
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 Mars -78417-02-03 07:54 J -26920353.32 -26920353.17 -26920353.02 0.1913 0.0803
 Jupiter -78417-08-29 02:37 J -26920145.53 -26920145.39 -26920145.25 0.0536 0.0383
 Neptune -78416-04-04 10:04 J -26919927.14 -26919927.08 -26919926.97 0.0088 0.0082
 Neptune -78416-11-15 22:47 J -26919701.70 -26919701.55 -26919701.40 0.0088 0.0063
 Neptune -78415-06-29 10:32 J -26919476.24 -26919476.06 -26919475.87 0.0089 0.0045
 Neptune -78414-02-09 22:32 J -26919250.76 -26919250.56 -26919250.35 0.0089 0.0027
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 Neptune -78413-12-17 10:04 J -26918574.27 -26918574.08 -26918573.87 0.0089 0.0028
 Neptune -78412-07-30 21:49 J -26918348.76 -26918348.59 -26918348.39 0.0089 0.0046
 Neptune -78411-03-13 09:35 J -26918123.23 -26918123.10 -26918122.94 0.0089 0.0064
 Jupiter -78411-07-01 11:59 J -26918013.14 -26918013.00 -26918012.84 0.0491 0.0336
 Neptune -78411-10-24 21:20 J -26917897.67 -26917897.61 -26917897.51 0.0089 0.0082
 Uranus -78407-07-13 18:13 J -26916539.75 -26916539.74 -26916539.69 0.0134 0.0133
 Uranus -78406-02-24 22:04 J -26916313.75 -26916313.58 -26916313.41 0.0134 0.0077
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 Pluto -78398-05-29 12:42 J -26913298.09 -26913297.97 -26913297.81 0.0064 0.0051
 Pluto -78397-01-09 17:59 J -26913072.96 -26913072.75 -26913072.53 0.0064 0.0021
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Pluto -78396-04-04 03:49 J -26912622.51 -26912622.34 -26912622.16 0.0065 0.0041
 Jupiter -78393-08-31 21:35 J -26911376.73 -26911376.60 -26911376.46 0.0536 0.0397
 Mars -78390-06-21 05:01 J -26910353.47 -26910353.29 -26910353.11 0.1635 0.0255
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 Saturn -78383-03-19 23:44 J -26907889.72 -26907889.51 -26907889.30 0.0276 0.0060
 Jupiter -78381-05-06 15:06 J -26907111.06 -26907110.87 -26907110.67 0.0535 0.0109
 Jupiter -78375-03-09 00:56 J -26904978.66 -26904978.46 -26904978.25 0.0491 0.0096
 Saturn -78369-01-24 11:59 J -26902831.20 -26902831.00 -26902830.81 0.0284 0.0091
 Uranus -78367-03-18 06:13 J -26902047.32 -26902047.24 -26902047.13 0.0145 0.0131
 Uranus -78367-10-30 20:52 J -26901820.82 -26901820.63 -26901820.41 0.0145 0.0057
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 Uranus -78365-01-27 01:40 J -26901367.59 -26901367.43 -26901367.24 0.0144 0.0092
 Saturn -78354-09-29 23:44 J -26897103.73 -26897103.51 -26897103.29 0.0276 0.0024
 Mars -78352-11-30 12:28 J -26896311.08 -26896310.98 -26896310.88 0.1917 0.1535
 Jupiter -78345-01-13 07:54 J -26894076.35 -26894076.17 -26894075.98 0.0535 0.0192
 Saturn -78340-08-05 16:04 J -26892045.00 -26892044.83 -26892044.65 0.0285 0.0147
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 Neptune -78334-05-19 00:42 J -26889932.57 -26889932.47 -26889932.34 0.0089 0.0076
 Jupiter -78334-09-18 01:54 J -26889810.58 -26889810.42 -26889810.26 0.0535 0.0308
 Neptune -78334-12-30 14:52 J -26889707.04 -26889706.88 -26889706.70 0.0089 0.0057
 Neptune -78333-08-12 04:47 J -26889481.49 -26889481.30 -26889481.09 0.0089 0.0038
 Moon -78333-08-26 07:25 J -26889467.34 -26889467.19 -26889467.04 0.2615 0.0904
 Earth -78333-08-26 11:01 J -26889467.18 -26889467.04 -26889466.91 0.2609 0.1490 *
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Moon -78325-08-24 01:40 J -26886547.49 -26886547.43 -26886547.37 0.2618 0.2416
 Saturn -78324-04-11 05:30 J -26886317.48 -26886317.27 -26886317.05 0.0276 0.0036
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 Uranus -78320-04-17 01:54 J -26884850.50 -26884850.42 -26884850.33 0.0135 0.0123
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 Pluto -78310-09-11 20:08 J -26881050.72 -26881050.66 -26881050.55 0.0080 0.0074
 Jupiter -78310-09-20 23:01 J -26881041.62 -26881041.54 -26881041.45 0.0536 0.0485
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 Jupiter -78298-05-26 18:56 J -26876775.91 -26876775.71 -26876775.52 0.0536 0.0013
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 Uranus -78281-05-09 23:01 J -26870582.60 -26870582.54 -26870582.44 0.0144 0.0133
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 Jupiter -78281-12-01 00:56 J -26870377.56 -26870377.46 -26870377.36 0.0492 0.0427
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 Mars -78258-02-13 02:23 J -26862268.58 -26862268.40 -26862268.22 0.1630 0.0329
 Jupiter -78257-12-03 15:20 J -26861609.04 -26861608.86 -26861608.67 0.0491 0.0223

Mars -78254-09-27 09:49 J -26860581.18 -26860581.09 -26860581.00 0.1907 0.1587
 Saturn -78252-07-23 15:06 J -26859916.05 -26859915.87 -26859915.69 0.0286 0.0134
 Neptune -78251-02-17 07:11 J -26859707.32 -26859707.20 -26859707.08 0.0088 0.0073
 Neptune -78251-09-30 18:56 J -26859481.87 -26859481.71 -26859481.53 0.0088 0.0055
 Jupiter -78251-10-07 03:35 J -26859475.53 -26859475.35 -26859475.17 0.0535 0.0221
 Neptune -78250-05-14 06:56 J -26859256.39 -26859256.21 -26859256.00 0.0088 0.0037
 Neptune -78250-12-25 19:11 J -26859030.91 -26859030.70 -26859030.49 0.0089 0.0018
 Neptune -78249-08-07 07:11 J -26858805.41 -26858805.20 -26858804.99 0.0089 0.0000
 Neptune -78248-03-20 18:56 J -26858579.91 -26858579.71 -26858579.49 0.0089 0.0018
 Neptune -78248-11-01 06:42 J -26858354.40 -26858354.22 -26858354.01 0.0089 0.0037
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 Neptune -78246-01-26 06:13 J -26857903.34 -26857903.24 -26857903.10 0.0089 0.0073
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 Uranus -78238-02-06 03:06 J -26854970.54 -26854970.37 -26854970.18 0.0134 0.0069
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 Uranus -78237-05-03 10:18 J -26854518.27 -26854518.07 -26854517.86 0.0135 0.0042
 Uranus -78237-12-15 14:08 J -26854292.05 -26854291.91 -26854291.76 0.0135 0.0098
 Saturn -78236-03-28 17:59 J -26854188.82 -26854188.75 -26854188.65 0.0274 0.0252
 Saturn -78236-11-13 09:20 J -26853959.29 -26853959.11 -26853958.94 0.0276 0.0162
 Moon -78235-03-01 09:20 J -26853851.25 -26853851.11 -26853850.96 0.2726 0.0584
 Earth -78235-03-01 14:52 J -26853851.03 -26853850.88 -26853850.74 0.2726 0.0897 *
 Saturn -78222-02-02 17:01 J -26849129.99 -26849129.79 -26849129.60 0.0287 0.0087
 Jupiter -78221-08-11 03:49 J -26848574.41 -26848574.34 -26848574.27 0.0491 0.0461
 Jupiter -78215-06-14 20:23 J -26846440.84 -26846440.65 -26846440.45 0.0535 0.0078
 Jupiter -78209-04-16 03:20 J -26844308.57 -26844308.36 -26844308.15 0.0492 0.0058
 Saturn -78207-10-09 00:13 J -26843402.64 -26843402.49 -26843402.34 0.0274 0.0192
 Saturn -78206-05-26 15:06 J -26843172.99 -26843172.87 -26843172.73 0.0276 0.0223
 Jupiter -78203-02-17 13:40 J -26842175.05 -26842174.93 -26842174.81 0.0534 0.0426
 Uranus -78199-02-27 07:40 J -26840704.28 -26840704.18 -26840704.07 0.0145 0.0126

Uranus -78199-10-11 22:18 J -26840477.77 -26840477.57 -26840477.35 0.0145 0.0052
 Uranus -78198-05-26 13:11 J -26840251.17 -26840250.95 -26840250.73 0.0144 0.0023
 Jupiter -78198-12-21 03:20 J -26840042.51 -26840042.36 -26840042.21 0.0492 0.0344
 Uranus -78197-01-08 03:20 J -26840024.51 -26840024.36 -26840024.18 0.0144 0.0096
 Saturn -78193-08-14 19:40 J -26838343.89 -26838343.68 -26838343.48 0.0286 0.0035
 Mars -78193-12-10 13:11 J -26838226.11 -26838225.95 -26838225.78 0.1627 0.0609
 Mars -78188-07-24 15:20 J -26836539.01 -26836538.86 -26836538.71 0.1911 0.0908
 Jupiter -78179-02-20 12:42 J -26833406.11 -26833405.97 -26833405.83 0.0536 0.0377
 Saturn -78177-04-19 23:16 J -26832616.71 -26832616.53 -26832616.35 0.0274 0.0159
 Saturn -78177-12-05 14:23 J -26832386.98 -26832386.90 -26832386.82 0.0276 0.0256
 Jupiter -78174-12-23 17:16 J -26831273.94 -26831273.78 -26831273.61 0.0491 0.0305
 Neptune -78170-08-20 08:23 J -26829938.21 -26829938.15 -26829938.09 0.0089 0.0085
 Neptune -78169-04-01 22:04 J -26829712.72 -26829712.58 -26829712.42 0.0089 0.0066
 Neptune -78169-11-13 12:13 J -26829487.17 -26829486.99 -26829486.79 0.0089 0.0047
 Neptune -78168-06-27 02:08 J -26829261.61 -26829261.41 -26829261.18 0.0089 0.0028
 Jupiter -78168-10-26 07:25 J -26829140.38 -26829140.19 -26829140.00 0.0535 0.0122
 Neptune -78167-02-07 16:18 J -26829036.04 -26829035.82 -26829035.59 0.0089 0.0009
 Neptune -78167-09-21 06:28 J -26828810.46 -26828810.23 -26828810.01 0.0089 0.0011
 Neptune -78166-05-04 20:37 J -26828584.86 -26828584.64 -26828584.43 0.0089 0.0030
 Neptune -78166-12-16 10:04 J -26828359.24 -26828359.08 -26828358.87 0.0089 0.0050
 Neptune -78165-07-29 00:13 J -26828133.61 -26828133.49 -26828133.33 0.0089 0.0069
 Neptune -78164-03-11 14:37 J -26827907.91 -26827907.89 -26827907.86 0.0089 0.0088
 Saturn -78163-02-24 20:52 J -26827557.83 -26827557.63 -26827557.42 0.0287 0.0011
 Jupiter -78162-08-28 15:20 J -26827008.06 -26827007.86 -26827007.65 0.0492 0.0109
 Mars -78161-12-09 11:44 J -26826539.04 -26826539.01 -26826538.97 0.1636 0.1595
 Uranus -78155-10-06 15:49 J -26824411.98 -26824411.84 -26824411.67 0.0134 0.0093
 Uranus -78154-05-20 19:25 J -26824185.88 -26824185.69 -26824185.48 0.0134 0.0038
 Uranus -78153-01-01 23:16 J -26823959.74 -26823959.53 -26823959.32 0.0134 0.0018
 Uranus -78153-08-15 02:37 J -26823733.55 -26823733.39 -26823733.20 0.0135 0.0074
 Uranus -78152-03-29 06:42 J -26823507.28 -26823507.22 -26823507.16 0.0135 0.0129

Pluto	-78150-05-02 04:04 J	-26822743.48	-26822743.33	-26822743.16	0.0064	0.0044
Pluto	-78150-12-13 08:52 J	-26822518.34	-26822518.13	-26822517.89	0.0064	0.0015
Pluto	-78149-07-25 13:54 J	-26822293.13	-26822292.92	-26822292.69	0.0065	0.0017
Pluto	-78148-03-07 18:56 J	-26822067.85	-26822067.71	-26822067.55	0.0065	0.0048
Saturn	-78148-10-31 05:30 J	-26821830.47	-26821830.27	-26821830.06	0.0274	0.0097
Saturn	-78134-09-07 00:13 J	-26816771.68	-26816771.49	-26816771.28	0.0286	0.0066
Jupiter	-78132-07-03 21:49 J	-26816105.78	-26816105.59	-26816105.40	0.0535	0.0164
Mars	-78127-10-07 23:59 J	-26814183.64	-26814183.50	-26814183.35	0.1624	0.0894
Jupiter	-78126-05-06 05:16 J	-26813973.48	-26813973.28	-26813973.08	0.0491	0.0139
Mars	-78122-05-21 19:40 J	-26812496.85	-26812496.68	-26812496.51	0.1916	0.0174
Jupiter	-78120-03-08 17:16 J	-26811839.93	-26811839.78	-26811839.62	0.0535	0.0328
Saturn	-78118-05-13 05:30 J	-26811044.48	-26811044.27	-26811044.05	0.0274	0.0061
Uranus	-78115-06-11 02:23 J	-26809919.56	-26809919.40	-26809919.21	0.0145	0.0089
Jupiter	-78114-01-09 05:01 J	-26809707.46	-26809707.29	-26809707.11	0.0492	0.0264
Uranus	-78114-01-23 17:30 J	-26809692.99	-26809692.77	-26809692.55	0.0145	0.0014
Uranus	-78114-09-07 07:40 J	-26809466.37	-26809466.18	-26809465.96	0.0144	0.0061
Uranus	-78113-04-20 22:04 J	-26809239.65	-26809239.58	-26809239.48	0.0144	0.0133
Saturn	-78104-03-19 00:56 J	-26805985.65	-26805985.46	-26805985.27	0.0286	0.0109
Jupiter	-78096-03-11 14:52 J	-26803070.98	-26803070.88	-26803070.78	0.0535	0.0463
Mars	-78095-10-06 22:32 J	-26802496.67	-26802496.56	-26802496.46	0.1633	0.1295
Jupiter	-78090-01-11 17:16 J	-26800938.91	-26800938.78	-26800938.64	0.0492	0.0373
Earth	-78090-08-27 10:18 J	-26800711.21	-26800711.07	-26800710.93	0.2611	0.1351
Moon	-78090-08-27 15:35 J	-26800710.97	-26800710.85	-26800710.73	0.2608	0.1834 *
Saturn	-78089-11-22 12:13 J	-26800258.20	-26800257.99	-26800257.77	0.0274	0.0006
Neptune	-78087-05-21 15:35 J	-26799712.90	-26799712.85	-26799712.75	0.0088	0.0083
Neptune	-78086-01-02 03:35 J	-26799487.47	-26799487.35	-26799487.18	0.0088	0.0065
Neptune	-78086-08-15 16:04 J	-26799262.01	-26799261.83	-26799261.64	0.0088	0.0046
Neptune	-78085-03-28 04:04 J	-26799036.53	-26799036.33	-26799036.13	0.0088	0.0028
Neptune	-78085-11-08 16:04 J	-26798811.04	-26798810.83	-26798810.61	0.0088	0.0010
Jupiter	-78085-11-14 07:40 J	-26798805.37	-26798805.18	-26798804.98	0.0535	0.0043

Neptune -78084-06-22 04:04 J -26798585.54 -26798585.33 -26798585.11 0.0089 0.0009
 Neptune -78083-02-02 15:49 J -26798360.03 -26798359.84 -26798359.63 0.0089 0.0027
 Neptune -78083-09-16 03:35 J -26798134.52 -26798134.35 -26798134.15 0.0089 0.0046
 Neptune -78082-04-29 15:20 J -26797908.99 -26797908.86 -26797908.69 0.0089 0.0064
 Neptune -78082-12-11 03:20 J -26797683.42 -26797683.36 -26797683.26 0.0089 0.0082
 Jupiter -78079-09-16 17:01 J -26796673.00 -26796672.79 -26796672.58 0.0492 0.0030
 Saturn -78075-02-11 18:56 J -26795428.76 -26795428.71 -26795428.65 0.0288 0.0276
 Saturn -78075-09-29 05:16 J -26795199.44 -26795199.28 -26795199.11 0.0286 0.0167
 Uranus -78071-06-06 05:30 J -26793853.36 -26793853.27 -26793853.15 0.0134 0.0115
 Uranus -78070-01-18 09:06 J -26793627.30 -26793627.12 -26793626.92 0.0134 0.0060
 Uranus -78070-09-01 12:56 J -26793401.18 -26793400.96 -26793400.75 0.0134 0.0006
 Uranus -78069-04-14 16:18 J -26793175.01 -26793174.82 -26793174.62 0.0135 0.0051
 Uranus -78069-11-26 19:40 J -26792948.79 -26792948.68 -26792948.53 0.0135 0.0107
 Jupiter -78067-05-22 16:18 J -26792406.91 -26792406.82 -26792406.71 0.0492 0.0434
 Pluto -78062-08-15 13:25 J -26790496.07 -26790495.94 -26790495.78 0.0080 0.0059
 Pluto -78061-03-27 23:30 J -26790270.74 -26790270.52 -26790270.31 0.0080 0.0003
 Mars -78061-08-04 11:16 J -26790141.15 -26790141.03 -26790140.90 0.1622 0.1160
 Pluto -78061-11-08 08:37 J -26790045.28 -26790045.14 -26790044.96 0.0079 0.0053
 Saturn -78059-06-04 13:25 J -26789472.16 -26789471.94 -26789471.73 0.0274 0.0043
 Mars -78056-03-18 00:13 J -26788454.65 -26788454.49 -26788454.32 0.1920 0.0564
 Jupiter -78049-07-23 01:11 J -26785770.62 -26785770.45 -26785770.28 0.0535 0.0259
 Saturn -78046-08-24 20:08 J -26784642.78 -26784642.66 -26784642.54 0.0288 0.0231
 Saturn -78045-04-10 06:13 J -26784413.37 -26784413.24 -26784413.09 0.0286 0.0212
 Jupiter -78043-05-25 04:32 J -26783638.51 -26783638.31 -26783638.12 0.0492 0.0203
 Jupiter -78037-03-27 19:25 J -26781504.86 -26781504.69 -26781504.51 0.0534 0.0238
 Jupiter -78031-01-28 03:35 J -26779372.54 -26779372.35 -26779372.16 0.0492 0.0204
 Uranus -78031-02-08 06:42 J -26779361.32 -26779361.22 -26779361.10 0.0145 0.0125
 Uranus -78031-09-22 21:35 J -26779134.81 -26779134.60 -26779134.38 0.0145 0.0051
 Uranus -78030-05-07 12:13 J -26778908.21 -26778907.99 -26778907.76 0.0144 0.0024
 Saturn -78030-12-15 20:52 J -26778685.83 -26778685.63 -26778685.43 0.0274 0.0109

Uranus -78030-12-20 02:37 J -26778681.55 -26778681.39 -26778681.22 0.0144 0.0097
 Mars -78029-08-03 09:20 J -26778454.25 -26778454.11 -26778453.97 0.1630 0.1004
 Saturn -78016-03-06 01:40 J -26773856.59 -26773856.43 -26773856.26 0.0288 0.0168
 Saturn -78016-10-21 11:30 J -26773627.07 -26773627.02 -26773626.96 0.0285 0.0273
 Jupiter -78007-01-30 17:44 J -26770603.84 -26770603.76 -26770603.67 0.0491 0.0446
 Neptune -78005-07-04 05:59 J -26769718.37 -26769718.25 -26769718.13 0.0089 0.0075
 Neptune -78004-02-14 19:40 J -26769492.84 -26769492.68 -26769492.49 0.0089 0.0056
 Neptune -78004-09-28 09:35 J -26769267.29 -26769267.10 -26769266.88 0.0089 0.0037
 Neptune -78003-05-11 23:44 J -26769041.72 -26769041.51 -26769041.27 0.0089 0.0018
 Neptune -78003-12-23 14:08 J -26768816.14 -26768815.91 -26768815.68 0.0089 0.0002
 Neptune -78002-08-06 03:49 J -26768590.55 -26768590.34 -26768590.11 0.0089 0.0022
 Jupiter -78002-12-04 09:20 J -26768470.30 -26768470.11 -26768469.91 0.0535 0.0046
 Neptune -78001-03-18 17:44 J -26768364.94 -26768364.76 -26768364.54 0.0089 0.0041
 Neptune -78001-10-30 07:54 J -26768139.32 -26768139.17 -26768138.99 0.0089 0.0060
 Saturn -78001-11-09 09:20 J -26768129.17 -26768129.11 -26768129.02 0.0273 0.0254

78TH MILLENNIUM BCE

This is a list of transits of Venus in the 78th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-78000-06-12 22:32 J	-26767913.66	-26767913.56	-26767913.46	0.0089	0.0079		
Saturn	-78000-06-26 23:16 J	-26767899.70	-26767899.53	-26767899.34	0.0275	0.0154		
Jupiter	-77996-10-05 17:16 J	-26766337.99	-26766337.78	-26766337.58	0.0492	0.0044		
Mars	-77995-06-01 22:04 J	-26766098.65	-26766098.58	-26766098.50	0.1619	0.1442		

Earth -77992-03-01 17:01 J -26765094.93 -26765094.79 -26765094.64 0.2724 0.0769
 Moon -77992-03-01 22:18 J -26765094.70 -26765094.57 -26765094.44 0.2726 0.1269 *
 Mars -77990-01-13 04:32 J -26764412.43 -26764412.31 -26764412.19 0.1924 0.1322
 Jupiter -77990-08-09 05:01 J -26764204.40 -26764204.29 -26764204.19 0.0534 0.0446
 Saturn -77987-09-16 02:52 J -26763070.56 -26763070.38 -26763070.19 0.0288 0.0121
 Uranus -77987-09-17 22:32 J -26763068.71 -26763068.56 -26763068.38 0.0134 0.0083
 Uranus -77986-05-02 02:08 J -26762842.61 -26762842.41 -26762842.20 0.0134 0.0028
 Uranus -77986-12-14 05:44 J -26762616.46 -26762616.26 -26762616.05 0.0134 0.0028
 Uranus -77985-07-27 09:06 J -26762390.27 -26762390.12 -26762389.94 0.0135 0.0084
 Moon -77984-02-27 14:52 J -26762174.95 -26762174.88 -26762174.81 0.2719 0.2443
 Jupiter -77984-06-10 13:54 J -26762072.04 -26762071.92 -26762071.78 0.0493 0.0377
 Saturn -77971-05-22 17:16 J -26757342.93 -26757342.78 -26757342.61 0.0273 0.0188
 Saturn -77970-01-07 07:25 J -26757113.31 -26757113.19 -26757113.06 0.0275 0.0223
 Jupiter -77966-08-11 23:16 J -26755435.69 -26755435.53 -26755435.37 0.0535 0.0326
 Mars -77963-05-31 19:25 J -26754411.85 -26754411.69 -26754411.52 0.1628 0.0694
 Jupiter -77960-06-13 04:18 J -26753303.50 -26753303.32 -26753303.15 0.0492 0.0273
 Saturn -77957-03-28 10:18 J -26752284.27 -26752284.07 -26752283.87 0.0288 0.0052
 Jupiter -77954-04-16 17:01 J -26751169.97 -26751169.79 -26751169.60 0.0534 0.0173
 Jupiter -77948-02-16 03:20 J -26749037.56 -26749037.36 -26749037.16 0.0492 0.0133
 Uranus -77947-05-23 04:04 J -26748576.50 -26748576.33 -26748576.13 0.0145 0.0084
 Uranus -77946-01-04 19:11 J -26748349.92 -26748349.70 -26748349.48 0.0145 0.0009
 Uranus -77946-08-19 09:20 J -26748123.29 -26748123.11 -26748122.89 0.0144 0.0066
 Uranus -77945-04-01 23:30 J -26747896.56 -26747896.52 -26747896.44 0.0144 0.0138
 Saturn -77942-12-02 21:06 J -26746556.79 -26746556.62 -26746556.42 0.0273 0.0138
 Saturn -77941-07-19 11:16 J -26746327.03 -26746327.03 -26746327.00 0.0275 0.0275
 Saturn -77928-10-08 12:13 J -26741498.19 -26741497.99 -26741497.78 0.0287 0.0005
 Neptune -77922-04-05 13:40 J -26739493.04 -26739492.93 -26739492.80 0.0088 0.0073
 Neptune -77922-11-17 01:40 J -26739267.58 -26739267.43 -26739267.24 0.0088 0.0055
 Neptune -77921-06-29 13:40 J -26739042.11 -26739041.93 -26739041.72 0.0088 0.0037
 Neptune -77920-02-10 01:54 J -26738816.63 -26738816.42 -26738816.21 0.0088 0.0018

Neptune -77920-09-23 13:54 J -26738591.14 -26738590.92 -26738590.71 0.0088 0.0001
 Neptune -77919-05-07 01:40 J -26738365.63 -26738365.43 -26738365.21 0.0089 0.0019
 Neptune -77919-12-18 13:54 J -26738140.12 -26738139.92 -26738139.73 0.0089 0.0037
 Jupiter -77919-12-23 10:04 J -26738135.27 -26738135.08 -26738134.89 0.0535 0.0125
 Neptune -77918-08-01 01:11 J -26737914.59 -26737914.45 -26737914.26 0.0089 0.0056
 Neptune -77917-03-13 13:11 J -26737689.05 -26737688.95 -26737688.81 0.0089 0.0074
 Jupiter -77913-10-24 13:11 J -26736003.16 -26736002.95 -26736002.75 0.0492 0.0092
 Saturn -77912-06-14 05:59 J -26735770.46 -26735770.25 -26735770.04 0.0273 0.0069
 Jupiter -77907-08-28 01:40 J -26733869.56 -26733869.43 -26733869.29 0.0534 0.0386
 Uranus -77903-05-18 11:59 J -26732510.12 -26732510.00 -26732509.86 0.0134 0.0105
 Uranus -77903-12-30 15:35 J -26732284.04 -26732283.85 -26732283.65 0.0134 0.0050
 Pluto -77902-04-04 14:52 J -26732189.01 -26732188.88 -26732188.72 0.0064 0.0049
 Uranus -77902-08-13 19:11 J -26732057.91 -26732057.70 -26732057.49 0.0134 0.0005
 Pluto -77902-11-15 19:40 J -26731963.88 -26731963.68 -26731963.44 0.0064 0.0019
 Uranus -77901-03-26 22:32 J -26731831.74 -26731831.56 -26731831.37 0.0135 0.0060
 Pluto -77901-06-28 00:56 J -26731738.67 -26731738.46 -26731738.23 0.0065 0.0013
 Jupiter -77901-06-29 12:42 J -26731737.13 -26731736.97 -26731736.80 0.0493 0.0311
 Uranus -77901-11-08 02:08 J -26731605.51 -26731605.41 -26731605.30 0.0135 0.0116
 Pluto -77900-02-08 05:44 J -26731513.40 -26731513.26 -26731513.07 0.0065 0.0044
 Saturn -77898-04-20 20:37 J -26730711.84 -26730711.64 -26730711.44 0.0287 0.0070
 Mars -77897-03-28 06:42 J -26730369.39 -26730369.22 -26730369.05 0.1625 0.0421
 Mars -77893-11-09 02:37 J -26728682.42 -26728682.39 -26728682.36 0.1915 0.1872
 Jupiter -77883-08-30 21:49 J -26725100.72 -26725100.59 -26725100.46 0.0535 0.0396
 Saturn -77883-12-25 11:16 J -26724984.25 -26724984.03 -26724983.81 0.0274 0.0014
 Jupiter -77877-07-02 01:54 J -26722968.57 -26722968.42 -26722968.26 0.0491 0.0333
 Jupiter -77871-05-05 17:30 J -26720834.96 -26720834.77 -26720834.57 0.0535 0.0094
 Saturn -77869-10-30 23:30 J -26719925.70 -26719925.52 -26719925.33 0.0287 0.0124
 Jupiter -77865-03-06 22:32 J -26718702.77 -26718702.56 -26718702.36 0.0492 0.0087
 Uranus -77863-01-20 10:18 J -26718018.19 -26718018.07 -26718017.93 0.0145 0.0117
 Uranus -77863-09-04 01:11 J -26717791.66 -26717791.45 -26717791.23 0.0145 0.0043

Uranus -77862-04-18 15:49 J -26717565.06 -26717564.84 -26717564.62 0.0144 0.0031
 Uranus -77862-12-01 06:13 J -26717338.39 -26717338.24 -26717338.09 0.0144 0.0104
 Saturn -77853-07-06 19:54 J -26714197.88 -26714197.67 -26714197.45 0.0274 0.0056
 Moon -77847-08-27 03:35 J -26711955.50 -26711955.35 -26711955.19 0.2614 0.0829
 Earth -77847-08-27 09:35 J -26711955.25 -26711955.10 -26711954.96 0.2613 0.1208 *
 Neptune -77841-10-05 13:40 J -26709723.99 -26709723.93 -26709723.85 0.0089 0.0084
 Neptune -77840-05-19 03:35 J -26709498.48 -26709498.35 -26709498.18 0.0089 0.0065
 Saturn -77840-09-25 22:18 J -26709368.67 -26709368.57 -26709368.46 0.0289 0.0246
 Neptune -77840-12-30 17:44 J -26709272.94 -26709272.76 -26709272.55 0.0089 0.0046
 Saturn -77839-05-13 08:37 J -26709139.27 -26709139.14 -26709138.98 0.0286 0.0201
 Neptune -77839-08-13 07:54 J -26709047.38 -26709047.17 -26709046.95 0.0089 0.0026
 Neptune -77838-03-26 22:04 J -26708821.80 -26708821.58 -26708821.35 0.0089 0.0007
 Neptune -77838-11-07 11:59 J -26708596.22 -26708596.00 -26708595.77 0.0089 0.0013
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 Neptune -77836-01-31 16:04 J -26708145.00 -26708144.83 -26708144.63 0.0089 0.0052
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 Jupiter -77835-01-11 04:47 J -26707800.49 -26707800.30 -26707800.11 0.0535 0.0173
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 Jupiter -77830-11-13 10:47 J -26705668.24 -26705668.05 -26705667.85 0.0492 0.0152
 Mars -77827-09-06 07:11 J -26704640.34 -26704640.20 -26704640.07 0.1919 0.1141
 Jupiter -77824-09-15 22:47 J -26703534.70 -26703534.55 -26703534.39 0.0534 0.0325
 Saturn -77823-01-17 02:37 J -26703411.58 -26703411.39 -26703411.19 0.0274 0.0117
 Uranus -77819-01-16 00:28 J -26701951.52 -26701951.48 -26701951.41 0.0134 0.0129
 Uranus -77819-08-30 03:35 J -26701725.51 -26701725.35 -26701725.16 0.0134 0.0075
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 Uranus -77818-11-25 10:47 J -26701273.25 -26701273.05 -26701272.84 0.0135 0.0036
 Uranus -77817-07-08 14:23 J -26701047.05 -26701046.90 -26701046.74 0.0135 0.0091
 Pluto -77814-07-19 01:40 J -26699941.55 -26699941.43 -26699941.28 0.0080 0.0062
 Pluto -77813-02-29 11:30 J -26699716.23 -26699716.02 -26699715.80 0.0080 0.0006

Pluto -77813-10-11 20:52 J -26699490.79 -26699490.63 -26699490.45 0.0079 0.0050
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 Saturn -77795-12-12 21:20 J -26692854.73 -26692854.61 -26692854.48 0.0272 0.0224
 Jupiter -77794-07-21 20:08 J -26692633.79 -26692633.66 -26692633.52 0.0492 0.0375
 Saturn -77794-07-30 11:16 J -26692625.20 -26692625.03 -26692624.87 0.0274 0.0185
 Jupiter -77788-05-24 12:13 J -26690500.18 -26690499.99 -26690499.79 0.0534 0.0048
 Jupiter -77782-03-26 19:40 J -26688367.89 -26688367.68 -26688367.47 0.0492 0.0029
 Saturn -77781-10-18 12:28 J -26687796.16 -26687795.98 -26687795.78 0.0288 0.0109
 Uranus -77779-05-04 07:40 J -26687233.36 -26687233.18 -26687232.98 0.0145 0.0076
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 Jupiter -77771-11-29 18:28 J -26684101.82 -26684101.73 -26684101.63 0.0493 0.0436
 Mars -77766-11-21 04:47 J -26682284.48 -26682284.30 -26682284.12 0.1620 0.0138
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 Mars -77761-07-03 12:13 J -26680598.16 -26680597.99 -26680597.83 0.1923 0.0427
 Neptune -77758-07-08 00:13 J -26679498.56 -26679498.49 -26679498.39 0.0088 0.0081
 Neptune -77757-02-18 12:13 J -26679273.13 -26679272.99 -26679272.83 0.0088 0.0063
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Moon -77749-03-01 15:20 J -26676339.01 -26676338.86 -26676338.70 0.2717 0.0059
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 Jupiter -77741-10-04 21:35 J -26673199.77 -26673199.60 -26673199.43 0.0534 0.0254
 Saturn -77735-01-04 12:28 J -26671282.18 -26671281.98 -26671281.77 0.0273 0.0098
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 Mars -77700-09-17 15:49 J -26658242.01 -26658241.84 -26658241.66 0.1617 0.0411
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 Uranus -77695-01-01 11:30 J -26656675.14 -26656675.02 -26656674.86 0.0145 0.0113
 Mars -77695-04-30 16:18 J -26656555.99 -26656555.82 -26656555.66 0.1927 0.0339
 Uranus -77695-08-16 02:37 J -26656448.60 -26656448.39 -26656448.17 0.0145 0.0038
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 Uranus -77694-11-12 07:25 J -26655995.33 -26655995.19 -26655995.04 0.0144 0.0108
 Jupiter -77693-02-16 03:20 J -26655899.44 -26655899.36 -26655899.27 0.0534 0.0482
 Saturn -77692-05-23 08:08 J -26655437.35 -26655437.16 -26655436.96 0.0287 0.0091
 Jupiter -77688-12-18 13:11 J -26653767.07 -26653766.95 -26653766.82 0.0493 0.0390
 Saturn -77676-01-27 02:52 J -26649709.60 -26649709.38 -26649709.17 0.0274 0.0027
 Neptune -77676-08-20 12:28 J -26649504.10 -26649503.98 -26649503.85 0.0089 0.0073
 Neptune -77675-04-03 02:08 J -26649278.57 -26649278.41 -26649278.21 0.0089 0.0054
 Neptune -77675-11-14 16:47 J -26649053.01 -26649052.80 -26649052.59 0.0089 0.0034

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 Neptune -77671-07-30 05:01 J -26647699.35 -26647699.29 -26647699.20 0.0089 0.0083
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 Saturn -77663-12-03 18:13 J -26644650.90 -26644650.74 -26644650.57 0.0287 0.0170
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 Uranus -77652-12-28 02:37 J -26640608.44 -26640608.39 -26640608.31 0.0134 0.0126
 Uranus -77651-08-11 05:59 J -26640382.42 -26640382.25 -26640382.06 0.0134 0.0072
 Uranus -77650-03-25 09:20 J -26640156.31 -26640156.11 -26640155.90 0.0134 0.0017
 Uranus -77650-11-06 12:42 J -26639930.17 -26639929.97 -26639929.76 0.0134 0.0038
 Uranus -77649-06-19 16:04 J -26639703.97 -26639703.83 -26639703.66 0.0135 0.0094
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 Mars -77634-07-16 03:20 J -26634199.52 -26634199.36 -26634199.20 0.1615 0.0673
 Saturn -77634-10-29 12:13 J -26634094.12 -26634093.99 -26634093.85 0.0288 0.0216
 Saturn -77633-06-14 22:47 J -26633864.67 -26633864.55 -26633864.42 0.0286 0.0229
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 Jupiter -77628-08-28 12:42 J -26631964.01 -26631963.97 -26631963.92 0.0491 0.0480
 Jupiter -77622-07-02 07:11 J -26629830.39 -26629830.20 -26629830.00 0.0535 0.0082
 Saturn -77618-07-05 02:08 J -26628366.46 -26628366.41 -26628366.34 0.0272 0.0261
 Saturn -77617-02-19 15:35 J -26628137.03 -26628136.85 -26628136.66 0.0274 0.0147

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 Uranus -77611-04-15 05:01 J -26625890.46 -26625890.29 -26625890.08 0.0145 0.0078
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 Saturn -77604-05-10 21:06 J -26623307.80 -26623307.62 -26623307.44 0.0289 0.0142
 Earth -77604-08-27 08:23 J -26623199.30 -26623199.15 -26623199.00 0.2614 0.1038
 Moon -77604-08-27 13:54 J -26623199.05 -26623198.92 -26623198.78 0.2616 0.1394 *
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 Moon -77596-08-25 03:06 J -26620279.42 -26620279.37 -26620279.33 0.2613 0.2501
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 Saturn -77575-11-21 01:54 J -26612521.62 -26612521.42 -26612521.22 0.0288 0.0082
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Uranus -77567-04-10 17:30 J -26609823.90 -26609823.77 -26609823.61 0.0134 0.0097
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 Jupiter -77533-05-22 11:01 J -26597363.24 -26597363.04 -26597362.84 0.0492 0.0142
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 Neptune -77510-02-16 01:25 J -26589058.63 -26589058.44 -26589058.23 0.0089 0.0042
 Neptune -77510-09-29 15:35 J -26588833.06 -26588832.85 -26588832.63 0.0089 0.0023
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 Mars -77466-10-19 23:30 J -26572741.63 -26572741.52 -26572741.40 0.1926 0.1409
 Saturn -77457-05-20 11:01 J -26569606.04 -26569606.04 -26569606.03 0.0289 0.0289
 Saturn -77456-01-04 22:18 J -26569376.73 -26569376.57 -26569376.39 0.0287 0.0162
 Jupiter -77456-08-09 03:06 J -26569160.55 -26569160.37 -26569160.19 0.0535 0.0213
 Jupiter -77450-06-11 10:32 J -26567028.25 -26567028.06 -26567027.87 0.0492 0.0211
 Jupiter -77444-04-13 22:32 J -26564894.73 -26564894.56 -26564894.39 0.0534 0.0275
 Uranus -77443-03-27 01:25 J -26564547.61 -26564547.44 -26564547.24 0.0145 0.0081
 Uranus -77443-11-08 16:18 J -26564321.04 -26564320.82 -26564320.59 0.0145 0.0007
 Uranus -77442-06-23 06:42 J -26564094.41 -26564094.22 -26564094.01 0.0144 0.0067
 Uranus -77441-02-04 20:52 J -26563867.67 -26563867.63 -26563867.55 0.0144 0.0139
 Saturn -77441-09-10 03:20 J -26563649.57 -26563649.36 -26563649.14 0.0273 0.0051

Jupiter -77438-02-14 09:49 J -26562762.28 -26562762.09 -26562761.89 0.0493 0.0193
 Mars -77436-01-04 13:40 J -26562072.01 -26562071.93 -26562071.86 0.1608 0.1455
 Neptune -77429-08-23 11:16 J -26559284.13 -26559284.03 -26559283.92 0.0088 0.0077
 Neptune -77428-04-05 23:01 J -26559058.68 -26559058.54 -26559058.36 0.0088 0.0059
 Neptune -77428-11-17 11:01 J -26558833.21 -26558833.04 -26558832.83 0.0088 0.0041
 Saturn -77428-11-30 15:06 J -26558819.99 -26558819.87 -26558819.74 0.0290 0.0233
 Neptune -77427-06-30 23:16 J -26558607.73 -26558607.53 -26558607.31 0.0088 0.0022
 Saturn -77427-07-18 02:23 J -26558590.52 -26558590.40 -26558590.26 0.0287 0.0219
 Neptune -77426-02-11 11:16 J -26558382.24 -26558382.03 -26558381.81 0.0088 0.0004
 Neptune -77426-09-24 23:01 J -26558156.74 -26558156.54 -26558156.32 0.0088 0.0015
 Neptune -77425-05-07 10:47 J -26557931.24 -26557931.05 -26557930.84 0.0089 0.0034
 Neptune -77425-12-18 22:47 J -26557705.71 -26557705.55 -26557705.36 0.0089 0.0052
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 Neptune -77423-03-14 22:32 J -26557254.56 -26557254.56 -26557254.53 0.0089 0.0088
 Jupiter -77420-04-16 17:59 J -26556125.81 -26556125.75 -26556125.68 0.0534 0.0500
 Jupiter -77414-02-16 23:30 J -26553993.60 -26553993.52 -26553993.43 0.0492 0.0451
 Saturn -77411-03-23 08:52 J -26552863.33 -26552863.13 -26552862.92 0.0273 0.0110
 Jupiter -77409-12-20 11:59 J -26551860.20 -26551860.00 -26551859.80 0.0534 0.0003
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 Pluto -77405-05-03 17:01 J -26550630.00 -26550629.79 -26550629.56 0.0064 0.0011
 Pluto -77405-12-14 22:04 J -26550404.78 -26550404.58 -26550404.35 0.0065 0.0021
 Mars -77404-01-03 09:35 J -26550385.26 -26550385.10 -26550384.93 0.1615 0.0626
 Pluto -77404-07-28 02:52 J -26550179.49 -26550179.38 -26550179.22 0.0065 0.0052
 Jupiter -77403-10-22 23:01 J -26549727.75 -26549727.54 -26549727.33 0.0493 0.0049
 Mars -77400-08-16 03:49 J -26548699.50 -26548699.34 -26548699.18 0.1930 0.0646
 Uranus -77399-03-22 20:37 J -26548480.78 -26548480.64 -26548480.47 0.0134 0.0092
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 Uranus -77398-06-18 03:49 J -26548028.55 -26548028.34 -26548028.13 0.0134 0.0017
 Saturn -77397-01-28 05:01 J -26547804.35 -26547804.29 -26547804.22 0.0286 0.0270

Uranus -77397-01-30 07:11 J -26547802.37 -26547802.20 -26547802.01 0.0134 0.0073
 Jupiter -77397-08-25 06:56 J -26547594.28 -26547594.21 -26547594.12 0.0533 0.0487
 Uranus -77397-09-12 11:01 J -26547576.10 -26547576.04 -26547575.97 0.0135 0.0128
 Jupiter -77391-06-27 22:04 J -26545461.72 -26545461.58 -26545461.44 0.0493 0.0357
 Saturn -77382-02-15 19:25 J -26542306.74 -26542306.69 -26542306.63 0.0271 0.0262
 Saturn -77382-10-03 07:54 J -26542077.35 -26542077.17 -26542076.98 0.0273 0.0143
 Jupiter -77373-08-28 04:47 J -26538825.46 -26538825.30 -26538825.13 0.0534 0.0300
 Saturn -77369-12-22 21:06 J -26537247.80 -26537247.62 -26537247.44 0.0289 0.0126
 Jupiter -77367-06-30 11:16 J -26536693.19 -26536693.03 -26536692.85 0.0493 0.0286
 Jupiter -77361-05-02 23:30 J -26534559.71 -26534559.52 -26534559.34 0.0533 0.0193
 Moon -77361-08-27 02:52 J -26534443.55 -26534443.38 -26534443.21 0.2613 0.0436
 Earth -77361-08-27 07:25 J -26534443.34 -26534443.19 -26534443.03 0.2616 0.0867 *
 Uranus -77360-11-24 05:59 J -26533989.37 -26533989.25 -26533989.10 0.0145 0.0117
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 Saturn -77352-04-14 13:11 J -26531291.09 -26531290.95 -26531290.80 0.0273 0.0201
 Neptune -77347-02-23 07:11 J -26529515.21 -26529515.20 -26529515.17 0.0089 0.0088
 Neptune -77347-10-06 21:06 J -26529289.75 -26529289.62 -26529289.47 0.0089 0.0069
 Neptune -77346-05-20 11:30 J -26529064.21 -26529064.02 -26529063.83 0.0089 0.0049
 Neptune -77345-01-01 01:25 J -26528838.65 -26528838.44 -26528838.22 0.0089 0.0030
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 Neptune -77342-09-15 13:40 J -26527484.94 -26527484.93 -26527484.87 0.0089 0.0088
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Mars -77339-10-31 21:20 J -26526342.79 -26526342.61 -26526342.44 0.1613 0.0368
 Mars -77334-06-13 08:37 J -26524657.31 -26524657.14 -26524656.98 0.1933 0.0112
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 Saturn -77323-03-09 23:16 J -26520734.69 -26520734.53 -26520734.35 0.0272 0.0172
 Saturn -77323-10-25 12:13 J -26520505.10 -26520504.99 -26520504.88 0.0274 0.0234
 Jupiter -77320-11-11 00:42 J -26519392.67 -26519392.47 -26519392.26 0.0492 0.0129
 Pluto -77317-01-05 01:54 J -26518607.59 -26518607.42 -26518607.23 0.0080 0.0044
 Pluto -77317-08-17 11:30 J -26518382.23 -26518382.02 -26518381.80 0.0080 0.0012
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 Uranus -77316-11-20 08:23 J -26517922.25 -26517922.15 -26517922.05 0.0134 0.0117
 Uranus -77315-07-04 11:30 J -26517696.19 -26517696.02 -26517695.82 0.0134 0.0063
 Uranus -77314-02-15 15:20 J -26517470.07 -26517469.86 -26517469.65 0.0134 0.0008
 Jupiter -77314-09-14 10:18 J -26517259.19 -26517259.07 -26517258.93 0.0533 0.0391
 Uranus -77314-09-29 18:42 J -26517243.91 -26517243.72 -26517243.52 0.0134 0.0047
 Uranus -77313-05-12 22:32 J -26517017.70 -26517017.56 -26517017.43 0.0135 0.0102
 Saturn -77309-01-15 01:25 J -26515675.65 -26515675.44 -26515675.24 0.0289 0.0026
 Jupiter -77308-07-16 22:47 J -26515126.72 -26515126.55 -26515126.38 0.0494 0.0285
 Saturn -77294-09-20 04:18 J -26509948.51 -26509948.32 -26509948.12 0.0271 0.0116
 Jupiter -77290-09-17 05:44 J -26508490.39 -26508490.26 -26508490.12 0.0534 0.0383
 Jupiter -77284-07-19 13:54 J -26506358.05 -26506357.92 -26506357.78 0.0492 0.0369
 Saturn -77280-07-27 04:18 J -26504889.52 -26504889.32 -26504889.11 0.0289 0.0028
 Jupiter -77278-05-23 01:11 J -26504224.65 -26504224.45 -26504224.26 0.0534 0.0107
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 Uranus -77275-10-20 17:01 J -26502978.01 -26502977.79 -26502977.56 0.0145 0.0004
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 Uranus -77273-01-16 21:35 J -26502524.62 -26502524.60 -26502524.55 0.0144 0.0142
 Mars -77273-08-28 08:37 J -26502300.32 -26502300.14 -26502299.96 0.1611 0.0101
 Jupiter -77272-03-24 13:11 J -26502092.16 -26502091.95 -26502091.74 0.0493 0.0037
 Mars -77268-04-09 12:13 J -26500615.14 -26500614.99 -26500614.84 0.1937 0.0906
 Neptune -77265-11-24 23:16 J -26499289.58 -26499289.53 -26499289.44 0.0088 0.0084

Saturn -77264-04-01 03:20 J -26499162.57 -26499162.36 -26499162.15 0.0272 0.0083
 Neptune -77264-07-08 11:44 J -26499064.15 -26499064.01 -26499063.86 0.0088 0.0065
 Neptune -77263-02-18 23:30 J -26498838.69 -26498838.52 -26498838.33 0.0088 0.0047
 Moon -77263-03-03 00:13 J -26498826.65 -26498826.49 -26498826.32 0.2711 0.0133
 Earth -77263-03-03 00:56 J -26498826.61 -26498826.46 -26498826.31 0.2718 0.0497 *
 Neptune -77263-10-02 11:16 J -26498613.22 -26498613.03 -26498612.81 0.0088 0.0029
 Neptune -77262-05-15 23:30 J -26498387.73 -26498387.52 -26498387.30 0.0088 0.0010
 Neptune -77262-12-27 11:30 J -26498162.23 -26498162.02 -26498161.80 0.0088 0.0009
 Neptune -77261-08-08 23:16 J -26497936.73 -26497936.53 -26497936.32 0.0089 0.0027
 Jupiter -77261-11-27 12:42 J -26497826.06 -26497825.97 -26497825.87 0.0494 0.0439
 Neptune -77260-03-22 11:01 J -26497711.21 -26497711.04 -26497710.84 0.0089 0.0046
 Neptune -77260-11-02 23:01 J -26497485.68 -26497485.54 -26497485.38 0.0089 0.0064
 Neptune -77259-06-16 10:32 J -26497260.11 -26497260.06 -26497259.96 0.0089 0.0083
 Saturn -77250-02-06 05:16 J -26494103.48 -26494103.28 -26494103.08 0.0289 0.0074
 Jupiter -77242-01-28 18:28 J -26491189.91 -26491189.73 -26491189.55 0.0534 0.0193
 Jupiter -77237-11-30 01:25 J -26489057.63 -26489057.44 -26489057.24 0.0493 0.0201
 Saturn -77235-10-12 08:52 J -26488376.35 -26488376.13 -26488375.92 0.0272 0.0025
 Uranus -77231-03-03 22:32 J -26487137.71 -26487137.56 -26487137.39 0.0134 0.0089
 Jupiter -77231-10-03 11:44 J -26486924.17 -26486924.01 -26486923.85 0.0533 0.0307
 Uranus -77231-10-16 01:54 J -26486911.61 -26486911.42 -26486911.21 0.0134 0.0035
 Uranus -77230-05-30 05:30 J -26486685.47 -26486685.27 -26486685.05 0.0134 0.0020
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 Uranus -77229-08-24 12:42 J -26486233.00 -26486232.97 -26486232.90 0.0135 0.0131
 Jupiter -77225-08-05 01:11 J -26484791.63 -26484791.45 -26484791.25 0.0493 0.0202
 Saturn -77221-08-18 08:23 J -26483317.33 -26483317.15 -26483316.96 0.0289 0.0128
 Mars -77207-06-25 20:23 J -26478257.83 -26478257.65 -26478257.48 0.1609 0.0159
 Jupiter -77207-10-06 09:49 J -26478155.17 -26478155.09 -26478155.01 0.0535 0.0483
 Saturn -77205-04-23 08:08 J -26477590.38 -26477590.16 -26477589.94 0.0272 0.0011
 Mars -77202-02-04 16:18 J -26476572.90 -26476572.82 -26476572.74 0.1941 0.1694
 Jupiter -77201-08-07 15:49 J -26476022.92 -26476022.84 -26476022.75 0.0492 0.0450

Jupiter -77195-06-11 05:30 J -26473889.47 -26473889.27 -26473889.08 0.0533 0.0011
 Saturn -77192-07-13 20:08 J -26472760.68 -26472760.66 -26472760.63 0.0291 0.0288
 Uranus -77192-11-05 06:56 J -26472646.35 -26472646.21 -26472646.07 0.0145 0.0113
 Saturn -77191-02-28 09:06 J -26472531.28 -26472531.12 -26472530.95 0.0289 0.0173
 Uranus -77191-06-19 21:35 J -26472419.81 -26472419.60 -26472419.38 0.0145 0.0040
 Uranus -77190-02-01 12:13 J -26472193.20 -26472192.99 -26472192.77 0.0144 0.0034
 Uranus -77190-09-16 02:37 J -26471966.54 -26471966.39 -26471966.24 0.0144 0.0106
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 Jupiter -77183-02-14 00:13 J -26469623.55 -26469623.49 -26469623.41 0.0532 0.0495
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 Neptune -77182-08-21 21:06 J -26469069.77 -26469069.62 -26469069.43 0.0089 0.0057
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 Neptune -77181-11-15 01:25 J -26468618.65 -26468618.44 -26468618.21 0.0089 0.0018
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 Neptune -77178-05-06 10:04 J -26467716.24 -26467716.08 -26467715.92 0.0089 0.0061
 Jupiter -77178-12-17 12:28 J -26467491.12 -26467490.98 -26467490.84 0.0494 0.0373
 Neptune -77178-12-17 23:59 J -26467490.58 -26467490.50 -26467490.40 0.0089 0.0081
 Saturn -77176-11-03 14:08 J -26466804.12 -26466803.91 -26466803.70 0.0272 0.0071
 Saturn -77162-01-24 00:56 J -26461974.59 -26461974.46 -26461974.34 0.0291 0.0228
 Saturn -77162-09-10 13:11 J -26461745.06 -26461744.95 -26461744.82 0.0288 0.0231
 Jupiter -77159-02-16 19:11 J -26460854.87 -26460854.70 -26460854.53 0.0534 0.0274
 Pluto -77158-08-24 18:13 J -26460300.82 -26460300.74 -26460300.61 0.0064 0.0056
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 Pluto -77157-11-17 04:32 J -26459850.53 -26459850.31 -26459850.08 0.0065 0.0005
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 Jupiter -77148-10-22 14:52 J -26456589.06 -26456588.88 -26456588.70 0.0533 0.0213
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 Uranus -77146-01-27 15:35 J -26456127.06 -26456126.85 -26456126.64 0.0134 0.0008
 Saturn -77146-05-16 14:52 J -26456018.08 -26456017.88 -26456017.68 0.0272 0.0110
 Uranus -77146-09-10 18:56 J -26455900.90 -26455900.71 -26455900.50 0.0134 0.0047
 Uranus -77145-04-23 22:32 J -26455674.69 -26455674.56 -26455674.41 0.0135 0.0102
 Jupiter -77142-08-25 02:52 J -26454456.58 -26454456.38 -26454456.18 0.0493 0.0122
 Mars -77141-04-22 07:40 J -26454215.36 -26454215.18 -26454215.01 0.1606 0.0420
 Saturn -77133-08-05 01:25 J -26451188.59 -26451188.44 -26451188.28 0.0291 0.0183
 Saturn -77132-03-22 13:54 J -26450958.97 -26450958.92 -26450958.85 0.0289 0.0276
 Earth -77118-08-28 06:13 J -26445687.40 -26445687.24 -26445687.08 0.2618 0.0663
 Moon -77118-08-28 08:37 J -26445687.28 -26445687.14 -26445687.00 0.2624 0.1126 *
 Saturn -77117-04-10 09:49 J -26445461.19 -26445461.09 -26445460.96 0.0270 0.0226
 Saturn -77117-11-25 21:20 J -26445231.77 -26445231.61 -26445231.44 0.0272 0.0173
 Jupiter -77112-06-30 05:30 J -26443554.47 -26443554.27 -26443554.07 0.0533 0.0071
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 Uranus -77107-10-01 15:20 J -26441635.09 -26441634.86 -26441634.64 0.0145 0.0005
 Jupiter -77106-05-02 14:37 J -26441422.10 -26441421.89 -26441421.69 0.0493 0.0111
 Uranus -77106-05-16 05:44 J -26441408.45 -26441408.26 -26441408.06 0.0144 0.0069
 Uranus -77106-12-28 19:54 J -26441181.70 -26441181.67 -26441181.61 0.0144 0.0141
 Mars -77105-12-01 15:35 J -26440842.93 -26440842.85 -26440842.76 0.1933 0.1656
 Saturn -77103-02-15 06:56 J -26440402.39 -26440402.21 -26440402.02 0.0291 0.0120
 Jupiter -77100-03-04 23:44 J -26439288.62 -26439288.51 -26439288.38 0.0533 0.0421
 Neptune -77100-10-10 00:28 J -26439069.61 -26439069.48 -26439069.35 0.0088 0.0071
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 Neptune -77098-01-04 00:28 J -26438618.68 -26438618.48 -26438618.28 0.0088 0.0034
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Neptune -77095-09-17 23:44 J -26437265.60 -26437265.51 -26437265.39 0.0089 0.0077
 Jupiter -77094-01-05 13:54 J -26437156.09 -26437155.92 -26437155.75 0.0494 0.0294
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 Saturn -77087-06-07 23:30 J -26434445.64 -26434445.52 -26434445.38 0.0272 0.0218
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 Mars -77075-02-17 19:25 J -26430172.85 -26430172.69 -26430172.53 0.1604 0.0670
 Saturn -77074-08-28 08:23 J -26429616.35 -26429616.15 -26429615.95 0.0291 0.0072
 Jupiter -77070-01-08 01:25 J -26428387.58 -26428387.44 -26428387.28 0.0493 0.0341
 Pluto -77070-12-08 07:11 J -26428053.29 -26428053.20 -26428053.11 0.0080 0.0072
 Pluto -77069-07-20 16:32 J -26427828.01 -26427827.81 -26427827.59 0.0080 0.0017
 Pluto -77068-03-03 01:40 J -26427602.60 -26427602.43 -26427602.22 0.0079 0.0039
 Jupiter -77065-11-10 17:16 J -26426253.97 -26426253.78 -26426253.59 0.0533 0.0122
 Uranus -77063-02-12 21:35 J -26425794.74 -26425794.60 -26425794.43 0.0134 0.0091
 Uranus -77063-09-27 01:25 J -26425568.65 -26425568.44 -26425568.24 0.0134 0.0036
 Uranus -77062-05-11 04:47 J -26425342.51 -26425342.30 -26425342.09 0.0134 0.0018
 Uranus -77062-12-23 08:23 J -26425116.32 -26425116.15 -26425115.97 0.0134 0.0073
 Uranus -77061-08-05 11:44 J -26424890.06 -26424890.01 -26424889.93 0.0135 0.0128
 Jupiter -77059-09-13 00:13 J -26424121.69 -26424121.49 -26424121.28 0.0494 0.0068
 Saturn -77058-05-03 19:25 J -26423888.88 -26423888.69 -26423888.49 0.0270 0.0118
 Jupiter -77047-05-18 23:59 J -26419855.56 -26419855.50 -26419855.43 0.0494 0.0469
 Saturn -77044-03-09 15:35 J -26418830.06 -26418829.85 -26418829.65 0.0290 0.0003
 Mars -77043-02-16 15:35 J -26418485.94 -26418485.85 -26418485.77 0.1611 0.1413
 Mars -77039-09-28 19:40 J -26416800.83 -26416800.68 -26416800.53 0.1936 0.0884
 Jupiter -77029-07-19 05:59 J -26413219.44 -26413219.25 -26413219.06 0.0534 0.0151
 Saturn -77029-11-12 23:16 J -26413102.74 -26413102.53 -26413102.32 0.0271 0.0069
 Uranus -77024-10-17 01:25 J -26411303.56 -26411303.44 -26411303.31 0.0145 0.0120
 Jupiter -77023-05-21 14:08 J -26411087.10 -26411086.91 -26411086.71 0.0493 0.0180
 Uranus -77023-05-31 16:18 J -26411077.03 -26411076.82 -26411076.60 0.0145 0.0046
 Uranus -77022-01-13 07:11 J -26410850.42 -26410850.20 -26410849.98 0.0144 0.0028
 Uranus -77022-08-27 21:35 J -26410623.76 -26410623.60 -26410623.44 0.0144 0.0101

Moon	-77020-03-03 01:54 J	-26410070.56	-26410070.42	-26410070.27	0.2724	0.0327
Earth	-77020-03-03 03:35 J	-26410070.51	-26410070.35	-26410070.20	0.2716	0.0404 *
Neptune	-77018-04-11 18:28 J	-26409300.81	-26409300.73	-26409300.65	0.0089	0.0082
Neptune	-77018-11-23 07:54 J	-26409075.31	-26409075.17	-26409074.99	0.0089	0.0063
Jupiter	-77017-03-24 01:54 J	-26408953.57	-26408953.42	-26408953.26	0.0533	0.0333
Neptune	-77017-07-05 22:18 J	-26408849.76	-26408849.57	-26408849.37	0.0089	0.0043
Neptune	-77016-02-16 11:59 J	-26408624.20	-26408624.00	-26408623.77	0.0089	0.0024
Neptune	-77016-09-30 02:08 J	-26408398.63	-26408398.41	-26408398.18	0.0089	0.0005
Neptune	-77015-05-13 16:18 J	-26408173.04	-26408172.82	-26408172.59	0.0089	0.0016
Saturn	-77015-09-19 17:16 J	-26408043.99	-26408043.78	-26408043.58	0.0290	0.0047
Neptune	-77015-12-25 06:28 J	-26407947.44	-26407947.23	-26407947.02	0.0089	0.0035
Neptune	-77014-08-07 20:08 J	-26407721.82	-26407721.66	-26407721.47	0.0089	0.0055
Neptune	-77013-03-20 10:04 J	-26407496.18	-26407496.08	-26407495.94	0.0089	0.0075
Jupiter	-77011-01-24 10:18 J	-26406821.24	-26406821.07	-26406820.88	0.0494	0.0242
Mars	-77010-12-16 06:56 J	-26406130.35	-26406130.21	-26406130.06	0.1602	0.0921

77TH MILLENNIUM BCE

This is a list of transits of Venus in the 77th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								

Saturn	-76999-05-26 07:11 J	-26402316.42	-26402316.20	-26402315.98	0.0271	0.0003
Jupiter	-76993-03-26 19:40 J	-26400184.79	-26400184.68	-26400184.56	0.0534	0.0430
Jupiter	-76987-01-27 00:42 J	-26398052.58	-26398052.47	-26398052.35	0.0493	0.0408
Saturn	-76985-04-01 01:25 J	-26397257.62	-26397257.44	-26397257.25	0.0290	0.0121

Jupiter -76982-11-30 13:54 J -26395919.12 -26395918.92 -26395918.72 0.0533 0.0064
 Uranus -76980-10-13 07:54 J -26395236.25 -26395236.17 -26395236.05 0.0133 0.0118
 Uranus -76979-05-27 11:16 J -26395010.20 -26395010.03 -26395009.83 0.0134 0.0064
 Uranus -76978-01-08 15:06 J -26394784.08 -26394783.87 -26394783.66 0.0134 0.0010
 Uranus -76978-08-22 18:13 J -26394557.93 -26394557.74 -26394557.53 0.0134 0.0046
 Mars -76978-12-15 02:37 J -26394443.52 -26394443.39 -26394443.27 0.1609 0.1137
 Uranus -76977-04-04 21:49 J -26394331.72 -26394331.59 -26394331.44 0.0135 0.0100
 Jupiter -76976-10-01 23:30 J -26393786.73 -26393786.52 -26393786.31 0.0493 0.0011
 Mars -76973-07-25 23:44 J -26392758.68 -26392758.51 -26392758.35 0.1940 0.0098
 Saturn -76970-12-06 12:13 J -26391530.20 -26391529.99 -26391529.77 0.0271 0.0052
 Jupiter -76964-06-06 22:32 J -26389520.68 -26389520.56 -26389520.44 0.0494 0.0405
 Saturn -76956-02-24 15:06 J -26386700.89 -26386700.87 -26386700.85 0.0292 0.0290
 Saturn -76956-10-12 04:32 J -26386471.47 -26386471.31 -26386471.14 0.0289 0.0175
 Jupiter -76946-08-08 06:13 J -26382884.41 -26382884.24 -26382884.06 0.0533 0.0230
 Mars -76944-10-12 18:42 J -26382087.84 -26382087.72 -26382087.60 0.1600 0.1176
 Jupiter -76940-06-09 09:06 J -26380752.30 -26380752.12 -26380751.93 0.0493 0.0225
 Saturn -76940-06-17 20:37 J -26380743.83 -26380743.64 -26380743.44 0.0271 0.0120
 Uranus -76939-01-28 17:30 J -26380518.94 -26380518.77 -26380518.58 0.0145 0.0087
 Uranus -76939-09-12 08:23 J -26380292.37 -26380292.15 -26380291.92 0.0145 0.0013
 Uranus -76938-04-26 22:47 J -26380065.74 -26380065.55 -26380065.34 0.0144 0.0060
 Uranus -76938-12-09 13:11 J -26379839.02 -26379838.95 -26379838.85 0.0144 0.0132
 Neptune -76935-01-11 13:11 J -26379075.06 -26379074.95 -26379074.85 0.0088 0.0077
 Neptune -76935-08-25 00:42 J -26378849.61 -26378849.47 -26378849.29 0.0088 0.0059
 Neptune -76934-04-07 13:11 J -26378624.14 -26378623.95 -26378623.76 0.0088 0.0040
 Jupiter -76934-04-12 22:18 J -26378618.74 -26378618.57 -26378618.40 0.0532 0.0275
 Neptune -76934-11-19 01:11 J -26378398.65 -26378398.45 -26378398.23 0.0088 0.0022
 Neptune -76933-07-01 13:25 J -26378173.16 -26378172.94 -26378172.73 0.0088 0.0003
 Neptune -76932-02-12 01:11 J -26377947.66 -26377947.45 -26377947.23 0.0088 0.0016
 Neptune -76932-09-25 12:56 J -26377722.15 -26377721.96 -26377721.75 0.0088 0.0035
 Neptune -76931-05-09 00:56 J -26377496.62 -26377496.46 -26377496.28 0.0088 0.0053

Neptune -76931-12-20 12:42 J -26377271.08 -26377270.97 -26377270.82 0.0088 0.0072
 Jupiter -76928-02-12 08:23 J -26376486.34 -26376486.15 -26376485.95 0.0494 0.0180
 Saturn -76927-09-07 00:28 J -26375914.61 -26375914.48 -26375914.33 0.0292 0.0212
 Saturn -76926-04-24 13:25 J -26375685.03 -26375684.94 -26375684.83 0.0289 0.0252
 Mars -76912-10-11 14:23 J -26370401.05 -26370400.90 -26370400.75 0.1607 0.0884
 Saturn -76911-05-13 16:18 J -26370186.95 -26370186.82 -26370186.69 0.0270 0.0218
 Saturn -76911-12-29 02:52 J -26369957.53 -26369957.38 -26369957.21 0.0272 0.0180
 Jupiter -76910-04-15 17:16 J -26369849.85 -26369849.78 -26369849.71 0.0534 0.0492
 Pluto -76909-03-09 04:47 J -26369521.44 -26369521.30 -26369521.11 0.0064 0.0045
 Pluto -76909-10-20 10:04 J -26369296.29 -26369296.08 -26369295.84 0.0065 0.0014
 Pluto -76908-06-02 15:20 J -26369071.07 -26369070.86 -26369070.63 0.0065 0.0018
 Pluto -76907-01-13 20:08 J -26368845.78 -26368845.66 -26368845.49 0.0065 0.0049
 Mars -76907-05-23 03:35 J -26368716.50 -26368716.35 -26368716.19 0.1943 0.0703
 Jupiter -76904-02-14 22:04 J -26367717.65 -26367717.58 -26367717.51 0.0493 0.0464
 Jupiter -76899-12-19 13:11 J -26365584.14 -26365583.95 -26365583.75 0.0533 0.0016
 Saturn -76897-03-19 04:47 J -26365128.47 -26365128.30 -26365128.12 0.0291 0.0152
 Uranus -76895-01-24 22:18 J -26364451.72 -26364451.57 -26364451.41 0.0134 0.0090
 Uranus -76895-09-08 01:40 J -26364225.63 -26364225.43 -26364225.22 0.0134 0.0036
 Uranus -76894-04-22 05:01 J -26363999.50 -26363999.29 -26363999.08 0.0134 0.0018
 Uranus -76894-12-04 08:37 J -26363773.32 -26363773.14 -26363772.96 0.0134 0.0073
 Uranus -76893-07-17 11:59 J -26363547.05 -26363547.00 -26363546.92 0.0135 0.0128
 Jupiter -76893-10-20 18:13 J -26363451.95 -26363451.74 -26363451.53 0.0493 0.0045
 Jupiter -76887-08-24 07:40 J -26361318.25 -26361318.18 -26361318.09 0.0532 0.0480
 Saturn -76882-11-23 23:44 J -26359400.69 -26359400.51 -26359400.33 0.0270 0.0154
 Jupiter -76881-06-25 16:32 J -26359185.94 -26359185.81 -26359185.66 0.0494 0.0364
 Saturn -76881-07-10 11:01 J -26359171.12 -26359171.04 -26359170.94 0.0272 0.0246
 Mars -76878-08-10 06:42 J -26358045.30 -26358045.22 -26358045.14 0.1598 0.1413
 Earth -76875-08-28 05:16 J -26356931.45 -26356931.28 -26356931.12 0.2620 0.0479
 Moon -76875-08-28 05:16 J -26356931.45 -26356931.28 -26356931.10 0.2614 0.0172 *
 Saturn -76868-09-29 15:20 J -26354342.06 -26354341.86 -26354341.66 0.0291 0.0070

Jupiter -76863-08-27 00:13 J -26352549.66 -26352549.49 -26352549.32 0.0533 0.0273
 Jupiter -76857-06-28 06:42 J -26350417.39 -26350417.22 -26350417.05 0.0493 0.0283
 Uranus -76856-09-27 20:23 J -26349960.75 -26349960.65 -26349960.52 0.0145 0.0125
 Uranus -76855-05-12 11:30 J -26349734.23 -26349734.02 -26349733.81 0.0145 0.0051
 Uranus -76855-12-25 02:08 J -26349507.63 -26349507.41 -26349507.19 0.0144 0.0022
 Neptune -76854-07-14 05:16 J -26349306.28 -26349306.28 -26349306.26 0.0089 0.0089
 Uranus -76854-08-08 16:18 J -26349280.97 -26349280.82 -26349280.63 0.0144 0.0096
 Neptune -76853-02-24 19:11 J -26349080.83 -26349080.70 -26349080.55 0.0089 0.0069
 Neptune -76853-10-07 08:52 J -26348855.29 -26348855.13 -26348854.92 0.0089 0.0050
 Neptune -76852-05-20 23:16 J -26348629.73 -26348629.53 -26348629.31 0.0089 0.0030
 Saturn -76852-06-05 07:25 J -26348614.40 -26348614.19 -26348613.99 0.0270 0.0092
 Neptune -76851-01-01 13:25 J -26348404.16 -26348403.94 -26348403.72 0.0089 0.0010
 Jupiter -76851-05-01 18:13 J -26348283.92 -26348283.74 -26348283.56 0.0533 0.0221
 Neptune -76851-08-15 03:20 J -26348178.58 -26348178.36 -26348178.13 0.0089 0.0009
 Neptune -76850-03-28 17:16 J -26347952.99 -26347952.78 -26347952.56 0.0089 0.0029
 Neptune -76850-11-09 07:11 J -26347727.38 -26347727.20 -26347727.00 0.0089 0.0049
 Neptune -76849-06-21 21:06 J -26347501.74 -26347501.62 -26347501.45 0.0089 0.0069
 Neptune -76848-02-02 11:30 J -26347276.03 -26347276.02 -26347275.99 0.0089 0.0088
 Mars -76846-08-09 01:54 J -26346358.59 -26346358.42 -26346358.26 0.1605 0.0625
 Jupiter -76845-03-03 05:16 J -26346151.49 -26346151.28 -26346151.08 0.0494 0.0125
 Mars -76841-03-19 06:42 J -26344674.32 -26344674.22 -26344674.12 0.1947 0.1552
 Saturn -76838-04-11 20:08 J -26343555.87 -26343555.66 -26343555.46 0.0290 0.0009
 Saturn -76823-12-16 14:23 J -26337828.12 -26337827.90 -26337827.68 0.0271 0.0030
 Pluto -76821-06-22 21:49 J -26337273.76 -26337273.59 -26337273.40 0.0080 0.0043
 Pluto -76820-02-03 07:25 J -26337048.40 -26337048.19 -26337047.98 0.0079 0.0012
 Pluto -76820-09-16 16:32 J -26336822.92 -26336822.81 -26336822.69 0.0079 0.0066
 Jupiter -76815-01-07 07:54 J -26335249.37 -26335249.17 -26335248.97 0.0533 0.0057
 Uranus -76812-09-24 08:23 J -26333893.23 -26333893.15 -26333893.02 0.0134 0.0117
 Uranus -76811-05-08 11:59 J -26333667.18 -26333667.00 -26333666.80 0.0134 0.0063
 Uranus -76811-12-20 15:35 J -26333441.06 -26333440.85 -26333440.63 0.0134 0.0009

Uranus -76810-08-03 19:11 J -26333214.90 -26333214.70 -26333214.50 0.0134 0.0046
 Jupiter -76810-11-09 15:06 J -26333117.08 -26333116.87 -26333116.67 0.0493 0.0102
 Uranus -76809-03-16 22:18 J -26332988.69 -26332988.57 -26332988.42 0.0135 0.0101
 Saturn -76809-10-22 06:28 J -26332769.42 -26332769.23 -26332769.02 0.0290 0.0075
 Jupiter -76804-09-12 01:11 J -26330983.55 -26330983.45 -26330983.33 0.0532 0.0438
 Jupiter -76798-07-15 13:54 J -26328851.08 -26328850.92 -26328850.76 0.0494 0.0306
 Saturn -76793-06-27 22:18 J -26327041.79 -26327041.57 -26327041.36 0.0271 0.0035
 Mars -76780-06-05 13:25 J -26322316.11 -26322315.94 -26322315.76 0.1603 0.0370
 Jupiter -76780-09-14 21:49 J -26322214.74 -26322214.59 -26322214.43 0.0534 0.0337
 Saturn -76779-05-04 11:59 J -26321983.18 -26321983.00 -26321982.81 0.0289 0.0138
 Earth -76777-03-03 06:13 J -26321314.39 -26321314.24 -26321314.09 0.2715 0.0341
 Moon -76777-03-03 09:35 J -26321314.24 -26321314.10 -26321313.95 0.2709 0.0955 *
 Jupiter -76774-07-18 00:56 J -26320082.61 -26320082.46 -26320082.30 0.0493 0.0326
 Uranus -76771-01-09 15:49 J -26319176.02 -26319175.84 -26319175.66 0.0145 0.0087
 Neptune -76771-04-15 01:54 J -26319080.48 -26319080.42 -26319080.33 0.0088 0.0083
 Uranus -76771-08-24 06:28 J -26318949.45 -26318949.23 -26318949.01 0.0145 0.0014
 Neptune -76771-11-26 13:54 J -26318855.04 -26318854.92 -26318854.75 0.0088 0.0065
 Uranus -76770-04-07 20:37 J -26318722.83 -26318722.64 -26318722.42 0.0144 0.0059
 Neptune -76770-07-10 02:08 J -26318629.58 -26318629.41 -26318629.21 0.0088 0.0046
 Uranus -76770-11-20 10:47 J -26318496.12 -26318496.05 -26318495.94 0.0144 0.0131
 Neptune -76769-02-20 14:37 J -26318404.10 -26318403.89 -26318403.69 0.0088 0.0027
 Neptune -76769-10-03 02:23 J -26318178.61 -26318178.40 -26318178.18 0.0088 0.0008
 Neptune -76768-05-16 14:23 J -26317953.11 -26317952.90 -26317952.68 0.0088 0.0010
 Jupiter -76768-05-20 16:47 J -26317948.99 -26317948.80 -26317948.61 0.0533 0.0152
 Neptune -76768-12-28 02:37 J -26317727.60 -26317727.39 -26317727.19 0.0088 0.0029
 Neptune -76767-08-10 14:08 J -26317502.07 -26317501.91 -26317501.71 0.0088 0.0048
 Neptune -76766-03-24 02:08 J -26317276.54 -26317276.41 -26317276.26 0.0088 0.0066
 Neptune -76766-11-04 13:54 J -26317050.96 -26317050.92 -26317050.84 0.0089 0.0085
 Saturn -76763-01-08 04:18 J -26316255.52 -26316255.32 -26316255.11 0.0271 0.0094
 Jupiter -76762-03-22 23:30 J -26315816.73 -26315816.52 -26315816.32 0.0493 0.0082

Jupiter -76751-11-25 22:18 J -26311550.60 -26311550.57 -26311550.54 0.0495 0.0488
 Saturn -76750-03-30 09:06 J -26311426.23 -26311426.12 -26311426.01 0.0292 0.0247
 Saturn -76750-11-14 22:18 J -26311196.70 -26311196.57 -26311196.43 0.0290 0.0218
 Mars -76743-01-14 07:11 J -26308944.24 -26308944.20 -26308944.16 0.1940 0.1880
 Saturn -76735-12-04 01:11 J -26305698.54 -26305698.45 -26305698.34 0.0270 0.0239
 Saturn -76734-07-21 12:13 J -26305469.16 -26305468.99 -26305468.81 0.0272 0.0160
 Jupiter -76732-01-26 03:06 J -26304914.56 -26304914.37 -26304914.17 0.0533 0.0107
 Uranus -76727-01-05 22:32 J -26303108.70 -26303108.56 -26303108.39 0.0134 0.0090
 Uranus -76727-08-20 01:54 J -26302882.61 -26302882.42 -26302882.21 0.0134 0.0036
 Jupiter -76727-11-28 11:44 J -26302782.21 -26302782.01 -26302781.81 0.0493 0.0156
 Uranus -76726-04-03 05:30 J -26302656.48 -26302656.27 -26302656.06 0.0134 0.0018
 Uranus -76726-11-15 08:37 J -26302430.30 -26302430.14 -26302429.95 0.0135 0.0074
 Uranus -76725-06-28 12:28 J -26302204.04 -26302203.98 -26302203.91 0.0135 0.0128
 Jupiter -76721-09-30 22:32 J -26300648.70 -26300648.56 -26300648.42 0.0533 0.0378
 Saturn -76721-10-09 14:37 J -26300640.04 -26300639.89 -26300639.72 0.0291 0.0181
 Saturn -76720-05-27 03:20 J -26300410.39 -26300410.36 -26300410.30 0.0289 0.0281
 Jupiter -76715-08-03 09:06 J -26298516.30 -26298516.12 -26298515.95 0.0494 0.0258
 Mars -76714-04-03 01:11 J -26298273.63 -26298273.45 -26298273.27 0.1600 0.0118
 Saturn -76705-06-15 05:44 J -26294912.41 -26294912.26 -26294912.10 0.0270 0.0187
 Saturn -76704-01-30 16:47 J -26294682.92 -26294682.80 -26294682.65 0.0272 0.0214
 Jupiter -76697-10-03 17:16 J -26291879.92 -26291879.78 -26291879.65 0.0533 0.0387
 Saturn -76691-04-22 00:13 J -26289853.68 -26289853.49 -26289853.29 0.0291 0.0103
 Jupiter -76691-08-05 22:18 J -26289747.69 -26289747.57 -26289747.44 0.0493 0.0385
 Neptune -76689-05-28 05:59 J -26289086.34 -26289086.25 -26289086.11 0.0089 0.0076
 Neptune -76688-01-08 20:08 J -26288860.82 -26288860.66 -26288860.47 0.0089 0.0056
 Neptune -76688-08-22 10:18 J -26288635.27 -26288635.07 -26288634.86 0.0089 0.0036
 Uranus -76688-09-08 20:08 J -26288617.76 -26288617.66 -26288617.53 0.0145 0.0123
 Neptune -76687-04-05 00:13 J -26288409.70 -26288409.49 -26288409.26 0.0089 0.0017
 Uranus -76687-04-23 11:01 J -26288391.24 -26288391.04 -26288390.82 0.0145 0.0049
 Neptune -76687-11-16 14:23 J -26288184.12 -26288183.90 -26288183.67 0.0089 0.0004

Uranus -76687-12-06 01:40 J -26288164.65 -26288164.43 -26288164.20 0.0144 0.0024
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 Neptune -76685-02-10 18:13 J -26287732.92 -26287732.74 -26287732.53 0.0089 0.0043
 Jupiter -76685-06-08 11:01 J -26287614.23 -26287614.04 -26287613.85 0.0532 0.0107
 Neptune -76685-09-23 07:54 J -26287507.30 -26287507.17 -26287506.98 0.0089 0.0063
 Neptune -76684-05-06 22:32 J -26287281.64 -26287281.56 -26287281.47 0.0089 0.0082
 Jupiter -76679-04-10 21:06 J -26285481.83 -26285481.62 -26285481.41 0.0494 0.0022
 Mars -76678-11-11 10:32 J -26284902.20 -26284902.06 -26284901.92 0.1943 0.1068
 Saturn -76676-12-26 13:25 J -26284126.14 -26284125.94 -26284125.75 0.0270 0.0123
 Jupiter -76668-12-14 19:54 J -26281215.77 -26281215.67 -26281215.57 0.0494 0.0429
 Saturn -76662-11-02 05:44 J -26279067.46 -26279067.26 -26279067.05 0.0290 0.0038
 Pluto -76661-09-22 15:06 J -26278742.06 -26278741.87 -26278741.67 0.0064 0.0034
 Pluto -76660-05-05 20:08 J -26278516.88 -26278516.66 -26278516.43 0.0065 0.0003
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 Mars -76648-01-28 12:56 J -26274231.13 -26274230.96 -26274230.78 0.1599 0.0140
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 Jupiter -76644-12-17 08:08 J -26272447.35 -26272447.16 -26272446.97 0.0493 0.0209
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 Earth -76632-08-28 04:04 J -26268175.50 -26268175.33 -26268175.17 0.2622 0.0267 *

Saturn -76616-01-17 23:16 J -26262553.74 -26262553.53 -26262553.31 0.0270 0.0015
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 Jupiter -76590-03-03 04:47 J -26253013.33 -26253013.30 -26253013.26 0.0532 0.0522
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Saturn -76440-08-09 08:08 J -26198066.35 -26198066.16 -26198065.96 0.0269 0.0115
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 Earth -76389-08-28 02:37 J -26179419.55 -26179419.39 -26179419.22 0.2624 0.0080

Moon -76389-08-28 07:11 J -26179419.36 -26179419.20 -26179419.03 0.2620 0.0651 *
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 Saturn -76308-07-30 15:20 J -26149863.02 -26149862.86 -26149862.71 0.0291 0.0188
 Uranus -76307-03-12 08:52 J -26149638.29 -26149638.13 -26149637.93 0.0134 0.0068
 Uranus -76307-10-24 12:28 J -26149412.19 -26149411.98 -26149411.76 0.0134 0.0014
 Uranus -76306-06-07 16:04 J -26149186.03 -26149185.83 -26149185.63 0.0134 0.0040
 Jupiter -76305-01-05 23:44 J -26148973.71 -26148973.51 -26148973.31 0.0532 0.0011
 Uranus -76305-01-19 19:40 J -26148959.82 -26148959.68 -26148959.53 0.0134 0.0095
 Jupiter -76300-11-07 10:47 J -26146841.25 -26146841.05 -26146840.84 0.0494 0.0102
 Jupiter -76294-09-10 19:25 J -26144707.78 -26144707.69 -26144707.59 0.0531 0.0468
 Saturn -76292-04-04 15:20 J -26144136.06 -26144135.86 -26144135.65 0.0269 0.0099
 Earth -76291-03-04 11:59 J -26143802.15 -26143802.00 -26143801.85 0.2711 0.0232
 Moon -76291-03-04 17:01 J -26143801.92 -26143801.79 -26143801.65 0.2711 0.1154 *
 Jupiter -76288-07-13 10:18 J -26142575.24 -26142575.07 -26142574.91 0.0495 0.0301
 Mars -76287-03-13 18:42 J -26142331.88 -26142331.72 -26142331.55 0.1595 0.0645
 Saturn -76279-06-24 23:59 J -26139306.60 -26139306.50 -26139306.37 0.0294 0.0245
 Saturn -76278-02-09 15:20 J -26139076.97 -26139076.86 -26139076.73 0.0292 0.0233
 Neptune -76278-09-03 05:59 J -26138871.33 -26138871.25 -26138871.16 0.0088 0.0081
 Neptune -76277-04-15 17:44 J -26138645.90 -26138645.76 -26138645.59 0.0088 0.0062
 Neptune -76277-11-27 05:59 J -26138420.42 -26138420.25 -26138420.05 0.0088 0.0044
 Neptune -76276-07-10 18:13 J -26138194.94 -26138194.74 -26138194.53 0.0088 0.0025
 Neptune -76275-02-21 06:13 J -26137969.45 -26137969.24 -26137969.02 0.0088 0.0006
 Neptune -76275-10-04 17:59 J -26137743.96 -26137743.75 -26137743.53 0.0088 0.0013
 Neptune -76274-05-18 05:44 J -26137518.45 -26137518.26 -26137518.04 0.0088 0.0032
 Neptune -76274-12-29 17:59 J -26137292.92 -26137292.75 -26137292.57 0.0088 0.0050
 Neptune -76273-08-11 05:30 J -26137067.38 -26137067.27 -26137067.11 0.0088 0.0069

Neptune -76272-03-24 17:44 J -26136841.79 -26136841.76 -26136841.71 0.0088 0.0087
 Jupiter -76270-09-13 17:16 J -26135938.94 -26135938.78 -26135938.62 0.0532 0.0308
 Uranus -76268-11-13 04:18 J -26135147.47 -26135147.32 -26135147.14 0.0145 0.0098
 Uranus -76267-06-27 19:25 J -26134920.91 -26134920.69 -26134920.47 0.0145 0.0025
 Uranus -76266-02-09 09:49 J -26134694.29 -26134694.09 -26134693.87 0.0144 0.0048
 Uranus -76266-09-23 23:59 J -26134467.60 -26134467.50 -26134467.36 0.0144 0.0121
 Jupiter -76264-07-15 23:01 J -26133806.69 -26133806.54 -26133806.39 0.0494 0.0337
 Saturn -76263-02-28 11:30 J -26133579.11 -26133579.02 -26133578.90 0.0267 0.0233
 Saturn -76263-10-15 20:23 J -26133349.82 -26133349.65 -26133349.46 0.0269 0.0156
 Jupiter -76258-05-19 10:47 J -26131673.24 -26131673.05 -26131672.87 0.0531 0.0185
 Jupiter -76252-03-20 22:32 J -26129540.77 -26129540.56 -26129540.36 0.0495 0.0065
 Mars -76251-10-21 04:04 J -26128961.50 -26128961.33 -26128961.17 0.1952 0.0378
 Saturn -76249-01-05 04:32 J -26128520.47 -26128520.31 -26128520.15 0.0293 0.0186
 Saturn -76249-08-21 19:25 J -26128290.71 -26128290.69 -26128290.67 0.0291 0.0289
 Jupiter -76241-11-23 21:49 J -26125274.65 -26125274.59 -26125274.53 0.0495 0.0469
 Saturn -76234-09-10 11:44 J -26122793.14 -26122793.01 -26122792.85 0.0268 0.0196
 Saturn -76233-04-26 20:52 J -26122563.78 -26122563.63 -26122563.48 0.0270 0.0194
 Uranus -76224-11-09 20:08 J -26119079.81 -26119079.66 -26119079.51 0.0134 0.0093
 Uranus -76223-06-23 23:30 J -26118853.72 -26118853.52 -26118853.32 0.0134 0.0040
 Jupiter -76222-01-25 04:04 J -26118638.52 -26118638.33 -26118638.13 0.0532 0.0111
 Uranus -76222-02-05 03:06 J -26118627.58 -26118627.37 -26118627.16 0.0134 0.0014
 Uranus -76222-09-19 06:28 J -26118401.40 -26118401.23 -26118401.04 0.0134 0.0068
 Mars -76221-01-09 06:42 J -26118289.39 -26118289.22 -26118289.05 0.1594 0.0399
 Uranus -76221-05-02 10:04 J -26118175.15 -26118175.08 -26118174.99 0.0135 0.0123
 Saturn -76220-07-17 04:32 J -26117734.48 -26117734.31 -26117734.13 0.0294 0.0142
 Jupiter -76217-11-26 10:18 J -26116506.27 -26116506.07 -26116505.88 0.0494 0.0168
 Jupiter -76211-09-29 23:16 J -26114372.66 -26114372.53 -26114372.38 0.0531 0.0371
 Jupiter -76205-08-01 09:06 J -26112240.30 -26112240.12 -26112239.94 0.0495 0.0238
 Saturn -76204-03-22 17:16 J -26112006.96 -26112006.78 -26112006.59 0.0268 0.0138
 Saturn -76204-11-07 02:08 J -26111777.47 -26111777.41 -26111777.33 0.0269 0.0253

Neptune -76196-10-16 05:16 J -26108877.38 -26108877.28 -26108877.14 0.0089 0.0075
 Neptune -76195-05-29 19:25 J -26108651.85 -26108651.69 -26108651.50 0.0089 0.0055
 Neptune -76194-01-10 09:35 J -26108426.30 -26108426.10 -26108425.88 0.0089 0.0035
 Neptune -76194-08-23 23:44 J -26108200.73 -26108200.51 -26108200.29 0.0089 0.0015
 Neptune -76193-04-05 13:40 J -26107975.15 -26107974.93 -26107974.70 0.0089 0.0005
 Neptune -76193-11-17 03:20 J -26107749.56 -26107749.36 -26107749.13 0.0089 0.0025
 Neptune -76192-06-30 17:59 J -26107523.95 -26107523.75 -26107523.56 0.0089 0.0044
 Neptune -76191-02-11 07:54 J -26107298.32 -26107298.17 -26107298.01 0.0089 0.0064
 Neptune -76191-09-24 21:35 J -26107072.65 -26107072.60 -26107072.51 0.0089 0.0084
 Saturn -76190-01-27 10:04 J -26106948.28 -26106948.08 -26106947.88 0.0293 0.0078
 Jupiter -76187-10-02 17:16 J -26105603.91 -26105603.78 -26105603.64 0.0532 0.0385
 Mars -76185-08-17 07:25 J -26104919.36 -26104919.19 -26104919.03 0.1955 0.0471
 Uranus -76184-07-13 09:20 J -26104589.19 -26104589.11 -26104589.01 0.0145 0.0133
 Uranus -76183-02-25 00:28 J -26104362.69 -26104362.48 -26104362.28 0.0145 0.0059
 Uranus -76183-10-09 15:06 J -26104136.10 -26104135.87 -26104135.65 0.0145 0.0014
 Uranus -76182-05-24 05:16 J -26103909.45 -26103909.28 -26103909.09 0.0144 0.0086
 Jupiter -76181-08-04 00:42 J -26103471.57 -26103471.47 -26103471.35 0.0494 0.0417
 Jupiter -76175-06-07 12:56 J -26101338.15 -26101337.96 -26101337.76 0.0532 0.0097
 Saturn -76175-10-02 18:42 J -26101220.92 -26101220.72 -26101220.51 0.0268 0.0097
 Jupiter -76169-04-08 23:44 J -26099205.72 -26099205.51 -26099205.30 0.0494 0.0013
 Pluto -76164-03-11 02:08 J -26097408.52 -26097408.41 -26097408.25 0.0064 0.0053
 Pluto -76164-10-22 07:25 J -26097183.39 -26097183.19 -26097182.96 0.0065 0.0022
 Pluto -76163-06-04 12:42 J -26096958.19 -26096957.97 -26096957.74 0.0065 0.0010
 Pluto -76162-01-15 17:44 J -26096732.92 -26096732.76 -26096732.57 0.0065 0.0041
 Saturn -76161-08-08 10:47 J -26096162.26 -26096162.05 -26096161.85 0.0293 0.0032
 Jupiter -76158-12-13 20:08 J -26094939.78 -26094939.66 -26094939.55 0.0496 0.0409
 Mars -76156-11-05 18:28 J -26094246.90 -26094246.73 -26094246.55 0.1592 0.0161
 Moon -76146-08-28 19:54 J -26090663.81 -26090663.67 -26090663.52 0.2628 0.1104
 Earth -76146-08-29 01:25 J -26090663.60 -26090663.44 -26090663.27 0.2626 0.0169 *
 Saturn -76145-04-14 00:56 J -26090434.68 -26090434.46 -26090434.25 0.0268 0.0037

Uranus -76140-07-10 06:28 J -26088521.31 -26088521.23 -26088521.13 0.0133 0.0119
 Jupiter -76139-02-13 03:49 J -26088303.53 -26088303.34 -26088303.16 0.0532 0.0186
 Uranus -76139-02-21 10:04 J -26088295.26 -26088295.08 -26088294.90 0.0134 0.0066
 Uranus -76139-10-05 13:25 J -26088069.15 -26088068.94 -26088068.73 0.0134 0.0013
 Uranus -76138-05-19 16:47 J -26087842.99 -26087842.80 -26087842.59 0.0134 0.0041
 Uranus -76138-12-31 20:23 J -26087616.78 -26087616.65 -26087616.49 0.0134 0.0096
 Jupiter -76134-12-16 11:01 J -26086171.21 -26086171.04 -26086170.85 0.0494 0.0245
 Saturn -76131-02-18 17:16 J -26085375.99 -26085375.78 -26085375.58 0.0293 0.0036
 Jupiter -76128-10-18 22:04 J -26084037.73 -26084037.58 -26084037.41 0.0531 0.0301
 Jupiter -76122-08-21 10:04 J -26081905.27 -26081905.08 -26081904.88 0.0495 0.0162
 Mars -76119-06-14 10:04 J -26080877.20 -26080877.08 -26080876.96 0.1958 0.1348
 Saturn -76116-10-25 03:49 J -26079648.56 -26079648.34 -26079648.12 0.0268 0.0010
 Neptune -76114-12-05 18:56 J -26078876.74 -26078876.71 -26078876.67 0.0088 0.0087
 Neptune -76113-07-18 06:42 J -26078651.34 -26078651.22 -26078651.07 0.0088 0.0068
 Neptune -76112-02-28 18:42 J -26078425.88 -26078425.72 -26078425.53 0.0088 0.0050
 Neptune -76112-10-12 06:56 J -26078200.41 -26078200.21 -26078200.00 0.0088 0.0031
 Neptune -76111-05-25 18:56 J -26077974.92 -26077974.71 -26077974.49 0.0088 0.0012
 Neptune -76110-01-06 07:11 J -26077749.42 -26077749.20 -26077748.99 0.0088 0.0007
 Neptune -76110-08-19 18:42 J -26077523.91 -26077523.72 -26077523.50 0.0088 0.0026
 Neptune -76109-04-01 06:56 J -26077298.40 -26077298.21 -26077298.02 0.0088 0.0044
 Neptune -76109-11-12 18:42 J -26077072.86 -26077072.72 -26077072.56 0.0088 0.0063
 Neptune -76108-06-26 06:13 J -26076847.29 -26076847.24 -26076847.13 0.0088 0.0082
 Jupiter -76104-10-21 19:54 J -26075268.75 -26075268.67 -26075268.58 0.0532 0.0475
 Saturn -76102-08-31 18:56 J -26074589.91 -26074589.71 -26074589.51 0.0293 0.0086
 Uranus -76100-10-25 05:44 J -26073804.42 -26073804.26 -26073804.08 0.0145 0.0093
 Uranus -76099-06-08 20:37 J -26073577.86 -26073577.64 -26073577.41 0.0145 0.0021
 Uranus -76098-01-21 11:16 J -26073351.23 -26073351.03 -26073350.82 0.0144 0.0052
 Jupiter -76098-08-23 21:49 J -26073136.64 -26073136.59 -26073136.52 0.0494 0.0472
 Uranus -76098-09-05 01:25 J -26073124.53 -26073124.44 -26073124.31 0.0144 0.0125
 Jupiter -76092-06-26 15:20 J -26071003.06 -26071002.86 -26071002.66 0.0532 0.0007

Mars -76090-09-03 06:28 J -26070204.41 -26070204.23 -26070204.05 0.1590 0.0093
 Jupiter -76086-04-28 20:23 J -26068870.86 -26068870.65 -26068870.44 0.0495 0.0065
 Saturn -76086-05-07 10:32 J -26068862.27 -26068862.06 -26068861.85 0.0268 0.0072
 Jupiter -76080-03-01 07:54 J -26066737.22 -26066737.17 -26066737.10 0.0530 0.0502
 Pluto -76076-06-24 23:16 J -26065160.70 -26065160.53 -26065160.34 0.0079 0.0044
 Pluto -76075-02-05 08:52 J -26064935.34 -26064935.13 -26064934.92 0.0079 0.0011
 Pluto -76075-09-18 17:30 J -26064709.87 -26064709.77 -26064709.62 0.0079 0.0065
 Jupiter -76074-01-01 19:40 J -26064604.83 -26064604.68 -26064604.52 0.0496 0.0339
 Saturn -76072-03-13 02:52 J -26063803.55 -26063803.38 -26063803.20 0.0293 0.0159
 Saturn -76057-04-01 06:56 J -26058305.25 -26058305.21 -26058305.16 0.0267 0.0261
 Saturn -76057-11-16 14:52 J -26058076.06 -26058075.88 -26058075.68 0.0269 0.0125
 Jupiter -76056-03-04 03:06 J -26057968.54 -26057968.37 -26057968.20 0.0532 0.0258
 Uranus -76056-10-21 20:23 J -26057736.80 -26057736.65 -26057736.50 0.0134 0.0093
 Uranus -76055-06-04 23:44 J -26057510.71 -26057510.51 -26057510.31 0.0134 0.0040
 Uranus -76054-01-17 03:20 J -26057284.57 -26057284.36 -26057284.15 0.0134 0.0014
 Uranus -76054-08-31 06:28 J -26057058.40 -26057058.23 -26057058.03 0.0134 0.0069
 Uranus -76053-04-13 10:32 J -26056832.15 -26056832.06 -26056831.98 0.0135 0.0122
 Jupiter -76050-01-04 10:18 J -26055836.24 -26055836.07 -26055835.91 0.0494 0.0309
 Moon -76048-03-04 10:04 J -26055046.23 -26055046.08 -26055045.92 0.2707 0.0457
 Earth -76048-03-04 15:06 J -26055046.03 -26055045.87 -26055045.72 0.2709 0.0218 *
 Jupiter -76045-11-06 23:30 J -26053702.70 -26053702.52 -26053702.34 0.0531 0.0219
 Saturn -76043-02-05 13:40 J -26053247.01 -26053246.93 -26053246.84 0.0294 0.0268
 Saturn -76043-09-23 05:30 J -26053017.40 -26053017.27 -26053017.13 0.0292 0.0213
 Jupiter -76039-09-09 05:59 J -26051570.45 -26051570.25 -26051570.04 0.0495 0.0112
 Neptune -76031-01-17 15:49 J -26048882.90 -26048882.84 -26048882.73 0.0089 0.0082
 Neptune -76031-08-31 05:59 J -26048657.40 -26048657.25 -26048657.08 0.0089 0.0062
 Neptune -76030-04-13 20:08 J -26048431.85 -26048431.66 -26048431.46 0.0089 0.0042
 Neptune -76030-11-25 10:04 J -26048206.29 -26048206.08 -26048205.86 0.0089 0.0022
 Neptune -76029-07-08 00:13 J -26047980.71 -26047980.49 -26047980.26 0.0089 0.0002
 Neptune -76028-02-18 14:08 J -26047755.12 -26047754.91 -26047754.68 0.0089 0.0018

Neptune -76028-10-02 03:49 J -26047529.52 -26047529.34 -26047529.12 0.0089 0.0038

Saturn -76028-10-12 13:40 J -26047519.06 -26047518.93 -26047518.78 0.0267 0.0200

Neptune -76027-05-15 17:59 J -26047303.90 -26047303.75 -26047303.56 0.0089 0.0058

Saturn -76027-05-29 22:18 J -26047289.72 -26047289.57 -26047289.41 0.0269 0.0188

Neptune -76027-12-27 07:54 J -26047078.25 -26047078.17 -26047078.03 0.0089 0.0078

Mars -76024-06-30 18:42 J -26046161.89 -26046161.72 -26046161.54 0.1588 0.0325

Uranus -76016-06-24 10:18 J -26043246.16 -26043246.07 -26043245.96 0.0145 0.0129

Uranus -76015-02-06 01:25 J -26043019.65 -26043019.44 -26043019.23 0.0145 0.0055

Uranus -76015-09-20 16:04 J -26042793.05 -26042792.83 -26042792.60 0.0145 0.0017

Uranus -76014-05-05 06:28 J -26042566.40 -26042566.23 -26042566.04 0.0144 0.0090

Saturn -76014-08-18 23:16 J -26042460.68 -26042460.53 -26042460.37 0.0294 0.0189

Saturn -76013-04-04 14:37 J -26042230.90 -26042230.89 -26042230.86 0.0292 0.0290

Jupiter -76009-07-15 11:16 J -26040668.23 -26040668.03 -26040667.84 0.0532 0.0048

Jupiter -76003-05-17 19:11 J -26038535.90 -26038535.70 -26038535.50 0.0494 0.0130

76TH MILLENNIUM BCE

This is a list of transits of Venus in the 76th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-75998-04-24	19:40	J	-26036732.86	-26036732.68	-26036732.49	0.0267	0.0143
Saturn	-75998-12-10	04:04	J	-26036503.40	-26036503.33	-26036503.23	0.0269	0.0247
Jupiter	-75997-03-20	05:30	J	-26036402.38	-26036402.27	-26036402.16	0.0531	0.0440
Jupiter	-75991-01-20	17:44	J	-26034269.93	-26034269.76	-26034269.59	0.0495	0.0278
Saturn	-75984-02-28	03:35	J	-26031674.53	-26031674.35	-26031674.16	0.0294	0.0128

Jupiter -75973-03-23 02:52 J -26027633.53 -26027633.38 -26027633.22 0.0532 0.0334
 Uranus -75972-06-21 05:44 J -26027178.33 -26027178.26 -26027178.16 0.0133 0.0121
 Uranus -75971-02-02 09:06 J -26026952.29 -26026952.12 -26026951.93 0.0134 0.0068
 Uranus -75971-09-16 12:28 J -26026726.18 -26026725.98 -26026725.76 0.0134 0.0015
 Uranus -75970-04-30 15:49 J -26026500.03 -26026499.84 -26026499.63 0.0134 0.0039
 Uranus -75970-12-12 19:11 J -26026273.83 -26026273.70 -26026273.53 0.0134 0.0094
 Saturn -75969-11-04 02:52 J -26025946.59 -26025946.38 -26025946.17 0.0268 0.0081
 Jupiter -75967-01-23 04:32 J -26025501.45 -26025501.31 -26025501.16 0.0494 0.0352
 Jupiter -75962-11-26 19:25 J -26023367.88 -26023367.69 -26023367.50 0.0531 0.0164
 Mars -75958-04-28 06:13 J -26022119.40 -26022119.24 -26022119.07 0.1587 0.0576
 Jupiter -75956-09-28 03:35 J -26021235.56 -26021235.35 -26021235.14 0.0495 0.0053
 Mars -75955-02-05 14:52 J -26021105.00 -26021104.88 -26021104.76 0.1955 0.1367
 Saturn -75955-09-10 14:08 J -26020888.11 -26020887.91 -26020887.71 0.0294 0.0045
 Neptune -75949-10-19 19:11 J -26018656.79 -26018656.70 -26018656.56 0.0088 0.0075
 Neptune -75948-06-02 07:40 J -26018431.34 -26018431.18 -26018431.01 0.0088 0.0056
 Neptune -75947-01-13 19:54 J -26018205.87 -26018205.67 -26018205.47 0.0088 0.0037
 Neptune -75947-08-27 07:40 J -26017980.38 -26017980.18 -26017979.96 0.0088 0.0018
 Neptune -75946-04-09 19:54 J -26017754.89 -26017754.67 -26017754.45 0.0088 0.0001
 Neptune -75946-11-21 07:54 J -26017529.38 -26017529.17 -26017528.96 0.0088 0.0020
 Neptune -75945-07-03 19:40 J -26017303.86 -26017303.68 -26017303.47 0.0088 0.0038
 Neptune -75944-02-14 07:40 J -26017078.34 -26017078.18 -26017078.01 0.0088 0.0057
 Jupiter -75944-06-03 02:08 J -26016969.48 -26016969.41 -26016969.33 0.0496 0.0460
 Neptune -75944-09-27 19:11 J -26016852.79 -26016852.70 -26016852.57 0.0088 0.0076
 Saturn -75939-05-17 10:04 J -26015160.30 -26015160.08 -26015159.86 0.0268 0.0020
 Uranus -75932-10-06 04:18 J -26012461.49 -26012461.32 -26012461.15 0.0145 0.0094
 Uranus -75931-05-20 19:11 J -26012234.92 -26012234.70 -26012234.48 0.0145 0.0020
 Uranus -75930-01-02 10:04 J -26012008.29 -26012008.08 -26012007.87 0.0145 0.0052
 Uranus -75930-08-17 00:13 J -26011781.59 -26011781.49 -26011781.36 0.0144 0.0124
 Mars -75926-04-27 00:42 J -26010432.55 -26010432.47 -26010432.39 0.1592 0.1430
 Jupiter -75926-08-04 09:35 J -26010333.30 -26010333.10 -26010332.91 0.0532 0.0113

Saturn -75925-03-22 19:25 J -26010101.90 -26010101.69 -26010101.49 0.0293 0.0020
 Jupiter -75920-06-05 13:25 J -26008201.13 -26008200.94 -26008200.74 0.0494 0.0174
 Pluto -75916-09-24 09:06 J -26006629.24 -26006629.12 -26006628.96 0.0065 0.0050
 Pluto -75915-05-07 14:23 J -26006404.11 -26006403.90 -26006403.67 0.0065 0.0019
 Pluto -75915-12-18 19:25 J -26006178.90 -26006178.69 -26006178.45 0.0065 0.0014
 Jupiter -75914-04-09 04:18 J -26006067.46 -26006067.32 -26006067.17 0.0531 0.0369
 Pluto -75914-08-01 00:42 J -26005953.62 -26005953.47 -26005953.29 0.0065 0.0045
 Saturn -75910-11-27 16:47 J -26004374.01 -26004373.80 -26004373.58 0.0268 0.0042
 Jupiter -75908-02-08 11:30 J -26003935.20 -26003935.02 -26003934.83 0.0495 0.0237
 Earth -75903-08-28 23:59 J -26001907.66 -26001907.50 -26001907.33 0.2628 0.0411
 Moon -75903-08-29 05:59 J -26001907.41 -26001907.25 -26001907.09 0.2629 0.0689 *
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 Jupiter -75890-04-11 20:37 J -25997298.78 -25997298.64 -25997298.50 0.0532 0.0374
 Mars -75890-12-03 17:59 J -25997062.91 -25997062.75 -25997062.59 0.1957 0.0508
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 Uranus -75887-05-16 22:32 J -25996167.75 -25996167.56 -25996167.35 0.0134 0.0042
 Uranus -75887-12-29 02:08 J -25995941.62 -25995941.41 -25995941.19 0.0134 0.0012
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 Uranus -75885-03-25 08:37 J -25995489.22 -25995489.14 -25995489.03 0.0134 0.0120
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 Saturn -75880-06-09 00:56 J -25993587.66 -25993587.46 -25993587.26 0.0269 0.0107
 Jupiter -75879-12-15 14:37 J -25993033.08 -25993032.89 -25993032.69 0.0531 0.0115
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 Neptune -75867-12-02 16:18 J -25988662.95 -25988662.82 -25988662.67 0.0089 0.0069
 Saturn -75866-04-15 12:13 J -25988529.14 -25988528.99 -25988528.81 0.0292 0.0172
 Neptune -75866-07-16 06:13 J -25988437.41 -25988437.24 -25988437.04 0.0089 0.0049
 Neptune -75865-02-26 20:23 J -25988211.86 -25988211.65 -25988211.44 0.0089 0.0029
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 Neptune -75863-01-03 13:54 J -25987535.11 -25987534.92 -25987534.69 0.0089 0.0031
 Neptune -75863-08-17 03:49 J -25987309.51 -25987309.34 -25987309.14 0.0089 0.0051
 Neptune -75862-03-30 18:13 J -25987083.87 -25987083.74 -25987083.60 0.0089 0.0070
 Jupiter -75861-06-21 20:37 J -25986634.74 -25986634.64 -25986634.52 0.0495 0.0416
 Mars -75860-02-21 12:56 J -25986390.08 -25986389.96 -25986389.84 0.1590 0.1188
 Saturn -75851-05-04 22:47 J -25983030.67 -25983030.55 -25983030.43 0.0267 0.0223
 Saturn -75851-12-20 06:56 J -25982801.37 -25982801.21 -25982801.03 0.0269 0.0166
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 Jupiter -75825-02-28 08:37 J -25973600.33 -25973600.14 -25973599.94 0.0495 0.0181
 Mars -75824-09-29 20:37 J -25973020.81 -25973020.64 -25973020.48 0.1960 0.0378
 Saturn -75822-11-15 06:28 J -25972244.40 -25972244.23 -25972244.04 0.0267 0.0158
 Saturn -75821-07-01 15:20 J -25972014.97 -25972014.86 -25972014.75 0.0269 0.0232
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 Earth -75805-03-04 17:59 J -25966289.90 -25966289.75 -25966289.60 0.2707 0.0180
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Uranus -75803-01-14 09:20 J -25965609.28 -25965609.11 -25965608.92 0.0133 0.0068
 Uranus -75803-08-28 12:42 J -25965383.18 -25965382.97 -25965382.76 0.0134 0.0015
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 Uranus -75802-11-23 19:11 J -25964930.84 -25964930.70 -25964930.54 0.0134 0.0092
 Jupiter -75801-03-01 20:23 J -25964831.72 -25964831.65 -25964831.56 0.0494 0.0454
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 Mars -75795-12-20 00:56 J -25962347.60 -25962347.46 -25962347.32 0.1589 0.0949
 Saturn -75792-05-27 11:30 J -25961458.22 -25961458.02 -25961457.82 0.0268 0.0105
 Jupiter -75790-11-05 18:42 J -25960565.92 -25960565.72 -25960565.51 0.0495 0.0048
 Neptune -75784-01-21 06:56 J -25958662.27 -25958662.21 -25958662.10 0.0088 0.0082
 Neptune -75784-09-03 19:25 J -25958436.83 -25958436.69 -25958436.53 0.0088 0.0063
 Neptune -75783-04-17 07:40 J -25958211.36 -25958211.18 -25958210.99 0.0088 0.0044
 Neptune -75783-11-28 20:08 J -25957985.87 -25957985.66 -25957985.46 0.0088 0.0025
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 Uranus -75764-09-16 23:44 J -25951118.66 -25951118.51 -25951118.33 0.0145 0.0098
 Uranus -75763-05-01 14:52 J -25950892.10 -25950891.88 -25950891.66 0.0145 0.0025
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 Uranus -75762-07-28 20:08 J -25950438.77 -25950438.66 -25950438.52 0.0144 0.0120
 Mars -75761-10-17 19:25 J -25949991.80 -25949991.69 -25949991.59 0.1583 0.1256
 Jupiter -75760-09-10 23:30 J -25949663.70 -25949663.52 -25949663.34 0.0532 0.0210
 Mars -75758-07-27 23:44 J -25948978.64 -25948978.51 -25948978.38 0.1962 0.1252
 Jupiter -75754-07-14 07:11 J -25947531.36 -25947531.20 -25947531.02 0.0494 0.0283

Saturn -75749-10-13 05:59 J -25945613.46 -25945613.25 -25945613.05 0.0293 0.0007
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 Jupiter -75742-03-19 04:32 J -25943265.51 -25943265.31 -25943265.11 0.0495 0.0130
 Saturn -75733-06-18 22:47 J -25939885.77 -25939885.55 -25939885.33 0.0268 0.0008
 Mars -75729-10-16 13:11 J -25938305.11 -25938304.95 -25938304.79 0.1587 0.0713
 Jupiter -75724-05-19 13:54 J -25936629.00 -25936628.92 -25936628.85 0.0532 0.0487
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 Jupiter -75712-01-22 08:08 J -25932363.35 -25932363.16 -25932362.96 0.0531 0.0011
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 Neptune -75697-02-12 17:30 J -25926863.83 -25926863.77 -25926863.67 0.0089 0.0083
 Jupiter -75695-07-30 15:20 J -25925965.02 -25925964.86 -25925964.69 0.0496 0.0301
 Mars -75695-08-15 07:40 J -25925949.24 -25925949.18 -25925949.12 0.1581 0.1481
 Saturn -75690-11-05 20:08 J -25924040.84 -25924040.66 -25924040.47 0.0293 0.0136
 Uranus -75680-05-17 04:47 J -25920560.39 -25920560.30 -25920560.21 0.0146 0.0133
 Uranus -75680-12-29 19:25 J -25920333.88 -25920333.69 -25920333.47 0.0145 0.0061

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 Jupiter -75671-08-02 04:32 J -25917196.46 -25917196.31 -25917196.16 0.0494 0.0341
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 Jupiter -75665-06-04 17:01 J -25915062.97 -25915062.79 -25915062.61 0.0531 0.0206
 Mars -75663-08-14 01:25 J -25914262.61 -25914262.44 -25914262.27 0.1586 0.0477
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 Moon -75660-08-28 17:01 J -25913151.92 -25913151.79 -25913151.65 0.2628 0.1568
 Earth -75660-08-28 22:47 J -25913151.71 -25913151.55 -25913151.40 0.2630 0.0642 *
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 Uranus -75636-05-14 08:23 J -25904492.25 -25904492.15 -25904492.04 0.0133 0.0117
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 Uranus -75634-11-04 21:20 J -25903587.75 -25903587.61 -25903587.45 0.0134 0.0095
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 Neptune -75618-03-02 07:40 J -25897991.38 -25897991.18 -25897990.98 0.0088 0.0032
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 Jupiter -75618-10-17 02:23 J -25897762.52 -25897762.40 -25897762.27 0.0531 0.0407
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 Uranus -75595-04-12 17:01 J -25889549.01 -25889548.79 -25889548.56 0.0145 0.0020
 Uranus -75595-11-25 07:40 J -25889322.38 -25889322.18 -25889321.97 0.0145 0.0053
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 Uranus -75594-07-09 22:04 J -25889095.67 -25889095.58 -25889095.45 0.0145 0.0125
 Jupiter -75594-10-19 21:49 J -25888993.74 -25888993.59 -25888993.44 0.0531 0.0350
 Jupiter -75588-08-21 04:04 J -25886861.44 -25886861.33 -25886861.21 0.0495 0.0406
 Saturn -75586-06-29 11:59 J -25886184.19 -25886184.00 -25886183.80 0.0267 0.0115
 Jupiter -75582-06-24 15:49 J -25884728.03 -25884727.84 -25884727.65 0.0531 0.0137
 Pluto -75579-07-24 16:04 J -25883602.02 -25883601.83 -25883601.63 0.0079 0.0030
 Pluto -75578-03-07 01:11 J -25883376.64 -25883376.45 -25883376.23 0.0079 0.0025
 Pluto -75578-10-18 10:04 J -25883151.09 -25883151.08 -25883151.03 0.0079 0.0078
 Jupiter -75576-04-26 03:06 J -25882595.58 -25882595.37 -25882595.16 0.0495 0.0008
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 Moon -75562-03-05 19:25 J -25877533.86 -25877533.69 -25877533.53 0.2699 0.0264

Earth -75562-03-05 21:06 J -25877533.78 -25877533.62 -25877533.47 0.2705 0.0172 *
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 Neptune -75536-04-14 05:01 J -25867997.50 -25867997.29 -25867997.07 0.0089 0.0025
 Neptune -75536-11-25 18:56 J -25867771.93 -25867771.71 -25867771.48 0.0089 0.0006
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 Jupiter -75535-11-05 03:35 J -25867427.51 -25867427.35 -25867427.20 0.0530 0.0327
 Neptune -75534-02-19 22:32 J -25867320.75 -25867320.56 -25867320.34 0.0089 0.0035
 Neptune -75534-10-03 12:28 J -25867095.14 -25867094.98 -25867094.79 0.0089 0.0055
 Neptune -75533-05-16 02:23 J -25866869.50 -25866869.40 -25866869.26 0.0089 0.0075
 Mars -75531-04-08 01:25 J -25866177.62 -25866177.44 -25866177.26 0.1583 0.0031
 Jupiter -75529-09-06 14:08 J -25865295.10 -25865294.91 -25865294.71 0.0496 0.0169
 Mars -75528-01-15 07:40 J -25865164.34 -25865164.18 -25865164.02 0.1962 0.0634
 Saturn -75527-07-21 16:32 J -25864612.02 -25864611.81 -25864611.59 0.0267 0.0024
 Saturn -75513-05-27 08:23 J -25859553.35 -25859553.15 -25859552.94 0.0294 0.0024
 Uranus -75512-04-28 08:23 J -25859217.25 -25859217.15 -25859217.02 0.0146 0.0125
 Uranus -75512-12-10 23:16 J -25858990.72 -25858990.53 -25858990.30 0.0145 0.0053
 Uranus -75511-07-25 14:23 J -25858764.12 -25858763.90 -25858763.67 0.0145 0.0021
 Jupiter -75511-11-07 22:32 J -25858658.68 -25858658.56 -25858658.45 0.0532 0.0430
 Uranus -75510-03-09 04:47 J -25858537.46 -25858537.30 -25858537.11 0.0145 0.0093

Jupiter -75505-09-09 05:30 J -25856526.30 -25856526.27 -25856526.22 0.0494 0.0483
 Jupiter -75499-07-13 18:42 J -25854392.92 -25854392.72 -25854392.52 0.0531 0.0045
 Saturn -75497-01-31 16:04 J -25853826.05 -25853825.83 -25853825.62 0.0267 0.0012
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 Jupiter -75487-03-18 14:23 J -25850126.93 -25850126.90 -25850126.87 0.0530 0.0522
 Saturn -75484-12-07 10:18 J -25848767.26 -25848767.07 -25848766.86 0.0294 0.0077
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 Saturn -75468-08-12 20:23 J -25843039.86 -25843039.65 -25843039.44 0.0267 0.0066
 Uranus -75468-12-07 13:25 J -25842923.12 -25842922.94 -25842922.74 0.0133 0.0062
 Uranus -75467-07-21 16:47 J -25842697.01 -25842696.80 -25842696.59 0.0134 0.0009
 Uranus -75466-03-04 19:54 J -25842470.86 -25842470.67 -25842470.46 0.0134 0.0044
 Uranus -75466-10-16 23:16 J -25842244.67 -25842244.53 -25842244.38 0.0134 0.0097
 Mars -75465-02-03 14:08 J -25842135.09 -25842134.91 -25842134.73 0.1582 0.0217
 Jupiter -75463-03-21 09:06 J -25841358.29 -25841358.12 -25841357.94 0.0531 0.0233
 Mars -75463-11-12 10:18 J -25841122.24 -25841122.07 -25841121.90 0.1965 0.0264
 Jupiter -75457-01-21 17:44 J -25839225.92 -25839225.76 -25839225.60 0.0495 0.0320
 Neptune -75455-03-09 17:59 J -25838447.84 -25838447.75 -25838447.63 0.0088 0.0078
 Neptune -75455-10-21 06:13 J -25838222.39 -25838222.24 -25838222.07 0.0088 0.0059
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 Jupiter -75452-11-24 04:47 J -25837092.48 -25837092.30 -25837092.13 0.0530 0.0244
 Neptune -75451-07-05 07:11 J -25836869.37 -25836869.20 -25836869.03 0.0088 0.0055
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 Uranus -75428-08-10 05:01 J -25828432.46 -25828432.29 -25828432.10 0.0146 0.0086
 Jupiter -75428-11-27 02:23 J -25828323.42 -25828323.40 -25828323.36 0.0532 0.0525
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 Saturn -75425-12-29 14:37 J -25827195.05 -25827194.89 -25827194.73 0.0294 0.0179
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 Pluto -75417-08-29 11:44 J -25824395.18 -25824395.01 -25824394.84 0.0065 0.0043
 Jupiter -75416-08-01 22:18 J -25824057.77 -25824057.57 -25824057.37 0.0530 0.0049
 Jupiter -75410-06-04 05:16 J -25821925.48 -25821925.28 -25821925.08 0.0496 0.0151
 Saturn -75409-01-18 17:16 J -25821696.89 -25821696.78 -25821696.67 0.0265 0.0225
 Saturn -75409-09-03 23:44 J -25821467.68 -25821467.51 -25821467.33 0.0267 0.0154
 Jupiter -75404-04-06 16:04 J -25819791.94 -25819791.83 -25819791.72 0.0529 0.0436
 Mars -75400-12-01 02:08 J -25818092.58 -25818092.41 -25818092.24 0.1580 0.0451
 Jupiter -75398-02-07 04:32 J -25817659.48 -25817659.31 -25817659.13 0.0496 0.0252
 Mars -75397-09-08 12:56 J -25817080.10 -25817079.96 -25817079.83 0.1967 0.1174
 Saturn -75396-11-24 00:42 J -25816638.57 -25816638.47 -25816638.37 0.0296 0.0257
 Saturn -75395-07-11 18:13 J -25816408.86 -25816408.74 -25816408.61 0.0294 0.0236
 Uranus -75384-08-07 00:42 J -25812364.62 -25812364.47 -25812364.30 0.0133 0.0086
 Uranus -75383-03-21 03:49 J -25812138.54 -25812138.34 -25812138.13 0.0133 0.0034
 Uranus -75383-11-02 06:56 J -25811912.41 -25811912.21 -25811912.00 0.0134 0.0019
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 Uranus -75381-01-28 13:54 J -25811460.00 -25811459.92 -25811459.85 0.0134 0.0125
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 Saturn -75380-07-30 16:47 J -25810910.94 -25810910.80 -25810910.64 0.0265 0.0191

Saturn -75379-03-16 23:30 J -25810681.67 -25810681.52 -25810681.37 0.0267 0.0189
 Jupiter -75374-02-09 20:23 J -25808890.77 -25808890.65 -25808890.53 0.0495 0.0402
 Neptune -75373-04-21 09:35 J -25808454.20 -25808454.10 -25808453.95 0.0089 0.0074
 Neptune -75373-12-02 23:44 J -25808228.67 -25808228.51 -25808228.32 0.0089 0.0054
 Neptune -75372-07-16 13:40 J -25808003.12 -25808002.93 -25808002.71 0.0089 0.0034
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 Neptune -75371-10-10 17:44 J -25807551.99 -25807551.76 -25807551.54 0.0089 0.0006
 Neptune -75370-05-24 07:40 J -25807326.39 -25807326.18 -25807325.96 0.0089 0.0026
 Neptune -75369-01-04 21:35 J -25807100.79 -25807100.60 -25807100.41 0.0089 0.0046
 Neptune -75369-08-17 11:16 J -25806875.17 -25806875.03 -25806874.87 0.0089 0.0066
 Jupiter -75369-12-13 09:35 J -25806757.29 -25806757.10 -25806756.91 0.0530 0.0144
 Neptune -75368-03-31 01:11 J -25806649.49 -25806649.45 -25806649.39 0.0089 0.0086
 Mars -75368-11-29 19:54 J -25806405.71 -25806405.67 -25806405.62 0.1585 0.1523
 Saturn -75366-06-06 00:42 J -25805852.61 -25805852.47 -25805852.32 0.0296 0.0212
 Saturn -75365-01-21 18:28 J -25805622.78 -25805622.73 -25805622.67 0.0294 0.0281
 Jupiter -75363-10-15 16:47 J -25804625.01 -25804624.80 -25804624.59 0.0496 0.0018
 Jupiter -75351-06-20 15:49 J -25800358.95 -25800358.84 -25800358.73 0.0497 0.0422
 Saturn -75350-02-09 21:20 J -25800124.79 -25800124.61 -25800124.42 0.0265 0.0136
 Saturn -75350-09-27 04:04 J -25799895.41 -25799895.33 -25799895.24 0.0267 0.0244
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 Uranus -75344-11-21 23:30 J -25797647.73 -25797647.52 -25797647.31 0.0146 0.0050
 Uranus -75343-07-06 14:23 J -25797421.11 -25797420.90 -25797420.67 0.0145 0.0023
 Uranus -75342-02-18 05:01 J -25797194.44 -25797194.29 -25797194.11 0.0145 0.0095
 Saturn -75337-12-16 05:01 J -25795066.47 -25795066.29 -25795066.11 0.0296 0.0153
 Mars -75334-09-28 14:52 J -25794050.04 -25794049.88 -25794049.72 0.1579 0.0669
 Jupiter -75333-08-20 23:30 J -25793722.72 -25793722.52 -25793722.33 0.0531 0.0132
 Pluto -75331-06-26 14:23 J -25793047.90 -25793047.90 -25793047.89 0.0079 0.0079
 Pluto -75330-02-06 23:30 J -25792822.71 -25792822.52 -25792822.30 0.0079 0.0026
 Pluto -75330-09-20 09:06 J -25792597.32 -25792597.12 -25792596.92 0.0079 0.0029
 Jupiter -75327-06-23 08:08 J -25791590.34 -25791590.16 -25791589.97 0.0495 0.0236

Jupiter -75321-04-25 19:11 J -25789456.85 -25789456.70 -25789456.55 0.0530 0.0343
 Saturn -75321-08-21 21:49 J -25789338.80 -25789338.59 -25789338.39 0.0266 0.0099
 Moon -75319-03-05 23:16 J -25788777.68 -25788777.53 -25788777.38 0.2709 0.0106
 Earth -75319-03-05 23:59 J -25788777.65 -25788777.50 -25788777.35 0.2703 0.0143 *
 Jupiter -75315-02-26 07:11 J -25787324.40 -25787324.20 -25787324.00 0.0496 0.0168
 Saturn -75307-06-28 05:01 J -25784280.48 -25784280.29 -25784280.09 0.0296 0.0108
 Mars -75302-09-27 08:23 J -25782363.25 -25782363.15 -25782363.05 0.1583 0.1290
 Uranus -75300-04-06 11:44 J -25781806.11 -25781806.01 -25781805.88 0.0133 0.0111
 Uranus -75300-11-18 14:52 J -25781580.06 -25781579.88 -25781579.68 0.0133 0.0059
 Uranus -75299-07-02 18:13 J -25781353.95 -25781353.74 -25781353.53 0.0133 0.0007
 Uranus -75298-02-13 21:20 J -25781127.80 -25781127.61 -25781127.41 0.0134 0.0046
 Uranus -75298-09-28 00:28 J -25780901.61 -25780901.48 -25780901.33 0.0134 0.0099
 Jupiter -75297-04-28 17:01 J -25780687.90 -25780687.79 -25780687.67 0.0531 0.0426
 Jupiter -75291-02-28 19:40 J -25778555.74 -25778555.68 -25778555.61 0.0495 0.0467
 Saturn -75291-03-04 02:37 J -25778552.61 -25778552.39 -25778552.17 0.0265 0.0043
 Neptune -75291-06-11 04:32 J -25778453.35 -25778453.31 -25778453.25 0.0088 0.0086
 Neptune -75290-01-22 16:47 J -25778227.93 -25778227.80 -25778227.66 0.0088 0.0067
 Neptune -75290-09-05 04:32 J -25778002.47 -25778002.31 -25778002.11 0.0088 0.0048
 Neptune -75289-04-17 16:47 J -25777776.99 -25777776.80 -25777776.58 0.0088 0.0029
 Neptune -75289-11-29 05:16 J -25777551.49 -25777551.28 -25777551.06 0.0088 0.0010
 Neptune -75288-07-12 17:16 J -25777325.99 -25777325.78 -25777325.56 0.0088 0.0009
 Neptune -75287-02-23 05:16 J -25777100.48 -25777100.28 -25777100.07 0.0088 0.0028
 Neptune -75287-10-06 17:01 J -25776874.96 -25776874.79 -25776874.59 0.0088 0.0047
 Neptune -75286-05-20 05:01 J -25776649.42 -25776649.29 -25776649.13 0.0088 0.0066
 Neptune -75286-12-31 17:01 J -25776423.83 -25776423.79 -25776423.71 0.0088 0.0085
 Jupiter -75285-01-02 10:47 J -25776422.24 -25776422.05 -25776421.85 0.0530 0.0061
 Jupiter -75280-11-03 18:56 J -25774289.91 -25774289.71 -25774289.50 0.0496 0.0067
 Saturn -75277-01-08 10:32 J -25773494.26 -25773494.06 -25773493.86 0.0296 0.0044
 Jupiter -75268-07-09 18:13 J -25770023.88 -25770023.74 -25770023.58 0.0497 0.0339
 Mars -75268-07-26 03:20 J -25770007.50 -25770007.36 -25770007.21 0.1578 0.0892

Saturn -75262-09-14 04:04 J -25767766.55 -25767766.33 -25767766.11 0.0266 0.0002
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 Uranus -75259-03-05 17:16 J -25766863.00 -25766862.78 -25766862.55 0.0146 0.0015
 Uranus -75259-10-18 07:54 J -25766636.36 -25766636.17 -25766635.95 0.0145 0.0059
 Uranus -75258-06-01 22:47 J -25766409.63 -25766409.55 -25766409.44 0.0145 0.0130
 Jupiter -75250-09-10 03:35 J -25763387.53 -25763387.35 -25763387.17 0.0531 0.0229
 Saturn -75248-07-20 10:47 J -25762708.26 -25762708.05 -25762707.85 0.0296 0.0003
 Jupiter -75244-07-12 06:42 J -25761255.38 -25761255.22 -25761255.05 0.0495 0.0298
 Jupiter -75238-05-15 23:16 J -25759121.71 -25759121.53 -25759121.35 0.0530 0.0245
 Mars -75236-07-24 20:37 J -25758320.77 -25758320.64 -25758320.50 0.1582 0.1056
 Mars -75233-05-02 18:56 J -25757307.79 -25757307.71 -25757307.62 0.1964 0.1661
 Jupiter -75232-03-17 05:01 J -25756989.49 -25756989.29 -25756989.08 0.0496 0.0110
 Saturn -75232-03-26 09:20 J -25756980.32 -25756980.11 -25756979.89 0.0266 0.0056
 Saturn -75218-01-30 17:01 J -25751921.99 -25751921.79 -25751921.59 0.0296 0.0069
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 Jupiter -75191-09-26 08:37 J -25741821.24 -25741821.14 -25741821.03 0.0529 0.0446
 Saturn -75189-08-11 18:42 J -25741135.91 -25741135.72 -25741135.53 0.0295 0.0119
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 Uranus -75176-03-21 06:28 J -25736531.34 -25736531.23 -25736531.10 0.0146 0.0123
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 Uranus -75174-01-30 03:49 J -25735851.50 -25735851.34 -25735851.17 0.0145 0.0095
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 Earth -75174-08-29 19:40 J -25735639.83 -25735639.68 -25735639.54 0.2634 0.1174 *
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 Saturn -75173-04-17 18:13 J -25735407.91 -25735407.74 -25735407.57 0.0266 0.0160
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 Mars -75170-05-22 08:52 J -25734278.28 -25734278.13 -25734277.98 0.1580 0.0825
 Pluto -75170-12-20 05:16 J -25734066.48 -25734066.28 -25734066.07 0.0065 0.0025
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 Jupiter -75167-09-29 02:37 J -25733052.55 -25733052.39 -25733052.23 0.0530 0.0301
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 Jupiter -75149-04-05 05:44 J -25726654.47 -25726654.26 -25726654.05 0.0496 0.0036
 Saturn -75144-03-13 16:32 J -25724850.98 -25724850.81 -25724850.64 0.0265 0.0166
 Saturn -75144-10-28 22:18 J -25724621.70 -25724621.57 -25724621.44 0.0266 0.0212
 Jupiter -75138-12-10 04:18 J -25722388.41 -25722388.32 -25722388.23 0.0497 0.0442
 Mars -75136-03-20 04:18 J -25721922.41 -25721922.32 -25721922.22 0.1576 0.1334

Uranus -75132-03-18 16:47 J -25720462.93 -25720462.80 -25720462.66 0.0133 0.0103
 Uranus -75132-10-30 19:54 J -25720236.87 -25720236.67 -25720236.48 0.0133 0.0052
 Uranus -75131-06-13 23:01 J -25720010.75 -25720010.54 -25720010.33 0.0133 0.0001
 Saturn -75130-01-17 10:04 J -25719793.18 -25719793.08 -25719792.97 0.0297 0.0254
 Uranus -75130-01-26 02:08 J -25719784.59 -25719784.41 -25719784.21 0.0134 0.0053
 Saturn -75130-09-04 04:18 J -25719563.42 -25719563.32 -25719563.19 0.0295 0.0245
 Uranus -75130-09-09 05:30 J -25719558.39 -25719558.27 -25719558.13 0.0134 0.0106
 Neptune -75126-04-26 02:37 J -25718233.49 -25718233.39 -25718233.28 0.0088 0.0076
 Neptune -75126-12-07 15:06 J -25718008.04 -25718007.87 -25718007.71 0.0088 0.0057
 Neptune -75125-07-20 02:52 J -25717782.56 -25717782.38 -25717782.17 0.0088 0.0038
 Neptune -75124-03-02 14:52 J -25717557.08 -25717556.88 -25717556.66 0.0088 0.0020
 Neptune -75124-10-14 03:06 J -25717331.58 -25717331.37 -25717331.15 0.0088 0.0002
 Neptune -75123-05-27 15:20 J -25717106.07 -25717105.86 -25717105.65 0.0088 0.0019
 Neptune -75122-01-08 03:20 J -25716880.55 -25716880.36 -25716880.16 0.0088 0.0038
 Neptune -75122-08-21 15:20 J -25716655.02 -25716654.86 -25716654.69 0.0088 0.0057
 Neptune -75121-04-03 03:06 J -25716429.47 -25716429.37 -25716429.25 0.0088 0.0076
 Jupiter -75119-02-09 13:40 J -25715752.12 -25715751.93 -25715751.73 0.0530 0.0108
 Saturn -75115-09-23 22:18 J -25714064.76 -25714064.57 -25714064.37 0.0265 0.0109
 Jupiter -75114-12-12 15:35 J -25713620.04 -25713619.85 -25713619.65 0.0496 0.0190
 Jupiter -75108-10-15 06:42 J -25711486.36 -25711486.22 -25711486.08 0.0529 0.0380
 Mars -75104-03-18 21:06 J -25710235.78 -25710235.62 -25710235.45 0.1579 0.0591
 Jupiter -75102-08-17 14:37 J -25709354.08 -25709353.89 -25709353.70 0.0497 0.0215
 Mars -75102-12-25 23:44 J -25709223.68 -25709223.51 -25709223.34 0.1969 0.0166
 Saturn -75101-07-29 19:40 J -25709006.85 -25709006.68 -25709006.51 0.0297 0.0174
 Uranus -75092-07-03 04:18 J -25705746.50 -25705746.32 -25705746.13 0.0146 0.0082
 Uranus -75091-02-14 19:40 J -25705519.90 -25705519.68 -25705519.46 0.0146 0.0009
 Uranus -75091-09-29 10:18 J -25705293.26 -25705293.07 -25705292.85 0.0145 0.0064
 Uranus -75090-05-14 01:11 J -25705066.51 -25705066.45 -25705066.36 0.0145 0.0136
 Saturn -75085-04-05 03:49 J -25703278.55 -25703278.34 -25703278.12 0.0265 0.0053
 Jupiter -75084-10-18 00:28 J -25702717.61 -25702717.48 -25702717.33 0.0531 0.0365

Pluto -75082-08-23 04:32 J -25702043.51 -25702043.31 -25702043.11 0.0079 0.0030
 Pluto -75081-04-04 13:40 J -25701818.13 -25701817.93 -25701817.72 0.0079 0.0024
 Pluto -75081-11-15 22:47 J -25701592.58 -25701592.55 -25701592.51 0.0078 0.0077
 Jupiter -75078-08-20 05:01 J -25700585.38 -25700585.29 -25700585.18 0.0495 0.0433
 Earth -75076-03-06 02:52 J -25700021.53 -25700021.38 -25700021.22 0.2701 0.0144
 Moon -75076-03-06 05:59 J -25700021.41 -25700021.25 -25700021.09 0.2696 0.0370 *
 Jupiter -75072-06-22 21:06 J -25698451.81 -25698451.62 -25698451.42 0.0530 0.0105
 Saturn -75071-02-08 23:44 J -25698220.70 -25698220.51 -25698220.32 0.0296 0.0112
 Mars -75070-01-15 17:01 J -25697879.82 -25697879.79 -25697879.77 0.1575 0.1555
 Jupiter -75066-04-25 00:56 J -25696319.67 -25696319.46 -25696319.25 0.0496 0.0013
 Saturn -75056-10-16 10:18 J -25692492.29 -25692492.07 -25692491.86 0.0266 0.0007
 Jupiter -75055-12-28 23:01 J -25692053.66 -25692053.54 -25692053.42 0.0497 0.0397
 Uranus -75049-11-16 06:28 J -25689904.29 -25689904.23 -25689904.15 0.0133 0.0124
 Uranus -75048-06-30 09:20 J -25689678.27 -25689678.11 -25689677.92 0.0133 0.0073
 Uranus -75047-02-11 12:56 J -25689452.17 -25689451.96 -25689451.75 0.0133 0.0021
 Uranus -75047-09-25 16:04 J -25689226.03 -25689225.83 -25689225.62 0.0133 0.0032
 Uranus -75046-05-09 18:56 J -25688999.86 -25688999.71 -25688999.53 0.0134 0.0085
 Neptune -75044-06-07 15:20 J -25688239.98 -25688239.86 -25688239.73 0.0089 0.0073
 Neptune -75043-01-19 05:16 J -25688014.46 -25688014.28 -25688014.10 0.0089 0.0053
 Neptune -75043-09-01 19:11 J -25687788.91 -25687788.70 -25687788.50 0.0089 0.0033
 Neptune -75042-04-15 08:37 J -25687563.35 -25687563.14 -25687562.90 0.0089 0.0014
 Saturn -75042-08-22 10:04 J -25687434.29 -25687434.08 -25687433.88 0.0296 0.0030
 Neptune -75042-11-26 22:47 J -25687337.77 -25687337.55 -25687337.32 0.0089 0.0007
 Neptune -75041-07-09 12:42 J -25687112.18 -25687111.97 -25687111.75 0.0089 0.0027
 Neptune -75040-02-20 02:23 J -25686886.58 -25686886.40 -25686886.20 0.0089 0.0047
 Neptune -75040-10-03 16:18 J -25686660.95 -25686660.82 -25686660.66 0.0089 0.0067
 Neptune -75039-05-17 06:28 J -25686435.26 -25686435.23 -25686435.18 0.0089 0.0087
 Mars -75038-01-14 09:49 J -25686193.26 -25686193.09 -25686192.92 0.1578 0.0374
 Jupiter -75036-02-28 08:37 J -25685417.33 -25685417.14 -25685416.95 0.0530 0.0156
 Mars -75036-10-22 01:54 J -25685181.56 -25685181.42 -25685181.28 0.1971 0.1092

Jupiter	-75031-12-31 13:54 J	-25683285.10	-25683284.92	-25683284.74	0.0496	0.0251
Saturn	-75026-04-28 16:47 J	-25681706.01	-25681705.80	-25681705.59	0.0266	0.0066
Jupiter	-75025-11-03 02:52 J	-25681151.53	-25681151.38	-25681151.22	0.0529	0.0326
Jupiter	-75019-09-05 11:59 J	-25679019.20	-25679019.00	-25679018.80	0.0496	0.0157
Saturn	-75012-03-03 15:35 J	-25676648.05	-25676647.85	-25676647.64	0.0295	0.0038
Uranus	-75008-03-02 12:28 J	-25675188.12	-25675187.98	-25675187.83	0.0146	0.0111
Uranus	-75008-10-15 03:35 J	-25674961.56	-25674961.35	-25674961.13	0.0146	0.0039
Uranus	-75007-05-29 18:42 J	-25674734.93	-25674734.72	-25674734.50	0.0145	0.0035
Uranus	-75006-01-11 09:49 J	-25674508.24	-25674508.09	-25674507.94	0.0145	0.0106
Jupiter	-75001-11-05 23:44 J	-25672382.61	-25672382.51	-25672382.39	0.0531	0.0437

75TH MILLENNIUM BCE

This is a list of transits of Venus in the 75th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-74997-03-23 17:01 J	-25671148.84	-25671148.79	-25671148.72	0.0265	0.0253		
Saturn	-74997-11-07 23:01 J	-25670919.73	-25670919.54	-25670919.35	0.0266	0.0125		
Jupiter	-74995-09-07 23:16 J	-25670250.59	-25670250.53	-25670250.47	0.0495	0.0472		
Jupiter	-74989-07-11 16:47 J	-25668117.00	-25668116.80	-25668116.60	0.0530	0.0053		
Jupiter	-74983-05-13 21:49 J	-25665984.80	-25665984.59	-25665984.38	0.0496	0.0068		
Saturn	-74983-09-14 02:23 J	-25665861.58	-25665861.40	-25665861.21	0.0296	0.0124		
Mars	-74973-11-10 21:49 J	-25662150.76	-25662150.59	-25662150.41	0.1577	0.0147		
Jupiter	-74971-01-16 20:08 J	-25661718.80	-25661718.66	-25661718.50	0.0497	0.0341		
Saturn	-74968-10-04 00:28 J	-25660362.62	-25660362.48	-25660362.32	0.0265	0.0191		

Saturn -74967-05-21 06:28 J -25660133.38 -25660133.23 -25660133.07 0.0266 0.0188
 Uranus -74964-02-27 22:47 J -25659119.69 -25659119.55 -25659119.39 0.0133 0.0094
 Uranus -74964-10-12 01:54 J -25658893.61 -25658893.42 -25658893.21 0.0133 0.0042
 Uranus -74963-05-26 05:01 J -25658667.50 -25658667.29 -25658667.07 0.0133 0.0010
 Uranus -74962-01-07 08:23 J -25658441.33 -25658441.15 -25658440.96 0.0134 0.0062
 Neptune -74962-07-28 11:44 J -25658239.05 -25658239.01 -25658238.96 0.0088 0.0086
 Uranus -74962-08-21 11:44 J -25658215.12 -25658215.01 -25658214.90 0.0134 0.0114
 Neptune -74961-03-09 23:44 J -25658013.64 -25658013.51 -25658013.36 0.0088 0.0067
 Neptune -74961-10-21 11:59 J -25657788.18 -25657788.00 -25657787.81 0.0088 0.0048
 Neptune -74960-06-04 00:13 J -25657562.69 -25657562.49 -25657562.29 0.0088 0.0029
 Neptune -74959-01-15 12:13 J -25657337.20 -25657336.99 -25657336.77 0.0088 0.0010
 Neptune -74959-08-29 00:13 J -25657111.70 -25657111.49 -25657111.27 0.0088 0.0010
 Neptune -74958-04-11 12:13 J -25656886.18 -25656885.99 -25656885.78 0.0088 0.0028
 Neptune -74958-11-23 00:13 J -25656660.66 -25656660.49 -25656660.29 0.0088 0.0048
 Neptune -74957-07-05 11:59 J -25656435.11 -25656435.00 -25656434.83 0.0088 0.0067
 Neptune -74956-02-16 00:28 J -25656209.53 -25656209.48 -25656209.42 0.0088 0.0085
 Jupiter -74953-03-19 05:59 J -25655082.43 -25655082.25 -25655082.07 0.0531 0.0216
 Saturn -74953-03-26 08:52 J -25655075.28 -25655075.13 -25655074.97 0.0295 0.0193
 Jupiter -74947-01-19 08:08 J -25652950.33 -25652950.16 -25652949.99 0.0495 0.0293
 Jupiter -74942-11-23 01:11 J -25650816.62 -25650816.45 -25650816.27 0.0530 0.0259
 Saturn -74938-04-16 05:59 J -25649576.44 -25649576.25 -25649576.06 0.0265 0.0135
 Saturn -74938-12-01 11:59 J -25649347.07 -25649347.00 -25649346.90 0.0267 0.0246
 Jupiter -74936-09-24 05:59 J -25648684.45 -25648684.25 -25648684.05 0.0496 0.0116
 Earth -74931-08-29 17:59 J -25646883.89 -25646883.75 -25646883.61 0.2636 0.1427
 Moon -74931-08-29 18:28 J -25646883.84 -25646883.73 -25646883.62 0.2643 0.1758 *
 Uranus -74925-10-30 19:54 J -25644629.71 -25644629.67 -25644629.61 0.0146 0.0142
 Saturn -74924-02-19 01:25 J -25644518.57 -25644518.44 -25644518.30 0.0297 0.0219
 Uranus -74924-06-14 11:30 J -25644403.21 -25644403.02 -25644402.82 0.0146 0.0068
 Saturn -74924-10-06 19:40 J -25644288.74 -25644288.68 -25644288.61 0.0295 0.0279
 Uranus -74923-01-27 02:52 J -25644176.61 -25644176.38 -25644176.16 0.0146 0.0005

Uranus -74923-09-10 17:30 J -25643949.94 -25643949.77 -25643949.57 0.0145 0.0078
 Pluto -74922-11-22 03:49 J -25643512.39 -25643512.34 -25643512.22 0.0065 0.0060
 Pluto -74921-07-04 09:49 J -25643287.29 -25643287.09 -25643286.88 0.0065 0.0028
 Pluto -74920-02-14 15:06 J -25643062.10 -25643061.87 -25643061.64 0.0065 0.0003
 Pluto -74920-09-27 19:54 J -25642836.84 -25642836.67 -25642836.46 0.0065 0.0036
 Jupiter -74918-11-25 17:16 J -25642047.86 -25642047.78 -25642047.68 0.0531 0.0476
 Saturn -74909-10-26 13:40 J -25638790.14 -25638789.93 -25638789.72 0.0265 0.0071
 Mars -74907-09-08 10:47 J -25638108.23 -25638108.05 -25638107.88 0.1576 0.0085
 Jupiter -74906-07-31 11:30 J -25637782.22 -25637782.02 -25637781.82 0.0530 0.0011
 Jupiter -74900-06-01 18:28 J -25635649.94 -25635649.73 -25635649.53 0.0496 0.0121
 Saturn -74895-09-01 09:06 J -25633732.29 -25633732.12 -25633731.94 0.0296 0.0144
 Jupiter -74894-04-05 06:42 J -25633516.29 -25633516.22 -25633516.13 0.0529 0.0481
 Jupiter -74888-02-04 15:06 J -25631384.03 -25631383.87 -25631383.70 0.0497 0.0295
 Uranus -74881-10-28 11:59 J -25628561.08 -25628561.00 -25628560.88 0.0133 0.0116
 Uranus -74880-06-11 15:20 J -25628335.04 -25628334.86 -25628334.67 0.0133 0.0064
 Neptune -74880-09-08 22:04 J -25628245.63 -25628245.58 -25628245.48 0.0089 0.0084
 Uranus -74879-01-23 18:28 J -25628108.94 -25628108.73 -25628108.52 0.0133 0.0012
 Neptune -74879-04-22 11:59 J -25628020.14 -25628020.00 -25628019.83 0.0089 0.0064
 Saturn -74879-05-08 18:28 J -25628003.94 -25628003.73 -25628003.51 0.0266 0.0019
 Uranus -74879-09-06 21:35 J -25627882.80 -25627882.60 -25627882.40 0.0133 0.0040
 Neptune -74879-12-04 01:54 J -25627794.60 -25627794.42 -25627794.21 0.0089 0.0044
 Uranus -74878-04-21 00:28 J -25627656.62 -25627656.48 -25627656.32 0.0134 0.0092
 Neptune -74878-07-17 15:49 J -25627569.04 -25627568.84 -25627568.61 0.0089 0.0024
 Neptune -74877-02-28 05:59 J -25627343.48 -25627343.25 -25627343.03 0.0089 0.0004
 Neptune -74877-10-10 19:40 J -25627117.90 -25627117.68 -25627117.45 0.0089 0.0017
 Neptune -74876-05-24 09:35 J -25626892.30 -25626892.10 -25626891.89 0.0089 0.0037
 Neptune -74875-01-04 23:16 J -25626666.68 -25626666.53 -25626666.34 0.0089 0.0057
 Neptune -74875-08-18 13:11 J -25626441.04 -25626440.95 -25626440.82 0.0089 0.0077
 Mars -74872-06-15 07:40 J -25625409.26 -25625409.18 -25625409.10 0.1968 0.1726
 Jupiter -74870-04-08 01:11 J -25624747.62 -25624747.45 -25624747.28 0.0530 0.0264

Saturn -74865-03-13 19:25 J -25622945.89 -25622945.69 -25622945.48 0.0296 0.0059
 Jupiter -74864-02-07 04:32 J -25622615.46 -25622615.31 -25622615.16 0.0496 0.0345
 Jupiter -74859-12-11 19:25 J -25620481.87 -25620481.69 -25620481.51 0.0529 0.0217
 Jupiter -74853-10-13 02:52 J -25618349.59 -25618349.38 -25618349.17 0.0497 0.0063
 Saturn -74850-11-19 02:08 J -25617217.62 -25617217.41 -25617217.19 0.0266 0.0046
 Jupiter -74841-06-18 01:11 J -25614083.51 -25614083.45 -25614083.38 0.0497 0.0469
 Mars -74841-07-05 23:16 J -25614065.71 -25614065.53 -25614065.36 0.1575 0.0301
 Uranus -74840-02-11 17:59 J -25613844.90 -25613844.75 -25613844.57 0.0146 0.0100
 Uranus -74840-09-26 09:35 J -25613618.32 -25613618.10 -25613617.88 0.0146 0.0027
 Uranus -74839-05-11 00:42 J -25613391.68 -25613391.47 -25613391.25 0.0146 0.0046
 Uranus -74839-12-23 15:35 J -25613164.96 -25613164.85 -25613164.71 0.0145 0.0118
 Saturn -74836-09-24 02:52 J -25612159.59 -25612159.38 -25612159.18 0.0296 0.0016
 Moon -74833-03-06 01:54 J -25611265.57 -25611265.42 -25611265.27 0.2702 0.0111
 Earth -74833-03-06 06:13 J -25611265.39 -25611265.24 -25611265.08 0.2699 0.0145 *
 Pluto -74833-03-07 11:01 J -25611264.24 -25611264.04 -25611263.84 0.0079 0.0028
 Pluto -74833-10-18 20:08 J -25611038.86 -25611038.66 -25611038.45 0.0079 0.0025
 Pluto -74832-06-01 05:01 J -25610813.30 -25610813.29 -25610813.25 0.0078 0.0078
 Jupiter -74823-08-19 09:35 J -25607447.30 -25607447.10 -25607446.90 0.0530 0.0058
 Saturn -74820-05-31 05:59 J -25606431.45 -25606431.25 -25606431.04 0.0266 0.0097
 Jupiter -74817-06-20 13:54 J -25605315.12 -25605314.92 -25605314.72 0.0496 0.0168
 Jupiter -74811-04-24 03:06 J -25603181.48 -25603181.37 -25603181.25 0.0529 0.0426
 Saturn -74806-04-06 12:13 J -25601373.19 -25601372.99 -25601372.80 0.0296 0.0095
 Mars -74806-04-12 10:18 J -25601367.22 -25601367.07 -25601366.91 0.1970 0.0833
 Jupiter -74805-02-24 11:30 J -25601049.20 -25601049.02 -25601048.83 0.0497 0.0244
 Neptune -74797-06-11 08:08 J -25598019.24 -25598019.16 -25598019.04 0.0088 0.0077
 Neptune -74796-01-22 20:23 J -25597793.79 -25597793.65 -25597793.47 0.0088 0.0058
 Uranus -74796-02-09 04:04 J -25597776.49 -25597776.33 -25597776.17 0.0133 0.0086
 Neptune -74796-09-05 08:52 J -25597568.32 -25597568.13 -25597567.93 0.0088 0.0039
 Uranus -74796-09-23 06:56 J -25597550.41 -25597550.21 -25597550.00 0.0133 0.0035
 Neptune -74795-04-18 21:06 J -25597342.83 -25597342.62 -25597342.41 0.0088 0.0020

Uranus -74795-05-07 09:49 J -25597324.29 -25597324.09 -25597323.87 0.0133 0.0017
 Neptune -74795-11-30 09:20 J -25597117.33 -25597117.11 -25597116.90 0.0088 0.0001
 Uranus -74795-12-19 12:56 J -25597098.13 -25597097.96 -25597097.77 0.0133 0.0069
 Neptune -74794-07-13 21:06 J -25596891.82 -25596891.62 -25596891.40 0.0088 0.0019
 Uranus -74794-08-02 15:49 J -25596871.91 -25596871.84 -25596871.74 0.0134 0.0121
 Neptune -74793-02-24 09:06 J -25596666.31 -25596666.12 -25596665.91 0.0088 0.0037
 Neptune -74793-10-06 20:52 J -25596440.78 -25596440.63 -25596440.45 0.0088 0.0057
 Neptune -74792-05-20 09:20 J -25596215.22 -25596215.11 -25596215.00 0.0088 0.0075
 Saturn -74791-04-26 07:25 J -25595874.30 -25595874.19 -25595874.06 0.0264 0.0217
 Saturn -74791-12-11 13:11 J -25595645.12 -25595644.95 -25595644.77 0.0266 0.0160
 Jupiter -74787-04-26 20:37 J -25594412.80 -25594412.64 -25594412.48 0.0530 0.0314
 Jupiter -74781-02-27 02:08 J -25592280.53 -25592280.41 -25592280.29 0.0496 0.0403
 Saturn -74777-10-16 18:56 J -25590586.88 -25590586.71 -25590586.54 0.0295 0.0166
 Jupiter -74776-12-30 16:18 J -25590147.01 -25590146.82 -25590146.63 0.0530 0.0159
 Mars -74775-05-03 11:30 J -25590023.19 -25590023.02 -25590022.85 0.1574 0.0526
 Jupiter -74770-11-01 23:44 J -25588014.72 -25588014.51 -25588014.30 0.0496 0.0007
 Saturn -74762-11-06 10:04 J -25585088.24 -25585088.08 -25585087.91 0.0265 0.0172
 Saturn -74761-06-22 16:04 J -25584858.96 -25584858.83 -25584858.69 0.0266 0.0207
 Jupiter -74758-07-07 22:18 J -25583748.69 -25583748.57 -25583748.46 0.0497 0.0414
 Uranus -74757-10-11 21:35 J -25583286.66 -25583286.60 -25583286.50 0.0146 0.0137
 Uranus -74756-05-26 13:11 J -25583060.14 -25583059.95 -25583059.73 0.0146 0.0063
 Uranus -74755-01-08 04:47 J -25582833.52 -25582833.30 -25582833.07 0.0146 0.0011
 Uranus -74755-08-22 19:54 J -25582606.84 -25582606.67 -25582606.47 0.0146 0.0083
 Saturn -74748-09-11 07:11 J -25580030.29 -25580030.20 -25580030.10 0.0297 0.0262
 Saturn -74747-04-29 01:54 J -25579800.53 -25579800.42 -25579800.29 0.0296 0.0240
 Mars -74743-05-02 04:18 J -25578336.40 -25578336.32 -25578336.24 0.1577 0.1406
 Mars -74740-02-06 12:13 J -25577325.16 -25577324.99 -25577324.82 0.1972 0.0122
 Jupiter -74740-09-07 06:13 J -25577112.43 -25577112.24 -25577112.05 0.0530 0.0113
 Jupiter -74734-07-10 11:44 J -25574980.19 -25574980.01 -25574979.82 0.0496 0.0227
 Saturn -74732-05-18 16:32 J -25574302.00 -25574301.81 -25574301.61 0.0265 0.0111

Jupiter -74728-05-12 23:59 J -25572846.64 -25572846.50 -25572846.36 0.0529 0.0369
 Jupiter -74722-03-15 10:18 J -25570714.26 -25570714.07 -25570713.87 0.0497 0.0179
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 Neptune -74714-10-18 22:18 J -25567574.76 -25567574.57 -25567574.35 0.0089 0.0035
 Neptune -74713-05-31 12:28 J -25567349.20 -25567348.98 -25567348.75 0.0089 0.0014
 Uranus -74713-10-09 17:30 J -25567217.88 -25567217.77 -25567217.63 0.0132 0.0107
 Neptune -74712-01-12 02:23 J -25567123.62 -25567123.40 -25567123.18 0.0089 0.0006
 Uranus -74712-05-23 20:23 J -25566991.83 -25566991.65 -25566991.45 0.0133 0.0056
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 Uranus -74710-04-02 05:30 J -25566313.41 -25566313.27 -25566313.13 0.0133 0.0099
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 Mars -74709-02-29 00:13 J -25565980.64 -25565980.49 -25565980.33 0.1573 0.0743
 Jupiter -74704-05-15 20:37 J -25564077.77 -25564077.64 -25564077.50 0.0531 0.0389
 Saturn -74703-11-28 17:59 J -25563515.96 -25563515.75 -25563515.54 0.0265 0.0070
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 Jupiter -74692-01-18 15:35 J -25559812.05 -25559811.85 -25559811.65 0.0529 0.0090
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 Moon -74688-08-29 18:13 J -25558127.89 -25558127.74 -25558127.59 0.2631 0.1263 *
 Jupiter -74687-11-20 21:49 J -25557679.79 -25557679.59 -25557679.38 0.0497 0.0052
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 Jupiter -74675-07-26 20:23 J -25553413.78 -25553413.65 -25553413.50 0.0498 0.0355
 Mars -74675-12-04 14:23 J -25553283.04 -25553282.90 -25553282.75 0.1974 0.1048
 Saturn -74673-06-09 23:44 J -25552729.73 -25552729.51 -25552729.30 0.0265 0.0012

Pluto -74672-01-17 13:11 J -25552508.14 -25552507.95 -25552507.75 0.0065 0.0034
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 Pluto -74671-11-24 04:47 J -25551832.36 -25551832.30 -25551832.21 0.0066 0.0062
 Uranus -74671-12-04 15:20 J -25551821.96 -25551821.86 -25551821.72 0.0145 0.0121
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 Neptune -74632-04-26 04:04 J -25537799.44 -25537799.33 -25537799.17 0.0088 0.0070
 Neptune -74632-12-07 17:01 J -25537573.97 -25537573.79 -25537573.61 0.0088 0.0050
 Neptune -74631-07-21 05:16 J -25537348.48 -25537348.28 -25537348.08 0.0088 0.0031
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 Neptune -74630-10-15 05:30 J -25536897.49 -25536897.27 -25536897.06 0.0088 0.0008
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 Neptune -74629-05-27 17:30 J -25536671.97 -25536671.77 -25536671.56 0.0088 0.0027
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 Neptune -74628-01-08 05:30 J -25536446.45 -25536446.27 -25536446.08 0.0088 0.0046
 Uranus -74628-01-21 10:47 J -25536433.22 -25536433.05 -25536432.87 0.0133 0.0076
 Neptune -74628-08-21 17:30 J -25536220.91 -25536220.77 -25536220.61 0.0088 0.0065
 Uranus -74628-09-04 13:40 J -25536207.13 -25536206.93 -25536206.72 0.0133 0.0025
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 Uranus -74627-04-18 16:32 J -25535981.01 -25535980.81 -25535980.60 0.0133 0.0027

Uranus -74627-11-30 19:25 J -25535754.85 -25535754.69 -25535754.51 0.0133 0.0078
 Uranus -74626-07-14 22:04 J -25535528.60 -25535528.58 -25535528.51 0.0133 0.0131
 Jupiter -74621-06-03 21:06 J -25533742.71 -25533742.62 -25533742.52 0.0530 0.0463
 Saturn -74614-07-03 04:32 J -25531157.51 -25531157.31 -25531157.10 0.0265 0.0082
 Mars -74612-12-25 05:16 J -25530251.42 -25530251.28 -25530251.14 0.1575 0.0956
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 Jupiter -74592-08-14 22:04 J -25523078.74 -25523078.58 -25523078.40 0.0497 0.0277
 Earth -74590-03-07 09:20 J -25522509.27 -25522509.11 -25522508.96 0.2697 0.0142
 Moon -74590-03-07 14:23 J -25522509.05 -25522508.90 -25522508.75 0.2698 0.0504 *
 Uranus -74589-09-22 22:47 J -25521943.63 -25521943.55 -25521943.44 0.0147 0.0132
 Uranus -74588-05-07 14:23 J -25521717.10 -25521716.90 -25521716.69 0.0146 0.0059
 Uranus -74588-12-20 05:59 J -25521490.47 -25521490.25 -25521490.03 0.0146 0.0015
 Uranus -74587-08-03 20:52 J -25521263.79 -25521263.63 -25521263.43 0.0146 0.0088
 Saturn -74585-05-27 23:44 J -25520600.56 -25520600.51 -25520600.45 0.0264 0.0254
 Pluto -74585-09-20 14:52 J -25520485.07 -25520484.88 -25520484.68 0.0079 0.0035
 Saturn -74584-01-12 04:18 J -25520371.51 -25520371.32 -25520371.12 0.0265 0.0117
 Pluto -74584-05-03 23:59 J -25520259.70 -25520259.50 -25520259.28 0.0079 0.0019
 Pluto -74584-12-15 09:35 J -25520034.19 -25520034.10 -25520034.02 0.0078 0.0071
 Mars -74578-10-24 01:25 J -25517895.55 -25517895.44 -25517895.32 0.1572 0.1180
 Jupiter -74574-10-16 07:54 J -25516442.34 -25516442.17 -25516442.00 0.0530 0.0269
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 Jupiter -74568-08-17 11:44 J -25514310.15 -25514310.01 -25514309.87 0.0496 0.0363
 Jupiter -74562-06-21 03:49 J -25512176.52 -25512176.34 -25512176.15 0.0529 0.0201
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 Saturn -74556-12-08 03:35 J -25509814.48 -25509814.35 -25509814.20 0.0263 0.0202
 Saturn -74555-07-25 08:23 J -25509585.31 -25509585.15 -25509584.98 0.0265 0.0170
 Neptune -74551-10-26 01:54 J -25508031.47 -25508031.42 -25508031.34 0.0089 0.0085

Neptune -74550-06-08 15:49 J -25507805.98 -25507805.84 -25507805.68 0.0089 0.0065
 Neptune -74549-01-20 05:30 J -25507580.45 -25507580.27 -25507580.07 0.0089 0.0045
 Neptune -74549-09-01 19:11 J -25507354.91 -25507354.70 -25507354.48 0.0089 0.0025
 Neptune -74548-04-15 09:06 J -25507129.34 -25507129.12 -25507128.90 0.0089 0.0005
 Neptune -74548-11-26 22:47 J -25506903.77 -25506903.55 -25506903.32 0.0089 0.0015
 Neptune -74547-07-10 12:28 J -25506678.17 -25506677.98 -25506677.76 0.0089 0.0036
 Neptune -74546-02-21 02:08 J -25506452.56 -25506452.41 -25506452.22 0.0089 0.0056
 Neptune -74546-10-04 15:49 J -25506226.93 -25506226.84 -25506226.70 0.0089 0.0076
 Mars -74546-10-22 17:30 J -25506208.92 -25506208.77 -25506208.61 0.1574 0.0727
 Uranus -74545-09-21 01:25 J -25505874.58 -25505874.44 -25505874.28 0.0132 0.0095
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 Uranus -74544-05-05 04:18 J -25505648.52 -25505648.32 -25505648.12 0.0133 0.0044
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 Uranus -74543-07-31 10:18 J -25505196.26 -25505196.07 -25505195.88 0.0133 0.0059
 Uranus -74542-03-14 12:56 J -25504970.06 -25504969.96 -25504969.83 0.0133 0.0111
 Saturn -74541-05-30 13:40 J -25504527.09 -25504526.93 -25504526.76 0.0297 0.0168
 Jupiter -74526-02-26 18:28 J -25499141.93 -25499141.73 -25499141.53 0.0530 0.0076
 Saturn -74526-06-20 03:06 J -25499028.54 -25499028.37 -25499028.20 0.0264 0.0168
 Saturn -74525-02-04 07:25 J -25498799.32 -25498799.19 -25498799.04 0.0265 0.0204
 Jupiter -74521-12-29 01:40 J -25497009.61 -25497009.43 -25497009.24 0.0496 0.0211
 Jupiter -74515-11-01 14:52 J -25494876.01 -25494875.88 -25494875.74 0.0528 0.0392
 Saturn -74512-04-24 17:59 J -25493970.77 -25493970.75 -25493970.70 0.0299 0.0294
 Mars -74512-08-20 14:08 J -25493852.99 -25493852.91 -25493852.84 0.1571 0.1401
 Saturn -74512-12-10 14:37 J -25493741.02 -25493740.89 -25493740.75 0.0297 0.0217
 Mars -74511-07-28 20:08 J -25493510.73 -25493510.66 -25493510.59 0.1972 0.1790
 Jupiter -74509-09-02 22:04 J -25492743.76 -25492743.58 -25492743.39 0.0498 0.0209
 Uranus -74504-01-04 22:47 J -25491158.72 -25491158.55 -25491158.37 0.0146 0.0088
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 Jupiter -74479-07-10 05:16 J -25481841.47 -25481841.28 -25481841.08 0.0529 0.0117
 Jupiter -74473-05-11 13:40 J -25479709.13 -25479708.93 -25479708.72 0.0497 0.0046
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 Neptune -74464-04-11 13:25 J -25476452.14 -25476451.94 -25476451.74 0.0088 0.0035
 Neptune -74464-11-23 01:40 J -25476226.60 -25476226.43 -25476226.26 0.0088 0.0054
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 Moon -74445-08-29 11:16 J -25469372.09 -25469372.03 -25469371.97 0.2646 0.2404

Earth -74445-08-29 14:52 J -25469371.98 -25469371.88 -25469371.77 0.2640 0.1976 *
 Jupiter -74443-03-17 23:16 J -25468806.72 -25468806.53 -25468806.34 0.0529 0.0175
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 Saturn -74424-11-27 01:54 J -25461612.60 -25461612.42 -25461612.23 0.0298 0.0132
 Pluto -74423-03-15 23:01 J -25461503.76 -25461503.54 -25461503.31 0.0065 0.0006
 Pluto -74423-10-27 04:18 J -25461278.52 -25461278.32 -25461278.11 0.0066 0.0027
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 Uranus -74419-07-16 04:32 J -25459920.46 -25459920.31 -25459920.14 0.0146 0.0101
 Mars -74414-06-16 18:42 J -25458123.89 -25458123.72 -25458123.54 0.1572 0.0288
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 Neptune -74385-04-22 11:59 J -25447586.16 -25447586.00 -25447585.81 0.0089 0.0056
 Neptune -74385-12-04 01:54 J -25447360.62 -25447360.42 -25447360.21 0.0089 0.0036
 Jupiter -74384-04-03 06:28 J -25447240.31 -25447240.23 -25447240.15 0.0528 0.0480
 Neptune -74384-07-17 15:35 J -25447135.06 -25447134.85 -25447134.62 0.0089 0.0016
 Neptune -74383-02-28 05:30 J -25446909.49 -25446909.27 -25446909.05 0.0089 0.0004
 Neptune -74383-10-11 18:56 J -25446683.91 -25446683.71 -25446683.48 0.0089 0.0025
 Neptune -74382-05-25 08:37 J -25446458.31 -25446458.14 -25446457.93 0.0089 0.0045
 Neptune -74381-01-05 22:32 J -25446232.70 -25446232.56 -25446232.39 0.0089 0.0065

Neptune -74381-08-18 12:13 J -25446007.03 -25446006.99 -25446006.90 0.0089 0.0085
 Mars -74379-03-22 00:28 J -25445426.65 -25445426.48 -25445426.31 0.1975 0.0091
 Jupiter -74378-02-03 11:59 J -25445108.16 -25445108.00 -25445107.83 0.0498 0.0294
 Saturn -74378-02-13 13:11 J -25445098.16 -25445097.95 -25445097.73 0.0263 0.0056
 Uranus -74377-09-02 09:35 J -25444531.26 -25444531.10 -25444530.93 0.0132 0.0083
 Uranus -74376-04-16 12:28 J -25444305.18 -25444304.98 -25444304.77 0.0133 0.0032
 Uranus -74376-11-28 15:20 J -25444079.07 -25444078.86 -25444078.65 0.0133 0.0020
 Uranus -74375-07-12 17:59 J -25443852.91 -25443852.75 -25443852.55 0.0133 0.0071
 Uranus -74374-02-23 21:06 J -25443626.69 -25443626.62 -25443626.52 0.0133 0.0123
 Saturn -74365-12-19 06:28 J -25440040.44 -25440040.23 -25440040.03 0.0298 0.0027
 Jupiter -74360-04-06 00:13 J -25438471.66 -25438471.49 -25438471.32 0.0529 0.0256
 Jupiter -74354-02-06 05:01 J -25436339.43 -25436339.29 -25436339.15 0.0496 0.0364
 Saturn -74349-08-25 13:54 J -25434312.12 -25434311.92 -25434311.71 0.0264 0.0095
 Jupiter -74349-12-09 20:08 J -25434205.84 -25434205.66 -25434205.48 0.0529 0.0213
 Mars -74348-04-13 07:25 J -25434081.37 -25434081.19 -25434081.01 0.1572 0.0067
 Moon -74347-03-07 07:54 J -25433753.33 -25433753.17 -25433753.02 0.2692 0.0348
 Earth -74347-03-07 12:42 J -25433753.12 -25433752.97 -25433752.82 0.2695 0.0183 *
 Jupiter -74343-10-12 03:35 J -25432073.55 -25432073.35 -25432073.14 0.0497 0.0041
 Uranus -74337-05-04 15:06 J -25430041.88 -25430041.87 -25430041.84 0.0147 0.0146
 Uranus -74337-12-17 06:42 J -25429815.41 -25429815.22 -25429815.02 0.0146 0.0073
 Pluto -74336-04-05 21:20 J -25429705.80 -25429705.61 -25429705.41 0.0079 0.0034
 Uranus -74336-07-31 22:18 J -25429588.80 -25429588.57 -25429588.35 0.0146 0.0002
 Pluto -74336-11-17 06:28 J -25429480.43 -25429480.23 -25429480.01 0.0079 0.0020
 Uranus -74335-03-15 13:11 J -25429362.13 -25429361.95 -25429361.75 0.0146 0.0073
 Pluto -74335-06-30 15:49 J -25429254.92 -25429254.84 -25429254.76 0.0078 0.0072
 Saturn -74335-07-01 06:28 J -25429254.43 -25429254.23 -25429254.02 0.0298 0.0019
 Uranus -74335-10-28 04:04 J -25429135.34 -25429135.33 -25429135.28 0.0146 0.0145
 Jupiter -74331-06-16 23:30 J -25427807.59 -25427807.52 -25427807.44 0.0498 0.0461
 Saturn -74320-07-21 14:37 J -25423755.00 -25423754.89 -25423754.76 0.0262 0.0220
 Saturn -74319-03-07 18:28 J -25423525.91 -25423525.73 -25423525.55 0.0264 0.0148

Mars -74313-01-17 02:08 J -25421384.55 -25421384.41 -25421384.27 0.1976 0.1048
 Jupiter -74313-08-17 11:44 J -25421171.21 -25421171.01 -25421170.81 0.0529 0.0068
 Jupiter -74307-06-19 15:35 J -25419039.05 -25419038.85 -25419038.66 0.0497 0.0194
 Saturn -74305-01-11 12:28 J -25418468.17 -25418467.98 -25418467.78 0.0298 0.0086
 Neptune -74303-06-12 07:54 J -25417585.28 -25417585.17 -25417585.03 0.0088 0.0072
 Neptune -74302-01-23 20:08 J -25417359.82 -25417359.66 -25417359.47 0.0088 0.0053
 Neptune -74302-09-06 08:37 J -25417134.33 -25417134.14 -25417133.93 0.0088 0.0034
 Neptune -74301-04-18 20:52 J -25416908.84 -25416908.63 -25416908.41 0.0088 0.0015
 Jupiter -74301-04-22 06:28 J -25416905.35 -25416905.23 -25416905.10 0.0528 0.0404
 Neptune -74301-11-30 09:20 J -25416683.33 -25416683.11 -25416682.89 0.0088 0.0005
 Neptune -74300-07-13 21:35 J -25416457.81 -25416457.60 -25416457.39 0.0088 0.0024
 Neptune -74299-02-24 09:06 J -25416232.29 -25416232.12 -25416231.91 0.0088 0.0044
 Neptune -74299-10-07 21:06 J -25416006.75 -25416006.62 -25416006.44 0.0088 0.0063
 Neptune -74298-05-21 09:06 J -25415781.17 -25415781.12 -25415781.01 0.0088 0.0082
 Jupiter -74295-02-22 14:23 J -25414773.08 -25414772.90 -25414772.71 0.0498 0.0211
 Uranus -74293-05-02 23:16 J -25413972.65 -25413972.53 -25413972.38 0.0132 0.0103
 Uranus -74293-12-15 02:23 J -25413746.59 -25413746.40 -25413746.20 0.0132 0.0052
 Uranus -74292-07-29 05:16 J -25413520.49 -25413520.28 -25413520.07 0.0133 0.0002
 Uranus -74291-03-12 07:54 J -25413294.36 -25413294.17 -25413293.97 0.0133 0.0050
 Uranus -74291-10-24 10:32 J -25413068.18 -25413068.06 -25413067.91 0.0133 0.0102
 Saturn -74290-01-31 17:01 J -25412968.95 -25412968.79 -25412968.63 0.0263 0.0176
 Saturn -74290-09-17 20:23 J -25412739.79 -25412739.65 -25412739.49 0.0264 0.0192
 Mars -74282-02-08 20:08 J -25410038.84 -25410038.66 -25410038.48 0.1571 0.0153
 Jupiter -74277-04-25 03:49 J -25408136.49 -25408136.34 -25408136.19 0.0530 0.0350
 Saturn -74276-07-23 13:40 J -25407682.11 -25407681.93 -25407681.75 0.0298 0.0134
 Jupiter -74271-02-25 02:52 J -25406004.48 -25406004.38 -25406004.27 0.0496 0.0424
 Jupiter -74266-12-29 23:59 J -25403870.70 -25403870.50 -25403870.31 0.0528 0.0117
 Saturn -74261-08-12 21:35 J -25402182.79 -25402182.60 -25402182.40 0.0263 0.0123
 Saturn -74260-03-30 01:40 J -25401953.50 -25401953.43 -25401953.36 0.0264 0.0247
 Jupiter -74260-10-31 00:56 J -25401738.66 -25401738.46 -25401738.25 0.0497 0.0020

Uranus -74253-08-16 11:30 J -25399257.16 -25399257.02 -25399256.86 0.0147 0.0107
 Uranus -74252-03-31 03:06 J -25399030.59 -25399030.37 -25399030.15 0.0146 0.0034
 Uranus -74252-11-12 18:13 J -25398803.95 -25398803.74 -25398803.51 0.0146 0.0039
 Uranus -74251-06-27 09:49 J -25398577.23 -25398577.09 -25398576.95 0.0146 0.0111
 Jupiter -74248-07-05 23:59 J -25397472.62 -25397472.50 -25397472.36 0.0499 0.0387
 Saturn -74246-02-02 20:37 J -25396895.79 -25396895.64 -25396895.49 0.0298 0.0205
 Saturn -74231-02-23 01:25 J -25391396.65 -25391396.44 -25391396.23 0.0263 0.0074
 Jupiter -74230-09-06 11:44 J -25390836.20 -25390836.01 -25390835.82 0.0529 0.0143
 Jupiter -74224-07-08 15:49 J -25388704.02 -25388703.84 -25388703.66 0.0497 0.0265
 Neptune -74222-12-12 05:01 J -25387817.31 -25387817.29 -25387817.21 0.0089 0.0087
 Neptune -74221-07-24 18:42 J -25387591.84 -25387591.72 -25387591.55 0.0089 0.0067
 Neptune -74220-03-07 08:37 J -25387366.32 -25387366.14 -25387365.94 0.0089 0.0047
 Neptune -74220-10-18 22:18 J -25387140.77 -25387140.57 -25387140.34 0.0089 0.0027
 Neptune -74219-06-01 12:28 J -25386915.20 -25386914.98 -25386914.76 0.0089 0.0006
 Neptune -74218-01-13 02:08 J -25386689.63 -25386689.41 -25386689.19 0.0089 0.0014
 Jupiter -74218-05-12 08:23 J -25386570.30 -25386570.15 -25386569.98 0.0528 0.0319
 Neptune -74218-08-26 15:35 J -25386464.05 -25386463.85 -25386463.63 0.0089 0.0034
 Saturn -74218-12-29 02:23 J -25386339.50 -25386339.40 -25386339.29 0.0299 0.0254
 Neptune -74217-04-08 05:16 J -25386238.45 -25386238.28 -25386238.09 0.0089 0.0054
 Saturn -74217-08-14 23:16 J -25386109.63 -25386109.53 -25386109.43 0.0297 0.0260
 Neptune -74217-11-19 19:11 J -25386012.81 -25386012.70 -25386012.57 0.0089 0.0074
 Mars -74217-12-06 08:37 J -25385996.31 -25385996.14 -25385995.96 0.1570 0.0373
 Jupiter -74212-03-13 11:16 J -25384438.22 -25384438.03 -25384437.83 0.0498 0.0155
 Earth -74210-09-02 00:13 J -25383535.57 -25383535.49 -25383535.41 0.2640 0.2286
 Uranus -74209-01-01 12:56 J -25383414.02 -25383413.96 -25383413.87 0.0132 0.0123
 Uranus -74209-08-14 15:35 J -25383188.01 -25383187.85 -25383187.66 0.0132 0.0073
 Uranus -74208-03-28 18:28 J -25382961.93 -25382961.73 -25382961.52 0.0132 0.0023
 Uranus -74208-11-09 21:06 J -25382735.82 -25382735.62 -25382735.40 0.0133 0.0029
 Uranus -74207-06-24 00:13 J -25382509.66 -25382509.49 -25382509.32 0.0133 0.0079
 Uranus -74206-02-05 03:20 J -25382283.40 -25382283.36 -25382283.32 0.0133 0.0130

Earth	-74202-08-30 13:11 J	-25380616.03	-25380615.95	-25380615.87	0.2642	0.2280
Moon	-74202-08-30 18:42 J	-25380615.84	-25380615.72	-25380615.61	0.2639	0.1914
Saturn	-74202-09-05 06:42 J	-25380610.43	-25380610.22	-25380610.00	0.0263	0.0018
Jupiter	-74194-05-15 02:23 J	-25377801.52	-25377801.40	-25377801.28	0.0529	0.0418
Jupiter	-74188-03-16 02:23 J	-25375669.42	-25375669.40	-25375669.37	0.0497	0.0492
Saturn	-74188-07-10 11:16 J	-25375553.19	-25375553.03	-25375552.86	0.0299	0.0175
Mars	-74185-12-05 00:56 J	-25374309.49	-25374309.46	-25374309.43	0.1573	0.1544
Jupiter	-74182-01-17 21:06 J	-25373535.82	-25373535.62	-25373535.42	0.0528	0.0056
Jupiter	-74177-11-19 00:56 J	-25371403.66	-25371403.46	-25371403.25	0.0497	0.0087
Pluto	-74175-02-15 21:06 J	-25370949.78	-25370949.62	-25370949.43	0.0065	0.0043
Pluto	-74175-09-29 02:37 J	-25370724.61	-25370724.39	-25370724.16	0.0065	0.0011
Pluto	-74174-05-12 07:40 J	-25370499.38	-25370499.18	-25370498.95	0.0066	0.0022
Pluto	-74174-12-23 13:11 J	-25370274.06	-25370273.95	-25370273.81	0.0066	0.0054
Saturn	-74172-03-17 11:59 J	-25369824.21	-25369824.00	-25369823.78	0.0263	0.0037
Uranus	-74169-04-15 15:06 J	-25368698.90	-25368698.87	-25368698.80	0.0147	0.0143
Uranus	-74169-11-28 06:56 J	-25368472.40	-25368472.21	-25368472.01	0.0147	0.0070
Uranus	-74168-07-12 22:47 J	-25368245.78	-25368245.55	-25368245.33	0.0146	0.0004
Uranus	-74167-02-24 13:54 J	-25368019.10	-25368018.92	-25368018.72	0.0146	0.0076
Jupiter	-74165-07-24 23:16 J	-25367137.68	-25367137.53	-25367137.36	0.0498	0.0319
Saturn	-74158-01-20 15:20 J	-25364767.05	-25364766.86	-25364766.67	0.0298	0.0114
Mars	-74151-10-03 21:35 J	-25361953.77	-25361953.60	-25361953.44	0.1570	0.0586
Mars	-74150-09-10 07:25 J	-25361612.26	-25361612.19	-25361612.12	0.1975	0.1787
Jupiter	-74147-09-25 12:42 J	-25360501.15	-25360500.97	-25360500.79	0.0529	0.0225
Saturn	-74143-09-27 17:44 J	-25359037.96	-25359037.76	-25359037.55	0.0264	0.0094
Jupiter	-74141-07-27 10:47 J	-25358369.21	-25358369.05	-25358368.88	0.0497	0.0312
Neptune	-74139-09-13 15:20 J	-25357590.91	-25357590.86	-25357590.77	0.0088	0.0084
Neptune	-74138-04-27 03:35 J	-25357365.47	-25357365.35	-25357365.18	0.0088	0.0065
Neptune	-74138-12-08 16:32 J	-25357139.99	-25357139.81	-25357139.62	0.0088	0.0045
Neptune	-74137-07-21 04:47 J	-25356914.51	-25356914.30	-25356914.09	0.0088	0.0026
Neptune	-74136-03-03 17:01 J	-25356689.01	-25356688.79	-25356688.58	0.0088	0.0006

Neptune -74136-10-15 05:01 J -25356463.50 -25356463.29 -25356463.07 0.0088 0.0013
 Neptune -74135-05-28 17:01 J -25356237.98 -25356237.79 -25356237.58 0.0088 0.0032
 Jupiter -74135-05-31 05:59 J -25356235.42 -25356235.25 -25356235.07 0.0528 0.0257
 Neptune -74134-01-09 05:16 J -25356012.44 -25356012.28 -25356012.09 0.0088 0.0051
 Neptune -74134-08-22 17:16 J -25355786.89 -25355786.78 -25355786.63 0.0088 0.0071
 Jupiter -74129-04-01 09:20 J -25354103.31 -25354103.11 -25354102.90 0.0498 0.0094
 Saturn -74129-08-02 01:25 J -25353980.64 -25353980.44 -25353980.23 0.0299 0.0031
 Uranus -74125-04-14 05:59 J -25352629.40 -25352629.25 -25352629.10 0.0132 0.0092
 Uranus -74125-11-26 08:37 J -25352403.34 -25352403.14 -25352402.94 0.0132 0.0042
 Uranus -74124-07-10 11:30 J -25352177.23 -25352177.02 -25352176.81 0.0132 0.0008
 Uranus -74123-02-21 14:23 J -25351951.09 -25351950.90 -25351950.71 0.0133 0.0059
 Uranus -74123-10-05 17:01 J -25351724.90 -25351724.79 -25351724.66 0.0133 0.0110
 Mars -74119-10-02 13:25 J -25350267.03 -25350266.94 -25350266.84 0.1572 0.1316
 Saturn -74114-08-23 20:37 J -25348480.76 -25348480.64 -25348480.51 0.0263 0.0215
 Saturn -74113-04-09 00:13 J -25348251.67 -25348251.49 -25348251.31 0.0264 0.0153
 Jupiter -74111-06-02 23:16 J -25347466.62 -25347466.53 -25347466.44 0.0530 0.0475
 Earth -74104-03-07 15:49 J -25344996.99 -25344996.84 -25344996.69 0.2693 0.0187
 Moon -74104-03-07 19:11 J -25344996.84 -25344996.70 -25344996.56 0.2699 0.0837 *
 Jupiter -74099-02-05 19:40 J -25343200.88 -25343200.68 -25343200.48 0.0529 0.0012
 Saturn -74099-02-12 07:25 J -25343194.39 -25343194.19 -25343193.98 0.0298 0.0040
 Jupiter -74094-12-08 19:54 J -25341068.87 -25341068.67 -25341068.47 0.0497 0.0133
 Jupiter -74088-10-11 15:06 J -25338934.97 -25338934.87 -25338934.77 0.0528 0.0456
 Pluto -74088-10-20 01:25 J -25338926.60 -25338926.44 -25338926.23 0.0079 0.0040
 Pluto -74087-06-02 11:01 J -25338701.24 -25338701.04 -25338700.82 0.0079 0.0014
 Pluto -74086-01-13 20:08 J -25338475.76 -25338475.66 -25338475.54 0.0078 0.0066
 Uranus -74085-07-28 09:49 J -25337914.24 -25337914.09 -25337913.93 0.0147 0.0107
 Mars -74085-07-31 10:18 J -25337911.22 -25337911.07 -25337910.92 0.1569 0.0805
 Saturn -74084-03-05 02:23 J -25337694.57 -25337694.40 -25337694.22 0.0263 0.0159
 Uranus -74084-03-12 01:25 J -25337687.66 -25337687.44 -25337687.22 0.0146 0.0034
 Mars -74084-07-07 10:04 J -25337570.23 -25337570.08 -25337569.92 0.1976 0.0879

Saturn -74084-10-20 05:59 J -25337465.36 -25337465.25 -25337465.11 0.0264 0.0212
 Uranus -74084-10-24 16:47 J -25337461.01 -25337460.80 -25337460.58 0.0146 0.0039
 Uranus -74083-06-08 08:23 J -25337234.30 -25337234.15 -25337234.01 0.0146 0.0111
 Jupiter -74082-08-13 17:44 J -25336802.93 -25336802.76 -25336802.59 0.0498 0.0276
 Saturn -74070-08-25 17:59 J -25332407.94 -25332407.75 -25332407.56 0.0298 0.0124
 Jupiter -74064-10-14 07:11 J -25330166.37 -25330166.20 -25330166.02 0.0529 0.0269
 Jupiter -74058-08-16 08:23 J -25328034.29 -25328034.15 -25328034.01 0.0497 0.0369
 Neptune -74057-10-26 02:08 J -25327597.51 -25327597.41 -25327597.30 0.0089 0.0077
 Neptune -74056-06-08 15:49 J -25327372.00 -25327371.84 -25327371.66 0.0089 0.0057
 Neptune -74055-01-20 05:30 J -25327146.46 -25327146.27 -25327146.06 0.0089 0.0037
 Neptune -74055-09-02 19:11 J -25326920.91 -25326920.70 -25326920.47 0.0089 0.0017
 Saturn -74055-09-15 09:35 J -25326908.30 -25326908.10 -25326907.89 0.0263 0.0098
 Neptune -74054-04-16 09:06 J -25326695.34 -25326695.12 -25326694.89 0.0089 0.0003
 Neptune -74054-11-27 22:32 J -25326469.76 -25326469.56 -25326469.33 0.0089 0.0024
 Neptune -74053-07-10 12:28 J -25326244.16 -25326243.98 -25326243.77 0.0089 0.0044
 Mars -74053-07-30 02:23 J -25326224.53 -25326224.40 -25326224.27 0.1571 0.1104
 Neptune -74052-02-21 02:08 J -25326018.55 -25326018.41 -25326018.24 0.0089 0.0064
 Jupiter -74052-06-19 01:25 J -25325900.62 -25325900.44 -25325900.26 0.0528 0.0208
 Neptune -74052-10-04 16:04 J -25325792.89 -25325792.83 -25325792.75 0.0089 0.0084
 Jupiter -74046-04-21 06:13 J -25323768.44 -25323768.24 -25323768.03 0.0498 0.0041
 Uranus -74042-12-13 19:54 J -25322070.77 -25322070.67 -25322070.55 0.0132 0.0112
 Uranus -74041-07-26 22:47 J -25321844.73 -25321844.55 -25321844.36 0.0132 0.0062
 Saturn -74040-03-07 00:56 J -25321621.61 -25321621.46 -25321621.30 0.0297 0.0197
 Uranus -74040-03-10 01:40 J -25321618.64 -25321618.43 -25321618.22 0.0132 0.0012
 Uranus -74040-10-22 04:32 J -25321392.51 -25321392.31 -25321392.11 0.0133 0.0039
 Uranus -74039-06-05 07:11 J -25321166.34 -25321166.20 -25321166.03 0.0133 0.0090
 Jupiter -74035-12-25 02:52 J -25319502.47 -25319502.38 -25319502.30 0.0498 0.0455
 Saturn -74025-03-27 15:06 J -25316122.09 -25316121.87 -25316121.66 0.0263 0.0043
 Mars -74019-05-28 23:01 J -25313868.68 -25313868.54 -25313868.41 0.1569 0.1017
 Mars -74018-05-04 11:59 J -25313528.17 -25313528.00 -25313527.83 0.1977 0.0098

Jupiter	-74016-02-24 15:06 J	-25312866.07	-25312865.87	-25312865.67	0.0529	0.0060
Saturn	-74011-01-30 15:06 J	-25311064.99	-25311064.87	-25311064.73	0.0299	0.0229
Saturn	-74011-09-17 11:44 J	-25310835.05	-25310835.01	-25310834.94	0.0298	0.0286
Jupiter	-74011-12-27 16:18 J	-25310734.02	-25310733.82	-25310733.63	0.0497	0.0184
Jupiter	-74005-10-30 09:06 J	-25308600.23	-25308600.12	-25308599.99	0.0527	0.0414
Uranus	-74001-03-27 15:20 J	-25307355.91	-25307355.86	-25307355.77	0.0147	0.0140
Uranus	-74001-11-09 07:11 J	-25307129.39	-25307129.20	-25307128.99	0.0147	0.0066

74TH MILLENNIUM BCE

This is a list of transits of Venus in the 74th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	-74000-06-23 23:01 J	-25306902.77	-25306902.54	-25306902.32	0.0146	0.0007		
Uranus	-73999-02-05 14:23 J	-25306676.08	-25306675.90	-25306675.71	0.0146	0.0079		
Jupiter	-73999-09-01 14:23 J	-25306468.09	-25306467.90	-25306467.71	0.0498	0.0224		
Saturn	-73996-10-07 22:47 J	-25305335.77	-25305335.55	-25305335.34	0.0263	0.0022		
Mars	-73987-05-27 14:37 J	-25302182.03	-25302181.89	-25302181.74	0.1570	0.0880		
Saturn	-73982-08-12 23:30 J	-25300278.70	-25300278.52	-25300278.34	0.0298	0.0150		
Jupiter	-73981-11-02 03:35 J	-25299831.51	-25299831.35	-25299831.19	0.0529	0.0323		
Jupiter	-73975-09-04 02:52 J	-25297699.49	-25297699.38	-25297699.26	0.0496	0.0411		
Neptune	-73974-07-29 12:28 J	-25297371.08	-25297370.98	-25297370.85	0.0088	0.0075		
Neptune	-73973-03-11 00:28 J	-25297145.63	-25297145.48	-25297145.29	0.0088	0.0056		
Neptune	-73973-10-22 12:42 J	-25296920.15	-25296919.97	-25296919.75	0.0088	0.0037		
Neptune	-73972-06-05 01:25 J	-25296694.66	-25296694.44	-25296694.23	0.0088	0.0017		

Neptune -73971-01-16 13:40 J -25296469.15 -25296468.93 -25296468.72 0.0088 0.0003
 Neptune -73971-08-30 01:40 J -25296243.64 -25296243.43 -25296243.22 0.0088 0.0022
 Neptune -73970-04-12 13:54 J -25296018.11 -25296017.92 -25296017.73 0.0088 0.0041
 Neptune -73970-11-24 01:40 J -25295792.57 -25295792.43 -25295792.25 0.0088 0.0061
 Neptune -73969-07-06 13:40 J -25295567.00 -25295566.93 -25295566.81 0.0088 0.0080
 Jupiter -73969-07-07 23:01 J -25295565.73 -25295565.54 -25295565.35 0.0529 0.0146
 Moon -73967-09-01 17:44 J -25294779.91 -25294779.76 -25294779.62 0.2638 0.1322
 Earth -73967-09-01 22:32 J -25294779.66 -25294779.56 -25294779.45 0.2642 0.2009 *
 Saturn -73966-04-20 03:35 J -25294549.56 -25294549.35 -25294549.14 0.0264 0.0075
 Jupiter -73963-05-10 00:42 J -25293433.68 -25293433.47 -25293433.26 0.0497 0.0005
 Earth -73959-08-30 11:44 J -25291860.05 -25291860.01 -25291859.97 0.2644 0.2548
 Uranus -73958-08-13 10:32 J -25291512.07 -25291512.06 -25291512.04 0.0132 0.0131
 Uranus -73957-03-26 13:11 J -25291286.11 -25291285.95 -25291285.78 0.0132 0.0081
 Uranus -73957-11-07 16:04 J -25291060.03 -25291059.83 -25291059.62 0.0132 0.0031
 Uranus -73956-06-21 18:56 J -25290833.92 -25290833.71 -25290833.50 0.0133 0.0020
 Uranus -73955-02-02 22:04 J -25290607.76 -25290607.58 -25290607.40 0.0133 0.0070
 Uranus -73955-09-17 00:42 J -25290381.54 -25290381.47 -25290381.37 0.0133 0.0121
 Mars -73953-03-25 11:30 J -25289826.13 -25289826.02 -25289825.91 0.1568 0.1237
 Saturn -73952-02-22 10:04 J -25289492.28 -25289492.08 -25289491.88 0.0299 0.0063
 Mars -73952-02-28 13:54 J -25289486.06 -25289485.92 -25289485.77 0.1978 0.1032
 Jupiter -73951-01-12 22:18 J -25289167.68 -25289167.57 -25289167.45 0.0499 0.0408
 Saturn -73937-03-15 07:11 J -25283992.29 -25283992.20 -25283992.08 0.0263 0.0230
 Saturn -73937-10-30 10:47 J -25283763.22 -25283763.05 -25283762.85 0.0264 0.0139
 Jupiter -73933-03-15 09:35 J -25282531.30 -25282531.10 -25282530.91 0.0529 0.0104
 Jupiter -73927-01-15 12:42 J -25280399.15 -25280398.97 -25280398.78 0.0497 0.0237
 Pluto -73927-09-01 02:08 J -25280170.56 -25280170.41 -25280170.22 0.0065 0.0044
 Pluto -73926-04-14 07:40 J -25279945.40 -25279945.18 -25279944.95 0.0065 0.0012
 Pluto -73926-11-25 12:42 J -25279720.16 -25279719.97 -25279719.73 0.0066 0.0021
 Pluto -73925-07-07 18:28 J -25279494.85 -25279494.73 -25279494.58 0.0066 0.0053
 Saturn -73923-09-04 18:28 J -25278705.94 -25278705.73 -25278705.52 0.0298 0.0015

Jupiter -73922-11-19 05:01 J -25278265.43 -25278265.29 -25278265.15 0.0528 0.0364
 Mars -73921-03-24 03:35 J -25278139.51 -25278139.35 -25278139.19 0.1570 0.0667
 Uranus -73917-07-09 13:25 J -25276571.09 -25276570.94 -25276570.76 0.0147 0.0099
 Uranus -73916-02-21 05:16 J -25276344.50 -25276344.28 -25276344.06 0.0146 0.0026
 Jupiter -73916-09-20 09:49 J -25276133.28 -25276133.09 -25276132.90 0.0498 0.0176
 Uranus -73916-10-05 20:23 J -25276117.85 -25276117.65 -25276117.43 0.0146 0.0048
 Uranus -73915-05-20 11:44 J -25275891.12 -25275891.01 -25275890.87 0.0146 0.0119
 Saturn -73908-09-25 11:16 J -25273206.18 -25273206.03 -25273205.87 0.0263 0.0180
 Saturn -73907-05-12 14:52 J -25272977.02 -25272976.88 -25272976.72 0.0264 0.0190
 Jupiter -73898-11-21 23:16 J -25269496.66 -25269496.53 -25269496.38 0.0529 0.0372
 Saturn -73893-03-17 04:04 J -25267919.52 -25267919.33 -25267919.13 0.0298 0.0099
 Neptune -73892-01-27 08:52 J -25267603.13 -25267603.13 -25267603.07 0.0089 0.0088
 Neptune -73892-09-09 22:32 J -25267377.68 -25267377.56 -25267377.39 0.0089 0.0068
 Jupiter -73892-09-22 23:01 J -25267364.61 -25267364.54 -25267364.46 0.0497 0.0460
 Neptune -73891-04-23 12:28 J -25267152.15 -25267151.98 -25267151.77 0.0089 0.0048
 Neptune -73891-12-05 02:37 J -25266926.60 -25266926.39 -25266926.18 0.0089 0.0027
 Neptune -73890-07-18 16:18 J -25266701.04 -25266700.82 -25266700.59 0.0089 0.0007
 Neptune -73889-02-29 05:59 J -25266475.47 -25266475.25 -25266475.02 0.0089 0.0013
 Neptune -73889-10-11 19:25 J -25266249.88 -25266249.69 -25266249.46 0.0089 0.0034
 Neptune -73888-05-25 09:20 J -25266024.27 -25266024.11 -25266023.92 0.0089 0.0054
 Neptune -73887-01-05 23:16 J -25265798.64 -25265798.53 -25265798.40 0.0089 0.0074
 Mars -73887-01-21 00:28 J -25265783.54 -25265783.48 -25265783.41 0.1568 0.1444
 Jupiter -73886-07-27 17:59 J -25265230.94 -25265230.75 -25265230.55 0.0528 0.0102
 Jupiter -73880-05-28 21:20 J -25263098.82 -25263098.61 -25263098.40 0.0498 0.0055
 Saturn -73878-04-07 18:13 J -25262419.93 -25262419.74 -25262419.54 0.0263 0.0118
 Saturn -73878-11-22 22:18 J -25262190.63 -25262190.57 -25262190.51 0.0264 0.0253
 Uranus -73874-11-25 03:20 J -25260727.48 -25260727.36 -25260727.21 0.0132 0.0101
 Uranus -73873-07-08 06:13 J -25260501.43 -25260501.24 -25260501.04 0.0132 0.0051
 Uranus -73872-02-19 09:20 J -25260275.32 -25260275.11 -25260274.90 0.0133 0.0001
 Uranus -73872-10-03 11:59 J -25260049.19 -25260049.00 -25260048.80 0.0133 0.0050

Uranus -73871-05-17 14:37 J -25259823.01 -25259822.89 -25259822.73 0.0133 0.0101
 Jupiter -73868-01-31 19:40 J -25258832.83 -25258832.68 -25258832.53 0.0499 0.0352
 Saturn -73864-09-27 11:30 J -25257133.18 -25257133.02 -25257132.85 0.0298 0.0174
 Moon -73861-03-07 17:30 J -25256240.93 -25256240.77 -25256240.61 0.2685 0.0311
 Earth -73861-03-07 19:11 J -25256240.86 -25256240.70 -25256240.55 0.2691 0.0240 *
 Mars -73855-01-19 16:18 J -25254096.99 -25254096.82 -25254096.64 0.1569 0.0452
 Jupiter -73850-04-04 07:40 J -25252196.37 -25252196.18 -25252195.99 0.0529 0.0167
 Saturn -73849-10-17 21:06 J -25251633.82 -25251633.62 -25251633.41 0.0263 0.0072
 Jupiter -73844-02-03 09:06 J -25250064.29 -25250064.12 -25250063.95 0.0497 0.0288
 Pluto -73839-05-05 08:52 J -25248147.31 -25248147.13 -25248146.93 0.0079 0.0036
 Jupiter -73839-12-08 02:08 J -25247930.57 -25247930.41 -25247930.24 0.0528 0.0307
 Pluto -73839-12-16 18:13 J -25247921.95 -25247921.74 -25247921.53 0.0078 0.0017
 Pluto -73838-07-30 03:06 J -25247696.46 -25247696.37 -25247696.26 0.0078 0.0069
 Saturn -73835-08-22 22:32 J -25246576.65 -25246576.56 -25246576.46 0.0300 0.0264
 Saturn -73834-04-09 19:54 J -25246346.77 -25246346.67 -25246346.56 0.0298 0.0252
 Uranus -73833-03-08 21:35 J -25246012.70 -25246012.60 -25246012.48 0.0147 0.0128
 Jupiter -73833-10-09 06:13 J -25245798.44 -25245798.24 -25245798.04 0.0498 0.0126
 Uranus -73833-10-21 12:56 J -25245786.15 -25245785.96 -25245785.74 0.0147 0.0056
 Uranus -73832-06-05 04:47 J -25245559.52 -25245559.30 -25245559.08 0.0146 0.0018
 Uranus -73831-01-17 19:54 J -25245332.83 -25245332.67 -25245332.48 0.0146 0.0090
 Saturn -73819-04-30 03:20 J -25240847.57 -25240847.36 -25240847.14 0.0263 0.0012
 Jupiter -73815-12-10 19:25 J -25239161.80 -25239161.69 -25239161.57 0.0529 0.0424
 Neptune -73810-10-30 21:06 J -25237376.67 -25237376.62 -25237376.54 0.0088 0.0085
 Neptune -73809-06-12 09:20 J -25237151.24 -25237151.11 -25237150.95 0.0088 0.0066
 Neptune -73808-01-23 21:35 J -25236925.77 -25236925.60 -25236925.40 0.0088 0.0046
 Neptune -73808-09-06 10:04 J -25236700.28 -25236700.08 -25236699.87 0.0088 0.0027
 Neptune -73807-04-19 22:18 J -25236474.78 -25236474.57 -25236474.35 0.0088 0.0008
 Neptune -73807-12-01 10:47 J -25236249.27 -25236249.05 -25236248.84 0.0088 0.0012
 Neptune -73806-07-14 22:32 J -25236023.75 -25236023.56 -25236023.34 0.0088 0.0031
 Neptune -73805-02-25 10:32 J -25235798.22 -25235798.06 -25235797.86 0.0088 0.0051

Saturn -73805-03-04 05:59 J -25235790.41 -25235790.25 -25235790.09 0.0299 0.0190
 Neptune -73805-10-07 22:47 J -25235572.67 -25235572.55 -25235572.41 0.0088 0.0070
 Jupiter -73803-08-15 15:06 J -25234896.07 -25234895.87 -25234895.67 0.0528 0.0045
 Jupiter -73797-06-16 19:11 J -25232763.90 -25232763.70 -25232763.49 0.0497 0.0115
 Jupiter -73791-04-20 10:18 J -25230630.11 -25230630.07 -25230630.01 0.0527 0.0510
 Uranus -73790-07-25 17:16 J -25230168.85 -25230168.78 -25230168.69 0.0132 0.0121
 Saturn -73790-11-10 05:16 J -25230061.49 -25230061.28 -25230061.06 0.0263 0.0032
 Mars -73790-11-17 05:01 J -25230054.46 -25230054.29 -25230054.11 0.1569 0.0239
 Uranus -73789-03-07 20:08 J -25229942.83 -25229942.66 -25229942.48 0.0132 0.0071
 Uranus -73789-10-19 22:47 J -25229716.75 -25229716.55 -25229716.33 0.0132 0.0022
 Mars -73789-10-22 19:40 J -25229713.74 -25229713.68 -25229713.62 0.1977 0.1830
 Uranus -73788-06-03 01:40 J -25229490.63 -25229490.43 -25229490.22 0.0133 0.0029
 Uranus -73787-01-15 04:32 J -25229264.47 -25229264.31 -25229264.13 0.0133 0.0080
 Uranus -73787-08-29 07:40 J -25229038.22 -25229038.18 -25229038.14 0.0133 0.0130
 Jupiter -73785-02-20 17:30 J -25228497.93 -25228497.77 -25228497.60 0.0498 0.0292
 Saturn -73776-09-14 12:13 J -25225004.18 -25225003.99 -25225003.80 0.0299 0.0120
 Jupiter -73767-04-23 05:44 J -25221861.44 -25221861.26 -25221861.08 0.0528 0.0229
 Jupiter -73761-02-23 06:56 J -25219729.35 -25219729.21 -25219729.05 0.0497 0.0345
 Saturn -73760-05-22 10:47 J -25219275.26 -25219275.05 -25219274.85 0.0263 0.0089
 Jupiter -73756-12-26 23:44 J -25217595.68 -25217595.51 -25217595.33 0.0527 0.0246
 Jupiter -73750-10-29 05:44 J -25215463.47 -25215463.26 -25215463.05 0.0498 0.0058
 Uranus -73749-06-20 18:56 J -25215227.87 -25215227.71 -25215227.52 0.0147 0.0088
 Uranus -73748-02-02 10:47 J -25215001.27 -25215001.05 -25215000.83 0.0146 0.0015
 Uranus -73748-09-17 02:08 J -25214774.61 -25214774.41 -25214774.20 0.0146 0.0057
 Uranus -73747-05-01 17:16 J -25214547.87 -25214547.78 -25214547.67 0.0146 0.0129
 Saturn -73746-03-27 18:13 J -25214217.94 -25214217.74 -25214217.54 0.0299 0.0051
 Jupiter -73738-07-04 04:18 J -25211197.39 -25211197.32 -25211197.24 0.0499 0.0464
 Jupiter -73732-12-29 19:54 J -25208826.73 -25208826.67 -25208826.60 0.0530 0.0500
 Saturn -73731-04-17 08:52 J -25208718.22 -25208718.13 -25208718.03 0.0262 0.0235
 Saturn -73731-12-02 11:44 J -25208489.20 -25208489.01 -25208488.82 0.0263 0.0129

Neptune -73728-12-12 06:13 J -25207383.32 -25207383.24 -25207383.10 0.0089 0.0078
 Neptune -73727-07-25 20:37 J -25207157.81 -25207157.64 -25207157.47 0.0089 0.0057
 Neptune -73726-03-08 10:04 J -25206932.27 -25206932.08 -25206931.87 0.0089 0.0037
 Neptune -73726-10-19 23:59 J -25206706.72 -25206706.50 -25206706.28 0.0089 0.0017
 Neptune -73725-06-01 13:54 J -25206481.14 -25206480.92 -25206480.69 0.0089 0.0004
 Neptune -73724-01-13 03:35 J -25206255.56 -25206255.35 -25206255.13 0.0089 0.0024
 Neptune -73724-08-26 17:16 J -25206029.97 -25206029.78 -25206029.58 0.0089 0.0044
 Earth -73724-09-01 20:52 J -25206023.75 -25206023.63 -25206023.51 0.2644 0.1716
 Moon -73724-09-01 23:44 J -25206023.62 -25206023.51 -25206023.40 0.2649 0.1849 *
 Mars -73724-09-13 17:59 J -25206011.93 -25206011.75 -25206011.57 0.1568 0.0039
 Neptune -73723-04-09 06:42 J -25205804.35 -25205804.22 -25205804.04 0.0089 0.0065
 Mars -73723-08-19 21:35 J -25205671.75 -25205671.60 -25205671.45 0.1978 0.0869
 Neptune -73723-11-20 20:23 J -25205578.69 -25205578.65 -25205578.56 0.0089 0.0085
 Jupiter -73720-09-03 15:35 J -25204561.05 -25204560.85 -25204560.65 0.0528 0.0031
 Saturn -73717-10-06 22:32 J -25203431.76 -25203431.56 -25203431.35 0.0299 0.0015
 Moon -73716-08-30 15:35 J -25203103.92 -25203103.85 -25203103.78 0.2648 0.2367
 Jupiter -73714-07-06 17:30 J -25202428.96 -25202428.77 -25202428.57 0.0498 0.0173
 Jupiter -73708-05-09 11:01 J -25200295.14 -25200295.04 -25200294.92 0.0527 0.0433
 Uranus -73706-11-06 08:37 J -25199384.28 -25199384.14 -25199383.98 0.0132 0.0094
 Uranus -73705-06-19 11:30 J -25199158.22 -25199158.02 -25199157.82 0.0132 0.0044
 Uranus -73704-01-31 14:23 J -25198932.11 -25198931.90 -25198931.68 0.0132 0.0007
 Uranus -73704-09-14 17:16 J -25198705.97 -25198705.78 -25198705.59 0.0133 0.0057
 Uranus -73703-04-28 20:08 J -25198479.79 -25198479.66 -25198479.54 0.0133 0.0107
 Jupiter -73702-03-11 16:04 J -25198163.02 -25198162.83 -25198162.65 0.0499 0.0233
 Saturn -73702-10-28 13:25 J -25197932.09 -25197931.94 -25197931.78 0.0262 0.0181
 Saturn -73701-06-13 16:32 J -25197702.97 -25197702.81 -25197702.66 0.0263 0.0184
 Saturn -73687-04-19 03:35 J -25192645.54 -25192645.35 -25192645.14 0.0299 0.0077
 Jupiter -73684-05-12 05:01 J -25191526.45 -25191526.29 -25191526.12 0.0529 0.0301
 Jupiter -73678-03-14 08:08 J -25189394.27 -25189394.16 -25189394.05 0.0497 0.0419
 Pluto -73678-03-17 05:59 J -25189391.38 -25189391.25 -25189391.08 0.0065 0.0048

Pluto -73678-10-28 11:30 J -25189166.23 -25189166.02 -25189165.79 0.0065 0.0017
 Pluto -73677-06-09 17:01 J -25188941.00 -25188940.79 -25188940.56 0.0066 0.0016
 Pluto -73676-01-20 22:04 J -25188715.71 -25188715.58 -25188715.40 0.0066 0.0049
 Jupiter -73672-01-15 01:11 J -25187260.63 -25187260.45 -25187260.25 0.0528 0.0165
 Saturn -73672-05-09 13:54 J -25187146.10 -25187145.92 -25187145.74 0.0262 0.0143
 Saturn -73672-12-24 16:32 J -25186916.92 -25186916.81 -25186916.69 0.0263 0.0222
 Jupiter -73667-11-17 06:42 J -25185128.42 -25185128.22 -25185128.01 0.0498 0.0018
 Uranus -73665-02-18 23:16 J -25184669.63 -25184669.53 -25184669.39 0.0147 0.0123
 Uranus -73665-10-02 15:06 J -25184443.08 -25184442.87 -25184442.66 0.0147 0.0050
 Uranus -73664-05-17 06:42 J -25184216.44 -25184216.22 -25184216.00 0.0146 0.0023
 Uranus -73664-12-29 21:49 J -25183989.75 -25183989.59 -25183989.41 0.0146 0.0095
 Mars -73658-07-12 06:56 J -25181969.39 -25181969.21 -25181969.04 0.1568 0.0199
 Saturn -73658-10-30 05:59 J -25181859.43 -25181859.25 -25181859.06 0.0299 0.0132
 Mars -73657-06-15 23:59 J -25181629.67 -25181629.50 -25181629.33 0.1979 0.0057
 Jupiter -73655-07-23 03:06 J -25180862.49 -25180862.37 -25180862.24 0.0499 0.0402
 Neptune -73645-09-13 18:56 J -25177156.81 -25177156.71 -25177156.58 0.0088 0.0075
 Neptune -73644-04-27 07:11 J -25176931.35 -25176931.20 -25176931.02 0.0088 0.0055
 Neptune -73644-12-08 19:54 J -25176705.87 -25176705.67 -25176705.47 0.0088 0.0036
 Neptune -73643-07-22 07:54 J -25176480.38 -25176480.17 -25176479.95 0.0088 0.0017
 Saturn -73643-11-19 17:44 J -25176359.96 -25176359.76 -25176359.55 0.0262 0.0091
 Neptune -73642-03-04 20:08 J -25176254.87 -25176254.66 -25176254.44 0.0088 0.0003
 Neptune -73642-10-16 08:23 J -25176029.36 -25176029.15 -25176028.94 0.0088 0.0022
 Neptune -73641-05-28 20:08 J -25175803.84 -25175803.66 -25175803.46 0.0088 0.0041
 Neptune -73640-01-09 08:23 J -25175578.29 -25175578.15 -25175577.98 0.0088 0.0061
 Neptune -73640-08-22 20:23 J -25175352.72 -25175352.65 -25175352.54 0.0088 0.0080
 Jupiter -73637-09-22 16:18 J -25174226.02 -25174225.82 -25174225.63 0.0528 0.0110
 Jupiter -73631-07-25 19:25 J -25172093.86 -25172093.69 -25172093.51 0.0498 0.0253
 Saturn -73628-05-11 10:18 J -25171073.22 -25171073.07 -25171072.91 0.0299 0.0193
 Jupiter -73625-05-28 11:44 J -25169960.16 -25169960.01 -25169959.86 0.0527 0.0356
 Uranus -73622-07-06 21:20 J -25168825.70 -25168825.61 -25168825.50 0.0132 0.0115

Uranus -73621-02-18 00:13 J -25168599.68 -25168599.49 -25168599.31 0.0132 0.0065
 Uranus -73621-10-01 02:52 J -25168373.59 -25168373.38 -25168373.17 0.0132 0.0016
 Uranus -73620-05-15 05:30 J -25168147.47 -25168147.27 -25168147.06 0.0132 0.0034
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 Jupiter -73619-03-30 18:28 J -25167827.93 -25167827.73 -25167827.53 0.0498 0.0151
 Moon -73618-03-08 21:49 J -25167484.73 -25167484.59 -25167484.44 0.2697 0.0444
 Earth -73618-03-08 22:18 J -25167484.72 -25167484.57 -25167484.41 0.2689 0.0263 *
 Saturn -73613-05-31 17:44 J -25165573.97 -25165573.76 -25165573.54 0.0262 0.0055
 Jupiter -73601-05-31 08:52 J -25161191.26 -25161191.13 -25161190.99 0.0529 0.0392
 Saturn -73599-04-05 12:56 J -25160517.02 -25160516.96 -25160516.88 0.0301 0.0281
 Saturn -73599-11-21 11:30 J -25160287.13 -25160287.02 -25160286.89 0.0299 0.0244
 Jupiter -73595-04-02 07:54 J -25159059.21 -25159059.17 -25159059.13 0.0497 0.0486
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 Jupiter -73584-12-06 06:28 J -25154793.43 -25154793.23 -25154793.02 0.0498 0.0082
 Saturn -73584-12-11 21:20 J -25154787.83 -25154787.61 -25154787.39 0.0262 0.0004
 Uranus -73581-06-01 16:18 J -25153884.98 -25153884.82 -25153884.63 0.0147 0.0090
 Uranus -73580-01-14 08:08 J -25153658.38 -25153658.16 -25153657.94 0.0146 0.0017
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 Neptune -73563-03-15 14:37 J -25147388.92 -25147388.89 -25147388.83 0.0089 0.0087
 Neptune -73563-10-27 04:18 J -25147163.45 -25147163.32 -25147163.16 0.0089 0.0067
 Neptune -73562-06-09 17:59 J -25146937.92 -25146937.75 -25146937.54 0.0089 0.0047
 Neptune -73561-01-21 07:54 J -25146712.37 -25146712.17 -25146711.95 0.0089 0.0027

Neptune -73561-09-02 21:49 J -25146486.81 -25146486.59 -25146486.37 0.0089 0.0006
 Neptune -73560-04-16 11:30 J -25146261.24 -25146261.02 -25146260.80 0.0089 0.0014
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 Neptune -73560-11-28 00:56 J -25146035.65 -25146035.46 -25146035.23 0.0089 0.0035
 Neptune -73559-07-11 14:52 J -25145810.04 -25145809.88 -25145809.69 0.0089 0.0055
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 Jupiter -73554-10-12 19:25 J -25143890.87 -25143890.69 -25143890.51 0.0528 0.0201
 Jupiter -73548-08-13 22:18 J -25141758.72 -25141758.57 -25141758.41 0.0497 0.0336
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 Uranus -73536-01-12 18:13 J -25137588.95 -25137588.74 -25137588.53 0.0132 0.0012
 Jupiter -73536-04-18 18:13 J -25137492.94 -25137492.74 -25137492.53 0.0499 0.0084
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 Uranus -73535-04-09 23:16 J -25137136.62 -25137136.53 -25137136.40 0.0133 0.0113
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 Saturn -73524-01-03 00:28 J -25133215.69 -25133215.48 -25133215.27 0.0262 0.0081
 Jupiter -73518-06-20 11:16 J -25130856.11 -25130856.03 -25130855.94 0.0528 0.0479
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 Jupiter -73506-02-23 06:56 J -25126590.41 -25126590.21 -25126590.01 0.0527 0.0015
 Jupiter -73501-12-25 10:18 J -25124458.27 -25124458.07 -25124457.88 0.0498 0.0170
 Uranus -73497-01-30 18:56 J -25123326.80 -25123326.71 -25123326.58 0.0147 0.0127
 Uranus -73497-09-13 10:32 J -25123100.26 -25123100.06 -25123099.84 0.0147 0.0055
 Uranus -73496-04-28 02:08 J -25122873.63 -25122873.41 -25122873.18 0.0146 0.0018
 Saturn -73496-11-28 22:32 J -25122658.62 -25122658.56 -25122658.46 0.0261 0.0242
 Uranus -73496-12-10 17:16 J -25122646.94 -25122646.78 -25122646.59 0.0146 0.0090
 Saturn -73495-07-16 00:28 J -25122429.67 -25122429.48 -25122429.28 0.0262 0.0118

Jupiter -73495-10-29 02:37 J -25122324.49 -25122324.39 -25122324.28 0.0527 0.0449
 Mars -73494-03-05 00:13 J -25122197.59 -25122197.49 -25122197.39 0.1568 0.1278
 Jupiter -73489-08-30 09:06 J -25120192.30 -25120192.12 -25120191.94 0.0499 0.0232
 Saturn -73481-05-19 20:23 J -25117372.85 -25117372.65 -25117372.45 0.0300 0.0074
 Moon -73481-09-01 18:28 J -25117267.86 -25117267.73 -25117267.59 0.2640 0.1655
 Earth -73481-09-01 19:11 J -25117267.84 -25117267.70 -25117267.56 0.2646 0.1403 *
 Neptune -73481-12-16 05:01 J -25117162.33 -25117162.29 -25117162.19 0.0088 0.0084
 Neptune -73480-07-29 17:44 J -25116936.90 -25116936.76 -25116936.60 0.0088 0.0064
 Neptune -73479-03-12 05:59 J -25116711.43 -25116711.25 -25116711.05 0.0088 0.0045
 Neptune -73479-10-23 18:13 J -25116485.94 -25116485.74 -25116485.53 0.0088 0.0025
 Neptune -73478-06-06 06:28 J -25116260.44 -25116260.23 -25116260.01 0.0088 0.0006
 Neptune -73477-01-17 18:42 J -25116034.93 -25116034.72 -25116034.50 0.0088 0.0014
 Neptune -73477-08-30 06:56 J -25115809.41 -25115809.21 -25115809.01 0.0088 0.0033
 Neptune -73476-04-12 18:42 J -25115583.88 -25115583.72 -25115583.53 0.0088 0.0052
 Neptune -73476-11-24 06:56 J -25115358.32 -25115358.21 -25115358.07 0.0088 0.0072
 Jupiter -73471-11-01 00:56 J -25113555.62 -25113555.46 -25113555.30 0.0528 0.0303
 Saturn -73466-06-11 02:08 J -25111872.55 -25111872.41 -25111872.27 0.0261 0.0193
 Saturn -73465-01-26 03:49 J -25111643.50 -25111643.34 -25111643.17 0.0262 0.0167
 Jupiter -73465-09-01 21:49 J -25111423.70 -25111423.59 -25111423.46 0.0498 0.0403
 Mars -73461-12-31 21:20 J -25109841.76 -25109841.61 -25109841.46 0.1567 0.0829
 Jupiter -73459-07-06 19:11 J -25109289.89 -25109289.70 -25109289.51 0.0527 0.0168
 Uranus -73454-06-18 01:11 J -25107482.55 -25107482.45 -25107482.32 0.0132 0.0109
 Uranus -73453-01-30 04:18 J -25107256.51 -25107256.32 -25107256.13 0.0132 0.0059
 Jupiter -73453-05-07 21:20 J -25107157.82 -25107157.61 -25107157.41 0.0499 0.0008
 Uranus -73453-09-12 06:56 J -25107030.42 -25107030.21 -25107030.00 0.0132 0.0010
 Uranus -73452-04-26 09:35 J -25106804.29 -25106804.10 -25106803.89 0.0133 0.0041
 Saturn -73452-11-30 00:56 J -25106586.66 -25106586.46 -25106586.25 0.0301 0.0013
 Uranus -73452-12-08 12:13 J -25106578.13 -25106577.99 -25106577.82 0.0133 0.0091
 Jupiter -73441-01-11 20:37 J -25102891.76 -25102891.64 -25102891.52 0.0500 0.0400
 Saturn -73437-12-21 02:37 J -25101086.56 -25101086.39 -25101086.21 0.0261 0.0155

Saturn -73436-08-07 04:18 J -25100857.45 -25100857.32 -25100857.18 0.0262 0.0206
 Pluto -73430-09-30 11:16 J -25098612.15 -25098612.03 -25098611.86 0.0065 0.0049
 Pluto -73429-05-12 16:47 J -25098387.00 -25098386.80 -25098386.56 0.0065 0.0018
 Pluto -73429-12-23 22:18 J -25098161.78 -25098161.57 -25098161.34 0.0066 0.0016
 Mars -73429-12-30 12:56 J -25098155.09 -25098154.96 -25098154.83 0.1568 0.1065
 Pluto -73428-08-06 04:04 J -25097936.48 -25097936.33 -25097936.17 0.0066 0.0048
 Mars -73428-12-05 07:25 J -25097815.24 -25097815.19 -25097815.13 0.1979 0.1854
 Jupiter -73423-03-14 11:44 J -25096255.20 -25096255.01 -25096254.81 0.0528 0.0114
 Saturn -73422-06-12 00:56 J -25095800.67 -25095800.46 -25095800.25 0.0300 0.0032
 Jupiter -73417-01-14 09:35 J -25094123.28 -25094123.10 -25094122.92 0.0498 0.0237
 Uranus -73413-05-13 14:37 J -25092542.06 -25092541.89 -25092541.71 0.0147 0.0090
 Uranus -73413-12-26 06:13 J -25092315.46 -25092315.24 -25092315.02 0.0146 0.0018
 Uranus -73412-08-09 21:35 J -25092088.80 -25092088.60 -25092088.39 0.0146 0.0054
 Jupiter -73412-11-17 08:23 J -25091989.30 -25091989.15 -25091989.00 0.0526 0.0344
 Uranus -73411-03-24 12:28 J -25091862.07 -25091861.98 -25091861.85 0.0146 0.0126
 Saturn -73407-07-03 06:13 J -25090300.44 -25090300.24 -25090300.04 0.0261 0.0106
 Saturn -73406-02-17 07:54 J -25090071.20 -25090071.17 -25090071.11 0.0262 0.0256
 Jupiter -73406-09-19 07:54 J -25089857.37 -25089857.17 -25089856.98 0.0499 0.0169
 Neptune -73398-01-28 13:11 J -25087169.04 -25087168.95 -25087168.81 0.0089 0.0076
 Neptune -73398-09-11 02:52 J -25086943.54 -25086943.38 -25086943.19 0.0089 0.0056
 Neptune -73397-04-23 16:47 J -25086718.00 -25086717.80 -25086717.59 0.0089 0.0035
 Neptune -73397-12-05 06:28 J -25086492.44 -25086492.23 -25086492.00 0.0089 0.0015
 Neptune -73396-07-18 20:23 J -25086266.87 -25086266.65 -25086266.43 0.0089 0.0005
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 Neptune -73395-10-12 23:44 J -25085815.69 -25085815.51 -25085815.31 0.0089 0.0046
 Mars -73395-10-29 10:04 J -25085799.21 -25085799.08 -25085798.95 0.1567 0.1045
 Neptune -73394-05-26 13:11 J -25085590.07 -25085589.95 -25085589.78 0.0089 0.0067
 Neptune -73393-01-07 03:06 J -25085364.39 -25085364.37 -25085364.30 0.0089 0.0087
 Saturn -73393-12-22 06:13 J -25085014.43 -25085014.24 -25085014.04 0.0300 0.0096
 Jupiter -73388-11-20 01:25 J -25083220.57 -25083220.44 -25083220.30 0.0528 0.0382

Jupiter -73382-09-22 00:42 J -25081088.50 -25081088.47 -25081088.42 0.0498 0.0486
 Saturn -73377-01-13 07:54 J -25079514.38 -25079514.17 -25079513.96 0.0261 0.0064
 Jupiter -73376-07-25 21:06 J -25078954.81 -25078954.62 -25078954.42 0.0527 0.0084
 Earth -73375-03-09 01:40 J -25078728.59 -25078728.43 -25078728.28 0.2688 0.0310
 Moon -73375-03-09 04:04 J -25078728.48 -25078728.33 -25078728.17 0.2681 0.0650 *
 Uranus -73370-02-15 13:40 J -25076923.93 -25076923.93 -25076923.88 0.0132 0.0131
 Jupiter -73370-05-27 23:30 J -25076822.72 -25076822.52 -25076822.31 0.0498 0.0084
 Uranus -73370-09-29 16:47 J -25076697.96 -25076697.80 -25076697.63 0.0132 0.0081
 Uranus -73369-05-12 19:25 J -25076471.89 -25076471.69 -25076471.48 0.0132 0.0032
 Uranus -73369-12-24 22:18 J -25076245.77 -25076245.57 -25076245.35 0.0133 0.0019
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 Uranus -73367-03-22 03:35 J -25075793.42 -25075793.35 -25075793.23 0.0133 0.0119
 Saturn -73363-07-04 06:42 J -25074228.39 -25074228.22 -25074228.03 0.0300 0.0144
 Mars -73363-10-28 01:54 J -25074112.57 -25074112.42 -25074112.27 0.1568 0.0850
 Mars -73362-10-02 09:35 J -25073773.25 -25073773.10 -25073772.95 0.1979 0.0905
 Jupiter -73358-01-30 19:11 J -25072556.85 -25072556.70 -25072556.55 0.0499 0.0336
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 Uranus -73329-08-25 12:13 J -25061757.20 -25061756.99 -25061756.78 0.0147 0.0050
 Mars -73329-08-25 23:16 J -25061756.64 -25061756.53 -25061756.43 0.1567 0.1250
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 Uranus -73328-04-09 03:20 J -25061530.57 -25061530.36 -25061530.13 0.0146 0.0023
 Uranus -73328-11-21 18:42 J -25061303.89 -25061303.72 -25061303.55 0.0146 0.0093
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Saturn -73318-02-04 14:23 J -25057942.11 -25057941.90 -25057941.68 0.0261 0.0033
 Neptune -73316-10-31 04:04 J -25056942.43 -25056942.33 -25056942.18 0.0088 0.0072
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 Neptune -73314-01-25 05:01 J -25056491.48 -25056491.29 -25056491.08 0.0088 0.0033
 Neptune -73314-09-07 17:30 J -25056265.99 -25056265.77 -25056265.56 0.0088 0.0014
 Neptune -73313-04-20 05:45 J -25056040.48 -25056040.26 -25056040.05 0.0088 0.0006
 Neptune -73313-12-01 17:45 J -25055814.96 -25055814.76 -25055814.54 0.0088 0.0025
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 Jupiter -73311-06-13 08:23 J -25055256.18 -25055256.15 -25055256.12 0.0500 0.0493
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 Saturn -73304-07-26 15:35 J -25052655.94 -25052655.85 -25052655.75 0.0300 0.0266
 Mars -73297-08-24 14:52 J -25050070.04 -25050069.88 -25050069.72 0.1567 0.0643
 Mars -73296-07-29 11:16 J -25049731.20 -25049731.03 -25049730.86 0.1980 0.0080
 Jupiter -73293-08-14 00:28 J -25048619.68 -25048619.48 -25048619.28 0.0527 0.0010
 Saturn -73289-08-16 18:42 J -25047155.92 -25047155.72 -25047155.51 0.0262 0.0084
 Jupiter -73287-06-15 20:23 J -25046487.85 -25046487.65 -25046487.45 0.0498 0.0138
 Uranus -73286-05-30 05:16 J -25046139.40 -25046139.28 -25046139.14 0.0132 0.0103
 Uranus -73285-01-11 08:23 J -25045913.35 -25045913.15 -25045912.96 0.0132 0.0054
 Uranus -73285-08-24 11:01 J -25045687.25 -25045687.04 -25045686.82 0.0133 0.0004
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 Uranus -73284-11-19 16:33 J -25045234.95 -25045234.81 -25045234.66 0.0133 0.0096
 Jupiter -73281-04-18 18:13 J -25044353.83 -25044353.74 -25044353.65 0.0526 0.0461
 Jupiter -73275-02-18 18:57 J -25042221.88 -25042221.71 -25042221.53 0.0500 0.0267
 Saturn -73275-06-21 00:28 J -25042099.64 -25042099.48 -25042099.32 0.0301 0.0185
 Mars -73263-06-23 11:59 J -25037714.06 -25037714.00 -25037713.94 0.1567 0.1462
 Saturn -73260-07-12 21:35 J -25036598.70 -25036598.60 -25036598.49 0.0261 0.0224
 Saturn -73259-02-26 22:47 J -25036369.72 -25036369.55 -25036369.35 0.0262 0.0136

Jupiter -73257-04-21 11:45 J -25035585.18 -25035585.01 -25035584.84 0.0528 0.0263
 Jupiter -73251-02-21 10:33 J -25033453.19 -25033453.06 -25033452.92 0.0498 0.0382
 Jupiter -73246-12-26 08:37 J -25031319.33 -25031319.14 -25031318.96 0.0527 0.0193
 Saturn -73245-01-01 04:47 J -25031313.48 -25031313.30 -25031313.11 0.0300 0.0123
 Uranus -73245-04-24 17:45 J -25031198.93 -25031198.76 -25031198.56 0.0147 0.0083
 Uranus -73245-12-07 09:21 J -25030972.33 -25030972.11 -25030971.88 0.0146 0.0011
 Uranus -73244-07-22 00:28 J -25030745.67 -25030745.48 -25030745.26 0.0146 0.0061
 Uranus -73243-03-05 15:35 J -25030518.93 -25030518.85 -25030518.74 0.0146 0.0132
 Jupiter -73240-10-27 06:13 J -25029187.45 -25029187.24 -25029187.03 0.0499 0.0036
 Moon -73238-09-02 15:35 J -25028512.00 -25028511.85 -25028511.70 0.2654 0.0665
 Earth -73238-09-02 17:30 J -25028511.92 -25028511.77 -25028511.62 0.2648 0.1115 *
 Neptune -73234-05-01 22:47 J -25027174.60 -25027174.55 -25027174.47 0.0089 0.0084
 Neptune -73234-12-13 12:28 J -25026949.12 -25026948.98 -25026948.82 0.0089 0.0064
 Neptune -73233-07-26 01:54 J -25026723.60 -25026723.42 -25026723.21 0.0089 0.0044
 Neptune -73232-03-08 15:35 J -25026498.05 -25026497.85 -25026497.62 0.0089 0.0024
 Neptune -73232-10-20 05:30 J -25026272.49 -25026272.27 -25026272.04 0.0089 0.0004
 Neptune -73231-06-02 19:25 J -25026046.91 -25026046.69 -25026046.47 0.0089 0.0017
 Mars -73231-06-22 03:35 J -25026027.52 -25026027.35 -25026027.18 0.1567 0.0424
 Neptune -73230-01-14 08:52 J -25025821.32 -25025821.13 -25025820.91 0.0089 0.0038
 Saturn -73230-01-23 02:09 J -25025812.57 -25025812.41 -25025812.24 0.0261 0.0172
 Mars -73230-05-26 13:40 J -25025689.08 -25025688.93 -25025688.78 0.1980 0.1007
 Neptune -73230-08-27 22:33 J -25025595.71 -25025595.56 -25025595.37 0.0089 0.0058
 Saturn -73230-09-09 04:04 J -25025583.48 -25025583.33 -25025583.18 0.0262 0.0189
 Neptune -73229-04-09 12:42 J -25025370.07 -25025369.97 -25025369.86 0.0089 0.0078
 Jupiter -73228-07-02 04:04 J -25024921.42 -25024921.33 -25024921.23 0.0500 0.0443
 Saturn -73216-07-13 14:09 J -25020527.11 -25020526.91 -25020526.70 0.0301 0.0041
 Jupiter -73210-09-02 20:52 J -25018284.82 -25018284.63 -25018284.43 0.0527 0.0066
 Jupiter -73204-07-04 19:25 J -25016152.88 -25016152.69 -25016152.50 0.0498 0.0203
 Uranus -73202-01-27 17:01 J -25015580.84 -25015580.79 -25015580.72 0.0132 0.0126
 Uranus -73202-09-10 19:40 J -25015354.84 -25015354.68 -25015354.50 0.0132 0.0077

Uranus -73201-04-23 22:33 J -25015128.76 -25015128.56 -25015128.34 0.0132 0.0028
 Saturn -73201-08-04 07:40 J -25015026.36 -25015026.18 -25015025.97 0.0261 0.0117
 Uranus -73201-12-06 01:25 J -25014902.64 -25014902.44 -25014902.22 0.0133 0.0023
 Saturn -73200-03-21 09:35 J -25014797.16 -25014797.10 -25014797.02 0.0262 0.0246
 Uranus -73200-07-20 04:18 J -25014676.49 -25014676.32 -25014676.14 0.0133 0.0073
 Uranus -73199-03-03 07:11 J -25014450.27 -25014450.20 -25014450.11 0.0133 0.0123
 Jupiter -73198-05-08 15:06 J -25014018.99 -25014018.87 -25014018.74 0.0526 0.0403
 Jupiter -73192-03-09 17:30 J -25011886.96 -25011886.77 -25011886.58 0.0499 0.0203
 Saturn -73186-01-23 20:09 J -25009740.86 -25009740.66 -25009740.45 0.0300 0.0029
 Pluto -73181-04-14 15:06 J -25007832.98 -25007832.87 -25007832.73 0.0065 0.0054
 Pluto -73181-11-25 20:37 J -25007607.85 -25007607.64 -25007607.42 0.0065 0.0022
 Pluto -73180-07-09 02:09 J -25007382.63 -25007382.41 -25007382.18 0.0066 0.0011
 Pluto -73179-02-19 07:25 J -25007157.34 -25007157.19 -25007157.00 0.0066 0.0044
 Jupiter -73174-05-11 11:45 J -25005250.16 -25005250.01 -25005249.85 0.0528 0.0339
 Saturn -73171-02-14 12:57 J -25004240.17 -25004239.96 -25004239.75 0.0261 0.0063
 Jupiter -73168-03-12 05:16 J -25003118.38 -25003118.28 -25003118.17 0.0498 0.0426
 Mars -73165-04-18 16:33 J -25001984.99 -25001984.81 -25001984.64 0.1567 0.0216
 Jupiter -73162-01-14 05:30 J -25000984.46 -25000984.27 -25000984.08 0.0527 0.0136
 Uranus -73162-12-23 22:33 J -25000640.68 -25000640.56 -25000640.41 0.0147 0.0117
 Uranus -73161-08-06 14:09 J -25000414.11 -25000413.91 -25000413.69 0.0146 0.0045
 Uranus -73160-03-21 05:30 J -25000187.49 -25000187.27 -25000187.05 0.0146 0.0027
 Uranus -73160-11-02 20:37 J -24999960.80 -24999960.64 -24999960.47 0.0146 0.0098
 Saturn -73157-08-05 06:28 J -24998954.42 -24998954.23 -24998954.04 0.0300 0.0115
 Jupiter -73157-11-15 03:21 J -24998852.56 -24998852.36 -24998852.15 0.0499 0.0023
 Neptune -73151-02-01 15:35 J -24996947.92 -24996947.85 -24996947.74 0.0088 0.0080
 Neptune -73151-09-15 03:49 J -24996722.48 -24996722.34 -24996722.16 0.0088 0.0061
 Neptune -73150-04-28 16:33 J -24996497.00 -24996496.81 -24996496.61 0.0088 0.0041
 Neptune -73150-12-10 05:01 J -24996271.49 -24996271.29 -24996271.07 0.0088 0.0021
 Neptune -73149-07-22 17:30 J -24996045.99 -24996045.77 -24996045.56 0.0088 0.0002
 Neptune -73148-03-05 05:30 J -24995820.48 -24995820.27 -24995820.05 0.0088 0.0018

Neptune -73148-10-16 17:30 J -24995594.96 -24995594.77 -24995594.56 0.0088 0.0037
 Neptune -73147-05-30 05:30 J -24995369.42 -24995369.27 -24995369.09 0.0088 0.0057
 Neptune -73146-01-10 17:59 J -24995143.85 -24995143.75 -24995143.63 0.0088 0.0076
 Jupiter -73145-07-21 01:54 J -24994586.55 -24994586.42 -24994586.29 0.0500 0.0386
 Saturn -73142-08-27 19:40 J -24993453.90 -24993453.68 -24993453.46 0.0261 0.0002
 Moon -73132-03-09 00:57 J -24989972.61 -24989972.46 -24989972.31 0.2690 0.0401
 Earth -73132-03-09 05:01 J -24989972.45 -24989972.29 -24989972.14 0.2686 0.0372 *
 Saturn -73127-02-15 14:09 J -24988168.07 -24988167.91 -24988167.75 0.0300 0.0190
 Jupiter -73127-09-21 18:13 J -24987949.93 -24987949.74 -24987949.55 0.0528 0.0125
 Jupiter -73121-07-23 14:09 J -24985818.08 -24985817.91 -24985817.72 0.0498 0.0248
 Uranus -73118-05-11 06:42 J -24984796.34 -24984796.22 -24984796.07 0.0132 0.0101
 Uranus -73118-12-23 09:49 J -24984570.28 -24984570.09 -24984569.89 0.0132 0.0051
 Uranus -73117-08-05 12:42 J -24984344.18 -24984343.97 -24984343.76 0.0132 0.0002
 Uranus -73116-03-19 15:21 J -24984118.05 -24984117.86 -24984117.65 0.0133 0.0049
 Uranus -73116-10-31 17:59 J -24983891.87 -24983891.75 -24983891.59 0.0133 0.0099
 Jupiter -73115-05-27 13:40 J -24983684.08 -24983683.93 -24983683.78 0.0527 0.0338
 Saturn -73112-03-09 00:57 J -24982667.68 -24982667.46 -24982667.25 0.0262 0.0052
 Jupiter -73109-03-28 11:45 J -24981552.20 -24981552.01 -24981551.81 0.0499 0.0161
 Mars -73099-02-14 05:16 J -24977942.46 -24977942.28 -24977942.10 0.1567 0.0013
 Saturn -73098-01-11 01:54 J -24977611.52 -24977611.42 -24977611.29 0.0301 0.0248
 Saturn -73098-08-29 00:57 J -24977381.53 -24977381.46 -24977381.38 0.0300 0.0279
 Pluto -73094-12-18 02:52 J -24975809.56 -24975809.38 -24975809.17 0.0079 0.0037
 Pluto -73093-07-30 12:13 J -24975584.20 -24975583.99 -24975583.78 0.0078 0.0017
 Pluto -73092-03-12 20:37 J -24975358.72 -24975358.64 -24975358.52 0.0078 0.0069
 Jupiter -73091-05-30 05:59 J -24974915.38 -24974915.25 -24974915.11 0.0528 0.0380
 Jupiter -73085-03-31 02:09 J -24972783.46 -24972783.41 -24972783.35 0.0498 0.0479
 Saturn -73083-02-02 06:28 J -24972110.29 -24972110.23 -24972110.14 0.0261 0.0245
 Saturn -73083-09-19 08:09 J -24971881.35 -24971881.16 -24971880.96 0.0262 0.0116
 Jupiter -73079-02-01 23:59 J -24970649.69 -24970649.50 -24970649.30 0.0527 0.0092
 Uranus -73077-04-05 16:04 J -24969856.00 -24969855.83 -24969855.63 0.0147 0.0083

Uranus -73077-11-18 07:40 J -24969629.40 -24969629.18 -24969628.96 0.0146 0.0011
 Uranus -73076-07-02 22:47 J -24969402.74 -24969402.55 -24969402.33 0.0146 0.0061
 Uranus -73075-02-14 13:54 J -24969176.00 -24969175.92 -24969175.81 0.0146 0.0132
 Jupiter -73074-12-04 23:59 J -24968517.70 -24968517.50 -24968517.29 0.0499 0.0074
 Neptune -73069-03-15 22:18 J -24966954.68 -24966954.57 -24966954.42 0.0089 0.0072
 Saturn -73069-07-23 10:33 J -24966825.23 -24966825.06 -24966824.89 0.0300 0.0168
 Neptune -73069-10-27 11:59 J -24966729.17 -24966729.00 -24966728.81 0.0089 0.0052
 Neptune -73068-06-10 01:40 J -24966503.62 -24966503.43 -24966503.21 0.0089 0.0032
 Neptune -73067-01-21 15:35 J -24966278.07 -24966277.85 -24966277.63 0.0089 0.0011
 Neptune -73067-09-04 05:16 J -24966052.50 -24966052.28 -24966052.06 0.0089 0.0009
 Mars -73066-01-17 19:25 J -24965916.74 -24965916.69 -24965916.64 0.1980 0.1882
 Neptune -73066-04-17 18:42 J -24965826.92 -24965826.72 -24965826.50 0.0089 0.0030
 Neptune -73066-11-29 08:23 J -24965601.32 -24965601.15 -24965600.95 0.0089 0.0050
 Neptune -73065-07-11 22:33 J -24965375.70 -24965375.56 -24965375.43 0.0089 0.0070
 Jupiter -73062-08-09 20:37 J -24964251.78 -24964251.64 -24964251.48 0.0499 0.0341
 Saturn -73054-08-15 11:45 J -24961324.16 -24961324.01 -24961323.86 0.0261 0.0192
 Saturn -73053-03-31 13:11 J -24961095.10 -24961094.95 -24961094.77 0.0262 0.0171
 Jupiter -73044-10-10 13:25 J -24957615.12 -24957614.94 -24957614.74 0.0527 0.0173
 Saturn -73039-02-02 21:49 J -24956038.79 -24956038.59 -24956038.39 0.0301 0.0077
 Jupiter -73038-08-12 09:49 J -24955483.25 -24955483.09 -24955482.92 0.0498 0.0295
 Uranus -73034-01-08 17:30 J -24954237.82 -24954237.77 -24954237.69 0.0132 0.0125
 Uranus -73034-08-22 20:37 J -24954011.81 -24954011.64 -24954011.46 0.0132 0.0075
 Mars -73034-12-12 17:59 J -24953899.92 -24953899.75 -24953899.57 0.1567 0.0218
 Uranus -73033-04-04 23:16 J -24953785.73 -24953785.53 -24953785.31 0.0132 0.0026
 Uranus -73033-11-17 02:09 J -24953559.62 -24953559.41 -24953559.20 0.0132 0.0024
 Jupiter -73032-06-15 08:09 J -24953349.33 -24953349.16 -24953349.00 0.0526 0.0295
 Uranus -73032-07-01 04:47 J -24953333.46 -24953333.30 -24953333.11 0.0133 0.0074
 Uranus -73031-02-12 07:40 J -24953107.23 -24953107.18 -24953107.08 0.0133 0.0124
 Jupiter -73026-04-17 07:54 J -24951217.37 -24951217.17 -24951216.97 0.0499 0.0112
 Saturn -73024-02-24 19:11 J -24950537.89 -24950537.70 -24950537.51 0.0261 0.0128

Saturn -73024-10-11 20:37 J -24950308.72 -24950308.64 -24950308.53 0.0262 0.0234

Saturn -73010-08-16 07:11 J -24945252.41 -24945252.20 -24945252.00 0.0300 0.0008

Jupiter -73008-06-18 01:40 J -24944580.54 -24944580.43 -24944580.32 0.0528 0.0429

Mars -73001-11-13 20:52 J -24941874.78 -24941874.63 -24941874.47 0.1980 0.0898

73RD MILLENNIUM BCE

This is a list of transits of Venus in the 73rd millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-72996-02-20 21:06 J	-24940314.82	-24940314.62	-24940314.42	0.0528	0.0034		
Earth	-72995-09-02 15:35 J	-24939756.00	-24939755.85	-24939755.69	0.2650	0.0793		
Moon	-72995-09-02 19:54 J	-24939755.81	-24939755.67	-24939755.51	0.2646	0.1242 *		
Saturn	-72995-09-06 23:30 J	-24939751.72	-24939751.52	-24939751.31	0.0262	0.0077		
Uranus	-72994-12-04 16:33 J	-24939297.92	-24939297.81	-24939297.68	0.0147	0.0123		
Uranus	-72993-07-18 08:23 J	-24939071.36	-24939071.15	-24939070.94	0.0146	0.0051		
Uranus	-72992-03-01 23:45 J	-24938844.73	-24938844.51	-24938844.29	0.0146	0.0021		
Uranus	-72992-10-14 14:37 J	-24938618.05	-24938617.89	-24938617.70	0.0146	0.0092		
Jupiter	-72991-12-23 18:57 J	-24938182.91	-24938182.71	-24938182.51	0.0498	0.0117		
Neptune	-72987-05-06 03:21 J	-24936953.39	-24936953.36	-24936953.31	0.0088	0.0087		
Neptune	-72987-12-17 15:35 J	-24936727.96	-24936727.85	-24936727.69	0.0088	0.0068		
Neptune	-72986-07-31 04:18 J	-24936502.49	-24936502.32	-24936502.13	0.0088	0.0048		
Neptune	-72985-03-12 16:33 J	-24936277.00	-24936276.81	-24936276.59	0.0088	0.0029		
Neptune	-72985-10-24 05:01 J	-24936051.50	-24936051.29	-24936051.07	0.0088	0.0009		
Jupiter	-72985-10-26 15:21 J	-24936048.91	-24936048.86	-24936048.80	0.0526	0.0503		

Neptune -72984-06-06 17:30 J -24935825.99 -24935825.77 -24935825.56 0.0088 0.0011
 Neptune -72983-01-18 05:30 J -24935600.46 -24935600.27 -24935600.06 0.0088 0.0030
 Neptune -72983-08-31 17:45 J -24935374.93 -24935374.76 -24935374.57 0.0088 0.0050
 Neptune -72982-04-14 06:13 J -24935149.38 -24935149.24 -24935149.11 0.0088 0.0069
 Neptune -72982-11-25 18:13 J -24934923.74 -24934923.74 -24934923.72 0.0088 0.0088
 Saturn -72980-02-25 17:01 J -24934465.99 -24934465.79 -24934465.60 0.0300 0.0091
 Jupiter -72979-08-28 16:04 J -24933916.99 -24933916.83 -24933916.66 0.0500 0.0296
 Mars -72968-10-09 06:57 J -24929857.38 -24929857.21 -24929857.04 0.1567 0.0433
 Saturn -72965-03-19 06:42 J -24928965.44 -24928965.22 -24928965.00 0.0261 0.0014
 Jupiter -72961-10-29 08:09 J -24927280.34 -24927280.16 -24927279.98 0.0527 0.0215
 Jupiter -72955-08-31 06:42 J -24925148.36 -24925148.22 -24925148.07 0.0498 0.0348
 Saturn -72951-09-08 01:40 J -24923679.60 -24923679.43 -24923679.26 0.0300 0.0171
 Uranus -72950-04-22 07:40 J -24923453.31 -24923453.18 -24923453.03 0.0132 0.0099
 Uranus -72950-12-04 10:47 J -24923227.25 -24923227.05 -24923226.85 0.0132 0.0049
 Jupiter -72949-07-04 03:35 J -24923014.52 -24923014.35 -24923014.17 0.0527 0.0247
 Uranus -72949-07-17 13:40 J -24923001.14 -24923000.93 -24923000.72 0.0132 0.0001
 Uranus -72948-02-28 16:33 J -24922775.01 -24922774.81 -24922774.61 0.0132 0.0050
 Uranus -72948-10-12 19:11 J -24922548.83 -24922548.70 -24922548.55 0.0133 0.0100
 Jupiter -72943-05-06 04:18 J -24920882.53 -24920882.32 -24920882.11 0.0499 0.0061
 Saturn -72936-09-29 10:18 J -24918179.29 -24918179.07 -24918178.86 0.0262 0.0035
 Mars -72936-10-07 22:33 J -24918170.62 -24918170.56 -24918170.50 0.1567 0.1464
 Mars -72935-09-10 23:01 J -24917832.71 -24917832.54 -24917832.37 0.1980 0.0067
 Pluto -72933-10-28 19:54 J -24917053.77 -24917053.67 -24917053.54 0.0065 0.0056
 Pluto -72932-06-11 01:25 J -24916828.64 -24916828.44 -24916828.22 0.0066 0.0024
 Jupiter -72931-01-09 02:23 J -24916616.47 -24916616.40 -24916616.33 0.0500 0.0467
 Pluto -72931-01-22 07:11 J -24916603.42 -24916603.20 -24916602.97 0.0066 0.0009
 Pluto -72931-09-04 12:28 J -24916378.14 -24916377.98 -24916377.79 0.0066 0.0042
 Jupiter -72925-07-06 22:18 J -24914245.65 -24914245.57 -24914245.49 0.0528 0.0480
 Saturn -72922-08-03 11:16 J -24913123.11 -24913123.03 -24913122.94 0.0301 0.0275
 Saturn -72921-03-20 10:33 J -24912893.16 -24912893.06 -24912892.94 0.0300 0.0254

Jupiter -72913-03-11 17:30 J -24909979.97 -24909979.77 -24909979.57 0.0527 0.0019
 Uranus -72909-03-17 09:49 J -24908513.26 -24908513.09 -24908512.91 0.0147 0.0089
 Uranus -72909-10-30 01:11 J -24908286.67 -24908286.45 -24908286.22 0.0146 0.0018
 Uranus -72908-06-13 16:33 J -24908060.01 -24908059.81 -24908059.60 0.0146 0.0053
 Jupiter -72907-01-11 15:35 J -24907848.05 -24907847.85 -24907847.66 0.0499 0.0167
 Uranus -72907-01-26 07:54 J -24907833.28 -24907833.17 -24907833.05 0.0146 0.0124
 Saturn -72906-04-11 16:47 J -24907393.01 -24907392.80 -24907392.60 0.0261 0.0096
 Neptune -72905-06-17 08:52 J -24906960.20 -24906960.13 -24906960.01 0.0089 0.0080
 Neptune -72904-01-28 22:47 J -24906734.70 -24906734.55 -24906734.37 0.0089 0.0059
 Neptune -72904-09-11 12:13 J -24906509.17 -24906508.99 -24906508.77 0.0089 0.0039
 Neptune -72903-04-25 01:54 J -24906283.62 -24906283.42 -24906283.19 0.0089 0.0019
 Neptune -72903-12-06 15:49 J -24906058.06 -24906057.84 -24906057.61 0.0089 0.0003
 Neptune -72902-07-20 05:45 J -24905832.48 -24905832.26 -24905832.05 0.0089 0.0022
 Mars -72902-08-06 19:54 J -24905814.83 -24905814.67 -24905814.50 0.1567 0.0639
 Jupiter -72902-11-15 11:01 J -24905714.13 -24905714.04 -24905713.93 0.0526 0.0453
 Neptune -72901-03-01 18:57 J -24905606.89 -24905606.71 -24905606.50 0.0089 0.0043
 Neptune -72901-10-13 08:52 J -24905381.28 -24905381.13 -24905380.97 0.0089 0.0063
 Neptune -72900-05-26 22:18 J -24905155.62 -24905155.57 -24905155.47 0.0089 0.0084
 Jupiter -72896-09-16 13:54 J -24903582.10 -24903581.92 -24903581.74 0.0500 0.0238
 Saturn -72892-02-12 18:57 J -24902336.86 -24902336.71 -24902336.55 0.0301 0.0199
 Earth -72889-03-09 08:09 J -24901216.32 -24901216.16 -24901216.01 0.2684 0.0399
 Moon -72889-03-09 13:11 J -24901216.09 -24901215.95 -24901215.82 0.2682 0.1361 *
 Jupiter -72878-11-18 06:28 J -24896945.40 -24896945.23 -24896945.06 0.0528 0.0279
 Saturn -72877-03-06 17:59 J -24896835.86 -24896835.75 -24896835.62 0.0261 0.0218
 Saturn -72877-10-21 19:11 J -24896606.88 -24896606.70 -24896606.51 0.0262 0.0141
 Jupiter -72872-09-19 04:04 J -24894813.45 -24894813.33 -24894813.20 0.0498 0.0403
 Mars -72870-08-05 11:30 J -24894128.12 -24894128.02 -24894127.91 0.1567 0.1256
 Mars -72869-07-08 00:28 J -24893790.63 -24893790.48 -24893790.34 0.1980 0.1061
 Uranus -72867-12-20 18:57 J -24892894.78 -24892894.71 -24892894.63 0.0132 0.0122
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Uranus -72866-08-03 21:35 J -24892668.76 -24892668.60 -24892668.41 0.0132 0.0074
 Uranus -72865-03-17 00:42 J -24892442.68 -24892442.47 -24892442.26 0.0132 0.0024
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 Uranus -72863-01-24 09:21 J -24891764.16 -24891764.11 -24891764.03 0.0133 0.0126
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 Jupiter -72848-01-27 23:01 J -24886281.65 -24886281.54 -24886281.42 0.0500 0.0417
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Neptune -72740-12-13 23:16 J -24846514.71 -24846514.53 -24846514.33 0.0089 0.0046
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 Uranus -72490-10-08 10:47 J -24755269.16 -24755269.05 -24755268.93 0.0147 0.0124
 Neptune -72489-01-19 19:54 J -24755165.83 -24755165.67 -24755165.48 0.0088 0.0051
 Uranus -72489-05-22 01:54 J -24755042.62 -24755042.42 -24755042.20 0.0146 0.0054
 Neptune -72489-09-01 08:09 J -24754940.28 -24754940.16 -24754940.02 0.0088 0.0070
 Uranus -72488-01-03 17:30 J -24754816.00 -24754815.77 -24754815.55 0.0146 0.0018
 Uranus -72488-08-18 08:23 J -24754589.31 -24754589.15 -24754588.96 0.0146 0.0088
 Jupiter -72486-02-19 21:49 J -24754038.78 -24754038.59 -24754038.39 0.0526 0.0032
 Jupiter -72481-12-21 17:16 J -24751906.98 -24751906.78 -24751906.57 0.0500 0.0125
 Saturn -72480-12-02 20:09 J -24751560.85 -24751560.66 -24751560.46 0.0302 0.0094
 Mars -72475-07-17 16:33 J -24749872.99 -24749872.81 -24749872.63 0.1568 0.0035
 Jupiter -72475-10-25 17:01 J -24749772.86 -24749772.79 -24749772.72 0.0525 0.0487
 Jupiter -72469-08-26 16:33 J -24747640.98 -24747640.81 -24747640.63 0.0501 0.0276
 Saturn -72465-12-24 22:33 J -24746059.77 -24746059.56 -24746059.34 0.0260 0.0047
 Jupiter -72451-10-28 13:54 J -24741004.10 -24741003.92 -24741003.75 0.0527 0.0246
 Saturn -72450-06-14 21:06 J -24740774.80 -24740774.62 -24740774.44 0.0302 0.0142
 Uranus -72446-02-24 08:09 J -24739424.30 -24739424.16 -24739424.01 0.0132 0.0097
 Uranus -72446-10-08 11:01 J -24739198.24 -24739198.04 -24739197.84 0.0132 0.0048
 Uranus -72445-05-21 13:40 J -24738972.14 -24738971.93 -24738971.71 0.0132 0.0003
 Jupiter -72445-08-29 05:30 J -24738872.41 -24738872.27 -24738872.12 0.0499 0.0358
 Uranus -72444-01-02 16:33 J -24738746.00 -24738745.81 -24738745.61 0.0132 0.0050
 Uranus -72444-08-16 19:25 J -24738519.82 -24738519.69 -24738519.54 0.0133 0.0099
 Jupiter -72439-07-03 10:33 J -24736738.24 -24736738.06 -24736737.88 0.0526 0.0206
 Saturn -72436-11-20 02:09 J -24735502.43 -24735502.41 -24735502.39 0.0259 0.0258

Saturn -72435-07-07 01:54 J -24735273.62 -24735273.42 -24735273.21 0.0260 0.0095
 Pluto -72435-07-10 07:40 J -24735270.35 -24735270.18 -24735269.97 0.0066 0.0035
 Pluto -72434-02-20 13:25 J -24735045.16 -24735044.94 -24735044.71 0.0066 0.0002
 Pluto -72434-10-03 18:42 J -24734819.91 -24734819.72 -24734819.51 0.0066 0.0032
 Jupiter -72433-05-04 03:49 J -24734606.55 -24734606.34 -24734606.14 0.0500 0.0047
 Pluto -72433-05-15 23:59 J -24734594.51 -24734594.50 -24734594.43 0.0066 0.0065
 Jupiter -72421-01-08 02:52 J -24730340.47 -24730340.38 -24730340.29 0.0501 0.0448
 Saturn -72421-12-25 03:21 J -24729988.51 -24729988.36 -24729988.21 0.0302 0.0211
 Jupiter -72415-07-06 03:35 J -24727969.40 -24727969.35 -24727969.30 0.0527 0.0509
 Neptune -72412-11-05 08:09 J -24726751.24 -24726751.16 -24726751.05 0.0089 0.0080
 Neptune -72411-06-18 21:35 J -24726525.74 -24726525.60 -24726525.41 0.0089 0.0060
 Neptune -72410-01-30 11:45 J -24726300.21 -24726300.01 -24726299.81 0.0089 0.0039
 Neptune -72410-09-13 01:11 J -24726074.66 -24726074.45 -24726074.23 0.0089 0.0019
 Neptune -72409-04-25 15:06 J -24725849.10 -24725848.87 -24725848.65 0.0089 0.0002
 Mars -72409-05-14 05:16 J -24725830.46 -24725830.28 -24725830.11 0.1568 0.0256
 Neptune -72409-12-07 04:47 J -24725623.52 -24725623.30 -24725623.09 0.0089 0.0022
 Neptune -72408-07-20 18:13 J -24725397.92 -24725397.74 -24725397.53 0.0089 0.0043
 Neptune -72407-03-03 08:09 J -24725172.31 -24725172.16 -24725172.00 0.0089 0.0063
 Neptune -72407-10-14 21:35 J -24724946.66 -24724946.60 -24724946.51 0.0089 0.0084
 Saturn -72406-06-02 05:01 J -24724716.41 -24724716.29 -24724716.17 0.0259 0.0212
 Saturn -72405-01-17 04:33 J -24724487.48 -24724487.31 -24724487.12 0.0260 0.0141
 Uranus -72405-01-20 01:54 J -24724484.58 -24724484.42 -24724484.24 0.0147 0.0094
 Uranus -72405-09-02 17:16 J -24724257.99 -24724257.78 -24724257.55 0.0146 0.0023
 Uranus -72404-04-17 08:23 J -24724031.36 -24724031.15 -24724030.93 0.0146 0.0048
 Uranus -72404-11-29 23:30 J -24723804.65 -24723804.52 -24723804.38 0.0146 0.0117
 Earth -72403-03-10 14:52 J -24723704.04 -24723703.88 -24723703.73 0.2680 0.0544
 Moon -72403-03-10 18:57 J -24723703.85 -24723703.71 -24723703.57 0.2684 0.0950 *
 Jupiter -72403-03-10 22:47 J -24723703.74 -24723703.55 -24723703.35 0.0526 0.0051 *
 Jupiter -72397-01-10 19:11 J -24721571.89 -24721571.70 -24721571.51 0.0499 0.0203
 Jupiter -72392-11-13 19:54 J -24719437.80 -24719437.67 -24719437.54 0.0525 0.0399

Saturn -72392-11-19 04:04 J -24719432.41 -24719432.33 -24719432.25 0.0302 0.0276
 Saturn -72391-07-07 05:01 J -24719202.39 -24719202.29 -24719202.19 0.0301 0.0261
 Jupiter -72386-09-15 14:37 J -24717306.07 -24717305.89 -24717305.70 0.0500 0.0215
 Saturn -72377-12-12 08:23 J -24713930.31 -24713930.15 -24713929.98 0.0260 0.0164
 Saturn -72376-07-29 08:23 J -24713701.28 -24713701.15 -24713700.99 0.0260 0.0191
 Jupiter -72368-11-16 14:23 J -24710669.05 -24710668.90 -24710668.74 0.0527 0.0324
 Uranus -72363-10-24 17:59 J -24708865.82 -24708865.75 -24708865.67 0.0132 0.0122
 Saturn -72362-06-01 11:16 J -24708646.18 -24708646.03 -24708645.87 0.0303 0.0203
 Uranus -72362-06-07 20:37 J -24708639.81 -24708639.64 -24708639.45 0.0132 0.0074
 Jupiter -72362-09-18 06:13 J -24708537.34 -24708537.24 -24708537.14 0.0499 0.0430
 Uranus -72361-01-19 23:45 J -24708413.71 -24708413.51 -24708413.30 0.0132 0.0025
 Uranus -72361-09-02 02:37 J -24708187.60 -24708187.39 -24708187.18 0.0132 0.0024
 Uranus -72360-04-16 05:16 J -24707961.45 -24707961.28 -24707961.09 0.0133 0.0074
 Uranus -72360-11-28 07:54 J -24707735.23 -24707735.17 -24707735.07 0.0133 0.0123
 Jupiter -72356-07-22 09:35 J -24706403.30 -24706403.10 -24706402.91 0.0525 0.0138
 Jupiter -72350-05-24 05:01 J -24704271.50 -24704271.29 -24704271.09 0.0500 0.0030
 Pluto -72348-07-31 18:42 J -24703471.90 -24703471.72 -24703471.54 0.0078 0.0043
 Pluto -72347-03-14 03:21 J -24703246.56 -24703246.36 -24703246.14 0.0078 0.0010
 Saturn -72347-06-24 12:28 J -24703144.17 -24703143.98 -24703143.78 0.0260 0.0114
 Pluto -72347-10-25 11:59 J -24703021.11 -24703021.00 -24703020.86 0.0078 0.0062
 Saturn -72346-02-08 12:13 J -24702915.05 -24702914.99 -24702914.90 0.0260 0.0242
 Mars -72344-04-13 18:13 J -24702119.79 -24702119.74 -24702119.69 0.1980 0.1874
 Mars -72343-03-11 18:13 J -24701787.91 -24701787.74 -24701787.57 0.1568 0.0465
 Jupiter -72338-01-27 03:21 J -24700005.49 -24700005.36 -24700005.22 0.0501 0.0374
 Saturn -72333-12-11 15:49 J -24697860.02 -24697859.84 -24697859.66 0.0302 0.0140
 Neptune -72329-08-08 07:25 J -24696524.30 -24696524.19 -24696524.06 0.0088 0.0073
 Neptune -72328-03-21 19:25 J -24696298.84 -24696298.69 -24696298.49 0.0088 0.0054
 Neptune -72328-11-02 08:09 J -24696073.35 -24696073.16 -24696072.95 0.0088 0.0033
 Neptune -72327-06-15 20:37 J -24695847.85 -24695847.64 -24695847.42 0.0088 0.0014
 Neptune -72326-01-27 08:52 J -24695622.34 -24695622.13 -24695621.91 0.0088 0.0006

Neptune -72326-09-09 20:52 J -24695396.82 -24695396.63 -24695396.41 0.0088 0.0026
 Neptune -72325-04-22 09:21 J -24695171.29 -24695171.11 -24695170.92 0.0088 0.0045
 Neptune -72325-12-03 21:21 J -24694945.74 -24694945.61 -24694945.45 0.0088 0.0064
 Neptune -72324-07-17 09:35 J -24694720.15 -24694720.10 -24694720.02 0.0088 0.0084
 Uranus -72322-09-19 03:06 J -24693926.45 -24693926.37 -24693926.27 0.0147 0.0133
 Uranus -72321-05-02 18:13 J -24693699.93 -24693699.74 -24693699.53 0.0146 0.0063
 Uranus -72321-12-15 09:35 J -24693473.32 -24693473.10 -24693472.87 0.0146 0.0008
 Jupiter -72320-03-30 01:11 J -24693368.64 -24693368.45 -24693368.25 0.0527 0.0136
 Uranus -72320-07-30 00:42 J -24693246.65 -24693246.47 -24693246.27 0.0146 0.0079
 Saturn -72317-01-04 16:33 J -24692358.02 -24692357.81 -24692357.60 0.0260 0.0063
 Jupiter -72314-01-29 15:21 J -24691237.04 -24691236.86 -24691236.68 0.0499 0.0254
 Mars -72311-03-10 09:49 J -24690101.16 -24690101.09 -24690101.02 0.1567 0.1433
 Jupiter -72309-12-02 19:11 J -24689102.85 -24689102.70 -24689102.54 0.0525 0.0329
 Saturn -72303-06-24 00:13 J -24687073.69 -24687073.49 -24687073.29 0.0302 0.0061
 Jupiter -72303-10-04 13:40 J -24686971.12 -24686970.93 -24686970.73 0.0500 0.0150
 Saturn -72288-07-16 21:49 J -24681571.81 -24681571.59 -24681571.37 0.0260 0.0009
 Jupiter -72285-12-05 12:13 J -24680334.12 -24680333.99 -24680333.85 0.0527 0.0384
 Jupiter -72279-10-07 05:16 J -24678202.31 -24678202.28 -24678202.26 0.0499 0.0494
 Uranus -72278-02-05 07:11 J -24678081.33 -24678081.20 -24678081.05 0.0132 0.0098
 Mars -72278-02-08 19:25 J -24678077.84 -24678077.69 -24678077.54 0.1980 0.0871
 Uranus -72278-09-19 10:04 J -24677855.27 -24677855.08 -24677854.88 0.0132 0.0050
 Mars -72277-01-07 07:11 J -24677745.36 -24677745.20 -24677745.04 0.1569 0.0680
 Uranus -72277-05-02 13:11 J -24677629.17 -24677628.95 -24677628.74 0.0132 0.0002
 Uranus -72277-12-14 15:49 J -24677403.03 -24677402.84 -24677402.63 0.0133 0.0049
 Uranus -72276-07-28 18:42 J -24677176.85 -24677176.72 -24677176.57 0.0133 0.0098
 Saturn -72273-01-04 06:13 J -24676287.44 -24676287.24 -24676287.03 0.0302 0.0010
 Jupiter -72273-08-10 08:52 J -24676068.33 -24676068.13 -24676067.94 0.0526 0.0069
 Jupiter -72267-06-12 00:57 J -24673936.66 -24673936.46 -24673936.25 0.0499 0.0080
 Moon -72266-09-03 05:30 J -24673488.43 -24673488.27 -24673488.10 0.2653 0.0590
 Earth -72266-09-03 11:01 J -24673488.20 -24673488.04 -24673487.88 0.2656 0.0113 *

Jupiter -72261-04-15 04:04 J -24671802.33 -24671802.33 -24671802.30 0.0525 0.0523
 Saturn -72258-01-27 02:23 J -24670785.62 -24670785.40 -24670785.19 0.0260 0.0043
 Jupiter -72255-02-14 22:47 J -24669670.71 -24669670.55 -24669670.40 0.0500 0.0327
 Neptune -72247-02-06 19:40 J -24666756.70 -24666756.68 -24666756.61 0.0089 0.0087
 Neptune -72247-09-20 09:21 J -24666531.24 -24666531.11 -24666530.95 0.0089 0.0066
 Neptune -72246-05-03 22:47 J -24666305.72 -24666305.55 -24666305.34 0.0089 0.0046
 Neptune -72246-12-15 12:42 J -24666080.18 -24666079.97 -24666079.75 0.0089 0.0026
 Mars -72245-01-05 22:18 J -24666058.68 -24666058.57 -24666058.46 0.1567 0.1209
 Neptune -72245-07-28 02:23 J -24665854.62 -24665854.40 -24665854.17 0.0089 0.0005
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 Saturn -72244-07-16 16:18 J -24665501.02 -24665500.82 -24665500.63 0.0302 0.0094
 Neptune -72244-10-22 05:45 J -24665403.46 -24665403.26 -24665403.05 0.0089 0.0036
 Neptune -72243-06-04 19:11 J -24665177.85 -24665177.70 -24665177.51 0.0089 0.0057
 Neptune -72242-01-16 09:21 J -24664952.22 -24664952.11 -24664952.00 0.0089 0.0077
 Uranus -72238-12-31 21:49 J -24663141.75 -24663141.59 -24663141.42 0.0147 0.0098
 Jupiter -72237-04-17 21:06 J -24663033.81 -24663033.62 -24663033.43 0.0526 0.0187
 Uranus -72237-08-14 13:11 J -24662915.17 -24662914.95 -24662914.73 0.0146 0.0027
 Uranus -72236-03-29 04:04 J -24662688.54 -24662688.33 -24662688.11 0.0146 0.0043
 Uranus -72236-11-10 18:57 J -24662461.84 -24662461.71 -24662461.56 0.0146 0.0113
 Jupiter -72231-02-17 13:40 J -24660902.09 -24660901.93 -24660901.77 0.0499 0.0314
 Saturn -72230-12-23 08:23 J -24660228.19 -24660228.15 -24660228.09 0.0260 0.0252
 Saturn -72229-08-08 08:23 J -24659999.34 -24659999.15 -24659998.94 0.0260 0.0102
 Jupiter -72226-12-22 15:06 J -24658768.03 -24658767.87 -24658767.69 0.0525 0.0278
 Jupiter -72220-10-23 11:30 J -24656636.22 -24656636.02 -24656635.81 0.0500 0.0091
 Saturn -72214-01-26 23:45 J -24654714.68 -24654714.51 -24654714.34 0.0301 0.0170
 Mars -72213-12-05 21:06 J -24654035.79 -24654035.62 -24654035.45 0.1979 0.0119
 Mars -72212-11-03 19:54 J -24653702.81 -24653702.67 -24653702.52 0.1569 0.0897
 Jupiter -72202-12-25 11:16 J -24649999.13 -24649999.03 -24649998.93 0.0527 0.0452
 Saturn -72200-07-04 13:11 J -24649442.08 -24649441.95 -24649441.81 0.0260 0.0200
 Saturn -72199-02-18 13:25 J -24649213.11 -24649212.94 -24649212.77 0.0261 0.0155

Uranus -72195-10-05 17:45 J -24647522.84 -24647522.76 -24647522.68 0.0132 0.0123
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 Uranus -72193-08-14 02:23 J -24646844.60 -24646844.40 -24646844.19 0.0133 0.0024
 Uranus -72192-03-28 05:30 J -24646618.45 -24646618.27 -24646618.10 0.0133 0.0073
 Uranus -72192-11-09 07:54 J -24646392.23 -24646392.17 -24646392.07 0.0133 0.0123
 Jupiter -72190-08-30 05:01 J -24645733.48 -24645733.29 -24645733.08 0.0526 0.0021
 Pluto -72186-01-23 10:18 J -24644491.24 -24644491.07 -24644490.89 0.0066 0.0042
 Pluto -72186-09-05 15:49 J -24644266.06 -24644265.84 -24644265.61 0.0066 0.0009
 Saturn -72186-12-22 09:21 J -24644158.17 -24644158.11 -24644158.02 0.0302 0.0280
 Pluto -72185-04-17 21:06 J -24644040.82 -24644040.62 -24644040.40 0.0066 0.0024
 Saturn -72185-08-08 10:18 J -24643928.17 -24643928.07 -24643927.96 0.0302 0.0259
 Pluto -72185-11-29 02:52 J -24643815.48 -24643815.38 -24643815.26 0.0066 0.0058
 Jupiter -72184-06-30 21:21 J -24643601.81 -24643601.61 -24643601.41 0.0500 0.0130
 Mars -72180-11-02 11:16 J -24642016.16 -24642016.03 -24642015.89 0.1568 0.1005
 Jupiter -72178-05-04 23:16 J -24641467.60 -24641467.53 -24641467.44 0.0524 0.0477
 Jupiter -72172-03-05 19:25 J -24639335.86 -24639335.69 -24639335.52 0.0501 0.0275
 Saturn -72170-01-14 19:40 J -24638655.85 -24638655.68 -24638655.49 0.0260 0.0140
 Saturn -72170-08-31 19:54 J -24638426.78 -24638426.67 -24638426.54 0.0261 0.0217
 Neptune -72165-11-09 20:09 J -24636529.75 -24636529.66 -24636529.55 0.0088 0.0079
 Neptune -72164-06-23 08:23 J -24636304.29 -24636304.15 -24636303.97 0.0088 0.0060
 Neptune -72163-02-03 20:52 J -24636078.81 -24636078.63 -24636078.42 0.0088 0.0040
 Neptune -72163-09-17 09:35 J -24635853.31 -24635853.10 -24635852.89 0.0088 0.0020
 Neptune -72162-04-30 21:49 J -24635627.81 -24635627.59 -24635627.37 0.0088 0.0000
 Neptune -72162-12-12 10:04 J -24635402.28 -24635402.08 -24635401.86 0.0088 0.0020
 Neptune -72161-07-24 22:33 J -24635176.76 -24635176.56 -24635176.37 0.0088 0.0039
 Neptune -72160-03-07 10:18 J -24634951.21 -24634951.07 -24634950.89 0.0088 0.0059
 Moon -72160-03-10 15:35 J -24634948.01 -24634947.85 -24634947.69 0.2673 0.0584
 Earth -72160-03-10 18:13 J -24634947.90 -24634947.74 -24634947.59 0.2678 0.0616 *
 Neptune -72160-10-18 22:33 J -24634725.65 -24634725.56 -24634725.45 0.0088 0.0078

Saturn -72156-07-03 18:28 J -24633371.88 -24633371.73 -24633371.56 0.0302 0.0197
 Jupiter -72154-05-07 17:01 J -24632698.96 -24632698.79 -24632698.61 0.0527 0.0239
 Uranus -72154-08-31 02:52 J -24632583.47 -24632583.38 -24632583.28 0.0147 0.0131
 Uranus -72153-04-13 17:59 J -24632356.95 -24632356.75 -24632356.55 0.0146 0.0061
 Uranus -72153-11-26 08:52 J -24632130.35 -24632130.13 -24632129.90 0.0146 0.0010
 Uranus -72152-07-10 23:59 J -24631903.68 -24631903.50 -24631903.31 0.0146 0.0079
 Jupiter -72148-03-08 08:23 J -24630567.29 -24630567.15 -24630567.01 0.0499 0.0357
 Mars -72147-10-02 22:18 J -24629993.71 -24629993.57 -24629993.43 0.1978 0.1112
 Mars -72146-09-01 09:06 J -24629660.25 -24629660.12 -24629660.00 0.1570 0.1104
 Jupiter -72142-01-10 12:28 J -24628433.16 -24628432.98 -24628432.79 0.0526 0.0220
 Saturn -72141-07-27 00:42 J -24627869.67 -24627869.47 -24627869.26 0.0260 0.0087
 Jupiter -72137-11-11 05:59 J -24626301.46 -24626301.25 -24626301.05 0.0500 0.0049
 Saturn -72126-01-14 05:59 J -24622585.44 -24622585.25 -24622585.05 0.0302 0.0104
 Jupiter -72125-07-17 03:06 J -24622035.44 -24622035.37 -24622035.28 0.0501 0.0460
 Jupiter -72118-01-13 05:30 J -24619664.34 -24619664.27 -24619664.20 0.0527 0.0491
 Mars -72114-08-31 00:13 J -24617973.65 -24617973.49 -24617973.34 0.1568 0.0787
 Saturn -72111-02-06 07:40 J -24617083.39 -24617083.18 -24617082.96 0.0260 0.0025
 Uranus -72110-01-17 06:57 J -24616738.33 -24616738.21 -24616738.05 0.0132 0.0099
 Uranus -72110-08-31 10:04 J -24616512.27 -24616512.08 -24616511.87 0.0132 0.0050
 Uranus -72109-04-13 13:11 J -24616286.16 -24616285.95 -24616285.74 0.0132 0.0001
 Uranus -72109-11-25 16:04 J -24616060.02 -24616059.83 -24616059.63 0.0133 0.0049
 Uranus -72108-07-09 18:57 J -24615833.84 -24615833.71 -24615833.56 0.0133 0.0098
 Jupiter -72107-09-17 23:16 J -24615398.73 -24615398.53 -24615398.33 0.0526 0.0027
 Jupiter -72101-07-19 17:45 J -24613266.95 -24613266.76 -24613266.57 0.0500 0.0181
 Pluto -72099-02-13 21:35 J -24612692.75 -24612692.60 -24612692.43 0.0078 0.0051
 Pluto -72099-09-27 06:42 J -24612467.43 -24612467.22 -24612467.00 0.0078 0.0003
 Pluto -72098-05-10 15:06 J -24612242.00 -24612241.87 -24612241.69 0.0078 0.0055
 Saturn -72097-07-26 15:35 J -24611799.06 -24611798.85 -24611798.65 0.0302 0.0021
 Jupiter -72095-05-23 18:13 J -24611132.85 -24611132.74 -24611132.62 0.0525 0.0431
 Jupiter -72089-03-24 14:37 J -24609001.07 -24609000.89 -24609000.70 0.0500 0.0230

Neptune -72083-12-22 20:52 J -24606536.73 -24606536.63 -24606536.48 0.0089 0.0073
 Neptune -72082-08-05 10:47 J -24606311.22 -24606311.05 -24606310.87 0.0089 0.0052
 Saturn -72082-08-19 12:13 J -24606297.21 -24606296.99 -24606296.77 0.0261 0.0027
 Neptune -72081-03-18 00:13 J -24606085.69 -24606085.49 -24606085.28 0.0089 0.0032
 Neptune -72081-10-29 13:54 J -24605860.14 -24605859.92 -24605859.70 0.0089 0.0011
 Neptune -72080-06-12 03:35 J -24605634.57 -24605634.35 -24605634.13 0.0089 0.0009
 Mars -72080-06-28 21:49 J -24605617.69 -24605617.59 -24605617.50 0.1570 0.1328
 Neptune -72079-01-23 17:01 J -24605408.99 -24605408.79 -24605408.57 0.0089 0.0030
 Neptune -72079-09-06 06:42 J -24605183.39 -24605183.22 -24605183.03 0.0089 0.0050
 Neptune -72078-04-19 20:09 J -24604957.77 -24604957.66 -24604957.51 0.0089 0.0071
 Jupiter -72071-05-26 12:28 J -24602364.14 -24602363.98 -24602363.81 0.0527 0.0284
 Uranus -72070-12-12 22:18 J -24601798.72 -24601798.57 -24601798.38 0.0147 0.0095
 Uranus -72069-07-26 13:54 J -24601572.14 -24601571.92 -24601571.70 0.0146 0.0024
 Uranus -72068-03-10 05:01 J -24601345.50 -24601345.29 -24601345.08 0.0146 0.0046
 Uranus -72068-10-22 19:40 J -24601118.80 -24601118.68 -24601118.53 0.0146 0.0116
 Saturn -72067-02-06 02:09 J -24601012.61 -24601012.41 -24601012.21 0.0302 0.0070
 Jupiter -72065-03-27 03:35 J -24600232.47 -24600232.35 -24600232.23 0.0499 0.0400
 Jupiter -72059-01-29 07:25 J -24598098.38 -24598098.19 -24598098.00 0.0525 0.0176
 Jupiter -72054-12-01 01:25 J -24595966.65 -24595966.44 -24595966.23 0.0500 0.0005
 Saturn -72052-02-28 19:11 J -24595510.90 -24595510.70 -24595510.50 0.0260 0.0089
 Mars -72048-06-27 13:11 J -24593931.12 -24593930.95 -24593930.78 0.1568 0.0576
 Jupiter -72042-08-05 23:45 J -24591700.63 -24591700.51 -24591700.39 0.0501 0.0408
 Saturn -72038-08-19 11:45 J -24590226.18 -24590226.01 -24590225.83 0.0301 0.0153
 Uranus -72027-09-16 16:47 J -24586179.86 -24586179.80 -24586179.70 0.0132 0.0123
 Uranus -72026-04-30 19:54 J -24585953.83 -24585953.67 -24585953.48 0.0132 0.0075
 Uranus -72026-12-12 23:01 J -24585727.75 -24585727.54 -24585727.33 0.0132 0.0026
 Uranus -72025-07-26 01:54 J -24585501.62 -24585501.42 -24585501.20 0.0132 0.0024
 Uranus -72024-03-09 04:47 J -24585275.47 -24585275.30 -24585275.11 0.0133 0.0073
 Jupiter -72024-10-06 19:54 J -24585063.87 -24585063.67 -24585063.48 0.0526 0.0080
 Uranus -72024-10-21 07:40 J -24585049.25 -24585049.18 -24585049.08 0.0133 0.0122

Saturn	-72023-01-24 23:16 J	-24584953.65	-24584953.53	-24584953.40	0.0260	0.0214
Earth	-72023-09-03 09:06 J	-24584732.28	-24584732.12	-24584731.96	0.2658	0.0450
Moon	-72023-09-03 12:42 J	-24584732.13	-24584731.97	-24584731.82	0.2664	0.0127 *
Saturn	-72023-09-10 23:16 J	-24584724.71	-24584724.53	-24584724.35	0.0261	0.0140
Jupiter	-72018-08-08 13:11 J	-24582932.13	-24582931.95	-24582931.76	0.0499	0.0227
Mars	-72014-04-26 10:33 J	-24581575.09	-24581575.06	-24581575.03	0.1571	0.1540
Jupiter	-72012-06-11 14:37 J	-24580798.02	-24580797.89	-24580797.75	0.0525	0.0382
Saturn	-72009-07-13 19:40 J	-24579669.69	-24579669.68	-24579669.64	0.0302	0.0301
Saturn	-72008-02-28 21:06 J	-24579439.74	-24579439.62	-24579439.49	0.0302	0.0239
Jupiter	-72006-04-13 09:49 J	-24578666.28	-24578666.09	-24578665.90	0.0501	0.0187

72ND MILLENNIUM BCE

This is a list of transits of Venus in the 72nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-72000-02-11 09:06 J	-24576535.18	-24576535.12	-24576535.06	0.0088	0.0085		
Neptune	-72000-09-24 21:06 J	-24576309.75	-24576309.62	-24576309.45	0.0088	0.0066		
Neptune	-71999-05-08 09:49 J	-24576084.27	-24576084.09	-24576083.89	0.0088	0.0046		
Neptune	-71999-12-19 22:33 J	-24575858.77	-24575858.56	-24575858.35	0.0088	0.0026		
Neptune	-71998-08-02 11:01 J	-24575633.26	-24575633.04	-24575632.83	0.0088	0.0006		
Neptune	-71997-03-14 23:16 J	-24575407.75	-24575407.53	-24575407.32	0.0088	0.0013		
Neptune	-71997-10-26 11:16 J	-24575182.22	-24575182.03	-24575181.82	0.0088	0.0033		
Neptune	-71996-06-08 23:30 J	-24574956.68	-24574956.52	-24574956.34	0.0088	0.0053		
Neptune	-71995-01-20 11:30 J	-24574731.12	-24574731.02	-24574730.87	0.0088	0.0073		

Saturn -71994-08-07 05:45 J -24574167.44 -24574167.26 -24574167.09 0.0260 0.0154
 Saturn -71993-03-23 05:30 J -24573938.40 -24573938.27 -24573938.13 0.0260 0.0200
 Jupiter -71988-06-14 07:40 J -24572029.33 -24572029.18 -24572029.02 0.0526 0.0329
 Uranus -71986-08-12 01:54 J -24571240.51 -24571240.42 -24571240.31 0.0147 0.0130
 Uranus -71985-03-25 17:01 J -24571013.98 -24571013.79 -24571013.57 0.0147 0.0060
 Uranus -71985-11-07 08:23 J -24570787.37 -24570787.15 -24570786.92 0.0146 0.0011
 Uranus -71984-06-21 23:16 J -24570560.70 -24570560.53 -24570560.33 0.0146 0.0081
 Mars -71983-05-27 05:45 J -24570221.31 -24570221.26 -24570221.21 0.1980 0.1886
 Jupiter -71982-04-16 00:28 J -24569897.55 -24569897.48 -24569897.39 0.0499 0.0455
 Mars -71982-04-25 01:54 J -24569888.59 -24569888.42 -24569888.25 0.1569 0.0357
 Saturn -71979-01-24 04:47 J -24568883.44 -24568883.30 -24568883.15 0.0302 0.0220
 Jupiter -71976-02-17 02:52 J -24567763.57 -24567763.38 -24567763.18 0.0525 0.0128
 Jupiter -71971-12-19 22:47 J -24565631.76 -24565631.55 -24565631.35 0.0500 0.0050
 Saturn -71964-02-16 09:06 J -24563381.32 -24563381.12 -24563380.93 0.0260 0.0107
 Saturn -71964-10-03 08:37 J -24563152.19 -24563152.14 -24563152.06 0.0261 0.0249
 Jupiter -71959-08-24 20:52 J -24561365.77 -24561365.63 -24561365.49 0.0501 0.0354
 Saturn -71950-08-06 12:42 J -24558097.14 -24558096.97 -24558096.78 0.0302 0.0141
 Uranus -71943-12-29 05:59 J -24555395.38 -24555395.25 -24555395.10 0.0132 0.0099
 Uranus -71942-08-12 09:06 J -24555169.32 -24555169.12 -24555168.92 0.0132 0.0050
 Uranus -71941-03-25 11:59 J -24554943.21 -24554943.00 -24554942.79 0.0132 0.0002
 Jupiter -71941-10-25 17:30 J -24554728.96 -24554728.77 -24554728.58 0.0526 0.0136
 Uranus -71941-11-06 14:37 J -24554717.08 -24554716.89 -24554716.68 0.0132 0.0047
 Uranus -71940-06-20 17:45 J -24554490.90 -24554490.76 -24554490.61 0.0133 0.0096
 Pluto -71938-08-08 15:06 J -24553712.03 -24553711.87 -24553711.69 0.0066 0.0043
 Pluto -71937-03-20 20:37 J -24553486.86 -24553486.64 -24553486.41 0.0066 0.0010
 Pluto -71937-11-01 01:54 J -24553261.62 -24553261.42 -24553261.20 0.0066 0.0023
 Pluto -71936-06-14 07:54 J -24553036.29 -24553036.17 -24553036.06 0.0066 0.0057
 Jupiter -71935-08-27 09:35 J -24552597.27 -24552597.10 -24552596.92 0.0500 0.0276
 Saturn -71935-08-29 14:37 J -24552595.10 -24552594.89 -24552594.68 0.0260 0.0049
 Jupiter -71929-06-30 11:30 J -24550463.18 -24550463.02 -24550462.87 0.0525 0.0326

Jupiter -71923-05-02 08:09 J -24548331.36 -24548331.16 -24548330.96 0.0501 0.0126
 Saturn -71920-02-15 20:52 J -24547310.83 -24547310.63 -24547310.43 0.0302 0.0063
 Neptune -71918-03-26 08:09 J -24546542.23 -24546542.16 -24546542.04 0.0089 0.0080
 Neptune -71918-11-06 22:04 J -24546316.74 -24546316.58 -24546316.41 0.0089 0.0059
 Earth -71917-03-10 21:21 J -24546191.76 -24546191.61 -24546191.46 0.2676 0.0694
 Moon -71917-03-10 21:21 J -24546191.75 -24546191.61 -24546191.46 0.2683 0.0435 *
 Mars -71917-03-23 06:57 J -24546179.37 -24546179.21 -24546179.06 0.1979 0.0874
 Neptune -71917-06-19 11:30 J -24546091.21 -24546091.02 -24546090.81 0.0089 0.0039
 Neptune -71916-01-31 01:11 J -24545865.66 -24545865.45 -24545865.23 0.0089 0.0018
 Mars -71916-02-19 15:06 J -24545846.05 -24545845.87 -24545845.70 0.1569 0.0150
 Neptune -71916-09-13 14:52 J -24545640.11 -24545639.88 -24545639.66 0.0089 0.0002
 Neptune -71915-04-27 04:04 J -24545414.53 -24545414.33 -24545414.10 0.0089 0.0023
 Neptune -71915-12-08 17:45 J -24545188.94 -24545188.76 -24545188.55 0.0089 0.0043
 Neptune -71914-07-22 07:25 J -24544963.33 -24544963.19 -24544963.02 0.0089 0.0064
 Neptune -71913-03-03 21:21 J -24544737.67 -24544737.61 -24544737.54 0.0089 0.0084
 Moon -71909-03-08 18:28 J -24543271.76 -24543271.73 -24543271.69 0.2678 0.2599
 Saturn -71905-03-10 17:01 J -24541809.01 -24541808.79 -24541808.57 0.0260 0.0004
 Jupiter -71905-07-03 06:13 J -24541694.37 -24541694.24 -24541694.10 0.0527 0.0394
 Uranus -71902-11-23 17:45 J -24540455.91 -24540455.76 -24540455.58 0.0147 0.0099
 Uranus -71901-07-07 09:21 J -24540229.32 -24540229.11 -24540228.88 0.0146 0.0029
 Uranus -71900-02-19 00:42 J -24540002.68 -24540002.47 -24540002.25 0.0146 0.0042
 Uranus -71900-10-03 15:35 J -24539775.98 -24539775.85 -24539775.69 0.0146 0.0112
 Jupiter -71893-03-08 02:23 J -24537428.60 -24537428.40 -24537428.20 0.0525 0.0063
 Saturn -71891-08-29 02:09 J -24536524.62 -24536524.41 -24536524.20 0.0302 0.0005
 Jupiter -71887-01-07 19:25 J -24535296.89 -24535296.69 -24535296.48 0.0500 0.0101
 Jupiter -71882-11-11 22:04 J -24533162.61 -24533162.58 -24533162.54 0.0524 0.0512
 Jupiter -71876-09-12 17:45 J -24531030.93 -24531030.76 -24531030.60 0.0501 0.0304
 Saturn -71876-09-20 21:49 J -24531022.80 -24531022.59 -24531022.38 0.0259 0.0051
 Saturn -71861-03-10 08:52 J -24525738.33 -24525738.13 -24525737.93 0.0302 0.0077
 Uranus -71859-08-28 15:35 J -24524836.90 -24524836.85 -24524836.76 0.0132 0.0124

Uranus -71858-04-11 18:57 J -24524610.88 -24524610.71 -24524610.53 0.0132 0.0075
 Jupiter -71858-11-14 15:35 J -24524394.03 -24524393.85 -24524393.66 0.0526 0.0199
 Uranus -71858-11-23 21:49 J -24524384.80 -24524384.59 -24524384.38 0.0132 0.0027
 Uranus -71857-07-07 00:42 J -24524158.68 -24524158.47 -24524158.26 0.0132 0.0022
 Uranus -71856-02-18 03:35 J -24523932.52 -24523932.35 -24523932.16 0.0132 0.0071
 Uranus -71856-10-02 06:13 J -24523706.31 -24523706.24 -24523706.13 0.0133 0.0120
 Jupiter -71852-09-15 09:49 J -24522262.24 -24522262.09 -24522261.94 0.0499 0.0344
 Mars -71851-01-18 08:37 J -24522137.31 -24522137.14 -24522136.97 0.1978 0.0117
 Pluto -71851-08-30 03:21 J -24521913.51 -24521913.36 -24521913.19 0.0078 0.0052
 Mars -71851-12-18 03:49 J -24521803.52 -24521803.34 -24521803.16 0.1570 0.0072
 Pluto -71850-04-12 12:28 J -24521688.19 -24521687.98 -24521687.76 0.0078 0.0002
 Pluto -71850-11-23 20:52 J -24521462.77 -24521462.63 -24521462.46 0.0078 0.0054
 Saturn -71847-08-17 00:13 J -24520465.51 -24520465.49 -24520465.47 0.0259 0.0258
 Saturn -71846-04-02 23:01 J -24520236.73 -24520236.54 -24520236.33 0.0260 0.0093
 Jupiter -71846-07-20 11:16 J -24520128.21 -24520128.03 -24520127.86 0.0525 0.0256
 Jupiter -71840-05-21 08:23 J -24517996.35 -24517996.15 -24517995.94 0.0500 0.0057
 Neptune -71836-12-27 09:49 J -24516315.21 -24516315.09 -24516314.96 0.0088 0.0072
 Neptune -71835-08-09 22:04 J -24516089.74 -24516089.58 -24516089.39 0.0088 0.0053
 Neptune -71834-03-23 10:47 J -24515864.25 -24515864.05 -24515863.84 0.0088 0.0032
 Neptune -71834-11-03 23:16 J -24515638.74 -24515638.53 -24515638.31 0.0088 0.0013
 Neptune -71833-06-16 11:45 J -24515413.22 -24515413.01 -24515412.79 0.0088 0.0007
 Neptune -71832-01-28 00:13 J -24515187.70 -24515187.49 -24515187.28 0.0088 0.0027
 Neptune -71832-09-10 12:13 J -24514962.16 -24514961.99 -24514961.79 0.0088 0.0047
 Saturn -71832-09-20 12:28 J -24514952.16 -24514951.98 -24514951.79 0.0302 0.0139
 Neptune -71831-04-24 00:13 J -24514736.61 -24514736.49 -24514736.32 0.0088 0.0067
 Neptune -71831-12-05 12:42 J -24514511.00 -24514510.97 -24514510.90 0.0088 0.0086
 Jupiter -71828-01-24 04:18 J -24513730.38 -24513730.32 -24513730.25 0.0502 0.0474
 Jupiter -71822-07-23 08:09 J -24511359.25 -24511359.16 -24511359.08 0.0526 0.0473
 Uranus -71818-07-23 18:28 J -24509897.78 -24509897.73 -24509897.63 0.0147 0.0138
 Saturn -71817-02-27 03:49 J -24509679.46 -24509679.34 -24509679.20 0.0259 0.0207

Uranus -71817-03-06 10:04 J -24509671.27 -24509671.08 -24509670.88 0.0147 0.0068
 Saturn -71817-10-13 03:06 J -24509450.55 -24509450.37 -24509450.19 0.0259 0.0143
 Uranus -71817-10-19 01:25 J -24509444.66 -24509444.44 -24509444.22 0.0146 0.0003
 Uranus -71816-06-02 16:33 J -24509218.00 -24509217.81 -24509217.61 0.0146 0.0073
 Uranus -71815-01-15 07:25 J -24508991.22 -24508991.19 -24508991.12 0.0146 0.0142
 Jupiter -71810-03-28 02:23 J -24507093.60 -24507093.40 -24507093.20 0.0525 0.0017
 Jupiter -71804-01-26 20:23 J -24504961.84 -24504961.65 -24504961.45 0.0500 0.0175
 Saturn -71802-04-02 17:30 J -24504165.92 -24504165.77 -24504165.62 0.0303 0.0202
 Jupiter -71799-11-30 21:35 J -24502827.70 -24502827.60 -24502827.48 0.0524 0.0442
 Jupiter -71793-10-01 19:25 J -24500695.87 -24500695.69 -24500695.50 0.0501 0.0226
 Saturn -71788-09-08 04:33 J -24498893.46 -24498893.31 -24498893.14 0.0259 0.0168
 Saturn -71787-04-25 03:35 J -24498664.50 -24498664.35 -24498664.19 0.0260 0.0183
 Mars -71786-11-15 10:04 J -24498095.22 -24498095.08 -24498094.94 0.1976 0.1097
 Mars -71785-10-14 16:47 J -24497760.98 -24497760.80 -24497760.63 0.1571 0.0287
 Moon -71780-09-03 05:59 J -24495976.40 -24495976.25 -24495976.10 0.2654 0.1272
 Earth -71780-09-03 07:40 J -24495976.34 -24495976.18 -24495976.02 0.2660 0.0742 *
 Jupiter -71775-12-03 18:28 J -24494058.89 -24494058.73 -24494058.56 0.0526 0.0285
 Uranus -71775-12-10 05:30 J -24494052.40 -24494052.27 -24494052.12 0.0132 0.0099
 Uranus -71774-07-24 08:52 J -24493826.33 -24493826.13 -24493825.94 0.0132 0.0050
 Saturn -71773-02-25 16:47 J -24493609.85 -24493609.80 -24493609.73 0.0303 0.0289
 Uranus -71773-03-06 11:45 J -24493600.22 -24493600.01 -24493599.80 0.0132 0.0002
 Saturn -71773-10-12 19:11 J -24493379.81 -24493379.70 -24493379.59 0.0302 0.0255
 Uranus -71773-10-18 14:37 J -24493374.09 -24493373.89 -24493373.69 0.0132 0.0047
 Uranus -71772-06-01 17:16 J -24493147.91 -24493147.78 -24493147.62 0.0132 0.0096
 Jupiter -71769-10-04 08:37 J -24491927.26 -24491927.14 -24491927.02 0.0500 0.0406
 Jupiter -71763-08-08 15:21 J -24489793.05 -24489792.86 -24489792.67 0.0525 0.0163
 Saturn -71758-03-21 07:40 J -24488107.37 -24488107.18 -24488106.99 0.0259 0.0120
 Saturn -71758-11-05 06:28 J -24487878.32 -24487878.23 -24487878.12 0.0259 0.0230
 Jupiter -71757-06-09 07:11 J -24487661.41 -24487661.20 -24487660.99 0.0501 0.0005
 Neptune -71754-06-27 20:09 J -24486547.71 -24486547.66 -24486547.61 0.0089 0.0087

Neptune -71753-02-08 09:21 J -24486322.25 -24486322.11 -24486321.95 0.0089 0.0066
 Neptune -71753-09-20 22:33 J -24486096.73 -24486096.56 -24486096.35 0.0089 0.0046
 Neptune -71752-05-04 12:28 J -24485871.19 -24485870.98 -24485870.76 0.0089 0.0025
 Neptune -71752-12-16 02:09 J -24485645.63 -24485645.41 -24485645.19 0.0089 0.0005
 Neptune -71751-07-29 15:35 J -24485420.07 -24485419.85 -24485419.63 0.0089 0.0016
 Neptune -71750-03-12 05:16 J -24485194.49 -24485194.28 -24485194.08 0.0089 0.0036
 Neptune -71750-10-23 18:28 J -24484968.89 -24484968.73 -24484968.55 0.0089 0.0057
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 Saturn -71744-09-06 21:21 J -24482823.74 -24482823.61 -24482823.46 0.0303 0.0228
 Uranus -71734-11-04 12:13 J -24479113.13 -24479112.99 -24479112.82 0.0147 0.0105
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 Jupiter -71721-02-15 23:16 J -24474626.70 -24474626.53 -24474626.35 0.0500 0.0257
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 Saturn -71478-06-17 15:21 J -24385748.97 -24385748.86 -24385748.73 0.0303 0.0246
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 Uranus -71354-09-28 00:57 J -24340355.67 -24340355.46 -24340355.25 0.0132 0.0022
 Pluto -71354-09-28 22:47 J -24340354.75 -24340354.55 -24340354.34 0.0078 0.0026
 Uranus -71353-05-11 03:35 J -24340129.55 -24340129.35 -24340129.14 0.0132 0.0026
 Pluto -71353-05-11 07:25 J -24340129.38 -24340129.19 -24340128.97 0.0078 0.0027 *
 Uranus -71353-12-23 06:28 J -24339903.40 -24339903.23 -24339903.05 0.0132 0.0074
 Uranus -71352-08-06 09:06 J -24339677.19 -24339677.12 -24339677.03 0.0132 0.0122
 Jupiter -71348-11-13 02:09 J -24338117.58 -24338117.41 -24338117.23 0.0526 0.0261
 Saturn -71346-05-24 15:49 J -24337559.96 -24337559.84 -24337559.69 0.0259 0.0206
 Saturn -71345-01-08 14:52 J -24337331.05 -24337330.88 -24337330.70 0.0259 0.0145
 Neptune -71342-05-17 09:21 J -24336106.22 -24336106.11 -24336105.98 0.0088 0.0074
 Jupiter -71342-09-14 10:18 J -24335986.20 -24335986.07 -24335985.92 0.0500 0.0367
 Neptune -71342-12-28 22:18 J -24335880.74 -24335880.57 -24335880.40 0.0088 0.0054
 Neptune -71341-08-10 10:18 J -24335655.25 -24335655.07 -24335654.85 0.0088 0.0035

Neptune -71340-03-23 23:01 J -24335429.75 -24335429.54 -24335429.32 0.0088 0.0014
 Neptune -71340-11-04 11:30 J -24335204.24 -24335204.02 -24335203.80 0.0088 0.0005
 Neptune -71339-06-17 23:45 J -24334978.71 -24334978.51 -24334978.30 0.0088 0.0025
 Neptune -71338-01-29 11:45 J -24334753.17 -24334753.01 -24334752.80 0.0088 0.0046
 Neptune -71338-09-12 00:13 J -24334527.62 -24334527.49 -24334527.33 0.0088 0.0065
 Neptune -71337-04-24 12:28 J -24334302.02 -24334301.98 -24334301.90 0.0088 0.0084
 Jupiter -71336-07-18 20:23 J -24333851.83 -24333851.65 -24333851.46 0.0524 0.0198
 Saturn -71331-06-26 22:04 J -24332047.78 -24332047.58 -24332047.37 0.0303 0.0060
 Jupiter -71330-05-20 08:37 J -24331720.35 -24331720.14 -24331719.94 0.0501 0.0037
 Jupiter -71318-01-23 06:57 J -24327454.30 -24327454.21 -24327454.11 0.0502 0.0438
 Saturn -71317-12-03 21:35 J -24326773.77 -24326773.60 -24326773.42 0.0259 0.0148
 Saturn -71316-07-20 20:37 J -24326544.77 -24326544.64 -24326544.50 0.0259 0.0202
 Uranus -71314-05-27 17:45 J -24325868.84 -24325868.76 -24325868.64 0.0147 0.0132
 Uranus -71313-01-09 09:21 J -24325642.31 -24325642.11 -24325641.90 0.0147 0.0062
 Uranus -71313-08-23 00:42 J -24325415.69 -24325415.47 -24325415.24 0.0147 0.0008
 Uranus -71312-04-06 16:04 J -24325189.02 -24325188.83 -24325188.64 0.0147 0.0077
 Jupiter -71312-07-21 13:11 J -24325083.00 -24325082.95 -24325082.90 0.0526 0.0504
 Uranus -71312-11-19 06:57 J -24324962.21 -24324962.21 -24324962.19 0.0146 0.0146
 Saturn -71301-01-07 05:30 J -24321261.45 -24321261.27 -24321261.08 0.0303 0.0134
 Jupiter -71300-03-26 09:06 J -24320817.32 -24320817.12 -24320816.92 0.0525 0.0057
 Jupiter -71294-01-25 19:54 J -24318685.86 -24318685.67 -24318685.48 0.0500 0.0192
 Earth -71294-09-04 04:18 J -24318464.45 -24318464.32 -24318464.18 0.2664 0.1395
 Moon -71294-09-04 07:25 J -24318464.35 -24318464.19 -24318464.04 0.2658 0.1160 *
 Mars -71292-07-23 02:37 J -24317776.57 -24317776.39 -24317776.21 0.1573 0.0118
 Jupiter -71289-11-29 04:33 J -24316551.44 -24316551.31 -24316551.18 0.0524 0.0395
 Saturn -71287-06-16 02:37 J -24315987.59 -24315987.39 -24315987.19 0.0260 0.0096
 Saturn -71286-01-31 01:25 J -24315758.47 -24315758.44 -24315758.40 0.0260 0.0256
 Jupiter -71283-09-30 17:30 J -24314419.95 -24314419.77 -24314419.58 0.0501 0.0213
 Saturn -71272-07-19 16:04 J -24310474.96 -24310474.83 -24310474.69 0.0303 0.0224
 Uranus -71271-10-14 09:35 J -24310023.25 -24310023.10 -24310022.94 0.0132 0.0092

Uranus -71270-05-28 12:13 J -24309797.18 -24309796.99 -24309796.78 0.0132 0.0045
 Uranus -71269-01-09 15:21 J -24309571.07 -24309570.86 -24309570.65 0.0132 0.0003
 Uranus -71269-08-22 17:59 J -24309344.94 -24309344.75 -24309344.55 0.0132 0.0051
 Uranus -71268-04-05 20:23 J -24309118.77 -24309118.65 -24309118.49 0.0132 0.0100
 Jupiter -71265-12-01 21:49 J -24307782.75 -24307782.59 -24307782.43 0.0525 0.0308
 Mars -71261-08-21 04:33 J -24306424.36 -24306424.31 -24306424.26 0.1976 0.1879
 Neptune -71260-06-28 05:16 J -24306113.40 -24306113.28 -24306113.13 0.0089 0.0070
 Neptune -71259-02-08 18:28 J -24305887.89 -24305887.73 -24305887.52 0.0089 0.0050
 Neptune -71259-09-22 08:09 J -24305662.36 -24305662.16 -24305661.94 0.0089 0.0029
 Jupiter -71259-10-03 07:40 J -24305651.29 -24305651.18 -24305651.07 0.0500 0.0420
 Neptune -71258-05-05 22:04 J -24305436.80 -24305436.58 -24305436.36 0.0089 0.0008
 Neptune -71258-12-17 11:30 J -24305211.24 -24305211.02 -24305210.80 0.0089 0.0012
 Saturn -71258-12-27 08:52 J -24305201.34 -24305201.13 -24305200.91 0.0259 0.0036
 Neptune -71257-07-30 00:57 J -24304985.66 -24304985.46 -24304985.24 0.0089 0.0033
 Neptune -71256-03-12 14:09 J -24304760.06 -24304759.91 -24304759.71 0.0089 0.0054
 Neptune -71256-10-24 04:04 J -24304534.44 -24304534.33 -24304534.20 0.0089 0.0074
 Jupiter -71253-08-06 15:35 J -24303517.04 -24303516.85 -24303516.66 0.0524 0.0152
 Jupiter -71247-06-08 05:45 J -24301385.46 -24301385.26 -24301385.05 0.0501 0.0022
 Saturn -71243-06-13 23:01 J -24299918.66 -24299918.54 -24299918.41 0.0303 0.0238
 Jupiter -71235-02-11 02:37 J -24297119.51 -24297119.39 -24297119.25 0.0501 0.0391
 Uranus -71230-09-08 11:16 J -24295084.19 -24295084.03 -24295083.86 0.0147 0.0099
 Uranus -71229-04-22 02:23 J -24294857.61 -24294857.40 -24294857.18 0.0147 0.0030
 Uranus -71229-12-04 17:30 J -24294630.97 -24294630.77 -24294630.54 0.0147 0.0040
 Saturn -71228-07-08 13:54 J -24294415.13 -24294414.92 -24294414.70 0.0260 0.0018
 Uranus -71228-07-19 08:52 J -24294404.27 -24294404.13 -24294403.97 0.0146 0.0109
 Mars -71226-05-20 15:06 J -24293734.05 -24293733.87 -24293733.69 0.1574 0.0112
 Jupiter -71217-04-14 05:16 J -24290482.48 -24290482.28 -24290482.09 0.0525 0.0105
 Saturn -71214-12-25 10:04 J -24289132.26 -24289132.08 -24289131.89 0.0303 0.0147
 Jupiter -71211-02-13 15:35 J -24288351.03 -24288350.85 -24288350.67 0.0500 0.0237
 Jupiter -71206-12-18 23:45 J -24286216.65 -24286216.51 -24286216.36 0.0524 0.0350

Jupiter -71200-10-19 13:25 J -24284085.13 -24284084.94 -24284084.74 0.0501 0.0166
 Saturn -71198-01-18 20:52 J -24283628.84 -24283628.63 -24283628.42 0.0259 0.0079
 Mars -71195-06-18 05:59 J -24282382.41 -24282382.25 -24282382.10 0.1974 0.0887
 Pluto -71193-08-09 11:59 J -24281599.14 -24281599.00 -24281598.85 0.0066 0.0049
 Pluto -71192-03-22 17:16 J -24281373.99 -24281373.78 -24281373.55 0.0066 0.0016
 Pluto -71192-11-02 23:01 J -24281148.76 -24281148.54 -24281148.32 0.0066 0.0018
 Pluto -71191-06-16 04:33 J -24280923.44 -24280923.31 -24280923.16 0.0067 0.0052
 Earth -71188-03-12 06:57 J -24279923.35 -24279923.21 -24279923.06 0.2671 0.0930
 Moon -71188-03-12 12:13 J -24279923.12 -24279922.99 -24279922.85 0.2671 0.1225 *
 Uranus -71187-06-13 20:37 J -24279464.72 -24279464.64 -24279464.51 0.0132 0.0115
 Uranus -71186-01-25 23:59 J -24279238.68 -24279238.50 -24279238.31 0.0132 0.0067
 Uranus -71186-09-09 02:52 J -24279012.59 -24279012.38 -24279012.17 0.0132 0.0019
 Uranus -71185-04-22 05:45 J -24278786.47 -24278786.26 -24278786.06 0.0132 0.0028
 Uranus -71185-12-04 08:09 J -24278560.32 -24278560.16 -24278559.97 0.0132 0.0077
 Saturn -71184-07-06 20:09 J -24278345.86 -24278345.66 -24278345.45 0.0303 0.0061
 Uranus -71184-07-18 10:47 J -24278334.10 -24278334.05 -24278333.96 0.0132 0.0125
 Jupiter -71182-12-21 16:47 J -24277447.94 -24277447.80 -24277447.65 0.0526 0.0355
 Moon -71180-03-10 04:04 J -24277003.40 -24277003.33 -24277003.27 0.2663 0.2427
 Neptune -71178-08-18 20:23 J -24276111.72 -24276111.65 -24276111.56 0.0088 0.0082
 Neptune -71177-03-31 09:06 J -24275886.27 -24275886.12 -24275885.96 0.0088 0.0062
 Neptune -71177-11-11 21:21 J -24275660.79 -24275660.61 -24275660.41 0.0088 0.0042
 Neptune -71176-06-25 09:49 J -24275435.29 -24275435.09 -24275434.87 0.0088 0.0023
 Jupiter -71176-10-22 02:37 J -24275316.46 -24275316.39 -24275316.31 0.0499 0.0464
 Neptune -71175-02-05 22:33 J -24275209.78 -24275209.56 -24275209.34 0.0088 0.0003
 Neptune -71175-09-19 10:47 J -24274984.26 -24274984.05 -24274983.83 0.0088 0.0017
 Neptune -71174-05-02 22:47 J -24274758.73 -24274758.55 -24274758.33 0.0088 0.0038
 Neptune -71174-12-14 11:30 J -24274533.18 -24274533.02 -24274532.85 0.0088 0.0057
 Neptune -71173-07-26 23:30 J -24274307.61 -24274307.52 -24274307.39 0.0088 0.0077
 Jupiter -71170-08-26 11:59 J -24273182.20 -24273182.00 -24273181.80 0.0525 0.0100
 Saturn -71170-12-15 02:23 J -24273071.50 -24273071.40 -24273071.27 0.0260 0.0219

Saturn -71169-07-31 01:40 J -24272842.61 -24272842.43 -24272842.24 0.0260 0.0133
 Jupiter -71164-06-27 00:28 J -24271050.68 -24271050.48 -24271050.27 0.0500 0.0062
 Mars -71160-03-17 04:18 J -24269691.50 -24269691.32 -24269691.15 0.1575 0.0326
 Saturn -71154-01-17 07:25 J -24267559.39 -24267559.19 -24267558.98 0.0303 0.0033
 Jupiter -71152-03-01 21:21 J -24266784.75 -24266784.61 -24266784.46 0.0502 0.0350
 Uranus -71146-05-08 14:37 J -24264525.96 -24264525.89 -24264525.78 0.0147 0.0135
 Uranus -71146-12-21 06:28 J -24264299.43 -24264299.23 -24264299.03 0.0147 0.0064
 Uranus -71145-08-03 21:49 J -24264072.81 -24264072.59 -24264072.37 0.0147 0.0005
 Uranus -71144-03-18 12:42 J -24263846.15 -24263845.97 -24263845.76 0.0147 0.0075
 Uranus -71144-10-31 03:49 J -24263619.36 -24263619.34 -24263619.28 0.0146 0.0144
 Saturn -71140-06-26 09:35 J -24262285.27 -24262285.10 -24262284.92 0.0259 0.0157
 Saturn -71139-02-10 08:23 J -24262056.28 -24262056.15 -24262056.00 0.0259 0.0194
 Jupiter -71134-05-03 23:16 J -24260147.73 -24260147.53 -24260147.34 0.0525 0.0145
 Mars -71129-04-14 08:09 J -24258340.33 -24258340.16 -24258339.99 0.1973 0.0062
 Jupiter -71128-03-04 11:45 J -24258016.18 -24258016.01 -24258015.84 0.0500 0.0287
 Saturn -71125-07-29 17:30 J -24256772.96 -24256772.77 -24256772.58 0.0303 0.0118
 Jupiter -71122-01-06 18:13 J -24255881.90 -24255881.74 -24255881.58 0.0524 0.0308
 Jupiter -71117-11-07 09:21 J -24253750.31 -24253750.11 -24253749.91 0.0501 0.0119
 Saturn -71110-01-06 13:54 J -24251499.11 -24251498.92 -24251498.72 0.0260 0.0105
 Saturn -71110-08-23 12:57 J -24251270.02 -24251269.96 -24251269.89 0.0260 0.0247
 Pluto -71106-09-01 04:47 J -24249800.45 -24249800.30 -24249800.12 0.0078 0.0049
 Pluto -71105-04-13 13:54 J -24249575.13 -24249574.92 -24249574.70 0.0078 0.0005
 Pluto -71105-11-24 22:18 J -24249349.70 -24249349.57 -24249349.41 0.0078 0.0057
 Uranus -71103-09-25 12:13 J -24248680.13 -24248679.99 -24248679.82 0.0132 0.0088
 Uranus -71102-05-09 15:21 J -24248454.06 -24248453.86 -24248453.66 0.0132 0.0040
 Uranus -71102-12-21 18:13 J -24248227.95 -24248227.74 -24248227.53 0.0132 0.0007
 Uranus -71101-08-03 20:52 J -24248001.81 -24248001.63 -24248001.43 0.0132 0.0055
 Uranus -71100-03-17 23:30 J -24247775.63 -24247775.52 -24247775.37 0.0132 0.0104
 Jupiter -71098-01-09 12:42 J -24247113.10 -24247112.97 -24247112.84 0.0526 0.0400
 Neptune -71096-09-29 14:09 J -24246118.99 -24246118.91 -24246118.79 0.0089 0.0079

Saturn -71095-02-09 03:21 J -24245986.50 -24245986.36 -24245986.20 0.0303 0.0207
 Neptune -71095-05-13 03:35 J -24245893.50 -24245893.35 -24245893.16 0.0089 0.0059
 Neptune -71095-12-24 17:16 J -24245667.97 -24245667.78 -24245667.57 0.0089 0.0038
 Mars -71094-01-12 16:47 J -24245648.97 -24245648.80 -24245648.64 0.1577 0.0554
 Neptune -71094-08-07 06:42 J -24245442.43 -24245442.22 -24245441.99 0.0089 0.0018
 Neptune -71093-03-19 20:23 J -24245216.87 -24245216.65 -24245216.43 0.0089 0.0003
 Neptune -71093-10-31 09:35 J -24244991.30 -24244991.10 -24244990.87 0.0089 0.0024
 Neptune -71092-06-13 23:30 J -24244765.71 -24244765.52 -24244765.32 0.0089 0.0044
 Neptune -71091-01-25 12:42 J -24244540.10 -24244539.97 -24244539.80 0.0089 0.0065
 Neptune -71091-09-08 02:09 J -24244314.44 -24244314.41 -24244314.33 0.0089 0.0086
 Jupiter -71087-09-14 07:54 J -24242847.37 -24242847.17 -24242846.98 0.0524 0.0054
 Jupiter -71081-07-15 19:40 J -24240715.88 -24240715.68 -24240715.48 0.0501 0.0103
 Saturn -71081-07-18 20:23 J -24240712.86 -24240712.65 -24240712.44 0.0259 0.0045
 Jupiter -71075-05-20 01:11 J -24238581.49 -24238581.45 -24238581.41 0.0523 0.0510
 Jupiter -71069-03-20 17:59 J -24236449.91 -24236449.75 -24236449.58 0.0502 0.0298
 Saturn -71066-01-04 10:33 J -24235430.16 -24235430.06 -24235429.94 0.0303 0.0254
 Saturn -71066-08-22 12:57 J -24235200.01 -24235199.96 -24235199.89 0.0303 0.0290
 Mars -71063-02-09 09:21 J -24234298.25 -24234298.11 -24234297.97 0.1970 0.1064
 Mars -71062-01-11 08:23 J -24233962.23 -24233962.15 -24233962.06 0.1573 0.1373
 Uranus -71062-08-20 12:28 J -24233741.14 -24233740.98 -24233740.80 0.0147 0.0096
 Uranus -71061-04-03 03:49 J -24233514.55 -24233514.34 -24233514.12 0.0147 0.0026
 Uranus -71061-11-15 18:57 J -24233287.91 -24233287.71 -24233287.49 0.0147 0.0044
 Uranus -71060-06-30 10:18 J -24233061.20 -24233061.07 -24233060.92 0.0147 0.0113
 Moon -71059-09-06 07:25 J -24232628.24 -24232628.19 -24232628.14 0.2664 0.2512
 Saturn -71051-01-29 00:13 J -24229926.71 -24229926.49 -24229926.28 0.0260 0.0006
 Jupiter -71051-05-22 19:40 J -24229812.86 -24229812.68 -24229812.49 0.0526 0.0197
 Moon -71051-09-03 22:33 J -24229708.63 -24229708.56 -24229708.49 0.2672 0.2393
 Earth -71051-09-04 02:52 J -24229708.50 -24229708.38 -24229708.25 0.2666 0.1702 *
 Jupiter -71045-03-23 08:09 J -24227681.31 -24227681.16 -24227681.01 0.0500 0.0336
 Jupiter -71039-01-25 15:06 J -24225547.04 -24225546.87 -24225546.69 0.0524 0.0256

Saturn -71037-07-16 19:11 J -24224643.87 -24224643.70 -24224643.53 0.0303 0.0172
 Jupiter -71034-11-27 04:18 J -24223415.52 -24223415.32 -24223415.11 0.0501 0.0077
 Mars -71029-11-09 05:30 J -24221606.42 -24221606.27 -24221606.11 0.1578 0.0774
 Jupiter -71022-08-02 02:23 J -24219149.45 -24219149.40 -24219149.34 0.0503 0.0480
 Saturn -71022-08-11 05:45 J -24219140.47 -24219140.26 -24219140.05 0.0259 0.0062
 Uranus -71019-05-26 00:42 J -24218121.57 -24218121.47 -24218121.33 0.0132 0.0109
 Uranus -71018-01-07 04:04 J -24217895.52 -24217895.33 -24217895.14 0.0132 0.0061
 Uranus -71018-08-21 06:57 J -24217669.42 -24217669.21 -24217669.00 0.0132 0.0014
 Uranus -71017-04-03 09:35 J -24217443.30 -24217443.10 -24217442.89 0.0132 0.0034
 Uranus -71017-11-15 12:13 J -24217217.14 -24217216.99 -24217216.81 0.0132 0.0082
 Uranus -71016-06-29 15:06 J -24216990.90 -24216990.87 -24216990.82 0.0132 0.0130
 Jupiter -71015-01-28 08:37 J -24216778.24 -24216778.14 -24216778.04 0.0525 0.0449
 Neptune -71013-07-02 18:28 J -24215891.83 -24215891.73 -24215891.57 0.0088 0.0072
 Neptune -71012-02-13 07:11 J -24215666.36 -24215666.20 -24215666.00 0.0088 0.0051
 Neptune -71012-09-26 19:54 J -24215440.87 -24215440.67 -24215440.46 0.0088 0.0031
 Neptune -71011-05-10 08:23 J -24215215.36 -24215215.15 -24215214.93 0.0088 0.0012
 Neptune -71011-12-21 21:06 J -24214989.84 -24214989.62 -24214989.40 0.0088 0.0008
 Neptune -71010-08-04 09:06 J -24214764.31 -24214764.12 -24214763.90 0.0088 0.0029
 Neptune -71009-03-16 21:49 J -24214538.77 -24214538.59 -24214538.41 0.0088 0.0048
 Neptune -71009-10-28 09:49 J -24214313.22 -24214313.09 -24214312.94 0.0088 0.0068
 Neptune -71008-06-10 21:49 J -24214087.60 -24214087.59 -24214087.53 0.0088 0.0088
 Saturn -71007-01-27 03:49 J -24213857.54 -24213857.34 -24213857.15 0.0303 0.0093
 Jupiter -71004-10-03 03:35 J -24212512.55 -24212512.35 -24212512.15 0.0525 0.0007

71ST MILLENNIUM BCE

This is a list of transits of Venus in the 71st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-70998-08-04 17:45 J	-24210380.95	-24210380.76	-24210380.56	0.0501	0.0161		
Mars	-70997-11-07 21:21 J	-24209919.73	-24209919.61	-24209919.49	0.1574	0.1156		
Saturn	-70993-07-06 10:04 J	-24208583.15	-24208583.08	-24208582.99	0.0259	0.0240		
Saturn	-70992-02-20 08:23 J	-24208354.34	-24208354.15	-24208353.95	0.0259	0.0109		
Jupiter	-70992-06-07 22:18 J	-24208246.66	-24208246.57	-24208246.46	0.0524	0.0456		
Jupiter	-70986-04-09 16:04 J	-24206115.01	-24206114.83	-24206114.65	0.0502	0.0240		
Uranus	-70978-04-19 19:54 J	-24203182.78	-24203182.67	-24203182.55	0.0147	0.0124		
Saturn	-70978-08-09 10:18 J	-24203071.28	-24203071.07	-24203070.87	0.0303	0.0020		
Uranus	-70978-12-02 11:01 J	-24202956.23	-24202956.04	-24202955.82	0.0147	0.0055		
Uranus	-70977-07-16 02:37 J	-24202729.61	-24202729.39	-24202729.16	0.0147	0.0015		
Uranus	-70976-02-27 17:45 J	-24202502.93	-24202502.76	-24202502.57	0.0147	0.0084		
Jupiter	-70968-06-10 18:57 J	-24199477.88	-24199477.71	-24199477.54	0.0525	0.0262		
Saturn	-70963-01-16 14:37 J	-24197797.03	-24197796.89	-24197796.73	0.0259	0.0186		
Saturn	-70963-09-02 12:57 J	-24197568.11	-24197567.96	-24197567.78	0.0259	0.0163		
Mars	-70963-09-06 18:13 J	-24197563.87	-24197563.74	-24197563.60	0.1579	0.0999		
Jupiter	-70962-04-12 04:33 J	-24197346.44	-24197346.31	-24197346.18	0.0501	0.0385		
Jupiter	-70956-02-13 12:57 J	-24195212.14	-24195211.96	-24195211.77	0.0524	0.0194		
Jupiter	-70951-12-16 03:06 J	-24193080.57	-24193080.37	-24193080.16	0.0502	0.0018		
Saturn	-70948-02-18 17:30 J	-24192284.97	-24192284.77	-24192284.56	0.0303	0.0055		
Moon	-70945-03-12 05:16 J	-24191167.43	-24191167.28	-24191167.13	0.2667	0.0614		
Earth	-70945-03-12 10:18 J	-24191167.21	-24191167.07	-24191166.92	0.2669	0.1022	*	
Pluto	-70945-07-12 20:23 J	-24191044.72	-24191044.65	-24191044.52	0.0066	0.0059		
Pluto	-70944-02-23 02:23 J	-24190819.61	-24190819.40	-24190819.19	0.0066	0.0025		
Pluto	-70944-10-06 07:54 J	-24190594.39	-24190594.17	-24190593.94	0.0066	0.0008		
Pluto	-70943-05-19 13:11 J	-24190369.11	-24190368.95	-24190368.76	0.0067	0.0043		
Jupiter	-70939-08-21 02:23 J	-24188814.52	-24188814.40	-24188814.28	0.0502	0.0412		

Uranus -70935-01-23 14:09 J -24187562.95 -24187562.91 -24187562.85 0.0132 0.0128
 Uranus -70935-09-06 17:01 J -24187336.95 -24187336.79 -24187336.61 0.0132 0.0081
 Uranus -70934-04-20 19:54 J -24187110.87 -24187110.67 -24187110.46 0.0132 0.0034
 Saturn -70934-07-29 17:01 J -24187010.97 -24187010.79 -24187010.61 0.0259 0.0142
 Uranus -70934-12-02 22:47 J -24186884.76 -24186884.55 -24186884.34 0.0132 0.0014
 Saturn -70933-03-14 14:52 J -24186781.99 -24186781.88 -24186781.73 0.0259 0.0207
 Uranus -70933-07-16 01:40 J -24186658.62 -24186658.43 -24186658.24 0.0132 0.0061
 Jupiter -70932-02-16 07:40 J -24186443.22 -24186443.18 -24186443.14 0.0526 0.0514
 Uranus -70932-02-27 04:18 J -24186432.42 -24186432.32 -24186432.19 0.0132 0.0109
 Neptune -70932-12-31 23:16 J -24186124.53 -24186124.53 -24186124.50 0.0089 0.0089
 Neptune -70931-08-14 12:42 J -24185899.10 -24185898.97 -24185898.82 0.0089 0.0068
 Mars -70931-09-05 10:04 J -24185877.22 -24185877.08 -24185876.93 0.1575 0.0938
 Neptune -70930-03-28 01:54 J -24185673.59 -24185673.42 -24185673.22 0.0089 0.0048
 Neptune -70930-11-08 15:35 J -24185448.06 -24185447.85 -24185447.64 0.0089 0.0027
 Neptune -70929-06-21 05:01 J -24185222.51 -24185222.29 -24185222.06 0.0089 0.0007
 Neptune -70928-02-01 18:28 J -24184996.94 -24184996.73 -24184996.50 0.0089 0.0014
 Neptune -70928-09-15 07:40 J -24184771.37 -24184771.18 -24184770.96 0.0089 0.0035
 Neptune -70927-04-28 21:35 J -24184545.77 -24184545.60 -24184545.43 0.0089 0.0055
 Neptune -70927-12-10 10:47 J -24184320.15 -24184320.05 -24184319.92 0.0089 0.0076
 Jupiter -70921-10-22 04:04 J -24182177.53 -24182177.33 -24182177.14 0.0525 0.0069
 Saturn -70919-08-31 21:49 J -24181498.78 -24181498.59 -24181498.40 0.0303 0.0118
 Jupiter -70915-08-23 14:37 J -24180046.07 -24180045.89 -24180045.70 0.0501 0.0214
 Jupiter -70909-06-27 00:13 J -24177911.63 -24177911.49 -24177911.35 0.0523 0.0375
 Saturn -70904-02-07 20:37 J -24176224.84 -24176224.64 -24176224.44 0.0259 0.0092
 Saturn -70904-09-24 18:57 J -24175995.74 -24175995.71 -24175995.68 0.0259 0.0256
 Jupiter -70903-04-28 12:57 J -24175780.15 -24175779.96 -24175779.77 0.0502 0.0188
 Mars -70900-10-03 15:06 J -24174525.93 -24174525.87 -24174525.81 0.1973 0.1837
 Mars -70897-07-04 06:57 J -24173521.31 -24173521.21 -24173521.09 0.1580 0.1225
 Uranus -70894-08-01 18:13 J -24172397.91 -24172397.74 -24172397.55 0.0147 0.0085
 Uranus -70893-03-15 09:49 J -24172171.31 -24172171.09 -24172170.87 0.0147 0.0015

Uranus -70893-10-28 00:57 J -24171944.66 -24171944.46 -24171944.25 0.0147 0.0055
 Uranus -70892-06-11 16:04 J -24171717.93 -24171717.83 -24171717.69 0.0147 0.0124
 Saturn -70889-03-13 03:35 J -24170712.52 -24170712.35 -24170712.19 0.0303 0.0186
 Jupiter -70885-06-29 17:45 J -24169142.91 -24169142.76 -24169142.60 0.0525 0.0328
 Jupiter -70879-05-01 05:45 J -24167011.34 -24167011.26 -24167011.18 0.0500 0.0458
 Saturn -70875-08-20 22:04 J -24165438.79 -24165438.58 -24165438.37 0.0259 0.0051
 Jupiter -70873-03-04 13:11 J -24164877.14 -24164876.95 -24164876.75 0.0524 0.0122
 Jupiter -70867-01-04 04:33 J -24162745.52 -24162745.31 -24162745.11 0.0501 0.0061
 Mars -70865-07-02 23:01 J -24161834.70 -24161834.54 -24161834.38 0.1576 0.0720
 Saturn -70860-09-23 05:59 J -24159926.37 -24159926.25 -24159926.12 0.0303 0.0243
 Pluto -70858-08-04 14:09 J -24159246.02 -24159245.91 -24159245.75 0.0078 0.0061
 Pluto -70857-03-16 23:30 J -24159020.73 -24159020.52 -24159020.30 0.0078 0.0007
 Pluto -70857-10-28 07:54 J -24158795.33 -24158795.17 -24158794.98 0.0078 0.0046
 Jupiter -70856-09-09 00:13 J -24158479.63 -24158479.49 -24158479.34 0.0502 0.0355
 Uranus -70851-05-07 05:16 J -24156778.40 -24156778.28 -24156778.13 0.0131 0.0101
 Uranus -70851-12-19 08:09 J -24156552.34 -24156552.16 -24156551.96 0.0132 0.0055
 Uranus -70850-08-02 11:01 J -24156326.25 -24156326.04 -24156325.82 0.0132 0.0008
 Uranus -70849-03-15 13:54 J -24156100.12 -24156099.92 -24156099.71 0.0132 0.0040
 Neptune -70849-10-04 04:04 J -24155897.41 -24155897.33 -24155897.23 0.0088 0.0081
 Uranus -70849-10-27 16:18 J -24155873.96 -24155873.82 -24155873.64 0.0132 0.0088
 Neptune -70848-05-17 16:47 J -24155671.95 -24155671.80 -24155671.64 0.0088 0.0061
 Neptune -70848-12-29 05:30 J -24155446.46 -24155446.27 -24155446.07 0.0088 0.0041
 Neptune -70847-08-11 17:45 J -24155220.96 -24155220.76 -24155220.53 0.0088 0.0022
 Neptune -70846-03-25 06:28 J -24154995.45 -24154995.23 -24154995.01 0.0088 0.0002
 Neptune -70846-11-05 18:57 J -24154769.92 -24154769.71 -24154769.50 0.0088 0.0019
 Saturn -70845-03-02 00:57 J -24154652.68 -24154652.46 -24154652.24 0.0258 0.0003
 Neptune -70845-06-18 07:11 J -24154544.39 -24154544.20 -24154544.00 0.0088 0.0039
 Neptune -70844-01-29 19:25 J -24154318.84 -24154318.69 -24154318.51 0.0088 0.0058
 Neptune -70844-09-12 08:09 J -24154093.26 -24154093.16 -24154093.06 0.0088 0.0078
 Jupiter -70838-11-11 05:30 J -24151842.46 -24151842.27 -24151842.08 0.0524 0.0149

Mars	-70834-07-31 17:30 J	-24150483.92	-24150483.77	-24150483.62	0.1971	0.0898
Jupiter	-70832-09-11 16:18 J	-24149710.99	-24149710.82	-24149710.65	0.0501	0.0290
Mars	-70831-05-01 19:40 J	-24149478.75	-24149478.68	-24149478.62	0.1581	0.1456
Saturn	-70831-08-18 07:11 J	-24149370.31	-24149370.20	-24149370.06	0.0304	0.0245
Jupiter	-70826-07-17 00:42 J	-24147576.63	-24147576.47	-24147576.30	0.0523	0.0300
Jupiter	-70820-05-17 15:49 J	-24145445.04	-24145444.84	-24145444.64	0.0502	0.0106
Earth	-70816-09-06 12:13 J	-24143872.02	-24143871.99	-24143871.95	0.2665	0.2593
Saturn	-70816-09-12 01:40 J	-24143866.64	-24143866.43	-24143866.21	0.0258	0.0036
Uranus	-70810-03-31 22:33 J	-24141839.68	-24141839.56	-24141839.41	0.0147	0.0118
Uranus	-70810-11-13 14:09 J	-24141613.11	-24141612.91	-24141612.69	0.0147	0.0048
Uranus	-70809-06-27 05:45 J	-24141386.47	-24141386.26	-24141386.03	0.0147	0.0022
Uranus	-70808-02-08 21:06 J	-24141159.78	-24141159.62	-24141159.43	0.0147	0.0091
Earth	-70808-09-04 01:25 J	-24140952.54	-24140952.44	-24140952.34	0.2668	0.2033
Moon	-70808-09-04 06:57 J	-24140952.36	-24140952.21	-24140952.05	0.2666	0.0962 *
Jupiter	-70802-07-19 21:35 J	-24138807.72	-24138807.60	-24138807.48	0.0525	0.0417
Saturn	-70801-02-28 08:09 J	-24138584.32	-24138584.16	-24138584.00	0.0303	0.0195
Mars	-70799-04-30 11:30 J	-24137792.19	-24137792.02	-24137791.85	0.1577	0.0488
Jupiter	-70790-03-24 18:28 J	-24134541.93	-24134541.73	-24134541.53	0.0524	0.0023
Saturn	-70786-03-25 04:04 J	-24133080.53	-24133080.33	-24133080.12	0.0258	0.0081
Jupiter	-70784-01-23 03:21 J	-24132410.56	-24132410.36	-24132410.16	0.0501	0.0124
Jupiter	-70779-11-27 12:57 J	-24130276.04	-24130275.96	-24130275.87	0.0523	0.0473
Jupiter	-70773-09-28 02:37 J	-24128144.56	-24128144.39	-24128144.22	0.0503	0.0274
Saturn	-70772-09-09 12:13 J	-24127798.17	-24127797.99	-24127797.80	0.0304	0.0136
Mars	-70768-05-27 18:57 J	-24126441.88	-24126441.71	-24126441.54	0.1969	0.0089
Uranus	-70767-01-04 17:59 J	-24126219.81	-24126219.75	-24126219.65	0.0131	0.0121
Uranus	-70767-08-18 20:52 J	-24125993.79	-24125993.63	-24125993.44	0.0131	0.0075
Neptune	-70767-11-15 21:06 J	-24125904.72	-24125904.62	-24125904.52	0.0089	0.0078
Uranus	-70766-04-01 23:45 J	-24125767.71	-24125767.51	-24125767.29	0.0132	0.0028
Neptune	-70766-06-29 10:04 J	-24125679.23	-24125679.08	-24125678.90	0.0089	0.0058
Uranus	-70766-11-14 02:37 J	-24125541.60	-24125541.39	-24125541.18	0.0132	0.0020

Neptune -70765-02-09 23:30 J -24125453.71 -24125453.52 -24125453.31 0.0089 0.0038
 Uranus -70765-06-27 05:16 J -24125315.45 -24125315.28 -24125315.09 0.0132 0.0067
 Neptune -70765-09-22 12:57 J -24125228.17 -24125227.96 -24125227.74 0.0089 0.0017
 Uranus -70764-02-08 08:09 J -24125089.25 -24125089.16 -24125089.04 0.0132 0.0114
 Neptune -70764-05-06 02:23 J -24125002.62 -24125002.40 -24125002.17 0.0089 0.0004
 Neptune -70764-12-17 15:49 J -24124777.05 -24124776.84 -24124776.62 0.0089 0.0024
 Neptune -70763-07-31 05:16 J -24124551.46 -24124551.28 -24124551.08 0.0089 0.0045
 Neptune -70762-03-13 18:28 J -24124325.86 -24124325.73 -24124325.56 0.0089 0.0066
 Neptune -70762-10-25 08:09 J -24124100.20 -24124100.16 -24124100.09 0.0089 0.0086
 Saturn -70757-02-18 06:57 J -24122523.30 -24122523.21 -24122523.10 0.0258 0.0226
 Saturn -70757-10-04 04:18 J -24122294.50 -24122294.32 -24122294.12 0.0258 0.0120
 Jupiter -70755-11-30 07:54 J -24121507.34 -24121507.17 -24121506.99 0.0525 0.0234
 Jupiter -70749-09-30 19:40 J -24119375.81 -24119375.68 -24119375.54 0.0501 0.0375
 Jupiter -70743-08-05 05:16 J -24117241.46 -24117241.28 -24117241.09 0.0524 0.0205
 Saturn -70742-03-22 12:28 J -24117012.17 -24117011.98 -24117011.78 0.0303 0.0090
 Jupiter -70737-06-05 15:35 J -24115110.06 -24115109.85 -24115109.65 0.0502 0.0039
 Mars -70733-02-26 00:28 J -24113749.65 -24113749.48 -24113749.30 0.1578 0.0274
 Saturn -70728-08-30 09:06 J -24111737.27 -24111737.12 -24111736.97 0.0258 0.0183
 Saturn -70727-04-16 06:42 J -24111508.39 -24111508.22 -24111508.05 0.0258 0.0163
 Uranus -70726-07-13 17:01 J -24111054.96 -24111054.79 -24111054.59 0.0147 0.0084
 Jupiter -70725-02-09 14:09 J -24110844.01 -24110843.91 -24110843.81 0.0503 0.0438
 Uranus -70725-02-25 08:52 J -24110828.35 -24110828.13 -24110827.91 0.0147 0.0014
 Uranus -70725-10-09 00:13 J -24110601.69 -24110601.49 -24110601.28 0.0147 0.0056
 Uranus -70724-05-23 15:35 J -24110374.95 -24110374.85 -24110374.72 0.0147 0.0125
 Jupiter -70719-08-08 01:11 J -24108472.49 -24108472.45 -24108472.40 0.0525 0.0508
 Saturn -70713-10-01 15:35 J -24106226.05 -24106225.85 -24106225.64 0.0304 0.0033
 Jupiter -70707-04-12 20:37 J -24104206.84 -24104206.64 -24104206.44 0.0524 0.0061
 Earth -70702-03-13 13:25 J -24102411.08 -24102410.94 -24102410.79 0.2667 0.1113
 Moon -70702-03-13 17:16 J -24102410.90 -24102410.78 -24102410.66 0.2673 0.1664 *
 Mars -70702-03-24 21:06 J -24102399.76 -24102399.62 -24102399.47 0.1967 0.1031

Jupiter -70701-02-12 07:25 J -24102075.37 -24102075.19 -24102075.00 0.0501 0.0212
 Saturn -70698-03-12 09:35 J -24100951.28 -24100951.10 -24100950.92 0.0258 0.0144
 Saturn -70698-10-27 06:57 J -24100722.33 -24100722.21 -24100722.06 0.0258 0.0201
 Pluto -70697-06-15 06:57 J -24100490.24 -24100490.21 -24100490.13 0.0066 0.0064
 Pluto -70696-01-26 12:57 J -24100265.15 -24100264.96 -24100264.75 0.0066 0.0030
 Pluto -70696-09-08 18:42 J -24100039.95 -24100039.72 -24100039.49 0.0066 0.0004
 Jupiter -70696-12-16 15:49 J -24099940.97 -24099940.84 -24099940.70 0.0523 0.0386
 Pluto -70695-04-22 00:13 J -24099814.67 -24099814.49 -24099814.30 0.0067 0.0038
 Moon -70694-03-11 12:28 J -24099491.09 -24099490.98 -24099490.87 0.2665 0.1865
 Jupiter -70690-10-18 06:28 J -24097809.42 -24097809.23 -24097809.03 0.0502 0.0185
 Neptune -70684-08-19 00:57 J -24095677.56 -24095677.46 -24095677.31 0.0088 0.0072
 Neptune -70683-04-01 13:40 J -24095452.09 -24095451.93 -24095451.73 0.0088 0.0052
 Saturn -70683-04-13 15:49 J -24095440.04 -24095439.84 -24095439.63 0.0304 0.0013
 Uranus -70683-04-18 09:49 J -24095435.22 -24095435.09 -24095434.93 0.0131 0.0094
 Neptune -70683-11-13 02:23 J -24095226.59 -24095226.40 -24095226.18 0.0088 0.0032
 Uranus -70683-11-30 12:42 J -24095209.16 -24095208.97 -24095208.76 0.0131 0.0047
 Neptune -70682-06-26 15:06 J -24095001.08 -24095000.87 -24095000.65 0.0088 0.0012
 Uranus -70682-07-14 15:49 J -24094983.06 -24094982.84 -24094982.63 0.0132 0.0003
 Neptune -70681-02-07 03:49 J -24094775.56 -24094775.34 -24094775.12 0.0088 0.0009
 Uranus -70681-02-25 18:28 J -24094756.93 -24094756.73 -24094756.53 0.0132 0.0047
 Neptune -70681-09-19 16:04 J -24094550.03 -24094549.83 -24094549.62 0.0088 0.0029
 Uranus -70681-10-08 20:52 J -24094530.76 -24094530.63 -24094530.47 0.0132 0.0094
 Neptune -70680-05-03 04:18 J -24094324.49 -24094324.32 -24094324.12 0.0088 0.0049
 Neptune -70680-12-14 16:33 J -24094098.92 -24094098.81 -24094098.64 0.0088 0.0069
 Neptune -70679-07-28 05:16 J -24093873.29 -24093873.28 -24093873.24 0.0088 0.0088
 Jupiter -70672-12-19 14:37 J -24091172.04 -24091171.89 -24091171.74 0.0525 0.0341
 Saturn -70669-09-21 11:16 J -24090165.22 -24090165.03 -24090164.83 0.0258 0.0102
 Saturn -70668-05-08 08:52 J -24089936.19 -24089936.13 -24089936.05 0.0258 0.0244
 Mars -70668-12-23 12:42 J -24089707.14 -24089706.97 -24089706.79 0.1580 0.0041
 Jupiter -70666-10-20 19:11 J -24089040.79 -24089040.70 -24089040.60 0.0501 0.0441

Jupiter -70660-08-24 09:21 J -24086906.30 -24086906.11 -24086905.91 0.0524 0.0110
 Jupiter -70654-06-25 18:28 J -24084774.93 -24084774.73 -24084774.52 0.0502 0.0047
 Saturn -70654-10-24 19:25 J -24084653.89 -24084653.69 -24084653.48 0.0304 0.0072
 Jupiter -70642-02-28 17:59 J -24080508.89 -24080508.75 -24080508.60 0.0503 0.0350
 Uranus -70642-03-12 19:54 J -24080496.79 -24080496.67 -24080496.53 0.0147 0.0119
 Uranus -70642-10-25 11:30 J -24080270.22 -24080270.02 -24080269.80 0.0147 0.0049
 Uranus -70641-06-08 03:21 J -24080043.58 -24080043.36 -24080043.14 0.0147 0.0020
 Uranus -70640-01-20 18:28 J -24079816.89 -24079816.73 -24079816.54 0.0147 0.0090
 Saturn -70639-04-03 12:13 J -24079379.20 -24079378.99 -24079378.78 0.0258 0.0062
 Jupiter -70624-05-02 01:11 J -24073871.64 -24073871.45 -24073871.26 0.0524 0.0158
 Saturn -70624-05-05 19:54 J -24073867.86 -24073867.67 -24073867.48 0.0303 0.0118
 Jupiter -70618-03-03 07:25 J -24071740.36 -24071740.19 -24071740.02 0.0501 0.0280
 Jupiter -70612-01-04 22:04 J -24069605.75 -24069605.58 -24069605.41 0.0523 0.0281
 Pluto -70610-07-08 02:52 J -24068691.49 -24068691.38 -24068691.22 0.0078 0.0061
 Saturn -70610-10-14 14:09 J -24068593.12 -24068592.91 -24068592.69 0.0258 0.0020
 Pluto -70609-02-18 12:28 J -24068466.19 -24068465.98 -24068465.76 0.0078 0.0007
 Pluto -70609-09-30 20:52 J -24068240.79 -24068240.63 -24068240.44 0.0078 0.0046
 Jupiter -70607-11-06 05:45 J -24067474.46 -24067474.26 -24067474.06 0.0502 0.0119
 Neptune -70602-02-17 05:01 J -24065910.29 -24065910.29 -24065910.26 0.0089 0.0089
 Neptune -70602-09-30 18:28 J -24065684.87 -24065684.73 -24065684.59 0.0089 0.0068
 Mars -70602-10-21 01:40 J -24065664.61 -24065664.43 -24065664.25 0.1581 0.0186
 Neptune -70601-05-13 07:25 J -24065459.36 -24065459.19 -24065458.99 0.0089 0.0048
 Neptune -70601-12-24 21:06 J -24065233.83 -24065233.62 -24065233.41 0.0089 0.0027
 Neptune -70600-08-07 10:33 J -24065008.28 -24065008.06 -24065007.84 0.0089 0.0007
 Uranus -70600-12-16 23:45 J -24064876.61 -24064876.51 -24064876.39 0.0131 0.0113
 Neptune -70599-03-20 23:45 J -24064782.73 -24064782.51 -24064782.29 0.0089 0.0014
 Uranus -70599-07-31 02:23 J -24064650.57 -24064650.40 -24064650.20 0.0131 0.0067
 Neptune -70599-11-01 13:11 J -24064557.16 -24064556.95 -24064556.75 0.0089 0.0034
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 Neptune -70598-06-15 02:23 J -24064331.56 -24064331.40 -24064331.21 0.0089 0.0055

Uranus -70598-10-26 08:09 J -24064198.37 -24064198.16 -24064197.95 0.0132 0.0028
 Neptune -70597-01-26 15:35 J -24064105.94 -24064105.85 -24064105.71 0.0089 0.0076
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 Uranus -70596-01-20 13:54 J -24063746.00 -24063745.92 -24063745.84 0.0132 0.0121
 Saturn -70595-11-15 23:59 J -24063081.66 -24063081.50 -24063081.33 0.0304 0.0179
 Jupiter -70588-01-07 16:18 J -24060836.94 -24060836.82 -24060836.71 0.0525 0.0421
 Saturn -70580-04-25 15:35 J -24057807.06 -24057806.85 -24057806.63 0.0258 0.0023
 Jupiter -70577-09-12 11:16 J -24056571.23 -24056571.03 -24056570.83 0.0524 0.0029
 Moon -70573-09-06 06:42 J -24055116.34 -24055116.22 -24055116.09 0.2663 0.1748
 Earth -70573-09-06 10:47 J -24055116.13 -24055116.05 -24055115.97 0.2667 0.2277 *
 Jupiter -70571-07-14 21:35 J -24054439.80 -24054439.60 -24054439.40 0.0501 0.0131
 Jupiter -70565-05-18 07:54 J -24052305.26 -24052305.17 -24052305.08 0.0523 0.0465
 Saturn -70565-05-28 01:54 J -24052295.55 -24052295.42 -24052295.29 0.0303 0.0230
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 Jupiter -70559-03-19 17:30 J -24050173.93 -24050173.77 -24050173.59 0.0502 0.0282
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 Jupiter -70541-05-21 03:49 J -24043536.52 -24043536.34 -24043536.16 0.0524 0.0244
 Mars -70539-11-16 02:37 J -24042627.45 -24042627.39 -24042627.33 0.1970 0.1842
 Saturn -70536-04-22 03:35 J -24041739.46 -24041739.35 -24041739.24 0.0304 0.0254
 Mars -70536-08-17 14:23 J -24041622.07 -24041621.90 -24041621.73 0.1582 0.0415
 Saturn -70536-12-08 06:57 J -24041509.24 -24041509.21 -24041509.16 0.0304 0.0297
 Jupiter -70535-03-22 08:52 J -24041405.27 -24041405.13 -24041404.98 0.0501 0.0357
 Jupiter -70529-01-24 22:47 J -24039270.73 -24039270.55 -24039270.36 0.0523 0.0205
 Jupiter -70524-11-25 07:54 J -24037139.37 -24037139.17 -24037138.96 0.0502 0.0041
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 Saturn -70521-05-17 20:23 J -24036234.84 -24036234.65 -24036234.45 0.0258 0.0112

Neptune -70520-11-20 08:52 J -24035683.19 -24035683.13 -24035683.04 0.0088 0.0083
 Neptune -70519-07-03 21:35 J -24035457.74 -24035457.60 -24035457.43 0.0088 0.0063
 Neptune -70518-02-14 10:18 J -24035232.25 -24035232.07 -24035231.87 0.0088 0.0043
 Neptune -70518-09-27 23:01 J -24035006.75 -24035006.54 -24035006.33 0.0088 0.0023
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 Neptune -70517-12-22 00:13 J -24034555.70 -24034555.49 -24034555.27 0.0088 0.0017
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 Uranus -70515-03-30 16:33 J -24034091.96 -24034091.81 -24034091.64 0.0131 0.0085
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 Jupiter -70512-07-31 06:57 J -24032873.30 -24032873.21 -24032873.10 0.0503 0.0436
 Saturn -70507-11-02 06:57 J -24030953.37 -24030953.21 -24030953.05 0.0303 0.0195
 Jupiter -70505-01-27 18:28 J -24030501.78 -24030501.73 -24030501.68 0.0525 0.0506
 Mars -70504-08-16 06:13 J -24029935.27 -24029935.24 -24029935.20 0.1578 0.1535
 Jupiter -70494-10-02 14:52 J -24026236.08 -24026235.88 -24026235.68 0.0524 0.0064
 Saturn -70492-04-13 01:11 J -24025677.58 -24025677.45 -24025677.29 0.0259 0.0190
 Saturn -70492-11-27 23:16 J -24025448.70 -24025448.53 -24025448.36 0.0259 0.0158
 Jupiter -70488-08-02 19:11 J -24024104.89 -24024104.70 -24024104.50 0.0501 0.0188
 Jupiter -70482-06-07 09:06 J -24021970.25 -24021970.12 -24021969.98 0.0523 0.0388
 Saturn -70477-05-14 13:54 J -24020167.11 -24020166.92 -24020166.73 0.0304 0.0122
 Jupiter -70476-04-07 17:45 J -24019838.95 -24019838.76 -24019838.57 0.0502 0.0212
 Uranus -70474-02-22 01:11 J -24019153.60 -24019153.45 -24019153.30 0.0148 0.0109
 Uranus -70474-10-06 16:47 J -24018927.02 -24018926.80 -24018926.59 0.0147 0.0040
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 Mars -70473-09-12 04:18 J -24018585.48 -24018585.32 -24018585.17 0.1967 0.0863

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 Mars -70470-06-15 02:52 J -24017579.54 -24017579.38 -24017579.22 0.1584 0.0646
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 Moon -70459-03-13 14:37 J -24013655.05 -24013654.89 -24013654.73 0.2659 0.0663
 Earth -70459-03-13 16:47 J -24013654.94 -24013654.80 -24013654.66 0.2666 0.1217 *
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 Jupiter -70452-04-10 09:21 J -24011070.21 -24011070.11 -24011070.00 0.0501 0.0428
 Pluto -70449-05-18 20:37 J -24009935.71 -24009935.64 -24009935.54 0.0066 0.0061
 Pluto -70449-12-30 01:54 J -24009710.60 -24009710.42 -24009710.19 0.0066 0.0029
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 Jupiter -70441-12-14 05:45 J -24006804.47 -24006804.26 -24006804.06 0.0501 0.0018
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 Neptune -70437-01-02 01:54 J -24005690.51 -24005690.42 -24005690.31 0.0089 0.0079
 Neptune -70437-08-14 15:06 J -24005465.02 -24005464.87 -24005464.69 0.0089 0.0059
 Neptune -70436-03-28 04:33 J -24005239.50 -24005239.31 -24005239.11 0.0089 0.0038
 Neptune -70436-11-08 17:45 J -24005013.97 -24005013.76 -24005013.53 0.0089 0.0018
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 Neptune -70433-04-28 22:47 J -24004111.67 -24004111.55 -24004111.37 0.0089 0.0065
 Saturn -70433-05-05 08:09 J -24004105.35 -24004105.16 -24004104.95 0.0259 0.0093
 Neptune -70433-12-10 12:28 J -24003886.02 -24003885.98 -24003885.90 0.0089 0.0085
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 Uranus -70430-02-23 12:57 J -24003081.17 -24003080.96 -24003080.75 0.0132 0.0009

Uranus -70430-10-07 15:35 J -24002855.05 -24002854.85 -24002854.64 0.0132 0.0038
 Uranus -70429-05-20 17:59 J -24002628.90 -24002628.75 -24002628.57 0.0132 0.0085
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 Saturn -70418-06-07 03:35 J -23998594.55 -23998594.35 -23998594.14 0.0303 0.0026
 Jupiter -70411-10-21 12:28 J -23995901.17 -23995900.98 -23995900.78 0.0524 0.0123
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 Jupiter -70405-08-21 18:28 J -23993769.91 -23993769.73 -23993769.55 0.0501 0.0251
 Mars -70404-04-11 15:35 J -23993537.00 -23993536.85 -23993536.71 0.1585 0.0878
 Saturn -70404-11-15 12:57 J -23993319.17 -23993318.96 -23993318.74 0.0259 0.0038
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 Jupiter -70393-04-26 16:47 J -23989503.99 -23989503.80 -23989503.60 0.0502 0.0148
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 Uranus -70390-06-06 01:54 J -23988368.62 -23988368.42 -23988368.22 0.0147 0.0066
 Uranus -70389-01-18 17:30 J -23988141.99 -23988141.77 -23988141.55 0.0147 0.0004
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 Uranus -70388-04-15 23:59 J -23987688.54 -23987688.50 -23987688.42 0.0147 0.0141
 Jupiter -70375-06-29 02:23 J -23982866.53 -23982866.40 -23982866.26 0.0525 0.0380
 Saturn -70374-05-28 17:16 J -23982533.00 -23982532.78 -23982532.56 0.0259 0.0013
 Mars -70372-04-10 07:25 J -23981850.31 -23981850.19 -23981850.06 0.1580 0.1083
 Jupiter -70369-04-29 04:47 J -23980735.36 -23980735.30 -23980735.23 0.0500 0.0473
 Jupiter -70363-03-03 20:52 J -23978600.83 -23978600.63 -23978600.43 0.0524 0.0073
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 Jupiter -70357-01-03 02:52 J -23976469.58 -23976469.38 -23976469.18 0.0502 0.0071
 Neptune -70355-10-05 05:16 J -23975463.39 -23975463.28 -23975463.15 0.0088 0.0074
 Neptune -70354-05-18 17:30 J -23975237.92 -23975237.77 -23975237.57 0.0088 0.0055

Neptune -70354-12-30 06:28 J -23975012.42 -23975012.23 -23975012.01 0.0088 0.0034
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 Neptune -70352-11-05 20:09 J -23974335.86 -23974335.66 -23974335.44 0.0088 0.0026
 Jupiter -70352-11-06 15:06 J -23974334.87 -23974334.87 -23974334.85 0.0522 0.0522
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 Neptune -70350-09-13 09:35 J -23973659.14 -23973659.10 -23973659.03 0.0088 0.0086
 Uranus -70348-07-28 21:35 J -23972974.67 -23972974.60 -23972974.50 0.0131 0.0119
 Uranus -70347-03-12 00:13 J -23972748.65 -23972748.49 -23972748.30 0.0131 0.0074
 Uranus -70347-10-24 03:06 J -23972522.57 -23972522.37 -23972522.15 0.0131 0.0027
 Uranus -70346-06-07 05:59 J -23972296.46 -23972296.25 -23972296.04 0.0132 0.0020
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 Uranus -70345-01-19 08:23 J -23972070.32 -23972070.15 -23972069.95 0.0132 0.0067
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 Earth -70330-09-07 09:35 J -23966360.21 -23966360.10 -23966360.00 0.2669 0.1969
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 Uranus -70305-05-01 15:35 J -23957357.05 -23957356.85 -23957356.63 0.0147 0.0044
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 Mars -70275-03-03 10:33 J -23946459.06 -23946459.06 -23946459.06 0.1959 0.1958
 Jupiter -70274-01-21 23:30 J -23946134.72 -23946134.52 -23946134.32 0.0501 0.0123
 Neptune -70273-11-15 22:18 J -23945470.68 -23945470.57 -23945470.42 0.0089 0.0070
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 Neptune -70272-06-29 12:13 J -23945245.18 -23945244.99 -23945244.81 0.0089 0.0049
 Neptune -70271-02-10 01:11 J -23945019.65 -23945019.45 -23945019.23 0.0089 0.0029
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 Neptune -70270-05-07 04:04 J -23944568.55 -23944568.33 -23944568.11 0.0089 0.0012
 Neptune -70270-12-18 17:01 J -23944342.98 -23944342.79 -23944342.57 0.0089 0.0033
 Neptune -70269-07-31 06:13 J -23944117.39 -23944117.24 -23944117.04 0.0089 0.0054
 Jupiter -70269-11-25 10:18 J -23944000.15 -23944000.07 -23943999.99 0.0523 0.0477
 Neptune -70268-03-13 19:40 J -23943891.78 -23943891.68 -23943891.54 0.0089 0.0074
 Uranus -70264-11-09 14:23 J -23942190.04 -23942189.90 -23942189.74 0.0131 0.0091
 Uranus -70263-06-23 17:01 J -23941963.98 -23941963.79 -23941963.58 0.0131 0.0045
 Jupiter -70263-09-26 20:52 J -23941868.79 -23941868.63 -23941868.45 0.0502 0.0283
 Uranus -70262-02-04 19:54 J -23941737.88 -23941737.67 -23941737.45 0.0131 0.0004
 Uranus -70262-09-18 22:33 J -23941511.75 -23941511.56 -23941511.36 0.0132 0.0048
 Uranus -70261-05-02 01:11 J -23941285.59 -23941285.45 -23941285.30 0.0132 0.0094
 Saturn -70257-11-25 16:47 J -23939616.99 -23939616.80 -23939616.60 0.0260 0.0112

Saturn	-70256-07-12 15:06 J	-23939387.95	-23939387.87	-23939387.78	0.0260	0.0238
Jupiter	-70245-11-28 04:47 J	-23935231.48	-23935231.30	-23935231.12	0.0525	0.0221
Saturn	-70242-12-28 11:16 J	-23934106.24	-23934106.03	-23934105.82	0.0303	0.0009
Mars	-70241-12-03 08:37 J	-23933765.30	-23933765.14	-23933764.97	0.1583	0.0627
Jupiter	-70239-09-29 09:06 J	-23933100.27	-23933100.12	-23933099.97	0.0501	0.0338
Jupiter	-70233-08-02 23:30 J	-23930965.70	-23930965.52	-23930965.34	0.0523	0.0228
Jupiter	-70227-06-04 07:11 J	-23928834.41	-23928834.20	-23928834.00	0.0502	0.0062
Saturn	-70227-06-07 23:45 J	-23928830.72	-23928830.51	-23928830.30	0.0259	0.0051
Uranus	-70223-10-03 14:23 J	-23927252.00	-23927251.90	-23927251.78	0.0148	0.0126
Uranus	-70222-05-18 05:59 J	-23927025.45	-23927025.25	-23927025.04	0.0148	0.0057
Uranus	-70222-12-30 21:35 J	-23926798.82	-23926798.60	-23926798.38	0.0148	0.0012
Uranus	-70221-08-13 12:57 J	-23926572.13	-23926571.96	-23926571.76	0.0147	0.0081
Earth	-70216-03-13 19:54 J	-23924898.81	-23924898.67	-23924898.53	0.2664	0.1308
Moon	-70216-03-13 19:40 J	-23924898.79	-23924898.68	-23924898.56	0.2671	0.1634 *
Jupiter	-70215-02-07 05:30 J	-23924568.34	-23924568.27	-23924568.19	0.0503	0.0462
Saturn	-70212-07-09 21:35 J	-23923319.80	-23923319.60	-23923319.40	0.0303	0.0079
Jupiter	-70209-08-05 16:18 J	-23922196.91	-23922196.82	-23922196.73	0.0525	0.0466
Earth	-70208-03-11 13:25 J	-23921978.98	-23921978.94	-23921978.91	0.2661	0.2582
Moon	-70208-03-11 17:01 J	-23921978.85	-23921978.79	-23921978.72	0.2667	0.2359
Mars	-70207-10-02 05:16 J	-23921409.29	-23921409.28	-23921409.27	0.1590	0.1584
Pluto	-70201-04-21 11:16 J	-23919381.13	-23919381.03	-23919380.87	0.0066	0.0054
Pluto	-70201-12-02 17:16 J	-23919155.98	-23919155.78	-23919155.55	0.0066	0.0020
Pluto	-70200-07-15 23:16 J	-23918930.74	-23918930.53	-23918930.30	0.0067	0.0014
Pluto	-70199-02-26 05:01 J	-23918705.43	-23918705.29	-23918705.13	0.0067	0.0049
Saturn	-70198-12-19 04:47 J	-23918044.52	-23918044.30	-23918044.09	0.0260	0.0006
Jupiter	-70197-04-10 11:01 J	-23917931.24	-23917931.04	-23917930.84	0.0524	0.0015
Jupiter	-70191-02-09 18:42 J	-23915799.91	-23915799.72	-23915799.52	0.0501	0.0165
Neptune	-70190-01-06 12:28 J	-23915469.02	-23915468.98	-23915468.92	0.0088	0.0086
Neptune	-70190-08-20 01:11 J	-23915243.59	-23915243.45	-23915243.30	0.0088	0.0066
Neptune	-70189-04-01 13:54 J	-23915018.11	-23915017.92	-23915017.73	0.0088	0.0046

Neptune -70189-11-13 02:23 J -23914792.60 -23914792.40 -23914792.19 0.0088 0.0026
 Neptune -70188-06-26 15:06 J -23914567.09 -23914566.87 -23914566.65 0.0088 0.0006
 Neptune -70187-02-07 03:35 J -23914341.56 -23914341.35 -23914341.13 0.0088 0.0014
 Neptune -70187-09-20 15:49 J -23914116.03 -23914115.84 -23914115.62 0.0088 0.0035
 Neptune -70186-05-04 04:18 J -23913890.48 -23913890.32 -23913890.13 0.0088 0.0054
 Jupiter -70186-12-15 05:45 J -23913665.36 -23913665.26 -23913665.14 0.0523 0.0433
 Neptune -70186-12-15 16:47 J -23913664.89 -23913664.80 -23913664.66 0.0088 0.0074
 Saturn -70182-01-20 08:23 J -23912533.32 -23912533.15 -23912532.97 0.0303 0.0170
 Uranus -70180-07-10 04:04 J -23911631.43 -23911631.33 -23911631.19 0.0131 0.0110
 Jupiter -70180-10-15 15:06 J -23911534.04 -23911533.87 -23911533.69 0.0502 0.0245
 Uranus -70179-02-21 06:57 J -23911405.38 -23911405.21 -23911405.01 0.0131 0.0063
 Uranus -70179-10-05 09:49 J -23911179.30 -23911179.09 -23911178.88 0.0131 0.0017
 Uranus -70178-05-19 12:13 J -23910953.19 -23910952.99 -23910952.77 0.0131 0.0030
 Mars -70178-12-29 13:54 J -23910728.98 -23910728.92 -23910728.86 0.1966 0.1840
 Uranus -70178-12-31 14:52 J -23910727.04 -23910726.88 -23910726.70 0.0132 0.0076
 Uranus -70177-08-13 17:16 J -23910500.84 -23910500.78 -23910500.68 0.0132 0.0122
 Mars -70175-09-30 21:35 J -23909722.77 -23909722.60 -23909722.43 0.1585 0.0402
 Saturn -70168-06-30 11:16 J -23907258.24 -23907258.03 -23907257.82 0.0259 0.0064
 Jupiter -70162-12-17 23:16 J -23904896.70 -23904896.53 -23904896.36 0.0524 0.0262
 Jupiter -70156-10-18 05:16 J -23902765.40 -23902765.28 -23902765.15 0.0501 0.0387
 Saturn -70154-12-15 15:35 J -23901976.91 -23901976.85 -23901976.80 0.0303 0.0289
 Saturn -70153-08-01 18:57 J -23901746.82 -23901746.71 -23901746.60 0.0303 0.0257
 Jupiter -70150-08-22 17:59 J -23900630.94 -23900630.75 -23900630.57 0.0523 0.0186
 Jupiter -70144-06-23 03:49 J -23898499.55 -23898499.34 -23898499.14 0.0502 0.0017
 Saturn -70139-05-26 17:30 J -23896700.85 -23896700.77 -23896700.66 0.0260 0.0232
 Saturn -70138-01-10 15:49 J -23896472.03 -23896471.84 -23896471.65 0.0259 0.0117
 Uranus -70138-01-15 08:23 J -23896467.31 -23896467.15 -23896466.97 0.0148 0.0093
 Uranus -70138-08-29 23:59 J -23896240.72 -23896240.50 -23896240.28 0.0148 0.0024
 Uranus -70137-04-12 15:21 J -23896014.06 -23896013.86 -23896013.64 0.0147 0.0046
 Uranus -70137-11-25 06:42 J -23895787.34 -23895787.22 -23895787.07 0.0147 0.0114

Jupiter -70132-02-26 01:54 J -23894233.53 -23894233.42 -23894233.30 0.0503 0.0413
 Jupiter -70126-08-25 12:42 J -23891862.01 -23891861.97 -23891861.93 0.0525 0.0513
 Saturn -70124-06-26 23:59 J -23891190.64 -23891190.50 -23891190.34 0.0303 0.0207
 Jupiter -70114-04-30 08:09 J -23887596.36 -23887596.16 -23887595.96 0.0524 0.0070
 Pluto -70114-05-14 12:57 J -23887582.14 -23887581.96 -23887581.75 0.0078 0.0033
 Pluto -70114-12-25 22:04 J -23887356.78 -23887356.58 -23887356.37 0.0078 0.0020
 Pluto -70113-08-07 06:28 J -23887131.29 -23887131.23 -23887131.13 0.0077 0.0072
 Mars -70112-10-25 16:04 J -23886686.98 -23886686.83 -23886686.68 0.1963 0.0904
 Saturn -70110-12-06 23:45 J -23885914.67 -23885914.51 -23885914.35 0.0259 0.0173
 Saturn -70109-07-22 21:35 J -23885685.75 -23885685.60 -23885685.43 0.0259 0.0175
 Mars -70109-07-28 10:04 J -23885680.25 -23885680.08 -23885679.90 0.1586 0.0170
 Neptune -70108-02-17 05:45 J -23885476.33 -23885476.26 -23885476.16 0.0089 0.0081
 Jupiter -70108-02-28 13:40 J -23885465.12 -23885464.93 -23885464.74 0.0502 0.0206
 Neptune -70108-09-30 18:57 J -23885250.85 -23885250.71 -23885250.53 0.0089 0.0061
 Neptune -70107-05-14 08:23 J -23885025.34 -23885025.15 -23885024.94 0.0089 0.0040
 Neptune -70107-12-25 21:49 J -23884799.80 -23884799.59 -23884799.37 0.0089 0.0020
 Neptune -70106-08-08 11:16 J -23884574.25 -23884574.03 -23884573.81 0.0089 0.0001
 Neptune -70105-03-21 00:28 J -23884348.69 -23884348.48 -23884348.26 0.0089 0.0022
 Neptune -70105-11-01 13:54 J -23884123.11 -23884122.92 -23884122.72 0.0089 0.0042
 Neptune -70104-06-15 03:06 J -23883897.51 -23883897.37 -23883897.20 0.0089 0.0063
 Neptune -70103-01-26 16:18 J -23883671.87 -23883671.82 -23883671.72 0.0089 0.0084
 Jupiter -70102-01-03 01:40 J -23883330.56 -23883330.43 -23883330.29 0.0522 0.0383
 Jupiter -70097-11-03 12:13 J -23881199.18 -23881198.99 -23881198.80 0.0503 0.0192
 Uranus -70096-03-09 18:42 J -23881072.77 -23881072.72 -23881072.67 0.0131 0.0127
 Uranus -70096-10-21 21:06 J -23880846.78 -23880846.62 -23880846.44 0.0131 0.0081
 Uranus -70095-06-04 23:45 J -23880620.71 -23880620.51 -23880620.29 0.0131 0.0035
 Saturn -70094-01-07 09:49 J -23880404.28 -23880404.09 -23880403.90 0.0303 0.0124
 Uranus -70094-01-17 02:37 J -23880394.60 -23880394.39 -23880394.17 0.0131 0.0012
 Uranus -70094-08-31 05:16 J -23880168.47 -23880168.28 -23880168.08 0.0131 0.0057
 Uranus -70093-04-13 07:40 J -23879942.30 -23879942.18 -23879942.04 0.0132 0.0104

Earth -70087-09-07 07:54 J -23877604.29 -23877604.17 -23877604.04 0.2671 0.1643
 Moon -70087-09-07 09:06 J -23877604.26 -23877604.12 -23877603.98 0.2665 0.1450 *
 Saturn -70080-06-18 03:35 J -23875128.53 -23875128.35 -23875128.16 0.0259 0.0123
 Saturn -70079-02-02 01:40 J -23874899.54 -23874899.43 -23874899.33 0.0259 0.0225
 Jupiter -70078-01-05 19:54 J -23874561.83 -23874561.67 -23874561.51 0.0525 0.0314
 Jupiter -70073-11-06 02:37 J -23872430.48 -23872430.39 -23872430.29 0.0501 0.0441
 Jupiter -70067-09-10 15:35 J -23870296.04 -23870295.85 -23870295.65 0.0523 0.0130
 Saturn -70065-07-19 17:16 J -23869617.98 -23869617.78 -23869617.57 0.0303 0.0046
 Jupiter -70061-07-11 23:01 J -23868164.75 -23868164.54 -23868164.34 0.0502 0.0031
 Uranus -70055-09-14 13:11 J -23865909.06 -23865908.95 -23865908.83 0.0148 0.0125
 Uranus -70054-04-29 04:33 J -23865682.51 -23865682.31 -23865682.10 0.0148 0.0057
 Uranus -70054-12-11 20:09 J -23865455.88 -23865455.66 -23865455.44 0.0148 0.0012
 Uranus -70053-07-25 11:30 J -23865229.19 -23865229.02 -23865228.82 0.0147 0.0082
 Saturn -70051-12-29 08:37 J -23864342.35 -23864342.14 -23864341.93 0.0259 0.0068
 Jupiter -70049-03-16 21:06 J -23863898.76 -23863898.62 -23863898.48 0.0503 0.0369
 Mars -70046-08-22 17:59 J -23862644.92 -23862644.75 -23862644.58 0.1960 0.0063
 Mars -70043-05-25 22:47 J -23861637.73 -23861637.55 -23861637.38 0.1588 0.0077
 Saturn -70035-01-30 01:11 J -23858831.66 -23858831.45 -23858831.24 0.0303 0.0030
 Jupiter -70031-05-19 04:47 J -23857261.50 -23857261.30 -23857261.11 0.0524 0.0123
 Neptune -70026-11-21 08:09 J -23855249.24 -23855249.16 -23855249.03 0.0088 0.0078
 Jupiter -70025-03-19 12:42 J -23855130.14 -23855129.97 -23855129.79 0.0501 0.0269
 Neptune -70025-07-03 20:52 J -23855023.78 -23855023.63 -23855023.44 0.0088 0.0058
 Neptune -70024-02-14 09:35 J -23854798.29 -23854798.10 -23854797.89 0.0088 0.0038
 Neptune -70024-09-27 22:18 J -23854572.78 -23854572.57 -23854572.35 0.0088 0.0017
 Neptune -70023-05-11 11:01 J -23854347.26 -23854347.04 -23854346.82 0.0088 0.0003
 Neptune -70023-12-22 23:30 J -23854121.72 -23854121.52 -23854121.30 0.0088 0.0023
 Neptune -70022-08-05 11:59 J -23853896.18 -23853896.00 -23853895.80 0.0088 0.0043
 Neptune -70021-03-18 00:13 J -23853670.63 -23853670.49 -23853670.32 0.0088 0.0063
 Saturn -70021-07-10 11:30 J -23853556.23 -23853556.02 -23853555.80 0.0259 0.0022
 Neptune -70021-10-29 12:28 J -23853445.03 -23853444.98 -23853444.88 0.0088 0.0083

Jupiter	-70019-01-21 23:30 J	-23852995.68	-23852995.52	-23852995.36	0.0523	0.0325
Jupiter	-70014-11-23 11:16 J	-23850864.23	-23850864.03	-23850863.83	0.0502	0.0128
Uranus	-70012-06-21 11:30 J	-23850288.15	-23850288.02	-23850287.87	0.0131	0.0099
Uranus	-70011-02-02 14:23 J	-23850062.09	-23850061.90	-23850061.70	0.0131	0.0053
Uranus	-70011-09-16 17:01 J	-23849836.00	-23849835.79	-23849835.57	0.0131	0.0007
Uranus	-70010-04-30 19:40 J	-23849609.88	-23849609.68	-23849609.47	0.0131	0.0040
Uranus	-70010-12-12 22:18 J	-23849383.73	-23849383.57	-23849383.41	0.0132	0.0086
Saturn	-70006-08-12 06:13 J	-23848045.44	-23848045.24	-23848045.04	0.0303	0.0097

70TH MILLENNIUM BCE

This is a list of transits of Venus in the 70th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-69995-01-24 20:52 J	-23844226.76	-23844226.63	-23844226.50	0.0524	0.0388		
Saturn	-69991-01-20 15:21 J	-23842770.07	-23842769.86	-23842769.64	0.0259	0.0030		
Jupiter	-69990-11-25 23:16 J	-23842095.56	-23842095.53	-23842095.49	0.0501	0.0491		
Jupiter	-69984-09-29 14:52 J	-23839961.08	-23839960.88	-23839960.68	0.0523	0.0062		
Mars	-69980-06-18 20:37 J	-23838602.79	-23838602.64	-23838602.49	0.1957	0.0961		
Jupiter	-69978-07-31 22:33 J	-23837829.76	-23837829.56	-23837829.36	0.0502	0.0097		
Mars	-69977-03-22 11:16 J	-23837595.20	-23837595.03	-23837594.85	0.1589	0.0300		
Saturn	-69976-02-21 12:28 J	-23837259.14	-23837258.98	-23837258.80	0.0304	0.0168		
Earth	-69973-03-13 23:01 J	-23836142.67	-23836142.54	-23836142.41	0.2662	0.1411		
Moon	-69973-03-14 01:25 J	-23836142.58	-23836142.44	-23836142.31	0.2656	0.1547	*	
Jupiter	-69972-06-04 09:21 J	-23835695.14	-23835695.11	-23835695.05	0.0522	0.0506		

Uranus	-69971-12-27 10:04 J	-23835124.25	-23835124.08	-23835123.89	0.0148	0.0088
Uranus	-69970-08-11 01:40 J	-23834897.64	-23834897.43	-23834897.20	0.0148	0.0019
Uranus	-69969-03-24 17:01 J	-23834670.99	-23834670.79	-23834670.57	0.0147	0.0050
Uranus	-69969-11-06 08:23 J	-23834444.27	-23834444.15	-23834444.00	0.0147	0.0118
Jupiter	-69966-04-05 21:49 J	-23833563.75	-23833563.59	-23833563.42	0.0503	0.0298
Moon	-69965-03-11 14:23 J	-23833222.97	-23833222.90	-23833222.83	0.2653	0.2381
Earth	-69965-03-11 16:33 J	-23833222.87	-23833222.81	-23833222.76	0.2660	0.2489 *
Saturn	-69962-08-02 17:16 J	-23831983.98	-23831983.78	-23831983.57	0.0259	0.0072
Pluto	-69953-03-25 05:30 J	-23828826.43	-23828826.27	-23828826.06	0.0066	0.0040
Pluto	-69953-11-05 11:45 J	-23828601.24	-23828601.01	-23828600.78	0.0067	0.0005
Pluto	-69952-06-18 17:16 J	-23828375.97	-23828375.78	-23828375.57	0.0067	0.0030
Pluto	-69951-01-29 23:01 J	-23828150.57	-23828150.54	-23828150.47	0.0067	0.0065
Jupiter	-69948-06-07 05:59 J	-23826926.43	-23826926.25	-23826926.06	0.0524	0.0200
Saturn	-69947-09-03 15:35 J	-23826472.98	-23826472.85	-23826472.70	0.0303	0.0226
Neptune	-69943-01-02 02:09 J	-23825256.52	-23825256.41	-23825256.27	0.0089	0.0072
Neptune	-69943-08-15 15:21 J	-23825031.02	-23825030.86	-23825030.67	0.0089	0.0052
Neptune	-69942-03-29 04:47 J	-23824805.50	-23824805.30	-23824805.09	0.0089	0.0031
Jupiter	-69942-04-08 10:18 J	-23824795.23	-23824795.07	-23824794.91	0.0501	0.0325
Neptune	-69942-11-09 18:13 J	-23824579.96	-23824579.74	-23824579.52	0.0089	0.0010
Neptune	-69941-06-22 07:40 J	-23824354.40	-23824354.18	-23824353.96	0.0089	0.0010
Neptune	-69940-02-02 20:52 J	-23824128.83	-23824128.63	-23824128.41	0.0089	0.0031
Neptune	-69940-09-16 09:49 J	-23823903.25	-23823903.09	-23823902.89	0.0089	0.0052
Neptune	-69939-04-29 23:30 J	-23823677.64	-23823677.52	-23823677.38	0.0089	0.0072
Jupiter	-69936-02-10 02:37 J	-23822660.57	-23822660.39	-23822660.21	0.0523	0.0236
Saturn	-69933-06-27 22:47 J	-23821426.65	-23821426.55	-23821426.45	0.0259	0.0226
Saturn	-69932-02-11 19:54 J	-23821197.85	-23821197.67	-23821197.47	0.0258	0.0120
Jupiter	-69931-12-12 08:52 J	-23820529.34	-23820529.13	-23820528.93	0.0503	0.0073
Uranus	-69928-02-19 01:54 J	-23819729.50	-23819729.42	-23819729.30	0.0131	0.0116
Uranus	-69928-10-03 04:47 J	-23819503.47	-23819503.30	-23819503.11	0.0131	0.0070
Uranus	-69927-05-17 07:40 J	-23819277.39	-23819277.18	-23819276.97	0.0131	0.0024

Uranus -69927-12-29 10:18 J -23819051.27 -23819051.07 -23819050.85 0.0131 0.0023
 Uranus -69926-08-12 12:57 J -23818825.13 -23818824.96 -23818824.77 0.0132 0.0069
 Uranus -69925-03-25 15:35 J -23818598.94 -23818598.85 -23818598.73 0.0132 0.0115
 Jupiter -69919-08-17 08:09 J -23816263.23 -23816263.16 -23816263.08 0.0504 0.0467
 Saturn -69918-07-29 16:04 J -23815916.92 -23815916.83 -23815916.72 0.0303 0.0263
 Saturn -69917-03-15 20:23 J -23815686.71 -23815686.65 -23815686.59 0.0304 0.0288
 Mars -69914-04-15 22:33 J -23814560.59 -23814560.56 -23814560.52 0.1954 0.1899
 Jupiter -69912-02-12 20:37 J -23813891.73 -23813891.64 -23813891.54 0.0524 0.0459
 Mars -69911-01-17 23:45 J -23813552.67 -23813552.51 -23813552.34 0.1591 0.0537
 Saturn -69903-01-07 23:45 J -23810640.65 -23810640.51 -23810640.36 0.0259 0.0186
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 Jupiter -69901-10-18 15:49 J -23809626.04 -23809625.84 -23809625.64 0.0524 0.0015
 Jupiter -69895-08-20 00:42 J -23807494.66 -23807494.47 -23807494.28 0.0502 0.0176
 Jupiter -69889-06-23 12:28 J -23805360.09 -23805359.98 -23805359.86 0.0522 0.0420
 Saturn -69888-02-07 17:59 J -23805130.90 -23805130.75 -23805130.60 0.0303 0.0210
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 Uranus -69886-11-23 01:54 J -23804112.63 -23804112.42 -23804112.19 0.0147 0.0023
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 Jupiter -69848-12-31 12:13 J -23790194.20 -23790193.99 -23790193.78 0.0502 0.0012
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 Jupiter -69800-05-13 23:16 J -23772893.72 -23772893.53 -23772893.33 0.0503 0.0153
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 Saturn -69682-10-27 07:54 J -23729628.34 -23729628.17 -23729627.99 0.0304 0.0155
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 Neptune -69530-02-15 10:47 J -23674364.24 -23674364.05 -23674363.83 0.0088 0.0030
 Neptune -69530-09-28 23:30 J -23674138.73 -23674138.52 -23674138.30 0.0088 0.0010
 Neptune -69529-05-11 12:13 J -23673913.21 -23673912.99 -23673912.77 0.0088 0.0010
 Neptune -69529-12-23 00:42 J -23673687.67 -23673687.47 -23673687.25 0.0088 0.0030
 Neptune -69528-08-05 12:57 J -23673462.12 -23673461.96 -23673461.76 0.0088 0.0051
 Neptune -69527-03-19 01:11 J -23673236.55 -23673236.45 -23673236.29 0.0088 0.0071
 Jupiter -69521-05-17 16:47 J -23670984.99 -23670984.80 -23670984.62 0.0524 0.0194
 Saturn -69520-04-17 00:28 J -23670650.69 -23670650.48 -23670650.27 0.0260 0.0020
 Jupiter -69515-03-18 15:06 J -23668854.03 -23668853.87 -23668853.70 0.0501 0.0300
 Jupiter -69509-01-21 11:16 J -23666719.20 -23666719.03 -23666718.85 0.0523 0.0252
 Uranus -69509-09-12 05:16 J -23666484.37 -23666484.28 -23666484.17 0.0131 0.0114

Uranus	-69508-04-26 07:54 J	-23666258.33	-23666258.17	-23666257.97	0.0131	0.0069
Uranus	-69508-12-08 11:01 J	-23666032.25	-23666032.04	-23666031.83	0.0131	0.0023
Uranus	-69507-07-22 13:54 J	-23665806.13	-23665805.92	-23665805.71	0.0131	0.0023
Uranus	-69506-03-05 16:18 J	-23665579.99	-23665579.82	-23665579.63	0.0131	0.0069
Uranus	-69506-10-17 19:11 J	-23665353.80	-23665353.70	-23665353.59	0.0131	0.0114
Saturn	-69505-05-17 07:25 J	-23665141.39	-23665141.19	-23665140.98	0.0303	0.0015
Jupiter	-69504-11-21 13:40 J	-23664588.13	-23664587.93	-23664587.73	0.0503	0.0099
Jupiter	-69492-07-27 12:28 J	-23660322.01	-23660321.98	-23660321.93	0.0504	0.0494
Saturn	-69491-10-28 04:33 J	-23659864.51	-23659864.31	-23659864.10	0.0259	0.0071
Earth	-69487-03-15 05:01 J	-23658630.42	-23658630.29	-23658630.17	0.2659	0.1598
Moon	-69487-03-15 10:04 J	-23658630.13	-23658630.08	-23658630.04	0.2657	0.2519
Jupiter	-69485-01-24 04:47 J	-23657950.41	-23657950.30	-23657950.19	0.0524	0.0437
Mars	-69485-12-28 19:25 J	-23657610.87	-23657610.69	-23657610.52	0.1596	0.0052
Earth	-69479-03-12 22:18 J	-23655710.64	-23655710.57	-23655710.49	0.2657	0.2289
Moon	-69479-03-13 00:57 J	-23655710.57	-23655710.46	-23655710.35	0.2651	0.1976 *
Saturn	-69476-11-27 14:37 J	-23654355.09	-23654354.89	-23654354.68	0.0303	0.0059
Jupiter	-69474-09-29 00:28 J	-23653684.68	-23653684.48	-23653684.28	0.0523	0.0002
Jupiter	-69468-07-30 01:40 J	-23651553.63	-23651553.43	-23651553.23	0.0502	0.0130
Uranus	-69467-03-19 02:37 J	-23651321.45	-23651321.39	-23651321.29	0.0148	0.0137
Uranus	-69467-10-31 18:13 J	-23651094.93	-23651094.74	-23651094.54	0.0148	0.0069
Uranus	-69466-06-15 09:49 J	-23650868.32	-23650868.09	-23650867.87	0.0147	0.0002
Uranus	-69465-01-28 00:57 J	-23650641.65	-23650641.46	-23650641.25	0.0147	0.0067
Uranus	-69465-09-10 16:18 J	-23650414.89	-23650414.82	-23650414.71	0.0147	0.0135
Jupiter	-69462-06-03 19:11 J	-23649418.80	-23649418.70	-23649418.59	0.0523	0.0444
Saturn	-69462-09-23 10:33 J	-23649307.15	-23649307.06	-23649306.94	0.0260	0.0227
Saturn	-69461-05-09 08:23 J	-23649078.33	-23649078.15	-23649077.95	0.0260	0.0123
Pluto	-69459-11-06 13:11 J	-23648167.03	-23648166.95	-23648166.81	0.0066	0.0058
Pluto	-69458-06-19 19:25 J	-23647941.90	-23647941.69	-23647941.47	0.0067	0.0023
Pluto	-69457-01-31 01:11 J	-23647716.67	-23647716.45	-23647716.22	0.0067	0.0012
Pluto	-69457-09-12 06:57 J	-23647491.35	-23647491.21	-23647491.04	0.0067	0.0047

Jupiter -69456-04-03 23:45 J -23647287.68 -23647287.51 -23647287.33 0.0503 0.0268
 Neptune -69450-05-22 14:23 J -23645047.95 -23645047.90 -23645047.80 0.0089 0.0084
 Neptune -69449-01-03 03:49 J -23644822.48 -23644822.34 -23644822.17 0.0089 0.0064
 Neptune -69449-08-15 17:01 J -23644596.97 -23644596.79 -23644596.58 0.0089 0.0043
 Neptune -69448-03-29 06:13 J -23644371.44 -23644371.24 -23644371.02 0.0089 0.0022
 Neptune -69448-11-09 19:40 J -23644145.90 -23644145.68 -23644145.46 0.0089 0.0002
 Neptune -69447-06-23 09:06 J -23643920.34 -23643920.12 -23643919.90 0.0089 0.0019
 Neptune -69446-02-03 22:04 J -23643694.76 -23643694.58 -23643694.37 0.0089 0.0040
 Saturn -69446-06-09 23:45 J -23643568.69 -23643568.51 -23643568.32 0.0303 0.0143
 Neptune -69446-09-17 11:16 J -23643469.17 -23643469.03 -23643468.85 0.0089 0.0061
 Neptune -69445-04-30 00:57 J -23643243.54 -23643243.46 -23643243.36 0.0089 0.0081
 Jupiter -69438-06-06 13:54 J -23640650.09 -23640649.92 -23640649.74 0.0524 0.0249
 Saturn -69432-04-04 15:35 J -23638521.00 -23638520.85 -23638520.68 0.0260 0.0171
 Jupiter -69432-04-06 13:11 J -23638519.09 -23638518.95 -23638518.80 0.0502 0.0356
 Saturn -69432-11-19 13:40 J -23638292.08 -23638291.93 -23638291.77 0.0259 0.0177
 Jupiter -69426-02-09 07:25 J -23636384.37 -23636384.19 -23636384.00 0.0523 0.0201
 Uranus -69425-12-24 21:06 J -23635699.77 -23635699.62 -23635699.45 0.0131 0.0088
 Uranus -69424-08-08 00:13 J -23635473.69 -23635473.49 -23635473.29 0.0131 0.0043
 Uranus -69423-03-22 02:52 J -23635247.59 -23635247.38 -23635247.16 0.0131 0.0003
 Uranus -69423-11-03 05:30 J -23635021.46 -23635021.27 -23635021.07 0.0131 0.0049
 Uranus -69422-06-17 07:54 J -23634795.30 -23634795.17 -23634795.00 0.0132 0.0095
 Jupiter -69421-12-10 11:45 J -23634253.21 -23634253.01 -23634252.80 0.0503 0.0040
 Mars -69419-10-26 07:54 J -23633568.35 -23633568.17 -23633568.00 0.1598 0.0202
 Saturn -69417-12-20 08:23 J -23632782.28 -23632782.15 -23632782.00 0.0303 0.0222
 Jupiter -69409-08-15 09:35 J -23629987.19 -23629987.10 -23629987.00 0.0503 0.0441
 Saturn -69403-10-15 20:23 J -23627734.84 -23627734.65 -23627734.46 0.0260 0.0118
 Jupiter -69402-02-12 02:52 J -23627615.43 -23627615.38 -23627615.31 0.0525 0.0498
 Saturn -69402-06-01 18:13 J -23627505.83 -23627505.74 -23627505.64 0.0260 0.0231
 Jupiter -69391-10-17 21:21 J -23623349.81 -23623349.61 -23623349.41 0.0523 0.0051
 Mars -69389-01-20 17:01 J -23622889.94 -23622889.79 -23622889.65 0.1953 0.1039

Saturn -69388-11-14 15:06 J -23622225.99 -23622225.87 -23622225.73 0.0302 0.0233
 Jupiter -69385-08-17 21:35 J -23621218.79 -23621218.60 -23621218.40 0.0502 0.0177
 Uranus -69383-07-01 00:42 J -23620536.64 -23620536.47 -23620536.31 0.0148 0.0099
 Uranus -69382-02-12 15:49 J -23620310.05 -23620309.84 -23620309.62 0.0147 0.0032
 Uranus -69382-09-27 07:11 J -23620083.41 -23620083.20 -23620082.98 0.0147 0.0036
 Uranus -69381-05-10 22:18 J -23619856.71 -23619856.57 -23619856.40 0.0147 0.0104
 Jupiter -69379-06-22 15:49 J -23619083.97 -23619083.84 -23619083.71 0.0522 0.0393
 Jupiter -69373-04-22 19:54 J -23616952.85 -23616952.67 -23616952.49 0.0503 0.0221
 Saturn -69373-04-27 02:09 J -23616948.61 -23616948.41 -23616948.20 0.0260 0.0060
 Pluto -69372-11-28 20:09 J -23616367.87 -23616367.66 -23616367.46 0.0078 0.0025
 Pluto -69371-07-12 04:33 J -23616142.50 -23616142.31 -23616142.10 0.0077 0.0028
 Neptune -69367-02-22 17:45 J -23614820.82 -23614820.76 -23614820.64 0.0088 0.0081
 Neptune -69367-10-06 06:42 J -23614595.36 -23614595.22 -23614595.04 0.0088 0.0060
 Neptune -69366-05-19 19:25 J -23614369.87 -23614369.69 -23614369.48 0.0088 0.0041
 Neptune -69366-12-31 08:23 J -23614144.35 -23614144.15 -23614143.92 0.0088 0.0021
 Neptune -69365-08-12 21:21 J -23613918.83 -23613918.61 -23613918.39 0.0088 0.0000
 Neptune -69364-03-26 09:49 J -23613693.30 -23613693.09 -23613692.87 0.0088 0.0020
 Neptune -69364-11-06 22:04 J -23613467.76 -23613467.58 -23613467.37 0.0088 0.0041
 Neptune -69363-06-20 10:33 J -23613242.20 -23613242.06 -23613241.88 0.0088 0.0061
 Neptune -69362-01-31 23:01 J -23613016.61 -23613016.54 -23613016.43 0.0088 0.0081
 Saturn -69358-05-28 01:25 J -23611439.62 -23611439.44 -23611439.25 0.0302 0.0147
 Moon -69358-09-07 22:47 J -23611336.71 -23611336.55 -23611336.39 0.2677 0.0320
 Earth -69358-09-08 04:18 J -23611336.47 -23611336.32 -23611336.16 0.2677 0.0738 *
 Jupiter -69355-06-25 09:21 J -23610315.28 -23610315.11 -23610314.95 0.0524 0.0295
 Mars -69353-08-22 20:23 J -23609525.82 -23609525.65 -23609525.49 0.1600 0.0447
 Jupiter -69349-04-25 08:52 J -23608184.24 -23608184.13 -23608184.00 0.0501 0.0401
 Saturn -69344-11-07 07:11 J -23606162.41 -23606162.20 -23606161.98 0.0260 0.0006
 Jupiter -69343-02-28 03:35 J -23606049.54 -23606049.35 -23606049.15 0.0523 0.0152
 Uranus -69341-08-24 10:18 J -23605141.18 -23605141.07 -23605140.93 0.0131 0.0108
 Uranus -69340-04-07 13:25 J -23604915.12 -23604914.94 -23604914.75 0.0131 0.0062

Uranus	-69340-11-19 16:18 J	-23604689.03	-23604688.82	-23604688.61	0.0131	0.0016
Uranus	-69339-07-03 18:57 J	-23604462.91	-23604462.71	-23604462.49	0.0131	0.0030
Uranus	-69338-02-14 21:35 J	-23604236.76	-23604236.60	-23604236.41	0.0132	0.0076
Uranus	-69338-09-29 00:13 J	-23604010.55	-23604010.49	-23604010.39	0.0132	0.0121
Jupiter	-69338-12-30 07:11 J	-23603918.41	-23603918.20	-23603917.99	0.0502	0.0004
Saturn	-69329-12-07 12:28 J	-23600653.18	-23600652.98	-23600652.77	0.0302	0.0056
Jupiter	-69326-09-04 04:18 J	-23599652.44	-23599652.32	-23599652.20	0.0503	0.0402
Mars	-69324-11-16 18:57 J	-23598847.88	-23598847.71	-23598847.54	0.1950	0.0107
Mars	-69321-08-21 13:11 J	-23597838.96	-23597838.95	-23597838.93	0.1594	0.1583
Saturn	-69314-05-20 13:25 J	-23595376.15	-23595375.94	-23595375.73	0.0260	0.0054
Jupiter	-69308-11-05 15:35 J	-23593015.05	-23593014.85	-23593014.65	0.0523	0.0091
Jupiter	-69302-09-06 17:45 J	-23590883.94	-23590883.76	-23590883.57	0.0502	0.0225
Uranus	-69299-02-28 07:40 J	-23589978.29	-23589978.18	-23589978.07	0.0148	0.0128
Saturn	-69299-06-19 23:30 J	-23589866.73	-23589866.52	-23589866.31	0.0303	0.0033
Uranus	-69299-10-12 22:47 J	-23589751.75	-23589751.55	-23589751.35	0.0147	0.0061
Uranus	-69298-05-27 13:54 J	-23589525.14	-23589524.92	-23589524.69	0.0147	0.0007
Uranus	-69297-01-09 05:01 J	-23589298.47	-23589298.29	-23589298.09	0.0147	0.0074
Uranus	-69297-08-22 20:23 J	-23589071.69	-23589071.65	-23589071.58	0.0147	0.0142
Jupiter	-69296-07-11 09:49 J	-23588749.23	-23588749.09	-23588748.93	0.0522	0.0354
Jupiter	-69290-05-12 16:04 J	-23586618.03	-23586617.83	-23586617.64	0.0502	0.0175
Mars	-69287-06-20 08:37 J	-23585483.29	-23585483.14	-23585482.98	0.1602	0.0688
Neptune	-69285-04-05 12:28 J	-23584828.09	-23584827.98	-23584827.84	0.0089	0.0073
Saturn	-69285-04-14 20:23 J	-23584818.72	-23584818.65	-23584818.56	0.0261	0.0241
Neptune	-69285-11-17 01:25 J	-23584602.60	-23584602.44	-23584602.24	0.0089	0.0053
Saturn	-69285-11-29 18:28 J	-23584589.92	-23584589.73	-23584589.53	0.0260	0.0109
Neptune	-69284-06-30 15:06 J	-23584377.07	-23584376.87	-23584376.66	0.0089	0.0032
Neptune	-69283-02-11 04:18 J	-23584151.53	-23584151.32	-23584151.10	0.0089	0.0012
Neptune	-69283-09-24 17:30 J	-23583925.98	-23583925.77	-23583925.55	0.0089	0.0009
Neptune	-69282-05-08 06:42 J	-23583700.42	-23583700.22	-23583700.00	0.0089	0.0030
Neptune	-69282-12-19 19:54 J	-23583474.84	-23583474.67	-23583474.47	0.0089	0.0051

Neptune -69281-08-01 09:35 J -23583249.23 -23583249.10 -23583248.97 0.0089 0.0071
 Jupiter -69272-07-14 04:47 J -23579980.45 -23579980.30 -23579980.15 0.0524 0.0337
 Saturn -69270-12-31 10:18 J -23579080.25 -23579080.07 -23579079.87 0.0303 0.0125
 Jupiter -69266-05-15 03:21 J -23577849.46 -23577849.36 -23577849.26 0.0501 0.0438
 Jupiter -69260-03-18 23:30 J -23575714.71 -23575714.52 -23575714.32 0.0523 0.0105
 Mars -69258-09-13 21:49 J -23574805.75 -23574805.59 -23574805.43 0.1946 0.0786
 Uranus -69257-04-23 23:16 J -23574582.57 -23574582.53 -23574582.46 0.0131 0.0127
 Uranus -69257-12-06 02:09 J -23574356.56 -23574356.41 -23574356.23 0.0131 0.0081
 Uranus -69256-07-20 05:16 J -23574130.48 -23574130.28 -23574130.07 0.0131 0.0036
 Saturn -69256-10-26 02:37 J -23574032.53 -23574032.39 -23574032.22 0.0260 0.0181
 Uranus -69255-03-03 08:09 J -23573904.37 -23573904.16 -23573903.94 0.0132 0.0010
 Saturn -69255-06-12 00:57 J -23573803.62 -23573803.46 -23573803.30 0.0259 0.0168
 Mars -69255-06-19 01:25 J -23573796.53 -23573796.44 -23573796.35 0.1595 0.1337
 Uranus -69255-10-15 10:47 J -23573678.24 -23573678.05 -23573677.85 0.0132 0.0056
 Jupiter -69254-01-18 01:25 J -23573583.64 -23573583.44 -23573583.23 0.0502 0.0042
 Uranus -69254-05-29 13:40 J -23573452.06 -23573451.93 -23573451.79 0.0132 0.0101
 Moon -69244-03-15 03:06 J -23569874.52 -23569874.37 -23569874.22 0.2657 0.0833
 Earth -69244-03-15 08:09 J -23569874.28 -23569874.16 -23569874.04 0.2658 0.1732 *
 Jupiter -69243-09-23 00:13 J -23569317.64 -23569317.49 -23569317.35 0.0504 0.0355
 Saturn -69240-07-12 20:52 J -23568293.77 -23568293.63 -23568293.47 0.0303 0.0212
 Moon -69236-03-12 21:21 J -23566954.67 -23566954.61 -23566954.55 0.2659 0.2432
 Earth -69236-03-13 01:25 J -23566954.53 -23566954.44 -23566954.35 0.2655 0.2171
 Saturn -69226-05-08 07:54 J -23563246.36 -23563246.17 -23563245.98 0.0260 0.0127
 Saturn -69226-12-23 05:45 J -23563017.37 -23563017.26 -23563017.15 0.0260 0.0222
 Jupiter -69225-11-24 10:47 J -23562680.25 -23562680.05 -23562679.86 0.0524 0.0134
 Mars -69221-04-16 20:37 J -23561440.78 -23561440.64 -23561440.50 0.1604 0.0948
 Jupiter -69219-09-25 13:25 J -23560549.11 -23560548.94 -23560548.76 0.0501 0.0270
 Uranus -69215-06-12 05:59 J -23559193.42 -23559193.25 -23559193.07 0.0148 0.0089
 Uranus -69214-01-24 21:21 J -23558966.83 -23558966.61 -23558966.39 0.0147 0.0022
 Uranus -69214-09-08 12:28 J -23558740.19 -23558739.98 -23558739.77 0.0147 0.0046

Uranus -69213-04-22 03:49 J -23558513.48 -23558513.34 -23558513.20 0.0147 0.0113
 Jupiter -69213-07-30 05:45 J -23558414.42 -23558414.26 -23558414.09 0.0522 0.0308
 Pluto -69211-02-27 09:21 J -23557837.20 -23557837.11 -23557836.96 0.0066 0.0056
 Saturn -69211-06-07 02:37 J -23557737.50 -23557737.39 -23557737.26 0.0302 0.0247
 Pluto -69211-10-10 15:21 J -23557612.06 -23557611.86 -23557611.63 0.0067 0.0021
 Saturn -69210-01-23 06:42 J -23557507.24 -23557507.22 -23557507.18 0.0303 0.0298
 Pluto -69210-05-23 21:21 J -23557386.83 -23557386.61 -23557386.39 0.0067 0.0014
 Pluto -69209-01-04 02:37 J -23557161.52 -23557161.39 -23557161.22 0.0067 0.0050
 Jupiter -69207-05-31 10:04 J -23556283.28 -23556283.08 -23556282.88 0.0503 0.0138
 Neptune -69202-01-07 16:33 J -23554600.93 -23554600.81 -23554600.66 0.0088 0.0069
 Neptune -69202-08-21 05:16 J -23554375.44 -23554375.28 -23554375.08 0.0088 0.0049
 Neptune -69201-04-02 17:59 J -23554149.94 -23554149.75 -23554149.53 0.0088 0.0030
 Neptune -69201-11-14 06:57 J -23553924.42 -23553924.21 -23553923.99 0.0088 0.0009
 Neptune -69200-06-27 19:40 J -23553698.89 -23553698.68 -23553698.46 0.0088 0.0011
 Neptune -69199-02-08 08:09 J -23553473.35 -23553473.16 -23553472.94 0.0088 0.0032
 Neptune -69199-09-21 20:37 J -23553247.80 -23553247.64 -23553247.45 0.0088 0.0052
 Neptune -69198-05-05 09:06 J -23553022.23 -23553022.12 -23553021.98 0.0088 0.0072
 Saturn -69197-11-17 13:54 J -23552460.13 -23552459.92 -23552459.71 0.0260 0.0068
 Mars -69192-07-10 23:45 J -23550763.58 -23550763.51 -23550763.42 0.1942 0.1704
 Mars -69189-04-15 13:40 J -23549754.05 -23549753.93 -23549753.80 0.1597 0.1097
 Jupiter -69189-08-01 23:59 J -23549645.64 -23549645.50 -23549645.37 0.0524 0.0382
 Jupiter -69183-06-02 23:45 J -23547514.55 -23547514.51 -23547514.46 0.0502 0.0488
 Saturn -69182-12-18 13:11 J -23546951.13 -23546950.95 -23546950.77 0.0302 0.0162
 Jupiter -69177-04-06 18:13 J -23545379.94 -23545379.74 -23545379.54 0.0523 0.0062
 Uranus -69173-08-05 14:52 J -23543798.00 -23543797.88 -23543797.73 0.0131 0.0101
 Uranus -69172-03-19 17:45 J -23543571.94 -23543571.76 -23543571.56 0.0131 0.0055
 Uranus -69172-10-31 20:37 J -23543345.85 -23543345.64 -23543345.42 0.0131 0.0010
 Jupiter -69171-02-05 22:47 J -23543248.75 -23543248.55 -23543248.35 0.0502 0.0094
 Uranus -69171-06-14 23:30 J -23543119.72 -23543119.52 -23543119.31 0.0132 0.0036
 Uranus -69170-01-27 02:23 J -23542893.57 -23542893.40 -23542893.23 0.0132 0.0081

Uranus -69170-09-10 04:33 J -23542667.34 -23542667.31 -23542667.23 0.0132 0.0127
 Saturn -69167-05-30 18:13 J -23541673.95 -23541673.74 -23541673.52 0.0260 0.0017
 Jupiter -69166-12-11 11:59 J -23541114.04 -23541114.00 -23541113.95 0.0522 0.0508
 Jupiter -69160-10-11 21:06 J -23538982.78 -23538982.62 -23538982.45 0.0503 0.0302
 Mars -69155-02-12 09:06 J -23537398.23 -23537398.12 -23537398.00 0.1606 0.1193
 Saturn -69152-06-29 21:06 J -23536164.82 -23536164.62 -23536164.42 0.0302 0.0083
 Jupiter -69142-12-14 09:06 J -23532345.30 -23532345.12 -23532344.93 0.0523 0.0195
 Saturn -69138-12-10 23:30 J -23530887.73 -23530887.52 -23530887.31 0.0259 0.0040
 Jupiter -69136-10-14 08:23 J -23530214.31 -23530214.15 -23530213.99 0.0502 0.0310
 Uranus -69131-02-09 10:33 J -23528635.17 -23528635.06 -23528634.92 0.0148 0.0121
 Uranus -69131-09-24 01:54 J -23528408.62 -23528408.42 -23528408.21 0.0147 0.0054
 Uranus -69130-05-08 17:01 J -23528182.01 -23528181.79 -23528181.57 0.0147 0.0014
 Jupiter -69130-08-19 02:37 J -23528079.56 -23528079.39 -23528079.21 0.0522 0.0253
 Uranus -69130-12-21 08:09 J -23527955.34 -23527955.16 -23527954.97 0.0147 0.0081
 Pluto -69125-08-08 09:35 J -23526263.18 -23526263.10 -23526262.99 0.0078 0.0069
 Pluto -69124-03-21 18:42 J -23526037.93 -23526037.72 -23526037.50 0.0078 0.0016
 Jupiter -69124-06-19 07:25 J -23525948.40 -23525948.19 -23525947.99 0.0503 0.0083
 Pluto -69124-11-02 03:21 J -23525812.54 -23525812.36 -23525812.17 0.0077 0.0037
 Mars -69123-02-11 02:23 J -23525711.55 -23525711.40 -23525711.25 0.1599 0.0855
 Saturn -69122-01-10 05:45 J -23525378.47 -23525378.26 -23525378.05 0.0303 0.0005
 Neptune -69121-07-07 21:21 J -23524833.66 -23524833.61 -23524833.50 0.0089 0.0084
 Neptune -69120-02-18 10:47 J -23524608.19 -23524608.05 -23524607.88 0.0089 0.0063
 Neptune -69120-10-01 23:45 J -23524382.68 -23524382.51 -23524382.29 0.0089 0.0043
 Neptune -69119-05-15 13:25 J -23524157.15 -23524156.94 -23524156.72 0.0089 0.0021
 Neptune -69119-12-27 02:37 J -23523931.61 -23523931.39 -23523931.16 0.0089 0.0002
 Neptune -69118-08-09 16:04 J -23523706.05 -23523705.83 -23523705.62 0.0089 0.0020
 Neptune -69117-03-22 05:01 J -23523480.48 -23523480.29 -23523480.09 0.0089 0.0041
 Neptune -69117-11-02 17:59 J -23523254.89 -23523254.75 -23523254.57 0.0089 0.0062
 Neptune -69116-06-16 07:11 J -23523029.25 -23523029.20 -23523029.09 0.0089 0.0083
 Earth -69115-09-08 03:06 J -23522580.53 -23522580.37 -23522580.21 0.2678 0.0400

Moon	-69115-09-08 08:23 J	-23522580.29	-23522580.15	-23522580.02	0.2681	0.1371 *
Jupiter	-69112-02-22 06:42 J	-23521682.28	-23521682.22	-23521682.15	0.0504	0.0476
Saturn	-69109-11-05 05:59 J	-23520330.28	-23520330.25	-23520330.23	0.0260	0.0258
Saturn	-69108-06-22 03:21 J	-23520101.56	-23520101.36	-23520101.15	0.0259	0.0090
Jupiter	-69106-08-21 20:52 J	-23519310.74	-23519310.63	-23519310.52	0.0524	0.0435
Jupiter	-69094-04-26 16:47 J	-23515045.00	-23515044.80	-23515044.60	0.0523	0.0002
Saturn	-69093-07-22 11:59 J	-23514592.20	-23514592.00	-23514591.79	0.0303	0.0067
Mars	-69090-12-10 20:52 J	-23513355.70	-23513355.63	-23513355.56	0.1609	0.1463
Uranus	-69089-04-05 02:23 J	-23513239.47	-23513239.40	-23513239.31	0.0131	0.0121
Uranus	-69089-11-17 05:16 J	-23513013.44	-23513013.28	-23513013.10	0.0131	0.0076
Jupiter	-69088-02-24 18:13 J	-23512913.94	-23512913.74	-23512913.54	0.0502	0.0139
Uranus	-69088-07-01 08:23 J	-23512787.36	-23512787.15	-23512786.94	0.0131	0.0031
Uranus	-69087-02-12 11:16 J	-23512561.24	-23512561.03	-23512560.82	0.0131	0.0015
Uranus	-69087-09-26 13:54 J	-23512335.11	-23512334.92	-23512334.73	0.0131	0.0060
Uranus	-69086-05-10 16:33 J	-23512108.93	-23512108.81	-23512108.68	0.0132	0.0105
Jupiter	-69083-12-30 12:42 J	-23510779.08	-23510778.97	-23510778.86	0.0522	0.0434
Saturn	-69079-05-18 10:18 J	-23509544.20	-23509544.07	-23509543.94	0.0260	0.0205
Saturn	-69078-01-02 07:40 J	-23509315.35	-23509315.18	-23509314.99	0.0259	0.0142
Jupiter	-69077-10-30 16:33 J	-23508647.98	-23508647.81	-23508647.63	0.0504	0.0257
Saturn	-69063-02-01 19:11 J	-23503805.88	-23503805.70	-23503805.51	0.0303	0.0140
Jupiter	-69058-01-02 06:42 J	-23502010.39	-23502010.22	-23502010.04	0.0523	0.0253
Mars	-69058-12-09 14:23 J	-23501669.07	-23501668.90	-23501668.74	0.1601	0.0602
Jupiter	-69053-11-02 08:23 J	-23499879.28	-23499879.15	-23499879.01	0.0502	0.0377
Saturn	-69050-11-28 12:57 J	-23498758.12	-23498757.96	-23498757.78	0.0260	0.0159
Saturn	-69049-07-14 10:18 J	-23498529.20	-23498529.07	-23498528.91	0.0259	0.0188
Uranus	-69047-05-24 04:18 J	-23497850.50	-23497850.32	-23497850.15	0.0147	0.0089
Jupiter	-69047-09-07 01:11 J	-23497744.64	-23497744.45	-23497744.27	0.0522	0.0192
Uranus	-69046-01-05 19:11 J	-23497623.91	-23497623.70	-23497623.47	0.0147	0.0023
Uranus	-69046-08-20 10:33 J	-23497397.27	-23497397.06	-23497396.84	0.0147	0.0045
Uranus	-69045-04-03 01:25 J	-23497170.56	-23497170.44	-23497170.28	0.0147	0.0113

Jupiter -69041-07-08 07:25 J -23495613.39 -23495613.19 -23495612.98 0.0503 0.0017
 Neptune -69038-04-11 03:06 J -23494606.47 -23494606.37 -23494606.27 0.0088 0.0078
 Neptune -69038-11-22 15:35 J -23494381.00 -23494380.85 -23494380.67 0.0088 0.0058
 Neptune -69037-07-05 04:33 J -23494155.50 -23494155.31 -23494155.11 0.0088 0.0037
 Neptune -69036-02-15 17:16 J -23493929.99 -23493929.78 -23493929.56 0.0088 0.0017
 Neptune -69036-09-29 05:59 J -23493704.47 -23493704.25 -23493704.03 0.0088 0.0003
 Neptune -69035-05-12 18:28 J -23493478.93 -23493478.73 -23493478.51 0.0088 0.0023
 Neptune -69035-12-24 07:11 J -23493253.38 -23493253.20 -23493253.00 0.0088 0.0043
 Neptune -69034-08-06 19:40 J -23493027.81 -23493027.68 -23493027.51 0.0088 0.0063
 Saturn -69034-08-14 23:01 J -23493019.69 -23493019.54 -23493019.38 0.0303 0.0200
 Neptune -69033-03-19 08:37 J -23492802.21 -23492802.14 -23492802.07 0.0088 0.0083
 Jupiter -69029-03-13 03:35 J -23491347.46 -23491347.35 -23491347.24 0.0504 0.0423
 Mars -69028-03-04 05:45 J -23490991.40 -23490991.26 -23490991.12 0.1947 0.1135
 Jupiter -69023-09-09 23:16 J -23488975.56 -23488975.53 -23488975.50 0.0524 0.0517
 Saturn -69020-06-09 16:47 J -23487971.99 -23487971.80 -23487971.60 0.0260 0.0109
 Saturn -69019-01-24 14:09 J -23487742.99 -23487742.91 -23487742.82 0.0259 0.0236
 Jupiter -69011-05-15 17:30 J -23484709.97 -23484709.77 -23484709.57 0.0523 0.0075
 Jupiter -69005-03-15 18:28 J -23482578.92 -23482578.73 -23482578.55 0.0503 0.0208
 Saturn -69005-07-08 23:45 J -23482463.57 -23482463.51 -23482463.43 0.0303 0.0282
 Uranus -69005-07-17 17:01 J -23482454.93 -23482454.79 -23482454.64 0.0131 0.0097
 Saturn -69004-02-24 04:18 J -23482233.41 -23482233.32 -23482233.21 0.0304 0.0267
 Uranus -69004-02-28 19:54 J -23482228.86 -23482228.67 -23482228.46 0.0131 0.0052
 Uranus -69004-10-12 22:47 J -23482002.76 -23482002.55 -23482002.33 0.0131 0.0007
 Uranus -69003-05-27 01:25 J -23481776.63 -23481776.44 -23481776.23 0.0131 0.0039
 Uranus -69002-01-08 04:04 J -23481550.47 -23481550.33 -23481550.15 0.0131 0.0085
 Uranus -69002-08-22 06:42 J -23481324.23 -23481324.22 -23481324.16 0.0132 0.0130
 Earth -69001-03-15 11:01 J -23481118.16 -23481118.04 -23481117.93 0.2656 0.1812
 Moon -69001-03-15 14:52 J -23481117.95 -23481117.88 -23481117.81 0.2660 0.2315 *

69TH MILLENNIUM BCE

This is a list of transits of Venus in the 69th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-68999-01-18 12:13 J	-23480444.13	-23480443.99	-23480443.85	0.0522	0.0365		
Jupiter	-68994-11-19 18:13 J	-23478312.93	-23478312.74	-23478312.55	0.0503	0.0182		
Earth	-68993-03-13 04:18 J	-23478198.42	-23478198.32	-23478198.23	0.2653	0.2073		
Moon	-68993-03-13 09:21 J	-23478198.22	-23478198.11	-23478197.99	0.2653	0.1782		
Mars	-68992-10-06 02:52 J	-23477626.55	-23477626.38	-23477626.21	0.1603	0.0358		
Saturn	-68991-12-20 18:42 J	-23477185.93	-23477185.72	-23477185.51	0.0259	0.0066		
Saturn	-68975-01-19 02:52 J	-23471677.52	-23471677.38	-23471677.24	0.0302	0.0226		
Jupiter	-68975-01-21 08:52 J	-23471675.28	-23471675.13	-23471674.97	0.0524	0.0334		
Jupiter	-68970-11-22 06:28 J	-23469544.33	-23469544.23	-23469544.13	0.0502	0.0435		
Pluto	-68964-06-20 09:06 J	-23467507.28	-23467507.12	-23467506.95	0.0067	0.0045		
Jupiter	-68964-09-26 05:30 J	-23467409.47	-23467409.27	-23467409.07	0.0522	0.0097		
Uranus	-68963-01-21 05:16 J	-23467292.38	-23467292.28	-23467292.16	0.0147	0.0126		
Pluto	-68963-01-31 14:52 J	-23467282.10	-23467281.88	-23467281.65	0.0067	0.0010		
Uranus	-68963-09-04 20:09 J	-23467065.85	-23467065.66	-23467065.44	0.0147	0.0060		
Pluto	-68963-09-13 20:37 J	-23467056.84	-23467056.64	-23467056.42	0.0067	0.0025		
Mars	-68963-12-30 08:09 J	-23466949.33	-23466949.16	-23466948.99	0.1943	0.0226		
Uranus	-68962-04-19 11:30 J	-23466839.24	-23466839.02	-23466838.80	0.0147	0.0008		
Pluto	-68962-04-27 02:09 J	-23466831.48	-23466831.41	-23466831.30	0.0067	0.0061		
Uranus	-68962-12-02 02:37 J	-23466612.58	-23466612.39	-23466612.20	0.0147	0.0075		
Saturn	-68961-07-01 21:21 J	-23466399.82	-23466399.61	-23466399.39	0.0259	0.0021		

Uranus -68961-07-15 17:45 J -23466385.81 -23466385.76 -23466385.69 0.0147 0.0141
 Jupiter -68958-07-28 05:16 J -23465278.48 -23465278.28 -23465278.07 0.0503 0.0044
 Neptune -68956-05-22 20:37 J -23464613.75 -23464613.64 -23464613.49 0.0089 0.0071
 Neptune -68955-01-03 10:04 J -23464388.25 -23464388.08 -23464387.89 0.0089 0.0051
 Neptune -68955-08-16 23:01 J -23464162.73 -23464162.54 -23464162.31 0.0089 0.0031
 Neptune -68954-03-30 12:28 J -23463937.19 -23463936.98 -23463936.75 0.0089 0.0009
 Neptune -68954-11-11 01:40 J -23463711.64 -23463711.43 -23463711.20 0.0089 0.0012
 Neptune -68953-06-23 15:06 J -23463486.07 -23463485.87 -23463485.66 0.0089 0.0032
 Neptune -68952-02-04 04:04 J -23463260.49 -23463260.33 -23463260.14 0.0089 0.0054
 Neptune -68952-09-17 17:16 J -23463034.88 -23463034.78 -23463034.64 0.0089 0.0074
 Jupiter -68946-04-02 04:47 J -23461012.44 -23461012.30 -23461012.15 0.0504 0.0349
 Saturn -68946-08-01 06:13 J -23460891.41 -23460891.24 -23460891.06 0.0303 0.0168
 Saturn -68931-01-11 22:33 J -23455613.78 -23455613.56 -23455613.35 0.0259 0.0020
 Jupiter -68928-06-03 18:57 J -23454374.90 -23454374.71 -23454374.52 0.0523 0.0152
 Mars -68926-08-03 15:06 J -23453584.05 -23453583.87 -23453583.70 0.1606 0.0110
 Jupiter -68922-04-04 21:06 J -23452243.78 -23452243.62 -23452243.44 0.0502 0.0290
 Uranus -68921-03-17 03:49 J -23451896.42 -23451896.34 -23451896.24 0.0131 0.0118
 Uranus -68921-10-29 06:42 J -23451670.38 -23451670.22 -23451670.03 0.0131 0.0074
 Uranus -68920-06-12 09:49 J -23451444.29 -23451444.09 -23451443.87 0.0131 0.0028
 Uranus -68919-01-24 12:57 J -23451218.17 -23451217.96 -23451217.75 0.0131 0.0017
 Uranus -68919-09-07 15:35 J -23450992.03 -23450991.85 -23450991.65 0.0131 0.0063
 Uranus -68918-04-21 18:28 J -23450765.85 -23450765.73 -23450765.60 0.0132 0.0108
 Jupiter -68916-02-06 15:35 J -23450109.02 -23450108.85 -23450108.68 0.0522 0.0277
 Saturn -68916-02-10 07:40 J -23450105.37 -23450105.18 -23450104.99 0.0302 0.0118
 Jupiter -68911-12-08 17:30 J -23447977.97 -23447977.77 -23447977.57 0.0503 0.0117
 Saturn -68902-07-25 00:13 J -23444827.69 -23444827.49 -23444827.28 0.0259 0.0063
 Mars -68897-10-26 10:18 J -23442907.23 -23442907.07 -23442906.91 0.1940 0.0688
 Jupiter -68892-02-09 12:42 J -23441340.08 -23441339.97 -23441339.85 0.0523 0.0424
 Saturn -68887-08-23 10:33 J -23439319.26 -23439319.06 -23439318.85 0.0303 0.0063
 Jupiter -68881-10-15 07:40 J -23437074.38 -23437074.18 -23437073.98 0.0522 0.0014

Uranus -68879-05-04 22:47 J -23436507.71 -23436507.55 -23436507.37 0.0147 0.0094
 Uranus -68879-12-17 13:54 J -23436281.13 -23436280.92 -23436280.70 0.0147 0.0028
 Uranus -68878-08-01 05:01 J -23436054.49 -23436054.29 -23436054.07 0.0147 0.0040
 Pluto -68878-11-30 11:01 J -23435933.18 -23435933.04 -23435932.86 0.0078 0.0051
 Uranus -68877-03-14 20:09 J -23435827.80 -23435827.66 -23435827.49 0.0147 0.0106
 Pluto -68877-07-12 20:09 J -23435707.87 -23435707.66 -23435707.44 0.0078 0.0002
 Pluto -68876-02-23 04:33 J -23435482.45 -23435482.31 -23435482.14 0.0077 0.0055
 Jupiter -68875-08-16 09:06 J -23434943.32 -23434943.12 -23434942.92 0.0503 0.0129
 Neptune -68874-07-13 13:54 J -23434611.96 -23434611.92 -23434611.86 0.0088 0.0086
 Neptune -68873-02-24 02:37 J -23434386.53 -23434386.39 -23434386.23 0.0088 0.0065
 Saturn -68873-06-19 03:49 J -23434270.41 -23434270.34 -23434270.27 0.0260 0.0244
 Neptune -68873-10-06 15:21 J -23434161.04 -23434160.86 -23434160.66 0.0088 0.0045
 Saturn -68872-02-03 00:57 J -23434041.66 -23434041.46 -23434041.26 0.0259 0.0101
 Neptune -68872-05-20 04:04 J -23433935.53 -23433935.33 -23433935.11 0.0088 0.0025
 Moon -68872-09-07 22:04 J -23433824.75 -23433824.58 -23433824.42 0.2675 0.0492
 Earth -68872-09-08 02:09 J -23433824.57 -23433824.41 -23433824.25 0.2680 0.0146 *
 Neptune -68872-12-31 17:01 J -23433710.01 -23433709.79 -23433709.57 0.0088 0.0005
 Neptune -68871-08-14 05:30 J -23433484.48 -23433484.27 -23433484.04 0.0088 0.0016
 Neptune -68870-03-27 17:59 J -23433258.94 -23433258.75 -23433258.53 0.0088 0.0036
 Neptune -68870-11-08 06:28 J -23433033.38 -23433033.23 -23433033.04 0.0088 0.0056
 Jupiter -68869-06-20 01:54 J -23432808.51 -23432808.42 -23432808.31 0.0521 0.0455
 Neptune -68869-06-20 18:57 J -23432807.80 -23432807.71 -23432807.57 0.0088 0.0076
 Jupiter -68863-04-21 08:37 J -23430677.31 -23430677.14 -23430676.96 0.0504 0.0261
 Mars -68860-05-31 03:06 J -23429541.54 -23429541.37 -23429541.19 0.1608 0.0151
 Saturn -68857-03-04 11:16 J -23428533.24 -23428533.03 -23428532.82 0.0303 0.0016
 Jupiter -68845-06-23 01:25 J -23424039.61 -23424039.44 -23424039.26 0.0523 0.0259
 Saturn -68844-12-30 04:47 J -23423484.42 -23423484.30 -23423484.16 0.0260 0.0204
 Saturn -68843-08-16 02:09 J -23423255.59 -23423255.41 -23423255.23 0.0259 0.0142
 Jupiter -68839-04-23 20:37 J -23421908.78 -23421908.64 -23421908.49 0.0502 0.0356
 Uranus -68837-06-28 18:13 J -23421111.88 -23421111.74 -23421111.58 0.0131 0.0095

Uranus	-68836-02-09 21:21 J	-23420885.80	-23420885.61	-23420885.40	0.0131	0.0049
Uranus	-68836-09-24 00:28 J	-23420659.69	-23420659.48	-23420659.26	0.0131	0.0004
Uranus	-68835-05-08 03:06 J	-23420433.56	-23420433.37	-23420433.16	0.0132	0.0042
Uranus	-68835-12-20 05:59 J	-23420207.40	-23420207.25	-23420207.08	0.0132	0.0087
Jupiter	-68833-02-26 20:23 J	-23419773.83	-23419773.65	-23419773.46	0.0522	0.0181
Mars	-68831-08-23 13:25 J	-23418865.04	-23418864.94	-23418864.84	0.1935	0.1554
Saturn	-68828-09-14 13:25 J	-23417747.14	-23417746.94	-23417746.73	0.0303	0.0037
Jupiter	-68828-12-27 20:23 J	-23417642.85	-23417642.65	-23417642.44	0.0503	0.0036
Jupiter	-68816-09-01 20:37 J	-23413376.75	-23413376.64	-23413376.53	0.0504	0.0422
Saturn	-68814-07-12 05:16 J	-23412698.44	-23412698.28	-23412698.11	0.0260	0.0166
Saturn	-68813-02-26 02:23 J	-23412469.55	-23412469.40	-23412469.24	0.0259	0.0180
Jupiter	-68809-02-29 15:21 J	-23411004.90	-23411004.86	-23411004.81	0.0524	0.0509
Saturn	-68798-03-27 14:09 J	-23406961.10	-23406960.91	-23406960.70	0.0303	0.0084
Jupiter	-68798-11-04 12:13 J	-23406739.19	-23406738.99	-23406738.79	0.0523	0.0081
Uranus	-68795-01-02 03:49 J	-23405949.44	-23405949.34	-23405949.21	0.0147	0.0126
Uranus	-68795-08-16 18:57 J	-23405722.90	-23405722.71	-23405722.50	0.0147	0.0059
Mars	-68794-03-28 15:06 J	-23405499.04	-23405498.87	-23405498.70	0.1610	0.0411
Uranus	-68794-03-31 10:04 J	-23405496.30	-23405496.08	-23405495.86	0.0147	0.0008
Uranus	-68794-11-13 00:57 J	-23405269.64	-23405269.46	-23405269.26	0.0147	0.0074
Uranus	-68793-06-26 16:04 J	-23405042.88	-23405042.83	-23405042.75	0.0147	0.0140
Neptune	-68792-08-24 06:42 J	-23404619.29	-23404619.22	-23404619.10	0.0089	0.0080
Jupiter	-68792-09-04 09:35 J	-23404608.29	-23404608.10	-23404607.91	0.0502	0.0199
Neptune	-68791-04-06 19:54 J	-23404393.81	-23404393.67	-23404393.49	0.0089	0.0060
Neptune	-68791-11-18 09:21 J	-23404168.30	-23404168.11	-23404167.90	0.0089	0.0039
Neptune	-68790-07-01 22:47 J	-23403942.76	-23403942.55	-23403942.33	0.0089	0.0018
Neptune	-68789-02-12 11:59 J	-23403717.22	-23403717.00	-23403716.77	0.0089	0.0004
Neptune	-68789-09-25 01:11 J	-23403491.66	-23403491.45	-23403491.23	0.0089	0.0024
Neptune	-68788-05-08 14:09 J	-23403266.08	-23403265.91	-23403265.70	0.0089	0.0045
Neptune	-68788-12-20 03:49 J	-23403040.48	-23403040.34	-23403040.19	0.0089	0.0065
Neptune	-68787-08-02 17:01 J	-23402814.83	-23402814.79	-23402814.73	0.0089	0.0086

Jupiter -68786-07-10 08:52 J -23402473.28 -23402473.13 -23402472.98 0.0522 0.0349
 Saturn -68784-01-21 06:13 J -23401912.41 -23401912.24 -23401912.04 0.0260 0.0126
 Saturn -68784-09-07 03:35 J -23401683.46 -23401683.35 -23401683.23 0.0259 0.0220
 Jupiter -68780-05-10 08:37 J -23400342.33 -23400342.14 -23400341.95 0.0503 0.0193
 Saturn -68769-10-06 16:47 J -23396174.98 -23396174.80 -23396174.61 0.0303 0.0138
 Jupiter -68762-07-13 04:33 J -23393704.46 -23393704.31 -23393704.16 0.0523 0.0342
 Moon -68758-03-16 11:59 J -23392362.12 -23392362.00 -23392361.89 0.2649 0.1898
 Earth -68758-03-16 13:54 J -23392362.02 -23392361.92 -23392361.81 0.2654 0.1946 *
 Jupiter -68756-05-13 00:42 J -23391573.56 -23391573.47 -23391573.37 0.0502 0.0442
 Saturn -68755-08-03 06:57 J -23391126.41 -23391126.21 -23391126.01 0.0260 0.0087
 Saturn -68754-03-20 04:04 J -23390897.33 -23390897.33 -23390897.32 0.0259 0.0259
 Uranus -68753-02-27 05:30 J -23390553.36 -23390553.27 -23390553.16 0.0131 0.0116
 Uranus -68753-10-10 08:37 J -23390327.31 -23390327.14 -23390326.95 0.0131 0.0070
 Uranus -68752-05-24 11:45 J -23390101.22 -23390101.01 -23390100.80 0.0132 0.0025
 Uranus -68751-01-05 14:52 J -23389875.09 -23389874.88 -23389874.67 0.0132 0.0020
 Uranus -68751-08-19 17:30 J -23389648.94 -23389648.77 -23389648.57 0.0132 0.0066
 Moon -68750-03-14 02:09 J -23389442.48 -23389442.41 -23389442.33 0.2650 0.2360
 Earth -68750-03-14 07:11 J -23389442.30 -23389442.20 -23389442.09 0.2652 0.1955
 Jupiter -68750-03-17 23:01 J -23389438.74 -23389438.54 -23389438.34 0.0522 0.0098
 Uranus -68750-04-02 20:23 J -23389422.75 -23389422.65 -23389422.52 0.0132 0.0111
 Jupiter -68744-01-16 00:28 J -23387307.68 -23387307.48 -23387307.27 0.0503 0.0053
 Saturn -68739-04-18 17:59 J -23385388.91 -23385388.75 -23385388.58 0.0303 0.0186
 Jupiter -68733-09-20 21:21 J -23383041.75 -23383041.61 -23383041.46 0.0504 0.0350
 Mars -68728-01-23 03:21 J -23381456.52 -23381456.36 -23381456.20 0.1613 0.0663
 Saturn -68725-02-13 08:09 J -23380340.36 -23380340.16 -23380339.94 0.0260 0.0046
 Pluto -68717-02-29 04:47 J -23377402.36 -23377402.30 -23377402.21 0.0066 0.0063
 Pluto -68717-10-11 10:47 J -23377177.25 -23377177.05 -23377176.84 0.0067 0.0028
 Pluto -68716-05-24 16:33 J -23376952.03 -23376951.81 -23376951.58 0.0067 0.0007
 Pluto -68715-01-04 22:04 J -23376726.73 -23376726.58 -23376726.39 0.0067 0.0044
 Jupiter -68715-11-23 16:33 J -23376404.00 -23376403.81 -23376403.62 0.0523 0.0172

Uranus -68711-04-16 01:11 J -23375164.62 -23375164.45 -23375164.27 0.0147 0.0088
 Uranus -68711-11-28 16:18 J -23374938.04 -23374937.82 -23374937.60 0.0147 0.0022
 Saturn -68710-03-13 17:01 J -23374832.80 -23374832.79 -23374832.77 0.0302 0.0300
 Uranus -68710-07-13 07:11 J -23374711.40 -23374711.20 -23374710.98 0.0147 0.0044
 Saturn -68710-10-29 21:21 J -23374602.73 -23374602.61 -23374602.48 0.0303 0.0245
 Uranus -68709-02-24 22:18 J -23374484.71 -23374484.57 -23374484.41 0.0147 0.0110
 Neptune -68709-05-27 14:23 J -23374392.02 -23374391.90 -23374391.78 0.0088 0.0073
 Jupiter -68709-09-23 11:59 J -23374273.17 -23374273.00 -23374272.83 0.0502 0.0278
 Neptune -68708-01-08 03:06 J -23374166.54 -23374166.37 -23374166.19 0.0088 0.0053
 Neptune -68708-08-21 15:49 J -23373941.04 -23373940.84 -23373940.63 0.0088 0.0033
 Neptune -68707-04-04 04:33 J -23373715.52 -23373715.31 -23373715.09 0.0088 0.0013
 Neptune -68707-11-15 17:16 J -23373490.00 -23373489.78 -23373489.56 0.0088 0.0008
 Neptune -68706-06-29 05:45 J -23373264.46 -23373264.26 -23373264.04 0.0088 0.0028
 Neptune -68705-02-09 18:13 J -23373038.90 -23373038.74 -23373038.54 0.0088 0.0049
 Neptune -68705-09-22 06:42 J -23372813.33 -23372813.22 -23372813.06 0.0088 0.0069
 Neptune -68704-05-05 19:25 J -23372587.69 -23372587.69 -23372587.65 0.0088 0.0088
 Jupiter -68703-07-29 11:16 J -23372138.20 -23372138.03 -23372137.85 0.0522 0.0266
 Jupiter -68697-05-29 11:45 J -23370007.21 -23370007.01 -23370006.81 0.0503 0.0111
 Mars -68696-01-21 20:52 J -23369769.71 -23369769.63 -23369769.55 0.1605 0.1407
 Saturn -68696-08-25 09:35 J -23369554.32 -23369554.10 -23369553.89 0.0260 0.0007
 Jupiter -68685-02-02 11:30 J -23365741.04 -23365741.02 -23365740.99 0.0504 0.0500
 Saturn -68681-09-22 19:40 J -23364046.79 -23364046.68 -23364046.55 0.0302 0.0246
 Saturn -68680-05-10 23:59 J -23363816.52 -23363816.50 -23363816.46 0.0303 0.0299
 Jupiter -68679-08-01 07:40 J -23363369.29 -23363369.18 -23363369.06 0.0524 0.0430
 Uranus -68669-06-09 19:54 J -23359768.81 -23359768.67 -23359768.50 0.0131 0.0091
 Uranus -68668-01-21 23:30 J -23359542.72 -23359542.52 -23359542.32 0.0131 0.0046
 Uranus -68668-09-05 02:37 J -23359316.60 -23359316.39 -23359316.18 0.0132 0.0001
 Jupiter -68667-04-06 03:35 J -23359103.55 -23359103.35 -23359103.14 0.0523 0.0013
 Mars -68667-04-16 18:42 J -23359092.85 -23359092.72 -23359092.58 0.1941 0.1250
 Uranus -68667-04-19 05:30 J -23359090.47 -23359090.27 -23359090.07 0.0132 0.0045

Uranus -68667-12-01 08:23 J -23358864.30 -23358864.15 -23358863.99 0.0132 0.0090
 Saturn -68666-03-07 11:16 J -23358768.24 -23358768.03 -23358767.82 0.0260 0.0038
 Mars -68663-11-20 14:52 J -23357414.02 -23357413.88 -23357413.73 0.1615 0.0941
 Jupiter -68661-02-04 23:45 J -23356972.71 -23356972.51 -23356972.31 0.0502 0.0117
 Jupiter -68656-12-09 22:18 J -23354837.67 -23354837.57 -23354837.46 0.0522 0.0441
 Saturn -68651-04-05 00:42 J -23353260.64 -23353260.47 -23353260.30 0.0302 0.0181
 Jupiter -68650-10-10 22:33 J -23352706.72 -23352706.56 -23352706.38 0.0504 0.0278
 Saturn -68637-09-16 13:25 J -23347982.15 -23347981.94 -23347981.74 0.0260 0.0083
 Jupiter -68632-12-12 17:01 J -23346068.97 -23346068.79 -23346068.61 0.0523 0.0245
 Pluto -68631-08-10 07:40 J -23345828.25 -23345828.18 -23345828.08 0.0078 0.0071
 Mars -68631-11-19 08:52 J -23345727.25 -23345727.13 -23345727.01 0.1607 0.1152
 Pluto -68630-03-23 16:47 J -23345603.01 -23345602.80 -23345602.59 0.0078 0.0018
 Pluto -68630-11-04 01:25 J -23345377.63 -23345377.44 -23345377.24 0.0077 0.0035
 Earth -68629-09-08 01:11 J -23345068.61 -23345068.45 -23345068.29 0.2682 0.0172
 Moon -68629-09-08 03:21 J -23345068.51 -23345068.36 -23345068.21 0.2689 0.0108 *
 Neptune -68628-11-25 17:59 J -23344624.78 -23344624.75 -23344624.71 0.0089 0.0087
 Uranus -68628-12-14 06:57 J -23344606.33 -23344606.21 -23344606.06 0.0147 0.0118
 Neptune -68627-07-09 06:57 J -23344399.34 -23344399.21 -23344399.05 0.0089 0.0067
 Uranus -68627-07-28 22:04 J -23344379.78 -23344379.58 -23344379.36 0.0147 0.0052
 Neptune -68626-02-19 20:23 J -23344173.83 -23344173.65 -23344173.46 0.0089 0.0046
 Uranus -68626-03-12 13:11 J -23344153.17 -23344152.95 -23344152.72 0.0147 0.0014
 Neptune -68626-10-03 09:21 J -23343948.31 -23343948.11 -23343947.88 0.0089 0.0026
 Jupiter -68626-10-13 13:54 J -23343938.06 -23343937.92 -23343937.77 0.0502 0.0355
 Uranus -68626-10-25 04:04 J -23343926.50 -23343926.33 -23343926.13 0.0147 0.0080
 Neptune -68625-05-15 22:47 J -23343722.76 -23343722.55 -23343722.32 0.0089 0.0006
 Uranus -68625-06-07 19:11 J -23343699.71 -23343699.70 -23343699.67 0.0147 0.0146
 Neptune -68625-12-27 11:59 J -23343497.21 -23343497.00 -23343496.77 0.0089 0.0016
 Neptune -68624-08-10 01:11 J -23343271.64 -23343271.45 -23343271.24 0.0089 0.0037
 Neptune -68623-03-23 14:09 J -23343046.05 -23343045.91 -23343045.72 0.0089 0.0058
 Neptune -68623-11-04 03:49 J -23342820.43 -23342820.34 -23342820.23 0.0089 0.0078

Saturn -68622-10-16 04:47 J -23342474.49 -23342474.30 -23342474.10 0.0302 0.0121
 Jupiter -68620-08-17 12:42 J -23341803.15 -23341802.97 -23341802.77 0.0522 0.0189
 Jupiter -68614-06-18 11:16 J -23339672.23 -23339672.03 -23339671.82 0.0503 0.0047
 Saturn -68608-08-12 18:28 J -23337424.85 -23337424.73 -23337424.62 0.0261 0.0220
 Saturn -68607-03-29 16:04 J -23337196.02 -23337195.83 -23337195.64 0.0260 0.0130
 Jupiter -68602-02-21 10:18 J -23335406.17 -23335406.07 -23335405.97 0.0504 0.0439
 Mars -68601-02-11 21:06 J -23335050.79 -23335050.62 -23335050.45 0.1937 0.0342
 Mars -68597-09-17 03:06 J -23333371.49 -23333371.37 -23333371.25 0.1618 0.1202
 Jupiter -68596-08-20 09:06 J -23333034.16 -23333034.12 -23333034.06 0.0524 0.0505
 Saturn -68592-04-27 11:45 J -23331688.22 -23331688.01 -23331687.80 0.0302 0.0048
 Uranus -68585-02-08 06:42 J -23329210.31 -23329210.22 -23329210.10 0.0131 0.0113
 Uranus -68585-09-21 10:04 J -23328984.26 -23328984.08 -23328983.89 0.0131 0.0067
 Jupiter -68584-04-25 03:49 J -23328768.54 -23328768.34 -23328768.14 0.0523 0.0067
 Uranus -68584-05-05 13:11 J -23328758.16 -23328757.95 -23328757.73 0.0131 0.0022
 Uranus -68584-12-17 16:18 J -23328532.03 -23328531.82 -23328531.61 0.0132 0.0023
 Uranus -68583-07-31 19:11 J -23328305.87 -23328305.70 -23328305.51 0.0132 0.0068
 Uranus -68582-03-14 22:04 J -23328079.67 -23328079.58 -23328079.46 0.0132 0.0113
 Saturn -68578-02-22 21:21 J -23326638.76 -23326638.61 -23326638.44 0.0261 0.0171
 Jupiter -68578-02-23 23:59 J -23326637.69 -23326637.50 -23326637.31 0.0503 0.0184
 Saturn -68578-10-09 19:11 J -23326409.85 -23326409.70 -23326409.54 0.0260 0.0178
 Jupiter -68573-12-28 21:06 J -23324502.75 -23324502.62 -23324502.48 0.0522 0.0377
 Jupiter -68567-10-29 23:16 J -23322371.72 -23322371.53 -23322371.35 0.0504 0.0207
 Mars -68565-09-15 21:21 J -23321684.76 -23321684.61 -23321684.47 0.1609 0.0905
 Saturn -68563-11-07 17:59 J -23320901.96 -23320901.75 -23320901.54 0.0302 0.0021
 Saturn -68549-09-04 00:57 J -23315852.64 -23315852.46 -23315852.27 0.0261 0.0122
 Jupiter -68549-12-31 17:59 J -23315733.91 -23315733.75 -23315733.59 0.0524 0.0318
 Saturn -68548-04-20 22:47 J -23315623.65 -23315623.55 -23315623.44 0.0260 0.0228
 Neptune -68545-08-29 02:23 J -23314397.49 -23314397.40 -23314397.31 0.0088 0.0080
 Neptune -68544-04-11 14:52 J -23314172.03 -23314171.88 -23314171.71 0.0088 0.0060
 Neptune -68544-11-23 03:35 J -23313946.53 -23313946.35 -23313946.14 0.0088 0.0040

Uranus -68543-03-28 01:25 J -23313821.60 -23313821.44 -23313821.24 0.0147 0.0086
 Neptune -68543-07-06 16:33 J -23313721.02 -23313720.81 -23313720.59 0.0088 0.0019
 Jupiter -68543-11-01 11:16 J -23313603.15 -23313603.03 -23313602.91 0.0501 0.0407
 Uranus -68543-11-09 16:47 J -23313595.02 -23313594.80 -23313594.58 0.0147 0.0019
 Neptune -68542-02-17 05:16 J -23313495.50 -23313495.28 -23313495.06 0.0088 0.0001
 Uranus -68542-06-24 07:40 J -23313368.38 -23313368.18 -23313367.96 0.0147 0.0047
 Neptune -68542-09-30 17:45 J -23313269.97 -23313269.76 -23313269.54 0.0088 0.0021
 Uranus -68541-02-05 22:47 J -23313141.68 -23313141.55 -23313141.40 0.0147 0.0113
 Neptune -68541-05-13 06:13 J -23313044.42 -23313044.24 -23313044.03 0.0088 0.0041
 Neptune -68541-12-24 18:42 J -23312818.85 -23312818.72 -23312818.54 0.0088 0.0062
 Neptune -68540-08-07 07:11 J -23312593.26 -23312593.20 -23312593.09 0.0088 0.0082
 Jupiter -68537-09-05 12:28 J -23311468.18 -23311467.98 -23311467.79 0.0523 0.0123
 Mars -68536-12-08 23:45 J -23311008.67 -23311008.51 -23311008.34 0.1933 0.0540
 Saturn -68533-05-20 02:09 J -23310115.61 -23310115.41 -23310115.21 0.0302 0.0100
 Jupiter -68531-07-07 09:35 J -23309337.30 -23309337.10 -23309336.89 0.0503 0.0012
 Mars -68531-07-15 14:52 J -23309328.94 -23309328.88 -23309328.80 0.1620 0.1477
 Jupiter -68519-03-12 08:23 J -23305071.28 -23305071.15 -23305071.01 0.0504 0.0382
 Saturn -68519-03-17 05:30 J -23305066.47 -23305066.27 -23305066.06 0.0261 0.0068
 Moon -68515-03-16 16:18 J -23303605.93 -23303605.82 -23303605.71 0.2659 0.1691
 Earth -68515-03-16 16:47 J -23303605.90 -23303605.80 -23303605.70 0.2653 0.2045 *
 Earth -68507-03-14 10:04 J -23300686.20 -23300686.08 -23300685.97 0.2650 0.1850
 Moon -68507-03-14 13:11 J -23300686.08 -23300685.95 -23300685.82 0.2655 0.1339 *
 Saturn -68504-11-30 10:33 J -23299329.22 -23299329.06 -23299328.89 0.0302 0.0178
 Jupiter -68501-05-14 01:11 J -23298433.65 -23298433.45 -23298433.25 0.0523 0.0124
 Uranus -68501-05-21 20:23 J -23298425.79 -23298425.65 -23298425.48 0.0131 0.0089
 Uranus -68500-01-02 23:45 J -23298199.70 -23298199.51 -23298199.30 0.0131 0.0044
 Uranus -68500-08-17 03:06 J -23297973.59 -23297973.37 -23297973.16 0.0131 0.0003
 Uranus -68499-03-31 05:59 J -23297747.45 -23297747.25 -23297747.05 0.0131 0.0046
 Mars -68499-07-14 09:06 J -23297642.28 -23297642.12 -23297641.95 0.1612 0.0644
 Uranus -68499-11-12 08:37 J -23297521.28 -23297521.14 -23297520.98 0.0132 0.0091

Jupiter -68495-03-14 21:21 J -23296302.79 -23296302.61 -23296302.43 0.0502 0.0236
 Saturn -68490-09-27 10:04 J -23294280.30 -23294280.08 -23294279.87 0.0261 0.0016
 Jupiter -68489-01-17 19:25 J -23294167.85 -23294167.69 -23294167.53 0.0522 0.0319
 Jupiter -68484-11-17 19:54 J -23292036.87 -23292036.67 -23292036.48 0.0503 0.0157
 Saturn -68475-10-25 16:47 J -23288772.88 -23288772.80 -23288772.71 0.0301 0.0274
 Saturn -68474-06-12 20:23 J -23288542.74 -23288542.65 -23288542.54 0.0302 0.0266
 Pluto -68470-06-22 08:37 J -23287072.30 -23287072.14 -23287071.93 0.0067 0.0039
 Mars -68470-10-06 02:23 J -23286966.51 -23286966.40 -23286966.28 0.1928 0.1416
 Pluto -68469-02-02 15:06 J -23286847.10 -23286846.87 -23286846.65 0.0067 0.0003
 Pluto -68469-09-14 21:06 J -23286621.82 -23286621.62 -23286621.43 0.0067 0.0033
 Jupiter -68465-01-20 14:52 J -23285399.01 -23285398.88 -23285398.73 0.0523 0.0370
 Neptune -68463-10-10 18:28 J -23284404.85 -23284404.73 -23284404.61 0.0089 0.0074
 Neptune -68462-05-24 07:25 J -23284179.35 -23284179.19 -23284179.00 0.0089 0.0054
 Neptune -68461-01-04 20:37 J -23283953.83 -23283953.64 -23283953.42 0.0089 0.0034
 Neptune -68461-08-17 10:04 J -23283728.29 -23283728.08 -23283727.86 0.0089 0.0012
 Neptune -68460-03-30 23:16 J -23283502.75 -23283502.53 -23283502.31 0.0089 0.0009
 Saturn -68460-04-08 15:21 J -23283494.07 -23283493.86 -23283493.64 0.0261 0.0042
 Neptune -68460-11-11 12:28 J -23283277.18 -23283276.98 -23283276.77 0.0089 0.0029
 Jupiter -68460-11-20 07:54 J -23283268.24 -23283268.17 -23283268.08 0.0502 0.0457
 Uranus -68460-11-25 02:37 J -23283263.49 -23283263.39 -23283263.24 0.0147 0.0122
 Neptune -68459-06-25 01:40 J -23283051.60 -23283051.43 -23283051.23 0.0089 0.0050
 Uranus -68459-07-09 17:59 J -23283036.95 -23283036.75 -23283036.54 0.0147 0.0055
 Neptune -68458-02-05 14:52 J -23282825.99 -23282825.88 -23282825.73 0.0089 0.0071
 Uranus -68458-02-21 09:06 J -23282810.34 -23282810.12 -23282809.90 0.0147 0.0011
 Uranus -68458-10-06 00:13 J -23282583.68 -23282583.49 -23282583.30 0.0147 0.0076
 Uranus -68457-05-19 14:52 J -23282356.92 -23282356.88 -23282356.81 0.0147 0.0142
 Jupiter -68454-09-25 07:54 J -23281133.37 -23281133.17 -23281132.97 0.0522 0.0076
 Jupiter -68448-07-26 06:57 J -23279002.41 -23279002.21 -23279002.00 0.0503 0.0066
 Saturn -68445-05-07 02:23 J -23277986.56 -23277986.40 -23277986.24 0.0301 0.0192
 Jupiter -68442-05-31 01:54 J -23276867.44 -23276867.42 -23276867.38 0.0521 0.0514

Jupiter -68436-03-31 05:16 J -23274736.43 -23274736.28 -23274736.12 0.0503 0.0331
 Mars -68433-05-10 21:21 J -23273599.78 -23273599.61 -23273599.44 0.1614 0.0388
 Saturn -68431-03-04 22:18 J -23272936.61 -23272936.57 -23272936.51 0.0262 0.0255
 Saturn -68431-10-19 20:37 J -23272707.84 -23272707.64 -23272707.44 0.0261 0.0097
 Jupiter -68418-06-02 21:21 J -23268098.80 -23268098.61 -23268098.41 0.0523 0.0171
 Uranus -68417-01-20 06:28 J -23267867.33 -23267867.23 -23267867.10 0.0131 0.0112
 Uranus -68417-09-02 09:49 J -23267641.27 -23267641.09 -23267640.90 0.0131 0.0067
 Uranus -68416-04-16 12:57 J -23267415.17 -23267414.96 -23267414.74 0.0131 0.0022
 Saturn -68416-11-17 13:25 J -23267200.14 -23267199.94 -23267199.74 0.0301 0.0102
 Uranus -68416-11-28 16:04 J -23267189.04 -23267188.83 -23267188.62 0.0131 0.0023
 Uranus -68415-07-12 18:42 J -23266962.89 -23266962.72 -23266962.52 0.0132 0.0069
 Uranus -68414-02-23 21:49 J -23266736.69 -23266736.59 -23266736.47 0.0132 0.0113
 Jupiter -68412-04-02 16:33 J -23265967.98 -23265967.81 -23265967.64 0.0502 0.0279
 Jupiter -68406-02-05 15:49 J -23263833.01 -23263832.84 -23263832.67 0.0522 0.0268
 Saturn -68402-09-15 04:18 J -23262150.45 -23262150.32 -23262150.17 0.0262 0.0196
 Saturn -68401-05-01 02:37 J -23261921.56 -23261921.39 -23261921.21 0.0260 0.0156
 Jupiter -68401-12-06 14:52 J -23261702.08 -23261701.88 -23261701.68 0.0503 0.0116
 Saturn -68386-05-31 00:28 J -23256413.69 -23256413.48 -23256413.27 0.0301 0.0013
 Moon -68386-09-09 00:28 J -23256312.65 -23256312.48 -23256312.32 0.2676 0.0115
 Earth -68386-09-09 00:28 J -23256312.64 -23256312.48 -23256312.32 0.2684 0.0446 *
 Pluto -68384-12-01 15:35 J -23255498.05 -23255497.85 -23255497.65 0.0078 0.0031
 Pluto -68383-07-15 00:13 J -23255272.69 -23255272.49 -23255272.28 0.0077 0.0022
 Jupiter -68382-02-08 09:21 J -23255064.23 -23255064.11 -23255063.98 0.0524 0.0411
 Pluto -68382-02-25 08:52 J -23255047.19 -23255047.13 -23255047.06 0.0077 0.0073
 Neptune -68381-11-30 14:09 J -23254402.93 -23254402.91 -23254402.84 0.0088 0.0087
 Neptune -68380-07-14 03:06 J -23254177.50 -23254177.37 -23254177.21 0.0088 0.0066
 Neptune -68379-02-24 15:49 J -23253952.01 -23253951.84 -23253951.63 0.0088 0.0047
 Neptune -68379-10-08 05:01 J -23253726.50 -23253726.29 -23253726.08 0.0088 0.0026
 Neptune -68378-05-21 17:45 J -23253500.98 -23253500.76 -23253500.54 0.0088 0.0006
 Neptune -68377-01-02 06:28 J -23253275.44 -23253275.23 -23253275.01 0.0088 0.0015

Neptune -68377-08-14 19:11 J -23253049.90 -23253049.70 -23253049.50 0.0088 0.0035
 Jupiter -68377-12-09 04:04 J -23252933.33 -23252933.33 -23252933.32 0.0501 0.0501
 Neptune -68376-03-28 07:40 J -23252824.35 -23252824.18 -23252824.01 0.0088 0.0055
 Neptune -68376-11-08 20:09 J -23252598.77 -23252598.66 -23252598.54 0.0088 0.0075
 Uranus -68375-03-08 18:42 J -23252478.89 -23252478.72 -23252478.55 0.0147 0.0092
 Uranus -68375-10-21 09:35 J -23252252.32 -23252252.10 -23252251.88 0.0147 0.0027
 Uranus -68374-06-05 00:28 J -23252025.69 -23252025.48 -23252025.26 0.0147 0.0039
 Uranus -68373-01-17 15:35 J -23251799.00 -23251798.85 -23251798.69 0.0147 0.0104
 Saturn -68372-03-27 10:04 J -23251364.25 -23251364.08 -23251363.89 0.0262 0.0139
 Saturn -68372-11-11 08:09 J -23251135.27 -23251135.16 -23251135.03 0.0261 0.0212
 Jupiter -68371-10-14 03:06 J -23250798.57 -23250798.37 -23250798.17 0.0523 0.0034
 Mars -68367-03-08 09:06 J -23249557.29 -23249557.12 -23249556.94 0.1617 0.0118
 Jupiter -68365-08-14 02:37 J -23248667.59 -23248667.39 -23248667.19 0.0502 0.0109
 Jupiter -68359-06-18 21:21 J -23246532.69 -23246532.61 -23246532.52 0.0522 0.0472
 Saturn -68357-12-10 11:16 J -23245627.23 -23245627.03 -23245626.82 0.0302 0.0077
 Jupiter -68353-04-18 23:30 J -23244401.68 -23244401.52 -23244401.35 0.0504 0.0294
 Saturn -68343-10-07 16:18 J -23240578.02 -23240577.82 -23240577.61 0.0261 0.0080
 Jupiter -68335-06-21 15:49 J -23237764.02 -23237763.84 -23237763.65 0.0523 0.0210
 Uranus -68333-05-02 19:40 J -23237082.82 -23237082.68 -23237082.50 0.0131 0.0090
 Uranus -68333-12-14 23:01 J -23236856.73 -23236856.54 -23236856.33 0.0131 0.0045
 Uranus -68332-07-29 02:23 J -23236630.61 -23236630.40 -23236630.18 0.0131 0.0001
 Uranus -68331-03-12 05:16 J -23236404.47 -23236404.28 -23236404.07 0.0132 0.0046
 Uranus -68331-10-24 07:54 J -23236178.30 -23236178.17 -23236178.00 0.0132 0.0091
 Jupiter -68329-04-21 12:13 J -23235633.14 -23235632.99 -23235632.83 0.0502 0.0326
 Saturn -68327-06-22 22:18 J -23234840.74 -23234840.57 -23234840.39 0.0302 0.0165
 Jupiter -68323-02-24 09:35 J -23233498.27 -23233498.10 -23233497.91 0.0522 0.0230
 Jupiter -68318-12-26 11:16 J -23231367.23 -23231367.03 -23231366.82 0.0503 0.0069
 Saturn -68313-04-18 22:04 J -23229791.79 -23229791.58 -23229791.37 0.0261 0.0022
 Mars -68306-05-30 08:09 J -23227194.27 -23227194.16 -23227194.04 0.1934 0.1387
 Jupiter -68306-08-31 10:04 J -23227101.15 -23227101.08 -23227100.99 0.0504 0.0460

Mars -68301-01-03 21:06 J -23225514.80 -23225514.62 -23225514.44 0.1619 0.0146
 Jupiter -68299-02-27 04:47 J -23224729.39 -23224729.30 -23224729.20 0.0524 0.0454
 Neptune -68298-01-12 06:13 J -23224410.32 -23224410.24 -23224410.14 0.0089 0.0082
 Saturn -68298-05-18 04:47 J -23224284.35 -23224284.30 -23224284.22 0.0300 0.0284
 Neptune -68298-08-25 18:57 J -23224184.85 -23224184.71 -23224184.53 0.0089 0.0062
 Saturn -68297-01-03 08:52 J -23224054.24 -23224054.13 -23224054.01 0.0302 0.0254
 Neptune -68297-04-07 08:23 J -23223959.34 -23223959.15 -23223958.95 0.0089 0.0040
 Neptune -68297-11-18 21:21 J -23223733.81 -23223733.61 -23223733.38 0.0089 0.0020
 Neptune -68296-07-02 10:47 J -23223508.26 -23223508.05 -23223507.82 0.0089 0.0003
 Neptune -68295-02-12 23:59 J -23223282.71 -23223282.50 -23223282.28 0.0089 0.0022
 Neptune -68295-09-26 12:57 J -23223057.14 -23223056.96 -23223056.75 0.0089 0.0043
 Neptune -68294-05-10 02:37 J -23222831.54 -23222831.39 -23222831.24 0.0089 0.0064
 Neptune -68294-12-21 15:35 J -23222605.90 -23222605.85 -23222605.77 0.0089 0.0085
 Uranus -68292-11-05 20:52 J -23221920.72 -23221920.63 -23221920.50 0.0147 0.0127
 Uranus -68291-06-20 11:45 J -23221694.19 -23221694.01 -23221693.79 0.0147 0.0062
 Uranus -68290-02-02 02:52 J -23221467.60 -23221467.38 -23221467.15 0.0147 0.0005
 Uranus -68290-09-16 17:45 J -23221240.95 -23221240.76 -23221240.56 0.0147 0.0069
 Uranus -68289-04-30 08:23 J -23221014.22 -23221014.15 -23221014.04 0.0147 0.0135
 Jupiter -68288-11-01 23:45 J -23220463.71 -23220463.51 -23220463.31 0.0523 0.0018
 Saturn -68284-10-30 04:04 J -23219005.54 -23219005.33 -23219005.11 0.0261 0.0037
 Jupiter -68282-09-02 20:23 J -23218332.84 -23218332.65 -23218332.45 0.0503 0.0145
 Jupiter -68276-07-07 16:47 J -23216197.92 -23216197.80 -23216197.69 0.0521 0.0425
 Earth -68272-03-16 19:40 J -23214849.77 -23214849.68 -23214849.59 0.2651 0.2157
 Moon -68272-03-16 22:47 J -23214849.55 -23214849.55 -23214849.55 0.2646 0.2645
 Jupiter -68270-05-08 19:25 J -23214066.87 -23214066.69 -23214066.51 0.0504 0.0247
 Saturn -68269-11-27 15:21 J -23213498.01 -23213497.86 -23213497.70 0.0301 0.0199
 Moon -68264-03-14 11:30 J -23211930.11 -23211930.02 -23211929.93 0.2643 0.2168
 Earth -68264-03-14 12:42 J -23211930.09 -23211929.97 -23211929.85 0.2649 0.1736 *
 Saturn -68255-09-25 11:01 J -23208448.05 -23208448.04 -23208448.01 0.0262 0.0260
 Saturn -68254-05-12 09:06 J -23208219.32 -23208219.12 -23208218.92 0.0261 0.0091

Jupiter -68252-07-10 10:47 J -23207429.22 -23207429.05 -23207428.87 0.0523 0.0253
 Uranus -68249-01-01 05:59 J -23206524.36 -23206524.25 -23206524.14 0.0131 0.0112
 Uranus -68249-08-14 08:52 J -23206298.30 -23206298.13 -23206297.93 0.0132 0.0068
 Uranus -68248-03-28 12:13 J -23206072.20 -23206071.99 -23206071.77 0.0132 0.0022
 Uranus -68248-11-09 15:21 J -23205846.07 -23205845.86 -23205845.65 0.0132 0.0023
 Uranus -68247-06-23 17:59 J -23205619.92 -23205619.75 -23205619.55 0.0132 0.0068
 Uranus -68246-02-04 21:21 J -23205393.71 -23205393.61 -23205393.49 0.0132 0.0112
 Jupiter -68246-05-11 08:52 J -23205298.26 -23205298.13 -23205297.99 0.0502 0.0373
 Jupiter -68240-03-15 05:59 J -23203163.44 -23203163.25 -23203163.06 0.0522 0.0182
 Mars -68240-03-26 10:47 J -23203152.21 -23203152.05 -23203151.88 0.1930 0.0503
 Saturn -68239-06-09 23:59 J -23202711.69 -23202711.50 -23202711.30 0.0301 0.0119
 Mars -68236-10-31 08:37 J -23201472.31 -23201472.14 -23201471.97 0.1622 0.0427
 Jupiter -68234-01-14 05:30 J -23201032.48 -23201032.27 -23201032.07 0.0503 0.0031
 Saturn -68225-04-06 16:33 J -23197661.94 -23197661.81 -23197661.67 0.0262 0.0204
 Saturn -68225-11-21 14:37 J -23197433.07 -23197432.89 -23197432.71 0.0260 0.0147
 Pluto -68223-03-02 08:37 J -23196967.29 -23196967.14 -23196966.96 0.0067 0.0045
 Jupiter -68223-09-19 03:49 J -23196766.44 -23196766.34 -23196766.22 0.0504 0.0424
 Pluto -68223-10-13 14:37 J -23196742.11 -23196741.89 -23196741.66 0.0067 0.0010
 Pluto -68222-05-26 20:23 J -23196516.85 -23196516.65 -23196516.43 0.0067 0.0026
 Pluto -68221-01-07 02:23 J -23196291.47 -23196291.40 -23196291.31 0.0068 0.0063
 Jupiter -68216-03-18 00:57 J -23194394.51 -23194394.46 -23194394.40 0.0523 0.0503
 Neptune -68216-10-15 14:52 J -23194182.97 -23194182.88 -23194182.73 0.0088 0.0074
 Neptune -68215-05-29 04:18 J -23193957.49 -23193957.32 -23193957.14 0.0088 0.0053
 Neptune -68214-01-09 17:16 J -23193731.98 -23193731.78 -23193731.57 0.0088 0.0032
 Neptune -68214-08-23 05:59 J -23193506.46 -23193506.25 -23193506.02 0.0088 0.0013
 Neptune -68213-04-04 18:42 J -23193280.93 -23193280.72 -23193280.49 0.0088 0.0009
 Neptune -68213-11-16 07:25 J -23193055.39 -23193055.19 -23193054.97 0.0088 0.0028
 Neptune -68212-06-29 19:54 J -23192829.84 -23192829.67 -23192829.47 0.0088 0.0049
 Neptune -68211-02-10 08:37 J -23192604.26 -23192604.14 -23192603.99 0.0088 0.0069
 Neptune -68211-09-23 21:35 J -23192378.60 -23192378.60 -23192378.60 0.0088 0.0088

Saturn	-68210-12-21 09:35 J	-23191925.31	-23191925.10	-23191924.89	0.0302	0.0038
Uranus	-68207-02-17 16:33 J	-23191135.97	-23191135.81	-23191135.63	0.0147	0.0093
Uranus	-68207-10-02 07:25 J	-23190909.41	-23190909.19	-23190908.98	0.0147	0.0028
Uranus	-68206-05-16 22:04 J	-23190682.79	-23190682.58	-23190682.36	0.0147	0.0037
Uranus	-68206-12-29 12:42 J	-23190456.12	-23190455.97	-23190455.80	0.0147	0.0102
Jupiter	-68205-11-20 18:57 J	-23190128.90	-23190128.71	-23190128.50	0.0522	0.0066
Jupiter	-68199-09-21 18:28 J	-23187997.92	-23187997.73	-23187997.54	0.0503	0.0200
Saturn	-68196-10-17 20:52 J	-23186875.79	-23186875.63	-23186875.45	0.0261	0.0152
Saturn	-68195-06-03 18:57 J	-23186646.85	-23186646.71	-23186646.57	0.0260	0.0199
Jupiter	-68193-07-26 12:28 J	-23185863.12	-23185862.98	-23185862.84	0.0522	0.0378
Jupiter	-68187-05-27 17:16 J	-23183731.96	-23183731.78	-23183731.58	0.0503	0.0191
Saturn	-68180-07-02 16:33 J	-23181139.02	-23181138.81	-23181138.60	0.0301	0.0035
Mars	-68174-01-21 13:40 J	-23179110.10	-23179109.93	-23179109.76	0.1926	0.0369
Mars	-68170-08-28 20:37 J	-23177429.80	-23177429.64	-23177429.48	0.1625	0.0694
Jupiter	-68169-07-29 10:33 J	-23177094.21	-23177094.06	-23177093.90	0.0523	0.0321
Saturn	-68166-04-30 01:40 J	-23176089.63	-23176089.43	-23176089.23	0.0261	0.0098
Saturn	-68166-12-14 23:30 J	-23175860.58	-23175860.52	-23175860.47	0.0260	0.0250
Uranus	-68165-04-13 19:40 J	-23175739.83	-23175739.68	-23175739.52	0.0132	0.0089
Uranus	-68165-11-25 22:47 J	-23175513.74	-23175513.55	-23175513.34	0.0132	0.0044
Uranus	-68164-07-10 02:09 J	-23175287.63	-23175287.41	-23175287.20	0.0132	0.0002
Uranus	-68163-02-21 05:01 J	-23175061.48	-23175061.29	-23175061.08	0.0132	0.0046
Jupiter	-68163-05-30 04:04 J	-23174963.44	-23174963.33	-23174963.22	0.0502	0.0416
Uranus	-68163-10-05 08:09 J	-23174835.31	-23174835.16	-23174835.00	0.0132	0.0090
Jupiter	-68157-04-03 04:18 J	-23172828.52	-23172828.32	-23172828.13	0.0522	0.0121
Jupiter	-68151-02-02 03:21 J	-23170697.56	-23170697.36	-23170697.15	0.0503	0.0026
Saturn	-68150-01-12 23:59 J	-23170352.69	-23170352.50	-23170352.30	0.0302	0.0109
Moon	-68143-09-08 21:35 J	-23167556.73	-23167556.60	-23167556.47	0.2692	0.1317
Earth	-68143-09-08 23:30 J	-23167556.67	-23167556.52	-23167556.36	0.2685	0.0732 *
Jupiter	-68140-10-08 03:06 J	-23166431.50	-23166431.37	-23166431.22	0.0504	0.0362
Mars	-68138-08-27 15:21 J	-23165742.94	-23165742.86	-23165742.79	0.1616	0.1443

Pluto -68137-08-11 17:16 J -23165392.96 -23165392.78 -23165392.58 0.0078 0.0034
 Saturn -68137-11-09 05:01 J -23165303.50 -23165303.29 -23165303.08 0.0261 0.0049
 Pluto -68136-03-25 01:54 J -23165167.62 -23165167.42 -23165167.20 0.0077 0.0019
 Pluto -68136-11-05 10:04 J -23164942.14 -23164942.08 -23164941.97 0.0077 0.0071
 Neptune -68134-04-15 18:13 J -23164415.75 -23164415.74 -23164415.70 0.0089 0.0088
 Neptune -68134-11-27 06:57 J -23164190.32 -23164190.21 -23164190.04 0.0089 0.0068
 Neptune -68133-07-09 20:23 J -23163964.82 -23163964.65 -23163964.45 0.0089 0.0047
 Neptune -68132-02-20 09:49 J -23163739.30 -23163739.09 -23163738.88 0.0089 0.0026
 Neptune -68132-10-03 22:47 J -23163513.77 -23163513.55 -23163513.33 0.0089 0.0006
 Neptune -68131-05-17 11:59 J -23163288.21 -23163288.00 -23163287.78 0.0089 0.0015
 Neptune -68131-12-29 00:57 J -23163062.65 -23163062.46 -23163062.25 0.0089 0.0036
 Neptune -68130-08-11 14:09 J -23162837.06 -23162836.91 -23162836.72 0.0089 0.0057
 Neptune -68129-03-24 03:49 J -23162611.45 -23162611.34 -23162611.24 0.0089 0.0078
 Uranus -68124-10-17 22:04 J -23160577.68 -23160577.58 -23160577.44 0.0147 0.0123
 Uranus -68123-06-01 12:57 J -23160351.16 -23160350.96 -23160350.75 0.0147 0.0058
 Uranus -68122-01-14 03:49 J -23160124.56 -23160124.34 -23160124.12 0.0147 0.0007
 Uranus -68122-08-28 18:28 J -23159897.92 -23159897.73 -23159897.53 0.0147 0.0072
 Jupiter -68122-12-10 18:28 J -23159793.92 -23159793.73 -23159793.53 0.0523 0.0131
 Uranus -68121-04-11 09:06 J -23159671.18 -23159671.12 -23159671.03 0.0147 0.0137
 Saturn -68121-07-25 05:01 J -23159566.46 -23159566.29 -23159566.12 0.0302 0.0173
 Jupiter -68116-10-10 14:23 J -23157663.08 -23157662.90 -23157662.72 0.0503 0.0248
 Jupiter -68110-08-15 14:23 J -23155528.06 -23155527.90 -23155527.73 0.0522 0.0298
 Mars -68109-11-17 16:47 J -23155067.93 -23155067.80 -23155067.67 0.1921 0.1210
 Saturn -68107-05-22 08:52 J -23154517.35 -23154517.13 -23154516.92 0.0261 0.0001
 Jupiter -68104-06-15 13:25 J -23153397.14 -23153396.94 -23153396.74 0.0504 0.0142
 Mars -68104-06-25 08:23 J -23153387.29 -23153387.15 -23153387.01 0.1627 0.0974
 Saturn -68092-06-19 06:28 J -23149010.24 -23149010.23 -23149010.21 0.0301 0.0300
 Saturn -68091-02-04 10:47 J -23148780.17 -23148780.05 -23148779.92 0.0303 0.0241
 Jupiter -68086-08-18 09:21 J -23146759.24 -23146759.11 -23146758.97 0.0523 0.0384
 Uranus -68082-12-13 05:45 J -23145181.37 -23145181.26 -23145181.14 0.0132 0.0111

Uranus -68081-07-26 08:52 J -23144955.30 -23144955.13 -23144954.93 0.0132 0.0067
 Uranus -68080-03-09 12:13 J -23144729.20 -23144728.99 -23144728.77 0.0132 0.0022
 Jupiter -68080-06-18 05:01 J -23144628.34 -23144628.29 -23144628.24 0.0502 0.0486
 Uranus -68080-10-21 15:21 J -23144503.07 -23144502.86 -23144502.65 0.0132 0.0023
 Uranus -68079-06-04 18:13 J -23144276.91 -23144276.74 -23144276.55 0.0132 0.0068
 Uranus -68078-01-16 21:21 J -23144050.71 -23144050.61 -23144050.49 0.0132 0.0112
 Saturn -68078-12-02 11:01 J -23143731.25 -23143731.04 -23143730.83 0.0260 0.0045
 Jupiter -68074-04-23 03:21 J -23142493.56 -23142493.36 -23142493.16 0.0522 0.0056
 Mars -68072-06-24 03:06 J -23141700.49 -23141700.37 -23141700.25 0.1619 0.1178
 Jupiter -68068-02-21 04:18 J -23140362.52 -23140362.32 -23140362.12 0.0503 0.0099
 Jupiter -68063-12-26 23:01 J -23138227.61 -23138227.54 -23138227.46 0.0521 0.0482
 Saturn -68063-12-30 09:49 J -23138224.20 -23138224.09 -23138223.96 0.0301 0.0243
 Saturn -68062-08-17 13:54 J -23137993.94 -23137993.92 -23137993.87 0.0302 0.0298
 Jupiter -68057-10-27 00:42 J -23136096.63 -23136096.47 -23136096.31 0.0504 0.0305
 Neptune -68051-01-17 03:35 J -23134188.42 -23134188.35 -23134188.23 0.0088 0.0080
 Neptune -68051-08-30 16:33 J -23133962.95 -23133962.81 -23133962.63 0.0088 0.0059
 Neptune -68050-04-13 05:45 J -23133737.45 -23133737.26 -23133737.06 0.0088 0.0039
 Neptune -68050-11-24 18:42 J -23133511.94 -23133511.72 -23133511.50 0.0088 0.0018
 Neptune -68049-07-07 07:25 J -23133286.41 -23133286.19 -23133285.97 0.0088 0.0002
 Saturn -68049-10-27 16:04 J -23133173.85 -23133173.83 -23133173.79 0.0262 0.0259
 Neptune -68048-02-17 20:09 J -23133060.87 -23133060.66 -23133060.44 0.0088 0.0022
 Saturn -68048-06-13 13:54 J -23132945.12 -23132944.92 -23132944.72 0.0260 0.0091
 Neptune -68048-10-01 08:37 J -23132835.32 -23132835.14 -23132834.93 0.0088 0.0042
 Neptune -68047-05-14 21:06 J -23132609.75 -23132609.62 -23132609.44 0.0088 0.0063
 Neptune -68047-12-26 09:49 J -23132384.14 -23132384.09 -23132383.99 0.0088 0.0083
 Uranus -68039-01-29 17:45 J -23129792.92 -23129792.76 -23129792.57 0.0147 0.0089
 Uranus -68039-09-13 08:37 J -23129566.36 -23129566.14 -23129565.92 0.0147 0.0024
 Jupiter -68039-12-29 20:37 J -23129458.82 -23129458.64 -23129458.45 0.0523 0.0212
 Mars -68038-04-22 19:54 J -23129344.78 -23129344.67 -23129344.56 0.1630 0.1258
 Uranus -68038-04-27 23:01 J -23129339.74 -23129339.54 -23129339.31 0.0147 0.0041

Uranus	-68038-12-10 14:09 J	-23129113.06	-23129112.91	-23129112.76	0.0147	0.0105
Saturn	-68033-07-11 13:40 J	-23127438.09	-23127437.93	-23127437.76	0.0301	0.0185
Jupiter	-68033-10-29 15:06 J	-23127328.02	-23127327.87	-23127327.71	0.0503	0.0320
Moon	-68029-03-16 17:45 J	-23126093.87	-23126093.76	-23126093.65	0.2653	0.1839
Earth	-68029-03-16 22:18 J	-23126093.65	-23126093.57	-23126093.49	0.2650	0.2266 *
Jupiter	-68027-09-03 15:06 J	-23125193.05	-23125192.87	-23125192.69	0.0521	0.0224
Moon	-68021-03-14 14:09 J	-23123174.03	-23123173.91	-23123173.79	0.2654	0.1527
Earth	-68021-03-14 15:21 J	-23123173.98	-23123173.86	-23123173.74	0.2647	0.1637 *
Jupiter	-68021-07-04 15:35 J	-23123062.05	-23123061.85	-23123061.65	0.0504	0.0065
Saturn	-68019-05-09 17:45 J	-23122387.87	-23122387.76	-23122387.63	0.0261	0.0216
Saturn	-68019-12-24 15:21 J	-23122159.04	-23122158.86	-23122158.67	0.0260	0.0133
Jupiter	-68009-03-09 15:21 J	-23118795.94	-23118795.86	-23118795.77	0.0505	0.0451
Mars	-68006-04-21 15:06 J	-23117658.01	-23117657.87	-23117657.72	0.1621	0.0917
Saturn	-68003-01-21 16:04 J	-23116652.02	-23116651.83	-23116651.64	0.0301	0.0132
Jupiter	-68003-09-06 11:59 J	-23116424.08	-23116424.00	-23116423.91	0.0523	0.0468

68TH MILLENNIUM BCE

This is a list of transits of Venus in the 68th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								

Uranus	-67997-03-25 18:57 J	-23114396.86	-23114396.71	-23114396.54	0.0131	0.0088
Uranus	-67997-11-06 22:18 J	-23114170.77	-23114170.57	-23114170.37	0.0132	0.0044
Uranus	-67996-06-21 01:25 J	-23113944.65	-23113944.44	-23113944.23	0.0132	0.0001
Uranus	-67995-02-02 04:18 J	-23113718.51	-23113718.32	-23113718.10	0.0132	0.0046

Uranus -67995-09-16 07:25 J -23113492.34 -23113492.19 -23113492.02 0.0132 0.0090
 Jupiter -67991-05-12 08:37 J -23112158.34 -23112158.14 -23112157.94 0.0522 0.0043
 Saturn -67990-11-19 19:54 J -23111601.83 -23111601.67 -23111601.51 0.0261 0.0172
 Saturn -67989-07-05 17:16 J -23111372.92 -23111372.78 -23111372.61 0.0260 0.0177
 Jupiter -67985-03-12 02:37 J -23110027.58 -23110027.39 -23110027.19 0.0503 0.0159
 Jupiter -67979-01-15 03:06 J -23107892.50 -23107892.37 -23107892.24 0.0521 0.0392
 Pluto -67977-11-10 10:04 J -23106862.22 -23106862.08 -23106861.90 0.0067 0.0047
 Pluto -67976-06-23 16:18 J -23106637.05 -23106636.82 -23106636.60 0.0067 0.0011
 Pluto -67975-02-03 22:04 J -23106411.79 -23106411.58 -23106411.36 0.0067 0.0025
 Pluto -67975-09-17 03:35 J -23106186.41 -23106186.35 -23106186.23 0.0068 0.0062
 Saturn -67974-08-03 18:42 J -23105865.92 -23105865.72 -23105865.51 0.0302 0.0078
 Jupiter -67974-11-16 02:23 J -23105761.58 -23105761.40 -23105761.21 0.0504 0.0229
 Mars -67972-02-17 07:54 J -23105302.23 -23105302.17 -23105302.12 0.1633 0.1537
 Neptune -67969-02-28 19:25 J -23104195.80 -23104195.69 -23104195.56 0.0089 0.0075
 Neptune -67969-10-11 08:09 J -23103970.31 -23103970.16 -23103969.96 0.0089 0.0055
 Neptune -67968-05-24 21:35 J -23103744.79 -23103744.60 -23103744.39 0.0089 0.0033
 Neptune -67967-01-05 10:47 J -23103519.26 -23103519.05 -23103518.83 0.0089 0.0013
 Neptune -67967-08-18 23:59 J -23103293.72 -23103293.50 -23103293.28 0.0089 0.0008
 Neptune -67966-04-01 12:57 J -23103068.16 -23103067.96 -23103067.75 0.0089 0.0029
 Neptune -67966-11-13 01:40 J -23102842.59 -23102842.43 -23102842.22 0.0089 0.0051
 Neptune -67965-06-25 15:35 J -23102616.98 -23102616.85 -23102616.72 0.0089 0.0071
 Saturn -67960-05-31 20:52 J -23100815.81 -23100815.63 -23100815.44 0.0261 0.0132
 Saturn -67959-01-15 18:13 J -23100586.85 -23100586.74 -23100586.61 0.0260 0.0216
 Uranus -67956-09-28 20:09 J -23099234.76 -23099234.66 -23099234.52 0.0147 0.0123
 Jupiter -67955-01-17 22:33 J -23099123.73 -23099123.56 -23099123.39 0.0523 0.0291
 Uranus -67955-05-13 11:01 J -23099008.24 -23099008.04 -23099007.83 0.0147 0.0058
 Uranus -67955-12-26 01:54 J -23098781.64 -23098781.42 -23098781.20 0.0147 0.0006
 Uranus -67954-08-09 16:47 J -23098554.99 -23098554.80 -23098554.61 0.0147 0.0071
 Uranus -67953-03-23 07:25 J -23098328.26 -23098328.19 -23098328.10 0.0147 0.0136
 Jupiter -67950-11-18 18:28 J -23096992.84 -23096992.73 -23096992.60 0.0502 0.0404

Mars	-67945-07-11 21:35 J	-23095295.70	-23095295.60	-23095295.49	0.1926	0.1524
Saturn	-67944-02-12 19:40 J	-23095079.88	-23095079.68	-23095079.47	0.0301	0.0031
Jupiter	-67944-09-22 18:42 J	-23094857.91	-23094857.72	-23094857.52	0.0522	0.0135
Mars	-67940-02-16 02:52 J	-23093615.54	-23093615.38	-23093615.22	0.1624	0.0643
Jupiter	-67938-07-24 15:21 J	-23092727.06	-23092726.86	-23092726.65	0.0503	0.0008
Saturn	-67931-12-11 22:33 J	-23090029.76	-23090029.56	-23090029.36	0.0261	0.0089
Saturn	-67930-07-28 20:09 J	-23089800.68	-23089800.66	-23089800.64	0.0260	0.0258
Jupiter	-67926-03-29 14:52 J	-23088461.01	-23088460.88	-23088460.75	0.0504	0.0385
Saturn	-67915-08-25 22:04 J	-23084293.79	-23084293.58	-23084293.37	0.0302	0.0022
Uranus	-67914-11-24 04:04 J	-23083838.42	-23083838.33	-23083838.20	0.0131	0.0112
Uranus	-67913-07-07 07:40 J	-23083612.36	-23083612.18	-23083611.99	0.0131	0.0067
Uranus	-67912-02-18 10:47 J	-23083386.25	-23083386.05	-23083385.83	0.0131	0.0023
Uranus	-67912-10-02 13:54 J	-23083160.12	-23083159.92	-23083159.70	0.0131	0.0022
Uranus	-67911-05-16 16:47 J	-23082933.97	-23082933.80	-23082933.60	0.0132	0.0067
Uranus	-67911-12-28 19:54 J	-23082707.78	-23082707.67	-23082707.55	0.0132	0.0111
Jupiter	-67908-05-31 11:30 J	-23081823.22	-23081823.02	-23081822.83	0.0522	0.0127
Jupiter	-67902-04-01 06:42 J	-23079692.40	-23079692.22	-23079692.04	0.0503	0.0244
Saturn	-67901-06-22 23:16 J	-23079243.74	-23079243.53	-23079243.32	0.0261	0.0050
Earth	-67900-09-08 23:01 J	-23078800.69	-23078800.54	-23078800.40	0.2687	0.1006
Moon	-67900-09-09 03:06 J	-23078800.53	-23078800.37	-23078800.21	0.2682	0.0416 *
Jupiter	-67896-02-03 05:30 J	-23077557.43	-23077557.27	-23077557.11	0.0521	0.0309
Jupiter	-67891-12-05 06:28 J	-23075426.42	-23075426.23	-23075426.03	0.0504	0.0142
Pluto	-67890-04-22 20:09 J	-23075287.86	-23075287.66	-23075287.47	0.0078	0.0034
Pluto	-67890-12-04 04:18 J	-23075062.51	-23075062.32	-23075062.10	0.0077	0.0019
Pluto	-67889-07-16 12:28 J	-23074837.03	-23074836.98	-23074836.87	0.0077	0.0071
Neptune	-67887-04-20 16:18 J	-23074193.87	-23074193.82	-23074193.77	0.0088	0.0086
Neptune	-67887-12-02 05:01 J	-23073968.42	-23073968.29	-23073968.13	0.0088	0.0066
Neptune	-67886-07-15 17:59 J	-23073742.93	-23073742.75	-23073742.55	0.0088	0.0045
Neptune	-67885-02-26 06:42 J	-23073517.42	-23073517.22	-23073516.99	0.0088	0.0026
Saturn	-67885-03-06 23:16 J	-23073507.73	-23073507.53	-23073507.32	0.0302	0.0071

Neptune -67885-10-08 19:54 J -23073291.89 -23073291.67 -23073291.45 0.0088 0.0005
 Neptune -67884-05-22 08:37 J -23073066.35 -23073066.14 -23073065.92 0.0088 0.0016
 Neptune -67883-01-02 21:21 J -23072840.80 -23072840.61 -23072840.40 0.0088 0.0036
 Neptune -67883-08-16 09:49 J -23072615.23 -23072615.09 -23072614.90 0.0088 0.0057
 Neptune -67882-03-29 22:33 J -23072389.65 -23072389.56 -23072389.43 0.0088 0.0076
 Mars -67879-05-09 01:25 J -23071253.60 -23071253.44 -23071253.28 0.1922 0.0702
 Mars -67875-12-14 14:37 J -23069573.06 -23069572.89 -23069572.72 0.1627 0.0373
 Jupiter -67872-02-06 05:01 J -23068788.41 -23068788.29 -23068788.15 0.0523 0.0396
 Saturn -67871-01-03 00:42 J -23068457.69 -23068457.47 -23068457.26 0.0261 0.0010
 Uranus -67871-01-10 11:30 J -23068450.18 -23068450.02 -23068449.84 0.0147 0.0095
 Uranus -67871-08-25 02:23 J -23068223.61 -23068223.40 -23068223.18 0.0147 0.0031
 Uranus -67870-04-08 17:01 J -23067997.00 -23067996.79 -23067996.57 0.0147 0.0034
 Uranus -67870-11-21 07:40 J -23067770.33 -23067770.18 -23067770.00 0.0147 0.0099
 Jupiter -67867-12-07 18:28 J -23066657.80 -23066657.73 -23066657.66 0.0502 0.0469
 Jupiter -67861-10-11 23:59 J -23064522.70 -23064522.50 -23064522.30 0.0522 0.0040
 Saturn -67856-09-17 00:57 J -23062721.64 -23062721.46 -23062721.26 0.0302 0.0122
 Jupiter -67855-08-12 18:13 J -23062391.94 -23062391.74 -23062391.53 0.0503 0.0084
 Jupiter -67849-06-16 18:13 J -23060256.82 -23060256.74 -23060256.65 0.0521 0.0472
 Jupiter -67843-04-17 18:28 J -23058125.89 -23058125.73 -23058125.56 0.0504 0.0301
 Saturn -67842-07-16 01:25 J -23057671.66 -23057671.44 -23057671.23 0.0261 0.0031
 Uranus -67829-03-06 17:16 J -23053053.92 -23053053.78 -23053053.61 0.0131 0.0089
 Uranus -67829-10-18 20:52 J -23052827.83 -23052827.63 -23052827.43 0.0131 0.0045
 Uranus -67828-06-01 23:59 J -23052601.72 -23052601.50 -23052601.29 0.0131 0.0002
 Uranus -67827-01-14 02:52 J -23052375.57 -23052375.38 -23052375.17 0.0131 0.0044
 Uranus -67827-08-28 05:45 J -23052149.40 -23052149.26 -23052149.09 0.0132 0.0089
 Saturn -67826-03-30 02:52 J -23051935.56 -23051935.38 -23051935.21 0.0302 0.0171
 Jupiter -67825-06-19 15:35 J -23051488.03 -23051487.85 -23051487.67 0.0523 0.0219
 Jupiter -67819-04-20 07:11 J -23049357.36 -23049357.20 -23049357.04 0.0502 0.0314
 Jupiter -67813-02-23 11:30 J -23047222.20 -23047222.02 -23047221.83 0.0522 0.0209
 Mars -67813-03-05 04:18 J -23047211.50 -23047211.32 -23047211.15 0.1918 0.0162

Saturn -67812-01-25 02:37 J -23046885.59 -23046885.39 -23046885.18 0.0261 0.0073
 Mars -67809-10-11 02:09 J -23045530.58 -23045530.41 -23045530.23 0.1629 0.0088
 Jupiter -67808-12-24 06:42 J -23045091.42 -23045091.22 -23045091.02 0.0503 0.0073
 Neptune -67805-06-01 07:25 J -23044201.25 -23044201.19 -23044201.08 0.0089 0.0082
 Neptune -67804-01-12 20:52 J -23043975.78 -23043975.63 -23043975.46 0.0089 0.0060
 Neptune -67804-08-26 09:35 J -23043750.28 -23043750.10 -23043749.88 0.0089 0.0041
 Neptune -67803-04-08 22:47 J -23043524.75 -23043524.55 -23043524.32 0.0089 0.0020
 Neptune -67803-11-20 11:59 J -23043299.22 -23043299.00 -23043298.78 0.0089 0.0002
 Neptune -67802-07-04 01:11 J -23043073.66 -23043073.45 -23043073.23 0.0089 0.0022
 Neptune -67801-02-14 14:09 J -23042848.09 -23042847.91 -23042847.71 0.0089 0.0043
 Neptune -67801-09-27 03:06 J -23042622.50 -23042622.37 -23042622.20 0.0089 0.0064
 Neptune -67800-05-10 16:04 J -23042396.87 -23042396.83 -23042396.74 0.0089 0.0085
 Saturn -67797-10-09 05:30 J -23041149.40 -23041149.27 -23041149.12 0.0302 0.0228
 Jupiter -67796-08-29 06:28 J -23040825.31 -23040825.23 -23040825.15 0.0505 0.0461
 Jupiter -67789-02-26 07:54 J -23038453.24 -23038453.17 -23038453.08 0.0523 0.0478
 Uranus -67788-09-09 11:45 J -23037892.08 -23037892.01 -23037891.89 0.0147 0.0133
 Uranus -67787-04-24 02:23 J -23037665.58 -23037665.40 -23037665.19 0.0147 0.0068
 Uranus -67787-12-06 17:30 J -23037438.99 -23037438.77 -23037438.55 0.0147 0.0004
 Earth -67786-03-18 00:57 J -23037337.53 -23037337.46 -23037337.39 0.2648 0.2370
 Uranus -67786-07-21 08:23 J -23037212.35 -23037212.15 -23037211.95 0.0147 0.0062
 Uranus -67785-03-03 23:01 J -23036985.64 -23036985.54 -23036985.42 0.0147 0.0126
 Saturn -67784-12-21 05:45 J -23036328.35 -23036328.26 -23036328.17 0.0262 0.0238
 Saturn -67783-08-07 03:49 J -23036099.54 -23036099.34 -23036099.15 0.0261 0.0113
 Earth -67778-03-15 17:59 J -23034417.88 -23034417.75 -23034417.63 0.2646 0.1537
 Moon -67778-03-15 21:35 J -23034417.75 -23034417.60 -23034417.46 0.2641 0.1131 *
 Jupiter -67778-11-01 01:54 J -23034187.62 -23034187.42 -23034187.22 0.0522 0.0041
 Jupiter -67772-08-31 21:49 J -23032056.78 -23032056.59 -23032056.40 0.0503 0.0168
 Saturn -67768-09-03 04:04 J -23030593.43 -23030593.33 -23030593.22 0.0300 0.0256
 Saturn -67767-04-21 07:40 J -23030363.24 -23030363.18 -23030363.09 0.0302 0.0280
 Jupiter -67766-07-06 21:21 J -23029921.74 -23029921.61 -23029921.47 0.0521 0.0387

Jupiter -67760-05-06 19:25 J -23027790.87 -23027790.69 -23027790.51 0.0504 0.0230
 Saturn -67754-07-03 07:25 J -23025542.33 -23025542.19 -23025542.05 0.0263 0.0195
 Saturn -67753-02-17 05:30 J -23025313.44 -23025313.27 -23025313.10 0.0261 0.0157
 Mars -67748-12-31 07:40 J -23023169.33 -23023169.18 -23023169.03 0.1914 0.0977
 Uranus -67746-11-05 02:23 J -23022495.49 -23022495.40 -23022495.27 0.0131 0.0113
 Uranus -67745-06-18 05:45 J -23022269.43 -23022269.26 -23022269.06 0.0131 0.0069
 Uranus -67744-01-30 09:21 J -23022043.32 -23022043.11 -23022042.89 0.0131 0.0024
 Uranus -67744-09-13 12:42 J -23021817.18 -23021816.97 -23021816.76 0.0132 0.0021
 Uranus -67743-04-27 15:35 J -23021591.03 -23021590.85 -23021590.66 0.0132 0.0065
 Mars -67743-08-08 13:54 J -23021488.09 -23021487.92 -23021487.74 0.1632 0.0191
 Uranus -67743-12-09 18:13 J -23021364.83 -23021364.74 -23021364.60 0.0132 0.0110
 Jupiter -67742-07-09 19:25 J -23021152.85 -23021152.69 -23021152.53 0.0523 0.0305
 Saturn -67738-03-16 08:09 J -23019807.31 -23019807.16 -23019807.00 0.0300 0.0195
 Jupiter -67736-05-09 08:52 J -23019022.25 -23019022.13 -23019021.99 0.0502 0.0389
 Jupiter -67730-03-14 13:54 J -23016887.12 -23016886.92 -23016886.73 0.0522 0.0129
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 Pluto -67729-03-03 17:45 J -23016531.97 -23016531.76 -23016531.52 0.0067 0.0013
 Pluto -67729-10-14 23:45 J -23016306.71 -23016306.51 -23016306.29 0.0067 0.0025
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 Jupiter -67724-01-12 09:06 J -23014756.33 -23014756.12 -23014755.92 0.0504 0.0009
 Saturn -67724-01-12 09:06 J -23014756.30 -23014756.12 -23014755.95 0.0262 0.0151 *
 Saturn -67724-08-29 06:57 J -23014527.34 -23014527.21 -23014527.06 0.0261 0.0200
 Neptune -67722-03-05 17:01 J -23013973.90 -23013973.79 -23013973.65 0.0088 0.0072
 Neptune -67722-10-17 06:13 J -23013748.41 -23013748.24 -23013748.06 0.0088 0.0052
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 Neptune -67719-04-06 09:35 J -23012846.30 -23012846.10 -23012845.89 0.0088 0.0029
 Neptune -67719-11-17 22:18 J -23012620.74 -23012620.57 -23012620.38 0.0088 0.0050
 Neptune -67718-07-01 11:01 J -23012395.16 -23012395.04 -23012394.90 0.0088 0.0070

Jupiter -67713-09-17 08:52 J -23010490.26 -23010490.13 -23010489.99 0.0504 0.0382
 Saturn -67709-09-25 12:13 J -23009021.17 -23009020.99 -23009020.80 0.0300 0.0136
 Uranus -67704-12-22 05:16 J -23007107.43 -23007107.28 -23007107.11 0.0147 0.0102
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 Jupiter -67683-07-25 23:45 J -22999586.67 -22999586.51 -22999586.34 0.0522 0.0308
 Mars -67682-10-28 11:01 J -22999127.10 -22999127.04 -22999126.98 0.1909 0.1787
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 Earth -67657-09-08 22:18 J -22990044.71 -22990044.57 -22990044.43 0.2689 0.1285 *
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 Neptune -67637-12-29 14:52 J -22982628.03 -22982627.88 -22982627.69 0.0089 0.0057
 Neptune -67636-08-12 03:49 J -22982402.42 -22982402.34 -22982402.20 0.0089 0.0079
 Saturn -67636-08-16 17:01 J -22982398.01 -22982397.79 -22982397.58 0.0263 0.0012
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 Jupiter -67630-10-07 07:25 J -22980155.34 -22980155.19 -22980155.03 0.0504 0.0324
 Saturn -67620-04-30 07:11 J -22976662.40 -22976662.20 -22976661.99 0.0300 0.0074
 Uranus -67620-08-21 10:18 J -22976549.15 -22976549.07 -22976548.96 0.0147 0.0132
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 Uranus -67619-11-17 15:49 J -22976096.06 -22976095.84 -22976095.62 0.0147 0.0004
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 Mars -67611-04-02 12:57 J -22973403.11 -22973402.96 -22973402.81 0.1638 0.0770
 Saturn -67606-02-26 20:37 J -22971611.85 -22971611.64 -22971611.43 0.0262 0.0039
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 Jupiter -67600-08-13 21:49 J -22969251.77 -22969251.59 -22969251.41 0.0522 0.0250
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 Saturn -67591-11-10 14:52 J -22965876.06 -22965875.88 -22965875.69 0.0301 0.0148
 Mars -67584-08-24 12:28 J -22963397.05 -22963396.98 -22963396.91 0.1919 0.1728
 Jupiter -67582-02-17 18:13 J -22962854.78 -22962854.74 -22962854.69 0.0504 0.0490

Mars -67579-04-01 08:37 J -22961716.22 -22961716.14 -22961716.06 0.1628 0.1441
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 Saturn -67577-09-08 00:28 J -22960825.68 -22960825.48 -22960825.28 0.0262 0.0091
 Uranus -67576-01-11 09:21 J -22960700.32 -22960700.11 -22960699.89 0.0132 0.0023
 Jupiter -67576-08-16 17:59 J -22960482.85 -22960482.75 -22960482.63 0.0524 0.0435
 Uranus -67576-08-25 12:28 J -22960474.18 -22960473.98 -22960473.76 0.0132 0.0022
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 Jupiter -67564-04-21 12:28 J -22956217.19 -22956216.98 -22956216.78 0.0523 0.0011
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 Jupiter -67558-02-20 05:30 J -22954086.47 -22954086.27 -22954086.07 0.0503 0.0116
 Neptune -67558-06-07 05:30 J -22953979.36 -22953979.27 -22953979.16 0.0088 0.0079
 Neptune -67557-01-18 18:13 J -22953753.89 -22953753.74 -22953753.56 0.0088 0.0059
 Neptune -67557-08-31 07:11 J -22953528.38 -22953528.20 -22953527.99 0.0088 0.0038
 Neptune -67556-04-13 20:23 J -22953302.87 -22953302.65 -22953302.43 0.0088 0.0018
 Neptune -67556-11-25 09:06 J -22953077.34 -22953077.12 -22953076.89 0.0088 0.0003
 Neptune -67555-07-08 22:04 J -22952851.79 -22952851.58 -22952851.37 0.0088 0.0023
 Neptune -67554-02-19 10:33 J -22952626.24 -22952626.06 -22952625.86 0.0088 0.0043
 Neptune -67554-10-02 23:16 J -22952400.67 -22952400.53 -22952400.36 0.0088 0.0063
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 Jupiter -67553-12-25 06:13 J -22951951.34 -22951951.24 -22951951.12 0.0521 0.0435
 Saturn -67548-08-04 06:13 J -22950268.36 -22950268.24 -22950268.11 0.0264 0.0211
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 Jupiter -67547-10-26 04:33 J -22949820.48 -22949820.31 -22949820.14 0.0504 0.0273
 Mars -67545-01-29 00:42 J -22949360.60 -22949360.47 -22949360.34 0.1641 0.1054
 Moon -67543-03-17 22:04 J -22948581.67 -22948581.58 -22948581.49 0.2645 0.2161
 Earth -67543-03-18 03:35 J -22948581.40 -22948581.35 -22948581.29 0.2647 0.2478
 Uranus -67536-12-03 06:57 J -22945764.36 -22945764.21 -22945764.03 0.0147 0.0098
 Moon -67535-03-15 15:35 J -22945661.93 -22945661.85 -22945661.76 0.2648 0.2226

Earth -67535-03-15 20:37 J -22945661.78 -22945661.64 -22945661.51 0.2645 0.1423 *
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 Saturn -67518-10-01 09:49 J -22939253.22 -22939253.09 -22939252.94 0.0262 0.0199
 Jupiter -67517-09-01 18:28 J -22938916.92 -22938916.73 -22938916.55 0.0522 0.0200
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 Jupiter -67511-07-03 16:04 J -22936786.03 -22936785.83 -22936785.63 0.0503 0.0050
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 Uranus -67493-09-10 20:23 J -22930141.85 -22930141.65 -22930141.45 0.0131 0.0044
 Uranus -67492-04-24 23:45 J -22929915.73 -22929915.51 -22929915.30 0.0132 0.0003
 Uranus -67492-12-07 02:37 J -22929689.58 -22929689.39 -22929689.18 0.0132 0.0045
 Uranus -67491-07-21 05:45 J -22929463.41 -22929463.26 -22929463.09 0.0132 0.0088
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 Saturn -67488-04-12 15:35 J -22928466.90 -22928466.85 -22928466.81 0.0262 0.0255
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 Pluto -67483-11-12 22:33 J -22926426.78 -22926426.56 -22926426.33 0.0067 0.0005
 Pluto -67482-06-26 04:18 J -22926201.51 -22926201.32 -22926201.11 0.0067 0.0032
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 Uranus -67452-08-02 12:13 J -22915206.08 -22915205.99 -22915205.87 0.0147 0.0127
 Uranus -67451-03-17 02:52 J -22914979.57 -22914979.38 -22914979.17 0.0147 0.0064
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 Uranus -67449-01-25 23:16 J -22914299.62 -22914299.53 -22914299.41 0.0147 0.0129
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 Saturn -67430-09-19 04:33 J -22907123.52 -22907123.31 -22907123.09 0.0263 0.0018
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 Saturn -67414-06-03 00:42 J -22901387.65 -22901387.47 -22901387.27 0.0300 0.0128
 Earth -67414-09-09 21:35 J -22901288.73 -22901288.60 -22901288.47 0.2690 0.1539
 Moon -67414-09-10 03:21 J -22901288.50 -22901288.36 -22901288.22 0.2690 0.1191 *
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 Uranus -67410-09-28 03:06 J -22899809.48 -22899809.37 -22899809.25 0.0131 0.0109

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 Uranus -67409-12-23 09:49 J -22899357.30 -22899357.09 -22899356.87 0.0131 0.0022
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 Neptune -67392-07-16 08:09 J -22893308.37 -22893308.16 -22893307.95 0.0088 0.0025
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 Neptune -67390-05-23 22:04 J -22892631.76 -22892631.58 -22892631.36 0.0088 0.0037
 Neptune -67389-01-04 11:01 J -22892406.19 -22892406.04 -22892405.85 0.0088 0.0057
 Neptune -67389-08-16 23:45 J -22892180.60 -22892180.51 -22892180.38 0.0088 0.0077
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 Mars -67386-02-12 22:47 J -22891270.71 -22891270.55 -22891270.39 0.1905 0.0724
 Saturn -67385-12-13 11:30 J -22890601.16 -22890601.02 -22890600.87 0.0300 0.0216
 Mars -67382-09-21 19:11 J -22889588.86 -22889588.70 -22889588.54 0.1637 0.0590
 Jupiter -67381-12-02 18:57 J -22889150.90 -22889150.71 -22889150.52 0.0504 0.0189
 Saturn -67371-02-24 17:59 J -22885779.87 -22885779.75 -22885779.64 0.0264 0.0221
 Saturn -67371-10-11 16:47 J -22885550.99 -22885550.80 -22885550.62 0.0262 0.0135
 Uranus -67368-11-14 05:59 J -22884421.40 -22884421.25 -22884421.07 0.0147 0.0096
 Uranus -67367-06-28 20:52 J -22884194.84 -22884194.63 -22884194.40 0.0147 0.0033
 Uranus -67366-02-10 11:45 J -22883968.22 -22883968.01 -22883967.79 0.0147 0.0032

Uranus -67366-09-25 02:37 J -22883741.55 -22883741.39 -22883741.22 0.0147 0.0096
 Jupiter -67362-02-04 15:35 J -22882513.01 -22882512.85 -22882512.69 0.0523 0.0326
 Jupiter -67357-12-05 07:11 J -22880382.31 -22880382.20 -22880382.09 0.0502 0.0422
 Saturn -67356-11-07 18:42 J -22880044.85 -22880044.72 -22880044.58 0.0299 0.0228
 Saturn -67355-06-25 21:49 J -22879814.59 -22879814.59 -22879814.58 0.0301 0.0301
 Jupiter -67351-10-10 08:52 J -22878247.33 -22878247.13 -22878246.93 0.0522 0.0111
 Jupiter -67345-08-10 06:57 J -22876116.41 -22876116.21 -22876116.01 0.0503 0.0036
 Saturn -67342-09-06 23:45 J -22874993.66 -22874993.51 -22874993.33 0.0264 0.0163
 Saturn -67341-04-22 22:18 J -22874764.70 -22874764.57 -22874764.41 0.0262 0.0193
 Jupiter -67333-04-15 05:59 J -22871850.39 -22871850.25 -22871850.10 0.0504 0.0352
 Saturn -67326-05-21 04:18 J -22869258.50 -22869258.32 -22869258.13 0.0299 0.0145
 Uranus -67326-05-28 13:25 J -22869250.95 -22869250.94 -22869250.89 0.0131 0.0130
 Uranus -67325-01-09 17:01 J -22869024.94 -22869024.79 -22869024.61 0.0131 0.0087
 Uranus -67325-08-22 20:37 J -22868798.84 -22868798.64 -22868798.43 0.0131 0.0042
 Uranus -67324-04-05 23:45 J -22868572.72 -22868572.51 -22868572.29 0.0131 0.0003
 Uranus -67324-11-18 02:37 J -22868346.58 -22868346.39 -22868346.18 0.0131 0.0046
 Uranus -67323-07-02 05:45 J -22868120.41 -22868120.26 -22868120.09 0.0131 0.0089
 Mars -67321-12-10 02:37 J -22867228.49 -22867228.39 -22867228.29 0.1901 0.1510
 Mars -67316-07-19 06:42 J -22865546.39 -22865546.22 -22865546.05 0.1640 0.0303
 Jupiter -67315-06-17 23:16 J -22865212.72 -22865212.53 -22865212.33 0.0522 0.0139
 Saturn -67312-03-19 05:59 J -22864207.44 -22864207.25 -22864207.05 0.0263 0.0104
 Neptune -67312-10-20 07:25 J -22863992.26 -22863992.19 -22863992.11 0.0089 0.0083
 Saturn -67312-11-03 04:18 J -22863978.37 -22863978.32 -22863978.25 0.0262 0.0250
 Neptune -67311-06-02 20:09 J -22863766.80 -22863766.66 -22863766.48 0.0089 0.0062
 Neptune -67310-01-14 09:35 J -22863541.29 -22863541.10 -22863540.90 0.0089 0.0041
 Neptune -67310-08-27 22:18 J -22863315.77 -22863315.57 -22863315.34 0.0089 0.0022
 Neptune -67309-04-09 11:45 J -22863090.23 -22863090.01 -22863089.79 0.0089 0.0000
 Jupiter -67309-04-17 15:35 J -22863082.03 -22863081.85 -22863081.67 0.0503 0.0246
 Neptune -67309-11-21 00:42 J -22862864.68 -22862864.47 -22862864.25 0.0089 0.0021
 Neptune -67308-07-04 13:40 J -22862639.11 -22862638.93 -22862638.72 0.0089 0.0042

Neptune -67307-02-15 02:37 J -22862413.52 -22862413.39 -22862413.21 0.0089 0.0063
 Neptune -67307-09-28 16:04 J -22862187.89 -22862187.83 -22862187.74 0.0089 0.0083
 Jupiter -67303-02-20 16:18 J -22860946.98 -22860946.82 -22860946.65 0.0521 0.0301
 Earth -67300-03-18 05:59 J -22859825.27 -22859825.25 -22859825.21 0.2645 0.2585
 Jupiter -67298-12-22 14:52 J -22858816.07 -22858815.88 -22858815.68 0.0504 0.0142
 Saturn -67297-11-30 14:09 J -22858472.11 -22858471.91 -22858471.70 0.0300 0.0064
 Earth -67292-03-15 23:01 J -22856905.68 -22856905.54 -22856905.41 0.2643 0.1336
 Moon -67292-03-16 04:33 J -22856905.47 -22856905.31 -22856905.15 0.2643 0.0315 *
 Uranus -67284-07-14 07:25 J -22853863.27 -22853863.19 -22853863.07 0.0147 0.0131
 Uranus -67283-02-25 22:18 J -22853636.76 -22853636.57 -22853636.37 0.0147 0.0067
 Saturn -67283-09-29 11:30 J -22853421.23 -22853421.02 -22853420.81 0.0263 0.0048
 Uranus -67283-10-10 13:11 J -22853410.17 -22853409.95 -22853409.73 0.0147 0.0004
 Uranus -67282-05-25 03:49 J -22853183.54 -22853183.34 -22853183.14 0.0147 0.0060
 Uranus -67281-01-06 18:28 J -22852956.83 -22852956.73 -22852956.60 0.0147 0.0125
 Jupiter -67279-02-23 10:33 J -22852178.20 -22852178.06 -22852177.91 0.0523 0.0370
 Jupiter -67274-12-25 04:33 J -22850047.37 -22850047.31 -22850047.24 0.0502 0.0473
 Jupiter -67268-10-29 05:30 J -22847912.47 -22847912.27 -22847912.07 0.0522 0.0059
 Saturn -67267-06-12 21:49 J -22847685.80 -22847685.59 -22847685.38 0.0300 0.0011
 Jupiter -67262-08-30 01:11 J -22845781.65 -22845781.45 -22845781.24 0.0503 0.0076
 Jupiter -67256-07-04 00:28 J -22843646.54 -22843646.48 -22843646.40 0.0521 0.0485
 Saturn -67253-04-10 16:47 J -22842635.02 -22842634.80 -22842634.59 0.0263 0.0009
 Jupiter -67250-05-05 00:13 J -22841515.65 -22841515.49 -22841515.33 0.0504 0.0313
 Mars -67250-05-16 17:45 J -22841503.93 -22841503.76 -22841503.58 0.1643 0.0033
 Uranus -67242-09-09 03:35 J -22838466.46 -22838466.35 -22838466.22 0.0131 0.0108
 Uranus -67241-04-22 06:42 J -22838240.39 -22838240.22 -22838240.02 0.0131 0.0064
 Uranus -67241-12-04 10:04 J -22838014.29 -22838014.08 -22838013.86 0.0131 0.0021
 Uranus -67240-07-18 13:25 J -22837788.15 -22837787.94 -22837787.73 0.0131 0.0023
 Uranus -67239-03-01 16:18 J -22837561.99 -22837561.82 -22837561.63 0.0131 0.0067
 Uranus -67239-10-13 19:11 J -22837335.80 -22837335.70 -22837335.57 0.0131 0.0111
 Saturn -67238-12-24 05:59 J -22836899.45 -22836899.25 -22836899.05 0.0300 0.0086

Pluto -67237-04-29 16:33 J -22836771.84 -22836771.81 -22836771.73 0.0067 0.0065
 Pluto -67237-12-10 22:33 J -22836546.74 -22836546.56 -22836546.34 0.0067 0.0029
 Pluto -67236-07-24 05:01 J -22836321.52 -22836321.29 -22836321.07 0.0067 0.0007
 Pluto -67235-03-06 10:33 J -22836096.21 -22836096.06 -22836095.87 0.0068 0.0045
 Jupiter -67232-07-06 19:40 J -22834877.87 -22834877.68 -22834877.49 0.0522 0.0188
 Neptune -67229-07-23 17:45 J -22833764.88 -22833764.76 -22833764.63 0.0088 0.0073
 Neptune -67228-03-06 06:28 J -22833539.39 -22833539.23 -22833539.04 0.0088 0.0052
 Neptune -67228-10-17 19:11 J -22833313.89 -22833313.70 -22833313.48 0.0088 0.0033
 Neptune -67227-05-31 08:23 J -22833088.36 -22833088.15 -22833087.93 0.0088 0.0012
 Neptune -67226-01-11 21:21 J -22832862.82 -22832862.61 -22832862.39 0.0088 0.0009
 Jupiter -67226-05-07 14:09 J -22832747.07 -22832746.91 -22832746.74 0.0503 0.0305
 Neptune -67226-08-25 10:18 J -22832637.28 -22832637.07 -22832636.86 0.0088 0.0029
 Neptune -67225-04-06 22:33 J -22832411.73 -22832411.56 -22832411.36 0.0088 0.0049
 Neptune -67225-11-18 11:16 J -22832186.15 -22832186.03 -22832185.88 0.0088 0.0069
 Saturn -67224-10-21 20:52 J -22831848.83 -22831848.63 -22831848.41 0.0262 0.0060
 Mars -67223-10-07 02:37 J -22831498.39 -22831498.39 -22831498.39 0.1911 0.1911
 Jupiter -67220-03-11 12:42 J -22830612.15 -22830611.97 -22830611.79 0.0521 0.0250
 Jupiter -67214-01-10 13:54 J -22828481.12 -22828480.92 -22828480.72 0.0504 0.0080
 Saturn -67208-07-05 12:13 J -22826113.17 -22826112.99 -22826112.81 0.0300 0.0155
 Jupiter -67203-09-15 10:47 J -22824215.11 -22824215.05 -22824214.99 0.0505 0.0479
 Uranus -67200-10-25 23:59 J -22823078.64 -22823078.50 -22823078.33 0.0147 0.0103
 Uranus -67199-06-09 14:52 J -22822852.09 -22822851.88 -22822851.66 0.0147 0.0039
 Uranus -67198-01-22 05:45 J -22822625.48 -22822625.26 -22822625.04 0.0147 0.0025
 Uranus -67198-09-05 20:23 J -22822398.82 -22822398.65 -22822398.47 0.0147 0.0089
 Jupiter -67196-03-14 11:45 J -22821843.11 -22821843.01 -22821842.90 0.0523 0.0445
 Saturn -67195-09-17 02:52 J -22821291.45 -22821291.38 -22821291.29 0.0264 0.0243
 Saturn -67194-05-04 01:25 J -22821062.63 -22821062.44 -22821062.25 0.0262 0.0112
 Jupiter -67185-11-17 05:30 J -22817577.48 -22817577.27 -22817577.07 0.0522 0.0014
 Mars -67184-03-13 05:16 J -22817461.45 -22817461.28 -22817461.11 0.1646 0.0298
 Moon -67179-09-12 05:30 J -22815452.30 -22815452.27 -22815452.23 0.2683 0.2611

Earth -67179-09-12 06:57 J -22815452.22 -22815452.21 -22815452.19 0.2689 0.2673
 Jupiter -67179-09-17 23:45 J -22815446.71 -22815446.51 -22815446.31 0.0503 0.0134
 Saturn -67178-01-15 18:13 J -22815326.88 -22815326.74 -22815326.60 0.0301 0.0222
 Jupiter -67173-07-22 23:01 J -22813311.66 -22813311.54 -22813311.42 0.0521 0.0424
 Moon -67171-09-09 16:04 J -22812532.92 -22812532.83 -22812532.73 0.2689 0.2139
 Earth -67171-09-09 21:21 J -22812532.73 -22812532.61 -22812532.50 0.2692 0.1798 *
 Jupiter -67167-05-24 00:13 J -22811180.67 -22811180.49 -22811180.31 0.0504 0.0247
 Saturn -67165-03-29 05:59 J -22810505.39 -22810505.25 -22810505.10 0.0263 0.0194
 Saturn -67165-11-13 04:18 J -22810276.48 -22810276.32 -22810276.14 0.0262 0.0159
 Uranus -67158-05-09 14:09 J -22807907.94 -22807907.91 -22807907.86 0.0131 0.0129
 Uranus -67158-12-21 17:59 J -22807681.92 -22807681.75 -22807681.59 0.0131 0.0085
 Mars -67157-08-03 06:42 J -22807456.36 -22807456.22 -22807456.08 0.1907 0.1128
 Uranus -67157-08-03 21:06 J -22807455.82 -22807455.62 -22807455.41 0.0131 0.0041
 Uranus -67156-03-18 00:28 J -22807229.70 -22807229.48 -22807229.27 0.0131 0.0003
 Uranus -67156-10-30 03:21 J -22807003.55 -22807003.36 -22807003.15 0.0131 0.0046
 Uranus -67155-06-13 06:13 J -22806777.38 -22806777.24 -22806777.07 0.0132 0.0090
 Pluto -67151-10-10 04:47 J -22805197.44 -22805197.30 -22805197.12 0.0078 0.0053
 Pluto -67150-05-23 13:54 J -22804972.13 -22804971.92 -22804971.70 0.0077 0.0002
 Saturn -67150-12-10 18:57 J -22804770.82 -22804770.71 -22804770.58 0.0299 0.0247
 Pluto -67149-01-03 22:04 J -22804746.71 -22804746.58 -22804746.41 0.0077 0.0054
 Jupiter -67149-07-25 19:54 J -22804542.84 -22804542.67 -22804542.49 0.0523 0.0259
 Saturn -67149-07-27 22:33 J -22804540.63 -22804540.56 -22804540.49 0.0301 0.0282
 Neptune -67147-09-04 06:57 J -22803772.33 -22803772.21 -22803772.06 0.0089 0.0070
 Neptune -67146-04-17 19:40 J -22803546.84 -22803546.68 -22803546.47 0.0089 0.0050
 Neptune -67146-11-29 08:52 J -22803321.32 -22803321.13 -22803320.91 0.0089 0.0029
 Neptune -67145-07-11 22:18 J -22803095.79 -22803095.57 -22803095.35 0.0089 0.0008
 Neptune -67144-02-22 11:16 J -22802870.24 -22802870.03 -22802869.81 0.0089 0.0013
 Neptune -67144-10-06 00:13 J -22802644.68 -22802644.49 -22802644.28 0.0089 0.0033
 Neptune -67143-05-19 13:11 J -22802419.11 -22802418.95 -22802418.76 0.0089 0.0055
 Jupiter -67143-05-26 11:01 J -22802412.18 -22802412.04 -22802411.89 0.0503 0.0357

Neptune -67143-12-31 02:23 J -22802193.50 -22802193.40 -22802193.27 0.0089 0.0075
 Jupiter -67137-03-30 15:49 J -22800277.03 -22800276.84 -22800276.65 0.0522 0.0165
 Saturn -67136-10-09 09:21 J -22799719.28 -22799719.11 -22799718.93 0.0263 0.0146
 Saturn -67135-05-26 07:40 J -22799490.30 -22799490.18 -22799490.05 0.0262 0.0207
 Jupiter -67131-01-29 10:33 J -22798146.26 -22798146.06 -22798145.85 0.0504 0.0030
 Saturn -67120-06-21 23:16 J -22793984.69 -22793984.53 -22793984.37 0.0299 0.0188
 Jupiter -67120-10-04 10:33 J -22793880.18 -22793880.06 -22793879.95 0.0505 0.0414
 Mars -67118-01-08 16:33 J -22793418.97 -22793418.81 -22793418.65 0.1650 0.0599
 Uranus -67116-06-25 04:33 J -22792520.39 -22792520.31 -22792520.21 0.0147 0.0133
 Uranus -67115-02-06 18:57 J -22792293.89 -22792293.71 -22792293.50 0.0147 0.0071
 Uranus -67115-09-21 09:49 J -22792067.31 -22792067.09 -22792066.87 0.0147 0.0007
 Uranus -67114-05-06 00:13 J -22791840.68 -22791840.49 -22791840.28 0.0147 0.0057
 Uranus -67114-12-18 15:06 J -22791613.99 -22791613.87 -22791613.74 0.0147 0.0121
 Jupiter -67113-04-02 11:45 J -22791508.05 -22791508.01 -22791507.98 0.0523 0.0512
 Saturn -67106-04-21 11:16 J -22788933.22 -22788933.03 -22788932.82 0.0263 0.0102
 Saturn -67106-12-06 09:21 J -22788704.15 -22788704.11 -22788704.04 0.0261 0.0251
 Jupiter -67102-12-07 05:16 J -22787242.48 -22787242.28 -22787242.08 0.0522 0.0078
 Jupiter -67096-10-07 01:40 J -22785111.62 -22785111.43 -22785111.25 0.0503 0.0210
 Mars -67091-05-31 10:18 J -22783414.24 -22783414.07 -22783413.90 0.1902 0.0327
 Saturn -67090-01-02 02:23 J -22783198.59 -22783198.40 -22783198.21 0.0299 0.0133
 Jupiter -67090-08-12 00:42 J -22782976.61 -22782976.47 -22782976.31 0.0521 0.0345
 Jupiter -67084-06-11 22:47 J -22780845.74 -22780845.55 -22780845.36 0.0504 0.0187
 Saturn -67077-10-31 13:40 J -22778147.13 -22778146.93 -22778146.72 0.0263 0.0057
 Uranus -67074-08-21 04:47 J -22777123.42 -22777123.30 -22777123.17 0.0131 0.0106
 Uranus -67073-04-03 07:54 J -22776897.35 -22776897.17 -22776896.97 0.0131 0.0062
 Uranus -67073-11-15 11:16 J -22776671.24 -22776671.03 -22776670.81 0.0131 0.0019
 Uranus -67072-06-29 14:23 J -22776445.10 -22776444.90 -22776444.68 0.0131 0.0026
 Uranus -67071-02-10 17:45 J -22776218.94 -22776218.76 -22776218.57 0.0132 0.0069
 Uranus -67071-09-24 20:37 J -22775992.74 -22775992.64 -22775992.52 0.0132 0.0112
 Jupiter -67066-08-14 23:30 J -22774207.67 -22774207.52 -22774207.37 0.0523 0.0345

Neptune -67065-10-25 03:49 J -22773770.40 -22773770.34 -22773770.23 0.0088 0.0081
 Neptune -67064-06-07 17:16 J -22773544.93 -22773544.78 -22773544.61 0.0088 0.0060
 Neptune -67063-01-19 06:13 J -22773319.42 -22773319.24 -22773319.03 0.0088 0.0040
 Neptune -67063-09-01 19:25 J -22773093.90 -22773093.69 -22773093.47 0.0088 0.0020
 Neptune -67062-04-15 08:23 J -22772868.37 -22772868.15 -22772867.93 0.0088 0.0001
 Neptune -67062-11-26 20:52 J -22772642.83 -22772642.63 -22772642.40 0.0088 0.0022
 Neptune -67061-07-09 09:35 J -22772417.28 -22772417.10 -22772416.89 0.0088 0.0042
 Saturn -67061-07-14 04:33 J -22772412.51 -22772412.31 -22772412.10 0.0300 0.0081
 Neptune -67060-02-19 22:33 J -22772191.71 -22772191.56 -22772191.39 0.0088 0.0061
 Jupiter -67060-06-14 12:42 J -22772077.08 -22772076.97 -22772076.87 0.0503 0.0429
 Neptune -67060-10-03 11:16 J -22771966.10 -22771966.03 -22771965.94 0.0088 0.0082
 Moon -67057-03-18 05:59 J -22771069.33 -22771069.25 -22771069.16 0.2638 0.2235
 Jupiter -67054-04-19 17:30 J -22769941.97 -22769941.77 -22769941.57 0.0521 0.0087
 Mars -67053-11-05 03:35 J -22769376.50 -22769376.35 -22769376.21 0.1653 0.0917
 Moon -67049-03-15 19:54 J -22768149.76 -22768149.67 -22768149.57 0.2640 0.2127
 Earth -67049-03-16 01:25 J -22768149.58 -22768149.44 -22768149.30 0.2642 0.1213 *
 Jupiter -67048-02-17 13:11 J -22767811.15 -22767810.95 -22767810.74 0.0504 0.0051
 Saturn -67047-05-13 14:52 J -22767361.10 -22767360.88 -22767360.67 0.0263 0.0017
 Jupiter -67043-12-23 10:47 J -22765676.05 -22765676.05 -22765676.03 0.0520 0.0519
 Jupiter -67037-10-23 13:40 J -22763545.09 -22763544.93 -22763544.78 0.0505 0.0331
 Uranus -67032-10-07 01:40 J -22761735.58 -22761735.43 -22761735.26 0.0147 0.0099
 Saturn -67031-01-24 06:42 J -22761626.43 -22761626.22 -22761626.01 0.0299 0.0031
 Uranus -67031-05-21 16:04 J -22761509.03 -22761508.83 -22761508.61 0.0147 0.0036
 Uranus -67030-01-03 06:57 J -22761282.43 -22761282.21 -22761281.99 0.0147 0.0028
 Uranus -67030-08-17 21:21 J -22761055.76 -22761055.61 -22761055.42 0.0147 0.0093
 Mars -67025-03-27 14:23 J -22759372.06 -22759371.90 -22759371.73 0.1897 0.0441
 Mars -67021-11-04 00:13 J -22757689.59 -22757689.49 -22757689.40 0.1642 0.1368
 Jupiter -67019-12-26 11:16 J -22756907.22 -22756907.03 -22756906.84 0.0523 0.0178
 Saturn -67018-11-23 16:33 J -22756575.03 -22756574.81 -22756574.60 0.0263 0.0027
 Jupiter -67013-10-26 00:42 J -22754776.64 -22754776.47 -22754776.30 0.0503 0.0273

Jupiter -67007-08-31 05:45 J -22752641.44 -22752641.26 -22752641.08 0.0521 0.0252

Saturn -67002-08-06 08:23 J -22750840.36 -22750840.15 -22750839.94 0.0300 0.0020

Jupiter -67001-07-01 00:57 J -22750510.66 -22750510.46 -22750510.26 0.0504 0.0110

67TH MILLENNIUM BCE

This is a list of transits of Venus in the 67th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Pluto	-66990-01-09 02:23 J	-22746666.55	-22746666.40	-22746666.20	0.0067	0.0043		
Uranus	-66990-04-20 16:33 J	-22746564.86	-22746564.81	-22746564.73	0.0131	0.0125		
Pluto	-66990-08-22 08:52 J	-22746441.35	-22746441.13	-22746440.90	0.0067	0.0007		
Uranus	-66990-12-02 19:54 J	-22746338.82	-22746338.67	-22746338.49	0.0131	0.0081		
Jupiter	-66989-03-06 01:40 J	-22746244.47	-22746244.43	-22746244.38	0.0505	0.0489		
Pluto	-66989-04-03 14:37 J	-22746216.08	-22746215.89	-22746215.67	0.0068	0.0031		
Uranus	-66989-07-15 23:30 J	-22746112.72	-22746112.52	-22746112.31	0.0131	0.0038		
Pluto	-66989-11-14 21:06 J	-22745990.62	-22745990.62	-22745990.62	0.0068	0.0068		
Uranus	-66988-02-27 02:52 J	-22745886.59	-22745886.38	-22745886.16	0.0131	0.0006		
Saturn	-66988-06-04 16:47 J	-22745789.01	-22745788.80	-22745788.59	0.0262	0.0064		
Uranus	-66988-10-11 05:45 J	-22745660.45	-22745660.26	-22745660.05	0.0132	0.0050		
Uranus	-66987-05-25 08:52 J	-22745434.27	-22745434.13	-22745433.97	0.0132	0.0093		
Mars	-66987-09-02 14:52 J	-22745333.99	-22745333.88	-22745333.76	0.1656	0.1216		
Jupiter	-66983-09-03 01:40 J	-22743872.54	-22743872.43	-22743872.31	0.0523	0.0425		
Neptune	-66983-12-06 17:59 J	-22743777.85	-22743777.75	-22743777.65	0.0089	0.0079		
Neptune	-66982-07-20 06:28 J	-22743552.38	-22743552.23	-22743552.05	0.0089	0.0058		

Neptune -66981-03-01 19:40 J -22743326.87 -22743326.68 -22743326.48 0.0089 0.0037
 Neptune -66981-10-13 08:37 J -22743101.35 -22743101.14 -22743100.92 0.0089 0.0017
 Neptune -66980-05-26 21:49 J -22742875.81 -22742875.59 -22742875.37 0.0089 0.0004
 Neptune -66979-01-07 10:33 J -22742650.26 -22742650.06 -22742649.84 0.0089 0.0025
 Neptune -66979-08-20 23:30 J -22742424.69 -22742424.52 -22742424.32 0.0089 0.0046
 Neptune -66978-04-03 12:42 J -22742199.11 -22742198.97 -22742198.81 0.0089 0.0066
 Neptune -66978-11-15 01:40 J -22741973.46 -22741973.43 -22741973.37 0.0089 0.0087
 Saturn -66972-02-15 09:35 J -22740054.31 -22740054.10 -22740053.90 0.0300 0.0067
 Jupiter -66971-05-08 21:35 J -22739606.80 -22739606.60 -22739606.40 0.0522 0.0006
 Jupiter -66965-03-08 13:54 J -22737476.12 -22737475.92 -22737475.72 0.0503 0.0119
 Jupiter -66959-01-11 17:16 J -22735340.90 -22735340.78 -22735340.66 0.0521 0.0419
 Mars -66959-01-22 18:13 J -22735329.87 -22735329.74 -22735329.61 0.1892 0.1225
 Saturn -66959-04-30 18:57 J -22735231.76 -22735231.71 -22735231.63 0.0265 0.0251
 Saturn -66959-12-15 17:45 J -22735002.95 -22735002.76 -22735002.56 0.0263 0.0106
 Mars -66955-09-01 11:16 J -22733647.16 -22733647.03 -22733646.89 0.1646 0.1069
 Jupiter -66954-11-12 13:40 J -22733210.10 -22733209.93 -22733209.75 0.0504 0.0263
 Uranus -66948-06-06 08:37 J -22731177.23 -22731177.14 -22731177.00 0.0147 0.0126
 Uranus -66947-01-18 23:16 J -22730950.71 -22730950.53 -22730950.32 0.0147 0.0063
 Uranus -66947-09-02 14:09 J -22730724.13 -22730723.91 -22730723.68 0.0147 0.0003
 Uranus -66946-04-17 04:47 J -22730497.49 -22730497.30 -22730497.10 0.0147 0.0065
 Uranus -66946-11-29 19:11 J -22730270.79 -22730270.70 -22730270.57 0.0147 0.0129
 Saturn -66943-08-28 11:01 J -22729268.23 -22729268.04 -22729267.85 0.0300 0.0116
 Moon -66936-09-12 05:30 J -22726696.37 -22726696.27 -22726696.17 0.2697 0.1963
 Earth -66936-09-12 06:42 J -22726696.29 -22726696.22 -22726696.16 0.2691 0.2421 *
 Jupiter -66935-01-14 14:52 J -22726572.05 -22726571.88 -22726571.71 0.0522 0.0264
 Saturn -66930-11-10 19:25 J -22724445.81 -22724445.69 -22724445.56 0.0264 0.0211
 Jupiter -66930-11-15 04:33 J -22724441.45 -22724441.31 -22724441.16 0.0503 0.0357
 Saturn -66929-06-26 18:13 J -22724216.92 -22724216.74 -22724216.56 0.0262 0.0143
 Earth -66928-09-09 20:52 J -22723776.73 -22723776.63 -22723776.52 0.2693 0.2039
 Moon -66928-09-09 23:59 J -22723776.61 -22723776.50 -22723776.38 0.2698 0.1665 *

Jupiter -66924-09-19 08:23 J -22722306.34 -22722306.15 -22722305.96 0.0521 0.0169
 Mars -66921-06-30 01:54 J -22721291.49 -22721291.42 -22721291.36 0.1660 0.1540
 Jupiter -66918-07-21 05:01 J -22720175.49 -22720175.29 -22720175.08 0.0504 0.0025
 Saturn -66913-03-09 12:28 J -22718482.15 -22718481.98 -22718481.80 0.0300 0.0164
 Jupiter -66906-03-26 03:06 J -22715909.48 -22715909.37 -22715909.25 0.0504 0.0416
 Uranus -66906-08-02 07:40 J -22715780.30 -22715780.18 -22715780.02 0.0131 0.0101
 Uranus -66905-03-15 11:30 J -22715554.22 -22715554.02 -22715553.83 0.0131 0.0057
 Uranus -66905-10-27 14:37 J -22715328.10 -22715327.89 -22715327.67 0.0131 0.0013
 Pluto -66905-11-07 08:37 J -22715317.18 -22715317.14 -22715317.03 0.0078 0.0073
 Uranus -66904-06-10 17:30 J -22715101.97 -22715101.77 -22715101.55 0.0131 0.0031
 Pluto -66904-06-20 17:59 J -22715091.96 -22715091.75 -22715091.54 0.0077 0.0018
 Uranus -66903-01-22 20:37 J -22714875.80 -22714875.64 -22714875.44 0.0131 0.0074
 Pluto -66903-02-01 02:23 J -22714866.58 -22714866.40 -22714866.19 0.0077 0.0035
 Uranus -66903-09-05 23:30 J -22714649.59 -22714649.52 -22714649.40 0.0131 0.0117
 Saturn -66900-05-22 20:37 J -22713659.81 -22713659.64 -22713659.48 0.0264 0.0171
 Neptune -66900-09-09 03:06 J -22713550.49 -22713550.37 -22713550.21 0.0088 0.0069
 Saturn -66899-01-06 18:57 J -22713430.85 -22713430.71 -22713430.55 0.0263 0.0185
 Neptune -66899-04-22 16:33 J -22713324.99 -22713324.81 -22713324.62 0.0088 0.0049
 Neptune -66899-12-04 05:30 J -22713099.47 -22713099.27 -22713099.06 0.0088 0.0028
 Neptune -66898-07-17 18:28 J -22712873.94 -22712873.73 -22712873.50 0.0088 0.0008
 Neptune -66897-02-28 07:25 J -22712648.41 -22712648.19 -22712647.97 0.0088 0.0012
 Neptune -66897-10-10 20:09 J -22712422.86 -22712422.66 -22712422.45 0.0088 0.0033
 Neptune -66896-05-24 08:37 J -22712197.29 -22712197.14 -22712196.94 0.0088 0.0053
 Neptune -66895-01-04 21:35 J -22711971.70 -22711971.60 -22711971.46 0.0088 0.0073
 Mars -66889-06-28 22:33 J -22709604.71 -22709604.56 -22709604.40 0.1649 0.0771
 Jupiter -66888-05-28 02:52 J -22709271.58 -22709271.38 -22709271.18 0.0522 0.0097
 Saturn -66884-09-19 14:23 J -22707696.04 -22707695.90 -22707695.75 0.0300 0.0216
 Jupiter -66882-03-28 16:33 J -22707140.99 -22707140.81 -22707140.62 0.0503 0.0198
 Jupiter -66876-01-30 21:06 J -22705005.78 -22705005.62 -22705005.47 0.0521 0.0332
 Jupiter -66871-12-01 17:01 J -22702874.97 -22702874.79 -22702874.59 0.0504 0.0182

Saturn -66871-12-02 20:37 J -22702873.82 -22702873.64 -22702873.45 0.0264 0.0132
 Saturn -66870-07-19 19:40 J -22702644.79 -22702644.68 -22702644.57 0.0262 0.0222
 Uranus -66864-09-18 05:30 J -22700392.43 -22700392.27 -22700392.09 0.0148 0.0091
 Uranus -66863-05-02 20:09 J -22700165.87 -22700165.66 -22700165.44 0.0148 0.0028
 Uranus -66863-12-15 10:47 J -22699939.26 -22699939.05 -22699938.83 0.0147 0.0036
 Uranus -66862-07-30 01:40 J -22699712.58 -22699712.43 -22699712.26 0.0147 0.0100
 Saturn -66855-08-14 13:11 J -22697140.05 -22697139.95 -22697139.84 0.0298 0.0258
 Saturn -66854-04-01 16:18 J -22696909.92 -22696909.82 -22696909.73 0.0300 0.0265
 Jupiter -66852-02-02 18:28 J -22696236.88 -22696236.73 -22696236.58 0.0523 0.0352
 Jupiter -66847-12-04 05:30 J -22694106.37 -22694106.27 -22694106.16 0.0502 0.0426
 Saturn -66841-06-13 22:18 J -22692087.76 -22692087.57 -22692087.36 0.0264 0.0089
 Jupiter -66841-10-08 13:40 J -22691971.13 -22691970.93 -22691970.73 0.0522 0.0075
 Jupiter -66835-08-09 05:30 J -22689840.47 -22689840.27 -22689840.06 0.0503 0.0045
 Jupiter -66829-06-13 07:40 J -22687705.22 -22687705.18 -22687705.12 0.0521 0.0504
 Saturn -66825-02-24 16:33 J -22686353.96 -22686353.81 -22686353.65 0.0298 0.0200
 Jupiter -66823-04-14 05:16 J -22685574.43 -22685574.28 -22685574.13 0.0504 0.0340
 Mars -66823-04-26 09:35 J -22685562.27 -22685562.10 -22685561.93 0.1652 0.0458
 Uranus -66822-04-01 19:54 J -22685221.75 -22685221.67 -22685221.57 0.0131 0.0119
 Uranus -66822-11-13 23:16 J -22684995.70 -22684995.53 -22684995.35 0.0131 0.0075
 Uranus -66821-06-27 02:37 J -22684769.60 -22684769.39 -22684769.18 0.0131 0.0032
 Uranus -66820-02-08 05:59 J -22684543.46 -22684543.25 -22684543.03 0.0131 0.0011
 Uranus -66820-09-22 08:52 J -22684317.31 -22684317.13 -22684316.92 0.0131 0.0054
 Uranus -66819-05-06 11:45 J -22684091.14 -22684091.01 -22684090.85 0.0131 0.0097
 Neptune -66818-03-10 03:21 J -22683783.37 -22683783.36 -22683783.30 0.0089 0.0088
 Neptune -66818-10-21 16:33 J -22683557.94 -22683557.81 -22683557.66 0.0089 0.0067
 Neptune -66817-06-03 05:16 J -22683332.45 -22683332.28 -22683332.07 0.0089 0.0047
 Neptune -66816-01-14 18:28 J -22683106.93 -22683106.73 -22683106.51 0.0089 0.0026
 Neptune -66816-08-28 07:25 J -22682881.40 -22682881.19 -22682880.97 0.0089 0.0006
 Neptune -66815-04-10 20:23 J -22682655.86 -22682655.65 -22682655.43 0.0089 0.0015
 Neptune -66815-11-22 09:06 J -22682430.31 -22682430.12 -22682429.91 0.0089 0.0036

Neptune -66814-07-05 22:04 J -22682204.73 -22682204.58 -22682204.39 0.0089 0.0057
 Neptune -66813-02-16 11:01 J -22681979.12 -22681979.04 -22681978.91 0.0089 0.0078
 Saturn -66812-12-24 23:16 J -22681301.74 -22681301.53 -22681301.32 0.0264 0.0048
 Earth -66806-03-17 03:35 J -22679393.49 -22679393.35 -22679393.21 0.2641 0.1129
 Moon -66806-03-17 07:40 J -22679393.33 -22679393.18 -22679393.03 0.2645 0.0658 *
 Jupiter -66805-06-16 04:18 J -22678936.51 -22678936.32 -22678936.13 0.0522 0.0174
 Jupiter -66799-04-16 19:40 J -22676805.85 -22676805.68 -22676805.51 0.0503 0.0279
 Saturn -66796-09-05 19:54 J -22675567.85 -22675567.67 -22675567.48 0.0298 0.0145
 Mars -66796-09-15 21:35 J -22675557.72 -22675557.60 -22675557.48 0.1898 0.1345
 Jupiter -66793-02-19 23:16 J -22674670.70 -22674670.53 -22674670.35 0.0521 0.0251
 Jupiter -66788-12-20 18:13 J -22672539.94 -22672539.74 -22672539.54 0.0503 0.0112
 Saturn -66782-07-07 01:25 J -22670515.65 -22670515.44 -22670515.22 0.0264 0.0005
 Uranus -66780-05-18 09:21 J -22669834.22 -22669834.11 -22669833.97 0.0148 0.0122
 Uranus -66780-12-30 23:59 J -22669607.69 -22669607.50 -22669607.29 0.0148 0.0059
 Uranus -66779-08-14 14:52 J -22669381.10 -22669380.88 -22669380.66 0.0148 0.0005
 Uranus -66778-03-29 05:30 J -22669154.45 -22669154.27 -22669154.06 0.0147 0.0068
 Uranus -66778-11-10 20:23 J -22668927.74 -22668927.65 -22668927.54 0.0147 0.0132
 Jupiter -66776-08-25 18:13 J -22668273.77 -22668273.74 -22668273.69 0.0504 0.0493
 Jupiter -66769-02-22 21:35 J -22665901.71 -22665901.60 -22665901.49 0.0523 0.0433
 Saturn -66766-03-19 00:13 J -22664781.69 -22664781.49 -22664781.28 0.0298 0.0083
 Jupiter -66764-12-23 06:42 J -22663771.24 -22663771.22 -22663771.18 0.0502 0.0496
 Jupiter -66758-10-28 15:35 J -22661636.05 -22661635.85 -22661635.65 0.0522 0.0003
 Mars -66757-02-21 20:37 J -22661519.81 -22661519.64 -22661519.46 0.1655 0.0148
 Saturn -66752-01-16 03:35 J -22659729.56 -22659729.35 -22659729.14 0.0264 0.0042
 Jupiter -66752-08-28 06:57 J -22659505.41 -22659505.21 -22659505.01 0.0503 0.0116
 Jupiter -66746-07-03 08:23 J -22657370.26 -22657370.15 -22657370.04 0.0521 0.0432
 Pluto -66744-02-06 07:54 J -22656786.28 -22656786.17 -22656786.01 0.0067 0.0054
 Pluto -66744-09-19 14:09 J -22656561.12 -22656560.91 -22656560.68 0.0067 0.0018
 Pluto -66743-05-02 20:09 J -22656335.87 -22656335.66 -22656335.44 0.0068 0.0020
 Pluto -66743-12-14 01:54 J -22656110.52 -22656110.42 -22656110.28 0.0068 0.0057

Jupiter -66740-05-03 07:11 J -22655239.38 -22655239.20 -22655239.03 0.0504 0.0266
 Uranus -66738-07-14 11:01 J -22654437.18 -22654437.04 -22654436.88 0.0131 0.0094
 Uranus -66737-02-25 14:23 J -22654211.09 -22654210.90 -22654210.69 0.0131 0.0052
 Saturn -66737-09-28 05:30 J -22653995.48 -22653995.27 -22653995.05 0.0298 0.0021
 Uranus -66737-10-08 17:45 J -22653984.97 -22653984.76 -22653984.54 0.0131 0.0008
 Uranus -66736-05-22 20:37 J -22653758.83 -22653758.64 -22653758.42 0.0131 0.0036
 Neptune -66736-12-11 12:42 J -22653556.06 -22653555.97 -22653555.86 0.0088 0.0079
 Uranus -66735-01-03 23:45 J -22653532.67 -22653532.51 -22653532.33 0.0131 0.0078
 Neptune -66735-07-25 01:40 J -22653330.58 -22653330.43 -22653330.25 0.0088 0.0058
 Uranus -66735-08-18 02:52 J -22653306.45 -22653306.38 -22653306.29 0.0131 0.0120
 Neptune -66734-03-07 15:06 J -22653105.07 -22653104.87 -22653104.67 0.0088 0.0038
 Neptune -66734-10-19 03:49 J -22652879.55 -22652879.34 -22652879.11 0.0088 0.0018
 Neptune -66733-05-31 17:01 J -22652654.01 -22652653.79 -22652653.57 0.0088 0.0003
 Neptune -66732-01-12 05:59 J -22652428.46 -22652428.25 -22652428.03 0.0088 0.0024
 Neptune -66732-08-25 18:57 J -22652202.90 -22652202.71 -22652202.51 0.0088 0.0044
 Neptune -66731-04-08 07:25 J -22651977.32 -22651977.19 -22651977.02 0.0088 0.0064
 Neptune -66731-11-19 20:09 J -22651751.70 -22651751.66 -22651751.58 0.0088 0.0085
 Mars -66730-07-14 01:54 J -22651515.59 -22651515.42 -22651515.26 0.1893 0.0593
 Saturn -66723-07-29 06:28 J -22648943.43 -22648943.23 -22648943.03 0.0264 0.0091
 Jupiter -66722-07-06 06:13 J -22648601.41 -22648601.24 -22648601.06 0.0523 0.0251
 Jupiter -66716-05-05 18:42 J -22646470.87 -22646470.72 -22646470.57 0.0502 0.0338
 Jupiter -66710-03-11 00:28 J -22644335.67 -22644335.48 -22644335.28 0.0522 0.0180
 Saturn -66707-04-10 12:28 J -22643209.19 -22643208.98 -22643208.78 0.0298 0.0052
 Jupiter -66704-01-08 17:59 J -22642204.96 -22642204.75 -22642204.55 0.0503 0.0050
 Uranus -66696-08-30 02:09 J -22639049.56 -22639049.41 -22639049.22 0.0148 0.0093
 Uranus -66695-04-13 17:01 J -22638823.00 -22638822.79 -22638822.57 0.0148 0.0029
 Uranus -66695-11-26 07:40 J -22638596.38 -22638596.18 -22638595.95 0.0148 0.0035
 Saturn -66694-06-24 09:35 J -22638386.20 -22638386.10 -22638385.97 0.0266 0.0222
 Uranus -66694-07-10 22:47 J -22638369.71 -22638369.55 -22638369.38 0.0148 0.0098
 Saturn -66693-02-08 09:35 J -22638157.28 -22638157.10 -22638156.92 0.0264 0.0139

Earth -66693-09-12 06:13 J -22637940.33 -22637940.24 -22637940.15 0.2692 0.2154
 Jupiter -66693-09-13 17:45 J -22637938.86 -22637938.76 -22637938.66 0.0505 0.0432
 Mars -66692-12-19 07:40 J -22637477.36 -22637477.18 -22637477.01 0.1659 0.0173
 Jupiter -66686-03-13 20:23 J -22635566.72 -22635566.65 -22635566.59 0.0523 0.0494
 Earth -66685-09-09 20:52 J -22635020.72 -22635020.63 -22635020.55 0.2695 0.2273
 Moon -66685-09-09 19:54 J -22635020.70 -22635020.67 -22635020.63 0.2688 0.2600 *
 Saturn -66678-10-21 18:42 J -22632422.90 -22632422.72 -22632422.52 0.0299 0.0121
 Jupiter -66675-11-16 14:37 J -22631301.10 -22631300.89 -22631300.69 0.0522 0.0066
 Jupiter -66669-09-16 05:59 J -22629170.44 -22629170.25 -22629170.06 0.0503 0.0174
 Saturn -66664-01-03 13:25 J -22627600.09 -22627599.94 -22627599.76 0.0266 0.0170
 Mars -66664-05-10 05:59 J -22627473.42 -22627473.25 -22627473.08 0.1888 0.0171
 Saturn -66664-08-20 13:25 J -22627371.08 -22627370.94 -22627370.79 0.0264 0.0191
 Jupiter -66663-07-22 07:40 J -22627035.32 -22627035.18 -22627035.04 0.0522 0.0371
 Pluto -66658-07-20 00:13 J -22625211.68 -22625211.49 -22625211.28 0.0077 0.0029
 Pluto -66657-03-01 09:06 J -22624986.32 -22624986.12 -22624985.91 0.0077 0.0024
 Jupiter -66657-05-22 05:45 J -22624904.45 -22624904.26 -22624904.08 0.0503 0.0209
 Pluto -66657-10-12 17:16 J -22624760.78 -22624760.78 -22624760.75 0.0077 0.0077
 Uranus -66654-03-13 23:01 J -22623878.63 -22623878.54 -22623878.41 0.0131 0.0113
 Uranus -66654-10-26 02:37 J -22623652.56 -22623652.39 -22623652.20 0.0131 0.0070
 Neptune -66653-01-23 02:37 J -22623563.50 -22623563.39 -22623563.28 0.0089 0.0076
 Uranus -66653-06-08 05:59 J -22623426.46 -22623426.25 -22623426.04 0.0131 0.0027
 Neptune -66653-09-04 15:06 J -22623338.03 -22623337.87 -22623337.69 0.0089 0.0056
 Uranus -66652-01-20 09:21 J -22623200.32 -22623200.11 -22623199.89 0.0131 0.0016
 Neptune -66652-04-18 04:04 J -22623112.53 -22623112.33 -22623112.12 0.0089 0.0036
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 Neptune -66652-11-29 16:47 J -22622887.01 -22622886.80 -22622886.57 0.0089 0.0015
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 Neptune -66649-12-31 09:49 J -22621759.11 -22621759.09 -22621759.07 0.0089 0.0088
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 Saturn -66634-03-02 17:30 J -22616584.84 -22616584.77 -22616584.68 0.0264 0.0242
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 Mars -66626-10-16 18:28 J -22613434.90 -22613434.73 -22613434.56 0.1662 0.0492
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 Uranus -66612-12-11 20:37 J -22608264.83 -22608264.64 -22608264.43 0.0148 0.0061
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 Pluto -66498-10-18 22:18 J -22566680.78 -22566680.57 -22566680.35 0.0067 0.0021
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 Jupiter -66491-06-29 22:18 J -22564234.77 -22564234.57 -22564234.37 0.0503 0.0116
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 Jupiter -66473-08-31 19:54 J -22557596.80 -22557596.67 -22557596.54 0.0523 0.0398
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Saturn -66311-10-03 08:23 J -22498394.32 -22498394.15 -22498393.97 0.0264 0.0154
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 Saturn -66282-08-29 13:54 J -22487837.09 -22487836.92 -22487836.74 0.0266 0.0152
 Saturn -66281-04-14 13:25 J -22487608.07 -22487607.94 -22487607.81 0.0264 0.0207
 Jupiter -66278-12-18 21:49 J -22486264.78 -22486264.59 -22486264.40 0.0504 0.0200
 Uranus -66276-03-22 17:16 J -22485804.94 -22485804.78 -22485804.63 0.0148 0.0104
 Uranus -66276-11-04 07:40 J -22485578.38 -22485578.18 -22485577.96 0.0148 0.0042
 Uranus -66275-06-18 22:33 J -22485351.78 -22485351.56 -22485351.34 0.0148 0.0021
 Uranus -66274-01-31 13:25 J -22485125.12 -22485124.94 -22485124.75 0.0148 0.0084
 Uranus -66274-09-15 04:18 J -22484898.33 -22484898.32 -22484898.29 0.0148 0.0147
 Saturn -66266-12-27 00:13 J -22481873.63 -22481873.49 -22481873.33 0.0299 0.0203
 Mars -66265-11-28 22:04 J -22481535.75 -22481535.58 -22481535.41 0.1668 0.0248
 Jupiter -66259-02-19 20:52 J -22479626.79 -22479626.63 -22479626.47 0.0522 0.0314
 Jupiter -66254-12-21 11:16 J -22477496.14 -22477496.03 -22477495.90 0.0503 0.0411
 Saturn -66252-03-10 17:59 J -22477050.94 -22477050.75 -22477050.55 0.0265 0.0100
 Pluto -66252-04-04 23:59 J -22477025.57 -22477025.50 -22477025.37 0.0067 0.0060
 Saturn -66252-10-25 17:16 J -22476821.81 -22476821.78 -22476821.73 0.0263 0.0258
 Pluto -66252-11-16 06:13 J -22476800.44 -22476800.24 -22476800.02 0.0067 0.0023
 Pluto -66251-06-29 12:28 J -22476575.20 -22476574.98 -22476574.76 0.0068 0.0014
 Pluto -66250-02-09 17:59 J -22476349.87 -22476349.75 -22476349.58 0.0068 0.0052
 Jupiter -66248-10-25 13:11 J -22475361.15 -22475360.95 -22475360.75 0.0521 0.0121
 Jupiter -66242-08-26 11:45 J -22473230.22 -22473230.01 -22473229.81 0.0504 0.0033
 Neptune -66242-12-12 14:37 J -22473122.00 -22473121.89 -22473121.73 0.0088 0.0071
 Neptune -66241-07-25 04:04 J -22472896.51 -22472896.33 -22472896.14 0.0088 0.0050
 Neptune -66240-03-07 17:01 J -22472670.99 -22472670.79 -22472670.57 0.0088 0.0029

Neptune -66240-10-19 06:13 J -22472445.46 -22472445.24 -22472445.02 0.0088 0.0009
 Neptune -66239-06-01 19:11 J -22472219.92 -22472219.70 -22472219.48 0.0088 0.0012
 Neptune -66238-01-13 08:09 J -22471994.36 -22471994.16 -22471993.95 0.0088 0.0032
 Neptune -66238-08-26 20:52 J -22471768.79 -22471768.63 -22471768.43 0.0088 0.0053
 Neptune -66237-04-08 09:49 J -22471543.20 -22471543.09 -22471542.95 0.0088 0.0073
 Mars -66237-04-19 02:52 J -22471532.55 -22471532.38 -22471532.22 0.1875 0.0581
 Saturn -66237-11-20 03:35 J -22471317.46 -22471317.35 -22471317.23 0.0296 0.0248
 Saturn -66236-07-08 05:59 J -22471087.34 -22471087.25 -22471087.15 0.0298 0.0267
 Uranus -66235-10-04 23:59 J -22470633.60 -22470633.50 -22470633.38 0.0131 0.0112
 Uranus -66234-05-19 03:21 J -22470407.53 -22470407.36 -22470407.16 0.0131 0.0070
 Uranus -66234-12-31 06:57 J -22470181.42 -22470181.21 -22470181.00 0.0131 0.0027
 Uranus -66233-08-13 10:18 J -22469955.29 -22469955.07 -22469954.86 0.0131 0.0015
 Uranus -66232-03-27 13:25 J -22469729.14 -22469728.94 -22469728.75 0.0131 0.0057
 Uranus -66232-11-08 16:18 J -22469502.96 -22469502.82 -22469502.68 0.0131 0.0099
 Jupiter -66230-05-01 08:52 J -22468964.27 -22468964.13 -22468963.98 0.0504 0.0362
 Saturn -66223-09-20 22:18 J -22466264.78 -22466264.57 -22466264.36 0.0265 0.0049
 Jupiter -66212-07-03 06:57 J -22462326.41 -22462326.21 -22462326.02 0.0522 0.0139
 Saturn -66207-06-02 08:09 J -22460531.32 -22460531.16 -22460530.99 0.0297 0.0188
 Earth -66207-09-13 05:59 J -22460428.38 -22460428.25 -22460428.13 0.2695 0.1676
 Moon -66207-09-13 11:45 J -22460428.11 -22460428.01 -22460427.91 0.2696 0.2110
 Jupiter -66206-05-03 21:21 J -22460195.78 -22460195.61 -22460195.43 0.0503 0.0244
 Jupiter -66200-03-08 00:13 J -22458060.66 -22458060.49 -22458060.32 0.0521 0.0290
 Moon -66199-09-11 00:57 J -22457508.54 -22457508.46 -22457508.38 0.2692 0.2340
 Mars -66199-09-26 08:52 J -22457493.30 -22457493.13 -22457492.96 0.1672 0.0084
 Jupiter -66194-01-06 22:18 J -22455929.76 -22455929.57 -22455929.37 0.0504 0.0132
 Saturn -66193-04-02 01:11 J -22455478.66 -22455478.45 -22455478.24 0.0265 0.0002
 Uranus -66193-11-19 20:52 J -22455246.70 -22455246.63 -22455246.53 0.0148 0.0135
 Uranus -66192-07-04 11:45 J -22455020.19 -22455020.01 -22455019.81 0.0148 0.0073
 Uranus -66191-02-16 02:37 J -22454793.61 -22454793.39 -22454793.17 0.0148 0.0010
 Uranus -66191-09-30 17:16 J -22454566.98 -22454566.78 -22454566.57 0.0148 0.0053

Uranus -66190-05-15 07:54 J -22454340.29 -22454340.17 -22454340.02 0.0148 0.0116
 Saturn -66178-12-13 11:45 J -22449745.19 -22449745.01 -22449744.81 0.0297 0.0133
 Jupiter -66176-03-10 21:35 J -22449291.73 -22449291.60 -22449291.46 0.0523 0.0387
 Mars -66171-02-14 07:40 J -22447490.30 -22447490.18 -22447490.05 0.1870 0.1282
 Jupiter -66170-01-09 09:06 J -22447161.19 -22447161.12 -22447161.04 0.0502 0.0464
 Pluto -66166-09-15 19:11 J -22445450.89 -22445450.70 -22445450.50 0.0077 0.0031
 Pluto -66165-04-28 03:35 J -22445225.55 -22445225.35 -22445225.13 0.0077 0.0023
 Jupiter -66165-11-13 17:16 J -22445025.99 -22445025.78 -22445025.58 0.0522 0.0034
 Pluto -66165-12-09 11:59 J -22445000.03 -22445000.00 -22444999.95 0.0077 0.0075
 Saturn -66164-10-13 04:33 J -22444692.52 -22444692.31 -22444692.10 0.0265 0.0047
 Neptune -66160-06-11 16:47 J -22443354.81 -22443354.80 -22443354.74 0.0089 0.0088
 Neptune -66159-01-23 05:59 J -22443129.38 -22443129.25 -22443129.10 0.0089 0.0067
 Neptune -66159-09-05 18:42 J -22442903.89 -22442903.72 -22442903.52 0.0089 0.0047
 Jupiter -66159-09-14 09:06 J -22442895.32 -22442895.12 -22442894.92 0.0503 0.0086
 Neptune -66158-04-19 07:40 J -22442678.38 -22442678.18 -22442677.97 0.0089 0.0026
 Neptune -66158-11-30 20:37 J -22442452.86 -22442452.64 -22442452.42 0.0089 0.0005
 Neptune -66157-07-13 09:35 J -22442227.31 -22442227.10 -22442226.88 0.0089 0.0015
 Neptune -66156-02-23 22:18 J -22442001.76 -22442001.57 -22442001.36 0.0089 0.0036
 Neptune -66156-10-07 11:01 J -22441776.19 -22441776.04 -22441775.85 0.0089 0.0057
 Neptune -66155-05-21 00:13 J -22441550.59 -22441550.49 -22441550.38 0.0089 0.0077
 Jupiter -66153-07-19 11:01 J -22440760.13 -22440760.04 -22440759.95 0.0521 0.0460
 Uranus -66151-06-04 13:25 J -22440074.96 -22440074.94 -22440074.89 0.0131 0.0129
 Uranus -66150-01-16 17:16 J -22439848.94 -22439848.78 -22439848.61 0.0131 0.0086
 Uranus -66150-08-30 20:37 J -22439622.84 -22439622.64 -22439622.43 0.0131 0.0044
 Uranus -66149-04-12 23:59 J -22439396.72 -22439396.50 -22439396.29 0.0131 0.0003
 Uranus -66149-11-25 02:37 J -22439170.58 -22439170.39 -22439170.17 0.0131 0.0041
 Saturn -66148-06-24 14:52 J -22438959.08 -22438958.88 -22438958.67 0.0297 0.0078
 Uranus -66148-07-09 05:59 J -22438944.42 -22438944.25 -22438944.08 0.0131 0.0082
 Uranus -66147-02-20 08:52 J -22438718.19 -22438718.13 -22438718.06 0.0131 0.0124
 Jupiter -66147-05-20 09:21 J -22438629.27 -22438629.11 -22438628.95 0.0505 0.0294

Saturn -66134-04-25 06:13 J -22433906.44 -22433906.24 -22433906.04 0.0264 0.0091
 Mars -66133-07-23 19:54 J -22433450.84 -22433450.67 -22433450.50 0.1675 0.0409
 Jupiter -66129-07-22 07:25 J -22431991.38 -22431991.19 -22431991.01 0.0522 0.0211
 Jupiter -66123-05-22 23:45 J -22429860.66 -22429860.51 -22429860.35 0.0503 0.0322
 Saturn -66118-01-04 17:59 J -22428172.96 -22428172.75 -22428172.54 0.0297 0.0025
 Jupiter -66117-03-27 02:23 J -22427725.59 -22427725.40 -22427725.21 0.0521 0.0210
 Jupiter -66111-01-25 21:35 J -22425594.80 -22425594.60 -22425594.39 0.0504 0.0070
 Uranus -66108-03-03 15:35 J -22424461.99 -22424461.85 -22424461.68 0.0148 0.0104
 Uranus -66108-10-16 06:28 J -22424235.44 -22424235.23 -22424235.02 0.0148 0.0041
 Uranus -66107-05-30 21:06 J -22424008.83 -22424008.62 -22424008.40 0.0148 0.0022
 Uranus -66106-01-12 11:59 J -22423782.17 -22423782.00 -22423781.81 0.0148 0.0084
 Uranus -66106-08-27 02:52 J -22423555.39 -22423555.38 -22423555.34 0.0148 0.0147
 Saturn -66105-03-20 08:52 J -22423349.24 -22423349.13 -22423349.01 0.0267 0.0225
 Saturn -66105-11-04 08:23 J -22423120.32 -22423120.15 -22423119.96 0.0265 0.0137
 Jupiter -66100-09-30 22:04 J -22421328.67 -22421328.58 -22421328.49 0.0505 0.0447
 Jupiter -66093-03-30 02:09 J -22418956.49 -22418956.41 -22418956.33 0.0523 0.0475
 Saturn -66089-07-16 19:25 J -22417386.90 -22417386.69 -22417386.48 0.0297 0.0025
 Jupiter -66082-12-03 19:54 J -22414690.87 -22414690.67 -22414690.47 0.0522 0.0049
 Neptune -66077-03-14 22:04 J -22413127.66 -22413127.58 -22413127.49 0.0088 0.0082
 Earth -66077-03-17 10:18 J -22413125.22 -22413125.07 -22413124.92 0.2637 0.0831
 Moon -66077-03-17 13:25 J -22413125.11 -22413124.94 -22413124.77 0.2632 0.0329 *
 Neptune -66077-10-26 10:47 J -22412902.19 -22412902.05 -22412901.87 0.0088 0.0062
 Neptune -66076-06-08 23:59 J -22412676.68 -22412676.50 -22412676.29 0.0088 0.0041
 Saturn -66076-09-30 09:35 J -22412563.24 -22412563.10 -22412562.94 0.0266 0.0184
 Jupiter -66076-10-03 11:45 J -22412560.20 -22412560.01 -22412559.81 0.0504 0.0165
 Neptune -66075-01-20 13:25 J -22412451.15 -22412450.94 -22412450.72 0.0088 0.0020
 Saturn -66075-05-17 09:21 J -22412334.26 -22412334.11 -22412333.95 0.0264 0.0176
 Neptune -66075-09-03 02:23 J -22412225.62 -22412225.40 -22412225.17 0.0088 0.0001
 Neptune -66074-04-16 15:21 J -22412000.07 -22411999.86 -22411999.64 0.0088 0.0020
 Neptune -66074-11-28 04:18 J -22411774.51 -22411774.32 -22411774.12 0.0088 0.0041

Neptune -66073-07-10 16:47 J -22411548.94 -22411548.80 -22411548.62 0.0088 0.0062
 Neptune -66072-02-21 05:45 J -22411323.32 -22411323.26 -22411323.16 0.0088 0.0082
 Jupiter -66070-08-08 12:42 J -22410425.11 -22410424.97 -22410424.83 0.0521 0.0382
 Mars -66067-05-21 05:59 J -22409408.40 -22409408.25 -22409408.09 0.1679 0.0758
 Uranus -66067-09-16 06:28 J -22409290.35 -22409290.23 -22409290.09 0.0131 0.0103
 Uranus -66066-04-30 09:49 J -22409064.27 -22409064.09 -22409063.89 0.0131 0.0061
 Uranus -66066-12-12 13:11 J -22408838.16 -22408837.95 -22408837.73 0.0131 0.0019
 Uranus -66065-07-25 16:18 J -22408612.03 -22408611.82 -22408611.60 0.0131 0.0023
 Uranus -66064-03-08 19:11 J -22408385.87 -22408385.70 -22408385.50 0.0131 0.0066
 Jupiter -66064-06-08 12:42 J -22408294.15 -22408293.97 -22408293.78 0.0504 0.0211
 Uranus -66064-10-20 22:18 J -22408159.68 -22408159.57 -22408159.44 0.0131 0.0107
 Saturn -66059-01-26 21:35 J -22406600.81 -22406600.60 -22406600.40 0.0297 0.0074
 Saturn -66046-04-12 11:16 J -22401777.20 -22401777.03 -22401776.84 0.0267 0.0141
 Jupiter -66046-08-11 13:25 J -22401656.10 -22401655.94 -22401655.77 0.0523 0.0309
 Saturn -66046-11-27 11:01 J -22401548.15 -22401548.04 -22401547.92 0.0264 0.0220
 Jupiter -66040-06-10 23:30 J -22399525.64 -22399525.52 -22399525.38 0.0503 0.0386
 Mars -66035-05-20 04:18 J -22397721.34 -22397721.32 -22397721.29 0.1667 0.1650
 Jupiter -66034-04-16 07:40 J -22397390.38 -22397390.18 -22397389.98 0.0522 0.0118
 Saturn -66030-08-08 23:01 J -22395814.73 -22395814.54 -22395814.35 0.0298 0.0124
 Jupiter -66028-02-14 00:13 J -22395259.70 -22395259.49 -22395259.29 0.0504 0.0012
 Uranus -66025-10-31 20:09 J -22393903.75 -22393903.66 -22393903.57 0.0148 0.0134
 Uranus -66024-06-15 10:18 J -22393677.25 -22393677.07 -22393676.87 0.0148 0.0073
 Uranus -66023-01-28 01:11 J -22393450.67 -22393450.45 -22393450.23 0.0148 0.0010
 Uranus -66023-09-11 16:04 J -22393224.04 -22393223.83 -22393223.63 0.0148 0.0052
 Uranus -66022-04-26 06:28 J -22392997.35 -22392997.23 -22392997.08 0.0148 0.0115
 Jupiter -66017-10-20 00:57 J -22390993.59 -22390993.46 -22390993.31 0.0505 0.0368
 Saturn -66017-10-22 11:30 J -22390991.20 -22390991.02 -22390990.81 0.0266 0.0103
 Saturn -66016-06-08 11:30 J -22390762.06 -22390762.02 -22390761.98 0.0264 0.0257
 Mars -66008-10-08 10:33 J -22387718.19 -22387718.06 -22387717.93 0.1876 0.1205
 Pluto -66006-05-04 10:47 J -22387145.15 -22387145.05 -22387144.90 0.0067 0.0056

Pluto -66006-12-15 17:01 J -22386920.00 -22386919.79 -22386919.57 0.0067 0.0019

Pluto -66005-07-27 23:16 J -22386694.75 -22386694.53 -22386694.31 0.0068 0.0019

Pluto -66004-03-10 05:01 J -22386469.39 -22386469.29 -22386469.15 0.0068 0.0057

Mars -66001-03-17 16:47 J -22385365.93 -22385365.80 -22385365.66 0.1683 0.1094

66TH MILLENNIUM BCE

This is a list of transits of Venus in the 66th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-66000-02-18 00:28 J	-22385028.64	-22385028.48	-22385028.30	0.0297	0.0172		
Jupiter	-65999-12-22 23:45 J	-22384355.71	-22384355.51	-22384355.31	0.0522	0.0137		
Neptune	-65995-04-26 13:25 J	-22383135.02	-22383134.94	-22383134.82	0.0089	0.0079		
Neptune	-65995-12-08 02:23 J	-22382909.55	-22382909.40	-22382909.22	0.0089	0.0058		
Neptune	-65994-07-21 15:06 J	-22382684.05	-22382683.87	-22382683.65	0.0089	0.0038		
Neptune	-65993-03-03 04:18 J	-22382458.53	-22382458.32	-22382458.10	0.0089	0.0017		
Neptune	-65993-10-14 17:16 J	-22382233.00	-22382232.78	-22382232.56	0.0089	0.0004		
Jupiter	-65993-10-22 12:57 J	-22382225.14	-22382224.96	-22382224.78	0.0503	0.0234		
Neptune	-65992-05-28 06:13 J	-22382007.45	-22382007.24	-22382007.03	0.0089	0.0024		
Neptune	-65991-01-08 18:57 J	-22381781.89	-22381781.71	-22381781.51	0.0089	0.0045		
Neptune	-65991-08-22 07:40 J	-22381556.31	-22381556.18	-22381556.01	0.0089	0.0066		
Neptune	-65990-04-04 21:06 J	-22381330.67	-22381330.62	-22381330.57	0.0089	0.0086		
Saturn	-65987-05-04 12:57 J	-22380205.17	-22380204.96	-22380204.75	0.0266	0.0060		
Jupiter	-65987-08-27 18:28 J	-22380089.89	-22380089.73	-22380089.55	0.0522	0.0287		
Uranus	-65983-05-16 19:40 J	-22378731.75	-22378731.68	-22378731.58	0.0131	0.0121		

Uranus	-65983-12-28 23:16 J	-22378505.69	-22378505.53	-22378505.35	0.0131	0.0078
Uranus	-65982-08-12 02:37 J	-22378279.59	-22378279.39	-22378279.17	0.0131	0.0036
Uranus	-65981-03-25 05:59 J	-22378053.46	-22378053.25	-22378053.03	0.0131	0.0007
Jupiter	-65981-06-27 13:40 J	-22377959.13	-22377958.93	-22377958.74	0.0504	0.0143
Uranus	-65981-11-06 09:06 J	-22377827.32	-22377827.12	-22377826.92	0.0131	0.0048
Uranus	-65980-06-20 11:59 J	-22377601.14	-22377601.00	-22377600.84	0.0131	0.0090
Saturn	-65971-01-13 00:28 J	-22374472.52	-22374472.48	-22374472.43	0.0295	0.0287
Saturn	-65971-08-31 02:09 J	-22374242.55	-22374242.41	-22374242.27	0.0298	0.0221
Mars	-65969-03-16 15:06 J	-22373678.97	-22373678.87	-22373678.76	0.1671	0.1320
Moon	-65964-09-13 00:42 J	-22371672.62	-22371672.47	-22371672.33	0.2693	0.1168
Earth	-65964-09-13 05:59 J	-22371672.38	-22371672.25	-22371672.11	0.2696	0.1464 *
Jupiter	-65963-08-30 17:16 J	-22371320.91	-22371320.78	-22371320.64	0.0523	0.0395
Saturn	-65958-11-14 13:11 J	-22369419.16	-22369418.95	-22369418.74	0.0266	0.0022
Jupiter	-65957-06-30 03:06 J	-22369190.44	-22369190.37	-22369190.29	0.0503	0.0466
Jupiter	-65951-05-05 10:18 J	-22367055.27	-22367055.07	-22367054.87	0.0522	0.0036
Jupiter	-65945-03-05 04:04 J	-22364924.53	-22364924.33	-22364924.13	0.0504	0.0092
Saturn	-65942-07-26 02:23 J	-22363686.52	-22363686.40	-22363686.27	0.0295	0.0238
Mars	-65942-08-05 15:06 J	-22363676.04	-22363675.87	-22363675.71	0.1871	0.0480
Saturn	-65941-03-12 04:04 J	-22363456.41	-22363456.33	-22363456.24	0.0298	0.0271
Uranus	-65940-02-12 18:42 J	-22363118.87	-22363118.72	-22363118.55	0.0148	0.0098
Uranus	-65940-09-27 09:21 J	-22362892.32	-22362892.11	-22362891.90	0.0148	0.0036
Jupiter	-65939-01-08 04:47 J	-22362789.39	-22362789.30	-22362789.20	0.0521	0.0457
Uranus	-65939-05-11 23:45 J	-22362665.72	-22362665.51	-22362665.29	0.0148	0.0026
Uranus	-65939-12-24 14:37 J	-22362439.07	-22362438.89	-22362438.72	0.0148	0.0088
Mars	-65935-01-13 03:06 J	-22361323.46	-22361323.37	-22361323.29	0.1687	0.1452
Jupiter	-65934-11-09 02:52 J	-22360658.54	-22360658.38	-22360658.21	0.0504	0.0294
Saturn	-65928-05-26 14:23 J	-22358633.11	-22358632.90	-22358632.69	0.0266	0.0022
Pluto	-65920-03-02 22:04 J	-22355795.59	-22355795.58	-22355795.51	0.0078	0.0077
Pluto	-65920-10-14 07:11 J	-22355570.40	-22355570.20	-22355569.98	0.0077	0.0022
Pluto	-65919-05-27 15:49 J	-22355345.03	-22355344.84	-22355344.64	0.0077	0.0031

Jupiter -65915-01-11 04:33 J -22354020.49 -22354020.31 -22354020.12 0.0523 0.0227
 Neptune -65912-01-27 17:45 J -22352907.86 -22352907.76 -22352907.62 0.0088 0.0073
 Saturn -65912-02-04 05:01 J -22352900.45 -22352900.29 -22352900.12 0.0295 0.0184
 Neptune -65912-09-10 07:11 J -22352682.37 -22352682.20 -22352682.02 0.0088 0.0053
 Neptune -65911-04-23 20:09 J -22352456.86 -22352456.66 -22352456.45 0.0088 0.0032
 Neptune -65911-12-05 09:06 J -22352231.33 -22352231.12 -22352230.89 0.0088 0.0013
 Neptune -65910-07-18 22:18 J -22352005.79 -22352005.57 -22352005.34 0.0088 0.0009
 Jupiter -65910-11-11 15:21 J -22351890.02 -22351889.86 -22351889.70 0.0503 0.0310
 Neptune -65909-02-29 11:01 J -22351780.23 -22351780.04 -22351779.82 0.0088 0.0030
 Neptune -65909-10-11 23:59 J -22351554.67 -22351554.50 -22351554.30 0.0088 0.0050
 Neptune -65908-05-25 12:57 J -22351329.08 -22351328.96 -22351328.81 0.0088 0.0070
 Jupiter -65904-09-15 22:18 J -22349754.75 -22349754.57 -22349754.38 0.0521 0.0201
 Mars -65903-01-12 01:40 J -22349636.57 -22349636.43 -22349636.29 0.1675 0.0991
 Uranus -65899-08-28 13:11 J -22347947.08 -22347946.95 -22347946.78 0.0131 0.0094
 Saturn -65899-12-06 14:37 J -22347847.10 -22347846.89 -22347846.68 0.0266 0.0060
 Uranus -65898-04-11 16:33 J -22347720.99 -22347720.81 -22347720.60 0.0131 0.0052
 Jupiter -65898-07-17 16:18 J -22347624.02 -22347623.82 -22347623.62 0.0504 0.0066
 Uranus -65898-11-23 20:09 J -22347494.87 -22347494.66 -22347494.44 0.0131 0.0010
 Uranus -65897-07-06 23:16 J -22347268.73 -22347268.53 -22347268.32 0.0131 0.0033
 Uranus -65896-02-18 02:37 J -22347042.57 -22347042.39 -22347042.21 0.0131 0.0074
 Uranus -65896-10-02 05:16 J -22346816.36 -22346816.28 -22346816.16 0.0131 0.0117
 Jupiter -65886-03-22 17:16 J -22343357.88 -22343357.78 -22343357.68 0.0505 0.0440
 Saturn -65883-08-17 07:54 J -22342114.36 -22342114.17 -22342113.98 0.0295 0.0132
 Jupiter -65880-09-18 19:54 J -22340985.74 -22340985.67 -22340985.58 0.0523 0.0477
 Mars -65876-06-01 20:23 J -22339633.82 -22339633.65 -22339633.48 0.1866 0.0200
 Saturn -65870-11-01 15:21 J -22337289.89 -22337289.86 -22337289.81 0.0269 0.0263
 Saturn -65869-06-17 16:33 J -22337061.01 -22337060.81 -22337060.62 0.0266 0.0105
 Jupiter -65868-05-24 14:23 J -22336720.11 -22336719.90 -22336719.70 0.0523 0.0051
 Jupiter -65862-03-25 04:33 J -22334589.50 -22334589.31 -22334589.11 0.0503 0.0158
 Uranus -65857-10-13 02:52 J -22332560.48 -22332560.38 -22332560.24 0.0148 0.0123

Jupiter -65856-01-27 08:23 J -22332454.29 -22332454.15 -22332454.01 0.0521 0.0375
 Uranus -65856-05-27 17:30 J -22332333.97 -22332333.77 -22332333.57 0.0148 0.0061
 Uranus -65855-01-09 07:54 J -22332107.39 -22332107.17 -22332106.95 0.0148 0.0003
 Uranus -65855-08-23 22:33 J -22331880.75 -22331880.56 -22331880.35 0.0148 0.0063
 Uranus -65854-04-07 13:11 J -22331654.05 -22331653.95 -22331653.82 0.0148 0.0125
 Saturn -65853-02-27 11:45 J -22331328.21 -22331328.01 -22331327.80 0.0295 0.0073
 Jupiter -65851-11-28 04:18 J -22330323.49 -22330323.32 -22330323.13 0.0504 0.0223
 Moon -65842-03-20 15:06 J -22327288.95 -22327288.87 -22327288.80 0.2635 0.2295
 Saturn -65840-05-13 16:33 J -22326503.92 -22326503.81 -22326503.69 0.0268 0.0220
 Saturn -65840-12-28 17:30 J -22326274.95 -22326274.77 -22326274.59 0.0266 0.0146
 Mars -65838-11-09 12:13 J -22325594.15 -22325593.99 -22325593.83 0.1678 0.0651
 Moon -65834-03-18 07:25 J -22324369.33 -22324369.19 -22324369.05 0.2638 0.1165
 Earth -65834-03-18 12:13 J -22324369.14 -22324368.99 -22324368.84 0.2636 0.0743 *
 Jupiter -65832-01-30 05:45 J -22323685.43 -22323685.26 -22323685.09 0.0522 0.0299
 Neptune -65830-03-11 10:33 J -22322915.19 -22322915.06 -22322914.92 0.0089 0.0069
 Neptune -65830-10-22 23:01 J -22322689.70 -22322689.54 -22322689.34 0.0089 0.0049
 Neptune -65829-06-04 12:13 J -22322464.19 -22322463.99 -22322463.78 0.0089 0.0028
 Neptune -65828-01-16 00:57 J -22322238.67 -22322238.46 -22322238.23 0.0089 0.0008
 Neptune -65828-08-29 13:54 J -22322013.13 -22322012.92 -22322012.70 0.0089 0.0013
 Neptune -65827-04-12 02:37 J -22321787.58 -22321787.39 -22321787.18 0.0089 0.0034
 Neptune -65827-11-23 15:35 J -22321562.02 -22321561.85 -22321561.67 0.0089 0.0054
 Jupiter -65827-11-30 17:30 J -22321554.89 -22321554.77 -22321554.63 0.0503 0.0386
 Neptune -65826-07-07 04:18 J -22321336.41 -22321336.32 -22321336.18 0.0089 0.0075
 Saturn -65824-09-08 16:04 J -22320542.04 -22320541.83 -22320541.61 0.0296 0.0016
 Jupiter -65821-10-04 23:45 J -22319419.71 -22319419.51 -22319419.31 0.0522 0.0126
 Uranus -65815-04-28 03:35 J -22317388.45 -22317388.35 -22317388.22 0.0131 0.0109
 Jupiter -65815-08-05 17:16 J -22317288.99 -22317288.78 -22317288.58 0.0503 0.0004
 Uranus -65815-12-10 07:11 J -22317162.38 -22317162.20 -22317162.01 0.0131 0.0067
 Uranus -65814-07-24 10:33 J -22316936.26 -22316936.06 -22316935.84 0.0131 0.0025
 Uranus -65813-03-06 13:54 J -22316710.13 -22316709.92 -22316709.70 0.0131 0.0018

Uranus -65813-10-18 17:01 J -22316483.97 -22316483.79 -22316483.59 0.0131 0.0059
 Uranus -65812-06-01 20:23 J -22316257.79 -22316257.65 -22316257.52 0.0131 0.0101
 Saturn -65811-11-23 18:57 J -22315717.87 -22315717.71 -22315717.55 0.0268 0.0174
 Mars -65810-03-30 01:11 J -22315591.60 -22315591.45 -22315591.30 0.1861 0.0892
 Saturn -65810-07-10 19:40 J -22315488.81 -22315488.68 -22315488.52 0.0266 0.0194
 Jupiter -65803-04-10 17:45 J -22313022.90 -22313022.76 -22313022.63 0.0504 0.0374
 Saturn -65794-03-21 21:21 J -22309755.81 -22309755.61 -22309755.40 0.0296 0.0050
 Jupiter -65785-06-12 15:49 J -22306385.03 -22306384.84 -22306384.64 0.0522 0.0126
 Saturn -65781-06-04 21:06 J -22304931.80 -22304931.62 -22304931.43 0.0268 0.0128
 Saturn -65780-01-19 21:49 J -22304702.67 -22304702.59 -22304702.49 0.0266 0.0238
 Jupiter -65779-04-13 04:47 J -22304254.48 -22304254.30 -22304254.12 0.0503 0.0223
 Jupiter -65773-02-16 08:09 J -22302119.32 -22302119.16 -22302118.99 0.0521 0.0308
 Uranus -65773-06-12 12:57 J -22302002.00 -22302001.96 -22302001.92 0.0148 0.0145
 Uranus -65772-01-25 03:06 J -22301775.55 -22301775.37 -22301775.19 0.0148 0.0084
 Mars -65772-09-05 22:47 J -22301551.72 -22301551.55 -22301551.38 0.1682 0.0313
 Uranus -65772-09-08 17:30 J -22301548.98 -22301548.77 -22301548.55 0.0148 0.0023
 Uranus -65771-04-23 07:54 J -22301322.37 -22301322.17 -22301321.95 0.0148 0.0040
 Uranus -65771-12-05 22:33 J -22301095.70 -22301095.56 -22301095.38 0.0148 0.0102
 Jupiter -65768-12-17 05:16 J -22299988.47 -22299988.28 -22299988.08 0.0504 0.0154
 Saturn -65765-10-01 03:21 J -22298969.55 -22298969.36 -22298969.16 0.0296 0.0115
 Pluto -65760-06-01 21:06 J -22297264.74 -22297264.62 -22297264.45 0.0067 0.0052
 Pluto -65759-01-13 03:21 J -22297039.57 -22297039.36 -22297039.13 0.0068 0.0014
 Pluto -65759-08-26 09:21 J -22296814.31 -22296814.11 -22296813.88 0.0068 0.0024
 Pluto -65758-04-08 15:06 J -22296588.93 -22296588.87 -22296588.75 0.0068 0.0062
 Saturn -65752-12-16 00:42 J -22294145.67 -22294145.47 -22294145.27 0.0268 0.0077
 Jupiter -65749-02-19 05:59 J -22293350.40 -22293350.25 -22293350.11 0.0523 0.0366
 Neptune -65748-04-30 23:59 J -22292913.53 -22292913.50 -22292913.42 0.0088 0.0086
 Neptune -65748-12-12 13:40 J -22292688.07 -22292687.93 -22292687.77 0.0088 0.0065
 Neptune -65747-07-26 02:37 J -22292462.57 -22292462.39 -22292462.18 0.0088 0.0045
 Neptune -65746-03-08 15:49 J -22292237.04 -22292236.84 -22292236.62 0.0088 0.0024

Neptune -65746-10-20 05:01 J -22292011.51 -22292011.29 -22292011.07 0.0088 0.0003
 Neptune -65745-06-01 17:59 J -22291785.96 -22291785.75 -22291785.53 0.0088 0.0017
 Neptune -65744-01-13 06:57 J -22291560.40 -22291560.21 -22291560.00 0.0088 0.0038
 Mars -65744-01-24 06:42 J -22291549.31 -22291549.22 -22291549.13 0.1856 0.1556
 Neptune -65744-08-26 19:54 J -22291334.83 -22291334.67 -22291334.49 0.0088 0.0058
 Jupiter -65744-12-19 16:33 J -22291219.90 -22291219.81 -22291219.71 0.0502 0.0442
 Neptune -65743-04-09 08:52 J -22291109.23 -22291109.13 -22291109.02 0.0088 0.0078
 Jupiter -65738-10-24 23:45 J -22289084.72 -22289084.51 -22289084.31 0.0522 0.0062
 Saturn -65735-04-13 10:33 J -22288183.21 -22288183.06 -22288182.89 0.0296 0.0187
 Jupiter -65732-08-24 15:49 J -22286954.04 -22286953.84 -22286953.63 0.0503 0.0061
 Uranus -65732-12-26 17:45 J -22286829.81 -22286829.76 -22286829.68 0.0131 0.0125
 Uranus -65731-08-09 21:21 J -22286603.77 -22286603.61 -22286603.43 0.0131 0.0083
 Uranus -65730-03-24 00:57 J -22286377.66 -22286377.46 -22286377.25 0.0131 0.0040
 Uranus -65730-11-05 04:18 J -22286151.54 -22286151.32 -22286151.10 0.0131 0.0002
 Uranus -65729-06-18 07:11 J -22285925.39 -22285925.20 -22285924.98 0.0131 0.0044
 Uranus -65728-01-30 10:33 J -22285699.21 -22285699.06 -22285698.89 0.0131 0.0086
 Uranus -65728-09-13 13:25 J -22285472.97 -22285472.94 -22285472.87 0.0131 0.0127
 Jupiter -65726-06-29 17:01 J -22284818.86 -22284818.79 -22284818.72 0.0521 0.0487
 Saturn -65722-06-28 04:04 J -22283359.54 -22283359.33 -22283359.12 0.0268 0.0027
 Earth -65721-09-13 05:59 J -22282916.39 -22282916.25 -22282916.11 0.2697 0.1222
 Moon -65721-09-13 09:49 J -22282916.22 -22282916.09 -22282915.96 0.2703 0.1451 *
 Jupiter -65720-04-29 15:49 J -22282687.99 -22282687.84 -22282687.68 0.0504 0.0319
 Moon -65713-09-11 02:37 J -22279996.49 -22279996.39 -22279996.30 0.2700 0.2103
 Saturn -65706-03-08 17:45 J -22277626.87 -22277626.76 -22277626.63 0.0294 0.0240
 Mars -65706-07-04 09:21 J -22277509.28 -22277509.11 -22277508.93 0.1686 0.0052
 Saturn -65706-10-24 18:28 J -22277396.83 -22277396.73 -22277396.63 0.0296 0.0259
 Jupiter -65702-07-02 13:40 J -22276050.12 -22276049.93 -22276049.74 0.0523 0.0181
 Jupiter -65696-05-02 03:35 J -22273919.52 -22273919.35 -22273919.18 0.0502 0.0279
 Saturn -65692-01-07 08:37 J -22272573.35 -22272573.14 -22272572.93 0.0268 0.0028
 Jupiter -65690-03-07 05:45 J -22271784.44 -22271784.26 -22271784.08 0.0522 0.0255

Uranus -65689-09-24 09:06 J -22271217.24 -22271217.12 -22271216.96 0.0148 0.0112
 Uranus -65688-05-08 23:45 J -22270990.71 -22270990.51 -22270990.30 0.0148 0.0050
 Uranus -65688-12-21 14:23 J -22270764.12 -22270763.90 -22270763.68 0.0148 0.0012
 Uranus -65687-08-05 05:01 J -22270537.47 -22270537.29 -22270537.09 0.0148 0.0074
 Uranus -65686-03-19 19:40 J -22270310.75 -22270310.68 -22270310.58 0.0148 0.0136
 Jupiter -65684-01-05 03:49 J -22269653.54 -22269653.34 -22269653.14 0.0503 0.0098
 Saturn -65677-09-18 02:23 J -22266840.57 -22266840.40 -22266840.22 0.0294 0.0164
 Pluto -65674-04-01 10:33 J -22265915.14 -22265915.06 -22265914.93 0.0078 0.0068
 Pluto -65674-11-12 19:40 J -22265689.89 -22265689.68 -22265689.46 0.0077 0.0013
 Pluto -65673-06-25 04:18 J -22265464.51 -22265464.32 -22265464.14 0.0077 0.0040
 Jupiter -65673-09-10 02:37 J -22265387.44 -22265387.39 -22265387.33 0.0505 0.0483
 Jupiter -65666-03-10 04:33 J -22263015.42 -22263015.31 -22263015.19 0.0523 0.0425
 Neptune -65666-06-12 17:59 J -22262920.81 -22262920.75 -22262920.63 0.0089 0.0081
 Neptune -65665-01-24 07:11 J -22262695.35 -22262695.20 -22262695.03 0.0089 0.0060
 Neptune -65665-09-05 19:40 J -22262469.86 -22262469.68 -22262469.47 0.0089 0.0040
 Neptune -65664-04-19 08:37 J -22262244.35 -22262244.14 -22262243.92 0.0089 0.0019
 Neptune -65664-11-30 21:35 J -22262018.82 -22262018.60 -22262018.38 0.0089 0.0002
 Neptune -65663-07-14 10:18 J -22261793.27 -22261793.07 -22261792.85 0.0089 0.0022
 Saturn -65663-07-20 13:25 J -22261787.14 -22261786.94 -22261786.74 0.0267 0.0082
 Neptune -65662-02-24 23:01 J -22261567.72 -22261567.54 -22261567.33 0.0089 0.0043
 Neptune -65662-10-08 12:13 J -22261342.14 -22261341.99 -22261341.84 0.0089 0.0063
 Neptune -65661-05-21 00:57 J -22261116.52 -22261116.46 -22261116.38 0.0089 0.0084
 Jupiter -65660-01-07 13:25 J -22260884.98 -22260884.94 -22260884.90 0.0502 0.0490
 Jupiter -65655-11-12 20:23 J -22258749.85 -22258749.65 -22258749.44 0.0522 0.0012
 Jupiter -65649-09-12 13:25 J -22256619.13 -22256618.94 -22256618.74 0.0503 0.0114
 Saturn -65647-03-31 11:45 J -22256054.21 -22256054.01 -22256053.80 0.0294 0.0087
 Uranus -65647-04-09 11:16 J -22256045.16 -22256045.03 -22256044.88 0.0131 0.0098
 Mars -65647-11-21 03:35 J -22255819.44 -22255819.35 -22255819.25 0.1868 0.1556
 Uranus -65647-11-21 14:52 J -22255819.07 -22255818.88 -22255818.68 0.0131 0.0056
 Uranus -65646-07-05 18:13 J -22255592.95 -22255592.74 -22255592.52 0.0131 0.0014

Uranus	-65645-02-16 21:35 J	-22255366.81	-22255366.60	-22255366.39	0.0131	0.0028
Uranus	-65645-09-30 00:42 J	-22255140.65	-22255140.47	-22255140.28	0.0131	0.0069
Uranus	-65644-05-14 03:21 J	-22254914.45	-22254914.36	-22254914.22	0.0131	0.0111
Jupiter	-65643-07-18 12:57 J	-22254484.06	-22254483.96	-22254483.85	0.0521	0.0439
Mars	-65640-04-30 19:25 J	-22253466.86	-22253466.69	-22253466.52	0.1690	0.0388
Jupiter	-65637-05-18 13:54 J	-22252353.09	-22252352.92	-22252352.75	0.0504	0.0265
Saturn	-65634-06-15 17:30 J	-22251229.87	-22251229.77	-22251229.66	0.0269	0.0230
Saturn	-65633-01-30 18:57 J	-22251000.88	-22251000.71	-22251000.52	0.0267	0.0140
Jupiter	-65619-07-21 10:04 J	-22245715.26	-22245715.08	-22245714.90	0.0523	0.0228
Saturn	-65618-10-11 21:49 J	-22245267.80	-22245267.59	-22245267.37	0.0294	0.0008
Jupiter	-65613-05-20 23:01 J	-22243584.69	-22243584.54	-22243584.38	0.0502	0.0322
Jupiter	-65607-03-26 03:35 J	-22241449.54	-22241449.35	-22241449.16	0.0522	0.0198
Uranus	-65605-05-24 14:37 J	-22240658.94	-22240658.89	-22240658.81	0.0148	0.0140
Saturn	-65605-12-25 23:01 J	-22240443.69	-22240443.54	-22240443.37	0.0269	0.0173
Uranus	-65604-01-06 05:01 J	-22240432.47	-22240432.29	-22240432.10	0.0148	0.0079
Saturn	-65604-08-12 00:28 J	-22240214.61	-22240214.48	-22240214.33	0.0267	0.0197
Uranus	-65604-08-20 19:40 J	-22240205.89	-22240205.68	-22240205.46	0.0148	0.0017
Uranus	-65603-04-04 10:18 J	-22239979.28	-22239979.07	-22239978.86	0.0148	0.0045
Uranus	-65603-11-17 01:11 J	-22239752.60	-22239752.45	-22239752.30	0.0148	0.0106
Jupiter	-65601-01-24 22:47 J	-22239318.76	-22239318.55	-22239318.35	0.0504	0.0059
Earth	-65591-03-18 13:54 J	-22235613.07	-22235612.92	-22235612.76	0.2635	0.0661
Moon	-65591-03-18 19:25 J	-22235612.84	-22235612.69	-22235612.53	0.2636	0.0367 *
Jupiter	-65590-09-29 22:33 J	-22235052.65	-22235052.56	-22235052.45	0.0505	0.0437
Saturn	-65588-04-23 07:54 J	-22234481.37	-22234481.17	-22234480.96	0.0295	0.0076
Neptune	-65583-03-15 20:23 J	-22232693.75	-22232693.65	-22232693.53	0.0088	0.0076
Jupiter	-65583-03-28 23:01 J	-22232680.63	-22232680.54	-22232680.45	0.0523	0.0465
Neptune	-65583-10-27 09:21 J	-22232468.26	-22232468.11	-22232467.92	0.0088	0.0056
Neptune	-65582-06-09 22:47 J	-22232242.74	-22232242.55	-22232242.34	0.0088	0.0036
Neptune	-65581-01-21 11:59 J	-22232017.21	-22232017.00	-22232016.77	0.0088	0.0016
Neptune	-65581-09-03 01:25 J	-22231791.66	-22231791.44	-22231791.22	0.0088	0.0006

Mars -65581-09-17 09:06 J -22231777.27 -22231777.12 -22231776.97 0.1862 0.0873
 Neptune -65580-04-16 13:54 J -22231566.11 -22231565.92 -22231565.69 0.0088 0.0027
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 Neptune -65579-07-11 16:04 J -22231114.97 -22231114.83 -22231114.68 0.0088 0.0067
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 Saturn -65353-12-06 09:06 J -22148420.26 -22148420.12 -22148419.95 0.0296 0.0199
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Earth -65348-03-18 15:49 J -22146856.99 -22146856.84 -22146856.68 0.2634 0.0577 *
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 Mars -65345-08-16 11:45 J -22145610.17 -22145610.01 -22145609.85 0.1693 0.0679
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 Neptune -65333-11-23 16:18 J -22141127.95 -22141127.82 -22141127.64 0.0089 0.0062
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 Pluto -65269-12-16 17:01 J -22117728.80 -22117728.79 -22117728.72 0.0067 0.0066
 Uranus -65268-07-14 02:23 J -22117519.62 -22117519.40 -22117519.18 0.0148 0.0006
 Pluto -65268-07-29 23:30 J -22117503.72 -22117503.52 -22117503.31 0.0067 0.0029
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 Pluto -65267-03-12 05:45 J -22117278.48 -22117278.26 -22117278.04 0.0068 0.0009
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 Neptune -65254-12-13 13:40 J -22112254.09 -22112253.93 -22112253.75 0.0088 0.0058
 Neptune -65253-07-26 02:52 J -22112028.57 -22112028.38 -22112028.17 0.0088 0.0037
 Neptune -65252-03-08 16:18 J -22111803.04 -22111802.82 -22111802.60 0.0088 0.0017
 Neptune -65252-10-20 05:16 J -22111577.50 -22111577.28 -22111577.06 0.0088 0.0004
 Saturn -65251-02-07 15:35 J -22111466.95 -22111466.85 -22111466.72 0.0270 0.0225
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 Neptune -65250-01-14 07:25 J -22111126.37 -22111126.19 -22111125.99 0.0088 0.0045
 Neptune -65250-08-27 20:09 J -22110900.78 -22110900.66 -22110900.49 0.0088 0.0065
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 Jupiter -65239-02-16 07:54 J -22107075.34 -22107075.17 -22107074.99 0.0522 0.0265

Saturn	-65235-06-05 03:21 J	-22105505.56	-22105505.36	-22105505.15	0.0294	0.0062
Moon	-65235-09-14 05:59 J	-22105404.38	-22105404.25	-22105404.11	0.2707	0.1028
Earth	-65235-09-14 06:28 J	-22105404.38	-22105404.23	-22105404.08	0.2700	0.0808 *
Jupiter	-65234-12-17 19:54 J	-22104944.81	-22104944.67	-22104944.52	0.0503	0.0353
Jupiter	-65228-10-22 00:42 J	-22102809.66	-22102809.47	-22102809.27	0.0521	0.0161
Uranus	-65228-10-31 12:57 J	-22102800.10	-22102799.96	-22102799.81	0.0131	0.0097
Uranus	-65227-06-14 16:47 J	-22102573.99	-22102573.80	-22102573.60	0.0131	0.0056
Uranus	-65226-01-26 20:37 J	-22102347.85	-22102347.64	-22102347.42	0.0131	0.0014
Uranus	-65226-09-09 23:59 J	-22102121.70	-22102121.50	-22102121.28	0.0131	0.0029
Uranus	-65225-04-23 03:21 J	-22101895.53	-22101895.36	-22101895.17	0.0131	0.0070
Uranus	-65225-12-05 06:42 J	-22101669.33	-22101669.22	-22101669.10	0.0131	0.0111
Saturn	-65222-08-20 17:45 J	-22100680.91	-22100680.76	-22100680.60	0.0269	0.0179
Jupiter	-65222-08-22 21:35 J	-22100678.81	-22100678.60	-22100678.40	0.0504	0.0018
Saturn	-65221-04-05 18:42 J	-22100451.86	-22100451.72	-22100451.57	0.0267	0.0188
Mars	-65220-10-31 02:52 J	-22099878.51	-22099878.38	-22099878.25	0.1854	0.1262
Mars	-65213-04-10 07:54 J	-22097525.34	-22097525.17	-22097524.99	0.1701	0.0053
Jupiter	-65210-04-27 22:33 J	-22096412.68	-22096412.56	-22096412.43	0.0505	0.0388
Saturn	-65206-12-16 06:42 J	-22094719.43	-22094719.22	-22094719.01	0.0294	0.0009
Jupiter	-65204-10-24 22:47 J	-22094040.58	-22094040.55	-22094040.50	0.0523	0.0511
Saturn	-65192-03-01 20:23 J	-22089894.82	-22089894.65	-22089894.46	0.0269	0.0132
Jupiter	-65192-06-29 17:59 J	-22089774.95	-22089774.75	-22089774.55	0.0522	0.0094
Saturn	-65192-10-16 21:35 J	-22089665.70	-22089665.60	-22089665.50	0.0267	0.0235
Jupiter	-65186-04-30 08:23 J	-22087644.33	-22087644.15	-22087643.96	0.0503	0.0200
Uranus	-65185-07-29 19:40 J	-22087187.83	-22087187.68	-22087187.49	0.0147	0.0092
Uranus	-65184-03-13 10:04 J	-22086961.29	-22086961.08	-22086960.86	0.0148	0.0031
Uranus	-65184-10-26 00:28 J	-22086734.69	-22086734.48	-22086734.26	0.0148	0.0030
Uranus	-65183-06-09 14:37 J	-22086508.05	-22086507.89	-22086507.70	0.0148	0.0091
Pluto	-65182-05-29 16:33 J	-22086154.00	-22086153.81	-22086153.61	0.0077	0.0029
Pluto	-65181-01-10 01:11 J	-22085928.66	-22085928.45	-22085928.25	0.0077	0.0024
Jupiter	-65180-03-04 11:30 J	-22085509.17	-22085509.02	-22085508.86	0.0521	0.0329

Saturn -65176-06-27 08:23 J -22083933.36 -22083933.15 -22083932.94 0.0295 0.0040
 Jupiter -65174-01-03 09:06 J -22083378.31 -22083378.12 -22083377.93 0.0504 0.0175
 Neptune -65172-06-12 20:09 J -22082486.76 -22082486.66 -22082486.51 0.0089 0.0073
 Neptune -65171-01-24 09:21 J -22082261.28 -22082261.11 -22082260.93 0.0089 0.0052
 Neptune -65171-09-06 21:49 J -22082035.78 -22082035.59 -22082035.37 0.0089 0.0032
 Neptune -65170-04-20 10:47 J -22081810.26 -22081810.05 -22081809.83 0.0089 0.0011
 Neptune -65170-12-01 23:30 J -22081584.73 -22081584.52 -22081584.30 0.0089 0.0010
 Neptune -65169-07-14 12:13 J -22081359.18 -22081358.99 -22081358.77 0.0089 0.0030
 Neptune -65168-02-25 00:57 J -22081133.62 -22081133.46 -22081133.27 0.0089 0.0051
 Neptune -65168-10-08 13:54 J -22080908.04 -22080907.92 -22080907.78 0.0089 0.0071
 Saturn -65163-09-11 21:35 J -22079108.79 -22079108.60 -22079108.39 0.0269 0.0090
 Jupiter -65156-03-07 09:06 J -22076740.28 -22076740.12 -22076739.97 0.0522 0.0339
 Mars -65154-08-28 08:23 J -22075836.31 -22075836.15 -22075835.98 0.1848 0.0606
 Jupiter -65150-01-05 22:47 J -22074609.64 -22074609.55 -22074609.44 0.0503 0.0432
 Mars -65147-02-05 18:13 J -22073482.91 -22073482.74 -22073482.57 0.1705 0.0412
 Saturn -65146-01-07 10:47 J -22073147.25 -22073147.05 -22073146.85 0.0294 0.0090
 Jupiter -65145-11-10 03:21 J -22072474.56 -22072474.36 -22072474.16 0.0522 0.0080
 Uranus -65144-07-01 01:25 J -22072241.53 -22072241.44 -22072241.32 0.0131 0.0115
 Uranus -65143-02-12 05:45 J -22072015.44 -22072015.26 -22072015.08 0.0131 0.0073
 Uranus -65143-09-26 09:21 J -22071789.31 -22071789.11 -22071788.89 0.0131 0.0031
 Uranus -65142-05-10 12:57 J -22071563.17 -22071562.96 -22071562.74 0.0131 0.0011
 Uranus -65142-12-22 16:18 J -22071337.01 -22071336.82 -22071336.61 0.0131 0.0053
 Uranus -65141-08-04 19:40 J -22071110.82 -22071110.68 -22071110.52 0.0131 0.0094
 Jupiter -65139-09-10 21:35 J -22070343.80 -22070343.60 -22070343.39 0.0503 0.0049
 Saturn -65133-03-23 23:45 J -22068322.72 -22068322.51 -22068322.30 0.0269 0.0044
 Jupiter -65133-07-15 21:35 J -22068208.65 -22068208.60 -22068208.54 0.0521 0.0499
 Jupiter -65127-05-16 22:33 J -22066077.71 -22066077.56 -22066077.40 0.0504 0.0324
 Saturn -65117-07-19 11:59 J -22062361.18 -22062361.00 -22062360.81 0.0295 0.0138
 Jupiter -65109-07-18 21:35 J -22059439.79 -22059439.60 -22059439.41 0.0522 0.0178
 Earth -65105-03-18 17:30 J -22058100.93 -22058100.77 -22058100.61 0.2633 0.0497

Moon	-65105-03-18 20:52 J	-22058100.78	-22058100.63	-22058100.47	0.2638	0.0155 *
Saturn	-65104-10-03 23:59 J	-22057536.71	-22057536.50	-22057536.28	0.0268	0.0008
Jupiter	-65103-05-19 11:16 J	-22057309.19	-22057309.03	-22057308.86	0.0503	0.0278
Uranus	-65101-03-29 02:23 J	-22056629.53	-22056629.40	-22056629.27	0.0147	0.0118
Uranus	-65101-11-10 16:04 J	-22056403.02	-22056402.83	-22056402.62	0.0147	0.0059
Uranus	-65100-06-25 06:42 J	-22056176.44	-22056176.22	-22056176.00	0.0148	0.0004
Uranus	-65099-02-06 20:52 J	-22055949.82	-22055949.63	-22055949.43	0.0148	0.0063
Uranus	-65099-09-21 11:16 J	-22055723.13	-22055723.03	-22055722.90	0.0148	0.0124
Jupiter	-65097-03-23 13:40 J	-22055174.10	-22055173.93	-22055173.74	0.0521	0.0250
Jupiter	-65091-01-22 12:42 J	-22053043.16	-22053042.97	-22053042.76	0.0504	0.0093
Neptune	-65090-08-03 08:52 J	-22052485.13	-22052485.13	-22052485.11	0.0088	0.0088
Neptune	-65089-03-15 22:18 J	-22052259.71	-22052259.57	-22052259.43	0.0088	0.0068
Neptune	-65089-10-27 11:01 J	-22052034.21	-22052034.04	-22052033.84	0.0088	0.0048
Neptune	-65088-06-10 00:13 J	-22051808.69	-22051808.49	-22051808.26	0.0088	0.0028
Mars	-65088-06-24 13:40 J	-22051794.11	-22051793.93	-22051793.76	0.1843	0.0068
Neptune	-65087-01-21 13:54 J	-22051583.14	-22051582.92	-22051582.70	0.0088	0.0006
Saturn	-65087-01-29 13:25 J	-22051575.09	-22051574.94	-22051574.77	0.0295	0.0185
Neptune	-65087-09-04 02:52 J	-22051357.59	-22051357.38	-22051357.15	0.0088	0.0014
Neptune	-65086-04-17 16:04 J	-22051132.03	-22051131.83	-22051131.62	0.0088	0.0034
Neptune	-65086-11-29 04:47 J	-22050906.46	-22050906.30	-22050906.11	0.0088	0.0055
Neptune	-65085-07-11 17:45 J	-22050680.85	-22050680.76	-22050680.62	0.0088	0.0076
Mars	-65082-12-04 03:21 J	-22049440.51	-22049440.36	-22049440.20	0.1709	0.0813
Jupiter	-65080-09-27 12:28 J	-22048777.05	-22048776.98	-22048776.92	0.0505	0.0473
Saturn	-65074-04-16 01:54 J	-22046750.63	-22046750.42	-22046750.21	0.0269	0.0039
Jupiter	-65073-03-26 14:52 J	-22046404.99	-22046404.88	-22046404.77	0.0523	0.0434
Jupiter	-65067-01-24 23:30 J	-22044274.55	-22044274.52	-22044274.49	0.0502	0.0496
Jupiter	-65062-11-30 08:52 J	-22042139.33	-22042139.13	-22042138.93	0.0522	0.0012
Uranus	-65060-02-28 14:23 J	-22041682.90	-22041682.90	-22041682.89	0.0131	0.0131
Uranus	-65060-10-12 18:13 J	-22041456.89	-22041456.74	-22041456.58	0.0131	0.0090
Uranus	-65059-05-26 21:49 J	-22041230.78	-22041230.59	-22041230.38	0.0131	0.0048

Saturn -65059-12-24 14:52 J -22041018.97 -22041018.88 -22041018.77 0.0292 0.0257
 Uranus -65058-01-08 01:40 J -22041004.64 -22041004.43 -22041004.21 0.0131 0.0007
 Saturn -65058-08-11 15:06 J -22040789.00 -22040788.87 -22040788.74 0.0295 0.0233
 Uranus -65058-08-22 05:16 J -22040778.49 -22040778.28 -22040778.07 0.0131 0.0035
 Uranus -65057-04-04 08:23 J -22040552.31 -22040552.15 -22040551.96 0.0131 0.0076
 Uranus -65057-11-16 11:30 J -22040326.10 -22040326.02 -22040325.91 0.0131 0.0117
 Jupiter -65056-09-30 00:13 J -22040008.69 -22040008.49 -22040008.29 0.0503 0.0124
 Jupiter -65050-08-05 02:09 J -22037873.53 -22037873.41 -22037873.28 0.0521 0.0410
 Saturn -65045-10-26 01:54 J -22035964.62 -22035964.42 -22035964.21 0.0268 0.0077
 Jupiter -65044-06-05 01:25 J -22035742.61 -22035742.44 -22035742.26 0.0505 0.0247
 Saturn -65029-07-05 17:01 J -22030232.93 -22030232.79 -22030232.64 0.0292 0.0209
 Saturn -65028-02-20 17:16 J -22030002.84 -22030002.78 -22030002.72 0.0295 0.0282
 Jupiter -65026-08-08 01:11 J -22029104.63 -22029104.45 -22029104.28 0.0522 0.0264
 Pluto -65022-01-15 07:40 J -22027848.31 -22027848.18 -22027848.00 0.0067 0.0050
 Mars -65022-04-21 19:54 J -22027751.83 -22027751.67 -22027751.51 0.1838 0.0672
 Pluto -65022-08-28 14:09 J -22027623.12 -22027622.91 -22027622.68 0.0068 0.0012
 Pluto -65021-04-09 20:09 J -22027397.85 -22027397.66 -22027397.44 0.0068 0.0027
 Pluto -65021-11-21 01:54 J -22027172.45 -22027172.42 -22027172.33 0.0068 0.0066
 Jupiter -65020-06-07 12:57 J -22026974.10 -22026973.96 -22026973.81 0.0502 0.0347
 Uranus -65017-07-10 19:25 J -22025844.85 -22025844.69 -22025844.50 0.0147 0.0090
 Uranus -65016-02-22 09:49 J -22025618.30 -22025618.09 -22025617.87 0.0147 0.0029
 Saturn -65016-09-21 01:25 J -22025407.51 -22025407.44 -22025407.37 0.0271 0.0253
 Mars -65016-09-30 13:11 J -22025398.07 -22025397.95 -22025397.82 0.1714 0.1199
 Uranus -65016-10-06 23:59 J -22025391.71 -22025391.50 -22025391.28 0.0148 0.0031
 Saturn -65015-05-08 03:21 J -22025178.54 -22025178.36 -22025178.16 0.0269 0.0122
 Uranus -65015-05-21 14:09 J -22025165.07 -22025164.91 -22025164.73 0.0148 0.0092
 Jupiter -65014-04-12 18:57 J -22024838.90 -22024838.71 -22024838.52 0.0522 0.0160
 Jupiter -65008-02-10 14:09 J -22022708.11 -22022707.91 -22022707.70 0.0503 0.0024
 Neptune -65008-09-14 05:16 J -22022492.33 -22022492.28 -22022492.18 0.0089 0.0084
 Neptune -65007-04-27 18:28 J -22022266.88 -22022266.73 -22022266.57 0.0089 0.0062

Neptune -65007-12-09 06:57 J -22022041.39 -22022041.21 -22022041.01 0.0089 0.0042

Neptune -65006-07-22 19:54 J -22021815.87 -22021815.67 -22021815.45 0.0089 0.0021

Neptune -65005-03-04 08:52 J -22021590.35 -22021590.13 -22021589.91 0.0089 0.0001

Neptune -65005-10-15 21:21 J -22021364.81 -22021364.61 -22021364.39 0.0089 0.0020

Neptune -65004-05-29 10:04 J -22021139.26 -22021139.08 -22021138.87 0.0089 0.0041

Neptune -65003-01-09 23:01 J -22020913.69 -22020913.54 -22020913.37 0.0089 0.0061

Neptune -65003-08-23 11:30 J -22020688.08 -22020688.02 -22020687.91 0.0089 0.0082

65TH MILLENNIUM BCE

This is a list of transits of Venus in the 65th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-64999-01-15 18:57 J	-22019446.88	-22019446.71	-22019446.53	0.0292	0.0159		
Jupiter	-64997-10-16 14:52 J	-22018442.01	-22018441.88	-22018441.76	0.0505	0.0398		
Earth	-64992-09-14 06:57 J	-22016648.36	-22016648.21	-22016648.06	0.2701	0.0619		
Moon	-64992-09-14 09:49 J	-22016648.25	-22016648.09	-22016647.93	0.2695	0.0622	*	
Jupiter	-64990-04-15 18:57 J	-22016069.73	-22016069.71	-22016069.69	0.0523	0.0518		
Saturn	-64986-04-03 01:25 J	-22014621.56	-22014621.44	-22014621.30	0.0271	0.0213		
Saturn	-64986-11-18 03:35 J	-22014392.51	-22014392.35	-22014392.17	0.0268	0.0160		
Mars	-64984-09-29 13:54 J	-22013711.02	-22013710.92	-22013710.82	0.1700	0.1380		
Jupiter	-64979-12-19 11:30 J	-22011804.22	-22011804.02	-22011803.82	0.0522	0.0092		
Uranus	-64976-06-12 05:30 J	-22010898.38	-22010898.27	-22010898.14	0.0131	0.0108		
Uranus	-64975-01-24 09:35 J	-22010672.28	-22010672.10	-22010671.91	0.0131	0.0067		
Uranus	-64975-09-07 13:25 J	-22010446.15	-22010445.94	-22010445.73	0.0131	0.0025		

Uranus	-64974-04-21 17:01 J	-22010220.01	-22010219.79	-22010219.58	0.0131	0.0016
Uranus	-64974-12-03 20:23 J	-22009993.84	-22009993.65	-22009993.46	0.0131	0.0058
Uranus	-64973-07-16 23:30 J	-22009767.65	-22009767.52	-22009767.37	0.0131	0.0099
Jupiter	-64973-10-19 03:35 J	-22009673.53	-22009673.35	-22009673.16	0.0503	0.0205
Saturn	-64970-07-28 21:35 J	-22008660.79	-22008660.60	-22008660.40	0.0292	0.0108
Jupiter	-64967-08-24 05:01 J	-22007538.44	-22007538.29	-22007538.13	0.0521	0.0329
Jupiter	-64961-06-24 03:49 J	-22005407.53	-22005407.34	-22005407.15	0.0504	0.0174
Saturn	-64957-10-13 03:21 J	-22003835.52	-22003835.36	-22003835.19	0.0271	0.0168
Mars	-64956-02-16 01:11 J	-22003709.57	-22003709.45	-22003709.33	0.1832	0.1311
Saturn	-64956-05-30 05:30 J	-22003606.40	-22003606.27	-22003606.13	0.0269	0.0206
Mars	-64950-07-28 22:47 J	-22001355.61	-22001355.55	-22001355.50	0.1718	0.1607
Jupiter	-64943-08-27 05:16 J	-21998769.42	-21998769.28	-21998769.12	0.0523	0.0348
Saturn	-64940-02-07 01:11 J	-21997874.66	-21997874.45	-21997874.24	0.0292	0.0052
Jupiter	-64937-06-26 15:06 J	-21996638.98	-21996638.87	-21996638.76	0.0502	0.0419
Pluto	-64937-11-14 01:25 J	-21996498.58	-21996498.44	-21996498.29	0.0077	0.0057
Pluto	-64936-06-27 10:04 J	-21996273.30	-21996273.08	-21996272.86	0.0077	0.0002
Pluto	-64935-02-07 18:13 J	-21996047.89	-21996047.74	-21996047.57	0.0077	0.0051
Uranus	-64933-03-09 22:47 J	-21995286.66	-21995286.55	-21995286.41	0.0147	0.0121
Uranus	-64933-10-22 12:42 J	-21995060.16	-21995059.97	-21995059.76	0.0147	0.0061
Uranus	-64932-06-06 02:52 J	-21994833.60	-21994833.38	-21994833.16	0.0147	0.0002
Uranus	-64931-01-18 17:01 J	-21994606.99	-21994606.79	-21994606.58	0.0148	0.0059
Jupiter	-64931-05-01 22:47 J	-21994503.76	-21994503.55	-21994503.35	0.0522	0.0076
Uranus	-64931-09-02 07:11 J	-21994380.31	-21994380.20	-21994380.05	0.0148	0.0120
Saturn	-64927-04-25 04:04 J	-21993049.51	-21993049.33	-21993049.14	0.0271	0.0127
Saturn	-64927-12-10 06:13 J	-21992820.32	-21992820.24	-21992820.15	0.0268	0.0245
Jupiter	-64925-03-01 16:04 J	-21992373.03	-21992372.83	-21992372.63	0.0504	0.0049
Neptune	-64925-06-17 06:57 J	-21992265.30	-21992265.21	-21992265.08	0.0088	0.0077
Neptune	-64924-01-28 20:37 J	-21992039.81	-21992039.64	-21992039.47	0.0088	0.0057
Neptune	-64924-09-11 09:35 J	-21991814.29	-21991814.10	-21991813.89	0.0088	0.0036
Neptune	-64923-04-24 22:47 J	-21991588.76	-21991588.55	-21991588.32	0.0088	0.0016

Neptune -64923-12-06 11:59 J -21991363.22 -21991363.00 -21991362.77 0.0088 0.0005
 Neptune -64922-07-20 00:57 J -21991137.66 -21991137.46 -21991137.23 0.0088 0.0025
 Neptune -64921-03-01 14:09 J -21990912.09 -21990911.91 -21990911.71 0.0088 0.0045
 Neptune -64921-10-13 03:21 J -21990686.51 -21990686.36 -21990686.21 0.0088 0.0066
 Neptune -64920-05-26 15:49 J -21990460.86 -21990460.84 -21990460.77 0.0088 0.0086
 Jupiter -64919-01-04 14:37 J -21990237.94 -21990237.89 -21990237.84 0.0520 0.0502
 Mars -64918-07-27 23:45 J -21989668.65 -21989668.51 -21989668.37 0.1704 0.1007
 Jupiter -64914-11-05 17:16 J -21988106.93 -21988106.78 -21988106.62 0.0505 0.0321
 Saturn -64911-08-20 04:47 J -21987088.51 -21987088.30 -21987088.09 0.0293 0.0004
 Saturn -64898-11-05 06:28 J -21982263.43 -21982263.23 -21982263.03 0.0271 0.0080
 Jupiter -64895-01-07 14:09 J -21981469.11 -21981468.91 -21981468.72 0.0523 0.0169
 Uranus -64892-02-09 16:33 J -21980339.84 -21980339.81 -21980339.74 0.0132 0.0128
 Uranus -64892-09-23 20:52 J -21980113.79 -21980113.63 -21980113.46 0.0131 0.0086
 Uranus -64891-05-08 00:28 J -21979887.67 -21979887.48 -21979887.27 0.0131 0.0045
 Uranus -64891-12-20 04:18 J -21979661.54 -21979661.32 -21979661.10 0.0131 0.0003
 Uranus -64890-08-03 07:54 J -21979435.38 -21979435.17 -21979434.96 0.0131 0.0039
 Jupiter -64890-11-08 04:18 J -21979338.49 -21979338.32 -21979338.14 0.0502 0.0270
 Uranus -64889-03-16 11:16 J -21979209.20 -21979209.03 -21979208.85 0.0131 0.0080
 Uranus -64889-10-28 14:23 J -21978982.97 -21978982.90 -21978982.80 0.0131 0.0121
 Jupiter -64884-09-12 07:25 J -21977203.36 -21977203.19 -21977203.00 0.0522 0.0254
 Saturn -64881-03-01 09:21 J -21976302.31 -21976302.11 -21976301.90 0.0292 0.0065
 Jupiter -64878-07-14 04:33 J -21975072.51 -21975072.31 -21975072.11 0.0504 0.0106
 Saturn -64868-05-17 08:09 J -21971477.37 -21971477.16 -21971476.95 0.0271 0.0036
 Jupiter -64866-03-19 05:16 J -21970806.34 -21970806.28 -21970806.21 0.0505 0.0478
 Moon -64862-03-19 17:45 J -21969344.92 -21969344.76 -21969344.60 0.2625 0.0785
 Earth -64862-03-19 19:11 J -21969344.86 -21969344.70 -21969344.54 0.2632 0.0414 *
 Jupiter -64860-09-15 05:45 J -21968434.38 -21968434.26 -21968434.13 0.0523 0.0416
 Mars -64859-12-13 21:21 J -21967979.68 -21967979.61 -21967979.54 0.1845 0.1674
 Jupiter -64854-07-16 16:18 J -21966303.85 -21966303.82 -21966303.77 0.0502 0.0490
 Mars -64852-05-24 09:35 J -21965626.26 -21965626.10 -21965625.94 0.1708 0.0635

Saturn -64852-09-11 14:52 J -21965516.07 -21965515.88 -21965515.68 0.0293 0.0126
 Uranus -64849-06-21 17:30 J -21964501.93 -21964501.77 -21964501.59 0.0147 0.0090
 Uranus -64848-02-03 07:25 J -21964275.40 -21964275.19 -21964274.97 0.0147 0.0031
 Jupiter -64848-05-20 23:01 J -21964168.75 -21964168.54 -21964168.34 0.0522 0.0011
 Uranus -64848-09-17 21:35 J -21964048.81 -21964048.60 -21964048.38 0.0147 0.0029
 Uranus -64847-05-02 11:30 J -21963822.18 -21963822.02 -21963821.83 0.0147 0.0089
 Neptune -64843-07-30 03:49 J -21962272.46 -21962272.34 -21962272.21 0.0089 0.0072
 Neptune -64842-03-12 16:18 J -21962046.98 -21962046.82 -21962046.63 0.0089 0.0052
 Jupiter -64842-03-21 16:47 J -21962038.00 -21962037.80 -21962037.60 0.0503 0.0114
 Neptune -64842-10-24 05:16 J -21961821.48 -21961821.28 -21961821.07 0.0089 0.0031
 Neptune -64841-06-05 17:59 J -21961595.96 -21961595.75 -21961595.52 0.0089 0.0011
 Neptune -64840-01-17 06:57 J -21961370.42 -21961370.21 -21961369.99 0.0089 0.0010
 Neptune -64840-08-30 19:25 J -21961144.88 -21961144.69 -21961144.47 0.0089 0.0031
 Neptune -64839-04-13 08:23 J -21960919.32 -21960919.15 -21960918.96 0.0089 0.0052
 Neptune -64839-11-24 21:06 J -21960693.73 -21960693.62 -21960693.48 0.0089 0.0072
 Saturn -64839-11-27 11:30 J -21960691.24 -21960691.02 -21960690.81 0.0271 0.0016
 Jupiter -64836-01-23 14:37 J -21959902.99 -21959902.89 -21959902.77 0.0522 0.0438
 Jupiter -64831-11-24 17:45 J -21957771.93 -21957771.76 -21957771.59 0.0504 0.0256
 Saturn -64823-08-06 22:33 J -21954959.58 -21954959.56 -21954959.52 0.0290 0.0287
 Saturn -64822-03-24 21:21 J -21954729.77 -21954729.61 -21954729.45 0.0293 0.0193
 Jupiter -64812-01-26 15:06 J -21951134.05 -21951133.87 -21951133.68 0.0523 0.0241
 Saturn -64809-06-08 13:54 J -21949905.12 -21949904.92 -21949904.71 0.0270 0.0062
 Uranus -64808-05-24 06:57 J -21949555.32 -21949555.21 -21949555.06 0.0132 0.0106
 Uranus -64807-01-05 11:16 J -21949329.21 -21949329.03 -21949328.83 0.0132 0.0064
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 Jupiter -64807-11-27 03:21 J -21949003.51 -21949003.36 -21949003.20 0.0503 0.0328
 Uranus -64806-04-02 18:42 J -21948876.93 -21948876.72 -21948876.50 0.0131 0.0019
 Uranus -64806-11-14 22:04 J -21948650.76 -21948650.58 -21948650.38 0.0131 0.0061
 Uranus -64805-06-28 01:25 J -21948424.56 -21948424.44 -21948424.29 0.0131 0.0102
 Jupiter -64801-10-01 06:42 J -21946868.41 -21946868.22 -21946868.02 0.0521 0.0190

Jupiter -64795-08-02 04:18 J -21944737.52 -21944737.32 -21944737.12 0.0504 0.0043
 Saturn -64793-02-17 05:16 J -21944173.41 -21944173.28 -21944173.13 0.0290 0.0221
 Saturn -64793-10-04 04:04 J -21943943.42 -21943943.33 -21943943.23 0.0293 0.0261
 Mars -64793-10-10 02:52 J -21943937.52 -21943937.38 -21943937.23 0.1839 0.1024
 Mars -64786-03-21 19:11 J -21941583.87 -21941583.70 -21941583.52 0.1712 0.0247
 Jupiter -64783-04-07 05:16 J -21940471.39 -21940471.28 -21940471.16 0.0504 0.0415
 Saturn -64780-05-04 14:52 J -21939347.92 -21939347.88 -21939347.82 0.0273 0.0264
 Saturn -64780-12-19 18:13 J -21939118.93 -21939118.74 -21939118.54 0.0270 0.0116
 Jupiter -64777-10-04 04:04 J -21938099.40 -21938099.33 -21938099.24 0.0524 0.0474
 Pluto -64776-02-12 21:21 J -21937967.79 -21937967.61 -21937967.41 0.0068 0.0037
 Pluto -64776-09-26 03:49 J -21937742.57 -21937742.34 -21937742.12 0.0068 0.0002
 Pluto -64775-05-09 09:35 J -21937517.27 -21937517.10 -21937516.91 0.0068 0.0040
 Uranus -64765-02-20 00:28 J -21933943.60 -21933943.48 -21933943.33 0.0147 0.0116
 Jupiter -64765-06-08 21:35 J -21933833.80 -21933833.60 -21933833.40 0.0523 0.0051
 Uranus -64765-10-03 14:23 J -21933717.10 -21933716.90 -21933716.70 0.0147 0.0057
 Uranus -64764-05-18 04:04 J -21933490.54 -21933490.33 -21933490.11 0.0147 0.0003
 Saturn -64764-08-29 13:25 J -21933387.12 -21933386.94 -21933386.75 0.0290 0.0149
 Uranus -64764-12-30 17:59 J -21933263.94 -21933263.75 -21933263.54 0.0147 0.0061
 Uranus -64763-08-14 08:37 J -21933037.27 -21933037.14 -21933037.02 0.0147 0.0121
 Neptune -64761-09-18 17:16 J -21932270.82 -21932270.78 -21932270.72 0.0088 0.0086
 Neptune -64760-05-02 06:13 J -21932045.37 -21932045.24 -21932045.07 0.0088 0.0066
 Neptune -64760-12-13 19:54 J -21931819.86 -21931819.67 -21931819.48 0.0088 0.0045
 Jupiter -64759-04-09 14:23 J -21931703.09 -21931702.90 -21931702.70 0.0503 0.0168
 Neptune -64759-07-27 08:52 J -21931594.33 -21931594.13 -21931593.91 0.0088 0.0025
 Neptune -64758-03-09 22:04 J -21931368.80 -21931368.58 -21931368.35 0.0088 0.0004
 Neptune -64758-10-21 11:16 J -21931143.25 -21931143.03 -21931142.81 0.0088 0.0016
 Neptune -64757-06-02 23:59 J -21930917.69 -21930917.50 -21930917.28 0.0088 0.0037
 Neptune -64756-01-14 13:11 J -21930692.10 -21930691.95 -21930691.77 0.0088 0.0057
 Neptune -64756-08-28 02:09 J -21930466.50 -21930466.41 -21930466.29 0.0088 0.0078
 Jupiter -64753-02-12 14:37 J -21929568.03 -21929567.89 -21929567.74 0.0521 0.0371

Saturn -64751-11-14 18:57 J -21928561.84 -21928561.71 -21928561.58 0.0272 0.0212
 Saturn -64750-07-01 22:04 J -21928332.74 -21928332.58 -21928332.41 0.0270 0.0167
 Moon -64749-09-14 03:21 J -21927892.52 -21927892.36 -21927892.21 0.2706 0.0124
 Earth -64749-09-14 07:40 J -21927892.34 -21927892.18 -21927892.03 0.2702 0.0436 *
 Jupiter -64748-12-13 14:37 J -21927437.07 -21927436.89 -21927436.70 0.0504 0.0207
 Saturn -64734-03-11 21:49 J -21922600.79 -21922600.59 -21922600.38 0.0291 0.0077
 Jupiter -64729-02-15 11:45 J -21920799.17 -21920799.01 -21920798.84 0.0523 0.0291
 Mars -64727-08-07 08:52 J -21919895.30 -21919895.13 -21919894.96 0.1834 0.0399
 Uranus -64724-01-21 18:28 J -21918996.79 -21918996.73 -21918996.64 0.0132 0.0124
 Uranus -64724-09-04 22:33 J -21918770.71 -21918770.56 -21918770.38 0.0132 0.0083
 Jupiter -64724-12-16 01:40 J -21918668.55 -21918668.43 -21918668.29 0.0502 0.0382
 Uranus -64723-04-19 02:37 J -21918544.59 -21918544.39 -21918544.18 0.0132 0.0041
 Uranus -64723-12-01 06:28 J -21918318.45 -21918318.23 -21918318.01 0.0132 0.0001
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 Saturn -64721-05-27 00:28 J -21917775.65 -21917775.48 -21917775.31 0.0272 0.0153
 Uranus -64721-10-09 17:01 J -21917639.85 -21917639.79 -21917639.71 0.0131 0.0124
 Saturn -64720-01-11 03:35 J -21917546.47 -21917546.35 -21917546.24 0.0270 0.0224
 Mars -64720-01-16 05:01 J -21917541.46 -21917541.29 -21917541.11 0.1716 0.0140
 Jupiter -64718-10-21 02:37 J -21916533.58 -21916533.39 -21916533.19 0.0522 0.0145
 Jupiter -64712-08-21 02:37 J -21914402.60 -21914402.39 -21914402.19 0.0503 0.0016
 Saturn -64705-09-21 07:11 J -21911814.41 -21911814.20 -21911813.99 0.0291 0.0003
 Jupiter -64700-04-26 01:25 J -21910136.58 -21910136.44 -21910136.30 0.0504 0.0369
 Saturn -64692-12-07 05:30 J -21906989.46 -21906989.27 -21906989.07 0.0272 0.0097
 Pluto -64691-12-13 16:47 J -21906617.99 -21906617.80 -21906617.60 0.0077 0.0035
 Pluto -64690-07-27 01:11 J -21906392.65 -21906392.45 -21906392.23 0.0077 0.0019
 Pluto -64689-03-08 09:21 J -21906167.16 -21906167.11 -21906167.01 0.0076 0.0072
 Jupiter -64682-06-28 17:59 J -21903498.95 -21903498.75 -21903498.55 0.0522 0.0101
 Uranus -64682-10-20 07:54 J -21903385.21 -21903385.17 -21903385.09 0.0147 0.0141
 Uranus -64681-06-02 21:49 J -21903158.77 -21903158.59 -21903158.41 0.0147 0.0083

Uranus -64680-01-15 11:30 J -21902932.23 -21902932.02 -21902931.80 0.0147 0.0024
 Uranus -64680-08-30 01:25 J -21902705.65 -21902705.44 -21902705.22 0.0147 0.0036
 Uranus -64679-04-13 15:21 J -21902479.02 -21902478.86 -21902478.68 0.0147 0.0095
 Neptune -64679-10-31 13:54 J -21902278.00 -21902277.92 -21902277.83 0.0089 0.0082
 Neptune -64678-06-14 02:23 J -21902052.54 -21902052.40 -21902052.22 0.0089 0.0062
 Neptune -64677-01-25 15:35 J -21901827.04 -21901826.85 -21901826.65 0.0089 0.0040
 Neptune -64677-09-07 04:04 J -21901601.53 -21901601.33 -21901601.11 0.0089 0.0020
 Neptune -64676-04-20 17:01 J -21901376.01 -21901375.79 -21901375.57 0.0089 0.0001
 Jupiter -64676-04-28 11:01 J -21901368.22 -21901368.04 -21901367.85 0.0503 0.0216
 Neptune -64676-12-02 05:45 J -21901150.47 -21901150.26 -21901150.04 0.0089 0.0021
 Saturn -64675-04-03 16:33 J -21901028.01 -21901027.81 -21901027.60 0.0292 0.0077
 Neptune -64675-07-15 18:28 J -21900924.91 -21900924.73 -21900924.53 0.0089 0.0042
 Neptune -64674-02-26 07:11 J -21900699.34 -21900699.20 -21900699.03 0.0089 0.0063
 Neptune -64674-10-09 20:09 J -21900473.72 -21900473.66 -21900473.57 0.0089 0.0083
 Jupiter -64670-03-03 09:49 J -21899233.25 -21899233.09 -21899232.93 0.0521 0.0327
 Jupiter -64664-01-01 12:13 J -21897102.18 -21897101.99 -21897101.79 0.0504 0.0156
 Saturn -64662-06-19 12:13 J -21896203.20 -21896202.99 -21896202.78 0.0271 0.0035
 Mars -64661-06-03 14:23 J -21895853.07 -21895852.90 -21895852.72 0.1829 0.0233
 Mars -64655-11-13 14:09 J -21893499.08 -21893498.91 -21893498.75 0.1721 0.0551
 Jupiter -64646-03-06 07:11 J -21890464.35 -21890464.20 -21890464.04 0.0523 0.0334
 Saturn -64646-10-15 02:52 J -21890241.56 -21890241.38 -21890241.20 0.0292 0.0157
 Jupiter -64640-01-03 20:23 J -21888333.75 -21888333.65 -21888333.53 0.0502 0.0422
 Uranus -64640-05-05 09:35 J -21888212.24 -21888212.10 -21888211.96 0.0132 0.0101
 Uranus -64640-12-17 13:25 J -21887986.12 -21887985.94 -21887985.74 0.0132 0.0060
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 Uranus -64637-06-09 04:04 J -21887081.44 -21887081.33 -21887081.18 0.0131 0.0106
 Jupiter -64635-11-09 00:28 J -21886198.69 -21886198.48 -21886198.28 0.0522 0.0088
 Saturn -64633-12-29 17:59 J -21885416.96 -21885416.75 -21885416.53 0.0271 0.0024

Jupiter -64629-09-08 20:23 J -21884067.85 -21884067.65 -21884067.44 0.0503 0.0049
 Jupiter -64623-07-14 15:49 J -21881932.86 -21881932.84 -21881932.82 0.0521 0.0517
 Moon -64619-03-19 19:54 J -21880588.82 -21880588.67 -21880588.52 0.2637 0.0097
 Earth -64619-03-19 20:52 J -21880588.79 -21880588.63 -21880588.47 0.2631 0.0340 *
 Jupiter -64617-05-14 20:52 J -21879801.78 -21879801.63 -21879801.48 0.0504 0.0327
 Saturn -64617-09-08 14:23 J -21879685.01 -21879684.90 -21879684.78 0.0290 0.0242
 Saturn -64616-04-26 12:42 J -21879455.09 -21879454.97 -21879454.84 0.0293 0.0237
 Saturn -64603-07-12 01:11 J -21874630.65 -21874630.45 -21874630.25 0.0271 0.0086
 Jupiter -64599-07-17 11:30 J -21873164.22 -21873164.02 -21873163.83 0.0523 0.0135
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 Uranus -64597-09-14 17:45 J -21872373.96 -21872373.76 -21872373.55 0.0147 0.0050
 Uranus -64596-04-29 07:40 J -21872147.40 -21872147.18 -21872146.96 0.0147 0.0009
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 Uranus -64596-12-11 21:21 J -21871920.79 -21871920.61 -21871920.40 0.0147 0.0069
 Neptune -64595-03-17 05:45 J -21871825.42 -21871825.26 -21871825.06 0.0088 0.0054
 Mars -64595-03-31 20:52 J -21871810.78 -21871810.63 -21871810.47 0.1824 0.0815
 Uranus -64595-07-26 11:45 J -21871694.10 -21871694.01 -21871693.89 0.0147 0.0128
 Neptune -64595-10-28 19:11 J -21871599.90 -21871599.70 -21871599.49 0.0088 0.0033
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 Neptune -64593-01-22 21:49 J -21871148.81 -21871148.59 -21871148.37 0.0088 0.0008
 Jupiter -64593-05-17 07:40 J -21871033.34 -21871033.18 -21871033.00 0.0502 0.0264
 Neptune -64593-09-04 10:47 J -21870923.26 -21870923.05 -21870922.84 0.0088 0.0029
 Neptune -64592-04-17 23:30 J -21870697.69 -21870697.52 -21870697.32 0.0088 0.0049
 Neptune -64592-11-29 12:28 J -21870472.09 -21870471.98 -21870471.82 0.0088 0.0070
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 Saturn -64587-03-22 00:13 J -21868898.66 -21868898.49 -21868898.31 0.0290 0.0164
 Jupiter -64587-03-22 04:18 J -21868898.49 -21868898.32 -21868898.15 0.0522 0.0288 *
 Jupiter -64581-01-21 06:13 J -21866767.44 -21866767.24 -21866767.04 0.0504 0.0119
 Saturn -64574-06-07 04:33 J -21864073.41 -21864073.31 -21864073.19 0.0273 0.0233
 Saturn -64573-01-22 07:40 J -21863844.35 -21863844.18 -21863843.99 0.0270 0.0147

Jupiter -64570-09-26 05:59 J -21862501.28 -21862501.25 -21862501.20 0.0505 0.0494
 Jupiter -64563-03-25 02:52 J -21860129.51 -21860129.38 -21860129.24 0.0523 0.0380
 Saturn -64558-10-02 09:49 J -21858112.29 -21858112.09 -21858111.88 0.0291 0.0088
 Jupiter -64557-01-23 15:49 J -21857998.92 -21857998.84 -21857998.76 0.0502 0.0462
 Mars -64557-09-09 01:11 J -21857769.47 -21857769.45 -21857769.43 0.1711 0.1692
 Uranus -64556-01-02 20:09 J -21857653.73 -21857653.66 -21857653.55 0.0132 0.0120
 Uranus -64556-08-17 00:42 J -21857427.64 -21857427.47 -21857427.29 0.0132 0.0078
 Uranus -64555-03-31 04:33 J -21857201.51 -21857201.31 -21857201.10 0.0131 0.0037
 Uranus -64555-11-12 08:23 J -21856975.36 -21856975.15 -21856974.93 0.0131 0.0005
 Uranus -64554-06-26 12:13 J -21856749.19 -21856748.99 -21856748.79 0.0131 0.0046
 Uranus -64553-02-07 15:49 J -21856523.00 -21856522.84 -21856522.67 0.0131 0.0087
 Uranus -64553-09-20 19:11 J -21856296.74 -21856296.70 -21856296.64 0.0131 0.0127
 Jupiter -64552-11-27 18:42 J -21855863.93 -21855863.72 -21855863.52 0.0522 0.0050
 Jupiter -64546-09-28 17:01 J -21853732.99 -21853732.79 -21853732.59 0.0503 0.0094
 Saturn -64545-12-17 11:45 J -21853287.17 -21853287.01 -21853286.84 0.0272 0.0168
 Saturn -64544-08-03 14:52 J -21853058.01 -21853057.88 -21853057.74 0.0270 0.0209
 Jupiter -64540-08-02 08:52 J -21851598.21 -21851598.13 -21851598.06 0.0521 0.0483
 Jupiter -64534-06-03 17:45 J -21849466.93 -21849466.76 -21849466.59 0.0504 0.0276
 Pluto -64531-08-01 05:45 J -21848312.36 -21848312.26 -21848312.15 0.0067 0.0059
 Pluto -64530-03-14 11:45 J -21848087.22 -21848087.01 -21848086.79 0.0068 0.0021
 Pluto -64530-10-25 17:45 J -21847861.97 -21847861.76 -21847861.53 0.0068 0.0017
 Mars -64529-01-27 02:52 J -21847768.48 -21847768.38 -21847768.27 0.1818 0.1418
 Pluto -64529-06-06 23:45 J -21847636.62 -21847636.51 -21847636.37 0.0068 0.0056
 Saturn -64528-04-13 19:54 J -21847325.89 -21847325.67 -21847325.46 0.0291 0.0012
 Mars -64523-07-08 08:37 J -21845414.24 -21845414.14 -21845414.03 0.1730 0.1377
 Jupiter -64516-08-05 09:35 J -21842829.29 -21842829.10 -21842828.91 0.0523 0.0193
 Saturn -64515-06-29 18:57 J -21842500.90 -21842500.71 -21842500.52 0.0272 0.0106
 Saturn -64514-02-13 21:35 J -21842271.61 -21842271.60 -21842271.59 0.0269 0.0269
 Neptune -64514-09-15 13:11 J -21842058.06 -21842057.95 -21842057.80 0.0089 0.0070
 Uranus -64514-10-01 08:37 J -21842042.21 -21842042.14 -21842042.05 0.0147 0.0137

Neptune -64513-04-28 01:54 J -21841832.58 -21841832.42 -21841832.22 0.0089 0.0050
 Uranus -64513-05-14 22:04 J -21841815.75 -21841815.58 -21841815.39 0.0147 0.0079
 Neptune -64513-12-09 14:37 J -21841607.08 -21841606.89 -21841606.67 0.0089 0.0029
 Uranus -64513-12-27 11:59 J -21841589.22 -21841589.00 -21841588.78 0.0147 0.0021
 Neptune -64512-07-23 03:49 J -21841381.56 -21841381.34 -21841381.12 0.0089 0.0008
 Uranus -64512-08-11 01:54 J -21841362.63 -21841362.42 -21841362.20 0.0147 0.0039
 Neptune -64511-03-05 16:18 J -21841156.02 -21841155.82 -21841155.59 0.0089 0.0014
 Uranus -64511-03-25 16:04 J -21841135.99 -21841135.83 -21841135.66 0.0147 0.0098
 Neptune -64511-10-17 05:16 J -21840930.48 -21840930.28 -21840930.07 0.0089 0.0033
 Neptune -64510-05-30 17:59 J -21840704.91 -21840704.75 -21840704.57 0.0089 0.0054
 Jupiter -64510-06-06 00:57 J -21840698.62 -21840698.46 -21840698.30 0.0503 0.0296
 Neptune -64509-01-11 06:28 J -21840479.32 -21840479.23 -21840479.09 0.0089 0.0075
 Earth -64506-09-15 08:09 J -21839136.31 -21839136.16 -21839136.00 0.2703 0.0259
 Moon -64506-09-15 13:25 J -21839136.08 -21839135.94 -21839135.79 0.2703 0.1014 *
 Jupiter -64504-04-10 01:11 J -21838563.63 -21838563.45 -21838563.27 0.0521 0.0236
 Saturn -64499-10-25 03:49 J -21836539.55 -21836539.34 -21836539.13 0.0292 0.0062
 Jupiter -64498-02-09 01:25 J -21836432.64 -21836432.44 -21836432.24 0.0504 0.0078
 Mars -64491-07-07 10:47 J -21833727.16 -21833727.05 -21833726.94 0.1715 0.1303
 Jupiter -64487-10-15 02:52 J -21832166.47 -21832166.38 -21832166.28 0.0505 0.0445
 Saturn -64485-01-10 01:40 J -21831714.64 -21831714.43 -21831714.22 0.0271 0.0044
 Jupiter -64480-04-12 20:52 J -21829794.75 -21829794.63 -21829794.51 0.0523 0.0417
 Uranus -64472-04-16 10:33 J -21826869.19 -21826869.06 -21826868.91 0.0132 0.0098
 Uranus -64472-11-28 14:23 J -21826643.08 -21826642.90 -21826642.69 0.0131 0.0057
 Uranus -64471-07-12 18:42 J -21826416.94 -21826416.72 -21826416.50 0.0131 0.0015
 Uranus -64470-02-23 22:33 J -21826190.77 -21826190.56 -21826190.34 0.0131 0.0026
 Uranus -64470-10-08 02:09 J -21825964.59 -21825964.41 -21825964.22 0.0131 0.0067
 Saturn -64469-05-06 12:57 J -21825753.15 -21825752.96 -21825752.78 0.0292 0.0135
 Uranus -64469-05-21 05:59 J -21825738.37 -21825738.25 -21825738.13 0.0131 0.0108
 Jupiter -64469-12-16 14:09 J -21825529.11 -21825528.91 -21825528.70 0.0522 0.0003
 Jupiter -64463-10-17 11:01 J -21823398.24 -21823398.04 -21823397.84 0.0503 0.0131

Jupiter -64457-08-21 07:54 J -21821263.29 -21821263.17 -21821263.05 0.0521 0.0420
 Saturn -64456-07-22 08:23 J -21820928.36 -21820928.15 -21820927.94 0.0271 0.0018
 Jupiter -64451-06-22 11:16 J -21819132.20 -21819132.03 -21819131.85 0.0504 0.0241
 Pluto -64445-05-31 00:13 J -21816962.60 -21816962.49 -21816962.37 0.0077 0.0065
 Pluto -64444-01-11 08:52 J -21816737.34 -21816737.13 -21816736.91 0.0077 0.0010
 Pluto -64444-08-24 17:01 J -21816511.95 -21816511.79 -21816511.60 0.0077 0.0044
 Saturn -64440-03-31 21:06 J -21815196.68 -21815196.62 -21815196.54 0.0290 0.0274
 Saturn -64440-11-16 19:54 J -21814966.82 -21814966.67 -21814966.52 0.0293 0.0204
 Jupiter -64433-08-24 05:45 J -21812494.44 -21812494.26 -21812494.08 0.0522 0.0241
 Neptune -64432-11-05 03:21 J -21812056.42 -21812056.36 -21812056.25 0.0088 0.0082
 Mars -64432-11-22 22:04 J -21812038.68 -21812038.58 -21812038.48 0.1830 0.1482
 Neptune -64431-06-18 17:01 J -21811830.94 -21811830.79 -21811830.62 0.0088 0.0061
 Neptune -64430-01-30 06:13 J -21811605.42 -21811605.24 -21811605.03 0.0088 0.0041
 Neptune -64430-09-12 19:25 J -21811379.89 -21811379.69 -21811379.46 0.0088 0.0021
 Uranus -64429-01-13 00:13 J -21811257.62 -21811257.49 -21811257.33 0.0147 0.0111
 Neptune -64429-04-25 08:52 J -21811154.35 -21811154.13 -21811153.90 0.0088 0.0001
 Uranus -64429-08-26 13:54 J -21811031.11 -21811030.92 -21811030.70 0.0147 0.0053
 Neptune -64429-12-06 21:49 J -21810928.80 -21810928.59 -21810928.36 0.0088 0.0022
 Uranus -64428-04-10 04:04 J -21810804.55 -21810804.33 -21810804.11 0.0147 0.0006
 Neptune -64428-07-20 11:01 J -21810703.23 -21810703.04 -21810702.84 0.0088 0.0042
 Uranus -64428-11-22 17:45 J -21810577.95 -21810577.76 -21810577.55 0.0147 0.0065
 Neptune -64427-03-02 23:45 J -21810477.65 -21810477.51 -21810477.33 0.0088 0.0062
 Jupiter -64427-06-24 22:47 J -21810363.70 -21810363.55 -21810363.40 0.0503 0.0349
 Uranus -64427-07-07 07:54 J -21810351.27 -21810351.17 -21810351.04 0.0147 0.0124
 Neptune -64427-10-14 12:42 J -21810252.03 -21810251.97 -21810251.87 0.0088 0.0082
 Saturn -64426-02-01 13:54 J -21810142.12 -21810141.92 -21810141.72 0.0270 0.0074
 Mars -64425-05-03 20:23 J -21809684.80 -21809684.65 -21809684.50 0.1719 0.0916
 Jupiter -64421-04-28 20:23 J -21808228.84 -21808228.65 -21808228.46 0.0521 0.0191
 Jupiter -64415-02-27 23:45 J -21806097.71 -21806097.51 -21806097.31 0.0504 0.0021
 Saturn -64411-10-12 04:04 J -21804410.47 -21804410.33 -21804410.18 0.0290 0.0208

Saturn -64410-05-30 02:52 J -21804180.45 -21804180.38 -21804180.29 0.0293 0.0271
 Jupiter -64404-11-02 22:04 J -21801831.70 -21801831.58 -21801831.46 0.0505 0.0402
 Saturn -64398-12-28 16:18 J -21799584.90 -21799584.82 -21799584.73 0.0273 0.0247
 Jupiter -64397-05-01 21:35 J -21799459.67 -21799459.60 -21799459.53 0.0523 0.0487
 Saturn -64397-08-13 19:25 J -21799355.87 -21799355.69 -21799355.50 0.0270 0.0132
 Uranus -64389-12-14 20:23 J -21796310.73 -21796310.65 -21796310.54 0.0132 0.0118
 Uranus -64388-07-29 00:28 J -21796084.64 -21796084.48 -21796084.29 0.0132 0.0077
 Uranus -64387-03-12 05:01 J -21795858.50 -21795858.29 -21795858.08 0.0132 0.0035
 Uranus -64387-10-24 08:52 J -21795632.35 -21795632.13 -21795631.91 0.0131 0.0007
 Uranus -64386-06-07 12:28 J -21795406.17 -21795405.98 -21795405.77 0.0131 0.0048
 Jupiter -64385-01-05 14:09 J -21795194.11 -21795193.91 -21795193.70 0.0522 0.0065
 Uranus -64385-01-19 16:04 J -21795179.97 -21795179.83 -21795179.65 0.0131 0.0089
 Uranus -64385-09-01 19:54 J -21794953.70 -21794953.67 -21794953.62 0.0131 0.0129
 Saturn -64381-04-23 09:21 J -21793624.29 -21793624.11 -21793623.92 0.0290 0.0148
 Jupiter -64380-11-05 08:23 J -21793063.34 -21793063.15 -21793062.96 0.0503 0.0183
 Earth -64376-03-19 22:04 J -21791832.74 -21791832.58 -21791832.42 0.2630 0.0283
 Moon -64376-03-20 01:25 J -21791832.61 -21791832.44 -21791832.28 0.2624 0.0183 *
 Jupiter -64374-09-10 06:13 J -21790928.39 -21790928.24 -21790928.09 0.0521 0.0361
 Saturn -64368-07-09 20:52 J -21788798.77 -21788798.63 -21788798.48 0.0272 0.0193
 Jupiter -64368-07-11 10:04 J -21788797.27 -21788797.08 -21788796.89 0.0504 0.0183
 Saturn -64367-02-23 23:45 J -21788569.66 -21788569.51 -21788569.35 0.0270 0.0184
 Mars -64366-09-20 04:18 J -21787996.47 -21787996.32 -21787996.17 0.1825 0.0865
 Mars -64359-03-01 05:45 J -21785642.42 -21785642.26 -21785642.09 0.1724 0.0516
 Saturn -64352-11-03 15:06 J -21782838.07 -21782837.87 -21782837.67 0.0291 0.0086
 Jupiter -64350-09-13 04:33 J -21782159.48 -21782159.31 -21782159.15 0.0523 0.0303
 Neptune -64350-12-18 00:28 J -21782063.56 -21782063.48 -21782063.35 0.0089 0.0078
 Neptune -64349-07-30 13:25 J -21781838.09 -21781837.94 -21781837.76 0.0089 0.0057
 Neptune -64348-03-13 01:54 J -21781612.60 -21781612.42 -21781612.21 0.0089 0.0037
 Neptune -64348-10-24 14:52 J -21781387.09 -21781386.88 -21781386.66 0.0089 0.0016
 Neptune -64347-06-07 03:35 J -21781161.56 -21781161.35 -21781161.13 0.0089 0.0005

Neptune -64346-01-18 16:18 J -21780936.02 -21780935.82 -21780935.60 0.0089 0.0025
 Neptune -64346-09-01 04:47 J -21780710.47 -21780710.30 -21780710.09 0.0089 0.0046
 Uranus -64346-09-12 02:52 J -21780699.41 -21780699.38 -21780699.31 0.0147 0.0142
 Neptune -64345-04-13 17:45 J -21780484.89 -21780484.76 -21780484.60 0.0089 0.0066
 Uranus -64345-04-25 16:33 J -21780472.98 -21780472.81 -21780472.63 0.0147 0.0084
 Neptune -64345-11-25 06:13 J -21780259.26 -21780259.24 -21780259.17 0.0089 0.0088
 Uranus -64345-12-08 06:13 J -21780246.45 -21780246.24 -21780246.02 0.0147 0.0026
 Jupiter -64344-07-13 19:11 J -21780028.82 -21780028.70 -21780028.57 0.0502 0.0396
 Uranus -64344-07-22 20:09 J -21780019.87 -21780019.66 -21780019.44 0.0147 0.0033
 Uranus -64343-03-06 10:04 J -21779793.24 -21779793.08 -21779792.90 0.0147 0.0091
 Saturn -64338-01-20 01:40 J -21778012.61 -21778012.43 -21778012.25 0.0272 0.0138
 Jupiter -64338-05-18 22:33 J -21777893.76 -21777893.56 -21777893.36 0.0522 0.0113
 Saturn -64338-09-06 04:18 J -21777783.41 -21777783.32 -21777783.22 0.0270 0.0238
 Jupiter -64332-03-18 19:54 J -21775762.87 -21775762.67 -21775762.46 0.0503 0.0028
 Saturn -64322-05-16 18:28 J -21772051.94 -21772051.73 -21772051.52 0.0291 0.0032
 Jupiter -64321-11-21 20:37 J -21771496.78 -21771496.64 -21771496.48 0.0505 0.0345
 Saturn -64309-08-01 04:18 J -21767226.51 -21767226.32 -21767226.12 0.0272 0.0090
 Uranus -64304-03-28 09:21 J -21765526.23 -21765526.11 -21765525.94 0.0132 0.0098
 Uranus -64304-11-09 13:54 J -21765300.11 -21765299.92 -21765299.72 0.0132 0.0056
 Uranus -64303-06-23 17:59 J -21765073.96 -21765073.75 -21765073.53 0.0132 0.0015
 Jupiter -64302-01-24 13:11 J -21764859.15 -21764858.95 -21764858.75 0.0522 0.0126
 Uranus -64302-02-04 22:04 J -21764847.79 -21764847.58 -21764847.36 0.0132 0.0027
 Uranus -64302-09-19 01:40 J -21764621.60 -21764621.43 -21764621.23 0.0131 0.0068
 Uranus -64301-05-02 05:30 J -21764395.38 -21764395.27 -21764395.14 0.0131 0.0108
 Mars -64300-07-17 10:33 J -21763954.23 -21763954.06 -21763953.89 0.1820 0.0269
 Jupiter -64297-11-24 09:21 J -21762728.29 -21762728.11 -21762727.93 0.0503 0.0252
 Mars -64294-12-27 15:21 J -21761600.04 -21761599.86 -21761599.69 0.1728 0.0119
 Saturn -64293-11-25 22:33 J -21761265.77 -21761265.56 -21761265.35 0.0291 0.0023
 Jupiter -64291-09-29 06:28 J -21760593.40 -21760593.23 -21760593.06 0.0521 0.0291
 Jupiter -64285-07-30 08:23 J -21758462.34 -21758462.15 -21758461.95 0.0504 0.0128

Pluto -64285-08-29 16:33 J -21758431.94 -21758431.81 -21758431.65 0.0067 0.0051
 Pluto -64284-04-11 22:47 J -21758206.77 -21758206.55 -21758206.32 0.0068 0.0013
 Pluto -64284-11-23 04:33 J -21757981.50 -21757981.31 -21757981.08 0.0068 0.0026
 Pluto -64283-07-06 10:33 J -21757756.10 -21757756.06 -21757755.97 0.0068 0.0066
 Saturn -64279-02-11 07:54 J -21756440.37 -21756440.17 -21756439.96 0.0272 0.0039
 Jupiter -64273-04-04 09:35 J -21754196.13 -21754196.10 -21754196.06 0.0505 0.0495
 Neptune -64267-09-20 03:49 J -21751836.46 -21751836.34 -21751836.18 0.0088 0.0069
 Jupiter -64267-10-02 07:54 J -21751824.30 -21751824.17 -21751824.03 0.0523 0.0385
 Neptune -64266-05-03 17:30 J -21751610.95 -21751610.77 -21751610.57 0.0088 0.0048
 Neptune -64266-12-15 06:42 J -21751385.42 -21751385.22 -21751384.99 0.0088 0.0028
 Neptune -64265-07-27 20:23 J -21751159.87 -21751159.65 -21751159.43 0.0088 0.0007
 Neptune -64264-03-10 09:21 J -21750934.32 -21750934.11 -21750933.88 0.0088 0.0014
 Neptune -64264-10-21 22:18 J -21750708.76 -21750708.57 -21750708.35 0.0088 0.0035
 Neptune -64263-06-04 11:45 J -21750483.18 -21750483.01 -21750482.84 0.0088 0.0055
 Saturn -64263-06-08 00:42 J -21750479.67 -21750479.47 -21750479.26 0.0291 0.0073
 Moon -64263-09-15 04:04 J -21750380.48 -21750380.33 -21750380.18 0.2702 0.0823
 Earth -64263-09-15 09:06 J -21750380.28 -21750380.12 -21750379.97 0.2704 0.0110 *
 Neptune -64262-01-16 00:28 J -21750257.57 -21750257.48 -21750257.34 0.0088 0.0075
 Uranus -64262-12-24 21:06 J -21749914.75 -21749914.62 -21749914.48 0.0147 0.0113
 Jupiter -64261-08-01 19:25 J -21749693.76 -21749693.69 -21749693.60 0.0503 0.0461
 Uranus -64261-08-07 10:33 J -21749688.25 -21749688.06 -21749687.85 0.0147 0.0056
 Uranus -64260-03-22 00:28 J -21749461.70 -21749461.48 -21749461.26 0.0147 0.0003
 Uranus -64260-11-03 13:54 J -21749235.11 -21749234.92 -21749234.71 0.0147 0.0061
 Uranus -64259-06-18 04:04 J -21749008.45 -21749008.33 -21749008.20 0.0147 0.0119
 Jupiter -64255-06-07 00:28 J -21747558.68 -21747558.48 -21747558.27 0.0522 0.0039
 Saturn -64250-08-24 09:35 J -21745654.31 -21745654.10 -21745653.89 0.0271 0.0006
 Jupiter -64249-04-06 21:21 J -21745427.81 -21745427.61 -21745427.41 0.0504 0.0097
 Jupiter -64243-02-09 16:04 J -21743292.92 -21743292.83 -21743292.74 0.0520 0.0462
 Jupiter -64238-12-11 23:01 J -21741161.71 -21741161.54 -21741161.37 0.0505 0.0269
 Mars -64234-05-14 16:47 J -21739911.97 -21739911.80 -21739911.63 0.1815 0.0322

Saturn -64234-12-19 03:35 J -21739693.54 -21739693.35 -21739693.15 0.0291 0.0124
 Mars -64228-10-23 23:59 J -21737557.67 -21737557.50 -21737557.33 0.1733 0.0319
 Uranus -64221-11-25 18:57 J -21734967.79 -21734967.71 -21734967.59 0.0132 0.0118
 Saturn -64220-03-05 11:45 J -21734868.21 -21734868.01 -21734867.80 0.0272 0.0052
 Uranus -64220-07-09 23:45 J -21734741.69 -21734741.51 -21734741.33 0.0132 0.0076
 Jupiter -64219-02-12 17:59 J -21734523.94 -21734523.75 -21734523.57 0.0523 0.0215
 Uranus -64219-02-21 04:04 J -21734515.54 -21734515.33 -21734515.12 0.0132 0.0035
 Uranus -64219-10-05 08:09 J -21734289.37 -21734289.16 -21734288.94 0.0132 0.0007
 Uranus -64218-05-19 11:59 J -21734063.20 -21734063.00 -21734062.79 0.0132 0.0047
 Uranus -64218-12-31 16:04 J -21733836.99 -21733836.83 -21733836.67 0.0132 0.0088
 Uranus -64217-08-13 19:11 J -21733610.72 -21733610.70 -21733610.64 0.0132 0.0129
 Jupiter -64214-12-14 08:37 J -21732393.29 -21732393.14 -21732392.98 0.0503 0.0312
 Jupiter -64208-10-18 11:16 J -21730258.22 -21730258.03 -21730257.84 0.0521 0.0204
 Saturn -64204-06-30 04:47 J -21728907.47 -21728907.30 -21728907.13 0.0292 0.0171
 Jupiter -64202-08-19 09:49 J -21728127.29 -21728127.09 -21728126.89 0.0504 0.0058
 Pluto -64199-06-29 12:42 J -21727082.11 -21727081.97 -21727081.80 0.0077 0.0053
 Pluto -64198-02-09 21:35 J -21726856.82 -21726856.60 -21726856.38 0.0077 0.0002
 Pluto -64198-09-23 05:30 J -21726631.40 -21726631.27 -21726631.10 0.0077 0.0056
 Saturn -64191-09-15 12:13 J -21724082.18 -21724081.99 -21724081.79 0.0271 0.0091
 Jupiter -64190-04-24 11:45 J -21723861.12 -21723861.01 -21723860.90 0.0505 0.0422
 Neptune -64185-03-20 12:42 J -21722069.01 -21722068.97 -21722068.89 0.0089 0.0085
 Neptune -64185-11-01 01:40 J -21721843.57 -21721843.43 -21721843.28 0.0089 0.0065
 Neptune -64184-06-14 14:09 J -21721618.08 -21721617.91 -21721617.71 0.0089 0.0044
 Jupiter -64184-10-21 09:49 J -21721489.19 -21721489.09 -21721489.00 0.0523 0.0460
 Neptune -64183-01-26 03:06 J -21721392.58 -21721392.37 -21721392.16 0.0089 0.0024
 Neptune -64183-09-08 15:49 J -21721167.06 -21721166.84 -21721166.63 0.0089 0.0004
 Neptune -64182-04-22 04:18 J -21720941.53 -21720941.32 -21720941.11 0.0089 0.0018
 Neptune -64182-12-03 16:47 J -21720715.99 -21720715.80 -21720715.59 0.0089 0.0038
 Neptune -64181-07-16 05:30 J -21720490.42 -21720490.27 -21720490.09 0.0089 0.0059
 Neptune -64180-02-26 18:28 J -21720264.82 -21720264.73 -21720264.62 0.0089 0.0079

Uranus	-64178-08-24 03:35 J	-21719356.40	-21719356.35	-21719356.27	0.0147	0.0139
Uranus	-64177-04-06 17:01 J	-21719129.96	-21719129.79	-21719129.60	0.0147	0.0082
Uranus	-64177-11-19 06:42 J	-21718903.44	-21718903.22	-21718903.01	0.0147	0.0024
Uranus	-64176-07-03 20:09 J	-21718676.86	-21718676.66	-21718676.44	0.0147	0.0034
Uranus	-64175-02-15 10:04 J	-21718450.24	-21718450.08	-21718449.90	0.0147	0.0092
Saturn	-64175-05-25 08:23 J	-21718351.23	-21718351.15	-21718351.03	0.0289	0.0254
Saturn	-64174-01-10 06:57 J	-21718121.34	-21718121.21	-21718121.07	0.0292	0.0219
Jupiter	-64172-06-26 03:21 J	-21717223.56	-21717223.36	-21717223.15	0.0522	0.0046
Mars	-64168-03-10 23:45 J	-21715869.66	-21715869.51	-21715869.36	0.1810	0.0873
Jupiter	-64166-04-26 22:18 J	-21715092.76	-21715092.57	-21715092.38	0.0503	0.0163
Saturn	-64162-08-11 10:04 J	-21713525.16	-21713525.08	-21713524.98	0.0274	0.0246
Mars	-64162-08-21 09:21 J	-21713515.26	-21713515.11	-21713514.95	0.1738	0.0728
Saturn	-64161-03-27 13:54 J	-21713296.09	-21713295.92	-21713295.73	0.0271	0.0137
Jupiter	-64160-02-28 20:52 J	-21712957.77	-21712957.63	-21712957.49	0.0521	0.0375
Jupiter	-64155-12-30 23:59 J	-21710826.68	-21710826.50	-21710826.31	0.0504	0.0202
Saturn	-64146-12-05 09:49 J	-21707565.23	-21707565.09	-21707564.93	0.0289	0.0207
Saturn	-64145-07-22 07:54 J	-21707335.25	-21707335.17	-21707335.08	0.0292	0.0265
Jupiter	-64136-03-03 22:04 J	-21704188.74	-21704188.58	-21704188.41	0.0523	0.0301
Uranus	-64136-03-09 09:21 J	-21704183.25	-21704183.11	-21704182.95	0.0132	0.0096
Uranus	-64136-10-21 13:40 J	-21703957.12	-21703956.93	-21703956.72	0.0132	0.0055
Uranus	-64135-06-04 17:59 J	-21703730.96	-21703730.75	-21703730.53	0.0132	0.0013
Uranus	-64134-01-16 22:04 J	-21703504.79	-21703504.58	-21703504.36	0.0132	0.0028
Uranus	-64134-08-31 01:40 J	-21703278.60	-21703278.43	-21703278.23	0.0132	0.0069
Moon	-64133-03-19 18:57 J	-21703076.86	-21703076.71	-21703076.56	0.2633	0.0706
Earth	-64133-03-19 23:30 J	-21703076.68	-21703076.52	-21703076.35	0.2629	0.0212 *
Uranus	-64133-04-13 05:30 J	-21703052.38	-21703052.27	-21703052.14	0.0132	0.0109
Saturn	-64132-02-20 09:49 J	-21702739.21	-21702739.09	-21702738.95	0.0274	0.0209
Saturn	-64132-10-07 13:54 J	-21702510.09	-21702509.92	-21702509.76	0.0271	0.0172
Jupiter	-64130-01-02 11:30 J	-21702058.14	-21702058.02	-21702057.89	0.0503	0.0388
Jupiter	-64125-11-06 13:54 J	-21699923.12	-21699922.92	-21699922.72	0.0521	0.0124

Jupiter -64119-09-07 13:25 J -21697792.14 -21697791.94 -21697791.73 0.0504 0.0026
 Saturn -64116-06-16 11:30 J -21696779.19 -21696779.02 -21696778.84 0.0289 0.0161
 Jupiter -64107-05-13 13:54 J -21693526.06 -21693525.92 -21693525.77 0.0504 0.0349
 Saturn -64103-09-02 11:16 J -21691953.19 -21691953.03 -21691952.85 0.0274 0.0165
 Neptune -64103-12-22 15:21 J -21691841.95 -21691841.86 -21691841.72 0.0088 0.0075
 Mars -64102-01-06 06:13 J -21691827.35 -21691827.24 -21691827.14 0.1804 0.1442
 Saturn -64102-04-19 15:06 J -21691723.99 -21691723.87 -21691723.74 0.0271 0.0217
 Neptune -64102-08-05 05:01 J -21691616.46 -21691616.29 -21691616.11 0.0088 0.0055
 Neptune -64101-03-17 18:13 J -21691390.93 -21691390.74 -21691390.52 0.0088 0.0034
 Neptune -64101-10-29 07:40 J -21691165.40 -21691165.18 -21691164.96 0.0088 0.0014
 Neptune -64100-06-11 20:52 J -21690939.85 -21690939.63 -21690939.40 0.0088 0.0007
 Neptune -64099-01-23 10:18 J -21690714.28 -21690714.07 -21690713.85 0.0088 0.0027
 Neptune -64099-09-05 23:30 J -21690488.70 -21690488.52 -21690488.33 0.0088 0.0048
 Neptune -64098-04-19 12:13 J -21690263.11 -21690262.99 -21690262.83 0.0088 0.0068
 Neptune -64098-12-01 01:40 J -21690037.43 -21690037.43 -21690037.42 0.0088 0.0088
 Mars -64096-06-17 17:59 J -21689472.87 -21689472.75 -21689472.62 0.1742 0.1173
 Uranus -64094-12-05 23:30 J -21688571.65 -21688571.52 -21688571.36 0.0147 0.0108
 Uranus -64093-07-19 13:11 J -21688345.15 -21688344.95 -21688344.74 0.0147 0.0050
 Uranus -64092-03-03 02:52 J -21688118.60 -21688118.38 -21688118.16 0.0147 0.0008
 Uranus -64092-10-15 16:18 J -21687892.00 -21687891.82 -21687891.61 0.0147 0.0066
 Uranus -64091-05-30 06:28 J -21687665.35 -21687665.23 -21687665.11 0.0147 0.0124
 Jupiter -64089-07-15 08:52 J -21686888.33 -21686888.13 -21686887.93 0.0523 0.0133
 Saturn -64087-12-27 13:11 J -21685993.14 -21685992.95 -21685992.75 0.0289 0.0114
 Jupiter -64083-05-16 00:57 J -21684757.64 -21684757.46 -21684757.28 0.0503 0.0238
 Jupiter -64077-03-20 01:40 J -21682622.60 -21682622.43 -21682622.26 0.0521 0.0286
 Saturn -64073-03-14 11:16 J -21681167.22 -21681167.03 -21681166.85 0.0274 0.0127
 Saturn -64073-10-29 14:52 J -21680937.95 -21680937.88 -21680937.80 0.0271 0.0253
 Jupiter -64071-01-19 02:37 J -21680491.58 -21680491.39 -21680491.19 0.0504 0.0127
 Mars -64064-06-16 21:06 J -21677785.69 -21677785.62 -21677785.55 0.1727 0.1575
 Jupiter -64060-09-24 04:33 J -21676225.34 -21676225.31 -21676225.26 0.0505 0.0491

Saturn -64057-07-08 15:21 J -21675207.07 -21675206.86 -21675206.65 0.0289 0.0066
 Jupiter -64053-03-23 01:11 J -21673853.58 -21673853.45 -21673853.31 0.0523 0.0383
 Uranus -64053-11-06 19:25 J -21673624.79 -21673624.69 -21673624.58 0.0132 0.0115
 Uranus -64052-06-20 23:45 J -21673398.68 -21673398.51 -21673398.32 0.0132 0.0074
 Uranus -64051-02-02 04:18 J -21673172.52 -21673172.32 -21673172.10 0.0132 0.0033
 Uranus -64051-09-16 08:37 J -21672946.36 -21672946.14 -21672945.92 0.0132 0.0008
 Uranus -64050-04-30 12:28 J -21672720.18 -21672719.98 -21672719.78 0.0132 0.0049
 Uranus -64050-12-12 16:04 J -21672493.98 -21672493.83 -21672493.66 0.0132 0.0090
 Uranus -64049-07-25 19:40 J -21672267.70 -21672267.68 -21672267.63 0.0132 0.0130
 Jupiter -64047-01-21 13:40 J -21671723.01 -21671722.93 -21671722.84 0.0502 0.0457
 Saturn -64044-09-24 12:42 J -21670381.17 -21670380.97 -21670380.77 0.0274 0.0082
 Jupiter -64042-11-26 17:59 J -21669587.95 -21669587.75 -21669587.54 0.0523 0.0041
 Pluto -64039-09-28 05:16 J -21668551.45 -21668551.28 -21668551.08 0.0068 0.0039
 Pluto -64038-05-11 11:30 J -21668326.25 -21668326.02 -21668325.79 0.0068 0.0000
 Pluto -64038-12-22 17:01 J -21668100.95 -21668100.79 -21668100.58 0.0068 0.0039
 Jupiter -64036-09-26 15:21 J -21667457.06 -21667456.86 -21667456.66 0.0503 0.0094
 Mars -64030-04-15 02:52 J -21665430.44 -21665430.38 -21665430.32 0.1747 0.1617
 Jupiter -64030-08-01 11:30 J -21665322.12 -21665322.02 -21665321.92 0.0521 0.0457
 Saturn -64027-01-18 17:45 J -21664420.97 -21664420.76 -21664420.54 0.0289 0.0016
 Jupiter -64024-06-01 16:18 J -21663190.99 -21663190.82 -21663190.65 0.0504 0.0275
 Neptune -64020-02-02 13:25 J -21661849.04 -21661848.94 -21661848.79 0.0089 0.0073
 Earth -64020-09-15 09:49 J -21661624.25 -21661624.09 -21661623.93 0.2705 0.0080
 Moon -64020-09-15 13:11 J -21661624.09 -21661623.95 -21661623.80 0.2710 0.0650 *
 Neptune -64020-09-16 02:23 J -21661623.57 -21661623.40 -21661623.21 0.0089 0.0051
 Neptune -64019-04-29 14:52 J -21661398.07 -21661397.88 -21661397.66 0.0089 0.0031
 Neptune -64019-12-11 03:49 J -21661172.56 -21661172.34 -21661172.13 0.0089 0.0010
 Neptune -64018-07-24 16:33 J -21660947.03 -21660946.81 -21660946.59 0.0089 0.0010
 Neptune -64017-03-06 04:47 J -21660721.49 -21660721.30 -21660721.08 0.0089 0.0032
 Neptune -64017-10-17 17:45 J -21660495.93 -21660495.76 -21660495.58 0.0089 0.0051
 Neptune -64016-05-31 06:13 J -21660270.35 -21660270.24 -21660270.10 0.0089 0.0072

Saturn	-64014-04-06 12:42 J	-21659595.18	-21659594.97	-21659594.76	0.0274	0.0044
Uranus	-64010-08-05 05:30 J	-21658013.35	-21658013.27	-21658013.17	0.0147	0.0134
Uranus	-64009-03-18 18:42 J	-21657786.89	-21657786.72	-21657786.52	0.0147	0.0077
Uranus	-64009-10-31 08:23 J	-21657560.37	-21657560.15	-21657559.93	0.0147	0.0020
Uranus	-64008-06-14 21:49 J	-21657333.79	-21657333.59	-21657333.37	0.0147	0.0038
Uranus	-64007-01-27 11:30 J	-21657107.17	-21657107.02	-21657106.84	0.0147	0.0096
Jupiter	-64006-08-04 11:16 J	-21656553.22	-21656553.03	-21656552.84	0.0522	0.0211
Mars	-64005-11-02 00:42 J	-21656097.58	-21656097.47	-21656097.36	0.1816	0.1375

64TH MILLENNIUM BCE

This is a list of transits of Venus in the 64th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-64000-06-04 04:04 J	-21654422.49	-21654422.33	-21654422.18	0.0503	0.0315		
Mars	-63998-04-14 06:42 J	-21653743.35	-21653743.22	-21653743.10	0.1732	0.1177		
Saturn	-63998-07-31 20:37 J	-21653634.85	-21653634.64	-21653634.43	0.0289	0.0036		
Jupiter	-63994-04-09 04:04 J	-21652287.52	-21652287.33	-21652287.14	0.0522	0.0208		
Jupiter	-63988-02-07 05:01 J	-21650156.49	-21650156.29	-21650156.09	0.0503	0.0055		
Saturn	-63985-10-16 15:06 J	-21648809.08	-21648808.87	-21648808.66	0.0274	0.0004		
Jupiter	-63977-10-13 06:42 J	-21645890.32	-21645890.22	-21645890.10	0.0504	0.0419		
Jupiter	-63970-04-12 04:33 J	-21643518.40	-21643518.31	-21643518.21	0.0524	0.0462		
Saturn	-63968-02-10 00:28 J	-21642848.68	-21642848.48	-21642848.27	0.0289	0.0092		
Uranus	-63968-02-18 09:21 J	-21642840.24	-21642840.11	-21642839.94	0.0132	0.0094		
Uranus	-63968-10-02 13:54 J	-21642614.11	-21642613.92	-21642613.71	0.0132	0.0053		

Uranus -63967-05-16 18:13 J -21642387.96 -21642387.74 -21642387.53 0.0132 0.0012
 Uranus -63967-12-28 22:04 J -21642161.79 -21642161.58 -21642161.36 0.0132 0.0029
 Uranus -63966-08-12 01:54 J -21641935.60 -21641935.42 -21641935.23 0.0132 0.0070
 Uranus -63965-03-25 05:45 J -21641709.37 -21641709.26 -21641709.14 0.0132 0.0110
 Jupiter -63959-12-15 21:49 J -21639252.80 -21639252.59 -21639252.39 0.0522 0.0044
 Saturn -63955-04-28 15:49 J -21638023.05 -21638022.84 -21638022.63 0.0273 0.0045
 Pluto -63953-07-28 02:52 J -21637201.56 -21637201.38 -21637201.18 0.0077 0.0035
 Jupiter -63953-10-15 16:18 J -21637122.00 -21637121.82 -21637121.62 0.0503 0.0162
 Pluto -63952-03-10 11:45 J -21636976.22 -21636976.01 -21636975.80 0.0077 0.0019
 Pluto -63952-10-21 19:25 J -21636750.73 -21636750.69 -21636750.60 0.0076 0.0073
 Jupiter -63947-08-20 13:11 J -21634987.09 -21634986.95 -21634986.81 0.0521 0.0382
 Jupiter -63941-06-20 18:13 J -21632855.93 -21632855.74 -21632855.56 0.0504 0.0203
 Saturn -63939-08-23 05:01 J -21632062.47 -21632062.29 -21632062.11 0.0290 0.0149
 Mars -63939-08-30 07:11 J -21632055.35 -21632055.20 -21632055.04 0.1811 0.0791
 Neptune -63938-03-26 02:52 J -21631847.43 -21631847.38 -21631847.27 0.0088 0.0083
 Neptune -63938-11-06 16:33 J -21631621.96 -21631621.81 -21631621.64 0.0088 0.0062
 Neptune -63937-06-19 05:45 J -21631396.44 -21631396.26 -21631396.04 0.0088 0.0042
 Neptune -63936-01-30 19:40 J -21631170.90 -21631170.68 -21631170.46 0.0088 0.0020
 Neptune -63936-09-13 08:52 J -21630945.35 -21630945.13 -21630944.90 0.0088 0.0002
 Neptune -63935-04-26 22:18 J -21630719.79 -21630719.57 -21630719.36 0.0088 0.0021
 Neptune -63935-12-08 11:01 J -21630494.22 -21630494.04 -21630493.82 0.0088 0.0042
 Neptune -63934-07-22 00:28 J -21630268.63 -21630268.48 -21630268.31 0.0088 0.0061
 Neptune -63933-03-03 13:54 J -21630043.00 -21630042.92 -21630042.84 0.0088 0.0082
 Mars -63932-02-08 15:35 J -21629701.00 -21629700.85 -21629700.69 0.1736 0.0761
 Saturn -63926-11-08 18:57 J -21627236.91 -21627236.71 -21627236.51 0.0273 0.0095
 Uranus -63926-11-16 22:04 J -21627228.72 -21627228.58 -21627228.42 0.0147 0.0107
 Uranus -63925-06-30 11:30 J -21627002.22 -21627002.02 -21627001.81 0.0147 0.0050
 Uranus -63924-02-12 01:11 J -21626775.67 -21626775.45 -21626775.23 0.0147 0.0008
 Uranus -63924-09-26 14:52 J -21626549.07 -21626548.88 -21626548.68 0.0147 0.0065
 Uranus -63923-05-11 04:33 J -21626322.42 -21626322.31 -21626322.18 0.0147 0.0123

Jupiter -63923-08-23 12:13 J -21626218.16 -21626217.99 -21626217.81 0.0523 0.0281
 Jupiter -63917-06-23 04:47 J -21624087.43 -21624087.30 -21624087.16 0.0502 0.0380
 Jupiter -63911-04-28 05:16 J -21621952.47 -21621952.28 -21621952.08 0.0522 0.0140
 Saturn -63910-07-18 13:11 J -21621506.04 -21621505.95 -21621505.84 0.0286 0.0252
 Saturn -63909-03-04 09:49 J -21621276.22 -21621276.09 -21621275.93 0.0290 0.0210
 Jupiter -63905-02-27 05:16 J -21619821.48 -21619821.28 -21619821.08 0.0503 0.0011
 Saturn -63897-10-03 15:49 J -21616679.92 -21616679.84 -21616679.75 0.0276 0.0249
 Saturn -63896-05-20 20:52 J -21616450.81 -21616450.63 -21616450.45 0.0273 0.0140
 Jupiter -63894-11-02 06:13 J -21615555.38 -21615555.24 -21615555.10 0.0504 0.0358
 Earth -63890-03-21 00:42 J -21614320.64 -21614320.47 -21614320.31 0.2628 0.0192
 Moon -63890-03-21 05:59 J -21614320.40 -21614320.25 -21614320.09 0.2627 0.0710 *
 Uranus -63885-10-18 19:11 J -21612281.80 -21612281.70 -21612281.58 0.0132 0.0113
 Uranus -63884-06-01 23:45 J -21612055.69 -21612055.51 -21612055.33 0.0132 0.0072
 Uranus -63883-01-14 03:49 J -21611829.54 -21611829.34 -21611829.12 0.0132 0.0032
 Uranus -63883-08-28 07:54 J -21611603.38 -21611603.17 -21611602.95 0.0132 0.0010
 Uranus -63882-04-11 11:45 J -21611377.20 -21611377.01 -21611376.80 0.0132 0.0050
 Uranus -63882-11-23 15:35 J -21611151.00 -21611150.85 -21611150.69 0.0131 0.0090
 Uranus -63881-07-06 18:57 J -21610924.73 -21610924.71 -21610924.66 0.0131 0.0130
 Saturn -63880-01-27 19:11 J -21610719.85 -21610719.70 -21610719.53 0.0287 0.0191
 Saturn -63880-09-14 16:04 J -21610489.89 -21610489.83 -21610489.75 0.0290 0.0273
 Jupiter -63875-01-03 21:06 J -21608917.82 -21608917.62 -21608917.42 0.0522 0.0106
 Mars -63873-06-26 13:54 J -21608013.10 -21608012.92 -21608012.75 0.1806 0.0228
 Jupiter -63870-11-04 17:01 J -21606786.97 -21606786.79 -21606786.61 0.0502 0.0225
 Saturn -63867-04-15 20:09 J -21605893.80 -21605893.66 -21605893.51 0.0276 0.0194
 Saturn -63867-12-01 01:11 J -21605664.59 -21605664.45 -21605664.30 0.0273 0.0194
 Mars -63867-12-07 00:42 J -21605658.64 -21605658.47 -21605658.30 0.1741 0.0342
 Jupiter -63864-09-08 11:30 J -21604652.17 -21604652.02 -21604651.85 0.0522 0.0326
 Jupiter -63858-07-10 18:28 J -21602520.92 -21602520.73 -21602520.53 0.0503 0.0140
 Neptune -63856-05-07 02:23 J -21601854.49 -21601854.40 -21601854.29 0.0089 0.0079
 Neptune -63856-12-18 14:52 J -21601629.03 -21601628.88 -21601628.70 0.0089 0.0058

Neptune -63855-08-01 03:21 J -21601403.54 -21601403.36 -21601403.14 0.0089 0.0039
 Neptune -63854-03-14 16:18 J -21601178.03 -21601177.82 -21601177.60 0.0089 0.0017
 Neptune -63854-10-26 05:01 J -21600952.51 -21600952.29 -21600952.07 0.0089 0.0003
 Neptune -63853-06-07 17:30 J -21600726.97 -21600726.77 -21600726.55 0.0089 0.0024
 Neptune -63852-01-19 06:13 J -21600501.42 -21600501.24 -21600501.04 0.0089 0.0045
 Neptune -63852-09-01 18:42 J -21600275.85 -21600275.72 -21600275.56 0.0089 0.0065
 Neptune -63851-04-15 07:40 J -21600050.23 -21600050.18 -21600050.12 0.0089 0.0086
 Saturn -63851-08-10 02:37 J -21599933.58 -21599933.39 -21599933.19 0.0287 0.0122
 Uranus -63842-07-17 00:13 J -21596670.55 -21596670.49 -21596670.41 0.0147 0.0138
 Uranus -63841-02-28 13:11 J -21596444.12 -21596443.95 -21596443.76 0.0147 0.0082
 Uranus -63841-10-12 02:37 J -21596217.60 -21596217.39 -21596217.17 0.0147 0.0025
 Uranus -63840-05-26 16:18 J -21595991.03 -21595990.82 -21595990.61 0.0147 0.0033
 Jupiter -63840-09-11 13:11 J -21595883.10 -21595882.95 -21595882.80 0.0523 0.0350
 Uranus -63839-01-08 05:45 J -21595764.42 -21595764.26 -21595764.08 0.0147 0.0090
 Saturn -63838-10-26 23:45 J -21595107.69 -21595107.51 -21595107.33 0.0275 0.0144
 Saturn -63837-06-12 04:18 J -21594878.40 -21594878.32 -21594878.22 0.0273 0.0243
 Jupiter -63834-07-13 02:37 J -21593752.48 -21593752.39 -21593752.28 0.0502 0.0434
 Jupiter -63828-05-17 04:18 J -21591617.52 -21591617.32 -21591617.12 0.0522 0.0078
 Jupiter -63822-03-18 04:04 J -21589486.53 -21589486.33 -21589486.13 0.0503 0.0067
 Saturn -63821-02-20 09:49 J -21589147.29 -21589147.09 -21589146.87 0.0288 0.0056
 Jupiter -63816-01-19 19:54 J -21587351.73 -21587351.67 -21587351.62 0.0521 0.0500
 Jupiter -63811-11-21 05:45 J -21585220.42 -21585220.26 -21585220.10 0.0504 0.0298
 Saturn -63808-05-08 05:01 J -21584321.48 -21584321.29 -21584321.08 0.0275 0.0085
 Mars -63807-04-23 20:37 J -21583970.81 -21583970.64 -21583970.47 0.1801 0.0333
 Mars -63801-10-03 09:21 J -21581616.28 -21581616.11 -21581615.93 0.1745 0.0107
 Uranus -63800-01-30 08:09 J -21581497.30 -21581497.16 -21581496.99 0.0132 0.0094
 Uranus -63800-09-13 12:28 J -21581271.17 -21581270.98 -21581270.77 0.0132 0.0053
 Uranus -63799-04-27 16:47 J -21581045.01 -21581044.80 -21581044.58 0.0132 0.0012
 Uranus -63799-12-09 20:37 J -21580818.84 -21580818.64 -21580818.42 0.0132 0.0029
 Uranus -63798-07-24 00:28 J -21580592.66 -21580592.48 -21580592.29 0.0132 0.0069

Uranus -63797-03-06 04:18 J -21580366.43 -21580366.32 -21580366.19 0.0132 0.0109
 Pluto -63793-03-15 11:01 J -21578896.04 -21578896.04 -21578895.99 0.0067 0.0067
 Pluto -63793-10-26 17:16 J -21578670.97 -21578670.78 -21578670.56 0.0068 0.0029
 Jupiter -63792-01-22 18:28 J -21578582.92 -21578582.73 -21578582.53 0.0523 0.0158
 Pluto -63792-06-08 23:30 J -21578445.74 -21578445.52 -21578445.29 0.0068 0.0010
 Saturn -63792-09-01 18:42 J -21578360.93 -21578360.72 -21578360.51 0.0288 0.0017
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 Jupiter -63781-09-27 11:01 J -21574317.21 -21574317.04 -21574316.85 0.0522 0.0261
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Saturn -63749-05-30 16:33 J -21562749.02 -21562748.81 -21562748.60 0.0274 0.0032
 Jupiter -63745-06-04 22:47 J -21561282.75 -21561282.55 -21561282.34 0.0522 0.0039
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 Saturn -63632-11-28 14:23 J -21519833.09 -21519832.90 -21519832.70 0.0275 0.0108
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 Jupiter -63591-11-08 00:13 J -21504878.56 -21504878.49 -21504878.41 0.0523 0.0485
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 Uranus -63587-04-02 20:23 J -21503636.77 -21503636.65 -21503636.50 0.0147 0.0115
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Jupiter -63567-03-18 05:01 J -21496347.43 -21496347.29 -21496347.15 0.0521 0.0371
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 Uranus -63549-09-10 15:35 J -21489595.95 -21489595.85 -21489595.74 0.0132 0.0114
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 Jupiter -63431-06-18 23:01 J -21446580.71 -21446580.54 -21446580.38 0.0504 0.0284
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 Uranus -63421-05-04 04:33 J -21442973.50 -21442973.31 -21442973.10 0.0147 0.0053
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 Jupiter -63413-08-20 12:42 J -21439943.16 -21439942.97 -21439942.78 0.0522 0.0179
 Saturn -63409-04-26 10:18 J -21438598.28 -21438598.07 -21438597.85 0.0288 0.0004
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Earth -63404-03-21 02:37 J -21436808.55 -21436808.39 -21436808.22 0.2626 0.0098
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 Saturn -63396-07-13 09:49 J -21433772.30 -21433772.09 -21433771.88 0.0275 0.0019
 Jupiter -63395-02-24 10:33 J -21433546.26 -21433546.06 -21433545.86 0.0504 0.0069
 Jupiter -63384-10-30 12:28 J -21429280.08 -21429279.98 -21429279.87 0.0505 0.0430
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 Mars -63380-04-03 01:25 J -21428029.61 -21428029.44 -21428029.27 0.1787 0.0293
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 Jupiter -63371-02-26 19:40 J -21424777.68 -21424777.68 -21424777.68 0.0502 0.0502
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 Jupiter -63330-09-09 12:28 J -21409608.16 -21409607.98 -21409607.80 0.0522 0.0243
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Saturn -63292-10-24 02:52 J -21395683.49 -21395683.38 -21395683.27 0.0285 0.0242
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 Pluto -63054-09-04 13:40 J -21308804.06 -21308803.93 -21308803.76 0.0068 0.0050
 Jupiter -63051-01-15 18:28 J -21307939.92 -21307939.73 -21307939.54 0.0504 0.0155
 Moon -63048-09-16 10:04 J -21306600.20 -21306600.08 -21306599.95 0.2713 0.1476
 Earth -63048-09-16 14:23 J -21306600.05 -21306599.90 -21306599.74 0.2709 0.0622 *
 Uranus -63045-07-15 12:57 J -21305567.06 -21305566.96 -21305566.83 0.0132 0.0111
 Uranus -63044-02-26 17:59 J -21305340.93 -21305340.75 -21305340.56 0.0132 0.0071
 Uranus -63044-10-10 22:33 J -21305114.77 -21305114.56 -21305114.34 0.0132 0.0031
 Uranus -63043-05-25 03:06 J -21304888.59 -21304888.37 -21304888.15 0.0132 0.0009
 Saturn -63043-08-23 16:18 J -21304797.85 -21304797.82 -21304797.78 0.0279 0.0274
 Uranus -63042-01-06 07:11 J -21304662.40 -21304662.20 -21304661.99 0.0132 0.0049
 Saturn -63042-04-09 23:16 J -21304568.71 -21304568.53 -21304568.33 0.0276 0.0125
 Uranus -63042-08-20 11:01 J -21304436.19 -21304436.04 -21304435.87 0.0132 0.0089
 Uranus -63041-04-02 14:52 J -21304209.91 -21304209.88 -21304209.81 0.0132 0.0128
 Neptune -63034-11-11 17:01 J -21301430.90 -21301430.79 -21301430.66 0.0089 0.0073
 Jupiter -63033-03-19 09:35 J -21301302.26 -21301302.10 -21301301.94 0.0523 0.0322
 Neptune -63033-06-24 05:30 J -21301205.43 -21301205.27 -21301205.08 0.0089 0.0053
 Neptune -63032-02-04 17:59 J -21300979.94 -21300979.75 -21300979.53 0.0089 0.0033
 Neptune -63032-09-18 06:42 J -21300754.43 -21300754.22 -21300754.00 0.0089 0.0012
 Neptune -63031-05-01 19:11 J -21300528.91 -21300528.70 -21300528.48 0.0089 0.0008
 Neptune -63031-12-13 07:54 J -21300303.38 -21300303.17 -21300302.97 0.0089 0.0029
 Neptune -63030-07-26 20:09 J -21300077.82 -21300077.66 -21300077.46 0.0089 0.0049
 Neptune -63029-03-08 09:06 J -21299852.25 -21299852.12 -21299851.98 0.0089 0.0070
 Jupiter -63027-01-18 04:47 J -21299171.41 -21299171.30 -21299171.19 0.0502 0.0422
 Saturn -63027-12-17 05:45 J -21298838.35 -21298838.26 -21298838.15 0.0283 0.0247
 Saturn -63026-08-04 00:13 J -21298608.63 -21298608.49 -21298608.32 0.0287 0.0196
 Jupiter -63022-11-23 01:25 J -21297036.64 -21297036.44 -21297036.24 0.0522 0.0096
 Mars -63019-05-16 23:45 J -21296130.69 -21296130.51 -21296130.34 0.1778 0.0301

Jupiter	-63016-09-23 06:42 J	-21294905.42	-21294905.22	-21294905.02	0.0503	0.0061
Saturn	-63013-03-04 19:11 J	-21294011.81	-21294011.70	-21294011.57	0.0279	0.0224
Saturn	-63013-10-20 02:09 J	-21293782.56	-21293782.41	-21293782.24	0.0276	0.0175
Mars	-63013-10-26 16:18 J	-21293775.98	-21293775.82	-21293775.65	0.1767	0.0649
Jupiter	-63010-07-28 15:49 J	-21292770.84	-21292770.84	-21292770.84	0.0521	0.0521
Jupiter	-63004-05-29 08:52 J	-21290639.29	-21290639.13	-21290638.96	0.0504	0.0297
Uranus	-63002-04-12 13:54 J	-21289955.97	-21289955.92	-21289955.84	0.0147	0.0140
Uranus	-63002-11-25 03:06 J	-21289729.55	-21289729.37	-21289729.19	0.0147	0.0085
Uranus	-63001-07-08 16:04 J	-21289503.04	-21289502.83	-21289502.61	0.0147	0.0030

63RD MILLENNIUM BCE

This is a list of transits of Venus in the 63rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-63000-02-20 05:30 J	-21289276.48	-21289276.27	-21289276.05	0.0147	0.0026		
Uranus	-63000-10-04 18:42 J	-21289049.89	-21289049.72	-21289049.53	0.0147	0.0082		
Uranus	-62999-05-19 08:09 J	-21288823.21	-21288823.16	-21288823.07	0.0147	0.0138		
Saturn	-62997-06-28 10:18 J	-21288052.22	-21288052.07	-21288051.90	0.0283	0.0190		
Saturn	-62996-02-13 05:01 J	-21287822.38	-21287822.29	-21287822.19	0.0286	0.0251		
Jupiter	-62986-07-31 18:57 J	-21284001.91	-21284001.71	-21284001.51	0.0523	0.0152		
Saturn	-62984-09-14 20:37 J	-21283225.79	-21283225.64	-21283225.48	0.0279	0.0181		
Saturn	-62983-05-02 03:21 J	-21282996.48	-21282996.36	-21282996.22	0.0276	0.0216		
Jupiter	-62980-05-31 17:16 J	-21281870.95	-21281870.78	-21281870.61	0.0502	0.0272		
Jupiter	-62974-04-05 09:49 J	-21279736.26	-21279736.09	-21279735.91	0.0521	0.0271		

Pluto -62970-08-28 18:28 J -21278129.79 -21278129.73 -21278129.64 0.0077 0.0072
 Pluto -62969-04-10 03:21 J -21277904.56 -21277904.36 -21277904.14 0.0077 0.0017
 Pluto -62969-11-21 11:30 J -21277679.19 -21277679.02 -21277678.82 0.0076 0.0038
 Jupiter -62968-02-03 19:25 J -21277604.89 -21277604.69 -21277604.50 0.0504 0.0089
 Saturn -62967-01-08 15:35 J -21277266.04 -21277265.85 -21277265.66 0.0284 0.0133
 Uranus -62961-03-14 23:16 J -21275008.56 -21275008.53 -21275008.48 0.0132 0.0129
 Uranus -62961-10-27 04:04 J -21274782.48 -21274782.33 -21274782.16 0.0132 0.0089
 Uranus -62960-06-10 08:52 J -21274556.33 -21274556.13 -21274555.93 0.0132 0.0049
 Uranus -62959-01-22 13:25 J -21274330.16 -21274329.94 -21274329.72 0.0132 0.0009
 Uranus -62959-09-05 17:30 J -21274103.97 -21274103.77 -21274103.55 0.0132 0.0031
 Uranus -62958-04-19 21:35 J -21273877.77 -21273877.60 -21273877.41 0.0132 0.0070
 Uranus -62958-12-02 01:40 J -21273651.55 -21273651.43 -21273651.31 0.0132 0.0109
 Jupiter -62957-10-09 21:35 J -21273338.68 -21273338.60 -21273338.50 0.0504 0.0448
 Saturn -62954-03-28 00:28 J -21272439.66 -21272439.48 -21272439.29 0.0279 0.0127
 Saturn -62954-11-12 07:11 J -21272210.24 -21272210.20 -21272210.15 0.0276 0.0268
 Mars -62953-03-13 06:57 J -21272088.38 -21272088.21 -21272088.04 0.1774 0.0212
 Neptune -62951-01-01 03:06 J -21271429.44 -21271429.37 -21271429.29 0.0088 0.0083
 Neptune -62951-08-14 16:18 J -21271203.96 -21271203.82 -21271203.65 0.0088 0.0062
 Neptune -62950-03-28 05:59 J -21270978.44 -21270978.25 -21270978.05 0.0088 0.0042
 Jupiter -62950-04-08 08:52 J -21270967.27 -21270967.13 -21270966.99 0.0524 0.0383
 Neptune -62950-11-08 19:25 J -21270752.90 -21270752.69 -21270752.47 0.0088 0.0021
 Neptune -62949-06-21 08:52 J -21270527.35 -21270527.13 -21270526.90 0.0088 0.0001
 Neptune -62948-02-01 22:18 J -21270301.78 -21270301.57 -21270301.35 0.0088 0.0020
 Neptune -62948-09-15 11:30 J -21270076.21 -21270076.02 -21270075.81 0.0088 0.0041
 Neptune -62947-04-29 00:57 J -21269850.62 -21269850.46 -21269850.30 0.0088 0.0061
 Mars -62947-08-24 00:13 J -21269733.66 -21269733.49 -21269733.31 0.1771 0.0167
 Neptune -62947-12-10 13:40 J -21269624.99 -21269624.93 -21269624.82 0.0088 0.0082
 Jupiter -62944-02-06 05:30 J -21268836.31 -21268836.27 -21268836.22 0.0501 0.0485
 Jupiter -62939-12-12 01:25 J -21266701.65 -21266701.44 -21266701.24 0.0523 0.0032
 Saturn -62938-07-21 21:49 J -21266479.80 -21266479.59 -21266479.39 0.0284 0.0072

Jupiter -62933-10-12 05:59 J -21264570.45 -21264570.25 -21264570.05 0.0503 0.0121
 Jupiter -62927-08-16 17:45 J -21262435.86 -21262435.76 -21262435.65 0.0521 0.0446
 Saturn -62925-10-07 03:06 J -21261653.57 -21261653.37 -21261653.17 0.0279 0.0080
 Jupiter -62921-06-17 07:25 J -21260304.37 -21260304.19 -21260304.02 0.0504 0.0241
 Moon -62918-03-22 03:49 J -21259296.49 -21259296.34 -21259296.19 0.2631 0.0374
 Earth -62918-03-22 04:33 J -21259296.47 -21259296.31 -21259296.15 0.2625 0.0019 *
 Uranus -62918-07-25 09:49 J -21259171.22 -21259171.09 -21259170.93 0.0147 0.0110
 Uranus -62917-03-07 23:01 J -21258944.73 -21258944.54 -21258944.33 0.0147 0.0055
 Uranus -62917-10-20 12:13 J -21258718.20 -21258717.99 -21258717.77 0.0147 0.0003
 Uranus -62916-06-04 01:40 J -21258491.63 -21258491.43 -21258491.23 0.0147 0.0056
 Uranus -62915-01-16 15:06 J -21258265.00 -21258264.87 -21258264.72 0.0147 0.0112
 Saturn -62908-01-31 04:04 J -21255693.55 -21255693.33 -21255693.12 0.0285 0.0010
 Jupiter -62903-08-19 17:16 J -21253666.96 -21253666.78 -21253666.59 0.0523 0.0210
 Jupiter -62897-06-19 17:16 J -21251535.93 -21251535.78 -21251535.63 0.0502 0.0332
 Saturn -62895-04-19 08:23 J -21250867.36 -21250867.15 -21250866.94 0.0278 0.0022
 Jupiter -62891-04-24 06:42 J -21249401.41 -21249401.22 -21249401.03 0.0522 0.0221
 Mars -62887-01-08 14:52 J -21248046.04 -21248045.88 -21248045.72 0.1768 0.0695
 Jupiter -62885-02-23 19:11 J -21247269.90 -21247269.70 -21247269.49 0.0503 0.0029
 Mars -62881-06-20 08:23 J -21245691.32 -21245691.15 -21245690.98 0.1777 0.0315
 Saturn -62879-08-13 11:45 J -21244907.21 -21244907.01 -21244906.79 0.0284 0.0058
 Uranus -62877-06-26 14:37 J -21244224.00 -21244223.89 -21244223.74 0.0132 0.0107
 Uranus -62876-02-07 19:40 J -21243997.86 -21243997.68 -21243997.48 0.0132 0.0067
 Uranus -62876-09-22 00:13 J -21243771.70 -21243771.49 -21243771.27 0.0132 0.0027
 Uranus -62875-05-06 04:33 J -21243545.52 -21243545.31 -21243545.09 0.0132 0.0013
 Uranus -62875-12-18 08:23 J -21243319.33 -21243319.15 -21243318.94 0.0132 0.0053
 Uranus -62874-08-01 12:28 J -21243093.12 -21243092.98 -21243092.81 0.0132 0.0091
 Jupiter -62874-10-29 19:25 J -21243003.81 -21243003.69 -21243003.57 0.0504 0.0394
 Uranus -62873-03-14 16:47 J -21242866.83 -21242866.80 -21242866.77 0.0131 0.0130
 Neptune -62869-02-13 04:47 J -21241436.38 -21241436.30 -21241436.21 0.0089 0.0081
 Neptune -62869-09-25 17:01 J -21241210.93 -21241210.79 -21241210.62 0.0089 0.0061

Neptune -62868-05-09 05:16 J -21240985.45 -21240985.28 -21240985.07 0.0089 0.0042
 Neptune -62868-12-20 18:13 J -21240759.95 -21240759.74 -21240759.53 0.0089 0.0021
 Jupiter -62867-04-27 09:06 J -21240632.22 -21240632.12 -21240632.01 0.0524 0.0450
 Neptune -62867-08-03 06:42 J -21240534.43 -21240534.22 -21240534.00 0.0089 0.0001
 Neptune -62866-03-16 19:11 J -21240308.91 -21240308.70 -21240308.49 0.0089 0.0020
 Neptune -62866-10-28 07:25 J -21240083.37 -21240083.19 -21240082.98 0.0089 0.0041
 Saturn -62866-10-30 12:28 J -21240081.19 -21240080.98 -21240080.77 0.0278 0.0030
 Neptune -62865-06-09 20:09 J -21239857.81 -21239857.66 -21239857.49 0.0089 0.0061
 Neptune -62864-01-21 08:23 J -21239632.21 -21239632.15 -21239632.04 0.0089 0.0082
 Jupiter -62856-12-30 23:59 J -21236366.71 -21236366.50 -21236366.30 0.0522 0.0027
 Jupiter -62850-11-01 03:35 J -21234235.53 -21234235.35 -21234235.15 0.0503 0.0173
 Saturn -62849-02-23 19:25 J -21234120.88 -21234120.69 -21234120.49 0.0285 0.0124
 Jupiter -62844-09-04 14:37 J -21232101.02 -21232100.89 -21232100.76 0.0521 0.0395
 Jupiter -62838-07-07 06:13 J -21229969.43 -21229969.24 -21229969.05 0.0504 0.0185
 Saturn -62836-05-11 18:42 J -21229294.91 -21229294.72 -21229294.52 0.0277 0.0092
 Uranus -62834-03-24 15:49 J -21228612.91 -21228612.84 -21228612.75 0.0147 0.0135
 Uranus -62834-11-06 04:33 J -21228386.48 -21228386.31 -21228386.12 0.0147 0.0081
 Uranus -62833-06-19 17:45 J -21228159.97 -21228159.76 -21228159.54 0.0147 0.0026
 Uranus -62832-02-01 06:57 J -21227933.41 -21227933.21 -21227932.99 0.0147 0.0031
 Uranus -62832-09-15 20:37 J -21227706.81 -21227706.64 -21227706.46 0.0147 0.0086
 Uranus -62831-04-30 10:04 J -21227480.13 -21227480.08 -21227480.01 0.0147 0.0142
 Mars -62822-11-05 22:33 J -21224003.69 -21224003.56 -21224003.43 0.1764 0.1178
 Saturn -62820-01-18 10:18 J -21223564.17 -21223564.07 -21223563.95 0.0282 0.0242
 Saturn -62820-09-05 04:18 J -21223334.47 -21223334.32 -21223334.16 0.0285 0.0195
 Jupiter -62820-09-07 13:25 J -21223332.11 -21223331.94 -21223331.76 0.0523 0.0257
 Mars -62815-04-17 15:49 J -21221648.99 -21221648.84 -21221648.69 0.1781 0.0831
 Jupiter -62814-07-09 13:25 J -21221201.07 -21221200.94 -21221200.81 0.0502 0.0377
 Pluto -62810-11-27 06:57 J -21219599.31 -21219599.21 -21219599.11 0.0068 0.0060
 Pluto -62809-07-09 12:42 J -21219374.18 -21219373.97 -21219373.75 0.0068 0.0021
 Pluto -62808-02-19 18:42 J -21219148.93 -21219148.72 -21219148.49 0.0068 0.0018

Jupiter -62808-05-13 05:45 J -21219066.45 -21219066.26 -21219066.06 0.0522 0.0158
 Pluto -62808-10-03 00:42 J -21218923.56 -21218923.47 -21218923.33 0.0068 0.0059
 Saturn -62807-04-06 17:16 J -21218737.87 -21218737.78 -21218737.69 0.0280 0.0251
 Saturn -62807-11-22 00:28 J -21218508.66 -21218508.48 -21218508.31 0.0277 0.0150
 Earth -62805-09-16 15:49 J -21217843.99 -21217843.84 -21217843.69 0.2709 0.0759
 Moon -62805-09-16 21:21 J -21217843.77 -21217843.61 -21217843.46 0.2708 0.0071 *
 Jupiter -62802-03-14 14:23 J -21216935.10 -21216934.90 -21216934.70 0.0503 0.0015
 Uranus -62793-02-25 01:40 J -21213665.49 -21213665.43 -21213665.35 0.0132 0.0124
 Uranus -62793-10-08 06:13 J -21213439.39 -21213439.24 -21213439.06 0.0132 0.0085
 Uranus -62792-05-22 11:01 J -21213213.24 -21213213.04 -21213212.83 0.0132 0.0045
 Uranus -62791-01-03 15:21 J -21212987.08 -21212986.86 -21212986.64 0.0132 0.0005
 Saturn -62791-07-31 18:42 J -21212777.89 -21212777.72 -21212777.55 0.0283 0.0174
 Uranus -62791-08-17 19:25 J -21212760.89 -21212760.69 -21212760.47 0.0131 0.0034
 Jupiter -62791-11-17 15:21 J -21212669.00 -21212668.86 -21212668.71 0.0504 0.0350
 Saturn -62790-03-18 12:57 J -21212548.03 -21212547.96 -21212547.88 0.0286 0.0266
 Uranus -62790-03-31 23:16 J -21212534.70 -21212534.53 -21212534.34 0.0131 0.0074
 Uranus -62790-11-13 03:21 J -21212308.47 -21212308.36 -21212308.24 0.0131 0.0112
 Neptune -62787-11-16 02:23 J -21211209.52 -21211209.40 -21211209.25 0.0088 0.0071
 Neptune -62786-06-29 15:49 J -21210984.00 -21210983.84 -21210983.64 0.0088 0.0050
 Neptune -62785-02-10 05:45 J -21210758.46 -21210758.26 -21210758.04 0.0088 0.0029
 Neptune -62785-09-22 19:11 J -21210532.92 -21210532.70 -21210532.47 0.0088 0.0009
 Neptune -62784-05-06 08:37 J -21210307.36 -21210307.14 -21210306.91 0.0088 0.0012
 Jupiter -62784-05-16 04:33 J -21210297.38 -21210297.31 -21210297.24 0.0524 0.0492
 Neptune -62784-12-17 22:04 J -21210081.78 -21210081.58 -21210081.37 0.0088 0.0032
 Neptune -62783-07-31 11:30 J -21209856.20 -21209856.02 -21209855.84 0.0088 0.0053
 Neptune -62782-03-14 00:28 J -21209630.59 -21209630.48 -21209630.34 0.0088 0.0073
 Saturn -62778-10-18 00:28 J -21207951.63 -21207951.48 -21207951.31 0.0279 0.0185
 Saturn -62777-06-03 07:40 J -21207722.31 -21207722.18 -21207722.04 0.0276 0.0213
 Jupiter -62772-01-18 17:30 J -21206031.97 -21206031.77 -21206031.56 0.0523 0.0062
 Jupiter -62767-11-20 01:11 J -21203900.62 -21203900.45 -21203900.26 0.0502 0.0226

Saturn -62761-02-11 04:47 J -21201991.50 -21201991.30 -21201991.10 0.0283 0.0100
 Jupiter -62761-09-23 09:06 J -21201766.27 -21201766.12 -21201765.97 0.0522 0.0354
 Mars -62756-09-02 06:57 J -21199961.27 -21199961.21 -21199961.15 0.1759 0.1627
 Jupiter -62755-07-26 00:57 J -21199634.65 -21199634.46 -21199634.27 0.0504 0.0145
 Uranus -62750-07-06 08:37 J -21197828.28 -21197828.14 -21197827.99 0.0147 0.0109
 Mars -62749-02-12 23:30 J -21197606.63 -21197606.52 -21197606.40 0.1787 0.1338
 Uranus -62749-02-17 21:35 J -21197601.79 -21197601.60 -21197601.39 0.0147 0.0054
 Uranus -62749-10-01 10:47 J -21197375.26 -21197375.05 -21197374.83 0.0147 0.0004
 Saturn -62748-04-29 07:25 J -21197165.37 -21197165.19 -21197165.00 0.0279 0.0122
 Uranus -62748-05-16 00:13 J -21197148.69 -21197148.49 -21197148.29 0.0147 0.0056
 Saturn -62748-12-14 14:09 J -21196935.93 -21196935.91 -21196935.88 0.0276 0.0274
 Uranus -62748-12-28 13:25 J -21196922.06 -21196921.94 -21196921.78 0.0147 0.0113
 Jupiter -62737-09-26 10:04 J -21192997.24 -21192997.08 -21192996.91 0.0523 0.0306
 Saturn -62732-08-23 12:57 J -21191205.17 -21191204.96 -21191204.75 0.0284 0.0032
 Jupiter -62731-07-28 08:52 J -21190866.24 -21190866.13 -21190866.02 0.0502 0.0418
 Jupiter -62725-06-01 00:28 J -21188731.68 -21188731.48 -21188731.28 0.0522 0.0117
 Mars -62724-09-01 14:37 J -21188274.00 -21188273.89 -21188273.79 0.1775 0.1395
 Pluto -62724-09-26 06:13 J -21188249.35 -21188249.24 -21188249.09 0.0077 0.0062
 Pluto -62723-05-09 15:06 J -21188024.08 -21188023.87 -21188023.65 0.0077 0.0007
 Pluto -62723-12-20 23:45 J -21187798.68 -21187798.51 -21187798.35 0.0076 0.0048
 Jupiter -62719-04-02 11:01 J -21186600.24 -21186600.04 -21186599.84 0.0503 0.0062
 Saturn -62719-11-09 15:35 J -21186379.05 -21186378.85 -21186378.64 0.0278 0.0054
 Mars -62717-02-12 06:42 J -21185919.27 -21185919.22 -21185919.18 0.1770 0.1692
 Uranus -62709-06-07 17:16 J -21182880.91 -21182880.78 -21182880.64 0.0132 0.0102
 Uranus -62708-01-19 21:49 J -21182654.77 -21182654.59 -21182654.39 0.0132 0.0063
 Uranus -62708-09-03 02:23 J -21182428.61 -21182428.40 -21182428.19 0.0132 0.0023
 Jupiter -62708-12-06 12:42 J -21182334.13 -21182333.97 -21182333.81 0.0504 0.0299
 Uranus -62707-04-17 06:28 J -21182202.44 -21182202.23 -21182202.01 0.0132 0.0016
 Uranus -62707-11-29 10:18 J -21181976.25 -21181976.07 -21181975.86 0.0131 0.0056
 Uranus -62706-07-13 14:09 J -21181750.04 -21181749.91 -21181749.74 0.0131 0.0095

Neptune -62705-12-28 04:18 J -21181216.44 -21181216.32 -21181216.18 0.0089 0.0070
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 Saturn -62702-03-05 23:01 J -21180418.75 -21180418.54 -21180418.32 0.0284 0.0043
 Neptune -62702-06-18 06:13 J -21180314.45 -21180314.24 -21180314.02 0.0089 0.0012
 Neptune -62701-01-29 18:42 J -21180088.91 -21180088.72 -21180088.51 0.0089 0.0032
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 Neptune -62700-04-24 19:25 J -21179637.79 -21179637.69 -21179637.55 0.0089 0.0073
 Jupiter -62689-02-07 15:35 J -21175697.05 -21175696.85 -21175696.65 0.0523 0.0119
 Saturn -62689-05-21 23:16 J -21175592.74 -21175592.53 -21175592.32 0.0278 0.0012
 Jupiter -62684-12-08 18:28 J -21173565.90 -21173565.73 -21173565.55 0.0502 0.0257
 Jupiter -62678-10-13 06:13 J -21171431.41 -21171431.24 -21171431.07 0.0521 0.0303
 Earth -62675-03-22 05:16 J -21170540.44 -21170540.28 -21170540.12 0.2624 0.0051
 Moon -62675-03-22 08:37 J -21170540.31 -21170540.14 -21170539.98 0.2619 0.0737 *
 Saturn -62673-09-15 07:11 J -21169632.39 -21169632.20 -21169631.99 0.0285 0.0113
 Jupiter -62672-08-13 19:40 J -21169299.88 -21169299.68 -21169299.48 0.0504 0.0107
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 Uranus -62666-10-18 00:42 J -21167043.64 -21167043.47 -21167043.29 0.0147 0.0084
 Uranus -62665-05-31 13:40 J -21166817.14 -21166816.93 -21166816.71 0.0147 0.0029
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 Jupiter -62660-04-18 22:04 J -21165033.66 -21165033.58 -21165033.51 0.0505 0.0464
 Saturn -62660-12-02 06:57 J -21164806.41 -21164806.21 -21164806.01 0.0277 0.0078
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Saturn -62643-03-28 16:47 J -21158845.96 -21158845.80 -21158845.64 0.0285 0.0184
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 Neptune -62622-02-17 11:45 J -21151215.09 -21151215.01 -21151214.90 0.0088 0.0080
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 Neptune -62617-01-26 23:30 J -21149410.57 -21149410.52 -21149410.44 0.0088 0.0084
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 Saturn -62601-12-24 21:21 J -21143233.74 -21143233.61 -21143233.46 0.0276 0.0205
 Jupiter -62601-12-27 15:06 J -21143231.03 -21143230.87 -21143230.71 0.0503 0.0303
 Jupiter -62595-10-31 23:59 J -21141096.68 -21141096.50 -21141096.32 0.0521 0.0265

Mars -62592-04-26 05:59 J -21140189.42 -21140189.25 -21140189.08 0.1765 0.0406
 Jupiter -62589-09-01 17:01 J -21138964.99 -21138964.79 -21138964.59 0.0504 0.0055
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 Saturn -62585-09-02 14:09 J -21137503.10 -21137502.91 -21137502.72 0.0283 0.0120
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 Earth -62562-09-17 17:30 J -21129087.92 -21129087.77 -21129087.62 0.2710 0.0838 *
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 Jupiter -62553-05-10 00:42 J -21125930.67 -21125930.47 -21125930.28 0.0503 0.0139
 Jupiter -62547-03-14 08:23 J -21123796.26 -21123796.15 -21123796.04 0.0521 0.0436
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 Jupiter -62541-01-14 03:06 J -21121664.55 -21121664.37 -21121664.19 0.0504 0.0217
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 Uranus -62541-12-31 23:01 J -21121311.72 -21121311.54 -21121311.33 0.0132 0.0060
 Neptune -62540-03-31 15:06 J -21121221.96 -21121221.87 -21121221.76 0.0089 0.0078

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 Uranus -62539-03-29 08:09 J -21120859.37 -21120859.16 -21120858.94 0.0132 0.0019
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 Uranus -62539-11-10 12:13 J -21120633.18 -21120632.99 -21120632.79 0.0132 0.0058
 Neptune -62538-02-06 04:18 J -21120545.52 -21120545.32 -21120545.09 0.0089 0.0018
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 Saturn -62526-09-26 02:37 J -21115930.60 -21115930.39 -21115930.17 0.0284 0.0003
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 Saturn -62408-03-25 00:42 J -21073015.59 -21073015.47 -21073015.32 0.0282 0.0216
 Saturn -62408-11-09 18:42 J -21072785.85 -21072785.72 -21072785.57 0.0285 0.0218
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Uranus -62373-04-30 22:18 J -21060194.71 -21060194.57 -21060194.40 0.0132 0.0093
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 Uranus -62372-07-27 07:54 J -21059742.39 -21059742.17 -21059741.95 0.0132 0.0014
 Neptune -62372-10-28 16:04 J -21059648.98 -21059648.83 -21059648.64 0.0089 0.0055
 Uranus -62371-03-10 12:13 J -21059516.20 -21059515.99 -21059515.77 0.0132 0.0025
 Neptune -62371-06-11 05:01 J -21059423.41 -21059423.29 -21059423.17 0.0089 0.0074
 Uranus -62371-10-22 16:33 J -21059290.00 -21059289.81 -21059289.62 0.0131 0.0064
 Uranus -62370-06-05 20:23 J -21059063.77 -21059063.65 -21059063.50 0.0131 0.0103
 Saturn -62366-12-22 18:57 J -21057402.88 -21057402.71 -21057402.53 0.0280 0.0152
 Saturn -62365-08-08 02:23 J -21057173.48 -21057173.40 -21057173.29 0.0277 0.0246
 Jupiter -62364-10-27 02:52 J -21056728.45 -21056728.38 -21056728.29 0.0505 0.0462
 Jupiter -62357-04-24 10:33 J -21054357.21 -21054357.06 -21054356.91 0.0523 0.0355
 Jupiter -62351-02-23 11:16 J -21052226.09 -21052226.03 -21052225.95 0.0502 0.0470
 Saturn -62349-04-16 05:30 J -21051443.46 -21051443.27 -21051443.07 0.0282 0.0122
 Jupiter -62346-12-29 02:52 J -21050091.59 -21050091.38 -21050091.18 0.0522 0.0058
 Jupiter -62340-10-29 12:13 J -21047960.18 -21047959.99 -21047959.79 0.0503 0.0107
 Saturn -62336-07-03 22:18 J -21046616.77 -21046616.57 -21046616.38 0.0280 0.0101
 Jupiter -62334-09-02 18:28 J -21045825.81 -21045825.73 -21045825.64 0.0521 0.0473
 Uranus -62330-01-26 17:45 J -21044583.87 -21044583.76 -21044583.65 0.0147 0.0126
 Uranus -62330-09-10 06:13 J -21044357.41 -21044357.24 -21044357.04 0.0147 0.0073
 Uranus -62329-04-23 19:40 J -21044130.90 -21044130.68 -21044130.47 0.0147 0.0018
 Mars -62329-08-12 14:52 J -21044019.98 -21044019.88 -21044019.78 0.1746 0.1419
 Uranus -62329-12-06 08:52 J -21043904.34 -21043904.13 -21043903.92 0.0147 0.0036
 Jupiter -62328-07-04 15:06 J -21043694.05 -21043693.87 -21043693.70 0.0504 0.0247
 Uranus -62328-07-20 22:18 J -21043677.73 -21043677.57 -21043677.39 0.0147 0.0092
 Uranus -62327-03-04 11:59 J -21043451.01 -21043451.00 -21043450.97 0.0147 0.0147
 Mars -62322-01-23 04:18 J -21041665.43 -21041665.32 -21041665.20 0.1800 0.1344
 Saturn -62320-10-27 06:42 J -21040657.43 -21040657.22 -21040657.02 0.0282 0.0078

Earth -62319-09-17 18:57 J -21040331.85 -21040331.71 -21040331.56 0.2711 0.0956
 Moon -62319-09-17 23:30 J -21040331.66 -21040331.52 -21040331.38 0.2714 0.0747 *
 Pluto -62317-01-24 03:06 J -21039838.51 -21039838.37 -21039838.19 0.0068 0.0048
 Pluto -62317-09-05 09:35 J -21039613.32 -21039613.10 -21039612.87 0.0068 0.0008
 Pluto -62316-04-18 15:21 J -21039388.04 -21039387.86 -21039387.64 0.0068 0.0032
 Jupiter -62310-09-05 21:49 J -21037056.77 -21037056.59 -21037056.39 0.0523 0.0196
 Saturn -62306-01-13 22:18 J -21035830.77 -21035830.57 -21035830.36 0.0280 0.0062
 Jupiter -62304-07-07 00:28 J -21034925.63 -21034925.48 -21034925.32 0.0503 0.0323
 Jupiter -62298-05-11 12:28 J -21032791.16 -21032790.98 -21032790.79 0.0521 0.0224
 Mars -62297-08-11 21:21 J -21032332.70 -21032332.61 -21032332.52 0.1762 0.1509
 Neptune -62293-04-04 18:28 J -21031000.81 -21031000.73 -21031000.61 0.0088 0.0079
 Neptune -62293-11-16 07:54 J -21030775.32 -21030775.17 -21030774.98 0.0088 0.0058
 Jupiter -62292-03-12 03:21 J -21030659.56 -21030659.36 -21030659.16 0.0504 0.0032
 Neptune -62292-06-29 21:49 J -21030549.79 -21030549.59 -21030549.38 0.0088 0.0037
 Neptune -62291-02-10 11:16 J -21030324.24 -21030324.03 -21030323.80 0.0088 0.0017
 Neptune -62291-09-24 00:57 J -21030098.69 -21030098.46 -21030098.24 0.0088 0.0004
 Mars -62290-01-22 12:28 J -21029978.00 -21029977.98 -21029977.96 0.1783 0.1771
 Neptune -62290-05-07 14:09 J -21029873.12 -21029872.91 -21029872.69 0.0088 0.0024
 Saturn -62290-05-09 08:52 J -21029871.34 -21029871.13 -21029870.92 0.0283 0.0032
 Neptune -62290-12-19 03:35 J -21029647.53 -21029647.35 -21029647.15 0.0088 0.0044
 Uranus -62290-12-30 10:33 J -21029636.17 -21029636.06 -21029635.92 0.0132 0.0108
 Neptune -62289-07-31 17:16 J -21029421.93 -21029421.78 -21029421.63 0.0088 0.0065
 Uranus -62289-08-12 15:21 J -21029410.03 -21029409.86 -21029409.66 0.0132 0.0069
 Neptune -62288-03-14 05:59 J -21029196.28 -21029196.25 -21029196.17 0.0088 0.0086
 Uranus -62288-03-26 20:09 J -21029183.86 -21029183.66 -21029183.44 0.0132 0.0030
 Uranus -62288-11-08 00:42 J -21028957.69 -21028957.47 -21028957.25 0.0131 0.0010
 Uranus -62287-06-22 04:47 J -21028731.49 -21028731.30 -21028731.09 0.0131 0.0049
 Uranus -62286-02-03 09:21 J -21028505.27 -21028505.11 -21028504.95 0.0131 0.0087
 Uranus -62286-09-17 12:57 J -21028279.00 -21028278.96 -21028278.88 0.0131 0.0125
 Jupiter -62281-11-15 05:01 J -21026393.41 -21026393.29 -21026393.16 0.0504 0.0392

Saturn -62277-07-26 00:42 J -21025044.67 -21025044.47 -21025044.26 0.0280 0.0015
 Jupiter -62274-05-14 14:52 J -21024021.99 -21024021.88 -21024021.77 0.0524 0.0437
 Jupiter -62262-01-17 07:40 J -21019756.39 -21019756.18 -21019755.97 0.0523 0.0028
 Saturn -62261-11-18 10:04 J -21019085.29 -21019085.08 -21019084.87 0.0282 0.0012
 Jupiter -62257-11-17 14:23 J -21017625.08 -21017624.90 -21017624.71 0.0503 0.0179
 Jupiter -62251-09-21 23:30 J -21015490.65 -21015490.52 -21015490.38 0.0521 0.0384
 Saturn -62247-02-05 00:13 J -21014258.70 -21014258.49 -21014258.28 0.0280 0.0023
 Uranus -62246-05-10 12:42 J -21013799.12 -21013798.97 -21013798.80 0.0147 0.0097
 Uranus -62246-12-23 01:54 J -21013572.62 -21013572.42 -21013572.21 0.0147 0.0043
 Jupiter -62245-07-23 17:01 J -21013358.97 -21013358.79 -21013358.60 0.0504 0.0176
 Uranus -62245-08-05 15:21 J -21013346.08 -21013345.86 -21013345.64 0.0147 0.0011
 Uranus -62244-03-20 04:33 J -21013119.49 -21013119.31 -21013119.10 0.0147 0.0067
 Uranus -62244-11-01 17:59 J -21012892.85 -21012892.75 -21012892.61 0.0147 0.0122
 Pluto -62232-11-23 05:30 J -21008488.44 -21008488.27 -21008488.08 0.0077 0.0042
 Saturn -62231-05-31 11:45 J -21008299.22 -21008299.01 -21008298.80 0.0283 0.0057
 Mars -62231-06-09 05:16 J -21008290.42 -21008290.28 -21008290.14 0.1757 0.1034
 Pluto -62231-07-06 14:09 J -21008263.13 -21008262.91 -21008262.70 0.0077 0.0013
 Pluto -62230-02-16 21:49 J -21008037.67 -21008037.59 -21008037.47 0.0076 0.0067
 Jupiter -62227-09-25 00:57 J -21006721.63 -21006721.46 -21006721.28 0.0523 0.0274
 Mars -62225-11-18 19:54 J -21005935.80 -21005935.67 -21005935.55 0.1789 0.1260
 Jupiter -62221-07-26 02:52 J -21004590.50 -21004590.38 -21004590.25 0.0502 0.0392
 Saturn -62218-08-18 02:23 J -21003472.59 -21003472.40 -21003472.19 0.0280 0.0072
 Jupiter -62215-05-30 16:04 J -21002456.03 -21002455.83 -21002455.63 0.0522 0.0145
 Neptune -62211-05-17 23:30 J -21001007.62 -21001007.52 -21001007.41 0.0089 0.0077
 Neptune -62211-12-29 11:45 J -21000782.17 -21000782.01 -21000781.84 0.0089 0.0057
 Neptune -62210-08-12 00:13 J -21000556.68 -21000556.49 -21000556.29 0.0089 0.0037
 Neptune -62209-03-24 12:42 J -21000331.18 -21000330.97 -21000330.75 0.0089 0.0017
 Jupiter -62209-03-31 05:45 J -21000324.46 -21000324.26 -21000324.06 0.0503 0.0040
 Neptune -62209-11-05 01:11 J -21000105.66 -21000105.45 -21000105.23 0.0089 0.0004
 Neptune -62208-06-18 13:40 J -20999880.13 -20999879.93 -20999879.72 0.0089 0.0024

Neptune -62207-01-30 02:09 J -20999654.59 -20999654.41 -20999654.22 0.0089 0.0044
 Neptune -62207-09-12 14:52 J -20999429.03 -20999428.88 -20999428.74 0.0089 0.0064
 Neptune -62206-04-26 02:37 J -20999203.43 -20999203.39 -20999203.30 0.0089 0.0085
 Uranus -62206-08-29 23:16 J -20999077.59 -20999077.53 -20999077.44 0.0132 0.0123
 Uranus -62205-04-12 04:04 J -20998851.48 -20998851.33 -20998851.15 0.0132 0.0084
 Uranus -62205-11-24 08:52 J -20998625.33 -20998625.13 -20998624.92 0.0132 0.0045
 Uranus -62204-07-08 13:25 J -20998399.15 -20998398.94 -20998398.72 0.0131 0.0006
 Uranus -62203-02-19 17:59 J -20998172.96 -20998172.75 -20998172.54 0.0131 0.0033
 Uranus -62203-10-03 22:04 J -20997946.75 -20997946.58 -20997946.39 0.0131 0.0072
 Uranus -62202-05-18 02:09 J -20997720.52 -20997720.41 -20997720.28 0.0131 0.0110
 Saturn -62202-12-11 13:40 J -20997513.13 -20997512.93 -20997512.73 0.0282 0.0102
 Jupiter -62198-12-05 07:25 J -20996058.34 -20996058.19 -20996058.03 0.0504 0.0318
 Earth -62189-03-22 06:13 J -20993028.40 -20993028.24 -20993028.07 0.2623 0.0098
 Moon -62189-03-22 12:13 J -20993028.15 -20993027.99 -20993027.83 0.2622 0.0636 *
 Saturn -62188-02-27 02:09 J -20992686.61 -20992686.41 -20992686.22 0.0280 0.0107
 Jupiter -62179-02-05 10:47 J -20989421.25 -20989421.05 -20989420.84 0.0522 0.0108
 Jupiter -62174-12-07 17:30 J -20987289.94 -20987289.77 -20987289.60 0.0503 0.0254
 Saturn -62173-11-04 23:30 J -20986956.56 -20986956.52 -20986956.46 0.0280 0.0272
 Saturn -62172-06-22 16:04 J -20986727.01 -20986726.83 -20986726.65 0.0283 0.0150
 Jupiter -62168-10-11 02:09 J -20985155.57 -20985155.41 -20985155.23 0.0521 0.0307
 Mars -62165-04-05 13:40 J -20984248.10 -20984247.93 -20984247.77 0.1752 0.0577
 Uranus -62162-01-07 18:13 J -20983240.84 -20983240.74 -20983240.61 0.0147 0.0123
 Jupiter -62162-08-12 20:09 J -20983023.86 -20983023.66 -20983023.47 0.0503 0.0103
 Uranus -62162-08-22 07:25 J -20983014.38 -20983014.19 -20983014.00 0.0147 0.0069
 Uranus -62161-04-04 20:37 J -20982787.86 -20982787.64 -20982787.42 0.0147 0.0015
 Uranus -62161-11-17 09:49 J -20982561.30 -20982561.09 -20982560.88 0.0147 0.0039
 Uranus -62160-07-01 23:16 J -20982334.69 -20982334.53 -20982334.35 0.0147 0.0095
 Saturn -62159-01-22 19:25 J -20982129.78 -20982129.69 -20982129.60 0.0283 0.0252
 Saturn -62159-09-09 04:18 J -20981900.49 -20981900.32 -20981900.14 0.0280 0.0155
 Mars -62159-09-16 03:49 J -20981893.50 -20981893.34 -20981893.19 0.1793 0.0768

Jupiter -62150-04-17 22:47 J -20978757.62 -20978757.55 -20978757.45 0.0504 0.0455
 Jupiter -62144-10-14 04:47 J -20976386.45 -20976386.30 -20976386.15 0.0524 0.0355
 Saturn -62143-05-18 02:09 J -20976170.53 -20976170.41 -20976170.28 0.0279 0.0224
 Saturn -62142-01-02 18:28 J -20975940.87 -20975940.73 -20975940.57 0.0283 0.0198
 Jupiter -62138-08-15 05:01 J -20974255.36 -20974255.29 -20974255.21 0.0502 0.0462
 Jupiter -62132-06-18 20:52 J -20972120.83 -20972120.63 -20972120.42 0.0522 0.0057
 Saturn -62130-08-04 19:11 J -20971343.83 -20971343.70 -20971343.56 0.0283 0.0214
 Saturn -62129-03-21 04:04 J -20971114.47 -20971114.33 -20971114.17 0.0280 0.0193
 Neptune -62128-02-17 15:49 J -20970780.97 -20970780.84 -20970780.69 0.0088 0.0069
 Neptune -62128-10-01 05:16 J -20970555.46 -20970555.28 -20970555.08 0.0088 0.0048
 Neptune -62127-05-14 18:57 J -20970329.92 -20970329.71 -20970329.49 0.0088 0.0028
 Neptune -62127-12-26 08:37 J -20970104.37 -20970104.14 -20970103.92 0.0088 0.0007
 Jupiter -62126-04-20 07:11 J -20969989.39 -20969989.20 -20969989.00 0.0503 0.0110
 Neptune -62126-08-08 21:49 J -20969878.80 -20969878.59 -20969878.36 0.0088 0.0013
 Neptune -62125-03-21 11:16 J -20969653.23 -20969653.03 -20969652.82 0.0088 0.0034
 Neptune -62125-11-02 00:13 J -20969427.65 -20969427.49 -20969427.29 0.0088 0.0054
 Neptune -62124-06-15 13:40 J -20969202.03 -20969201.93 -20969201.79 0.0088 0.0075
 Uranus -62122-12-11 16:04 J -20968292.95 -20968292.83 -20968292.67 0.0132 0.0100
 Uranus -62121-07-24 21:06 J -20968066.80 -20968066.62 -20968066.42 0.0132 0.0061
 Jupiter -62120-02-21 11:45 J -20967855.10 -20967855.01 -20967854.93 0.0521 0.0473
 Uranus -62120-03-08 01:54 J -20967840.63 -20967840.42 -20967840.20 0.0131 0.0022
 Uranus -62120-10-20 06:28 J -20967614.44 -20967614.23 -20967614.01 0.0131 0.0017
 Uranus -62119-06-03 10:47 J -20967388.25 -20967388.05 -20967387.85 0.0131 0.0056
 Uranus -62118-01-15 14:37 J -20967162.03 -20967161.89 -20967161.72 0.0131 0.0094
 Jupiter -62115-12-24 09:49 J -20965723.26 -20965723.09 -20965722.91 0.0504 0.0246
 Saturn -62114-11-28 05:16 J -20965384.44 -20965384.28 -20965384.11 0.0280 0.0175
 Saturn -62113-07-14 21:49 J -20965154.69 -20965154.59 -20965154.49 0.0283 0.0248
 Saturn -62100-02-13 22:18 J -20960557.74 -20960557.57 -20960557.40 0.0282 0.0163
 Saturn -62100-10-01 07:11 J -20960328.30 -20960328.20 -20960328.10 0.0279 0.0242
 Mars -62099-01-31 21:35 J -20960205.77 -20960205.60 -20960205.42 0.1747 0.0118

Jupiter -62096-02-24 12:13 J -20959086.18 -20959085.99 -20959085.79 0.0523 0.0178
 Mars -62093-07-13 11:01 J -20957851.21 -20957851.04 -20957850.87 0.1798 0.0239
 Jupiter -62091-12-26 19:54 J -20956954.82 -20956954.67 -20956954.52 0.0502 0.0324
 Jupiter -62085-10-30 04:18 J -20954820.50 -20954820.32 -20954820.13 0.0522 0.0234
 Saturn -62084-06-09 09:35 J -20954598.29 -20954598.10 -20954597.90 0.0280 0.0122
 Jupiter -62079-08-31 21:21 J -20952688.81 -20952688.61 -20952688.41 0.0503 0.0034
 Uranus -62078-04-21 11:16 J -20952456.18 -20952456.03 -20952455.86 0.0147 0.0097
 Uranus -62078-12-04 00:28 J -20952229.69 -20952229.48 -20952229.27 0.0147 0.0044
 Uranus -62077-07-17 13:40 J -20952003.14 -20952002.93 -20952002.71 0.0147 0.0011
 Uranus -62076-03-01 02:52 J -20951776.56 -20951776.38 -20951776.17 0.0147 0.0066
 Moon -62076-09-17 17:45 J -20951575.90 -20951575.76 -20951575.61 0.2706 0.1123
 Earth -62076-09-17 20:52 J -20951575.77 -20951575.63 -20951575.49 0.2711 0.1036 *
 Uranus -62076-10-13 16:18 J -20951549.93 -20951549.82 -20951549.68 0.0148 0.0121
 Pluto -62071-02-21 12:42 J -20949958.13 -20949957.97 -20949957.78 0.0068 0.0044
 Saturn -62071-08-26 23:01 J -20949771.72 -20949771.54 -20949771.35 0.0282 0.0122
 Pluto -62071-10-04 19:11 J -20949732.92 -20949732.70 -20949732.47 0.0068 0.0004
 Pluto -62070-05-18 00:42 J -20949507.64 -20949507.47 -20949507.25 0.0068 0.0037
 Jupiter -62067-05-06 23:30 J -20948422.65 -20948422.52 -20948422.40 0.0504 0.0390
 Jupiter -62061-11-02 06:28 J -20946051.34 -20946051.23 -20946051.11 0.0523 0.0428
 Saturn -62055-12-20 13:54 J -20943812.13 -20943811.92 -20943811.71 0.0281 0.0069
 Jupiter -62049-07-07 21:49 J -20941785.80 -20941785.59 -20941785.39 0.0522 0.0014
 Neptune -62047-08-19 08:23 J -20941013.16 -20941013.15 -20941013.10 0.0089 0.0088
 Neptune -62046-04-01 20:37 J -20940787.76 -20940787.64 -20940787.48 0.0089 0.0068
 Neptune -62046-11-13 09:06 J -20940562.29 -20940562.12 -20940561.92 0.0089 0.0048
 Neptune -62045-06-25 22:04 J -20940336.79 -20940336.58 -20940336.38 0.0089 0.0028
 Neptune -62044-02-06 10:18 J -20940111.28 -20940111.07 -20940110.85 0.0089 0.0007
 Neptune -62044-09-19 22:47 J -20939885.76 -20939885.55 -20939885.33 0.0089 0.0013
 Neptune -62043-05-03 11:16 J -20939660.23 -20939660.03 -20939659.83 0.0089 0.0033
 Jupiter -62043-05-09 09:06 J -20939654.31 -20939654.12 -20939653.93 0.0502 0.0177
 Neptune -62043-12-14 23:16 J -20939434.68 -20939434.53 -20939434.34 0.0089 0.0054

Neptune -62042-07-28 11:59 J -20939209.10 -20939209.00 -20939208.86 0.0089 0.0074

Saturn -62041-03-08 02:52 J -20938985.58 -20938985.38 -20938985.18 0.0282 0.0069

Uranus -62038-08-11 04:04 J -20937734.42 -20937734.33 -20937734.21 0.0132 0.0116

Jupiter -62037-03-12 10:47 J -20937520.17 -20937520.05 -20937519.92 0.0522 0.0413

Uranus -62037-03-24 09:06 J -20937508.29 -20937508.12 -20937507.93 0.0132 0.0077

Uranus -62037-11-05 13:54 J -20937282.12 -20937281.92 -20937281.70 0.0132 0.0038

Uranus -62036-06-19 18:42 J -20937055.94 -20937055.72 -20937055.50 0.0132 0.0001

Uranus -62035-01-31 23:01 J -20936829.74 -20936829.54 -20936829.32 0.0131 0.0040

Uranus -62035-09-15 03:21 J -20936603.53 -20936603.36 -20936603.18 0.0131 0.0078

Uranus -62034-04-29 07:25 J -20936377.29 -20936377.19 -20936377.09 0.0131 0.0116

Mars -62034-11-29 06:28 J -20936163.40 -20936163.23 -20936163.06 0.1743 0.0317

Jupiter -62031-01-12 11:59 J -20935388.19 -20935388.00 -20935387.81 0.0503 0.0175

Mars -62027-05-10 18:28 J -20933808.90 -20933808.73 -20933808.56 0.1804 0.0286

Saturn -62025-07-01 19:25 J -20933025.91 -20933025.69 -20933025.48 0.0280 0.0012

Jupiter -62013-03-15 14:52 J -20928751.05 -20928750.88 -20928750.70 0.0523 0.0257

Saturn -62012-09-18 05:01 J -20928199.50 -20928199.29 -20928199.08 0.0282 0.0023

Jupiter -62007-01-14 18:57 J -20926619.84 -20926619.71 -20926619.58 0.0502 0.0382

Jupiter -62002-11-19 05:16 J -20924485.47 -20924485.28 -20924485.08 0.0522 0.0164

62ND MILLENNIUM BCE

This is a list of transits of Venus in the 62nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-61996-09-19	21:21	J	-20922353.82	-20922353.61	-20922353.41	0.0503	0.0029

Saturn -61995-01-12 00:57 J -20922239.67 -20922239.46 -20922239.24 0.0281 0.0047
 Uranus -61995-12-19 18:28 J -20921897.84 -20921897.73 -20921897.60 0.0147 0.0121
 Uranus -61994-08-03 07:25 J -20921671.38 -20921671.19 -20921670.99 0.0147 0.0068
 Uranus -61993-03-16 20:23 J -20921444.86 -20921444.65 -20921444.43 0.0147 0.0015
 Uranus -61993-10-29 09:21 J -20921218.31 -20921218.11 -20921217.89 0.0147 0.0041
 Uranus -61992-06-12 22:47 J -20920991.71 -20920991.55 -20920991.37 0.0147 0.0094
 Pluto -61986-12-22 16:18 J -20918607.99 -20918607.82 -20918607.61 0.0077 0.0035
 Pluto -61985-08-04 00:57 J -20918382.66 -20918382.46 -20918382.24 0.0076 0.0021
 Pluto -61984-03-17 08:52 J -20918157.14 -20918157.13 -20918157.07 0.0076 0.0075
 Jupiter -61984-05-26 00:13 J -20918087.64 -20918087.49 -20918087.34 0.0504 0.0325
 Saturn -61982-03-31 10:04 J -20917413.29 -20917413.08 -20917412.88 0.0281 0.0035
 Jupiter -61978-11-22 04:18 J -20915716.40 -20915716.32 -20915716.24 0.0524 0.0481
 Mars -61968-09-25 15:06 J -20912121.03 -20912120.87 -20912120.71 0.1738 0.0748
 Saturn -61966-07-25 08:09 J -20911453.36 -20911453.16 -20911452.96 0.0281 0.0109
 Jupiter -61966-07-27 20:09 J -20911450.86 -20911450.66 -20911450.45 0.0523 0.0070
 Neptune -61964-05-21 22:18 J -20910786.64 -20910786.57 -20910786.45 0.0088 0.0081
 Neptune -61963-01-02 12:28 J -20910561.14 -20910560.98 -20910560.81 0.0088 0.0059
 Neptune -61963-08-16 01:54 J -20910335.61 -20910335.42 -20910335.21 0.0088 0.0039
 Neptune -61962-03-29 15:35 J -20910110.07 -20910109.85 -20910109.63 0.0088 0.0019
 Neptune -61962-11-10 05:01 J -20909884.51 -20909884.29 -20909884.06 0.0088 0.0002
 Mars -61961-03-07 01:11 J -20909766.60 -20909766.45 -20909766.29 0.1809 0.0843
 Neptune -61961-06-22 18:28 J -20909658.94 -20909658.73 -20909658.51 0.0088 0.0022
 Neptune -61960-02-03 07:40 J -20909433.36 -20909433.18 -20909432.96 0.0088 0.0043
 Jupiter -61960-05-28 07:40 J -20909319.36 -20909319.18 -20909319.00 0.0502 0.0233
 Neptune -61960-09-16 21:06 J -20909207.76 -20909207.62 -20909207.45 0.0088 0.0063
 Neptune -61959-04-30 10:18 J -20908982.12 -20908982.07 -20908981.98 0.0088 0.0084
 Jupiter -61954-04-01 12:13 J -20907185.15 -20907184.99 -20907184.84 0.0522 0.0341
 Uranus -61954-04-10 16:18 J -20907175.84 -20907175.82 -20907175.80 0.0132 0.0131
 Uranus -61954-11-22 20:52 J -20906949.77 -20906949.63 -20906949.46 0.0132 0.0093
 Uranus -61953-07-06 01:54 J -20906723.61 -20906723.42 -20906723.21 0.0132 0.0054

Saturn	-61953-10-10 13:11 J	-20906627.14	-20906626.95	-20906626.75	0.0281	0.0084
Uranus	-61952-02-17 06:57 J	-20906497.42	-20906497.21	-20906496.99	0.0132	0.0015
Uranus	-61952-10-01 11:30 J	-20906271.23	-20906271.02	-20906270.80	0.0132	0.0024
Uranus	-61951-05-15 15:35 J	-20906045.03	-20906044.85	-20906044.65	0.0131	0.0062
Uranus	-61951-12-27 19:40 J	-20905818.81	-20905818.68	-20905818.53	0.0131	0.0100
Jupiter	-61948-01-31 09:21 J	-20905053.31	-20905053.11	-20905052.92	0.0503	0.0123
Moon	-61946-03-23 00:28 J	-20904272.64	-20904272.48	-20904272.31	0.2622	0.0297
Earth	-61946-03-23 06:42 J	-20904272.38	-20904272.22	-20904272.06	0.2622	0.0096 *
Saturn	-61937-06-18 23:01 J	-20900896.64	-20900896.54	-20900896.44	0.0279	0.0245
Jupiter	-61937-10-06 11:16 J	-20900787.09	-20900787.03	-20900786.97	0.0505	0.0481
Saturn	-61936-02-03 14:37 J	-20900667.05	-20900666.89	-20900666.71	0.0282	0.0172
Jupiter	-61930-04-04 12:28 J	-20898416.14	-20898415.98	-20898415.81	0.0523	0.0309
Jupiter	-61924-02-02 18:13 J	-20896284.83	-20896284.74	-20896284.63	0.0502	0.0439
Saturn	-61924-09-05 09:49 J	-20896070.15	-20896070.09	-20896070.02	0.0283	0.0266
Saturn	-61923-04-22 19:25 J	-20895840.87	-20895840.69	-20895840.51	0.0281	0.0145
Jupiter	-61919-12-08 00:57 J	-20894150.66	-20894150.46	-20894150.26	0.0522	0.0120
Jupiter	-61913-10-08 20:37 J	-20892018.83	-20892018.64	-20892018.44	0.0503	0.0088
Uranus	-61911-08-19 02:23 J	-20891339.43	-20891339.40	-20891339.34	0.0147	0.0144
Uranus	-61910-04-02 15:06 J	-20891113.03	-20891112.87	-20891112.69	0.0147	0.0091
Uranus	-61910-11-15 03:49 J	-20890886.54	-20890886.34	-20890886.12	0.0147	0.0038
Uranus	-61909-06-28 17:01 J	-20890660.00	-20890659.79	-20890659.57	0.0147	0.0016
Uranus	-61908-02-10 06:13 J	-20890433.42	-20890433.24	-20890433.04	0.0147	0.0070
Uranus	-61908-09-24 19:40 J	-20890206.78	-20890206.68	-20890206.55	0.0147	0.0125
Saturn	-61908-12-30 07:25 J	-20890110.35	-20890110.19	-20890110.02	0.0279	0.0179
Saturn	-61907-08-16 23:16 J	-20889880.64	-20889880.53	-20889880.41	0.0282	0.0239
Mars	-61902-07-23 23:59 J	-20888078.63	-20888078.50	-20888078.37	0.1734	0.1157
Jupiter	-61901-06-13 21:06 J	-20887752.78	-20887752.62	-20887752.45	0.0504	0.0276
Mars	-61895-01-02 08:09 J	-20885724.27	-20885724.16	-20885724.05	0.1814	0.1395
Saturn	-61894-03-18 15:06 J	-20885284.00	-20885283.87	-20885283.72	0.0283	0.0209
Saturn	-61894-11-03 00:13 J	-20885054.62	-20885054.49	-20885054.33	0.0280	0.0201

Jupiter -61883-08-15 18:28 J -20881115.92 -20881115.73 -20881115.53 0.0523 0.0126
 Neptune -61882-07-04 06:13 J -20880793.33 -20880793.24 -20880793.13 0.0089 0.0078
 Neptune -61881-02-14 18:28 J -20880567.88 -20880567.73 -20880567.56 0.0089 0.0058
 Neptune -61881-09-27 06:42 J -20880342.41 -20880342.22 -20880342.02 0.0089 0.0038
 Neptune -61880-05-10 19:11 J -20880116.91 -20880116.70 -20880116.49 0.0089 0.0018
 Neptune -61880-12-22 07:25 J -20879891.40 -20879891.19 -20879890.97 0.0089 0.0003
 Neptune -61879-08-04 20:09 J -20879665.87 -20879665.66 -20879665.45 0.0089 0.0022
 Neptune -61878-03-18 08:09 J -20879440.33 -20879440.16 -20879439.95 0.0089 0.0043
 Saturn -61878-07-12 14:52 J -20879324.07 -20879323.88 -20879323.68 0.0280 0.0116
 Neptune -61878-10-29 20:37 J -20879214.78 -20879214.64 -20879214.47 0.0089 0.0063
 Neptune -61877-06-11 09:21 J -20878989.17 -20878989.11 -20878989.03 0.0089 0.0083
 Jupiter -61877-06-16 04:18 J -20878984.48 -20878984.32 -20878984.15 0.0502 0.0280
 Jupiter -61871-04-20 08:23 J -20876850.32 -20876850.15 -20876849.98 0.0521 0.0293
 Mars -61870-07-23 05:30 J -20876391.31 -20876391.27 -20876391.23 0.1749 0.1683
 Uranus -61870-07-23 10:04 J -20876391.20 -20876391.08 -20876390.95 0.0132 0.0107
 Uranus -61869-03-05 15:06 J -20876165.05 -20876164.87 -20876164.68 0.0132 0.0068
 Uranus -61869-10-17 19:54 J -20875938.88 -20875938.67 -20875938.45 0.0132 0.0030
 Uranus -61868-06-01 00:42 J -20875712.69 -20875712.47 -20875712.25 0.0132 0.0009
 Uranus -61867-01-13 05:01 J -20875486.49 -20875486.29 -20875486.08 0.0132 0.0047
 Uranus -61867-08-27 09:06 J -20875260.27 -20875260.12 -20875259.94 0.0131 0.0086
 Uranus -61866-04-10 12:57 J -20875034.01 -20875033.96 -20875033.86 0.0131 0.0124
 Jupiter -61865-02-20 07:25 J -20874718.39 -20874718.19 -20874717.99 0.0503 0.0072
 Saturn -61865-09-27 22:18 J -20874497.74 -20874497.57 -20874497.39 0.0283 0.0143
 Saturn -61864-05-15 07:11 J -20874268.26 -20874268.20 -20874268.12 0.0280 0.0263
 Jupiter -61854-10-26 09:35 J -20870452.20 -20870452.10 -20870451.99 0.0505 0.0425
 Saturn -61848-01-22 00:13 J -20868537.70 -20868537.49 -20868537.27 0.0280 0.0047
 Jupiter -61847-04-23 07:40 J -20868081.33 -20868081.18 -20868081.03 0.0524 0.0351
 Jupiter -61841-02-22 13:54 J -20865949.98 -20865949.92 -20865949.87 0.0502 0.0480
 Moon -61841-09-20 02:52 J -20865739.46 -20865739.38 -20865739.30 0.2716 0.2275
 Mars -61836-05-20 08:52 J -20864036.20 -20864036.13 -20864036.06 0.1729 0.1568

Jupiter -61836-12-26 23:30 J -20863815.72 -20863815.52 -20863815.31 0.0522 0.0061
 Saturn -61835-04-10 04:47 J -20863711.49 -20863711.30 -20863711.09 0.0283 0.0082
 Earth -61833-09-17 22:33 J -20862819.70 -20862819.56 -20862819.42 0.2712 0.1138
 Moon -61833-09-17 23:01 J -20862819.67 -20862819.54 -20862819.41 0.2718 0.1095 *
 Jupiter -61830-10-28 15:06 J -20861684.07 -20861683.87 -20861683.67 0.0503 0.0124
 Uranus -61827-12-01 00:57 J -20860554.58 -20860554.46 -20860554.30 0.0147 0.0111
 Uranus -61826-07-15 13:54 J -20860328.11 -20860327.92 -20860327.71 0.0147 0.0058
 Uranus -61825-02-27 03:06 J -20860101.59 -20860101.37 -20860101.16 0.0147 0.0005
 Pluto -61825-03-21 21:06 J -20860077.78 -20860077.62 -20860077.44 0.0068 0.0044
 Uranus -61825-10-10 16:04 J -20859875.03 -20859874.83 -20859874.62 0.0147 0.0050
 Pluto -61825-11-02 03:21 J -20859852.58 -20859852.36 -20859852.13 0.0068 0.0004
 Uranus -61824-05-25 05:16 J -20859648.43 -20859648.28 -20859648.12 0.0147 0.0104
 Pluto -61824-06-15 09:06 J -20859627.29 -20859627.12 -20859626.91 0.0068 0.0036
 Jupiter -61824-08-31 13:54 J -20859550.00 -20859549.92 -20859549.84 0.0521 0.0476
 Saturn -61819-08-04 07:54 J -20857751.38 -20857751.17 -20857750.95 0.0281 0.0019
 Jupiter -61818-07-03 16:33 J -20857417.98 -20857417.81 -20857417.63 0.0504 0.0235
 Saturn -61806-10-21 13:11 J -20852925.16 -20852924.95 -20852924.74 0.0282 0.0014
 Mars -61804-05-19 13:54 J -20852349.04 -20852348.92 -20852348.79 0.1745 0.1233
 Jupiter -61800-09-03 11:30 J -20850781.22 -20850781.02 -20850780.82 0.0523 0.0158
 Neptune -61799-04-05 18:28 J -20850566.85 -20850566.73 -20850566.59 0.0088 0.0072
 Neptune -61799-11-17 07:54 J -20850341.33 -20850341.17 -20850340.97 0.0088 0.0051
 Neptune -61798-06-30 21:49 J -20850115.79 -20850115.59 -20850115.37 0.0088 0.0031
 Mars -61798-10-30 00:28 J -20849994.60 -20849994.48 -20849994.36 0.1802 0.1277
 Neptune -61797-02-11 11:30 J -20849890.24 -20849890.02 -20849889.79 0.0088 0.0010
 Neptune -61797-09-24 01:11 J -20849664.67 -20849664.45 -20849664.23 0.0088 0.0011
 Neptune -61796-05-07 14:09 J -20849439.10 -20849438.91 -20849438.68 0.0088 0.0032
 Neptune -61796-12-19 03:49 J -20849213.51 -20849213.34 -20849213.15 0.0088 0.0051
 Neptune -61795-08-01 17:16 J -20848987.90 -20848987.78 -20848987.64 0.0088 0.0072
 Jupiter -61794-07-06 01:40 J -20848649.57 -20848649.43 -20848649.27 0.0502 0.0331
 Saturn -61789-02-14 17:59 J -20846964.96 -20846964.75 -20846964.55 0.0281 0.0090

Jupiter -61788-05-09 02:23 J -20846515.58 -20846515.40 -20846515.22 0.0522 0.0255
 Uranus -61786-03-22 23:01 J -20845832.61 -20845832.54 -20845832.44 0.0132 0.0121
 Uranus -61786-11-04 04:18 J -20845606.48 -20845606.32 -20845606.14 0.0132 0.0082
 Uranus -61785-06-17 09:06 J -20845380.32 -20845380.12 -20845379.90 0.0132 0.0044
 Uranus -61784-01-29 14:09 J -20845154.13 -20845153.91 -20845153.69 0.0132 0.0005
 Uranus -61784-09-12 18:28 J -20844927.93 -20844927.73 -20844927.51 0.0132 0.0034
 Uranus -61783-04-26 22:33 J -20844701.73 -20844701.56 -20844701.36 0.0131 0.0072
 Uranus -61783-12-09 02:52 J -20844475.49 -20844475.38 -20844475.25 0.0131 0.0109
 Jupiter -61782-03-11 01:40 J -20844383.63 -20844383.43 -20844383.23 0.0503 0.0035
 Saturn -61776-05-02 20:23 J -20842138.85 -20842138.65 -20842138.44 0.0282 0.0052
 Jupiter -61771-11-14 03:06 J -20840117.49 -20840117.37 -20840117.25 0.0504 0.0392
 Jupiter -61764-05-12 04:47 J -20837746.43 -20837746.30 -20837746.17 0.0523 0.0401
 Saturn -61760-01-09 09:35 J -20836408.17 -20836408.10 -20836408.02 0.0279 0.0260
 Saturn -61760-08-27 01:25 J -20836178.61 -20836178.44 -20836178.26 0.0282 0.0156
 Jupiter -61752-01-14 18:42 J -20833480.93 -20833480.72 -20833480.52 0.0522 0.0019
 Saturn -61747-11-13 04:33 J -20831352.50 -20831352.31 -20831352.12 0.0281 0.0119
 Jupiter -61747-11-16 11:16 J -20831349.22 -20831349.03 -20831348.84 0.0503 0.0168
 Uranus -61743-07-31 09:49 J -20829996.18 -20829996.09 -20829996.00 0.0147 0.0132
 Uranus -61742-03-14 22:04 J -20829769.75 -20829769.58 -20829769.39 0.0147 0.0080
 Uranus -61742-10-27 11:01 J -20829543.25 -20829543.04 -20829542.82 0.0147 0.0027
 Uranus -61741-06-09 23:59 J -20829316.71 -20829316.50 -20829316.28 0.0147 0.0027
 Jupiter -61741-09-19 06:28 J -20829215.33 -20829215.23 -20829215.12 0.0521 0.0444
 Uranus -61740-01-22 13:11 J -20829090.12 -20829089.95 -20829089.76 0.0147 0.0081
 Uranus -61740-09-06 02:37 J -20828863.46 -20828863.39 -20828863.29 0.0148 0.0135
 Pluto -61739-01-19 23:59 J -20828727.67 -20828727.50 -20828727.29 0.0077 0.0037
 Pluto -61739-09-02 08:37 J -20828502.34 -20828502.14 -20828501.92 0.0076 0.0020
 Mars -61738-03-16 22:33 J -20828306.71 -20828306.56 -20828306.40 0.1740 0.0797
 Pluto -61738-04-15 16:47 J -20828276.83 -20828276.80 -20828276.72 0.0076 0.0074
 Jupiter -61735-07-22 13:25 J -20827083.12 -20827082.94 -20827082.75 0.0504 0.0186
 Mars -61732-08-26 08:09 J -20825952.32 -20825952.16 -20825952.01 0.1807 0.0760

Saturn -61731-07-22 18:42 J -20825621.87 -20825621.72 -20825621.56 0.0279 0.0192
 Saturn -61730-03-09 10:47 J -20825392.17 -20825392.05 -20825391.91 0.0282 0.0226
 Saturn -61718-10-09 03:06 J -20820795.48 -20820795.37 -20820795.23 0.0284 0.0223
 Neptune -61717-05-18 03:06 J -20820573.50 -20820573.37 -20820573.23 0.0089 0.0069
 Saturn -61717-05-25 12:28 J -20820566.13 -20820565.98 -20820565.82 0.0281 0.0186
 Jupiter -61717-09-22 09:35 J -20820446.29 -20820446.10 -20820445.92 0.0523 0.0214
 Neptune -61717-12-29 15:21 J -20820348.03 -20820347.86 -20820347.67 0.0089 0.0049
 Neptune -61716-08-12 03:49 J -20820122.54 -20820122.34 -20820122.13 0.0089 0.0029
 Neptune -61715-03-25 16:04 J -20819897.04 -20819896.83 -20819896.61 0.0089 0.0009
 Neptune -61715-11-06 04:33 J -20819671.52 -20819671.31 -20819671.09 0.0089 0.0011
 Neptune -61714-06-19 16:47 J -20819445.99 -20819445.80 -20819445.59 0.0089 0.0032
 Neptune -61713-01-31 05:16 J -20819220.44 -20819220.28 -20819220.09 0.0089 0.0052
 Neptune -61713-09-12 17:45 J -20818994.87 -20818994.76 -20818994.62 0.0089 0.0072
 Jupiter -61711-07-24 18:57 J -20818314.85 -20818314.71 -20818314.57 0.0502 0.0361
 Jupiter -61705-05-27 23:59 J -20816180.69 -20816180.50 -20816180.31 0.0522 0.0202
 Earth -61703-03-23 06:57 J -20815516.38 -20815516.21 -20815516.05 0.2622 0.0119
 Moon -61703-03-23 12:13 J -20815516.15 -20815515.99 -20815515.84 0.2625 0.0383 *
 Uranus -61702-07-04 17:45 J -20815047.90 -20815047.76 -20815047.60 0.0132 0.0096
 Saturn -61701-02-02 01:54 J -20814835.61 -20814835.42 -20814835.23 0.0280 0.0130
 Uranus -61701-02-15 22:47 J -20814821.74 -20814821.55 -20814821.34 0.0132 0.0058
 Uranus -61701-09-29 03:49 J -20814595.56 -20814595.34 -20814595.13 0.0132 0.0019
 Uranus -61700-05-13 08:09 J -20814369.37 -20814369.16 -20814368.94 0.0132 0.0019
 Uranus -61700-12-25 12:13 J -20814143.17 -20814142.99 -20814142.78 0.0131 0.0058
 Jupiter -61699-03-29 20:23 J -20814048.85 -20814048.65 -20814048.45 0.0503 0.0004
 Uranus -61699-08-08 16:33 J -20813916.95 -20813916.81 -20813916.65 0.0131 0.0095
 Saturn -61688-04-20 11:01 J -20810009.21 -20810009.04 -20810008.86 0.0283 0.0155
 Jupiter -61688-12-02 22:47 J -20809782.69 -20809782.55 -20809782.40 0.0505 0.0349
 Saturn -61688-12-05 20:09 J -20809779.75 -20809779.66 -20809779.57 0.0280 0.0250
 Jupiter -61681-05-30 21:49 J -20807411.70 -20807411.59 -20807411.47 0.0523 0.0435
 Mars -61672-01-11 06:57 J -20804264.38 -20804264.21 -20804264.04 0.1735 0.0352

Saturn -61672-08-14 10:33 J -20804049.27 -20804049.06 -20804048.85 0.0280 0.0062
 Jupiter -61669-02-03 13:11 J -20803146.16 -20803145.95 -20803145.75 0.0522 0.0023
 Mars -61666-06-23 14:52 J -20801910.05 -20801909.88 -20801909.71 0.1812 0.0205
 Jupiter -61664-12-05 05:30 J -20801014.46 -20801014.27 -20801014.09 0.0503 0.0203
 Saturn -61659-10-31 18:57 J -20799222.90 -20799222.71 -20799222.51 0.0283 0.0088
 Uranus -61659-11-12 06:13 J -20799211.38 -20799211.24 -20799211.08 0.0147 0.0102
 Uranus -61658-06-26 19:11 J -20798984.91 -20798984.70 -20798984.50 0.0147 0.0050
 Jupiter -61658-10-09 04:47 J -20798880.43 -20798880.30 -20798880.16 0.0521 0.0387
 Uranus -61657-02-08 07:54 J -20798758.38 -20798758.17 -20798757.95 0.0147 0.0004
 Uranus -61657-09-21 20:52 J -20798531.82 -20798531.63 -20798531.42 0.0147 0.0058
 Uranus -61656-05-06 10:04 J -20798305.21 -20798305.08 -20798304.92 0.0148 0.0112
 Jupiter -61652-08-10 07:25 J -20796748.39 -20796748.19 -20796748.00 0.0504 0.0153
 Saturn -61642-02-24 16:04 J -20793263.04 -20793262.83 -20793262.61 0.0280 0.0005
 Neptune -61635-07-08 00:28 J -20790572.53 -20790572.48 -20790572.39 0.0088 0.0084
 Neptune -61634-02-18 14:09 J -20790347.04 -20790346.91 -20790346.73 0.0088 0.0063
 Neptune -61634-10-02 04:04 J -20790121.52 -20790121.33 -20790121.12 0.0088 0.0042
 Jupiter -61634-10-12 05:59 J -20790111.43 -20790111.25 -20790111.07 0.0523 0.0262
 Neptune -61633-05-14 17:30 J -20789895.97 -20789895.77 -20789895.54 0.0088 0.0023
 Neptune -61633-12-26 07:25 J -20789670.41 -20789670.19 -20789669.96 0.0088 0.0002
 Neptune -61632-08-08 20:52 J -20789444.84 -20789444.63 -20789444.40 0.0088 0.0019
 Neptune -61631-03-22 10:18 J -20789219.26 -20789219.07 -20789218.86 0.0088 0.0040
 Neptune -61631-11-02 23:16 J -20788993.67 -20788993.53 -20788993.34 0.0088 0.0061
 Neptune -61630-06-16 12:42 J -20788768.03 -20788767.97 -20788767.85 0.0088 0.0081
 Saturn -61629-05-13 01:54 J -20788436.63 -20788436.42 -20788436.21 0.0282 0.0024
 Jupiter -61628-08-12 15:35 J -20787979.96 -20787979.85 -20787979.73 0.0502 0.0406
 Jupiter -61622-06-16 18:42 J -20785845.92 -20785845.72 -20785845.53 0.0521 0.0162
 Uranus -61618-03-04 07:11 J -20784489.31 -20784489.20 -20784489.07 0.0132 0.0110
 Uranus -61618-10-16 12:13 J -20784263.17 -20784262.99 -20784262.80 0.0132 0.0072
 Uranus -61617-05-29 17:01 J -20784037.00 -20784036.79 -20784036.57 0.0132 0.0033
 Uranus -61616-01-10 21:49 J -20783810.81 -20783810.59 -20783810.38 0.0132 0.0005

Jupiter -61616-04-17 17:45 J -20783713.95 -20783713.76 -20783713.55 0.0504 0.0056
 Uranus -61616-08-25 02:09 J -20783584.62 -20783584.41 -20783584.20 0.0131 0.0043
 Uranus -61615-04-08 06:13 J -20783358.40 -20783358.24 -20783358.06 0.0131 0.0081
 Uranus -61615-11-20 10:04 J -20783132.16 -20783132.08 -20783131.97 0.0131 0.0118
 Saturn -61613-09-05 23:45 J -20782476.72 -20782476.51 -20782476.30 0.0281 0.0060
 Mars -61607-11-08 16:04 J -20780222.01 -20780221.83 -20780221.66 0.1731 0.0060
 Jupiter -61605-12-21 18:13 J -20779447.89 -20779447.74 -20779447.58 0.0504 0.0310
 Mars -61600-04-19 21:49 J -20777867.76 -20777867.59 -20777867.42 0.1817 0.0344
 Saturn -61600-11-23 09:06 J -20777650.32 -20777650.12 -20777649.91 0.0282 0.0042
 Jupiter -61598-06-19 21:21 J -20777076.66 -20777076.61 -20777076.54 0.0524 0.0497
 Earth -61590-09-19 00:28 J -20774063.61 -20774063.48 -20774063.34 0.2712 0.1195
 Moon -61590-09-19 02:23 J -20774063.54 -20774063.40 -20774063.25 0.2706 0.1191 *
 Jupiter -61586-02-22 12:57 J -20772811.16 -20772810.96 -20772810.76 0.0522 0.0084
 Saturn -61583-03-19 04:18 J -20771690.51 -20771690.32 -20771690.12 0.0281 0.0115
 Jupiter -61581-12-24 01:54 J -20770679.60 -20770679.42 -20770679.25 0.0503 0.0247
 Pluto -61579-04-20 03:21 J -20770197.50 -20770197.36 -20770197.18 0.0068 0.0049
 Pluto -61579-12-01 09:35 J -20769972.31 -20769972.10 -20769971.87 0.0068 0.0009
 Pluto -61578-07-14 15:49 J -20769747.04 -20769746.84 -20769746.64 0.0068 0.0032
 Uranus -61575-07-12 11:30 J -20768653.12 -20768653.02 -20768652.92 0.0147 0.0128
 Jupiter -61575-10-28 03:06 J -20768545.52 -20768545.37 -20768545.21 0.0521 0.0330
 Uranus -61574-02-23 23:45 J -20768426.68 -20768426.51 -20768426.32 0.0147 0.0077
 Uranus -61574-10-08 12:42 J -20768200.19 -20768199.97 -20768199.76 0.0147 0.0024
 Uranus -61573-05-22 01:25 J -20767973.65 -20767973.44 -20767973.22 0.0147 0.0030
 Uranus -61572-01-03 14:23 J -20767747.06 -20767746.90 -20767746.71 0.0147 0.0084
 Uranus -61572-08-18 03:49 J -20767520.40 -20767520.34 -20767520.24 0.0148 0.0138
 Saturn -61570-06-05 14:23 J -20766864.10 -20766863.90 -20766863.71 0.0281 0.0098
 Jupiter -61569-08-29 04:33 J -20766413.50 -20766413.31 -20766413.11 0.0504 0.0104
 Jupiter -61557-05-04 06:57 J -20762147.28 -20762147.21 -20762147.12 0.0505 0.0457
 Saturn -61554-02-11 18:42 J -20761133.83 -20761133.72 -20761133.61 0.0278 0.0240
 Saturn -61554-09-29 10:18 J -20760904.23 -20760904.07 -20760903.89 0.0281 0.0174

Neptune -61553-08-19 11:30 J -20760579.10 -20760579.02 -20760578.91 0.0089 0.0081
 Neptune -61552-04-01 23:59 J -20760353.65 -20760353.50 -20760353.34 0.0089 0.0060
 Neptune -61552-11-13 12:13 J -20760128.18 -20760127.99 -20760127.79 0.0089 0.0040
 Neptune -61551-06-27 00:42 J -20759902.68 -20759902.47 -20759902.26 0.0089 0.0020
 Jupiter -61551-10-31 03:21 J -20759776.52 -20759776.36 -20759776.20 0.0523 0.0315
 Neptune -61550-02-07 12:57 J -20759677.17 -20759676.96 -20759676.74 0.0089 0.0002
 Neptune -61550-09-21 01:11 J -20759451.65 -20759451.45 -20759451.23 0.0089 0.0020
 Neptune -61549-05-03 13:40 J -20759226.12 -20759225.93 -20759225.74 0.0089 0.0040
 Neptune -61549-12-15 02:09 J -20759000.57 -20759000.41 -20759000.26 0.0089 0.0061
 Neptune -61548-07-28 14:09 J -20758774.98 -20758774.91 -20758774.80 0.0089 0.0081
 Jupiter -61545-08-31 11:59 J -20757645.08 -20757645.00 -20757644.91 0.0502 0.0449
 Saturn -61541-04-30 10:47 J -20756307.14 -20756307.05 -20756306.95 0.0284 0.0249
 Mars -61541-09-05 00:57 J -20756179.63 -20756179.46 -20756179.29 0.1726 0.0471
 Saturn -61541-12-15 20:23 J -20756077.81 -20756077.65 -20756077.47 0.0281 0.0161
 Jupiter -61539-07-05 19:11 J -20755510.91 -20755510.70 -20755510.50 0.0522 0.0097
 Uranus -61535-11-01 19:25 J -20753930.73 -20753930.69 -20753930.61 0.0132 0.0126
 Mars -61534-02-15 04:18 J -20753825.46 -20753825.32 -20753825.17 0.1822 0.0926
 Uranus -61534-06-16 00:42 J -20753704.62 -20753704.47 -20753704.29 0.0132 0.0087
 Uranus -61533-01-28 05:45 J -20753478.45 -20753478.26 -20753478.05 0.0132 0.0049
 Jupiter -61533-05-06 14:23 J -20753379.10 -20753378.90 -20753378.70 0.0503 0.0098
 Uranus -61533-09-10 10:33 J -20753252.27 -20753252.06 -20753251.84 0.0132 0.0011
 Uranus -61532-04-24 15:06 J -20753026.08 -20753025.87 -20753025.65 0.0132 0.0028
 Uranus -61532-12-06 19:11 J -20752799.88 -20752799.70 -20752799.50 0.0131 0.0066
 Uranus -61531-07-20 23:30 J -20752573.65 -20752573.52 -20752573.38 0.0131 0.0103
 Jupiter -61527-03-10 10:47 J -20751245.10 -20751245.05 -20751245.00 0.0521 0.0504
 Saturn -61525-08-23 22:04 J -20750347.73 -20750347.58 -20750347.42 0.0278 0.0190
 Saturn -61524-04-10 13:25 J -20750118.05 -20750117.94 -20750117.80 0.0282 0.0225
 Jupiter -61521-01-10 16:18 J -20749112.99 -20749112.82 -20749112.65 0.0504 0.0258
 Saturn -61512-11-10 14:23 J -20745521.04 -20745520.90 -20745520.75 0.0284 0.0198
 Saturn -61511-06-27 23:59 J -20745291.63 -20745291.50 -20745291.36 0.0281 0.0211

Jupiter -61503-03-13 11:16 J -20742476.23 -20742476.03 -20742475.83 0.0522 0.0141
 Jupiter -61497-01-13 01:40 J -20740344.58 -20740344.43 -20740344.27 0.0503 0.0308
 Saturn -61495-03-06 02:37 J -20739561.57 -20739561.39 -20739561.19 0.0279 0.0136
 Saturn -61495-10-21 18:28 J -20739331.74 -20739331.73 -20739331.70 0.0282 0.0280
 Pluto -61493-02-18 07:40 J -20738847.34 -20738847.18 -20738846.97 0.0077 0.0040
 Pluto -61493-09-30 16:33 J -20738622.02 -20738621.81 -20738621.60 0.0076 0.0016
 Pluto -61492-05-14 00:28 J -20738396.55 -20738396.48 -20738396.39 0.0076 0.0070
 Jupiter -61492-11-16 02:23 J -20738210.58 -20738210.40 -20738210.23 0.0521 0.0270
 Uranus -61491-10-24 06:13 J -20737868.39 -20737868.24 -20737868.08 0.0147 0.0101
 Uranus -61490-06-07 18:28 J -20737641.92 -20737641.73 -20737641.52 0.0147 0.0049
 Uranus -61489-01-20 07:25 J -20737415.41 -20737415.19 -20737414.97 0.0147 0.0004
 Uranus -61489-09-02 20:23 J -20737188.84 -20737188.65 -20737188.44 0.0147 0.0057
 Uranus -61488-04-17 09:49 J -20736962.23 -20736962.09 -20736961.95 0.0147 0.0111
 Jupiter -61486-09-18 03:06 J -20736078.57 -20736078.37 -20736078.17 0.0503 0.0051
 Saturn -61482-05-23 19:25 J -20734734.86 -20734734.69 -20734734.50 0.0284 0.0139
 Saturn -61481-01-08 04:47 J -20734505.34 -20734505.30 -20734505.23 0.0281 0.0269
 Mars -61475-07-03 10:04 J -20732137.23 -20732137.08 -20732136.93 0.1722 0.0863
 Jupiter -61474-05-24 05:45 J -20731812.37 -20731812.26 -20731812.13 0.0505 0.0402
 Neptune -61470-05-22 19:54 J -20730352.76 -20730352.67 -20730352.53 0.0088 0.0075
 Neptune -61469-01-03 10:04 J -20730127.25 -20730127.08 -20730126.90 0.0088 0.0054
 Neptune -61469-08-15 23:30 J -20729901.71 -20729901.52 -20729901.30 0.0088 0.0034
 Mars -61469-12-12 10:47 J -20729783.14 -20729783.05 -20729782.95 0.1828 0.1507
 Neptune -61468-03-29 13:25 J -20729676.16 -20729675.94 -20729675.72 0.0088 0.0013
 Neptune -61468-11-10 02:52 J -20729450.60 -20729450.38 -20729450.15 0.0088 0.0007
 Jupiter -61468-11-19 05:59 J -20729441.38 -20729441.25 -20729441.11 0.0524 0.0390
 Neptune -61467-06-23 16:33 J -20729225.02 -20729224.81 -20729224.60 0.0088 0.0027
 Neptune -61466-02-04 05:45 J -20728999.43 -20728999.26 -20728999.05 0.0088 0.0048
 Saturn -61466-09-16 05:01 J -20728775.49 -20728775.29 -20728775.08 0.0279 0.0089
 Neptune -61466-09-17 19:11 J -20728773.82 -20728773.70 -20728773.54 0.0088 0.0069
 Moon -61460-03-23 02:52 J -20726760.55 -20726760.38 -20726760.21 0.2616 0.0212

Earth	-61460-03-23 06:57 J	-20726760.37	-20726760.21	-20726760.04	0.2621	0.0095 *
Jupiter	-61456-07-24 21:21 J	-20725175.82	-20725175.61	-20725175.40	0.0522	0.0022
Saturn	-61453-12-02 21:06 J	-20723948.81	-20723948.62	-20723948.42	0.0283	0.0094
Uranus	-61450-02-13 12:42 J	-20723146.09	-20723145.97	-20723145.82	0.0132	0.0103
Jupiter	-61450-05-26 14:09 J	-20723044.09	-20723043.91	-20723043.71	0.0503	0.0160
Uranus	-61450-09-27 17:45 J	-20722919.94	-20722919.76	-20722919.56	0.0132	0.0065
Uranus	-61449-05-10 22:47 J	-20722693.76	-20722693.55	-20722693.33	0.0132	0.0026
Uranus	-61449-12-23 03:35 J	-20722467.57	-20722467.35	-20722467.14	0.0132	0.0012
Uranus	-61448-08-06 07:54 J	-20722241.37	-20722241.17	-20722240.96	0.0132	0.0050
Uranus	-61447-03-20 12:13 J	-20722015.14	-20722014.99	-20722014.82	0.0132	0.0088
Uranus	-61447-11-01 16:18 J	-20721788.87	-20721788.82	-20721788.74	0.0131	0.0125
Jupiter	-61444-03-29 11:01 J	-20720910.15	-20720910.04	-20720909.93	0.0520	0.0438
Jupiter	-61438-01-29 17:16 J	-20718777.96	-20718777.78	-20718777.59	0.0504	0.0192
Mars	-61437-12-11 21:06 J	-20718095.64	-20718095.62	-20718095.59	0.1811	0.1789
Saturn	-61436-03-28 08:23 J	-20717989.36	-20717989.15	-20717988.93	0.0279	0.0040
Saturn	-61423-06-15 01:25 J	-20713162.65	-20713162.44	-20713162.24	0.0283	0.0039
Jupiter	-61420-04-01 13:54 J	-20712141.10	-20712140.92	-20712140.73	0.0523	0.0216
Jupiter	-61414-02-01 01:40 J	-20710009.56	-20710009.43	-20710009.29	0.0502	0.0366
Mars	-61409-04-29 19:11 J	-20708094.82	-20708094.70	-20708094.58	0.1718	0.1260
Jupiter	-61409-12-05 05:59 J	-20707875.44	-20707875.25	-20707875.06	0.0522	0.0192
Uranus	-61407-06-23 13:11 J	-20707310.05	-20707309.95	-20707309.83	0.0147	0.0125
Saturn	-61407-10-08 10:04 J	-20707203.29	-20707203.08	-20707202.86	0.0279	0.0005
Uranus	-61406-02-05 01:25 J	-20707083.62	-20707083.44	-20707083.24	0.0147	0.0073
Uranus	-61406-09-19 14:09 J	-20706857.12	-20706856.91	-20706856.69	0.0147	0.0021
Uranus	-61405-05-03 02:52 J	-20706630.59	-20706630.38	-20706630.16	0.0147	0.0032
Uranus	-61405-12-15 15:49 J	-20706404.01	-20706403.84	-20706403.65	0.0147	0.0085
Uranus	-61404-07-30 05:16 J	-20706177.34	-20706177.28	-20706177.20	0.0147	0.0139
Jupiter	-61403-10-07 03:49 J	-20705743.54	-20705743.34	-20705743.13	0.0503	0.0017
Saturn	-61394-12-26 01:40 J	-20702376.64	-20702376.43	-20702376.22	0.0283	0.0002
Jupiter	-61391-06-12 06:42 J	-20701477.37	-20701477.22	-20701477.07	0.0505	0.0336

Neptune -61388-07-04 08:37 J -20700359.26 -20700359.14 -20700359.01 0.0089 0.0071
 Neptune -61387-02-14 20:52 J -20700133.80 -20700133.63 -20700133.45 0.0089 0.0051
 Neptune -61387-09-28 09:06 J -20699908.32 -20699908.12 -20699907.91 0.0089 0.0031
 Neptune -61386-05-11 21:21 J -20699682.82 -20699682.61 -20699682.39 0.0089 0.0011
 Neptune -61386-12-23 09:49 J -20699457.31 -20699457.09 -20699456.88 0.0089 0.0009
 Neptune -61385-08-04 22:04 J -20699231.78 -20699231.58 -20699231.37 0.0089 0.0029
 Jupiter -61385-12-08 07:40 J -20699106.27 -20699106.18 -20699106.08 0.0523 0.0461
 Neptune -61384-03-18 10:33 J -20699006.24 -20699006.06 -20699005.88 0.0089 0.0049
 Neptune -61384-10-29 22:47 J -20698780.67 -20698780.55 -20698780.41 0.0089 0.0070
 Saturn -61377-04-19 12:42 J -20696417.18 -20696416.97 -20696416.76 0.0279 0.0051
 Mars -61377-04-28 23:16 J -20696407.62 -20696407.53 -20696407.44 0.1732 0.1460
 Jupiter -61373-08-12 23:16 J -20694840.73 -20694840.53 -20694840.32 0.0522 0.0052
 Mars -61371-10-09 03:49 J -20694053.47 -20694053.34 -20694053.21 0.1816 0.1223
 Jupiter -61367-06-14 15:35 J -20692709.02 -20692708.85 -20692708.66 0.0502 0.0223
 Uranus -61367-10-14 00:28 J -20692587.56 -20692587.48 -20692587.37 0.0132 0.0119
 Uranus -61366-05-28 05:59 J -20692361.42 -20692361.25 -20692361.07 0.0132 0.0080
 Uranus -61365-01-09 11:01 J -20692135.24 -20692135.04 -20692134.83 0.0132 0.0042
 Uranus -61365-08-22 16:04 J -20691909.05 -20691908.83 -20691908.61 0.0132 0.0004
 Uranus -61364-04-05 20:23 J -20691682.85 -20691682.65 -20691682.43 0.0132 0.0035
 Saturn -61364-07-07 04:33 J -20691590.51 -20691590.31 -20691590.10 0.0283 0.0051
 Uranus -61364-11-18 01:11 J -20691456.63 -20691456.45 -20691456.27 0.0132 0.0072
 Uranus -61363-07-02 05:16 J -20691230.39 -20691230.28 -20691230.15 0.0132 0.0110
 Jupiter -61361-04-17 13:54 J -20690575.07 -20690574.92 -20690574.77 0.0522 0.0364
 Jupiter -61355-02-17 18:57 J -20688442.90 -20688442.71 -20688442.51 0.0503 0.0125
 Moon -61355-09-21 04:47 J -20688227.39 -20688227.30 -20688227.20 0.2711 0.2115
 Saturn -61348-10-30 13:54 J -20685631.13 -20685630.92 -20685630.72 0.0279 0.0094
 Moon -61347-09-18 23:01 J -20685307.67 -20685307.54 -20685307.42 0.2717 0.1407
 Earth -61347-09-19 02:37 J -20685307.53 -20685307.39 -20685307.26 0.2713 0.1271 *
 Jupiter -61344-10-23 21:06 J -20684176.68 -20684176.62 -20684176.55 0.0505 0.0477
 Mars -61343-02-25 04:33 J -20684052.35 -20684052.31 -20684052.26 0.1714 0.1643

Jupiter -61337-04-20 18:42 J -20681805.88 -20681805.72 -20681805.55 0.0523 0.0302
 Saturn -61334-01-17 03:49 J -20680804.53 -20680804.34 -20680804.13 0.0283 0.0087
 Pluto -61333-05-18 07:25 J -20680317.27 -20680317.19 -20680317.06 0.0068 0.0060
 Pluto -61333-12-29 13:40 J -20680092.14 -20680091.93 -20680091.71 0.0068 0.0020
 Pluto -61332-08-11 19:54 J -20679866.88 -20679866.67 -20679866.45 0.0068 0.0020
 Jupiter -61331-02-20 03:35 J -20679674.45 -20679674.35 -20679674.25 0.0502 0.0434
 Pluto -61331-03-25 01:40 J -20679641.50 -20679641.43 -20679641.31 0.0068 0.0062
 Jupiter -61326-12-25 09:06 J -20677540.32 -20677540.12 -20677539.92 0.0522 0.0114
 Uranus -61323-02-20 23:16 J -20676751.56 -20676751.53 -20676751.48 0.0146 0.0144
 Uranus -61323-10-05 11:30 J -20676525.18 -20676525.02 -20676524.85 0.0147 0.0093
 Uranus -61322-05-19 23:59 J -20676298.71 -20676298.50 -20676298.29 0.0147 0.0041
 Uranus -61321-01-01 12:28 J -20676072.19 -20676071.98 -20676071.76 0.0147 0.0012
 Uranus -61321-08-15 01:40 J -20675845.62 -20675845.43 -20675845.23 0.0147 0.0064
 Uranus -61320-03-29 14:37 J -20675619.00 -20675618.89 -20675618.74 0.0147 0.0118
 Jupiter -61320-10-26 06:28 J -20675408.42 -20675408.23 -20675408.03 0.0503 0.0087
 Saturn -61319-09-25 01:40 J -20675074.49 -20675074.43 -20675074.37 0.0277 0.0265
 Saturn -61318-05-12 15:49 J -20674845.02 -20674844.84 -20674844.65 0.0280 0.0139
 Mars -61311-02-24 08:09 J -20672365.30 -20672365.16 -20672365.02 0.1728 0.1039
 Jupiter -61308-07-01 09:21 J -20671142.27 -20671142.11 -20671141.93 0.0504 0.0265
 Neptune -61306-08-24 02:37 J -20670358.42 -20670358.39 -20670358.34 0.0088 0.0087
 Saturn -61306-12-12 19:11 J -20670247.72 -20670247.70 -20670247.65 0.0286 0.0281
 Neptune -61305-04-05 16:04 J -20670132.96 -20670132.83 -20670132.66 0.0088 0.0066
 Saturn -61305-07-29 06:28 J -20670018.41 -20670018.23 -20670018.04 0.0283 0.0136
 Mars -61305-08-05 11:01 J -20670011.20 -20670011.04 -20670010.88 0.1821 0.0680
 Neptune -61305-11-17 05:30 J -20669907.44 -20669907.27 -20669907.05 0.0088 0.0047
 Neptune -61304-06-30 19:25 J -20669681.89 -20669681.69 -20669681.46 0.0088 0.0026
 Neptune -61303-02-11 09:21 J -20669456.33 -20669456.11 -20669455.88 0.0088 0.0005
 Neptune -61303-09-24 23:01 J -20669230.76 -20669230.54 -20669230.32 0.0088 0.0016
 Neptune -61302-05-08 12:13 J -20669005.18 -20669004.99 -20669004.77 0.0088 0.0036
 Neptune -61302-12-20 01:40 J -20668779.59 -20668779.43 -20668779.24 0.0088 0.0057

Neptune -61301-08-01 15:21 J -20668553.96 -20668553.86 -20668553.74 0.0088 0.0077
 Jupiter -61290-09-02 03:49 J -20664505.54 -20664505.34 -20664505.14 0.0523 0.0134
 Saturn -61289-04-06 03:06 J -20664288.49 -20664288.37 -20664288.23 0.0276 0.0222
 Saturn -61289-11-21 17:30 J -20664058.93 -20664058.77 -20664058.61 0.0279 0.0182
 Jupiter -61284-07-03 17:59 J -20662373.91 -20662373.75 -20662373.58 0.0502 0.0295
 Uranus -61282-01-25 18:42 J -20661802.87 -20661802.72 -20661802.56 0.0132 0.0095
 Uranus -61282-09-08 23:45 J -20661576.70 -20661576.51 -20661576.30 0.0132 0.0057
 Uranus -61281-04-22 04:47 J -20661350.51 -20661350.30 -20661350.08 0.0132 0.0018
 Uranus -61281-12-04 09:35 J -20661124.31 -20661124.10 -20661123.88 0.0132 0.0020
 Uranus -61280-07-18 14:09 J -20660898.10 -20660897.91 -20660897.70 0.0132 0.0058
 Uranus -61279-03-01 18:42 J -20660671.86 -20660671.72 -20660671.56 0.0132 0.0096
 Jupiter -61278-05-07 19:25 J -20660239.87 -20660239.69 -20660239.51 0.0522 0.0274
 Saturn -61276-06-23 18:28 J -20659461.83 -20659461.73 -20659461.62 0.0286 0.0246
 Saturn -61275-02-08 05:16 J -20659232.44 -20659232.28 -20659232.11 0.0283 0.0170
 Jupiter -61272-03-08 20:52 J -20658107.83 -20658107.63 -20658107.43 0.0504 0.0055
 Jupiter -61261-11-11 23:45 J -20653841.62 -20653841.51 -20653841.38 0.0505 0.0404
 Saturn -61260-10-17 05:01 J -20653502.45 -20653502.29 -20653502.12 0.0277 0.0178
 Saturn -61259-06-03 19:25 J -20653272.81 -20653272.69 -20653272.56 0.0280 0.0227
 Jupiter -61254-05-10 21:35 J -20651470.74 -20651470.60 -20651470.46 0.0523 0.0378
 Pluto -61247-03-18 11:30 J -20648967.14 -20648967.02 -20648966.85 0.0077 0.0057
 Pluto -61247-10-29 20:23 J -20648741.86 -20648741.65 -20648741.43 0.0077 0.0001
 Saturn -61246-01-03 20:37 J -20648675.78 -20648675.64 -20648675.48 0.0286 0.0198
 Pluto -61246-06-12 04:18 J -20648516.46 -20648516.32 -20648516.16 0.0076 0.0054
 Saturn -61246-08-21 07:40 J -20648446.30 -20648446.18 -20648446.04 0.0283 0.0218
 Mars -61246-12-22 16:33 J -20648322.97 -20648322.81 -20648322.64 0.1723 0.0614
 Jupiter -61242-01-13 11:45 J -20647205.22 -20647205.01 -20647204.81 0.0523 0.0041
 Mars -61239-06-02 17:01 J -20645968.96 -20645968.79 -20645968.61 0.1826 0.0101
 Uranus -61239-06-04 21:06 J -20645966.76 -20645966.62 -20645966.49 0.0146 0.0113
 Uranus -61238-01-17 09:06 J -20645740.30 -20645740.12 -20645739.91 0.0147 0.0062
 Uranus -61238-08-31 22:04 J -20645513.80 -20645513.58 -20645513.37 0.0147 0.0010

Uranus -61237-04-14 10:47 J -20645287.25 -20645287.05 -20645286.84 0.0147 0.0043
 Jupiter -61237-11-14 09:35 J -20645073.29 -20645073.10 -20645072.91 0.0502 0.0160
 Uranus -61237-11-26 23:59 J -20645060.67 -20645060.50 -20645060.34 0.0147 0.0096
 Jupiter -61231-09-18 03:21 J -20642939.46 -20642939.36 -20642939.24 0.0521 0.0445
 Saturn -61230-04-29 07:11 J -20642716.38 -20642716.20 -20642716.00 0.0276 0.0133
 Saturn -61230-12-14 21:35 J -20642486.65 -20642486.60 -20642486.55 0.0279 0.0271
 Jupiter -61225-07-20 11:45 J -20640807.19 -20640807.01 -20640806.82 0.0504 0.0193
 Neptune -61224-10-05 16:18 J -20640364.87 -20640364.82 -20640364.72 0.0089 0.0083
 Neptune -61223-05-19 04:47 J -20640139.44 -20640139.30 -20640139.14 0.0089 0.0063
 Neptune -61223-12-30 17:01 J -20639913.96 -20639913.79 -20639913.59 0.0089 0.0043
 Neptune -61222-08-13 05:30 J -20639688.47 -20639688.27 -20639688.05 0.0089 0.0023
 Neptune -61221-03-25 17:59 J -20639462.96 -20639462.75 -20639462.53 0.0089 0.0003
 Neptune -61221-11-06 06:13 J -20639237.44 -20639237.24 -20639237.02 0.0089 0.0018
 Neptune -61220-06-19 18:28 J -20639011.91 -20639011.73 -20639011.52 0.0089 0.0039
 Neptune -61219-01-31 06:57 J -20638786.36 -20638786.21 -20638786.03 0.0089 0.0058
 Neptune -61219-09-13 19:25 J -20638560.78 -20638560.69 -20638560.58 0.0089 0.0078
 Earth -61217-03-23 07:11 J -20638004.37 -20638004.20 -20638004.04 0.2621 0.0113
 Moon -61217-03-23 08:52 J -20638004.28 -20638004.13 -20638003.98 0.2627 0.0408 *
 Saturn -61217-07-15 20:09 J -20637889.82 -20637889.66 -20637889.48 0.0286 0.0162
 Saturn -61216-03-02 07:11 J -20637660.29 -20637660.20 -20637660.11 0.0283 0.0253
 Jupiter -61207-09-21 07:11 J -20634170.39 -20634170.20 -20634170.01 0.0523 0.0212
 Jupiter -61201-07-22 20:37 J -20632038.77 -20632038.64 -20632038.50 0.0502 0.0367
 Saturn -61201-11-08 09:49 J -20631930.30 -20631930.09 -20631929.89 0.0277 0.0087
 Uranus -61199-09-25 07:11 J -20631244.31 -20631244.20 -20631244.06 0.0132 0.0110
 Uranus -61198-05-09 12:28 J -20631018.15 -20631017.98 -20631017.78 0.0132 0.0071
 Uranus -61198-12-21 17:59 J -20630791.97 -20630791.75 -20630791.54 0.0132 0.0032
 Uranus -61197-08-03 22:47 J -20630565.77 -20630565.55 -20630565.33 0.0132 0.0006
 Uranus -61196-03-18 03:35 J -20630339.55 -20630339.35 -20630339.14 0.0132 0.0044
 Uranus -61196-10-30 07:54 J -20630113.32 -20630113.17 -20630112.98 0.0132 0.0082
 Jupiter -61195-05-26 21:49 J -20629904.78 -20629904.59 -20629904.40 0.0522 0.0198

Uranus -61195-06-13 12:28 J -20629887.06 -20629886.98 -20629886.87 0.0132 0.0119
 Jupiter -61189-03-27 23:59 J -20627772.71 -20627772.50 -20627772.30 0.0503 0.0021
 Saturn -61187-01-25 23:01 J -20627103.73 -20627103.54 -20627103.35 0.0285 0.0112
 Mars -61180-10-19 02:09 J -20624280.58 -20624280.41 -20624280.24 0.1719 0.0226
 Jupiter -61178-12-02 03:21 J -20623506.51 -20623506.36 -20623506.21 0.0504 0.0327
 Mars -61173-03-29 23:45 J -20621926.67 -20621926.51 -20621926.34 0.1831 0.0484
 Saturn -61171-05-21 13:11 J -20621144.16 -20621143.95 -20621143.74 0.0277 0.0039
 Jupiter -61171-05-30 00:28 J -20621135.58 -20621135.48 -20621135.38 0.0524 0.0455
 Jupiter -61159-02-01 16:18 J -20616870.02 -20616869.82 -20616869.61 0.0523 0.0049
 Saturn -61158-08-07 23:01 J -20616317.74 -20616317.54 -20616317.33 0.0285 0.0074
 Uranus -61155-02-02 06:42 J -20615408.30 -20615408.22 -20615408.12 0.0146 0.0132
 Uranus -61155-09-16 18:57 J -20615181.88 -20615181.71 -20615181.52 0.0147 0.0082
 Uranus -61154-05-01 07:25 J -20614955.40 -20614955.19 -20614954.97 0.0147 0.0030
 Jupiter -61154-12-04 10:33 J -20614738.24 -20614738.06 -20614737.88 0.0502 0.0226
 Uranus -61154-12-13 20:09 J -20614728.87 -20614728.66 -20614728.44 0.0147 0.0022
 Uranus -61153-07-27 09:06 J -20614502.30 -20614502.12 -20614501.92 0.0147 0.0075
 Uranus -61152-03-10 22:33 J -20614275.66 -20614275.56 -20614275.45 0.0147 0.0128
 Jupiter -61148-10-07 06:42 J -20612604.37 -20612604.22 -20612604.08 0.0521 0.0366
 Jupiter -61142-08-09 13:25 J -20610472.13 -20610471.94 -20610471.74 0.0504 0.0124
 Saturn -61142-12-01 16:18 J -20610358.04 -20610357.82 -20610357.61 0.0278 0.0011
 Neptune -61141-07-07 22:47 J -20610138.63 -20610138.55 -20610138.42 0.0088 0.0078
 Neptune -61140-02-18 12:28 J -20609913.13 -20609912.98 -20609912.79 0.0088 0.0057
 Neptune -61140-10-02 02:23 J -20609687.60 -20609687.40 -20609687.19 0.0088 0.0037
 Neptune -61139-05-15 16:04 J -20609462.05 -20609461.83 -20609461.60 0.0088 0.0016
 Neptune -61139-12-27 05:45 J -20609236.48 -20609236.26 -20609236.03 0.0088 0.0005
 Neptune -61138-08-09 19:11 J -20609010.91 -20609010.70 -20609010.48 0.0088 0.0025
 Neptune -61137-03-22 08:37 J -20608785.32 -20608785.14 -20608784.94 0.0088 0.0045
 Neptune -61137-11-02 22:04 J -20608559.72 -20608559.58 -20608559.42 0.0088 0.0066
 Neptune -61136-06-16 11:45 J -20608334.05 -20608334.01 -20608333.95 0.0088 0.0086
 Jupiter -61130-04-14 17:01 J -20606205.86 -20606205.79 -20606205.72 0.0505 0.0470

Saturn -61128-02-17 02:52 J -20605531.59 -20605531.38 -20605531.17 0.0285 0.0020
 Jupiter -61124-10-10 07:11 J -20603835.37 -20603835.20 -20603835.03 0.0524 0.0277
 Jupiter -61118-08-11 23:01 J -20601703.63 -20601703.54 -20601703.44 0.0501 0.0436
 Uranus -61115-05-25 20:09 J -20600685.72 -20600685.66 -20600685.57 0.0132 0.0124
 Uranus -61114-01-07 01:54 J -20600459.59 -20600459.42 -20600459.25 0.0132 0.0085
 Mars -61114-08-16 11:16 J -20600238.21 -20600238.03 -20600237.86 0.1714 0.0182
 Uranus -61114-08-21 07:11 J -20600233.41 -20600233.20 -20600233.00 0.0132 0.0046
 Uranus -61113-04-03 12:13 J -20600007.21 -20600006.99 -20600006.77 0.0132 0.0008
 Uranus -61113-11-15 17:01 J -20599781.00 -20599780.79 -20599780.58 0.0132 0.0030
 Saturn -61112-06-12 21:06 J -20599571.83 -20599571.62 -20599571.41 0.0277 0.0062
 Jupiter -61112-06-14 22:47 J -20599569.75 -20599569.55 -20599569.35 0.0523 0.0131
 Uranus -61112-06-29 21:21 J -20599554.78 -20599554.61 -20599554.41 0.0132 0.0068
 Uranus -61111-02-11 02:09 J -20599328.53 -20599328.41 -20599328.27 0.0132 0.0105
 Mars -61107-01-25 05:45 J -20597884.40 -20597884.26 -20597884.12 0.1836 0.1096
 Jupiter -61106-04-17 00:42 J -20597437.67 -20597437.47 -20597437.27 0.0503 0.0085
 Earth -61104-09-19 04:47 J -20596551.43 -20596551.30 -20596551.16 0.2713 0.1312
 Moon -61104-09-19 09:49 J -20596551.24 -20596551.09 -20596550.94 0.2711 0.0862 *
 Saturn -61099-08-30 04:18 J -20594745.53 -20594745.32 -20594745.12 0.0285 0.0023
 Jupiter -61095-12-21 02:52 J -20593171.55 -20593171.38 -20593171.21 0.0504 0.0266
 Pluto -61086-01-27 14:37 J -20590212.05 -20590211.89 -20590211.70 0.0068 0.0041
 Pluto -61086-09-09 21:06 J -20589986.85 -20589986.62 -20589986.40 0.0068 0.0001
 Pluto -61085-04-22 02:37 J -20589761.55 -20589761.39 -20589761.18 0.0068 0.0041
 Saturn -61083-12-24 01:40 J -20588785.63 -20588785.43 -20588785.24 0.0278 0.0116
 Jupiter -61076-02-20 16:33 J -20586535.01 -20586534.81 -20586534.61 0.0523 0.0112
 Uranus -61071-05-17 02:09 J -20584623.56 -20584623.41 -20584623.26 0.0146 0.0105
 Jupiter -61071-12-23 11:45 J -20584403.17 -20584403.01 -20584402.84 0.0502 0.0291
 Uranus -61071-12-29 14:23 J -20584397.10 -20584396.90 -20584396.70 0.0147 0.0054
 Uranus -61070-08-13 03:06 J -20584170.58 -20584170.37 -20584170.15 0.0147 0.0002
 Saturn -61069-03-11 08:52 J -20583959.33 -20583959.13 -20583958.93 0.0284 0.0078
 Uranus -61069-03-26 15:49 J -20583944.04 -20583943.84 -20583943.63 0.0147 0.0050

Uranus -61069-11-08 04:33 J -20583717.45 -20583717.31 -20583717.14 0.0147 0.0103
 Jupiter -61065-10-26 04:18 J -20582269.48 -20582269.32 -20582269.15 0.0522 0.0311
 Neptune -61059-08-20 13:11 J -20580145.04 -20580144.95 -20580144.81 0.0089 0.0075
 Jupiter -61059-08-28 15:06 J -20580137.07 -20580136.87 -20580136.67 0.0503 0.0055
 Neptune -61058-04-03 01:40 J -20579919.58 -20579919.43 -20579919.24 0.0089 0.0054
 Neptune -61058-11-14 14:09 J -20579694.10 -20579693.91 -20579693.70 0.0089 0.0034
 Neptune -61057-06-27 02:52 J -20579468.59 -20579468.38 -20579468.17 0.0089 0.0014
 Neptune -61056-02-07 15:06 J -20579243.08 -20579242.87 -20579242.65 0.0089 0.0007
 Neptune -61056-09-21 03:06 J -20579017.56 -20579017.37 -20579017.15 0.0089 0.0028
 Neptune -61055-05-04 15:21 J -20578792.02 -20578791.86 -20578791.66 0.0089 0.0048
 Neptune -61055-12-16 03:49 J -20578566.46 -20578566.34 -20578566.18 0.0089 0.0067
 Neptune -61054-07-29 16:18 J -20578340.84 -20578340.82 -20578340.76 0.0089 0.0088
 Saturn -61054-11-18 18:13 J -20578228.86 -20578228.74 -20578228.61 0.0275 0.0224
 Saturn -61053-07-05 07:25 J -20577999.35 -20577999.19 -20577999.01 0.0278 0.0173
 Mars -61048-06-12 20:37 J -20576195.80 -20576195.64 -20576195.47 0.1710 0.0552
 Jupiter -61047-05-03 16:18 J -20575870.93 -20575870.82 -20575870.70 0.0504 0.0410
 Mars -61042-11-22 11:45 J -20573842.07 -20573842.01 -20573841.95 0.1842 0.1713
 Jupiter -61041-10-29 09:21 J -20573500.26 -20573500.11 -20573499.96 0.0524 0.0352
 Saturn -61040-09-21 11:59 J -20573173.19 -20573173.00 -20573172.82 0.0284 0.0128
 Jupiter -61035-08-30 21:06 J -20571368.65 -20571368.62 -20571368.57 0.0502 0.0489
 Uranus -61031-09-06 13:40 J -20569901.05 -20569900.93 -20569900.77 0.0132 0.0101
 Uranus -61030-04-20 19:11 J -20569674.88 -20569674.70 -20569674.50 0.0132 0.0062
 Uranus -61030-12-03 00:28 J -20569448.69 -20569448.48 -20569448.26 0.0132 0.0024
 Jupiter -61029-07-03 23:16 J -20569234.73 -20569234.53 -20569234.32 0.0522 0.0064
 Uranus -61029-07-16 05:30 J -20569222.48 -20569222.27 -20569222.05 0.0132 0.0014
 Uranus -61028-02-27 10:33 J -20568996.26 -20568996.06 -20568995.86 0.0132 0.0052
 Uranus -61028-10-11 14:52 J -20568770.03 -20568769.88 -20568769.71 0.0132 0.0090
 Uranus -61027-05-25 19:11 J -20568543.74 -20568543.70 -20568543.62 0.0131 0.0127
 Saturn -61024-05-30 23:45 J -20567442.68 -20567442.51 -20567442.34 0.0276 0.0169
 Saturn -61023-01-15 13:11 J -20567213.06 -20567212.95 -20567212.82 0.0279 0.0231

Jupiter -61023-05-05 23:30 J -20567102.72 -20567102.52 -20567102.33 0.0503 0.0140

Jupiter -61017-03-08 13:11 J -20564969.03 -20564968.95 -20564968.87 0.0521 0.0475

Jupiter -61011-01-09 02:52 J -20562836.56 -20562836.38 -20562836.19 0.0504 0.0206

Saturn -61011-08-17 06:28 J -20562616.35 -20562616.23 -20562616.11 0.0287 0.0231

Saturn -61010-04-03 17:45 J -20562386.90 -20562386.76 -20562386.59 0.0284 0.0188

Mars -61010-11-21 23:16 J -20562154.59 -20562154.53 -20562154.46 0.1825 0.1680

Pluto -61001-11-26 21:06 J -20558861.81 -20558861.62 -20558861.41 0.0077 0.0027

61ST MILLENNIUM BCE

This is a list of transits of Venus in the 61st millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Pluto	-61000-07-10 05:30 J	-20558636.47	-20558636.27	-20558636.06	0.0076	0.0029		
Saturn	-60995-12-11 07:40 J	-20556656.38	-20556656.18	-20556655.98	0.0276	0.0107		
Jupiter	-60993-03-11 13:40 J	-20556200.13	-20556199.93	-20556199.73	0.0523	0.0164		
Jupiter	-60987-01-11 09:35 J	-20554068.25	-20554068.10	-20554067.95	0.0502	0.0342		
Uranus	-60987-01-14 08:23 J	-20554065.25	-20554065.15	-20554065.05	0.0146	0.0129		
Uranus	-60987-08-28 20:23 J	-20553838.82	-20553838.65	-20553838.46	0.0146	0.0078		
Uranus	-60986-04-12 08:52 J	-20553612.34	-20553612.13	-20553611.92	0.0147	0.0027		
Uranus	-60986-11-24 21:21 J	-20553385.82	-20553385.61	-20553385.39	0.0147	0.0025		
Uranus	-60985-07-08 10:04 J	-20553159.25	-20553159.08	-20553158.88	0.0147	0.0077		
Uranus	-60984-02-19 23:16 J	-20552932.62	-20552932.53	-20552932.42	0.0147	0.0129		
Mars	-60982-04-10 05:59 J	-20552153.39	-20552153.25	-20552153.10	0.1706	0.0931		
Jupiter	-60982-11-15 05:01 J	-20551934.47	-20551934.29	-20551934.11	0.0522	0.0242		

Saturn -60981-02-27 11:16 J -20551830.19 -20551830.03 -20551829.86 0.0287 0.0175
 Saturn -60981-10-13 22:18 J -20551600.67 -20551600.57 -20551600.45 0.0284 0.0242
 Neptune -60977-10-09 06:13 J -20550144.24 -20550144.24 -20550144.21 0.0088 0.0088
 Neptune -60976-05-22 20:09 J -20549918.80 -20549918.66 -20549918.51 0.0088 0.0068
 Jupiter -60976-09-16 11:30 J -20549802.22 -20549802.02 -20549801.81 0.0503 0.0013
 Neptune -60975-01-03 09:35 J -20549693.27 -20549693.10 -20549692.90 0.0088 0.0047
 Neptune -60975-08-16 23:16 J -20549467.73 -20549467.53 -20549467.30 0.0088 0.0027
 Earth -60974-03-24 06:57 J -20549248.37 -20549248.21 -20549248.05 0.2620 0.0070
 Moon -60974-03-24 07:25 J -20549248.36 -20549248.19 -20549248.01 0.2614 0.0170 *
 Neptune -60974-03-30 12:57 J -20549242.18 -20549241.96 -20549241.73 0.0088 0.0007
 Neptune -60974-11-11 02:23 J -20549016.62 -20549016.40 -20549016.17 0.0088 0.0014
 Neptune -60973-06-23 15:49 J -20548791.04 -20548790.84 -20548790.62 0.0088 0.0034
 Neptune -60972-02-04 05:30 J -20548565.43 -20548565.27 -20548565.08 0.0088 0.0055
 Neptune -60972-09-17 19:11 J -20548339.81 -20548339.70 -20548339.58 0.0088 0.0075
 Saturn -60965-06-22 13:54 J -20545870.13 -20545869.92 -20545869.71 0.0277 0.0048
 Jupiter -60964-05-22 13:25 J -20545536.07 -20545535.94 -20545535.80 0.0505 0.0362
 Jupiter -60958-11-18 06:13 J -20543165.37 -20543165.24 -20543165.11 0.0524 0.0401
 Saturn -60952-09-08 18:28 J -20541043.92 -20541043.73 -20541043.53 0.0286 0.0109
 Mars -60950-04-09 09:06 J -20540466.13 -20540466.12 -20540466.10 0.1720 0.1712
 Uranus -60947-05-07 01:11 J -20539342.54 -20539342.45 -20539342.33 0.0133 0.0117
 Uranus -60947-12-19 07:11 J -20539116.38 -20539116.20 -20539116.03 0.0132 0.0078
 Jupiter -60946-07-23 17:45 J -20538899.97 -20538899.76 -20538899.55 0.0522 0.0024
 Uranus -60946-08-02 12:28 J -20538890.19 -20538889.98 -20538889.77 0.0132 0.0040
 Uranus -60945-03-15 17:45 J -20538663.98 -20538663.76 -20538663.54 0.0132 0.0002
 Uranus -60945-10-27 22:33 J -20538437.77 -20538437.56 -20538437.35 0.0132 0.0036
 Uranus -60944-06-11 03:06 J -20538211.54 -20538211.37 -20538211.18 0.0132 0.0074
 Mars -60944-09-18 05:30 J -20538112.40 -20538112.27 -20538112.13 0.1830 0.1096
 Uranus -60943-01-23 07:40 J -20537985.28 -20537985.18 -20537985.05 0.0132 0.0111
 Jupiter -60940-05-24 22:33 J -20536767.75 -20536767.56 -20536767.38 0.0503 0.0197
 Saturn -60935-01-02 23:01 J -20535083.76 -20535083.54 -20535083.33 0.0277 0.0018

Jupiter -60934-03-28 08:09 J -20534634.26 -20534634.16 -20534634.04 0.0521 0.0433
 Jupiter -60928-01-27 23:16 J -20532501.72 -20532501.53 -20532501.34 0.0504 0.0160
 Saturn -60922-03-22 00:57 J -20530257.66 -20530257.46 -20530257.25 0.0286 0.0048
 Mars -60916-02-04 15:49 J -20528110.96 -20528110.84 -20528110.73 0.1702 0.1303
 Jupiter -60910-03-31 11:45 J -20525865.19 -20525865.01 -20525864.82 0.0523 0.0219
 Saturn -60906-07-16 05:59 J -20524297.45 -20524297.25 -20524297.04 0.0278 0.0080
 Jupiter -60904-01-30 05:30 J -20523733.39 -20523733.27 -20523733.14 0.0502 0.0385
 Uranus -60903-04-28 02:09 J -20523280.55 -20523280.41 -20523280.24 0.0146 0.0103
 Uranus -60903-12-10 14:23 J -20523054.09 -20523053.90 -20523053.69 0.0146 0.0053
 Uranus -60902-07-25 03:06 J -20522827.59 -20522827.37 -20522827.16 0.0147 0.0002
 Uranus -60901-03-07 15:21 J -20522601.05 -20522600.86 -20522600.64 0.0147 0.0051
 Uranus -60901-10-20 04:18 J -20522374.47 -20522374.32 -20522374.16 0.0147 0.0102
 Jupiter -60899-12-04 00:57 J -20521599.65 -20521599.46 -20521599.26 0.0522 0.0197
 Neptune -60895-11-21 21:49 J -20520150.63 -20520150.59 -20520150.50 0.0089 0.0085
 Neptune -60894-07-05 10:18 J -20519925.19 -20519925.07 -20519924.90 0.0089 0.0066
 Neptune -60893-02-15 22:47 J -20519699.72 -20519699.55 -20519699.34 0.0089 0.0045
 Neptune -60893-09-28 11:30 J -20519474.22 -20519474.02 -20519473.81 0.0089 0.0025
 Saturn -60893-10-01 09:21 J -20519471.32 -20519471.11 -20519470.91 0.0285 0.0022
 Jupiter -60893-10-05 08:52 J -20519467.33 -20519467.13 -20519466.93 0.0503 0.0041
 Neptune -60892-05-11 23:45 J -20519248.72 -20519248.51 -20519248.29 0.0089 0.0005
 Neptune -60892-12-23 11:59 J -20519023.20 -20519023.00 -20519022.78 0.0089 0.0016
 Neptune -60891-08-06 00:28 J -20518797.66 -20518797.48 -20518797.27 0.0089 0.0036
 Neptune -60890-03-19 12:57 J -20518572.12 -20518571.96 -20518571.78 0.0089 0.0056
 Neptune -60890-10-31 01:11 J -20518346.54 -20518346.45 -20518346.32 0.0089 0.0077
 Mars -60884-02-03 18:13 J -20516423.85 -20516423.74 -20516423.63 0.1716 0.1303
 Jupiter -60881-06-10 11:30 J -20515201.18 -20515201.02 -20515200.86 0.0505 0.0308
 Mars -60878-07-16 12:13 J -20514070.15 -20514069.99 -20514069.82 0.1835 0.0526
 Saturn -60877-06-10 02:09 J -20513740.50 -20513740.41 -20513740.31 0.0275 0.0247
 Saturn -60876-01-25 15:49 J -20513511.02 -20513510.84 -20513510.66 0.0278 0.0149
 Jupiter -60875-12-07 00:28 J -20512830.59 -20512830.48 -20512830.37 0.0524 0.0440

Moon	-60869-09-21 10:33 J	-20510715.11	-20510715.06	-20510715.00	0.2707	0.2553
Earth	-60869-09-21 14:09 J	-20510714.93	-20510714.91	-20510714.88	0.2713	0.2660
Saturn	-60863-04-13 16:33 J	-20508685.01	-20508684.81	-20508684.62	0.0285	0.0086
Jupiter	-60863-08-11 16:04 J	-20508565.03	-20508564.83	-20508564.62	0.0523	0.0035
Uranus	-60863-08-18 17:01 J	-20508557.93	-20508557.79	-20508557.62	0.0133	0.0096
Uranus	-60862-04-01 23:01 J	-20508331.74	-20508331.54	-20508331.35	0.0132	0.0057
Uranus	-60862-11-14 04:04 J	-20508105.54	-20508105.33	-20508105.11	0.0132	0.0019
Uranus	-60861-06-27 09:21 J	-20507879.33	-20507879.11	-20507878.89	0.0132	0.0019
Moon	-60861-09-19 01:54 J	-20507795.52	-20507795.42	-20507795.32	0.2713	0.2062
Earth	-60861-09-19 07:11 J	-20507795.34	-20507795.20	-20507795.07	0.2714	0.1357 *
Uranus	-60860-02-08 14:09 J	-20507653.10	-20507652.91	-20507652.70	0.0132	0.0057
Uranus	-60860-09-22 18:57 J	-20507426.85	-20507426.71	-20507426.55	0.0132	0.0094
Uranus	-60859-05-06 23:16 J	-20507200.54	-20507200.53	-20507200.49	0.0132	0.0131
Jupiter	-60857-06-12 16:18 J	-20506432.99	-20506432.82	-20506432.64	0.0502	0.0232
Jupiter	-60851-04-16 05:59 J	-20504299.38	-20504299.25	-20504299.10	0.0521	0.0379
Mars	-60851-12-03 01:11 J	-20504068.48	-20504068.45	-20504068.43	0.1698	0.1669
Saturn	-60848-12-21 09:06 J	-20502954.27	-20502954.12	-20502953.95	0.0276	0.0187
Saturn	-60847-08-07 22:47 J	-20502724.68	-20502724.55	-20502724.40	0.0279	0.0211
Jupiter	-60845-02-16 18:13 J	-20502166.93	-20502166.74	-20502166.55	0.0504	0.0122
Pluto	-60840-10-07 18:42 J	-20500106.90	-20500106.72	-20500106.49	0.0068	0.0030
Pluto	-60839-05-21 00:57 J	-20499881.67	-20499881.46	-20499881.22	0.0068	0.0012
Pluto	-60838-01-01 06:42 J	-20499656.34	-20499656.22	-20499656.05	0.0068	0.0053
Saturn	-60834-03-09 13:25 J	-20498128.01	-20498127.94	-20498127.85	0.0287	0.0264
Jupiter	-60834-10-22 21:06 J	-20497900.69	-20497900.62	-20497900.55	0.0505	0.0469
Saturn	-60834-10-25 00:57 J	-20497898.63	-20497898.46	-20497898.28	0.0284	0.0155
Jupiter	-60827-04-19 04:33 J	-20495530.49	-20495530.31	-20495530.13	0.0523	0.0250
Jupiter	-60821-02-19 02:37 J	-20493398.49	-20493398.39	-20493398.29	0.0502	0.0433
Uranus	-60820-12-26 10:33 J	-20492722.17	-20492722.06	-20492721.95	0.0146	0.0124
Uranus	-60819-08-09 22:33 J	-20492495.74	-20492495.56	-20492495.37	0.0146	0.0075
Mars	-60819-12-02 03:06 J	-20492381.51	-20492381.37	-20492381.22	0.1712	0.0903

Uranus -60818-03-24 10:33 J -20492269.27 -20492269.06 -20492268.84 0.0146 0.0024
 Saturn -60818-07-03 18:28 J -20492167.92 -20492167.73 -20492167.53 0.0276 0.0119
 Uranus -60818-11-05 23:01 J -20492042.75 -20492042.54 -20492042.33 0.0147 0.0027
 Uranus -60817-06-19 11:16 J -20491816.20 -20491816.03 -20491815.83 0.0147 0.0079
 Uranus -60816-02-01 00:13 J -20491589.58 -20491589.49 -20491589.38 0.0147 0.0130
 Jupiter -60816-12-22 18:57 J -20491264.91 -20491264.71 -20491264.52 0.0522 0.0160
 Mars -60812-05-12 17:59 J -20490027.92 -20490027.75 -20490027.58 0.1840 0.0093
 Neptune -60812-08-24 04:18 J -20489924.42 -20489924.32 -20489924.20 0.0088 0.0077
 Neptune -60811-04-06 17:45 J -20489698.91 -20489698.76 -20489698.57 0.0088 0.0057
 Neptune -60811-11-18 07:11 J -20489473.38 -20489473.20 -20489472.97 0.0088 0.0038
 Neptune -60810-07-01 21:06 J -20489247.83 -20489247.62 -20489247.39 0.0088 0.0017
 Jupiter -60810-10-25 03:06 J -20489132.57 -20489132.37 -20489132.17 0.0503 0.0075
 Neptune -60809-02-12 11:01 J -20489022.27 -20489022.04 -20489021.82 0.0088 0.0004
 Neptune -60809-09-25 00:13 J -20488796.70 -20488796.49 -20488796.26 0.0088 0.0025
 Neptune -60808-05-08 13:54 J -20488571.11 -20488570.92 -20488570.73 0.0088 0.0044
 Neptune -60808-12-20 02:52 J -20488345.51 -20488345.38 -20488345.20 0.0088 0.0065
 Neptune -60807-08-02 16:18 J -20488119.85 -20488119.82 -20488119.74 0.0088 0.0085
 Saturn -60805-09-18 21:49 J -20487341.74 -20487341.59 -20487341.43 0.0287 0.0194
 Saturn -60804-05-06 09:06 J -20487112.25 -20487112.12 -20487111.99 0.0284 0.0222
 Jupiter -60798-06-30 05:01 J -20484866.45 -20484866.29 -20484866.12 0.0504 0.0276
 Jupiter -60792-12-25 22:04 J -20482495.64 -20482495.58 -20482495.51 0.0524 0.0491
 Saturn -60788-01-13 01:25 J -20481381.65 -20481381.44 -20481381.23 0.0277 0.0059
 Jupiter -60780-08-30 11:45 J -20478230.22 -20478230.01 -20478229.81 0.0522 0.0077
 Uranus -60779-04-18 03:49 J -20477999.44 -20477999.34 -20477999.21 0.0133 0.0112
 Uranus -60779-11-30 09:49 J -20477773.27 -20477773.09 -20477772.91 0.0133 0.0073
 Uranus -60778-07-14 15:21 J -20477547.07 -20477546.86 -20477546.65 0.0132 0.0035
 Uranus -60777-02-25 20:37 J -20477320.85 -20477320.64 -20477320.42 0.0132 0.0004
 Uranus -60777-10-09 01:40 J -20477094.63 -20477094.43 -20477094.22 0.0132 0.0041
 Uranus -60776-05-23 06:13 J -20476868.40 -20476868.24 -20476868.05 0.0132 0.0078
 Uranus -60775-01-04 10:47 J -20476642.14 -20476642.05 -20476641.93 0.0132 0.0115

Saturn -60775-04-01 05:45 J -20476555.44 -20476555.26 -20476555.07 0.0286 0.0126
 Jupiter -60774-07-02 12:13 J -20476098.15 -20476097.99 -20476097.82 0.0503 0.0274
 Jupiter -60768-05-04 23:01 J -20473964.68 -20473964.54 -20473964.38 0.0521 0.0346
 Jupiter -60762-03-07 14:52 J -20471832.07 -20471831.88 -20471831.68 0.0504 0.0076
 Saturn -60759-07-26 10:18 J -20470595.29 -20470595.07 -20470594.85 0.0277 0.0008
 Pluto -60755-12-25 17:01 J -20468981.87 -20468981.79 -20468981.71 0.0077 0.0071
 Pluto -60754-08-08 01:25 J -20468756.65 -20468756.44 -20468756.22 0.0077 0.0015
 Pluto -60753-03-20 09:49 J -20468531.27 -20468531.09 -20468530.90 0.0076 0.0040
 Mars -60753-09-28 13:11 J -20468339.12 -20468338.95 -20468338.79 0.1707 0.0534
 Jupiter -60751-11-10 15:35 J -20467565.95 -20467565.85 -20467565.75 0.0505 0.0434
 Mars -60746-03-10 00:28 J -20465985.64 -20465985.48 -20465985.32 0.1845 0.0689
 Saturn -60746-10-12 14:23 J -20465769.10 -20465768.90 -20465768.70 0.0286 0.0056
 Jupiter -60744-05-08 02:23 J -20465195.56 -20465195.40 -20465195.22 0.0523 0.0306
 Jupiter -60738-03-09 20:23 J -20463063.73 -20463063.65 -20463063.58 0.0502 0.0463
 Uranus -60736-08-25 19:25 J -20462163.70 -20462163.69 -20462163.65 0.0146 0.0145
 Uranus -60735-04-09 07:11 J -20461937.35 -20461937.20 -20461937.03 0.0146 0.0095
 Uranus -60735-11-21 19:11 J -20461710.90 -20461710.70 -20461710.49 0.0146 0.0045
 Uranus -60734-07-06 07:25 J -20461484.40 -20461484.19 -20461483.97 0.0146 0.0007
 Uranus -60733-02-17 19:54 J -20461257.87 -20461257.67 -20461257.47 0.0147 0.0057
 Uranus -60733-10-01 08:23 J -20461031.28 -20461031.15 -20461030.99 0.0147 0.0108
 Jupiter -60732-01-10 17:01 J -20460929.99 -20460929.79 -20460929.58 0.0522 0.0106
 Moon -60731-03-24 04:18 J -20460492.48 -20460492.32 -20460492.17 0.2625 0.0080
 Earth -60731-03-24 06:57 J -20460492.37 -20460492.21 -20460492.05 0.2620 0.0061 *
 Neptune -60730-10-06 19:54 J -20459930.77 -20459930.67 -20459930.54 0.0089 0.0075
 Saturn -60729-02-05 16:04 J -20459809.04 -20459808.83 -20459808.62 0.0277 0.0065
 Neptune -60729-05-19 08:09 J -20459705.31 -20459705.16 -20459704.98 0.0089 0.0055
 Neptune -60729-12-30 20:37 J -20459479.83 -20459479.64 -20459479.44 0.0089 0.0035
 Neptune -60728-08-13 09:06 J -20459254.33 -20459254.12 -20459253.90 0.0089 0.0015
 Neptune -60727-03-26 21:35 J -20459028.82 -20459028.60 -20459028.39 0.0089 0.0005
 Neptune -60727-11-07 09:49 J -20458803.29 -20458803.09 -20458802.88 0.0089 0.0025

Jupiter -60727-11-12 21:49 J -20458797.78 -20458797.59 -20458797.39 0.0503 0.0113
 Neptune -60726-06-20 22:18 J -20458577.75 -20458577.57 -20458577.38 0.0089 0.0046
 Neptune -60725-02-01 10:18 J -20458352.19 -20458352.07 -20458351.90 0.0089 0.0066
 Neptune -60725-09-13 22:47 J -20458126.58 -20458126.55 -20458126.48 0.0089 0.0086
 Jupiter -60721-09-15 06:42 J -20456664.24 -20456664.22 -20456664.20 0.0520 0.0516
 Saturn -60716-04-23 21:35 J -20454982.81 -20454982.60 -20454982.39 0.0285 0.0009
 Jupiter -60715-07-19 00:57 J -20454531.64 -20454531.46 -20454531.28 0.0505 0.0234
 Saturn -60701-12-31 10:33 J -20449252.11 -20449252.06 -20449252.00 0.0275 0.0265
 Saturn -60700-08-17 23:59 J -20449022.68 -20449022.50 -20449022.30 0.0278 0.0129
 Jupiter -60697-09-18 06:42 J -20447895.42 -20447895.22 -20447895.02 0.0522 0.0118
 Uranus -60696-12-16 14:09 J -20447440.95 -20447440.91 -20447440.83 0.0133 0.0128
 Uranus -60695-07-30 20:09 J -20447214.81 -20447214.66 -20447214.49 0.0133 0.0090
 Uranus -60694-03-14 01:54 J -20446988.61 -20446988.42 -20446988.21 0.0133 0.0052
 Uranus -60694-10-26 07:25 J -20446762.40 -20446762.19 -20446761.97 0.0132 0.0014
 Uranus -60693-06-08 12:42 J -20446536.18 -20446535.97 -20446535.75 0.0132 0.0024
 Uranus -60692-01-20 17:30 J -20446309.95 -20446309.77 -20446309.57 0.0132 0.0062
 Uranus -60692-09-03 22:18 J -20446083.70 -20446083.57 -20446083.42 0.0132 0.0099
 Jupiter -60691-07-21 07:11 J -20445763.35 -20445763.20 -20445763.04 0.0502 0.0309
 Mars -60687-07-26 22:18 J -20444296.75 -20444296.57 -20444296.40 0.1703 0.0148
 Saturn -60687-11-04 05:16 J -20444196.48 -20444196.28 -20444196.08 0.0285 0.0077
 Jupiter -60685-05-23 21:49 J -20443629.77 -20443629.59 -20443629.42 0.0521 0.0290
 Mars -60680-01-04 05:59 J -20441943.37 -20441943.25 -20441943.14 0.1850 0.1332
 Jupiter -60679-03-26 09:35 J -20441497.30 -20441497.10 -20441496.90 0.0504 0.0040
 Saturn -60671-07-13 14:52 J -20438466.00 -20438465.88 -20438465.73 0.0275 0.0213
 Saturn -60670-02-28 04:47 J -20438236.46 -20438236.30 -20438236.14 0.0278 0.0182
 Jupiter -60668-11-29 11:16 J -20437231.15 -20437231.03 -20437230.90 0.0505 0.0392
 Jupiter -60661-05-27 00:13 J -20434860.63 -20434860.49 -20434860.34 0.0523 0.0358
 Saturn -60658-09-29 23:01 J -20433639.56 -20433639.54 -20433639.51 0.0287 0.0284
 Saturn -60657-05-16 10:47 J -20433410.23 -20433410.05 -20433409.86 0.0284 0.0135
 Uranus -60652-12-07 16:18 J -20431378.94 -20431378.82 -20431378.68 0.0146 0.0115

Uranus	-60651-07-22 04:18 J	-20431152.51	-20431152.32	-20431152.12	0.0146	0.0065
Uranus	-60650-03-05 16:18 J	-20430926.03	-20430925.82	-20430925.60	0.0146	0.0016
Uranus	-60650-10-18 04:33 J	-20430699.51	-20430699.31	-20430699.09	0.0147	0.0036
Jupiter	-60649-01-30 12:57 J	-20430595.17	-20430594.96	-20430594.76	0.0522	0.0061
Uranus	-60649-05-31 16:47 J	-20430472.96	-20430472.80	-20430472.61	0.0147	0.0087
Uranus	-60648-01-13 05:30 J	-20430246.33	-20430246.27	-20430246.18	0.0147	0.0138
Neptune	-60648-11-25 12:13 J	-20429929.99	-20429929.99	-20429929.93	0.0088	0.0088
Neptune	-60647-07-09 02:37 J	-20429704.54	-20429704.39	-20429704.24	0.0088	0.0067
Neptune	-60646-02-19 16:04 J	-20429479.01	-20429478.83	-20429478.62	0.0088	0.0046
Neptune	-60646-10-03 05:45 J	-20429253.46	-20429253.26	-20429253.03	0.0088	0.0026
Neptune	-60645-05-15 19:25 J	-20429027.91	-20429027.69	-20429027.46	0.0088	0.0006
Neptune	-60645-12-27 09:06 J	-20428802.34	-20428802.12	-20428801.89	0.0088	0.0015
Neptune	-60644-08-09 22:33 J	-20428576.76	-20428576.56	-20428576.35	0.0088	0.0035
Jupiter	-60644-12-01 19:54 J	-20428462.86	-20428462.67	-20428462.48	0.0503	0.0164
Neptune	-60643-03-23 11:59 J	-20428351.16	-20428351.00	-20428350.82	0.0088	0.0055
Neptune	-60643-11-04 01:25 J	-20428125.54	-20428125.44	-20428125.32	0.0088	0.0075
Saturn	-60641-01-23 21:35 J	-20427679.78	-20427679.60	-20427679.42	0.0276	0.0155
Saturn	-60641-09-09 11:16 J	-20427450.13	-20427450.03	-20427449.92	0.0278	0.0242
Jupiter	-60638-10-05 03:06 J	-20426329.46	-20426329.37	-20426329.28	0.0520	0.0468
Jupiter	-60632-08-06 21:21 J	-20424196.80	-20424196.61	-20424196.43	0.0504	0.0192
Saturn	-60628-04-11 06:13 J	-20422853.36	-20422853.24	-20422853.09	0.0287	0.0218
Saturn	-60628-11-26 17:45 J	-20422623.89	-20422623.76	-20422623.60	0.0284	0.0201
Earth	-60626-09-22 16:33 J	-20421958.85	-20421958.81	-20421958.77	0.2713	0.2611
Moon	-60626-09-22 17:59 J	-20421958.79	-20421958.75	-20421958.70	0.2720	0.2567 *
Mars	-60621-05-23 08:23 J	-20420254.33	-20420254.15	-20420253.98	0.1699	0.0211
Earth	-60618-09-20 09:21 J	-20419039.24	-20419039.11	-20419038.97	0.2714	0.1402
Moon	-60618-09-20 14:09 J	-20419039.06	-20419038.91	-20419038.77	0.2718	0.0545 *
Jupiter	-60614-10-08 07:11 J	-20417560.39	-20417560.20	-20417560.00	0.0523	0.0182
Saturn	-60612-08-05 00:57 J	-20416893.65	-20416893.46	-20416893.25	0.0276	0.0106
Uranus	-60611-03-30 07:40 J	-20416656.31	-20416656.18	-20416656.04	0.0133	0.0105

Uranus -60611-11-11 13:11 J -20416430.13 -20416429.95 -20416429.75 0.0133 0.0067
 Uranus -60610-06-25 18:57 J -20416203.92 -20416203.71 -20416203.49 0.0132 0.0029
 Uranus -60609-02-07 00:13 J -20415977.70 -20415977.49 -20415977.27 0.0132 0.0009
 Uranus -60609-09-20 05:16 J -20415751.48 -20415751.28 -20415751.07 0.0132 0.0046
 Uranus -60608-05-04 10:04 J -20415525.24 -20415525.08 -20415524.91 0.0132 0.0083
 Jupiter -60608-08-09 04:18 J -20415428.45 -20415428.32 -20415428.17 0.0502 0.0357
 Uranus -60608-12-16 14:37 J -20415298.97 -20415298.89 -20415298.79 0.0132 0.0120
 Jupiter -60602-06-12 21:21 J -20413294.79 -20413294.61 -20413294.42 0.0521 0.0227
 Saturn -60599-10-22 10:18 J -20412067.24 -20412067.07 -20412066.90 0.0287 0.0165
 Saturn -60598-06-08 21:49 J -20411837.68 -20411837.59 -20411837.49 0.0284 0.0251
 Jupiter -60596-04-14 07:25 J -20411162.39 -20411162.19 -20411161.99 0.0504 0.0013
 Pluto -60594-11-05 14:09 J -20410226.92 -20410226.91 -20410226.86 0.0068 0.0067
 Pluto -60593-06-17 20:09 J -20410001.85 -20410001.66 -20410001.44 0.0068 0.0027
 Pluto -60592-01-29 02:09 J -20409776.61 -20409776.41 -20409776.17 0.0068 0.0015
 Pluto -60592-09-11 08:52 J -20409551.26 -20409551.13 -20409551.00 0.0068 0.0055
 Jupiter -60585-12-18 10:18 J -20406896.22 -20406896.07 -20406895.92 0.0505 0.0337
 Mars -60583-11-01 00:28 J -20406213.57 -20406213.48 -20406213.39 0.1838 0.1520
 Saturn -60582-02-15 06:28 J -20406107.45 -20406107.23 -20406107.02 0.0276 0.0052
 Jupiter -60578-06-15 22:33 J -20404525.68 -20404525.56 -20404525.43 0.0523 0.0413
 Saturn -60569-05-03 16:18 J -20401281.01 -20401280.82 -20401280.62 0.0287 0.0102
 Uranus -60568-08-07 00:28 J -20400820.54 -20400820.48 -20400820.39 0.0146 0.0136
 Uranus -60567-03-21 12:13 J -20400594.16 -20400593.99 -20400593.81 0.0146 0.0087
 Uranus -60567-11-02 23:59 J -20400367.70 -20400367.50 -20400367.28 0.0146 0.0038
 Jupiter -60566-02-18 13:40 J -20400260.14 -20400259.93 -20400259.73 0.0523 0.0012
 Uranus -60566-06-17 12:13 J -20400141.21 -20400140.99 -20400140.78 0.0146 0.0013
 Neptune -60565-01-08 05:45 J -20399936.30 -20399936.26 -20399936.17 0.0089 0.0085
 Uranus -60565-01-30 00:28 J -20399914.67 -20399914.48 -20399914.28 0.0147 0.0064
 Neptune -60565-08-20 18:13 J -20399710.87 -20399710.74 -20399710.58 0.0089 0.0065
 Uranus -60565-09-12 12:57 J -20399688.08 -20399687.96 -20399687.81 0.0147 0.0115
 Neptune -60564-04-03 06:28 J -20399485.40 -20399485.23 -20399485.03 0.0089 0.0045

Neptune -60564-11-14 18:57 J -20399259.91 -20399259.71 -20399259.50 0.0089 0.0025
 Neptune -60563-06-28 07:25 J -20399034.40 -20399034.19 -20399033.97 0.0089 0.0005
 Neptune -60562-02-08 19:54 J -20398808.88 -20398808.67 -20398808.46 0.0089 0.0016
 Neptune -60562-09-22 07:54 J -20398583.35 -20398583.17 -20398582.96 0.0089 0.0036
 Neptune -60561-05-04 20:09 J -20398357.81 -20398357.66 -20398357.47 0.0089 0.0056
 Neptune -60561-12-16 08:37 J -20398132.23 -20398132.14 -20398132.01 0.0089 0.0076
 Jupiter -60561-12-20 17:30 J -20398127.94 -20398127.77 -20398127.58 0.0503 0.0213
 Mars -60555-03-20 17:59 J -20396211.91 -20396211.75 -20396211.58 0.1695 0.0567
 Jupiter -60555-10-24 04:33 J -20395994.43 -20395994.31 -20395994.17 0.0521 0.0400
 Saturn -60553-08-27 08:37 J -20395321.36 -20395321.14 -20395320.92 0.0276 0.0006
 Jupiter -60549-08-25 19:54 J -20393861.86 -20393861.67 -20393861.47 0.0504 0.0137
 Saturn -60540-11-13 18:42 J -20390494.92 -20390494.72 -20390494.51 0.0287 0.0055
 Jupiter -60537-04-30 22:47 J -20389595.60 -20389595.55 -20389595.49 0.0506 0.0484
 Jupiter -60531-10-27 06:42 J -20387225.40 -20387225.22 -20387225.03 0.0523 0.0243
 Uranus -60528-11-27 17:30 J -20386097.83 -20386097.77 -20386097.66 0.0133 0.0122
 Uranus -60527-07-11 23:30 J -20385871.67 -20385871.52 -20385871.33 0.0133 0.0084
 Uranus -60526-02-23 05:30 J -20385645.47 -20385645.27 -20385645.06 0.0132 0.0045
 Uranus -60526-10-07 11:01 J -20385419.26 -20385419.04 -20385418.82 0.0132 0.0008
 Uranus -60525-05-20 15:49 J -20385193.04 -20385192.84 -20385192.62 0.0132 0.0030
 Jupiter -60525-08-28 04:47 J -20385093.41 -20385093.30 -20385093.19 0.0503 0.0417
 Uranus -60524-01-01 20:37 J -20384966.81 -20384966.64 -20384966.44 0.0132 0.0068
 Uranus -60524-08-16 01:25 J -20384740.56 -20384740.44 -20384740.29 0.0132 0.0104
 Saturn -60523-03-09 12:28 J -20384535.19 -20384534.98 -20384534.76 0.0276 0.0045
 Jupiter -60519-07-01 21:21 J -20382959.81 -20382959.61 -20382959.41 0.0521 0.0165
 Mars -60517-08-28 06:28 J -20382171.38 -20382171.23 -20382171.09 0.1844 0.0912
 Jupiter -60513-05-03 06:57 J -20380827.41 -20380827.21 -20380827.01 0.0503 0.0067
 Saturn -60510-05-26 23:45 J -20379708.72 -20379708.51 -20379708.30 0.0286 0.0004
 Pluto -60508-09-04 18:28 J -20378876.81 -20378876.73 -20378876.61 0.0077 0.0068
 Pluto -60507-04-18 03:21 J -20378651.57 -20378651.36 -20378651.14 0.0077 0.0012
 Pluto -60507-11-29 11:30 J -20378426.18 -20378426.02 -20378425.83 0.0076 0.0044

Jupiter -60501-01-07 10:18 J -20376561.23 -20376561.07 -20376560.90 0.0504 0.0277
 Jupiter -60495-07-05 01:40 J -20374190.50 -20374190.43 -20374190.35 0.0524 0.0488
 Saturn -60494-09-19 14:23 J -20373749.10 -20373748.90 -20373748.69 0.0276 0.0088
 Mars -60489-01-16 03:49 J -20372169.48 -20372169.34 -20372169.19 0.1692 0.0923
 Earth -60488-03-24 06:28 J -20371736.39 -20371736.23 -20371736.07 0.2620 0.0016
 Moon -60488-03-24 11:16 J -20371736.20 -20371736.03 -20371735.86 0.2616 0.0502 *
 Uranus -60484-11-18 17:59 J -20370035.88 -20370035.75 -20370035.60 0.0146 0.0111
 Jupiter -60483-03-09 16:47 J -20369925.00 -20369924.80 -20369924.60 0.0523 0.0082
 Uranus -60483-07-03 05:59 J -20369809.45 -20369809.25 -20369809.06 0.0146 0.0062
 Neptune -60483-10-10 11:30 J -20369710.12 -20369710.02 -20369709.89 0.0088 0.0076
 Uranus -60482-02-14 17:45 J -20369582.97 -20369582.76 -20369582.54 0.0146 0.0012
 Neptune -60482-05-24 01:11 J -20369484.61 -20369484.45 -20369484.26 0.0088 0.0055
 Uranus -60482-09-29 05:59 J -20369356.46 -20369356.25 -20369356.04 0.0147 0.0039
 Neptune -60481-01-04 15:06 J -20369259.06 -20369258.87 -20369258.65 0.0088 0.0035
 Uranus -60481-05-12 18:13 J -20369129.90 -20369129.74 -20369129.56 0.0147 0.0089
 Neptune -60481-08-17 05:01 J -20369033.51 -20369033.29 -20369033.07 0.0088 0.0014
 Saturn -60481-12-06 00:28 J -20368922.69 -20368922.48 -20368922.28 0.0286 0.0044
 Uranus -60481-12-25 06:57 J -20368903.26 -20368903.21 -20368903.14 0.0147 0.0140
 Neptune -60480-03-30 18:28 J -20368807.95 -20368807.73 -20368807.50 0.0088 0.0006
 Neptune -60480-11-11 07:54 J -20368582.38 -20368582.17 -20368581.95 0.0088 0.0026
 Neptune -60479-06-24 21:35 J -20368356.79 -20368356.60 -20368356.41 0.0088 0.0046
 Neptune -60478-02-05 11:16 J -20368131.17 -20368131.03 -20368130.88 0.0088 0.0067
 Neptune -60478-09-18 23:59 J -20367905.50 -20367905.50 -20367905.43 0.0088 0.0088
 Jupiter -60477-01-09 17:59 J -20367792.92 -20367792.75 -20367792.58 0.0503 0.0274
 Jupiter -60472-11-12 06:13 J -20365659.40 -20365659.24 -20365659.08 0.0521 0.0330
 Jupiter -60466-09-14 21:21 J -20363526.81 -20363526.61 -20363526.41 0.0504 0.0071
 Saturn -60465-08-14 04:18 J -20363192.39 -20363192.32 -20363192.22 0.0274 0.0253
 Saturn -60464-03-31 17:01 J -20362962.97 -20362962.79 -20362962.60 0.0277 0.0135
 Mars -60457-01-15 05:30 J -20360482.32 -20360482.27 -20360482.21 0.1705 0.1615
 Jupiter -60454-05-20 23:59 J -20359260.60 -20359260.50 -20359260.38 0.0505 0.0420

Saturn -60451-06-18 04:18 J -20358136.51 -20358136.32 -20358136.12 0.0286 0.0099
 Mars -60451-06-25 12:42 J -20358129.14 -20358128.97 -20358128.80 0.1848 0.0316
 Jupiter -60448-11-15 09:06 J -20356890.28 -20356890.12 -20356889.95 0.0524 0.0316
 Uranus -60443-03-11 10:18 J -20355313.21 -20355313.07 -20355312.92 0.0133 0.0100
 Uranus -60443-10-23 16:04 J -20355087.02 -20355086.83 -20355086.63 0.0133 0.0062
 Uranus -60442-06-06 21:21 J -20354860.82 -20354860.61 -20354860.39 0.0132 0.0025
 Jupiter -60442-09-17 05:45 J -20354758.31 -20354758.26 -20354758.20 0.0502 0.0479
 Uranus -60441-01-19 02:52 J -20354634.60 -20354634.38 -20354634.16 0.0132 0.0013
 Uranus -60441-09-01 07:40 J -20354408.37 -20354408.18 -20354407.97 0.0132 0.0051
 Uranus -60440-04-15 12:28 J -20354182.13 -20354181.98 -20354181.80 0.0132 0.0088
 Uranus -60440-11-27 17:01 J -20353955.84 -20353955.79 -20353955.70 0.0132 0.0124
 Jupiter -60436-07-21 00:57 J -20352624.66 -20352624.46 -20352624.25 0.0522 0.0087
 Saturn -60435-02-24 06:28 J -20352406.37 -20352406.23 -20352406.10 0.0273 0.0210
 Saturn -60435-10-11 18:42 J -20352176.88 -20352176.72 -20352176.55 0.0276 0.0176
 Jupiter -60430-05-23 08:23 J -20350492.35 -20350492.15 -20350491.96 0.0503 0.0134
 Jupiter -60424-03-25 16:04 J -20348358.89 -20348358.83 -20348358.76 0.0521 0.0488
 Mars -60424-11-12 13:40 J -20348127.04 -20348126.93 -20348126.81 0.1688 0.1268
 Saturn -60422-05-13 15:21 J -20347579.87 -20347579.86 -20347579.84 0.0289 0.0288
 Saturn -60422-12-29 04:04 J -20347350.51 -20347350.33 -20347350.14 0.0286 0.0136
 Jupiter -60418-01-26 11:30 J -20346226.20 -20346226.02 -20346225.84 0.0504 0.0211
 Saturn -60406-09-06 08:37 J -20341620.31 -20341620.14 -20341619.96 0.0274 0.0166
 Saturn -60405-04-22 20:52 J -20341390.74 -20341390.63 -20341390.49 0.0277 0.0223
 Neptune -60401-11-22 04:47 J -20339716.40 -20339716.30 -20339716.16 0.0089 0.0074
 Jupiter -60400-03-28 18:57 J -20339589.90 -20339589.71 -20339589.51 0.0523 0.0156
 Neptune -60400-07-05 17:16 J -20339490.94 -20339490.78 -20339490.60 0.0089 0.0054
 Uranus -60400-07-18 22:47 J -20339477.61 -20339477.55 -20339477.46 0.0146 0.0136
 Neptune -60399-02-16 05:30 J -20339265.46 -20339265.27 -20339265.06 0.0089 0.0034
 Uranus -60399-03-02 10:33 J -20339251.23 -20339251.06 -20339250.89 0.0146 0.0087
 Neptune -60399-09-29 17:59 J -20339039.96 -20339039.75 -20339039.54 0.0089 0.0014
 Uranus -60399-10-14 22:04 J -20339024.78 -20339024.58 -20339024.37 0.0146 0.0038

Neptune -60398-05-13 06:13 J -20338814.45 -20338814.24 -20338814.02 0.0089 0.0006
 Uranus -60398-05-29 10:04 J -20338798.29 -20338798.08 -20338797.86 0.0146 0.0012
 Neptune -60398-12-24 18:28 J -20338588.93 -20338588.73 -20338588.52 0.0089 0.0026
 Uranus -60397-01-10 22:04 J -20338571.76 -20338571.58 -20338571.37 0.0147 0.0062
 Neptune -60397-08-06 06:42 J -20338363.39 -20338363.22 -20338363.02 0.0089 0.0047
 Uranus -60397-08-24 10:47 J -20338345.18 -20338345.05 -20338344.90 0.0147 0.0113
 Neptune -60396-03-19 19:11 J -20338137.83 -20338137.70 -20338137.55 0.0089 0.0067
 Neptune -60396-10-31 07:40 J -20337912.22 -20337912.18 -20337912.12 0.0089 0.0087
 Jupiter -60394-01-28 19:54 J -20337457.81 -20337457.67 -20337457.51 0.0502 0.0340
 Saturn -60393-11-22 18:28 J -20336793.84 -20336793.73 -20336793.61 0.0289 0.0236
 Saturn -60392-07-10 07:25 J -20336564.34 -20336564.19 -20336564.03 0.0286 0.0187
 Mars -60392-11-11 15:06 J -20336439.99 -20336439.87 -20336439.75 0.1701 0.1238
 Jupiter -60389-12-01 08:23 J -20335324.33 -20335324.15 -20335323.97 0.0522 0.0258
 Mars -60385-04-21 18:13 J -20334086.91 -20334086.74 -20334086.57 0.1854 0.0321
 Earth -60383-09-22 18:57 J -20333202.76 -20333202.71 -20333202.67 0.2713 0.2561
 Moon -60383-09-22 19:25 J -20333202.73 -20333202.69 -20333202.65 0.2706 0.2613 *
 Jupiter -60383-10-03 23:59 J -20333191.70 -20333191.50 -20333191.30 0.0503 0.0004
 Saturn -60376-03-18 10:18 J -20330834.26 -20330834.07 -20330833.87 0.0273 0.0123
 Saturn -60376-11-02 22:33 J -20330604.62 -20330604.56 -20330604.49 0.0276 0.0264
 Moon -60375-09-20 08:23 J -20330283.24 -20330283.15 -20330283.05 0.2709 0.2171
 Earth -60375-09-20 11:59 J -20330283.13 -20330283.00 -20330282.87 0.2714 0.1422 *
 Jupiter -60371-06-09 02:23 J -20328925.54 -20328925.40 -20328925.25 0.0505 0.0348
 Jupiter -60365-12-04 14:23 J -20326555.02 -20326554.90 -20326554.76 0.0524 0.0404
 Saturn -60363-06-04 17:45 J -20326007.91 -20326007.76 -20326007.61 0.0289 0.0201
 Saturn -60362-01-20 06:13 J -20325778.36 -20325778.24 -20325778.10 0.0286 0.0222
 Uranus -60360-11-08 18:28 J -20324754.81 -20324754.73 -20324754.62 0.0133 0.0119
 Uranus -60359-06-23 00:28 J -20324528.65 -20324528.48 -20324528.30 0.0133 0.0081
 Uranus -60358-02-04 06:28 J -20324302.44 -20324302.23 -20324302.03 0.0133 0.0043
 Mars -60358-09-09 23:59 J -20324084.55 -20324084.50 -20324084.45 0.1684 0.1609
 Uranus -60358-09-18 11:45 J -20324076.23 -20324076.01 -20324075.79 0.0132 0.0006

Uranus -60357-05-01 16:47 J -20323850.00 -20323849.80 -20323849.58 0.0132 0.0032
 Uranus -60357-12-13 21:35 J -20323623.77 -20323623.60 -20323623.40 0.0132 0.0070
 Uranus -60356-07-28 02:52 J -20323397.51 -20323397.38 -20323397.25 0.0132 0.0105
 Jupiter -60353-08-09 04:33 J -20322289.51 -20322289.31 -20322289.10 0.0522 0.0010
 Jupiter -60347-06-11 10:47 J -20320157.23 -20320157.05 -20320156.86 0.0503 0.0205
 Pluto -60347-07-16 14:23 J -20320121.91 -20320121.90 -20320121.84 0.0068 0.0067
 Saturn -60347-09-28 12:28 J -20320048.19 -20320047.98 -20320047.77 0.0274 0.0080
 Pluto -60346-02-26 20:37 J -20319896.83 -20319896.64 -20319896.42 0.0068 0.0027
 Pluto -60346-10-10 02:52 J -20319671.59 -20319671.38 -20319671.15 0.0068 0.0014
 Pluto -60345-05-22 08:52 J -20319446.24 -20319446.13 -20319445.98 0.0068 0.0056
 Jupiter -60341-04-13 18:57 J -20318023.83 -20318023.71 -20318023.58 0.0521 0.0413
 Jupiter -60335-02-14 14:23 J -20315891.09 -20315890.90 -20315890.70 0.0504 0.0140
 Saturn -60334-12-15 20:23 J -20315221.81 -20315221.65 -20315221.46 0.0289 0.0151
 Saturn -60333-08-01 09:21 J -20314992.16 -20314992.11 -20314992.04 0.0286 0.0272
 Mars -60326-09-09 01:11 J -20312397.60 -20312397.45 -20312397.30 0.1697 0.0882
 Jupiter -60324-10-20 18:28 J -20311624.79 -20311624.73 -20311624.67 0.0505 0.0479
 Mars -60319-02-17 00:28 J -20310044.63 -20310044.48 -20310044.34 0.1859 0.0940
 Neptune -60318-01-11 20:52 J -20309715.67 -20309715.63 -20309715.53 0.0088 0.0085
 Neptune -60318-08-25 11:16 J -20309490.18 -20309490.03 -20309489.87 0.0088 0.0063
 Neptune -60317-04-07 00:42 J -20309264.65 -20309264.47 -20309264.26 0.0088 0.0043
 Saturn -60317-04-09 14:37 J -20309262.10 -20309261.89 -20309261.67 0.0274 0.0037
 Jupiter -60317-04-16 22:33 J -20309254.74 -20309254.56 -20309254.37 0.0524 0.0235
 Neptune -60317-11-18 14:23 J -20309039.10 -20309038.90 -20309038.67 0.0088 0.0023
 Neptune -60316-07-02 04:18 J -20308813.54 -20308813.32 -20308813.09 0.0088 0.0003
 Uranus -60316-10-30 15:06 J -20308692.98 -20308692.87 -20308692.71 0.0146 0.0113
 Neptune -60315-02-12 17:59 J -20308587.96 -20308587.75 -20308587.52 0.0088 0.0018
 Uranus -60315-06-14 02:52 J -20308466.57 -20308466.38 -20308466.18 0.0146 0.0064
 Neptune -60315-09-26 07:40 J -20308362.37 -20308362.18 -20308361.97 0.0088 0.0038
 Uranus -60314-01-26 14:52 J -20308240.10 -20308239.88 -20308239.67 0.0146 0.0015
 Neptune -60314-05-09 21:06 J -20308136.78 -20308136.62 -20308136.44 0.0088 0.0059

Uranus -60314-09-10 02:52 J -20308013.59 -20308013.38 -20308013.17 0.0146 0.0036
 Neptune -60314-12-21 10:47 J -20307911.14 -20307911.05 -20307910.94 0.0088 0.0079
 Uranus -60313-04-23 15:06 J -20307787.04 -20307786.87 -20307786.69 0.0146 0.0086
 Uranus -60313-12-06 03:49 J -20307560.42 -20307560.34 -20307560.26 0.0147 0.0136
 Jupiter -60311-02-16 22:33 J -20307122.67 -20307122.56 -20307122.45 0.0502 0.0411
 Jupiter -60306-12-21 14:09 J -20304989.11 -20304988.91 -20304988.72 0.0522 0.0168
 Saturn -60304-06-26 19:54 J -20304435.85 -20304435.67 -20304435.47 0.0289 0.0115
 Jupiter -60300-10-23 01:40 J -20302856.63 -20302856.43 -20302856.23 0.0503 0.0069
 Jupiter -60288-06-28 04:47 J -20298590.46 -20298590.30 -20298590.13 0.0505 0.0277
 Saturn -60288-10-20 17:01 J -20298476.01 -20298475.79 -20298475.57 0.0274 0.0008
 Jupiter -60282-12-24 17:01 J -20296219.87 -20296219.79 -20296219.70 0.0524 0.0477
 Uranus -60275-02-20 09:06 J -20293970.26 -20293970.12 -20293969.97 0.0133 0.0099
 Uranus -60275-10-04 14:37 J -20293744.07 -20293743.89 -20293743.68 0.0133 0.0062
 Saturn -60274-01-06 22:33 J -20293649.75 -20293649.56 -20293649.35 0.0288 0.0066
 Uranus -60274-05-18 20:37 J -20293517.86 -20293517.64 -20293517.43 0.0133 0.0024
 Uranus -60274-12-31 01:54 J -20293291.64 -20293291.42 -20293291.20 0.0133 0.0014
 Uranus -60273-08-13 07:11 J -20293065.40 -20293065.20 -20293065.00 0.0132 0.0051
 Uranus -60272-03-27 11:59 J -20292839.15 -20292839.00 -20292838.82 0.0132 0.0088
 Uranus -60272-11-08 17:01 J -20292612.85 -20292612.79 -20292612.71 0.0132 0.0124
 Jupiter -60270-08-29 05:59 J -20291954.46 -20291954.25 -20291954.05 0.0523 0.0062
 Jupiter -60264-06-30 14:09 J -20289822.07 -20289821.91 -20289821.74 0.0502 0.0279
 Pluto -60261-05-15 17:59 J -20288771.79 -20288771.75 -20288771.65 0.0077 0.0073
 Pluto -60261-12-27 03:06 J -20288546.58 -20288546.37 -20288546.16 0.0077 0.0016
 Mars -60260-07-06 10:33 J -20288355.22 -20288355.06 -20288354.89 0.1693 0.0516
 Pluto -60260-08-09 11:01 J -20288321.21 -20288321.04 -20288320.84 0.0076 0.0040
 Saturn -60258-05-02 20:09 J -20287689.87 -20287689.66 -20287689.45 0.0274 0.0054
 Jupiter -60258-05-03 21:21 J -20287688.77 -20287688.61 -20287688.46 0.0522 0.0340
 Mars -60254-12-15 05:16 J -20286002.36 -20286002.28 -20286002.19 0.1864 0.1610
 Jupiter -60252-03-05 16:47 J -20285556.00 -20285555.80 -20285555.60 0.0503 0.0068
 Moon -60245-03-24 00:28 J -20282980.63 -20282980.48 -20282980.32 0.2620 0.0837

Earth -60245-03-24 06:13 J -20282980.41 -20282980.24 -20282980.08 0.2619 0.0033 *
 Saturn -60245-07-18 22:47 J -20282863.76 -20282863.55 -20282863.35 0.0288 0.0028
 Jupiter -60241-11-08 19:25 J -20281289.80 -20281289.69 -20281289.57 0.0505 0.0413
 Neptune -60236-02-23 16:33 J -20279721.88 -20279721.81 -20279721.71 0.0089 0.0082
 Neptune -60236-10-07 04:47 J -20279496.44 -20279496.30 -20279496.14 0.0089 0.0062
 Neptune -60235-05-20 17:01 J -20279270.97 -20279270.79 -20279270.59 0.0089 0.0043
 Neptune -60234-01-01 05:16 J -20279045.48 -20279045.28 -20279045.06 0.0089 0.0023
 Jupiter -60234-05-07 01:54 J -20278919.58 -20278919.42 -20278919.25 0.0523 0.0312
 Neptune -60234-08-14 17:45 J -20278819.97 -20278819.76 -20278819.54 0.0089 0.0002
 Neptune -60233-03-27 05:59 J -20278594.46 -20278594.25 -20278594.04 0.0089 0.0018
 Neptune -60233-11-07 17:59 J -20278368.93 -20278368.75 -20278368.54 0.0089 0.0038
 Neptune -60232-06-21 06:13 J -20278143.38 -20278143.24 -20278143.06 0.0089 0.0058
 Uranus -60232-06-29 22:18 J -20278134.64 -20278134.57 -20278134.47 0.0145 0.0134
 Neptune -60231-02-01 18:28 J -20277917.81 -20277917.73 -20277917.60 0.0089 0.0078
 Uranus -60231-02-11 09:49 J -20277908.26 -20277908.09 -20277907.91 0.0146 0.0086
 Uranus -60231-09-25 21:35 J -20277681.81 -20277681.60 -20277681.39 0.0146 0.0037
 Uranus -60230-05-10 09:21 J -20277455.32 -20277455.11 -20277454.89 0.0146 0.0012
 Uranus -60230-12-22 21:06 J -20277228.80 -20277228.62 -20277228.41 0.0146 0.0063
 Uranus -60229-08-05 10:04 J -20277002.22 -20277002.08 -20277001.95 0.0146 0.0112
 Saturn -60229-11-11 22:47 J -20276903.75 -20276903.55 -20276903.34 0.0275 0.0101
 Jupiter -60228-03-08 00:13 J -20276787.54 -20276787.49 -20276787.42 0.0502 0.0478
 Jupiter -60222-01-09 16:04 J -20274654.03 -20274653.83 -20274653.62 0.0522 0.0096
 Jupiter -60217-11-11 04:18 J -20272521.52 -20272521.32 -20272521.13 0.0503 0.0139
 Saturn -60215-01-29 02:09 J -20272077.61 -20272077.41 -20272077.20 0.0288 0.0025
 Jupiter -60211-09-14 03:49 J -20270388.37 -20270388.34 -20270388.30 0.0521 0.0512
 Jupiter -60205-07-17 08:09 J -20268255.34 -20268255.16 -20268254.98 0.0504 0.0201
 Saturn -60200-10-07 16:04 J -20266346.94 -20266346.83 -20266346.71 0.0272 0.0228
 Saturn -60199-05-25 03:21 J -20266117.54 -20266117.36 -20266117.18 0.0274 0.0151
 Mars -60194-05-03 21:06 J -20264312.80 -20264312.62 -20264312.45 0.1689 0.0180
 Uranus -60192-10-20 16:47 J -20263411.89 -20263411.80 -20263411.69 0.0133 0.0118

Uranus	-60191-06-03 22:47 J	-20263185.71	-20263185.55	-20263185.36	0.0133	0.0080
Uranus	-60190-01-16 04:47 J	-20262959.50	-20262959.30	-20262959.09	0.0133	0.0042
Uranus	-60190-08-30 10:33 J	-20262733.28	-20262733.06	-20262732.84	0.0133	0.0005
Uranus	-60189-04-12 15:49 J	-20262507.05	-20262506.84	-20262506.62	0.0132	0.0033
Uranus	-60189-11-24 21:06 J	-20262280.80	-20262280.62	-20262280.43	0.0132	0.0070
Uranus	-60188-07-09 01:54 J	-20262054.53	-20262054.42	-20262054.28	0.0132	0.0107
Jupiter	-60187-09-17 10:04 J	-20261619.27	-20261619.08	-20261618.88	0.0523	0.0146
Saturn	-60186-08-11 02:52 J	-20261291.58	-20261291.38	-20261291.18	0.0288	0.0065
Jupiter	-60181-07-19 14:23 J	-20259487.05	-20259486.90	-20259486.75	0.0502	0.0340
Jupiter	-60175-05-22 23:59 J	-20257353.68	-20257353.50	-20257353.32	0.0521	0.0264
Saturn	-60170-04-19 19:25 J	-20255560.84	-20255560.69	-20255560.52	0.0273	0.0182
Saturn	-60170-12-05 06:57 J	-20255331.36	-20255331.21	-20255331.06	0.0275	0.0199
Jupiter	-60169-03-24 17:16 J	-20255220.98	-20255220.78	-20255220.58	0.0504	0.0005
Jupiter	-60158-11-28 21:06 J	-20250954.76	-20250954.62	-20250954.47	0.0505	0.0345
Saturn	-60156-02-20 07:11 J	-20250505.38	-20250505.20	-20250505.00	0.0287	0.0121
Mars	-60156-10-11 00:57 J	-20250272.58	-20250272.46	-20250272.34	0.1852	0.1317
Neptune	-60154-11-26 21:06 J	-20249495.74	-20249495.62	-20249495.48	0.0088	0.0072
Neptune	-60153-07-09 10:47 J	-20249270.22	-20249270.05	-20249269.85	0.0088	0.0051
Neptune	-60152-02-20 00:42 J	-20249044.67	-20249044.47	-20249044.25	0.0088	0.0031
Neptune	-60152-10-03 14:37 J	-20248819.11	-20248818.89	-20248818.66	0.0088	0.0010
Neptune	-60151-05-17 04:18 J	-20248593.54	-20248593.32	-20248593.09	0.0088	0.0010
Jupiter	-60151-05-26 00:28 J	-20248584.62	-20248584.48	-20248584.33	0.0524	0.0369
Neptune	-60151-12-28 17:45 J	-20248367.96	-20248367.76	-20248367.54	0.0088	0.0031
Neptune	-60150-08-11 07:25 J	-20248142.36	-20248142.19	-20248141.99	0.0088	0.0051
Neptune	-60149-03-23 21:21 J	-20247916.74	-20247916.61	-20247916.48	0.0088	0.0071
Uranus	-60148-10-11 17:16 J	-20247349.91	-20247349.78	-20247349.62	0.0146	0.0108
Uranus	-60147-05-26 04:47 J	-20247123.49	-20247123.30	-20247123.09	0.0146	0.0059
Uranus	-60146-01-07 16:47 J	-20246897.02	-20246896.80	-20246896.59	0.0146	0.0010
Uranus	-60146-08-22 04:47 J	-20246670.50	-20246670.30	-20246670.09	0.0146	0.0039
Uranus	-60145-04-04 16:47 J	-20246443.96	-20246443.80	-20246443.62	0.0146	0.0090

Uranus -60145-11-17 05:30 J -20246217.33 -20246217.27 -20246217.20 0.0146 0.0139
 Saturn -60141-10-30 01:11 J -20244774.64 -20244774.45 -20244774.26 0.0272 0.0128
 Saturn -60140-06-16 12:42 J -20244545.05 -20244544.97 -20244544.89 0.0275 0.0253
 Moon -60140-09-22 18:57 J -20244446.77 -20244446.71 -20244446.65 0.2720 0.2480
 Earth -60140-09-22 21:21 J -20244446.66 -20244446.61 -20244446.56 0.2714 0.2520 *
 Jupiter -60139-01-28 15:35 J -20244319.06 -20244318.85 -20244318.65 0.0523 0.0035
 Jupiter -60134-12-01 04:18 J -20242186.51 -20242186.32 -20242186.14 0.0502 0.0201
 Earth -60132-09-20 14:23 J -20241527.03 -20241526.90 -20241526.77 0.2714 0.1454
 Moon -60132-09-20 16:04 J -20241526.97 -20241526.83 -20241526.70 0.2722 0.1104 *
 Mars -60128-02-28 07:11 J -20240270.38 -20240270.20 -20240270.03 0.1685 0.0169
 Jupiter -60128-10-03 06:42 J -20240053.33 -20240053.22 -20240053.10 0.0521 0.0434
 Saturn -60127-01-15 19:54 J -20239948.74 -20239948.67 -20239948.57 0.0290 0.0262
 Saturn -60127-09-02 09:49 J -20239719.26 -20239719.09 -20239718.92 0.0287 0.0167
 Jupiter -60122-08-06 06:57 J -20237920.40 -20237920.21 -20237920.02 0.0504 0.0145
 Saturn -60111-05-12 05:45 J -20233988.47 -20233988.26 -20233988.05 0.0273 0.0077
 Jupiter -60110-04-11 09:21 J -20233654.15 -20233654.11 -20233654.07 0.0506 0.0493
 Uranus -60107-02-01 08:09 J -20232627.30 -20232627.16 -20232627.01 0.0133 0.0097
 Uranus -60107-09-15 13:54 J -20232401.10 -20232400.92 -20232400.71 0.0133 0.0060
 Uranus -60106-04-29 19:54 J -20232174.89 -20232174.67 -20232174.45 0.0133 0.0022
 Uranus -60106-12-12 01:25 J -20231948.66 -20231948.44 -20231948.22 0.0133 0.0016
 Uranus -60105-07-25 06:42 J -20231722.41 -20231722.22 -20231722.01 0.0132 0.0053
 Uranus -60104-03-08 11:59 J -20231496.15 -20231496.00 -20231495.83 0.0132 0.0090
 Jupiter -60104-10-06 09:21 J -20231284.29 -20231284.11 -20231283.91 0.0523 0.0206
 Uranus -60104-10-20 17:16 J -20231269.84 -20231269.78 -20231269.71 0.0132 0.0126
 Pluto -60100-11-06 18:42 J -20229791.90 -20229791.72 -20229791.51 0.0068 0.0034
 Pluto -60099-06-20 00:42 J -20229566.68 -20229566.47 -20229566.23 0.0068 0.0007
 Pluto -60098-01-31 06:28 J -20229341.36 -20229341.23 -20229341.05 0.0068 0.0048
 Saturn -60098-07-29 01:54 J -20229162.56 -20229162.42 -20229162.27 0.0289 0.0201
 Jupiter -60098-08-08 14:52 J -20229152.00 -20229151.88 -20229151.76 0.0502 0.0401
 Saturn -60097-03-14 15:21 J -20228932.99 -20228932.86 -20228932.73 0.0287 0.0224

Jupiter -60092-06-10 20:23 J -20227018.83 -20227018.65 -20227018.46 0.0522 0.0215
 Mars -60090-08-08 06:28 J -20226230.39 -20226230.23 -20226230.07 0.1857 0.0684
 Jupiter -60086-04-13 18:13 J -20224885.94 -20224885.74 -20224885.54 0.0503 0.0062
 Saturn -60082-11-22 12:42 J -20223202.19 -20223201.97 -20223201.75 0.0273 0.0019
 Jupiter -60075-12-17 19:54 J -20220619.83 -20220619.67 -20220619.51 0.0504 0.0289
 Neptune -60071-01-08 16:33 J -20219501.93 -20219501.81 -20219501.67 0.0089 0.0071
 Neptune -60071-08-22 04:47 J -20219276.46 -20219276.30 -20219276.11 0.0089 0.0051
 Neptune -60070-04-04 17:16 J -20219050.98 -20219050.78 -20219050.58 0.0089 0.0030
 Neptune -60070-11-16 05:30 J -20218825.48 -20218825.27 -20218825.06 0.0089 0.0010
 Neptune -60069-06-28 17:45 J -20218599.97 -20218599.76 -20218599.54 0.0089 0.0010
 Saturn -60068-02-07 05:59 J -20218376.42 -20218376.25 -20218376.07 0.0290 0.0147
 Neptune -60068-02-09 06:13 J -20218374.45 -20218374.24 -20218374.04 0.0089 0.0030
 Jupiter -60068-06-14 01:54 J -20218249.53 -20218249.42 -20218249.31 0.0524 0.0440
 Neptune -60068-09-22 18:28 J -20218148.91 -20218148.73 -20218148.55 0.0089 0.0050
 Saturn -60068-09-24 18:57 J -20218146.75 -20218146.71 -20218146.65 0.0287 0.0277
 Neptune -60067-05-06 06:13 J -20217923.35 -20217923.24 -20217923.09 0.0089 0.0070
 Uranus -60064-06-11 01:25 J -20216791.54 -20216791.44 -20216791.34 0.0145 0.0128
 Uranus -60063-01-23 12:42 J -20216565.14 -20216564.97 -20216564.79 0.0146 0.0080
 Uranus -60063-09-07 00:28 J -20216338.69 -20216338.48 -20216338.27 0.0146 0.0031
 Mars -60063-12-26 17:16 J -20216227.95 -20216227.78 -20216227.61 0.1681 0.0506
 Uranus -60062-04-21 12:13 J -20216112.20 -20216111.99 -20216111.77 0.0146 0.0018
 Uranus -60062-12-04 00:13 J -20215885.67 -20215885.49 -20215885.29 0.0146 0.0067
 Uranus -60061-07-17 12:42 J -20215659.09 -20215658.97 -20215658.83 0.0146 0.0117
 Jupiter -60056-02-16 15:49 J -20213984.05 -20213983.84 -20213983.64 0.0522 0.0031
 Saturn -60052-06-03 17:59 J -20212415.97 -20212415.75 -20212415.54 0.0274 0.0035
 Jupiter -60051-12-20 01:54 J -20211851.59 -20211851.42 -20211851.25 0.0503 0.0251
 Jupiter -60045-10-22 04:47 J -20209718.44 -20209718.30 -20209718.16 0.0521 0.0379
 Saturn -60039-08-20 13:25 J -20207590.14 -20207589.94 -20207589.74 0.0289 0.0082
 Jupiter -60039-08-25 05:45 J -20207585.46 -20207585.26 -20207585.06 0.0504 0.0089
 Jupiter -60027-04-30 08:52 J -20203319.22 -20203319.13 -20203319.02 0.0505 0.0432

Mars	-60024-06-04 12:28 J	-20202188.16	-20202187.98	-20202187.81	0.1862	0.0074
Uranus	-60024-10-01 16:33 J	-20202068.90	-20202068.81	-20202068.68	0.0133	0.0115
Uranus	-60023-05-15 22:47 J	-20201842.72	-20201842.55	-20201842.36	0.0133	0.0077
Saturn	-60023-12-15 02:23 J	-20201629.61	-20201629.40	-20201629.20	0.0274	0.0097
Uranus	-60023-12-28 04:47 J	-20201616.50	-20201616.30	-20201616.08	0.0133	0.0040
Uranus	-60022-08-11 10:33 J	-20201390.27	-20201390.06	-20201389.83	0.0133	0.0004
Uranus	-60021-03-24 16:04 J	-20201164.03	-20201163.83	-20201163.61	0.0132	0.0036
Jupiter	-60021-10-25 05:16 J	-20200949.46	-20200949.28	-20200949.10	0.0523	0.0252
Uranus	-60021-11-05 21:21 J	-20200937.78	-20200937.61	-20200937.42	0.0132	0.0072
Uranus	-60020-06-20 02:37 J	-20200711.51	-20200711.39	-20200711.26	0.0132	0.0108
Jupiter	-60015-08-27 11:45 J	-20198817.10	-20198817.01	-20198816.92	0.0502	0.0448
Pluto	-60014-09-07 01:40 J	-20198441.63	-20198441.43	-20198441.22	0.0077	0.0025
Pluto	-60013-04-19 09:49 J	-20198216.27	-20198216.09	-20198215.87	0.0076	0.0032
Saturn	-60009-03-01 19:11 J	-20196803.91	-20196803.70	-20196803.49	0.0289	0.0022
Jupiter	-60009-06-29 20:23 J	-20196683.85	-20196683.65	-20196683.45	0.0522	0.0151
Jupiter	-60003-05-02 13:54 J	-20194551.12	-20194550.92	-20194550.72	0.0503	0.0104
Earth	-60002-03-25 05:30 J	-20194224.44	-20194224.27	-20194224.11	0.2619	0.0106
Moon	-60002-03-25 11:01 J	-20194224.19	-20194224.04	-20194223.89	0.2621	0.0911 *

60TH MILLENNIUM BCE

This is a list of transits of Venus in the 60th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Mars	-59997-10-23 03:35 J	-20192185.50	-20192185.35	-20192185.20	0.1678	0.0834		

Saturn -59994-11-09 20:52 J -20191072.74 -20191072.63 -20191072.50 0.0272 0.0224
 Saturn -59993-06-26 08:23 J -20190843.32 -20190843.15 -20190842.97 0.0275 0.0155
 Jupiter -59991-01-05 16:04 J -20190285.01 -20190284.83 -20190284.66 0.0505 0.0246
 Neptune -59989-02-28 07:40 J -20189501.26 -20189501.18 -20189501.06 0.0088 0.0079
 Neptune -59989-10-10 21:49 J -20189275.75 -20189275.59 -20189275.42 0.0088 0.0058
 Neptune -59988-05-24 11:30 J -20189050.22 -20189050.02 -20189049.81 0.0088 0.0038
 Neptune -59987-01-05 01:11 J -20188824.66 -20188824.45 -20188824.22 0.0088 0.0019
 Neptune -59987-08-18 15:06 J -20188599.09 -20188598.87 -20188598.64 0.0088 0.0003
 Neptune -59986-04-01 04:33 J -20188373.51 -20188373.31 -20188373.08 0.0088 0.0023
 Neptune -59986-11-12 18:13 J -20188147.92 -20188147.74 -20188147.53 0.0088 0.0043
 Neptune -59985-06-25 07:54 J -20187922.32 -20187922.17 -20187922.00 0.0088 0.0063
 Jupiter -59985-07-02 22:18 J -20187914.64 -20187914.57 -20187914.49 0.0524 0.0486
 Neptune -59984-02-05 21:35 J -20187696.66 -20187696.60 -20187696.52 0.0088 0.0084
 Saturn -59980-09-12 03:06 J -20186017.57 -20186017.37 -20186017.16 0.0288 0.0046
 Uranus -59980-09-22 19:11 J -20186006.84 -20186006.70 -20186006.54 0.0145 0.0103
 Uranus -59979-05-07 06:42 J -20185780.41 -20185780.22 -20185780.01 0.0146 0.0055
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 Uranus -59977-03-16 18:42 J -20185100.88 -20185100.72 -20185100.55 0.0146 0.0093
 Uranus -59977-10-29 06:57 J -20184874.24 -20184874.21 -20184874.15 0.0146 0.0142
 Jupiter -59973-03-07 09:21 J -20183649.32 -20183649.11 -20183648.91 0.0522 0.0066
 Jupiter -59967-01-08 00:13 J -20181516.65 -20181516.49 -20181516.33 0.0502 0.0304
 Mars -59965-10-22 04:04 J -20180498.38 -20180498.33 -20180498.28 0.1690 0.1608
 Saturn -59964-05-22 05:30 J -20180286.43 -20180286.27 -20180286.08 0.0272 0.0161
 Saturn -59963-01-06 17:16 J -20180056.90 -20180056.78 -20180056.64 0.0275 0.0220
 Jupiter -59962-11-10 23:01 J -20179383.69 -20179383.54 -20179383.38 0.0521 0.0340
 Mars -59958-04-01 17:30 J -20178145.93 -20178145.77 -20178145.60 0.1867 0.0605
 Jupiter -59956-09-13 01:25 J -20177250.64 -20177250.44 -20177250.24 0.0504 0.0048
 Saturn -59950-03-25 10:33 J -20175231.25 -20175231.06 -20175230.86 0.0288 0.0111
 Jupiter -59944-05-19 03:35 J -20172984.47 -20172984.35 -20172984.23 0.0505 0.0395

Uranus	-59940-06-01 01:54 J	-20171510.43	-20171510.42	-20171510.38	0.0133	0.0132
Uranus	-59939-01-13 08:09 J	-20171284.30	-20171284.16	-20171283.99	0.0133	0.0094
Uranus	-59939-08-27 14:09 J	-20171058.09	-20171057.91	-20171057.69	0.0133	0.0057
Uranus	-59938-04-10 20:23 J	-20170831.87	-20170831.65	-20170831.43	0.0133	0.0019
Jupiter	-59938-11-14 03:21 J	-20170614.53	-20170614.36	-20170614.19	0.0523	0.0305
Uranus	-59938-11-23 01:54 J	-20170605.64	-20170605.42	-20170605.20	0.0132	0.0018
Uranus	-59937-07-06 07:11 J	-20170379.39	-20170379.20	-20170378.99	0.0132	0.0055
Uranus	-59936-02-17 12:42 J	-20170153.12	-20170152.97	-20170152.81	0.0132	0.0091
Uranus	-59936-10-01 17:45 J	-20169926.81	-20169926.76	-20169926.70	0.0132	0.0127
Saturn	-59935-12-02 12:13 J	-20169500.19	-20169499.99	-20169499.79	0.0273	0.0103
Jupiter	-59932-09-15 06:57 J	-20168482.25	-20168482.21	-20168482.16	0.0502	0.0486
Mars	-59931-08-20 13:54 J	-20168143.05	-20168142.92	-20168142.79	0.1674	0.1161
Jupiter	-59926-07-19 16:18 J	-20166349.02	-20166348.82	-20166348.62	0.0522	0.0106
Saturn	-59921-02-18 05:45 J	-20164674.35	-20164674.26	-20164674.14	0.0290	0.0245
Saturn	-59921-10-04 19:11 J	-20164444.85	-20164444.70	-20164444.53	0.0287	0.0180
Jupiter	-59920-05-21 10:18 J	-20164216.26	-20164216.07	-20164215.88	0.0503	0.0147
Jupiter	-59908-01-24 13:11 J	-20159950.13	-20159949.95	-20159949.76	0.0505	0.0197
Neptune	-59907-04-12 04:33 J	-20159507.39	-20159507.31	-20159507.18	0.0089	0.0079
Neptune	-59907-11-23 17:01 J	-20159281.94	-20159281.79	-20159281.61	0.0089	0.0058
Neptune	-59906-07-07 05:30 J	-20159056.45	-20159056.27	-20159056.07	0.0089	0.0038
Neptune	-59905-02-17 17:45 J	-20158830.96	-20158830.76	-20158830.54	0.0089	0.0018
Saturn	-59905-06-13 21:35 J	-20158713.82	-20158713.60	-20158713.39	0.0273	0.0037
Neptune	-59905-09-30 06:13 J	-20158605.46	-20158605.24	-20158605.03	0.0089	0.0002
Neptune	-59904-05-13 18:13 J	-20158379.94	-20158379.74	-20158379.53	0.0089	0.0022
Neptune	-59904-12-25 06:13 J	-20158154.41	-20158154.24	-20158154.03	0.0089	0.0043
Neptune	-59903-08-07 18:42 J	-20157928.86	-20157928.72	-20157928.55	0.0089	0.0062
Neptune	-59902-03-21 06:57 J	-20157703.27	-20157703.21	-20157703.11	0.0089	0.0082
Jupiter	-59902-07-22 16:04 J	-20157579.84	-20157579.83	-20157579.81	0.0524	0.0522
Mars	-59899-08-19 14:09 J	-20156456.02	-20156455.91	-20156455.79	0.1686	0.1267
Earth	-59897-09-22 23:45 J	-20155690.57	-20155690.51	-20155690.45	0.2714	0.2482

Moon	-59897-09-23 04:04 J	-20155690.37	-20155690.33	-20155690.30	0.2709	0.2626
Uranus	-59896-05-23 00:13 J	-20155448.58	-20155448.49	-20155448.38	0.0145	0.0127
Uranus	-59895-01-04 11:16 J	-20155222.19	-20155222.03	-20155221.83	0.0146	0.0080
Uranus	-59895-08-18 23:16 J	-20154995.74	-20154995.53	-20154995.32	0.0146	0.0031
Uranus	-59894-04-02 11:01 J	-20154769.25	-20154769.04	-20154768.82	0.0146	0.0018
Uranus	-59894-11-14 22:47 J	-20154542.73	-20154542.55	-20154542.34	0.0146	0.0068
Uranus	-59893-06-28 11:01 J	-20154316.15	-20154316.04	-20154315.89	0.0146	0.0117
Mars	-59892-01-26 23:16 J	-20154103.66	-20154103.53	-20154103.40	0.1872	0.1247
Saturn	-59892-08-30 14:23 J	-20153888.06	-20153887.90	-20153887.73	0.0290	0.0174
Saturn	-59891-04-17 03:21 J	-20153658.45	-20153658.36	-20153658.25	0.0287	0.0249
Jupiter	-59890-03-27 07:11 J	-20153314.40	-20153314.20	-20153314.00	0.0523	0.0119
Earth	-59889-09-20 17:01 J	-20152770.92	-20152770.79	-20152770.66	0.2715	0.1480
Moon	-59889-09-20 17:30 J	-20152770.91	-20152770.77	-20152770.63	0.2707	0.1335 *
Jupiter	-59884-01-26 17:59 J	-20151181.90	-20151181.75	-20151181.60	0.0502	0.0335
Jupiter	-59879-11-29 20:52 J	-20149048.80	-20149048.63	-20149048.45	0.0521	0.0288
Saturn	-59876-12-25 03:49 J	-20147927.56	-20147927.34	-20147927.13	0.0274	0.0020
Jupiter	-59873-10-01 19:54 J	-20146915.87	-20146915.67	-20146915.47	0.0504	0.0013
Mars	-59865-06-17 00:13 J	-20144100.57	-20144100.49	-20144100.41	0.1671	0.1482
Saturn	-59862-03-12 23:16 J	-20143101.72	-20143101.53	-20143101.34	0.0289	0.0103
Jupiter	-59861-06-06 23:01 J	-20142649.68	-20142649.54	-20142649.40	0.0505	0.0355
Uranus	-59856-09-12 16:47 J	-20140725.91	-20140725.80	-20140725.68	0.0133	0.0113
Uranus	-59855-04-26 22:47 J	-20140499.73	-20140499.55	-20140499.36	0.0133	0.0075
Jupiter	-59855-12-02 20:09 J	-20140279.82	-20140279.66	-20140279.50	0.0523	0.0336
Uranus	-59855-12-09 04:33 J	-20140273.51	-20140273.31	-20140273.09	0.0133	0.0038
Uranus	-59854-07-23 10:33 J	-20140047.28	-20140047.06	-20140046.84	0.0133	0.0002
Uranus	-59853-03-05 16:18 J	-20139821.03	-20139820.82	-20139820.61	0.0132	0.0037
Pluto	-59853-07-17 15:49 J	-20139686.99	-20139686.84	-20139686.66	0.0068	0.0045
Uranus	-59853-10-17 21:21 J	-20139594.78	-20139594.61	-20139594.41	0.0132	0.0074
Pluto	-59852-02-27 22:04 J	-20139461.81	-20139461.58	-20139461.36	0.0068	0.0004
Uranus	-59852-06-01 02:37 J	-20139368.50	-20139368.39	-20139368.26	0.0132	0.0109

Pluto -59852-10-11 03:35 J -20139236.51 -20139236.35 -20139236.14 0.0068 0.0038
 Saturn -59846-07-07 12:57 J -20137141.17 -20137140.96 -20137140.76 0.0274 0.0086
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 Mars -59833-06-15 23:59 J -20132413.64 -20132413.50 -20132413.35 0.1682 0.0915
 Saturn -59833-09-22 08:23 J -20132315.36 -20132315.15 -20132314.95 0.0289 0.0031
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 Jupiter -59825-02-13 07:11 J -20129615.38 -20129615.20 -20129615.01 0.0504 0.0164
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 Neptune -59824-08-25 22:33 J -20129055.75 -20129055.56 -20129055.36 0.0088 0.0045
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 Neptune -59820-05-10 08:23 J -20127702.25 -20127702.15 -20127702.02 0.0088 0.0076
 Saturn -59817-06-01 07:11 J -20126584.30 -20126584.20 -20126584.08 0.0272 0.0235
 Saturn -59816-01-16 18:57 J -20126354.89 -20126354.71 -20126354.52 0.0275 0.0142
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 Uranus -59811-04-18 02:52 J -20124437.57 -20124437.38 -20124437.18 0.0146 0.0058
 Uranus -59811-11-30 14:23 J -20124211.11 -20124210.90 -20124210.68 0.0146 0.0010
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 Jupiter -59796-12-18 14:52 J -20118714.06 -20118713.88 -20118713.70 0.0521 0.0252
 Mars -59795-11-23 18:28 J -20118373.80 -20118373.73 -20118373.66 0.1861 0.1688

Jupiter -59790-10-21 16:33 J -20116581.01 -20116580.81 -20116580.61 0.0504 0.0035
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 Saturn -59787-07-30 03:06 J -20115568.51 -20115568.37 -20115568.22 0.0275 0.0206
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 Moon -59654-09-23 21:21 J -20066934.70 -20066934.61 -20066934.51 0.2717 0.2137
 Earth -59654-09-24 02:23 J -20066934.46 -20066934.40 -20066934.33 0.2714 0.2462
 Jupiter -59648-11-26 04:04 J -20064679.44 -20064679.33 -20064679.22 0.0505 0.0417
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 Uranus -59643-03-30 01:11 J -20063094.64 -20063094.45 -20063094.24 0.0146 0.0058
 Uranus -59643-11-11 12:42 J -20062868.18 -20062867.97 -20062867.75 0.0146 0.0010
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 Jupiter -59641-05-23 00:13 J -20062309.66 -20062309.49 -20062309.31 0.0523 0.0274

Uranus	-59641-09-20 23:59 J	-20062188.56	-20062188.50	-20062188.40	0.0146	0.0136
Saturn	-59640-08-08 16:18 J	-20061867.03	-20061866.82	-20061866.62	0.0273	0.0089
Mars	-59636-12-06 07:11 J	-20060286.38	-20060286.20	-20060286.02	0.1672	0.0073
Jupiter	-59635-03-25 07:25 J	-20060177.25	-20060177.19	-20060177.10	0.0502	0.0464
Jupiter	-59629-01-26 14:37 J	-20058044.09	-20058043.89	-20058043.69	0.0522	0.0130
Saturn	-59627-10-25 15:35 J	-20057041.05	-20057040.85	-20057040.64	0.0289	0.0021
Jupiter	-59624-11-28 10:47 J	-20055911.24	-20055911.05	-20055910.85	0.0504	0.0125
Jupiter	-59612-08-03 14:09 J	-20051645.09	-20051644.91	-20051644.73	0.0505	0.0218
Saturn	-59611-07-04 09:35 J	-20051310.20	-20051310.10	-20051309.98	0.0271	0.0232
Saturn	-59610-02-18 20:37 J	-20051080.82	-20051080.64	-20051080.45	0.0274	0.0141
Pluto	-59606-03-28 09:35 J	-20049582.13	-20049582.10	-20049582.04	0.0068	0.0066
Pluto	-59606-11-08 15:21 J	-20049357.05	-20049356.86	-20049356.63	0.0068	0.0026
Jupiter	-59605-01-29 16:47 J	-20049274.85	-20049274.80	-20049274.75	0.0524	0.0505
Pluto	-59605-06-20 21:35 J	-20049131.81	-20049131.60	-20049131.38	0.0068	0.0016
Pluto	-59604-02-01 03:06 J	-20048906.46	-20048906.37	-20048906.22	0.0068	0.0058
Uranus	-59604-04-23 21:06 J	-20048824.64	-20048824.62	-20048824.57	0.0133	0.0132
Uranus	-59604-12-06 03:35 J	-20048598.49	-20048598.35	-20048598.18	0.0133	0.0094
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Uranus	-59602-10-15 22:04 J	-20047919.80	-20047919.58	-20047919.36	0.0133	0.0017
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Uranus	-59600-01-10 08:37 J	-20047467.29	-20047467.14	-20047466.97	0.0132	0.0090
Uranus	-59600-08-24 14:09 J	-20047240.98	-20047240.91	-20047240.85	0.0132	0.0126
Saturn	-59597-05-06 21:06 J	-20046254.82	-20046254.62	-20046254.41	0.0289	0.0041
Mars	-59597-05-14 10:47 J	-20046247.22	-20046247.05	-20046246.88	0.1875	0.0274
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Jupiter	-59582-06-08 21:35 J	-20040743.77	-20040743.60	-20040743.43	0.0521	0.0300
Saturn	-59581-01-14 11:59 J	-20040524.15	-20040524.00	-20040523.84	0.0271	0.0188
Saturn	-59581-08-30 22:47 J	-20040294.71	-20040294.55	-20040294.39	0.0273	0.0183

Neptune -59578-05-29 18:13 J -20039292.84 -20039292.74 -20039292.59 0.0089 0.0072
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Neptune -59329-11-20 15:35 J -19948170.07 -19948169.85 -19948169.62 0.0088 0.0016
 Neptune -59328-07-04 05:30 J -19947944.48 -19947944.27 -19947944.07 0.0088 0.0036
 Neptune -59327-02-14 18:42 J -19947718.87 -19947718.72 -19947718.52 0.0088 0.0056
 Jupiter -59327-06-08 06:42 J -19947605.40 -19947605.22 -19947605.03 0.0503 0.0189
 Neptune -59327-09-28 08:09 J -19947493.24 -19947493.16 -19947493.02 0.0088 0.0077
 Jupiter -59321-04-09 21:21 J -19945472.69 -19945472.61 -19945472.52 0.0520 0.0468
 Saturn -59316-03-08 21:35 J -19943678.77 -19943678.60 -19943678.44 0.0270 0.0171
 Saturn -59316-10-24 07:11 J -19943449.35 -19943449.20 -19943449.05 0.0272 0.0194
 Jupiter -59315-02-11 10:04 J -19943339.27 -19943339.08 -19943338.89 0.0505 0.0151
 Uranus -59308-07-08 12:42 J -19940635.11 -19940634.97 -19940634.81 0.0145 0.0102
 Uranus -59307-02-19 23:45 J -19940408.70 -19940408.51 -19940408.30 0.0146 0.0056
 Uranus -59307-10-04 11:16 J -19940182.24 -19940182.03 -19940181.82 0.0146 0.0008
 Mars -59306-01-20 11:59 J -19940074.03 -19940074.00 -19940073.97 0.1655 0.1630
 Uranus -59306-05-18 22:47 J -19939955.76 -19939955.55 -19939955.34 0.0146 0.0039
 Uranus -59306-12-31 10:33 J -19939729.23 -19939729.06 -19939728.88 0.0146 0.0087
 Uranus -59305-08-13 22:33 J -19939502.62 -19939502.56 -19939502.46 0.0146 0.0136
 Jupiter -59304-10-17 14:23 J -19939072.95 -19939072.90 -19939072.85 0.0506 0.0487
 Saturn -59302-01-09 22:47 J -19938623.75 -19938623.55 -19938623.35 0.0290 0.0058
 Mars -59302-08-30 21:49 J -19938390.75 -19938390.59 -19938390.43 0.1879 0.0689
 Jupiter -59297-04-12 23:01 J -19936703.74 -19936703.54 -19936703.34 0.0523 0.0158
 Jupiter -59291-02-13 19:11 J -19934570.82 -19934570.70 -19934570.57 0.0502 0.0396
 Saturn -59287-09-19 01:11 J -19932892.64 -19932892.45 -19932892.25 0.0270 0.0125
 Saturn -59286-05-06 10:33 J -19932663.14 -19932663.06 -19932662.94 0.0272 0.0240
 Jupiter -59286-12-17 13:54 J -19932438.11 -19932437.92 -19932437.74 0.0522 0.0240
 Jupiter -59280-10-19 21:49 J -19930304.79 -19930304.59 -19930304.39 0.0503 0.0056
 Mars -59274-01-19 10:47 J -19928387.21 -19928387.05 -19928386.89 0.1666 0.0673
 Moon -59273-03-25 02:23 J -19927956.58 -19927956.40 -19927956.23 0.2612 0.0171
 Earth -59273-03-25 03:21 J -19927956.52 -19927956.36 -19927956.19 0.2618 0.0251 *
 Pluto -59273-05-18 12:57 J -19927902.09 -19927901.96 -19927901.78 0.0077 0.0054
 Saturn -59273-07-21 23:16 J -19927837.72 -19927837.53 -19927837.33 0.0291 0.0098

Pluto -59273-12-29 21:49 J -19927676.80 -19927676.59 -19927676.37 0.0076 0.0004
 Pluto -59272-08-12 05:30 J -19927451.37 -19927451.27 -19927451.11 0.0076 0.0060
 Uranus -59268-03-16 19:40 J -19926138.73 -19926138.68 -19926138.60 0.0133 0.0128
 Jupiter -59268-06-25 00:57 J -19926038.62 -19926038.46 -19926038.30 0.0505 0.0285
 Uranus -59268-10-29 02:09 J -19925912.56 -19925912.41 -19925912.24 0.0133 0.0091
 Uranus -59267-06-12 08:09 J -19925686.35 -19925686.16 -19925685.94 0.0133 0.0054
 Uranus -59266-01-24 14:23 J -19925460.11 -19925459.90 -19925459.68 0.0133 0.0017
 Uranus -59266-09-07 20:09 J -19925233.87 -19925233.66 -19925233.44 0.0133 0.0020
 Uranus -59265-04-21 01:40 J -19925007.62 -19925007.43 -19925007.22 0.0133 0.0055
 Uranus -59265-12-03 06:42 J -19924781.36 -19924781.22 -19924781.04 0.0132 0.0092
 Uranus -59264-07-17 12:13 J -19924555.04 -19924554.99 -19924554.92 0.0132 0.0126
 Jupiter -59262-12-20 19:25 J -19923668.81 -19923668.69 -19923668.55 0.0524 0.0406
 Saturn -59257-03-31 04:04 J -19922106.54 -19922106.33 -19922106.12 0.0270 0.0081
 Jupiter -59250-08-25 09:06 J -19919403.33 -19919403.12 -19919402.91 0.0522 0.0004
 Neptune -59250-12-02 20:23 J -19919303.69 -19919303.65 -19919303.58 0.0089 0.0086
 Neptune -59249-07-15 08:23 J -19919078.27 -19919078.15 -19919077.98 0.0089 0.0066
 Neptune -59248-02-25 20:52 J -19918852.80 -19918852.63 -19918852.44 0.0089 0.0046
 Neptune -59248-10-09 09:06 J -19918627.32 -19918627.12 -19918626.91 0.0089 0.0026
 Neptune -59247-05-22 21:21 J -19918401.82 -19918401.61 -19918401.40 0.0089 0.0006
 Neptune -59246-01-03 09:35 J -19918176.31 -19918176.10 -19918175.89 0.0089 0.0014
 Neptune -59246-08-16 21:49 J -19917950.78 -19917950.59 -19917950.39 0.0089 0.0034
 Neptune -59245-03-29 10:04 J -19917725.24 -19917725.08 -19917724.90 0.0089 0.0053
 Neptune -59245-11-09 22:18 J -19917499.68 -19917499.57 -19917499.44 0.0089 0.0073
 Saturn -59244-06-16 12:28 J -19917281.03 -19917280.98 -19917280.92 0.0293 0.0281
 Jupiter -59244-06-27 08:52 J -19917270.30 -19917270.13 -19917269.96 0.0503 0.0258
 Saturn -59243-02-01 03:49 J -19917051.52 -19917051.34 -19917051.17 0.0290 0.0152
 Jupiter -59238-04-29 19:54 J -19915137.79 -19915137.67 -19915137.54 0.0521 0.0412
 Mars -59236-06-27 02:23 J -19914348.57 -19914348.40 -19914348.23 0.1883 0.0009
 Jupiter -59232-03-02 13:11 J -19913004.15 -19913003.95 -19913003.75 0.0504 0.0077
 Saturn -59228-10-11 09:21 J -19911320.33 -19911320.11 -19911319.89 0.0270 0.0030

Uranus	-59224-03-07 16:18 J	-19910076.90	-19910076.82	-19910076.70	0.0145	0.0128
Uranus	-59224-10-20 03:21 J	-19909850.53	-19909850.36	-19909850.17	0.0145	0.0081
Uranus	-59223-06-03 14:37 J	-19909624.10	-19909623.89	-19909623.68	0.0146	0.0034
Uranus	-59222-01-16 02:09 J	-19909397.63	-19909397.41	-19909397.20	0.0146	0.0013
Uranus	-59222-08-30 13:54 J	-19909171.11	-19909170.92	-19909170.72	0.0146	0.0060
Uranus	-59221-04-13 01:40 J	-19908944.56	-19908944.43	-19908944.28	0.0146	0.0108
Jupiter	-59221-11-05 15:21 J	-19908737.96	-19908737.86	-19908737.75	0.0505	0.0421
Saturn	-59215-12-27 14:23 J	-19906495.02	-19906494.90	-19906494.78	0.0293	0.0236
Jupiter	-59214-05-03 02:37 J	-19906368.57	-19906368.39	-19906368.21	0.0523	0.0238
Saturn	-59214-08-14 05:30 J	-19906265.42	-19906265.27	-19906265.11	0.0290	0.0197
Mars	-59209-11-15 21:35 J	-19904344.78	-19904344.60	-19904344.43	0.1663	0.0366
Jupiter	-59208-03-04 18:42 J	-19904235.80	-19904235.72	-19904235.64	0.0502	0.0453
Jupiter	-59202-01-05 16:18 J	-19902103.01	-19902102.82	-19902102.62	0.0521	0.0166
Saturn	-59198-04-23 12:57 J	-19900534.18	-19900533.96	-19900533.74	0.0271	0.0017
Jupiter	-59197-11-07 21:35 J	-19899969.80	-19899969.60	-19899969.41	0.0503	0.0114
Saturn	-59185-07-08 19:54 J	-19895708.83	-19895708.67	-19895708.50	0.0292	0.0177
Jupiter	-59185-07-14 01:54 J	-19895703.60	-19895703.42	-19895703.24	0.0505	0.0221
Saturn	-59184-02-23 10:47 J	-19895479.14	-19895479.05	-19895478.94	0.0289	0.0253
Uranus	-59184-06-28 09:21 J	-19895354.23	-19895354.11	-19895353.98	0.0133	0.0110
Uranus	-59183-02-09 15:35 J	-19895128.02	-19895127.85	-19895127.65	0.0133	0.0073
Uranus	-59183-09-23 21:49 J	-19894901.80	-19894901.59	-19894901.37	0.0133	0.0036
Uranus	-59182-05-08 03:49 J	-19894675.56	-19894675.34	-19894675.12	0.0133	0.0000
Uranus	-59182-12-20 09:21 J	-19894449.31	-19894449.11	-19894448.89	0.0133	0.0037
Uranus	-59181-08-02 14:52 J	-19894223.05	-19894222.88	-19894222.69	0.0132	0.0073
Uranus	-59180-03-16 20:37 J	-19893996.76	-19893996.64	-19893996.51	0.0132	0.0108
Jupiter	-59178-01-08 16:47 J	-19893333.90	-19893333.80	-19893333.70	0.0524	0.0457
Mars	-59170-04-24 07:25 J	-19890306.35	-19890306.19	-19890306.03	0.1888	0.0692
Saturn	-59169-11-02 19:25 J	-19889747.90	-19889747.69	-19889747.48	0.0271	0.0073
Moon	-59168-09-24 04:04 J	-19889422.45	-19889422.33	-19889422.21	0.2711	0.1725
Earth	-59168-09-24 08:09 J	-19889422.22	-19889422.16	-19889422.10	0.2715	0.2457 *

Neptune -59167-09-03 19:40 J -19889077.80 -19889077.68 -19889077.54 0.0088 0.0072
 Jupiter -59167-09-13 07:11 J -19889068.41 -19889068.20 -19889067.99 0.0523 0.0057
 Neptune -59166-04-17 09:21 J -19888852.27 -19888852.11 -19888851.91 0.0088 0.0052
 Neptune -59166-11-28 23:16 J -19888626.73 -19888626.53 -19888626.31 0.0088 0.0032
 Neptune -59165-07-11 13:25 J -19888401.16 -19888400.94 -19888400.72 0.0088 0.0012
 Neptune -59164-02-22 03:06 J -19888175.58 -19888175.37 -19888175.14 0.0088 0.0010
 Neptune -59164-10-05 16:47 J -19887950.00 -19887949.80 -19887949.58 0.0088 0.0029
 Neptune -59163-05-19 06:28 J -19887724.41 -19887724.23 -19887724.03 0.0088 0.0049
 Neptune -59163-12-30 20:09 J -19887498.78 -19887498.66 -19887498.51 0.0088 0.0069
 Jupiter -59161-07-16 08:23 J -19886935.31 -19886935.15 -19886935.00 0.0502 0.0315
 Moon -59160-09-21 20:52 J -19886502.72 -19886502.63 -19886502.54 0.2717 0.2184
 Earth -59160-09-22 01:40 J -19886502.56 -19886502.43 -19886502.30 0.2715 0.1447 *
 Saturn -59155-01-18 23:45 J -19884922.70 -19884922.51 -19884922.33 0.0292 0.0125
 Jupiter -59155-05-18 22:04 J -19884802.74 -19884802.58 -19884802.42 0.0521 0.0338
 Jupiter -59149-03-21 11:01 J -19882669.24 -19882669.04 -19882668.84 0.0504 0.0027
 Mars -59143-09-13 08:09 J -19880302.33 -19880302.16 -19880301.98 0.1659 0.0069
 Uranus -59140-06-19 08:37 J -19879292.28 -19879292.14 -19879291.99 0.0145 0.0105
 Saturn -59140-09-28 14:37 J -19879190.98 -19879190.89 -19879190.78 0.0269 0.0238
 Uranus -59139-01-31 19:40 J -19879065.87 -19879065.68 -19879065.48 0.0145 0.0059
 Saturn -59139-05-15 23:59 J -19878961.68 -19878961.50 -19878961.30 0.0271 0.0124
 Uranus -59139-09-15 06:57 J -19878839.42 -19878839.21 -19878838.99 0.0146 0.0012
 Uranus -59138-04-29 18:28 J -19878612.94 -19878612.73 -19878612.52 0.0146 0.0035
 Jupiter -59138-11-25 13:25 J -19878403.07 -19878402.94 -19878402.80 0.0506 0.0370
 Uranus -59138-12-12 05:59 J -19878386.41 -19878386.25 -19878386.06 0.0146 0.0083
 Uranus -59137-07-25 18:13 J -19878159.83 -19878159.74 -19878159.64 0.0146 0.0130
 Jupiter -59131-05-22 01:25 J -19876033.61 -19876033.44 -19876033.27 0.0523 0.0294
 Saturn -59126-08-01 06:42 J -19874136.42 -19874136.22 -19874136.02 0.0291 0.0061
 Jupiter -59119-01-24 11:45 J -19871768.21 -19871768.01 -19871767.80 0.0522 0.0123
 Jupiter -59114-11-27 21:49 J -19869634.77 -19869634.59 -19869634.40 0.0503 0.0176
 Pluto -59112-11-09 01:54 J -19868922.56 -19868922.42 -19868922.25 0.0068 0.0048

Pluto -59111-06-22 07:54 J -19868697.38 -19868697.17 -19868696.94 0.0068 0.0007
 Pluto -59110-02-02 14:09 J -19868472.10 -19868471.91 -19868471.72 0.0068 0.0035
 Saturn -59110-04-10 22:18 J -19868404.72 -19868404.57 -19868404.40 0.0269 0.0179
 Saturn -59110-11-26 07:54 J -19868175.33 -19868175.17 -19868175.01 0.0272 0.0183
 Jupiter -59108-09-29 01:40 J -19867502.43 -19867502.43 -19867502.42 0.0520 0.0519
 Mars -59104-02-18 11:45 J -19866264.12 -19866264.01 -19866263.89 0.1893 0.1414
 Jupiter -59102-08-02 23:45 J -19865368.69 -19865368.51 -19865368.32 0.0504 0.0170
 Uranus -59100-02-25 16:18 J -19864795.86 -19864795.82 -19864795.74 0.0134 0.0129
 Uranus -59100-10-09 23:01 J -19864569.69 -19864569.54 -19864569.37 0.0133 0.0091
 Uranus -59099-05-24 05:30 J -19864343.47 -19864343.27 -19864343.07 0.0133 0.0055
 Uranus -59098-01-05 11:30 J -19864117.24 -19864117.02 -19864116.80 0.0133 0.0018
 Uranus -59098-08-19 17:30 J -19863890.99 -19863890.77 -19863890.55 0.0133 0.0018
 Uranus -59097-04-01 23:01 J -19863664.73 -19863664.54 -19863664.33 0.0133 0.0055
 Uranus -59097-11-14 04:33 J -19863438.46 -19863438.31 -19863438.14 0.0132 0.0090
 Saturn -59096-02-10 11:45 J -19863350.22 -19863350.01 -19863349.80 0.0291 0.0003
 Uranus -59096-06-28 09:49 J -19863212.14 -19863212.09 -19863212.00 0.0132 0.0126
 Jupiter -59095-01-27 17:30 J -19862998.78 -19862998.77 -19862998.76 0.0524 0.0523
 Neptune -59085-10-16 21:49 J -19859083.71 -19859083.59 -19859083.46 0.0089 0.0072
 Neptune -59084-05-30 09:35 J -19858858.25 -19858858.10 -19858857.91 0.0089 0.0053
 Jupiter -59084-10-02 06:57 J -19858733.41 -19858733.21 -19858733.01 0.0522 0.0119
 Neptune -59083-01-10 21:49 J -19858632.77 -19858632.59 -19858632.38 0.0089 0.0034
 Neptune -59083-08-24 10:18 J -19858407.28 -19858407.07 -19858406.86 0.0089 0.0013
 Neptune -59082-04-06 22:33 J -19858181.78 -19858181.56 -19858181.35 0.0089 0.0007
 Neptune -59082-11-18 10:33 J -19857956.26 -19857956.06 -19857955.85 0.0089 0.0026
 Neptune -59081-06-30 22:47 J -19857730.73 -19857730.55 -19857730.36 0.0089 0.0046
 Saturn -59081-10-21 03:35 J -19857618.54 -19857618.35 -19857618.16 0.0270 0.0128
 Neptune -59080-02-11 10:47 J -19857505.17 -19857505.05 -19857504.89 0.0089 0.0067
 Saturn -59080-06-07 13:11 J -19857389.05 -19857388.95 -19857388.83 0.0272 0.0236
 Neptune -59080-09-24 23:01 J -19857279.57 -19857279.54 -19857279.47 0.0089 0.0086
 Jupiter -59078-08-05 05:01 J -19856600.42 -19856600.29 -19856600.15 0.0503 0.0360

Mars	-59077-07-10 18:42 J	-19856259.89	-19856259.72	-19856259.54	0.1656	0.0256
Jupiter	-59072-06-06 19:40 J	-19854467.85	-19854467.68	-19854467.51	0.0521	0.0286
Saturn	-59067-08-23 19:40 J	-19852563.88	-19852563.68	-19852563.48	0.0291	0.0064
Jupiter	-59066-04-10 08:52 J	-19852334.33	-19852334.13	-19852333.93	0.0504	0.0026
Uranus	-59056-02-16 15:06 J	-19848733.96	-19848733.87	-19848733.76	0.0145	0.0126
Uranus	-59056-10-01 02:09 J	-19848507.59	-19848507.41	-19848507.23	0.0145	0.0080
Uranus	-59055-05-15 13:11 J	-19848281.16	-19848280.95	-19848280.74	0.0146	0.0034
Jupiter	-59055-12-14 12:13 J	-19848068.14	-19848067.99	-19848067.83	0.0506	0.0314
Uranus	-59055-12-28 00:28 J	-19848054.69	-19848054.48	-19848054.26	0.0146	0.0013
Uranus	-59054-08-11 11:59 J	-19847828.18	-19847828.00	-19847827.79	0.0146	0.0060
Uranus	-59053-03-24 23:59 J	-19847601.63	-19847601.50	-19847601.34	0.0146	0.0107
Saturn	-59051-05-03 11:59 J	-19846832.21	-19846832.00	-19846831.78	0.0270	0.0067
Jupiter	-59048-06-09 20:09 J	-19845698.81	-19845698.66	-19845698.50	0.0523	0.0336
Saturn	-59037-03-05 02:37 J	-19841777.57	-19841777.39	-19841777.20	0.0291	0.0128
Jupiter	-59036-02-12 11:01 J	-19841433.25	-19841433.04	-19841432.83	0.0522	0.0063
Jupiter	-59031-12-16 17:01 J	-19839299.97	-19839299.79	-19839299.61	0.0503	0.0214
Moon	-59030-03-26 01:11 J	-19839200.60	-19839200.45	-19839200.31	0.2625	0.0846
Earth	-59030-03-26 02:23 J	-19839200.56	-19839200.40	-19839200.23	0.2618	0.0321 *
Pluto	-59026-09-09 08:37 J	-19837572.30	-19837572.14	-19837571.95	0.0077	0.0046
Pluto	-59025-04-21 17:16 J	-19837346.99	-19837346.78	-19837346.56	0.0076	0.0012
Jupiter	-59025-10-18 00:28 J	-19837167.57	-19837167.48	-19837167.38	0.0520	0.0462
Pluto	-59025-12-03 01:25 J	-19837121.53	-19837121.44	-19837121.33	0.0076	0.0067
Saturn	-59022-11-13 17:59 J	-19836045.97	-19836045.75	-19836045.54	0.0271	0.0014
Jupiter	-59019-08-21 19:11 J	-19835033.89	-19835033.70	-19835033.51	0.0505	0.0130
Uranus	-59016-06-09 06:28 J	-19834011.34	-19834011.23	-19834011.09	0.0133	0.0109
Uranus	-59015-01-21 13:11 J	-19833785.13	-19833784.95	-19833784.76	0.0133	0.0072
Uranus	-59015-09-04 19:25 J	-19833558.89	-19833558.69	-19833558.47	0.0133	0.0036
Uranus	-59014-04-19 01:40 J	-19833332.65	-19833332.43	-19833332.21	0.0133	0.0001
Uranus	-59014-12-01 07:25 J	-19833106.40	-19833106.19	-19833105.97	0.0133	0.0037
Uranus	-59013-07-14 12:57 J	-19832880.13	-19832879.96	-19832879.76	0.0133	0.0073

Uranus	-59012-02-25 18:42 J	-19832653.84	-19832653.72	-19832653.59	0.0132	0.0108
Mars	-59011-05-08 05:30 J	-19832217.43	-19832217.27	-19832217.10	0.1653	0.0555
Saturn	-59008-01-28 19:54 J	-19831220.79	-19831220.67	-19831220.54	0.0292	0.0235
Saturn	-59008-09-15 11:01 J	-19830991.19	-19830991.04	-19830990.89	0.0290	0.0195
Jupiter	-59007-04-26 22:33 J	-19830767.63	-19830767.56	-19830767.49	0.0506	0.0469
Mars	-59007-12-16 08:52 J	-19830534.21	-19830534.13	-19830534.05	0.1882	0.1662
Neptune	-59003-12-06 06:13 J	-19829083.32	-19829083.24	-19829083.13	0.0088	0.0080
Neptune	-59002-07-19 20:09 J	-19828857.81	-19828857.66	-19828857.48	0.0088	0.0059
Neptune	-59001-03-01 10:04 J	-19828632.27	-19828632.08	-19828631.86	0.0088	0.0039
Neptune	-59001-10-12 23:59 J	-19828406.71	-19828406.50	-19828406.27	0.0088	0.0019
Jupiter	-59001-10-21 00:13 J	-19828398.69	-19828398.49	-19828398.29	0.0522	0.0152

59TH MILLENNIUM BCE

This is a list of transits of Venus in the 59th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-59000-05-26 14:09 J	-19828181.14	-19828180.91	-19828180.69	0.0088	0.0002		
Neptune	-58999-01-07 03:35 J	-19827955.55	-19827955.35	-19827955.11	0.0088	0.0023		
Neptune	-58999-08-20 17:16 J	-19827729.96	-19827729.78	-19827729.56	0.0088	0.0043		
Neptune	-58998-04-03 06:57 J	-19827504.35	-19827504.21	-19827504.03	0.0088	0.0063		
Neptune	-58998-11-14 20:37 J	-19827278.70	-19827278.64	-19827278.54	0.0088	0.0082		
Jupiter	-58995-08-24 02:37 J	-19826265.50	-19826265.39	-19826265.27	0.0503	0.0409		
Saturn	-58992-05-26 02:52 J	-19825259.59	-19825259.38	-19825259.16	0.0271	0.0051		
Jupiter	-58989-06-25 13:25 J	-19824133.12	-19824132.94	-19824132.76	0.0521	0.0250		

Jupiter -58983-04-29 04:18 J -19821999.52 -19821999.32 -19821999.13 0.0504 0.0064
 Saturn -58979-08-11 04:18 J -19820434.48 -19820434.32 -19820434.14 0.0292 0.0164
 Saturn -58978-03-28 18:57 J -19820204.78 -19820204.71 -19820204.62 0.0290 0.0264
 Uranus -58972-05-31 09:21 J -19817949.25 -19817949.11 -19817948.95 0.0145 0.0101
 Jupiter -58971-01-02 06:42 J -19817733.38 -19817733.22 -19817733.05 0.0505 0.0279
 Uranus -58971-01-12 20:23 J -19817722.84 -19817722.65 -19817722.45 0.0145 0.0056
 Uranus -58971-08-27 07:54 J -19817496.39 -19817496.17 -19817495.96 0.0146 0.0009
 Uranus -58970-04-10 19:11 J -19817269.90 -19817269.70 -19817269.48 0.0146 0.0038
 Uranus -58970-11-23 06:57 J -19817043.38 -19817043.21 -19817043.03 0.0146 0.0085
 Uranus -58969-07-06 18:42 J -19816816.79 -19816816.72 -19816816.61 0.0146 0.0133
 Jupiter -58965-06-28 18:13 J -19815363.87 -19815363.74 -19815363.60 0.0523 0.0388
 Saturn -58963-04-20 23:01 J -19814702.60 -19814702.54 -19814702.47 0.0269 0.0255
 Saturn -58963-12-06 08:37 J -19814473.34 -19814473.14 -19814472.94 0.0271 0.0105
 Jupiter -58953-03-03 06:57 J -19811098.41 -19811098.21 -19811098.00 0.0522 0.0022
 Saturn -58949-02-21 13:25 J -19809648.14 -19809647.94 -19809647.75 0.0292 0.0094
 Jupiter -58947-01-04 12:28 J -19808965.14 -19808964.98 -19808964.80 0.0503 0.0255
 Mars -58945-03-04 16:18 J -19808174.97 -19808174.82 -19808174.66 0.1650 0.0854
 Jupiter -58942-11-06 17:30 J -19806832.88 -19806832.77 -19806832.65 0.0520 0.0430
 Mars -58941-10-12 13:11 J -19806492.10 -19806491.95 -19806491.80 0.1887 0.0945
 Jupiter -58936-09-09 15:49 J -19804699.03 -19804698.84 -19804698.64 0.0505 0.0085
 Saturn -58934-11-01 07:54 J -19803916.32 -19803916.17 -19803916.02 0.0270 0.0192
 Saturn -58933-06-17 17:30 J -19803686.93 -19803686.77 -19803686.59 0.0272 0.0170
 Uranus -58932-02-06 15:21 J -19803452.92 -19803452.86 -19803452.78 0.0133 0.0126
 Uranus -58932-09-20 21:49 J -19803226.74 -19803226.59 -19803226.41 0.0133 0.0089
 Uranus -58931-05-05 04:33 J -19803000.51 -19803000.31 -19803000.11 0.0133 0.0053
 Uranus -58931-12-17 10:33 J -19802774.27 -19802774.06 -19802773.84 0.0133 0.0016
 Uranus -58930-07-31 16:47 J -19802548.02 -19802547.80 -19802547.59 0.0133 0.0020
 Uranus -58929-03-13 22:33 J -19802321.75 -19802321.56 -19802321.36 0.0133 0.0056
 Uranus -58929-10-26 03:49 J -19802095.48 -19802095.34 -19802095.16 0.0132 0.0092
 Uranus -58928-06-09 09:21 J -19801869.16 -19801869.11 -19801869.03 0.0132 0.0126

Earth -58925-09-24 11:01 J -19800666.10 -19800666.04 -19800665.98 0.2714 0.2445
 Jupiter -58924-05-15 17:30 J -19800432.87 -19800432.77 -19800432.67 0.0506 0.0433
 Neptune -58920-01-18 10:33 J -19799089.15 -19799089.06 -19799088.96 0.0089 0.0079
 Neptune -58920-08-31 22:18 J -19798863.71 -19798863.57 -19798863.39 0.0089 0.0060
 Saturn -58920-09-02 22:18 J -19798861.78 -19798861.57 -19798861.36 0.0291 0.0021
 Neptune -58919-04-14 10:33 J -19798638.24 -19798638.06 -19798637.85 0.0089 0.0041
 Neptune -58919-11-25 23:01 J -19798412.75 -19798412.54 -19798412.33 0.0089 0.0020
 Neptune -58918-07-09 11:16 J -19798187.24 -19798187.03 -19798186.82 0.0089 0.0001
 Jupiter -58918-11-09 21:35 J -19798063.79 -19798063.60 -19798063.40 0.0523 0.0203
 Neptune -58917-02-19 23:16 J -19797961.73 -19797961.53 -19797961.31 0.0089 0.0019
 Earth -58917-09-22 04:33 J -19797746.44 -19797746.31 -19797746.18 0.2715 0.1456
 Moon -58917-09-22 09:06 J -19797746.26 -19797746.12 -19797745.98 0.2718 0.1087 *
 Neptune -58917-10-02 11:16 J -19797736.21 -19797736.03 -19797735.82 0.0089 0.0039
 Neptune -58916-05-15 23:16 J -19797510.67 -19797510.53 -19797510.35 0.0089 0.0059
 Neptune -58916-12-27 11:45 J -19797285.10 -19797285.01 -19797284.90 0.0089 0.0079
 Mars -58913-03-03 15:06 J -19796487.96 -19796487.87 -19796487.79 0.1660 0.1428
 Jupiter -58912-09-11 20:37 J -19795930.73 -19795930.64 -19795930.54 0.0502 0.0439
 Jupiter -58906-07-15 11:30 J -19793798.21 -19793798.02 -19793797.83 0.0521 0.0199
 Saturn -58904-05-13 13:25 J -19793130.12 -19793129.94 -19793129.75 0.0270 0.0140
 Saturn -58904-12-28 23:16 J -19792900.65 -19792900.53 -19792900.40 0.0272 0.0223
 Jupiter -58900-05-17 22:47 J -19791664.75 -19791664.55 -19791664.36 0.0504 0.0098
 Saturn -58890-03-16 06:13 J -19788075.44 -19788075.24 -19788075.03 0.0291 0.0046
 Jupiter -58888-01-21 01:54 J -19787398.59 -19787398.42 -19787398.25 0.0506 0.0241
 Uranus -58888-01-28 16:18 J -19787390.92 -19787390.82 -19787390.69 0.0145 0.0123
 Uranus -58888-09-12 03:35 J -19787164.53 -19787164.35 -19787164.16 0.0145 0.0077
 Uranus -58887-04-26 14:37 J -19786938.09 -19786937.89 -19786937.67 0.0146 0.0031
 Uranus -58887-12-09 02:09 J -19786711.62 -19786711.41 -19786711.20 0.0146 0.0016
 Uranus -58886-07-23 13:40 J -19786485.12 -19786484.93 -19786484.73 0.0146 0.0063
 Uranus -58885-03-06 01:25 J -19786258.57 -19786258.44 -19786258.29 0.0146 0.0110
 Jupiter -58882-07-18 11:45 J -19785029.13 -19785029.01 -19785028.89 0.0523 0.0419

Mars -58880-12-31 03:06 J -19784132.49 -19784132.37 -19784132.24 0.1646 0.1145
 Mars -58875-08-09 18:13 J -19782449.91 -19782449.74 -19782449.57 0.1891 0.0255
 Saturn -58875-11-23 21:35 J -19782343.81 -19782343.60 -19782343.39 0.0270 0.0079
 Jupiter -58870-03-23 00:57 J -19780763.66 -19780763.46 -19780763.25 0.0522 0.0021
 Jupiter -58864-01-23 07:25 J -19778630.35 -19778630.19 -19778630.02 0.0503 0.0287
 Pluto -58864-03-01 18:57 J -19778592.87 -19778592.71 -19778592.56 0.0068 0.0048
 Pluto -58864-10-13 00:57 J -19778367.68 -19778367.46 -19778367.24 0.0068 0.0007
 Pluto -58863-05-26 06:42 J -19778142.40 -19778142.22 -19778142.02 0.0068 0.0035
 Saturn -58861-09-25 15:49 J -19777289.03 -19777288.84 -19777288.66 0.0291 0.0120
 Jupiter -58859-11-25 14:52 J -19776498.02 -19776497.88 -19776497.74 0.0520 0.0382
 Jupiter -58853-09-28 10:33 J -19774364.26 -19774364.06 -19774363.86 0.0504 0.0051
 Uranus -58848-05-21 06:57 J -19772668.33 -19772668.21 -19772668.07 0.0133 0.0106
 Mars -58848-12-30 01:25 J -19772445.57 -19772445.44 -19772445.31 0.1657 0.1110
 Uranus -58847-01-02 13:25 J -19772442.12 -19772441.94 -19772441.74 0.0133 0.0069
 Uranus -58847-08-16 19:54 J -19772215.88 -19772215.67 -19772215.45 0.0133 0.0033
 Uranus -58846-03-31 02:09 J -19771989.63 -19771989.41 -19771989.19 0.0133 0.0003
 Uranus -58846-11-12 07:54 J -19771763.37 -19771763.17 -19771762.95 0.0133 0.0039
 Saturn -58845-06-05 02:37 J -19771557.61 -19771557.39 -19771557.18 0.0270 0.0028
 Uranus -58845-06-25 13:25 J -19771537.11 -19771536.94 -19771536.75 0.0132 0.0075
 Uranus -58844-02-06 19:11 J -19771310.82 -19771310.70 -19771310.57 0.0132 0.0110
 Jupiter -58841-06-03 12:28 J -19770098.10 -19770097.98 -19770097.86 0.0506 0.0396
 Neptune -58838-03-09 17:16 J -19769088.82 -19769088.78 -19769088.74 0.0088 0.0087
 Neptune -58838-10-21 06:57 J -19768863.35 -19768863.21 -19768863.05 0.0088 0.0067
 Neptune -58837-06-02 20:52 J -19768637.81 -19768637.63 -19768637.43 0.0088 0.0046
 Neptune -58836-01-14 10:47 J -19768412.25 -19768412.05 -19768411.82 0.0088 0.0026
 Neptune -58836-08-28 00:42 J -19768186.69 -19768186.47 -19768186.24 0.0088 0.0007
 Neptune -58835-04-10 14:37 J -19767961.11 -19767960.89 -19767960.66 0.0088 0.0014
 Neptune -58835-11-22 04:18 J -19767735.52 -19767735.32 -19767735.11 0.0088 0.0035
 Jupiter -58835-11-28 18:42 J -19767728.90 -19767728.72 -19767728.53 0.0523 0.0251
 Neptune -58834-07-05 18:13 J -19767509.91 -19767509.74 -19767509.56 0.0088 0.0055

Neptune -58833-02-16 07:40 J -19767284.28 -19767284.18 -19767284.04 0.0088 0.0075
 Saturn -58832-08-21 06:57 J -19766732.31 -19766732.21 -19766732.09 0.0293 0.0249
 Saturn -58831-04-07 22:18 J -19766502.73 -19766502.57 -19766502.41 0.0290 0.0181
 Jupiter -58829-09-30 16:18 J -19765595.88 -19765595.82 -19765595.76 0.0503 0.0479
 Jupiter -58823-08-03 06:28 J -19763463.43 -19763463.23 -19763463.04 0.0521 0.0160
 Jupiter -58817-06-05 19:25 J -19761329.88 -19761329.69 -19761329.50 0.0504 0.0142
 Saturn -58816-12-16 10:04 J -19760771.29 -19760771.08 -19760770.86 0.0271 0.0032
 Mars -58814-10-28 14:09 J -19760090.00 -19760089.91 -19760089.83 0.1643 0.1430
 Mars -58809-06-05 22:18 J -19758407.74 -19758407.57 -19758407.41 0.1896 0.0475
 Jupiter -58805-02-09 21:35 J -19757063.78 -19757063.60 -19757063.41 0.0505 0.0204
 Uranus -58805-09-27 22:33 J -19756832.57 -19756832.56 -19756832.52 0.0145 0.0144
 Uranus -58804-05-12 09:21 J -19756606.25 -19756606.11 -19756605.94 0.0145 0.0099
 Uranus -58804-12-24 20:23 J -19756379.84 -19756379.65 -19756379.44 0.0146 0.0054
 Uranus -58803-08-08 07:54 J -19756153.38 -19756153.17 -19756152.95 0.0146 0.0008
 Saturn -58802-03-03 16:04 J -19755945.99 -19755945.83 -19755945.66 0.0293 0.0176
 Uranus -58802-03-22 19:25 J -19755926.89 -19755926.69 -19755926.48 0.0146 0.0039
 Saturn -58802-10-19 07:11 J -19755716.30 -19755716.20 -19755716.10 0.0290 0.0252
 Uranus -58802-11-04 06:57 J -19755700.37 -19755700.21 -19755700.02 0.0146 0.0087
 Uranus -58801-06-17 18:42 J -19755473.79 -19755473.72 -19755473.61 0.0146 0.0134
 Jupiter -58799-08-06 09:49 J -19754694.17 -19754694.09 -19754694.00 0.0524 0.0472
 Earth -58787-03-26 01:25 J -19750444.60 -19750444.44 -19750444.28 0.2618 0.0404
 Moon -58787-03-26 05:01 J -19750444.46 -19750444.29 -19750444.11 0.2613 0.0339 *
 Jupiter -58787-04-11 00:13 J -19750428.70 -19750428.49 -19750428.28 0.0522 0.0074
 Saturn -58786-06-28 13:54 J -19749985.13 -19749984.92 -19749984.71 0.0271 0.0080
 Mars -58782-10-27 12:28 J -19748403.13 -19748402.98 -19748402.82 0.1654 0.0818
 Jupiter -58781-02-12 03:35 J -19748295.50 -19748295.35 -19748295.20 0.0503 0.0329
 Pluto -58779-12-31 01:25 J -19747242.60 -19747242.44 -19747242.27 0.0077 0.0050
 Pluto -58778-08-13 09:49 J -19747017.30 -19747017.09 -19747016.87 0.0076 0.0008
 Pluto -58777-03-25 18:13 J -19746791.86 -19746791.74 -19746791.62 0.0076 0.0063
 Jupiter -58776-12-14 13:40 J -19746163.09 -19746162.93 -19746162.77 0.0520 0.0325

Saturn -58773-09-12 21:21 J -19745159.79 -19745159.61 -19745159.42 0.0292 0.0118
 Jupiter -58770-10-18 06:57 J -19744029.41 -19744029.21 -19744029.02 0.0505 0.0014
 Uranus -58764-01-18 16:33 J -19742109.89 -19742109.81 -19742109.72 0.0133 0.0122
 Uranus -58764-09-01 23:01 J -19741883.70 -19741883.54 -19741883.36 0.0133 0.0085
 Uranus -58763-04-16 05:30 J -19741657.47 -19741657.27 -19741657.06 0.0133 0.0049
 Uranus -58763-11-28 11:45 J -19741431.23 -19741431.01 -19741430.79 0.0133 0.0013
 Uranus -58762-07-12 17:45 J -19741204.98 -19741204.76 -19741204.54 0.0133 0.0023
 Uranus -58761-02-23 23:30 J -19740978.71 -19740978.52 -19740978.31 0.0132 0.0058
 Uranus -58761-10-07 05:01 J -19740752.43 -19740752.29 -19740752.12 0.0132 0.0093
 Uranus -58760-05-21 10:04 J -19740526.11 -19740526.08 -19740526.01 0.0132 0.0129
 Jupiter -58758-06-23 09:49 J -19739763.23 -19739763.09 -19739762.94 0.0506 0.0349
 Saturn -58757-05-23 11:01 J -19739428.16 -19739428.04 -19739427.92 0.0269 0.0221
 Saturn -58756-01-07 20:23 J -19739198.83 -19739198.65 -19739198.46 0.0271 0.0137
 Neptune -58756-04-21 22:33 J -19739094.58 -19739094.56 -19739094.49 0.0089 0.0087
 Neptune -58756-12-03 10:47 J -19738869.17 -19738869.05 -19738868.90 0.0089 0.0067
 Neptune -58755-07-16 23:16 J -19738643.71 -19738643.53 -19738643.34 0.0089 0.0048
 Neptune -58754-02-27 11:16 J -19738418.22 -19738418.03 -19738417.82 0.0089 0.0028
 Neptune -58754-10-10 23:30 J -19738192.73 -19738192.52 -19738192.30 0.0089 0.0008
 Neptune -58753-05-23 11:30 J -19737967.23 -19737967.02 -19737966.80 0.0089 0.0012
 Neptune -58752-01-03 23:30 J -19737741.71 -19737741.52 -19737741.31 0.0089 0.0032
 Neptune -58752-08-17 11:45 J -19737516.17 -19737516.01 -19737515.82 0.0089 0.0051
 Jupiter -58752-12-17 15:21 J -19737394.03 -19737393.86 -19737393.69 0.0523 0.0297
 Neptune -58751-03-30 23:45 J -19737290.62 -19737290.51 -19737290.36 0.0089 0.0071
 Saturn -58743-03-26 05:30 J -19734373.47 -19734373.27 -19734373.06 0.0292 0.0048
 Mars -58743-04-03 03:06 J -19734365.50 -19734365.37 -19734365.23 0.1900 0.1180
 Jupiter -58740-08-22 05:01 J -19733128.50 -19733128.29 -19733128.09 0.0522 0.0106
 Jupiter -58734-06-25 16:47 J -19730994.99 -19730994.80 -19730994.62 0.0503 0.0187
 Jupiter -58728-04-26 19:25 J -19728862.74 -19728862.69 -19728862.63 0.0520 0.0498
 Saturn -58728-12-03 14:23 J -19728642.06 -19728641.90 -19728641.73 0.0269 0.0176
 Saturn -58727-07-20 23:30 J -19728412.67 -19728412.52 -19728412.35 0.0271 0.0182

Jupiter -58722-02-28 19:11 J -19726728.88 -19726728.70 -19726728.51 0.0505 0.0155
 Uranus -58720-01-09 14:23 J -19726048.01 -19726047.90 -19726047.79 0.0145 0.0123
 Uranus -58720-08-24 01:11 J -19725821.62 -19725821.45 -19725821.26 0.0145 0.0078
 Uranus -58719-04-07 12:28 J -19725595.19 -19725594.98 -19725594.77 0.0146 0.0032
 Uranus -58719-11-19 23:45 J -19725368.73 -19725368.51 -19725368.30 0.0146 0.0014
 Uranus -58718-07-04 11:01 J -19725142.23 -19725142.04 -19725141.84 0.0146 0.0061
 Uranus -58717-02-15 22:47 J -19724915.68 -19724915.55 -19724915.39 0.0146 0.0108
 Mars -58716-08-23 23:30 J -19724360.69 -19724360.52 -19724360.36 0.1651 0.0520
 Saturn -58714-10-06 08:52 J -19723587.33 -19723587.13 -19723586.92 0.0292 0.0004
 Jupiter -58711-11-03 22:18 J -19722462.61 -19722462.57 -19722462.53 0.0507 0.0494
 Jupiter -58704-04-29 22:33 J -19720093.76 -19720093.56 -19720093.35 0.0522 0.0128
 Jupiter -58698-03-03 02:23 J -19717960.53 -19717960.40 -19717960.27 0.0503 0.0381
 Saturn -58698-06-15 19:11 J -19717855.89 -19717855.70 -19717855.50 0.0269 0.0125
 Saturn -58697-01-31 04:47 J -19717626.40 -19717626.30 -19717626.19 0.0272 0.0234
 Jupiter -58692-01-02 11:59 J -19715828.17 -19715828.00 -19715827.82 0.0520 0.0271
 Jupiter -58687-11-06 05:16 J -19713694.48 -19713694.28 -19713694.08 0.0504 0.0041
 Saturn -58684-04-17 15:35 J -19712801.05 -19712800.85 -19712800.65 0.0292 0.0066
 Earth -58682-09-25 14:09 J -19711909.97 -19711909.91 -19711909.85 0.2715 0.2466
 Moon -58682-09-25 15:06 J -19711909.94 -19711909.87 -19711909.81 0.2708 0.2451 *
 Uranus -58680-05-02 07:54 J -19711325.31 -19711325.17 -19711325.03 0.0133 0.0103
 Uranus -58680-12-14 14:23 J -19711099.09 -19711098.90 -19711098.70 0.0133 0.0066
 Uranus -58679-07-28 20:52 J -19710872.85 -19710872.63 -19710872.42 0.0133 0.0030
 Uranus -58678-03-12 03:06 J -19710646.59 -19710646.37 -19710646.15 0.0133 0.0006
 Uranus -58678-10-24 08:37 J -19710420.34 -19710420.14 -19710419.92 0.0133 0.0042
 Uranus -58677-06-06 14:09 J -19710194.07 -19710193.91 -19710193.71 0.0132 0.0077
 Uranus -58676-01-18 19:40 J -19709967.78 -19709967.68 -19709967.55 0.0132 0.0111
 Jupiter -58675-07-12 09:21 J -19709428.27 -19709428.11 -19709427.95 0.0505 0.0293
 Moon -58674-09-23 04:33 J -19708990.44 -19708990.31 -19708990.17 0.2710 0.1464
 Earth -58674-09-23 07:40 J -19708990.31 -19708990.18 -19708990.05 0.2715 0.1416 *
 Neptune -58673-01-22 17:01 J -19708868.89 -19708868.79 -19708868.65 0.0088 0.0074

Neptune -58673-09-04 06:57 J -19708643.37 -19708643.21 -19708643.02 0.0088 0.0054
 Neptune -58672-04-17 20:37 J -19708417.83 -19708417.64 -19708417.41 0.0088 0.0035
 Neptune -58672-11-29 10:47 J -19708192.27 -19708192.05 -19708191.82 0.0088 0.0014
 Neptune -58671-07-13 00:42 J -19707966.69 -19707966.47 -19707966.24 0.0088 0.0007
 Neptune -58670-02-23 14:23 J -19707741.10 -19707740.90 -19707740.67 0.0088 0.0027
 Neptune -58670-10-07 04:04 J -19707515.50 -19707515.33 -19707515.12 0.0088 0.0047
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 Saturn -58669-12-25 22:04 J -19707069.78 -19707069.58 -19707069.37 0.0269 0.0082
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 Jupiter -58668-01-05 17:01 J -19707058.94 -19707058.79 -19707058.64 0.0523 0.0364
 Jupiter -58657-09-10 07:11 J -19702793.41 -19702793.20 -19702792.99 0.0522 0.0033
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 Mars -58650-06-21 10:18 J -19700318.25 -19700318.07 -19700317.90 0.1648 0.0223
 Jupiter -58645-05-15 20:09 J -19698527.77 -19698527.66 -19698527.55 0.0520 0.0434
 Jupiter -58639-03-19 18:57 J -19696393.90 -19696393.71 -19696393.51 0.0505 0.0098
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Jupiter -58568-08-02 17:01 J -19670324.95 -19670324.79 -19670324.63 0.0503 0.0302
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 Jupiter -58545-12-12 00:13 J -19661792.62 -19661792.49 -19661792.35 0.0506 0.0367
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 Earth -58544-03-26 00:13 J -19661688.65 -19661688.49 -19661688.32 0.2618 0.0489 *
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 Saturn -58537-04-26 10:47 J -19659100.23 -19659100.05 -19659099.87 0.0294 0.0134
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 Saturn -58521-01-05 02:52 J -19653368.50 -19653368.38 -19653368.25 0.0268 0.0217
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 Mars -58514-09-22 09:06 J -19650551.28 -19650551.12 -19650550.95 0.1899 0.0490
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 Neptune -58509-04-25 02:52 J -19648874.45 -19648874.38 -19648874.29 0.0088 0.0082
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 Neptune -58509-12-06 16:33 J -19648648.95 -19648648.81 -19648648.63 0.0088 0.0063
 Uranus -58509-12-30 19:25 J -19648624.80 -19648624.69 -19648624.57 0.0132 0.0112
 Neptune -58508-07-20 06:28 J -19648423.41 -19648423.23 -19648423.01 0.0088 0.0043
 Saturn -58508-11-06 14:09 J -19648314.10 -19648313.91 -19648313.71 0.0293 0.0083
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 Saturn -58478-05-19 13:11 J -19637528.15 -19637527.95 -19637527.75 0.0294 0.0048
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 Uranus -58469-08-20 19:25 J -19634146.71 -19634146.69 -19634146.65 0.0145 0.0143
 Uranus -58468-04-04 05:59 J -19633920.40 -19633920.25 -19633920.09 0.0145 0.0099
 Uranus -58468-11-16 16:47 J -19633693.99 -19633693.80 -19633693.60 0.0146 0.0055
 Uranus -58467-07-01 03:49 J -19633467.55 -19633467.34 -19633467.12 0.0146 0.0009

Uranus	-58466-02-12 15:06 J	-19633241.08	-19633240.87	-19633240.66	0.0146	0.0036
Uranus	-58466-09-27 02:37 J	-19633014.56	-19633014.39	-19633014.21	0.0146	0.0083
Uranus	-58465-05-10 14:23 J	-19632787.99	-19632787.90	-19632787.79	0.0146	0.0129
Saturn	-58462-01-27 06:42 J	-19631796.40	-19631796.22	-19631796.03	0.0268	0.0137
Saturn	-58462-09-13 14:37 J	-19631567.00	-19631566.89	-19631566.74	0.0270	0.0215
Jupiter	-58461-01-01 02:09 J	-19631457.57	-19631457.41	-19631457.25	0.0506	0.0300
Jupiter	-58455-06-27 06:42 J	-19629088.37	-19629088.22	-19629088.06	0.0523	0.0348
Mars	-58453-12-10 19:25 J	-19628190.85	-19628190.69	-19628190.52	0.1639	0.0630
Saturn	-58449-11-28 16:33 J	-19626742.01	-19626741.81	-19626741.60	0.0293	0.0007
Mars	-58448-07-19 13:54 J	-19626509.09	-19626508.92	-19626508.75	0.1903	0.0225
Jupiter	-58443-03-01 18:13 J	-19624822.94	-19624822.74	-19624822.53	0.0522	0.0061
Moon	-58439-09-25 13:54 J	-19623154.02	-19623153.92	-19623153.82	0.2720	0.1952
Earth	-58439-09-25 17:01 J	-19623153.85	-19623153.79	-19623153.73	0.2715	0.2472 *
Jupiter	-58437-01-03 11:16 J	-19622689.20	-19622689.03	-19622688.85	0.0503	0.0245
Saturn	-58433-08-08 09:35 J	-19621010.30	-19621010.10	-19621009.89	0.0267	0.0094
Saturn	-58432-03-25 17:30 J	-19620780.82	-19620780.77	-19620780.69	0.0269	0.0257
Jupiter	-58432-11-04 09:06 J	-19620557.22	-19620557.12	-19620557.02	0.0520	0.0448
Earth	-58431-09-23 10:47 J	-19620234.18	-19620234.05	-19620233.92	0.2715	0.1398
Moon	-58431-09-23 11:30 J	-19620234.14	-19620234.02	-19620233.90	0.2722	0.1564 *
Uranus	-58429-12-11 16:04 J	-19619423.92	-19619423.83	-19619423.70	0.0134	0.0117
Uranus	-58428-07-25 23:01 J	-19619197.71	-19619197.54	-19619197.35	0.0133	0.0080
Uranus	-58427-03-09 05:45 J	-19618971.46	-19618971.26	-19618971.05	0.0133	0.0044
Neptune	-58427-06-08 10:18 J	-19618880.12	-19618880.07	-19618879.98	0.0089	0.0084
Uranus	-58427-10-21 11:59 J	-19618745.22	-19618745.00	-19618744.78	0.0133	0.0009
Neptune	-58426-01-19 22:18 J	-19618654.70	-19618654.57	-19618654.40	0.0089	0.0064
Uranus	-58426-06-04 17:59 J	-19618518.96	-19618518.75	-19618518.53	0.0133	0.0027
Neptune	-58426-09-02 10:47 J	-19618429.23	-19618429.05	-19618428.86	0.0089	0.0044
Jupiter	-58426-09-08 14:23 J	-19618423.09	-19618422.90	-19618422.70	0.0504	0.0092
Uranus	-58425-01-16 23:45 J	-19618292.70	-19618292.51	-19618292.31	0.0133	0.0062
Neptune	-58425-04-14 23:01 J	-19618203.74	-19618203.54	-19618203.33	0.0089	0.0024

Uranus -58425-08-30 05:01 J -19618066.42 -19618066.29 -19618066.12 0.0132 0.0097
 Neptune -58425-11-26 11:01 J -19617978.25 -19617978.04 -19617977.82 0.0089 0.0005
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 Neptune -58423-10-03 23:30 J -19617301.68 -19617301.52 -19617301.34 0.0089 0.0054
 Neptune -58422-05-17 11:30 J -19617076.12 -19617076.02 -19617075.89 0.0089 0.0074
 Mars -58421-12-09 17:01 J -19616503.84 -19616503.79 -19616503.74 0.1648 0.1577
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 Saturn -58403-02-18 11:16 J -19610224.25 -19610224.03 -19610223.82 0.0268 0.0055
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 Jupiter -58396-07-13 05:01 J -19607522.48 -19607522.29 -19607522.10 0.0521 0.0209
 Jupiter -58390-05-17 01:40 J -19605388.63 -19605388.43 -19605388.24 0.0504 0.0109
 Saturn -58390-12-21 19:11 J -19605169.90 -19605169.70 -19605169.51 0.0293 0.0088
 Mars -58387-10-08 06:42 J -19604148.36 -19604148.22 -19604148.07 0.1636 0.0907
 Uranus -58385-12-02 14:09 J -19603362.02 -19603361.91 -19603361.77 0.0145 0.0119
 Uranus -58384-07-17 01:11 J -19603135.63 -19603135.45 -19603135.26 0.0145 0.0074
 Uranus -58383-02-28 12:13 J -19602909.20 -19602908.99 -19602908.78 0.0146 0.0029
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 Saturn -58374-08-31 14:37 J -19599438.11 -19599437.89 -19599437.67 0.0268 0.0011
 Jupiter -58372-07-16 08:23 J -19598753.27 -19598753.15 -19598753.03 0.0524 0.0419
 Pluto -58369-05-26 03:06 J -19597708.55 -19597708.37 -19597708.15 0.0068 0.0031
 Pluto -58368-01-06 09:21 J -19597483.32 -19597483.11 -19597482.88 0.0068 0.0011
 Pluto -58368-08-19 14:52 J -19597257.99 -19597257.88 -19597257.72 0.0068 0.0054

Jupiter -58360-03-20 23:30 J -19594487.73 -19594487.52 -19594487.31 0.0522 0.0027
 Saturn -58360-07-02 19:11 J -19594383.88 -19594383.70 -19594383.51 0.0293 0.0127
 Mars -58355-10-07 04:33 J -19592461.42 -19592461.31 -19592461.20 0.1646 0.1296
 Jupiter -58354-01-22 11:59 J -19592354.15 -19592354.00 -19592353.84 0.0503 0.0308
 Jupiter -58349-11-23 13:11 J -19590222.10 -19590221.95 -19590221.80 0.0520 0.0369
 Uranus -58345-08-11 01:54 J -19588865.43 -19588865.42 -19588865.36 0.0134 0.0132
 Neptune -58344-03-10 01:40 J -19588654.54 -19588654.43 -19588654.27 0.0088 0.0071
 Saturn -58344-03-12 16:47 J -19588652.02 -19588651.80 -19588651.58 0.0268 0.0030
 Uranus -58344-03-25 08:52 J -19588639.26 -19588639.13 -19588638.96 0.0133 0.0096
 Neptune -58344-10-21 15:35 J -19588429.01 -19588428.85 -19588428.64 0.0088 0.0051
 Uranus -58344-11-06 15:49 J -19588413.04 -19588412.84 -19588412.64 0.0133 0.0059
 Neptune -58343-06-04 05:59 J -19588203.46 -19588203.25 -19588203.04 0.0088 0.0031
 Uranus -58343-06-20 22:04 J -19588186.79 -19588186.58 -19588186.36 0.0133 0.0024
 Jupiter -58343-09-27 15:21 J -19588088.05 -19588087.86 -19588087.66 0.0505 0.0031
 Neptune -58342-01-15 19:54 J -19587977.89 -19587977.67 -19587977.45 0.0088 0.0010
 Uranus -58342-02-02 04:18 J -19587960.54 -19587960.32 -19587960.10 0.0133 0.0012
 Neptune -58342-08-29 09:49 J -19587752.32 -19587752.09 -19587751.87 0.0088 0.0010
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 Neptune -58341-04-10 23:30 J -19587526.73 -19587526.52 -19587526.31 0.0088 0.0030
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 Saturn -58331-05-28 06:28 J -19583827.32 -19583827.23 -19583827.12 0.0295 0.0257
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 Jupiter -58325-11-26 14:23 J -19581453.08 -19581452.90 -19581452.71 0.0523 0.0248
 Mars -58321-08-04 18:13 J -19580105.86 -19580105.74 -19580105.62 0.1633 0.1168
 Mars -58316-03-12 22:33 J -19578424.64 -19578424.56 -19578424.49 0.1912 0.1699
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Jupiter -58313-08-01 04:47 J -19577187.49 -19577187.30 -19577187.09 0.0521 0.0147
 Jupiter -58307-06-05 03:06 J -19575053.56 -19575053.37 -19575053.19 0.0503 0.0175
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 Jupiter -58129-03-18 03:21 J -19510117.56 -19510117.36 -19510117.16 0.0505 0.0056
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 Jupiter -58099-01-20 09:06 J -19499217.31 -19499217.12 -19499216.93 0.0520 0.0199

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 Neptune -58097-10-18 20:52 J -19498214.81 -19498214.63 -19498214.44 0.0089 0.0042
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 Mars -58087-09-01 04:47 J -19494610.47 -19494610.30 -19494610.13 0.1911 0.0026
 Jupiter -58082-07-30 15:21 J -19492817.04 -19492816.86 -19492816.68 0.0506 0.0201
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 Uranus -58046-04-19 11:16 J -19479770.22 -19479770.03 -19479769.84 0.0146 0.0065
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 Pluto -58035-10-10 13:25 J -19475578.05 -19475577.94 -19475577.78 0.0076 0.0059
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 Neptune -58011-08-22 09:06 J -19466861.24 -19466861.12 -19466860.97 0.0088 0.0071

Jupiter	-58011-12-13 06:57 J	-19466748.40	-19466748.21	-19466748.02	0.0504	0.0169
Uranus	-58009-07-04 09:21 J	-19466179.21	-19466179.11	-19466179.02	0.0134	0.0119
Uranus	-58008-02-15 16:04 J	-19465953.00	-19465952.83	-19465952.65	0.0133	0.0084
Uranus	-58008-09-29 22:33 J	-19465726.76	-19465726.56	-19465726.34	0.0133	0.0049
Uranus	-58007-05-14 05:01 J	-19465500.51	-19465500.29	-19465500.06	0.0133	0.0013
Saturn	-58007-08-14 12:42 J	-19465408.17	-19465407.97	-19465407.76	0.0294	0.0013
Uranus	-58007-12-26 11:16 J	-19465274.25	-19465274.03	-19465273.81	0.0133	0.0022
Uranus	-58006-08-09 17:01 J	-19465047.98	-19465047.79	-19465047.58	0.0133	0.0057
Uranus	-58005-03-22 23:01 J	-19464821.69	-19464821.54	-19464821.37	0.0132	0.0091
Uranus	-58005-11-04 04:33 J	-19464595.37	-19464595.31	-19464595.22	0.0132	0.0125

58TH MILLENNIUM BCE

This is a list of transits of Venus in the 58th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-57999-08-18 09:49 J	-19462482.27	-19462482.09	-19462481.90	0.0505	0.0168		
Jupiter	-57992-02-11 08:09 J	-19460113.26	-19460113.16	-19460113.07	0.0523	0.0464		
Saturn	-57991-04-24 22:18 J	-19459675.79	-19459675.57	-19459675.35	0.0268	0.0038		
Jupiter	-57981-10-16 20:37 J	-19455847.85	-19455847.64	-19455847.44	0.0521	0.0064		
Saturn	-57977-02-24 21:06 J	-19454621.82	-19454621.62	-19454621.42	0.0293	0.0057		
Jupiter	-57975-08-20 15:06 J	-19453714.00	-19453713.87	-19453713.72	0.0503	0.0357		
Jupiter	-57969-06-21 07:11 J	-19451582.35	-19451582.20	-19451582.04	0.0519	0.0342		
Uranus	-57965-06-24 22:18 J	-19450117.64	-19450117.57	-19450117.48	0.0145	0.0133		
Uranus	-57964-02-06 08:37 J	-19449891.29	-19449891.14	-19449890.96	0.0145	0.0091		

Uranus -57964-09-20 19:40 J -19449664.88 -19449664.68 -19449664.47 0.0146 0.0046
 Jupiter -57963-04-25 18:28 J -19449447.93 -19449447.73 -19449447.53 0.0505 0.0022
 Uranus -57963-05-05 06:42 J -19449438.43 -19449438.22 -19449438.00 0.0146 0.0003
 Uranus -57963-12-17 17:59 J -19449211.95 -19449211.75 -19449211.54 0.0146 0.0043
 Uranus -57962-08-01 05:30 J -19448985.43 -19448985.27 -19448985.09 0.0146 0.0089
 Saturn -57962-11-05 06:57 J -19448889.43 -19448889.21 -19448888.99 0.0268 0.0024
 Uranus -57961-03-14 17:30 J -19448758.85 -19448758.77 -19448758.68 0.0146 0.0134
 Mars -57960-09-17 23:59 J -19448206.67 -19448206.50 -19448206.33 0.1629 0.0368
 Mars -57955-04-25 12:28 J -19446526.08 -19446525.98 -19446525.88 0.1919 0.1530
 Moon -57953-09-25 18:13 J -19445641.87 -19445641.74 -19445641.62 0.2715 0.1579
 Earth -57953-09-25 23:30 J -19445641.58 -19445641.52 -19445641.47 0.2715 0.2523
 Jupiter -57952-12-29 20:23 J -19445181.80 -19445181.65 -19445181.49 0.0506 0.0321
 Saturn -57948-09-06 06:57 J -19443835.40 -19443835.21 -19443835.03 0.0293 0.0132
 Jupiter -57945-06-24 11:01 J -19442813.21 -19442813.04 -19442812.86 0.0523 0.0280
 Moon -57945-09-23 13:40 J -19442722.05 -19442721.93 -19442721.81 0.2721 0.1490
 Earth -57945-09-23 17:16 J -19442721.91 -19442721.78 -19442721.65 0.2715 0.1323 *
 Jupiter -57933-02-28 00:57 J -19438547.66 -19438547.46 -19438547.26 0.0521 0.0114
 Neptune -57933-06-08 19:11 J -19438445.82 -19438445.70 -19438445.57 0.0089 0.0071
 Neptune -57932-01-20 06:57 J -19438220.37 -19438220.21 -19438220.02 0.0089 0.0052
 Saturn -57932-05-17 11:45 J -19438103.21 -19438103.01 -19438102.79 0.0268 0.0074
 Neptune -57932-09-02 19:11 J -19437994.89 -19437994.70 -19437994.49 0.0089 0.0033
 Neptune -57931-04-16 07:11 J -19437769.41 -19437769.20 -19437768.98 0.0089 0.0013
 Neptune -57931-11-27 19:11 J -19437543.91 -19437543.70 -19437543.48 0.0089 0.0007
 Neptune -57930-07-11 07:25 J -19437318.39 -19437318.19 -19437317.98 0.0089 0.0026
 Neptune -57929-02-21 19:11 J -19437092.86 -19437092.70 -19437092.50 0.0089 0.0046
 Neptune -57929-10-04 07:25 J -19436867.32 -19436867.19 -19436867.03 0.0089 0.0065
 Neptune -57928-05-17 19:25 J -19436641.73 -19436641.69 -19436641.61 0.0089 0.0085
 Jupiter -57927-01-01 01:40 J -19436413.61 -19436413.43 -19436413.24 0.0504 0.0205
 Uranus -57925-03-03 19:25 J -19435620.69 -19435620.69 -19435620.69 0.0134 0.0134
 Uranus -57925-10-16 01:54 J -19435394.55 -19435394.42 -19435394.25 0.0134 0.0099

Uranus	-57924-05-30 09:06 J	-19435168.31	-19435168.12	-19435167.92	0.0133	0.0063
Uranus	-57923-01-11 15:49 J	-19434942.06	-19434941.84	-19434941.63	0.0133	0.0028
Uranus	-57923-08-25 22:04 J	-19434715.80	-19434715.58	-19434715.36	0.0133	0.0008
Uranus	-57922-04-09 04:18 J	-19434489.53	-19434489.32	-19434489.11	0.0133	0.0042
Jupiter	-57922-11-02 13:54 J	-19434281.96	-19434281.92	-19434281.88	0.0519	0.0506
Uranus	-57922-11-21 10:04 J	-19434263.25	-19434263.08	-19434262.89	0.0133	0.0077
Uranus	-57921-07-04 15:49 J	-19434036.95	-19434036.84	-19434036.71	0.0132	0.0110
Saturn	-57919-08-01 20:52 J	-19433278.74	-19433278.63	-19433278.50	0.0295	0.0239
Saturn	-57918-03-19 13:40 J	-19433049.08	-19433048.93	-19433048.78	0.0293	0.0193
Jupiter	-57916-09-06 05:01 J	-19432147.48	-19432147.29	-19432147.10	0.0506	0.0130
Jupiter	-57909-03-02 02:23 J	-19429778.46	-19429778.40	-19429778.34	0.0523	0.0498
Jupiter	-57904-05-12 07:54 J	-19427881.24	-19427881.17	-19427881.10	0.0508	0.0469
Saturn	-57903-04-12 11:30 J	-19427546.14	-19427546.02	-19427545.88	0.0267	0.0212
Saturn	-57903-11-27 19:40 J	-19427316.87	-19427316.68	-19427316.49	0.0269	0.0133
Jupiter	-57898-11-05 15:06 J	-19425513.07	-19425512.87	-19425512.66	0.0521	0.0102
Mars	-57894-07-16 11:30 J	-19424164.18	-19424164.02	-19424163.86	0.1626	0.0625
Jupiter	-57892-09-08 10:47 J	-19423379.18	-19423379.05	-19423378.93	0.0503	0.0392
Saturn	-57889-02-12 06:57 J	-19422492.38	-19422492.21	-19422492.04	0.0295	0.0163
Saturn	-57889-09-28 23:01 J	-19422262.61	-19422262.54	-19422262.45	0.0292	0.0267
Jupiter	-57886-07-11 04:18 J	-19421247.49	-19421247.32	-19421247.15	0.0520	0.0295
Uranus	-57881-10-06 18:28 J	-19419332.86	-19419332.73	-19419332.57	0.0145	0.0107
Jupiter	-57880-05-14 14:09 J	-19419113.11	-19419112.91	-19419112.71	0.0504	0.0060
Uranus	-57880-05-21 05:16 J	-19419106.47	-19419106.28	-19419106.09	0.0145	0.0064
Uranus	-57879-01-02 16:04 J	-19418880.04	-19418879.83	-19418879.61	0.0146	0.0020
Uranus	-57879-08-17 03:21 J	-19418653.57	-19418653.36	-19418653.14	0.0146	0.0025
Uranus	-57878-03-31 14:37 J	-19418427.07	-19418426.89	-19418426.69	0.0146	0.0070
Uranus	-57878-11-13 02:09 J	-19418200.53	-19418200.41	-19418200.26	0.0146	0.0115
Pluto	-57874-08-20 04:33 J	-19416824.49	-19416824.31	-19416824.11	0.0068	0.0036
Saturn	-57874-10-23 15:49 J	-19416760.01	-19416759.84	-19416759.67	0.0267	0.0165
Pluto	-57873-04-01 10:33 J	-19416599.28	-19416599.06	-19416598.83	0.0068	0.0006

Saturn -57873-06-08 23:45 J -19416530.66 -19416530.51 -19416530.34 0.0269 0.0180
 Pluto -57873-11-12 16:04 J -19416373.96 -19416373.83 -19416373.65 0.0068 0.0049
 Jupiter -57868-01-17 16:18 J -19414846.98 -19414846.82 -19414846.65 0.0506 0.0280
 Jupiter -57862-07-14 09:21 J -19412478.27 -19412478.11 -19412477.95 0.0522 0.0333
 Mars -57862-07-15 08:09 J -19412477.22 -19412477.16 -19412477.09 0.1635 0.1509
 Saturn -57860-08-24 12:13 J -19411706.18 -19411705.99 -19411705.79 0.0295 0.0106
 Mars -57857-02-20 12:13 J -19410796.06 -19410795.99 -19410795.92 0.1909 0.1721
 Neptune -57851-07-28 14:37 J -19408445.96 -19408445.89 -19408445.78 0.0088 0.0081
 Neptune -57850-03-11 04:33 J -19408220.45 -19408220.31 -19408220.12 0.0088 0.0062
 Jupiter -57850-03-18 21:06 J -19408212.82 -19408212.62 -19408212.41 0.0520 0.0070
 Neptune -57850-10-22 18:42 J -19407994.90 -19407994.72 -19407994.50 0.0088 0.0041
 Neptune -57849-06-04 08:52 J -19407769.34 -19407769.13 -19407768.90 0.0088 0.0021
 Neptune -57848-01-15 23:01 J -19407543.76 -19407543.54 -19407543.31 0.0088 0.0001
 Neptune -57848-08-29 12:57 J -19407318.18 -19407317.96 -19407317.74 0.0088 0.0020
 Neptune -57847-04-12 02:37 J -19407092.58 -19407092.39 -19407092.18 0.0088 0.0040
 Neptune -57847-11-23 16:18 J -19406866.97 -19406866.82 -19406866.64 0.0088 0.0060
 Neptune -57846-07-07 05:59 J -19406641.33 -19406641.25 -19406641.13 0.0088 0.0080
 Jupiter -57844-01-19 22:47 J -19406078.72 -19406078.55 -19406078.38 0.0504 0.0249
 Saturn -57844-05-04 22:33 J -19405973.76 -19405973.56 -19405973.36 0.0267 0.0110
 Saturn -57844-12-20 06:28 J -19405744.32 -19405744.23 -19405744.11 0.0269 0.0237
 Uranus -57841-06-15 12:57 J -19404836.07 -19404835.96 -19404835.83 0.0134 0.0112
 Uranus -57840-01-27 19:54 J -19404609.84 -19404609.67 -19404609.48 0.0133 0.0077
 Uranus -57840-09-11 02:52 J -19404383.59 -19404383.38 -19404383.17 0.0133 0.0041
 Uranus -57839-04-25 09:21 J -19404157.33 -19404157.11 -19404156.89 0.0133 0.0006
 Jupiter -57839-11-21 09:49 J -19403947.17 -19403947.09 -19403946.99 0.0519 0.0463
 Uranus -57839-12-07 15:35 J -19403931.06 -19403930.85 -19403930.63 0.0133 0.0029
 Uranus -57838-07-21 21:35 J -19403704.79 -19403704.60 -19403704.40 0.0133 0.0063
 Uranus -57837-03-04 03:49 J -19403478.49 -19403478.34 -19403478.19 0.0132 0.0097
 Uranus -57837-10-16 09:06 J -19403252.14 -19403252.12 -19403252.07 0.0132 0.0131
 Jupiter -57833-09-25 01:40 J -19401812.63 -19401812.43 -19401812.23 0.0505 0.0089

Saturn -57830-03-06 20:52 J -19400919.83 -19400919.63 -19400919.42 0.0294 0.0035
 Mars -57828-05-12 22:47 J -19400121.69 -19400121.55 -19400121.40 0.1624 0.0890
 Jupiter -57821-05-31 05:16 J -19397546.38 -19397546.28 -19397546.17 0.0507 0.0422
 Earth -57815-03-26 20:09 J -19395420.82 -19395420.66 -19395420.50 0.2618 0.0809
 Moon -57815-03-26 23:45 J -19395420.66 -19395420.51 -19395420.36 0.2623 0.0648 *
 Saturn -57815-11-15 02:09 J -19395187.62 -19395187.41 -19395187.20 0.0267 0.0065
 Jupiter -57815-11-24 14:37 J -19395178.08 -19395177.89 -19395177.69 0.0522 0.0159
 Jupiter -57809-09-27 07:40 J -19393044.28 -19393044.18 -19393044.08 0.0503 0.0436
 Jupiter -57803-07-30 04:18 J -19390912.50 -19390912.32 -19390912.13 0.0520 0.0234
 Saturn -57801-09-16 00:42 J -19390133.68 -19390133.47 -19390133.27 0.0294 0.0017
 Jupiter -57797-06-02 11:01 J -19388778.24 -19388778.04 -19388777.85 0.0505 0.0105
 Uranus -57797-06-06 03:35 J -19388774.44 -19388774.35 -19388774.23 0.0145 0.0125
 Uranus -57796-01-18 14:23 J -19388548.07 -19388547.90 -19388547.72 0.0145 0.0082
 Mars -57796-05-11 19:40 J -19388434.79 -19388434.68 -19388434.57 0.1633 0.1233
 Uranus -57796-09-02 01:11 J -19388321.65 -19388321.45 -19388321.24 0.0145 0.0038
 Uranus -57795-04-16 12:13 J -19388095.20 -19388094.99 -19388094.77 0.0146 0.0007
 Uranus -57795-11-28 23:30 J -19387868.72 -19387868.52 -19387868.32 0.0146 0.0051
 Uranus -57794-07-13 10:47 J -19387642.20 -19387642.05 -19387641.87 0.0146 0.0096
 Uranus -57793-02-24 22:47 J -19387415.60 -19387415.55 -19387415.49 0.0146 0.0141
 Mars -57792-12-17 16:04 J -19386753.97 -19386753.83 -19386753.68 0.1914 0.0980
 Pluto -57788-06-19 12:28 J -19385474.17 -19385473.98 -19385473.79 0.0076 0.0037
 Pluto -57787-01-30 20:23 J -19385248.84 -19385248.65 -19385248.43 0.0076 0.0021
 Jupiter -57785-02-06 14:09 J -19384512.08 -19384511.91 -19384511.73 0.0507 0.0232
 Saturn -57785-05-27 07:25 J -19384401.41 -19384401.19 -19384400.98 0.0268 0.0015
 Jupiter -57779-08-02 06:57 J -19382143.35 -19382143.21 -19382143.06 0.0522 0.0382
 Saturn -57771-03-29 08:23 J -19379347.35 -19379347.15 -19379346.96 0.0294 0.0083
 Neptune -57769-09-10 05:01 J -19378451.36 -19378451.29 -19378451.19 0.0089 0.0081
 Neptune -57768-04-23 16:47 J -19378225.93 -19378225.80 -19378225.62 0.0089 0.0062
 Neptune -57768-12-05 05:01 J -19378000.47 -19378000.29 -19378000.09 0.0089 0.0043
 Jupiter -57767-04-06 19:40 J -19377877.89 -19377877.68 -19377877.47 0.0521 0.0017

Neptune -57767-07-18 17:16 J -19377774.98 -19377774.78 -19377774.57 0.0089 0.0023
 Neptune -57766-03-01 05:30 J -19377549.49 -19377549.27 -19377549.06 0.0089 0.0003
 Neptune -57766-10-12 17:16 J -19377323.98 -19377323.78 -19377323.56 0.0089 0.0016
 Neptune -57765-05-25 05:30 J -19377098.47 -19377098.27 -19377098.08 0.0089 0.0036
 Neptune -57764-01-05 17:16 J -19376872.94 -19376872.78 -19376872.60 0.0089 0.0055
 Neptune -57764-08-19 05:45 J -19376647.37 -19376647.26 -19376647.14 0.0089 0.0075
 Mars -57762-03-10 10:47 J -19376079.17 -19376079.05 -19376078.92 0.1622 0.1134
 Jupiter -57761-02-08 21:21 J -19375743.76 -19375743.61 -19375743.44 0.0503 0.0300
 Uranus -57757-02-14 00:42 J -19374277.53 -19374277.47 -19374277.38 0.0134 0.0125
 Uranus -57757-09-27 07:54 J -19374051.32 -19374051.17 -19374051.00 0.0134 0.0090
 Uranus -57756-05-11 14:52 J -19373825.08 -19373824.88 -19373824.67 0.0133 0.0054
 Saturn -57756-12-07 10:18 J -19373615.29 -19373615.07 -19373614.85 0.0267 0.0028
 Jupiter -57756-12-10 10:04 J -19373612.21 -19373612.08 -19373611.95 0.0520 0.0403
 Uranus -57756-12-23 21:35 J -19373598.82 -19373598.60 -19373598.38 0.0133 0.0019
 Uranus -57755-08-07 03:49 J -19373372.55 -19373372.34 -19373372.11 0.0133 0.0016
 Uranus -57754-03-21 10:18 J -19373146.27 -19373146.07 -19373145.86 0.0133 0.0050
 Uranus -57754-11-02 16:18 J -19372919.99 -19372919.82 -19372919.65 0.0132 0.0084
 Uranus -57753-06-15 21:49 J -19372693.68 -19372693.59 -19372693.48 0.0132 0.0118
 Jupiter -57750-10-15 00:28 J -19371477.68 -19371477.48 -19371477.29 0.0505 0.0037
 Saturn -57742-10-09 10:04 J -19368561.26 -19368561.08 -19368560.89 0.0294 0.0128
 Jupiter -57738-06-20 03:21 J -19367211.49 -19367211.36 -19367211.22 0.0507 0.0371
 Jupiter -57732-12-13 14:37 J -19364843.08 -19364842.89 -19364842.70 0.0522 0.0218
 Mars -57730-03-09 07:11 J -19364392.34 -19364392.20 -19364392.06 0.1630 0.0966
 Saturn -57727-11-02 06:57 J -19363058.23 -19363058.21 -19363058.18 0.0266 0.0263
 Saturn -57726-06-19 14:23 J -19362829.11 -19362828.90 -19362828.69 0.0268 0.0076
 Mars -57726-10-14 19:25 J -19362711.86 -19362711.69 -19362711.52 0.1917 0.0194
 Jupiter -57726-10-17 06:42 J -19362709.26 -19362709.22 -19362709.17 0.0503 0.0489
 Jupiter -57720-08-18 03:49 J -19360577.53 -19360577.34 -19360577.14 0.0520 0.0176
 Jupiter -57714-06-22 10:33 J -19358443.25 -19358443.06 -19358442.87 0.0504 0.0159
 Uranus -57713-02-04 14:09 J -19358215.95 -19358215.91 -19358215.87 0.0145 0.0141

Saturn -57713-09-02 23:01 J -19358004.64 -19358004.54 -19358004.42 0.0296 0.0246
 Uranus -57713-09-18 00:13 J -19357989.63 -19357989.49 -19357989.32 0.0145 0.0099
 Saturn -57712-04-20 16:18 J -19357774.97 -19357774.82 -19357774.66 0.0294 0.0189
 Uranus -57712-05-02 11:01 J -19357763.23 -19357763.04 -19357762.84 0.0145 0.0056
 Uranus -57712-12-14 22:04 J -19357536.80 -19357536.58 -19357536.37 0.0146 0.0012
 Uranus -57711-07-29 09:06 J -19357310.33 -19357310.12 -19357309.91 0.0146 0.0033
 Uranus -57710-03-12 20:23 J -19357083.82 -19357083.65 -19357083.46 0.0146 0.0077
 Earth -57710-09-27 02:37 J -19356885.44 -19356885.39 -19356885.34 0.2715 0.2550
 Uranus -57710-10-25 07:54 J -19356857.27 -19356857.17 -19356857.04 0.0146 0.0122
 Jupiter -57702-02-25 15:06 J -19354177.06 -19354176.87 -19354176.68 0.0506 0.0170
 Earth -57702-09-24 20:37 J -19353965.78 -19353965.64 -19353965.51 0.2715 0.1276
 Moon -57702-09-25 01:40 J -19353965.58 -19353965.43 -19353965.29 0.2712 0.1035 *
 Saturn -57697-05-14 09:21 J -19352272.22 -19352272.11 -19352271.98 0.0265 0.0222
 Saturn -57697-12-29 16:33 J -19352043.00 -19352042.81 -19352042.61 0.0267 0.0116
 Mars -57696-01-04 22:04 J -19352036.66 -19352036.58 -19352036.49 0.1619 0.1393
 Jupiter -57696-08-21 08:52 J -19351808.24 -19351808.13 -19351808.03 0.0523 0.0450
 Jupiter -57691-10-31 17:45 J -19349910.76 -19349910.76 -19349910.75 0.0507 0.0506
 Neptune -57686-06-12 11:01 J -19348226.15 -19348226.04 -19348225.89 0.0088 0.0072
 Neptune -57685-01-24 01:11 J -19348000.61 -19348000.45 -19348000.25 0.0088 0.0052
 Neptune -57685-09-05 15:21 J -19347775.06 -19347774.86 -19347774.64 0.0088 0.0032
 Neptune -57684-04-19 05:16 J -19347549.49 -19347549.28 -19347549.04 0.0088 0.0013
 Jupiter -57684-04-25 23:01 J -19347542.75 -19347542.54 -19347542.34 0.0522 0.0060
 Neptune -57684-11-30 19:25 J -19347323.91 -19347323.69 -19347323.46 0.0088 0.0008
 Saturn -57683-03-15 23:45 J -19347218.65 -19347218.51 -19347218.36 0.0296 0.0206
 Neptune -57683-07-14 09:06 J -19347098.32 -19347098.12 -19347097.89 0.0088 0.0029
 Saturn -57683-10-31 17:01 J -19346988.92 -19346988.79 -19346988.66 0.0294 0.0228
 Neptune -57682-02-24 23:01 J -19346872.71 -19346872.54 -19346872.33 0.0088 0.0049
 Neptune -57682-10-08 12:57 J -19346647.09 -19346646.96 -19346646.81 0.0088 0.0068
 Neptune -57681-05-21 02:52 J -19346421.38 -19346421.38 -19346421.36 0.0088 0.0088
 Jupiter -57678-02-27 20:52 J -19345408.76 -19345408.63 -19345408.48 0.0503 0.0355

Uranus -57673-05-27 19:54 J -19343492.79 -19343492.67 -19343492.51 0.0134 0.0103
 Jupiter -57673-12-29 11:59 J -19343277.15 -19343277.00 -19343276.83 0.0519 0.0334
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 Uranus -57671-11-18 22:33 J -19342587.76 -19342587.56 -19342587.33 0.0133 0.0038
 Uranus -57670-07-03 04:33 J -19342361.48 -19342361.31 -19342361.11 0.0133 0.0072
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 Saturn -57668-11-24 12:13 J -19341486.15 -19341485.99 -19341485.82 0.0266 0.0180
 Saturn -57667-07-11 19:25 J -19341256.86 -19341256.69 -19341256.51 0.0268 0.0160
 Jupiter -57667-11-03 00:28 J -19341142.68 -19341142.48 -19341142.28 0.0505 0.0023
 Mars -57664-01-03 18:13 J -19340349.90 -19340349.74 -19340349.58 0.1627 0.0686
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 Saturn -57654-09-26 04:47 J -19336432.47 -19336432.30 -19336432.11 0.0295 0.0149
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Jupiter -57625-05-11 20:09 J -19325976.72 -19325976.66 -19325976.58 0.0519 0.0491
 Pluto -57625-10-16 04:04 J -19325819.42 -19325819.33 -19325819.17 0.0068 0.0058
 Saturn -57624-04-07 04:18 J -19325646.50 -19325646.32 -19325646.12 0.0296 0.0113
 Jupiter -57619-03-16 15:35 J -19323842.04 -19323841.85 -19323841.66 0.0505 0.0108
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 Neptune -57603-03-08 14:23 J -19318006.05 -19318005.90 -19318005.71 0.0089 0.0053
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 Neptune -57600-11-20 14:23 J -19316653.02 -19316652.90 -19316652.73 0.0089 0.0064
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 Mars -57599-11-01 05:45 J -19316307.43 -19316307.26 -19316307.08 0.1625 0.0432
 Jupiter -57595-03-18 23:01 J -19315073.65 -19315073.54 -19315073.43 0.0503 0.0419
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Uranus -57585-05-28 04:47 J -19311350.35 -19311350.30 -19311350.21 0.0132 0.0126
 Jupiter -57584-11-22 03:49 J -19310807.53 -19310807.34 -19310807.14 0.0504 0.0096
 Saturn -57579-06-28 19:11 J -19309127.91 -19309127.70 -19309127.49 0.0266 0.0059
 Moon -57572-03-26 17:30 J -19306664.93 -19306664.77 -19306664.61 0.2612 0.1065
 Earth -57572-03-26 18:42 J -19306664.87 -19306664.72 -19306664.56 0.2618 0.0919 *
 Jupiter -57572-07-28 06:57 J -19306541.38 -19306541.21 -19306541.03 0.0506 0.0238
 Jupiter -57565-01-21 20:23 J -19304172.80 -19304172.65 -19304172.50 0.0523 0.0366
 Saturn -57565-04-29 07:54 J -19304074.37 -19304074.17 -19304073.96 0.0296 0.0023
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 Uranus -57545-01-16 15:35 J -19296872.90 -19296872.85 -19296872.77 0.0145 0.0138
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 Jupiter -57542-05-31 23:01 J -19295641.66 -19295641.54 -19295641.41 0.0519 0.0417
 Uranus -57542-10-06 09:06 J -19295514.22 -19295514.12 -19295513.99 0.0146 0.0124
 Pluto -57540-05-23 01:54 J -19294919.62 -19294919.42 -19294919.20 0.0076 0.0024
 Pluto -57539-01-03 10:18 J -19294694.25 -19294694.07 -19294693.87 0.0076 0.0034
 Jupiter -57536-04-04 18:13 J -19293506.94 -19293506.74 -19293506.54 0.0505 0.0038
 Saturn -57536-11-09 11:45 J -19293288.21 -19293288.01 -19293287.80 0.0295 0.0028
 Mars -57533-08-28 17:16 J -19292264.96 -19292264.78 -19292264.60 0.1622 0.0163
 Jupiter -57525-12-08 23:01 J -19289240.68 -19289240.54 -19289240.41 0.0507 0.0365
 Neptune -57522-09-13 17:16 J -19288231.84 -19288231.78 -19288231.70 0.0088 0.0084
 Neptune -57521-04-26 07:11 J -19288006.34 -19288006.20 -19288006.03 0.0088 0.0064
 Neptune -57521-12-07 21:21 J -19287780.80 -19287780.61 -19287780.41 0.0088 0.0043
 Saturn -57520-07-20 23:45 J -19287555.73 -19287555.51 -19287555.29 0.0266 0.0021
 Neptune -57520-07-21 11:16 J -19287555.24 -19287555.03 -19287554.80 0.0088 0.0024

Neptune -57519-03-04 01:25 J -19287329.66 -19287329.44 -19287329.21 0.0088 0.0004
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 Jupiter -57518-06-04 02:52 J -19286872.57 -19286872.38 -19286872.18 0.0522 0.0201
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 Neptune -57517-08-22 09:06 J -19286427.22 -19286427.12 -19286427.00 0.0088 0.0077
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 Jupiter -57506-02-06 17:59 J -19282606.94 -19282606.75 -19282606.55 0.0521 0.0185
 Saturn -57506-05-22 10:33 J -19282502.26 -19282502.06 -19282501.86 0.0295 0.0063
 Uranus -57506-09-25 19:25 J -19282375.74 -19282375.69 -19282375.63 0.0134 0.0129
 Uranus -57505-05-09 02:37 J -19282149.54 -19282149.39 -19282149.23 0.0134 0.0094
 Uranus -57505-12-21 09:21 J -19281923.29 -19281923.11 -19281922.89 0.0133 0.0060
 Uranus -57504-08-04 16:33 J -19281697.03 -19281696.81 -19281696.59 0.0133 0.0024
 Uranus -57503-03-18 23:16 J -19281470.75 -19281470.53 -19281470.31 0.0133 0.0011
 Uranus -57503-10-31 05:16 J -19281244.48 -19281244.28 -19281244.06 0.0133 0.0045
 Uranus -57502-06-14 11:30 J -19281018.20 -19281018.02 -19281017.84 0.0133 0.0078
 Uranus -57501-01-26 17:01 J -19280791.90 -19280791.79 -19280791.66 0.0132 0.0112
 Jupiter -57501-12-11 05:01 J -19280472.47 -19280472.29 -19280472.10 0.0504 0.0161
 Saturn -57490-01-31 01:11 J -19276769.66 -19276769.45 -19276769.23 0.0266 0.0060
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 Jupiter -57482-02-09 23:01 J -19273837.65 -19273837.54 -19273837.42 0.0523 0.0438
 Jupiter -57477-04-21 12:57 J -19271939.99 -19271939.96 -19271939.93 0.0508 0.0500
 Saturn -57477-12-01 14:37 J -19271716.08 -19271715.89 -19271715.70 0.0295 0.0114
 Jupiter -57471-10-15 09:49 J -19269572.30 -19269572.09 -19269571.88 0.0522 0.0035
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 Moon -57467-09-27 02:23 J -19268129.48 -19268129.40 -19268129.32 0.2710 0.2310
 Earth -57467-09-27 06:13 J -19268129.28 -19268129.24 -19268129.20 0.2715 0.2600
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 Saturn -57462-12-26 22:18 J -19266212.67 -19266212.57 -19266212.45 0.0265 0.0230
 Uranus -57461-04-29 09:35 J -19266088.23 -19266088.10 -19266087.97 0.0145 0.0115

Saturn -57461-08-12 04:47 J -19265983.49 -19265983.30 -19265983.09 0.0266 0.0103
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 Earth -57459-09-24 23:59 J -19265209.63 -19265209.50 -19265209.36 0.2715 0.1215 *
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 Jupiter -57435-06-23 07:25 J -19256537.37 -19256537.19 -19256537.02 0.0522 0.0280
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 Mars -57430-01-30 05:59 J -19254855.39 -19254855.25 -19254855.11 0.1920 0.1135
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 Saturn -57418-12-24 18:28 J -19250143.88 -19250143.73 -19250143.58 0.0294 0.0203
 Jupiter -57418-12-31 07:25 J -19250137.37 -19250137.19 -19250137.01 0.0504 0.0229
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 Jupiter -57412-10-31 06:42 J -19248006.24 -19248006.22 -19248006.19 0.0519 0.0513
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 Saturn -57402-09-04 11:01 J -19244411.18 -19244411.04 -19244410.88 0.0267 0.0189
 Mars -57401-04-22 16:18 J -19244179.99 -19244179.82 -19244179.64 0.1618 0.0348
 Jupiter -57399-02-28 23:30 J -19243502.57 -19243502.52 -19243502.46 0.0524 0.0502
 Jupiter -57394-05-11 15:06 J -19241604.97 -19241604.87 -19241604.77 0.0507 0.0431
 Saturn -57389-11-18 01:40 J -19239587.58 -19239587.43 -19239587.27 0.0297 0.0191
 Saturn -57388-07-05 19:11 J -19239357.80 -19239357.70 -19239357.58 0.0295 0.0245
 Jupiter -57388-11-03 14:09 J -19239237.11 -19239236.91 -19239236.70 0.0522 0.0117
 Jupiter -57382-09-07 17:45 J -19237102.86 -19237102.76 -19237102.65 0.0503 0.0423
 Pluto -57379-11-12 21:06 J -19235940.63 -19235940.62 -19235940.56 0.0068 0.0067
 Pluto -57378-06-26 03:21 J -19235715.56 -19235715.36 -19235715.15 0.0068 0.0025
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 Pluto -57377-09-18 15:06 J -19235264.97 -19235264.87 -19235264.75 0.0068 0.0060
 Uranus -57376-03-25 15:49 J -19235077.03 -19235076.84 -19235076.63 0.0145 0.0048
 Jupiter -57376-07-09 03:49 J -19234971.51 -19234971.34 -19234971.16 0.0520 0.0273
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 Uranus -57375-06-21 13:11 J -19234624.15 -19234623.95 -19234623.74 0.0146 0.0039

Uranus -57374-02-03 00:28 J -19234397.65 -19234397.48 -19234397.30 0.0146 0.0082
 Uranus -57374-09-17 11:45 J -19234171.10 -19234171.01 -19234170.89 0.0146 0.0126
 Saturn -57373-07-30 06:42 J -19233854.42 -19233854.22 -19233854.02 0.0265 0.0107
 Saturn -57372-03-16 13:25 J -19233625.05 -19233624.94 -19233624.83 0.0267 0.0229
 Jupiter -57370-05-13 20:52 J -19232836.82 -19232836.63 -19232836.43 0.0505 0.0092
 Mars -57365-11-26 09:35 J -19230813.27 -19230813.10 -19230812.93 0.1924 0.0363
 Saturn -57359-05-31 06:57 J -19228801.39 -19228801.21 -19228801.02 0.0296 0.0134
 Jupiter -57358-01-17 01:25 J -19228570.62 -19228570.44 -19228570.26 0.0507 0.0235
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Moon -57216-09-25 07:54 J -19176453.31 -19176453.17 -19176453.02 0.2718 0.0577 *
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 Jupiter -57038-07-29 10:04 J -19111497.25 -19111497.08 -19111496.91 0.0504 0.0273
 Uranus -57038-08-10 23:01 J -19111484.59 -19111484.54 -19111484.46 0.0146 0.0139
 Saturn -57036-12-31 02:37 J -19110611.40 -19110611.39 -19110611.36 0.0297 0.0295
 Saturn -57035-08-17 20:23 J -19110381.82 -19110381.65 -19110381.46 0.0295 0.0138
 Jupiter -57032-05-29 04:47 J -19109366.38 -19109366.30 -19109366.21 0.0518 0.0470
 Neptune -57028-09-13 15:21 J -19107797.96 -19107797.86 -19107797.75 0.0088 0.0078
 Neptune -57027-04-27 04:47 J -19107572.45 -19107572.30 -19107572.11 0.0088 0.0058
 Neptune -57027-12-08 18:57 J -19107346.90 -19107346.71 -19107346.50 0.0088 0.0038

Jupiter -57026-04-03 13:25 J -19107231.14 -19107230.94 -19107230.74 0.0506 0.0058
 Neptune -57026-07-22 08:52 J -19107121.34 -19107121.13 -19107120.90 0.0088 0.0019
 Neptune -57025-03-03 23:01 J -19106895.76 -19106895.54 -19106895.31 0.0088 0.0002
 Neptune -57025-10-15 12:57 J -19106670.18 -19106669.96 -19106669.74 0.0088 0.0022
 Neptune -57024-05-29 02:37 J -19106444.58 -19106444.39 -19106444.18 0.0088 0.0041
 Neptune -57023-01-09 16:18 J -19106218.96 -19106218.82 -19106218.64 0.0088 0.0062
 Neptune -57023-08-23 05:59 J -19105993.31 -19105993.25 -19105993.14 0.0088 0.0082
 Saturn -57020-09-11 14:52 J -19104878.05 -19104877.88 -19104877.71 0.0265 0.0159
 Saturn -57019-04-28 21:49 J -19104648.75 -19104648.59 -19104648.42 0.0267 0.0173
 Jupiter -57015-12-07 15:06 J -19102964.99 -19102964.87 -19102964.74 0.0508 0.0395
 Jupiter -57008-06-01 09:21 J -19100597.31 -19100597.11 -19100596.91 0.0521 0.0143
 Saturn -57006-07-13 10:04 J -19099825.20 -19099825.08 -19099824.95 0.0297 0.0232
 Saturn -57005-02-28 03:49 J -19099595.49 -19099595.34 -19099595.19 0.0295 0.0200
 Mars -57003-01-08 22:47 J -19098914.72 -19098914.55 -19098914.39 0.1930 0.0485
 Jupiter -57002-04-05 18:13 J -19098462.82 -19098462.74 -19098462.66 0.0504 0.0457
 Uranus -57002-07-31 13:25 J -19098346.07 -19098345.94 -19098345.79 0.0134 0.0104
 Uranus -57001-03-13 20:37 J -19098119.81 -19098119.64 -19098119.43 0.0134 0.0070
 Uranus -57001-10-26 04:04 J -19097893.54 -19097893.33 -19097893.11 0.0134 0.0035

57TH MILLENNIUM BCE

This is a list of transits of Venus in the 57th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-57000-06-09	11:01	J -19097667.26	-19097667.04	-19097666.82	0.0134	0.0001	

Uranus	-56999-01-21 17:30 J	-19097440.98	-19097440.77	-19097440.55	0.0133	0.0033
Uranus	-56999-09-05 00:13 J	-19097214.69	-19097214.49	-19097214.30	0.0133	0.0067
Uranus	-56998-04-19 05:59 J	-19096988.38	-19096988.25	-19096988.09	0.0133	0.0100
Uranus	-56998-12-01 11:59 J	-19096762.00	-19096762.00	-19096761.97	0.0133	0.0133
Jupiter	-56996-02-03 20:37 J	-19096331.82	-19096331.64	-19096331.46	0.0519	0.0255
Jupiter	-56991-12-09 21:21 J	-19094196.80	-19094196.61	-19094196.42	0.0506	0.0128
Saturn	-56990-03-24 22:47 J	-19094091.75	-19094091.55	-19094091.34	0.0266	0.0101
Saturn	-56990-11-09 05:45 J	-19093862.35	-19093862.26	-19093862.14	0.0267	0.0234
Earth	-56981-09-27 13:11 J	-19090616.96	-19090616.95	-19090616.95	0.2714	0.2708
Jupiter	-56979-08-14 23:59 J	-19089930.68	-19089930.50	-19089930.31	0.0507	0.0209
Saturn	-56976-01-22 20:37 J	-19089038.81	-19089038.64	-19089038.46	0.0296	0.0154
Saturn	-56976-09-09 14:09 J	-19088808.98	-19088808.91	-19088808.84	0.0294	0.0276
Mars	-56974-04-03 10:18 J	-19088238.25	-19088238.07	-19088237.90	0.1612	0.0199
Moon	-56973-09-25 04:18 J	-19087697.44	-19087697.32	-19087697.19	0.2709	0.1657
Earth	-56973-09-25 07:11 J	-19087697.34	-19087697.20	-19087697.06	0.2715	0.1071 *
Jupiter	-56972-02-06 23:45 J	-19087562.65	-19087562.51	-19087562.35	0.0522	0.0355
Saturn	-56961-10-04 03:35 J	-19083305.57	-19083305.35	-19083305.14	0.0265	0.0055
Jupiter	-56961-10-12 13:40 J	-19083297.14	-19083296.93	-19083296.72	0.0520	0.0033
Uranus	-56958-07-21 14:23 J	-19082284.95	-19082284.90	-19082284.81	0.0144	0.0136
Uranus	-56957-03-04 00:28 J	-19082058.63	-19082058.48	-19082058.31	0.0145	0.0095
Uranus	-56957-10-16 10:33 J	-19081832.25	-19081832.06	-19081831.86	0.0145	0.0053
Uranus	-56956-05-30 20:52 J	-19081605.84	-19081605.63	-19081605.42	0.0145	0.0011
Uranus	-56955-01-12 07:25 J	-19081379.40	-19081379.19	-19081378.98	0.0145	0.0031
Jupiter	-56955-08-17 05:30 J	-19081162.42	-19081162.27	-19081162.11	0.0504	0.0311
Uranus	-56955-08-26 18:28 J	-19081152.91	-19081152.73	-19081152.54	0.0146	0.0074
Uranus	-56954-04-10 05:30 J	-19080926.39	-19080926.27	-19080926.13	0.0146	0.0117
Jupiter	-56949-06-17 02:52 J	-19079031.50	-19079031.38	-19079031.26	0.0518	0.0417
Saturn	-56947-08-05 02:23 J	-19078252.59	-19078252.40	-19078252.20	0.0296	0.0096
Neptune	-56946-10-28 13:40 J	-19077803.02	-19077802.93	-19077802.81	0.0089	0.0077
Neptune	-56945-06-10 01:40 J	-19077577.58	-19077577.43	-19077577.25	0.0089	0.0058

Neptune -56944-01-21 13:54 J -19077352.10 -19077351.92 -19077351.72 0.0089 0.0039
 Neptune -56944-09-04 02:09 J -19077126.62 -19077126.41 -19077126.20 0.0089 0.0019
 Neptune -56943-04-17 14:09 J -19076901.12 -19076900.91 -19076900.69 0.0089 0.0002
 Jupiter -56943-04-22 08:37 J -19076896.34 -19076896.14 -19076895.94 0.0506 0.0020
 Neptune -56943-11-29 02:09 J -19076675.61 -19076675.41 -19076675.19 0.0089 0.0020
 Neptune -56942-07-12 14:09 J -19076450.09 -19076449.91 -19076449.70 0.0089 0.0040
 Neptune -56941-02-23 02:23 J -19076224.55 -19076224.40 -19076224.23 0.0089 0.0059
 Neptune -56941-10-05 14:09 J -19075998.99 -19075998.91 -19075998.79 0.0089 0.0078
 Mars -56938-11-06 02:09 J -19074872.58 -19074872.41 -19074872.24 0.1934 0.0313
 Jupiter -56932-12-26 11:16 J -19072630.17 -19072630.03 -19072629.89 0.0508 0.0356
 Saturn -56931-04-16 10:33 J -19072519.28 -19072519.06 -19072518.84 0.0266 0.0004
 Jupiter -56925-06-20 04:47 J -19070262.49 -19070262.30 -19070262.10 0.0521 0.0182
 Jupiter -56919-04-24 14:09 J -19068127.94 -19068127.91 -19068127.87 0.0503 0.0494
 Uranus -56918-03-30 23:01 J -19067787.62 -19067787.54 -19067787.42 0.0135 0.0120
 Uranus -56918-11-12 06:42 J -19067561.38 -19067561.22 -19067561.04 0.0134 0.0085
 Saturn -56917-02-15 11:59 J -19067466.20 -19067466.00 -19067465.79 0.0296 0.0023
 Uranus -56917-06-25 14:09 J -19067335.11 -19067334.91 -19067334.70 0.0134 0.0050
 Uranus -56916-02-06 21:21 J -19067108.83 -19067108.61 -19067108.38 0.0134 0.0016
 Uranus -56916-09-21 04:18 J -19066882.54 -19066882.32 -19066882.10 0.0134 0.0019
 Uranus -56915-05-05 10:47 J -19066656.25 -19066656.05 -19066655.84 0.0133 0.0052
 Uranus -56915-12-17 17:16 J -19066429.95 -19066429.78 -19066429.61 0.0133 0.0085
 Uranus -56914-07-31 23:30 J -19066203.61 -19066203.52 -19066203.42 0.0133 0.0118
 Jupiter -56913-02-23 17:30 J -19065996.96 -19065996.77 -19065996.58 0.0520 0.0209
 Mars -56908-01-28 22:04 J -19064195.75 -19064195.58 -19064195.40 0.1610 0.0061
 Jupiter -56908-12-28 18:13 J -19063861.93 -19063861.74 -19063861.55 0.0505 0.0170
 Saturn -56902-10-27 14:37 J -19061733.10 -19061732.89 -19061732.67 0.0266 0.0046
 Jupiter -56896-09-02 20:52 J -19059595.82 -19059595.63 -19059595.44 0.0507 0.0164
 Jupiter -56889-02-26 23:30 J -19057227.65 -19057227.52 -19057227.40 0.0522 0.0412
 Saturn -56888-08-27 16:18 J -19056680.02 -19056679.82 -19056679.61 0.0296 0.0030
 Jupiter -56884-05-08 23:30 J -19055329.56 -19055329.52 -19055329.48 0.0509 0.0498

Pluto	-56882-05-01 15:21 J	-19054607.00	-19054606.86	-19054606.67	0.0068	0.0046
Pluto	-56882-12-12 21:35 J	-19054381.82	-19054381.60	-19054381.37	0.0068	0.0004
Pluto	-56881-07-25 03:06 J	-19054156.53	-19054156.37	-19054156.16	0.0068	0.0039
Jupiter	-56878-11-01 11:16 J	-19052962.24	-19052962.03	-19052961.82	0.0520	0.0017
Uranus	-56874-11-02 09:35 J	-19051500.23	-19051500.10	-19051499.96	0.0144	0.0112
Uranus	-56873-06-15 19:25 J	-19051273.87	-19051273.69	-19051273.50	0.0145	0.0071
Saturn	-56873-09-21 13:54 J	-19051176.02	-19051175.92	-19051175.81	0.0265	0.0231
Uranus	-56872-01-28 05:30 J	-19051047.47	-19051047.27	-19051047.06	0.0145	0.0030
Saturn	-56872-05-08 20:23 J	-19050946.84	-19050946.65	-19050946.44	0.0266	0.0099
Mars	-56872-09-02 04:47 J	-19050830.43	-19050830.30	-19050830.16	0.1937	0.1138
Jupiter	-56872-09-05 02:52 J	-19050827.52	-19050827.38	-19050827.24	0.0505	0.0355
Uranus	-56872-09-11 16:04 J	-19050821.04	-19050820.83	-19050820.61	0.0145	0.0013
Uranus	-56871-04-26 02:52 J	-19050594.58	-19050594.38	-19050594.18	0.0145	0.0055
Uranus	-56871-12-08 13:25 J	-19050368.08	-19050367.94	-19050367.76	0.0146	0.0098
Uranus	-56870-07-23 00:57 J	-19050141.51	-19050141.46	-19050141.40	0.0146	0.0140
Jupiter	-56866-07-06 23:59 J	-19048696.64	-19048696.50	-19048696.35	0.0518	0.0371
Neptune	-56863-07-29 11:45 J	-19047578.14	-19047578.01	-19047577.86	0.0088	0.0069
Neptune	-56862-03-12 01:54 J	-19047352.61	-19047352.42	-19047352.23	0.0088	0.0049
Neptune	-56862-10-23 15:35 J	-19047127.05	-19047126.85	-19047126.62	0.0088	0.0029
Neptune	-56861-06-05 05:45 J	-19046901.48	-19046901.26	-19046901.03	0.0088	0.0009
Neptune	-56860-01-16 19:40 J	-19046675.90	-19046675.68	-19046675.45	0.0088	0.0011
Jupiter	-56860-05-11 06:13 J	-19046561.44	-19046561.24	-19046561.04	0.0506	0.0027
Neptune	-56860-08-30 09:35 J	-19046450.31	-19046450.10	-19046449.89	0.0088	0.0031
Neptune	-56859-04-12 23:01 J	-19046224.71	-19046224.54	-19046224.34	0.0088	0.0051
Neptune	-56859-11-24 12:42 J	-19045999.08	-19045998.97	-19045998.81	0.0088	0.0070
Saturn	-56858-03-10 00:42 J	-19045893.66	-19045893.47	-19045893.27	0.0295	0.0100
Moon	-56851-03-29 19:11 J	-19043316.74	-19043316.70	-19043316.66	0.2617	0.2530
Jupiter	-56848-01-14 10:18 J	-19042295.23	-19042295.07	-19042294.91	0.0507	0.0302
Moon	-56843-03-27 08:37 J	-19040397.27	-19040397.14	-19040397.02	0.2623	0.1643
Earth	-56843-03-27 13:54 J	-19040397.06	-19040396.92	-19040396.77	0.2619	0.1278 *

Saturn -56843-04-03 17:30 J -19040389.91 -19040389.77 -19040389.60 0.0264 0.0188
 Saturn -56843-11-18 23:59 J -19040160.68 -19040160.50 -19040160.31 0.0266 0.0141
 Mars -56843-11-26 09:49 J -19040153.26 -19040153.09 -19040152.91 0.1608 0.0289
 Jupiter -56842-07-10 04:33 J -19039927.49 -19039927.31 -19039927.12 0.0522 0.0241
 Uranus -56835-11-28 08:37 J -19037229.15 -19037229.14 -19037229.10 0.0135 0.0134
 Uranus -56834-07-12 16:33 J -19037002.95 -19037002.81 -19037002.65 0.0134 0.0099
 Uranus -56833-02-24 00:13 J -19036776.68 -19036776.49 -19036776.29 0.0134 0.0064
 Uranus -56833-10-07 07:25 J -19036550.40 -19036550.19 -19036549.96 0.0134 0.0030
 Uranus -56832-05-21 14:37 J -19036324.11 -19036323.89 -19036323.67 0.0134 0.0005
 Uranus -56831-01-02 21:21 J -19036097.82 -19036097.61 -19036097.39 0.0133 0.0038
 Uranus -56831-08-17 04:04 J -19035871.51 -19035871.33 -19035871.14 0.0133 0.0072
 Jupiter -56830-03-14 18:28 J -19035661.93 -19035661.73 -19035661.53 0.0520 0.0144
 Uranus -56830-03-31 10:18 J -19035645.19 -19035645.07 -19035644.92 0.0133 0.0105
 Saturn -56829-02-02 08:52 J -19035337.17 -19035337.13 -19035337.09 0.0298 0.0290
 Saturn -56829-09-19 02:52 J -19035107.55 -19035107.38 -19035107.20 0.0296 0.0144
 Jupiter -56824-01-16 15:49 J -19033527.02 -19033526.84 -19033526.66 0.0505 0.0217
 Saturn -56814-10-14 22:04 J -19029603.76 -19029603.58 -19029603.39 0.0265 0.0141
 Saturn -56813-05-31 04:47 J -19029374.46 -19029374.30 -19029374.15 0.0266 0.0189
 Jupiter -56813-09-21 18:57 J -19029260.90 -19029260.71 -19029260.51 0.0507 0.0115
 Jupiter -56806-03-17 22:04 J -19026892.67 -19026892.58 -19026892.49 0.0522 0.0464
 Jupiter -56801-05-27 22:33 J -19024994.65 -19024994.56 -19024994.46 0.0508 0.0445
 Saturn -56800-08-14 16:04 J -19024550.96 -19024550.83 -19024550.69 0.0297 0.0225
 Saturn -56799-04-01 10:18 J -19024321.22 -19024321.07 -19024320.93 0.0295 0.0208
 Pluto -56796-02-28 23:59 J -19023256.65 -19023256.50 -19023256.34 0.0076 0.0052
 Pluto -56796-10-12 08:23 J -19023031.36 -19023031.15 -19023030.93 0.0076 0.0007
 Pluto -56795-05-25 16:18 J -19022805.91 -19022805.82 -19022805.68 0.0076 0.0064
 Jupiter -56795-11-20 09:49 J -19022627.30 -19022627.09 -19022626.89 0.0521 0.0070
 Uranus -56790-07-02 19:11 J -19020941.78 -19020941.70 -19020941.58 0.0144 0.0128
 Uranus -56789-02-14 05:16 J -19020715.45 -19020715.28 -19020715.11 0.0144 0.0087
 Jupiter -56789-09-24 02:52 J -19020492.49 -19020492.38 -19020492.27 0.0504 0.0411

Uranus -56789-09-27 15:06 J -19020489.06 -19020488.87 -19020488.66 0.0145 0.0047
 Uranus -56788-05-12 01:25 J -19020262.65 -19020262.44 -19020262.23 0.0145 0.0005
 Uranus -56788-12-24 11:59 J -19020036.21 -19020036.00 -19020035.80 0.0145 0.0037
 Uranus -56787-08-07 22:47 J -19019809.73 -19019809.55 -19019809.37 0.0145 0.0079
 Uranus -56786-03-22 09:49 J -19019583.21 -19019583.09 -19019582.97 0.0146 0.0121
 Saturn -56784-04-26 01:11 J -19018817.65 -19018817.45 -19018817.24 0.0264 0.0100
 Saturn -56784-12-11 07:25 J -19018588.29 -19018588.19 -19018588.07 0.0266 0.0229
 Jupiter -56783-07-26 00:13 J -19018361.66 -19018361.49 -19018361.32 0.0519 0.0310
 Neptune -56781-01-29 22:18 J -19017808.58 -19017808.57 -19017808.51 0.0089 0.0088
 Neptune -56781-09-11 10:47 J -19017583.18 -19017583.05 -19017582.91 0.0089 0.0069
 Neptune -56780-04-24 22:47 J -19017357.73 -19017357.55 -19017357.37 0.0089 0.0049
 Neptune -56780-12-06 10:33 J -19017132.25 -19017132.06 -19017131.85 0.0089 0.0031
 Neptune -56779-07-19 22:47 J -19016906.75 -19016906.55 -19016906.33 0.0089 0.0011
 Neptune -56778-03-02 11:01 J -19016681.25 -19016681.04 -19016680.83 0.0089 0.0008
 Neptune -56778-10-13 22:47 J -19016455.74 -19016455.55 -19016455.33 0.0089 0.0028
 Neptune -56777-05-26 10:47 J -19016230.22 -19016230.05 -19016229.85 0.0089 0.0047
 Jupiter -56777-05-30 05:59 J -19016226.45 -19016226.25 -19016226.06 0.0505 0.0083
 Mars -56777-09-22 22:04 J -19016110.75 -19016110.58 -19016110.41 0.1606 0.0523
 Neptune -56776-01-06 23:01 J -19016004.67 -19016004.54 -19016004.39 0.0089 0.0066
 Neptune -56776-08-20 10:47 J -19015779.08 -19015779.05 -19015778.97 0.0089 0.0087
 Saturn -56770-02-24 17:01 J -19013764.94 -19013764.79 -19013764.62 0.0297 0.0185
 Saturn -56770-10-12 11:01 J -19013535.14 -19013535.04 -19013534.93 0.0295 0.0248
 Jupiter -56765-02-03 09:06 J -19011960.29 -19011960.12 -19011959.94 0.0507 0.0248
 Jupiter -56759-07-29 05:45 J -19009592.42 -19009592.26 -19009592.09 0.0521 0.0305
 Saturn -56755-11-06 04:33 J -19008031.52 -19008031.31 -19008031.10 0.0265 0.0056
 Uranus -56750-03-12 01:40 J -19006444.53 -19006444.43 -19006444.29 0.0135 0.0114
 Uranus -56750-10-24 09:49 J -19006218.27 -19006218.09 -19006217.91 0.0134 0.0079
 Uranus -56749-06-06 17:16 J -19005991.99 -19005991.78 -19005991.57 0.0134 0.0044
 Uranus -56748-01-19 00:42 J -19005765.70 -19005765.47 -19005765.25 0.0134 0.0010
 Uranus -56748-09-02 07:40 J -19005539.40 -19005539.18 -19005538.96 0.0134 0.0024

Jupiter -56747-04-02 18:57 J -19005326.92 -19005326.71 -19005326.51 0.0520 0.0083
 Uranus -56747-04-16 14:23 J -19005313.09 -19005312.90 -19005312.69 0.0133 0.0058
 Uranus -56747-11-28 20:37 J -19005086.78 -19005086.64 -19005086.46 0.0133 0.0092
 Uranus -56746-07-13 03:21 J -19004860.43 -19004860.36 -19004860.27 0.0133 0.0123
 Mars -56745-09-21 17:16 J -19004423.85 -19004423.78 -19004423.71 0.1613 0.1482
 Jupiter -56741-02-05 16:18 J -19003191.99 -19003191.82 -19003191.66 0.0505 0.0275
 Saturn -56741-09-05 22:47 J -19002978.74 -19002978.55 -19002978.36 0.0297 0.0126
 Moon -56738-09-28 13:25 J -19001861.00 -19001860.94 -19001860.88 0.2719 0.2458
 Jupiter -56736-12-06 06:13 J -19001061.32 -19001061.24 -19001061.16 0.0518 0.0474
 Earth -56730-09-26 10:47 J -18998941.19 -18998941.05 -18998940.91 0.2714 0.1001
 Moon -56730-09-26 11:01 J -18998941.18 -18998941.04 -18998940.91 0.2721 0.0716 *
 Jupiter -56730-10-11 21:06 J -18998925.82 -18998925.62 -18998925.42 0.0506 0.0048
 Saturn -56725-05-18 07:25 J -18997245.41 -18997245.19 -18997244.97 0.0264 0.0017
 Jupiter -56718-06-16 23:59 J -18994659.63 -18994659.50 -18994659.37 0.0508 0.0380
 Jupiter -56712-12-09 13:40 J -18992292.12 -18992291.93 -18992291.72 0.0521 0.0150
 Saturn -56711-03-18 22:33 J -18992192.76 -18992192.56 -18992192.37 0.0297 0.0090
 Mars -56711-07-21 09:49 J -18992068.24 -18992068.09 -18992067.93 0.1604 0.0759
 Mars -56708-04-26 08:52 J -18991058.25 -18991058.13 -18991058.02 0.1932 0.1402
 Uranus -56706-03-02 06:42 J -18990383.25 -18990383.22 -18990383.19 0.0144 0.0142
 Jupiter -56706-10-14 02:52 J -18990157.45 -18990157.38 -18990157.31 0.0504 0.0468
 Uranus -56706-10-14 16:04 J -18990156.97 -18990156.83 -18990156.68 0.0144 0.0103
 Uranus -56705-05-28 01:40 J -18989930.61 -18989930.43 -18989930.23 0.0144 0.0063
 Uranus -56704-01-09 11:45 J -18989704.21 -18989704.01 -18989703.79 0.0145 0.0022
 Uranus -56704-08-23 22:18 J -18989477.78 -18989477.57 -18989477.35 0.0145 0.0020
 Uranus -56703-04-07 08:52 J -18989251.32 -18989251.13 -18989250.93 0.0145 0.0062
 Uranus -56703-11-19 19:25 J -18989024.82 -18989024.69 -18989024.52 0.0146 0.0105
 Jupiter -56700-08-14 03:21 J -18988026.55 -18988026.36 -18988026.17 0.0519 0.0237
 Neptune -56699-10-30 18:13 J -18987583.81 -18987583.74 -18987583.62 0.0088 0.0079
 Neptune -56698-06-13 08:23 J -18987358.30 -18987358.15 -18987357.96 0.0088 0.0059
 Neptune -56697-01-24 22:47 J -18987132.75 -18987132.55 -18987132.34 0.0088 0.0039

Neptune -56697-09-06 12:57 J -18986907.18 -18986906.96 -18986906.74 0.0088 0.0019
 Neptune -56696-04-20 02:52 J -18986681.61 -18986681.38 -18986681.16 0.0088 0.0001
 Saturn -56696-11-28 09:21 J -18986459.33 -18986459.11 -18986458.89 0.0265 0.0023
 Neptune -56696-12-01 16:33 J -18986456.03 -18986455.81 -18986455.58 0.0088 0.0020
 Neptune -56695-07-15 06:13 J -18986230.43 -18986230.24 -18986230.02 0.0088 0.0040
 Neptune -56694-02-25 20:23 J -18986004.81 -18986004.65 -18986004.48 0.0088 0.0060
 Jupiter -56694-06-19 06:13 J -18985891.43 -18985891.24 -18985891.04 0.0505 0.0142
 Neptune -56694-10-09 09:49 J -18985779.16 -18985779.09 -18985778.97 0.0088 0.0080
 Jupiter -56682-02-22 10:47 J -18981625.23 -18981625.05 -18981624.86 0.0507 0.0184
 Saturn -56682-09-29 03:21 J -18981406.56 -18981406.36 -18981406.15 0.0297 0.0034
 Mars -56679-07-20 04:47 J -18980381.42 -18980381.30 -18980381.19 0.1611 0.1229
 Jupiter -56676-08-17 05:45 J -18979257.40 -18979257.26 -18979257.11 0.0522 0.0366
 Jupiter -56671-10-28 15:35 J -18977358.86 -18977358.85 -18977358.85 0.0509 0.0508
 Saturn -56667-10-24 06:28 J -18975902.26 -18975902.23 -18975902.20 0.0263 0.0259
 Uranus -56667-11-09 12:13 J -18975886.05 -18975885.99 -18975885.91 0.0135 0.0127
 Saturn -56666-06-10 11:59 J -18975673.21 -18975673.00 -18975672.78 0.0265 0.0063
 Uranus -56666-06-23 19:54 J -18975659.81 -18975659.67 -18975659.49 0.0135 0.0093
 Uranus -56665-02-05 04:04 J -18975433.53 -18975433.33 -18975433.12 0.0134 0.0058
 Uranus -56665-09-18 11:30 J -18975207.24 -18975207.02 -18975206.80 0.0134 0.0023
 Jupiter -56664-04-21 20:23 J -18974991.86 -18974991.65 -18974991.44 0.0521 0.0017
 Uranus -56664-05-02 18:42 J -18974980.94 -18974980.72 -18974980.50 0.0134 0.0011
 Uranus -56664-12-15 01:25 J -18974754.64 -18974754.44 -18974754.22 0.0134 0.0045
 Uranus -56663-07-29 08:23 J -18974528.33 -18974528.15 -18974527.97 0.0133 0.0078
 Uranus -56662-03-12 15:06 J -18974301.99 -18974301.87 -18974301.75 0.0133 0.0110
 Jupiter -56658-02-24 18:13 J -18972856.88 -18972856.74 -18972856.59 0.0504 0.0342
 Jupiter -56653-12-25 11:01 J -18970726.17 -18970726.04 -18970725.89 0.0519 0.0392
 Saturn -56652-04-10 02:09 J -18970620.61 -18970620.41 -18970620.20 0.0297 0.0004
 Jupiter -56647-10-30 22:04 J -18968590.78 -18968590.58 -18968590.38 0.0506 0.0017
 Mars -56645-05-17 21:49 J -18968025.73 -18968025.59 -18968025.45 0.1603 0.0995
 Mars -56642-02-21 12:42 J -18967016.13 -18967015.97 -18967015.81 0.1935 0.0635

Saturn -56637-05-05 07:25 J -18965116.29 -18965116.19 -18965116.06 0.0264 0.0224
 Saturn -56637-12-20 13:25 J -18964887.14 -18964886.94 -18964886.73 0.0265 0.0100
 Jupiter -56635-07-06 00:57 J -18964324.61 -18964324.46 -18964324.30 0.0508 0.0317
 Pluto -56634-11-14 23:45 J -18963827.71 -18963827.51 -18963827.30 0.0068 0.0027
 Pluto -56633-06-27 05:45 J -18963602.48 -18963602.26 -18963602.04 0.0068 0.0015
 Pluto -56632-02-07 11:16 J -18963377.13 -18963377.03 -18963376.90 0.0068 0.0058
 Jupiter -56629-12-28 16:18 J -18961957.01 -18961956.82 -18961956.63 0.0521 0.0219
 Saturn -56623-10-21 06:13 J -18959834.44 -18959834.24 -18959834.03 0.0296 0.0052
 Uranus -56622-06-14 02:37 J -18959598.50 -18959598.39 -18959598.26 0.0144 0.0118
 Uranus -56621-01-26 12:13 J -18959372.16 -18959371.99 -18959371.80 0.0144 0.0078
 Uranus -56621-09-08 22:18 J -18959145.77 -18959145.57 -18959145.36 0.0145 0.0038
 Uranus -56620-04-23 08:23 J -18958919.36 -18958919.15 -18958918.93 0.0145 0.0005
 Uranus -56620-12-05 18:42 J -18958692.92 -18958692.72 -18958692.51 0.0145 0.0045
 Uranus -56619-07-20 05:30 J -18958466.44 -18958466.27 -18958466.10 0.0145 0.0087
 Uranus -56618-03-03 16:18 J -18958239.91 -18958239.82 -18958239.71 0.0146 0.0129
 Jupiter -56617-09-02 03:06 J -18957691.56 -18957691.37 -18957691.17 0.0520 0.0177
 Neptune -56617-12-13 19:40 J -18957588.75 -18957588.68 -18957588.56 0.0089 0.0080
 Neptune -56616-07-27 07:54 J -18957363.31 -18957363.17 -18957362.99 0.0089 0.0060
 Neptune -56615-03-09 20:23 J -18957137.84 -18957137.65 -18957137.46 0.0089 0.0041
 Neptune -56615-10-21 08:09 J -18956912.36 -18956912.16 -18956911.95 0.0089 0.0022
 Neptune -56614-06-03 20:09 J -18956686.87 -18956686.66 -18956686.44 0.0089 0.0003
 Neptune -56613-01-15 08:09 J -18956461.36 -18956461.16 -18956460.94 0.0089 0.0017
 Mars -56613-05-16 16:47 J -18956338.94 -18956338.80 -18956338.66 0.1609 0.0993
 Neptune -56613-08-27 20:23 J -18956235.84 -18956235.65 -18956235.45 0.0089 0.0036
 Neptune -56612-04-10 08:09 J -18956010.31 -18956010.16 -18956009.98 0.0089 0.0056
 Neptune -56612-11-21 20:09 J -18955784.75 -18955784.66 -18955784.53 0.0089 0.0075
 Jupiter -56611-07-08 10:18 J -18955556.25 -18955556.07 -18955555.89 0.0505 0.0217
 Saturn -56608-11-15 10:18 J -18954330.22 -18954330.07 -18954329.90 0.0263 0.0183
 Saturn -56607-07-02 16:04 J -18954101.01 -18954100.83 -18954100.64 0.0265 0.0140
 Earth -56600-03-27 11:59 J -18951641.14 -18951641.00 -18951640.86 0.2619 0.1430

Moon	-56600-03-27 18:28 J	-18951640.90	-18951640.73	-18951640.57	0.2618	0.0669 *
Jupiter	-56599-03-13 13:40 J	-18951290.12	-18951289.93	-18951289.73	0.0506	0.0112
Saturn	-56593-05-02 05:16 J	-18949048.48	-18949048.28	-18949048.08	0.0297	0.0085
Jupiter	-56593-09-05 11:16 J	-18948922.12	-18948922.03	-18948921.92	0.0523	0.0452
Jupiter	-56588-11-16 16:47 J	-18947023.89	-18947023.80	-18947023.70	0.0508	0.0443
Uranus	-56582-02-21 06:42 J	-18945101.36	-18945101.22	-18945101.08	0.0135	0.0106
Uranus	-56582-10-05 14:23 J	-18944875.08	-18944874.90	-18944874.71	0.0134	0.0072
Jupiter	-56581-05-11 00:57 J	-18944656.66	-18944656.46	-18944656.25	0.0521	0.0065
Uranus	-56581-05-18 22:04 J	-18944648.79	-18944648.58	-18944648.37	0.0134	0.0037
Uranus	-56581-12-31 05:30 J	-18944422.50	-18944422.27	-18944422.05	0.0134	0.0004
Uranus	-56580-08-14 12:28 J	-18944196.19	-18944195.98	-18944195.76	0.0134	0.0031
Mars	-56579-03-15 10:04 J	-18943983.19	-18943983.08	-18943982.96	0.1601	0.1217
Uranus	-56579-03-28 19:11 J	-18943969.88	-18943969.70	-18943969.49	0.0133	0.0065
Uranus	-56579-11-10 01:40 J	-18943743.56	-18943743.43	-18943743.26	0.0133	0.0098
Saturn	-56578-05-28 11:30 J	-18943544.20	-18943544.02	-18943543.84	0.0264	0.0148
Uranus	-56578-06-24 08:23 J	-18943517.19	-18943517.15	-18943517.09	0.0133	0.0129
Saturn	-56577-01-12 17:16 J	-18943314.93	-18943314.78	-18943314.61	0.0265	0.0177
Mars	-56577-12-18 15:21 J	-18942974.03	-18942973.86	-18942973.69	0.1939	0.0189
Jupiter	-56575-03-15 19:40 J	-18942521.79	-18942521.68	-18942521.56	0.0504	0.0404
Jupiter	-56569-01-14 14:09 J	-18940391.07	-18940390.91	-18940390.74	0.0519	0.0318
Saturn	-56564-11-12 09:21 J	-18938262.29	-18938262.11	-18938261.93	0.0296	0.0136
Jupiter	-56564-11-19 00:28 J	-18938255.67	-18938255.48	-18938255.28	0.0506	0.0085
Jupiter	-56552-07-25 05:30 J	-18933989.44	-18933989.27	-18933989.09	0.0507	0.0238
Saturn	-56549-12-07 14:52 J	-18932758.07	-18932757.88	-18932757.67	0.0264	0.0106
Saturn	-56548-07-24 20:37 J	-18932528.75	-18932528.64	-18932528.51	0.0265	0.0218
Pluto	-56548-09-14 09:35 J	-18932477.29	-18932477.10	-18932476.88	0.0076	0.0024
Mars	-56547-03-14 04:47 J	-18932296.46	-18932296.30	-18932296.14	0.1607	0.0753
Pluto	-56547-04-27 18:13 J	-18932251.93	-18932251.74	-18932251.54	0.0076	0.0034
Jupiter	-56545-01-17 17:30 J	-18931621.94	-18931621.77	-18931621.59	0.0522	0.0287
Uranus	-56538-02-11 12:28 J	-18929040.05	-18929039.98	-18929039.90	0.0144	0.0134

Uranus -56538-09-25 21:49 J -18928813.74 -18928813.59 -18928813.42 0.0144 0.0095
 Uranus -56537-05-09 07:40 J -18928587.37 -18928587.18 -18928586.98 0.0144 0.0055
 Uranus -56537-12-21 17:45 J -18928360.97 -18928360.76 -18928360.55 0.0145 0.0014
 Uranus -56536-08-05 04:04 J -18928134.54 -18928134.33 -18928134.12 0.0145 0.0027
 Uranus -56535-03-19 14:37 J -18927908.08 -18927907.89 -18927907.70 0.0145 0.0069
 Saturn -56535-10-07 13:54 J -18927706.01 -18927705.92 -18927705.82 0.0298 0.0263
 Uranus -56535-11-01 00:57 J -18927681.58 -18927681.46 -18927681.31 0.0146 0.0111
 Saturn -56534-05-25 08:23 J -18927476.31 -18927476.15 -18927475.98 0.0296 0.0171
 Neptune -56534-09-14 16:04 J -18927363.95 -18927363.83 -18927363.67 0.0088 0.0069
 Jupiter -56534-09-22 08:37 J -18927356.35 -18927356.14 -18927355.94 0.0520 0.0093
 Neptune -56533-04-27 06:13 J -18927138.42 -18927138.24 -18927138.04 0.0088 0.0049
 Neptune -56533-12-08 20:23 J -18926912.86 -18926912.65 -18926912.44 0.0088 0.0029
 Neptune -56532-07-22 10:18 J -18926687.29 -18926687.07 -18926686.84 0.0088 0.0010
 Neptune -56531-03-05 00:28 J -18926461.71 -18926461.48 -18926461.25 0.0088 0.0010
 Neptune -56531-10-16 14:09 J -18926236.11 -18926235.91 -18926235.69 0.0088 0.0030
 Neptune -56530-05-30 04:04 J -18926010.51 -18926010.33 -18926010.14 0.0088 0.0050
 Neptune -56529-01-10 17:45 J -18925784.88 -18925784.76 -18925784.61 0.0088 0.0069
 Jupiter -56528-07-27 11:30 J -18925221.18 -18925221.02 -18925220.85 0.0504 0.0280
 Jupiter -56522-05-27 22:33 J -18923090.64 -18923090.56 -18923090.47 0.0518 0.0470
 Saturn -56519-06-19 15:49 J -18921972.05 -18921971.84 -18921971.63 0.0264 0.0071
 Saturn -56518-02-03 21:35 J -18921742.64 -18921742.60 -18921742.53 0.0265 0.0255
 Jupiter -56516-04-01 14:52 J -18920955.08 -18920954.88 -18920954.69 0.0506 0.0050
 Mars -56513-01-10 22:04 J -18919940.66 -18919940.58 -18919940.51 0.1599 0.1452
 Mars -56511-10-15 18:28 J -18918931.88 -18918931.73 -18918931.58 0.1942 0.1002
 Jupiter -56510-09-25 13:54 J -18918586.92 -18918586.92 -18918586.90 0.0523 0.0522
 Saturn -56505-04-18 18:42 J -18916919.87 -18916919.72 -18916919.58 0.0297 0.0209
 Saturn -56505-12-04 12:42 J -18916690.09 -18916689.97 -18916689.82 0.0296 0.0224
 Jupiter -56505-12-05 18:57 J -18916688.83 -18916688.71 -18916688.57 0.0508 0.0374
 Uranus -56499-10-21 17:01 J -18914542.87 -18914542.79 -18914542.67 0.0135 0.0120
 Jupiter -56498-05-31 00:13 J -18914321.70 -18914321.49 -18914321.29 0.0521 0.0123

Uranus	-56498-06-05 01:25 J	-18914316.61	-18914316.44	-18914316.27	0.0135	0.0085
Uranus	-56497-01-17 09:06 J	-18914090.32	-18914090.12	-18914089.91	0.0134	0.0051
Uranus	-56497-08-30 16:33 J	-18913864.02	-18913863.81	-18913863.58	0.0134	0.0017
Uranus	-56496-04-13 23:45 J	-18913637.72	-18913637.51	-18913637.28	0.0134	0.0018
Uranus	-56496-11-26 06:42 J	-18913411.42	-18913411.22	-18913411.01	0.0134	0.0051
Uranus	-56495-07-10 13:25 J	-18913185.10	-18913184.94	-18913184.76	0.0133	0.0084
Uranus	-56494-02-21 19:54 J	-18912958.76	-18912958.67	-18912958.55	0.0133	0.0116
Jupiter	-56492-04-03 23:30 J	-18912186.57	-18912186.52	-18912186.45	0.0504	0.0478
Saturn	-56490-12-30 20:09 J	-18911185.87	-18911185.66	-18911185.44	0.0264	0.0026
Earth	-56487-09-26 14:23 J	-18910185.05	-18910184.90	-18910184.76	0.2714	0.0931
Moon	-56487-09-26 16:47 J	-18910184.95	-18910184.80	-18910184.64	0.2708	0.0678 *
Jupiter	-56486-02-02 14:23 J	-18910056.08	-18910055.90	-18910055.72	0.0519	0.0256
Mars	-56481-01-09 16:47 J	-18908253.97	-18908253.80	-18908253.63	0.1605	0.0519
Jupiter	-56481-12-08 02:52 J	-18907920.57	-18907920.38	-18907920.19	0.0505	0.0152
Saturn	-56476-10-29 19:11 J	-18906133.87	-18906133.70	-18906133.53	0.0298	0.0169
Saturn	-56475-06-16 13:11 J	-18905904.03	-18905903.95	-18905903.85	0.0296	0.0263
Jupiter	-56469-08-13 06:13 J	-18903654.42	-18903654.24	-18903654.05	0.0507	0.0177
Jupiter	-56462-02-05 21:49 J	-18901286.73	-18901286.59	-18901286.44	0.0522	0.0364
Saturn	-56460-07-11 21:35 J	-18900399.82	-18900399.60	-18900399.38	0.0264	0.0011
Uranus	-56454-05-26 05:59 J	-18898255.36	-18898255.25	-18898255.10	0.0144	0.0113
Uranus	-56453-01-07 15:35 J	-18898029.02	-18898028.85	-18898028.66	0.0144	0.0073
Uranus	-56453-08-21 01:25 J	-18897802.64	-18897802.44	-18897802.22	0.0144	0.0034
Neptune	-56452-03-17 05:59 J	-18897594.25	-18897594.25	-18897594.24	0.0089	0.0089
Uranus	-56452-04-04 11:45 J	-18897576.22	-18897576.01	-18897575.80	0.0145	0.0008
Neptune	-56452-10-28 17:30 J	-18897368.88	-18897368.77	-18897368.62	0.0089	0.0071
Uranus	-56452-11-16 21:49 J	-18897349.79	-18897349.59	-18897349.38	0.0145	0.0049
Neptune	-56451-06-11 05:30 J	-18897143.43	-18897143.27	-18897143.08	0.0089	0.0051
Uranus	-56451-07-01 08:09 J	-18897123.31	-18897123.16	-18897122.98	0.0145	0.0090
Jupiter	-56451-10-11 10:33 J	-18897021.27	-18897021.06	-18897020.85	0.0520	0.0024
Neptune	-56450-01-22 17:59 J	-18896917.95	-18896917.75	-18896917.55	0.0089	0.0032

Uranus -56450-02-12 18:57 J -18896896.79 -18896896.71 -18896896.61 0.0146 0.0132
 Neptune -56450-09-05 05:59 J -18896692.46 -18896692.25 -18896692.04 0.0089 0.0012
 Neptune -56449-04-17 17:45 J -18896466.96 -18896466.76 -18896466.54 0.0089 0.0008
 Neptune -56449-11-29 05:45 J -18896241.46 -18896241.26 -18896241.05 0.0089 0.0026
 Neptune -56448-07-12 17:59 J -18896015.93 -18896015.75 -18896015.56 0.0089 0.0045
 Neptune -56447-02-23 05:59 J -18895790.39 -18895790.25 -18895790.10 0.0089 0.0065
 Neptune -56447-10-06 17:45 J -18895564.81 -18895564.76 -18895564.67 0.0089 0.0084
 Saturn -56446-05-11 23:59 J -18895347.68 -18895347.50 -18895347.30 0.0297 0.0114
 Mars -56445-08-11 21:21 J -18894889.67 -18894889.61 -18894889.56 0.1944 0.1836
 Jupiter -56445-08-15 13:11 J -18894886.09 -18894885.95 -18894885.80 0.0504 0.0344
 Jupiter -56439-06-15 20:37 J -18892755.76 -18892755.64 -18892755.51 0.0518 0.0417
 Jupiter -56433-04-20 17:59 J -18890619.95 -18890619.75 -18890619.56 0.0506 0.0025
 Saturn -56431-06-06 21:06 J -18889842.64 -18889842.62 -18889842.59 0.0263 0.0261
 Saturn -56430-01-22 02:52 J -18889613.59 -18889613.38 -18889613.16 0.0264 0.0059
 Jupiter -56422-12-25 20:37 J -18886353.79 -18886353.64 -18886353.48 0.0508 0.0309
 Saturn -56417-11-21 02:09 J -18884561.61 -18884561.41 -18884561.21 0.0297 0.0069
 Mars -56416-11-06 04:47 J -18884211.47 -18884211.30 -18884211.12 0.1603 0.0286
 Jupiter -56415-06-19 03:49 J -18883986.53 -18883986.34 -18883986.15 0.0521 0.0200
 Uranus -56415-06-21 02:09 J -18883984.41 -18883984.41 -18883984.39 0.0135 0.0135
 Uranus -56414-02-02 10:33 J -18883758.20 -18883758.06 -18883757.91 0.0135 0.0100
 Uranus -56414-09-16 18:28 J -18883531.92 -18883531.73 -18883531.53 0.0135 0.0066
 Uranus -56413-04-30 02:09 J -18883305.63 -18883305.41 -18883305.19 0.0134 0.0032
 Uranus -56413-12-12 09:21 J -18883079.33 -18883079.11 -18883078.88 0.0134 0.0004
 Uranus -56412-07-26 16:33 J -18882853.02 -18882852.81 -18882852.59 0.0134 0.0036
 Uranus -56411-03-09 23:30 J -18882626.70 -18882626.52 -18882626.33 0.0134 0.0069
 Uranus -56411-10-22 05:59 J -18882400.38 -18882400.25 -18882400.10 0.0133 0.0102
 Jupiter -56403-02-21 17:45 J -18879720.96 -18879720.76 -18879720.56 0.0519 0.0182
 Saturn -56402-12-17 23:16 J -18879056.65 -18879056.53 -18879056.42 0.0264 0.0224
 Saturn -56401-08-03 05:01 J -18878827.49 -18878827.29 -18878827.09 0.0265 0.0098
 Jupiter -56398-12-28 02:09 J -18877585.59 -18877585.41 -18877585.23 0.0505 0.0207

Saturn -56387-06-03 08:09 J -18873775.36 -18873775.16 -18873774.95 0.0297 0.0012
 Jupiter -56386-09-02 06:42 J -18873319.42 -18873319.22 -18873319.03 0.0507 0.0117
 Pluto -56386-10-17 22:47 J -18873273.64 -18873273.55 -18873273.41 0.0067 0.0059
 Pluto -56385-05-30 04:47 J -18873048.50 -18873048.30 -18873048.07 0.0068 0.0017
 Pluto -56384-01-10 10:33 J -18872823.25 -18872823.06 -18872822.84 0.0068 0.0026
 Jupiter -56379-02-24 18:42 J -18870951.84 -18870951.72 -18870951.58 0.0522 0.0412
 Jupiter -56374-05-08 10:18 J -18869053.15 -18869053.07 -18869052.97 0.0509 0.0445
 Saturn -56372-06-29 05:16 J -18868270.44 -18868270.28 -18868270.11 0.0264 0.0173
 Saturn -56371-02-13 11:16 J -18868041.20 -18868041.03 -18868040.84 0.0265 0.0150
 Uranus -56370-01-23 13:54 J -18867696.99 -18867696.92 -18867696.82 0.0144 0.0131
 Uranus -56370-09-06 23:16 J -18867470.68 -18867470.53 -18867470.36 0.0144 0.0092
 Neptune -56370-12-17 00:13 J -18867369.58 -18867369.49 -18867369.37 0.0088 0.0078
 Uranus -56369-04-20 08:52 J -18867244.32 -18867244.13 -18867243.93 0.0144 0.0052
 Neptune -56369-07-29 14:23 J -18867144.06 -18867143.90 -18867143.72 0.0088 0.0059
 Uranus -56369-12-02 18:42 J -18867017.93 -18867017.72 -18867017.51 0.0145 0.0012
 Neptune -56368-03-12 04:18 J -18866918.51 -18866918.32 -18866918.10 0.0088 0.0039
 Uranus -56368-07-17 04:33 J -18866791.51 -18866791.31 -18866791.09 0.0145 0.0029
 Neptune -56368-10-23 18:28 J -18866692.94 -18866692.73 -18866692.50 0.0088 0.0019
 Jupiter -56368-10-30 08:23 J -18866686.36 -18866686.15 -18866685.95 0.0520 0.0031
 Uranus -56367-02-28 15:06 J -18866565.06 -18866564.87 -18866564.68 0.0145 0.0069
 Neptune -56367-06-06 08:37 J -18866467.36 -18866467.14 -18866466.91 0.0088 0.0001
 Uranus -56367-10-13 01:25 J -18866338.57 -18866338.44 -18866338.29 0.0145 0.0111
 Neptune -56366-01-17 22:47 J -18866241.77 -18866241.55 -18866241.33 0.0088 0.0021
 Neptune -56366-08-31 12:28 J -18866016.17 -18866015.98 -18866015.77 0.0088 0.0040
 Neptune -56365-04-13 02:09 J -18865790.56 -18865790.41 -18865790.22 0.0088 0.0060
 Neptune -56365-11-24 16:18 J -18865564.91 -18865564.82 -18865564.72 0.0088 0.0079
 Jupiter -56362-09-04 13:11 J -18864551.06 -18864550.95 -18864550.83 0.0504 0.0400
 Saturn -56358-12-14 11:59 J -18862989.20 -18862989.00 -18862988.80 0.0297 0.0043
 Moon -56357-03-27 04:04 J -18862885.37 -18862885.33 -18862885.29 0.2618 0.2515
 Earth -56357-03-27 10:18 J -18862885.20 -18862885.07 -18862884.94 0.2619 0.1553

Jupiter -56356-07-04 22:47 J -18862420.70 -18862420.55 -18862420.39 0.0518 0.0349
 Jupiter -56350-05-10 16:33 J -18860285.01 -18860284.81 -18860284.61 0.0506 0.0075
 Mars -56350-09-03 17:01 J -18860168.97 -18860168.79 -18860168.61 0.1602 0.0057
 Mars -56347-06-08 22:33 J -18859159.66 -18859159.56 -18859159.46 0.1937 0.1543
 Saturn -56342-01-09 08:09 J -18857484.34 -18857484.16 -18857483.96 0.0264 0.0133
 Saturn -56342-08-26 14:23 J -18857255.05 -18857254.90 -18857254.75 0.0265 0.0190
 Jupiter -56338-01-13 18:42 J -18856018.89 -18856018.72 -18856018.55 0.0508 0.0259
 Jupiter -56332-07-08 03:35 J -18853651.53 -18853651.35 -18853651.17 0.0521 0.0259
 Uranus -56331-10-02 18:57 J -18853199.82 -18853199.71 -18853199.59 0.0135 0.0115
 Uranus -56330-05-17 02:52 J -18852973.55 -18852973.38 -18852973.19 0.0135 0.0081
 Uranus -56330-12-29 10:47 J -18852747.25 -18852747.05 -18852746.83 0.0134 0.0047
 Uranus -56329-08-11 18:28 J -18852520.95 -18852520.73 -18852520.51 0.0134 0.0013
 Uranus -56328-03-26 01:54 J -18852294.64 -18852294.42 -18852294.20 0.0134 0.0021
 Saturn -56328-06-25 18:42 J -18852202.91 -18852202.72 -18852202.52 0.0296 0.0103
 Uranus -56328-11-07 08:52 J -18852068.33 -18852068.13 -18852067.92 0.0134 0.0054
 Uranus -56327-06-21 15:21 J -18851842.01 -18851841.86 -18851841.68 0.0134 0.0087
 Uranus -56326-02-02 21:49 J -18851615.67 -18851615.59 -18851615.47 0.0133 0.0119
 Jupiter -56320-03-12 13:40 J -18849386.13 -18849385.93 -18849385.73 0.0519 0.0139
 Jupiter -56314-01-16 02:37 J -18847250.56 -18847250.39 -18847250.22 0.0505 0.0266
 Saturn -56313-07-21 15:21 J -18846698.06 -18846697.86 -18846697.64 0.0264 0.0079
 Saturn -56312-03-07 21:49 J -18846468.67 -18846468.59 -18846468.51 0.0266 0.0246
 Jupiter -56309-11-15 03:06 J -18845120.38 -18845120.37 -18845120.37 0.0517 0.0516
 Jupiter -56303-09-21 05:16 J -18842984.47 -18842984.28 -18842984.08 0.0507 0.0066
 Pluto -56300-08-17 05:59 J -18841923.28 -18841923.25 -18841923.16 0.0077 0.0074
 Pluto -56299-03-30 15:06 J -18841698.08 -18841697.87 -18841697.65 0.0076 0.0014
 Saturn -56299-05-21 06:13 J -18841646.32 -18841646.24 -18841646.14 0.0298 0.0268
 Pluto -56299-11-10 23:30 J -18841472.69 -18841472.52 -18841472.34 0.0076 0.0044
 Saturn -56298-01-06 00:42 J -18841416.64 -18841416.47 -18841416.30 0.0296 0.0163
 Jupiter -56296-03-15 19:40 J -18840616.76 -18840616.68 -18840616.59 0.0522 0.0474
 Jupiter -56291-05-27 08:09 J -18838718.28 -18838718.16 -18838718.04 0.0509 0.0397

Neptune -56287-01-30 04:18 J -18837374.40 -18837374.32 -18837374.21 0.0089 0.0079
 Neptune -56287-09-12 16:04 J -18837148.97 -18837148.83 -18837148.65 0.0089 0.0061
 Neptune -56286-04-26 04:04 J -18836923.50 -18836923.33 -18836923.12 0.0089 0.0042
 Uranus -56286-05-07 07:54 J -18836912.30 -18836912.17 -18836912.03 0.0144 0.0109
 Neptune -56286-12-07 16:04 J -18836698.02 -18836697.83 -18836697.61 0.0089 0.0023
 Uranus -56286-12-19 17:01 J -18836685.97 -18836685.79 -18836685.60 0.0144 0.0070
 Neptune -56285-07-20 04:33 J -18836472.52 -18836472.31 -18836472.10 0.0089 0.0003
 Uranus -56285-08-02 02:52 J -18836459.59 -18836459.38 -18836459.17 0.0144 0.0030
 Jupiter -56285-11-18 08:52 J -18836351.33 -18836351.13 -18836350.92 0.0520 0.0092
 Neptune -56284-03-02 16:33 J -18836247.02 -18836246.81 -18836246.60 0.0089 0.0017
 Uranus -56284-03-16 12:42 J -18836233.18 -18836232.97 -18836232.76 0.0145 0.0010
 Mars -56284-07-01 05:01 J -18836126.47 -18836126.29 -18836126.11 0.1600 0.0174
 Neptune -56284-10-14 04:33 J -18836021.51 -18836021.31 -18836021.12 0.0089 0.0036
 Uranus -56284-10-28 22:33 J -18836006.75 -18836006.56 -18836006.35 0.0145 0.0050
 Saturn -56283-01-31 18:57 J -18835911.92 -18835911.71 -18835911.49 0.0264 0.0036
 Neptune -56283-05-27 16:04 J -18835795.98 -18835795.83 -18835795.65 0.0089 0.0055
 Uranus -56283-06-12 08:37 J -18835780.29 -18835780.14 -18835779.96 0.0145 0.0091
 Neptune -56282-01-08 04:04 J -18835570.43 -18835570.33 -18835570.20 0.0089 0.0074
 Uranus -56282-01-24 19:40 J -18835553.77 -18835553.68 -18835553.59 0.0145 0.0132
 Mars -56281-04-05 01:40 J -18835117.59 -18835117.43 -18835117.27 0.1940 0.0734
 Jupiter -56279-09-23 10:04 J -18834216.17 -18834216.08 -18834215.99 0.0504 0.0444
 Jupiter -56273-07-23 21:35 J -18832085.77 -18832085.60 -18832085.43 0.0518 0.0293
 Saturn -56270-12-01 14:09 J -18830860.06 -18830859.91 -18830859.76 0.0297 0.0204
 Saturn -56269-07-18 08:09 J -18830630.28 -18830630.16 -18830630.02 0.0296 0.0226
 Jupiter -56267-05-29 13:54 J -18829950.11 -18829949.92 -18829949.73 0.0506 0.0121
 Jupiter -56255-02-01 17:30 J -18825683.95 -18825683.77 -18825683.59 0.0508 0.0208
 Saturn -56254-08-14 03:06 J -18825125.58 -18825125.37 -18825125.15 0.0265 0.0023
 Moon -56252-09-28 18:57 J -18824348.75 -18824348.71 -18824348.68 0.2712 0.2638
 Jupiter -56249-07-26 22:33 J -18823316.73 -18823316.56 -18823316.38 0.0521 0.0297
 Uranus -56247-06-02 01:40 J -18822641.47 -18822641.43 -18822641.37 0.0135 0.0132

Uranus	-56246-01-14 10:04 J	-18822415.23	-18822415.08	-18822414.92	0.0135	0.0097
Uranus	-56246-08-28 17:59 J	-18822188.93	-18822188.75	-18822188.54	0.0135	0.0063
Uranus	-56245-04-11 02:09 J	-18821962.63	-18821962.41	-18821962.20	0.0134	0.0029
Uranus	-56245-11-23 09:35 J	-18821736.33	-18821736.10	-18821735.88	0.0134	0.0005
Uranus	-56244-07-07 16:33 J	-18821510.02	-18821509.81	-18821509.59	0.0134	0.0038
Moon	-56244-09-26 13:54 J	-18821429.04	-18821428.92	-18821428.80	0.2717	0.1546
Earth	-56244-09-26 17:59 J	-18821428.89	-18821428.75	-18821428.60	0.2714	0.0841 *
Uranus	-56243-02-18 23:45 J	-18821283.70	-18821283.51	-18821283.32	0.0134	0.0071
Uranus	-56243-10-03 06:13 J	-18821057.37	-18821057.24	-18821057.09	0.0134	0.0104
Saturn	-56240-06-12 21:49 J	-18820073.77	-18820073.59	-18820073.40	0.0297	0.0137
Saturn	-56239-01-28 15:49 J	-18819843.88	-18819843.84	-18819843.81	0.0296	0.0290
Jupiter	-56237-03-31 12:42 J	-18819051.18	-18819050.97	-18819050.77	0.0519	0.0085
Jupiter	-56231-02-03 22:47 J	-18816915.71	-18816915.55	-18816915.39	0.0505	0.0305
Jupiter	-56226-12-05 02:09 J	-18814785.49	-18814785.41	-18814785.31	0.0517	0.0462
Saturn	-56225-07-09 00:57 J	-18814568.50	-18814568.46	-18814568.40	0.0264	0.0255
Saturn	-56224-02-23 07:25 J	-18814339.40	-18814339.19	-18814338.98	0.0265	0.0066
Jupiter	-56220-10-10 01:11 J	-18812649.65	-18812649.45	-18812649.26	0.0507	0.0028
Mars	-56218-04-28 17:16 J	-18812083.96	-18812083.78	-18812083.61	0.1598	0.0406
Mars	-56215-01-31 05:01 J	-18811075.46	-18811075.29	-18811075.12	0.1943	0.0060
Saturn	-56211-12-24 05:45 J	-18809287.46	-18809287.26	-18809287.06	0.0297	0.0072
Jupiter	-56208-06-15 04:04 J	-18808383.47	-18808383.33	-18808383.19	0.0509	0.0356
Neptune	-56205-03-19 08:37 J	-18807375.15	-18807375.14	-18807375.08	0.0088	0.0087
Neptune	-56205-10-30 23:01 J	-18807149.68	-18807149.54	-18807149.39	0.0088	0.0067
Neptune	-56204-06-13 12:42 J	-18806924.14	-18806923.97	-18806923.76	0.0088	0.0048
Neptune	-56203-01-25 03:06 J	-18806698.57	-18806698.37	-18806698.14	0.0088	0.0028
Neptune	-56203-09-07 17:16 J	-18806473.00	-18806472.78	-18806472.55	0.0088	0.0009
Uranus	-56202-01-04 16:33 J	-18806353.89	-18806353.81	-18806353.69	0.0143	0.0126
Neptune	-56202-04-21 07:25 J	-18806247.42	-18806247.19	-18806246.97	0.0088	0.0012
Uranus	-56202-08-19 01:54 J	-18806127.57	-18806127.42	-18806127.24	0.0144	0.0087
Neptune	-56202-12-02 21:06 J	-18806021.82	-18806021.62	-18806021.40	0.0088	0.0031

Jupiter -56202-12-08 03:06 J -18806016.57 -18806016.37 -18806016.16 0.0520 0.0125
 Uranus -56201-04-01 11:16 J -18805901.22 -18805901.03 -18805900.82 0.0144 0.0048
 Neptune -56201-07-15 10:47 J -18805796.21 -18805796.05 -18805795.84 0.0088 0.0051
 Uranus -56201-11-13 21:06 J -18805674.83 -18805674.62 -18805674.40 0.0144 0.0008
 Neptune -56200-02-26 01:11 J -18805570.58 -18805570.45 -18805570.31 0.0088 0.0070
 Uranus -56200-06-28 06:57 J -18805448.41 -18805448.21 -18805448.00 0.0145 0.0032
 Uranus -56199-02-09 17:01 J -18805221.97 -18805221.79 -18805221.60 0.0145 0.0073
 Uranus -56199-09-24 03:35 J -18804995.47 -18804995.35 -18804995.21 0.0145 0.0113
 Jupiter -56196-10-12 07:25 J -18803881.23 -18803881.19 -18803881.14 0.0504 0.0489
 Saturn -56195-01-19 09:35 J -18803782.24 -18803782.10 -18803781.95 0.0264 0.0197
 Saturn -56195-09-05 15:49 J -18803553.03 -18803552.84 -18803552.64 0.0265 0.0126
 Jupiter -56190-08-12 16:04 J -18801751.01 -18801750.83 -18801750.65 0.0518 0.0258
 Mars -56186-04-27 11:45 J -18800397.05 -18800397.01 -18800396.97 0.1604 0.1556
 Jupiter -56184-06-17 10:04 J -18799615.27 -18799615.08 -18799614.89 0.0506 0.0159
 Saturn -56181-07-05 15:35 J -18798501.06 -18798500.85 -18798500.65 0.0297 0.0004
 Jupiter -56172-02-20 13:11 J -18795349.13 -18795348.95 -18795348.76 0.0508 0.0170
 Saturn -56166-08-01 13:54 J -18792996.09 -18792995.92 -18792995.73 0.0264 0.0152
 Jupiter -56166-08-15 21:06 J -18792981.76 -18792981.62 -18792981.46 0.0521 0.0350
 Saturn -56165-03-17 20:23 J -18792766.81 -18792766.65 -18792766.48 0.0265 0.0171
 Uranus -56163-09-13 17:59 J -18791856.86 -18791856.75 -18791856.61 0.0135 0.0112
 Uranus -56162-04-28 02:09 J -18791630.58 -18791630.41 -18791630.22 0.0135 0.0078
 Uranus -56162-12-10 10:18 J -18791404.28 -18791404.07 -18791403.86 0.0135 0.0044
 Uranus -56161-07-23 17:59 J -18791177.98 -18791177.75 -18791177.53 0.0134 0.0010
 Jupiter -56161-10-26 14:52 J -18791082.90 -18791082.88 -18791082.86 0.0510 0.0506
 Uranus -56160-03-07 01:25 J -18790951.66 -18790951.44 -18790951.22 0.0134 0.0023
 Uranus -56160-10-19 08:23 J -18790725.34 -18790725.15 -18790724.94 0.0134 0.0056
 Uranus -56159-06-02 15:06 J -18790499.02 -18790498.87 -18790498.69 0.0134 0.0089
 Uranus -56158-01-14 21:49 J -18790272.67 -18790272.59 -18790272.49 0.0133 0.0121
 Jupiter -56154-04-20 09:49 J -18788716.30 -18788716.09 -18788715.88 0.0519 0.0037
 Mars -56152-02-23 05:30 J -18788041.43 -18788041.27 -18788041.10 0.1597 0.0625

Saturn -56151-01-15 23:01 J -18787714.74 -18787714.54 -18787714.34 0.0296 0.0065
 Mars -56150-11-28 07:40 J -18787033.33 -18787033.18 -18787033.03 0.1946 0.0891
 Jupiter -56148-02-22 18:13 J -18786580.89 -18786580.74 -18786580.60 0.0505 0.0342
 Jupiter -56143-12-23 20:52 J -18784450.75 -18784450.63 -18784450.51 0.0517 0.0426
 Pluto -56137-05-02 02:52 J -18782494.50 -18782494.38 -18782494.22 0.0067 0.0053
 Jupiter -56137-10-28 21:21 J -18782314.81 -18782314.61 -18782314.41 0.0507 0.0014
 Pluto -56137-12-13 08:52 J -18782269.34 -18782269.13 -18782268.90 0.0068 0.0011
 Saturn -56136-02-10 22:33 J -18782209.76 -18782209.56 -18782209.35 0.0265 0.0093
 Pluto -56136-07-26 14:23 J -18782044.08 -18782043.90 -18782043.68 0.0068 0.0033
 Saturn -56136-09-28 05:01 J -18781980.39 -18781980.29 -18781980.18 0.0266 0.0230
 Jupiter -56125-07-03 23:45 J -18778048.66 -18778048.51 -18778048.36 0.0509 0.0320
 Neptune -56123-05-03 14:52 J -18777379.88 -18777379.88 -18777379.82 0.0089 0.0089
 Saturn -56123-12-11 14:52 J -18777157.91 -18777157.88 -18777157.82 0.0297 0.0289
 Neptune -56123-12-15 03:06 J -18777154.49 -18777154.37 -18777154.22 0.0089 0.0069
 Neptune -56122-07-28 15:06 J -18776929.03 -18776928.87 -18776928.67 0.0089 0.0051
 Saturn -56122-07-29 09:21 J -18776928.28 -18776928.11 -18776927.92 0.0296 0.0140
 Neptune -56121-03-10 03:21 J -18776703.55 -18776703.36 -18776703.15 0.0089 0.0031
 Neptune -56121-10-21 15:35 J -18776478.06 -18776477.85 -18776477.64 0.0089 0.0012
 Mars -56120-02-21 23:45 J -18776354.61 -18776354.51 -18776354.41 0.1602 0.1317
 Neptune -56120-06-04 03:21 J -18776252.57 -18776252.36 -18776252.14 0.0089 0.0008
 Neptune -56119-01-15 15:06 J -18776027.06 -18776026.87 -18776026.65 0.0089 0.0027
 Neptune -56119-08-29 03:06 J -18775801.53 -18775801.37 -18775801.17 0.0089 0.0047
 Uranus -56119-09-04 02:37 J -18775795.42 -18775795.39 -18775795.34 0.0143 0.0141
 Jupiter -56119-12-26 23:59 J -18775681.69 -18775681.50 -18775681.30 0.0521 0.0170
 Neptune -56118-04-11 15:06 J -18775575.99 -18775575.87 -18775575.71 0.0089 0.0066
 Uranus -56118-04-18 11:30 J -18775569.15 -18775569.02 -18775568.86 0.0144 0.0103
 Neptune -56118-11-23 03:06 J -18775350.42 -18775350.37 -18775350.28 0.0089 0.0085
 Uranus -56118-11-30 20:52 J -18775342.81 -18775342.63 -18775342.43 0.0144 0.0064
 Uranus -56117-07-14 06:28 J -18775116.44 -18775116.23 -18775116.02 0.0144 0.0025
 Uranus -56116-02-25 16:04 J -18774890.03 -18774889.83 -18774889.61 0.0144 0.0016

Uranus	-56116-10-10 02:09 J	-18774663.60	-18774663.41	-18774663.21	0.0145	0.0056
Uranus	-56115-05-24 12:13 J	-18774437.13	-18774436.99	-18774436.82	0.0145	0.0096
Uranus	-56114-01-05 23:01 J	-18774210.60	-18774210.54	-18774210.46	0.0145	0.0136
Earth	-56114-03-28 08:09 J	-18774129.28	-18774129.16	-18774129.03	0.2619	0.1728
Moon	-56114-03-28 12:57 J	-18774129.11	-18774128.96	-18774128.81	0.2623	0.0824 *
Saturn	-56107-08-24 03:06 J	-18771423.59	-18771423.37	-18771423.15	0.0264	0.0048
Jupiter	-56107-08-31 13:54 J	-18771416.11	-18771415.92	-18771415.73	0.0519	0.0209
Jupiter	-56101-07-06 05:01 J	-18769280.47	-18769280.29	-18769280.11	0.0506	0.0194
Saturn	-56093-06-22 22:33 J	-18766371.69	-18766371.56	-18766371.43	0.0298	0.0226
Saturn	-56092-02-07 16:33 J	-18766141.95	-18766141.81	-18766141.66	0.0296	0.0202
Jupiter	-56089-03-11 08:09 J	-18765014.35	-18765014.16	-18765013.97	0.0508	0.0135
Mars	-56087-12-21 17:16 J	-18763998.93	-18763998.78	-18763998.63	0.1595	0.0860
Mars	-56084-09-24 10:33 J	-18762991.14	-18762991.06	-18762990.98	0.1949	0.1716
Jupiter	-56083-09-03 15:49 J	-18762646.98	-18762646.84	-18762646.70	0.0521	0.0383
Uranus	-56079-05-14 01:40 J	-18761298.49	-18761298.43	-18761298.34	0.0135	0.0128
Uranus	-56079-12-26 10:04 J	-18761072.23	-18761072.08	-18761071.91	0.0135	0.0093
Uranus	-56078-08-09 17:59 J	-18760845.94	-18760845.75	-18760845.54	0.0135	0.0060
Jupiter	-56078-11-15 10:18 J	-18760748.14	-18760748.07	-18760747.99	0.0510	0.0470
Saturn	-56077-03-05 11:16 J	-18760637.25	-18760637.03	-18760636.81	0.0265	0.0010
Uranus	-56077-03-23 02:09 J	-18760619.63	-18760619.41	-18760619.19	0.0135	0.0026
Uranus	-56077-11-04 09:35 J	-18760393.32	-18760393.10	-18760392.88	0.0134	0.0008
Uranus	-56076-06-18 16:47 J	-18760167.01	-18760166.80	-18760166.58	0.0134	0.0041
Uranus	-56075-01-30 23:45 J	-18759940.69	-18759940.51	-18759940.32	0.0134	0.0074
Uranus	-56075-09-14 06:42 J	-18759714.35	-18759714.22	-18759714.08	0.0134	0.0106
Jupiter	-56071-05-09 04:18 J	-18758381.53	-18758381.32	-18758381.12	0.0519	0.0012
Jupiter	-56065-03-13 13:25 J	-18756246.06	-18756245.94	-18756245.80	0.0505	0.0376
Saturn	-56063-01-03 09:06 J	-18755585.30	-18755585.12	-18755584.94	0.0297	0.0149
Saturn	-56063-08-21 02:52 J	-18755355.44	-18755355.38	-18755355.30	0.0296	0.0277
Jupiter	-56059-01-11 16:47 J	-18754115.93	-18754115.80	-18754115.65	0.0518	0.0385
Mars	-56055-12-20 11:45 J	-18752312.14	-18752312.01	-18752311.88	0.1601	0.1085

Jupiter -56054-11-17 17:16 J -18751979.98 -18751979.78 -18751979.58 0.0507 0.0052
 Pluto -56051-03-02 10:33 J -18751144.15 -18751144.06 -18751143.92 0.0077 0.0066
 Pluto -56051-10-13 19:25 J -18750918.90 -18750918.69 -18750918.47 0.0076 0.0006
 Pluto -56050-05-27 03:49 J -18750693.49 -18750693.34 -18750693.18 0.0076 0.0052
 Saturn -56048-09-15 15:49 J -18749851.06 -18749850.84 -18749850.63 0.0265 0.0054
 Jupiter -56042-07-23 19:11 J -18747713.86 -18747713.70 -18747713.53 0.0508 0.0282
 Neptune -56040-02-01 08:37 J -18747155.24 -18747155.14 -18747155.01 0.0088 0.0075
 Neptune -56040-09-14 22:18 J -18746929.72 -18746929.57 -18746929.37 0.0088 0.0056
 Neptune -56039-04-28 12:28 J -18746704.17 -18746703.98 -18746703.76 0.0088 0.0037
 Neptune -56039-12-10 02:52 J -18746478.61 -18746478.38 -18746478.16 0.0088 0.0016
 Neptune -56038-07-23 16:47 J -18746253.02 -18746252.80 -18746252.57 0.0088 0.0003
 Neptune -56037-03-05 06:42 J -18746027.43 -18746027.22 -18746026.99 0.0088 0.0023
 Neptune -56037-10-16 20:52 J -18745801.83 -18745801.63 -18745801.43 0.0088 0.0043
 Neptune -56036-05-30 10:33 J -18745576.21 -18745576.06 -18745575.89 0.0088 0.0062
 Neptune -56035-01-11 00:13 J -18745350.55 -18745350.49 -18745350.38 0.0088 0.0082
 Jupiter -56035-01-14 22:04 J -18745346.77 -18745346.58 -18745346.39 0.0520 0.0221
 Uranus -56035-12-16 20:37 J -18745010.75 -18745010.64 -18745010.51 0.0143 0.0119
 Saturn -56034-07-16 14:52 J -18744799.07 -18744798.88 -18744798.68 0.0297 0.0092
 Uranus -56034-07-31 05:45 J -18744784.42 -18744784.26 -18744784.07 0.0144 0.0081
 Uranus -56033-03-13 15:06 J -18744558.06 -18744557.87 -18744557.66 0.0144 0.0042
 Uranus -56033-10-26 00:57 J -18744331.67 -18744331.46 -18744331.25 0.0144 0.0002
 Uranus -56032-06-09 10:47 J -18744105.26 -18744105.05 -18744104.84 0.0145 0.0038
 Uranus -56031-01-21 20:37 J -18743878.81 -18743878.64 -18743878.45 0.0145 0.0078
 Uranus -56031-09-05 07:25 J -18743652.31 -18743652.19 -18743652.06 0.0145 0.0118
 Jupiter -56024-09-19 09:49 J -18741081.29 -18741081.09 -18741080.89 0.0518 0.0169
 Mars -56021-10-18 05:45 J -18739956.39 -18739956.26 -18739956.13 0.1594 0.1071
 Saturn -56019-08-11 16:33 J -18739293.93 -18739293.81 -18739293.67 0.0264 0.0211
 Saturn -56018-03-28 22:47 J -18739064.74 -18739064.55 -18739064.34 0.0265 0.0110
 Jupiter -56018-07-26 00:57 J -18738945.63 -18738945.46 -18738945.28 0.0506 0.0233
 Jupiter -56006-03-31 04:04 J -18734679.52 -18734679.33 -18734679.13 0.0508 0.0097

Saturn -56004-01-26 01:25 J -18734012.65 -18734012.44 -18734012.24 0.0297 0.0017

Earth -56001-09-26 21:35 J -18732672.74 -18732672.60 -18732672.45 0.2713 0.0773

Moon -56001-09-27 02:52 J -18732672.54 -18732672.38 -18732672.23 0.2713 0.0193 *

56TH MILLENNIUM BCE

This is a list of transits of Venus in the 56th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-56000-09-22 12:28 J	-18732312.09	-18732311.98	-18732311.86	0.0522	0.0428		
Uranus	-55995-08-25 18:42 J	-18730513.84	-18730513.72	-18730513.57	0.0135	0.0108		
Jupiter	-55995-12-04 07:25 J	-18730413.29	-18730413.19	-18730413.08	0.0509	0.0424		
Uranus	-55994-04-09 03:06 J	-18730287.55	-18730287.37	-18730287.18	0.0135	0.0074		
Uranus	-55994-11-21 10:47 J	-18730061.25	-18730061.05	-18730060.82	0.0135	0.0041		
Uranus	-55993-07-04 18:42 J	-18729834.94	-18729834.72	-18729834.50	0.0134	0.0007		
Uranus	-55992-02-16 02:09 J	-18729608.62	-18729608.41	-18729608.19	0.0134	0.0026		
Uranus	-55992-09-30 09:21 J	-18729382.31	-18729382.11	-18729381.91	0.0134	0.0059		
Uranus	-55991-05-14 16:04 J	-18729155.98	-18729155.83	-18729155.66	0.0134	0.0092		
Uranus	-55991-12-26 22:47 J	-18728929.62	-18728929.55	-18728929.46	0.0133	0.0124		
Saturn	-55989-02-21 21:06 J	-18728507.78	-18728507.62	-18728507.44	0.0264	0.0166		
Saturn	-55989-10-08 03:06 J	-18728278.54	-18728278.37	-18728278.19	0.0265	0.0153		
Mars	-55989-10-16 23:59 J	-18728269.65	-18728269.50	-18728269.35	0.1599	0.0858		
Jupiter	-55988-05-28 02:23 J	-18728046.61	-18728046.40	-18728046.19	0.0520	0.0049		
Mars	-55986-07-22 11:16 J	-18727261.12	-18727261.03	-18727260.94	0.1942	0.1627		
Jupiter	-55982-04-02 10:04 J	-18725911.19	-18725911.08	-18725910.97	0.0505	0.0416		

Jupiter -55976-01-30 16:04 J -18723780.99 -18723780.83 -18723780.67 0.0518 0.0328
 Saturn -55975-08-08 05:45 J -18723226.46 -18723226.26 -18723226.05 0.0297 0.0037
 Jupiter -55971-12-06 12:57 J -18721645.15 -18721644.96 -18721644.76 0.0507 0.0092
 Saturn -55960-09-03 03:21 J -18717721.56 -18717721.36 -18717721.16 0.0264 0.0115
 Saturn -55959-04-20 09:06 J -18717492.24 -18717492.12 -18717491.97 0.0265 0.0206
 Jupiter -55959-08-11 15:35 J -18717379.02 -18717378.85 -18717378.67 0.0509 0.0242
 Neptune -55958-03-18 14:52 J -18717159.97 -18717159.88 -18717159.76 0.0089 0.0077
 Neptune -55958-10-30 02:52 J -18716934.53 -18716934.38 -18716934.21 0.0089 0.0058
 Neptune -55957-06-11 14:52 J -18716709.06 -18716708.88 -18716708.68 0.0089 0.0039
 Neptune -55956-01-23 02:52 J -18716483.58 -18716483.38 -18716483.17 0.0089 0.0020
 Neptune -55956-09-05 15:06 J -18716258.09 -18716257.87 -18716257.66 0.0089 0.0001
 Neptune -55955-04-19 02:52 J -18716032.58 -18716032.38 -18716032.16 0.0089 0.0018
 Mars -55955-08-15 17:45 J -18715913.86 -18715913.76 -18715913.66 0.1592 0.1298
 Neptune -55955-11-30 14:52 J -18715807.07 -18715806.88 -18715806.68 0.0089 0.0037
 Neptune -55954-07-14 02:52 J -18715581.53 -18715581.38 -18715581.21 0.0089 0.0057
 Neptune -55953-02-24 14:52 J -18715355.98 -18715355.88 -18715355.76 0.0089 0.0076
 Jupiter -55952-02-02 18:42 J -18715011.90 -18715011.72 -18715011.54 0.0520 0.0263
 Uranus -55951-08-16 04:47 J -18714452.35 -18714452.30 -18714452.22 0.0143 0.0136
 Uranus -55950-03-30 13:40 J -18714226.06 -18714225.93 -18714225.76 0.0144 0.0099
 Uranus -55950-11-11 23:01 J -18713999.72 -18713999.54 -18713999.34 0.0144 0.0060
 Uranus -55949-06-25 08:37 J -18713773.35 -18713773.14 -18713772.93 0.0144 0.0021
 Uranus -55948-02-06 18:28 J -18713546.94 -18713546.73 -18713546.52 0.0144 0.0019
 Uranus -55948-09-21 04:33 J -18713320.50 -18713320.31 -18713320.11 0.0145 0.0059
 Uranus -55947-05-05 14:52 J -18713094.03 -18713093.88 -18713093.72 0.0145 0.0099
 Uranus -55947-12-18 01:25 J -18712867.49 -18712867.44 -18712867.38 0.0145 0.0139
 Saturn -55945-02-18 14:52 J -18712440.06 -18712439.88 -18712439.68 0.0297 0.0106
 Jupiter -55941-10-08 06:28 J -18710746.43 -18710746.23 -18710746.02 0.0519 0.0123
 Jupiter -55935-08-13 23:16 J -18708610.69 -18708610.53 -18708610.36 0.0505 0.0280
 Saturn -55930-03-16 07:11 J -18706935.41 -18706935.20 -18706934.99 0.0264 0.0072
 Saturn -55930-10-31 12:57 J -18706706.03 -18706705.96 -18706705.88 0.0265 0.0247

Jupiter -55929-06-12 20:37 J -18706480.69 -18706480.64 -18706480.57 0.0517 0.0494
 Jupiter -55923-04-19 01:54 J -18704344.62 -18704344.42 -18704344.22 0.0507 0.0048
 Mars -55923-08-14 12:13 J -18704227.16 -18704226.99 -18704226.83 0.1597 0.0630
 Mars -55920-05-18 14:37 J -18703219.04 -18703218.89 -18703218.74 0.1945 0.0839
 Jupiter -55917-10-11 13:11 J -18701977.02 -18701976.95 -18701976.88 0.0522 0.0489
 Saturn -55916-01-12 23:01 J -18701883.60 -18701883.54 -18701883.45 0.0298 0.0276
 Saturn -55916-08-30 17:45 J -18701653.93 -18701653.76 -18701653.58 0.0297 0.0154
 Jupiter -55912-12-23 04:33 J -18700078.44 -18700078.31 -18700078.18 0.0509 0.0378
 Uranus -55911-04-25 02:37 J -18699955.47 -18699955.39 -18699955.29 0.0135 0.0124
 Uranus -55911-12-07 10:47 J -18699729.20 -18699729.05 -18699728.87 0.0135 0.0090
 Uranus -55910-07-21 18:57 J -18699502.90 -18699502.71 -18699502.50 0.0135 0.0056
 Uranus -55909-03-04 02:52 J -18699276.59 -18699276.38 -18699276.15 0.0135 0.0023
 Uranus -55909-10-16 10:33 J -18699050.28 -18699050.06 -18699049.84 0.0134 0.0011
 Uranus -55908-05-30 17:45 J -18698823.97 -18698823.76 -18698823.54 0.0134 0.0044
 Uranus -55907-01-12 00:57 J -18698597.64 -18698597.46 -18698597.28 0.0134 0.0076
 Uranus -55907-08-26 07:25 J -18698371.30 -18698371.19 -18698371.04 0.0134 0.0109
 Jupiter -55905-06-16 01:25 J -18697711.65 -18697711.44 -18697711.24 0.0519 0.0103
 Saturn -55901-09-25 11:59 J -18696149.21 -18696149.00 -18696148.78 0.0264 0.0026
 Jupiter -55899-04-21 07:40 J -18695576.26 -18695576.18 -18695576.10 0.0505 0.0461
 Jupiter -55893-02-19 14:23 J -18693446.08 -18693445.90 -18693445.72 0.0517 0.0277
 Mars -55889-06-12 05:59 J -18691871.30 -18691871.25 -18691871.19 0.1591 0.1512
 Pluto -55889-11-15 05:01 J -18691715.41 -18691715.29 -18691715.12 0.0067 0.0052
 Pluto -55888-06-28 11:01 J -18691490.25 -18691490.04 -18691489.80 0.0068 0.0010
 Jupiter -55888-12-25 11:16 J -18691310.22 -18691310.03 -18691309.84 0.0506 0.0140
 Pluto -55887-02-08 17:01 J -18691264.98 -18691264.79 -18691264.59 0.0068 0.0033
 Saturn -55887-07-26 07:40 J -18691097.33 -18691097.18 -18691097.04 0.0298 0.0209
 Saturn -55886-03-13 02:09 J -18690867.55 -18690867.41 -18690867.27 0.0296 0.0219
 Earth -55879-03-30 17:59 J -18688292.79 -18688292.75 -18688292.70 0.2620 0.2507
 Moon -55879-03-30 20:37 J -18688292.67 -18688292.64 -18688292.60 0.2614 0.2552
 Neptune -55876-05-05 17:59 J -18687160.80 -18687160.75 -18687160.65 0.0088 0.0084

Jupiter -55876-08-30 15:49 J -18687044.02 -18687043.84 -18687043.65 0.0508 0.0182
 Neptune -55876-12-17 08:23 J -18686935.30 -18686935.15 -18686934.98 0.0088 0.0064
 Neptune -55875-07-30 22:18 J -18686709.75 -18686709.57 -18686709.36 0.0088 0.0044
 Neptune -55874-03-13 12:28 J -18686484.19 -18686483.98 -18686483.75 0.0088 0.0025
 Neptune -55874-10-25 02:37 J -18686258.61 -18686258.39 -18686258.16 0.0088 0.0005
 Neptune -55873-06-06 16:33 J -18686033.03 -18686032.81 -18686032.58 0.0088 0.0015
 Neptune -55872-01-18 06:42 J -18685807.43 -18685807.22 -18685807.01 0.0088 0.0035
 Neptune -55872-08-31 20:23 J -18685581.81 -18685581.65 -18685581.46 0.0088 0.0054
 Moon -55871-03-28 03:35 J -18685373.42 -18685373.35 -18685373.29 0.2614 0.2404
 Earth -55871-03-28 06:13 J -18685373.35 -18685373.24 -18685373.12 0.2620 0.1857 *
 Saturn -55871-04-07 15:49 J -18685363.06 -18685362.84 -18685362.62 0.0264 0.0017
 Neptune -55871-04-14 10:04 J -18685356.18 -18685356.08 -18685355.93 0.0088 0.0074
 Jupiter -55869-02-22 18:28 J -18684676.89 -18684676.73 -18684676.57 0.0521 0.0322
 Uranus -55867-11-27 20:52 J -18683667.75 -18683667.63 -18683667.51 0.0143 0.0117
 Uranus -55866-07-12 05:45 J -18683441.43 -18683441.26 -18683441.08 0.0144 0.0079
 Uranus -55865-02-23 15:06 J -18683215.07 -18683214.87 -18683214.66 0.0144 0.0040
 Uranus -55865-10-07 00:42 J -18682988.68 -18682988.47 -18682988.25 0.0144 0.0003
 Uranus -55864-05-21 10:33 J -18682762.26 -18682762.06 -18682761.85 0.0144 0.0038
 Uranus -55863-01-02 20:52 J -18682535.81 -18682535.63 -18682535.45 0.0145 0.0078
 Uranus -55863-08-17 07:11 J -18682309.31 -18682309.20 -18682309.07 0.0145 0.0118
 Jupiter -55858-10-28 08:37 J -18680411.35 -18680411.14 -18680410.94 0.0519 0.0055
 Saturn -55857-02-05 08:37 J -18680311.30 -18680311.14 -18680310.96 0.0298 0.0168
 Mars -55857-06-11 00:13 J -18680184.66 -18680184.49 -18680184.31 0.1596 0.0404
 Saturn -55857-09-22 03:06 J -18680081.46 -18680081.37 -18680081.27 0.0297 0.0260
 Mars -55854-03-15 17:30 J -18679176.94 -18679176.77 -18679176.60 0.1947 0.0017
 Jupiter -55852-09-01 21:35 J -18678275.75 -18678275.60 -18678275.45 0.0505 0.0330
 Jupiter -55846-07-02 21:49 J -18676145.70 -18676145.59 -18676145.47 0.0517 0.0431
 Saturn -55842-03-03 13:40 J -18674805.97 -18674805.93 -18674805.87 0.0263 0.0256
 Saturn -55842-10-18 19:11 J -18674576.91 -18674576.70 -18674576.48 0.0264 0.0060
 Jupiter -55840-05-08 00:28 J -18674009.68 -18674009.48 -18674009.28 0.0507 0.0004

Jupiter -55828-01-11 04:18 J -18669743.47 -18669743.32 -18669743.17 0.0509 0.0323
 Saturn -55828-08-17 15:35 J -18669525.04 -18669524.85 -18669524.66 0.0298 0.0107
 Uranus -55827-08-06 18:28 J -18669170.86 -18669170.73 -18669170.58 0.0135 0.0106
 Uranus -55826-03-21 02:37 J -18668944.56 -18668944.39 -18668944.19 0.0135 0.0072
 Uranus -55826-11-02 11:01 J -18668718.26 -18668718.04 -18668717.83 0.0135 0.0038
 Uranus -55825-06-15 18:42 J -18668491.95 -18668491.72 -18668491.50 0.0134 0.0005
 Uranus -55824-01-28 02:09 J -18668265.63 -18668265.41 -18668265.19 0.0134 0.0028
 Uranus -55824-09-11 09:21 J -18668039.30 -18668039.11 -18668038.91 0.0134 0.0061
 Uranus -55823-04-25 16:33 J -18667812.97 -18667812.81 -18667812.65 0.0134 0.0093
 Uranus -55823-12-07 23:16 J -18667586.60 -18667586.53 -18667586.45 0.0133 0.0125
 Jupiter -55822-07-05 23:45 J -18667376.71 -18667376.51 -18667376.31 0.0520 0.0156
 Saturn -55813-09-12 17:30 J -18664019.90 -18664019.77 -18664019.65 0.0263 0.0214
 Saturn -55812-04-29 22:33 J -18663790.76 -18663790.56 -18663790.35 0.0264 0.0101
 Jupiter -55810-03-10 14:23 J -18663111.09 -18663110.90 -18663110.71 0.0518 0.0217
 Jupiter -55804-01-13 11:59 J -18660975.18 -18660975.00 -18660974.81 0.0506 0.0200
 Pluto -55803-09-15 12:28 J -18660365.06 -18660364.98 -18660364.87 0.0077 0.0069
 Pluto -55802-04-28 21:21 J -18660139.82 -18660139.61 -18660139.39 0.0076 0.0009
 Pluto -55802-12-10 05:45 J -18659914.43 -18659914.26 -18659914.10 0.0076 0.0049
 Saturn -55798-02-27 15:49 J -18658739.04 -18658738.84 -18658738.64 0.0298 0.0069
 Neptune -55794-06-20 02:37 J -18657165.43 -18657165.39 -18657165.30 0.0089 0.0085
 Neptune -55793-01-31 14:37 J -18656940.01 -18656939.89 -18656939.72 0.0089 0.0067
 Neptune -55793-09-13 02:52 J -18656714.55 -18656714.38 -18656714.18 0.0089 0.0047
 Jupiter -55793-09-18 15:21 J -18656709.05 -18656708.86 -18656708.66 0.0508 0.0126
 Neptune -55792-04-26 14:52 J -18656489.07 -18656488.88 -18656488.66 0.0089 0.0028
 Neptune -55792-12-08 03:06 J -18656263.58 -18656263.37 -18656263.15 0.0089 0.0009
 Mars -55791-04-08 12:28 J -18656142.16 -18656141.98 -18656141.80 0.1595 0.0176
 Neptune -55791-07-21 15:21 J -18656038.07 -18656037.86 -18656037.65 0.0089 0.0010
 Neptune -55790-03-04 03:21 J -18655812.56 -18655812.36 -18655812.16 0.0089 0.0030
 Neptune -55790-10-15 15:21 J -18655587.04 -18655586.86 -18655586.68 0.0089 0.0049
 Neptune -55789-05-28 03:21 J -18655361.50 -18655361.36 -18655361.22 0.0089 0.0068

Neptune -55788-01-08 14:37 J -18655135.91 -18655135.89 -18655135.81 0.0089 0.0088
 Mars -55788-01-09 20:37 J -18655134.80 -18655134.64 -18655134.49 0.1950 0.0793
 Jupiter -55786-03-13 20:52 J -18654341.77 -18654341.63 -18654341.49 0.0521 0.0391
 Saturn -55783-03-25 19:40 J -18653233.83 -18653233.68 -18653233.51 0.0263 0.0176
 Uranus -55783-07-28 03:21 J -18653109.41 -18653109.36 -18653109.27 0.0143 0.0135
 Saturn -55783-11-10 01:11 J -18653004.63 -18653004.45 -18653004.26 0.0264 0.0141
 Uranus -55782-03-11 12:28 J -18652883.13 -18652882.98 -18652882.82 0.0143 0.0098
 Uranus -55782-10-23 21:35 J -18652656.79 -18652656.60 -18652656.40 0.0144 0.0060
 Jupiter -55781-05-24 17:45 J -18652442.84 -18652442.76 -18652442.67 0.0510 0.0458
 Uranus -55781-06-06 06:57 J -18652430.41 -18652430.21 -18652429.99 0.0144 0.0021
 Uranus -55780-01-18 16:47 J -18652204.01 -18652203.80 -18652203.59 0.0144 0.0018
 Uranus -55780-09-02 02:37 J -18651977.58 -18651977.39 -18651977.19 0.0145 0.0058
 Uranus -55779-04-16 12:57 J -18651751.11 -18651750.96 -18651750.80 0.0145 0.0097
 Uranus -55779-11-28 23:16 J -18651524.59 -18651524.53 -18651524.45 0.0145 0.0137
 Jupiter -55775-11-16 09:35 J -18650076.31 -18650076.10 -18650075.89 0.0519 0.0010
 Saturn -55769-09-08 21:21 J -18647952.81 -18647952.61 -18647952.40 0.0297 0.0012
 Jupiter -55769-09-20 22:18 J -18647940.69 -18647940.57 -18647940.44 0.0505 0.0390
 Moon -55766-09-30 04:47 J -18646836.33 -18646836.30 -18646836.26 0.2707 0.2624
 Jupiter -55763-07-21 20:23 J -18645810.78 -18645810.65 -18645810.50 0.0517 0.0377
 Moon -55758-09-27 20:37 J -18643916.77 -18643916.64 -18643916.52 0.2711 0.1517
 Earth -55758-09-28 01:40 J -18643916.58 -18643916.43 -18643916.29 0.2713 0.0660 *
 Jupiter -55757-05-27 03:21 J -18643674.55 -18643674.36 -18643674.16 0.0507 0.0074
 Saturn -55754-10-05 23:16 J -18642447.72 -18642447.53 -18642447.34 0.0263 0.0134
 Saturn -55753-05-22 04:18 J -18642218.47 -18642218.32 -18642218.15 0.0264 0.0181
 Jupiter -55745-01-31 06:28 J -18639408.40 -18639408.23 -18639408.06 0.0509 0.0255
 Uranus -55743-04-05 23:59 J -18638612.58 -18638612.50 -18638612.39 0.0135 0.0123
 Uranus -55743-11-18 08:37 J -18638386.30 -18638386.14 -18638385.97 0.0135 0.0089
 Uranus -55742-07-02 16:47 J -18638160.00 -18638159.80 -18638159.59 0.0135 0.0055
 Uranus -55741-02-14 00:57 J -18637933.68 -18637933.46 -18637933.24 0.0135 0.0022
 Uranus -55741-09-27 08:37 J -18637707.36 -18637707.14 -18637706.91 0.0134 0.0012

Uranus -55740-05-11 16:04 J -18637481.04 -18637480.83 -18637480.62 0.0134 0.0044
 Uranus -55740-12-23 23:01 J -18637254.71 -18637254.54 -18637254.34 0.0134 0.0077
 Saturn -55739-03-21 20:23 J -18637166.85 -18637166.65 -18637166.44 0.0298 0.0022
 Jupiter -55739-07-25 04:18 J -18637041.51 -18637041.32 -18637041.13 0.0521 0.0236
 Uranus -55739-08-07 06:13 J -18637028.36 -18637028.24 -18637028.10 0.0134 0.0109
 Jupiter -55727-03-29 18:13 J -18632775.94 -18632775.74 -18632775.54 0.0518 0.0141
 Mars -55725-02-04 00:42 J -18632099.65 -18632099.47 -18632099.29 0.1593 0.0047
 Saturn -55724-04-17 00:42 J -18631661.67 -18631661.47 -18631661.26 0.0263 0.0098
 Saturn -55724-12-02 05:59 J -18631432.36 -18631432.25 -18631432.12 0.0264 0.0218
 Mars -55723-11-06 22:47 J -18631092.63 -18631092.55 -18631092.46 0.1952 0.1654
 Jupiter -55721-02-02 12:28 J -18630640.14 -18630639.98 -18630639.80 0.0506 0.0259
 Jupiter -55716-12-02 07:25 J -18628510.20 -18628510.19 -18628510.17 0.0516 0.0514
 Neptune -55711-03-20 18:57 J -18626940.84 -18626940.71 -18626940.57 0.0088 0.0071
 Neptune -55711-11-01 08:37 J -18626715.30 -18626715.14 -18626714.94 0.0088 0.0052
 Neptune -55710-06-14 23:01 J -18626489.75 -18626489.54 -18626489.33 0.0088 0.0032
 Saturn -55710-10-02 01:25 J -18626380.64 -18626380.44 -18626380.24 0.0297 0.0076
 Jupiter -55710-10-08 17:16 J -18626373.98 -18626373.78 -18626373.59 0.0508 0.0061
 Neptune -55709-01-26 12:57 J -18626264.18 -18626263.96 -18626263.73 0.0088 0.0012
 Neptune -55709-09-08 03:06 J -18626038.60 -18626038.37 -18626038.14 0.0088 0.0008
 Neptune -55708-04-21 16:47 J -18625813.01 -18625812.80 -18625812.57 0.0088 0.0027
 Neptune -55708-12-03 06:57 J -18625587.40 -18625587.21 -18625587.02 0.0088 0.0047
 Neptune -55707-07-16 20:37 J -18625361.78 -18625361.64 -18625361.48 0.0088 0.0066
 Neptune -55706-02-27 11:01 J -18625136.09 -18625136.04 -18625135.99 0.0088 0.0086
 Jupiter -55703-04-01 20:09 J -18624006.76 -18624006.66 -18624006.55 0.0522 0.0450
 Uranus -55699-11-08 19:40 J -18622324.79 -18622324.68 -18622324.54 0.0143 0.0115
 Jupiter -55698-06-13 21:49 J -18622107.72 -18622107.59 -18622107.46 0.0510 0.0382
 Uranus -55698-06-23 04:47 J -18622098.47 -18622098.30 -18622098.12 0.0143 0.0078
 Uranus -55697-02-04 13:54 J -18621872.12 -18621871.92 -18621871.71 0.0144 0.0040
 Uranus -55697-09-17 23:45 J -18621645.73 -18621645.51 -18621645.30 0.0144 0.0002
 Uranus -55696-05-02 09:21 J -18621419.31 -18621419.11 -18621418.90 0.0144 0.0038

Uranus	-55696-12-14 19:11 J	-18621192.87	-18621192.70	-18621192.51	0.0145	0.0077
Uranus	-55695-07-29 05:30 J	-18620966.39	-18620966.27	-18620966.14	0.0145	0.0117
Saturn	-55695-10-28 04:18 J	-18620875.54	-18620875.32	-18620875.11	0.0263	0.0056
Saturn	-55694-06-14 09:21 J	-18620646.14	-18620646.11	-18620646.06	0.0264	0.0258
Jupiter	-55692-12-05 10:33 J	-18619741.27	-18619741.06	-18619740.86	0.0520	0.0075
Jupiter	-55686-10-11 00:57 J	-18617605.54	-18617605.46	-18617605.38	0.0504	0.0457
Saturn	-55680-04-13 00:13 J	-18615594.67	-18615594.49	-18615594.29	0.0298	0.0110
Jupiter	-55680-08-10 01:40 J	-18615475.60	-18615475.43	-18615475.26	0.0518	0.0295
Jupiter	-55674-06-16 04:33 J	-18613339.50	-18613339.31	-18613339.12	0.0506	0.0136
Saturn	-55665-05-09 05:16 J	-18610089.50	-18610089.28	-18610089.06	0.0263	0.0022
Jupiter	-55662-02-19 07:25 J	-18609073.37	-18609073.19	-18609073.01	0.0509	0.0193
Mars	-55660-12-01 12:28 J	-18608057.15	-18608056.98	-18608056.80	0.1592	0.0278
Uranus	-55659-07-18 14:23 J	-18607828.02	-18607827.90	-18607827.75	0.0135	0.0105
Uranus	-55658-03-01 23:16 J	-18607601.72	-18607601.53	-18607601.34	0.0135	0.0071
Uranus	-55658-10-14 07:11 J	-18607375.40	-18607375.20	-18607374.98	0.0135	0.0038
Uranus	-55657-05-27 15:21 J	-18607149.09	-18607148.86	-18607148.64	0.0135	0.0005
Uranus	-55656-01-08 22:47 J	-18606922.76	-18606922.55	-18606922.32	0.0134	0.0029
Jupiter	-55656-08-13 06:57 J	-18606706.38	-18606706.21	-18606706.04	0.0521	0.0306
Uranus	-55656-08-23 06:13 J	-18606696.43	-18606696.24	-18606696.03	0.0134	0.0061
Uranus	-55655-04-06 13:40 J	-18606470.08	-18606469.93	-18606469.76	0.0134	0.0093
Uranus	-55655-11-18 20:23 J	-18606243.71	-18606243.65	-18606243.55	0.0134	0.0125
Saturn	-55651-03-08 09:35 J	-18605038.18	-18605038.10	-18605038.01	0.0298	0.0269
Saturn	-55651-10-24 04:33 J	-18604808.48	-18604808.31	-18604808.13	0.0297	0.0160
Jupiter	-55644-04-17 17:16 J	-18602440.98	-18602440.78	-18602440.57	0.0519	0.0085
Pluto	-55640-05-31 08:37 J	-18600936.28	-18600936.14	-18600935.97	0.0067	0.0048
Pluto	-55639-01-11 14:37 J	-18600711.11	-18600710.89	-18600710.67	0.0068	0.0006
Pluto	-55639-08-24 20:09 J	-18600485.84	-18600485.66	-18600485.46	0.0068	0.0037
Jupiter	-55638-02-21 16:47 J	-18600304.95	-18600304.80	-18600304.65	0.0505	0.0334
Moon	-55636-03-30 11:30 J	-18599537.10	-18599537.02	-18599536.93	0.2624	0.2176
Earth	-55636-03-30 16:04 J	-18599536.90	-18599536.83	-18599536.75	0.2620	0.2351

Saturn -55636-11-19 09:06 J -18599303.34 -18599303.12 -18599302.90 0.0263 0.0021
 Jupiter -55633-12-21 07:54 J -18598175.27 -18598175.17 -18598175.07 0.0517 0.0452
 Neptune -55629-05-04 03:06 J -18596945.47 -18596945.37 -18596945.23 0.0089 0.0074
 Neptune -55629-12-15 15:06 J -18596720.02 -18596719.87 -18596719.69 0.0089 0.0055
 Earth -55628-03-28 04:18 J -18596617.42 -18596617.32 -18596617.21 0.2620 0.2008
 Moon -55628-03-28 04:18 J -18596617.41 -18596617.32 -18596617.23 0.2626 0.2093 *
 Neptune -55628-07-29 03:21 J -18596494.54 -18596494.36 -18596494.15 0.0089 0.0036
 Neptune -55627-03-11 15:35 J -18596269.06 -18596268.85 -18596268.64 0.0089 0.0016
 Neptune -55627-10-23 03:35 J -18596043.56 -18596043.35 -18596043.14 0.0089 0.0003
 Jupiter -55627-10-27 20:09 J -18596038.85 -18596038.66 -18596038.46 0.0507 0.0013
 Neptune -55626-06-05 15:21 J -18595818.06 -18595817.86 -18595817.64 0.0089 0.0022
 Neptune -55625-01-17 03:21 J -18595592.54 -18595592.36 -18595592.16 0.0089 0.0041
 Neptune -55625-08-29 15:21 J -18595367.00 -18595366.86 -18595366.69 0.0089 0.0060
 Mars -55625-09-02 23:59 J -18595362.58 -18595362.50 -18595362.42 0.1946 0.1703
 Neptune -55624-04-12 03:21 J -18595141.44 -18595141.36 -18595141.24 0.0089 0.0079
 Saturn -55622-09-18 08:52 J -18594252.25 -18594252.13 -18594252.00 0.0299 0.0233
 Saturn -55621-05-05 03:35 J -18594022.49 -18594022.35 -18594022.19 0.0297 0.0196
 Jupiter -55615-07-02 23:16 J -18591772.68 -18591772.53 -18591772.37 0.0509 0.0317
 Uranus -55615-07-09 04:04 J -18591766.40 -18591766.33 -18591766.24 0.0143 0.0131
 Uranus -55614-02-20 12:57 J -18591540.11 -18591539.96 -18591539.79 0.0143 0.0094
 Uranus -55614-10-04 22:04 J -18591313.77 -18591313.58 -18591313.38 0.0143 0.0057
 Uranus -55613-05-18 07:25 J -18591087.40 -18591087.19 -18591086.98 0.0144 0.0018
 Uranus -55613-12-30 17:01 J -18590861.00 -18590860.79 -18590860.58 0.0144 0.0020
 Uranus -55612-08-14 02:37 J -18590634.57 -18590634.39 -18590634.18 0.0144 0.0060
 Uranus -55611-03-28 12:42 J -18590408.11 -18590407.97 -18590407.80 0.0145 0.0099
 Uranus -55611-11-09 22:47 J -18590181.59 -18590181.55 -18590181.46 0.0145 0.0138
 Jupiter -55609-12-24 15:21 J -18589406.06 -18589405.86 -18589405.66 0.0520 0.0154
 Saturn -55607-10-15 04:33 J -18588746.34 -18588746.31 -18588746.26 0.0263 0.0258
 Saturn -55606-06-01 09:49 J -18588517.30 -18588517.09 -18588516.87 0.0263 0.0054
 Jupiter -55597-08-29 04:33 J -18585140.50 -18585140.31 -18585140.12 0.0518 0.0223

Mars	-55594-09-29 00:57 J	-18584014.63	-18584014.46	-18584014.29	0.1590	0.0491
Saturn	-55592-03-30 13:40 J	-18583466.09	-18583465.93	-18583465.76	0.0298	0.0180
Saturn	-55592-11-15 08:23 J	-18583236.26	-18583236.15	-18583236.03	0.0297	0.0246
Jupiter	-55591-07-05 06:42 J	-18583004.40	-18583004.22	-18583004.04	0.0506	0.0202
Jupiter	-55579-03-10 11:30 J	-18578738.21	-18578738.02	-18578737.83	0.0508	0.0117
Saturn	-55577-04-26 08:52 J	-18577960.25	-18577960.13	-18577959.99	0.0263	0.0214
Saturn	-55577-12-11 14:09 J	-18577731.11	-18577730.91	-18577730.70	0.0263	0.0099
Uranus	-55575-03-17 20:23 J	-18577269.73	-18577269.65	-18577269.53	0.0136	0.0122
Uranus	-55575-10-30 05:01 J	-18577043.44	-18577043.29	-18577043.11	0.0135	0.0088
Uranus	-55574-06-13 13:40 J	-18576817.13	-18576816.93	-18576816.73	0.0135	0.0054
Uranus	-55573-01-25 21:49 J	-18576590.81	-18576590.59	-18576590.37	0.0135	0.0021
Jupiter	-55573-09-01 07:11 J	-18576371.34	-18576371.20	-18576371.05	0.0521	0.0368
Uranus	-55573-09-08 05:30 J	-18576364.48	-18576364.27	-18576364.04	0.0134	0.0013
Uranus	-55572-04-22 13:11 J	-18576138.15	-18576137.95	-18576137.73	0.0134	0.0045
Uranus	-55572-12-04 20:23 J	-18575911.82	-18575911.65	-18575911.46	0.0134	0.0077
Uranus	-55571-07-19 03:35 J	-18575685.47	-18575685.35	-18575685.21	0.0134	0.0109
Jupiter	-55568-11-13 14:23 J	-18574471.99	-18574471.90	-18574471.80	0.0510	0.0446
Saturn	-55563-10-10 13:40 J	-18572680.11	-18572679.93	-18572679.75	0.0298	0.0142
Saturn	-55562-05-28 07:54 J	-18572450.21	-18572450.17	-18572450.10	0.0297	0.0284
Mars	-55562-09-27 18:57 J	-18572327.79	-18572327.71	-18572327.63	0.1595	0.1415
Jupiter	-55561-05-06 22:04 J	-18572105.79	-18572105.58	-18572105.37	0.0519	0.0007
Mars	-55559-07-01 02:23 J	-18571320.55	-18571320.40	-18571320.25	0.1949	0.0867
Jupiter	-55555-03-12 17:45 J	-18569969.88	-18569969.76	-18569969.64	0.0505	0.0394
Pluto	-55554-03-31 16:04 J	-18569585.93	-18569585.83	-18569585.71	0.0077	0.0065
Pluto	-55554-11-12 00:42 J	-18569360.68	-18569360.47	-18569360.25	0.0076	0.0005
Pluto	-55553-06-24 08:37 J	-18569135.27	-18569135.14	-18569134.97	0.0076	0.0054
Jupiter	-55549-01-10 12:28 J	-18567840.12	-18567839.98	-18567839.83	0.0517	0.0374
Saturn	-55548-11-06 09:49 J	-18567174.25	-18567174.09	-18567173.93	0.0263	0.0180
Neptune	-55547-06-22 05:30 J	-18566946.37	-18566946.27	-18566946.16	0.0088	0.0078
Saturn	-55547-06-23 15:06 J	-18566945.06	-18566944.87	-18566944.68	0.0264	0.0133

Neptune -55546-02-02 19:25 J -18566720.84 -18566720.69 -18566720.50 0.0088 0.0058
 Neptune -55546-09-16 09:49 J -18566495.29 -18566495.09 -18566494.88 0.0088 0.0038
 Neptune -55545-04-28 23:45 J -18566269.73 -18566269.51 -18566269.28 0.0088 0.0019
 Neptune -55545-12-10 13:54 J -18566044.15 -18566043.92 -18566043.70 0.0088 0.0001
 Neptune -55544-07-24 03:35 J -18565818.56 -18565818.35 -18565818.12 0.0088 0.0021
 Jupiter -55544-11-15 20:37 J -18565703.84 -18565703.64 -18565703.44 0.0507 0.0069
 Neptune -55543-03-06 17:30 J -18565592.95 -18565592.77 -18565592.55 0.0088 0.0040
 Neptune -55543-10-18 07:25 J -18565367.34 -18565367.19 -18565367.00 0.0088 0.0060
 Neptune -55542-05-31 21:35 J -18565141.69 -18565141.60 -18565141.49 0.0088 0.0079
 Saturn -55533-04-21 18:28 J -18561893.92 -18561893.73 -18561893.53 0.0298 0.0089
 Jupiter -55532-07-22 00:42 J -18561437.64 -18561437.47 -18561437.29 0.0509 0.0253
 Uranus -55531-10-20 21:06 J -18560981.73 -18560981.62 -18560981.47 0.0143 0.0111
 Uranus -55530-06-04 06:13 J -18560755.41 -18560755.24 -18560755.05 0.0143 0.0074
 Uranus -55529-01-16 15:35 J -18560529.06 -18560528.85 -18560528.64 0.0144 0.0036
 Uranus -55529-08-30 01:11 J -18560302.66 -18560302.45 -18560302.24 0.0144 0.0003
 Uranus -55528-04-13 10:33 J -18560076.25 -18560076.06 -18560075.85 0.0144 0.0042
 Mars -55528-07-26 12:57 J -18559972.12 -18559971.96 -18559971.80 0.1589 0.0718
 Uranus -55528-11-25 20:37 J -18559849.81 -18559849.64 -18559849.46 0.0145 0.0080
 Uranus -55527-07-10 06:42 J -18559623.34 -18559623.22 -18559623.10 0.0145 0.0119
 Jupiter -55525-01-13 13:40 J -18559071.12 -18559070.93 -18559070.74 0.0520 0.0207
 Saturn -55518-05-19 14:52 J -18556388.07 -18556387.88 -18556387.69 0.0263 0.0133
 Saturn -55517-01-03 20:09 J -18556158.81 -18556158.66 -18556158.50 0.0264 0.0180
 Earth -55515-09-28 05:16 J -18555160.42 -18555160.28 -18555160.13 0.2713 0.0565
 Moon -55515-09-28 09:06 J -18555160.26 -18555160.12 -18555159.97 0.2718 0.0134 *
 Jupiter -55514-09-18 03:35 J -18554805.55 -18554805.35 -18554805.15 0.0518 0.0167
 Jupiter -55508-07-24 08:37 J -18552669.31 -18552669.14 -18552668.97 0.0506 0.0266
 Saturn -55504-11-01 20:23 J -18551107.85 -18551107.65 -18551107.45 0.0298 0.0045
 Jupiter -55496-03-29 11:59 J -18548403.20 -18548403.00 -18548402.81 0.0508 0.0059
 Mars -55496-07-25 07:11 J -18548285.32 -18548285.20 -18548285.09 0.1594 0.1187
 Mars -55493-04-27 05:45 J -18547278.43 -18547278.26 -18547278.09 0.1951 0.0084

Uranus -55491-06-29 12:13 J -18546485.12 -18546484.99 -18546484.83 0.0135 0.0103
 Uranus -55490-02-10 21:06 J -18546258.81 -18546258.62 -18546258.43 0.0135 0.0070
 Jupiter -55490-09-21 11:01 J -18546036.15 -18546036.04 -18546035.93 0.0521 0.0442
 Uranus -55490-09-25 05:01 J -18546032.49 -18546032.29 -18546032.06 0.0135 0.0037
 Uranus -55489-05-08 13:11 J -18545806.17 -18545805.95 -18545805.72 0.0135 0.0005
 Saturn -55489-11-28 15:49 J -18545602.03 -18545601.84 -18545601.63 0.0263 0.0099
 Uranus -55489-12-20 20:52 J -18545579.84 -18545579.63 -18545579.40 0.0134 0.0030
 Saturn -55488-07-15 21:21 J -18545372.72 -18545372.61 -18545372.47 0.0264 0.0215
 Uranus -55488-08-04 04:18 J -18545353.50 -18545353.32 -18545353.11 0.0134 0.0062
 Uranus -55487-03-18 11:45 J -18545127.16 -18545127.01 -18545126.84 0.0134 0.0094
 Uranus -55487-10-30 18:57 J -18544900.78 -18544900.71 -18544900.63 0.0134 0.0125
 Jupiter -55485-12-02 13:54 J -18544137.05 -18544136.92 -18544136.79 0.0510 0.0390
 Jupiter -55478-05-26 23:45 J -18541770.72 -18541770.51 -18541770.30 0.0519 0.0062
 Saturn -55474-05-15 01:54 J -18540321.63 -18540321.42 -18540321.22 0.0297 0.0012
 Jupiter -55472-03-31 18:13 J -18539634.82 -18539634.74 -18539634.65 0.0505 0.0453
 Jupiter -55466-01-29 10:04 J -18537505.24 -18537505.08 -18537504.92 0.0517 0.0325
 Neptune -55465-08-05 16:18 J -18536950.89 -18536950.82 -18536950.71 0.0089 0.0080
 Neptune -55464-03-19 04:18 J -18536725.46 -18536725.32 -18536725.15 0.0089 0.0061
 Neptune -55464-10-30 16:18 J -18536500.00 -18536499.82 -18536499.62 0.0089 0.0042
 Neptune -55463-06-13 04:18 J -18536274.52 -18536274.32 -18536274.11 0.0089 0.0023
 Neptune -55462-01-24 16:33 J -18536049.03 -18536048.81 -18536048.60 0.0089 0.0004
 Mars -55462-05-24 01:11 J -18535929.59 -18535929.45 -18535929.30 0.1588 0.0930
 Neptune -55462-09-07 04:18 J -18535823.52 -18535823.32 -18535823.10 0.0089 0.0015
 Neptune -55461-04-19 16:18 J -18535598.01 -18535597.82 -18535597.61 0.0089 0.0034
 Neptune -55461-12-01 04:04 J -18535372.48 -18535372.33 -18535372.14 0.0089 0.0053
 Jupiter -55461-12-04 22:47 J -18535368.74 -18535368.55 -18535368.36 0.0507 0.0135
 Neptune -55460-07-14 16:04 J -18535146.93 -18535146.83 -18535146.68 0.0089 0.0073
 Saturn -55459-06-10 22:04 J -18534815.79 -18534815.58 -18534815.36 0.0263 0.0049
 Jupiter -55449-08-10 01:40 J -18531102.61 -18531102.43 -18531102.25 0.0509 0.0193
 Uranus -55447-06-20 05:30 J -18530423.35 -18530423.27 -18530423.17 0.0143 0.0127

Uranus -55446-02-01 14:23 J -18530197.06 -18530196.90 -18530196.73 0.0143 0.0091
 Uranus -55446-09-15 23:16 J -18529970.71 -18529970.53 -18529970.32 0.0144 0.0054
 Uranus -55445-04-29 08:52 J -18529744.34 -18529744.13 -18529743.92 0.0144 0.0015
 Saturn -55445-11-24 05:01 J -18529535.48 -18529535.29 -18529535.08 0.0297 0.0061
 Uranus -55445-12-11 18:13 J -18529517.95 -18529517.74 -18529517.53 0.0144 0.0023
 Uranus -55444-07-26 04:04 J -18529291.52 -18529291.33 -18529291.14 0.0144 0.0062
 Uranus -55443-03-09 13:54 J -18529065.06 -18529064.92 -18529064.76 0.0145 0.0101
 Uranus -55443-10-21 23:59 J -18528838.54 -18528838.50 -18528838.43 0.0145 0.0140
 Jupiter -55442-02-01 16:18 J -18528736.00 -18528735.82 -18528735.64 0.0521 0.0276
 Jupiter -55431-10-07 06:13 J -18524470.45 -18524470.24 -18524470.03 0.0518 0.0098
 Mars -55430-05-22 19:11 J -18524242.84 -18524242.70 -18524242.55 0.1592 0.0964
 Saturn -55430-12-21 23:59 J -18524029.72 -18524029.50 -18524029.29 0.0263 0.0013
 Mars -55427-02-22 08:09 J -18523236.32 -18523236.16 -18523236.00 0.1953 0.0775
 Jupiter -55425-08-12 06:57 J -18522334.36 -18522334.21 -18522334.05 0.0506 0.0316
 Jupiter -55419-06-11 19:25 J -18520204.78 -18520204.69 -18520204.61 0.0516 0.0469
 Saturn -55415-06-06 11:45 J -18518749.20 -18518749.01 -18518748.83 0.0297 0.0119
 Jupiter -55413-04-17 11:01 J -18518068.24 -18518068.04 -18518067.84 0.0508 0.0007
 Uranus -55407-02-26 19:40 J -18515926.77 -18515926.68 -18515926.56 0.0135 0.0119
 Jupiter -55407-10-10 07:11 J -18515701.27 -18515701.20 -18515701.12 0.0521 0.0484
 Uranus -55407-10-11 04:18 J -18515700.48 -18515700.32 -18515700.14 0.0135 0.0085
 Uranus -55406-05-25 12:42 J -18515474.17 -18515473.97 -18515473.76 0.0135 0.0052
 Uranus -55405-01-06 20:52 J -18515247.85 -18515247.63 -18515247.41 0.0135 0.0019
 Uranus -55405-08-20 04:47 J -18515021.52 -18515021.30 -18515021.08 0.0134 0.0014
 Uranus -55404-04-03 12:28 J -18514795.19 -18514794.98 -18514794.77 0.0134 0.0046
 Uranus -55404-11-15 19:40 J -18514568.85 -18514568.68 -18514568.49 0.0134 0.0078
 Uranus -55403-06-30 02:37 J -18514342.50 -18514342.39 -18514342.25 0.0134 0.0110
 Jupiter -55402-12-22 14:23 J -18513802.05 -18513801.90 -18513801.75 0.0510 0.0331
 Saturn -55400-07-03 06:57 J -18513243.43 -18513243.21 -18513243.00 0.0264 0.0041
 Mars -55396-03-20 13:40 J -18511887.05 -18511886.93 -18511886.81 0.1587 0.1144
 Jupiter -55395-06-14 20:23 J -18511435.85 -18511435.65 -18511435.44 0.0519 0.0107

Earth	-55393-03-30 14:09 J	-18510780.99	-18510780.91	-18510780.82	0.2620	0.2212
Pluto	-55392-12-14 10:33 J	-18510157.19	-18510157.06	-18510156.87	0.0067	0.0048
Pluto	-55391-07-27 16:47 J	-18509932.02	-18509931.80	-18509931.58	0.0068	0.0005
Pluto	-55390-03-09 22:04 J	-18509706.75	-18509706.58	-18509706.38	0.0068	0.0038
Jupiter	-55389-04-19 17:30 J	-18509299.78	-18509299.77	-18509299.76	0.0505	0.0503
Saturn	-55386-05-01 22:33 J	-18508192.67	-18508192.56	-18508192.44	0.0298	0.0246
Saturn	-55386-12-17 17:01 J	-18507962.95	-18507962.79	-18507962.62	0.0297	0.0177
Earth	-55385-03-28 02:09 J	-18507861.50	-18507861.41	-18507861.31	0.2620	0.2169
Moon	-55385-03-28 05:16 J	-18507861.42	-18507861.28	-18507861.14	0.2615	0.1503 *
Jupiter	-55383-02-17 10:47 J	-18507170.22	-18507170.05	-18507169.87	0.0517	0.0265
Neptune	-55383-09-23 16:04 J	-18506951.88	-18506951.83	-18506951.76	0.0088	0.0085
Neptune	-55382-05-07 05:59 J	-18506726.38	-18506726.25	-18506726.08	0.0088	0.0065
Neptune	-55382-12-18 20:23 J	-18506500.84	-18506500.65	-18506500.45	0.0088	0.0045
Neptune	-55381-07-31 10:18 J	-18506275.27	-18506275.07	-18506274.84	0.0088	0.0026
Neptune	-55380-03-14 00:42 J	-18506049.69	-18506049.47	-18506049.24	0.0088	0.0006
Neptune	-55380-10-25 14:37 J	-18505824.11	-18505823.89	-18505823.66	0.0088	0.0013
Neptune	-55379-06-08 04:18 J	-18505598.51	-18505598.32	-18505598.09	0.0088	0.0033
Neptune	-55378-01-19 18:28 J	-18505372.90	-18505372.73	-18505372.54	0.0088	0.0052
Neptune	-55378-09-02 08:37 J	-18505147.27	-18505147.14	-18505147.01	0.0088	0.0072
Jupiter	-55378-12-24 20:52 J	-18505033.82	-18505033.63	-18505033.45	0.0507	0.0183
Saturn	-55371-05-29 03:49 J	-18502686.44	-18502686.34	-18502686.24	0.0263	0.0232
Saturn	-55370-01-13 09:35 J	-18502457.30	-18502457.10	-18502456.89	0.0264	0.0080
Jupiter	-55366-08-29 22:47 J	-18500767.73	-18500767.55	-18500767.35	0.0509	0.0148
Mars	-55364-03-19 07:40 J	-18500200.34	-18500200.18	-18500200.03	0.1591	0.0742
Uranus	-55363-10-01 21:35 J	-18499638.74	-18499638.60	-18499638.46	0.0143	0.0109
Uranus	-55362-05-16 06:13 J	-18499412.42	-18499412.24	-18499412.05	0.0143	0.0072
Mars	-55362-12-20 11:01 J	-18499194.13	-18499194.04	-18499193.94	0.1955	0.1591
Uranus	-55362-12-28 15:21 J	-18499186.06	-18499185.86	-18499185.65	0.0144	0.0034
Uranus	-55361-08-11 00:57 J	-18498959.67	-18498959.46	-18498959.25	0.0144	0.0004
Uranus	-55360-03-25 10:18 J	-18498733.26	-18498733.07	-18498732.86	0.0144	0.0042

Uranus -55360-11-06 20:09 J -18498506.83 -18498506.66 -18498506.48 0.0145 0.0081
 Jupiter -55359-02-20 15:35 J -18498401.01 -18498400.85 -18498400.69 0.0520 0.0332
 Uranus -55359-06-21 06:13 J -18498280.35 -18498280.24 -18498280.11 0.0145 0.0119
 Saturn -55357-11-11 05:30 J -18497406.42 -18497406.27 -18497406.11 0.0298 0.0187
 Saturn -55356-06-28 23:59 J -18497176.61 -18497176.50 -18497176.37 0.0297 0.0237
 Jupiter -55354-05-05 01:40 J -18496501.49 -18496501.43 -18496501.35 0.0511 0.0475
 Jupiter -55348-10-26 01:40 J -18494135.63 -18494135.43 -18494135.22 0.0518 0.0059
 Jupiter -55342-09-01 06:13 J -18491999.37 -18491999.24 -18491999.10 0.0506 0.0368
 Saturn -55342-12-09 11:30 J -18491900.18 -18491900.02 -18491899.85 0.0264 0.0178
 Saturn -55341-07-25 17:16 J -18491670.96 -18491670.78 -18491670.59 0.0264 0.0136
 Jupiter -55336-06-30 14:52 J -18489869.99 -18489869.88 -18489869.76 0.0516 0.0430
 Mars -55330-01-16 01:54 J -18487844.51 -18487844.42 -18487844.33 0.1586 0.1358
 Jupiter -55330-05-07 08:52 J -18487733.33 -18487733.13 -18487732.93 0.0508 0.0041
 Saturn -55327-05-24 13:25 J -18486620.13 -18486619.94 -18486619.75 0.0298 0.0120
 Uranus -55324-10-27 03:06 J -18485368.39 -18485368.37 -18485368.33 0.0136 0.0134
 Uranus -55323-06-10 11:45 J -18485142.14 -18485142.01 -18485141.85 0.0135 0.0101
 Uranus -55322-01-22 20:23 J -18484915.83 -18484915.65 -18484915.45 0.0135 0.0067
 Uranus -55322-09-06 04:47 J -18484689.51 -18484689.30 -18484689.08 0.0135 0.0034
 Uranus -55321-04-19 12:42 J -18484463.19 -18484462.97 -18484462.74 0.0135 0.0003
 Uranus -55321-12-01 20:23 J -18484236.86 -18484236.65 -18484236.43 0.0134 0.0031
 Uranus -55320-07-16 03:35 J -18484010.53 -18484010.35 -18484010.14 0.0134 0.0063
 Uranus -55319-02-27 11:16 J -18483784.18 -18483784.03 -18483783.87 0.0134 0.0094
 Uranus -55319-10-11 17:45 J -18483557.81 -18483557.76 -18483557.66 0.0134 0.0126
 Jupiter -55318-01-10 11:45 J -18483467.18 -18483467.01 -18483466.85 0.0510 0.0287
 Saturn -55312-06-20 14:52 J -18481114.06 -18481113.88 -18481113.69 0.0263 0.0137
 Jupiter -55312-07-03 20:23 J -18481100.85 -18481100.65 -18481100.45 0.0519 0.0165
 Saturn -55311-02-04 20:52 J -18480884.79 -18480884.63 -18480884.46 0.0264 0.0177
 Pluto -55306-10-14 17:30 J -18478806.85 -18478806.77 -18478806.65 0.0077 0.0068
 Pluto -55305-05-27 02:37 J -18478581.61 -18478581.39 -18478581.17 0.0076 0.0008
 Pluto -55304-01-07 10:47 J -18478356.20 -18478356.05 -18478355.88 0.0076 0.0051

Neptune -55301-11-07 05:30 J -18476956.31 -18476956.27 -18476956.21 0.0089 0.0087
 Jupiter -55300-03-08 09:21 J -18476835.30 -18476835.11 -18476834.92 0.0517 0.0211
 Neptune -55300-06-20 17:45 J -18476730.90 -18476730.76 -18476730.62 0.0089 0.0068
 Neptune -55299-02-01 05:16 J -18476505.44 -18476505.28 -18476505.09 0.0089 0.0049
 Neptune -55299-09-14 17:16 J -18476279.97 -18476279.78 -18476279.57 0.0089 0.0030
 Mars -55298-01-14 19:40 J -18476157.84 -18476157.68 -18476157.51 0.1590 0.0522
 Neptune -55298-04-28 05:16 J -18476054.48 -18476054.28 -18476054.06 0.0089 0.0012
 Saturn -55298-12-04 20:52 J -18475833.83 -18475833.63 -18475833.43 0.0298 0.0058
 Neptune -55298-12-09 17:16 J -18475828.99 -18475828.78 -18475828.56 0.0089 0.0008
 Neptune -55297-07-22 05:16 J -18475603.47 -18475603.28 -18475603.06 0.0089 0.0027
 Neptune -55296-03-04 17:16 J -18475377.95 -18475377.78 -18475377.58 0.0089 0.0046
 Neptune -55296-10-16 05:01 J -18475152.41 -18475152.29 -18475152.12 0.0089 0.0065
 Neptune -55295-05-29 17:01 J -18474926.84 -18474926.79 -18474926.70 0.0089 0.0084
 Jupiter -55294-01-12 17:16 J -18474698.96 -18474698.78 -18474698.61 0.0507 0.0224
 Jupiter -55283-09-17 20:23 J -18470432.85 -18470432.65 -18470432.46 0.0509 0.0103
 Saturn -55283-12-31 23:30 J -18470327.73 -18470327.52 -18470327.31 0.0264 0.0079
 Saturn -55282-08-18 05:16 J -18470098.37 -18470098.28 -18470098.17 0.0265 0.0235
 Uranus -55279-06-01 03:35 J -18469080.44 -18469080.35 -18469080.25 0.0143 0.0127
 Uranus -55278-01-13 11:59 J -18468854.14 -18468854.00 -18468853.82 0.0143 0.0092
 Uranus -55278-08-27 21:21 J -18468627.80 -18468627.61 -18468627.41 0.0144 0.0054
 Uranus -55277-04-10 06:28 J -18468401.44 -18468401.23 -18468401.01 0.0144 0.0017
 Uranus -55277-11-22 16:04 J -18468175.04 -18468174.83 -18468174.62 0.0144 0.0022
 Jupiter -55276-03-11 10:18 J -18468066.22 -18468066.07 -18468065.92 0.0520 0.0366
 Uranus -55276-07-07 01:25 J -18467948.63 -18467948.44 -18467948.24 0.0144 0.0060
 Uranus -55275-02-18 11:30 J -18467722.18 -18467722.02 -18467721.86 0.0145 0.0098
 Uranus -55275-10-02 21:21 J -18467495.66 -18467495.61 -18467495.52 0.0145 0.0137
 Moon -55272-09-28 07:11 J -18466404.36 -18466404.20 -18466404.05 0.2706 0.0475
 Earth -55272-09-28 09:21 J -18466404.26 -18466404.11 -18466403.96 0.2712 0.0450 *
 Jupiter -55271-05-23 22:33 J -18466166.66 -18466166.56 -18466166.46 0.0511 0.0435
 Saturn -55268-06-16 06:28 J -18465047.44 -18465047.23 -18465047.03 0.0297 0.0014

Mars -55265-11-12 14:09 J -18463801.93 -18463801.91 -18463801.89 0.1585 0.1571
 Jupiter -55265-11-13 23:30 J -18463800.72 -18463800.52 -18463800.31 0.0518 0.0015
 Mars -55264-10-16 11:30 J -18463464.10 -18463464.02 -18463463.95 0.1950 0.1727
 Jupiter -55259-09-20 02:09 J -18461664.52 -18461664.41 -18461664.29 0.0506 0.0405
 Saturn -55253-07-13 03:21 J -18459541.57 -18459541.36 -18459541.14 0.0264 0.0037
 Jupiter -55253-07-19 13:25 J -18459535.07 -18459534.94 -18459534.79 0.0516 0.0379
 Jupiter -55247-05-26 04:18 J -18457398.52 -18457398.32 -18457398.13 0.0508 0.0078
 Uranus -55239-02-07 18:13 J -18454583.84 -18454583.74 -18454583.62 0.0136 0.0117
 Uranus -55239-09-22 03:06 J -18454357.55 -18454357.37 -18454357.20 0.0135 0.0084
 Saturn -55239-12-27 13:40 J -18454261.13 -18454260.93 -18454260.73 0.0297 0.0075
 Uranus -55238-05-06 11:16 J -18454131.23 -18454131.03 -18454130.82 0.0135 0.0051
 Uranus -55238-12-18 19:25 J -18453904.91 -18453904.69 -18453904.47 0.0135 0.0018
 Uranus -55237-08-01 03:21 J -18453678.58 -18453678.36 -18453678.14 0.0135 0.0014
 Uranus -55236-03-15 11:01 J -18453452.25 -18453452.04 -18453451.83 0.0134 0.0047
 Uranus -55236-10-27 18:13 J -18453225.91 -18453225.74 -18453225.55 0.0134 0.0078
 Jupiter -55235-01-29 06:57 J -18453132.38 -18453132.21 -18453132.04 0.0510 0.0250
 Uranus -55235-06-11 01:25 J -18452999.56 -18452999.44 -18452999.31 0.0134 0.0109
 Mars -55233-11-11 07:54 J -18452115.35 -18452115.17 -18452115.00 0.1589 0.0299
 Jupiter -55229-07-22 14:52 J -18450766.07 -18450765.88 -18450765.68 0.0519 0.0198
 Saturn -55223-01-23 11:59 J -18448755.21 -18448755.00 -18448754.77 0.0264 0.0023
 Neptune -55218-08-08 17:01 J -18446731.91 -18446731.79 -18446731.64 0.0088 0.0072
 Neptune -55217-03-21 07:11 J -18446506.37 -18446506.20 -18446506.00 0.0088 0.0052
 Jupiter -55217-03-27 03:35 J -18446500.54 -18446500.35 -18446500.15 0.0517 0.0178
 Neptune -55217-11-01 21:35 J -18446280.81 -18446280.60 -18446280.39 0.0088 0.0032
 Neptune -55216-06-15 11:30 J -18446055.24 -18446055.02 -18446054.79 0.0088 0.0013
 Neptune -55215-01-27 01:54 J -18445829.65 -18445829.42 -18445829.19 0.0088 0.0007
 Neptune -55215-09-09 15:49 J -18445604.05 -18445603.84 -18445603.62 0.0088 0.0026
 Neptune -55214-04-23 05:45 J -18445378.45 -18445378.26 -18445378.06 0.0088 0.0046
 Neptune -55214-12-04 19:25 J -18445152.82 -18445152.69 -18445152.52 0.0088 0.0065
 Neptune -55213-07-17 09:35 J -18444927.15 -18444927.10 -18444927.02 0.0088 0.0084

Jupiter -55211-01-31 12:57 J -18444364.13 -18444363.96 -18444363.79 0.0507 0.0259
 Saturn -55210-11-22 05:45 J -18443704.33 -18443704.26 -18443704.17 0.0298 0.0271
 Saturn -55209-07-09 00:13 J -18443474.66 -18443474.49 -18443474.31 0.0297 0.0151
 Jupiter -55200-10-06 16:18 J -18440098.02 -18440097.82 -18440097.62 0.0509 0.0064
 Mars -55198-08-13 14:37 J -18439422.04 -18439421.89 -18439421.74 0.1952 0.0918
 Uranus -55195-09-12 18:42 J -18438295.85 -18438295.72 -18438295.58 0.0143 0.0109
 Saturn -55195-12-19 10:33 J -18438198.12 -18438198.06 -18438197.97 0.0263 0.0246
 Uranus -55194-04-27 03:06 J -18438069.54 -18438069.37 -18438069.17 0.0143 0.0074
 Saturn -55194-08-05 16:33 J -18437969.02 -18437968.81 -18437968.60 0.0264 0.0065
 Uranus -55194-12-09 12:28 J -18437843.19 -18437842.98 -18437842.78 0.0144 0.0036
 Jupiter -55193-03-30 08:23 J -18437731.27 -18437731.15 -18437731.02 0.0521 0.0417
 Uranus -55193-07-22 21:35 J -18437616.81 -18437616.60 -18437616.38 0.0144 0.0002
 Uranus -55192-03-06 06:57 J -18437390.41 -18437390.21 -18437390.00 0.0144 0.0039
 Uranus -55192-10-18 16:33 J -18437163.98 -18437163.81 -18437163.62 0.0144 0.0078
 Uranus -55191-06-02 02:37 J -18436937.51 -18436937.39 -18436937.26 0.0145 0.0116
 Jupiter -55188-06-11 17:45 J -18435831.88 -18435831.76 -18435831.63 0.0511 0.0397
 Jupiter -55182-12-03 21:06 J -18433465.83 -18433465.62 -18433465.41 0.0518 0.0040
 Saturn -55180-06-03 12:42 J -18432918.10 -18432917.97 -18432917.82 0.0298 0.0211
 Saturn -55179-01-19 07:11 J -18432688.34 -18432688.20 -18432688.05 0.0297 0.0210
 Jupiter -55176-10-08 21:06 J -18431329.71 -18431329.62 -18431329.52 0.0506 0.0440
 Jupiter -55170-08-08 08:52 J -18429200.28 -18429200.13 -18429199.97 0.0516 0.0341
 Mars -55167-09-08 20:09 J -18428072.83 -18428072.66 -18428072.48 0.1588 0.0094
 Saturn -55165-06-30 18:57 J -18427411.86 -18427411.71 -18427411.56 0.0264 0.0190
 Saturn -55164-02-15 00:57 J -18427182.65 -18427182.46 -18427182.26 0.0265 0.0123
 Jupiter -55164-06-13 23:59 J -18427063.69 -18427063.50 -18427063.31 0.0508 0.0114
 Uranus -55156-10-07 23:59 J -18424025.54 -18424025.50 -18424025.46 0.0136 0.0133
 Uranus -55155-05-22 08:52 J -18423799.28 -18423799.13 -18423798.98 0.0135 0.0100
 Uranus -55154-01-03 17:01 J -18423572.97 -18423572.79 -18423572.58 0.0135 0.0067
 Uranus -55154-08-18 01:40 J -18423346.65 -18423346.43 -18423346.22 0.0135 0.0034
 Uranus -55153-03-31 09:49 J -18423120.32 -18423120.09 -18423119.87 0.0135 0.0003

Uranus -55153-11-12 17:16 J -18422893.99 -18422893.78 -18422893.55 0.0134 0.0031
 Jupiter -55152-02-17 02:37 J -18422797.57 -18422797.39 -18422797.21 0.0510 0.0214
 Uranus -55152-06-27 00:42 J -18422667.66 -18422667.47 -18422667.26 0.0134 0.0062
 Uranus -55151-02-08 08:23 J -18422441.31 -18422441.15 -18422440.99 0.0134 0.0094
 Uranus -55151-09-22 14:52 J -18422214.94 -18422214.88 -18422214.78 0.0134 0.0125
 Saturn -55151-12-14 23:45 J -18422131.69 -18422131.51 -18422131.33 0.0297 0.0135
 Moon -55150-03-31 05:59 J -18422025.39 -18422025.25 -18422025.11 0.2619 0.1327
 Earth -55150-03-31 12:13 J -18422025.09 -18422024.99 -18422024.89 0.2621 0.2058
 Saturn -55150-08-01 17:59 J -18421901.80 -18421901.75 -18421901.69 0.0296 0.0284
 Jupiter -55146-08-11 11:16 J -18420431.22 -18420431.03 -18420430.85 0.0520 0.0241
 Pluto -55143-06-29 14:23 J -18419378.06 -18419377.90 -18419377.71 0.0068 0.0043
 Pluto -55142-02-09 20:23 J -18419152.88 -18419152.65 -18419152.43 0.0068 0.0001
 Earth -55142-03-29 00:28 J -18419105.56 -18419105.48 -18419105.41 0.2621 0.2293
 Pluto -55142-09-23 01:40 J -18418927.58 -18418927.43 -18418927.24 0.0068 0.0043
 Neptune -55136-09-22 06:42 J -18416736.32 -18416736.22 -18416736.09 0.0089 0.0074
 Saturn -55135-01-10 23:45 J -18416625.69 -18416625.51 -18416625.32 0.0263 0.0146
 Neptune -55135-05-05 18:42 J -18416510.88 -18416510.72 -18416510.54 0.0089 0.0055
 Saturn -55135-08-28 05:30 J -18416396.43 -18416396.27 -18416396.09 0.0264 0.0166
 Neptune -55135-12-17 06:42 J -18416285.41 -18416285.22 -18416285.02 0.0089 0.0037
 Jupiter -55134-04-16 01:11 J -18416165.65 -18416165.45 -18416165.25 0.0518 0.0130
 Neptune -55134-07-30 18:57 J -18416059.92 -18416059.71 -18416059.50 0.0089 0.0018
 Neptune -55133-03-12 06:42 J -18415834.43 -18415834.22 -18415834.00 0.0089 0.0002
 Neptune -55133-10-23 18:28 J -18415608.93 -18415608.73 -18415608.51 0.0089 0.0020
 Neptune -55132-06-06 06:13 J -18415383.42 -18415383.24 -18415383.03 0.0089 0.0039
 Mars -55132-06-09 16:47 J -18415379.97 -18415379.80 -18415379.63 0.1954 0.0077
 Neptune -55131-01-17 17:59 J -18415157.89 -18415157.75 -18415157.57 0.0089 0.0059
 Neptune -55131-08-31 05:59 J -18414932.33 -18414932.25 -18414932.12 0.0089 0.0078
 Jupiter -55128-02-19 08:23 J -18414029.31 -18414029.15 -18414028.98 0.0506 0.0296
 Jupiter -55123-12-19 14:37 J -18411899.93 -18411899.89 -18411899.83 0.0515 0.0498
 Saturn -55121-06-26 05:45 J -18411345.45 -18411345.26 -18411345.06 0.0298 0.0078

Jupiter -55117-10-25 11:16 J -18409763.23 -18409763.03 -18409762.83 0.0509 0.0029
 Uranus -55111-05-13 01:54 J -18407737.52 -18407737.42 -18407737.33 0.0143 0.0126
 Uranus -55111-12-25 10:18 J -18407511.23 -18407511.07 -18407510.90 0.0143 0.0090
 Jupiter -55110-04-19 03:49 J -18407396.43 -18407396.34 -18407396.23 0.0520 0.0454
 Uranus -55110-08-08 18:57 J -18407284.89 -18407284.71 -18407284.50 0.0143 0.0055
 Uranus -55109-03-22 04:18 J -18407058.53 -18407058.32 -18407058.11 0.0144 0.0017
 Uranus -55109-11-03 13:25 J -18406832.15 -18406831.94 -18406831.73 0.0144 0.0021
 Uranus -55108-06-17 22:47 J -18406605.73 -18406605.55 -18406605.35 0.0144 0.0059
 Uranus -55107-01-30 08:23 J -18406379.29 -18406379.15 -18406378.97 0.0145 0.0097
 Uranus -55107-09-13 18:42 J -18406152.78 -18406152.72 -18406152.63 0.0145 0.0135
 Saturn -55106-07-24 07:11 J -18405839.40 -18405839.20 -18405838.99 0.0264 0.0092
 Saturn -55105-03-09 13:11 J -18405610.06 -18405609.95 -18405609.83 0.0265 0.0221
 Jupiter -55105-06-30 13:11 J -18405497.09 -18405496.95 -18405496.81 0.0511 0.0362
 Mars -55101-07-06 08:09 J -18404030.33 -18404030.16 -18404029.98 0.1587 0.0142
 Jupiter -55099-12-22 16:18 J -18403131.03 -18403130.82 -18403130.61 0.0518 0.0076
 Jupiter -55093-10-27 16:47 J -18400994.86 -18400994.80 -18400994.72 0.0506 0.0475
 Saturn -55091-01-06 16:33 J -18400559.01 -18400558.81 -18400558.60 0.0297 0.0007
 Jupiter -55087-08-27 04:33 J -18398865.47 -18398865.31 -18398865.13 0.0516 0.0300
 Jupiter -55081-07-02 20:52 J -18396728.82 -18396728.63 -18396728.44 0.0507 0.0157
 Saturn -55076-02-02 11:59 J -18395053.21 -18395053.00 -18395052.78 0.0263 0.0048
 Saturn -55076-09-19 17:45 J -18394823.77 -18394823.76 -18394823.75 0.0264 0.0264
 Uranus -55071-01-19 13:54 J -18393241.02 -18393240.92 -18393240.79 0.0136 0.0117
 Uranus -55071-09-02 22:47 J -18393014.72 -18393014.55 -18393014.37 0.0135 0.0084
 Uranus -55070-04-17 07:25 J -18392788.40 -18392788.19 -18392787.98 0.0135 0.0051
 Uranus -55070-11-29 15:35 J -18392562.07 -18392561.85 -18392561.63 0.0135 0.0018
 Jupiter -55069-03-07 23:01 J -18392462.72 -18392462.54 -18392462.35 0.0509 0.0172
 Uranus -55069-07-12 23:30 J -18392335.74 -18392335.52 -18392335.30 0.0135 0.0014
 Uranus -55068-02-24 06:57 J -18392109.41 -18392109.21 -18392108.99 0.0134 0.0047
 Uranus -55068-10-08 14:37 J -18391883.07 -18391882.89 -18391882.70 0.0134 0.0077
 Uranus -55067-05-22 21:49 J -18391656.72 -18391656.59 -18391656.46 0.0134 0.0108

Mars -55066-04-06 20:09 J -18391337.81 -18391337.66 -18391337.50 0.1956 0.0734
 Jupiter -55063-08-30 10:04 J -18390096.25 -18390096.08 -18390095.91 0.0520 0.0295
 Saturn -55062-07-19 21:06 J -18389772.82 -18389772.62 -18389772.42 0.0298 0.0049
 Jupiter -55058-11-12 01:11 J -18388196.48 -18388196.45 -18388196.42 0.0512 0.0502
 Pluto -55057-04-28 22:04 J -18388027.70 -18388027.58 -18388027.43 0.0077 0.0061
 Pluto -55057-12-10 06:57 J -18387802.43 -18387802.21 -18387801.99 0.0076 0.0000
 Pluto -55056-07-23 14:37 J -18387577.00 -18387576.89 -18387576.73 0.0076 0.0059
 Neptune -55054-11-10 03:35 J -18386737.44 -18386737.35 -18386737.23 0.0088 0.0078
 Neptune -55053-06-22 17:30 J -18386511.91 -18386511.77 -18386511.58 0.0088 0.0060
 Neptune -55052-02-03 08:09 J -18386286.35 -18386286.16 -18386285.95 0.0088 0.0039
 Neptune -55052-09-16 22:18 J -18386060.78 -18386060.57 -18386060.34 0.0088 0.0020
 Neptune -55051-04-30 12:28 J -18385835.20 -18385834.98 -18385834.75 0.0088 0.0002
 Jupiter -55051-05-04 22:18 J -18385830.77 -18385830.57 -18385830.36 0.0517 0.0085
 Neptune -55051-12-12 02:23 J -18385609.61 -18385609.40 -18385609.17 0.0088 0.0020
 Neptune -55050-07-25 16:47 J -18385384.01 -18385383.80 -18385383.60 0.0088 0.0039
 Neptune -55049-03-07 06:28 J -18385158.38 -18385158.23 -18385158.04 0.0088 0.0059
 Neptune -55049-10-18 20:37 J -18384932.73 -18384932.64 -18384932.52 0.0088 0.0078
 Saturn -55047-08-15 18:28 J -18384266.95 -18384266.73 -18384266.51 0.0264 0.0004
 Jupiter -55045-03-10 04:33 J -18383694.45 -18383694.31 -18383694.16 0.0507 0.0335
 Jupiter -55039-01-07 11:16 J -18381565.12 -18381565.03 -18381564.93 0.0515 0.0454
 Mars -55035-05-03 20:37 J -18379987.81 -18379987.64 -18379987.46 0.1586 0.0349
 Jupiter -55034-11-14 07:54 J -18379428.36 -18379428.17 -18379427.97 0.0509 0.0014
 Saturn -55032-01-29 06:57 J -18378986.40 -18378986.21 -18378986.02 0.0297 0.0120
 Moon -55029-09-28 12:57 J -18377648.10 -18377647.96 -18377647.82 0.2719 0.0685
 Earth -55029-09-28 13:11 J -18377648.10 -18377647.95 -18377647.80 0.2712 0.0331 *
 Uranus -55027-01-10 09:35 J -18377179.10 -18377179.10 -18377179.09 0.0143 0.0142
 Jupiter -55027-05-08 00:28 J -18377061.53 -18377061.48 -18377061.42 0.0521 0.0498
 Uranus -55027-08-24 17:59 J -18376952.88 -18376952.75 -18376952.60 0.0143 0.0107
 Uranus -55026-04-08 02:37 J -18376726.56 -18376726.39 -18376726.20 0.0143 0.0071
 Uranus -55026-11-20 11:45 J -18376500.22 -18376500.01 -18376499.80 0.0144 0.0034

Uranus	-55025-07-03 20:52 J	-18376273.84	-18376273.63	-18376273.42	0.0144	0.0003
Uranus	-55024-02-15 06:13 J	-18376047.44	-18376047.24	-18376047.03	0.0144	0.0040
Uranus	-55024-09-29 15:49 J	-18375821.01	-18375820.84	-18375820.65	0.0144	0.0078
Uranus	-55023-05-14 01:54 J	-18375594.54	-18375594.42	-18375594.29	0.0145	0.0116
Jupiter	-55022-07-20 11:45 J	-18375162.16	-18375162.01	-18375161.85	0.0510	0.0310
Saturn	-55018-07-11 17:16 J	-18373709.78	-18373709.78	-18373709.77	0.0263	0.0262
Saturn	-55017-02-25 22:47 J	-18373480.77	-18373480.55	-18373480.33	0.0263	0.0046
Jupiter	-55015-01-10 14:23 J	-18372796.10	-18372795.90	-18372795.69	0.0519	0.0128
Jupiter	-55004-09-15 04:47 J	-18368530.49	-18368530.30	-18368530.12	0.0517	0.0241
Saturn	-55004-12-24 15:21 J	-18368429.96	-18368429.86	-18368429.75	0.0298	0.0255
Mars	-55003-05-02 14:37 J	-18368300.94	-18368300.89	-18368300.84	0.1589	0.1526
Saturn	-55003-08-11 10:04 J	-18368200.24	-18368200.08	-18368199.90	0.0297	0.0167

55TH MILLENNIUM BCE

This is a list of transits of Venus in the 55th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Mars	-55000-01-31 22:33 J	-18367295.66	-18367295.56	-18367295.46	0.1957	0.1575		
Jupiter	-54998-07-22 17:30 J	-18366393.95	-18366393.77	-18366393.58	0.0507	0.0200		
Saturn	-54988-01-20 22:33 J	-18362923.68	-18362923.56	-18362923.44	0.0263	0.0217		
Saturn	-54988-09-07 03:49 J	-18362694.54	-18362694.34	-18362694.13	0.0264	0.0093		
Uranus	-54988-09-18 20:09 J	-18362682.69	-18362682.66	-18362682.59	0.0136	0.0132		
Uranus	-54987-05-03 05:16 J	-18362456.43	-18362456.28	-18362456.12	0.0136	0.0099		
Uranus	-54987-12-15 13:40 J	-18362230.12	-18362229.93	-18362229.73	0.0135	0.0066		

Jupiter -54986-03-27 19:54 J -18362127.86 -18362127.67 -18362127.48 0.0510 0.0129
 Uranus -54986-07-29 22:04 J -18362003.79 -18362003.58 -18362003.36 0.0135 0.0034
 Uranus -54985-03-12 06:28 J -18361777.46 -18361777.23 -18361777.01 0.0135 0.0003
 Uranus -54985-10-24 14:09 J -18361551.13 -18361550.91 -18361550.69 0.0134 0.0030
 Uranus -54984-06-07 21:21 J -18361324.79 -18361324.61 -18361324.40 0.0134 0.0063
 Uranus -54983-01-20 05:01 J -18361098.44 -18361098.29 -18361098.13 0.0134 0.0093
 Uranus -54983-09-03 11:59 J -18360872.07 -18360872.00 -18360871.90 0.0134 0.0124
 Jupiter -54980-09-18 07:54 J -18359761.33 -18359761.17 -18359761.02 0.0519 0.0342
 Jupiter -54975-11-30 23:01 J -18357861.63 -18357861.54 -18357861.45 0.0512 0.0455
 Saturn -54974-07-06 23:59 J -18357643.65 -18357643.50 -18357643.34 0.0298 0.0188
 Saturn -54973-02-21 18:42 J -18357413.85 -18357413.72 -18357413.59 0.0297 0.0232
 Neptune -54972-12-24 20:09 J -18356741.74 -18356741.66 -18356741.56 0.0089 0.0080
 Neptune -54971-08-07 08:23 J -18356516.30 -18356516.15 -18356516.00 0.0089 0.0062
 Neptune -54970-03-20 19:54 J -18356290.84 -18356290.67 -18356290.47 0.0089 0.0044
 Neptune -54970-11-01 07:54 J -18356065.36 -18356065.17 -18356064.95 0.0089 0.0025
 Mars -54969-02-29 09:06 J -18355945.29 -18355945.12 -18355944.95 0.1585 0.0561
 Neptune -54969-06-13 20:09 J -18355839.88 -18355839.66 -18355839.45 0.0089 0.0005
 Neptune -54968-01-25 07:54 J -18355614.38 -18355614.17 -18355613.96 0.0089 0.0014
 Jupiter -54968-05-23 19:11 J -18355495.91 -18355495.70 -18355495.49 0.0518 0.0040
 Neptune -54968-09-07 19:54 J -18355388.86 -18355388.67 -18355388.47 0.0089 0.0032
 Neptune -54967-04-21 07:40 J -18355163.34 -18355163.18 -18355162.99 0.0089 0.0051
 Neptune -54967-12-02 19:25 J -18354937.80 -18354937.69 -18354937.54 0.0089 0.0070
 Neptune -54966-07-16 07:25 J -18354712.19 -18354712.19 -18354712.15 0.0089 0.0089
 Jupiter -54962-03-30 04:04 J -18353359.45 -18353359.33 -18353359.20 0.0506 0.0388
 Saturn -54959-08-03 02:37 J -18352137.55 -18352137.39 -18352137.23 0.0263 0.0174
 Saturn -54958-03-20 07:54 J -18351908.35 -18351908.17 -18351907.98 0.0263 0.0134
 Jupiter -54956-01-26 09:35 J -18351230.22 -18351230.10 -18351229.96 0.0516 0.0402
 Jupiter -54951-12-03 06:57 J -18349093.40 -18349093.21 -18349093.01 0.0508 0.0066
 Saturn -54944-01-16 01:25 J -18346857.61 -18346857.44 -18346857.26 0.0298 0.0147
 Saturn -54944-09-02 19:54 J -18346627.73 -18346627.67 -18346627.58 0.0297 0.0275

Uranus	-54943-04-24 02:09 J	-18346394.51	-18346394.41	-18346394.30	0.0143	0.0123
Uranus	-54943-12-06 10:47 J	-18346168.21	-18346168.05	-18346167.88	0.0143	0.0088
Uranus	-54942-07-20 19:25 J	-18345941.88	-18345941.69	-18345941.48	0.0143	0.0052
Uranus	-54941-03-03 04:33 J	-18345715.52	-18345715.31	-18345715.09	0.0144	0.0015
Uranus	-54941-10-15 13:54 J	-18345489.13	-18345488.92	-18345488.71	0.0144	0.0023
Uranus	-54940-05-29 23:30 J	-18345262.71	-18345262.52	-18345262.32	0.0144	0.0060
Uranus	-54939-01-11 09:06 J	-18345036.26	-18345036.12	-18345035.95	0.0144	0.0098
Jupiter	-54939-08-08 09:49 J	-18344827.26	-18344827.09	-18344826.92	0.0510	0.0261
Uranus	-54939-08-25 19:40 J	-18344809.75	-18344809.68	-18344809.61	0.0145	0.0136
Mars	-54937-02-28 02:52 J	-18344258.48	-18344258.38	-18344258.28	0.1588	0.1308
Jupiter	-54932-01-29 15:06 J	-18342461.07	-18342460.87	-18342460.68	0.0519	0.0187
Saturn	-54929-02-13 06:13 J	-18341351.43	-18341351.24	-18341351.05	0.0263	0.0132
Saturn	-54929-09-29 11:30 J	-18341122.17	-18341122.02	-18341121.85	0.0264	0.0177
Jupiter	-54921-10-04 04:04 J	-18338195.53	-18338195.33	-18338195.14	0.0517	0.0185
Saturn	-54915-07-29 09:06 J	-18336071.31	-18336071.12	-18336070.92	0.0298	0.0084
Jupiter	-54915-08-10 16:47 J	-18336058.97	-18336058.80	-18336058.63	0.0507	0.0251
Earth	-54907-03-31 10:04 J	-18333269.19	-18333269.08	-18333268.96	0.2621	0.1897
Mars	-54904-12-26 21:21 J	-18331902.76	-18331902.61	-18331902.45	0.1584	0.0771
Uranus	-54904-12-31 11:45 J	-18331898.10	-18331898.01	-18331897.87	0.0136	0.0115
Jupiter	-54903-04-15 21:21 J	-18331792.81	-18331792.61	-18331792.42	0.0509	0.0066
Uranus	-54903-08-14 20:52 J	-18331671.80	-18331671.63	-18331671.45	0.0135	0.0082
Mars	-54903-11-29 00:13 J	-18331565.55	-18331565.49	-18331565.43	0.1953	0.1805
Uranus	-54902-03-29 05:16 J	-18331445.48	-18331445.28	-18331445.06	0.0135	0.0049
Uranus	-54902-11-10 13:40 J	-18331219.15	-18331218.93	-18331218.71	0.0135	0.0017
Uranus	-54901-06-23 21:35 J	-18330992.82	-18330992.60	-18330992.38	0.0135	0.0015
Uranus	-54900-02-05 05:01 J	-18330766.48	-18330766.29	-18330766.07	0.0134	0.0048
Saturn	-54900-08-25 10:04 J	-18330565.28	-18330565.08	-18330564.87	0.0263	0.0091
Uranus	-54900-09-19 12:42 J	-18330540.14	-18330539.97	-18330539.78	0.0134	0.0078
Earth	-54899-03-28 22:04 J	-18330349.63	-18330349.58	-18330349.53	0.2621	0.2480
Moon	-54899-03-29 04:18 J	-18330349.45	-18330349.32	-18330349.19	0.2620	0.1601

Saturn -54899-04-11 15:06 J -18330335.98 -18330335.87 -18330335.73 0.0263 0.0218
 Uranus -54899-05-03 19:54 J -18330313.78 -18330313.67 -18330313.53 0.0134 0.0109
 Jupiter -54897-10-07 07:25 J -18329426.32 -18329426.19 -18329426.05 0.0520 0.0401
 Pluto -54894-01-12 16:47 J -18328598.96 -18328598.80 -18328598.61 0.0067 0.0042
 Pluto -54894-08-25 22:33 J -18328373.78 -18328373.56 -18328373.33 0.0068 0.0001
 Pluto -54893-04-07 03:49 J -18328148.49 -18328148.34 -18328148.15 0.0068 0.0044
 Jupiter -54892-12-19 23:45 J -18327526.63 -18327526.51 -18327526.38 0.0511 0.0393
 Neptune -54889-02-11 14:23 J -18326742.93 -18326742.90 -18326742.81 0.0088 0.0085
 Neptune -54889-09-24 04:47 J -18326517.44 -18326517.30 -18326517.13 0.0088 0.0066
 Neptune -54888-05-07 18:42 J -18326291.89 -18326291.72 -18326291.51 0.0088 0.0047
 Neptune -54888-12-19 09:06 J -18326066.33 -18326066.12 -18326065.90 0.0088 0.0027
 Neptune -54887-08-01 23:16 J -18325840.75 -18325840.53 -18325840.30 0.0088 0.0008
 Neptune -54886-03-15 13:40 J -18325615.16 -18325614.93 -18325614.71 0.0088 0.0012
 Neptune -54886-10-27 03:21 J -18325389.56 -18325389.36 -18325389.13 0.0088 0.0032
 Saturn -54885-02-08 09:21 J -18325285.31 -18325285.11 -18325284.91 0.0298 0.0047
 Neptune -54885-06-08 17:16 J -18325163.95 -18325163.78 -18325163.58 0.0088 0.0052
 Jupiter -54885-06-11 22:04 J -18325160.79 -18325160.58 -18325160.38 0.0518 0.0035
 Neptune -54884-01-20 07:40 J -18324938.31 -18324938.18 -18324938.04 0.0088 0.0071
 Jupiter -54879-04-18 03:21 J -18323024.45 -18323024.36 -18323024.26 0.0506 0.0440
 Jupiter -54873-02-15 11:59 J -18320895.15 -18320895.00 -18320894.84 0.0516 0.0335
 Mars -54872-12-25 15:06 J -18320216.00 -18320215.87 -18320215.74 0.1587 0.1092
 Saturn -54870-03-07 12:42 J -18319779.18 -18319778.97 -18319778.75 0.0263 0.0052
 Saturn -54870-10-22 17:59 J -18319549.79 -18319549.75 -18319549.70 0.0264 0.0257
 Jupiter -54868-12-22 05:59 J -18318758.44 -18318758.25 -18318758.06 0.0508 0.0118
 Uranus -54860-12-22 09:49 J -18315836.12 -18315836.09 -18315836.04 0.0143 0.0140
 Uranus -54859-08-05 18:42 J -18315609.87 -18315609.72 -18315609.58 0.0143 0.0104
 Uranus -54858-03-20 03:21 J -18315383.55 -18315383.36 -18315383.18 0.0143 0.0069
 Uranus -54858-11-01 12:13 J -18315157.20 -18315156.99 -18315156.78 0.0144 0.0032
 Uranus -54857-06-14 21:21 J -18314930.82 -18314930.61 -18314930.39 0.0144 0.0005
 Uranus -54856-01-27 06:42 J -18314704.41 -18314704.22 -18314704.01 0.0144 0.0043

Saturn -54856-08-20 15:35 J -18314499.06 -18314498.85 -18314498.65 0.0298 0.0011
 Jupiter -54856-08-27 10:04 J -18314492.26 -18314492.08 -18314491.90 0.0510 0.0202
 Uranus -54856-09-10 16:47 J -18314477.97 -18314477.80 -18314477.62 0.0144 0.0080
 Uranus -54855-04-25 02:37 J -18314251.50 -18314251.39 -18314251.26 0.0145 0.0118
 Jupiter -54849-02-18 13:25 J -18312126.13 -18312125.94 -18312125.75 0.0519 0.0240
 Saturn -54841-09-16 16:18 J -18308993.04 -18308992.82 -18308992.60 0.0263 0.0011
 Jupiter -54838-10-24 03:49 J -18307860.54 -18307860.34 -18307860.13 0.0517 0.0126
 Mars -54838-10-24 10:04 J -18307860.22 -18307860.08 -18307859.94 0.1583 0.0977 *
 Mars -54837-09-25 02:23 J -18307523.55 -18307523.40 -18307523.25 0.1955 0.0949
 Jupiter -54832-08-29 18:13 J -18305723.89 -18305723.74 -18305723.58 0.0507 0.0315
 Saturn -54826-03-02 14:52 J -18303713.08 -18303712.88 -18303712.67 0.0298 0.0046
 Jupiter -54826-06-28 19:11 J -18303594.77 -18303594.70 -18303594.63 0.0515 0.0485
 Jupiter -54820-05-04 21:35 J -18301457.80 -18301457.60 -18301457.40 0.0509 0.0008
 Uranus -54820-08-30 19:40 J -18301339.73 -18301339.68 -18301339.59 0.0136 0.0129
 Uranus -54819-04-14 04:33 J -18301113.45 -18301113.31 -18301113.14 0.0136 0.0096
 Uranus -54819-11-26 12:57 J -18300887.14 -18300886.96 -18300886.75 0.0135 0.0064
 Uranus -54818-07-10 21:21 J -18300660.82 -18300660.61 -18300660.38 0.0135 0.0032
 Uranus -54817-02-22 05:45 J -18300434.48 -18300434.26 -18300434.03 0.0135 0.0001
 Uranus -54817-10-05 13:25 J -18300208.15 -18300207.94 -18300207.71 0.0134 0.0033
 Uranus -54816-05-19 21:06 J -18299981.81 -18299981.62 -18299981.42 0.0134 0.0064
 Uranus -54815-01-01 04:04 J -18299755.46 -18299755.33 -18299755.15 0.0134 0.0095
 Uranus -54815-08-15 11:45 J -18299529.08 -18299529.01 -18299528.93 0.0134 0.0125
 Jupiter -54814-10-27 10:47 J -18299091.13 -18299091.05 -18299090.96 0.0520 0.0472
 Saturn -54811-03-29 17:45 J -18298206.97 -18298206.76 -18298206.54 0.0263 0.0025
 Pluto -54809-11-11 23:59 J -18297248.61 -18297248.50 -18297248.35 0.0077 0.0062
 Jupiter -54808-01-07 23:30 J -18297191.66 -18297191.52 -18297191.37 0.0511 0.0336
 Pluto -54808-06-25 08:52 J -18297023.34 -18297023.13 -18297022.91 0.0076 0.0002
 Pluto -54807-02-05 17:16 J -18296797.92 -18296797.78 -18296797.64 0.0076 0.0058
 Neptune -54807-03-28 09:06 J -18296747.14 -18296747.12 -18296747.06 0.0089 0.0087
 Neptune -54807-11-08 21:06 J -18296521.74 -18296521.62 -18296521.47 0.0089 0.0069

Neptune -54806-06-22 09:21 J -18296296.29 -18296296.11 -18296295.93 0.0089 0.0050
 Mars -54806-10-23 03:35 J -18296173.50 -18296173.35 -18296173.20 0.1586 0.0876
 Neptune -54805-02-02 20:52 J -18296070.81 -18296070.63 -18296070.41 0.0089 0.0032
 Neptune -54805-09-15 09:06 J -18295845.33 -18295845.12 -18295844.91 0.0089 0.0012
 Neptune -54804-04-28 21:06 J -18295619.83 -18295619.62 -18295619.41 0.0089 0.0007
 Neptune -54804-12-10 08:52 J -18295394.33 -18295394.13 -18295393.92 0.0089 0.0025
 Neptune -54803-07-23 20:37 J -18295168.81 -18295168.64 -18295168.44 0.0089 0.0045
 Neptune -54802-03-06 08:23 J -18294943.28 -18294943.15 -18294942.98 0.0089 0.0064
 Jupiter -54802-07-01 23:45 J -18294825.71 -18294825.51 -18294825.30 0.0518 0.0099
 Neptune -54802-10-17 20:52 J -18294717.71 -18294717.63 -18294717.55 0.0089 0.0082
 Saturn -54797-09-11 20:23 J -18292926.84 -18292926.65 -18292926.46 0.0298 0.0100
 Jupiter -54796-05-07 04:33 J -18292689.33 -18292689.31 -18292689.28 0.0506 0.0501
 Jupiter -54790-03-06 10:47 J -18290560.23 -18290560.05 -18290559.88 0.0516 0.0281
 Earth -54786-09-29 17:01 J -18288891.94 -18288891.79 -18288891.64 0.2712 0.0233
 Moon -54786-09-29 19:54 J -18288891.83 -18288891.67 -18288891.51 0.2706 0.0245 *
 Jupiter -54784-01-10 09:35 J -18288423.28 -18288423.10 -18288422.92 0.0508 0.0190
 Saturn -54782-02-22 16:18 J -18287649.89 -18287649.82 -18287649.72 0.0262 0.0240
 Saturn -54782-10-09 21:35 J -18287420.81 -18287420.60 -18287420.39 0.0263 0.0066
 Uranus -54775-04-05 01:11 J -18285051.54 -18285051.45 -18285051.33 0.0143 0.0122
 Uranus -54775-11-17 10:04 J -18284825.25 -18284825.08 -18284824.91 0.0143 0.0086
 Uranus -54774-07-01 18:42 J -18284598.91 -18284598.72 -18284598.51 0.0143 0.0051
 Uranus -54773-02-13 04:04 J -18284372.55 -18284372.33 -18284372.12 0.0144 0.0014
 Jupiter -54773-09-15 12:57 J -18284157.15 -18284156.96 -18284156.77 0.0509 0.0133
 Uranus -54773-09-26 13:25 J -18284146.15 -18284145.94 -18284145.73 0.0144 0.0023
 Uranus -54772-05-10 23:01 J -18283919.73 -18283919.54 -18283919.35 0.0144 0.0061
 Mars -54772-08-20 22:18 J -18283817.68 -18283817.57 -18283817.45 0.1583 0.1187
 Uranus -54772-12-23 08:52 J -18283693.28 -18283693.13 -18283692.97 0.0145 0.0098
 Mars -54771-07-23 05:30 J -18283481.44 -18283481.27 -18283481.10 0.1956 0.0143
 Uranus -54771-08-06 18:42 J -18283466.77 -18283466.72 -18283466.63 0.0145 0.0136
 Saturn -54768-08-07 00:13 J -18282370.53 -18282370.49 -18282370.43 0.0299 0.0288

Saturn -54767-03-24 19:11 J -18282140.88 -18282140.70 -18282140.51 0.0298 0.0133
 Jupiter -54766-03-09 18:13 J -18281790.90 -18281790.74 -18281790.57 0.0520 0.0319
 Jupiter -54761-05-21 15:21 J -18279890.94 -18279890.86 -18279890.77 0.0512 0.0459
 Jupiter -54755-11-12 08:23 J -18277525.36 -18277525.15 -18277524.95 0.0517 0.0051
 Saturn -54753-09-03 17:16 J -18276863.91 -18276863.78 -18276863.65 0.0262 0.0207
 Saturn -54752-04-20 22:18 J -18276634.77 -18276634.57 -18276634.37 0.0263 0.0099
 Jupiter -54749-09-17 18:57 J -18275388.84 -18275388.71 -18275388.58 0.0507 0.0373
 Jupiter -54743-07-17 21:49 J -18273259.71 -18273259.59 -18273259.46 0.0515 0.0415
 Mars -54740-08-19 16:04 J -18272131.00 -18272130.83 -18272130.67 0.1585 0.0669
 Saturn -54738-02-17 05:01 J -18271584.41 -18271584.29 -18271584.16 0.0298 0.0236
 Saturn -54738-10-04 23:59 J -18271354.65 -18271354.50 -18271354.34 0.0297 0.0185
 Jupiter -54737-05-23 23:16 J -18271122.73 -18271122.53 -18271122.33 0.0509 0.0058
 Uranus -54736-12-12 11:45 J -18270555.12 -18270555.01 -18270554.86 0.0136 0.0112
 Uranus -54735-07-26 20:52 J -18270328.81 -18270328.63 -18270328.45 0.0135 0.0079
 Uranus -54734-03-10 05:30 J -18270102.48 -18270102.27 -18270102.06 0.0135 0.0047
 Uranus -54734-10-22 13:40 J -18269876.15 -18269875.93 -18269875.71 0.0135 0.0015
 Uranus -54733-06-04 21:35 J -18269649.82 -18269649.60 -18269649.38 0.0135 0.0017
 Uranus -54732-01-17 05:16 J -18269423.48 -18269423.28 -18269423.07 0.0134 0.0049
 Uranus -54732-08-31 12:28 J -18269197.14 -18269196.98 -18269196.78 0.0134 0.0080
 Uranus -54731-04-14 20:23 J -18268970.77 -18268970.65 -18268970.53 0.0134 0.0110
 Jupiter -54725-01-28 03:49 J -18266856.51 -18266856.34 -18266856.17 0.0511 0.0260
 Neptune -54725-12-26 15:21 J -18266522.97 -18266522.86 -18266522.72 0.0088 0.0072
 Neptune -54724-08-09 05:16 J -18266297.44 -18266297.28 -18266297.08 0.0088 0.0054
 Saturn -54723-03-16 21:21 J -18266077.78 -18266077.61 -18266077.44 0.0262 0.0163
 Neptune -54723-03-22 19:54 J -18266071.88 -18266071.67 -18266071.46 0.0088 0.0033
 Saturn -54723-11-01 02:23 J -18265848.58 -18265848.40 -18265848.22 0.0263 0.0141
 Neptune -54723-11-03 09:49 J -18265846.31 -18265846.09 -18265845.86 0.0088 0.0014
 Neptune -54722-06-16 23:59 J -18265620.72 -18265620.50 -18265620.27 0.0088 0.0006
 Neptune -54721-01-28 13:54 J -18265395.12 -18265394.92 -18265394.69 0.0088 0.0026
 Neptune -54721-09-10 04:04 J -18265169.51 -18265169.33 -18265169.12 0.0088 0.0044

Neptune -54720-04-23 18:13 J -18264943.89 -18264943.74 -18264943.57 0.0088 0.0063
 Neptune -54720-12-05 08:23 J -18264718.22 -18264718.15 -18264718.07 0.0088 0.0083
 Jupiter -54719-07-21 00:13 J -18264490.69 -18264490.49 -18264490.29 0.0519 0.0160
 Saturn -54709-08-29 04:18 J -18260798.46 -18260798.32 -18260798.16 0.0299 0.0201
 Saturn -54708-04-15 23:16 J -18260568.67 -18260568.53 -18260568.39 0.0298 0.0219
 Jupiter -54707-03-25 15:35 J -18260225.04 -18260224.85 -18260224.66 0.0517 0.0202
 Mars -54706-06-18 10:47 J -18259775.13 -18259775.05 -18259774.97 0.1582 0.1390
 Mars -54705-05-19 07:54 J -18259439.33 -18259439.17 -18259439.02 0.1958 0.0709
 Jupiter -54701-01-30 11:01 J -18258088.22 -18258088.04 -18258087.87 0.0507 0.0252
 Saturn -54694-09-26 21:49 J -18255291.78 -18255291.59 -18255291.40 0.0263 0.0132
 Saturn -54693-05-13 02:37 J -18255062.54 -18255062.39 -18255062.21 0.0263 0.0174
 Uranus -54692-12-03 07:40 J -18254493.21 -18254493.18 -18254493.13 0.0143 0.0140
 Uranus -54691-07-17 16:04 J -18254266.96 -18254266.83 -18254266.67 0.0143 0.0105
 Uranus -54690-03-01 00:42 J -18254040.64 -18254040.47 -18254040.27 0.0143 0.0070
 Jupiter -54690-10-05 13:25 J -18253822.13 -18253821.94 -18253821.74 0.0509 0.0073
 Uranus -54690-10-13 10:04 J -18253814.29 -18253814.08 -18253813.88 0.0144 0.0033
 Uranus -54689-05-26 19:11 J -18253587.91 -18253587.70 -18253587.49 0.0144 0.0004
 Uranus -54688-01-08 04:18 J -18253361.51 -18253361.32 -18253361.10 0.0144 0.0041
 Uranus -54688-08-22 14:23 J -18253135.08 -18253134.90 -18253134.72 0.0144 0.0078
 Uranus -54687-04-05 23:59 J -18252908.61 -18252908.50 -18252908.35 0.0145 0.0116
 Jupiter -54683-03-28 21:06 J -18251455.76 -18251455.62 -18251455.49 0.0520 0.0389
 Saturn -54679-03-11 09:06 J -18250012.29 -18250012.12 -18250011.94 0.0298 0.0149
 Saturn -54679-10-27 03:49 J -18249782.42 -18249782.34 -18249782.25 0.0297 0.0269
 Jupiter -54678-06-10 17:01 J -18249555.91 -18249555.79 -18249555.66 0.0512 0.0395
 Mars -54674-06-17 04:04 J -18248088.50 -18248088.33 -18248088.16 0.1585 0.0451
 Jupiter -54672-12-01 07:11 J -18247190.41 -18247190.20 -18247189.99 0.0518 0.0006
 Jupiter -54666-10-07 22:47 J -18245053.64 -18245053.55 -18245053.45 0.0506 0.0446
 Moon -54664-03-31 04:18 J -18244513.49 -18244513.32 -18244513.16 0.2616 0.0925
 Earth -54664-03-31 07:54 J -18244513.29 -18244513.17 -18244513.05 0.2621 0.1736 *
 Saturn -54664-04-08 02:09 J -18244505.61 -18244505.41 -18244505.19 0.0263 0.0088

Saturn -54664-11-23 07:11 J -18244276.31 -18244276.20 -18244276.07 0.0263 0.0218
 Jupiter -54660-08-05 21:49 J -18242924.74 -18242924.59 -18242924.44 0.0516 0.0357
 Earth -54656-03-28 20:09 J -18241593.67 -18241593.66 -18241593.65 0.2622 0.2615
 Jupiter -54654-06-13 02:09 J -18240787.60 -18240787.41 -18240787.21 0.0508 0.0126
 Uranus -54652-08-11 18:57 J -18239996.79 -18239996.71 -18239996.63 0.0136 0.0126
 Uranus -54651-03-26 03:49 J -18239770.50 -18239770.34 -18239770.18 0.0136 0.0094
 Uranus -54651-11-07 12:28 J -18239544.18 -18239543.98 -18239543.78 0.0135 0.0062
 Uranus -54650-06-21 20:37 J -18239317.85 -18239317.64 -18239317.41 0.0135 0.0030
 Saturn -54650-09-21 08:52 J -18239226.31 -18239226.13 -18239225.93 0.0298 0.0112
 Uranus -54649-02-03 05:01 J -18239091.51 -18239091.29 -18239091.06 0.0135 0.0003
 Uranus -54649-09-16 12:57 J -18238865.17 -18238864.96 -18238864.74 0.0134 0.0034
 Uranus -54648-04-30 20:23 J -18238638.83 -18238638.65 -18238638.44 0.0134 0.0066
 Uranus -54648-12-13 03:49 J -18238412.48 -18238412.34 -18238412.17 0.0134 0.0096
 Uranus -54647-07-27 11:16 J -18238186.09 -18238186.03 -18238185.95 0.0134 0.0126
 Pluto -54646-07-28 20:09 J -18237819.83 -18237819.66 -18237819.46 0.0068 0.0037
 Pluto -54645-03-10 01:54 J -18237594.64 -18237594.42 -18237594.19 0.0068 0.0006
 Pluto -54645-10-21 07:40 J -18237369.32 -18237369.18 -18237369.02 0.0068 0.0049
 Neptune -54642-02-10 10:04 J -18236527.18 -18236527.08 -18236526.95 0.0089 0.0075
 Jupiter -54642-02-16 05:16 J -18236521.46 -18236521.28 -18236521.09 0.0510 0.0197
 Neptune -54642-09-23 22:04 J -18236301.73 -18236301.58 -18236301.40 0.0089 0.0057
 Neptune -54641-05-06 09:49 J -18236076.27 -18236076.09 -18236075.88 0.0089 0.0038
 Neptune -54641-12-17 22:04 J -18235850.78 -18235850.58 -18235850.37 0.0089 0.0019
 Neptune -54640-07-31 10:18 J -18235625.29 -18235625.07 -18235624.86 0.0089 0.0001
 Neptune -54639-03-13 22:04 J -18235399.78 -18235399.58 -18235399.37 0.0089 0.0019
 Mars -54639-03-16 11:16 J -18235397.14 -18235397.03 -18235396.92 0.1959 0.1505
 Neptune -54639-10-25 09:49 J -18235174.27 -18235174.09 -18235173.89 0.0089 0.0037
 Neptune -54638-06-07 21:35 J -18234948.75 -18234948.60 -18234948.42 0.0089 0.0056
 Neptune -54637-01-19 09:49 J -18234723.20 -18234723.09 -18234722.97 0.0089 0.0075
 Jupiter -54636-08-09 04:47 J -18234155.48 -18234155.30 -18234155.11 0.0519 0.0238
 Saturn -54635-10-19 02:52 J -18233719.60 -18233719.38 -18233719.17 0.0263 0.0056

Saturn -54634-06-05 07:54 J -18233490.23 -18233490.17 -18233490.10 0.0263 0.0250
 Jupiter -54624-04-13 18:13 J -18229889.94 -18229889.74 -18229889.54 0.0517 0.0132
 Saturn -54620-04-02 14:09 J -18228440.11 -18228439.91 -18228439.71 0.0298 0.0059
 Jupiter -54618-02-18 12:28 J -18227753.13 -18227752.98 -18227752.82 0.0507 0.0315
 Jupiter -54613-12-17 05:01 J -18225624.32 -18225624.29 -18225624.25 0.0514 0.0507
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 Uranus -54607-03-16 22:47 J -18223708.64 -18223708.55 -18223708.42 0.0143 0.0122
 Jupiter -54607-10-24 17:01 J -18223486.99 -18223486.79 -18223486.59 0.0509 0.0005
 Uranus -54607-10-29 07:40 J -18223482.35 -18223482.18 -18223482.01 0.0143 0.0087
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 Uranus -54605-01-25 01:25 J -18223029.65 -18223029.44 -18223029.23 0.0144 0.0015
 Saturn -54605-04-30 07:54 J -18222933.38 -18222933.17 -18222932.95 0.0263 0.0011
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 Jupiter -54600-04-16 20:23 J -18221120.76 -18221120.65 -18221120.54 0.0520 0.0445
 Jupiter -54595-06-29 19:54 J -18219220.82 -18219220.67 -18219220.52 0.0511 0.0328
 Saturn -54591-10-13 15:21 J -18217654.06 -18217653.86 -18217653.65 0.0298 0.0017
 Jupiter -54589-12-20 11:01 J -18216855.24 -18216855.04 -18216854.83 0.0518 0.0080
 Jupiter -54583-10-26 23:30 J -18214718.54 -18214718.52 -18214718.50 0.0506 0.0502
 Jupiter -54577-08-25 01:40 J -18212589.60 -18212589.43 -18212589.25 0.0516 0.0283
 Saturn -54576-11-10 08:52 J -18212147.35 -18212147.13 -18212146.91 0.0263 0.0024
 Jupiter -54571-07-02 01:54 J -18210452.60 -18210452.42 -18210452.23 0.0508 0.0182
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 Uranus -54566-10-03 11:45 J -18208533.23 -18208533.01 -18208532.79 0.0135 0.0013
 Uranus -54565-05-16 19:40 J -18208306.89 -18208306.68 -18208306.45 0.0135 0.0019
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Uranus -54564-08-12 11:16 J -18207854.20 -18207854.03 -18207853.85 0.0134 0.0080
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 Neptune -54560-03-30 01:40 J -18206528.51 -18206528.43 -18206528.31 0.0088 0.0080
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 Neptune -54559-06-24 06:13 J -18206077.44 -18206077.24 -18206077.04 0.0088 0.0041
 Pluto -54559-08-21 21:49 J -18206018.70 -18206018.59 -18206018.49 0.0076 0.0066
 Neptune -54558-02-04 20:23 J -18205851.87 -18205851.65 -18205851.43 0.0088 0.0021
 Neptune -54558-09-18 10:33 J -18205626.29 -18205626.06 -18205625.83 0.0088 0.0002
 Neptune -54557-05-01 00:28 J -18205400.70 -18205400.48 -18205400.25 0.0088 0.0017
 Neptune -54557-12-12 14:37 J -18205175.10 -18205174.89 -18205174.69 0.0088 0.0037
 Neptune -54556-07-26 04:04 J -18204949.48 -18204949.33 -18204949.13 0.0088 0.0057
 Neptune -54555-03-08 18:28 J -18204723.83 -18204723.73 -18204723.60 0.0088 0.0075
 Jupiter -54553-08-28 02:37 J -18203820.56 -18203820.39 -18203820.21 0.0519 0.0286
 Jupiter -54548-11-10 09:21 J -18201920.19 -18201920.11 -18201920.03 0.0513 0.0462
 Saturn -54547-10-06 09:35 J -18201590.20 -18201590.10 -18201590.00 0.0263 0.0231
 Saturn -54546-05-23 14:52 J -18201361.09 -18201360.88 -18201360.67 0.0263 0.0073
 Moon -54543-09-29 16:33 J -18200135.95 -18200135.81 -18200135.66 0.2714 0.0507
 Earth -54543-09-29 21:06 J -18200135.77 -18200135.62 -18200135.47 0.2711 0.0115 *
 Mars -54542-02-09 05:16 J -18200003.46 -18200003.28 -18200003.10 0.1583 0.0046
 Mars -54541-01-11 12:57 J -18199667.00 -18199666.96 -18199666.91 0.1956 0.1882
 Jupiter -54541-05-02 16:33 J -18199555.02 -18199554.81 -18199554.60 0.0517 0.0081
 Jupiter -54535-03-09 13:40 J -18197418.06 -18197417.93 -18197417.79 0.0507 0.0373
 Saturn -54532-11-04 23:30 J -18196081.71 -18196081.52 -18196081.32 0.0298 0.0086
 Jupiter -54529-01-06 07:40 J -18195289.29 -18195289.18 -18195289.07 0.0515 0.0439
 Jupiter -54524-11-12 16:47 J -18193151.99 -18193151.80 -18193151.60 0.0509 0.0055
 Uranus -54524-11-14 06:28 J -18193150.27 -18193150.23 -18193150.16 0.0142 0.0138

Uranus	-54523-06-28 14:52 J	-18192924.01	-18192923.88	-18192923.72	0.0143	0.0103
Uranus	-54522-02-09 23:30 J	-18192697.69	-18192697.52	-18192697.32	0.0143	0.0068
Uranus	-54522-09-24 08:37 J	-18192471.34	-18192471.14	-18192470.93	0.0143	0.0032
Uranus	-54521-05-07 17:45 J	-18192244.97	-18192244.76	-18192244.55	0.0144	0.0004
Uranus	-54521-12-20 03:06 J	-18192018.57	-18192018.37	-18192018.17	0.0144	0.0041
Uranus	-54520-08-03 12:28 J	-18191792.15	-18191791.98	-18191791.79	0.0144	0.0078
Uranus	-54519-03-17 22:18 J	-18191565.69	-18191565.57	-18191565.43	0.0145	0.0115
Saturn	-54517-04-17 10:33 J	-18190804.20	-18190804.06	-18190803.91	0.0263	0.0198
Jupiter	-54517-05-05 23:16 J	-18190785.55	-18190785.53	-18190785.49	0.0520	0.0515
Saturn	-54517-12-02 16:04 J	-18190575.03	-18190574.83	-18190574.63	0.0263	0.0107
Jupiter	-54512-07-18 18:42 J	-18188885.89	-18188885.72	-18188885.55	0.0511	0.0275
Jupiter	-54505-01-09 12:13 J	-18186520.19	-18186519.99	-18186519.79	0.0518	0.0143
Saturn	-54503-09-30 10:33 J	-18185525.12	-18185525.06	-18185524.97	0.0298	0.0276
Saturn	-54502-05-18 05:30 J	-18185295.45	-18185295.27	-18185295.09	0.0297	0.0140
Jupiter	-54494-09-13 23:01 J	-18182254.73	-18182254.54	-18182254.35	0.0515	0.0237
Jupiter	-54488-07-21 03:06 J	-18180117.54	-18180117.37	-18180117.20	0.0508	0.0241
Saturn	-54488-10-28 17:16 J	-18180017.95	-18180017.78	-18180017.59	0.0263	0.0147
Saturn	-54487-06-14 22:47 J	-18179788.71	-18179788.55	-18179788.36	0.0264	0.0160
Uranus	-54484-07-23 16:04 J	-18178653.91	-18178653.83	-18178653.73	0.0136	0.0124
Uranus	-54483-03-07 01:11 J	-18178427.60	-18178427.45	-18178427.28	0.0136	0.0092
Uranus	-54483-10-19 09:49 J	-18178201.28	-18178201.09	-18178200.87	0.0135	0.0060
Uranus	-54482-06-02 18:28 J	-18177974.94	-18177974.73	-18177974.50	0.0135	0.0028
Uranus	-54481-01-15 02:52 J	-18177748.60	-18177748.38	-18177748.15	0.0135	0.0004
Uranus	-54481-08-28 11:01 J	-18177522.25	-18177522.04	-18177521.82	0.0134	0.0035
Uranus	-54480-04-11 18:42 J	-18177295.90	-18177295.72	-18177295.51	0.0134	0.0066
Uranus	-54480-11-24 02:23 J	-18177069.55	-18177069.40	-18177069.24	0.0134	0.0096
Uranus	-54479-07-08 09:21 J	-18176843.16	-18176843.11	-18176843.02	0.0134	0.0127
Neptune	-54478-05-14 22:18 J	-18176532.63	-18176532.57	-18176532.47	0.0089	0.0083
Neptune	-54478-12-26 10:04 J	-18176307.20	-18176307.08	-18176306.91	0.0089	0.0064
Neptune	-54477-08-07 22:33 J	-18176081.73	-18176081.56	-18176081.37	0.0089	0.0045

Mars -54477-12-06 17:30 J -18175960.95 -18175960.77 -18175960.59 0.1582 0.0173
 Neptune -54476-03-21 10:33 J -18175856.26 -18175856.06 -18175855.85 0.0089 0.0027
 Jupiter -54476-03-26 05:59 J -18175851.45 -18175851.25 -18175851.06 0.0510 0.0084
 Neptune -54476-11-01 22:33 J -18175630.77 -18175630.56 -18175630.35 0.0089 0.0008
 Mars -54476-11-07 15:21 J -18175625.00 -18175624.86 -18175624.71 0.1957 0.1036
 Neptune -54475-06-15 10:18 J -18175405.27 -18175405.07 -18175404.85 0.0089 0.0012
 Neptune -54474-01-26 22:04 J -18175179.76 -18175179.58 -18175179.36 0.0089 0.0030
 Neptune -54474-09-09 10:18 J -18174954.24 -18174954.07 -18174953.88 0.0089 0.0049
 Saturn -54473-04-11 16:04 J -18174738.96 -18174738.83 -18174738.69 0.0298 0.0219
 Neptune -54473-04-21 22:04 J -18174728.70 -18174728.58 -18174728.42 0.0089 0.0067
 Saturn -54473-11-27 10:18 J -18174509.22 -18174509.07 -18174508.91 0.0297 0.0195
 Neptune -54473-12-03 09:49 J -18174503.12 -18174503.09 -18174503.01 0.0089 0.0086
 Jupiter -54470-09-17 04:04 J -18173485.48 -18173485.33 -18173485.17 0.0519 0.0349
 Jupiter -54465-11-29 08:23 J -18171585.27 -18171585.15 -18171585.03 0.0512 0.0409
 Saturn -54458-05-10 19:25 J -18169231.89 -18169231.69 -18169231.49 0.0263 0.0111
 Jupiter -54458-05-22 18:13 J -18169219.95 -18169219.74 -18169219.53 0.0517 0.0017
 Saturn -54458-12-26 01:11 J -18169002.60 -18169002.45 -18169002.30 0.0264 0.0195
 Jupiter -54452-03-28 11:30 J -18167083.13 -18167083.02 -18167082.91 0.0507 0.0419
 Jupiter -54446-01-25 07:54 J -18164954.31 -18164954.17 -18164954.03 0.0515 0.0380
 Saturn -54444-10-22 22:18 J -18163952.73 -18163952.57 -18163952.39 0.0298 0.0163
 Saturn -54443-06-09 16:47 J -18163722.90 -18163722.80 -18163722.69 0.0297 0.0251
 Jupiter -54441-12-01 14:52 J -18162817.07 -18162816.88 -18162816.68 0.0509 0.0102
 Uranus -54439-02-25 23:30 J -18162365.63 -18162365.52 -18162365.40 0.0143 0.0118
 Uranus -54439-10-10 08:09 J -18162139.33 -18162139.16 -18162138.99 0.0143 0.0083
 Uranus -54438-05-24 16:33 J -18161913.00 -18161912.81 -18161912.60 0.0143 0.0048
 Uranus -54437-01-06 01:40 J -18161686.64 -18161686.43 -18161686.22 0.0144 0.0012
 Uranus -54437-08-19 11:01 J -18161460.25 -18161460.04 -18161459.83 0.0144 0.0024
 Uranus -54436-04-02 20:23 J -18161233.84 -18161233.65 -18161233.45 0.0144 0.0060
 Uranus -54436-11-15 05:59 J -18161007.40 -18161007.25 -18161007.09 0.0144 0.0097
 Uranus -54435-06-29 15:35 J -18160780.91 -18160780.85 -18160780.76 0.0145 0.0134

Jupiter -54429-08-06 17:59 J -18158550.93 -18158550.75 -18158550.57 0.0512 0.0224
 Saturn -54429-11-20 02:52 J -18158445.59 -18158445.38 -18158445.16 0.0264 0.0057
 Saturn -54428-07-07 08:37 J -18158216.20 -18158216.14 -18158216.07 0.0264 0.0249
 Jupiter -54422-01-28 08:23 J -18156185.34 -18156185.15 -18156184.95 0.0518 0.0183
 Earth -54421-03-31 05:45 J -18155757.39 -18155757.26 -18155757.13 0.2622 0.1566
 Moon -54421-03-31 06:57 J -18155757.31 -18155757.21 -18155757.11 0.2628 0.1997 *
 Saturn -54414-05-05 05:59 J -18153166.44 -18153166.25 -18153166.05 0.0297 0.0098
 Moon -54413-03-28 23:16 J -18152837.58 -18152837.53 -18152837.49 0.2626 0.2511
 Jupiter -54411-10-02 22:33 J -18151919.76 -18151919.56 -18151919.36 0.0516 0.0182
 Mars -54411-10-04 06:13 J -18151918.42 -18151918.24 -18151918.07 0.1582 0.0377
 Mars -54410-09-04 17:45 J -18151582.93 -18151582.76 -18151582.59 0.1959 0.0184
 Jupiter -54405-08-09 00:42 J -18149782.63 -18149782.47 -18149782.30 0.0508 0.0286
 Uranus -54400-11-04 08:37 J -18147869.27 -18147869.14 -18147869.00 0.0136 0.0106
 Saturn -54399-06-02 05:45 J -18147659.48 -18147659.26 -18147659.04 0.0263 0.0019
 Uranus -54399-06-18 17:16 J -18147642.95 -18147642.78 -18147642.58 0.0135 0.0074
 Uranus -54398-01-31 02:09 J -18147416.62 -18147416.41 -18147416.19 0.0135 0.0042
 Uranus -54398-09-14 10:47 J -18147190.27 -18147190.05 -18147189.83 0.0135 0.0011
 Pluto -54397-02-10 22:18 J -18147040.74 -18147040.57 -18147040.37 0.0068 0.0037
 Uranus -54397-04-27 18:57 J -18146963.93 -18146963.71 -18146963.49 0.0135 0.0021
 Pluto -54397-09-23 04:18 J -18146815.54 -18146815.32 -18146815.10 0.0068 0.0006
 Uranus -54397-12-10 02:52 J -18146737.59 -18146737.38 -18146737.18 0.0134 0.0052
 Pluto -54396-05-06 09:49 J -18146590.24 -18146590.09 -18146589.93 0.0068 0.0050
 Neptune -54396-07-01 11:45 J -18146534.04 -18146534.01 -18146533.95 0.0088 0.0087
 Uranus -54396-07-24 10:18 J -18146511.24 -18146511.07 -18146510.89 0.0134 0.0082
 Neptune -54395-02-12 01:54 J -18146308.55 -18146308.42 -18146308.25 0.0088 0.0068
 Uranus -54395-03-07 17:59 J -18146284.86 -18146284.75 -18146284.63 0.0134 0.0112
 Neptune -54395-09-25 16:04 J -18146083.00 -18146082.83 -18146082.62 0.0088 0.0048
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 Neptune -54394-12-20 20:37 J -18145631.87 -18145631.64 -18145631.41 0.0088 0.0009
 Jupiter -54393-04-14 02:37 J -18145516.59 -18145516.39 -18145516.19 0.0510 0.0041

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 Neptune -54392-10-27 14:37 J -18144955.07 -18144954.89 -18144954.69 0.0088 0.0049
 Neptune -54391-06-10 04:47 J -18144729.44 -18144729.30 -18144729.15 0.0088 0.0068
 Neptune -54390-01-21 18:13 J -18144503.75 -18144503.74 -18144503.67 0.0088 0.0088
 Jupiter -54387-10-06 03:06 J -18143150.50 -18143150.37 -18143150.23 0.0519 0.0402
 Saturn -54385-11-14 12:42 J -18142380.17 -18142379.97 -18142379.77 0.0298 0.0041
 Jupiter -54382-12-19 04:47 J -18141250.43 -18141250.30 -18141250.16 0.0512 0.0367
 Mars -54379-10-02 23:45 J -18140231.58 -18140231.51 -18140231.45 0.1584 0.1462
 Jupiter -54375-06-10 13:54 J -18138885.13 -18138884.92 -18138884.71 0.0517 0.0023
 Saturn -54370-12-13 13:54 J -18136873.14 -18136872.92 -18136872.70 0.0264 0.0037
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 Jupiter -54363-02-13 03:06 J -18134619.52 -18134619.37 -18134619.21 0.0514 0.0344
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 Uranus -54356-10-26 07:40 J -18131807.23 -18131807.18 -18131807.09 0.0143 0.0134
 Saturn -54355-05-27 21:49 J -18131593.79 -18131593.59 -18131593.39 0.0297 0.0029
 Uranus -54355-06-09 16:18 J -18131580.96 -18131580.82 -18131580.66 0.0143 0.0099
 Uranus -54354-01-22 00:57 J -18131354.64 -18131354.46 -18131354.27 0.0143 0.0064
 Uranus -54354-09-05 10:04 J -18131128.29 -18131128.08 -18131127.87 0.0144 0.0029
 Uranus -54353-04-18 18:57 J -18130901.92 -18130901.71 -18130901.49 0.0144 0.0008
 Uranus -54353-12-01 04:18 J -18130675.52 -18130675.32 -18130675.12 0.0144 0.0043
 Uranus -54352-07-15 13:54 J -18130449.10 -18130448.92 -18130448.75 0.0144 0.0080
 Uranus -54351-02-26 23:16 J -18130222.64 -18130222.53 -18130222.39 0.0145 0.0117
 Jupiter -54346-08-26 14:52 J -18128216.06 -18128215.88 -18128215.69 0.0511 0.0181
 Mars -54345-07-31 18:28 J -18127875.90 -18127875.73 -18127875.56 0.1581 0.0585
 Mars -54344-07-01 20:37 J -18127540.80 -18127540.64 -18127540.47 0.1959 0.0628
 Saturn -54341-11-07 11:16 J -18126316.13 -18126316.03 -18126315.92 0.0263 0.0228
 Saturn -54340-06-24 17:16 J -18126086.99 -18126086.78 -18126086.57 0.0264 0.0077
 Jupiter -54339-02-16 07:40 J -18125850.37 -18125850.18 -18125850.00 0.0518 0.0236
 Jupiter -54334-05-01 15:49 J -18123949.84 -18123949.84 -18123949.83 0.0513 0.0512

Jupiter -54328-10-21 20:52 J -18121584.83 -18121584.63 -18121584.43 0.0516 0.0131
 Saturn -54326-12-08 04:47 J -18120807.49 -18120807.30 -18120807.10 0.0297 0.0088
 Jupiter -54322-08-28 20:23 J -18119447.80 -18119447.65 -18119447.49 0.0508 0.0323
 Jupiter -54316-06-26 08:52 J -18117319.18 -18117319.13 -18117319.09 0.0513 0.0499
 Uranus -54316-07-04 16:33 J -18117310.90 -18117310.81 -18117310.69 0.0136 0.0120
 Uranus -54315-02-16 01:54 J -18117084.58 -18117084.42 -18117084.24 0.0136 0.0088
 Uranus -54315-09-30 10:33 J -18116858.25 -18116858.06 -18116857.84 0.0135 0.0056
 Uranus -54314-05-14 19:25 J -18116631.91 -18116631.69 -18116631.47 0.0135 0.0024
 Uranus -54314-12-27 03:35 J -18116405.57 -18116405.35 -18116405.13 0.0135 0.0007
 Neptune -54313-03-28 22:47 J -18116312.66 -18116312.55 -18116312.41 0.0089 0.0071
 Mars -54313-07-30 11:59 J -18116189.10 -18116189.00 -18116188.89 0.1584 0.1255
 Uranus -54313-08-09 11:30 J -18116179.23 -18116179.02 -18116178.80 0.0134 0.0038
 Neptune -54313-11-09 11:01 J -18116087.21 -18116087.04 -18116086.87 0.0089 0.0052
 Uranus -54312-03-23 19:40 J -18115952.87 -18115952.68 -18115952.49 0.0134 0.0069
 Neptune -54312-06-22 22:33 J -18115861.74 -18115861.56 -18115861.35 0.0089 0.0034
 Uranus -54312-11-05 02:37 J -18115726.52 -18115726.39 -18115726.22 0.0134 0.0099
 Pluto -54312-12-11 06:42 J -18115690.37 -18115690.22 -18115690.06 0.0076 0.0054
 Neptune -54311-02-03 10:47 J -18115636.26 -18115636.05 -18115635.84 0.0089 0.0015
 Saturn -54311-05-20 19:40 J -18115529.84 -18115529.68 -18115529.51 0.0264 0.0173
 Uranus -54311-06-19 09:49 J -18115500.13 -18115500.09 -18115500.01 0.0134 0.0129
 Pluto -54311-07-24 15:21 J -18115465.08 -18115464.86 -18115464.64 0.0076 0.0007
 Neptune -54311-09-16 22:47 J -18115410.76 -18115410.55 -18115410.34 0.0089 0.0003
 Saturn -54310-01-05 01:40 J -18115300.61 -18115300.43 -18115300.24 0.0264 0.0133
 Pluto -54310-03-06 23:30 J -18115239.62 -18115239.52 -18115239.41 0.0076 0.0066
 Neptune -54310-04-30 10:33 J -18115185.26 -18115185.06 -18115184.85 0.0089 0.0022
 Jupiter -54310-05-03 23:01 J -18115181.74 -18115181.54 -18115181.35 0.0510 0.0007
 Neptune -54310-12-11 22:18 J -18114959.74 -18114959.57 -18114959.37 0.0089 0.0041
 Neptune -54309-07-24 10:33 J -18114734.21 -18114734.06 -18114733.89 0.0089 0.0059
 Neptune -54308-03-06 22:04 J -18114508.65 -18114508.58 -18114508.45 0.0089 0.0079
 Jupiter -54304-10-24 21:35 J -18112815.71 -18112815.60 -18112815.48 0.0519 0.0435

Earth	-54300-09-30 00:57 J	-18111379.62	-18111379.46	-18111379.31	0.2711	0.0070
Moon	-54300-09-30 05:45 J	-18111379.41	-18111379.26	-18111379.11	0.2712	0.0250 *
Jupiter	-54298-01-07 01:11 J	-18110915.60	-18110915.45	-18110915.30	0.0512	0.0329
Saturn	-54297-11-01 21:06 J	-18110250.72	-18110250.62	-18110250.51	0.0297	0.0251
Saturn	-54296-06-19 15:21 J	-18110021.03	-18110020.86	-18110020.69	0.0297	0.0160
Jupiter	-54292-06-29 10:33 J	-18108550.26	-18108550.06	-18108549.85	0.0517	0.0066
Jupiter	-54286-05-06 05:30 J	-18106413.29	-18106413.27	-18106413.24	0.0507	0.0501
Saturn	-54282-11-30 23:59 J	-18104743.69	-18104743.50	-18104743.31	0.0263	0.0131
Saturn	-54281-07-17 05:45 J	-18104514.42	-18104514.26	-18104514.09	0.0264	0.0174
Jupiter	-54280-03-04 00:57 J	-18104284.63	-18104284.46	-18104284.28	0.0515	0.0295
Mars	-54279-05-29 06:57 J	-18103833.36	-18103833.21	-18103833.05	0.1581	0.0788
Mars	-54278-04-28 23:01 J	-18103498.65	-18103498.54	-18103498.43	0.1960	0.1472
Jupiter	-54274-01-09 07:25 J	-18102147.37	-18102147.19	-18102147.00	0.0509	0.0180
Uranus	-54271-02-07 00:28 J	-18101022.59	-18101022.48	-18101022.34	0.0143	0.0115
Uranus	-54271-09-21 09:06 J	-18100796.28	-18100796.12	-18100795.93	0.0143	0.0080
Uranus	-54270-05-05 17:59 J	-18100569.95	-18100569.75	-18100569.55	0.0143	0.0045
Uranus	-54270-12-18 02:52 J	-18100343.59	-18100343.38	-18100343.17	0.0144	0.0010
Uranus	-54269-07-31 12:13 J	-18100117.20	-18100116.99	-18100116.78	0.0144	0.0026
Uranus	-54268-03-14 21:21 J	-18099890.79	-18099890.61	-18099890.41	0.0144	0.0063
Uranus	-54268-10-27 07:11 J	-18099664.35	-18099664.20	-18099664.04	0.0145	0.0099
Saturn	-54267-05-15 03:21 J	-18099464.50	-18099464.36	-18099464.20	0.0298	0.0194
Uranus	-54267-06-10 17:01 J	-18099437.86	-18099437.79	-18099437.71	0.0145	0.0135
Saturn	-54267-12-30 21:35 J	-18099234.73	-18099234.60	-18099234.46	0.0297	0.0218
Jupiter	-54263-09-14 09:49 J	-18097881.28	-18097881.09	-18097880.90	0.0511	0.0145
Jupiter	-54256-03-07 02:37 J	-18095515.56	-18095515.39	-18095515.20	0.0518	0.0272
Saturn	-54252-06-12 07:54 J	-18093957.38	-18093957.17	-18093956.96	0.0264	0.0076
Saturn	-54251-01-27 13:54 J	-18093728.02	-18093727.92	-18093727.80	0.0264	0.0231
Jupiter	-54251-05-20 11:16 J	-18093615.10	-18093615.03	-18093614.96	0.0514	0.0478
Mars	-54247-05-28 00:13 J	-18092146.62	-18092146.49	-18092146.35	0.1583	0.1039
Jupiter	-54245-11-09 15:35 J	-18091250.06	-18091249.85	-18091249.65	0.0516	0.0097

Jupiter -54239-09-16 16:04 J -18089112.96 -18089112.83 -18089112.69 0.0508 0.0358
 Saturn -54238-11-25 14:52 J -18088678.06 -18088677.88 -18088677.69 0.0297 0.0118
 Saturn -54237-07-12 08:52 J -18088448.15 -18088448.13 -18088448.09 0.0297 0.0292
 Jupiter -54233-07-15 04:18 J -18086984.40 -18086984.32 -18086984.22 0.0514 0.0461
 Uranus -54232-03-04 01:25 J -18086752.47 -18086752.44 -18086752.38 0.0136 0.0133
 Uranus -54232-10-16 10:47 J -18086526.19 -18086526.05 -18086525.90 0.0136 0.0101
 Neptune -54231-05-16 11:16 J -18086314.13 -18086314.03 -18086313.90 0.0088 0.0075
 Uranus -54231-05-30 19:25 J -18086299.87 -18086299.69 -18086299.49 0.0135 0.0070
 Neptune -54231-12-28 01:11 J -18086088.60 -18086088.45 -18086088.25 0.0088 0.0057
 Uranus -54230-01-12 04:04 J -18086073.53 -18086073.33 -18086073.10 0.0135 0.0038
 Neptune -54230-08-10 15:35 J -18085863.04 -18085862.85 -18085862.63 0.0088 0.0037
 Uranus -54230-08-26 12:42 J -18085847.19 -18085846.97 -18085846.74 0.0135 0.0006
 Neptune -54229-03-23 05:59 J -18085637.47 -18085637.25 -18085637.02 0.0088 0.0017
 Uranus -54229-04-08 20:52 J -18085620.85 -18085620.63 -18085620.41 0.0135 0.0025
 Neptune -54229-11-03 20:09 J -18085411.89 -18085411.66 -18085411.43 0.0088 0.0002
 Uranus -54229-11-21 04:33 J -18085394.50 -18085394.31 -18085394.10 0.0134 0.0055
 Neptune -54228-06-17 09:49 J -18085186.30 -18085186.09 -18085185.86 0.0088 0.0022
 Uranus -54228-07-05 12:13 J -18085168.16 -18085167.99 -18085167.81 0.0134 0.0085
 Neptune -54227-01-28 23:59 J -18084960.69 -18084960.50 -18084960.28 0.0088 0.0041
 Uranus -54227-02-16 19:25 J -18084941.79 -18084941.69 -18084941.56 0.0134 0.0115
 Jupiter -54227-05-22 19:25 J -18084846.89 -18084846.69 -18084846.49 0.0510 0.0039
 Neptune -54227-09-11 14:09 J -18084735.07 -18084734.91 -18084734.73 0.0088 0.0059
 Neptune -54226-04-25 04:04 J -18084509.42 -18084509.33 -18084509.22 0.0088 0.0079
 Saturn -54223-12-23 12:42 J -18083171.19 -18083170.97 -18083170.75 0.0263 0.0033
 Jupiter -54221-11-12 19:25 J -18082480.77 -18082480.69 -18082480.62 0.0520 0.0483
 Jupiter -54215-01-25 20:52 J -18080580.79 -18080580.63 -18080580.47 0.0512 0.0290
 Mars -54213-03-25 19:25 J -18079790.83 -18079790.69 -18079790.55 0.1580 0.0994
 Jupiter -54209-07-18 08:37 J -18078215.34 -18078215.14 -18078214.94 0.0517 0.0115
 Saturn -54208-06-06 20:37 J -18077891.83 -18077891.64 -18077891.43 0.0298 0.0063
 Jupiter -54197-03-22 21:06 J -18073949.80 -18073949.62 -18073949.43 0.0515 0.0254

Saturn -54193-07-04 20:23 J -18072384.87 -18072384.65 -18072384.43 0.0264 0.0021
 Jupiter -54191-01-28 02:52 J -18071812.56 -18071812.38 -18071812.20 0.0509 0.0214
 Uranus -54188-10-07 08:09 J -18070464.24 -18070464.16 -18070464.08 0.0143 0.0131
 Uranus -54187-05-21 16:18 J -18070237.97 -18070237.82 -18070237.66 0.0143 0.0097
 Uranus -54186-01-03 00:57 J -18070011.65 -18070011.46 -18070011.27 0.0143 0.0063
 Uranus -54186-08-17 09:49 J -18069785.30 -18069785.09 -18069784.88 0.0144 0.0028
 Uranus -54185-03-30 18:57 J -18069558.92 -18069558.71 -18069558.50 0.0144 0.0008
 Uranus -54185-11-12 03:49 J -18069332.53 -18069332.34 -18069332.13 0.0144 0.0045
 Uranus -54184-06-26 13:11 J -18069106.11 -18069105.95 -18069105.76 0.0145 0.0081
 Uranus -54183-02-07 23:01 J -18068879.65 -18068879.54 -18068879.40 0.0145 0.0117
 Mars -54181-03-24 12:57 J -18068104.11 -18068103.96 -18068103.81 0.1582 0.0840
 Mars -54180-02-23 01:25 J -18067768.46 -18067768.44 -18067768.41 0.1958 0.1932
 Jupiter -54180-10-03 05:30 J -18067546.46 -18067546.27 -18067546.07 0.0511 0.0109
 Saturn -54179-12-18 07:54 J -18067105.38 -18067105.17 -18067104.97 0.0297 0.0012
 Earth -54178-04-01 03:21 J -18067001.50 -18067001.36 -18067001.22 0.2622 0.1389
 Moon -54178-04-01 04:33 J -18067001.45 -18067001.31 -18067001.17 0.2616 0.1503 *
 Jupiter -54173-03-25 22:33 J -18065180.73 -18065180.56 -18065180.39 0.0519 0.0312
 Jupiter -54168-06-08 08:23 J -18063280.25 -18063280.15 -18063280.04 0.0513 0.0432
 Saturn -54164-05-30 19:11 J -18061827.78 -18061827.70 -18061827.60 0.0263 0.0239
 Saturn -54163-01-15 01:11 J -18061598.66 -18061598.45 -18061598.23 0.0263 0.0064
 Jupiter -54162-11-29 12:28 J -18060915.18 -18060914.98 -18060914.77 0.0516 0.0052
 Jupiter -54156-10-05 12:13 J -18058778.11 -18058777.99 -18058777.86 0.0507 0.0397
 Jupiter -54150-08-04 03:06 J -18056649.50 -18056649.37 -18056649.25 0.0514 0.0408
 Saturn -54149-06-29 12:42 J -18056319.17 -18056318.97 -18056318.77 0.0298 0.0064
 Neptune -54149-06-30 10:33 J -18056318.13 -18056318.06 -18056317.94 0.0089 0.0079
 Pluto -54149-08-26 01:40 J -18056261.61 -18056261.43 -18056261.22 0.0068 0.0032
 Neptune -54148-02-10 22:47 J -18056092.70 -18056092.55 -18056092.38 0.0089 0.0060
 Pluto -54148-04-08 07:25 J -18056036.40 -18056036.19 -18056035.96 0.0068 0.0012
 Uranus -54148-06-15 19:25 J -18055967.80 -18055967.69 -18055967.56 0.0136 0.0114
 Neptune -54148-09-24 10:33 J -18055867.23 -18055867.06 -18055866.86 0.0089 0.0042

Pluto -54148-11-19 12:57 J -18055811.07 -18055810.96 -18055810.81 0.0068 0.0056
 Mars -54147-01-21 07:54 J -18055748.28 -18055748.17 -18055748.05 0.1580 0.1195
 Uranus -54147-01-28 04:18 J -18055741.48 -18055741.32 -18055741.13 0.0136 0.0083
 Neptune -54147-05-07 22:33 J -18055641.76 -18055641.56 -18055641.35 0.0089 0.0023
 Uranus -54147-09-11 13:11 J -18055515.15 -18055514.95 -18055514.73 0.0135 0.0051
 Neptune -54147-12-19 10:33 J -18055416.27 -18055416.06 -18055415.85 0.0089 0.0005
 Uranus -54146-04-25 21:49 J -18055288.81 -18055288.59 -18055288.37 0.0135 0.0020
 Neptune -54146-08-01 22:33 J -18055190.77 -18055190.56 -18055190.35 0.0089 0.0014
 Uranus -54146-12-08 05:59 J -18055062.47 -18055062.25 -18055062.02 0.0135 0.0011
 Neptune -54145-03-14 10:33 J -18054965.26 -18054965.06 -18054964.86 0.0089 0.0033
 Uranus -54145-07-21 13:54 J -18054836.13 -18054835.92 -18054835.70 0.0135 0.0042
 Neptune -54145-10-25 22:18 J -18054739.74 -18054739.57 -18054739.39 0.0089 0.0051
 Uranus -54144-03-04 21:35 J -18054609.78 -18054609.60 -18054609.40 0.0134 0.0072
 Neptune -54144-06-08 09:49 J -18054514.20 -18054514.09 -18054513.93 0.0089 0.0070
 Jupiter -54144-06-10 14:52 J -18054512.08 -18054511.88 -18054511.69 0.0510 0.0076
 Uranus -54144-10-17 04:47 J -18054383.42 -18054383.30 -18054383.13 0.0134 0.0102
 Neptune -54143-01-19 22:04 J -18054288.59 -18054288.58 -18054288.54 0.0089 0.0088
 Uranus -54143-05-31 12:13 J -18054157.02 -18054156.99 -18054156.94 0.0134 0.0131
 Saturn -54135-12-11 01:54 J -18051041.56 -18051041.42 -18051041.26 0.0264 0.0190
 Saturn -54134-07-28 07:54 J -18050812.36 -18050812.17 -18050811.97 0.0264 0.0115
 Jupiter -54132-02-13 16:18 J -18050245.99 -18050245.82 -18050245.65 0.0512 0.0254
 Jupiter -54126-08-07 04:33 J -18047880.51 -18047880.31 -18047880.11 0.0517 0.0155
 Saturn -54120-05-25 04:47 J -18045762.37 -18045762.30 -18045762.22 0.0297 0.0276
 Saturn -54119-01-09 23:01 J -18045532.71 -18045532.54 -18045532.35 0.0297 0.0135
 Mars -54115-01-20 01:11 J -18044061.61 -18044061.45 -18044061.29 0.1582 0.0626
 Mars -54115-12-21 04:18 J -18043726.46 -18043726.32 -18043726.18 0.1959 0.1112
 Jupiter -54114-04-11 16:33 J -18043615.00 -18043614.81 -18043614.61 0.0515 0.0215
 Jupiter -54108-02-16 00:57 J -18041477.63 -18041477.46 -18041477.29 0.0508 0.0261
 Saturn -54105-06-22 07:11 J -18040255.38 -18040255.20 -18040255.02 0.0263 0.0145
 Saturn -54104-02-06 12:57 J -18040026.14 -18040025.96 -18040025.78 0.0263 0.0157

Uranus	-54103-01-18 23:30 J	-18039679.63	-18039679.52	-18039679.38	0.0143	0.0114
Uranus	-54103-09-02 08:23 J	-18039453.33	-18039453.15	-18039452.98	0.0143	0.0079
Uranus	-54102-04-16 16:47 J	-18039227.00	-18039226.80	-18039226.59	0.0143	0.0045
Uranus	-54102-11-29 01:40 J	-18039000.64	-18039000.43	-18039000.22	0.0144	0.0010
Uranus	-54101-07-12 10:33 J	-18038774.26	-18038774.06	-18038773.84	0.0144	0.0026
Uranus	-54100-02-23 19:54 J	-18038547.85	-18038547.67	-18038547.47	0.0144	0.0062
Uranus	-54100-10-08 05:30 J	-18038321.41	-18038321.27	-18038321.10	0.0145	0.0098
Uranus	-54099-05-22 15:21 J	-18038094.92	-18038094.86	-18038094.77	0.0145	0.0134
Jupiter	-54097-10-22 03:06 J	-18037211.57	-18037211.37	-18037211.17	0.0510	0.0063
Saturn	-54091-12-05 07:54 J	-18034976.29	-18034976.17	-18034976.03	0.0298	0.0229
Jupiter	-54090-04-14 22:04 J	-18034845.72	-18034845.58	-18034845.43	0.0519	0.0369
Saturn	-54090-07-23 02:37 J	-18034746.55	-18034746.39	-18034746.23	0.0298	0.0182
Jupiter	-54085-06-27 05:01 J	-18032945.42	-18032945.29	-18032945.16	0.0513	0.0390
Mars	-54082-11-18 19:54 J	-18031705.74	-18031705.67	-18031705.59	0.1580	0.1410
Jupiter	-54079-12-18 11:01 J	-18030580.25	-18030580.04	-18030579.83	0.0516	0.0011
Saturn	-54075-01-02 12:42 J	-18029469.17	-18029468.97	-18029468.76	0.0263	0.0099
Saturn	-54075-08-19 18:28 J	-18029239.86	-18029239.73	-18029239.59	0.0264	0.0205
Jupiter	-54073-10-24 08:37 J	-18028443.24	-18028443.14	-18028443.04	0.0508	0.0436
Neptune	-54067-08-17 20:23 J	-18026319.72	-18026319.65	-18026319.58	0.0088	0.0084
Jupiter	-54067-08-23 00:28 J	-18026314.62	-18026314.48	-18026314.33	0.0514	0.0361
Neptune	-54066-03-31 10:18 J	-18026094.21	-18026094.07	-18026093.90	0.0088	0.0065
Neptune	-54066-11-12 00:28 J	-18025868.66	-18025868.48	-18025868.27	0.0088	0.0045
Neptune	-54065-06-24 14:37 J	-18025643.10	-18025642.89	-18025642.66	0.0088	0.0026
Neptune	-54064-02-05 05:01 J	-18025417.51	-18025417.29	-18025417.06	0.0088	0.0007
Uranus	-54064-02-13 02:52 J	-18025409.43	-18025409.38	-18025409.29	0.0136	0.0128
Neptune	-54064-09-18 19:11 J	-18025191.92	-18025191.70	-18025191.47	0.0088	0.0013
Uranus	-54064-09-27 12:28 J	-18025183.14	-18025182.98	-18025182.82	0.0136	0.0096
Neptune	-54063-05-02 09:21 J	-18024966.32	-18024966.11	-18024965.90	0.0088	0.0032
Uranus	-54063-05-11 21:21 J	-18024956.81	-18024956.61	-18024956.41	0.0136	0.0065
Pluto	-54063-06-26 10:33 J	-18024911.21	-18024911.06	-18024910.86	0.0076	0.0047

Neptune -54063-12-13 22:47 J -18024740.71 -18024740.55 -18024740.34 0.0088 0.0052
 Uranus -54063-12-24 05:59 J -18024730.47 -18024730.25 -18024730.04 0.0135 0.0034
 Pluto -54062-02-06 19:40 J -18024685.89 -18024685.68 -18024685.47 0.0076 0.0015
 Neptune -54062-07-27 12:57 J -18024515.08 -18024514.96 -18024514.80 0.0088 0.0070
 Uranus -54062-08-07 14:09 J -18024504.13 -18024503.91 -18024503.68 0.0135 0.0004
 Pluto -54062-09-20 03:49 J -18024460.37 -18024460.34 -18024460.29 0.0076 0.0074
 Uranus -54061-03-20 22:33 J -18024277.78 -18024277.56 -18024277.34 0.0135 0.0028
 Saturn -54061-06-16 17:30 J -18024189.94 -18024189.77 -18024189.60 0.0298 0.0162
 Jupiter -54061-06-29 11:59 J -18024177.19 -18024177.00 -18024176.80 0.0510 0.0120
 Uranus -54061-11-02 06:13 J -18024051.43 -18024051.24 -18024051.03 0.0134 0.0058
 Saturn -54060-02-01 11:30 J -18023960.12 -18023960.02 -18023959.89 0.0297 0.0248
 Uranus -54060-06-16 13:40 J -18023825.09 -18023824.93 -18023824.75 0.0134 0.0088
 Uranus -54059-01-28 20:52 J -18023598.71 -18023598.63 -18023598.50 0.0134 0.0118
 Moon -54057-09-30 00:42 J -18022623.63 -18022623.47 -18022623.32 0.2706 0.0092
 Earth -54057-09-30 05:01 J -18022623.44 -18022623.29 -18022623.14 0.2710 0.0143 *
 Mars -54050-11-17 13:40 J -18020019.11 -18020018.93 -18020018.76 0.1581 0.0421
 Jupiter -54049-03-04 16:04 J -18019911.01 -18019910.83 -18019910.65 0.0512 0.0198
 Mars -54049-10-17 06:13 J -18019684.40 -18019684.24 -18019684.07 0.1960 0.0257
 Saturn -54046-07-15 17:45 J -18018682.98 -18018682.76 -18018682.55 0.0263 0.0055
 Saturn -54045-02-29 23:16 J -18018453.60 -18018453.53 -18018453.45 0.0263 0.0247
 Jupiter -54043-08-26 02:52 J -18017545.58 -18017545.38 -18017545.19 0.0518 0.0206
 Saturn -54032-12-27 19:25 J -18013403.88 -18013403.69 -18013403.50 0.0298 0.0119
 Jupiter -54031-04-30 17:16 J -18013279.97 -18013279.78 -18013279.57 0.0516 0.0154
 Saturn -54031-08-14 13:54 J -18013173.96 -18013173.92 -18013173.88 0.0298 0.0291
 Jupiter -54025-03-06 22:18 J -18011142.72 -18011142.57 -18011142.41 0.0508 0.0307
 Uranus -54020-09-18 06:57 J -18009121.27 -18009121.21 -18009121.10 0.0143 0.0130
 Jupiter -54019-01-03 07:54 J -18009014.20 -18009014.17 -18009014.15 0.0513 0.0508
 Uranus -54019-05-02 15:21 J -18008895.00 -18008894.86 -18008894.69 0.0143 0.0096
 Uranus -54019-12-14 23:59 J -18008668.69 -18008668.50 -18008668.31 0.0143 0.0062
 Uranus -54018-07-29 08:52 J -18008442.34 -18008442.13 -18008441.93 0.0144 0.0027

Uranus	-54017-03-11 17:45 J	-18008215.97	-18008215.76	-18008215.55	0.0144	0.0009
Uranus	-54017-10-24 02:37 J	-18007989.58	-18007989.39	-18007989.18	0.0144	0.0044
Saturn	-54016-01-24 22:04 J	-18007896.80	-18007896.58	-18007896.36	0.0263	0.0014
Uranus	-54016-06-07 12:13 J	-18007763.16	-18007762.99	-18007762.81	0.0144	0.0080
Uranus	-54015-01-19 21:35 J	-18007536.71	-18007536.60	-18007536.46	0.0145	0.0116
Jupiter	-54014-11-11 00:13 J	-18006876.68	-18006876.49	-18006876.29	0.0511	0.0022
Jupiter	-54007-05-03 20:52 J	-18004510.75	-18004510.63	-18004510.51	0.0519	0.0419
Saturn	-54002-07-10 03:49 J	-18002617.54	-18002617.34	-18002617.14	0.0298	0.0056
Jupiter	-54002-07-17 03:21 J	-18002610.50	-18002610.36	-18002610.21	0.0513	0.0340

54TH MILLENNIUM BCE

This is a list of transits of Venus in the 54th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-53995-01-06 07:54 J	-18000245.38	-18000245.17	-18000244.96	0.0517	0.0046		
Jupiter	-53990-11-13 09:21 J	-17998108.15	-17998108.11	-17998108.07	0.0507	0.0493		
Saturn	-53987-08-07 02:37 J	-17997110.61	-17997110.39	-17997110.17	0.0263	0.0030		
Neptune	-53985-10-01 22:04 J	-17996323.60	-17996323.58	-17996323.50	0.0089	0.0087		
Neptune	-53984-05-15 10:18 J	-17996098.20	-17996098.07	-17996097.93	0.0089	0.0068		
Jupiter	-53984-09-10 22:47 J	-17995979.71	-17995979.55	-17995979.38	0.0515	0.0310		
Mars	-53984-09-14 02:09 J	-17995976.59	-17995976.41	-17995976.23	0.1581	0.0214		
Neptune	-53984-12-26 22:04 J	-17995872.74	-17995872.58	-17995872.39	0.0089	0.0050		
Neptune	-53983-08-09 10:18 J	-17995647.27	-17995647.07	-17995646.87	0.0089	0.0031		
Mars	-53983-08-14 08:37 J	-17995642.30	-17995642.14	-17995641.98	0.1961	0.0596		

Neptune -53982-03-22 22:04 J -17995421.79 -17995421.58 -17995421.37 0.0089 0.0013
 Neptune -53982-11-03 09:49 J -17995196.30 -17995196.09 -17995195.87 0.0089 0.0006
 Neptune -53981-06-15 21:35 J -17994970.80 -17994970.60 -17994970.39 0.0089 0.0024
 Neptune -53980-01-27 09:35 J -17994745.28 -17994745.10 -17994744.91 0.0089 0.0042
 Uranus -53980-05-27 19:40 J -17994624.80 -17994624.68 -17994624.54 0.0136 0.0110
 Neptune -53980-09-09 21:21 J -17994519.75 -17994519.61 -17994519.44 0.0089 0.0061
 Uranus -53979-01-09 04:47 J -17994398.47 -17994398.30 -17994398.11 0.0136 0.0079
 Neptune -53979-04-23 09:35 J -17994294.19 -17994294.10 -17994294.00 0.0089 0.0079
 Uranus -53979-08-23 13:40 J -17994172.13 -17994171.93 -17994171.71 0.0135 0.0047
 Uranus -53978-04-06 22:18 J -17993945.79 -17993945.57 -17993945.34 0.0135 0.0016
 Jupiter -53978-07-19 12:13 J -17993842.17 -17993841.99 -17993841.80 0.0509 0.0177
 Uranus -53978-11-19 06:28 J -17993719.44 -17993719.23 -17993719.00 0.0135 0.0015
 Uranus -53977-07-02 14:37 J -17993493.10 -17993492.89 -17993492.68 0.0135 0.0045
 Uranus -53976-02-13 22:33 J -17993266.75 -17993266.56 -17993266.38 0.0134 0.0075
 Uranus -53976-09-28 05:59 J -17993040.38 -17993040.25 -17993040.11 0.0134 0.0104
 Uranus -53975-05-12 13:11 J -17992813.95 -17992813.95 -17992813.92 0.0134 0.0134
 Saturn -53972-01-19 04:04 J -17991831.54 -17991831.33 -17991831.13 0.0298 0.0019
 Jupiter -53966-03-24 14:52 J -17989576.07 -17989575.88 -17989575.69 0.0511 0.0146
 Jupiter -53960-09-14 04:33 J -17987210.49 -17987210.31 -17987210.13 0.0518 0.0270
 Saturn -53958-07-02 23:45 J -17986553.60 -17986553.51 -17986553.40 0.0263 0.0232
 Saturn -53957-02-17 05:30 J -17986324.48 -17986324.27 -17986324.06 0.0263 0.0069
 Jupiter -53955-11-27 15:49 J -17985309.90 -17985309.84 -17985309.76 0.0514 0.0477
 Jupiter -53948-05-19 17:45 J -17982944.97 -17982944.76 -17982944.56 0.0515 0.0095
 Saturn -53943-08-01 11:16 J -17981045.23 -17981045.03 -17981044.83 0.0298 0.0040
 Jupiter -53942-03-26 22:04 J -17980807.72 -17980807.58 -17980807.44 0.0508 0.0361
 Jupiter -53936-01-22 05:16 J -17978679.37 -17978679.28 -17978679.19 0.0513 0.0461
 Uranus -53936-12-31 00:28 J -17978336.61 -17978336.48 -17978336.34 0.0143 0.0110
 Moon -53935-03-31 22:04 J -17978245.73 -17978245.58 -17978245.42 0.2628 0.0618
 Earth -53935-04-01 01:25 J -17978245.59 -17978245.44 -17978245.30 0.2623 0.1245 *
 Uranus -53935-08-14 08:52 J -17978110.30 -17978110.13 -17978109.95 0.0143 0.0076

Uranus -53934-03-28 17:16 J -17977883.97 -17977883.78 -17977883.57 0.0143 0.0043
 Uranus -53934-11-10 02:09 J -17977657.62 -17977657.41 -17977657.19 0.0144 0.0008
 Uranus -53933-06-23 11:16 J -17977431.24 -17977431.03 -17977430.82 0.0144 0.0028
 Uranus -53932-02-04 20:37 J -17977204.83 -17977204.64 -17977204.45 0.0144 0.0063
 Uranus -53932-09-19 05:59 J -17976978.39 -17976978.25 -17976978.08 0.0144 0.0100
 Uranus -53931-05-03 16:04 J -17976751.90 -17976751.83 -17976751.75 0.0145 0.0135
 Jupiter -53931-11-30 02:37 J -17976541.59 -17976541.39 -17976541.19 0.0510 0.0048
 Saturn -53928-01-12 04:33 J -17975767.46 -17975767.31 -17975767.15 0.0263 0.0189
 Saturn -53928-08-29 09:49 J -17975538.29 -17975538.09 -17975537.89 0.0263 0.0111
 Jupiter -53924-05-22 20:23 J -17974175.73 -17974175.65 -17974175.57 0.0519 0.0477
 Jupiter -53919-08-05 05:16 J -17972275.44 -17972275.28 -17972275.11 0.0512 0.0275
 Mars -53918-07-12 14:23 J -17971934.08 -17971933.90 -17971933.72 0.1581 0.0020
 Mars -53917-06-10 11:30 J -17971600.14 -17971600.02 -17971599.91 0.1961 0.1411
 Saturn -53913-02-11 10:47 J -17970259.24 -17970259.05 -17970258.85 0.0298 0.0075
 Jupiter -53912-01-25 11:16 J -17969910.23 -17969910.03 -17969909.82 0.0517 0.0118
 Neptune -53902-07-02 18:13 J -17966099.85 -17966099.74 -17966099.61 0.0088 0.0074
 Neptune -53901-02-13 08:37 J -17965874.31 -17965874.14 -17965873.96 0.0088 0.0054
 Neptune -53901-09-25 22:47 J -17965648.75 -17965648.55 -17965648.33 0.0088 0.0035
 Jupiter -53901-09-30 01:54 J -17965644.60 -17965644.42 -17965644.23 0.0515 0.0240
 Pluto -53900-03-11 04:04 J -17965482.52 -17965482.33 -17965482.12 0.0068 0.0031
 Neptune -53900-05-09 12:57 J -17965423.18 -17965422.96 -17965422.73 0.0088 0.0016
 Pluto -53900-10-22 09:49 J -17965257.30 -17965257.09 -17965256.86 0.0068 0.0013
 Neptune -53900-12-21 03:21 J -17965197.59 -17965197.36 -17965197.14 0.0088 0.0003
 Pluto -53899-06-04 15:21 J -17965031.97 -17965031.86 -17965031.72 0.0068 0.0056
 Saturn -53899-07-25 05:59 J -17964981.42 -17964981.25 -17964981.06 0.0263 0.0155
 Neptune -53899-08-03 17:16 J -17964971.99 -17964971.78 -17964971.55 0.0088 0.0022
 Saturn -53898-03-11 11:30 J -17964752.20 -17964752.02 -17964751.83 0.0263 0.0146
 Neptune -53898-03-17 07:40 J -17964746.38 -17964746.18 -17964745.98 0.0088 0.0042
 Neptune -53898-10-28 21:49 J -17964520.76 -17964520.59 -17964520.43 0.0088 0.0061
 Neptune -53897-06-10 11:45 J -17964295.10 -17964295.01 -17964294.91 0.0088 0.0080

Uranus	-53896-01-25 03:21 J	-17964066.43	-17964066.36	-17964066.25	0.0136	0.0124
Uranus	-53896-09-08 12:42 J	-17963840.12	-17963839.97	-17963839.79	0.0136	0.0092
Uranus	-53895-04-22 21:35 J	-17963613.79	-17963613.60	-17963613.39	0.0136	0.0061
Jupiter	-53895-08-07 11:45 J	-17963507.19	-17963507.01	-17963506.83	0.0509	0.0230
Uranus	-53895-12-05 06:28 J	-17963387.45	-17963387.23	-17963387.01	0.0135	0.0030
Uranus	-53894-07-19 14:52 J	-17963161.10	-17963160.88	-17963160.65	0.0135	0.0002
Uranus	-53893-03-01 23:01 J	-17962934.75	-17962934.54	-17962934.31	0.0135	0.0032
Uranus	-53893-10-14 07:11 J	-17962708.40	-17962708.20	-17962708.00	0.0134	0.0062
Uranus	-53892-05-28 14:37 J	-17962482.04	-17962481.89	-17962481.72	0.0134	0.0092
Uranus	-53891-01-09 22:04 J	-17962255.66	-17962255.58	-17962255.47	0.0134	0.0121
Saturn	-53884-01-05 21:49 J	-17959702.65	-17959702.59	-17959702.52	0.0298	0.0281
Saturn	-53884-08-23 16:33 J	-17959472.99	-17959472.81	-17959472.62	0.0297	0.0128
Jupiter	-53883-04-12 15:35 J	-17959241.05	-17959240.85	-17959240.66	0.0511	0.0086
Jupiter	-53877-10-03 02:37 J	-17956875.55	-17956875.39	-17956875.22	0.0518	0.0321
Jupiter	-53872-12-16 19:11 J	-17954974.81	-17954974.70	-17954974.57	0.0513	0.0405
Saturn	-53869-02-04 10:47 J	-17954195.25	-17954195.05	-17954194.85	0.0263	0.0111
Saturn	-53869-09-20 15:49 J	-17953965.99	-17953965.84	-17953965.68	0.0263	0.0188
Jupiter	-53865-06-07 17:16 J	-17952609.99	-17952609.78	-17952609.57	0.0516	0.0037
Jupiter	-53859-04-15 00:13 J	-17950472.59	-17950472.49	-17950472.37	0.0508	0.0425
Saturn	-53855-07-18 21:06 J	-17948916.73	-17948916.62	-17948916.50	0.0298	0.0247
Saturn	-53854-03-05 15:35 J	-17948687.01	-17948686.85	-17948686.67	0.0298	0.0162
Jupiter	-53853-02-11 09:06 J	-17948344.25	-17948344.12	-17948343.98	0.0514	0.0388
Mars	-53852-05-09 02:52 J	-17947891.56	-17947891.38	-17947891.20	0.1580	0.0202
Uranus	-53852-08-30 09:49 J	-17947778.19	-17947778.09	-17947777.99	0.0142	0.0124
Uranus	-53851-04-13 17:45 J	-17947551.91	-17947551.76	-17947551.59	0.0143	0.0091
Uranus	-53851-11-26 02:09 J	-17947325.59	-17947325.41	-17947325.21	0.0143	0.0057
Uranus	-53850-07-10 11:01 J	-17947099.25	-17947099.04	-17947098.83	0.0143	0.0022
Uranus	-53849-02-21 19:54 J	-17946872.88	-17946872.67	-17946872.46	0.0144	0.0013
Uranus	-53849-10-05 05:01 J	-17946646.48	-17946646.29	-17946646.08	0.0144	0.0048
Uranus	-53848-05-19 14:37 J	-17946420.06	-17946419.89	-17946419.71	0.0144	0.0083

Jupiter -53848-12-19 03:21 J -17946206.55 -17946206.36 -17946206.16 0.0510 0.0109
 Uranus -53847-01-01 00:28 J -17946193.60 -17946193.48 -17946193.36 0.0145 0.0119
 Saturn -53840-08-16 11:16 J -17943409.24 -17943409.03 -17943408.82 0.0263 0.0080
 Saturn -53839-04-02 16:33 J -17943179.92 -17943179.81 -17943179.69 0.0263 0.0220
 Jupiter -53836-08-24 05:16 J -17941940.46 -17941940.28 -17941940.10 0.0512 0.0218
 Jupiter -53829-02-14 13:40 J -17939575.13 -17939574.93 -17939574.73 0.0517 0.0185
 Saturn -53825-01-29 02:23 J -17938130.55 -17938130.40 -17938130.24 0.0298 0.0195
 Saturn -53825-09-14 20:52 J -17937900.76 -17937900.63 -17937900.48 0.0297 0.0214
 Neptune -53820-08-16 21:21 J -17936103.69 -17936103.61 -17936103.48 0.0089 0.0077
 Neptune -53819-03-30 09:35 J -17935878.25 -17935878.10 -17935877.93 0.0089 0.0058
 Neptune -53819-11-10 21:21 J -17935652.79 -17935652.61 -17935652.41 0.0089 0.0040
 Neptune -53818-06-24 09:21 J -17935427.32 -17935427.11 -17935426.90 0.0089 0.0022
 Jupiter -53818-10-20 00:28 J -17935309.67 -17935309.48 -17935309.28 0.0515 0.0188
 Neptune -53817-02-04 21:06 J -17935201.83 -17935201.62 -17935201.40 0.0089 0.0004
 Neptune -53817-09-17 09:06 J -17934976.33 -17934976.12 -17934975.91 0.0089 0.0015
 Neptune -53816-04-30 20:37 J -17934750.82 -17934750.64 -17934750.43 0.0089 0.0034
 Neptune -53816-12-12 08:37 J -17934525.30 -17934525.14 -17934524.96 0.0089 0.0052
 Neptune -53815-07-25 20:52 J -17934299.76 -17934299.63 -17934299.50 0.0089 0.0071
 Pluto -53814-01-09 12:57 J -17934132.12 -17934131.96 -17934131.77 0.0076 0.0046
 Neptune -53814-03-08 08:37 J -17934074.14 -17934074.14 -17934074.13 0.0089 0.0089
 Pluto -53814-08-22 21:35 J -17933906.80 -17933906.60 -17933906.37 0.0076 0.0016
 Earth -53814-10-01 08:52 J -17933867.28 -17933867.13 -17933866.98 0.2710 0.0255
 Moon -53814-10-01 11:16 J -17933867.17 -17933867.03 -17933866.88 0.2716 0.0497 *
 Pluto -53813-04-04 05:45 J -17933681.26 -17933681.26 -17933681.22 0.0076 0.0076
 Uranus -53813-09-24 12:28 J -17933507.99 -17933507.98 -17933507.95 0.0136 0.0136
 Uranus -53812-05-08 21:49 J -17933281.73 -17933281.59 -17933281.44 0.0136 0.0104
 Jupiter -53812-08-26 15:35 J -17933172.01 -17933171.85 -17933171.69 0.0509 0.0302
 Uranus -53812-12-21 06:57 J -17933055.40 -17933055.21 -17933055.02 0.0136 0.0073
 Uranus -53811-08-04 15:35 J -17932829.05 -17932828.85 -17932828.63 0.0135 0.0042
 Saturn -53810-02-26 15:49 J -17932623.06 -17932622.84 -17932622.62 0.0263 0.0036

Uranus	-53810-03-19 00:28 J	-17932602.70	-17932602.48	-17932602.26	0.0135	0.0011
Saturn	-53810-10-13 20:52 J	-17932393.63	-17932393.63	-17932393.61	0.0263	0.0263
Uranus	-53810-10-31 08:52 J	-17932376.35	-17932376.13	-17932375.91	0.0135	0.0019
Uranus	-53809-06-13 16:33 J	-17932150.00	-17932149.81	-17932149.59	0.0135	0.0050
Uranus	-53808-01-26 00:28 J	-17931923.65	-17931923.48	-17931923.29	0.0134	0.0079
Uranus	-53808-09-09 08:23 J	-17931697.28	-17931697.15	-17931697.02	0.0134	0.0108
Moon	-53806-09-29 07:54 J	-17930947.22	-17930947.17	-17930947.11	0.2712	0.2512
Jupiter	-53800-05-01 18:42 J	-17928905.92	-17928905.72	-17928905.53	0.0511	0.0021
Saturn	-53796-08-10 01:25 J	-17927344.60	-17927344.44	-17927344.26	0.0298	0.0161
Saturn	-53795-03-27 19:54 J	-17927114.78	-17927114.67	-17927114.55	0.0298	0.0247
Jupiter	-53794-10-23 07:25 J	-17926540.32	-17926540.19	-17926540.06	0.0519	0.0398
Jupiter	-53788-01-04 20:52 J	-17924639.77	-17924639.63	-17924639.48	0.0513	0.0341
Mars	-53786-03-06 15:06 J	-17923849.04	-17923848.87	-17923848.69	0.1580	0.0412
Jupiter	-53782-06-27 21:49 J	-17922274.80	-17922274.59	-17922274.38	0.0516	0.0040
Saturn	-53781-09-07 15:49 J	-17921837.06	-17921836.84	-17921836.62	0.0263	0.0006
Jupiter	-53776-05-04 00:42 J	-17920137.52	-17920137.47	-17920137.41	0.0508	0.0482
Jupiter	-53770-03-02 11:59 J	-17918009.16	-17918009.00	-17918008.83	0.0514	0.0318
Uranus	-53768-04-29 19:40 J	-17917219.71	-17917219.68	-17917219.61	0.0142	0.0138
Uranus	-53768-12-12 03:49 J	-17916993.47	-17916993.34	-17916993.18	0.0143	0.0105
Uranus	-53767-07-26 12:13 J	-17916767.16	-17916766.99	-17916766.79	0.0143	0.0071
Saturn	-53766-02-20 06:13 J	-17916558.43	-17916558.24	-17916558.05	0.0298	0.0111
Uranus	-53766-03-09 21:06 J	-17916540.82	-17916540.62	-17916540.42	0.0143	0.0036
Saturn	-53766-10-08 00:28 J	-17916328.48	-17916328.48	-17916328.46	0.0297	0.0297
Uranus	-53766-10-22 05:59 J	-17916314.46	-17916314.25	-17916314.04	0.0144	0.0002
Uranus	-53765-06-04 15:06 J	-17916088.08	-17916087.87	-17916087.67	0.0144	0.0033
Jupiter	-53764-01-07 04:47 J	-17915871.48	-17915871.30	-17915871.11	0.0510	0.0171
Uranus	-53764-01-17 00:13 J	-17915861.67	-17915861.49	-17915861.30	0.0144	0.0069
Uranus	-53764-08-31 10:04 J	-17915635.22	-17915635.08	-17915634.93	0.0144	0.0104
Uranus	-53763-04-14 19:40 J	-17915408.71	-17915408.68	-17915408.61	0.0145	0.0140
Mars	-53754-03-05 08:37 J	-17912162.22	-17912162.14	-17912162.06	0.1581	0.1409

Mars -53753-02-02 15:49 J -17911827.98 -17911827.84 -17911827.70 0.1960 0.1124
 Jupiter -53753-09-12 09:06 J -17911605.30 -17911605.12 -17911604.93 0.0512 0.0145
 Saturn -53752-08-03 14:52 J -17911279.90 -17911279.88 -17911279.84 0.0263 0.0260
 Saturn -53751-03-20 20:23 J -17911050.86 -17911050.65 -17911050.43 0.0263 0.0039
 Jupiter -53746-03-05 13:25 J -17909240.12 -17909239.94 -17909239.75 0.0518 0.0242
 Jupiter -53741-05-18 11:30 J -17907339.09 -17907339.02 -17907338.94 0.0514 0.0469
 Neptune -53738-10-04 01:25 J -17906105.49 -17906105.44 -17906105.34 0.0088 0.0084
 Neptune -53737-05-16 15:35 J -17905879.98 -17905879.85 -17905879.67 0.0088 0.0065
 Saturn -53737-09-01 06:13 J -17905772.43 -17905772.24 -17905772.04 0.0298 0.0073
 Neptune -53737-12-28 05:59 J -17905654.43 -17905654.25 -17905654.04 0.0088 0.0045
 Neptune -53736-08-10 20:09 J -17905428.86 -17905428.66 -17905428.43 0.0088 0.0026
 Neptune -53735-03-24 10:47 J -17905203.28 -17905203.05 -17905202.82 0.0088 0.0007
 Neptune -53735-11-05 00:57 J -17904977.69 -17904977.46 -17904977.24 0.0088 0.0013
 Jupiter -53735-11-08 04:47 J -17904974.50 -17904974.30 -17904974.09 0.0516 0.0113
 Neptune -53734-06-18 14:52 J -17904752.09 -17904751.88 -17904751.66 0.0088 0.0032
 Neptune -53733-01-30 04:47 J -17904526.47 -17904526.30 -17904526.10 0.0088 0.0051
 Neptune -53733-09-11 18:42 J -17904300.83 -17904300.72 -17904300.56 0.0088 0.0070
 Jupiter -53729-09-14 16:47 J -17902836.93 -17902836.80 -17902836.66 0.0508 0.0362
 Uranus -53728-01-06 07:25 J -17902723.30 -17902723.19 -17902723.07 0.0136 0.0116
 Uranus -53728-08-20 16:47 J -17902496.97 -17902496.80 -17902496.62 0.0136 0.0085
 Uranus -53727-04-04 01:25 J -17902270.63 -17902270.44 -17902270.22 0.0136 0.0055
 Uranus -53727-11-16 10:18 J -17902044.28 -17902044.07 -17902043.84 0.0135 0.0024
 Uranus -53726-06-30 18:57 J -17901817.94 -17901817.71 -17901817.49 0.0135 0.0007
 Uranus -53725-02-12 03:06 J -17901591.58 -17901591.37 -17901591.15 0.0135 0.0038
 Uranus -53725-09-25 11:01 J -17901365.22 -17901365.04 -17901364.84 0.0134 0.0068
 Uranus -53724-05-09 18:42 J -17901138.86 -17901138.72 -17901138.55 0.0134 0.0097
 Uranus -53724-12-22 02:09 J -17900912.47 -17900912.41 -17900912.32 0.0134 0.0126
 Jupiter -53723-07-13 20:23 J -17900708.74 -17900708.65 -17900708.56 0.0513 0.0462
 Saturn -53722-02-13 14:52 J -17900493.98 -17900493.88 -17900493.77 0.0263 0.0231
 Saturn -53722-09-30 20:23 J -17900264.86 -17900264.65 -17900264.43 0.0263 0.0068

Mars	-53720-01-01 03:35 J	-17899806.52	-17899806.35	-17899806.19	0.1580	0.0615
Jupiter	-53717-05-20 18:57 J	-17898570.91	-17898570.71	-17898570.51	0.0511	0.0041
Jupiter	-53711-11-11 10:04 J	-17896205.16	-17896205.08	-17896204.99	0.0519	0.0466
Saturn	-53707-03-14 11:01 J	-17894986.25	-17894986.04	-17894985.84	0.0298	0.0024
Jupiter	-53705-01-24 22:04 J	-17894304.74	-17894304.58	-17894304.41	0.0513	0.0279
Jupiter	-53699-07-16 20:23 J	-17891939.85	-17891939.65	-17891939.44	0.0516	0.0091
Saturn	-53693-08-25 20:09 J	-17889707.81	-17889707.66	-17889707.50	0.0263	0.0185
Earth	-53692-03-31 23:01 J	-17889489.69	-17889489.54	-17889489.39	0.2623	0.1058
Moon	-53692-04-01 04:18 J	-17889489.42	-17889489.32	-17889489.21	0.2621	0.2016 *
Saturn	-53692-04-12 01:40 J	-17889478.62	-17889478.43	-17889478.23	0.0263	0.0114
Mars	-53689-12-30 20:37 J	-17888119.75	-17888119.64	-17888119.52	0.1581	0.1195
Mars	-53688-11-29 18:42 J	-17887785.89	-17887785.72	-17887785.55	0.1960	0.0302
Jupiter	-53687-03-21 11:16 J	-17887674.21	-17887674.03	-17887673.85	0.0514	0.0264
Uranus	-53684-08-11 12:57 J	-17886435.06	-17886434.96	-17886434.83	0.0142	0.0119
Uranus	-53683-03-25 21:06 J	-17886208.77	-17886208.62	-17886208.44	0.0143	0.0086
Uranus	-53683-11-07 05:45 J	-17885982.45	-17885982.26	-17885982.06	0.0143	0.0052
Uranus	-53682-06-21 14:37 J	-17885756.10	-17885755.89	-17885755.68	0.0143	0.0018
Jupiter	-53681-01-27 07:25 J	-17885536.36	-17885536.19	-17885536.01	0.0509	0.0236
Uranus	-53681-02-02 23:30 J	-17885529.73	-17885529.52	-17885529.31	0.0144	0.0017
Uranus	-53681-09-16 08:52 J	-17885303.32	-17885303.13	-17885302.93	0.0144	0.0052
Uranus	-53680-04-30 18:13 J	-17885076.90	-17885076.74	-17885076.56	0.0144	0.0088
Uranus	-53680-12-13 04:04 J	-17884850.43	-17884850.33	-17884850.21	0.0145	0.0123
Saturn	-53678-09-24 11:59 J	-17884200.20	-17884200.00	-17884199.79	0.0297	0.0018
Jupiter	-53670-10-02 10:33 J	-17881270.26	-17881270.06	-17881269.87	0.0511	0.0084
Saturn	-53663-03-07 19:54 J	-17878921.84	-17878921.67	-17878921.48	0.0263	0.0155
Jupiter	-53663-03-24 17:45 J	-17878904.92	-17878904.76	-17878904.59	0.0518	0.0316
Saturn	-53663-10-23 01:40 J	-17878692.61	-17878692.43	-17878692.24	0.0263	0.0144
Jupiter	-53658-06-07 11:30 J	-17877004.13	-17877004.02	-17877003.90	0.0514	0.0412
Neptune	-53656-11-18 07:54 J	-17876109.20	-17876109.17	-17876109.09	0.0089	0.0086
Neptune	-53655-07-01 20:09 J	-17875883.79	-17875883.66	-17875883.52	0.0089	0.0067

Mars -53655-10-29 15:49 J -17875764.00 -17875763.84 -17875763.69 0.1579 0.0826
 Neptune -53654-02-12 07:40 J -17875658.34 -17875658.18 -17875657.98 0.0089 0.0050
 Neptune -53654-09-25 19:40 J -17875432.87 -17875432.68 -17875432.47 0.0089 0.0031
 Neptune -53653-05-08 07:40 J -17875207.39 -17875207.18 -17875206.97 0.0089 0.0012
 Neptune -53653-12-19 19:40 J -17874981.90 -17874981.68 -17874981.47 0.0089 0.0006
 Pluto -53652-02-11 02:37 J -17874928.43 -17874928.39 -17874928.34 0.0067 0.0066
 Neptune -53652-08-02 07:25 J -17874756.39 -17874756.19 -17874755.98 0.0089 0.0025
 Pluto -53652-09-24 07:54 J -17874703.36 -17874703.17 -17874702.94 0.0068 0.0024
 Jupiter -53652-11-27 07:11 J -17874639.41 -17874639.20 -17874638.99 0.0515 0.0046
 Neptune -53651-03-15 18:57 J -17874530.88 -17874530.71 -17874530.50 0.0089 0.0044
 Pluto -53651-05-07 13:40 J -17874478.13 -17874477.93 -17874477.71 0.0068 0.0020
 Neptune -53651-10-27 06:57 J -17874305.35 -17874305.21 -17874305.04 0.0089 0.0061
 Pluto -53651-12-18 18:57 J -17874252.75 -17874252.71 -17874252.61 0.0068 0.0064
 Neptune -53650-06-09 18:57 J -17874079.80 -17874079.71 -17874079.61 0.0089 0.0080
 Saturn -53648-04-05 17:01 J -17873413.99 -17873413.79 -17873413.59 0.0297 0.0068
 Jupiter -53646-10-04 17:16 J -17872501.88 -17872501.78 -17872501.66 0.0508 0.0421
 Uranus -53645-09-05 17:30 J -17872164.82 -17872164.77 -17872164.67 0.0136 0.0129
 Uranus -53644-04-20 03:06 J -17871938.51 -17871938.37 -17871938.20 0.0136 0.0097
 Uranus -53644-12-02 12:13 J -17871712.18 -17871711.99 -17871711.79 0.0136 0.0066
 Uranus -53643-07-16 21:06 J -17871485.83 -17871485.62 -17871485.40 0.0135 0.0035
 Uranus -53642-02-28 05:59 J -17871259.48 -17871259.25 -17871259.03 0.0135 0.0005
 Uranus -53642-10-12 14:09 J -17871033.12 -17871032.91 -17871032.68 0.0135 0.0026
 Uranus -53641-05-25 22:04 J -17870806.77 -17870806.58 -17870806.36 0.0135 0.0056
 Uranus -53640-01-07 05:59 J -17870580.41 -17870580.25 -17870580.07 0.0134 0.0085
 Jupiter -53640-08-01 18:42 J -17870373.84 -17870373.72 -17870373.60 0.0513 0.0412
 Uranus -53640-08-21 13:40 J -17870354.03 -17870353.93 -17870353.80 0.0134 0.0114
 Jupiter -53634-06-09 21:21 J -17868235.80 -17868235.61 -17868235.41 0.0511 0.0106
 Saturn -53634-09-18 02:09 J -17868135.61 -17868135.41 -17868135.21 0.0263 0.0107
 Saturn -53633-05-04 07:25 J -17867906.32 -17867906.19 -17867906.03 0.0264 0.0193
 Jupiter -53628-11-30 08:37 J -17865870.15 -17865870.14 -17865870.12 0.0519 0.0516

Mars -53623-10-28 09:21 J -17864077.25 -17864077.11 -17864076.97 0.1581 0.0992
 Jupiter -53622-02-13 00:13 J -17863969.67 -17863969.49 -17863969.32 0.0513 0.0217
 Mars -53622-09-26 20:37 J -17863743.80 -17863743.64 -17863743.48 0.1960 0.0557
 Saturn -53619-03-01 01:54 J -17862857.46 -17862857.42 -17862857.37 0.0297 0.0287
 Saturn -53619-10-16 19:54 J -17862627.86 -17862627.67 -17862627.48 0.0297 0.0116
 Jupiter -53616-08-04 23:30 J -17861604.72 -17861604.52 -17861604.32 0.0517 0.0158
 Saturn -53604-03-30 02:37 J -17857349.60 -17857349.39 -17857349.18 0.0263 0.0075
 Jupiter -53604-04-09 14:23 J -17857339.09 -17857338.90 -17857338.70 0.0515 0.0195
 Saturn -53604-11-14 08:23 J -17857120.26 -17857120.15 -17857120.03 0.0263 0.0224
 Uranus -53600-04-10 22:33 J -17855876.62 -17855876.56 -17855876.48 0.0142 0.0133
 Uranus -53600-11-23 06:42 J -17855650.36 -17855650.22 -17855650.07 0.0143 0.0100
 Uranus -53599-07-07 14:52 J -17855424.06 -17855423.88 -17855423.68 0.0143 0.0067
 Jupiter -53598-02-15 06:42 J -17855201.38 -17855201.22 -17855201.06 0.0509 0.0287
 Uranus -53598-02-18 23:45 J -17855197.72 -17855197.51 -17855197.31 0.0143 0.0033
 Uranus -53598-10-03 08:37 J -17854971.35 -17854971.14 -17854970.93 0.0144 0.0002
 Uranus -53597-05-16 17:45 J -17854744.97 -17854744.76 -17854744.56 0.0144 0.0036
 Uranus -53597-12-29 02:52 J -17854518.56 -17854518.38 -17854518.19 0.0144 0.0071
 Uranus -53596-08-12 12:28 J -17854292.11 -17854291.98 -17854291.83 0.0145 0.0107
 Uranus -53595-03-26 22:04 J -17854065.60 -17854065.58 -17854065.52 0.0145 0.0142
 Saturn -53590-09-11 06:42 J -17852071.33 -17852071.22 -17852071.09 0.0297 0.0237
 Saturn -53589-04-28 01:11 J -17851841.62 -17851841.45 -17851841.28 0.0297 0.0167
 Mars -53589-08-26 04:04 J -17851721.46 -17851721.33 -17851721.19 0.1580 0.1027
 Jupiter -53587-10-21 10:04 J -17850935.28 -17850935.08 -17850934.89 0.0512 0.0032
 Jupiter -53580-04-12 15:06 J -17848570.01 -17848569.87 -17848569.72 0.0518 0.0361
 Jupiter -53575-06-26 12:42 J -17846669.11 -17846668.97 -17846668.83 0.0514 0.0354
 Saturn -53575-10-10 09:21 J -17846563.33 -17846563.11 -17846562.89 0.0264 0.0025
 Neptune -53573-08-17 22:33 J -17845885.66 -17845885.56 -17845885.42 0.0088 0.0074
 Neptune -53572-03-31 12:42 J -17845660.13 -17845659.97 -17845659.77 0.0088 0.0055
 Neptune -53572-11-12 02:52 J -17845434.57 -17845434.38 -17845434.15 0.0088 0.0037
 Neptune -53571-06-25 17:16 J -17845208.99 -17845208.78 -17845208.55 0.0088 0.0017

Moon -53571-10-01 12:28 J -17845111.14 -17845110.98 -17845110.82 0.2702 0.0145
 Earth -53571-10-01 12:57 J -17845111.11 -17845110.96 -17845110.81 0.2709 0.0406 *
 Neptune -53570-02-06 07:40 J -17844983.40 -17844983.18 -17844982.95 0.0088 0.0003
 Neptune -53570-09-19 21:49 J -17844757.81 -17844757.59 -17844757.36 0.0088 0.0021
 Neptune -53569-05-02 11:45 J -17844532.20 -17844532.01 -17844531.80 0.0088 0.0041
 Neptune -53569-12-14 01:54 J -17844306.58 -17844306.42 -17844306.24 0.0088 0.0060
 Jupiter -53569-12-16 05:01 J -17844304.50 -17844304.29 -17844304.08 0.0515 0.0011
 Neptune -53568-07-27 16:04 J -17844080.92 -17844080.83 -17844080.72 0.0088 0.0078
 Pluto -53566-07-25 17:30 J -17843352.94 -17843352.77 -17843352.56 0.0076 0.0036
 Pluto -53565-03-07 02:09 J -17843127.60 -17843127.41 -17843127.19 0.0076 0.0026
 Jupiter -53563-10-23 17:59 J -17842166.82 -17842166.75 -17842166.68 0.0508 0.0473
 Uranus -53561-12-18 12:42 J -17841380.09 -17841379.97 -17841379.82 0.0136 0.0109
 Saturn -53560-03-23 11:59 J -17841285.15 -17841285.00 -17841284.83 0.0297 0.0182
 Uranus -53560-08-01 22:04 J -17841153.75 -17841153.58 -17841153.39 0.0136 0.0078
 Saturn -53560-11-08 05:59 J -17841055.39 -17841055.25 -17841055.11 0.0297 0.0220
 Uranus -53559-03-16 07:25 J -17840927.40 -17840927.19 -17840926.98 0.0136 0.0047
 Uranus -53559-10-28 16:18 J -17840701.05 -17840700.82 -17840700.60 0.0135 0.0017
 Uranus -53558-06-12 00:42 J -17840474.69 -17840474.47 -17840474.25 0.0135 0.0014
 Uranus -53557-01-24 08:52 J -17840248.34 -17840248.13 -17840247.91 0.0135 0.0044
 Jupiter -53557-08-20 20:09 J -17840038.81 -17840038.66 -17840038.51 0.0513 0.0351
 Mars -53557-08-24 21:35 J -17840034.75 -17840034.60 -17840034.44 0.1580 0.0782
 Uranus -53557-09-06 16:47 J -17840021.97 -17840021.80 -17840021.60 0.0134 0.0074
 Uranus -53556-04-21 00:57 J -17839795.60 -17839795.46 -17839795.32 0.0134 0.0103
 Mars -53556-07-23 23:01 J -17839701.66 -17839701.54 -17839701.43 0.1961 0.1397
 Uranus -53556-12-03 08:23 J -17839569.18 -17839569.15 -17839569.10 0.0134 0.0131
 Jupiter -53551-06-28 20:52 J -17837900.81 -17837900.63 -17837900.44 0.0510 0.0159
 Saturn -53545-04-21 10:47 J -17835777.27 -17835777.05 -17835776.83 0.0263 0.0009
 Jupiter -53539-03-03 22:18 J -17833634.75 -17833634.57 -17833634.38 0.0512 0.0168
 Jupiter -53533-08-24 00:13 J -17831269.68 -17831269.49 -17831269.30 0.0517 0.0218
 Saturn -53531-10-03 17:45 J -17830498.94 -17830498.76 -17830498.57 0.0297 0.0128

Saturn -53530-05-21 11:45 J -17830269.08 -17830269.01 -17830268.93 0.0297 0.0274
 Jupiter -53528-11-07 00:13 J -17829368.54 -17829368.49 -17829368.43 0.0515 0.0493
 Mars -53523-06-23 16:18 J -17827678.93 -17827678.82 -17827678.72 0.1579 0.1240
 Jupiter -53521-04-28 11:30 J -17827004.22 -17827004.02 -17827003.82 0.0514 0.0152
 Saturn -53516-03-17 11:59 J -17825220.09 -17825220.00 -17825219.90 0.0264 0.0238
 Uranus -53516-07-23 15:06 J -17825091.99 -17825091.87 -17825091.74 0.0142 0.0115
 Saturn -53516-11-01 17:59 J -17824990.96 -17824990.75 -17824990.53 0.0264 0.0062
 Jupiter -53515-03-06 06:28 J -17824866.37 -17824866.23 -17824866.08 0.0510 0.0340
 Uranus -53515-03-06 23:16 J -17824865.70 -17824865.53 -17824865.35 0.0143 0.0082
 Uranus -53515-10-19 07:40 J -17824639.37 -17824639.18 -17824638.98 0.0143 0.0049
 Uranus -53514-06-02 16:18 J -17824413.03 -17824412.82 -17824412.61 0.0143 0.0015
 Uranus -53513-01-15 01:11 J -17824186.66 -17824186.45 -17824186.24 0.0144 0.0020
 Uranus -53513-08-28 10:33 J -17823960.26 -17823960.06 -17823959.86 0.0144 0.0054
 Uranus -53512-04-11 19:40 J -17823733.83 -17823733.68 -17823733.50 0.0144 0.0089
 Uranus -53512-11-24 05:16 J -17823507.37 -17823507.28 -17823507.16 0.0145 0.0124
 Jupiter -53509-01-02 01:54 J -17822738.46 -17822738.42 -17822738.38 0.0512 0.0502
 Jupiter -53504-11-09 09:06 J -17820600.32 -17820600.12 -17820599.92 0.0511 0.0020
 Saturn -53501-04-15 00:57 J -17819712.65 -17819712.46 -17819712.26 0.0297 0.0067
 Jupiter -53497-05-01 15:21 J -17818234.98 -17818234.86 -17818234.74 0.0518 0.0417
 Jupiter -53492-07-15 11:30 J -17816334.18 -17816334.02 -17816333.86 0.0514 0.0303
 Mars -53491-06-22 09:49 J -17815992.26 -17815992.09 -17815991.92 0.1580 0.0573
 Neptune -53491-10-03 06:28 J -17815889.33 -17815889.23 -17815889.12 0.0089 0.0076
 Neptune -53490-05-16 17:59 J -17815663.90 -17815663.75 -17815663.58 0.0089 0.0059
 Neptune -53490-12-28 05:59 J -17815438.43 -17815438.25 -17815438.05 0.0089 0.0040
 Neptune -53489-08-09 17:59 J -17815212.95 -17815212.75 -17815212.54 0.0089 0.0022
 Neptune -53488-03-23 05:59 J -17814987.46 -17814987.25 -17814987.04 0.0089 0.0003
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 Neptune -53487-06-17 05:30 J -17814536.46 -17814536.27 -17814536.07 0.0089 0.0033
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Saturn -53486-05-14 20:23 J -17814204.85 -17814204.65 -17814204.44 0.0264 0.0097
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 Uranus -53477-08-17 21:49 J -17810821.67 -17810821.59 -17810821.47 0.0136 0.0121
 Uranus -53476-04-01 07:25 J -17810595.34 -17810595.19 -17810595.01 0.0136 0.0090
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 Uranus -53475-06-28 01:40 J -17810142.64 -17810142.43 -17810142.20 0.0136 0.0029
 Uranus -53474-02-09 10:33 J -17809916.28 -17809916.06 -17809915.83 0.0135 0.0003
 Jupiter -53474-09-09 19:54 J -17809703.84 -17809703.67 -17809703.50 0.0513 0.0295
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 Uranus -53473-12-19 11:16 J -17809237.19 -17809237.03 -17809236.86 0.0134 0.0091
 Uranus -53472-08-02 18:57 J -17809010.80 -17809010.71 -17809010.60 0.0134 0.0120
 Saturn -53472-10-26 06:57 J -17808926.42 -17808926.21 -17808926.01 0.0297 0.0013
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 Saturn -53457-04-08 22:18 J -17803647.75 -17803647.57 -17803647.39 0.0264 0.0149
 Mars -53457-04-20 04:33 J -17803636.37 -17803636.31 -17803636.23 0.1580 0.1442
 Saturn -53457-11-24 04:33 J -17803418.49 -17803418.31 -17803418.13 0.0264 0.0152
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 Earth -53449-03-31 21:06 J -17800733.77 -17800733.62 -17800733.46 0.2624 0.0933 *
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 Jupiter -53432-03-25 04:04 J -17794531.46 -17794531.33 -17794531.20 0.0509 0.0382
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 Uranus -53431-06-18 17:45 J -17794080.95 -17794080.76 -17794080.57 0.0143 0.0062

Uranus -53430-01-31 02:09 J -17793854.62 -17793854.41 -17793854.20 0.0143 0.0029
 Uranus -53430-09-14 11:01 J -17793628.25 -17793628.04 -17793627.83 0.0143 0.0005
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 Jupiter -53426-01-21 00:57 J -17792403.56 -17792403.46 -17792403.36 0.0512 0.0450
 Mars -53425-04-18 22:18 J -17791949.74 -17791949.57 -17791949.39 0.1580 0.0371
 Jupiter -53421-11-28 05:30 J -17790265.47 -17790265.27 -17790265.07 0.0511 0.0060
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 Saturn -53413-04-02 04:33 J -17787583.35 -17787583.31 -17787583.27 0.0297 0.0290
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 Neptune -53404-10-28 22:18 J -17784086.71 -17784086.57 -17784086.42 0.0088 0.0067
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 Neptune -53403-06-11 12:13 J -17783861.02 -17783860.99 -17783860.93 0.0088 0.0086
 Pluto -53403-11-20 16:47 J -17783698.99 -17783698.80 -17783698.58 0.0068 0.0025
 Jupiter -53402-01-24 01:40 J -17783634.64 -17783634.43 -17783634.22 0.0515 0.0098
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Saturn -53398-12-17 15:49 J -17781845.91 -17781845.84 -17781845.75 0.0264 0.0245
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 Uranus -53393-11-29 16:04 J -17780036.96 -17780036.83 -17780036.67 0.0136 0.0103
 Mars -53392-03-17 04:04 J -17779929.47 -17779929.33 -17779929.20 0.1960 0.1154
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 Jupiter -53385-08-05 14:37 J -17777231.06 -17777230.89 -17777230.71 0.0510 0.0241
 Saturn -53384-10-13 14:52 J -17776797.01 -17776796.88 -17776796.74 0.0296 0.0220
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 Uranus -53346-12-27 05:01 J -17762843.49 -17762843.29 -17762843.08 0.0144 0.0025

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 Uranus -53344-11-05 08:37 J -17762164.22 -17762164.14 -17762164.03 0.0145 0.0128
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 Saturn -53340-10-07 15:06 J -17760731.88 -17760731.87 -17760731.83 0.0264 0.0262
 Saturn -53339-05-24 21:49 J -17760502.81 -17760502.59 -17760502.37 0.0264 0.0038
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 Earth -53328-10-01 17:01 J -17756354.94 -17756354.79 -17756354.64 0.2709 0.0534 *
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 Pluto -53317-02-07 21:35 J -17752573.80 -17752573.60 -17752573.40 0.0076 0.0029
 Pluto -53317-09-20 05:59 J -17752348.44 -17752348.25 -17752348.05 0.0076 0.0032
 Saturn -53310-04-19 19:54 J -17749945.78 -17749945.67 -17749945.54 0.0264 0.0219
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Jupiter -53308-10-17 12:13 J -17749034.18 -17749033.99 -17749033.79 0.0514 0.0213
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 Mars -53294-12-12 23:01 J -17743864.72 -17743864.54 -17743864.36 0.1580 0.0054
 Jupiter -53290-04-30 12:28 J -17742630.18 -17742629.98 -17742629.78 0.0512 0.0044
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 Saturn -53236-06-10 05:45 J -17722865.46 -17722865.26 -17722865.07 0.0297 0.0084
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 Uranus -53223-02-06 16:33 J -17718241.03 -17718240.81 -17718240.59 0.0136 0.0033
 Uranus -53223-09-21 01:25 J -17718014.66 -17718014.44 -17718014.21 0.0135 0.0004
 Uranus -53222-05-05 10:04 J -17717788.29 -17717788.08 -17717787.85 0.0135 0.0027
 Saturn -53222-11-22 15:35 J -17717587.06 -17717586.85 -17717586.64 0.0264 0.0075
 Uranus -53222-12-17 18:13 J -17717561.93 -17717561.74 -17717561.52 0.0135 0.0057
 Saturn -53221-07-08 21:49 J -17717357.70 -17717357.59 -17717357.47 0.0264 0.0224
 Uranus -53221-07-31 02:23 J -17717335.55 -17717335.40 -17717335.21 0.0135 0.0086
 Uranus -53220-03-14 10:18 J -17717109.16 -17717109.07 -17717108.93 0.0134 0.0115
 Jupiter -53219-09-13 05:45 J -17716561.41 -17716561.26 -17716561.10 0.0510 0.0312
 Saturn -53207-05-05 22:33 J -17712308.66 -17712308.56 -17712308.43 0.0296 0.0244

Jupiter -53207-05-19 08:23 J -17712295.35 -17712295.15 -17712294.95 0.0512 0.0008
 Saturn -53207-12-21 16:18 J -17712078.99 -17712078.82 -17712078.64 0.0296 0.0154
 Earth -53206-04-01 18:42 J -17711977.88 -17711977.72 -17711977.56 0.2624 0.0745
 Moon -53206-04-01 23:59 J -17711977.64 -17711977.50 -17711977.35 0.2627 0.1269 *
 Jupiter -53201-11-08 09:49 J -17709930.23 -17709930.09 -17709929.95 0.0517 0.0383
 Mars -53196-10-08 04:47 J -17708135.33 -17708135.30 -17708135.27 0.1580 0.1554
 Jupiter -53195-01-22 11:16 J -17708029.18 -17708029.03 -17708028.87 0.0514 0.0325
 Mars -53195-09-05 11:01 J -17707803.16 -17707803.04 -17707802.91 0.1960 0.1347
 Saturn -53192-06-03 20:52 J -17706800.84 -17706800.63 -17706800.41 0.0264 0.0031
 Jupiter -53189-07-14 00:13 J -17705664.70 -17705664.49 -17705664.28 0.0515 0.0030
 Jupiter -53183-05-21 16:04 J -17703526.87 -17703526.83 -17703526.79 0.0509 0.0494
 Uranus -53181-11-01 17:59 J -17702631.82 -17702631.75 -17702631.67 0.0142 0.0132
 Uranus -53180-06-16 01:40 J -17702405.57 -17702405.43 -17702405.28 0.0142 0.0101
 Uranus -53179-01-28 09:35 J -17702179.28 -17702179.10 -17702178.91 0.0143 0.0069
 Uranus -53179-09-11 17:59 J -17701952.95 -17701952.75 -17701952.54 0.0143 0.0036
 Uranus -53178-04-26 02:23 J -17701726.61 -17701726.40 -17701726.18 0.0143 0.0005
 Saturn -53178-11-16 01:54 J -17701522.56 -17701522.42 -17701522.26 0.0297 0.0198
 Uranus -53178-12-08 11:16 J -17701500.24 -17701500.03 -17701499.83 0.0144 0.0031
 Jupiter -53177-03-18 15:21 J -17701399.02 -17701398.86 -17701398.69 0.0513 0.0319
 Saturn -53177-07-02 19:54 J -17701292.82 -17701292.67 -17701292.52 0.0297 0.0200
 Uranus -53177-07-21 19:54 J -17701273.85 -17701273.67 -17701273.47 0.0144 0.0065
 Uranus -53176-03-05 05:16 J -17701047.43 -17701047.28 -17701047.12 0.0144 0.0099
 Uranus -53176-10-17 14:52 J -17700820.96 -17700820.88 -17700820.80 0.0145 0.0133
 Jupiter -53171-01-24 18:13 J -17699260.92 -17699260.74 -17699260.55 0.0511 0.0179
 Saturn -53163-12-15 02:37 J -17696014.61 -17696014.39 -17696014.17 0.0264 0.0016
 Mars -53162-08-06 23:30 J -17695779.69 -17695779.52 -17695779.35 0.1580 0.0455
 Neptune -53162-11-19 12:42 J -17695675.05 -17695674.97 -17695674.85 0.0089 0.0078
 Neptune -53161-07-02 00:28 J -17695449.62 -17695449.48 -17695449.30 0.0089 0.0061
 Neptune -53160-02-12 12:28 J -17695224.15 -17695223.98 -17695223.78 0.0089 0.0042
 Neptune -53160-09-26 00:42 J -17694998.67 -17694998.47 -17694998.26 0.0089 0.0024

Jupiter -53160-09-29 19:25 J -17694994.88 -17694994.69 -17694994.50 0.0514 0.0148
 Neptune -53159-05-09 12:42 J -17694773.19 -17694772.97 -17694772.76 0.0089 0.0006
 Neptune -53159-12-21 00:28 J -17694547.69 -17694547.48 -17694547.27 0.0089 0.0013
 Neptune -53158-08-03 12:28 J -17694322.18 -17694321.98 -17694321.78 0.0089 0.0031
 Neptune -53157-03-16 00:13 J -17694096.66 -17694096.49 -17694096.31 0.0089 0.0050
 Neptune -53157-10-27 11:45 J -17693871.13 -17693871.01 -17693870.85 0.0089 0.0068
 Neptune -53156-06-09 23:30 J -17693645.55 -17693645.52 -17693645.44 0.0089 0.0086
 Pluto -53155-03-12 10:47 J -17693370.18 -17693370.05 -17693369.87 0.0067 0.0050
 Pluto -53155-10-23 17:01 J -17693145.01 -17693144.79 -17693144.57 0.0068 0.0006
 Pluto -53154-06-05 22:04 J -17692919.74 -17692919.58 -17692919.37 0.0068 0.0038
 Jupiter -53153-03-21 17:16 J -17692629.97 -17692629.78 -17692629.59 0.0516 0.0234
 Saturn -53148-05-28 11:59 J -17690736.18 -17690736.00 -17690735.81 0.0297 0.0131
 Jupiter -53148-06-04 21:21 J -17690728.68 -17690728.61 -17690728.53 0.0516 0.0471
 Saturn -53147-01-13 05:45 J -17690506.34 -17690506.26 -17690506.17 0.0297 0.0266
 Jupiter -53142-11-25 04:47 J -17688364.50 -17688364.30 -17688364.09 0.0514 0.0129
 Uranus -53142-11-27 22:47 J -17688361.57 -17688361.55 -17688361.53 0.0137 0.0136
 Uranus -53141-07-11 08:23 J -17688135.28 -17688135.15 -17688135.00 0.0137 0.0106
 Uranus -53140-02-22 17:59 J -17687908.92 -17687908.75 -17687908.55 0.0136 0.0075
 Uranus -53140-10-07 03:21 J -17687682.56 -17687682.36 -17687682.13 0.0136 0.0045
 Uranus -53139-05-21 12:42 J -17687456.19 -17687455.97 -17687455.75 0.0136 0.0014
 Uranus -53138-01-02 21:35 J -17687229.83 -17687229.60 -17687229.38 0.0135 0.0016
 Uranus -53138-08-17 05:59 J -17687003.46 -17687003.25 -17687003.03 0.0135 0.0045
 Uranus -53137-03-30 14:09 J -17686777.08 -17686776.91 -17686776.71 0.0135 0.0075
 Uranus -53137-11-11 22:33 J -17686550.70 -17686550.56 -17686550.42 0.0135 0.0103
 Uranus -53136-06-26 05:45 J -17686324.28 -17686324.26 -17686324.19 0.0134 0.0132
 Jupiter -53136-10-02 04:47 J -17686226.43 -17686226.30 -17686226.15 0.0510 0.0364
 Saturn -53134-11-10 01:40 J -17685457.52 -17685457.43 -17685457.33 0.0264 0.0238
 Saturn -53133-06-26 07:40 J -17685228.39 -17685228.18 -17685227.96 0.0264 0.0059
 Jupiter -53130-07-30 20:09 J -17684098.73 -17684098.66 -17684098.57 0.0512 0.0473
 Mars -53130-08-05 17:01 J -17684092.88 -17684092.79 -17684092.69 0.1580 0.1347

Jupiter -53124-06-07 06:57 J -17681960.40 -17681960.21 -17681960.01 0.0512 0.0046
 Saturn -53119-12-08 14:09 J -17679950.10 -17679949.91 -17679949.71 0.0297 0.0088
 Jupiter -53118-11-28 10:18 J -17679595.18 -17679595.07 -17679594.96 0.0518 0.0442
 Jupiter -53112-02-10 08:37 J -17677694.30 -17677694.14 -17677693.97 0.0514 0.0280
 Jupiter -53106-08-02 23:59 J -17675329.70 -17675329.50 -17675329.29 0.0515 0.0086
 Saturn -53104-05-22 05:45 J -17674671.39 -17674671.26 -17674671.10 0.0264 0.0197
 Saturn -53103-01-06 12:13 J -17674442.19 -17674441.99 -17674441.79 0.0264 0.0101
 Uranus -53096-02-13 12:42 J -17671847.09 -17671846.97 -17671846.83 0.0142 0.0113
 Mars -53096-06-03 11:45 J -17671737.17 -17671737.01 -17671736.85 0.1580 0.0663
 Uranus -53096-09-27 20:37 J -17671620.80 -17671620.64 -17671620.46 0.0142 0.0081
 Uranus -53095-05-12 04:47 J -17671394.49 -17671394.30 -17671394.10 0.0143 0.0049
 Uranus -53095-12-24 13:11 J -17671168.16 -17671167.95 -17671167.74 0.0143 0.0016
 Jupiter -53094-04-07 13:54 J -17671064.10 -17671063.92 -17671063.74 0.0513 0.0268
 Uranus -53094-08-07 21:49 J -17670941.80 -17670941.59 -17670941.38 0.0143 0.0017
 Uranus -53093-03-21 06:28 J -17670715.42 -17670715.23 -17670715.03 0.0144 0.0051
 Uranus -53093-11-02 15:35 J -17670489.02 -17670488.85 -17670488.67 0.0144 0.0084
 Uranus -53092-06-17 00:42 J -17670262.58 -17670262.47 -17670262.34 0.0144 0.0119
 Saturn -53089-06-19 23:01 J -17669163.75 -17669163.54 -17669163.34 0.0297 0.0026
 Jupiter -53088-02-12 16:18 J -17668926.00 -17668925.82 -17668925.64 0.0511 0.0225
 Earth -53085-10-01 21:06 J -17667598.77 -17667598.62 -17667598.48 0.2708 0.0688
 Moon -53085-10-02 00:42 J -17667598.62 -17667598.47 -17667598.32 0.2703 0.0861 *
 Neptune -53079-01-05 07:25 J -17665677.23 -17665677.19 -17665677.15 0.0088 0.0087
 Neptune -53079-08-18 21:06 J -17665451.74 -17665451.62 -17665451.46 0.0088 0.0068
 Neptune -53078-04-01 11:16 J -17665226.20 -17665226.03 -17665225.82 0.0088 0.0049
 Neptune -53078-11-13 01:25 J -17665000.64 -17665000.44 -17665000.21 0.0088 0.0031
 Neptune -53077-06-25 15:49 J -17664775.06 -17664774.84 -17664774.61 0.0088 0.0011
 Moon -53077-09-29 15:21 J -17664678.88 -17664678.86 -17664678.85 0.2701 0.2682
 Jupiter -53077-10-18 20:09 J -17664659.86 -17664659.66 -17664659.47 0.0513 0.0088
 Neptune -53076-02-06 05:59 J -17664549.47 -17664549.25 -17664549.02 0.0088 0.0008
 Neptune -53076-09-19 20:09 J -17664323.88 -17664323.66 -17664323.44 0.0088 0.0026

Neptune -53075-05-03 10:04 J -17664098.27 -17664098.08 -17664097.88 0.0088 0.0045
 Saturn -53075-12-02 11:16 J -17663885.20 -17663885.03 -17663884.84 0.0263 0.0152
 Neptune -53075-12-14 23:45 J -17663872.64 -17663872.51 -17663872.33 0.0088 0.0065
 Saturn -53074-07-19 17:16 J -17663655.96 -17663655.78 -17663655.60 0.0263 0.0144
 Neptune -53074-07-28 13:40 J -17663646.98 -17663646.93 -17663646.83 0.0088 0.0084
 Jupiter -53070-04-10 15:06 J -17662295.04 -17662294.87 -17662294.69 0.0517 0.0285
 Pluto -53069-01-10 18:57 J -17662019.75 -17662019.71 -17662019.65 0.0077 0.0074
 Pluto -53069-08-23 03:35 J -17661794.56 -17661794.35 -17661794.12 0.0076 0.0012
 Pluto -53068-04-05 11:59 J -17661569.15 -17661569.00 -17661568.82 0.0076 0.0049
 Jupiter -53065-06-23 21:35 J -17660393.71 -17660393.60 -17660393.47 0.0515 0.0413
 Mars -53064-06-02 05:30 J -17660050.39 -17660050.27 -17660050.15 0.1580 0.1142
 Saturn -53060-12-30 23:45 J -17658377.72 -17658377.51 -17658377.31 0.0297 0.0013
 Jupiter -53059-12-14 06:28 J -17658029.44 -17658029.23 -17658029.03 0.0514 0.0066
 Uranus -53057-03-10 19:40 J -17657576.79 -17657576.68 -17657576.56 0.0137 0.0116
 Uranus -53057-10-23 05:16 J -17657350.44 -17657350.28 -17657350.10 0.0136 0.0086
 Uranus -53056-06-06 14:52 J -17657124.08 -17657123.88 -17657123.67 0.0136 0.0055
 Uranus -53055-01-18 23:59 J -17656897.72 -17656897.50 -17656897.28 0.0136 0.0025
 Uranus -53055-09-02 09:06 J -17656671.35 -17656671.12 -17656670.90 0.0136 0.0005
 Uranus -53054-04-16 17:45 J -17656444.98 -17656444.76 -17656444.54 0.0135 0.0034
 Uranus -53054-11-29 01:40 J -17656218.61 -17656218.43 -17656218.22 0.0135 0.0064
 Uranus -53053-07-12 09:49 J -17655992.24 -17655992.09 -17655991.91 0.0135 0.0093
 Jupiter -53053-10-21 03:06 J -17655891.48 -17655891.37 -17655891.25 0.0509 0.0411
 Uranus -53052-02-23 17:45 J -17655765.84 -17655765.76 -17655765.65 0.0134 0.0121
 Jupiter -53047-08-18 21:35 J -17653763.72 -17653763.60 -17653763.47 0.0512 0.0411
 Saturn -53045-06-13 14:23 J -17653099.10 -17653098.90 -17653098.70 0.0264 0.0114
 Saturn -53044-01-28 20:23 J -17652869.80 -17652869.65 -17652869.49 0.0264 0.0182
 Jupiter -53041-06-26 04:47 J -17651625.49 -17651625.30 -17651625.11 0.0512 0.0091
 Jupiter -53035-12-17 09:49 J -17649260.14 -17649260.09 -17649260.03 0.0517 0.0496
 Mars -53031-04-29 15:49 J -17648030.98 -17648030.84 -17648030.71 0.1959 0.1170
 Mars -53030-04-01 00:13 J -17647694.64 -17647694.49 -17647694.34 0.1580 0.0861

Saturn -53030-07-13 07:25 J -17647591.38 -17647591.19 -17647590.98 0.0297 0.0072

Jupiter -53029-03-01 07:40 J -17647359.35 -17647359.18 -17647359.00 0.0514 0.0227

Jupiter -53023-08-21 20:52 J -17644994.83 -17644994.63 -17644994.42 0.0515 0.0131

Saturn -53016-12-24 19:40 J -17642312.89 -17642312.68 -17642312.47 0.0263 0.0070

Saturn -53015-08-11 01:25 J -17642083.55 -17642083.44 -17642083.32 0.0263 0.0225

Uranus -53013-10-13 22:18 J -17641288.65 -17641288.57 -17641288.46 0.0142 0.0127

Uranus -53012-05-28 05:59 J -17641062.39 -17641062.25 -17641062.08 0.0142 0.0096

Uranus -53011-01-09 13:54 J -17640836.10 -17640835.92 -17640835.72 0.0142 0.0064

Jupiter -53011-04-26 12:13 J -17640729.18 -17640728.99 -17640728.80 0.0513 0.0217

Uranus -53011-08-23 22:18 J -17640609.77 -17640609.57 -17640609.36 0.0143 0.0031

Uranus -53010-04-07 06:42 J -17640383.43 -17640383.22 -17640383.01 0.0143 0.0002

Uranus -53010-11-19 15:21 J -17640157.07 -17640156.86 -17640156.66 0.0144 0.0035

Uranus -53009-07-02 23:59 J -17639930.68 -17639930.50 -17639930.31 0.0144 0.0068

Uranus -53008-02-14 08:52 J -17639704.26 -17639704.13 -17639703.96 0.0144 0.0103

Uranus -53008-09-28 18:42 J -17639477.78 -17639477.72 -17639477.64 0.0144 0.0136

Jupiter -53005-03-03 17:30 J -17638590.93 -17638590.77 -17638590.61 0.0510 0.0285

Saturn -53001-06-06 13:11 J -17637034.98 -17637034.95 -17637034.90 0.0297 0.0290

53RD MILLENNIUM BCE

This is a list of transits of Venus in the 53rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-53000-01-22 07:11 J	-17636805.39	-17636805.20	-17636805.00	0.0297	0.0107		
Mars	-52998-03-30 17:59 J	-17636007.89	-17636007.75	-17636007.60	0.1580	0.0944		

Neptune -52997-02-20 21:49 J -17635680.60 -17635680.59 -17635680.56 0.0089 0.0088
 Neptune -52997-10-03 09:35 J -17635455.22 -17635455.10 -17635454.96 0.0089 0.0070
 Neptune -52996-05-16 21:21 J -17635229.77 -17635229.61 -17635229.42 0.0089 0.0053
 Neptune -52996-12-28 09:21 J -17635004.30 -17635004.11 -17635003.90 0.0089 0.0034
 Neptune -52995-08-10 21:35 J -17634778.81 -17634778.60 -17634778.39 0.0089 0.0016
 Neptune -52994-03-24 09:35 J -17634553.31 -17634553.10 -17634552.89 0.0089 0.0002
 Neptune -52994-11-04 21:06 J -17634327.81 -17634327.62 -17634327.40 0.0089 0.0022
 Jupiter -52994-11-07 19:54 J -17634324.87 -17634324.67 -17634324.47 0.0513 0.0034
 Neptune -52993-06-17 09:06 J -17634102.30 -17634102.12 -17634101.92 0.0089 0.0039
 Neptune -52992-01-28 20:52 J -17633876.78 -17633876.63 -17633876.45 0.0089 0.0057
 Neptune -52992-09-11 08:52 J -17633651.22 -17633651.13 -17633651.00 0.0089 0.0076
 Jupiter -52987-04-29 17:45 J -17631959.91 -17631959.76 -17631959.60 0.0517 0.0351
 Saturn -52986-07-06 21:21 J -17631526.83 -17631526.61 -17631526.39 0.0264 0.0036
 Saturn -52985-02-21 03:06 J -17631297.39 -17631297.37 -17631297.32 0.0264 0.0260
 Jupiter -52982-07-13 20:37 J -17630058.78 -17630058.64 -17630058.50 0.0515 0.0361
 Jupiter -52975-01-02 07:25 J -17627694.40 -17627694.19 -17627693.98 0.0514 0.0005
 Uranus -52974-11-09 05:01 J -17627018.35 -17627018.29 -17627018.20 0.0137 0.0129
 Uranus -52973-06-22 14:52 J -17626792.02 -17626791.88 -17626791.70 0.0137 0.0098
 Uranus -52972-02-04 00:42 J -17626565.65 -17626565.47 -17626565.26 0.0136 0.0068
 Uranus -52972-09-18 10:18 J -17626339.28 -17626339.07 -17626338.85 0.0136 0.0037
 Saturn -52972-12-17 19:25 J -17626248.80 -17626248.69 -17626248.56 0.0297 0.0236
 Uranus -52971-05-02 19:25 J -17626112.91 -17626112.69 -17626112.46 0.0136 0.0007
 Saturn -52971-08-04 13:40 J -17626019.09 -17626018.93 -17626018.75 0.0297 0.0161
 Uranus -52971-12-15 04:04 J -17625886.54 -17625886.33 -17625886.10 0.0136 0.0023
 Uranus -52970-07-29 12:28 J -17625660.17 -17625659.98 -17625659.76 0.0135 0.0052
 Jupiter -52970-11-10 03:06 J -17625556.44 -17625556.37 -17625556.28 0.0509 0.0467
 Uranus -52969-03-11 20:52 J -17625433.79 -17625433.63 -17625433.44 0.0135 0.0081
 Uranus -52969-10-24 05:01 J -17625207.41 -17625207.29 -17625207.15 0.0135 0.0109
 Mars -52965-02-24 18:57 J -17623988.88 -17623988.71 -17623988.55 0.1959 0.0377
 Mars -52964-01-26 12:42 J -17623652.11 -17623651.97 -17623651.84 0.1581 0.1068

Jupiter -52964-09-06 19:11 J -17623428.84 -17623428.70 -17623428.55 0.0512 0.0363
 Moon -52963-04-01 12:42 J -17623222.14 -17623221.97 -17623221.80 0.2620 0.0444
 Earth -52963-04-01 16:47 J -17623221.96 -17623221.80 -17623221.64 0.2625 0.0602 *
 Jupiter -52958-07-16 07:40 J -17621290.37 -17621290.18 -17621289.99 0.0512 0.0159
 Saturn -52956-01-16 02:37 J -17620740.61 -17620740.39 -17620740.17 0.0263 0.0010
 Jupiter -52946-03-21 10:18 J -17617024.26 -17617024.07 -17617023.88 0.0514 0.0161
 Saturn -52942-06-29 19:25 J -17615462.84 -17615462.69 -17615462.54 0.0297 0.0200
 Saturn -52941-02-14 13:11 J -17615233.10 -17615232.95 -17615232.79 0.0297 0.0195
 Jupiter -52940-09-10 00:42 J -17614659.67 -17614659.47 -17614659.28 0.0516 0.0201
 Jupiter -52935-11-24 11:45 J -17612758.07 -17612758.01 -17612757.94 0.0516 0.0485
 Mars -52932-01-25 06:13 J -17611965.39 -17611965.24 -17611965.08 0.1580 0.0737
 Uranus -52929-06-13 08:52 J -17610730.15 -17610730.13 -17610730.07 0.0141 0.0139
 Uranus -52928-01-25 16:33 J -17610503.94 -17610503.81 -17610503.66 0.0142 0.0108
 Jupiter -52928-05-15 15:49 J -17610394.04 -17610393.84 -17610393.64 0.0513 0.0147
 Uranus -52928-09-09 00:28 J -17610277.65 -17610277.48 -17610277.30 0.0142 0.0076
 Saturn -52928-12-11 21:06 J -17610183.67 -17610183.62 -17610183.56 0.0264 0.0254
 Uranus -52927-04-23 08:23 J -17610051.35 -17610051.15 -17610050.94 0.0143 0.0045
 Saturn -52927-07-29 03:21 J -17609954.58 -17609954.36 -17609954.14 0.0263 0.0040
 Uranus -52927-12-05 16:33 J -17609825.02 -17609824.81 -17609824.59 0.0143 0.0013
 Uranus -52926-07-20 01:11 J -17609598.66 -17609598.45 -17609598.24 0.0143 0.0021
 Uranus -52925-03-02 09:35 J -17609372.29 -17609372.10 -17609371.90 0.0144 0.0054
 Uranus -52925-10-14 18:42 J -17609145.88 -17609145.72 -17609145.55 0.0144 0.0087
 Uranus -52924-05-29 04:04 J -17608919.44 -17608919.33 -17608919.21 0.0144 0.0121
 Jupiter -52922-03-23 17:01 J -17608255.93 -17608255.79 -17608255.64 0.0510 0.0339
 Jupiter -52916-01-18 06:28 J -17606128.28 -17606128.23 -17606128.16 0.0511 0.0490
 Neptune -52915-11-20 03:06 J -17605457.46 -17605457.37 -17605457.25 0.0088 0.0079
 Neptune -52914-07-03 17:30 J -17605231.93 -17605231.77 -17605231.60 0.0088 0.0060
 Neptune -52913-02-14 07:25 J -17605006.37 -17605006.19 -17605005.97 0.0088 0.0041
 Neptune -52913-09-26 21:49 J -17604780.81 -17604780.59 -17604780.36 0.0088 0.0022
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Neptune -52912-05-10 11:59 J -17604555.23 -17604555.00 -17604554.77 0.0088 0.0003
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 Neptune -52912-12-22 02:09 J -17604329.64 -17604329.41 -17604329.19 0.0088 0.0016
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 Jupiter -52904-05-18 15:49 J -17601624.96 -17601624.84 -17601624.70 0.0517 0.0400
 Mars -52900-12-21 21:21 J -17599946.77 -17599946.61 -17599946.44 0.1959 0.0444
 Jupiter -52899-08-02 00:13 J -17599723.65 -17599723.49 -17599723.33 0.0515 0.0290
 Mars -52899-11-24 00:42 J -17599609.57 -17599609.47 -17599609.36 0.1581 0.1273
 Saturn -52898-06-24 02:37 J -17599397.52 -17599397.39 -17599397.25 0.0264 0.0209
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 Uranus -52888-12-31 04:47 J -17595554.52 -17595554.30 -17595554.07 0.0136 0.0019
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Saturn -52868-01-03 02:37 J -17588611.55 -17588611.39 -17588611.23 0.0264 0.0180
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 Jupiter -52863-04-09 10:18 J -17586689.26 -17586689.07 -17586688.87 0.0513 0.0105
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 Saturn -52853-02-01 05:01 J -17583104.49 -17583104.29 -17583104.09 0.0297 0.0066
 Jupiter -52852-12-13 12:42 J -17582423.08 -17582422.97 -17582422.86 0.0516 0.0424
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 Jupiter -52839-04-11 20:52 J -17577920.75 -17577920.63 -17577920.51 0.0510 0.0407
 Saturn -52839-07-16 07:54 J -17577825.35 -17577825.17 -17577824.98 0.0264 0.0134
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 Jupiter -52833-02-07 05:59 J -17575793.35 -17575793.25 -17575793.14 0.0511 0.0437
 Mars -52833-09-20 13:25 J -17575567.00 -17575566.94 -17575566.88 0.1581 0.1472
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 Neptune -52832-08-18 05:59 J -17575235.38 -17575235.25 -17575235.08 0.0089 0.0064
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 Neptune -52828-12-13 17:30 J -17573656.90 -17573656.77 -17573656.61 0.0089 0.0064
 Jupiter -52828-12-15 23:45 J -17573654.71 -17573654.51 -17573654.32 0.0512 0.0093
 Neptune -52827-07-27 05:45 J -17573431.33 -17573431.26 -17573431.18 0.0089 0.0082
 Saturn -52824-08-13 05:30 J -17572318.48 -17572318.27 -17572318.07 0.0297 0.0029
 Jupiter -52821-06-06 20:23 J -17571289.73 -17571289.65 -17571289.57 0.0517 0.0473
 Pluto -52821-07-26 01:25 J -17571240.59 -17571240.44 -17571240.30 0.0077 0.0057
 Pluto -52820-03-08 09:49 J -17571015.30 -17571015.09 -17571014.87 0.0076 0.0005
 Pluto -52820-10-19 17:45 J -17570789.84 -17570789.76 -17570789.62 0.0076 0.0066
 Jupiter -52816-08-21 01:54 J -17569388.59 -17569388.42 -17569388.24 0.0514 0.0227
 Saturn -52809-01-26 07:40 J -17567039.38 -17567039.18 -17567038.98 0.0264 0.0106
 Jupiter -52809-02-10 11:30 J -17567024.23 -17567024.02 -17567023.82 0.0515 0.0124
 Saturn -52809-09-11 13:40 J -17566810.07 -17566809.93 -17566809.77 0.0264 0.0188
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 Uranus -52804-08-30 13:25 J -17564996.15 -17564995.94 -17564995.71 0.0136 0.0031
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 Mars -52801-09-19 07:11 J -17563880.38 -17563880.20 -17563880.03 0.1581 0.0331
 Uranus -52801-10-05 08:52 J -17563864.23 -17563864.13 -17563864.00 0.0135 0.0114
 Jupiter -52798-10-16 01:54 J -17562758.61 -17562758.42 -17562758.23 0.0513 0.0225
 Saturn -52794-02-23 09:35 J -17561532.30 -17561532.10 -17561531.89 0.0297 0.0019
 Jupiter -52792-08-23 10:04 J -17560620.24 -17560620.08 -17560619.91 0.0511 0.0278
 Jupiter -52780-04-28 13:40 J -17556354.13 -17556353.93 -17556353.73 0.0514 0.0036
 Saturn -52780-08-07 13:25 J -17556253.16 -17556252.94 -17556252.73 0.0264 0.0059

Saturn -52779-03-24 19:11 J -17556023.78 -17556023.70 -17556023.59 0.0264 0.0235
 Jupiter -52774-10-19 02:37 J -17553989.56 -17553989.39 -17553989.23 0.0516 0.0320
 Jupiter -52768-01-01 15:49 J -17552087.98 -17552087.84 -17552087.70 0.0516 0.0358
 Saturn -52765-09-04 11:01 J -17550746.24 -17550746.04 -17550745.84 0.0297 0.0060
 Jupiter -52762-06-23 17:59 J -17549723.96 -17549723.75 -17549723.54 0.0514 0.0027
 Uranus -52761-05-25 14:52 J -17549386.95 -17549386.88 -17549386.80 0.0141 0.0131
 Uranus -52760-01-06 21:49 J -17549160.72 -17549160.59 -17549160.42 0.0142 0.0101
 Uranus -52760-08-21 05:59 J -17548934.43 -17548934.25 -17548934.06 0.0142 0.0069
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 Jupiter -52756-04-30 22:04 J -17547585.66 -17547585.58 -17547585.50 0.0510 0.0465
 Uranus -52756-05-10 09:21 J -17547576.21 -17547576.11 -17547576.01 0.0144 0.0125
 Saturn -52750-02-17 12:57 J -17545467.18 -17545466.96 -17545466.74 0.0264 0.0032
 Jupiter -52750-02-26 10:04 J -17545458.22 -17545458.08 -17545457.93 0.0512 0.0366
 Saturn -52750-10-04 19:11 J -17545237.72 -17545237.70 -17545237.67 0.0264 0.0262
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 Saturn -52647-10-20 03:35 J -17507601.45 -17507601.35 -17507601.24 0.0296 0.0253
 Jupiter -52643-03-20 11:30 J -17506354.20 -17506354.02 -17506353.83 0.0515 0.0235
 Jupiter -52638-06-04 05:01 J -17504452.39 -17504452.29 -17504452.18 0.0517 0.0435

Uranus	-52638-10-02 12:13 J	-17504332.10	-17504331.99	-17504331.86	0.0137	0.0115
Uranus	-52637-05-15 22:18 J	-17504105.74	-17504105.57	-17504105.39	0.0137	0.0085
Uranus	-52637-12-28 08:09 J	-17503879.36	-17503879.16	-17503878.95	0.0137	0.0055
Uranus	-52636-08-11 17:30 J	-17503652.98	-17503652.77	-17503652.54	0.0136	0.0026
Uranus	-52635-03-26 03:06 J	-17503426.59	-17503426.37	-17503426.14	0.0136	0.0005
Uranus	-52635-11-07 11:59 J	-17503200.21	-17503200.00	-17503199.77	0.0136	0.0034
Uranus	-52634-06-21 20:52 J	-17502973.82	-17502973.63	-17502973.43	0.0135	0.0063
Uranus	-52633-02-03 05:16 J	-17502747.43	-17502747.28	-17502747.10	0.0135	0.0091
Saturn	-52633-08-16 19:40 J	-17502551.84	-17502551.68	-17502551.50	0.0264	0.0169
Uranus	-52633-09-16 13:40 J	-17502521.02	-17502520.93	-17502520.82	0.0135	0.0119
Saturn	-52632-04-03 02:23 J	-17502322.59	-17502322.40	-17502322.20	0.0264	0.0126
Jupiter	-52632-11-23 02:52 J	-17502088.58	-17502088.38	-17502088.17	0.0513	0.0110
Jupiter	-52626-10-01 10:33 J	-17499950.18	-17499950.06	-17499949.93	0.0511	0.0386
Jupiter	-52620-07-28 17:59 J	-17497822.85	-17497822.75	-17497822.65	0.0510	0.0452
Saturn	-52618-09-14 15:35 J	-17497045.05	-17497044.85	-17497044.66	0.0296	0.0085
Jupiter	-52614-06-06 13:11 J	-17495684.15	-17495683.95	-17495683.76	0.0513	0.0072
Jupiter	-52608-11-26 03:21 J	-17493319.47	-17493319.36	-17493319.25	0.0516	0.0432
Mars	-52604-04-08 07:25 J	-17492090.35	-17492090.19	-17492090.02	0.1958	0.0431
Saturn	-52603-02-27 02:52 J	-17491765.57	-17491765.38	-17491765.18	0.0265	0.0118
Mars	-52603-03-11 20:09 J	-17491752.84	-17491752.66	-17491752.48	0.1582	0.0279
Saturn	-52603-10-14 09:35 J	-17491536.25	-17491536.10	-17491535.93	0.0265	0.0178
Jupiter	-52602-02-09 14:52 J	-17491418.05	-17491417.88	-17491417.71	0.0516	0.0252
Earth	-52599-10-03 04:47 J	-17490086.44	-17490086.30	-17490086.15	0.2707	0.0948
Moon	-52599-10-03 09:21 J	-17490086.22	-17490086.11	-17490085.99	0.2709	0.1745 *
Jupiter	-52596-07-31 17:16 J	-17489053.99	-17489053.78	-17489053.57	0.0514	0.0081
Uranus	-52593-05-06 21:49 J	-17488043.69	-17488043.59	-17488043.49	0.0141	0.0123
Uranus	-52593-12-19 04:47 J	-17487817.44	-17487817.30	-17487817.13	0.0142	0.0093
Uranus	-52592-08-02 12:42 J	-17487591.15	-17487590.97	-17487590.77	0.0142	0.0062
Uranus	-52591-03-16 20:37 J	-17487364.84	-17487364.64	-17487364.43	0.0142	0.0030
Earth	-52591-09-30 23:16 J	-17487166.55	-17487166.53	-17487166.52	0.2707	0.2687

Moon -52591-10-01 03:21 J -17487166.45 -17487166.36 -17487166.26 0.2703 0.2112
 Uranus -52591-10-29 04:47 J -17487138.51 -17487138.30 -17487138.09 0.0143 0.0002
 Uranus -52590-06-12 12:57 J -17486912.15 -17486911.96 -17486911.74 0.0143 0.0034
 Uranus -52589-01-24 21:35 J -17486685.78 -17486685.60 -17486685.40 0.0143 0.0066
 Uranus -52589-09-07 06:42 J -17486459.36 -17486459.22 -17486459.06 0.0144 0.0099
 Saturn -52588-03-26 22:18 J -17486258.77 -17486258.57 -17486258.36 0.0296 0.0028
 Uranus -52588-04-21 15:49 J -17486232.91 -17486232.84 -17486232.74 0.0144 0.0131
 Neptune -52585-01-06 05:30 J -17485243.35 -17485243.27 -17485243.16 0.0088 0.0080
 Neptune -52585-08-18 19:25 J -17485017.83 -17485017.69 -17485017.50 0.0088 0.0062
 Neptune -52584-04-01 09:49 J -17484792.27 -17484792.09 -17484791.87 0.0088 0.0043
 Jupiter -52584-04-05 08:23 J -17484788.33 -17484788.15 -17484787.97 0.0512 0.0263
 Neptune -52584-11-13 00:13 J -17484566.70 -17484566.49 -17484566.27 0.0088 0.0024
 Neptune -52583-06-26 14:23 J -17484341.12 -17484340.90 -17484340.67 0.0088 0.0006
 Neptune -52582-02-07 04:33 J -17484115.53 -17484115.31 -17484115.08 0.0088 0.0013
 Neptune -52582-09-20 18:28 J -17483889.93 -17483889.73 -17483889.50 0.0088 0.0032
 Neptune -52581-05-03 08:52 J -17483664.31 -17483664.13 -17483663.94 0.0088 0.0050
 Neptune -52581-12-14 22:33 J -17483438.68 -17483438.56 -17483438.40 0.0088 0.0069
 Neptune -52580-07-28 12:28 J -17483212.98 -17483212.98 -17483212.94 0.0088 0.0088
 Jupiter -52578-02-11 23:59 J -17482649.66 -17482649.50 -17482649.32 0.0512 0.0257
 Saturn -52574-09-09 04:33 J -17480979.52 -17480979.31 -17480979.10 0.0265 0.0085
 Saturn -52573-04-25 11:01 J -17480750.16 -17480750.04 -17480749.89 0.0264 0.0211
 Pluto -52572-02-08 10:18 J -17480461.27 -17480461.07 -17480460.86 0.0076 0.0029
 Pluto -52572-09-21 18:28 J -17480235.91 -17480235.73 -17480235.51 0.0076 0.0033
 Mars -52571-03-10 14:09 J -17480065.96 -17480065.91 -17480065.87 0.1581 0.1520
 Jupiter -52567-10-18 01:11 J -17478383.65 -17478383.45 -17478383.26 0.0514 0.0066
 Jupiter -52560-04-08 11:45 J -17476019.18 -17476019.01 -17476018.83 0.0515 0.0291
 Saturn -52559-10-07 03:49 J -17475472.55 -17475472.34 -17475472.14 0.0296 0.0025
 Jupiter -52555-06-23 02:09 J -17474117.53 -17474117.41 -17474117.27 0.0517 0.0391
 Uranus -52554-06-01 22:04 J -17473773.65 -17473773.58 -17473773.47 0.0138 0.0127
 Uranus -52553-01-14 08:23 J -17473547.30 -17473547.15 -17473546.98 0.0137 0.0096

Uranus -52553-08-27 18:28 J -17473320.92 -17473320.73 -17473320.53 0.0137 0.0066
 Uranus -52552-04-11 04:04 J -17473094.54 -17473094.33 -17473094.10 0.0137 0.0037
 Uranus -52552-11-23 13:40 J -17472868.15 -17472867.93 -17472867.70 0.0136 0.0007
 Uranus -52551-07-07 22:47 J -17472641.77 -17472641.55 -17472641.33 0.0136 0.0023
 Uranus -52550-02-19 07:40 J -17472415.38 -17472415.18 -17472414.96 0.0136 0.0052
 Uranus -52550-10-03 16:18 J -17472188.99 -17472188.82 -17472188.63 0.0135 0.0081
 Uranus -52549-05-17 00:57 J -17471962.59 -17471962.46 -17471962.32 0.0135 0.0108
 Jupiter -52549-12-11 23:59 J -17471753.71 -17471753.50 -17471753.29 0.0512 0.0069
 Saturn -52544-03-21 12:13 J -17470193.21 -17470192.99 -17470192.77 0.0265 0.0032
 Saturn -52544-11-05 18:57 J -17469963.72 -17469963.71 -17469963.68 0.0265 0.0263
 Jupiter -52543-10-20 08:52 J -17469615.23 -17469615.13 -17469615.02 0.0511 0.0432
 Mars -52538-02-03 10:33 J -17468048.22 -17468048.06 -17468047.89 0.1957 0.0351
 Mars -52537-01-07 08:23 J -17467710.32 -17467710.15 -17467709.98 0.1582 0.0486
 Jupiter -52537-08-16 14:23 J -17467488.01 -17467487.90 -17467487.77 0.0510 0.0411
 Jupiter -52531-06-25 11:16 J -17465349.22 -17465349.03 -17465348.84 0.0513 0.0117
 Saturn -52529-04-18 12:28 J -17464686.17 -17464685.98 -17464685.78 0.0296 0.0088
 Jupiter -52525-12-15 02:09 J -17462984.48 -17462984.41 -17462984.34 0.0517 0.0482
 Jupiter -52519-02-28 13:25 J -17461083.12 -17461082.94 -17461082.75 0.0515 0.0203
 Saturn -52515-10-01 14:52 J -17459407.09 -17459406.88 -17459406.66 0.0265 0.0007
 Jupiter -52513-08-19 17:01 J -17458719.00 -17458718.79 -17458718.59 0.0514 0.0135
 Uranus -52509-01-05 08:52 J -17457485.19 -17457485.13 -17457485.07 0.0141 0.0134
 Uranus -52509-08-18 16:04 J -17457258.97 -17457258.83 -17457258.69 0.0141 0.0105
 Uranus -52508-04-01 23:16 J -17457032.69 -17457032.53 -17457032.34 0.0142 0.0075
 Uranus -52508-11-14 06:57 J -17456806.40 -17456806.21 -17456805.99 0.0142 0.0045
 Uranus -52507-06-28 15:06 J -17456580.08 -17456579.87 -17456579.65 0.0142 0.0012
 Uranus -52506-02-09 23:16 J -17456353.73 -17456353.53 -17456353.31 0.0143 0.0020
 Uranus -52506-09-24 07:54 J -17456127.36 -17456127.17 -17456126.97 0.0143 0.0052
 Mars -52505-01-06 02:09 J -17456023.51 -17456023.41 -17456023.31 0.1581 0.1312
 Uranus -52505-05-07 16:18 J -17455900.97 -17455900.82 -17455900.63 0.0143 0.0085
 Uranus -52505-12-20 01:25 J -17455674.55 -17455674.44 -17455674.31 0.0144 0.0117

Neptune -52503-02-20 23:59 J -17455246.55 -17455246.50 -17455246.41 0.0089 0.0084
 Neptune -52503-10-04 11:59 J -17455021.13 -17455021.00 -17455020.84 0.0089 0.0065
 Neptune -52502-05-17 23:59 J -17454795.67 -17454795.50 -17454795.31 0.0089 0.0047
 Neptune -52502-12-29 11:45 J -17454570.20 -17454570.01 -17454569.80 0.0089 0.0030
 Jupiter -52501-04-24 07:40 J -17454453.37 -17454453.18 -17454452.99 0.0512 0.0210
 Neptune -52501-08-10 23:59 J -17454344.71 -17454344.50 -17454344.29 0.0089 0.0011
 Saturn -52500-03-14 01:11 J -17454129.56 -17454129.45 -17454129.33 0.0296 0.0246
 Neptune -52500-03-24 11:45 J -17454119.22 -17454119.01 -17454118.79 0.0089 0.0007
 Saturn -52500-10-29 17:59 J -17453899.93 -17453899.75 -17453899.57 0.0296 0.0140
 Neptune -52500-11-04 23:30 J -17453893.72 -17453893.52 -17453893.31 0.0089 0.0025
 Neptune -52499-06-18 11:16 J -17453668.20 -17453668.03 -17453667.83 0.0089 0.0043
 Neptune -52498-01-29 23:01 J -17453442.68 -17453442.54 -17453442.37 0.0089 0.0061
 Neptune -52498-09-12 11:01 J -17453217.12 -17453217.04 -17453216.93 0.0089 0.0079
 Jupiter -52495-03-02 20:23 J -17452314.81 -17452314.65 -17452314.48 0.0512 0.0296
 Saturn -52486-08-27 15:35 J -17448849.93 -17448849.85 -17448849.75 0.0265 0.0240
 Saturn -52485-04-12 22:47 J -17448620.76 -17448620.55 -17448620.33 0.0265 0.0057
 Jupiter -52484-11-05 21:49 J -17448048.79 -17448048.59 -17448048.39 0.0515 0.0027
 Earth -52477-04-01 12:13 J -17445710.15 -17445709.99 -17445709.82 0.2626 0.0275
 Moon -52477-04-01 13:11 J -17445710.13 -17445709.95 -17445709.78 0.2619 0.0559 *
 Jupiter -52477-04-27 07:25 J -17445684.35 -17445684.19 -17445684.03 0.0515 0.0326
 Mars -52473-11-30 13:25 J -17444006.08 -17444005.94 -17444005.81 0.1956 0.1151
 Jupiter -52472-07-11 23:16 J -17443782.67 -17443782.53 -17443782.38 0.0517 0.0350
 Mars -52472-11-03 20:37 J -17443667.80 -17443667.64 -17443667.48 0.1583 0.0689
 Saturn -52471-09-24 11:30 J -17443343.18 -17443343.02 -17443342.86 0.0295 0.0177
 Saturn -52470-05-12 04:18 J -17443113.47 -17443113.32 -17443113.18 0.0296 0.0207
 Uranus -52470-09-13 17:16 J -17442988.90 -17442988.78 -17442988.63 0.0137 0.0109
 Uranus -52469-04-27 03:21 J -17442762.53 -17442762.36 -17442762.16 0.0137 0.0079
 Uranus -52469-12-09 13:11 J -17442536.15 -17442535.95 -17442535.73 0.0137 0.0049
 Uranus -52468-07-23 23:01 J -17442309.76 -17442309.54 -17442309.31 0.0136 0.0019
 Uranus -52467-03-07 08:37 J -17442083.36 -17442083.14 -17442082.92 0.0136 0.0011

Uranus	-52467-10-19 17:30 J	-17441856.98	-17441856.77	-17441856.55	0.0136	0.0040
Uranus	-52466-06-03 02:23 J	-17441630.59	-17441630.40	-17441630.20	0.0135	0.0068
Jupiter	-52466-12-31 21:06 J	-17441418.83	-17441418.62	-17441418.41	0.0513	0.0024
Uranus	-52465-01-15 11:01 J	-17441404.19	-17441404.04	-17441403.88	0.0135	0.0097
Uranus	-52465-08-28 19:25 J	-17441177.77	-17441177.69	-17441177.60	0.0135	0.0124
Jupiter	-52460-11-08 06:28 J	-17439280.30	-17439280.23	-17439280.16	0.0510	0.0474
Saturn	-52456-03-08 19:25 J	-17438063.82	-17438063.69	-17438063.54	0.0265	0.0200
Saturn	-52456-10-24 02:37 J	-17437834.59	-17437834.39	-17437834.18	0.0265	0.0095
Jupiter	-52454-09-05 12:42 J	-17437153.12	-17437152.97	-17437152.82	0.0511	0.0363
Jupiter	-52448-07-14 07:40 J	-17435014.36	-17435014.18	-17435013.99	0.0513	0.0156
Saturn	-52441-04-05 17:01 J	-17432556.97	-17432556.79	-17432556.60	0.0296	0.0126
Saturn	-52441-11-21 10:04 J	-17432327.18	-17432327.08	-17432326.98	0.0296	0.0259
Mars	-52440-11-02 14:52 J	-17431981.01	-17431980.88	-17431980.76	0.1582	0.1116
Jupiter	-52436-03-19 09:06 J	-17430748.31	-17430748.12	-17430747.94	0.0515	0.0166
Jupiter	-52430-09-08 13:11 J	-17428384.14	-17428383.95	-17428383.75	0.0514	0.0175
Saturn	-52427-09-19 03:21 J	-17427277.53	-17427277.36	-17427277.16	0.0265	0.0149
Saturn	-52426-05-06 10:47 J	-17427048.23	-17427048.05	-17427047.86	0.0265	0.0148
Uranus	-52425-04-18 02:09 J	-17426700.51	-17426700.41	-17426700.27	0.0141	0.0117
Jupiter	-52425-11-22 08:37 J	-17426482.18	-17426482.14	-17426482.08	0.0518	0.0498
Uranus	-52425-11-30 09:49 J	-17426474.25	-17426474.09	-17426473.92	0.0141	0.0087
Uranus	-52424-07-14 17:16 J	-17426247.97	-17426247.78	-17426247.58	0.0142	0.0056
Uranus	-52423-02-26 01:11 J	-17426021.66	-17426021.45	-17426021.24	0.0142	0.0025
Uranus	-52423-10-10 09:21 J	-17425795.32	-17425795.11	-17425794.90	0.0142	0.0006
Uranus	-52422-05-24 17:30 J	-17425568.97	-17425568.77	-17425568.56	0.0143	0.0038
Uranus	-52421-01-06 02:09 J	-17425342.60	-17425342.41	-17425342.23	0.0143	0.0070
Uranus	-52421-08-19 10:47 J	-17425116.19	-17425116.05	-17425115.89	0.0144	0.0102
Neptune	-52421-11-20 02:37 J	-17425023.51	-17425023.39	-17425023.24	0.0088	0.0071
Uranus	-52420-04-02 19:40 J	-17424889.74	-17424889.68	-17424889.59	0.0144	0.0134
Neptune	-52420-07-03 16:33 J	-17424797.97	-17424797.81	-17424797.60	0.0088	0.0053
Neptune	-52419-02-14 07:11 J	-17424572.40	-17424572.20	-17424571.98	0.0088	0.0034

Neptune -52419-09-27 21:35 J -17424346.83 -17424346.60 -17424346.38 0.0088 0.0015
 Neptune -52418-05-11 11:45 J -17424121.24 -17424121.01 -17424120.79 0.0088 0.0004
 Jupiter -52418-05-14 03:06 J -17424118.57 -17424118.37 -17424118.17 0.0511 0.0174
 Neptune -52418-12-23 01:40 J -17423895.65 -17423895.43 -17423895.20 0.0088 0.0022
 Neptune -52417-08-04 15:49 J -17423670.04 -17423669.84 -17423669.63 0.0088 0.0041
 Neptune -52416-03-18 05:45 J -17423444.41 -17423444.26 -17423444.07 0.0088 0.0060
 Neptune -52416-10-29 19:40 J -17423218.76 -17423218.68 -17423218.55 0.0088 0.0078
 Jupiter -52412-03-21 16:47 J -17421979.95 -17421979.80 -17421979.66 0.0512 0.0332
 Saturn -52412-10-17 04:18 J -17421770.52 -17421770.32 -17421770.12 0.0295 0.0056
 Pluto -52410-03-14 01:54 J -17421257.58 -17421257.42 -17421257.22 0.0067 0.0040
 Pluto -52410-10-25 08:09 J -17421032.38 -17421032.16 -17421031.94 0.0068 0.0004
 Pluto -52409-06-06 13:25 J -17420807.08 -17420806.94 -17420806.77 0.0068 0.0048
 Mars -52407-09-27 16:18 J -17419963.84 -17419963.82 -17419963.80 0.1955 0.1940
 Mars -52406-09-01 09:06 J -17419625.27 -17419625.12 -17419624.97 0.1583 0.0892
 Jupiter -52401-11-24 19:11 J -17417713.89 -17417713.70 -17417713.50 0.0514 0.0020
 Saturn -52397-03-31 08:23 J -17416491.34 -17416491.15 -17416490.94 0.0265 0.0106
 Saturn -52397-11-15 15:21 J -17416262.01 -17416261.86 -17416261.70 0.0265 0.0189
 Jupiter -52394-05-17 04:47 J -17415349.44 -17415349.30 -17415349.15 0.0516 0.0373
 Jupiter -52389-07-30 19:40 J -17413447.83 -17413447.68 -17413447.52 0.0516 0.0309
 Uranus -52386-05-14 01:54 J -17412430.52 -17412430.42 -17412430.30 0.0138 0.0120
 Uranus -52386-12-26 12:28 J -17412204.15 -17412203.98 -17412203.81 0.0137 0.0090
 Uranus -52385-08-08 22:18 J -17411977.77 -17411977.57 -17411977.36 0.0137 0.0060
 Uranus -52384-03-23 08:09 J -17411751.37 -17411751.16 -17411750.93 0.0137 0.0031
 Uranus -52384-11-04 17:59 J -17411524.98 -17411524.75 -17411524.53 0.0136 0.0001
 Uranus -52383-06-19 03:06 J -17411298.59 -17411298.37 -17411298.15 0.0136 0.0028
 Jupiter -52382-01-19 19:25 J -17411083.90 -17411083.69 -17411083.48 0.0513 0.0026
 Uranus -52382-01-31 12:13 J -17411072.19 -17411071.99 -17411071.78 0.0136 0.0057
 Saturn -52382-04-29 09:21 J -17410984.32 -17410984.11 -17410983.91 0.0296 0.0005
 Uranus -52382-09-14 20:52 J -17410845.79 -17410845.63 -17410845.44 0.0135 0.0086
 Uranus -52381-04-28 05:30 J -17410619.38 -17410619.27 -17410619.14 0.0135 0.0113

Jupiter -52377-11-27 01:25 J -17408945.45 -17408945.44 -17408945.41 0.0510 0.0508
 Mars -52374-08-31 02:52 J -17407938.53 -17407938.38 -17407938.23 0.1582 0.0906
 Jupiter -52371-09-24 09:35 J -17406818.26 -17406818.10 -17406817.94 0.0510 0.0320
 Saturn -52368-10-11 16:18 J -17405705.04 -17405704.82 -17405704.61 0.0265 0.0055
 Saturn -52367-05-28 23:16 J -17405475.61 -17405475.53 -17405475.43 0.0265 0.0240
 Jupiter -52365-08-02 02:37 J -17404679.57 -17404679.39 -17404679.20 0.0513 0.0190
 Moon -52356-10-03 05:30 J -17401330.43 -17401330.27 -17401330.11 0.2702 0.0404
 Earth -52356-10-03 08:52 J -17401330.27 -17401330.13 -17401329.99 0.2707 0.1104 *
 Jupiter -52353-04-07 04:33 J -17400413.50 -17400413.31 -17400413.11 0.0515 0.0130
 Saturn -52353-11-08 21:06 J -17400197.82 -17400197.62 -17400197.42 0.0295 0.0066
 Earth -52348-10-01 03:06 J -17398410.42 -17398410.37 -17398410.31 0.2706 0.2529
 Jupiter -52347-09-27 08:37 J -17398049.33 -17398049.14 -17398048.95 0.0514 0.0212
 Jupiter -52342-12-12 06:28 J -17396147.32 -17396147.23 -17396147.13 0.0518 0.0450
 Uranus -52342-12-17 12:57 J -17396142.04 -17396141.96 -17396141.87 0.0141 0.0128
 Uranus -52341-07-30 20:23 J -17395915.80 -17395915.65 -17395915.50 0.0141 0.0099
 Uranus -52340-03-14 03:35 J -17395689.53 -17395689.35 -17395689.16 0.0141 0.0069
 Mars -52340-06-28 21:06 J -17395582.75 -17395582.62 -17395582.50 0.1584 0.1103
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 Uranus -52337-04-18 19:54 J -17394557.83 -17394557.67 -17394557.49 0.0143 0.0087
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 Neptune -52334-12-14 20:37 J -17393222.77 -17393222.64 -17393222.50 0.0089 0.0069
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 Saturn -52323-05-22 01:25 J -17389411.63 -17389411.44 -17389411.25 0.0296 0.0115
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 Jupiter -52311-06-05 01:54 J -17385014.54 -17385014.42 -17385014.29 0.0515 0.0415
 Saturn -52309-03-18 21:21 J -17384361.65 -17384361.61 -17384361.55 0.0265 0.0258
 Mars -52309-07-24 17:01 J -17384233.92 -17384233.79 -17384233.67 0.1956 0.1274
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Saturn -52294-04-16 19:40 J -17378854.83 -17378854.68 -17378854.53 0.0295 0.0200
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 Jupiter -52288-10-13 04:18 J -17376483.50 -17376483.32 -17376483.15 0.0511 0.0285
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 Jupiter -52270-04-27 02:09 J -17370078.61 -17370078.41 -17370078.22 0.0515 0.0084
 Saturn -52265-10-26 23:01 J -17368068.71 -17368068.54 -17368068.36 0.0296 0.0155
 Saturn -52264-06-13 15:49 J -17367838.96 -17367838.84 -17367838.70 0.0296 0.0229
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 Uranus -52257-11-11 14:09 J -17365131.08 -17365130.91 -17365130.73 0.0141 0.0080
 Neptune -52256-02-21 10:18 J -17365029.15 -17365029.07 -17365028.97 0.0088 0.0081
 Uranus -52256-06-25 21:21 J -17364904.79 -17364904.61 -17364904.40 0.0142 0.0051
 Neptune -52256-10-05 00:13 J -17364803.64 -17364803.49 -17364803.32 0.0088 0.0062
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 Uranus -52253-07-31 14:09 J -17363773.04 -17363772.91 -17363772.76 0.0143 0.0105
 Neptune -52253-11-05 23:01 J -17363675.74 -17363675.54 -17363675.32 0.0088 0.0031
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 Neptune -52252-06-19 13:11 J -17363450.13 -17363449.95 -17363449.75 0.0088 0.0050

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 Earth -52234-04-02 10:04 J -17356954.25 -17356954.08 -17356953.91 0.2626 0.0107 *
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 Uranus -52214-01-12 13:11 J -17349729.14 -17349728.95 -17349728.74 0.0136 0.0061
 Uranus -52214-08-26 22:04 J -17349502.74 -17349502.58 -17349502.40 0.0136 0.0089
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Mars -52111-01-13 02:23 J -17312107.54 -17312107.40 -17312107.25 0.1953 0.1052
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 Neptune -52090-04-02 13:11 J -17304358.16 -17304357.95 -17304357.74 0.0088 0.0034
 Uranus -52090-07-29 05:16 J -17304240.34 -17304240.28 -17304240.19 0.0140 0.0132
 Neptune -52090-11-14 03:06 J -17304132.59 -17304132.37 -17304132.14 0.0088 0.0015
 Uranus -52089-03-11 12:13 J -17304014.12 -17304013.99 -17304013.83 0.0141 0.0103
 Neptune -52089-06-26 17:16 J -17303907.01 -17303906.78 -17303906.55 0.0088 0.0003
 Uranus -52089-10-23 19:25 J -17303787.86 -17303787.69 -17303787.50 0.0141 0.0074
 Neptune -52088-02-07 07:11 J -17303681.41 -17303681.20 -17303680.97 0.0088 0.0022
 Saturn -52088-05-18 12:57 J -17303581.07 -17303580.96 -17303580.83 0.0296 0.0235
 Uranus -52088-06-07 02:52 J -17303561.58 -17303561.38 -17303561.18 0.0142 0.0044
 Neptune -52088-09-20 21:35 J -17303455.80 -17303455.60 -17303455.40 0.0088 0.0040
 Saturn -52087-01-03 05:59 J -17303351.43 -17303351.25 -17303351.07 0.0296 0.0146
 Uranus -52087-01-19 10:18 J -17303335.27 -17303335.07 -17303334.85 0.0142 0.0014
 Neptune -52087-05-04 11:16 J -17303230.18 -17303230.03 -17303229.85 0.0088 0.0059
 Uranus -52087-09-02 18:13 J -17303108.94 -17303108.74 -17303108.52 0.0142 0.0018
 Neptune -52087-12-16 01:25 J -17303004.53 -17303004.44 -17303004.32 0.0088 0.0077
 Uranus -52086-04-17 02:23 J -17302882.60 -17302882.40 -17302882.20 0.0143 0.0048
 Jupiter -52086-07-29 19:25 J -17302778.90 -17302778.69 -17302778.48 0.0513 0.0020
 Uranus -52086-11-29 10:18 J -17302656.23 -17302656.07 -17302655.88 0.0143 0.0079
 Uranus -52085-07-12 18:42 J -17302429.84 -17302429.72 -17302429.57 0.0143 0.0111

Uranus -52084-02-24 03:21 J -17302203.37 -17302203.36 -17302203.30 0.0144 0.0142
 Pluto -52076-07-27 23:59 J -17299127.71 -17299127.50 -17299127.29 0.0076 0.0018
 Pluto -52075-03-10 08:09 J -17298902.32 -17298902.16 -17298901.97 0.0076 0.0045
 Jupiter -52074-04-03 11:30 J -17298513.18 -17298513.02 -17298512.85 0.0510 0.0314
 Saturn -52074-11-01 05:45 J -17298301.38 -17298301.26 -17298301.12 0.0265 0.0210
 Saturn -52073-06-17 12:42 J -17298072.17 -17298071.97 -17298071.75 0.0264 0.0081
 Jupiter -52068-02-09 08:52 J -17296374.31 -17296374.13 -17296373.95 0.0513 0.0196
 Saturn -52059-11-28 19:54 J -17292794.83 -17292794.67 -17292794.51 0.0295 0.0181
 Saturn -52058-07-16 12:57 J -17292565.10 -17292564.96 -17292564.80 0.0296 0.0201
 Jupiter -52057-10-15 11:16 J -17292108.22 -17292108.03 -17292107.83 0.0516 0.0119
 Uranus -52050-04-06 03:35 J -17289744.48 -17289744.35 -17289744.21 0.0138 0.0110
 Jupiter -52050-04-06 10:04 J -17289744.26 -17289744.08 -17289743.88 0.0514 0.0213 *
 Uranus -52050-11-18 13:54 J -17289518.09 -17289517.92 -17289517.72 0.0138 0.0081
 Uranus -52049-07-02 00:13 J -17289291.69 -17289291.49 -17289291.27 0.0137 0.0051
 Uranus -52048-02-13 10:33 J -17289065.28 -17289065.06 -17289064.84 0.0137 0.0022
 Uranus -52048-09-27 20:23 J -17288838.88 -17288838.65 -17288838.43 0.0137 0.0008
 Uranus -52047-05-12 05:30 J -17288612.48 -17288612.27 -17288612.04 0.0136 0.0037
 Uranus -52047-12-24 14:52 J -17288386.07 -17288385.88 -17288385.68 0.0136 0.0064
 Uranus -52046-08-07 23:45 J -17288159.67 -17288159.51 -17288159.34 0.0136 0.0092
 Mars -52046-11-10 05:16 J -17288065.33 -17288065.28 -17288065.22 0.1952 0.1839
 Uranus -52045-03-21 08:23 J -17287933.24 -17287933.15 -17287933.03 0.0135 0.0120
 Jupiter -52045-06-20 13:54 J -17287842.02 -17287841.92 -17287841.81 0.0518 0.0437
 Mars -52045-10-14 15:49 J -17287726.02 -17287725.84 -17287725.66 0.1585 0.0129
 Saturn -52044-05-13 11:45 J -17287515.17 -17287515.01 -17287514.83 0.0265 0.0164
 Saturn -52044-12-28 18:28 J -17287285.92 -17287285.73 -17287285.53 0.0264 0.0127
 Jupiter -52039-12-10 01:40 J -17285478.63 -17285478.43 -17285478.22 0.0511 0.0126
 Jupiter -52033-10-17 22:04 J -17283339.70 -17283339.58 -17283339.45 0.0512 0.0388
 Saturn -52029-06-09 19:40 J -17282008.86 -17282008.68 -17282008.50 0.0296 0.0146
 Saturn -52028-01-25 12:28 J -17281779.10 -17281778.98 -17281778.85 0.0296 0.0234
 Jupiter -52027-08-14 18:42 J -17281212.81 -17281212.72 -17281212.63 0.0509 0.0456

Jupiter -52021-06-23 00:13 J -17279073.69 -17279073.49 -17279073.30 0.0514 0.0074
 Saturn -52015-11-23 11:59 J -17276729.17 -17276729.00 -17276728.80 0.0265 0.0135
 Jupiter -52015-12-13 06:57 J -17276709.32 -17276709.21 -17276709.09 0.0515 0.0428
 Saturn -52014-07-10 18:57 J -17276499.87 -17276499.71 -17276499.52 0.0264 0.0157
 Neptune -52009-02-22 05:45 J -17274812.36 -17274812.26 -17274812.14 0.0089 0.0076
 Jupiter -52009-02-27 00:28 J -17274807.65 -17274807.48 -17274807.31 0.0517 0.0251
 Neptune -52009-10-04 17:16 J -17274586.92 -17274586.78 -17274586.59 0.0089 0.0059
 Neptune -52008-05-18 05:16 J -17274361.45 -17274361.28 -17274361.07 0.0089 0.0041
 Neptune -52008-12-29 17:30 J -17274135.97 -17274135.77 -17274135.56 0.0089 0.0022
 Neptune -52007-08-12 05:45 J -17273910.48 -17273910.26 -17273910.05 0.0089 0.0004
 Neptune -52006-03-25 17:30 J -17273684.98 -17273684.77 -17273684.56 0.0089 0.0014
 Neptune -52006-11-06 05:01 J -17273459.47 -17273459.29 -17273459.08 0.0089 0.0032
 Uranus -52006-11-09 23:16 J -17273455.65 -17273455.53 -17273455.40 0.0141 0.0114
 Neptune -52005-06-18 17:16 J -17273233.96 -17273233.78 -17273233.61 0.0089 0.0050
 Uranus -52005-06-23 06:13 J -17273229.40 -17273229.24 -17273229.07 0.0141 0.0085
 Neptune -52004-01-30 05:01 J -17273008.42 -17273008.29 -17273008.15 0.0089 0.0068
 Uranus -52004-02-04 13:11 J -17273003.13 -17273002.95 -17273002.74 0.0141 0.0057
 Neptune -52004-09-12 16:47 J -17272782.84 -17272782.80 -17272782.73 0.0089 0.0086
 Uranus -52004-09-18 21:06 J -17272776.83 -17272776.62 -17272776.41 0.0142 0.0026
 Uranus -52003-05-03 04:47 J -17272550.51 -17272550.30 -17272550.09 0.0142 0.0005
 Jupiter -52003-08-17 21:06 J -17272443.82 -17272443.62 -17272443.41 0.0513 0.0084
 Uranus -52003-12-15 12:28 J -17272324.18 -17272323.98 -17272323.77 0.0142 0.0035
 Uranus -52002-07-29 20:23 J -17272097.82 -17272097.65 -17272097.45 0.0143 0.0066
 Uranus -52001-03-12 05:01 J -17271871.44 -17271871.29 -17271871.13 0.0143 0.0096
 Uranus -52001-10-24 13:25 J -17271645.02 -17271644.94 -17271644.83 0.0143 0.0128

52ND MILLENNIUM BCE

This is a list of transits of Venus in the 52nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Saturn	-52000-12-21 01:11 J		-17271222.64	-17271222.45	-17271222.26	0.0295	0.0097	
Saturn	-51999-08-07 18:13 J		-17270992.79	-17270992.74	-17270992.68	0.0296	0.0284	
Earth	-51991-04-02 07:54 J		-17268198.33	-17268198.17	-17268198.00	0.2627	0.0081	
Moon	-51991-04-02 13:11 J		-17268198.12	-17268197.95	-17268197.78	0.2623	0.0228	*
Jupiter	-51991-04-22 09:21 J		-17268178.28	-17268178.11	-17268177.93	0.0510	0.0267	
Jupiter	-51985-02-29 11:59 J		-17266039.16	-17266039.00	-17266038.83	0.0513	0.0263	
Saturn	-51985-06-04 17:59 J		-17265942.95	-17265942.75	-17265942.54	0.0265	0.0088	
Saturn	-51984-01-20 00:42 J		-17265713.60	-17265713.47	-17265713.32	0.0264	0.0202	
Mars	-51979-08-12 04:04 J		-17263683.51	-17263683.33	-17263683.16	0.1586	0.0335	
Jupiter	-51974-11-04 14:23 J		-17261773.10	-17261772.90	-17261772.70	0.0515	0.0053	
Saturn	-51970-07-03 01:11 J		-17260436.65	-17260436.45	-17260436.25	0.0295	0.0061	
Jupiter	-51967-04-25 13:54 J		-17259409.10	-17259408.92	-17259408.75	0.0514	0.0282	
Uranus	-51967-12-04 11:01 J		-17259186.13	-17259186.04	-17259185.93	0.0138	0.0122	
Uranus	-51966-07-18 21:35 J		-17258959.76	-17258959.60	-17258959.42	0.0138	0.0093	
Uranus	-51965-03-01 08:09 J		-17258733.35	-17258733.16	-17258732.95	0.0137	0.0063	
Uranus	-51965-10-13 18:13 J		-17258506.95	-17258506.74	-17258506.51	0.0137	0.0034	
Uranus	-51964-05-28 04:04 J		-17258280.55	-17258280.33	-17258280.10	0.0137	0.0006	
Uranus	-51963-01-09 13:40 J		-17258054.15	-17258053.93	-17258053.71	0.0136	0.0023	
Uranus	-51963-08-23 22:47 J		-17257827.75	-17257827.55	-17257827.33	0.0136	0.0052	
Uranus	-51962-04-07 07:54 J		-17257601.34	-17257601.17	-17257600.97	0.0136	0.0080	
Jupiter	-51962-07-10 15:49 J		-17257506.98	-17257506.84	-17257506.71	0.0518	0.0374	
Uranus	-51962-11-19 16:47 J		-17257374.93	-17257374.80	-17257374.65	0.0136	0.0107	

Uranus -51961-07-03 01:25 J -17257148.47 -17257148.44 -17257148.41 0.0135 0.0134
 Saturn -51956-12-15 17:45 J -17255156.97 -17255156.76 -17255156.54 0.0265 0.0061
 Jupiter -51956-12-29 05:45 J -17255143.47 -17255143.26 -17255143.05 0.0512 0.0056
 Saturn -51955-08-02 00:42 J -17254927.58 -17254927.47 -17254927.36 0.0264 0.0229
 Jupiter -51950-11-06 21:49 J -17253004.68 -17253004.59 -17253004.48 0.0512 0.0441
 Mars -51948-09-06 05:45 J -17252335.38 -17252335.26 -17252335.14 0.1954 0.1333
 Mars -51947-08-10 22:04 J -17251996.65 -17251996.58 -17251996.52 0.1584 0.1459
 Jupiter -51944-09-02 21:06 J -17250877.75 -17250877.62 -17250877.48 0.0509 0.0390
 Saturn -51940-01-12 05:45 J -17249650.46 -17249650.26 -17249650.05 0.0295 0.0014
 Jupiter -51938-07-13 00:57 J -17248738.65 -17248738.46 -17248738.27 0.0514 0.0132
 Jupiter -51931-01-01 05:16 J -17246374.36 -17246374.28 -17246374.20 0.0515 0.0476
 Neptune -51927-04-09 17:01 J -17244814.87 -17244814.79 -17244814.67 0.0088 0.0079
 Neptune -51927-11-21 07:25 J -17244589.35 -17244589.19 -17244589.02 0.0088 0.0060
 Jupiter -51926-03-18 03:49 J -17244472.52 -17244472.34 -17244472.15 0.0517 0.0183
 Saturn -51926-06-27 23:30 J -17244370.74 -17244370.52 -17244370.30 0.0265 0.0014
 Neptune -51926-07-04 21:21 J -17244363.79 -17244363.61 -17244363.39 0.0088 0.0042
 Neptune -51925-02-15 11:59 J -17244138.22 -17244138.00 -17244137.78 0.0088 0.0023
 Neptune -51925-09-28 01:54 J -17243912.64 -17243912.42 -17243912.19 0.0088 0.0005
 Neptune -51924-05-11 16:04 J -17243687.05 -17243686.83 -17243686.60 0.0088 0.0013
 Neptune -51924-12-23 05:59 J -17243461.45 -17243461.25 -17243461.03 0.0088 0.0032
 Neptune -51923-08-05 20:09 J -17243235.84 -17243235.66 -17243235.47 0.0088 0.0050
 Neptune -51922-03-19 10:04 J -17243010.20 -17243010.08 -17243009.92 0.0088 0.0069
 Uranus -51922-07-10 09:21 J -17242897.20 -17242897.11 -17242897.02 0.0140 0.0126
 Neptune -51922-10-31 00:13 J -17242784.50 -17242784.49 -17242784.44 0.0088 0.0087
 Uranus -51921-02-21 15:49 J -17242670.98 -17242670.84 -17242670.68 0.0141 0.0098
 Uranus -51921-10-04 23:16 J -17242444.72 -17242444.53 -17242444.35 0.0141 0.0069
 Uranus -51920-05-19 06:13 J -17242218.43 -17242218.24 -17242218.03 0.0142 0.0040
 Jupiter -51920-09-05 20:37 J -17242108.85 -17242108.64 -17242108.44 0.0513 0.0135
 Uranus -51920-12-31 13:54 J -17241992.13 -17241991.92 -17241991.71 0.0142 0.0010
 Uranus -51919-08-14 21:35 J -17241765.80 -17241765.60 -17241765.39 0.0142 0.0021

Uranus -51918-03-29 05:30 J -17241539.46 -17241539.27 -17241539.06 0.0143 0.0051
 Uranus -51918-11-10 13:40 J -17241313.09 -17241312.93 -17241312.75 0.0143 0.0082
 Uranus -51917-06-23 22:18 J -17241086.70 -17241086.57 -17241086.44 0.0143 0.0113
 Jupiter -51915-11-21 05:16 J -17240206.32 -17240206.28 -17240206.23 0.0519 0.0504
 Pluto -51914-01-17 12:13 J -17240149.03 -17240148.99 -17240148.90 0.0067 0.0064
 Pluto -51914-08-30 18:13 J -17239923.95 -17239923.74 -17239923.53 0.0068 0.0021
 Pluto -51913-04-11 23:30 J -17239698.72 -17239698.52 -17239698.30 0.0068 0.0023
 Mars -51913-06-08 15:49 J -17239641.00 -17239640.84 -17239640.67 0.1586 0.0549
 Pluto -51913-11-23 05:01 J -17239473.30 -17239473.29 -17239473.24 0.0068 0.0067
 Saturn -51911-07-25 06:13 J -17238864.44 -17238864.24 -17238864.03 0.0295 0.0023
 Jupiter -51908-05-11 12:57 J -17237843.15 -17237842.96 -17237842.77 0.0511 0.0199
 Jupiter -51902-03-20 13:40 J -17235704.08 -17235703.93 -17235703.77 0.0513 0.0323
 Saturn -51896-01-06 23:01 J -17233584.76 -17233584.54 -17233584.32 0.0265 0.0013
 Jupiter -51891-11-23 14:37 J -17231438.09 -17231437.89 -17231437.69 0.0515 0.0003
 Jupiter -51884-05-14 16:33 J -17229073.96 -17229073.81 -17229073.65 0.0514 0.0348
 Uranus -51883-08-03 18:42 J -17228627.76 -17228627.72 -17228627.66 0.0138 0.0134
 Uranus -51882-03-18 05:30 J -17228401.40 -17228401.27 -17228401.11 0.0138 0.0105
 Mars -51882-07-04 08:23 J -17228293.31 -17228293.15 -17228292.99 0.1953 0.0537
 Uranus -51882-10-30 16:04 J -17228175.01 -17228174.83 -17228174.63 0.0138 0.0076
 Saturn -51881-02-04 10:18 J -17228078.27 -17228078.07 -17228077.87 0.0295 0.0069
 Mars -51881-06-07 10:18 J -17227954.18 -17227954.07 -17227953.96 0.1585 0.1257
 Uranus -51881-06-13 02:23 J -17227948.61 -17227948.40 -17227948.18 0.0137 0.0046
 Uranus -51880-01-25 12:28 J -17227722.20 -17227721.98 -17227721.76 0.0137 0.0017
 Uranus -51880-09-08 22:04 J -17227495.80 -17227495.58 -17227495.35 0.0137 0.0012
 Uranus -51879-04-23 07:40 J -17227269.39 -17227269.18 -17227268.96 0.0136 0.0040
 Jupiter -51879-07-29 16:18 J -17227171.97 -17227171.82 -17227171.66 0.0518 0.0315
 Uranus -51879-12-05 16:47 J -17227042.99 -17227042.80 -17227042.60 0.0136 0.0067
 Uranus -51878-07-20 01:25 J -17226816.59 -17226816.44 -17226816.27 0.0136 0.0095
 Uranus -51877-03-02 10:33 J -17226590.16 -17226590.06 -17226589.97 0.0135 0.0122
 Jupiter -51872-01-17 04:33 J -17224808.52 -17224808.31 -17224808.10 0.0512 0.0009

Earth -51870-10-04 16:47 J -17223817.93 -17223817.80 -17223817.67 0.2705 0.1397
 Moon -51870-10-04 17:59 J -17223817.87 -17223817.75 -17223817.62 0.2698 0.1686 *
 Saturn -51868-12-02 21:21 J -17223027.70 -17223027.61 -17223027.49 0.0266 0.0232
 Saturn -51867-07-20 04:47 J -17222798.51 -17222798.30 -17222798.08 0.0265 0.0059
 Jupiter -51867-11-26 01:11 J -17222669.47 -17222669.45 -17222669.42 0.0512 0.0506
 Moon -51862-10-02 08:23 J -17220898.24 -17220898.15 -17220898.07 0.2699 0.2278
 Earth -51862-10-02 11:01 J -17220898.12 -17220898.04 -17220897.95 0.2705 0.2220 *
 Jupiter -51861-09-21 20:23 J -17220542.80 -17220542.65 -17220542.49 0.0509 0.0340
 Jupiter -51855-08-01 03:49 J -17218403.52 -17218403.34 -17218403.15 0.0514 0.0197
 Saturn -51853-12-29 19:11 J -17217521.77 -17217521.70 -17217521.60 0.0294 0.0267
 Saturn -51852-08-16 11:45 J -17217292.19 -17217292.01 -17217291.81 0.0295 0.0110
 Mars -51847-04-06 04:18 J -17215598.48 -17215598.32 -17215598.17 0.1587 0.0751
 Neptune -51845-05-25 16:18 J -17214817.86 -17214817.82 -17214817.72 0.0089 0.0085
 Neptune -51844-01-06 04:33 J -17214592.44 -17214592.31 -17214592.15 0.0089 0.0066
 Neptune -51844-08-19 16:47 J -17214366.97 -17214366.80 -17214366.61 0.0089 0.0048
 Neptune -51843-04-02 04:47 J -17214141.50 -17214141.30 -17214141.10 0.0089 0.0030
 Jupiter -51843-04-06 05:45 J -17214137.45 -17214137.26 -17214137.06 0.0516 0.0121
 Neptune -51843-11-13 16:47 J -17213916.01 -17213915.80 -17213915.59 0.0089 0.0012
 Neptune -51842-06-27 04:33 J -17213690.52 -17213690.31 -17213690.09 0.0089 0.0006
 Neptune -51841-02-07 16:33 J -17213465.01 -17213464.81 -17213464.60 0.0089 0.0023
 Neptune -51841-09-20 04:18 J -17213239.50 -17213239.32 -17213239.12 0.0089 0.0041
 Neptune -51840-05-03 16:04 J -17213013.97 -17213013.83 -17213013.66 0.0089 0.0059
 Neptune -51840-12-15 03:49 J -17212788.42 -17212788.34 -17212788.21 0.0089 0.0077
 Uranus -51838-03-09 18:42 J -17212338.75 -17212338.72 -17212338.67 0.0140 0.0138
 Saturn -51838-06-14 20:37 J -17212241.77 -17212241.64 -17212241.50 0.0265 0.0205
 Uranus -51838-10-22 01:25 J -17212112.56 -17212112.44 -17212112.30 0.0141 0.0110
 Saturn -51837-01-30 04:04 J -17212012.53 -17212012.33 -17212012.12 0.0265 0.0086
 Uranus -51837-06-04 08:23 J -17211886.32 -17211886.15 -17211885.98 0.0141 0.0081
 Jupiter -51837-09-25 00:42 J -17211773.66 -17211773.47 -17211773.28 0.0513 0.0206
 Uranus -51836-01-16 15:21 J -17211660.05 -17211659.86 -17211659.66 0.0141 0.0052

Uranus	-51836-08-30 22:47 J	-17211433.75	-17211433.55	-17211433.34	0.0142	0.0023
Uranus	-51835-04-14 06:28 J	-17211207.44	-17211207.23	-17211207.02	0.0142	0.0007
Uranus	-51835-11-26 14:09 J	-17210981.11	-17210980.91	-17210980.70	0.0142	0.0037
Uranus	-51834-07-10 22:04 J	-17210754.76	-17210754.58	-17210754.38	0.0143	0.0068
Uranus	-51833-02-22 06:13 J	-17210528.38	-17210528.24	-17210528.07	0.0143	0.0098
Uranus	-51833-10-05 15:06 J	-17210301.95	-17210301.87	-17210301.77	0.0143	0.0129
Jupiter	-51832-12-10 05:30 J	-17209871.36	-17209871.27	-17209871.17	0.0519	0.0447
Pluto	-51828-06-30 04:47 J	-17208573.49	-17208573.30	-17208573.10	0.0077	0.0034
Pluto	-51827-02-10 13:11 J	-17208348.14	-17208347.95	-17208347.73	0.0076	0.0029
Jupiter	-51825-05-30 15:49 J	-17207508.05	-17207507.84	-17207507.64	0.0511	0.0133
Saturn	-51823-07-11 23:16 J	-17206735.66	-17206735.53	-17206735.39	0.0295	0.0222
Saturn	-51822-02-26 15:49 J	-17206506.01	-17206505.84	-17206505.66	0.0295	0.0154
Jupiter	-51819-04-08 14:09 J	-17205369.04	-17205368.91	-17205368.77	0.0513	0.0378
Mars	-51816-04-30 11:59 J	-17204251.17	-17204251.00	-17204250.83	0.1952	0.0213
Mars	-51815-04-04 22:18 J	-17203911.70	-17203911.57	-17203911.44	0.1585	0.1046
Jupiter	-51813-02-03 05:01 J	-17203242.36	-17203242.29	-17203242.21	0.0508	0.0475
Saturn	-51809-12-25 02:52 J	-17201455.55	-17201455.38	-17201455.20	0.0266	0.0158
Saturn	-51808-08-11 10:18 J	-17201226.25	-17201226.07	-17201225.87	0.0265	0.0134
Jupiter	-51808-12-12 17:01 J	-17201102.99	-17201102.79	-17201102.59	0.0515	0.0066
Jupiter	-51801-06-02 15:21 J	-17198738.98	-17198738.86	-17198738.72	0.0514	0.0396
Uranus	-51799-11-15 11:01 J	-17197843.14	-17197843.04	-17197842.91	0.0138	0.0118
Uranus	-51798-06-29 21:49 J	-17197616.75	-17197616.59	-17197616.41	0.0138	0.0089
Uranus	-51797-02-11 08:23 J	-17197390.35	-17197390.15	-17197389.94	0.0137	0.0060
Uranus	-51797-09-24 18:42 J	-17197163.94	-17197163.72	-17197163.50	0.0137	0.0031
Uranus	-51796-05-09 04:33 J	-17196937.54	-17196937.31	-17196937.09	0.0137	0.0002
Jupiter	-51796-08-17 18:57 J	-17196836.88	-17196836.71	-17196836.54	0.0518	0.0253
Uranus	-51796-12-21 13:54 J	-17196711.13	-17196710.92	-17196710.69	0.0137	0.0027
Uranus	-51795-08-04 23:16 J	-17196484.73	-17196484.53	-17196484.32	0.0136	0.0054
Uranus	-51794-03-19 08:23 J	-17196258.32	-17196258.15	-17196257.96	0.0136	0.0082
Uranus	-51794-10-31 17:30 J	-17196031.90	-17196031.77	-17196031.64	0.0136	0.0109

Saturn -51793-01-22 02:23 J -17195949.57 -17195949.40 -17195949.24 0.0294 0.0177
 Saturn -51793-09-07 18:28 J -17195719.87 -17195719.73 -17195719.57 0.0295 0.0198
 Jupiter -51789-02-06 07:25 J -17194473.40 -17194473.19 -17194472.98 0.0512 0.0059
 Mars -51781-02-01 16:04 J -17191555.97 -17191555.83 -17191555.69 0.1588 0.0969
 Saturn -51779-07-07 02:37 J -17190669.58 -17190669.39 -17190669.19 0.0266 0.0130
 Saturn -51778-02-21 10:04 J -17190440.24 -17190440.08 -17190439.89 0.0265 0.0161
 Jupiter -51778-10-11 23:45 J -17190207.68 -17190207.51 -17190207.33 0.0510 0.0273
 Jupiter -51772-08-20 03:35 J -17188068.52 -17188068.35 -17188068.17 0.0514 0.0249
 Saturn -51764-08-03 06:28 J -17185163.41 -17185163.23 -17185163.05 0.0295 0.0131
 Saturn -51763-03-20 22:47 J -17184933.66 -17184933.55 -17184933.43 0.0295 0.0243
 Neptune -51763-07-12 02:23 J -17184820.43 -17184820.40 -17184820.34 0.0088 0.0087
 Neptune -51762-02-22 16:33 J -17184594.93 -17184594.81 -17184594.65 0.0088 0.0068
 Neptune -51762-10-06 07:11 J -17184369.39 -17184369.20 -17184369.01 0.0088 0.0050
 Neptune -51761-05-18 21:06 J -17184143.83 -17184143.62 -17184143.40 0.0088 0.0031
 Neptune -51761-12-30 11:01 J -17183918.26 -17183918.04 -17183917.80 0.0088 0.0013
 Jupiter -51760-04-25 05:30 J -17183802.46 -17183802.27 -17183802.07 0.0516 0.0066
 Neptune -51760-08-13 01:25 J -17183692.67 -17183692.44 -17183692.21 0.0088 0.0006
 Neptune -51759-03-26 15:21 J -17183467.07 -17183466.86 -17183466.63 0.0088 0.0024
 Neptune -51759-11-07 05:16 J -17183241.47 -17183241.28 -17183241.07 0.0088 0.0043
 Neptune -51758-06-20 18:57 J -17183015.85 -17183015.71 -17183015.52 0.0088 0.0062
 Neptune -51757-02-01 09:21 J -17182790.19 -17182790.11 -17182789.99 0.0088 0.0079
 Uranus -51754-06-21 10:33 J -17181554.15 -17181554.06 -17181553.95 0.0140 0.0122
 Jupiter -51754-10-14 23:01 J -17181438.72 -17181438.54 -17181438.35 0.0513 0.0252
 Uranus -51753-02-02 17:16 J -17181327.93 -17181327.78 -17181327.62 0.0141 0.0094
 Uranus -51753-09-16 00:28 J -17181101.66 -17181101.48 -17181101.29 0.0141 0.0065
 Uranus -51752-04-30 07:40 J -17180875.38 -17180875.18 -17180874.97 0.0141 0.0036
 Uranus -51752-12-12 15:06 J -17180649.08 -17180648.87 -17180648.66 0.0142 0.0007
 Uranus -51751-07-26 22:47 J -17180422.76 -17180422.55 -17180422.34 0.0142 0.0023
 Mars -51750-02-25 14:52 J -17180209.02 -17180208.88 -17180208.73 0.1950 0.0988
 Uranus -51750-03-10 06:28 J -17180196.42 -17180196.23 -17180196.03 0.0142 0.0053

Uranus -51750-10-22 14:37 J -17179970.05 -17179969.89 -17179969.71 0.0143 0.0084
 Saturn -51749-01-17 09:21 J -17179883.32 -17179883.11 -17179882.90 0.0266 0.0081
 Mars -51749-01-31 10:18 J -17179869.22 -17179869.07 -17179868.91 0.1586 0.0839
 Uranus -51749-06-04 23:01 J -17179743.66 -17179743.54 -17179743.40 0.0143 0.0114
 Saturn -51749-09-02 16:47 J -17179653.93 -17179653.80 -17179653.66 0.0266 0.0210
 Jupiter -51749-12-29 06:28 J -17179536.35 -17179536.23 -17179536.09 0.0519 0.0390
 Moon -51748-04-02 00:13 J -17179442.65 -17179442.49 -17179442.33 0.2630 0.0481
 Earth -51748-04-02 05:59 J -17179442.41 -17179442.25 -17179442.08 0.2628 0.0186 *
 Jupiter -51742-06-19 14:09 J -17177173.11 -17177172.91 -17177172.70 0.0511 0.0087
 Jupiter -51736-04-27 15:35 J -17175033.95 -17175033.85 -17175033.74 0.0513 0.0434
 Saturn -51734-02-13 11:16 J -17174377.22 -17174377.03 -17174376.83 0.0294 0.0081
 Saturn -51734-10-01 03:21 J -17174147.38 -17174147.36 -17174147.33 0.0295 0.0292
 Jupiter -51730-02-22 06:28 J -17172907.34 -17172907.23 -17172907.10 0.0509 0.0416
 Jupiter -51725-12-31 17:45 J -17170767.95 -17170767.76 -17170767.57 0.0515 0.0123
 Saturn -51720-07-29 09:49 J -17169097.31 -17169097.09 -17169096.88 0.0266 0.0052
 Saturn -51719-03-15 17:16 J -17168867.86 -17168867.78 -17168867.68 0.0265 0.0238
 Jupiter -51718-06-22 18:13 J -17168403.83 -17168403.74 -17168403.65 0.0515 0.0461
 Mars -51716-11-29 04:04 J -17167513.45 -17167513.33 -17167513.21 0.1589 0.1177
 Uranus -51715-07-15 16:47 J -17167284.87 -17167284.80 -17167284.73 0.0138 0.0131
 Uranus -51714-02-27 03:21 J -17167058.50 -17167058.36 -17167058.19 0.0138 0.0102
 Uranus -51714-10-11 13:54 J -17166832.10 -17166831.92 -17166831.72 0.0138 0.0073
 Uranus -51713-05-25 00:28 J -17166605.69 -17166605.48 -17166605.27 0.0137 0.0044
 Jupiter -51713-09-05 17:59 J -17166501.93 -17166501.75 -17166501.56 0.0517 0.0201
 Uranus -51712-01-06 10:18 J -17166379.29 -17166379.07 -17166378.84 0.0137 0.0016
 Uranus -51712-08-20 20:09 J -17166152.88 -17166152.66 -17166152.43 0.0137 0.0014
 Uranus -51711-04-04 05:45 J -17165926.47 -17165926.26 -17165926.04 0.0136 0.0042
 Uranus -51711-11-16 15:06 J -17165700.06 -17165699.87 -17165699.67 0.0136 0.0069
 Uranus -51710-06-30 23:45 J -17165473.65 -17165473.51 -17165473.33 0.0136 0.0097
 Uranus -51709-02-12 08:37 J -17165247.21 -17165247.14 -17165247.03 0.0136 0.0124
 Jupiter -51706-02-25 09:06 J -17164138.33 -17164138.12 -17164137.92 0.0512 0.0120

Saturn -51705-08-25 15:21 J -17163591.06 -17163590.86 -17163590.66 0.0295 0.0035
 Jupiter -51695-10-30 22:04 J -17159872.76 -17159872.58 -17159872.39 0.0509 0.0226
 Saturn -51690-02-08 17:01 J -17158311.01 -17158310.79 -17158310.57 0.0266 0.0003
 Jupiter -51689-09-08 03:35 J -17157733.50 -17157733.35 -17157733.19 0.0514 0.0301
 Mars -51685-12-22 18:28 J -17156166.81 -17156166.73 -17156166.66 0.1949 0.1732
 Mars -51684-11-27 22:18 J -17155826.73 -17155826.57 -17155826.40 0.1587 0.0626
 Neptune -51680-04-09 16:04 J -17154597.93 -17154597.83 -17154597.69 0.0089 0.0074
 Neptune -51680-11-21 04:04 J -17154372.48 -17154372.33 -17154372.15 0.0089 0.0056
 Neptune -51679-07-04 16:04 J -17154147.01 -17154146.83 -17154146.63 0.0089 0.0038
 Neptune -51678-02-15 04:04 J -17153921.53 -17153921.33 -17153921.12 0.0089 0.0021
 Neptune -51678-09-28 16:04 J -17153696.04 -17153695.83 -17153695.61 0.0089 0.0003
 Neptune -51677-05-11 04:04 J -17153470.54 -17153470.33 -17153470.12 0.0089 0.0015
 Jupiter -51677-05-14 05:30 J -17153467.46 -17153467.27 -17153467.07 0.0516 0.0016
 Neptune -51677-12-22 15:49 J -17153245.03 -17153244.84 -17153244.63 0.0089 0.0033
 Neptune -51676-08-05 03:35 J -17153019.50 -17153019.35 -17153019.15 0.0089 0.0052
 Saturn -51675-03-07 22:18 J -17152804.78 -17152804.57 -17152804.37 0.0294 0.0021
 Neptune -51675-03-18 16:04 J -17152793.97 -17152793.83 -17152793.70 0.0089 0.0069
 Neptune -51675-10-30 03:35 J -17152568.39 -17152568.35 -17152568.29 0.0089 0.0087
 Jupiter -51671-11-02 23:45 J -17151103.68 -17151103.51 -17151103.34 0.0514 0.0308
 Uranus -51670-02-18 20:09 J -17150995.71 -17150995.66 -17150995.58 0.0140 0.0133
 Uranus -51670-10-03 02:52 J -17150769.51 -17150769.38 -17150769.23 0.0140 0.0105
 Uranus -51669-05-16 09:49 J -17150543.26 -17150543.09 -17150542.91 0.0141 0.0077
 Uranus -51669-12-28 17:01 J -17150316.99 -17150316.79 -17150316.59 0.0141 0.0048
 Uranus -51668-08-12 00:13 J -17150090.69 -17150090.49 -17150090.28 0.0141 0.0020
 Uranus -51667-03-26 07:54 J -17149864.38 -17149864.17 -17149863.96 0.0142 0.0010
 Uranus -51667-11-07 15:35 J -17149638.05 -17149637.85 -17149637.65 0.0142 0.0040
 Uranus -51666-06-21 23:16 J -17149411.70 -17149411.53 -17149411.33 0.0142 0.0071
 Pluto -51666-08-03 01:25 J -17149369.63 -17149369.44 -17149369.22 0.0067 0.0026
 Jupiter -51665-01-18 06:57 J -17149201.36 -17149201.21 -17149201.06 0.0518 0.0334
 Uranus -51665-02-03 07:54 J -17149185.32 -17149185.17 -17149185.02 0.0143 0.0100

Pluto -51665-03-15 06:57 J -17149144.41 -17149144.21 -17149143.98 0.0068 0.0019
 Uranus -51665-09-16 16:33 J -17148958.89 -17148958.81 -17148958.72 0.0143 0.0130
 Pluto -51665-10-26 12:13 J -17148919.04 -17148918.99 -17148918.88 0.0068 0.0064
 Saturn -51661-01-04 10:04 J -17147754.11 -17147754.08 -17147754.04 0.0266 0.0263
 Saturn -51661-08-20 18:13 J -17147524.96 -17147524.74 -17147524.52 0.0266 0.0029
 Jupiter -51659-07-08 15:21 J -17146838.07 -17146837.86 -17146837.65 0.0511 0.0028
 Jupiter -51653-05-16 13:40 J -17144698.99 -17144698.93 -17144698.86 0.0512 0.0479
 Mars -51650-09-26 15:49 J -17143470.92 -17143470.84 -17143470.75 0.1590 0.1396
 Jupiter -51647-03-13 07:11 J -17142572.34 -17142572.20 -17142572.04 0.0509 0.0359
 Saturn -51646-09-18 02:52 J -17142018.58 -17142018.38 -17142018.18 0.0295 0.0069
 Jupiter -51641-01-20 15:21 J -17140433.04 -17140432.86 -17140432.67 0.0515 0.0168
 Jupiter -51635-07-11 15:35 J -17138068.89 -17138068.85 -17138068.80 0.0514 0.0502
 Saturn -51632-07-16 17:16 J -17136967.90 -17136967.78 -17136967.64 0.0267 0.0213
 Saturn -51631-03-03 01:40 J -17136738.64 -17136738.43 -17136738.22 0.0266 0.0080
 Uranus -51631-10-27 08:09 J -17136500.27 -17136500.16 -17136500.03 0.0138 0.0115
 Uranus -51630-06-10 18:57 J -17136273.88 -17136273.71 -17136273.53 0.0138 0.0086
 Jupiter -51630-09-25 16:18 J -17136167.01 -17136166.82 -17136166.63 0.0518 0.0155
 Uranus -51629-01-23 05:16 J -17136047.48 -17136047.28 -17136047.07 0.0138 0.0058
 Uranus -51629-09-05 15:21 J -17135821.07 -17135820.86 -17135820.63 0.0137 0.0030
 Uranus -51628-04-20 01:40 J -17135594.66 -17135594.43 -17135594.21 0.0137 0.0001
 Uranus -51628-12-02 11:16 J -17135368.25 -17135368.03 -17135367.81 0.0137 0.0028
 Uranus -51627-07-16 20:37 J -17135141.84 -17135141.64 -17135141.43 0.0136 0.0056
 Moon -51627-10-04 17:45 J -17135061.89 -17135061.76 -17135061.62 0.2711 0.0896
 Earth -51627-10-04 20:52 J -17135061.75 -17135061.63 -17135061.50 0.2705 0.1574 *
 Uranus -51626-02-28 05:59 J -17134915.42 -17134915.25 -17134915.07 0.0136 0.0083
 Uranus -51626-10-12 15:06 J -17134689.00 -17134688.87 -17134688.74 0.0136 0.0110
 Jupiter -51623-03-16 05:59 J -17133803.45 -17133803.25 -17133803.05 0.0512 0.0160
 Earth -51619-10-02 15:06 J -17132141.97 -17132141.87 -17132141.77 0.2704 0.2056
 Moon -51619-10-02 15:35 J -17132141.95 -17132141.85 -17132141.75 0.2711 0.1994 *
 Jupiter -51618-05-31 17:01 J -17131900.86 -17131900.79 -17131900.71 0.0520 0.0478

Mars -51618-09-25 10:33 J -17131784.24 -17131784.06 -17131783.89 0.1588 0.0418
 Saturn -51617-08-12 19:11 J -17131461.80 -17131461.70 -17131461.57 0.0293 0.0242
 Saturn -51616-03-30 11:01 J -17131232.22 -17131232.04 -17131231.85 0.0294 0.0128
 Jupiter -51612-11-18 20:52 J -17129537.83 -17129537.63 -17129537.43 0.0510 0.0176
 Jupiter -51606-09-28 02:37 J -17127398.53 -17127398.39 -17127398.25 0.0513 0.0350
 Saturn -51602-01-26 20:09 J -17126181.82 -17126181.66 -17126181.50 0.0266 0.0178
 Saturn -51602-09-13 04:18 J -17125952.52 -17125952.32 -17125952.13 0.0266 0.0114
 Jupiter -51600-07-24 13:25 J -17125271.96 -17125271.94 -17125271.91 0.0508 0.0501
 Neptune -51598-05-27 02:09 J -17124600.50 -17124600.41 -17124600.27 0.0088 0.0076
 Neptune -51597-01-07 16:18 J -17124374.97 -17124374.82 -17124374.62 0.0088 0.0058
 Neptune -51597-08-20 06:57 J -17124149.41 -17124149.21 -17124149.00 0.0088 0.0038
 Neptune -51596-04-02 21:06 J -17123923.84 -17123923.62 -17123923.39 0.0088 0.0020
 Neptune -51596-11-14 11:16 J -17123698.26 -17123698.03 -17123697.80 0.0088 0.0002
 Neptune -51595-06-28 01:11 J -17123472.66 -17123472.45 -17123472.22 0.0088 0.0017
 Neptune -51594-02-08 15:21 J -17123247.06 -17123246.86 -17123246.64 0.0088 0.0035
 Jupiter -51594-06-03 03:06 J -17123132.57 -17123132.37 -17123132.17 0.0516 0.0031
 Neptune -51594-09-22 05:30 J -17123021.44 -17123021.27 -17123021.08 0.0088 0.0053
 Neptune -51593-05-04 19:40 J -17122795.81 -17122795.68 -17122795.55 0.0088 0.0071
 Jupiter -51588-11-21 23:30 J -17120768.67 -17120768.52 -17120768.37 0.0514 0.0362
 Saturn -51587-02-23 00:13 J -17120675.64 -17120675.49 -17120675.34 0.0294 0.0193
 Saturn -51587-10-10 15:49 J -17120446.00 -17120445.84 -17120445.67 0.0295 0.0177
 Mars -51587-10-19 17:59 J -17120436.87 -17120436.75 -17120436.63 0.1952 0.1371
 Uranus -51586-06-02 12:42 J -17120211.08 -17120210.97 -17120210.85 0.0140 0.0117
 Uranus -51585-01-14 19:25 J -17119984.85 -17119984.69 -17119984.53 0.0141 0.0089
 Uranus -51585-08-28 02:23 J -17119758.58 -17119758.40 -17119758.20 0.0141 0.0061
 Uranus -51584-04-11 09:35 J -17119532.30 -17119532.10 -17119531.89 0.0141 0.0032
 Uranus -51584-11-23 17:01 J -17119306.00 -17119305.79 -17119305.57 0.0142 0.0004
 Uranus -51583-07-08 00:42 J -17119079.68 -17119079.47 -17119079.26 0.0142 0.0027
 Jupiter -51582-02-06 03:35 J -17118866.51 -17118866.35 -17118866.19 0.0518 0.0292
 Uranus -51582-02-19 08:37 J -17118853.33 -17118853.14 -17118852.95 0.0142 0.0057

Uranus -51582-10-03 16:47 J -17118626.96 -17118626.80 -17118626.63 0.0142 0.0087
 Uranus -51581-05-17 00:57 J -17118400.56 -17118400.46 -17118400.32 0.0143 0.0117
 Pluto -51580-06-02 11:59 J -17118019.18 -17118019.00 -17118018.81 0.0077 0.0041
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 Jupiter -51576-07-27 12:42 J -17116503.18 -17116502.97 -17116502.76 0.0511 0.0015
 Saturn -51573-08-08 03:49 J -17115395.54 -17115395.34 -17115395.15 0.0267 0.0127
 Saturn -51572-03-25 11:59 J -17115166.17 -17115166.00 -17115165.83 0.0266 0.0166
 Jupiter -51564-04-01 03:49 J -17112237.50 -17112237.34 -17112237.17 0.0508 0.0318
 Jupiter -51558-02-08 12:57 J -17110098.14 -17110097.96 -17110097.78 0.0515 0.0209
 Saturn -51558-09-05 10:18 J -17109889.25 -17109889.07 -17109888.88 0.0294 0.0128
 Saturn -51557-04-22 02:09 J -17109659.53 -17109659.41 -17109659.30 0.0294 0.0241
 Mars -51552-07-22 22:18 J -17107741.75 -17107741.57 -17107741.39 0.1588 0.0204
 Uranus -51547-06-26 13:25 J -17105942.00 -17105941.94 -17105941.84 0.0138 0.0129
 Jupiter -51547-10-14 14:37 J -17105832.08 -17105831.89 -17105831.69 0.0517 0.0107
 Uranus -51546-02-08 00:42 J -17105715.62 -17105715.47 -17105715.31 0.0138 0.0099
 Uranus -51546-09-22 11:01 J -17105489.22 -17105489.04 -17105488.83 0.0138 0.0071
 Uranus -51545-05-05 21:35 J -17105262.81 -17105262.60 -17105262.38 0.0137 0.0042
 Uranus -51545-12-18 07:40 J -17105036.40 -17105036.18 -17105035.95 0.0137 0.0014
 Uranus -51544-08-01 17:30 J -17104809.99 -17104809.77 -17104809.54 0.0137 0.0015
 Saturn -51543-02-18 07:25 J -17104609.40 -17104609.19 -17104608.98 0.0266 0.0089
 Uranus -51543-03-16 03:21 J -17104583.57 -17104583.36 -17104583.14 0.0136 0.0043
 Saturn -51543-10-05 15:21 J -17104380.00 -17104379.86 -17104379.71 0.0266 0.0202
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 Uranus -51541-01-24 06:28 J -17103904.30 -17103904.23 -17103904.12 0.0136 0.0125
 Jupiter -51540-04-04 04:33 J -17103468.50 -17103468.31 -17103468.12 0.0513 0.0210
 Jupiter -51535-06-19 14:09 J -17101566.01 -17101565.91 -17101565.80 0.0519 0.0434
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 Saturn -51528-03-17 15:06 J -17099103.06 -17099102.87 -17099102.67 0.0294 0.0080
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Jupiter -51523-10-16 22:18 J -17097063.69 -17097063.57 -17097063.44 0.0513 0.0386
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 Jupiter -51517-08-12 11:01 J -17094937.13 -17094937.04 -17094936.95 0.0507 0.0458
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 Uranus -51462-05-22 17:01 J -17074930.96 -17074930.79 -17074930.60 0.0138 0.0084
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 Uranus -51458-09-23 13:25 J -17073346.05 -17073345.94 -17073345.80 0.0136 0.0112
 Jupiter -51457-04-23 01:25 J -17073133.62 -17073133.44 -17073133.25 0.0512 0.0251
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 Jupiter -51440-11-04 18:13 J -17066728.85 -17066728.74 -17066728.63 0.0514 0.0422
 Neptune -51434-08-28 12:13 J -17064606.05 -17064605.99 -17064605.89 0.0088 0.0082
 Jupiter -51434-09-01 05:59 J -17064602.36 -17064602.25 -17064602.13 0.0508 0.0421
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 Saturn -51426-08-19 00:28 J -17061693.61 -17061693.48 -17061693.32 0.0267 0.0198
 Saturn -51425-04-04 08:37 J -17061464.34 -17061464.14 -17061463.92 0.0266 0.0094
 Jupiter -51422-12-30 16:04 J -17060098.94 -17060098.83 -17060098.72 0.0514 0.0441
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 Uranus -51419-09-30 07:54 J -17059094.17 -17059094.17 -17059094.16 0.0140 0.0140
 Uranus -51418-05-14 14:37 J -17058868.02 -17058867.89 -17058867.77 0.0140 0.0113
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 Uranus -51417-08-09 04:18 J -17058415.51 -17058415.32 -17058415.12 0.0141 0.0057
 Pluto -51417-09-28 19:25 J -17058364.77 -17058364.69 -17058364.55 0.0068 0.0059
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 Saturn -51411-09-15 06:42 J -17056187.35 -17056187.22 -17056187.08 0.0294 0.0218
 Saturn -51410-05-02 22:33 J -17055957.74 -17055957.56 -17055957.39 0.0295 0.0150
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 Jupiter -51392-03-18 04:04 J -17049428.49 -17049428.33 -17049428.16 0.0515 0.0282
 Mars -51389-04-09 04:04 J -17048310.48 -17048310.33 -17048310.18 0.1946 0.0891
 Mars -51388-03-15 17:01 J -17047969.81 -17047969.79 -17047969.78 0.1588 0.1582
 Earth -51384-10-05 00:42 J -17046305.59 -17046305.47 -17046305.35 0.2704 0.1703
 Moon -51384-10-05 05:16 J -17046305.33 -17046305.28 -17046305.22 0.2701 0.2517
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 Saturn -51381-11-12 09:49 J -17045171.22 -17045171.09 -17045170.94 0.0294 0.0217
 Jupiter -51381-11-21 05:45 J -17045162.46 -17045162.26 -17045162.06 0.0517 0.0034
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Neptune -51352-10-13 17:16 J -17034608.81 -17034608.78 -17034608.73 0.0089 0.0087
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 Jupiter -51291-05-31 19:40 J -17012463.83 -17012463.68 -17012463.52 0.0513 0.0340
 Uranus -51291-06-08 18:28 J -17012455.92 -17012455.73 -17012455.52 0.0136 0.0059
 Uranus -51290-01-21 03:49 J -17012229.50 -17012229.34 -17012229.16 0.0136 0.0086
 Uranus -51290-09-04 12:42 J -17012003.07 -17012002.97 -17012002.82 0.0136 0.0113
 Mars -51289-11-08 22:18 J -17011571.73 -17011571.57 -17011571.41 0.1593 0.0640
 Jupiter -51286-08-16 04:33 J -17010561.47 -17010561.31 -17010561.15 0.0519 0.0307
 Jupiter -51279-02-03 11:16 J -17008198.24 -17008198.03 -17008197.82 0.0510 0.0006
 Saturn -51279-08-28 23:01 J -17007991.56 -17007991.54 -17007991.50 0.0267 0.0264
 Saturn -51278-04-15 07:25 J -17007762.41 -17007762.19 -17007761.97 0.0266 0.0027
 Jupiter -51274-12-13 11:01 J -17006059.08 -17006059.04 -17006058.99 0.0513 0.0499
 Neptune -51269-07-12 12:57 J -17004386.09 -17004385.96 -17004385.82 0.0088 0.0070
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Jupiter -51268-10-09 02:23 J -17003932.56 -17003932.40 -17003932.23 0.0508 0.0325
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 Saturn -51263-05-12 20:23 J -17002255.85 -17002255.65 -17002255.45 0.0294 0.0061
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 Saturn -51234-11-22 21:35 J -16991469.79 -16991469.60 -16991469.40 0.0294 0.0099
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 Saturn -51220-09-20 09:35 J -16986419.26 -16986419.10 -16986418.93 0.0266 0.0179
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 Saturn -51205-10-17 13:54 J -16980913.05 -16980912.92 -16980912.77 0.0294 0.0211
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 Neptune -51186-04-11 06:13 J -16974163.39 -16974163.24 -16974163.07 0.0089 0.0059
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 Neptune -51185-07-05 05:59 J -16973712.45 -16973712.25 -16973712.04 0.0089 0.0023
 Jupiter -51185-10-27 23:30 J -16973597.70 -16973597.52 -16973597.35 0.0508 0.0281

Neptune -51184-02-15 17:45 J -16973486.97 -16973486.76 -16973486.54 0.0089 0.0007
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 Neptune -51183-05-12 17:30 J -16973035.97 -16973035.77 -16973035.56 0.0089 0.0029
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 Saturn -51175-04-29 14:37 J -16970127.04 -16970126.89 -16970126.71 0.0294 0.0174
 Saturn -51175-12-15 06:28 J -16969897.38 -16969897.23 -16969897.07 0.0295 0.0192
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 Saturn -51160-05-30 02:23 J -16964617.55 -16964617.40 -16964617.24 0.0266 0.0190
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 Jupiter -51149-07-05 17:30 J -16960562.98 -16960562.77 -16960562.56 0.0509 0.0082

Saturn -51146-11-09 21:49 J -16959340.77 -16959340.59 -16959340.40 0.0294 0.0121
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 Jupiter -51143-05-14 23:30 J -16958423.62 -16958423.52 -16958423.40 0.0514 0.0425
 Moon -51141-10-04 23:45 J -16957549.65 -16957549.51 -16957549.38 0.2704 0.1211
 Earth -51141-10-05 04:47 J -16957549.41 -16957549.30 -16957549.19 0.2704 0.1890 *
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 Moon -51133-10-02 19:25 J -16954629.80 -16954629.69 -16954629.58 0.2708 0.1797
 Earth -51133-10-02 22:47 J -16954629.66 -16954629.55 -16954629.43 0.2703 0.1740 *
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 Jupiter -51125-07-08 16:47 J -16951793.91 -16951793.80 -16951793.70 0.0513 0.0437
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 Neptune -51021-10-06 19:25 J -16913717.89 -16913717.69 -16913717.49 0.0089 0.0030

Neptune -51020-05-20 07:11 J -16913492.41 -16913492.20 -16913491.98 0.0089 0.0012

Neptune -51020-12-31 19:11 J -16913266.91 -16913266.70 -16913266.49 0.0089 0.0006

Earth -51019-04-03 00:13 J -16913174.65 -16913174.49 -16913174.33 0.2630 0.0578

Moon -51019-04-03 02:09 J -16913174.56 -16913174.41 -16913174.25 0.2636 0.0070 *

Neptune -51019-08-14 06:57 J -16913041.41 -16913041.21 -16913041.00 0.0089 0.0023

Jupiter -51019-12-06 00:13 J -16912927.69 -16912927.49 -16912927.29 0.0508 0.0171

Neptune -51018-03-27 18:57 J -16912815.90 -16912815.71 -16912815.52 0.0089 0.0041

Neptune -51018-11-08 06:28 J -16912590.38 -16912590.23 -16912590.06 0.0089 0.0058

Neptune -51017-06-20 18:28 J -16912364.83 -16912364.73 -16912364.61 0.0089 0.0076

Saturn -51014-10-23 06:28 J -16911145.38 -16911145.23 -16911145.07 0.0267 0.0186

Saturn -51013-06-08 14:37 J -16910916.09 -16910915.89 -16910915.68 0.0266 0.0102

Jupiter -51013-10-14 15:49 J -16910787.98 -16910787.84 -16910787.70 0.0515 0.0361

Jupiter -51007-08-10 17:16 J -16908661.82 -16908661.78 -16908661.72 0.0506 0.0489

Jupiter -51001-06-19 17:45 J -16906521.96 -16906521.76 -16906521.57 0.0517 0.0050

51ST MILLENNIUM BCE

This is a list of transits of Venus in the 51st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-50999-11-18 17:59 J	-16905639.80	-16905639.75	-16905639.68	0.0293	0.0279		
Uranus	-50999-12-04 22:47 J	-16905623.65	-16905623.55	-16905623.43	0.0140	0.0118		
Saturn	-50998-07-06 09:21 J	-16905410.30	-16905410.11	-16905409.91	0.0294	0.0082		
Uranus	-50998-07-19 05:30 J	-16905397.43	-16905397.27	-16905397.11	0.0140	0.0092		
Uranus	-50997-03-01 11:59 J	-16905171.18	-16905171.00	-16905170.80	0.0141	0.0065		

Uranus -50997-10-13 19:11 J -16904944.90 -16904944.70 -16904944.50 0.0141 0.0037
 Uranus -50996-05-28 02:09 J -16904718.62 -16904718.41 -16904718.20 0.0141 0.0010
 Uranus -50995-01-09 09:35 J -16904492.31 -16904492.10 -16904491.89 0.0142 0.0019
 Uranus -50995-08-23 17:16 J -16904265.98 -16904265.78 -16904265.58 0.0142 0.0047
 Jupiter -50995-12-09 03:06 J -16904158.51 -16904158.37 -16904158.21 0.0513 0.0361
 Uranus -50994-04-07 00:57 J -16904039.64 -16904039.46 -16904039.28 0.0142 0.0076
 Uranus -50994-11-19 08:37 J -16903813.27 -16903813.14 -16903812.98 0.0143 0.0105
 Mars -50993-02-25 17:01 J -16903714.97 -16903714.79 -16903714.62 0.1594 0.0325
 Uranus -50993-07-02 16:47 J -16903586.86 -16903586.80 -16903586.71 0.0143 0.0133
 Jupiter -50989-02-23 18:42 J -16902255.89 -16902255.72 -16902255.55 0.0519 0.0268
 Saturn -50984-05-04 05:30 J -16900359.44 -16900359.27 -16900359.09 0.0267 0.0161
 Saturn -50984-12-19 13:40 J -16900130.11 -16900129.93 -16900129.73 0.0266 0.0127
 Jupiter -50983-08-13 19:54 J -16899892.88 -16899892.67 -16899892.46 0.0510 0.0034
 Jupiter -50971-04-18 11:59 J -16895627.16 -16895627.00 -16895626.82 0.0508 0.0292
 Saturn -50969-05-30 21:49 J -16894853.70 -16894853.59 -16894853.46 0.0293 0.0235
 Saturn -50968-01-15 13:25 J -16894624.12 -16894623.94 -16894623.75 0.0294 0.0126
 Jupiter -50965-02-26 04:18 J -16893487.49 -16893487.32 -16893487.14 0.0516 0.0233
 Mars -50962-03-19 21:49 J -16892369.70 -16892369.59 -16892369.48 0.1940 0.1473
 Uranus -50960-12-28 10:47 J -16891355.11 -16891355.05 -16891354.99 0.0139 0.0133
 Uranus -50959-08-11 21:35 J -16891128.73 -16891128.60 -16891128.44 0.0138 0.0105
 Uranus -50958-03-26 08:37 J -16890902.31 -16890902.14 -16890901.94 0.0138 0.0077
 Uranus -50958-11-07 19:40 J -16890675.89 -16890675.68 -16890675.47 0.0138 0.0049
 Uranus -50957-06-21 05:59 J -16890449.47 -16890449.25 -16890449.03 0.0137 0.0021
 Uranus -50956-02-02 16:18 J -16890223.05 -16890222.82 -16890222.60 0.0137 0.0006
 Uranus -50956-09-17 01:54 J -16889996.63 -16889996.42 -16889996.19 0.0137 0.0034
 Uranus -50955-05-01 11:45 J -16889770.20 -16889770.01 -16889769.80 0.0136 0.0060
 Saturn -50955-11-14 11:30 J -16889573.21 -16889573.02 -16889572.81 0.0267 0.0115
 Uranus -50955-12-13 21:21 J -16889543.78 -16889543.61 -16889543.44 0.0136 0.0087
 Saturn -50954-07-01 19:54 J -16889343.83 -16889343.67 -16889343.50 0.0266 0.0174
 Uranus -50954-07-28 05:59 J -16889317.35 -16889317.25 -16889317.11 0.0136 0.0113

Jupiter -50954-11-01 06:28 J -16889221.42 -16889221.23 -16889221.03 0.0519 0.0081
 Jupiter -50947-04-21 10:18 J -16886858.25 -16886858.07 -16886857.87 0.0511 0.0219
 Jupiter -50942-07-07 07:25 J -16884955.31 -16884955.19 -16884955.06 0.0521 0.0400
 Neptune -50940-01-15 09:49 J -16884397.14 -16884397.09 -16884396.99 0.0088 0.0084
 Neptune -50940-08-29 00:13 J -16884171.62 -16884171.49 -16884171.32 0.0088 0.0065
 Saturn -50940-12-10 23:45 J -16884067.65 -16884067.51 -16884067.35 0.0293 0.0195
 Neptune -50939-04-11 14:23 J -16883946.07 -16883945.90 -16883945.69 0.0088 0.0047
 Saturn -50939-07-28 15:06 J -16883838.03 -16883837.87 -16883837.70 0.0294 0.0164
 Neptune -50939-11-23 04:33 J -16883720.51 -16883720.31 -16883720.08 0.0088 0.0029
 Neptune -50938-07-06 19:11 J -16883494.93 -16883494.70 -16883494.48 0.0088 0.0011
 Neptune -50937-02-17 09:21 J -16883269.34 -16883269.11 -16883268.88 0.0088 0.0008
 Neptune -50937-09-29 23:16 J -16883043.74 -16883043.53 -16883043.30 0.0088 0.0026
 Neptune -50936-05-13 13:11 J -16882818.13 -16882817.95 -16882817.73 0.0088 0.0045
 Jupiter -50936-12-25 03:21 J -16882592.57 -16882592.36 -16882592.16 0.0509 0.0107
 Neptune -50936-12-25 03:21 J -16882592.50 -16882592.36 -16882592.18 0.0088 0.0062 *
 Neptune -50935-08-07 17:30 J -16882366.84 -16882366.77 -16882366.66 0.0088 0.0080
 Jupiter -50930-11-03 17:30 J -16880452.88 -16880452.77 -16880452.65 0.0514 0.0420
 Mars -50928-12-23 04:33 J -16879672.49 -16879672.31 -16879672.13 0.1595 0.0107
 Saturn -50925-05-26 10:33 J -16878787.26 -16878787.06 -16878786.84 0.0267 0.0089
 Saturn -50924-01-10 19:11 J -16878557.84 -16878557.70 -16878557.55 0.0266 0.0199
 Jupiter -50924-08-29 21:06 J -16878326.74 -16878326.62 -16878326.51 0.0507 0.0423
 Pluto -50922-05-12 03:06 J -16877706.56 -16877706.37 -16877706.15 0.0067 0.0027
 Pluto -50922-12-23 08:37 J -16877481.34 -16877481.14 -16877480.91 0.0068 0.0018
 Pluto -50921-08-04 13:54 J -16877255.99 -16877255.92 -16877255.81 0.0068 0.0062
 Jupiter -50918-07-09 17:59 J -16876186.95 -16876186.75 -16876186.56 0.0517 0.0105
 Uranus -50915-08-04 07:40 J -16875065.24 -16875065.18 -16875065.09 0.0140 0.0130
 Uranus -50914-03-18 13:54 J -16874839.04 -16874838.92 -16874838.76 0.0140 0.0104
 Uranus -50914-10-30 20:37 J -16874612.80 -16874612.64 -16874612.45 0.0140 0.0077
 Uranus -50913-06-13 03:35 J -16874386.54 -16874386.35 -16874386.15 0.0141 0.0050
 Uranus -50912-01-25 10:47 J -16874160.26 -16874160.05 -16874159.84 0.0141 0.0022

Uranus -50912-09-08 17:59 J -16873933.96 -16873933.75 -16873933.53 0.0141 0.0006
 Jupiter -50912-12-28 05:59 J -16873823.36 -16873823.25 -16873823.13 0.0513 0.0424
 Uranus -50911-04-23 01:25 J -16873707.64 -16873707.44 -16873707.23 0.0142 0.0034
 Uranus -50911-12-05 08:52 J -16873481.31 -16873481.13 -16873480.93 0.0142 0.0062
 Saturn -50910-06-23 03:06 J -16873281.53 -16873281.37 -16873281.19 0.0293 0.0153
 Uranus -50910-07-19 16:47 J -16873254.95 -16873254.80 -16873254.63 0.0142 0.0091
 Saturn -50909-02-07 18:28 J -16873051.86 -16873051.73 -16873051.58 0.0294 0.0207
 Uranus -50909-03-02 00:57 J -16873028.57 -16873028.46 -16873028.34 0.0143 0.0119
 Jupiter -50906-03-14 18:57 J -16871920.89 -16871920.71 -16871920.53 0.0520 0.0212
 Jupiter -50900-09-01 18:57 J -16869557.92 -16869557.71 -16869557.51 0.0510 0.0082
 Earth -50898-10-06 08:23 J -16868793.25 -16868793.15 -16868793.05 0.2703 0.2017
 Moon -50898-10-06 12:57 J -16868793.03 -16868792.96 -16868792.89 0.2706 0.2338
 Saturn -50896-12-06 17:01 J -16868001.01 -16868000.79 -16868000.57 0.0267 0.0041
 Saturn -50895-07-24 01:11 J -16867771.52 -16867771.45 -16867771.36 0.0267 0.0246
 Earth -50890-10-04 02:37 J -16865873.52 -16865873.39 -16865873.27 0.2702 0.1585
 Moon -50890-10-04 07:25 J -16865873.33 -16865873.19 -16865873.05 0.2700 0.1226 *
 Jupiter -50888-05-07 11:16 J -16865292.21 -16865292.03 -16865291.84 0.0507 0.0243
 Jupiter -50882-03-17 06:57 J -16863152.37 -16863152.21 -16863152.05 0.0516 0.0293
 Saturn -50880-01-02 06:28 J -16862495.41 -16862495.23 -16862495.03 0.0292 0.0109
 Saturn -50880-08-19 21:49 J -16862265.69 -16862265.59 -16862265.48 0.0293 0.0249
 Uranus -50875-04-11 03:35 J -16860570.45 -16860570.35 -16860570.22 0.0139 0.0118
 Uranus -50875-11-23 14:37 J -16860344.05 -16860343.89 -16860343.71 0.0138 0.0090
 Uranus -50874-07-08 01:25 J -16860117.63 -16860117.44 -16860117.23 0.0138 0.0062
 Uranus -50873-02-19 12:13 J -16859891.21 -16859890.99 -16859890.77 0.0138 0.0034
 Uranus -50873-10-02 22:33 J -16859664.78 -16859664.56 -16859664.34 0.0137 0.0006
 Uranus -50872-05-17 08:23 J -16859438.37 -16859438.15 -16859437.92 0.0137 0.0021
 Uranus -50872-12-29 17:59 J -16859211.95 -16859211.75 -16859211.53 0.0137 0.0048
 Uranus -50871-08-13 03:21 J -16858985.53 -16858985.36 -16858985.15 0.0136 0.0075
 Jupiter -50871-11-20 08:23 J -16858886.34 -16858886.15 -16858885.95 0.0518 0.0022
 Uranus -50870-03-27 12:57 J -16858759.10 -16858758.96 -16858758.80 0.0136 0.0100

Uranus -50870-11-08 21:49 J -16858532.65 -16858532.59 -16858532.49 0.0136 0.0126
 Saturn -50866-06-18 16:18 J -16857215.04 -16857214.82 -16857214.60 0.0267 0.0016
 Mars -50864-01-13 21:49 J -16856639.68 -16856639.59 -16856639.50 0.1944 0.1598
 Jupiter -50864-05-10 13:54 J -16856523.09 -16856522.92 -16856522.74 0.0512 0.0285
 Mars -50862-10-20 16:47 J -16855629.98 -16855629.80 -16855629.62 0.1596 0.0105
 Jupiter -50859-07-26 07:40 J -16854620.32 -16854620.18 -16854620.03 0.0520 0.0344
 Neptune -50858-03-03 20:23 J -16854399.66 -16854399.65 -16854399.60 0.0089 0.0089
 Neptune -50858-10-15 08:09 J -16854174.26 -16854174.16 -16854174.00 0.0089 0.0072
 Neptune -50857-05-27 20:23 J -16853948.81 -16853948.65 -16853948.47 0.0089 0.0054
 Neptune -50856-01-08 08:09 J -16853723.34 -16853723.16 -16853722.95 0.0089 0.0037
 Neptune -50856-08-21 20:37 J -16853497.85 -16853497.64 -16853497.43 0.0089 0.0018
 Neptune -50855-04-04 08:23 J -16853272.36 -16853272.15 -16853271.93 0.0089 0.0002
 Neptune -50855-11-15 20:23 J -16853046.86 -16853046.65 -16853046.44 0.0089 0.0017
 Neptune -50854-06-29 07:54 J -16852821.36 -16852821.17 -16852820.96 0.0089 0.0034
 Neptune -50853-02-09 19:54 J -16852595.84 -16852595.67 -16852595.49 0.0089 0.0052
 Neptune -50853-09-22 07:25 J -16852370.30 -16852370.19 -16852370.04 0.0089 0.0070
 Jupiter -50852-01-13 05:45 J -16852257.47 -16852257.26 -16852257.05 0.0509 0.0043
 Neptune -50852-05-05 19:25 J -16852144.72 -16852144.69 -16852144.62 0.0089 0.0087
 Saturn -50851-07-15 10:04 J -16851709.28 -16851709.08 -16851708.88 0.0293 0.0066
 Saturn -50850-03-02 00:57 J -16851479.46 -16851479.46 -16851479.43 0.0294 0.0293
 Jupiter -50847-11-22 17:16 J -16850117.85 -16850117.78 -16850117.70 0.0514 0.0472
 Jupiter -50841-09-17 20:09 J -16847991.79 -16847991.66 -16847991.51 0.0506 0.0374
 Saturn -50837-05-13 13:25 J -16846657.98 -16846657.94 -16846657.87 0.0268 0.0258
 Saturn -50837-12-28 22:47 J -16846428.76 -16846428.55 -16846428.33 0.0267 0.0032
 Pluto -50836-03-11 13:40 J -16846356.10 -16846355.93 -16846355.73 0.0077 0.0040
 Pluto -50836-10-22 22:47 J -16846130.76 -16846130.55 -16846130.34 0.0076 0.0024
 Jupiter -50835-07-28 19:11 J -16845851.88 -16845851.70 -16845851.51 0.0517 0.0162
 Uranus -50831-11-15 22:33 J -16844280.66 -16844280.56 -16844280.43 0.0140 0.0116
 Uranus -50830-06-30 05:01 J -16844054.44 -16844054.29 -16844054.12 0.0140 0.0090
 Uranus -50829-02-11 11:45 J -16843828.19 -16843828.01 -16843827.81 0.0141 0.0063

Uranus -50829-09-24 18:42 J -16843601.91 -16843601.72 -16843601.50 0.0141 0.0036
 Jupiter -50828-01-16 04:33 J -16843488.38 -16843488.31 -16843488.22 0.0512 0.0470
 Uranus -50828-05-09 02:09 J -16843375.62 -16843375.41 -16843375.20 0.0141 0.0008
 Uranus -50828-12-21 09:21 J -16843149.32 -16843149.11 -16843148.90 0.0142 0.0020
 Uranus -50827-08-04 16:47 J -16842922.99 -16842922.80 -16842922.59 0.0142 0.0048
 Uranus -50826-03-19 00:28 J -16842696.65 -16842696.48 -16842696.29 0.0142 0.0077
 Uranus -50826-10-31 08:37 J -16842470.28 -16842470.14 -16842469.99 0.0143 0.0105
 Uranus -50825-06-13 16:47 J -16842243.86 -16842243.80 -16842243.72 0.0143 0.0133
 Jupiter -50823-04-02 20:37 J -16841585.83 -16841585.64 -16841585.45 0.0520 0.0154
 Saturn -50821-01-25 14:52 J -16840923.09 -16840922.88 -16840922.68 0.0292 0.0018
 Jupiter -50817-09-20 20:37 J -16839222.84 -16839222.64 -16839222.44 0.0510 0.0141
 Jupiter -50812-12-06 20:52 J -16837319.70 -16837319.63 -16837319.54 0.0522 0.0474
 Saturn -50808-11-23 13:25 J -16835872.04 -16835871.94 -16835871.82 0.0268 0.0230
 Saturn -50807-07-10 22:47 J -16835642.76 -16835642.55 -16835642.34 0.0267 0.0059
 Jupiter -50805-05-26 13:40 J -16834957.13 -16834956.93 -16834956.74 0.0508 0.0181
 Jupiter -50799-04-05 06:28 J -16832817.38 -16832817.23 -16832817.08 0.0515 0.0343
 Mars -50799-11-11 01:11 J -16832597.60 -16832597.45 -16832597.30 0.1942 0.0847
 Mars -50796-08-17 04:04 J -16831587.50 -16831587.33 -16831587.15 0.1598 0.0326
 Jupiter -50793-01-30 06:42 J -16830691.25 -16830691.22 -16830691.18 0.0506 0.0497
 Saturn -50792-08-06 18:28 J -16830136.93 -16830136.73 -16830136.53 0.0293 0.0025
 Uranus -50792-12-09 09:35 J -16830012.16 -16830012.10 -16830012.00 0.0139 0.0130
 Uranus -50791-07-23 21:06 J -16829785.77 -16829785.62 -16829785.47 0.0138 0.0102
 Uranus -50790-03-07 07:54 J -16829559.35 -16829559.17 -16829558.97 0.0138 0.0074
 Uranus -50790-10-19 18:28 J -16829332.93 -16829332.73 -16829332.51 0.0138 0.0047
 Uranus -50789-06-02 04:47 J -16829106.52 -16829106.30 -16829106.07 0.0137 0.0019
 Uranus -50788-01-14 15:06 J -16828880.10 -16828879.87 -16828879.65 0.0137 0.0008
 Uranus -50788-08-29 00:42 J -16828653.68 -16828653.47 -16828653.25 0.0137 0.0035
 Jupiter -50788-12-09 07:25 J -16828551.39 -16828551.19 -16828550.99 0.0518 0.0030
 Uranus -50787-04-12 10:18 J -16828427.26 -16828427.07 -16828426.86 0.0136 0.0062
 Uranus -50787-11-24 19:40 J -16828200.84 -16828200.68 -16828200.50 0.0136 0.0088

Uranus -50786-07-09 04:47 J -16827974.41 -16827974.30 -16827974.16 0.0136 0.0113
 Jupiter -50781-05-29 12:28 J -16826188.14 -16826187.98 -16826187.82 0.0511 0.0330
 Saturn -50778-06-05 20:23 J -16825085.80 -16825085.65 -16825085.48 0.0268 0.0182
 Saturn -50777-01-21 05:45 J -16824856.46 -16824856.26 -16824856.06 0.0268 0.0108
 Earth -50776-04-02 22:18 J -16824418.73 -16824418.57 -16824418.41 0.2630 0.0704
 Moon -50776-04-02 23:01 J -16824418.70 -16824418.54 -16824418.38 0.2624 0.0943 *
 Jupiter -50776-08-14 07:25 J -16824285.35 -16824285.19 -16824285.02 0.0521 0.0293
 Neptune -50776-11-30 11:01 J -16824177.15 -16824177.04 -16824176.89 0.0088 0.0071
 Neptune -50775-07-14 01:11 J -16823951.61 -16823951.45 -16823951.25 0.0088 0.0053
 Neptune -50774-02-24 15:35 J -16823726.05 -16823725.85 -16823725.63 0.0088 0.0035
 Neptune -50774-10-08 05:45 J -16823500.47 -16823500.26 -16823500.02 0.0088 0.0017
 Neptune -50773-05-20 20:09 J -16823274.89 -16823274.66 -16823274.43 0.0088 0.0001
 Neptune -50772-01-01 10:18 J -16823049.29 -16823049.07 -16823048.85 0.0088 0.0019
 Neptune -50772-08-15 00:13 J -16822823.68 -16822823.49 -16822823.27 0.0088 0.0038
 Neptune -50771-03-28 14:37 J -16822598.06 -16822597.89 -16822597.71 0.0088 0.0056
 Neptune -50771-11-09 04:47 J -16822372.42 -16822372.30 -16822372.17 0.0088 0.0074
 Jupiter -50769-02-02 04:04 J -16821922.54 -16821922.33 -16821922.12 0.0509 0.0007
 Mars -50764-08-15 23:30 J -16819900.58 -16819900.52 -16819900.46 0.1594 0.1495
 Saturn -50763-07-02 10:33 J -16819580.12 -16819580.06 -16819579.99 0.0291 0.0274
 Saturn -50762-02-17 00:57 J -16819350.65 -16819350.46 -16819350.26 0.0292 0.0078
 Jupiter -50758-10-07 20:37 J -16817656.80 -16817656.64 -16817656.48 0.0507 0.0320
 Jupiter -50752-08-16 19:54 J -16815516.85 -16815516.67 -16815516.49 0.0517 0.0217
 Saturn -50749-12-15 21:21 J -16814299.78 -16814299.61 -16814299.42 0.0268 0.0152
 Saturn -50748-08-02 06:42 J -16814070.41 -16814070.22 -16814070.03 0.0267 0.0137
 Uranus -50747-07-16 06:42 J -16813722.29 -16813722.22 -16813722.13 0.0140 0.0128
 Uranus -50746-02-27 12:57 J -16813496.09 -16813495.96 -16813495.80 0.0140 0.0102
 Uranus -50746-10-11 19:40 J -16813269.85 -16813269.68 -16813269.49 0.0140 0.0076
 Uranus -50745-05-25 02:37 J -16813043.59 -16813043.39 -16813043.19 0.0141 0.0049
 Uranus -50744-01-06 09:35 J -16812817.31 -16812817.10 -16812816.89 0.0141 0.0022
 Uranus -50744-08-20 17:01 J -16812591.00 -16812590.79 -16812590.58 0.0141 0.0006

Uranus -50743-04-04 00:13 J -16812364.69 -16812364.49 -16812364.28 0.0142 0.0034
 Uranus -50743-11-16 07:40 J -16812138.36 -16812138.18 -16812137.98 0.0142 0.0062
 Uranus -50742-06-30 15:21 J -16811912.00 -16811911.86 -16811911.68 0.0142 0.0091
 Uranus -50741-02-11 23:30 J -16811685.62 -16811685.52 -16811685.38 0.0143 0.0119
 Jupiter -50740-04-21 19:25 J -16811250.88 -16811250.69 -16811250.49 0.0519 0.0105
 Jupiter -50734-10-10 21:49 J -16808887.78 -16808887.59 -16808887.40 0.0510 0.0199
 Saturn -50733-01-12 13:54 J -16808794.03 -16808793.92 -16808793.79 0.0292 0.0232
 Saturn -50733-08-29 04:47 J -16808564.48 -16808564.30 -16808564.11 0.0293 0.0122
 Mars -50733-09-07 04:33 J -16808555.48 -16808555.31 -16808555.14 0.1940 0.0108
 Mars -50730-06-14 15:49 J -16807545.01 -16807544.84 -16807544.67 0.1600 0.0540
 Jupiter -50729-12-25 18:57 J -16806984.82 -16806984.71 -16806984.59 0.0522 0.0427
 Jupiter -50722-06-15 11:59 J -16804622.20 -16804622.00 -16804621.79 0.0507 0.0135
 Saturn -50719-06-28 04:47 J -16803513.50 -16803513.30 -16803513.10 0.0268 0.0103
 Saturn -50718-02-12 14:09 J -16803284.07 -16803283.91 -16803283.75 0.0268 0.0187
 Jupiter -50716-04-24 05:01 J -16802482.41 -16802482.29 -16802482.16 0.0516 0.0389
 Jupiter -50710-02-18 04:47 J -16800356.39 -16800356.30 -16800356.21 0.0505 0.0452
 Uranus -50707-03-23 02:37 J -16799227.51 -16799227.39 -16799227.26 0.0139 0.0114
 Uranus -50707-11-04 13:25 J -16799001.10 -16799000.94 -16799000.75 0.0138 0.0087
 Uranus -50706-06-19 00:13 J -16798774.68 -16798774.49 -16798774.28 0.0138 0.0059
 Uranus -50705-01-31 10:47 J -16798548.26 -16798548.05 -16798547.82 0.0138 0.0032
 Uranus -50705-09-13 21:06 J -16798321.84 -16798321.62 -16798321.39 0.0137 0.0005
 Jupiter -50705-12-28 06:28 J -16798216.43 -16798216.23 -16798216.04 0.0518 0.0078
 Uranus -50704-04-28 07:11 J -16798095.42 -16798095.20 -16798094.98 0.0137 0.0022
 Saturn -50704-07-24 22:33 J -16798007.72 -16798007.56 -16798007.39 0.0291 0.0174
 Uranus -50704-12-10 16:47 J -16797869.00 -16797868.80 -16797868.58 0.0137 0.0049
 Saturn -50703-03-11 12:57 J -16797778.12 -16797777.96 -16797777.80 0.0292 0.0178
 Uranus -50703-07-25 02:09 J -16797642.58 -16797642.41 -16797642.21 0.0136 0.0075
 Uranus -50702-03-08 11:30 J -16797416.15 -16797416.02 -16797415.85 0.0136 0.0101
 Uranus -50702-10-20 20:37 J -16797189.71 -16797189.64 -16797189.54 0.0136 0.0126
 Mars -50698-06-13 11:16 J -16795858.13 -16795858.03 -16795857.92 0.1595 0.1284

Jupiter -50698-06-18 11:45 J -16795853.15 -16795853.01 -16795852.87 0.0512 0.0381
 Neptune -50693-01-16 21:21 J -16794179.69 -16794179.61 -16794179.47 0.0089 0.0078
 Neptune -50693-08-29 09:49 J -16793954.24 -16793954.09 -16793953.92 0.0089 0.0060
 Jupiter -50693-09-02 07:25 J -16793950.36 -16793950.19 -16793950.01 0.0520 0.0238
 Neptune -50692-04-11 21:35 J -16793728.77 -16793728.60 -16793728.39 0.0089 0.0043
 Neptune -50692-11-23 09:49 J -16793503.29 -16793503.09 -16793502.88 0.0089 0.0025
 Neptune -50691-07-06 21:49 J -16793277.80 -16793277.59 -16793277.38 0.0089 0.0007
 Neptune -50690-02-17 09:35 J -16793052.31 -16793052.10 -16793051.89 0.0089 0.0010
 Neptune -50690-09-30 21:21 J -16792826.80 -16792826.61 -16792826.40 0.0089 0.0028
 Saturn -50689-01-08 07:11 J -16792727.41 -16792727.20 -16792726.99 0.0268 0.0069
 Neptune -50689-05-13 09:06 J -16792601.29 -16792601.12 -16792600.92 0.0089 0.0046
 Saturn -50689-08-24 16:04 J -16792497.94 -16792497.83 -16792497.70 0.0267 0.0219
 Neptune -50689-12-24 21:06 J -16792375.76 -16792375.62 -16792375.46 0.0089 0.0063
 Neptune -50688-08-07 08:37 J -16792150.21 -16792150.14 -16792150.02 0.0089 0.0081
 Jupiter -50686-02-21 04:04 J -16791587.54 -16791587.33 -16791587.12 0.0509 0.0056
 Pluto -50675-09-01 08:37 J -16787377.21 -16787377.14 -16787377.04 0.0067 0.0062
 Jupiter -50675-10-26 20:37 J -16787321.81 -16787321.64 -16787321.46 0.0507 0.0266
 Saturn -50674-02-04 02:23 J -16787221.57 -16787221.40 -16787221.21 0.0292 0.0130
 Pluto -50674-04-14 13:54 J -16787152.12 -16787151.92 -16787151.69 0.0067 0.0019
 Saturn -50674-09-21 17:01 J -16786991.91 -16786991.79 -16786991.65 0.0293 0.0225
 Pluto -50674-11-25 19:25 J -16786926.88 -16786926.69 -16786926.47 0.0068 0.0026
 Jupiter -50669-09-04 16:47 J -16785181.97 -16785181.80 -16785181.62 0.0517 0.0258
 Mars -50667-07-05 08:23 J -16784513.31 -16784513.15 -16784512.99 0.1937 0.0598
 Mars -50664-04-11 03:35 J -16783502.51 -16783502.35 -16783502.19 0.1601 0.0760
 Uranus -50663-03-15 14:52 J -16783163.88 -16783163.88 -16783163.86 0.0140 0.0139
 Uranus -50663-10-27 20:52 J -16782937.73 -16782937.63 -16782937.49 0.0140 0.0114
 Uranus -50662-06-11 03:21 J -16782711.51 -16782711.36 -16782711.18 0.0140 0.0088
 Uranus -50661-01-23 10:04 J -16782485.26 -16782485.08 -16782484.88 0.0141 0.0062
 Uranus -50661-09-05 17:01 J -16782258.98 -16782258.79 -16782258.58 0.0141 0.0035
 Uranus -50660-04-20 00:13 J -16782032.70 -16782032.49 -16782032.28 0.0141 0.0008

Saturn -50660-07-20 14:37 J -16781941.11 -16781940.89 -16781940.67 0.0268 0.0021
 Uranus -50660-12-02 07:25 J -16781806.39 -16781806.19 -16781805.97 0.0142 0.0020
 Uranus -50659-07-16 14:52 J -16781580.07 -16781579.88 -16781579.67 0.0142 0.0048
 Uranus -50658-02-27 22:33 J -16781353.73 -16781353.56 -16781353.37 0.0142 0.0076
 Uranus -50658-10-12 06:57 J -16781127.35 -16781127.21 -16781127.07 0.0142 0.0104
 Jupiter -50657-05-10 16:18 J -16780916.01 -16780915.82 -16780915.62 0.0520 0.0064
 Uranus -50657-05-25 15:06 J -16780900.94 -16780900.87 -16780900.79 0.0143 0.0132
 Moon -50655-10-06 09:21 J -16780037.20 -16780037.11 -16780037.01 0.2697 0.2159
 Earth -50655-10-06 12:13 J -16780037.07 -16780036.99 -16780036.90 0.2703 0.2190 *
 Jupiter -50651-10-29 18:28 J -16778552.91 -16778552.73 -16778552.54 0.0510 0.0239
 Moon -50647-10-04 01:25 J -16777117.54 -16777117.44 -16777117.34 0.2701 0.2037
 Earth -50647-10-04 06:13 J -16777117.36 -16777117.24 -16777117.11 0.2702 0.1425 *
 Jupiter -50645-01-14 16:33 J -16776649.94 -16776649.81 -16776649.68 0.0522 0.0384
 Saturn -50645-08-16 12:28 J -16776435.17 -16776434.98 -16776434.77 0.0292 0.0069
 Saturn -50644-04-03 03:06 J -16776205.42 -16776205.37 -16776205.33 0.0293 0.0284
 Jupiter -50639-07-04 09:35 J -16774287.30 -16774287.10 -16774286.89 0.0508 0.0090
 Jupiter -50633-05-13 03:49 J -16772147.44 -16772147.34 -16772147.24 0.0515 0.0437
 Mars -50632-04-09 23:16 J -16771815.66 -16771815.53 -16771815.40 0.1597 0.1072
 Saturn -50630-01-30 18:13 J -16771154.96 -16771154.74 -16771154.52 0.0268 0.0017
 Jupiter -50627-03-09 03:06 J -16770021.50 -16770021.37 -16770021.25 0.0506 0.0405
 Uranus -50624-11-20 06:57 J -16768669.28 -16768669.21 -16768669.10 0.0139 0.0127
 Uranus -50623-07-04 18:28 J -16768442.89 -16768442.73 -16768442.57 0.0138 0.0099
 Uranus -50622-02-16 05:16 J -16768216.47 -16768216.28 -16768216.08 0.0138 0.0072
 Uranus -50622-09-30 16:04 J -16767990.04 -16767989.83 -16767989.62 0.0138 0.0044
 Jupiter -50621-01-17 03:49 J -16767881.53 -16767881.34 -16767881.15 0.0518 0.0122
 Uranus -50621-05-14 02:23 J -16767763.62 -16767763.40 -16767763.18 0.0137 0.0017
 Uranus -50621-12-26 12:28 J -16767537.20 -16767536.98 -16767536.75 0.0137 0.0010
 Uranus -50620-08-09 22:18 J -16767310.78 -16767310.57 -16767310.35 0.0137 0.0036
 Uranus -50619-03-24 07:54 J -16767084.36 -16767084.17 -16767083.96 0.0137 0.0063
 Uranus -50619-11-05 17:30 J -16766857.93 -16766857.77 -16766857.59 0.0136 0.0088

Uranus -50618-06-20 02:52 J -16766631.50 -16766631.38 -16766631.26 0.0136 0.0113
 Saturn -50615-02-26 16:33 J -16765649.01 -16765648.81 -16765648.61 0.0292 0.0024
 Jupiter -50615-07-07 11:16 J -16765518.14 -16765518.03 -16765517.92 0.0512 0.0432
 Neptune -50611-03-03 21:49 J -16764182.68 -16764182.59 -16764182.46 0.0088 0.0078
 Neptune -50611-10-15 12:13 J -16763957.15 -16763956.99 -16763956.81 0.0088 0.0059
 Neptune -50610-05-29 02:23 J -16763731.59 -16763731.40 -16763731.19 0.0088 0.0041
 Jupiter -50610-09-22 03:49 J -16763615.52 -16763615.34 -16763615.16 0.0520 0.0199
 Neptune -50609-01-09 16:33 J -16763506.02 -16763505.81 -16763505.58 0.0088 0.0023
 Neptune -50609-08-22 06:42 J -16763280.44 -16763280.22 -16763279.99 0.0088 0.0006
 Neptune -50608-04-04 20:52 J -16763054.85 -16763054.63 -16763054.40 0.0088 0.0013
 Neptune -50608-11-16 10:47 J -16762829.25 -16762829.05 -16762828.82 0.0088 0.0031
 Neptune -50607-06-30 00:42 J -16762603.64 -16762603.47 -16762603.26 0.0088 0.0049
 Neptune -50606-02-10 14:52 J -16762378.00 -16762377.88 -16762377.71 0.0088 0.0067
 Neptune -50606-09-24 05:30 J -16762152.32 -16762152.27 -16762152.20 0.0088 0.0085
 Jupiter -50603-03-12 01:40 J -16761252.63 -16761252.43 -16761252.22 0.0509 0.0100
 Saturn -50602-12-26 16:04 J -16760597.94 -16760597.83 -16760597.70 0.0269 0.0225
 Mars -50601-05-01 11:59 J -16760471.12 -16760471.00 -16760470.88 0.1934 0.1315
 Saturn -50601-08-12 01:54 J -16760368.63 -16760368.42 -16760368.21 0.0268 0.0066
 Mars -50598-02-06 15:21 J -16759460.00 -16759459.86 -16759459.72 0.1603 0.0982
 Jupiter -50592-11-14 17:16 J -16756986.96 -16756986.78 -16756986.59 0.0506 0.0225
 Pluto -50588-02-12 00:28 J -16755801.67 -16755801.48 -16755801.27 0.0077 0.0032
 Pluto -50588-09-25 09:06 J -16755576.30 -16755576.12 -16755575.90 0.0076 0.0033
 Saturn -50586-09-09 03:35 J -16754862.55 -16754862.35 -16754862.15 0.0292 0.0040
 Jupiter -50586-09-24 13:25 J -16754847.10 -16754846.94 -16754846.78 0.0517 0.0297
 Uranus -50579-06-27 05:01 J -16752379.37 -16752379.29 -16752379.18 0.0140 0.0125
 Uranus -50578-02-08 11:16 J -16752153.16 -16752153.03 -16752152.87 0.0140 0.0100
 Uranus -50578-09-22 18:13 J -16751926.91 -16751926.74 -16751926.56 0.0140 0.0074
 Uranus -50577-05-06 00:57 J -16751700.65 -16751700.46 -16751700.26 0.0141 0.0047
 Uranus -50577-12-18 07:54 J -16751474.37 -16751474.17 -16751473.96 0.0141 0.0021
 Uranus -50576-08-01 15:06 J -16751248.08 -16751247.87 -16751247.65 0.0141 0.0008

Uranus	-50575-03-15 22:33 J	-16751021.76	-16751021.56	-16751021.35	0.0142	0.0035
Uranus	-50575-10-28 06:13 J	-16750795.42	-16750795.24	-16750795.05	0.0142	0.0062
Jupiter	-50574-05-30 14:52 J	-16750581.08	-16750580.88	-16750580.68	0.0519	0.0015
Uranus	-50574-06-11 13:54 J	-16750569.07	-16750568.92	-16750568.74	0.0142	0.0090
Uranus	-50573-01-23 22:18 J	-16750342.69	-16750342.57	-16750342.45	0.0143	0.0118
Saturn	-50572-07-07 21:06 J	-16749811.77	-16749811.62	-16749811.46	0.0268	0.0184
Saturn	-50571-02-22 06:28 J	-16749582.42	-16749582.23	-16749582.02	0.0268	0.0106
Jupiter	-50568-11-17 16:04 J	-16748218.00	-16748217.83	-16748217.65	0.0511	0.0285
Mars	-50566-02-05 11:16 J	-16747773.18	-16747773.03	-16747772.88	0.1598	0.0861
Jupiter	-50562-02-02 13:54 J	-16746315.06	-16746314.92	-16746314.77	0.0521	0.0339
Saturn	-50557-08-03 17:16 J	-16744305.85	-16744305.78	-16744305.68	0.0292	0.0265
Saturn	-50556-03-21 07:54 J	-16744076.37	-16744076.17	-16744075.98	0.0293	0.0086
Jupiter	-50556-07-23 08:23 J	-16743952.36	-16743952.15	-16743951.94	0.0508	0.0040
Jupiter	-50550-06-01 23:16 J	-16741812.60	-16741812.53	-16741812.44	0.0515	0.0472
Jupiter	-50544-03-28 00:42 J	-16739686.61	-16739686.47	-16739686.32	0.0505	0.0360
Saturn	-50542-01-18 04:33 J	-16739025.49	-16739025.31	-16739025.12	0.0269	0.0136
Saturn	-50542-09-04 13:54 J	-16738796.09	-16738795.92	-16738795.73	0.0268	0.0154
Uranus	-50540-07-20 11:30 J	-16738111.02	-16738111.02	-16738111.00	0.0139	0.0139
Uranus	-50539-03-03 22:47 J	-16737884.67	-16737884.55	-16737884.40	0.0139	0.0112
Uranus	-50539-10-16 09:49 J	-16737658.26	-16737658.09	-16737657.90	0.0138	0.0084
Jupiter	-50538-02-04 22:47 J	-16737546.74	-16737546.55	-16737546.36	0.0518	0.0155
Uranus	-50538-05-30 20:37 J	-16737431.84	-16737431.64	-16737431.43	0.0138	0.0057
Uranus	-50537-01-12 07:11 J	-16737205.42	-16737205.20	-16737204.98	0.0138	0.0030
Uranus	-50537-08-25 17:30 J	-16736978.99	-16736978.77	-16736978.54	0.0137	0.0004
Uranus	-50536-04-09 03:35 J	-16736752.56	-16736752.35	-16736752.12	0.0137	0.0024
Uranus	-50536-11-21 13:25 J	-16736526.14	-16736525.94	-16736525.72	0.0137	0.0050
Uranus	-50535-07-05 23:16 J	-16736299.72	-16736299.53	-16736299.34	0.0136	0.0076
Uranus	-50534-02-17 08:37 J	-16736073.28	-16736073.14	-16736072.99	0.0136	0.0101
Uranus	-50534-10-01 17:30 J	-16735846.83	-16735846.77	-16735846.67	0.0136	0.0127
Moon	-50533-04-02 17:45 J	-16735662.90	-16735662.76	-16735662.62	0.2637	0.1026

Earth -50533-04-02 20:37 J -16735662.80 -16735662.64 -16735662.48 0.2631 0.0819 *
 Mars -50533-12-04 02:37 J -16735417.50 -16735417.39 -16735417.27 0.1604 0.1206
 Jupiter -50532-07-26 07:11 J -16735183.28 -16735183.20 -16735183.11 0.0511 0.0469
 Neptune -50529-04-19 10:33 J -16734185.11 -16734185.06 -16734184.96 0.0089 0.0083
 Neptune -50529-11-30 23:01 J -16733959.68 -16733959.54 -16733959.40 0.0089 0.0066
 Neptune -50528-07-14 10:33 J -16733734.22 -16733734.06 -16733733.87 0.0089 0.0049
 Saturn -50527-02-14 04:33 J -16733519.45 -16733519.31 -16733519.15 0.0291 0.0200
 Neptune -50527-02-24 22:33 J -16733508.75 -16733508.56 -16733508.35 0.0089 0.0031
 Saturn -50527-10-01 18:57 J -16733289.88 -16733289.71 -16733289.53 0.0292 0.0150
 Neptune -50527-10-08 10:47 J -16733283.26 -16733283.05 -16733282.84 0.0089 0.0013
 Jupiter -50527-10-10 23:16 J -16733280.71 -16733280.53 -16733280.34 0.0521 0.0162
 Neptune -50526-05-21 22:33 J -16733057.77 -16733057.56 -16733057.34 0.0089 0.0005
 Neptune -50525-01-02 10:33 J -16732832.26 -16732832.06 -16732831.85 0.0089 0.0021
 Neptune -50525-08-14 22:18 J -16732606.75 -16732606.57 -16732606.36 0.0089 0.0039
 Neptune -50524-03-28 10:04 J -16732381.22 -16732381.08 -16732380.89 0.0089 0.0057
 Neptune -50524-11-08 22:04 J -16732155.69 -16732155.58 -16732155.45 0.0089 0.0073
 Jupiter -50520-03-30 21:06 J -16730917.82 -16730917.62 -16730917.42 0.0509 0.0136
 Jupiter -50515-06-15 23:45 J -16729014.58 -16729014.51 -16729014.43 0.0523 0.0480
 Saturn -50513-07-30 10:33 J -16728239.26 -16728239.06 -16728238.85 0.0268 0.0092
 Saturn -50512-03-16 19:54 J -16728009.81 -16728009.67 -16728009.52 0.0267 0.0196
 Jupiter -50509-12-03 13:40 J -16726652.13 -16726651.93 -16726651.74 0.0507 0.0184
 Mars -50503-02-26 12:13 J -16724741.07 -16724740.99 -16724740.92 0.1939 0.1723
 Jupiter -50503-10-13 10:33 J -16724512.21 -16724512.06 -16724511.91 0.0516 0.0338
 Mars -50501-12-02 22:47 J -16723730.72 -16723730.55 -16723730.39 0.1600 0.0640
 Saturn -50498-08-27 08:23 J -16722733.32 -16722733.15 -16722732.97 0.0292 0.0157
 Saturn -50497-04-12 22:47 J -16722503.69 -16722503.55 -16722503.39 0.0293 0.0195
 Jupiter -50497-08-08 07:11 J -16722386.23 -16722386.20 -16722386.17 0.0505 0.0497
 Uranus -50495-02-24 14:09 J -16721820.95 -16721820.91 -16721820.87 0.0139 0.0136
 Uranus -50495-10-08 20:09 J -16721594.78 -16721594.66 -16721594.52 0.0140 0.0111
 Uranus -50494-05-23 02:37 J -16721368.55 -16721368.39 -16721368.22 0.0140 0.0085

Uranus	-50493-01-04 09:21 J	-16721142.30	-16721142.11	-16721141.92	0.0140	0.0059
Uranus	-50493-08-17 16:18 J	-16720916.02	-16720915.82	-16720915.61	0.0141	0.0032
Uranus	-50492-03-31 23:30 J	-16720689.73	-16720689.52	-16720689.31	0.0141	0.0005
Uranus	-50492-11-13 06:42 J	-16720463.43	-16720463.22	-16720463.01	0.0141	0.0022
Jupiter	-50491-06-18 10:33 J	-16720246.26	-16720246.06	-16720245.87	0.0519	0.0023
Uranus	-50491-06-27 14:09 J	-16720237.10	-16720236.91	-16720236.71	0.0142	0.0049
Uranus	-50490-02-08 21:49 J	-16720010.76	-16720010.59	-16720010.40	0.0142	0.0077
Uranus	-50490-09-23 05:59 J	-16719784.38	-16719784.25	-16719784.10	0.0142	0.0105
Uranus	-50489-05-06 13:54 J	-16719557.97	-16719557.92	-16719557.82	0.0143	0.0133
Jupiter	-50485-12-06 13:54 J	-16717883.08	-16717882.92	-16717882.76	0.0510	0.0328
Saturn	-50483-02-09 17:30 J	-16717452.99	-16717452.77	-16717452.55	0.0268	0.0046
Saturn	-50483-09-27 02:52 J	-16717223.47	-16717223.38	-16717223.29	0.0268	0.0241
Jupiter	-50479-02-21 08:23 J	-16715980.31	-16715980.15	-16715979.99	0.0522	0.0307
Jupiter	-50473-08-11 04:47 J	-16713617.51	-16713617.30	-16713617.09	0.0508	0.0004
Saturn	-50468-03-08 20:09 J	-16711946.85	-16711946.66	-16711946.46	0.0292	0.0091
Saturn	-50468-10-24 10:18 J	-16711717.15	-16711717.07	-16711716.97	0.0292	0.0260
Jupiter	-50467-06-20 18:57 J	-16711477.74	-16711477.71	-16711477.68	0.0515	0.0507
Mars	-50467-10-01 14:23 J	-16711374.98	-16711374.90	-16711374.82	0.1606	0.1430
Jupiter	-50461-04-15 19:11 J	-16709351.86	-16709351.70	-16709351.54	0.0506	0.0326
Uranus	-50456-11-01 03:35 J	-16707326.43	-16707326.35	-16707326.24	0.0139	0.0124
Jupiter	-50455-02-23 21:06 J	-16707211.80	-16707211.62	-16707211.44	0.0518	0.0203
Uranus	-50455-06-15 14:52 J	-16707100.03	-16707099.88	-16707099.71	0.0139	0.0097
Uranus	-50454-01-28 01:40 J	-16706873.61	-16706873.43	-16706873.23	0.0138	0.0070
Saturn	-50454-08-23 00:28 J	-16706666.70	-16706666.48	-16706666.26	0.0268	0.0003
Uranus	-50454-09-11 12:28 J	-16706647.19	-16706646.98	-16706646.76	0.0138	0.0043
Uranus	-50453-04-24 23:01 J	-16706420.76	-16706420.54	-16706420.31	0.0138	0.0016
Uranus	-50453-12-07 09:21 J	-16706194.34	-16706194.11	-16706193.89	0.0137	0.0011
Uranus	-50452-07-21 18:57 J	-16705967.91	-16705967.71	-16705967.48	0.0137	0.0038
Uranus	-50451-03-05 05:01 J	-16705741.48	-16705741.29	-16705741.08	0.0137	0.0064
Uranus	-50451-10-17 14:23 J	-16705515.05	-16705514.90	-16705514.71	0.0136	0.0090

Uranus -50450-05-31 23:59 J -16705288.61 -16705288.50 -16705288.37 0.0136 0.0114
 Jupiter -50449-08-14 03:35 J -16704848.37 -16704848.35 -16704848.33 0.0512 0.0509
 Neptune -50447-06-05 08:37 J -16704188.20 -16704188.14 -16704188.05 0.0088 0.0083
 Neptune -50446-01-16 23:01 J -16703962.68 -16703962.54 -16703962.38 0.0088 0.0065
 Neptune -50446-08-30 13:11 J -16703737.13 -16703736.95 -16703736.75 0.0088 0.0048
 Neptune -50445-04-12 03:35 J -16703511.57 -16703511.35 -16703511.14 0.0088 0.0030
 Neptune -50445-11-23 17:30 J -16703285.99 -16703285.77 -16703285.54 0.0088 0.0012
 Neptune -50444-07-07 07:40 J -16703060.40 -16703060.18 -16703059.95 0.0088 0.0006
 Jupiter -50444-10-29 21:06 J -16702945.81 -16702945.62 -16702945.42 0.0520 0.0116
 Neptune -50443-02-17 21:49 J -16702834.80 -16702834.59 -16702834.36 0.0088 0.0024
 Neptune -50443-10-01 11:45 J -16702609.19 -16702609.01 -16702608.80 0.0088 0.0043
 Neptune -50442-05-15 01:40 J -16702383.57 -16702383.43 -16702383.24 0.0088 0.0061
 Neptune -50442-12-26 15:35 J -16702157.93 -16702157.85 -16702157.72 0.0088 0.0079
 Saturn -50439-09-18 23:01 J -16701160.74 -16701160.54 -16701160.34 0.0292 0.0050
 Mars -50438-12-24 16:04 J -16700698.97 -16700698.83 -16700698.69 0.1937 0.1015
 Jupiter -50437-04-18 19:40 J -16700582.88 -16700582.68 -16700582.48 0.0510 0.0185
 Mars -50435-09-30 10:47 J -16699688.22 -16699688.05 -16699687.88 0.1601 0.0431
 Jupiter -50432-07-04 19:54 J -16698679.77 -16698679.67 -16698679.56 0.0522 0.0441
 Pluto -50427-08-04 20:52 J -16696822.76 -16696822.63 -16696822.45 0.0067 0.0048
 Pluto -50426-03-18 02:37 J -16696597.61 -16696597.39 -16696597.16 0.0067 0.0005
 Pluto -50426-10-29 07:54 J -16696372.33 -16696372.17 -16696371.98 0.0068 0.0040
 Jupiter -50426-12-23 11:59 J -16696317.21 -16696317.00 -16696316.80 0.0507 0.0137
 Saturn -50425-07-17 20:37 J -16696109.73 -16696109.64 -16696109.55 0.0269 0.0246
 Saturn -50424-03-04 06:13 J -16695880.45 -16695880.24 -16695880.02 0.0268 0.0043
 Jupiter -50420-11-01 05:01 J -16694177.42 -16694177.29 -16694177.15 0.0517 0.0370
 Jupiter -50414-08-28 04:04 J -16692051.41 -16692051.33 -16692051.23 0.0504 0.0454
 Earth -50412-10-06 16:04 J -16691280.91 -16691280.83 -16691280.76 0.2702 0.2336
 Moon -50412-10-06 16:04 J -16691280.91 -16691280.83 -16691280.74 0.2708 0.2187 *
 Uranus -50411-06-08 05:01 J -16691036.38 -16691036.29 -16691036.18 0.0140 0.0122
 Uranus -50410-01-20 11:30 J -16690810.17 -16690810.02 -16690809.87 0.0140 0.0096

Uranus -50410-09-03 18:13 J -16690583.92 -16690583.74 -16690583.56 0.0140 0.0071
 Saturn -50409-03-31 10:04 J -16690374.29 -16690374.08 -16690373.88 0.0292 0.0013
 Uranus -50409-04-17 00:57 J -16690357.65 -16690357.46 -16690357.25 0.0141 0.0044
 Uranus -50409-11-29 07:54 J -16690131.37 -16690131.17 -16690130.95 0.0141 0.0018
 Jupiter -50408-07-07 05:59 J -16689911.44 -16689911.25 -16689911.05 0.0519 0.0060
 Uranus -50408-07-13 15:21 J -16689905.07 -16689904.86 -16689904.65 0.0141 0.0010
 Uranus -50407-02-24 22:33 J -16689678.76 -16689678.56 -16689678.35 0.0142 0.0037
 Uranus -50407-10-09 06:13 J -16689452.42 -16689452.24 -16689452.04 0.0142 0.0064
 Uranus -50406-05-23 14:09 J -16689226.06 -16689225.91 -16689225.74 0.0142 0.0092
 Uranus -50405-01-04 22:04 J -16688999.68 -16688999.58 -16688999.45 0.0143 0.0119
 Earth -50404-10-04 10:04 J -16688361.22 -16688361.08 -16688360.95 0.2701 0.1275
 Moon -50404-10-04 13:25 J -16688361.08 -16688360.94 -16688360.79 0.2706 0.0585 *
 Jupiter -50402-12-26 08:09 J -16687548.30 -16687548.16 -16687548.00 0.0511 0.0362
 Jupiter -50396-03-12 07:25 J -16685645.36 -16685645.19 -16685645.02 0.0521 0.0255
 Saturn -50395-01-28 04:04 J -16685323.46 -16685323.33 -16685323.17 0.0269 0.0198
 Saturn -50395-09-14 13:25 J -16685094.14 -16685093.94 -16685093.73 0.0268 0.0090
 Jupiter -50390-08-31 00:42 J -16683282.68 -16683282.47 -16683282.26 0.0508 0.0039
 Saturn -50380-10-11 12:13 J -16679588.19 -16679587.99 -16679587.78 0.0292 0.0054
 Jupiter -50378-05-05 17:59 J -16679016.92 -16679016.75 -16679016.57 0.0506 0.0277
 Jupiter -50372-03-14 17:59 J -16676876.92 -16676876.75 -16676876.58 0.0517 0.0242
 Uranus -50372-07-01 09:35 J -16676768.15 -16676768.10 -16676768.06 0.0139 0.0135
 Mars -50372-10-20 19:25 J -16676656.86 -16676656.69 -16676656.53 0.1935 0.0283
 Uranus -50371-02-12 20:23 J -16676541.77 -16676541.65 -16676541.49 0.0139 0.0109
 Uranus -50371-09-27 07:40 J -16676315.35 -16676315.18 -16676314.99 0.0138 0.0081
 Uranus -50370-05-11 18:28 J -16676088.93 -16676088.73 -16676088.52 0.0138 0.0054
 Uranus -50370-12-24 05:01 J -16675862.51 -16675862.29 -16675862.07 0.0138 0.0028
 Mars -50369-07-27 21:49 J -16675645.77 -16675645.59 -16675645.41 0.1603 0.0198
 Uranus -50369-08-06 15:35 J -16675636.08 -16675635.85 -16675635.63 0.0137 0.0003
 Uranus -50368-03-21 01:40 J -16675409.65 -16675409.43 -16675409.20 0.0137 0.0026
 Uranus -50368-11-02 11:30 J -16675183.22 -16675183.02 -16675182.80 0.0137 0.0052

Uranus -50367-06-16 21:06 J -16674956.79 -16674956.62 -16674956.42 0.0136 0.0077
 Uranus -50366-01-29 06:42 J -16674730.36 -16674730.22 -16674730.07 0.0136 0.0103
 Saturn -50366-08-10 08:37 J -16674537.31 -16674537.14 -16674536.96 0.0268 0.0158
 Uranus -50366-09-12 16:18 J -16674503.90 -16674503.82 -16674503.75 0.0136 0.0127
 Saturn -50365-03-26 17:59 J -16674307.93 -16674307.75 -16674307.55 0.0268 0.0130
 Neptune -50365-07-21 23:59 J -16674190.50 -16674190.50 -16674190.48 0.0089 0.0089
 Neptune -50364-03-04 11:30 J -16673965.12 -16673965.02 -16673964.87 0.0089 0.0072
 Neptune -50364-10-15 23:45 J -16673739.67 -16673739.51 -16673739.34 0.0089 0.0055
 Neptune -50363-05-29 11:30 J -16673514.21 -16673514.02 -16673513.82 0.0089 0.0037
 Neptune -50362-01-09 23:16 J -16673288.73 -16673288.53 -16673288.31 0.0089 0.0021
 Neptune -50362-08-23 11:30 J -16673063.23 -16673063.02 -16673062.80 0.0089 0.0003
 Neptune -50361-04-04 23:30 J -16672837.73 -16672837.52 -16672837.31 0.0089 0.0014
 Neptune -50361-11-16 11:01 J -16672612.22 -16672612.04 -16672611.83 0.0089 0.0032
 Jupiter -50361-11-17 16:18 J -16672611.01 -16672610.82 -16672610.62 0.0520 0.0081
 Neptune -50360-06-29 23:01 J -16672386.71 -16672386.54 -16672386.35 0.0089 0.0049
 Neptune -50359-02-10 10:47 J -16672161.18 -16672161.05 -16672160.89 0.0089 0.0067
 Neptune -50359-09-23 23:01 J -16671935.61 -16671935.54 -16671935.46 0.0089 0.0084
 Jupiter -50354-05-08 17:16 J -16670247.97 -16670247.78 -16670247.59 0.0509 0.0229
 Saturn -50351-09-06 07:40 J -16669031.29 -16669031.18 -16669031.05 0.0291 0.0235
 Saturn -50350-04-23 22:18 J -16668801.76 -16668801.57 -16668801.38 0.0292 0.0113
 Jupiter -50349-07-23 16:18 J -16668344.95 -16668344.82 -16668344.70 0.0523 0.0400
 Jupiter -50342-01-11 06:42 J -16665982.43 -16665982.22 -16665982.02 0.0507 0.0103
 Pluto -50341-06-04 04:47 J -16665472.31 -16665472.30 -16665472.24 0.0077 0.0076
 Pluto -50340-01-15 14:09 J -16665247.12 -16665246.91 -16665246.69 0.0077 0.0011
 Pluto -50340-08-28 22:33 J -16665021.70 -16665021.56 -16665021.39 0.0076 0.0053
 Jupiter -50337-11-20 04:47 J -16663842.41 -16663842.30 -16663842.19 0.0516 0.0421
 Saturn -50336-02-19 16:47 J -16663751.00 -16663750.80 -16663750.60 0.0268 0.0109
 Saturn -50336-10-07 01:40 J -16663521.59 -16663521.43 -16663521.26 0.0267 0.0177
 Jupiter -50331-09-15 23:59 J -16661716.61 -16661716.50 -16661716.37 0.0505 0.0415
 Uranus -50327-02-05 14:09 J -16660477.96 -16660477.91 -16660477.84 0.0139 0.0133

Uranus	-50327-09-19 20:23 J	-16660251.76	-16660251.65	-16660251.50	0.0140	0.0108
Uranus	-50326-05-04 03:06 J	-16660025.53	-16660025.37	-16660025.19	0.0140	0.0082
Uranus	-50326-12-16 09:49 J	-16659799.27	-16659799.09	-16659798.89	0.0140	0.0056
Jupiter	-50325-07-26 05:45 J	-16659576.45	-16659576.26	-16659576.07	0.0518	0.0110
Uranus	-50325-07-29 16:47 J	-16659573.00	-16659572.80	-16659572.59	0.0141	0.0030
Uranus	-50324-03-12 23:59 J	-16659346.71	-16659346.50	-16659346.28	0.0141	0.0004
Uranus	-50324-10-25 07:25 J	-16659120.40	-16659120.19	-16659119.98	0.0141	0.0024
Uranus	-50323-06-08 14:52 J	-16658894.07	-16658893.88	-16658893.68	0.0142	0.0051
Uranus	-50322-01-20 22:47 J	-16658667.73	-16658667.55	-16658667.38	0.0142	0.0079
Uranus	-50322-09-04 06:28 J	-16658441.36	-16658441.23	-16658441.08	0.0142	0.0106
Saturn	-50321-03-18 09:21 J	-16658245.26	-16658245.11	-16658244.96	0.0292	0.0198
Uranus	-50321-04-17 14:37 J	-16658214.95	-16658214.89	-16658214.80	0.0143	0.0134
Saturn	-50321-11-02 23:30 J	-16658015.69	-16658015.52	-16658015.34	0.0293	0.0151
Jupiter	-50318-01-14 08:23 J	-16657213.27	-16657213.15	-16657213.03	0.0511	0.0414
Jupiter	-50313-03-31 05:30 J	-16655310.45	-16655310.27	-16655310.09	0.0521	0.0209
Saturn	-50307-09-01 19:54 J	-16652964.88	-16652964.67	-16652964.46	0.0268	0.0073
Jupiter	-50307-09-19 00:57 J	-16652947.67	-16652947.46	-16652947.26	0.0508	0.0094
Saturn	-50306-04-19 04:47 J	-16652735.42	-16652735.30	-16652735.16	0.0267	0.0213
Mars	-50306-08-17 23:01 J	-16652614.70	-16652614.54	-16652614.37	0.1932	0.0434
Mars	-50303-05-25 09:35 J	-16651603.28	-16651603.10	-16651602.92	0.1604	0.0033
Jupiter	-50295-05-24 16:47 J	-16648681.99	-16648681.80	-16648681.61	0.0506	0.0227
Saturn	-50292-09-28 17:45 J	-16647458.93	-16647458.76	-16647458.58	0.0292	0.0142
Saturn	-50291-05-16 08:23 J	-16647229.29	-16647229.15	-16647229.00	0.0293	0.0207
Earth	-50290-04-03 18:42 J	-16646906.87	-16646906.72	-16646906.56	0.2632	0.0950
Moon	-50290-04-03 23:45 J	-16646906.68	-16646906.51	-16646906.34	0.2627	0.0221 *
Jupiter	-50289-04-02 15:06 J	-16646542.03	-16646541.87	-16646541.71	0.0517	0.0285
Uranus	-50288-10-13 03:06 J	-16645983.47	-16645983.37	-16645983.25	0.0139	0.0120
Uranus	-50287-05-27 14:23 J	-16645757.06	-16645756.90	-16645756.73	0.0139	0.0093
Uranus	-50286-01-09 00:57 J	-16645530.64	-16645530.46	-16645530.25	0.0138	0.0067
Uranus	-50286-08-23 11:59 J	-16645304.21	-16645304.00	-16645303.78	0.0138	0.0039

Uranus -50285-04-05 22:33 J -16645077.78 -16645077.56 -16645077.33 0.0137 0.0013
 Uranus -50285-11-18 08:52 J -16644851.36 -16644851.13 -16644850.91 0.0137 0.0014
 Uranus -50284-07-02 18:42 J -16644624.93 -16644624.72 -16644624.50 0.0137 0.0040
 Uranus -50283-02-14 04:33 J -16644398.50 -16644398.31 -16644398.10 0.0137 0.0066
 Uranus -50283-09-28 13:54 J -16644172.07 -16644171.92 -16644171.73 0.0136 0.0092
 Neptune -50282-04-20 08:52 J -16643968.24 -16643968.13 -16643967.98 0.0088 0.0072
 Uranus -50282-05-12 23:30 J -16643945.62 -16643945.52 -16643945.39 0.0136 0.0116
 Neptune -50282-12-01 23:01 J -16643742.70 -16643742.54 -16643742.34 0.0088 0.0055
 Neptune -50281-07-14 13:25 J -16643517.14 -16643516.94 -16643516.73 0.0088 0.0037
 Neptune -50280-02-25 03:49 J -16643291.56 -16643291.34 -16643291.11 0.0088 0.0019
 Neptune -50280-10-08 17:59 J -16643065.97 -16643065.75 -16643065.52 0.0088 0.0001
 Neptune -50279-05-22 08:09 J -16642840.38 -16642840.16 -16642839.94 0.0088 0.0017
 Neptune -50278-01-02 22:04 J -16642614.78 -16642614.58 -16642614.36 0.0088 0.0035
 Neptune -50278-08-16 11:59 J -16642389.16 -16642389.00 -16642388.80 0.0088 0.0053
 Jupiter -50278-12-07 17:01 J -16642275.99 -16642275.79 -16642275.59 0.0520 0.0024
 Saturn -50277-03-14 03:35 J -16642178.57 -16642178.35 -16642178.13 0.0268 0.0023
 Neptune -50277-03-29 02:09 J -16642163.52 -16642163.41 -16642163.26 0.0088 0.0071
 Saturn -50277-10-29 12:13 J -16641949.03 -16641948.99 -16641948.93 0.0267 0.0260
 Jupiter -50271-05-27 13:54 J -16639913.09 -16639912.92 -16639912.74 0.0510 0.0270
 Jupiter -50266-08-12 17:16 J -16638009.93 -16638009.78 -16638009.63 0.0522 0.0342
 Saturn -50262-04-10 18:57 J -16636672.90 -16636672.71 -16636672.52 0.0292 0.0106
 Saturn -50262-11-26 09:06 J -16636443.22 -16636443.12 -16636443.00 0.0293 0.0243
 Jupiter -50259-01-30 07:11 J -16635647.41 -16635647.20 -16635646.99 0.0508 0.0048
 Jupiter -50254-12-10 03:49 J -16633507.42 -16633507.34 -16633507.26 0.0516 0.0468
 Saturn -50248-09-24 05:30 J -16631392.49 -16631392.27 -16631392.05 0.0268 0.0009
 Jupiter -50248-10-05 01:11 J -16631381.60 -16631381.45 -16631381.30 0.0505 0.0358
 Uranus -50243-05-20 05:01 J -16629693.38 -16629693.29 -16629693.16 0.0140 0.0119
 Uranus -50242-01-01 11:30 J -16629467.16 -16629467.02 -16629466.85 0.0140 0.0094
 Jupiter -50242-08-15 02:52 J -16629241.56 -16629241.38 -16629241.19 0.0518 0.0155
 Uranus -50242-08-15 18:13 J -16629240.91 -16629240.74 -16629240.54 0.0140 0.0069

Uranus	-50241-03-29 01:25 J	-16629014.64	-16629014.44	-16629014.24	0.0141	0.0042
Uranus	-50241-11-10 08:23 J	-16628788.36	-16628788.15	-16628787.94	0.0141	0.0016
Mars	-50240-06-14 03:06 J	-16628572.51	-16628572.37	-16628572.23	0.1929	0.1116
Uranus	-50240-06-24 15:35 J	-16628562.06	-16628561.85	-16628561.64	0.0141	0.0011
Uranus	-50239-02-05 23:01 J	-16628335.75	-16628335.54	-16628335.34	0.0142	0.0038
Uranus	-50239-09-20 06:28 J	-16628109.41	-16628109.23	-16628109.03	0.0142	0.0065
Uranus	-50238-05-04 14:23 J	-16627883.05	-16627882.90	-16627882.73	0.0142	0.0092
Uranus	-50238-12-16 22:18 J	-16627656.67	-16627656.57	-16627656.44	0.0143	0.0120
Mars	-50237-03-21 21:06 J	-16627560.80	-16627560.62	-16627560.45	0.1606	0.0250
Jupiter	-50235-02-02 08:09 J	-16626878.24	-16626878.16	-16626878.07	0.0511	0.0467
Saturn	-50233-10-21 01:54 J	-16625886.62	-16625886.42	-16625886.22	0.0292	0.0055
Jupiter	-50230-04-20 03:21 J	-16624975.54	-16624975.36	-16624975.17	0.0521	0.0162
Jupiter	-50224-10-07 21:06 J	-16622612.83	-16622612.62	-16622612.42	0.0508	0.0131
Saturn	-50219-08-20 03:35 J	-16620835.46	-16620835.35	-16620835.23	0.0269	0.0228
Jupiter	-50219-12-24 04:04 J	-16620709.40	-16620709.33	-16620709.25	0.0524	0.0479
Saturn	-50218-04-06 12:57 J	-16620606.18	-16620605.96	-16620605.75	0.0268	0.0058
Jupiter	-50212-06-12 13:54 J	-16618347.11	-16618346.92	-16618346.72	0.0506	0.0186
Jupiter	-50206-04-22 16:47 J	-16616206.95	-16616206.80	-16616206.65	0.0517	0.0343
Mars	-50205-03-20 17:01 J	-16615873.81	-16615873.79	-16615873.77	0.1601	0.1588
Uranus	-50204-06-12 09:35 J	-16615425.15	-16615425.10	-16615425.00	0.0139	0.0132
Uranus	-50203-01-24 21:06 J	-16615198.75	-16615198.62	-16615198.46	0.0139	0.0104
Saturn	-50203-05-03 02:37 J	-16615100.60	-16615100.39	-16615100.19	0.0292	0.0020
Uranus	-50203-09-08 08:09 J	-16614972.33	-16614972.16	-16614971.96	0.0138	0.0078
Uranus	-50202-04-22 19:11 J	-16614745.90	-16614745.70	-16614745.48	0.0138	0.0050
Uranus	-50202-12-05 05:45 J	-16614519.48	-16614519.26	-16614519.03	0.0138	0.0024
Uranus	-50201-07-18 16:18 J	-16614293.05	-16614292.82	-16614292.60	0.0137	0.0003
Jupiter	-50200-02-15 08:37 J	-16614081.18	-16614081.14	-16614081.10	0.0504	0.0491
Uranus	-50200-03-02 02:23 J	-16614066.61	-16614066.40	-16614066.17	0.0137	0.0029
Neptune	-50200-06-06 00:28 J	-16613970.57	-16613970.48	-16613970.37	0.0089	0.0078
Uranus	-50200-10-14 12:13 J	-16613840.18	-16613839.99	-16613839.77	0.0137	0.0055

Neptune -50199-01-17 12:13 J -16613745.13 -16613744.99 -16613744.82 0.0089 0.0061
 Uranus -50199-05-28 22:04 J -16613613.76 -16613613.58 -16613613.39 0.0136 0.0080
 Neptune -50199-08-31 00:13 J -16613519.66 -16613519.49 -16613519.29 0.0089 0.0044
 Uranus -50198-01-10 07:40 J -16613387.32 -16613387.18 -16613387.04 0.0136 0.0105
 Neptune -50198-04-13 12:13 J -16613294.18 -16613293.99 -16613293.78 0.0089 0.0027
 Uranus -50198-08-24 16:47 J -16613160.86 -16613160.80 -16613160.73 0.0136 0.0129
 Neptune -50198-11-25 00:13 J -16613068.70 -16613068.49 -16613068.28 0.0089 0.0010
 Neptune -50197-07-07 11:59 J -16612843.21 -16612843.00 -16612842.78 0.0089 0.0008
 Neptune -50196-02-17 23:45 J -16612617.70 -16612617.51 -16612617.29 0.0089 0.0025
 Neptune -50196-10-01 11:45 J -16612392.19 -16612392.01 -16612391.81 0.0089 0.0042
 Neptune -50195-05-14 23:45 J -16612166.66 -16612166.51 -16612166.35 0.0089 0.0059
 Neptune -50195-12-26 11:45 J -16611941.11 -16611941.01 -16611940.90 0.0089 0.0077
 Jupiter -50195-12-26 17:16 J -16611940.97 -16611940.78 -16611940.58 0.0519 0.0032 *
 Saturn -50189-03-01 04:04 J -16610049.47 -16610049.33 -16610049.18 0.0269 0.0199
 Saturn -50189-10-16 13:25 J -16609820.14 -16609819.94 -16609819.72 0.0268 0.0087
 Jupiter -50188-06-15 16:18 J -16609577.98 -16609577.82 -16609577.66 0.0510 0.0332
 Jupiter -50183-08-31 15:35 J -16607675.01 -16607674.85 -16607674.68 0.0522 0.0294
 Pluto -50180-11-25 07:11 J -16606493.21 -16606493.20 -16606493.13 0.0067 0.0067
 Pluto -50179-07-08 13:11 J -16606268.16 -16606267.95 -16606267.74 0.0067 0.0023
 Pluto -50178-02-18 18:13 J -16606042.94 -16606042.74 -16606042.52 0.0068 0.0021
 Pluto -50178-10-01 23:16 J -16605817.55 -16605817.53 -16605817.45 0.0068 0.0066
 Jupiter -50176-02-18 08:23 J -16605312.36 -16605312.15 -16605311.94 0.0508 0.0013
 Mars -50174-04-11 06:57 J -16604530.26 -16604530.21 -16604530.15 0.1926 0.1809
 Saturn -50174-11-13 08:23 J -16604314.35 -16604314.15 -16604313.94 0.0292 0.0029
 Mars -50171-01-17 08:09 J -16603518.33 -16603518.16 -16603517.98 0.1608 0.0478
 Earth -50169-10-06 19:40 J -16602524.73 -16602524.68 -16602524.62 0.2701 0.2502
 Moon -50169-10-06 22:18 J -16602524.59 -16602524.57 -16602524.55 0.2695 0.2667
 Jupiter -50165-10-23 22:18 J -16601046.73 -16601046.57 -16601046.40 0.0505 0.0317
 Moon -50161-10-04 12:13 J -16599605.12 -16599604.99 -16599604.86 0.2694 0.1547
 Earth -50161-10-04 13:40 J -16599605.07 -16599604.93 -16599604.79 0.2700 0.1104 *

Saturn -50160-09-11 11:16 J -16599263.20 -16599263.03 -16599262.84 0.0269 0.0151
 Uranus -50159-01-17 13:54 J -16599134.99 -16599134.92 -16599134.83 0.0139 0.0129
 Saturn -50159-04-28 20:23 J -16599033.83 -16599033.65 -16599033.45 0.0268 0.0135
 Uranus -50159-08-31 20:23 J -16598908.78 -16598908.65 -16598908.50 0.0140 0.0105
 Jupiter -50159-09-03 05:16 J -16598906.46 -16598906.28 -16598906.10 0.0519 0.0215
 Uranus -50158-04-15 03:06 J -16598682.54 -16598682.37 -16598682.20 0.0140 0.0079
 Uranus -50158-11-27 09:49 J -16598456.29 -16598456.09 -16598455.90 0.0140 0.0054
 Uranus -50157-07-10 16:33 J -16598230.01 -16598229.81 -16598229.60 0.0141 0.0028
 Uranus -50156-02-21 23:45 J -16598003.72 -16598003.51 -16598003.30 0.0141 0.0003
 Uranus -50156-10-06 06:57 J -16597777.41 -16597777.21 -16597777.00 0.0141 0.0025
 Uranus -50155-05-20 14:23 J -16597551.09 -16597550.90 -16597550.70 0.0142 0.0052
 Uranus -50154-01-01 21:49 J -16597324.75 -16597324.59 -16597324.40 0.0142 0.0079
 Uranus -50154-08-16 05:59 J -16597098.39 -16597098.25 -16597098.11 0.0142 0.0106
 Uranus -50153-03-29 13:54 J -16596871.98 -16596871.92 -16596871.83 0.0143 0.0133
 Jupiter -50147-05-09 06:13 J -16594640.44 -16594640.24 -16594640.05 0.0521 0.0099
 Saturn -50145-10-07 19:11 J -16593757.76 -16593757.70 -16593757.65 0.0291 0.0279
 Saturn -50144-05-25 09:06 J -16593528.32 -16593528.12 -16593527.92 0.0292 0.0064
 Mars -50142-04-11 02:52 J -16592842.43 -16592842.38 -16592842.34 0.1934 0.1863
 Jupiter -50141-10-26 23:16 J -16592277.72 -16592277.53 -16592277.33 0.0509 0.0192
 Mars -50139-01-16 04:33 J -16591831.40 -16591831.31 -16591831.22 0.1603 0.1372
 Jupiter -50135-01-12 05:45 J -16590374.38 -16590374.26 -16590374.14 0.0523 0.0418
 Saturn -50130-03-24 11:16 J -16588477.23 -16588477.03 -16588476.84 0.0269 0.0124
 Saturn -50130-11-08 20:23 J -16588247.82 -16588247.65 -16588247.47 0.0268 0.0161
 Jupiter -50129-07-01 17:01 J -16588012.00 -16588011.79 -16588011.59 0.0507 0.0121
 Jupiter -50123-05-11 15:49 J -16585871.96 -16585871.84 -16585871.71 0.0517 0.0393
 Uranus -50120-09-24 03:35 J -16584640.47 -16584640.35 -16584640.22 0.0139 0.0115
 Uranus -50119-05-08 14:37 J -16584414.05 -16584413.89 -16584413.70 0.0139 0.0089
 Uranus -50119-12-21 01:54 J -16584187.62 -16584187.42 -16584187.22 0.0138 0.0062
 Neptune -50118-07-22 18:28 J -16583973.80 -16583973.73 -16583973.61 0.0088 0.0080
 Uranus -50118-08-04 12:42 J -16583961.19 -16583960.97 -16583960.75 0.0138 0.0035

Neptune -50117-03-04 09:06 J -16583748.27 -16583748.12 -16583747.95 0.0088 0.0061
 Jupiter -50117-03-06 10:33 J -16583746.17 -16583746.06 -16583745.96 0.0504 0.0432
 Uranus -50117-03-17 23:16 J -16583734.75 -16583734.53 -16583734.30 0.0138 0.0009
 Neptune -50117-10-15 23:30 J -16583522.72 -16583522.52 -16583522.32 0.0088 0.0043
 Uranus -50117-10-30 09:35 J -16583508.32 -16583508.10 -16583507.87 0.0137 0.0017
 Neptune -50116-05-29 13:40 J -16583297.15 -16583296.93 -16583296.71 0.0088 0.0026
 Uranus -50116-06-13 19:40 J -16583281.89 -16583281.68 -16583281.46 0.0137 0.0043
 Neptune -50115-01-10 03:49 J -16583071.56 -16583071.34 -16583071.11 0.0088 0.0008
 Uranus -50115-01-26 05:16 J -16583055.46 -16583055.28 -16583055.07 0.0137 0.0069
 Saturn -50115-04-19 23:16 J -16582971.65 -16582971.53 -16582971.41 0.0291 0.0236
 Neptune -50115-08-23 17:59 J -16582845.97 -16582845.75 -16582845.52 0.0088 0.0010
 Uranus -50115-09-09 15:06 J -16582829.03 -16582828.87 -16582828.70 0.0136 0.0093
 Saturn -50115-12-05 13:40 J -16582742.12 -16582741.93 -16582741.74 0.0292 0.0108
 Neptune -50114-04-06 08:09 J -16582620.37 -16582620.16 -16582619.94 0.0088 0.0028
 Uranus -50114-04-24 00:28 J -16582602.58 -16582602.48 -16582602.36 0.0136 0.0118
 Neptune -50114-11-17 22:04 J -16582394.76 -16582394.58 -16582394.37 0.0088 0.0046
 Neptune -50113-06-30 12:13 J -16582169.13 -16582168.99 -16582168.82 0.0088 0.0064
 Neptune -50112-02-11 02:23 J -16581943.47 -16581943.40 -16581943.30 0.0088 0.0081
 Jupiter -50111-01-14 17:01 J -16581605.99 -16581605.79 -16581605.60 0.0519 0.0085
 Mars -50106-11-14 19:40 J -16579475.84 -16579475.68 -16579475.52 0.1609 0.0705
 Jupiter -50105-07-04 14:09 J -16579243.05 -16579242.91 -16579242.77 0.0510 0.0375
 Saturn -50101-10-03 18:13 J -16577690.95 -16577690.74 -16577690.53 0.0269 0.0076
 Saturn -50100-05-21 03:06 J -16577461.49 -16577461.37 -16577461.22 0.0268 0.0209
 Jupiter -50100-09-19 17:59 J -16577339.92 -16577339.75 -16577339.57 0.0522 0.0232
 Jupiter -50093-03-09 06:57 J -16574977.42 -16574977.21 -16574977.00 0.0508 0.0056
 Pluto -50093-05-07 21:49 J -16574917.77 -16574917.59 -16574917.41 0.0077 0.0043
 Pluto -50093-12-19 06:28 J -16574692.43 -16574692.23 -16574692.01 0.0077 0.0021
 Saturn -50086-10-31 00:42 J -16572185.61 -16572185.47 -16572185.31 0.0291 0.0199
 Saturn -50085-06-16 14:37 J -16571956.06 -16571955.89 -16571955.70 0.0292 0.0145
 Jupiter -50082-11-13 00:42 J -16570711.64 -16570711.47 -16570711.28 0.0505 0.0256

Mars -50076-02-05 06:13 J -16568800.38 -16568800.24 -16568800.11 0.1932 0.1142
 Jupiter -50076-09-22 06:57 J -16568571.37 -16568571.21 -16568571.04 0.0518 0.0274
 Uranus -50075-05-01 04:47 J -16568350.41 -16568350.30 -16568350.17 0.0139 0.0115
 Uranus -50075-12-13 11:01 J -16568124.19 -16568124.04 -16568123.87 0.0140 0.0091
 Uranus -50074-07-27 17:45 J -16567897.94 -16567897.76 -16567897.57 0.0140 0.0065
 Mars -50074-11-13 16:04 J -16567788.96 -16567788.83 -16567788.71 0.1604 0.1146
 Uranus -50073-03-10 00:28 J -16567671.67 -16567671.48 -16567671.27 0.0141 0.0040
 Uranus -50073-10-22 07:25 J -16567445.39 -16567445.19 -16567444.97 0.0141 0.0014
 Uranus -50072-06-05 14:37 J -16567219.10 -16567218.89 -16567218.68 0.0141 0.0012
 Uranus -50071-01-17 21:49 J -16566992.79 -16566992.59 -16566992.38 0.0142 0.0039
 Saturn -50071-04-15 17:16 J -16566905.00 -16566904.78 -16566904.57 0.0269 0.0051
 Uranus -50071-09-01 05:16 J -16566766.45 -16566766.28 -16566766.08 0.0142 0.0066
 Saturn -50071-12-01 02:37 J -16566675.49 -16566675.39 -16566675.28 0.0268 0.0233
 Uranus -50070-04-15 13:11 J -16566540.10 -16566539.95 -16566539.78 0.0142 0.0092
 Uranus -50070-11-27 21:21 J -16566313.73 -16566313.61 -16566313.50 0.0143 0.0119
 Jupiter -50064-05-28 05:59 J -16564305.44 -16564305.25 -16564305.05 0.0520 0.0045
 Jupiter -50058-11-16 01:40 J -16561942.60 -16561942.43 -16561942.24 0.0509 0.0255
 Saturn -50056-05-12 04:18 J -16561399.48 -16561399.32 -16561399.14 0.0291 0.0157
 Saturn -50056-12-27 18:28 J -16561169.88 -16561169.73 -16561169.56 0.0292 0.0187
 Jupiter -50052-01-31 05:45 J -16560039.40 -16560039.26 -16560039.12 0.0523 0.0363
 Moon -50047-04-03 11:45 J -16558151.12 -16558151.01 -16558150.91 0.2635 0.2013
 Earth -50047-04-03 17:30 J -16558150.92 -16558150.77 -16558150.62 0.2632 0.1015 *
 Jupiter -50046-07-21 15:49 J -16557677.05 -16557676.84 -16557676.64 0.0506 0.0076
 Saturn -50042-10-26 23:59 J -16556118.72 -16556118.50 -16556118.28 0.0269 0.0004
 Jupiter -50040-05-30 18:28 J -16555536.82 -16555536.73 -16555536.64 0.0517 0.0453
 Mars -50040-09-11 07:11 J -16555433.35 -16555433.20 -16555433.06 0.1611 0.0936
 Uranus -50036-05-24 09:06 J -16554082.20 -16554082.12 -16554082.01 0.0139 0.0126
 Neptune -50036-09-07 12:42 J -16553976.01 -16553975.97 -16553975.89 0.0089 0.0085
 Uranus -50035-01-05 20:23 J -16553855.79 -16553855.65 -16553855.48 0.0139 0.0100
 Neptune -50035-04-21 00:28 J -16553750.59 -16553750.48 -16553750.32 0.0089 0.0069

Uranus -50035-08-20 07:54 J -16553629.36 -16553629.17 -16553628.98 0.0138 0.0073
 Neptune -50035-12-02 12:28 J -16553525.14 -16553524.98 -16553524.79 0.0089 0.0051
 Jupiter -50034-03-26 09:35 J -16553411.23 -16553411.10 -16553410.96 0.0504 0.0384
 Uranus -50034-04-03 18:57 J -16553402.92 -16553402.71 -16553402.50 0.0138 0.0046
 Neptune -50034-07-16 00:28 J -16553299.67 -16553299.48 -16553299.27 0.0089 0.0034
 Uranus -50034-11-16 05:45 J -16553176.49 -16553176.26 -16553176.04 0.0138 0.0020
 Neptune -50033-02-26 12:13 J -16553074.18 -16553073.99 -16553073.77 0.0089 0.0018
 Uranus -50033-06-29 16:04 J -16552950.05 -16552949.83 -16552949.60 0.0137 0.0006
 Neptune -50033-10-09 00:28 J -16552848.69 -16552848.48 -16552848.27 0.0089 0.0001
 Uranus -50032-02-11 02:23 J -16552723.62 -16552723.40 -16552723.18 0.0137 0.0032
 Neptune -50032-05-22 11:59 J -16552623.20 -16552623.00 -16552622.78 0.0089 0.0018
 Uranus -50032-09-25 12:13 J -16552497.18 -16552496.99 -16552496.77 0.0137 0.0058
 Neptune -50031-01-02 23:45 J -16552397.69 -16552397.51 -16552397.30 0.0089 0.0035
 Uranus -50031-05-09 22:04 J -16552270.75 -16552270.58 -16552270.39 0.0136 0.0083
 Neptune -50031-08-16 11:45 J -16552172.17 -16552172.01 -16552171.82 0.0089 0.0052
 Uranus -50031-12-22 07:25 J -16552044.31 -16552044.19 -16552044.04 0.0136 0.0107
 Neptune -50030-03-29 23:30 J -16551946.63 -16551946.52 -16551946.37 0.0089 0.0070
 Uranus -50030-08-05 16:47 J -16551817.84 -16551817.80 -16551817.73 0.0136 0.0131
 Neptune -50030-11-10 11:30 J -16551721.06 -16551721.02 -16551720.95 0.0089 0.0086
 Jupiter -50028-02-02 19:54 J -16551270.85 -16551270.67 -16551270.48 0.0519 0.0147
 Saturn -50027-11-22 06:42 J -16550613.41 -16550613.22 -16550613.04 0.0291 0.0118
 Saturn -50026-07-09 20:09 J -16550383.78 -16550383.66 -16550383.52 0.0292 0.0225
 Jupiter -50022-07-24 17:16 J -16548907.89 -16548907.78 -16548907.68 0.0511 0.0438
 Jupiter -50017-10-08 20:37 J -16547004.83 -16547004.64 -16547004.46 0.0522 0.0168
 Saturn -50013-09-20 12:57 J -16545561.99 -16545561.96 -16545561.93 0.0270 0.0266
 Saturn -50012-05-07 23:01 J -16545332.76 -16545332.54 -16545332.32 0.0269 0.0021
 Mars -50011-12-03 10:18 J -16544758.23 -16544758.07 -16544757.90 0.1929 0.0460
 Jupiter -50010-03-29 10:33 J -16544642.26 -16544642.06 -16544641.86 0.0508 0.0122
 Mars -50008-09-10 03:49 J -16543746.48 -16543746.34 -16543746.19 0.1606 0.0933
 Jupiter -50005-06-13 18:28 J -16542738.79 -16542738.73 -16542738.67 0.0524 0.0493

50TH MILLENNIUM BCE

This is a list of transits of Venus in the 50th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-49999-12-02 03:35 J	-16540376.55	-16540376.35	-16540376.16	0.0506	0.0193		
Saturn	-49997-06-03 09:35 J	-16539827.29	-16539827.10	-16539826.90	0.0291	0.0078		
Saturn	-49996-01-18 23:45 J	-16539597.59	-16539597.51	-16539597.42	0.0292	0.0265		
Jupiter	-49993-10-11 07:11 J	-16538236.35	-16538236.20	-16538236.05	0.0518	0.0327		
Uranus	-49992-12-29 13:54 J	-16537792.00	-16537791.92	-16537791.82	0.0139	0.0125		
Uranus	-49991-08-12 20:23 J	-16537565.79	-16537565.65	-16537565.50	0.0140	0.0101		
Uranus	-49990-03-27 02:37 J	-16537339.55	-16537339.39	-16537339.20	0.0140	0.0076		
Uranus	-49990-11-08 09:35 J	-16537113.30	-16537113.10	-16537112.91	0.0140	0.0051		
Uranus	-49989-06-21 16:04 J	-16536887.03	-16536886.83	-16536886.62	0.0141	0.0025		
Uranus	-49988-02-02 23:16 J	-16536660.74	-16536660.53	-16536660.32	0.0141	0.0002		
Uranus	-49988-09-17 06:28 J	-16536434.44	-16536434.23	-16536434.02	0.0141	0.0027		
Uranus	-49987-05-01 13:40 J	-16536208.12	-16536207.93	-16536207.73	0.0142	0.0054		
Uranus	-49987-12-13 21:06 J	-16535981.78	-16535981.62	-16535981.43	0.0142	0.0080		
Uranus	-49986-07-28 05:01 J	-16535755.42	-16535755.29	-16535755.14	0.0142	0.0107		
Uranus	-49985-03-10 13:11 J	-16535529.02	-16535528.95	-16535528.87	0.0143	0.0133		
Saturn	-49983-04-02 19:25 J	-16534775.82	-16534775.69	-16534775.57	0.0270	0.0219		
Saturn	-49983-11-18 05:30 J	-16534546.48	-16534546.27	-16534546.06	0.0269	0.0068		
Jupiter	-49981-06-16 07:54 J	-16533970.36	-16533970.17	-16533969.97	0.0521	0.0018		
Jupiter	-49975-12-05 00:57 J	-16531607.63	-16531607.46	-16531607.29	0.0509	0.0301		

Mars -49974-07-09 18:13 J -16531390.86 -16531390.74 -16531390.62 0.1613 0.1170
 Jupiter -49969-02-20 08:23 J -16529704.30 -16529704.15 -16529703.98 0.0523 0.0301
 Saturn -49968-12-14 13:11 J -16529041.15 -16529040.95 -16529040.74 0.0291 0.0035
 Jupiter -49963-08-09 17:59 J -16527341.96 -16527341.75 -16527341.54 0.0507 0.0017
 Jupiter -49957-06-18 20:23 J -16525201.67 -16525201.65 -16525201.62 0.0516 0.0511
 Saturn -49954-10-13 18:13 J -16523989.88 -16523989.74 -16523989.58 0.0270 0.0195
 Neptune -49954-10-24 03:49 J -16523979.36 -16523979.34 -16523979.28 0.0088 0.0087
 Saturn -49953-05-30 04:33 J -16523760.51 -16523760.31 -16523760.10 0.0269 0.0092
 Neptune -49953-06-05 18:28 J -16523753.87 -16523753.73 -16523753.59 0.0088 0.0069
 Neptune -49952-01-17 08:23 J -16523528.32 -16523528.15 -16523527.95 0.0088 0.0051
 Uranus -49952-01-21 14:37 J -16523523.91 -16523523.89 -16523523.84 0.0139 0.0137
 Neptune -49952-08-30 22:47 J -16523302.75 -16523302.55 -16523302.33 0.0088 0.0033
 Uranus -49952-09-05 02:37 J -16523297.53 -16523297.39 -16523297.26 0.0139 0.0110
 Neptune -49951-04-13 13:11 J -16523077.17 -16523076.95 -16523076.73 0.0088 0.0015
 Jupiter -49951-04-14 12:28 J -16523076.14 -16523075.98 -16523075.82 0.0505 0.0321
 Uranus -49951-04-19 13:40 J -16523071.10 -16523070.93 -16523070.74 0.0139 0.0084
 Neptune -49951-11-25 03:21 J -16522851.59 -16522851.36 -16522851.13 0.0088 0.0002
 Uranus -49951-12-02 00:42 J -16522844.67 -16522844.47 -16522844.26 0.0138 0.0058
 Neptune -49950-07-08 17:16 J -16522625.99 -16522625.78 -16522625.55 0.0088 0.0021
 Uranus -49950-07-16 11:45 J -16522618.23 -16522618.01 -16522617.79 0.0138 0.0031
 Neptune -49949-02-19 07:25 J -16522400.38 -16522400.19 -16522399.97 0.0088 0.0039
 Uranus -49949-02-27 22:33 J -16522391.79 -16522391.56 -16522391.34 0.0138 0.0005
 Neptune -49949-10-01 21:35 J -16522174.76 -16522174.60 -16522174.41 0.0088 0.0056
 Uranus -49949-10-11 08:52 J -16522165.35 -16522165.13 -16522164.91 0.0137 0.0021
 Neptune -49948-05-15 11:59 J -16521949.12 -16521949.00 -16521948.87 0.0088 0.0073
 Uranus -49948-05-25 18:57 J -16521938.92 -16521938.71 -16521938.50 0.0137 0.0046
 Uranus -49947-01-07 04:33 J -16521712.49 -16521712.31 -16521712.11 0.0137 0.0072
 Uranus -49947-08-21 14:09 J -16521486.05 -16521485.91 -16521485.74 0.0136 0.0096
 Uranus -49946-04-04 23:45 J -16521259.60 -16521259.51 -16521259.39 0.0136 0.0120
 Jupiter -49945-02-22 20:09 J -16520935.84 -16520935.66 -16520935.48 0.0519 0.0200

Mars	-49945-09-29 13:54 J	-16520716.09	-16520715.92	-16520715.76	0.1926	0.0261
Mars	-49942-07-08 14:37 J	-16519704.05	-16519703.89	-16519703.73	0.1608	0.0694
Jupiter	-49939-08-12 19:40 J	-16518572.71	-16518572.68	-16518572.63	0.0511	0.0500
Saturn	-49938-06-26 15:49 J	-16518255.04	-16518254.84	-16518254.63	0.0291	0.0007
Jupiter	-49934-10-28 20:23 J	-16516669.85	-16516669.65	-16516669.46	0.0522	0.0115
Pluto	-49932-10-29 01:54 J	-16515938.60	-16515938.42	-16515938.21	0.0067	0.0031
Pluto	-49931-06-11 07:40 J	-16515713.40	-16515713.18	-16515712.96	0.0068	0.0013
Pluto	-49930-01-22 12:28 J	-16515488.07	-16515487.98	-16515487.83	0.0068	0.0058
Jupiter	-49927-04-17 09:49 J	-16514307.29	-16514307.09	-16514306.89	0.0508	0.0169
Moon	-49926-10-07 19:11 J	-16513768.75	-16513768.70	-16513768.65	0.2705	0.2504
Earth	-49926-10-07 23:30 J	-16513768.54	-16513768.52	-16513768.50	0.2701	0.2665
Saturn	-49924-04-25 01:11 J	-16513203.64	-16513203.45	-16513203.27	0.0270	0.0148
Saturn	-49924-12-10 11:01 J	-16512974.21	-16512974.04	-16512973.84	0.0269	0.0141
Jupiter	-49922-07-03 19:11 J	-16512403.80	-16512403.70	-16512403.59	0.0525	0.0439
Moon	-49918-10-05 16:33 J	-16510848.95	-16510848.81	-16510848.68	0.2707	0.0994
Earth	-49918-10-05 17:30 J	-16510848.92	-16510848.77	-16510848.63	0.2700	0.0940 *
Jupiter	-49916-12-21 02:37 J	-16510041.59	-16510041.39	-16510041.19	0.0505	0.0145
Jupiter	-49910-10-31 08:52 J	-16507901.26	-16507901.13	-16507901.00	0.0518	0.0384
Saturn	-49909-05-21 07:25 J	-16507698.21	-16507698.19	-16507698.15	0.0289	0.0286
Saturn	-49908-01-05 20:52 J	-16507468.84	-16507468.63	-16507468.43	0.0290	0.0051
Mars	-49908-05-06 05:16 J	-16507348.37	-16507348.28	-16507348.20	0.1615	0.1410
Uranus	-49908-08-28 23:16 J	-16507233.56	-16507233.53	-16507233.47	0.0139	0.0135
Uranus	-49907-04-12 05:16 J	-16507007.39	-16507007.28	-16507007.14	0.0139	0.0112
Uranus	-49907-11-24 11:30 J	-16506781.17	-16506781.02	-16506780.84	0.0140	0.0087
Uranus	-49906-07-08 17:59 J	-16506554.92	-16506554.75	-16506554.55	0.0140	0.0062
Uranus	-49905-02-20 00:57 J	-16506328.66	-16506328.46	-16506328.26	0.0140	0.0036
Uranus	-49905-10-03 07:54 J	-16506102.38	-16506102.17	-16506101.96	0.0141	0.0011
Uranus	-49904-05-17 14:52 J	-16505876.09	-16505875.88	-16505875.67	0.0141	0.0015
Jupiter	-49904-08-25 20:37 J	-16505775.73	-16505775.64	-16505775.55	0.0503	0.0451
Uranus	-49904-12-29 22:04 J	-16505649.78	-16505649.58	-16505649.37	0.0142	0.0041

Uranus -49903-08-13 05:30 J -16505423.45 -16505423.27 -16505423.08 0.0142 0.0068
 Uranus -49902-03-27 13:11 J -16505197.10 -16505196.95 -16505196.78 0.0142 0.0094
 Uranus -49902-11-08 21:06 J -16504970.72 -16504970.62 -16504970.50 0.0143 0.0121
 Jupiter -49898-07-06 09:49 J -16503635.28 -16503635.09 -16503634.89 0.0520 0.0076
 Saturn -49895-11-05 00:42 J -16502417.66 -16502417.47 -16502417.27 0.0270 0.0121
 Saturn -49894-06-22 10:47 J -16502188.21 -16502188.05 -16502187.87 0.0269 0.0165
 Jupiter -49892-12-24 03:35 J -16501272.50 -16501272.35 -16501272.20 0.0510 0.0364
 Jupiter -49886-03-11 08:37 J -16499369.31 -16499369.14 -16499368.96 0.0523 0.0246
 Jupiter -49880-08-28 20:23 J -16497006.86 -16497006.65 -16497006.44 0.0507 0.0047
 Saturn -49880-12-01 10:33 J -16496912.17 -16496912.06 -16496911.95 0.0290 0.0246
 Saturn -49879-07-18 23:59 J -16496682.70 -16496682.50 -16496682.31 0.0291 0.0091
 Mars -49879-07-27 17:45 J -16496673.90 -16496673.76 -16496673.61 0.1923 0.0938
 Mars -49876-05-05 02:09 J -16495661.58 -16495661.41 -16495661.24 0.1609 0.0471
 Neptune -49871-07-23 12:42 J -16493756.06 -16493755.97 -16493755.83 0.0089 0.0075
 Neptune -49870-03-06 00:42 J -16493530.61 -16493530.47 -16493530.29 0.0089 0.0058
 Neptune -49870-10-17 12:28 J -16493305.15 -16493304.98 -16493304.77 0.0089 0.0041
 Neptune -49869-05-30 00:28 J -16493079.67 -16493079.48 -16493079.26 0.0089 0.0024
 Neptune -49868-01-10 12:28 J -16492854.19 -16492853.98 -16492853.76 0.0089 0.0007
 Jupiter -49868-05-03 11:59 J -16492741.18 -16492741.00 -16492740.82 0.0504 0.0273
 Uranus -49868-05-05 08:37 J -16492739.23 -16492739.14 -16492739.02 0.0139 0.0121
 Neptune -49868-08-24 00:28 J -16492628.69 -16492628.48 -16492628.26 0.0089 0.0011
 Uranus -49868-12-17 19:54 J -16492512.82 -16492512.67 -16492512.49 0.0139 0.0095
 Neptune -49867-04-06 12:13 J -16492403.19 -16492402.99 -16492402.78 0.0089 0.0028
 Uranus -49867-08-01 07:11 J -16492286.38 -16492286.20 -16492285.99 0.0138 0.0069
 Neptune -49867-11-17 23:59 J -16492177.68 -16492177.50 -16492177.31 0.0089 0.0045
 Uranus -49866-03-15 18:28 J -16492059.94 -16492059.73 -16492059.51 0.0138 0.0042
 Neptune -49866-07-01 11:45 J -16491952.15 -16491952.01 -16491951.85 0.0089 0.0062
 Uranus -49866-10-28 05:16 J -16491833.50 -16491833.28 -16491833.05 0.0138 0.0016
 Neptune -49865-02-11 23:45 J -16491726.61 -16491726.51 -16491726.41 0.0089 0.0078
 Saturn -49865-05-17 07:25 J -16491631.40 -16491631.19 -16491630.98 0.0270 0.0074

Uranus -49865-06-10 15:49 J -16491607.06 -16491606.84 -16491606.62 0.0137 0.0010
 Saturn -49864-01-01 17:45 J -16491401.89 -16491401.76 -16491401.62 0.0269 0.0213
 Uranus -49864-01-23 01:54 J -16491380.63 -16491380.42 -16491380.20 0.0137 0.0035
 Uranus -49864-09-06 11:45 J -16491154.20 -16491154.01 -16491153.79 0.0137 0.0061
 Uranus -49863-04-20 21:35 J -16490927.76 -16490927.60 -16490927.41 0.0137 0.0086
 Uranus -49863-12-03 07:11 J -16490701.32 -16490701.20 -16490701.06 0.0136 0.0110
 Jupiter -49862-03-13 20:23 J -16490600.83 -16490600.65 -16490600.48 0.0519 0.0252
 Uranus -49862-07-17 16:33 J -16490474.85 -16490474.81 -16490474.76 0.0136 0.0133
 Jupiter -49851-11-16 20:52 J -16486334.82 -16486334.63 -16486334.43 0.0522 0.0062
 Saturn -49850-06-13 17:01 J -16486125.94 -16486125.79 -16486125.64 0.0289 0.0196
 Saturn -49849-01-29 05:59 J -16485896.42 -16485896.25 -16485896.06 0.0290 0.0140
 Pluto -49846-08-29 10:33 J -16484588.20 -16484588.06 -16484587.88 0.0077 0.0054
 Pluto -49845-04-10 19:54 J -16484362.89 -16484362.67 -16484362.45 0.0077 0.0011
 Pluto -49845-11-22 03:49 J -16484137.35 -16484137.34 -16484137.27 0.0076 0.0076
 Jupiter -49844-05-06 10:18 J -16483972.25 -16483972.07 -16483971.88 0.0508 0.0224
 Jupiter -49839-07-22 20:52 J -16482068.76 -16482068.63 -16482068.49 0.0524 0.0377
 Saturn -49836-11-27 08:09 J -16480845.38 -16480845.16 -16480844.94 0.0270 0.0045
 Saturn -49835-07-14 18:28 J -16480615.83 -16480615.73 -16480615.63 0.0269 0.0240
 Jupiter -49832-01-09 04:04 J -16479706.54 -16479706.33 -16479706.13 0.0506 0.0088
 Jupiter -49827-11-19 07:54 J -16477566.27 -16477566.17 -16477566.05 0.0517 0.0433
 Uranus -49824-12-10 15:35 J -16476448.94 -16476448.85 -16476448.74 0.0139 0.0121
 Uranus -49823-07-24 21:35 J -16476222.73 -16476222.60 -16476222.43 0.0140 0.0097
 Uranus -49822-03-08 04:04 J -16475996.50 -16475996.33 -16475996.14 0.0140 0.0072
 Uranus -49822-10-20 10:33 J -16475770.24 -16475770.06 -16475769.85 0.0140 0.0048
 Uranus -49821-06-02 17:30 J -16475543.98 -16475543.77 -16475543.56 0.0141 0.0022
 Jupiter -49821-09-13 21:49 J -16475440.71 -16475440.59 -16475440.45 0.0504 0.0395
 Saturn -49821-12-23 19:54 J -16475339.84 -16475339.67 -16475339.49 0.0290 0.0156
 Uranus -49820-01-15 00:28 J -16475317.69 -16475317.48 -16475317.27 0.0141 0.0004
 Saturn -49820-08-10 09:21 J -16475110.27 -16475110.11 -16475109.95 0.0291 0.0181
 Uranus -49820-08-29 07:40 J -16475091.38 -16475091.18 -16475090.97 0.0141 0.0030

Uranus -49819-04-12 15:06 J -16474865.06 -16474864.87 -16474864.68 0.0142 0.0056
 Uranus -49819-11-24 22:33 J -16474638.73 -16474638.56 -16474638.38 0.0142 0.0082
 Uranus -49818-07-09 06:13 J -16474412.37 -16474412.24 -16474412.10 0.0142 0.0109
 Uranus -49817-02-20 14:09 J -16474185.96 -16474185.91 -16474185.83 0.0143 0.0135
 Jupiter -49815-07-25 08:23 J -16473300.34 -16473300.15 -16473299.96 0.0520 0.0122
 Mars -49813-05-23 22:04 J -16472631.67 -16472631.58 -16472631.48 0.1920 0.1594
 Mars -49810-03-02 13:25 J -16471619.12 -16471618.94 -16471618.76 0.1611 0.0237
 Jupiter -49808-01-12 02:09 J -16470937.53 -16470937.41 -16470937.28 0.0509 0.0408
 Saturn -49806-06-09 15:06 J -16470059.09 -16470058.87 -16470058.65 0.0270 0.0003
 Earth -49804-04-03 15:49 J -16469394.99 -16469394.84 -16469394.69 0.2633 0.1136
 Moon -49804-04-03 21:49 J -16469394.76 -16469394.59 -16469394.43 0.2634 0.0117 *
 Jupiter -49803-03-30 06:57 J -16469034.39 -16469034.21 -16469034.03 0.0523 0.0201
 Jupiter -49797-09-16 18:28 J -16466671.94 -16466671.73 -16466671.52 0.0507 0.0090
 Jupiter -49792-12-03 06:13 J -16464768.26 -16464768.24 -16464768.21 0.0526 0.0521
 Saturn -49791-07-06 04:18 J -16464553.51 -16464553.32 -16464553.12 0.0289 0.0101
 Saturn -49790-02-20 17:30 J -16464323.89 -16464323.77 -16464323.65 0.0291 0.0235
 Neptune -49789-09-07 03:06 J -16463759.47 -16463759.37 -16463759.25 0.0088 0.0076
 Neptune -49788-04-20 16:47 J -16463533.94 -16463533.80 -16463533.60 0.0088 0.0060
 Neptune -49788-12-02 07:11 J -16463308.39 -16463308.20 -16463307.98 0.0088 0.0042
 Neptune -49787-07-15 21:35 J -16463082.81 -16463082.60 -16463082.38 0.0088 0.0024
 Neptune -49786-02-26 11:59 J -16462857.23 -16462857.00 -16462856.77 0.0088 0.0006
 Neptune -49786-10-10 02:09 J -16462631.63 -16462631.41 -16462631.18 0.0088 0.0012
 Jupiter -49785-05-22 11:01 J -16462406.23 -16462406.04 -16462405.85 0.0505 0.0223
 Neptune -49785-05-22 16:18 J -16462406.03 -16462405.82 -16462405.60 0.0088 0.0030 *
 Uranus -49784-01-02 15:49 J -16462180.91 -16462180.84 -16462180.76 0.0139 0.0132
 Neptune -49784-01-03 06:13 J -16462180.42 -16462180.24 -16462180.04 0.0088 0.0048
 Neptune -49784-08-16 20:09 J -16461954.79 -16461954.66 -16461954.48 0.0088 0.0066
 Uranus -49784-08-17 03:21 J -16461954.50 -16461954.36 -16461954.21 0.0139 0.0105 *
 Neptune -49783-03-30 11:01 J -16461729.12 -16461729.04 -16461728.96 0.0088 0.0083
 Uranus -49783-03-31 14:52 J -16461728.06 -16461727.88 -16461727.69 0.0139 0.0079

Uranus	-49783-11-13 01:54 J	-16461501.63	-16461501.42	-16461501.21	0.0138	0.0053
Uranus	-49782-06-27 12:42 J	-16461275.19	-16461274.97	-16461274.75	0.0138	0.0027
Uranus	-49781-02-08 23:30 J	-16461048.75	-16461048.52	-16461048.30	0.0138	0.0003
Uranus	-49781-09-22 09:49 J	-16460822.31	-16460822.09	-16460821.87	0.0137	0.0024
Uranus	-49780-05-06 19:40 J	-16460595.88	-16460595.68	-16460595.46	0.0137	0.0050
Uranus	-49780-12-19 05:16 J	-16460369.45	-16460369.28	-16460369.07	0.0137	0.0075
Jupiter	-49779-04-01 20:37 J	-16460265.80	-16460265.64	-16460265.48	0.0519	0.0305
Uranus	-49779-08-02 15:06 J	-16460143.02	-16460142.87	-16460142.71	0.0136	0.0099
Uranus	-49778-03-17 00:42 J	-16459916.56	-16459916.47	-16459916.37	0.0136	0.0123
Saturn	-49777-05-04 06:13 J	-16459502.31	-16459502.24	-16459502.17	0.0271	0.0254
Saturn	-49777-12-19 17:01 J	-16459273.01	-16459272.79	-16459272.57	0.0270	0.0034
Jupiter	-49768-12-05 19:40 J	-16455999.87	-16455999.68	-16455999.48	0.0521	0.0016
Saturn	-49761-01-16 07:25 J	-16453767.39	-16453767.19	-16453766.98	0.0290	0.0060
Jupiter	-49761-05-25 11:01 J	-16453637.21	-16453637.04	-16453636.86	0.0508	0.0278
Saturn	-49761-09-01 20:37 J	-16453537.69	-16453537.64	-16453537.57	0.0291	0.0277
Jupiter	-49756-08-10 18:28 J	-16451733.88	-16451733.73	-16451733.58	0.0524	0.0333
Jupiter	-49749-01-29 02:37 J	-16449371.60	-16449371.39	-16449371.18	0.0505	0.0042
Saturn	-49748-11-14 12:57 J	-16448716.09	-16448715.96	-16448715.81	0.0271	0.0208
Saturn	-49747-07-02 00:13 J	-16448486.70	-16448486.49	-16448486.28	0.0270	0.0081
Mars	-49745-12-28 00:28 J	-16447576.66	-16447576.48	-16447576.30	0.1613	0.0023
Jupiter	-49744-12-08 05:16 J	-16447231.35	-16447231.28	-16447231.19	0.0518	0.0473
Uranus	-49740-08-10 01:11 J	-16445890.51	-16445890.45	-16445890.37	0.0139	0.0131
Uranus	-49739-03-24 07:25 J	-16445664.32	-16445664.19	-16445664.05	0.0139	0.0107
Uranus	-49739-11-05 13:25 J	-16445438.10	-16445437.94	-16445437.76	0.0140	0.0083
Uranus	-49738-06-19 19:54 J	-16445211.86	-16445211.67	-16445211.47	0.0140	0.0058
Jupiter	-49738-10-03 19:40 J	-16445105.82	-16445105.68	-16445105.52	0.0503	0.0351
Uranus	-49737-02-01 02:23 J	-16444985.59	-16444985.40	-16444985.18	0.0141	0.0034
Uranus	-49737-09-14 09:35 J	-16444759.31	-16444759.10	-16444758.89	0.0141	0.0008
Uranus	-49736-04-28 16:33 J	-16444533.01	-16444532.81	-16444532.59	0.0141	0.0019
Uranus	-49736-12-10 23:59 J	-16444306.70	-16444306.50	-16444306.30	0.0142	0.0044

Uranus -49735-07-25 07:11 J -16444080.37 -16444080.20 -16444080.01 0.0142 0.0070
 Uranus -49734-03-08 14:52 J -16443854.02 -16443853.88 -16443853.72 0.0142 0.0096
 Uranus -49734-10-20 22:47 J -16443627.64 -16443627.55 -16443627.43 0.0143 0.0123
 Saturn -49732-07-28 17:16 J -16442980.99 -16442980.78 -16442980.57 0.0290 0.0002
 Jupiter -49732-08-13 06:13 J -16442965.42 -16442965.24 -16442965.05 0.0520 0.0167
 Jupiter -49725-02-01 00:28 J -16440602.57 -16440602.48 -16440602.39 0.0510 0.0454
 Jupiter -49720-04-18 06:42 J -16438699.41 -16438699.22 -16438699.03 0.0523 0.0147
 Saturn -49718-05-27 16:47 J -16437929.97 -16437929.80 -16437929.63 0.0270 0.0171
 Saturn -49717-01-12 03:35 J -16437700.55 -16437700.35 -16437700.15 0.0269 0.0116
 Mars -49715-03-20 21:06 J -16436901.74 -16436901.62 -16436901.50 0.1926 0.1301
 Jupiter -49714-10-06 17:16 J -16436336.98 -16436336.78 -16436336.58 0.0507 0.0139
 Jupiter -49709-12-22 04:47 J -16434433.38 -16434433.30 -16434433.22 0.0525 0.0471
 Neptune -49707-10-25 00:13 J -16433761.55 -16433761.49 -16433761.39 0.0089 0.0082
 Neptune -49706-06-07 12:13 J -16433536.12 -16433535.99 -16433535.84 0.0089 0.0065
 Neptune -49705-01-19 00:13 J -16433310.66 -16433310.49 -16433310.31 0.0089 0.0048
 Neptune -49705-08-31 12:13 J -16433085.18 -16433084.99 -16433084.78 0.0089 0.0031
 Neptune -49704-04-14 00:13 J -16432859.70 -16432859.49 -16432859.28 0.0089 0.0014
 Neptune -49704-11-25 11:59 J -16432634.21 -16432634.00 -16432633.78 0.0089 0.0003
 Neptune -49703-07-08 23:45 J -16432408.71 -16432408.51 -16432408.30 0.0089 0.0020
 Saturn -49702-02-07 20:37 J -16432194.84 -16432194.64 -16432194.43 0.0290 0.0040
 Neptune -49702-02-19 11:16 J -16432183.20 -16432183.03 -16432182.82 0.0089 0.0037
 Jupiter -49702-06-11 10:33 J -16432071.25 -16432071.06 -16432070.86 0.0505 0.0172
 Neptune -49702-10-02 23:16 J -16431957.68 -16431957.53 -16431957.35 0.0089 0.0054
 Neptune -49701-05-15 11:30 J -16431732.15 -16431732.02 -16431731.89 0.0089 0.0071
 Neptune -49701-12-26 23:01 J -16431506.57 -16431506.54 -16431506.49 0.0089 0.0088
 Uranus -49700-04-16 11:30 J -16431396.13 -16431396.02 -16431395.88 0.0139 0.0115
 Uranus -49700-11-28 22:47 J -16431169.71 -16431169.55 -16431169.36 0.0139 0.0089
 Uranus -49699-07-13 10:04 J -16430943.27 -16430943.08 -16430942.87 0.0139 0.0063
 Uranus -49698-02-24 21:06 J -16430716.83 -16430716.62 -16430716.40 0.0138 0.0037
 Uranus -49698-10-09 07:54 J -16430490.39 -16430490.17 -16430489.94 0.0138 0.0011

Uranus	-49697-05-22 18:13 J	-16430263.96	-16430263.74	-16430263.51	0.0138	0.0014
Uranus	-49696-01-04 04:18 J	-16430037.53	-16430037.32	-16430037.10	0.0137	0.0039
Jupiter	-49696-04-20 17:16 J	-16429930.93	-16429930.78	-16429930.63	0.0519	0.0344
Uranus	-49696-08-18 14:09 J	-16429811.10	-16429810.91	-16429810.70	0.0137	0.0064
Uranus	-49695-04-01 23:59 J	-16429584.66	-16429584.50	-16429584.32	0.0137	0.0089
Uranus	-49695-11-14 09:35 J	-16429358.22	-16429358.10	-16429357.97	0.0136	0.0112
Uranus	-49694-06-28 18:57 J	-16429131.71	-16429131.71	-16429131.70	0.0136	0.0136
Jupiter	-49690-02-14 04:18 J	-16427805.38	-16427805.32	-16427805.26	0.0502	0.0477
Saturn	-49689-12-06 23:45 J	-16427143.69	-16427143.51	-16427143.31	0.0271	0.0125
Saturn	-49688-07-24 10:47 J	-16426914.22	-16426914.05	-16426913.87	0.0270	0.0163
Jupiter	-49685-12-24 15:35 J	-16425665.05	-16425664.85	-16425664.66	0.0522	0.0027
Pluto	-49684-02-18 18:42 J	-16425608.91	-16425608.72	-16425608.51	0.0067	0.0028
Pluto	-49684-10-02 00:13 J	-16425383.70	-16425383.49	-16425383.27	0.0068	0.0016
Pluto	-49683-05-15 05:01 J	-16425158.36	-16425158.29	-16425158.16	0.0068	0.0061
Mars	-49679-10-25 11:45 J	-16423534.19	-16423534.01	-16423533.83	0.1615	0.0229
Jupiter	-49678-06-14 07:40 J	-16423302.33	-16423302.18	-16423302.01	0.0508	0.0318
Earth	-49675-10-05 20:52 J	-16422092.77	-16422092.63	-16422092.48	0.2699	0.0783
Moon	-49675-10-06 00:13 J	-16422092.65	-16422092.49	-16422092.33	0.2693	0.0207 *
Saturn	-49673-01-03 18:28 J	-16421637.84	-16421637.73	-16421637.60	0.0289	0.0232
Saturn	-49673-08-20 07:25 J	-16421408.38	-16421408.19	-16421407.99	0.0290	0.0101
Jupiter	-49673-08-29 15:06 J	-16421399.04	-16421398.87	-16421398.71	0.0524	0.0293
Jupiter	-49666-02-16 23:16 J	-16419036.74	-16419036.53	-16419036.32	0.0506	0.0006
Saturn	-49659-06-19 04:47 J	-16416357.50	-16416357.30	-16416357.08	0.0270	0.0084
Saturn	-49658-02-03 15:21 J	-16416127.99	-16416127.86	-16416127.70	0.0269	0.0202
Uranus	-49656-11-21 17:16 J	-16415105.88	-16415105.78	-16415105.65	0.0139	0.0117
Uranus	-49655-07-05 23:30 J	-16414879.67	-16414879.52	-16414879.36	0.0140	0.0093
Jupiter	-49655-10-22 17:01 J	-16414770.96	-16414770.79	-16414770.62	0.0504	0.0307
Uranus	-49654-02-17 05:59 J	-16414653.43	-16414653.25	-16414653.07	0.0140	0.0068
Uranus	-49654-10-01 12:28 J	-16414427.18	-16414426.98	-16414426.78	0.0140	0.0044
Uranus	-49653-05-14 19:11 J	-16414200.91	-16414200.70	-16414200.49	0.0141	0.0019

Uranus -49653-12-27 02:09 J -16413974.62 -16413974.41 -16413974.20 0.0141 0.0007
 Uranus -49652-08-10 09:21 J -16413748.32 -16413748.11 -16413747.90 0.0141 0.0032
 Uranus -49651-03-24 16:47 J -16413521.99 -16413521.80 -16413521.61 0.0142 0.0058
 Uranus -49651-11-06 00:13 J -16413295.65 -16413295.49 -16413295.32 0.0142 0.0084
 Uranus -49650-06-20 07:54 J -16413069.29 -16413069.17 -16413069.03 0.0142 0.0110
 Mars -49649-01-16 00:42 J -16412859.62 -16412859.47 -16412859.30 0.1923 0.0613
 Uranus -49649-02-01 15:49 J -16412842.88 -16412842.84 -16412842.76 0.0143 0.0137
 Jupiter -49649-09-01 04:04 J -16412630.51 -16412630.33 -16412630.15 0.0520 0.0210
 Saturn -49644-07-15 22:04 J -16410851.73 -16410851.58 -16410851.42 0.0289 0.0191
 Saturn -49643-03-02 11:01 J -16410622.22 -16410622.04 -16410621.86 0.0291 0.0143
 Jupiter -49642-02-19 23:30 J -16410267.55 -16410267.52 -16410267.48 0.0510 0.0503
 Jupiter -49637-05-07 02:52 J -16408364.57 -16408364.38 -16408364.19 0.0522 0.0108
 Jupiter -49631-10-25 15:21 J -16406002.06 -16406001.86 -16406001.67 0.0507 0.0183
 Saturn -49630-12-30 11:59 J -16405571.21 -16405571.00 -16405570.78 0.0270 0.0039
 Saturn -49629-08-15 22:47 J -16405341.63 -16405341.55 -16405341.46 0.0269 0.0248
 Jupiter -49625-01-10 23:16 J -16404098.63 -16404098.53 -16404098.42 0.0525 0.0439
 Neptune -49625-12-09 11:16 J -16403765.08 -16403765.03 -16403764.96 0.0088 0.0085
 Neptune -49624-07-23 01:11 J -16403539.58 -16403539.45 -16403539.28 0.0088 0.0067
 Neptune -49623-03-05 15:35 J -16403314.02 -16403313.85 -16403313.65 0.0088 0.0050
 Neptune -49623-10-17 05:45 J -16403088.46 -16403088.26 -16403088.04 0.0088 0.0032
 Neptune -49622-05-30 19:54 J -16402862.89 -16402862.67 -16402862.44 0.0088 0.0015
 Neptune -49621-01-11 10:18 J -16402637.30 -16402637.07 -16402636.84 0.0088 0.0003
 Neptune -49621-08-24 00:13 J -16402411.70 -16402411.49 -16402411.26 0.0088 0.0022
 Neptune -49620-04-06 14:23 J -16402186.09 -16402185.90 -16402185.68 0.0088 0.0039
 Neptune -49620-11-18 04:33 J -16401960.47 -16401960.31 -16401960.12 0.0088 0.0057
 Jupiter -49619-06-30 07:25 J -16401736.39 -16401736.19 -16401735.99 0.0504 0.0131
 Neptune -49619-07-01 18:28 J -16401734.83 -16401734.73 -16401734.58 0.0088 0.0075
 Uranus -49617-12-14 19:25 J -16400837.78 -16400837.69 -16400837.58 0.0139 0.0125
 Uranus -49616-07-29 06:42 J -16400611.36 -16400611.22 -16400611.05 0.0139 0.0099
 Uranus -49615-03-12 18:13 J -16400384.92 -16400384.74 -16400384.54 0.0139 0.0073

Uranus -49615-10-25 05:16 J -16400158.48 -16400158.28 -16400158.06 0.0138 0.0047
 Saturn -49614-01-26 09:21 J -16400065.29 -16400065.11 -16400064.93 0.0289 0.0129
 Uranus -49614-06-08 16:18 J -16399932.05 -16399931.82 -16399931.60 0.0138 0.0022
 Saturn -49614-09-12 22:18 J -16399835.71 -16399835.57 -16399835.42 0.0290 0.0204
 Uranus -49613-01-21 02:37 J -16399705.61 -16399705.39 -16399705.16 0.0138 0.0005
 Jupiter -49613-05-09 12:57 J -16399596.09 -16399595.96 -16399595.82 0.0519 0.0381
 Mars -49613-08-21 22:47 J -16399491.72 -16399491.55 -16399491.38 0.1617 0.0466
 Uranus -49613-09-03 12:57 J -16399479.17 -16399478.96 -16399478.73 0.0137 0.0029
 Uranus -49612-04-17 23:01 J -16399252.74 -16399252.54 -16399252.32 0.0137 0.0054
 Uranus -49612-11-30 08:37 J -16399026.30 -16399026.14 -16399025.94 0.0137 0.0079
 Uranus -49611-07-14 18:28 J -16398799.87 -16398799.73 -16398799.57 0.0136 0.0103
 Uranus -49610-02-26 03:49 J -16398573.41 -16398573.34 -16398573.24 0.0136 0.0126
 Jupiter -49607-03-04 23:16 J -16397470.62 -16397470.53 -16397470.42 0.0502 0.0442
 Jupiter -49601-01-13 13:54 J -16395330.11 -16395329.92 -16395329.72 0.0521 0.0074
 Saturn -49600-07-11 18:28 J -16394784.95 -16394784.73 -16394784.51 0.0270 0.0006
 Pluto -49599-12-20 03:06 J -16394258.53 -16394258.37 -16394258.21 0.0077 0.0052
 Pluto -49598-08-02 11:45 J -16394033.22 -16394033.01 -16394032.78 0.0077 0.0013
 Jupiter -49595-07-03 04:18 J -16392967.46 -16392967.32 -16392967.16 0.0509 0.0360
 Jupiter -49590-09-18 12:57 J -16391064.13 -16391063.96 -16391063.79 0.0523 0.0247
 Saturn -49585-08-07 12:42 J -16389279.16 -16389278.97 -16389278.77 0.0290 0.0088
 Saturn -49584-03-25 01:40 J -16389049.52 -16389049.43 -16389049.31 0.0291 0.0247
 Mars -49584-11-12 05:30 J -16388817.44 -16388817.27 -16388817.11 0.1920 0.0064
 Jupiter -49583-03-07 21:49 J -16388701.80 -16388701.59 -16388701.38 0.0506 0.0047
 Mars -49581-08-20 20:09 J -16387804.74 -16387804.66 -16387804.58 0.1611 0.1412
 Uranus -49572-07-22 02:37 J -16384547.47 -16384547.39 -16384547.29 0.0139 0.0126
 Jupiter -49572-11-10 15:06 J -16384436.05 -16384435.87 -16384435.69 0.0503 0.0262
 Uranus -49571-03-05 08:52 J -16384321.27 -16384321.13 -16384320.99 0.0139 0.0103
 Saturn -49571-06-06 13:54 J -16384228.02 -16384227.92 -16384227.81 0.0271 0.0237
 Uranus -49571-10-17 14:52 J -16384095.05 -16384094.88 -16384094.70 0.0140 0.0079
 Saturn -49570-01-22 01:11 J -16383998.67 -16383998.45 -16383998.24 0.0270 0.0050

Uranus	-49570-05-31 21:06 J	-16383868.80	-16383868.62	-16383868.41	0.0140	0.0055
Uranus	-49569-01-13 03:49 J	-16383642.54	-16383642.34	-16383642.13	0.0140	0.0030
Moon	-49569-04-06 00:42 J	-16383558.50	-16383558.47	-16383558.43	0.2627	0.2570
Uranus	-49569-08-26 10:47 J	-16383416.26	-16383416.05	-16383415.83	0.0141	0.0006
Uranus	-49568-04-09 17:59 J	-16383189.96	-16383189.75	-16383189.54	0.0141	0.0020
Uranus	-49568-11-22 01:11 J	-16382963.65	-16382963.45	-16382963.25	0.0141	0.0046
Uranus	-49567-07-06 08:23 J	-16382737.32	-16382737.15	-16382736.96	0.0142	0.0072
Uranus	-49566-02-17 16:18 J	-16382510.97	-16382510.82	-16382510.67	0.0142	0.0098
Jupiter	-49566-09-20 22:18 J	-16382295.74	-16382295.57	-16382295.39	0.0520	0.0241
Uranus	-49566-10-02 00:13 J	-16382284.58	-16382284.49	-16382284.38	0.0143	0.0124
Moon	-49561-04-03 09:21 J	-16380639.22	-16380639.11	-16380639.00	0.2631	0.1940
Earth	-49561-04-03 14:37 J	-16380639.04	-16380638.89	-16380638.74	0.2634	0.1187 *
Saturn	-49555-02-18 00:13 J	-16378492.69	-16378492.49	-16378492.28	0.0290	0.0026
Jupiter	-49554-05-26 22:04 J	-16378029.78	-16378029.58	-16378029.39	0.0523	0.0072
Jupiter	-49548-11-13 09:49 J	-16375667.28	-16375667.09	-16375666.90	0.0507	0.0217
Mars	-49547-06-19 09:49 J	-16375449.25	-16375449.09	-16375448.93	0.1619	0.0704
Jupiter	-49542-01-29 21:49 J	-16373763.71	-16373763.59	-16373763.45	0.0525	0.0389
Neptune	-49542-09-08 23:16 J	-16373541.63	-16373541.53	-16373541.39	0.0089	0.0073
Saturn	-49542-12-17 21:49 J	-16373441.74	-16373441.59	-16373441.43	0.0271	0.0189
Neptune	-49541-04-21 11:16 J	-16373316.18	-16373316.03	-16373315.85	0.0089	0.0056
Saturn	-49541-08-03 08:23 J	-16373212.35	-16373212.15	-16373211.94	0.0270	0.0097
Neptune	-49541-12-02 23:16 J	-16373090.71	-16373090.53	-16373090.33	0.0089	0.0039
Neptune	-49540-07-16 11:16 J	-16372865.23	-16372865.03	-16372864.82	0.0089	0.0022
Neptune	-49539-02-26 23:16 J	-16372639.74	-16372639.53	-16372639.32	0.0089	0.0005
Neptune	-49539-10-10 11:01 J	-16372414.25	-16372414.04	-16372413.83	0.0089	0.0012
Neptune	-49538-05-23 23:01 J	-16372188.75	-16372188.54	-16372188.34	0.0089	0.0029
Neptune	-49537-01-04 10:33 J	-16371963.23	-16371963.06	-16371962.87	0.0089	0.0046
Neptune	-49537-08-16 22:33 J	-16371737.70	-16371737.56	-16371737.40	0.0089	0.0062
Neptune	-49536-03-30 10:04 J	-16371512.16	-16371512.08	-16371511.97	0.0089	0.0080
Jupiter	-49536-07-19 03:06 J	-16371401.58	-16371401.37	-16371401.16	0.0505	0.0093

Uranus	-49533-08-14 02:37 J	-16370279.43	-16370279.39	-16370279.31	0.0140	0.0135
Uranus	-49532-03-28 14:37 J	-16370053.02	-16370052.89	-16370052.74	0.0139	0.0109
Uranus	-49532-11-10 01:54 J	-16369826.59	-16369826.42	-16369826.23	0.0139	0.0083
Uranus	-49531-06-24 13:11 J	-16369600.15	-16369599.95	-16369599.74	0.0139	0.0057
Uranus	-49530-02-06 00:13 J	-16369373.71	-16369373.49	-16369373.27	0.0138	0.0031
Jupiter	-49530-05-29 10:47 J	-16369261.16	-16369261.05	-16369260.94	0.0518	0.0423
Uranus	-49530-09-20 11:01 J	-16369147.27	-16369147.04	-16369146.82	0.0138	0.0006
Uranus	-49529-05-03 21:21 J	-16368920.83	-16368920.61	-16368920.38	0.0138	0.0020
Uranus	-49529-12-16 07:25 J	-16368694.39	-16368694.19	-16368693.97	0.0137	0.0044
Uranus	-49528-07-30 17:16 J	-16368467.96	-16368467.78	-16368467.57	0.0137	0.0069
Uranus	-49527-03-14 03:21 J	-16368241.51	-16368241.36	-16368241.18	0.0137	0.0093
Uranus	-49527-10-26 12:57 J	-16368015.06	-16368014.96	-16368014.83	0.0136	0.0116
Saturn	-49526-08-31 03:06 J	-16367706.58	-16367706.37	-16367706.17	0.0290	0.0015
Jupiter	-49524-03-23 21:35 J	-16367135.73	-16367135.60	-16367135.47	0.0503	0.0396
Jupiter	-49518-02-01 10:04 J	-16364995.27	-16364995.08	-16364994.88	0.0521	0.0111
Mars	-49518-09-09 09:21 J	-16364775.27	-16364775.11	-16364774.95	0.1917	0.0726
Mars	-49515-06-18 06:57 J	-16363762.33	-16363762.21	-16363762.09	0.1613	0.1173
Saturn	-49512-06-29 03:21 J	-16362655.53	-16362655.36	-16362655.17	0.0270	0.0148
Jupiter	-49512-07-22 02:52 J	-16362632.51	-16362632.38	-16362632.26	0.0508	0.0405
Saturn	-49511-02-13 14:23 J	-16362426.08	-16362425.90	-16362425.71	0.0270	0.0138
Jupiter	-49507-10-07 07:11 J	-16360729.38	-16360729.20	-16360729.02	0.0524	0.0215
Jupiter	-49500-03-26 18:42 J	-16358366.93	-16358366.72	-16358366.51	0.0506	0.0088
Saturn	-49497-07-26 00:57 J	-16357149.54	-16357149.46	-16357149.36	0.0289	0.0256
Saturn	-49496-03-12 14:09 J	-16356920.11	-16356919.91	-16356919.71	0.0290	0.0075
Jupiter	-49489-11-29 09:21 J	-16354101.30	-16354101.11	-16354100.92	0.0504	0.0229
Uranus	-49488-03-21 12:57 J	-16353988.99	-16353988.96	-16353988.90	0.0139	0.0135
Uranus	-49488-11-02 19:11 J	-16353762.83	-16353762.70	-16353762.58	0.0139	0.0112
Uranus	-49487-06-17 00:57 J	-16353536.61	-16353536.46	-16353536.29	0.0139	0.0088
Uranus	-49486-01-29 07:25 J	-16353310.38	-16353310.19	-16353310.00	0.0140	0.0064
Uranus	-49486-09-12 13:54 J	-16353084.12	-16353083.92	-16353083.71	0.0140	0.0040

Uranus -49485-04-25 20:37 J -16352857.84 -16352857.64 -16352857.43 0.0141 0.0015
 Uranus -49485-12-08 03:35 J -16352631.56 -16352631.35 -16352631.14 0.0141 0.0010
 Uranus -49484-07-22 10:33 J -16352405.26 -16352405.06 -16352404.85 0.0141 0.0035
 Uranus -49483-03-05 17:59 J -16352178.94 -16352178.75 -16352178.56 0.0142 0.0061
 Jupiter -49483-10-09 21:06 J -16351960.78 -16351960.62 -16351960.45 0.0520 0.0290
 Uranus -49483-10-18 01:40 J -16351952.59 -16351952.43 -16351952.26 0.0142 0.0086
 Saturn -49482-01-09 11:59 J -16351869.20 -16351869.00 -16351868.79 0.0270 0.0098
 Uranus -49482-06-01 09:06 J -16351726.23 -16351726.12 -16351725.97 0.0142 0.0113
 Saturn -49482-08-26 22:18 J -16351639.72 -16351639.57 -16351639.41 0.0269 0.0186
 Uranus -49481-01-13 17:16 J -16351499.82 -16351499.78 -16351499.71 0.0143 0.0138
 Mars -49481-04-15 20:52 J -16351406.78 -16351406.63 -16351406.49 0.1621 0.0944
 Jupiter -49471-06-14 20:37 J -16347694.83 -16347694.64 -16347694.44 0.0522 0.0028
 Saturn -49467-02-05 03:21 J -16346363.49 -16346363.36 -16346363.22 0.0289 0.0217
 Saturn -49467-09-22 16:33 J -16346134.00 -16346133.81 -16346133.62 0.0290 0.0114
 Jupiter -49465-12-02 08:37 J -16345332.32 -16345332.14 -16345331.96 0.0508 0.0265
 Neptune -49460-10-24 09:06 J -16343545.23 -16343545.12 -16343545.00 0.0088 0.0076
 Jupiter -49459-02-17 19:11 J -16343428.85 -16343428.70 -16343428.56 0.0525 0.0346
 Neptune -49459-06-06 23:01 J -16343319.70 -16343319.54 -16343319.36 0.0088 0.0058
 Neptune -49458-01-18 13:25 J -16343094.14 -16343093.94 -16343093.74 0.0088 0.0041
 Neptune -49458-09-01 03:21 J -16342868.57 -16342868.36 -16342868.13 0.0088 0.0023
 Neptune -49457-04-13 17:45 J -16342642.99 -16342642.76 -16342642.53 0.0088 0.0006
 Neptune -49457-11-25 07:40 J -16342417.40 -16342417.18 -16342416.95 0.0088 0.0012
 Neptune -49456-07-08 21:49 J -16342191.80 -16342191.59 -16342191.37 0.0088 0.0030
 Neptune -49455-02-19 11:59 J -16341966.18 -16341966.00 -16341965.80 0.0088 0.0047
 Neptune -49455-10-03 02:23 J -16341740.55 -16341740.40 -16341740.24 0.0088 0.0065
 Neptune -49454-05-16 16:04 J -16341514.89 -16341514.83 -16341514.73 0.0088 0.0082
 Saturn -49453-07-21 16:33 J -16341083.02 -16341082.81 -16341082.59 0.0270 0.0059
 Jupiter -49453-08-07 01:54 J -16341066.62 -16341066.42 -16341066.20 0.0505 0.0046
 Saturn -49452-03-08 03:06 J -16340853.48 -16340853.37 -16340853.24 0.0269 0.0225
 Mars -49452-07-06 13:40 J -16340733.04 -16340732.93 -16340732.81 0.1914 0.1371

Mars	-49449-04-14 18:28 J	-16339719.88	-16339719.73	-16339719.59	0.1615	0.0951
Uranus	-49449-11-25 21:06 J	-16339494.72	-16339494.62	-16339494.49	0.0140	0.0119
Uranus	-49448-07-10 08:37 J	-16339268.29	-16339268.14	-16339267.96	0.0139	0.0093
Uranus	-49447-02-21 20:09 J	-16339041.85	-16339041.66	-16339041.45	0.0139	0.0067
Jupiter	-49447-06-17 05:45 J	-16338926.36	-16338926.26	-16338926.17	0.0518	0.0456
Uranus	-49447-10-06 07:25 J	-16338815.40	-16338815.19	-16338814.97	0.0139	0.0041
Uranus	-49446-05-20 18:13 J	-16338588.96	-16338588.74	-16338588.51	0.0138	0.0016
Uranus	-49445-01-02 04:47 J	-16338362.52	-16338362.30	-16338362.07	0.0138	0.0010
Uranus	-49445-08-15 15:06 J	-16338136.08	-16338135.87	-16338135.64	0.0137	0.0034
Uranus	-49444-03-30 01:40 J	-16337909.63	-16337909.43	-16337909.23	0.0137	0.0059
Uranus	-49444-11-11 11:30 J	-16337683.19	-16337683.02	-16337682.84	0.0137	0.0083
Uranus	-49443-06-25 21:06 J	-16337456.75	-16337456.62	-16337456.47	0.0136	0.0107
Uranus	-49442-02-07 06:28 J	-16337230.27	-16337230.23	-16337230.15	0.0136	0.0131
Jupiter	-49441-04-11 19:11 J	-16336800.84	-16336800.70	-16336800.54	0.0503	0.0350
Moon	-49440-10-08 01:25 J	-16336256.48	-16336256.44	-16336256.39	0.2698	0.2577
Saturn	-49438-08-18 13:11 J	-16335577.12	-16335576.95	-16335576.78	0.0289	0.0160
Pluto	-49438-10-30 08:23 J	-16335504.23	-16335504.15	-16335504.02	0.0067	0.0060
Saturn	-49437-04-04 02:23 J	-16335347.56	-16335347.40	-16335347.23	0.0290	0.0172
Pluto	-49437-06-11 14:09 J	-16335279.12	-16335278.91	-16335278.69	0.0067	0.0016
Pluto	-49436-01-22 19:11 J	-16335053.89	-16335053.70	-16335053.49	0.0068	0.0029
Jupiter	-49435-02-20 05:45 J	-16334660.44	-16334660.26	-16334660.06	0.0521	0.0150
Moon	-49432-10-05 20:09 J	-16333336.78	-16333336.66	-16333336.53	0.2702	0.1457
Earth	-49432-10-06 00:42 J	-16333336.62	-16333336.47	-16333336.32	0.2698	0.0598 *
Jupiter	-49429-08-09 21:21 J	-16332297.72	-16332297.61	-16332297.51	0.0509	0.0437
Jupiter	-49424-10-26 06:42 J	-16330394.41	-16330394.22	-16330394.03	0.0524	0.0163
Saturn	-49423-02-01 01:25 J	-16330296.66	-16330296.44	-16330296.22	0.0270	0.0009
Jupiter	-49417-04-14 14:23 J	-16328032.11	-16328031.90	-16328031.70	0.0506	0.0125
Mars	-49415-02-11 08:09 J	-16327364.28	-16327364.16	-16327364.04	0.1623	0.1177
Jupiter	-49412-07-01 05:30 J	-16326128.35	-16326128.27	-16326128.20	0.0526	0.0483
Saturn	-49408-02-27 15:06 J	-16324791.05	-16324790.87	-16324790.68	0.0290	0.0123

Saturn -49408-10-15 04:18 J -16324561.46 -16324561.32 -16324561.18 0.0291 0.0209
 Jupiter -49406-12-19 08:23 J -16323766.35 -16323766.15 -16323765.95 0.0504 0.0181
 Uranus -49404-07-03 04:47 J -16323204.39 -16323204.30 -16323204.19 0.0139 0.0121
 Uranus -49403-02-14 11:01 J -16322978.19 -16322978.04 -16322977.89 0.0139 0.0098
 Uranus -49403-09-28 17:16 J -16322751.96 -16322751.78 -16322751.60 0.0140 0.0074
 Uranus -49402-05-12 23:30 J -16322525.71 -16322525.52 -16322525.32 0.0140 0.0050
 Uranus -49402-12-25 06:13 J -16322299.45 -16322299.24 -16322299.03 0.0140 0.0025
 Uranus -49401-08-07 12:57 J -16322073.17 -16322072.96 -16322072.75 0.0141 0.0002
 Uranus -49400-03-21 19:54 J -16321846.87 -16321846.67 -16321846.46 0.0141 0.0025
 Jupiter -49400-10-28 18:42 J -16321625.87 -16321625.72 -16321625.57 0.0519 0.0332
 Uranus -49400-11-03 03:06 J -16321620.56 -16321620.37 -16321620.17 0.0141 0.0050
 Uranus -49399-06-17 10:33 J -16321394.23 -16321394.06 -16321393.87 0.0142 0.0075
 Uranus -49398-01-29 18:13 J -16321167.88 -16321167.74 -16321167.59 0.0142 0.0100
 Uranus -49398-09-13 01:54 J -16320941.49 -16320941.42 -16320941.30 0.0142 0.0127
 Saturn -49395-12-27 17:45 J -16319739.82 -16319739.76 -16319739.69 0.0271 0.0258
 Saturn -49394-08-14 04:47 J -16319510.52 -16319510.30 -16319510.08 0.0270 0.0027
 Jupiter -49394-08-24 03:35 J -16319500.42 -16319500.35 -16319500.29 0.0502 0.0477
 Jupiter -49388-07-03 16:33 J -16317360.01 -16317359.81 -16317359.62 0.0522 0.0015
 Mars -49383-02-10 05:30 J -16315677.43 -16315677.27 -16315677.11 0.1617 0.0714
 Jupiter -49382-12-22 06:57 J -16314997.37 -16314997.21 -16314997.04 0.0507 0.0312
 Saturn -49379-09-09 23:59 J -16314004.70 -16314004.50 -16314004.30 0.0290 0.0068
 Saturn -49378-04-27 13:11 J -16313775.03 -16313774.95 -16313774.86 0.0291 0.0264
 Neptune -49378-12-11 09:49 J -16313547.16 -16313547.09 -16313546.99 0.0089 0.0081
 Neptune -49377-07-23 21:49 J -16313321.73 -16313321.59 -16313321.43 0.0089 0.0064
 Neptune -49376-03-06 09:49 J -16313096.26 -16313096.09 -16313095.90 0.0089 0.0048
 Jupiter -49376-03-08 15:35 J -16313094.01 -16313093.85 -16313093.69 0.0525 0.0305
 Neptune -49376-10-17 21:35 J -16312870.79 -16312870.60 -16312870.39 0.0089 0.0031
 Neptune -49375-05-31 09:35 J -16312645.30 -16312645.10 -16312644.88 0.0089 0.0014
 Neptune -49374-01-11 21:35 J -16312419.81 -16312419.60 -16312419.38 0.0089 0.0004
 Neptune -49374-08-25 09:35 J -16312194.30 -16312194.10 -16312193.89 0.0089 0.0020

Neptune -49373-04-06 21:21 J -16311968.79 -16311968.61 -16311968.41 0.0089 0.0037
 Neptune -49373-11-18 08:52 J -16311743.28 -16311743.13 -16311742.94 0.0089 0.0055
 Neptune -49372-07-01 21:06 J -16311517.74 -16311517.62 -16311517.49 0.0089 0.0071
 Neptune -49371-02-12 08:37 J -16311292.16 -16311292.14 -16311292.08 0.0089 0.0088
 Jupiter -49370-08-26 21:06 J -16310731.83 -16310731.62 -16310731.41 0.0505 0.0011
 Saturn -49365-07-09 02:37 J -16308953.53 -16308953.39 -16308953.25 0.0271 0.0206
 Uranus -49365-07-26 04:04 J -16308936.39 -16308936.33 -16308936.22 0.0140 0.0129
 Saturn -49364-02-23 13:11 J -16308724.15 -16308723.95 -16308723.73 0.0270 0.0078
 Uranus -49364-03-09 16:18 J -16308709.97 -16308709.82 -16308709.67 0.0139 0.0103
 Jupiter -49364-07-06 05:45 J -16308591.29 -16308591.26 -16308591.22 0.0518 0.0508
 Uranus -49364-10-22 03:35 J -16308483.53 -16308483.35 -16308483.15 0.0139 0.0077
 Uranus -49363-06-05 14:52 J -16308257.08 -16308256.88 -16308256.67 0.0139 0.0052
 Uranus -49362-01-18 01:54 J -16308030.64 -16308030.42 -16308030.19 0.0138 0.0026
 Uranus -49362-09-01 12:42 J -16307804.19 -16307803.97 -16307803.74 0.0138 0.0003
 Uranus -49361-04-14 23:30 J -16307577.74 -16307577.52 -16307577.30 0.0138 0.0024
 Uranus -49361-11-27 09:49 J -16307351.30 -16307351.09 -16307350.88 0.0137 0.0049
 Uranus -49360-07-11 19:40 J -16307124.86 -16307124.68 -16307124.48 0.0137 0.0073
 Uranus -49359-02-23 05:59 J -16306898.41 -16306898.25 -16306898.09 0.0137 0.0097
 Uranus -49359-10-07 15:21 J -16306671.95 -16306671.86 -16306671.74 0.0136 0.0121
 Jupiter -49358-05-01 15:21 J -16306466.02 -16306465.86 -16306465.70 0.0503 0.0313
 Mars -49354-05-03 11:59 J -16305003.11 -16305003.00 -16305002.89 0.1920 0.1464
 Jupiter -49352-03-11 06:28 J -16304325.41 -16304325.23 -16304325.05 0.0521 0.0202
 Pluto -49351-04-12 00:13 J -16303928.69 -16303928.49 -16303928.29 0.0077 0.0030
 Pluto -49351-11-23 08:52 J -16303703.32 -16303703.13 -16303702.92 0.0077 0.0035
 Mars -49350-12-09 18:28 J -16303321.81 -16303321.73 -16303321.64 0.1626 0.1432
 Saturn -49349-03-22 01:11 J -16303218.65 -16303218.45 -16303218.24 0.0290 0.0033
 Jupiter -49346-08-29 21:35 J -16301962.65 -16301962.60 -16301962.54 0.0509 0.0489
 Jupiter -49341-11-14 05:45 J -16300059.45 -16300059.26 -16300059.07 0.0523 0.0113
 Saturn -49335-01-19 04:33 J -16298167.47 -16298167.31 -16298167.14 0.0271 0.0175
 Saturn -49335-09-05 15:21 J -16297938.05 -16297937.86 -16297937.66 0.0270 0.0109

Jupiter -49334-05-04 15:06 J -16297697.07 -16297696.87 -16297696.67 0.0507 0.0180
 Jupiter -49329-07-20 02:23 J -16295793.50 -16295793.40 -16295793.29 0.0526 0.0440
 Jupiter -49322-01-07 07:54 J -16293431.37 -16293431.17 -16293430.96 0.0504 0.0130
 Uranus -49320-03-02 16:18 J -16292645.88 -16292645.82 -16292645.73 0.0139 0.0129
 Saturn -49320-10-02 08:23 J -16292432.35 -16292432.15 -16292431.94 0.0290 0.0018
 Uranus -49320-10-14 22:04 J -16292419.70 -16292419.58 -16292419.43 0.0139 0.0106
 Uranus -49319-05-29 04:18 J -16292193.48 -16292193.32 -16292193.14 0.0139 0.0083
 Uranus -49318-01-10 10:33 J -16291967.24 -16291967.06 -16291966.86 0.0140 0.0059
 Earth -49318-04-04 13:11 J -16291883.10 -16291882.95 -16291882.81 0.2635 0.1280
 Moon -49318-04-04 16:04 J -16291882.97 -16291882.83 -16291882.69 0.2640 0.1101 *
 Uranus -49318-08-24 17:16 J -16291740.98 -16291740.78 -16291740.57 0.0140 0.0035
 Mars -49318-12-08 16:18 J -16291634.99 -16291634.82 -16291634.65 0.1619 0.0478
 Uranus -49317-04-06 23:59 J -16291514.71 -16291514.50 -16291514.29 0.0140 0.0010
 Jupiter -49317-11-16 16:04 J -16291290.96 -16291290.83 -16291290.69 0.0519 0.0376
 Uranus -49317-11-19 06:57 J -16291288.42 -16291288.21 -16291288.00 0.0141 0.0015
 Uranus -49316-07-03 13:54 J -16291062.12 -16291061.92 -16291061.71 0.0141 0.0040
 Uranus -49315-02-14 21:21 J -16290835.80 -16290835.61 -16290835.42 0.0141 0.0065
 Uranus -49315-09-29 04:47 J -16290609.45 -16290609.30 -16290609.13 0.0142 0.0090
 Uranus -49314-05-13 12:42 J -16290383.09 -16290382.97 -16290382.84 0.0142 0.0115
 Uranus -49314-12-25 20:37 J -16290156.66 -16290156.64 -16290156.60 0.0143 0.0141
 Jupiter -49311-09-11 23:30 J -16289165.62 -16289165.52 -16289165.42 0.0502 0.0441
 Saturn -49306-08-01 12:57 J -16287381.15 -16287380.96 -16287380.76 0.0271 0.0124
 Saturn -49305-03-17 23:30 J -16287151.69 -16287151.52 -16287151.34 0.0270 0.0159
 Jupiter -49305-07-22 17:30 J -16287024.96 -16287024.77 -16287024.57 0.0522 0.0070
 Jupiter -49298-01-10 03:49 J -16284662.48 -16284662.34 -16284662.18 0.0508 0.0352
 Neptune -49295-01-25 16:04 J -16283550.87 -16283550.83 -16283550.75 0.0088 0.0085
 Neptune -49295-09-08 06:13 J -16283325.37 -16283325.24 -16283325.08 0.0088 0.0067
 Neptune -49294-04-21 20:37 J -16283099.82 -16283099.64 -16283099.45 0.0088 0.0050
 Neptune -49294-12-03 10:33 J -16282874.26 -16282874.06 -16282873.84 0.0088 0.0032
 Jupiter -49293-03-27 17:16 J -16282758.95 -16282758.78 -16282758.60 0.0524 0.0246

Neptune -49293-07-16 00:42 J -16282648.69 -16282648.47 -16282648.24 0.0088 0.0015
 Neptune -49292-02-26 15:06 J -16282423.10 -16282422.87 -16282422.64 0.0088 0.0003
 Neptune -49292-10-10 05:01 J -16282197.51 -16282197.29 -16282197.06 0.0088 0.0020
 Neptune -49291-05-23 19:11 J -16281971.90 -16281971.70 -16281971.49 0.0088 0.0037
 Saturn -49291-08-27 20:52 J -16281875.68 -16281875.63 -16281875.56 0.0288 0.0274
 Neptune -49290-01-04 08:52 J -16281746.29 -16281746.13 -16281745.93 0.0088 0.0055
 Saturn -49290-04-14 09:35 J -16281646.30 -16281646.10 -16281645.89 0.0290 0.0054
 Neptune -49290-08-17 23:01 J -16281520.65 -16281520.54 -16281520.39 0.0088 0.0073
 Mars -49288-02-27 16:47 J -16280960.95 -16280960.80 -16280960.65 0.1917 0.0822
 Jupiter -49287-09-14 22:04 J -16280396.79 -16280396.58 -16280396.37 0.0506 0.0044
 Uranus -49281-03-25 11:45 J -16278378.03 -16278378.01 -16278377.96 0.0140 0.0138
 Uranus -49281-11-06 23:30 J -16278151.64 -16278151.52 -16278151.37 0.0140 0.0113
 Uranus -49280-06-21 11:01 J -16277925.20 -16277925.04 -16277924.85 0.0139 0.0087
 Uranus -49279-02-02 22:47 J -16277698.75 -16277698.55 -16277698.35 0.0139 0.0061
 Uranus -49279-09-17 10:04 J -16277472.30 -16277472.08 -16277471.86 0.0139 0.0036
 Uranus -49278-05-01 20:52 J -16277245.85 -16277245.63 -16277245.40 0.0138 0.0011
 Uranus -49278-12-14 07:40 J -16277019.40 -16277019.18 -16277018.95 0.0138 0.0014
 Uranus -49277-07-27 17:59 J -16276792.95 -16276792.75 -16276792.52 0.0138 0.0040
 Saturn -49276-02-10 13:40 J -16276595.13 -16276594.93 -16276594.72 0.0270 0.0095
 Uranus -49276-03-11 04:33 J -16276566.50 -16276566.31 -16276566.10 0.0137 0.0064
 Saturn -49276-09-28 00:13 J -16276365.64 -16276365.49 -16276365.33 0.0269 0.0187
 Uranus -49276-10-23 14:23 J -16276340.05 -16276339.90 -16276339.71 0.0137 0.0088
 Jupiter -49275-05-20 16:47 J -16276130.98 -16276130.80 -16276130.62 0.0503 0.0256
 Uranus -49275-06-07 00:42 J -16276113.60 -16276113.47 -16276113.34 0.0137 0.0111
 Uranus -49274-01-19 09:49 J -16275887.11 -16275887.09 -16275887.04 0.0136 0.0134
 Jupiter -49269-03-30 04:33 J -16273990.48 -16273990.31 -16273990.14 0.0520 0.0247
 Saturn -49261-03-09 02:09 J -16271089.52 -16271089.41 -16271089.27 0.0289 0.0229
 Saturn -49261-10-24 15:21 J -16270860.05 -16270859.86 -16270859.66 0.0290 0.0099
 Jupiter -49258-12-04 04:04 J -16269724.52 -16269724.33 -16269724.13 0.0523 0.0066
 Mars -49252-10-05 03:35 J -16267592.52 -16267592.35 -16267592.17 0.1621 0.0244

Jupiter -49251-05-23 11:45 J -16267362.19 -16267362.01 -16267361.82 0.0506 0.0218
 Saturn -49247-08-23 21:35 J -16265808.81 -16265808.60 -16265808.38 0.0271 0.0046
 Saturn -49246-04-10 07:54 J -16265579.26 -16265579.17 -16265579.06 0.0270 0.0237
 Jupiter -49246-08-09 03:49 J -16265458.47 -16265458.34 -16265458.20 0.0526 0.0382
 Jupiter -49239-01-26 05:45 J -16263096.47 -16263096.26 -16263096.05 0.0504 0.0087
 Uranus -49237-10-31 03:06 J -16262087.37 -16262087.37 -16262087.32 0.0138 0.0138
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 Uranus -49234-12-06 10:33 J -16260956.27 -16260956.06 -16260955.85 0.0140 0.0020
 Jupiter -49234-12-06 18:28 J -16260955.83 -16260955.73 -16260955.62 0.0519 0.0433
 Uranus -49233-07-19 17:16 J -16260729.99 -16260729.78 -16260729.57 0.0141 0.0005
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 Jupiter -49210-04-16 16:33 J -16252424.00 -16252423.81 -16252423.63 0.0524 0.0195
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 Jupiter -49204-10-03 23:30 J -16250061.72 -16250061.52 -16250061.31 0.0506 0.0102
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 Moon -49189-10-06 09:06 J -16244580.27 -16244580.12 -16244579.97 0.2697 0.0397 *
 Saturn -49188-01-28 17:30 J -16244465.84 -16244465.77 -16244465.70 0.0272 0.0256
 Saturn -49188-09-15 04:33 J -16244236.52 -16244236.31 -16244236.09 0.0271 0.0029

Jupiter -49186-04-19 06:28 J -16243655.38 -16243655.23 -16243655.06 0.0521 0.0306
 Mars -49186-08-02 14:23 J -16243550.08 -16243549.90 -16243549.72 0.1623 0.0007
 Jupiter -49175-12-23 06:57 J -16239389.40 -16239389.21 -16239389.01 0.0523 0.0013
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 Jupiter -49163-08-28 06:13 J -16235123.39 -16235123.24 -16235123.08 0.0525 0.0319
 Saturn -49159-08-10 16:18 J -16233679.93 -16233679.82 -16233679.71 0.0272 0.0232
 Saturn -49158-03-28 03:35 J -16233450.56 -16233450.35 -16233450.13 0.0270 0.0053
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 Saturn -49143-04-23 13:25 J -16227945.14 -16227944.94 -16227944.74 0.0289 0.0073
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 Neptune -49129-10-17 07:25 J -16222654.41 -16222654.19 -16222653.97 0.0088 0.0024
 Neptune -49128-05-30 21:21 J -16222428.83 -16222428.61 -16222428.38 0.0088 0.0007
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 Earth -49075-04-04 11:59 J -16203127.14 -16203127.00 -16203126.86 0.2635 0.1355 *
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Mars -49054-03-27 12:28 J -16195465.16 -16195464.98 -16195464.81 0.1628 0.0481
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 Neptune -49043-01-04 16:33 J -16191528.96 -16191528.81 -16191528.62 0.0089 0.0053
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 Neptune -49042-03-31 16:47 J -16191077.85 -16191077.80 -16191077.74 0.0089 0.0085
 Saturn -49041-09-24 03:35 J -16190535.55 -16190535.35 -16190535.14 0.0272 0.0091
 Saturn -49040-05-11 14:52 J -16190306.02 -16190305.88 -16190305.72 0.0270 0.0193
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 Saturn -49026-10-21 12:28 J -16185030.09 -16185029.98 -16185029.87 0.0288 0.0240
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 Uranus -49025-10-20 20:23 J -16184664.84 -16184664.65 -16184664.43 0.0137 0.0061

Uranus	-49024-06-04 06:42 J	-16184438.39	-16184438.22	-16184438.03	0.0137	0.0084
Uranus	-49023-01-16 16:47 J	-16184211.93	-16184211.80	-16184211.65	0.0137	0.0107
Uranus	-49023-08-31 02:37 J	-16183985.45	-16183985.39	-16183985.32	0.0137	0.0130
Mars	-49022-03-26 10:33 J	-16183778.14	-16183778.06	-16183777.98	0.1621	0.1429
Jupiter	-49020-05-27 08:37 J	-16182985.25	-16182985.14	-16182985.02	0.0520	0.0416
Jupiter	-49014-03-22 12:42 J	-16180860.10	-16180859.97	-16180859.85	0.0501	0.0398
Saturn	-49011-04-06 10:18 J	-16179749.28	-16179749.07	-16179748.85	0.0272	0.0045
Saturn	-49011-11-21 21:35 J	-16179519.69	-16179519.60	-16179519.49	0.0271	0.0239
Jupiter	-49008-01-30 08:09 J	-16178719.35	-16178719.16	-16178718.96	0.0523	0.0106
Jupiter	-49002-07-20 15:49 J	-16176356.97	-16176356.84	-16176356.70	0.0507	0.0384

49TH MILLENNIUM BCE

This is a list of transits of Venus in the 49th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-48997-10-05 08:09 J	-16174453.34	-16174453.16	-16174452.98	0.0525	0.0207		
Saturn	-48996-05-02 17:30 J	-16174243.91	-16174243.77	-16174243.61	0.0287	0.0195		
Saturn	-48996-12-18 05:30 J	-16174014.45	-16174014.27	-16174014.08	0.0288	0.0125		
Mars	-48993-06-15 04:18 J	-16173104.40	-16173104.32	-16173104.25	0.1913	0.1681		
Jupiter	-48990-03-25 09:35 J	-16172091.31	-16172091.10	-16172090.89	0.0505	0.0078		
Mars	-48988-01-21 23:30 J	-16171422.68	-16171422.52	-16171422.36	0.1630	0.0718		
Jupiter	-48985-06-10 06:42 J	-16170187.23	-16170187.22	-16170187.20	0.0528	0.0524		
Uranus	-48985-06-11 20:23 J	-16170185.65	-16170185.65	-16170185.64	0.0138	0.0138		
Uranus	-48984-01-24 01:40 J	-16169959.52	-16169959.43	-16169959.30	0.0138	0.0117		

Uranus -48984-09-07 07:54 J -16169733.31 -16169733.17 -16169733.00 0.0139 0.0094
 Uranus -48983-04-21 13:54 J -16169507.09 -16169506.92 -16169506.73 0.0139 0.0071
 Uranus -48983-12-03 20:09 J -16169280.85 -16169280.66 -16169280.45 0.0140 0.0048
 Uranus -48982-07-18 02:37 J -16169054.60 -16169054.39 -16169054.18 0.0140 0.0024
 Saturn -48982-10-17 09:49 J -16168963.31 -16168963.09 -16168962.87 0.0272 0.0020
 Uranus -48981-02-29 09:06 J -16168828.33 -16168828.12 -16168827.90 0.0140 0.0003
 Saturn -48981-06-02 21:21 J -16168733.66 -16168733.61 -16168733.57 0.0270 0.0263
 Uranus -48981-10-12 16:04 J -16168602.04 -16168601.83 -16168601.62 0.0141 0.0024
 Uranus -48980-05-26 22:47 J -16168375.74 -16168375.55 -16168375.34 0.0141 0.0048
 Uranus -48979-01-08 05:59 J -16168149.42 -16168149.25 -16168149.06 0.0141 0.0072
 Uranus -48979-08-22 13:11 J -16167923.09 -16167922.95 -16167922.78 0.0142 0.0097
 Jupiter -48979-11-28 04:18 J -16167825.50 -16167825.32 -16167825.12 0.0503 0.0220
 Uranus -48978-04-05 20:52 J -16167696.73 -16167696.63 -16167696.51 0.0142 0.0122
 Jupiter -48973-10-07 21:21 J -16165684.77 -16165684.61 -16165684.44 0.0521 0.0291
 Saturn -48967-11-12 19:40 J -16163457.84 -16163457.68 -16163457.50 0.0288 0.0159
 Neptune -48966-03-13 18:42 J -16163336.74 -16163336.72 -16163336.65 0.0088 0.0086
 Saturn -48966-06-30 07:40 J -16163228.34 -16163228.18 -16163228.00 0.0289 0.0163
 Neptune -48966-10-25 09:21 J -16163111.25 -16163111.11 -16163110.97 0.0088 0.0069
 Neptune -48965-06-06 23:16 J -16162885.71 -16162885.53 -16162885.34 0.0088 0.0051
 Neptune -48964-01-18 13:25 J -16162660.14 -16162659.94 -16162659.72 0.0088 0.0034
 Neptune -48964-09-01 03:35 J -16162434.57 -16162434.35 -16162434.12 0.0088 0.0017
 Neptune -48963-04-14 17:45 J -16162208.98 -16162208.76 -16162208.53 0.0088 0.0002
 Neptune -48963-11-26 07:40 J -16161983.39 -16161983.18 -16161982.95 0.0088 0.0018
 Neptune -48962-07-09 21:35 J -16161757.79 -16161757.60 -16161757.38 0.0088 0.0036
 Neptune -48961-02-20 11:59 J -16161532.18 -16161532.00 -16161531.81 0.0088 0.0052
 Jupiter -48961-06-12 20:23 J -16161418.84 -16161418.65 -16161418.45 0.0524 0.0023
 Neptune -48961-10-03 02:09 J -16161306.54 -16161306.41 -16161306.27 0.0088 0.0070
 Neptune -48960-05-16 15:35 J -16161080.86 -16161080.85 -16161080.78 0.0088 0.0087
 Mars -48956-01-20 21:21 J -16159735.73 -16159735.61 -16159735.49 0.1623 0.1188
 Jupiter -48955-12-01 01:11 J -16159056.63 -16159056.45 -16159056.27 0.0506 0.0257

Saturn -48953-09-11 04:18 J -16158406.38 -16158406.32 -16158406.25 0.0273 0.0260
 Saturn -48952-04-28 16:33 J -16158177.03 -16158176.81 -16158176.59 0.0272 0.0026
 Jupiter -48949-02-16 17:59 J -16157152.90 -16157152.75 -16157152.60 0.0527 0.0346
 Moon -48946-10-07 02:23 J -16155824.54 -16155824.40 -16155824.25 0.2695 0.0893
 Earth -48946-10-07 07:25 J -16155824.34 -16155824.19 -16155824.04 0.2697 0.0289 *
 Uranus -48945-02-16 22:33 J -16155691.67 -16155691.56 -16155691.45 0.0140 0.0123
 Uranus -48945-09-30 10:33 J -16155465.22 -16155465.06 -16155464.90 0.0140 0.0097
 Uranus -48944-05-14 22:04 J -16155238.76 -16155238.58 -16155238.38 0.0139 0.0072
 Pluto -48944-10-31 01:40 J -16155069.56 -16155069.43 -16155069.27 0.0067 0.0051
 Uranus -48944-12-27 09:35 J -16155012.30 -16155012.10 -16155011.88 0.0139 0.0048
 Pluto -48943-06-13 07:11 J -16154844.42 -16154844.20 -16154843.98 0.0067 0.0007
 Jupiter -48943-08-05 18:42 J -16154790.93 -16154790.72 -16154790.51 0.0503 0.0048
 Uranus -48943-08-10 21:21 J -16154785.84 -16154785.61 -16154785.39 0.0139 0.0022
 Pluto -48942-01-24 11:59 J -16154619.16 -16154619.00 -16154618.79 0.0068 0.0038
 Uranus -48942-03-25 08:23 J -16154559.37 -16154559.15 -16154558.92 0.0138 0.0004
 Uranus -48942-11-06 19:25 J -16154332.91 -16154332.69 -16154332.47 0.0138 0.0027
 Uranus -48941-06-20 05:45 J -16154106.46 -16154106.26 -16154106.04 0.0138 0.0052
 Uranus -48940-02-01 16:04 J -16153880.00 -16153879.83 -16153879.63 0.0137 0.0076
 Uranus -48940-09-16 02:37 J -16153653.54 -16153653.39 -16153653.23 0.0137 0.0098
 Uranus -48939-04-30 12:13 J -16153427.07 -16153426.99 -16153426.87 0.0137 0.0122
 Saturn -48937-05-25 02:09 J -16152671.60 -16152671.41 -16152671.22 0.0287 0.0111
 Jupiter -48937-06-15 09:35 J -16152650.18 -16152650.10 -16152650.02 0.0520 0.0469
 Saturn -48936-01-09 13:40 J -16152442.06 -16152441.93 -16152441.78 0.0288 0.0209
 Jupiter -48931-04-10 12:57 J -16150525.11 -16150524.96 -16150524.80 0.0501 0.0345
 Mars -48927-04-12 09:06 J -16149062.26 -16149062.12 -16149061.98 0.1910 0.1047
 Jupiter -48925-02-19 10:04 J -16148384.27 -16148384.08 -16148383.89 0.0522 0.0165
 Saturn -48923-03-24 05:01 J -16147620.40 -16147620.29 -16147620.17 0.0273 0.0231
 Saturn -48923-11-08 17:01 J -16147391.00 -16147390.79 -16147390.57 0.0271 0.0055
 Mars -48923-11-19 09:49 J -16147380.23 -16147380.09 -16147379.95 0.1633 0.0973
 Jupiter -48919-08-08 17:30 J -16146021.87 -16146021.77 -16146021.66 0.0507 0.0442

Jupiter -48914-10-25 08:09 J -16144118.35 -16144118.16 -16144117.97 0.0525 0.0153
 Saturn -48908-12-05 04:33 J -16141885.51 -16141885.31 -16141885.11 0.0288 0.0074
 Jupiter -48907-04-13 11:16 J -16141756.23 -16141756.03 -16141755.83 0.0505 0.0136
 Saturn -48907-07-22 16:18 J -16141655.91 -16141655.82 -16141655.70 0.0289 0.0248
 Jupiter -48902-06-30 05:30 J -16139852.34 -16139852.27 -16139852.18 0.0527 0.0476
 Uranus -48901-09-23 13:40 J -16139401.02 -16139400.93 -16139400.84 0.0138 0.0124
 Uranus -48900-05-07 19:11 J -16139174.83 -16139174.70 -16139174.55 0.0139 0.0102
 Uranus -48900-12-20 01:11 J -16138948.62 -16138948.45 -16138948.28 0.0139 0.0079
 Uranus -48899-08-03 07:11 J -16138722.39 -16138722.20 -16138722.00 0.0139 0.0057
 Uranus -48898-03-17 13:25 J -16138496.14 -16138495.94 -16138495.73 0.0140 0.0033
 Uranus -48898-10-29 19:54 J -16138269.88 -16138269.67 -16138269.46 0.0140 0.0010
 Uranus -48897-06-12 02:23 J -16138043.61 -16138043.40 -16138043.19 0.0140 0.0014
 Uranus -48896-01-24 09:06 J -16137817.32 -16137817.12 -16137816.92 0.0141 0.0038
 Uranus -48896-09-07 16:04 J -16137591.01 -16137590.83 -16137590.63 0.0141 0.0062
 Jupiter -48896-12-17 04:04 J -16137490.52 -16137490.33 -16137490.13 0.0502 0.0171
 Uranus -48895-04-21 23:30 J -16137364.69 -16137364.52 -16137364.36 0.0141 0.0086
 Uranus -48895-12-04 06:42 J -16137138.35 -16137138.22 -16137138.08 0.0142 0.0110
 Uranus -48894-07-18 14:09 J -16136911.96 -16136911.91 -16136911.83 0.0142 0.0135
 Saturn -48894-10-04 11:30 J -16136834.17 -16136834.02 -16136833.85 0.0273 0.0187
 Saturn -48893-05-20 23:45 J -16136604.71 -16136604.51 -16136604.30 0.0272 0.0100
 Mars -48891-11-18 08:09 J -16135693.30 -16135693.16 -16135693.01 0.1626 0.0951
 Jupiter -48890-10-27 20:09 J -16135349.81 -16135349.66 -16135349.51 0.0522 0.0337
 Jupiter -48884-08-21 22:47 J -16133224.62 -16133224.55 -16133224.47 0.0500 0.0464
 Neptune -48884-12-11 14:23 J -16133113.01 -16133112.90 -16133112.78 0.0089 0.0074
 Neptune -48883-07-25 01:54 J -16132887.56 -16132887.42 -16132887.23 0.0089 0.0059
 Neptune -48882-03-07 14:09 J -16132662.09 -16132661.91 -16132661.71 0.0089 0.0041
 Neptune -48882-10-19 02:09 J -16132436.61 -16132436.41 -16132436.20 0.0089 0.0024
 Neptune -48881-05-31 14:09 J -16132211.12 -16132210.91 -16132210.70 0.0089 0.0008
 Neptune -48880-01-12 01:54 J -16131985.63 -16131985.42 -16131985.20 0.0089 0.0009
 Neptune -48880-08-25 13:54 J -16131760.12 -16131759.92 -16131759.71 0.0089 0.0026

Neptune -48879-04-08 01:54 J -16131534.60 -16131534.42 -16131534.23 0.0089 0.0042
 Neptune -48879-11-19 13:25 J -16131309.08 -16131308.94 -16131308.76 0.0089 0.0060
 Saturn -48878-06-17 12:42 J -16131099.18 -16131098.97 -16131098.76 0.0287 0.0022
 Jupiter -48878-07-02 19:54 J -16131083.87 -16131083.67 -16131083.47 0.0524 0.0029
 Neptune -48878-07-03 01:11 J -16131083.53 -16131083.45 -16131083.31 0.0089 0.0076 *
 Jupiter -48872-12-20 00:28 J -16128721.64 -16128721.48 -16128721.31 0.0506 0.0307
 Jupiter -48866-03-07 19:25 J -16126817.86 -16126817.69 -16126817.53 0.0526 0.0286
 Saturn -48864-04-15 13:40 J -16126048.10 -16126047.93 -16126047.75 0.0273 0.0154
 Saturn -48864-12-01 01:40 J -16125818.62 -16125818.43 -16125818.23 0.0271 0.0131
 Uranus -48862-10-17 05:30 J -16125133.33 -16125133.27 -16125133.18 0.0140 0.0133
 Mars -48861-02-07 14:09 J -16125020.07 -16125019.91 -16125019.75 0.1907 0.0435
 Uranus -48861-05-30 17:45 J -16124906.89 -16124906.76 -16124906.60 0.0140 0.0107
 Uranus -48860-01-12 05:45 J -16124680.43 -16124680.26 -16124680.07 0.0140 0.0082
 Jupiter -48860-08-24 18:57 J -16124455.92 -16124455.71 -16124455.50 0.0504 0.0008
 Uranus -48860-08-26 17:45 J -16124453.96 -16124453.76 -16124453.55 0.0139 0.0057
 Uranus -48859-04-10 05:16 J -16124227.49 -16124227.28 -16124227.05 0.0139 0.0032
 Uranus -48859-11-22 16:47 J -16124001.03 -16124000.80 -16124000.58 0.0139 0.0007
 Uranus -48858-07-07 03:49 J -16123774.57 -16123774.34 -16123774.12 0.0138 0.0018
 Uranus -48857-02-18 14:37 J -16123548.10 -16123547.89 -16123547.67 0.0138 0.0042
 Pluto -48857-04-12 17:30 J -16123493.98 -16123493.77 -16123493.55 0.0077 0.0017
 Mars -48857-09-15 20:52 J -16123337.74 -16123337.63 -16123337.51 0.1635 0.1212
 Uranus -48857-10-02 01:11 J -16123321.64 -16123321.45 -16123321.25 0.0138 0.0066
 Pluto -48857-11-24 02:37 J -16123268.56 -16123268.39 -16123268.22 0.0077 0.0048
 Uranus -48856-05-16 11:16 J -16123095.18 -16123095.03 -16123094.84 0.0137 0.0090
 Uranus -48856-12-28 21:21 J -16122868.72 -16122868.61 -16122868.47 0.0137 0.0112
 Uranus -48855-08-12 07:11 J -16122642.22 -16122642.20 -16122642.15 0.0137 0.0135
 Jupiter -48854-07-05 08:37 J -16122315.16 -16122315.14 -16122315.12 0.0519 0.0516
 Saturn -48849-12-27 15:06 J -16120313.08 -16120312.87 -16120312.67 0.0288 0.0015
 Jupiter -48848-04-29 13:40 J -16120190.10 -16120189.93 -16120189.75 0.0502 0.0291
 Jupiter -48842-03-10 07:54 J -16118049.35 -16118049.17 -16118048.98 0.0522 0.0210

Moon -48840-04-06 15:49 J -16117290.95 -16117290.84 -16117290.73 0.2637 0.1906
 Jupiter -48836-08-27 16:33 J -16115686.86 -16115686.81 -16115686.75 0.0507 0.0486
 Saturn -48835-10-26 20:23 J -16115261.84 -16115261.65 -16115261.44 0.0273 0.0110
 Saturn -48834-06-13 08:52 J -16115032.30 -16115032.13 -16115031.97 0.0272 0.0176
 Moon -48832-04-04 08:23 J -16114371.25 -16114371.15 -16114371.05 0.2642 0.1961
 Earth -48832-04-04 10:47 J -16114371.19 -16114371.05 -16114370.91 0.2636 0.1404 *
 Jupiter -48831-11-13 05:16 J -16113783.47 -16113783.28 -16113783.09 0.0525 0.0112
 Mars -48825-09-14 19:25 J -16111650.85 -16111650.69 -16111650.53 0.1628 0.0714
 Jupiter -48824-05-02 09:21 J -16111421.31 -16111421.11 -16111420.91 0.0504 0.0179
 Saturn -48820-11-22 13:11 J -16109756.05 -16109755.95 -16109755.84 0.0286 0.0245
 Saturn -48819-07-10 00:42 J -16109526.67 -16109526.47 -16109526.27 0.0288 0.0070
 Jupiter -48819-07-19 03:35 J -16109517.46 -16109517.35 -16109517.23 0.0528 0.0430
 Uranus -48817-05-24 01:54 J -16108842.48 -16108842.42 -16108842.35 0.0138 0.0130
 Uranus -48816-01-05 07:40 J -16108616.31 -16108616.18 -16108616.05 0.0138 0.0109
 Uranus -48816-08-19 13:11 J -16108390.10 -16108389.95 -16108389.77 0.0139 0.0087
 Uranus -48815-04-02 19:11 J -16108163.88 -16108163.70 -16108163.50 0.0139 0.0064
 Uranus -48815-11-15 01:11 J -16107937.64 -16107937.45 -16107937.24 0.0139 0.0042
 Uranus -48814-06-29 07:40 J -16107711.39 -16107711.18 -16107710.97 0.0140 0.0018
 Uranus -48813-02-10 14:09 J -16107485.12 -16107484.91 -16107484.70 0.0140 0.0006
 Uranus -48813-09-23 20:52 J -16107258.84 -16107258.63 -16107258.42 0.0141 0.0029
 Jupiter -48812-01-05 02:09 J -16107155.61 -16107155.41 -16107155.20 0.0502 0.0125
 Uranus -48812-05-08 03:35 J -16107032.54 -16107032.35 -16107032.15 0.0141 0.0053
 Uranus -48812-12-20 10:47 J -16106806.23 -16106806.05 -16106805.88 0.0141 0.0077
 Uranus -48811-08-03 17:45 J -16106579.90 -16106579.76 -16106579.60 0.0142 0.0101
 Uranus -48810-03-18 01:11 J -16106353.53 -16106353.45 -16106353.34 0.0142 0.0125
 Jupiter -48807-11-15 20:09 J -16105014.79 -16105014.66 -16105014.53 0.0521 0.0389
 Saturn -48805-05-07 23:59 J -16104475.70 -16104475.50 -16104475.28 0.0272 0.0074
 Saturn -48805-12-23 11:45 J -16104246.13 -16104246.01 -16104245.86 0.0271 0.0211
 Neptune -48801-01-26 14:52 J -16103116.96 -16103116.88 -16103116.76 0.0088 0.0078
 Neptune -48801-09-08 05:01 J -16102891.43 -16102891.29 -16102891.11 0.0088 0.0061

Jupiter -48801-09-09 21:21 J -16102889.72 -16102889.61 -16102889.49 0.0500 0.0417
 Neptune -48800-04-21 19:11 J -16102665.88 -16102665.70 -16102665.48 0.0088 0.0044
 Neptune -48800-12-03 09:21 J -16102440.31 -16102440.11 -16102439.88 0.0088 0.0027
 Neptune -48799-07-16 23:45 J -16102214.73 -16102214.51 -16102214.28 0.0088 0.0009
 Neptune -48798-02-27 13:54 J -16101989.14 -16101988.92 -16101988.69 0.0088 0.0008
 Neptune -48798-10-11 04:04 J -16101763.54 -16101763.33 -16101763.11 0.0088 0.0025
 Neptune -48797-05-23 17:59 J -16101537.94 -16101537.75 -16101537.54 0.0088 0.0043
 Neptune -48796-01-04 08:09 J -16101312.32 -16101312.16 -16101311.98 0.0088 0.0060
 Neptune -48796-08-17 22:18 J -16101086.67 -16101086.57 -16101086.45 0.0088 0.0077
 Mars -48796-12-04 19:11 J -16100977.87 -16100977.70 -16100977.53 0.1903 0.0183
 Jupiter -48795-07-21 18:42 J -16100748.91 -16100748.72 -16100748.52 0.0523 0.0077
 Mars -48791-07-14 06:57 J -16099295.28 -16099295.21 -16099295.13 0.1638 0.1480
 Saturn -48790-06-04 15:49 J -16098969.97 -16098969.84 -16098969.69 0.0287 0.0208
 Saturn -48789-01-20 03:21 J -16098740.54 -16098740.36 -16098740.16 0.0288 0.0109
 Jupiter -48788-01-08 00:42 J -16098386.62 -16098386.47 -16098386.32 0.0506 0.0358
 Jupiter -48783-03-26 16:33 J -16096482.98 -16096482.81 -16096482.63 0.0526 0.0243
 Uranus -48778-06-16 13:40 J -16094574.93 -16094574.93 -16094574.93 0.0141 0.0141
 Uranus -48777-01-29 01:54 J -16094348.54 -16094348.42 -16094348.29 0.0140 0.0116
 Uranus -48777-09-11 13:54 J -16094122.08 -16094121.92 -16094121.74 0.0140 0.0091
 Jupiter -48777-09-12 17:45 J -16094120.97 -16094120.76 -16094120.55 0.0503 0.0052
 Uranus -48776-04-26 01:54 J -16093895.61 -16093895.42 -16093895.21 0.0140 0.0066
 Saturn -48776-11-18 06:57 J -16093689.43 -16093689.21 -16093688.99 0.0272 0.0029
 Uranus -48776-12-08 13:40 J -16093669.14 -16093668.93 -16093668.71 0.0139 0.0041
 Saturn -48775-07-05 18:57 J -16093459.78 -16093459.71 -16093459.63 0.0271 0.0255
 Uranus -48775-07-23 01:11 J -16093442.67 -16093442.45 -16093442.23 0.0139 0.0016
 Uranus -48774-03-06 12:28 J -16093216.20 -16093215.98 -16093215.75 0.0139 0.0009
 Uranus -48774-10-18 23:16 J -16092989.74 -16092989.53 -16092989.30 0.0138 0.0033
 Uranus -48773-06-01 09:49 J -16092763.28 -16092763.09 -16092762.87 0.0138 0.0057
 Uranus -48772-01-13 20:09 J -16092536.82 -16092536.66 -16092536.46 0.0138 0.0081
 Uranus -48772-08-28 06:28 J -16092310.36 -16092310.23 -16092310.07 0.0137 0.0104

Uranus -48771-04-11 16:33 J -16092083.88 -16092083.81 -16092083.71 0.0137 0.0126
 Jupiter -48765-05-18 11:30 J -16089855.20 -16089855.02 -16089854.84 0.0501 0.0248
 Saturn -48761-12-15 02:09 J -16088183.57 -16088183.41 -16088183.22 0.0287 0.0151
 Saturn -48760-08-01 13:54 J -16087954.08 -16087953.92 -16087953.75 0.0288 0.0166
 Jupiter -48759-03-29 04:47 J -16087714.47 -16087714.30 -16087714.12 0.0523 0.0250
 Mars -48759-07-13 05:45 J -16087608.43 -16087608.26 -16087608.08 0.1630 0.0465
 Jupiter -48748-12-02 04:47 J -16083448.49 -16083448.30 -16083448.10 0.0525 0.0060
 Saturn -48746-05-31 11:59 J -16082903.21 -16082903.00 -16082902.78 0.0272 0.0012
 Jupiter -48741-05-21 06:57 J -16081086.39 -16081086.21 -16081086.02 0.0505 0.0223
 Jupiter -48736-08-07 02:23 J -16079182.53 -16079182.40 -16079182.26 0.0527 0.0380
 Uranus -48733-01-22 14:23 J -16078283.90 -16078283.90 -16078283.89 0.0138 0.0138
 Uranus -48733-09-04 19:54 J -16078057.78 -16078057.67 -16078057.55 0.0138 0.0116
 Uranus -48732-04-19 01:25 J -16077831.59 -16077831.44 -16077831.28 0.0138 0.0095
 Uranus -48732-12-01 06:57 J -16077605.37 -16077605.21 -16077605.02 0.0139 0.0073
 Saturn -48731-06-27 05:16 J -16077397.47 -16077397.28 -16077397.09 0.0287 0.0112
 Uranus -48731-07-15 12:57 J -16077379.15 -16077378.96 -16077378.75 0.0139 0.0050
 Saturn -48730-02-11 16:47 J -16077167.94 -16077167.80 -16077167.65 0.0289 0.0205
 Uranus -48730-02-26 19:11 J -16077152.90 -16077152.70 -16077152.49 0.0140 0.0027
 Mars -48730-10-02 00:13 J -16076935.64 -16076935.49 -16076935.34 0.1900 0.0781
 Uranus -48730-10-11 01:40 J -16076926.64 -16076926.43 -16076926.22 0.0140 0.0004
 Jupiter -48729-01-25 01:25 J -16076820.65 -16076820.44 -16076820.23 0.0503 0.0077
 Uranus -48729-05-24 08:09 J -16076700.37 -16076700.16 -16076699.95 0.0140 0.0019
 Uranus -48728-01-05 14:52 J -16076474.08 -16076473.88 -16076473.68 0.0141 0.0043
 Uranus -48728-08-19 21:35 J -16076247.78 -16076247.60 -16076247.41 0.0141 0.0067
 Uranus -48727-04-03 04:47 J -16076021.46 -16076021.30 -16076021.13 0.0141 0.0091
 Uranus -48727-11-15 11:59 J -16075795.11 -16075795.00 -16075794.87 0.0142 0.0115
 Uranus -48726-06-29 19:54 J -16075568.72 -16075568.67 -16075568.63 0.0142 0.0138
 Jupiter -48724-12-04 16:33 J -16074679.92 -16074679.81 -16074679.69 0.0521 0.0426
 Neptune -48719-03-14 23:30 J -16073118.59 -16073118.52 -16073118.44 0.0089 0.0084
 Neptune -48719-10-26 11:01 J -16072893.16 -16072893.04 -16072892.88 0.0089 0.0067

Neptune -48718-06-08 23:16 J -16072667.70 -16072667.53 -16072667.35 0.0089 0.0050
 Jupiter -48718-09-29 20:09 J -16072554.80 -16072554.66 -16072554.52 0.0500 0.0371
 Neptune -48717-01-20 10:47 J -16072442.23 -16072442.05 -16072441.84 0.0089 0.0035
 Saturn -48717-04-25 05:59 J -16072346.35 -16072346.25 -16072346.12 0.0273 0.0232
 Neptune -48717-09-01 23:16 J -16072216.74 -16072216.53 -16072216.32 0.0089 0.0017
 Saturn -48717-12-10 18:42 J -16072116.93 -16072116.72 -16072116.51 0.0272 0.0054
 Neptune -48716-04-15 11:01 J -16071991.25 -16071991.04 -16071990.82 0.0089 0.0002
 Neptune -48716-11-26 22:47 J -16071765.75 -16071765.55 -16071765.33 0.0089 0.0016
 Neptune -48715-07-10 10:47 J -16071540.25 -16071540.05 -16071539.85 0.0089 0.0033
 Neptune -48714-02-20 22:18 J -16071314.73 -16071314.57 -16071314.38 0.0089 0.0050
 Neptune -48714-10-04 10:04 J -16071089.20 -16071089.08 -16071088.91 0.0089 0.0067
 Neptune -48713-05-16 22:18 J -16070863.64 -16070863.57 -16070863.48 0.0089 0.0082
 Jupiter -48712-08-09 13:40 J -16070414.12 -16070413.93 -16070413.73 0.0524 0.0111
 Jupiter -48705-01-27 21:49 J -16068051.72 -16068051.59 -16068051.46 0.0506 0.0398
 Earth -48703-10-07 10:33 J -16067068.21 -16067068.06 -16067067.91 0.2696 0.0149
 Moon -48703-10-07 13:40 J -16067068.07 -16067067.93 -16067067.78 0.2701 0.0058 *
 Saturn -48701-01-07 16:33 J -16066611.01 -16066610.81 -16066610.61 0.0287 0.0053
 Saturn -48701-08-24 04:18 J -16066381.40 -16066381.32 -16066381.24 0.0288 0.0264
 Jupiter -48700-04-14 12:28 J -16066148.17 -16066147.98 -16066147.80 0.0526 0.0206
 Pluto -48697-07-10 23:16 J -16064964.63 -16064964.53 -16064964.39 0.0067 0.0056
 Pluto -48696-02-21 04:47 J -16064739.51 -16064739.30 -16064739.08 0.0067 0.0012
 Pluto -48696-10-04 10:04 J -16064514.27 -16064514.08 -16064513.88 0.0068 0.0033
 Uranus -48694-09-28 09:49 J -16063790.19 -16063790.09 -16063789.99 0.0141 0.0125
 Jupiter -48694-10-02 13:25 J -16063786.15 -16063785.94 -16063785.73 0.0504 0.0089
 Mars -48693-05-09 16:47 J -16063565.98 -16063565.80 -16063565.62 0.1633 0.0221
 Uranus -48693-05-11 21:49 J -16063563.73 -16063563.59 -16063563.42 0.0140 0.0100
 Uranus -48693-12-24 09:49 J -16063337.27 -16063337.09 -16063336.89 0.0140 0.0075
 Uranus -48692-08-07 21:35 J -16063110.80 -16063110.60 -16063110.38 0.0140 0.0051
 Uranus -48691-03-22 09:35 J -16062884.32 -16062884.10 -16062883.88 0.0139 0.0025
 Uranus -48691-11-03 20:52 J -16062657.85 -16062657.63 -16062657.40 0.0139 0.0002

Uranus -48690-06-18 07:54 J -16062431.39 -16062431.17 -16062430.94 0.0138 0.0023
 Uranus -48689-01-30 18:42 J -16062204.92 -16062204.72 -16062204.50 0.0138 0.0047
 Uranus -48689-09-13 05:16 J -16061978.46 -16061978.28 -16061978.08 0.0138 0.0071
 Jupiter -48689-12-18 11:01 J -16061882.07 -16061882.04 -16061882.01 0.0529 0.0522
 Uranus -48688-04-27 15:49 J -16061752.00 -16061751.84 -16061751.67 0.0137 0.0094
 Saturn -48688-11-05 12:57 J -16061560.11 -16061559.96 -16061559.79 0.0273 0.0186
 Uranus -48688-12-10 01:54 J -16061525.53 -16061525.42 -16061525.30 0.0137 0.0117
 Saturn -48687-06-23 01:11 J -16061330.65 -16061330.45 -16061330.25 0.0272 0.0098
 Jupiter -48682-06-07 07:54 J -16059520.36 -16059520.17 -16059519.98 0.0502 0.0208
 Jupiter -48676-04-17 02:52 J -16057379.54 -16057379.38 -16057379.21 0.0522 0.0294
 Saturn -48672-07-19 19:25 J -16055824.89 -16055824.69 -16055824.48 0.0288 0.0014
 Jupiter -48670-02-10 03:35 J -16055254.37 -16055254.35 -16055254.33 0.0500 0.0497
 Jupiter -48665-12-21 01:11 J -16053113.65 -16053113.45 -16053113.25 0.0524 0.0021
 Mars -48664-07-29 05:01 J -16052893.40 -16052893.29 -16052893.17 0.1896 0.1385
 Saturn -48658-05-18 19:11 J -16050773.88 -16050773.70 -16050773.51 0.0273 0.0144
 Jupiter -48658-06-10 05:16 J -16050751.46 -16050751.28 -16050751.10 0.0505 0.0268
 Saturn -48657-01-03 07:40 J -16050544.37 -16050544.18 -16050544.00 0.0272 0.0140
 Jupiter -48653-08-25 20:37 J -16048847.79 -16048847.64 -16048847.49 0.0527 0.0349
 Uranus -48649-05-05 08:37 J -16047499.22 -16047499.14 -16047499.04 0.0138 0.0123
 Uranus -48649-12-17 14:09 J -16047273.04 -16047272.91 -16047272.76 0.0138 0.0102
 Uranus -48648-07-31 19:54 J -16047046.84 -16047046.67 -16047046.49 0.0139 0.0080
 Uranus -48647-03-15 01:40 J -16046820.62 -16046820.43 -16046820.23 0.0139 0.0058
 Uranus -48647-10-27 07:40 J -16046594.38 -16046594.18 -16046593.97 0.0139 0.0035
 Jupiter -48646-02-12 22:33 J -16046485.77 -16046485.56 -16046485.35 0.0502 0.0036
 Uranus -48646-06-10 13:54 J -16046368.13 -16046367.92 -16046367.71 0.0140 0.0012
 Uranus -48645-01-22 20:23 J -16046141.86 -16046141.65 -16046141.44 0.0140 0.0011
 Uranus -48645-09-05 02:52 J -16045915.58 -16045915.38 -16045915.17 0.0140 0.0035
 Uranus -48644-04-19 09:49 J -16045689.28 -16045689.09 -16045688.90 0.0141 0.0058
 Uranus -48644-12-01 16:47 J -16045462.97 -16045462.80 -16045462.63 0.0141 0.0081
 Saturn -48643-06-14 18:57 J -16045267.77 -16045267.71 -16045267.63 0.0286 0.0269

Uranus -48643-07-15 23:45 J -16045236.64 -16045236.51 -16045236.36 0.0141 0.0106
 Saturn -48642-01-30 06:42 J -16045038.43 -16045038.22 -16045038.02 0.0288 0.0045
 Uranus -48642-02-27 07:25 J -16045010.27 -16045010.19 -16045010.10 0.0142 0.0129
 Jupiter -48641-12-23 11:45 J -16044345.09 -16044345.01 -16044344.91 0.0521 0.0461
 Neptune -48637-04-28 20:52 J -16043122.63 -16043122.63 -16043122.59 0.0088 0.0088
 Neptune -48637-12-10 10:47 J -16042897.16 -16042897.05 -16042896.89 0.0088 0.0071
 Neptune -48636-07-24 01:25 J -16042671.62 -16042671.44 -16042671.26 0.0088 0.0054
 Neptune -48635-03-06 15:35 J -16042446.05 -16042445.85 -16042445.64 0.0088 0.0036
 Neptune -48635-10-18 05:45 J -16042220.48 -16042220.26 -16042220.04 0.0088 0.0019
 Jupiter -48635-10-18 14:52 J -16042220.04 -16042219.88 -16042219.73 0.0500 0.0337 *
 Neptune -48634-05-31 19:54 J -16041994.90 -16041994.67 -16041994.45 0.0088 0.0003
 Neptune -48633-01-12 09:49 J -16041769.31 -16041769.09 -16041768.86 0.0088 0.0015
 Neptune -48633-08-24 23:59 J -16041543.71 -16041543.50 -16041543.28 0.0088 0.0032
 Neptune -48632-04-07 14:09 J -16041318.09 -16041317.91 -16041317.72 0.0088 0.0049
 Mars -48632-07-28 20:23 J -16041205.66 -16041205.65 -16041205.63 0.1907 0.1892
 Neptune -48632-11-19 04:04 J -16041092.47 -16041092.33 -16041092.17 0.0088 0.0067
 Neptune -48631-07-02 18:13 J -16040866.80 -16040866.74 -16040866.66 0.0088 0.0083
 Jupiter -48629-08-28 12:28 J -16040079.16 -16040078.98 -16040078.79 0.0524 0.0158
 Saturn -48629-11-28 03:21 J -16039987.56 -16039987.36 -16039987.16 0.0273 0.0096
 Saturn -48628-07-15 15:06 J -16039758.02 -16039757.87 -16039757.71 0.0271 0.0186
 Mars -48627-03-07 03:21 J -16039523.54 -16039523.36 -16039523.18 0.1635 0.0036
 Jupiter -48622-02-15 17:45 J -16037716.86 -16037716.76 -16037716.65 0.0506 0.0436
 Jupiter -48617-05-03 10:47 J -16035813.23 -16035813.05 -16035812.86 0.0526 0.0158
 Saturn -48614-12-25 21:35 J -16034481.71 -16034481.60 -16034481.47 0.0287 0.0231
 Saturn -48613-08-11 09:21 J -16034252.30 -16034252.11 -16034251.91 0.0288 0.0084
 Jupiter -48611-10-21 11:45 J -16033451.21 -16033451.01 -16033450.81 0.0504 0.0134
 Pluto -48611-12-22 14:09 J -16033389.11 -16033388.91 -16033388.70 0.0077 0.0026
 Uranus -48610-05-28 18:57 J -16033231.78 -16033231.71 -16033231.64 0.0141 0.0133
 Pluto -48610-08-04 22:47 J -16033163.72 -16033163.55 -16033163.34 0.0077 0.0040
 Uranus -48609-01-10 06:57 J -16033005.34 -16033005.21 -16033005.05 0.0140 0.0109

Uranus	-48609-08-23 19:25 J	-16032778.87	-16032778.69	-16032778.51	0.0140	0.0084
Uranus	-48608-04-07 07:11 J	-16032552.39	-16032552.20	-16032551.99	0.0140	0.0059
Uranus	-48608-11-19 18:57 J	-16032325.92	-16032325.71	-16032325.49	0.0139	0.0034
Uranus	-48607-07-04 06:28 J	-16032099.46	-16032099.23	-16032099.01	0.0139	0.0010
Uranus	-48606-02-15 17:45 J	-16031872.99	-16031872.76	-16031872.54	0.0139	0.0015
Uranus	-48606-09-30 04:33 J	-16031646.52	-16031646.31	-16031646.09	0.0138	0.0039
Jupiter	-48605-01-07 07:40 J	-16031547.26	-16031547.18	-16031547.10	0.0528	0.0480
Uranus	-48605-05-13 15:06 J	-16031420.06	-16031419.87	-16031419.66	0.0138	0.0062
Uranus	-48605-12-26 01:40 J	-16031193.60	-16031193.43	-16031193.25	0.0138	0.0085
Uranus	-48604-08-09 11:59 J	-16030967.14	-16030967.00	-16030966.86	0.0137	0.0108
Uranus	-48603-03-23 21:49 J	-16030740.65	-16030740.59	-16030740.51	0.0137	0.0130
Saturn	-48599-06-10 08:52 J	-16029201.35	-16029201.13	-16029200.92	0.0272	0.0056
Jupiter	-48599-06-26 06:13 J	-16029185.44	-16029185.24	-16029185.04	0.0502	0.0162
Saturn	-48598-01-25 20:37 J	-16028971.75	-16028971.64	-16028971.51	0.0271	0.0227
Earth	-48597-04-06 20:23 J	-16028534.67	-16028534.65	-16028534.62	0.2636	0.2604
Jupiter	-48593-05-05 21:21 J	-16027044.77	-16027044.61	-16027044.46	0.0522	0.0324
Earth	-48589-04-04 09:35 J	-16025615.24	-16025615.10	-16025614.97	0.2637	0.1480
Moon	-48589-04-04 14:23 J	-16025615.06	-16025614.90	-16025614.74	0.2633	0.0920 *
Jupiter	-48587-03-01 00:42 J	-16024919.55	-16024919.47	-16024919.38	0.0499	0.0454
Saturn	-48584-07-07 08:37 J	-16023695.30	-16023695.14	-16023694.97	0.0287	0.0173
Saturn	-48583-02-21 20:09 J	-16023465.83	-16023465.66	-16023465.47	0.0288	0.0142
Jupiter	-48581-01-09 20:09 J	-16022778.86	-16022778.66	-16022778.47	0.0525	0.0016
Jupiter	-48575-06-28 23:45 J	-16020416.68	-16020416.51	-16020416.34	0.0505	0.0299
Jupiter	-48570-09-14 19:25 J	-16018512.85	-16018512.69	-16018512.52	0.0527	0.0299
Saturn	-48570-12-21 17:30 J	-16018414.98	-16018414.77	-16018414.55	0.0272	0.0009
Mars	-48566-05-26 01:54 J	-16017163.54	-16017163.42	-16017163.29	0.1903	0.1302
Uranus	-48565-01-03 20:52 J	-16016940.68	-16016940.63	-16016940.55	0.0138	0.0131
Uranus	-48565-08-17 02:37 J	-16016714.51	-16016714.39	-16016714.26	0.0138	0.0109
Uranus	-48564-03-31 08:09 J	-16016488.32	-16016488.16	-16016487.99	0.0138	0.0088
Uranus	-48564-11-12 13:40 J	-16016262.11	-16016261.93	-16016261.74	0.0139	0.0066

Jupiter -48563-03-03 17:45 J -16016150.97 -16016150.76 -16016150.55 0.0503 0.0005
 Uranus -48563-06-26 19:25 J -16016035.88 -16016035.69 -16016035.48 0.0139 0.0044
 Uranus -48562-02-08 01:40 J -16015809.63 -16015809.43 -16015809.22 0.0139 0.0021
 Uranus -48562-09-22 08:09 J -16015583.37 -16015583.16 -16015582.95 0.0140 0.0002
 Mars -48561-01-02 14:09 J -16015481.09 -16015480.91 -16015480.74 0.1637 0.0276
 Uranus -48561-05-05 14:37 J -16015357.10 -16015356.89 -16015356.68 0.0140 0.0025
 Uranus -48561-12-17 21:21 J -16015130.81 -16015130.61 -16015130.42 0.0141 0.0048
 Uranus -48560-08-01 03:49 J -16014904.51 -16014904.34 -16014904.15 0.0141 0.0072
 Uranus -48559-03-15 11:01 J -16014678.19 -16014678.04 -16014677.88 0.0141 0.0095
 Uranus -48559-10-27 18:28 J -16014451.83 -16014451.73 -16014451.61 0.0142 0.0119
 Jupiter -48557-01-12 10:33 J -16014010.11 -16014010.06 -16014010.02 0.0520 0.0505
 Saturn -48554-01-17 10:47 J -16012909.22 -16012909.05 -16012908.86 0.0287 0.0136
 Neptune -48554-01-27 19:54 J -16012898.77 -16012898.67 -16012898.56 0.0089 0.0077
 Saturn -48554-09-03 22:33 J -16012679.71 -16012679.56 -16012679.39 0.0288 0.0180
 Neptune -48554-09-10 07:40 J -16012673.32 -16012673.18 -16012673.01 0.0089 0.0060
 Neptune -48553-04-22 19:54 J -16012447.85 -16012447.67 -16012447.48 0.0089 0.0044
 Neptune -48553-12-04 07:40 J -16012222.37 -16012222.18 -16012221.97 0.0089 0.0027
 Neptune -48552-07-17 19:54 J -16011996.89 -16011996.67 -16011996.46 0.0089 0.0011
 Jupiter -48552-11-06 12:57 J -16011885.13 -16011884.96 -16011884.79 0.0501 0.0293
 Neptune -48551-02-28 07:40 J -16011771.39 -16011771.18 -16011770.97 0.0089 0.0006
 Neptune -48551-10-11 19:25 J -16011545.89 -16011545.69 -16011545.47 0.0089 0.0023
 Neptune -48550-05-25 07:11 J -16011320.38 -16011320.20 -16011319.99 0.0089 0.0040
 Neptune -48549-01-05 18:57 J -16011094.86 -16011094.71 -16011094.52 0.0089 0.0056
 Neptune -48549-08-18 07:11 J -16010869.31 -16010869.20 -16010869.07 0.0089 0.0072
 Neptune -48548-03-31 18:57 J -16010643.71 -16010643.71 -16010643.68 0.0089 0.0089
 Jupiter -48546-09-17 09:21 J -16009744.29 -16009744.11 -16009743.92 0.0523 0.0198
 Saturn -48541-11-15 09:49 J -16007858.17 -16007858.09 -16007858.00 0.0273 0.0251
 Saturn -48540-07-02 22:04 J -16007628.79 -16007628.58 -16007628.36 0.0272 0.0032
 Jupiter -48539-03-06 16:33 J -16007381.87 -16007381.81 -16007381.74 0.0506 0.0482
 Jupiter -48534-05-23 05:16 J -16005478.47 -16005478.28 -16005478.08 0.0526 0.0125

Jupiter -48528-11-09 09:21 J -16003116.31 -16003116.11 -16003115.92 0.0504 0.0177
 Uranus -48526-09-09 15:21 J -16002446.96 -16002446.86 -16002446.72 0.0141 0.0118
 Uranus -48525-04-23 03:49 J -16002220.50 -16002220.34 -16002220.16 0.0140 0.0093
 Saturn -48525-07-29 20:52 J -16002122.82 -16002122.63 -16002122.43 0.0287 0.0080
 Uranus -48525-12-05 15:49 J -16001994.03 -16001993.84 -16001993.64 0.0140 0.0068
 Saturn -48524-03-16 08:52 J -16001893.25 -16001893.13 -16001893.01 0.0288 0.0235
 Uranus -48524-07-20 03:35 J -16001767.56 -16001767.35 -16001767.13 0.0140 0.0044
 Uranus -48523-03-03 15:21 J -16001541.08 -16001540.86 -16001540.63 0.0139 0.0019
 Uranus -48523-10-16 02:37 J -16001314.61 -16001314.39 -16001314.16 0.0139 0.0006
 Jupiter -48522-01-26 02:37 J -16001212.49 -16001212.39 -16001212.28 0.0528 0.0445
 Uranus -48522-05-30 13:40 J -16001088.14 -16001087.93 -16001087.70 0.0139 0.0029
 Uranus -48521-01-12 00:28 J -16000861.68 -16000861.48 -16000861.27 0.0138 0.0053
 Uranus -48521-08-25 11:01 J -16000635.22 -16000635.04 -16000634.84 0.0138 0.0076
 Uranus -48520-04-08 21:21 J -16000408.75 -16000408.61 -16000408.44 0.0138 0.0099
 Uranus -48520-11-21 07:25 J -16000182.27 -16000182.19 -16000182.07 0.0137 0.0121
 Jupiter -48516-07-15 00:28 J -15998850.68 -15998850.48 -15998850.27 0.0502 0.0132
 Saturn -48511-05-28 19:11 J -15997071.83 -15997071.70 -15997071.54 0.0273 0.0199
 Saturn -48510-01-13 07:25 J -15996842.39 -15996842.19 -15996841.98 0.0272 0.0084
 Jupiter -48510-05-25 20:23 J -15996709.78 -15996709.65 -15996709.51 0.0522 0.0373
 Jupiter -48504-03-19 20:09 J -15994584.77 -15994584.66 -15994584.55 0.0499 0.0420
 Mars -48500-03-22 06:57 J -15993121.36 -15993121.21 -15993121.05 0.1900 0.0693
 Jupiter -48498-01-28 19:40 J -15992443.88 -15992443.68 -15992443.49 0.0524 0.0064
 Mars -48496-10-30 00:28 J -15991438.65 -15991438.48 -15991438.31 0.1640 0.0538
 Saturn -48495-02-08 23:01 J -15991336.74 -15991336.54 -15991336.33 0.0287 0.0044
 Saturn -48495-09-26 10:33 J -15991107.11 -15991107.06 -15991106.98 0.0289 0.0272
 Jupiter -48492-07-17 22:33 J -15990081.71 -15990081.56 -15990081.41 0.0506 0.0346
 Jupiter -48487-10-03 17:30 J -15988177.94 -15988177.77 -15988177.60 0.0527 0.0253
 Uranus -48482-09-03 09:35 J -15986382.11 -15986382.10 -15986382.07 0.0138 0.0137
 Saturn -48482-12-08 22:33 J -15986285.73 -15986285.56 -15986285.38 0.0273 0.0165
 Uranus -48481-04-16 14:52 J -15986155.98 -15986155.88 -15986155.76 0.0138 0.0116

Saturn -48481-07-25 10:33 J -15986056.25 -15986056.06 -15986055.85 0.0272 0.0118
 Uranus -48481-11-28 20:09 J -15985929.80 -15985929.66 -15985929.49 0.0138 0.0095
 Jupiter -48480-03-22 17:16 J -15985815.99 -15985815.78 -15985815.57 0.0503 0.0050
 Uranus -48480-07-13 01:54 J -15985703.59 -15985703.42 -15985703.24 0.0139 0.0074
 Uranus -48479-02-24 07:40 J -15985477.37 -15985477.18 -15985476.98 0.0139 0.0052
 Uranus -48479-10-08 13:40 J -15985251.13 -15985250.93 -15985250.72 0.0139 0.0030
 Uranus -48478-05-22 19:54 J -15985024.88 -15985024.67 -15985024.46 0.0140 0.0007
 Uranus -48477-01-04 02:09 J -15984798.61 -15984798.41 -15984798.20 0.0140 0.0016
 Uranus -48477-08-17 08:37 J -15984572.33 -15984572.14 -15984571.93 0.0140 0.0040
 Uranus -48476-03-31 15:21 J -15984346.04 -15984345.86 -15984345.66 0.0141 0.0063
 Uranus -48476-11-12 22:18 J -15984119.72 -15984119.57 -15984119.39 0.0141 0.0086
 Uranus -48475-06-27 05:30 J -15983893.39 -15983893.27 -15983893.12 0.0141 0.0109
 Uranus -48474-02-08 12:57 J -15983667.01 -15983666.96 -15983666.87 0.0142 0.0133
 Neptune -48472-03-13 17:16 J -15982902.85 -15982902.78 -15982902.66 0.0088 0.0080
 Neptune -48472-10-25 07:25 J -15982677.33 -15982677.19 -15982677.01 0.0088 0.0063
 Neptune -48471-06-07 21:35 J -15982451.78 -15982451.60 -15982451.39 0.0088 0.0046
 Neptune -48470-01-19 11:45 J -15982226.21 -15982226.01 -15982225.78 0.0088 0.0029
 Neptune -48470-09-02 02:09 J -15982000.63 -15982000.41 -15982000.18 0.0088 0.0012
 Neptune -48469-04-14 16:18 J -15981775.05 -15981774.82 -15981774.59 0.0088 0.0005
 Jupiter -48469-11-25 11:16 J -15981550.21 -15981550.03 -15981549.85 0.0501 0.0247
 Neptune -48469-11-26 06:13 J -15981549.45 -15981549.24 -15981549.01 0.0088 0.0023
 Neptune -48468-07-09 20:23 J -15981323.85 -15981323.65 -15981323.44 0.0088 0.0039
 Neptune -48467-02-20 10:33 J -15981098.23 -15981098.06 -15981097.88 0.0088 0.0056
 Neptune -48467-10-04 00:42 J -15980872.59 -15980872.47 -15980872.34 0.0088 0.0073
 Saturn -48466-08-22 07:40 J -15980550.38 -15980550.18 -15980549.97 0.0288 0.0010
 Mars -48464-10-28 23:30 J -15979751.61 -15979751.52 -15979751.43 0.1633 0.1402
 Jupiter -48463-10-06 05:16 J -15979409.45 -15979409.28 -15979409.10 0.0523 0.0236
 Moon -48460-10-07 13:11 J -15978312.12 -15978311.95 -15978311.79 0.2689 0.0234
 Earth -48460-10-07 13:54 J -15978312.08 -15978311.92 -15978311.77 0.2696 0.0026 *
 Saturn -48452-06-20 08:09 J -15975499.35 -15975499.16 -15975498.96 0.0273 0.0112

Saturn -48451-02-04 20:09 J -15975269.83 -15975269.66 -15975269.49 0.0272 0.0169
 Jupiter -48451-06-11 05:16 J -15975143.48 -15975143.28 -15975143.09 0.0526 0.0074
 Pluto -48450-03-21 22:47 J -15974859.66 -15974859.55 -15974859.38 0.0067 0.0052
 Pluto -48450-11-02 04:47 J -15974634.52 -15974634.30 -15974634.08 0.0067 0.0008
 Pluto -48449-06-14 09:35 J -15974409.27 -15974409.10 -15974408.90 0.0068 0.0037
 Jupiter -48445-11-28 05:01 J -15972781.48 -15972781.29 -15972781.10 0.0504 0.0212
 Uranus -48442-05-10 00:13 J -15971888.58 -15971888.49 -15971888.38 0.0141 0.0125
 Uranus -48442-12-22 12:28 J -15971662.13 -15971661.98 -15971661.82 0.0141 0.0101
 Uranus -48441-08-05 00:28 J -15971435.65 -15971435.48 -15971435.28 0.0140 0.0077
 Uranus -48440-03-19 12:42 J -15971209.17 -15971208.97 -15971208.76 0.0140 0.0052
 Uranus -48440-11-01 00:28 J -15970982.70 -15970982.48 -15970982.26 0.0140 0.0027
 Jupiter -48439-02-14 03:21 J -15970877.48 -15970877.36 -15970877.22 0.0528 0.0390
 Uranus -48439-06-15 11:59 J -15970756.23 -15970756.00 -15970755.78 0.0139 0.0004
 Uranus -48438-01-27 23:01 J -15970529.76 -15970529.54 -15970529.31 0.0139 0.0021
 Uranus -48438-09-11 09:49 J -15970303.29 -15970303.09 -15970302.86 0.0138 0.0045
 Uranus -48437-04-24 20:52 J -15970076.82 -15970076.63 -15970076.43 0.0138 0.0067
 Saturn -48437-07-16 22:04 J -15969993.65 -15969993.58 -15969993.51 0.0286 0.0266
 Uranus -48437-12-07 07:25 J -15969850.36 -15969850.19 -15969850.02 0.0138 0.0090
 Saturn -48436-03-03 09:21 J -15969764.31 -15969764.11 -15969763.90 0.0288 0.0044
 Uranus -48436-07-21 17:30 J -15969623.89 -15969623.77 -15969623.63 0.0137 0.0113
 Uranus -48435-03-05 03:21 J -15969397.37 -15969397.36 -15969397.30 0.0137 0.0135
 Mars -48434-01-17 12:28 J -15969079.15 -15969078.98 -15969078.81 0.1896 0.0110
 Jupiter -48433-08-02 23:59 J -15968515.71 -15968515.50 -15968515.29 0.0502 0.0083
 Mars -48430-08-27 11:01 J -15967396.19 -15967396.04 -15967395.88 0.1643 0.0784
 Jupiter -48427-06-13 18:57 J -15966374.82 -15966374.71 -15966374.59 0.0521 0.0418
 Saturn -48423-12-31 10:18 J -15964713.27 -15964713.07 -15964712.85 0.0273 0.0081
 Saturn -48422-08-17 22:18 J -15964483.71 -15964483.57 -15964483.42 0.0271 0.0200
 Jupiter -48421-04-07 19:54 J -15964249.80 -15964249.67 -15964249.52 0.0500 0.0369
 Jupiter -48415-02-16 16:04 J -15962109.02 -15962108.83 -15962108.63 0.0524 0.0103
 Jupiter -48409-08-05 21:35 J -15959746.72 -15959746.60 -15959746.46 0.0506 0.0395

Saturn -48407-01-27 05:01 J -15959207.42 -15959207.29 -15959207.16 0.0287 0.0219
 Saturn -48407-09-13 16:47 J -15958977.99 -15958977.80 -15958977.60 0.0288 0.0093
 Jupiter -48404-10-22 14:09 J -15957843.09 -15957842.91 -15957842.72 0.0527 0.0212
 Mars -48398-08-26 10:04 J -15955709.20 -15955709.08 -15955708.95 0.1635 0.1155
 Uranus -48398-12-16 03:06 J -15955597.46 -15955597.37 -15955597.27 0.0138 0.0123
 Jupiter -48397-04-10 12:42 J -15955481.17 -15955480.97 -15955480.76 0.0503 0.0084
 Uranus -48397-07-29 08:23 J -15955371.28 -15955371.15 -15955371.00 0.0138 0.0102
 Uranus -48396-03-12 13:40 J -15955145.09 -15955144.93 -15955144.75 0.0138 0.0081
 Uranus -48396-10-24 19:25 J -15954918.87 -15954918.69 -15954918.49 0.0139 0.0060
 Uranus -48395-06-08 01:11 J -15954692.65 -15954692.45 -15954692.24 0.0139 0.0038
 Uranus -48394-01-20 07:25 J -15954466.40 -15954466.19 -15954465.98 0.0139 0.0015
 Uranus -48394-09-03 13:40 J -15954240.14 -15954239.93 -15954239.72 0.0140 0.0007
 Uranus -48393-04-16 19:54 J -15954013.87 -15954013.67 -15954013.46 0.0140 0.0030
 Saturn -48393-07-12 19:25 J -15953926.91 -15953926.69 -15953926.47 0.0273 0.0029
 Uranus -48393-11-29 02:37 J -15953787.58 -15953787.39 -15953787.19 0.0140 0.0053
 Saturn -48392-02-27 07:11 J -15953697.27 -15953697.20 -15953697.11 0.0271 0.0250
 Uranus -48392-07-13 09:21 J -15953561.28 -15953561.11 -15953560.93 0.0141 0.0076
 Uranus -48391-02-24 16:18 J -15953334.96 -15953334.82 -15953334.66 0.0141 0.0099
 Uranus -48391-10-08 23:45 J -15953108.60 -15953108.51 -15953108.39 0.0141 0.0123
 Neptune -48390-05-01 04:18 J -15952904.36 -15952904.32 -15952904.25 0.0089 0.0086
 Neptune -48390-12-12 16:04 J -15952678.94 -15952678.83 -15952678.67 0.0089 0.0070
 Neptune -48389-07-25 04:18 J -15952453.48 -15952453.32 -15952453.14 0.0089 0.0054
 Neptune -48388-03-07 16:18 J -15952228.00 -15952227.82 -15952227.61 0.0089 0.0037
 Neptune -48388-10-19 04:18 J -15952002.52 -15952002.32 -15952002.10 0.0089 0.0020
 Neptune -48387-06-01 16:18 J -15951777.03 -15951776.82 -15951776.60 0.0089 0.0004
 Neptune -48386-01-13 04:04 J -15951551.53 -15951551.33 -15951551.11 0.0089 0.0013
 Neptune -48386-08-26 16:04 J -15951326.02 -15951325.83 -15951325.62 0.0089 0.0030
 Jupiter -48386-12-15 07:40 J -15951215.37 -15951215.18 -15951214.99 0.0501 0.0210
 Neptune -48385-04-08 03:49 J -15951100.51 -15951100.34 -15951100.14 0.0089 0.0046
 Neptune -48385-11-19 15:35 J -15950874.98 -15950874.85 -15950874.68 0.0089 0.0063

Neptune -48384-07-03 03:35 J -15950649.44 -15950649.35 -15950649.24 0.0089 0.0079
 Jupiter -48380-10-25 06:28 J -15949074.38 -15949074.23 -15949074.06 0.0523 0.0291
 Saturn -48378-08-09 07:11 J -15948421.36 -15948421.20 -15948421.04 0.0286 0.0183
 Saturn -48377-03-25 18:28 J -15948191.91 -15948191.73 -15948191.54 0.0288 0.0128
 Jupiter -48374-08-20 03:49 J -15946949.36 -15946949.34 -15946949.31 0.0499 0.0494
 Mars -48369-11-13 17:45 J -15945036.93 -15945036.76 -15945036.60 0.1892 0.0486
 Jupiter -48368-06-30 05:16 J -15944808.47 -15944808.28 -15944808.08 0.0525 0.0021
 Mars -48364-06-23 20:52 J -15943353.77 -15943353.63 -15943353.50 0.1646 0.1063
 Pluto -48364-09-01 14:37 J -15943284.10 -15943283.89 -15943283.67 0.0077 0.0018
 Saturn -48363-01-22 20:37 J -15943140.86 -15943140.64 -15943140.42 0.0272 0.0003
 Pluto -48363-04-14 23:16 J -15943058.68 -15943058.53 -15943058.34 0.0077 0.0048
 Jupiter -48362-12-18 06:13 J -15942446.42 -15942446.24 -15942446.06 0.0505 0.0267
 Uranus -48358-01-07 06:42 J -15941330.28 -15941330.22 -15941330.16 0.0141 0.0135
 Uranus -48358-08-21 19:11 J -15941103.84 -15941103.70 -15941103.56 0.0141 0.0110
 Uranus -48357-04-04 07:25 J -15940877.36 -15940877.19 -15940877.01 0.0141 0.0086
 Uranus -48357-11-16 19:25 J -15940650.89 -15940650.69 -15940650.48 0.0140 0.0062
 Jupiter -48356-03-05 01:11 J -15940542.59 -15940542.45 -15940542.30 0.0528 0.0345
 Uranus -48356-07-01 07:25 J -15940424.41 -15940424.19 -15940423.98 0.0140 0.0037
 Uranus -48355-02-12 18:57 J -15940197.93 -15940197.71 -15940197.48 0.0139 0.0013
 Uranus -48355-09-27 06:28 J -15939971.45 -15939971.23 -15939971.00 0.0139 0.0011
 Moon -48354-04-07 13:54 J -15939779.05 -15939778.92 -15939778.78 0.2633 0.1578
 Earth -48354-04-07 19:25 J -15939778.73 -15939778.69 -15939778.65 0.2636 0.2551
 Uranus -48354-05-11 17:30 J -15939744.98 -15939744.77 -15939744.54 0.0139 0.0035
 Uranus -48354-12-24 04:18 J -15939518.51 -15939518.32 -15939518.10 0.0138 0.0058
 Uranus -48353-08-06 15:06 J -15939292.04 -15939291.87 -15939291.68 0.0138 0.0081
 Uranus -48352-03-21 01:40 J -15939065.56 -15939065.43 -15939065.27 0.0138 0.0104
 Uranus -48352-11-02 12:13 J -15938839.07 -15938838.99 -15938838.89 0.0137 0.0125
 Jupiter -48350-08-23 00:13 J -15938180.70 -15938180.49 -15938180.28 0.0502 0.0031
 Saturn -48348-02-18 12:28 J -15937635.16 -15937634.98 -15937634.80 0.0287 0.0139
 Saturn -48348-10-05 23:59 J -15937405.66 -15937405.50 -15937405.33 0.0288 0.0173

Moon	-48346-04-05 02:52 J	-15936859.48	-15936859.38	-15936859.27	0.2640	0.1938
Earth	-48346-04-05 08:52 J	-15936859.26	-15936859.13	-15936859.00	0.2637	0.1498
Jupiter	-48344-07-02 16:47 J	-15936039.88	-15936039.80	-15936039.70	0.0522	0.0462
Jupiter	-48338-04-27 16:47 J	-15933914.95	-15933914.80	-15933914.64	0.0500	0.0332
Saturn	-48335-12-18 16:33 J	-15932583.91	-15932583.81	-15932583.68	0.0274	0.0232
Saturn	-48334-08-05 05:16 J	-15932354.50	-15932354.28	-15932354.07	0.0273	0.0050
Jupiter	-48332-03-07 17:16 J	-15931773.97	-15931773.78	-15931773.59	0.0524	0.0158
Mars	-48332-06-22 20:23 J	-15931666.80	-15931666.65	-15931666.50	0.1638	0.0898
Jupiter	-48326-08-25 19:11 J	-15929411.81	-15929411.70	-15929411.60	0.0506	0.0433
Jupiter	-48321-11-10 16:33 J	-15927508.00	-15927507.81	-15927507.62	0.0527	0.0153
Saturn	-48319-08-31 14:23 J	-15926849.08	-15926848.90	-15926848.70	0.0286	0.0104
Saturn	-48318-04-18 01:40 J	-15926619.56	-15926619.43	-15926619.28	0.0288	0.0208
Jupiter	-48314-04-30 13:40 J	-15925146.13	-15925145.93	-15925145.72	0.0503	0.0137
Uranus	-48314-08-15 15:06 J	-15925038.92	-15925038.87	-15925038.78	0.0137	0.0130
Uranus	-48313-03-28 20:23 J	-15924812.76	-15924812.65	-15924812.51	0.0138	0.0109
Uranus	-48313-11-10 01:40 J	-15924586.58	-15924586.43	-15924586.25	0.0138	0.0088
Uranus	-48312-06-24 07:25 J	-15924360.37	-15924360.19	-15924360.00	0.0138	0.0067
Uranus	-48311-02-05 13:11 J	-15924134.15	-15924133.95	-15924133.75	0.0139	0.0045
Uranus	-48311-09-19 19:11 J	-15923907.91	-15923907.70	-15923907.49	0.0139	0.0023
Uranus	-48310-05-04 01:25 J	-15923681.65	-15923681.44	-15923681.23	0.0139	0.0002
Uranus	-48310-12-16 07:40 J	-15923455.39	-15923455.18	-15923454.97	0.0140	0.0022
Jupiter	-48309-07-16 14:09 J	-15923241.99	-15923241.91	-15923241.82	0.0529	0.0470
Uranus	-48309-07-29 14:09 J	-15923229.11	-15923228.91	-15923228.71	0.0140	0.0044
Uranus	-48308-03-12 20:37 J	-15923002.81	-15923002.64	-15923002.44	0.0140	0.0068
Uranus	-48308-10-25 03:49 J	-15922776.50	-15922776.34	-15922776.18	0.0141	0.0090
Neptune	-48307-01-26 14:09 J	-15922683.02	-15922682.91	-15922682.76	0.0088	0.0072
Uranus	-48307-06-08 10:47 J	-15922550.16	-15922550.05	-15922549.91	0.0141	0.0113
Neptune	-48307-09-09 04:18 J	-15922457.48	-15922457.32	-15922457.13	0.0088	0.0055
Uranus	-48306-01-20 18:28 J	-15922323.79	-15922323.73	-15922323.68	0.0142	0.0136
Neptune	-48306-04-22 18:28 J	-15922231.93	-15922231.73	-15922231.52	0.0088	0.0038

Neptune -48306-12-04 08:37 J -15922006.36 -15922006.14 -15922005.92 0.0088 0.0021
 Saturn -48305-06-29 16:18 J -15921797.95 -15921797.82 -15921797.67 0.0274 0.0206
 Neptune -48305-07-16 22:47 J -15921780.78 -15921780.55 -15921780.33 0.0088 0.0004
 Saturn -48304-02-14 05:01 J -15921568.50 -15921568.29 -15921568.08 0.0272 0.0076
 Neptune -48304-02-27 12:42 J -15921555.19 -15921554.97 -15921554.73 0.0088 0.0013
 Neptune -48304-10-11 02:37 J -15921329.59 -15921329.39 -15921329.16 0.0088 0.0031
 Neptune -48303-05-24 16:47 J -15921103.98 -15921103.80 -15921103.59 0.0088 0.0047
 Mars -48303-09-10 23:01 J -15920994.68 -15920994.54 -15920994.40 0.1889 0.1060
 Jupiter -48302-01-03 09:21 J -15920880.31 -15920880.11 -15920879.91 0.0501 0.0153
 Neptune -48302-01-05 06:42 J -15920878.35 -15920878.22 -15920878.04 0.0088 0.0064
 Neptune -48302-08-18 20:37 J -15920652.70 -15920652.64 -15920652.52 0.0088 0.0081
 Mars -48298-04-21 06:57 J -15919311.31 -15919311.21 -15919311.10 0.1648 0.1328
 Jupiter -48297-11-13 05:16 J -15918739.43 -15918739.28 -15918739.13 0.0522 0.0336
 Jupiter -48291-09-08 05:01 J -15916614.38 -15916614.29 -15916614.19 0.0499 0.0440
 Saturn -48289-03-12 18:57 J -15916062.91 -15916062.71 -15916062.51 0.0287 0.0062
 Saturn -48289-10-28 06:13 J -15915833.33 -15915833.24 -15915833.13 0.0288 0.0250
 Jupiter -48285-07-19 04:04 J -15914473.53 -15914473.33 -15914473.13 0.0525 0.0027
 Jupiter -48278-01-06 03:35 J -15912111.51 -15912111.35 -15912111.18 0.0504 0.0307
 Saturn -48275-01-10 00:42 J -15911011.65 -15911011.47 -15911011.29 0.0274 0.0157
 Saturn -48275-08-27 13:11 J -15910782.14 -15910781.95 -15910781.76 0.0272 0.0125
 Uranus -48274-04-21 01:54 J -15910545.52 -15910545.42 -15910545.29 0.0141 0.0119
 Uranus -48274-12-03 14:23 J -15910319.06 -15910318.90 -15910318.73 0.0141 0.0095
 Jupiter -48273-03-24 02:37 J -15910207.55 -15910207.39 -15910207.22 0.0528 0.0289
 Uranus -48273-07-17 02:37 J -15910092.58 -15910092.39 -15910092.19 0.0140 0.0070
 Uranus -48272-02-28 14:52 J -15909866.09 -15909865.88 -15909865.67 0.0140 0.0046
 Uranus -48272-10-13 02:37 J -15909639.61 -15909639.39 -15909639.17 0.0140 0.0022
 Uranus -48271-05-27 14:09 J -15909413.14 -15909412.91 -15909412.68 0.0139 0.0002
 Uranus -48270-01-09 01:11 J -15909186.66 -15909186.45 -15909186.22 0.0139 0.0026
 Uranus -48270-08-23 12:28 J -15908960.18 -15908959.98 -15908959.76 0.0139 0.0049
 Uranus -48269-04-05 23:16 J -15908733.70 -15908733.53 -15908733.32 0.0138 0.0073

Uranus	-48269-11-18 10:04 J	-15908507.23	-15908507.08	-15908506.90	0.0138	0.0095
Uranus	-48268-07-02 20:37 J	-15908280.75	-15908280.64	-15908280.51	0.0138	0.0117
Jupiter	-48267-09-10 22:33 J	-15907845.78	-15907845.56	-15907845.35	0.0502	0.0016
Mars	-48266-04-20 06:57 J	-15907624.37	-15907624.21	-15907624.04	0.1640	0.0650
Jupiter	-48261-07-21 19:25 J	-15905704.70	-15905704.69	-15905704.67	0.0521	0.0519
Saturn	-48260-09-22 21:06 J	-15905276.83	-15905276.62	-15905276.42	0.0286	0.0026
Saturn	-48259-05-10 08:09 J	-15905047.18	-15905047.16	-15905047.12	0.0288	0.0284
Jupiter	-48255-05-16 17:59 J	-15903579.92	-15903579.75	-15903579.57	0.0500	0.0277
Jupiter	-48249-03-26 19:11 J	-15901438.87	-15901438.70	-15901438.52	0.0524	0.0218
Saturn	-48246-07-22 23:45 J	-15900225.70	-15900225.51	-15900225.32	0.0273	0.0133
Saturn	-48245-03-08 12:13 J	-15899996.16	-15899995.99	-15899995.80	0.0272	0.0149
Jupiter	-48243-09-13 21:49 J	-15899076.63	-15899076.59	-15899076.54	0.0506	0.0493
Jupiter	-48238-11-30 16:18 J	-15897173.01	-15897172.82	-15897172.63	0.0526	0.0101
Mars	-48237-07-08 04:04 J	-15896952.41	-15896952.33	-15896952.24	0.1885	0.1636
Mars	-48232-02-15 17:16 J	-15895268.82	-15895268.78	-15895268.74	0.1651	0.1600
Jupiter	-48231-05-19 15:35 J	-15894811.04	-15894810.85	-15894810.65	0.0504	0.0194
Saturn	-48230-04-05 00:28 J	-15894490.69	-15894490.48	-15894490.28	0.0287	0.0013
Uranus	-48230-04-15 03:50 J	-15894480.36	-15894480.34	-15894480.31	0.0137	0.0136
Uranus	-48230-11-27 08:38 J	-15894254.24	-15894254.14	-15894254.01	0.0137	0.0116
Uranus	-48229-07-10 13:54 J	-15894028.06	-15894027.92	-15894027.75	0.0138	0.0095
Uranus	-48228-02-21 19:26 J	-15893801.86	-15893801.69	-15893801.50	0.0138	0.0074
Uranus	-48228-10-06 01:11 J	-15893575.64	-15893575.45	-15893575.25	0.0138	0.0053
Uranus	-48227-05-20 07:11 J	-15893349.41	-15893349.20	-15893348.99	0.0139	0.0031
Uranus	-48226-01-01 13:11 J	-15893123.16	-15893122.95	-15893122.74	0.0139	0.0009
Jupiter	-48226-08-05 13:40 J	-15892907.05	-15892906.93	-15892906.81	0.0529	0.0419
Uranus	-48226-08-15 19:26 J	-15892896.90	-15892896.69	-15892896.48	0.0139	0.0013
Neptune	-48225-03-15 00:57 J	-15892684.53	-15892684.46	-15892684.34	0.0089	0.0080
Uranus	-48225-03-29 01:40 J	-15892670.63	-15892670.43	-15892670.22	0.0140	0.0036
Neptune	-48225-10-26 13:26 J	-15892459.09	-15892458.94	-15892458.79	0.0089	0.0063
Uranus	-48225-11-10 08:23 J	-15892444.34	-15892444.15	-15892443.96	0.0140	0.0058

Neptune -48224-06-09 01:11 J -15892233.62 -15892233.45 -15892233.26 0.0089 0.0046
 Uranus -48224-06-24 14:52 J -15892218.04 -15892217.88 -15892217.70 0.0141 0.0081
 Neptune -48223-01-20 13:11 J -15892008.14 -15892007.95 -15892007.74 0.0089 0.0030
 Uranus -48223-02-05 21:50 J -15891991.72 -15891991.59 -15891991.44 0.0141 0.0104
 Neptune -48223-09-03 01:26 J -15891782.65 -15891782.44 -15891782.22 0.0089 0.0013
 Uranus -48223-09-20 05:16 J -15891765.36 -15891765.28 -15891765.18 0.0141 0.0127
 Neptune -48222-04-16 13:26 J -15891557.15 -15891556.94 -15891556.72 0.0089 0.0003
 Neptune -48222-11-28 01:26 J -15891331.65 -15891331.44 -15891331.23 0.0089 0.0020
 Neptune -48221-07-10 12:57 J -15891106.14 -15891105.96 -15891105.75 0.0089 0.0036
 Neptune -48220-02-21 00:57 J -15890880.62 -15890880.46 -15890880.28 0.0089 0.0053
 Neptune -48220-10-04 12:42 J -15890655.08 -15890654.97 -15890654.82 0.0089 0.0069
 Jupiter -48219-01-22 08:09 J -15890545.36 -15890545.16 -15890544.95 0.0501 0.0109
 Neptune -48219-05-18 00:42 J -15890429.52 -15890429.47 -15890429.40 0.0089 0.0085
 Moon -48217-10-07 15:06 J -15889556.02 -15889555.87 -15889555.73 0.2701 0.0189
 Earth -48217-10-07 17:02 J -15889555.94 -15889555.79 -15889555.63 0.2695 0.0172 *
 Saturn -48216-02-01 07:11 J -15889439.40 -15889439.20 -15889438.99 0.0274 0.0085
 Saturn -48216-09-18 19:40 J -15889209.82 -15889209.68 -15889209.52 0.0272 0.0196
 Jupiter -48214-12-03 06:57 J -15888404.34 -15888404.21 -15888404.08 0.0523 0.0392
 Jupiter -48208-09-27 04:04 J -15886279.45 -15886279.33 -15886279.20 0.0499 0.0395
 Mars -48205-07-07 18:14 J -15885264.84 -15885264.74 -15885264.64 0.1896 0.1519
 Pluto -48204-11-30 02:09 J -15884754.58 -15884754.41 -15884754.21 0.0067 0.0038
 Pluto -48203-07-13 07:40 J -15884529.40 -15884529.18 -15884528.96 0.0067 0.0007
 Pluto -48202-02-23 12:14 J -15884304.10 -15884303.99 -15884303.82 0.0068 0.0052
 Jupiter -48202-08-08 06:57 J -15884138.41 -15884138.21 -15884138.02 0.0525 0.0089
 Saturn -48201-02-28 16:33 J -15883933.89 -15883933.81 -15883933.71 0.0285 0.0254
 Saturn -48201-10-15 03:21 J -15883704.56 -15883704.36 -15883704.16 0.0286 0.0050
 Mars -48200-02-14 17:16 J -15883581.96 -15883581.78 -15883581.61 0.1643 0.0389
 Jupiter -48195-01-25 05:45 J -15881776.40 -15881776.26 -15881776.11 0.0505 0.0363
 Uranus -48191-12-19 07:54 J -15879987.26 -15879987.17 -15879987.08 0.0141 0.0129
 Jupiter -48190-04-13 05:30 J -15879872.45 -15879872.27 -15879872.09 0.0528 0.0224

Uranus	-48190-08-02 19:54 J	-15879760.80	-15879760.67	-15879760.50	0.0141	0.0105
Uranus	-48189-03-16 08:23 J	-15879534.32	-15879534.15	-15879533.95	0.0141	0.0081
Uranus	-48189-10-28 20:38 J	-15879307.84	-15879307.64	-15879307.42	0.0140	0.0057
Uranus	-48188-06-12 08:38 J	-15879081.35	-15879081.14	-15879080.91	0.0140	0.0032
Uranus	-48187-01-24 20:23 J	-15878854.87	-15878854.65	-15878854.42	0.0140	0.0009
Saturn	-48187-08-14 05:59 J	-15878653.46	-15878653.25	-15878653.04	0.0273	0.0062
Uranus	-48187-09-08 08:09 J	-15878628.39	-15878628.16	-15878627.94	0.0139	0.0016
Saturn	-48186-03-31 18:28 J	-15878423.85	-15878423.73	-15878423.59	0.0272	0.0218
Uranus	-48186-04-22 19:26 J	-15878401.90	-15878401.69	-15878401.47	0.0139	0.0039
Uranus	-48186-12-05 06:14 J	-15878175.43	-15878175.24	-15878175.02	0.0138	0.0063
Uranus	-48185-07-18 17:16 J	-15877948.95	-15877948.78	-15877948.60	0.0138	0.0085
Uranus	-48184-03-02 03:50 J	-15877722.46	-15877722.34	-15877722.18	0.0138	0.0108
Jupiter	-48184-09-30 01:11 J	-15877510.66	-15877510.45	-15877510.24	0.0503	0.0071
Uranus	-48184-10-14 14:23 J	-15877495.96	-15877495.90	-15877495.81	0.0137	0.0129
Jupiter	-48172-06-04 20:23 J	-15873244.84	-15873244.65	-15873244.46	0.0500	0.0219
Saturn	-48172-09-09 18:42 J	-15873147.84	-15873147.72	-15873147.58	0.0286	0.0219
Saturn	-48171-04-27 05:45 J	-15872918.46	-15872918.26	-15872918.06	0.0287	0.0087
Jupiter	-48166-04-15 18:57 J	-15871103.87	-15871103.71	-15871103.54	0.0524	0.0268
Saturn	-48157-02-24 12:57 J	-15867867.18	-15867866.96	-15867866.74	0.0274	0.0016
Saturn	-48157-10-11 01:40 J	-15867637.48	-15867637.43	-15867637.38	0.0273	0.0264
Jupiter	-48155-12-19 17:30 J	-15866837.97	-15866837.77	-15866837.57	0.0527	0.0045
Jupiter	-48148-06-07 14:52 J	-15864476.06	-15864475.88	-15864475.69	0.0503	0.0239
Uranus	-48146-07-27 21:06 J	-15863695.70	-15863695.62	-15863695.51	0.0137	0.0122
Uranus	-48145-03-10 02:23 J	-15863469.53	-15863469.40	-15863469.25	0.0138	0.0102
Uranus	-48145-10-22 07:40 J	-15863243.33	-15863243.18	-15863242.99	0.0138	0.0081
Uranus	-48144-06-05 13:26 J	-15863017.12	-15863016.94	-15863016.75	0.0138	0.0060
Uranus	-48143-01-17 19:11 J	-15862790.90	-15862790.70	-15862790.49	0.0139	0.0038
Neptune	-48143-04-29 21:50 J	-15862688.67	-15862688.59	-15862688.49	0.0088	0.0080
Jupiter	-48143-08-24 16:04 J	-15862571.97	-15862571.83	-15862571.68	0.0529	0.0359
Uranus	-48143-09-01 01:11 J	-15862564.65	-15862564.45	-15862564.23	0.0139	0.0017

Neptune -48143-12-11 11:59 J -15862463.16 -15862463.00 -15862462.85 0.0088 0.0064
 Saturn -48142-03-22 23:02 J -15862361.70 -15862361.54 -15862361.38 0.0285 0.0179
 Uranus -48142-04-15 07:26 J -15862338.40 -15862338.19 -15862337.98 0.0139 0.0005
 Neptune -48142-07-25 01:26 J -15862237.61 -15862237.44 -15862237.23 0.0088 0.0047
 Saturn -48142-11-07 09:35 J -15862132.28 -15862132.10 -15862131.91 0.0286 0.0125
 Uranus -48142-11-27 13:40 J -15862112.14 -15862111.93 -15862111.72 0.0140 0.0028
 Neptune -48141-03-06 15:50 J -15862012.04 -15862011.84 -15862011.62 0.0088 0.0030
 Uranus -48141-07-10 19:54 J -15861885.86 -15861885.67 -15861885.47 0.0140 0.0050
 Neptune -48141-10-18 05:59 J -15861786.47 -15861786.25 -15861786.02 0.0088 0.0013
 Uranus -48140-02-22 02:38 J -15861659.56 -15861659.39 -15861659.20 0.0140 0.0072
 Neptune -48140-05-31 19:54 J -15861560.89 -15861560.67 -15861560.44 0.0088 0.0004
 Uranus -48140-10-06 09:35 J -15861433.25 -15861433.10 -15861432.94 0.0141 0.0095
 Neptune -48139-01-12 09:50 J -15861335.30 -15861335.09 -15861334.86 0.0088 0.0021
 Mars -48139-05-05 00:14 J -15861222.63 -15861222.49 -15861222.34 0.1892 0.0957
 Uranus -48139-05-20 16:47 J -15861206.91 -15861206.80 -15861206.68 0.0141 0.0117
 Neptune -48139-08-26 00:14 J -15861109.70 -15861109.49 -15861109.29 0.0088 0.0038
 Uranus -48138-01-01 23:30 J -15860980.52 -15860980.52 -15860980.47 0.0141 0.0141
 Neptune -48138-04-08 14:09 J -15860884.08 -15860883.91 -15860883.73 0.0088 0.0054
 Neptune -48138-11-20 04:04 J -15860658.45 -15860658.33 -15860658.19 0.0088 0.0071
 Neptune -48137-07-02 18:28 J -15860432.73 -15860432.73 -15860432.73 0.0088 0.0088
 Jupiter -48136-02-10 09:50 J -15860210.30 -15860210.09 -15860209.88 0.0501 0.0054
 Mars -48135-12-13 03:35 J -15859539.53 -15859539.35 -15859539.17 0.1645 0.0134
 Jupiter -48131-12-22 09:35 J -15858069.19 -15858069.10 -15858069.00 0.0522 0.0452
 Saturn -48128-09-05 11:45 J -15857081.22 -15857081.01 -15857080.79 0.0273 0.0009
 Jupiter -48125-10-16 06:14 J -15855944.39 -15855944.24 -15855944.08 0.0499 0.0337
 Jupiter -48119-08-27 07:40 J -15853803.37 -15853803.18 -15853802.99 0.0525 0.0143
 Pluto -48118-09-30 08:52 J -15853404.23 -15853404.13 -15853404.01 0.0077 0.0067
 Pluto -48117-05-12 18:14 J -15853178.96 -15853178.74 -15853178.52 0.0077 0.0001
 Pluto -48117-12-24 02:52 J -15852953.48 -15852953.38 -15852953.26 0.0077 0.0066
 Saturn -48113-10-02 00:57 J -15851575.64 -15851575.46 -15851575.28 0.0286 0.0144

Jupiter -48112-02-13 08:23 J -15851441.26 -15851441.15 -15851441.03 0.0505 0.0422
 Saturn -48112-05-19 11:30 J -15851346.18 -15851346.02 -15851345.85 0.0287 0.0161
 Earth -48111-04-07 18:42 J -15851022.77 -15851022.72 -15851022.67 0.2637 0.2497
 Jupiter -48107-05-02 05:30 J -15849537.46 -15849537.27 -15849537.09 0.0527 0.0172
 Uranus -48107-08-18 14:52 J -15849428.92 -15849428.88 -15849428.82 0.0142 0.0138
 Uranus -48106-04-02 03:35 J -15849202.47 -15849202.35 -15849202.21 0.0141 0.0114
 Uranus -48106-11-14 16:04 J -15848976.00 -15848975.83 -15848975.65 0.0141 0.0089
 Uranus -48105-06-28 04:04 J -15848749.52 -15848749.33 -15848749.12 0.0140 0.0066
 Uranus -48104-02-09 16:18 J -15848523.03 -15848522.82 -15848522.60 0.0140 0.0041
 Uranus -48104-09-24 04:18 J -15848296.54 -15848296.32 -15848296.09 0.0140 0.0017
 Earth -48103-04-05 07:54 J -15848103.30 -15848103.17 -15848103.04 0.2638 0.1541
 Moon -48103-04-05 14:09 J -15848103.05 -15848102.91 -15848102.77 0.2639 0.1235 *
 Uranus -48103-05-08 16:04 J -15848070.06 -15848069.83 -15848069.60 0.0139 0.0007
 Uranus -48103-12-21 03:21 J -15847843.57 -15847843.36 -15847843.13 0.0139 0.0030
 Uranus -48102-08-04 14:23 J -15847617.09 -15847616.90 -15847616.68 0.0139 0.0054
 Uranus -48101-03-18 01:40 J -15847390.61 -15847390.43 -15847390.23 0.0138 0.0076
 Jupiter -48101-10-19 00:57 J -15847175.66 -15847175.46 -15847175.26 0.0502 0.0118
 Uranus -48101-10-30 12:42 J -15847164.13 -15847163.97 -15847163.81 0.0138 0.0098
 Uranus -48100-06-13 22:47 J -15846937.64 -15846937.55 -15846937.42 0.0138 0.0121
 Saturn -48099-08-01 05:02 J -15846524.40 -15846524.29 -15846524.17 0.0275 0.0232
 Saturn -48098-03-18 18:28 J -15846294.94 -15846294.73 -15846294.52 0.0274 0.0052
 Jupiter -48095-01-05 01:26 J -15845271.50 -15845271.44 -15845271.36 0.0530 0.0497
 Jupiter -48089-06-23 19:54 J -15842909.86 -15842909.67 -15842909.47 0.0500 0.0172
 Saturn -48083-04-14 06:14 J -15840789.43 -15840789.24 -15840789.05 0.0285 0.0101
 Jupiter -48083-05-04 20:52 J -15840768.78 -15840768.63 -15840768.47 0.0524 0.0325
 Saturn -48083-11-29 16:33 J -15840559.95 -15840559.81 -15840559.66 0.0286 0.0202
 Jupiter -48077-02-27 15:50 J -15838643.92 -15838643.84 -15838643.75 0.0498 0.0454
 Mars -48073-03-01 05:30 J -15837180.44 -15837180.27 -15837180.11 0.1888 0.0376
 Jupiter -48071-01-07 20:09 J -15836502.85 -15836502.66 -15836502.46 0.0526 0.0020
 Saturn -48069-02-11 04:18 J -15835738.45 -15835738.32 -15835738.17 0.0275 0.0207

Saturn -48069-09-27 17:45 J -15835508.96 -15835508.76 -15835508.55 0.0273 0.0077
 Mars -48069-10-09 13:40 J -15835497.11 -15835496.93 -15835496.75 0.1648 0.0135
 Jupiter -48065-06-26 17:16 J -15834140.95 -15834140.78 -15834140.61 0.0504 0.0297
 Uranus -48062-03-27 09:50 J -15833137.15 -15833137.09 -15833137.01 0.0137 0.0128
 Uranus -48062-11-08 14:52 J -15832911.00 -15832910.88 -15832910.74 0.0137 0.0108
 Neptune -48061-06-16 09:50 J -15832690.10 -15832690.09 -15832690.04 0.0089 0.0089
 Uranus -48061-06-21 20:09 J -15832684.81 -15832684.66 -15832684.49 0.0138 0.0088
 Neptune -48060-01-27 21:50 J -15832464.69 -15832464.59 -15832464.44 0.0089 0.0072
 Uranus -48060-02-03 01:40 J -15832458.60 -15832458.43 -15832458.24 0.0138 0.0067
 Neptune -48060-09-10 10:18 J -15832239.22 -15832239.07 -15832238.89 0.0089 0.0056
 Jupiter -48060-09-12 17:02 J -15832236.95 -15832236.79 -15832236.62 0.0528 0.0302
 Uranus -48060-09-17 07:40 J -15832232.38 -15832232.18 -15832231.98 0.0138 0.0046
 Neptune -48059-04-23 22:18 J -15832013.75 -15832013.57 -15832013.37 0.0089 0.0039
 Uranus -48059-05-01 13:26 J -15832006.14 -15832005.94 -15832005.73 0.0139 0.0025
 Neptune -48059-12-05 10:33 J -15831788.26 -15831788.06 -15831787.85 0.0089 0.0023
 Uranus -48059-12-13 19:26 J -15831779.90 -15831779.69 -15831779.48 0.0139 0.0003
 Neptune -48058-07-18 22:33 J -15831562.77 -15831562.56 -15831562.35 0.0089 0.0006
 Uranus -48058-07-28 01:40 J -15831553.64 -15831553.43 -15831553.22 0.0139 0.0019
 Neptune -48057-02-29 10:33 J -15831337.27 -15831337.06 -15831336.85 0.0089 0.0010
 Uranus -48057-03-10 07:40 J -15831327.37 -15831327.18 -15831326.97 0.0140 0.0042
 Neptune -48057-10-11 22:33 J -15831111.76 -15831111.56 -15831111.36 0.0089 0.0027
 Uranus -48057-10-22 14:09 J -15831101.08 -15831100.91 -15831100.71 0.0140 0.0065
 Neptune -48056-05-25 10:04 J -15830886.25 -15830886.08 -15830885.88 0.0089 0.0043
 Uranus -48056-06-05 21:21 J -15830874.78 -15830874.61 -15830874.45 0.0140 0.0086
 Neptune -48055-01-05 22:04 J -15830660.72 -15830660.58 -15830660.41 0.0089 0.0060
 Uranus -48055-01-18 04:04 J -15830648.46 -15830648.33 -15830648.19 0.0141 0.0108
 Neptune -48055-08-19 10:18 J -15830435.18 -15830435.07 -15830434.96 0.0089 0.0076
 Uranus -48055-09-01 11:16 J -15830422.10 -15830422.03 -15830421.95 0.0141 0.0131
 Saturn -48054-10-25 07:40 J -15830003.38 -15830003.18 -15830002.98 0.0286 0.0067
 Jupiter -48053-03-01 12:14 J -15829875.20 -15829874.99 -15829874.78 0.0502 0.0005

Saturn -48053-06-10 18:14 J -15829773.85 -15829773.74 -15829773.62 0.0287 0.0237
 Jupiter -48047-01-10 09:06 J -15827734.17 -15827734.12 -15827734.07 0.0522 0.0500
 Jupiter -48042-11-05 06:28 J -15825609.40 -15825609.23 -15825609.05 0.0499 0.0287
 Saturn -48040-08-23 10:47 J -15824952.22 -15824952.05 -15824951.87 0.0275 0.0163
 Saturn -48039-04-10 00:14 J -15824722.68 -15824722.49 -15824722.29 0.0274 0.0121
 Jupiter -48036-09-15 07:26 J -15823468.38 -15823468.19 -15823468.01 0.0525 0.0193
 Jupiter -48029-03-04 07:40 J -15821106.25 -15821106.18 -15821106.10 0.0505 0.0467
 Saturn -48024-05-06 14:23 J -15819217.11 -15819216.90 -15819216.70 0.0285 0.0022
 Jupiter -48024-05-21 06:14 J -15819202.44 -15819202.24 -15819202.05 0.0528 0.0117
 Saturn -48024-12-22 00:28 J -15818987.50 -15818987.48 -15818987.43 0.0286 0.0282
 Uranus -48023-11-30 10:04 J -15818644.18 -15818644.08 -15818643.96 0.0141 0.0123
 Uranus -48022-07-14 22:18 J -15818417.71 -15818417.57 -15818417.39 0.0141 0.0099
 Uranus -48021-02-26 11:02 J -15818191.22 -15818191.04 -15818190.84 0.0141 0.0075
 Uranus -48021-10-09 23:30 J -15817964.73 -15817964.52 -15817964.31 0.0140 0.0051
 Uranus -48020-05-24 11:16 J -15817738.25 -15817738.03 -15817737.80 0.0140 0.0027
 Uranus -48019-01-05 23:02 J -15817511.76 -15817511.54 -15817511.31 0.0140 0.0005
 Uranus -48019-08-20 10:47 J -15817285.27 -15817285.05 -15817284.83 0.0139 0.0020
 Uranus -48018-04-03 22:04 J -15817058.78 -15817058.58 -15817058.36 0.0139 0.0044
 Jupiter -48018-11-08 01:26 J -15816840.63 -15816840.44 -15816840.24 0.0503 0.0172
 Uranus -48018-11-16 09:06 J -15816832.30 -15816832.12 -15816831.91 0.0139 0.0067
 Uranus -48017-06-29 19:54 J -15816605.82 -15816605.67 -15816605.48 0.0138 0.0089
 Uranus -48016-02-11 06:42 J -15816379.34 -15816379.22 -15816379.07 0.0138 0.0111
 Uranus -48016-09-25 17:16 J -15816152.82 -15816152.78 -15816152.71 0.0138 0.0133
 Jupiter -48012-01-24 04:04 J -15814936.44 -15814936.33 -15814936.21 0.0530 0.0432
 Saturn -48010-03-05 11:30 J -15814166.21 -15814166.02 -15814165.83 0.0275 0.0135
 Saturn -48010-10-21 00:42 J -15813936.65 -15813936.47 -15813936.28 0.0273 0.0147
 Mars -48008-12-27 11:16 J -15813138.20 -15813138.03 -15813137.86 0.1885 0.0180
 Jupiter -48006-07-13 21:06 J -15812574.82 -15812574.62 -15812574.41 0.0500 0.0116
 Mars -48003-08-06 23:59 J -15811454.68 -15811454.50 -15811454.33 0.1651 0.0397

48TH MILLENNIUM BCE

This is a list of transits of Venus in the 48th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-48000-05-23 21:06 J	-15810433.75	-15810433.62	-15810433.48	0.0523	0.0376		
Saturn	-47995-11-16 16:04 J	-15808431.04	-15808430.83	-15808430.62	0.0286	0.0013		
Jupiter	-47994-03-18 17:30 J	-15808308.89	-15808308.77	-15808308.64	0.0498	0.0399		
Jupiter	-47988-01-26 19:11 J	-15806167.89	-15806167.70	-15806167.50	0.0526	0.0067		
Jupiter	-47982-07-16 17:02 J	-15803805.94	-15803805.79	-15803805.64	0.0503	0.0345		
Saturn	-47981-09-14 17:45 J	-15803379.96	-15803379.76	-15803379.55	0.0275	0.0092		
Saturn	-47980-05-02 06:57 J	-15803150.35	-15803150.21	-15803150.04	0.0274	0.0191		
Uranus	-47979-11-24 21:50 J	-15802578.61	-15802578.59	-15802578.54	0.0137	0.0135		
Neptune	-47978-03-14 19:11 J	-15802468.80	-15802468.70	-15802468.54	0.0088	0.0073		
Uranus	-47978-07-09 02:52 J	-15802352.48	-15802352.38	-15802352.25	0.0137	0.0115		
Neptune	-47978-10-26 09:21 J	-15802243.27	-15802243.11	-15802242.91	0.0088	0.0056		
Uranus	-47977-02-20 08:23 J	-15802126.30	-15802126.15	-15802126.00	0.0138	0.0095		
Neptune	-47977-06-07 23:30 J	-15802017.71	-15802017.52	-15802017.30	0.0088	0.0039		
Jupiter	-47977-10-01 15:21 J	-15801902.03	-15801901.86	-15801901.69	0.0529	0.0256		
Uranus	-47977-10-03 13:54 J	-15801900.10	-15801899.92	-15801899.74	0.0138	0.0074		
Neptune	-47976-01-19 13:54 J	-15801792.14	-15801791.92	-15801791.70	0.0088	0.0021		
Uranus	-47976-05-17 19:26 J	-15801673.88	-15801673.69	-15801673.49	0.0138	0.0053		
Neptune	-47976-09-02 03:50 J	-15801566.57	-15801566.34	-15801566.11	0.0088	0.0005		
Uranus	-47976-12-30 00:57 J	-15801447.66	-15801447.46	-15801447.25	0.0139	0.0033		
Neptune	-47975-04-15 17:45 J	-15801340.98	-15801340.76	-15801340.53	0.0088	0.0012		

Uranus -47975-08-13 06:57 J -15801221.42 -15801221.21 -15801220.99 0.0139 0.0011
 Neptune -47975-11-27 07:40 J -15801115.38 -15801115.18 -15801114.96 0.0088 0.0029
 Uranus -47974-03-27 12:57 J -15800995.16 -15800994.96 -15800994.74 0.0139 0.0012
 Neptune -47974-07-10 21:35 J -15800889.78 -15800889.60 -15800889.39 0.0088 0.0046
 Earth -47974-10-08 20:09 J -15800799.81 -15800799.66 -15800799.51 0.2694 0.0332
 Moon -47974-10-09 00:28 J -15800799.63 -15800799.48 -15800799.32 0.2690 0.0649 *
 Uranus -47974-11-08 19:11 J -15800768.90 -15800768.70 -15800768.49 0.0140 0.0033
 Neptune -47973-02-21 11:59 J -15800664.15 -15800664.00 -15800663.84 0.0088 0.0063
 Uranus -47973-06-22 01:26 J -15800542.62 -15800542.44 -15800542.24 0.0140 0.0055
 Neptune -47973-10-04 01:54 J -15800438.50 -15800438.42 -15800438.31 0.0088 0.0079
 Uranus -47972-02-03 08:09 J -15800316.33 -15800316.16 -15800315.98 0.0140 0.0077
 Uranus -47972-09-17 14:52 J -15800090.02 -15800089.88 -15800089.72 0.0141 0.0099
 Uranus -47971-05-01 21:50 J -15799863.68 -15799863.59 -15799863.47 0.0141 0.0121
 Mars -47971-08-05 23:30 J -15799767.57 -15799767.52 -15799767.46 0.1643 0.1563
 Jupiter -47970-03-21 11:30 J -15799540.23 -15799540.02 -15799539.81 0.0501 0.0052
 Saturn -47966-10-12 13:40 J -15797874.03 -15797873.93 -15797873.81 0.0284 0.0238
 Saturn -47965-05-28 23:45 J -15797644.71 -15797644.51 -15797644.31 0.0285 0.0061
 Jupiter -47959-11-24 05:45 J -15795274.44 -15795274.26 -15795274.07 0.0499 0.0239
 Pluto -47958-12-29 01:40 J -15794874.51 -15794874.43 -15794874.31 0.0067 0.0060
 Pluto -47957-08-10 06:57 J -15794649.41 -15794649.21 -15794648.98 0.0067 0.0017
 Pluto -47956-03-23 11:59 J -15794424.18 -15794424.00 -15794423.78 0.0068 0.0029
 Jupiter -47953-10-04 08:52 J -15793133.30 -15793133.13 -15793132.96 0.0525 0.0250
 Saturn -47951-03-27 19:40 J -15792593.88 -15792593.68 -15792593.46 0.0274 0.0061
 Saturn -47951-11-12 09:06 J -15792364.25 -15792364.12 -15792364.00 0.0273 0.0221
 Mars -47942-10-24 16:33 J -15789095.96 -15789095.81 -15789095.65 0.1881 0.0747
 Jupiter -47941-06-09 06:14 J -15788867.44 -15788867.24 -15788867.05 0.0527 0.0064
 Uranus -47939-07-30 17:45 J -15788085.84 -15788085.76 -15788085.67 0.0142 0.0131
 Uranus -47938-03-14 06:14 J -15787859.37 -15787859.24 -15787859.08 0.0141 0.0108
 Uranus -47938-10-26 18:57 J -15787632.88 -15787632.71 -15787632.52 0.0141 0.0083
 Mars -47937-06-03 09:21 J -15787412.27 -15787412.11 -15787411.94 0.1654 0.0682

Uranus -47937-06-09 07:11 J -15787406.40 -15787406.20 -15787405.99 0.0140 0.0060
 Uranus -47936-01-21 19:26 J -15787179.91 -15787179.69 -15787179.47 0.0140 0.0036
 Saturn -47936-04-23 15:35 J -15787087.99 -15787087.85 -15787087.71 0.0285 0.0204
 Uranus -47936-09-05 07:26 J -15786953.41 -15786953.19 -15786952.97 0.0140 0.0012
 Saturn -47936-12-09 01:40 J -15786858.62 -15786858.43 -15786858.23 0.0286 0.0096
 Uranus -47935-04-19 19:11 J -15786726.92 -15786726.70 -15786726.47 0.0139 0.0012
 Jupiter -47935-11-27 02:38 J -15786505.58 -15786505.39 -15786505.20 0.0503 0.0225
 Uranus -47935-12-02 06:28 J -15786500.44 -15786500.23 -15786500.00 0.0139 0.0035
 Uranus -47934-07-16 17:45 J -15786273.96 -15786273.76 -15786273.55 0.0139 0.0058
 Uranus -47933-02-28 04:47 J -15786047.47 -15786047.30 -15786047.10 0.0138 0.0080
 Uranus -47933-10-11 15:50 J -15785820.98 -15785820.84 -15785820.68 0.0138 0.0102
 Uranus -47932-05-26 02:09 J -15785594.49 -15785594.41 -15785594.29 0.0138 0.0124
 Jupiter -47929-02-13 02:38 J -15784601.52 -15784601.39 -15784601.25 0.0530 0.0385
 Jupiter -47923-08-01 20:52 J -15782239.84 -15782239.63 -15782239.42 0.0500 0.0068
 Saturn -47922-10-08 02:09 J -15781807.62 -15781807.41 -15781807.19 0.0274 0.0019
 Saturn -47921-05-24 15:21 J -15781577.90 -15781577.86 -15781577.79 0.0273 0.0264
 Jupiter -47917-06-11 18:28 J -15780098.84 -15780098.73 -15780098.61 0.0524 0.0417
 Jupiter -47911-04-06 16:18 J -15777973.96 -15777973.82 -15777973.66 0.0498 0.0352
 Saturn -47907-11-04 00:42 J -15776301.63 -15776301.47 -15776301.29 0.0284 0.0153
 Saturn -47906-06-21 11:02 J -15776072.22 -15776072.04 -15776071.87 0.0285 0.0148
 Jupiter -47905-02-15 17:30 J -15775832.96 -15775832.77 -15775832.58 0.0526 0.0112
 Mars -47905-06-02 09:35 J -15775725.20 -15775725.10 -15775724.99 0.1645 0.1299
 Jupiter -47899-08-04 15:21 J -15773470.99 -15773470.86 -15773470.72 0.0504 0.0390
 Neptune -47896-05-01 07:54 J -15772470.24 -15772470.17 -15772470.06 0.0089 0.0081
 Neptune -47896-12-12 19:54 J -15772244.80 -15772244.67 -15772244.51 0.0089 0.0064
 Neptune -47895-07-26 08:23 J -15772019.33 -15772019.15 -15772018.97 0.0089 0.0048
 Uranus -47894-03-08 14:52 J -15771793.96 -15771793.88 -15771793.77 0.0137 0.0121
 Neptune -47894-03-08 20:09 J -15771793.85 -15771793.66 -15771793.45 0.0089 0.0032 *
 Neptune -47894-10-20 08:09 J -15771568.36 -15771568.16 -15771567.94 0.0089 0.0015
 Uranus -47894-10-20 20:09 J -15771567.79 -15771567.66 -15771567.51 0.0137 0.0101

Jupiter -47894-10-21 16:18 J -15771567.00 -15771566.82 -15771566.64 0.0529 0.0198
 Neptune -47893-06-01 20:23 J -15771342.86 -15771342.65 -15771342.44 0.0089 0.0001
 Uranus -47893-06-03 01:11 J -15771341.60 -15771341.45 -15771341.26 0.0138 0.0082
 Saturn -47893-09-01 16:04 J -15771250.88 -15771250.83 -15771250.77 0.0276 0.0266
 Neptune -47892-01-13 08:23 J -15771117.36 -15771117.15 -15771116.94 0.0089 0.0018
 Uranus -47892-01-15 06:42 J -15771115.40 -15771115.22 -15771115.02 0.0138 0.0061
 Saturn -47892-04-19 05:45 J -15771021.48 -15771021.26 -15771021.04 0.0274 0.0018
 Neptune -47892-08-26 20:09 J -15770891.84 -15770891.66 -15770891.45 0.0089 0.0034
 Uranus -47892-08-29 12:28 J -15770889.17 -15770888.98 -15770888.77 0.0138 0.0041
 Neptune -47891-04-09 08:09 J -15770666.32 -15770666.16 -15770665.97 0.0089 0.0050
 Uranus -47891-04-12 18:28 J -15770662.94 -15770662.73 -15770662.52 0.0139 0.0019
 Neptune -47891-11-20 20:09 J -15770440.79 -15770440.66 -15770440.51 0.0089 0.0067
 Uranus -47891-11-25 00:14 J -15770436.70 -15770436.49 -15770436.27 0.0139 0.0004
 Neptune -47890-07-04 08:09 J -15770215.24 -15770215.16 -15770215.08 0.0089 0.0083
 Uranus -47890-07-09 06:14 J -15770210.44 -15770210.24 -15770210.03 0.0139 0.0024
 Uranus -47889-02-20 12:28 J -15769984.17 -15769983.98 -15769983.77 0.0140 0.0046
 Uranus -47889-10-03 19:11 J -15769757.88 -15769757.70 -15769757.52 0.0140 0.0068
 Uranus -47888-05-18 01:40 J -15769531.59 -15769531.43 -15769531.26 0.0140 0.0090
 Uranus -47888-12-30 08:38 J -15769305.27 -15769305.14 -15769305.01 0.0141 0.0111
 Jupiter -47887-04-09 10:18 J -15769205.27 -15769205.07 -15769204.86 0.0502 0.0100
 Uranus -47887-08-13 15:21 J -15769078.92 -15769078.86 -15769078.78 0.0141 0.0133
 Jupiter -47882-06-26 12:28 J -15767301.01 -15767300.98 -15767300.94 0.0531 0.0519
 Saturn -47877-05-16 02:52 J -15765515.56 -15765515.38 -15765515.19 0.0285 0.0117
 Saturn -47877-12-31 12:57 J -15765286.11 -15765285.96 -15765285.79 0.0286 0.0184
 Mars -47876-08-20 22:33 J -15765053.68 -15765053.56 -15765053.44 0.1877 0.1291
 Jupiter -47876-12-13 05:59 J -15764939.44 -15764939.25 -15764939.05 0.0500 0.0188
 Mars -47871-03-31 19:26 J -15763369.84 -15763369.69 -15763369.54 0.1657 0.0952
 Pluto -47871-06-10 15:50 J -15763299.03 -15763298.84 -15763298.63 0.0077 0.0033
 Pluto -47870-01-22 00:57 J -15763073.65 -15763073.46 -15763073.26 0.0077 0.0034
 Jupiter -47870-10-24 06:14 J -15762798.40 -15762798.24 -15762798.07 0.0524 0.0293

Moon	-47868-04-07 16:04 J	-15762266.90	-15762266.83	-15762266.75	0.2631	0.2369
Earth	-47868-04-07 17:45 J	-15762266.81	-15762266.76	-15762266.70	0.2638	0.2456 *
Jupiter	-47864-08-18 02:09 J	-15760673.48	-15760673.41	-15760673.34	0.0497	0.0467
Saturn	-47863-03-14 22:18 J	-15760464.69	-15760464.57	-15760464.44	0.0275	0.0224
Saturn	-47863-10-30 12:14 J	-15760235.20	-15760234.99	-15760234.78	0.0274	0.0060
Moon	-47860-04-05 01:54 J	-15759347.54	-15759347.42	-15759347.30	0.2636	0.1825
Earth	-47860-04-05 07:26 J	-15759347.32	-15759347.19	-15759347.06	0.2639	0.1542 *
Jupiter	-47858-06-29 02:09 J	-15758532.61	-15758532.41	-15758532.21	0.0528	0.0027
Uranus	-47855-03-29 23:16 J	-15757527.55	-15757527.53	-15757527.49	0.0142	0.0140
Uranus	-47855-11-11 11:45 J	-15757301.12	-15757301.01	-15757300.86	0.0141	0.0117
Uranus	-47854-06-26 00:42 J	-15757074.63	-15757074.47	-15757074.30	0.0141	0.0092
Uranus	-47853-02-07 13:11 J	-15756848.14	-15756847.95	-15756847.75	0.0141	0.0069
Uranus	-47853-09-21 01:26 J	-15756621.64	-15756621.44	-15756621.22	0.0140	0.0045
Uranus	-47852-05-05 13:40 J	-15756395.15	-15756394.93	-15756394.71	0.0140	0.0021
Jupiter	-47852-12-16 00:42 J	-15756170.65	-15756170.47	-15756170.29	0.0502	0.0268
Uranus	-47852-12-18 01:26 J	-15756168.66	-15756168.44	-15756168.21	0.0140	0.0003
Uranus	-47851-08-01 13:11 J	-15755942.17	-15755941.95	-15755941.73	0.0139	0.0025
Uranus	-47850-03-16 00:42 J	-15755715.68	-15755715.47	-15755715.26	0.0139	0.0048
Uranus	-47850-10-28 11:45 J	-15755489.19	-15755489.01	-15755488.81	0.0139	0.0071
Uranus	-47849-06-10 22:47 J	-15755262.71	-15755262.55	-15755262.38	0.0138	0.0093
Uranus	-47848-01-23 09:35 J	-15755036.22	-15755036.10	-15755035.97	0.0138	0.0114
Uranus	-47848-09-06 19:40 J	-15754809.69	-15754809.68	-15754809.62	0.0138	0.0136
Saturn	-47848-11-26 12:57 J	-15754729.15	-15754728.96	-15754728.75	0.0285	0.0064
Saturn	-47847-07-13 23:16 J	-15754499.64	-15754499.53	-15754499.41	0.0286	0.0237
Jupiter	-47846-03-03 23:30 J	-15754266.67	-15754266.52	-15754266.37	0.0530	0.0343
Mars	-47844-08-20 11:45 J	-15753366.06	-15753366.01	-15753365.95	0.1889	0.1788
Jupiter	-47840-08-20 17:59 J	-15751904.96	-15751904.75	-15751904.54	0.0500	0.0027
Mars	-47839-03-30 20:09 J	-15751682.80	-15751682.66	-15751682.52	0.1648	0.1045
Jupiter	-47834-07-01 18:14 J	-15749763.82	-15749763.74	-15749763.65	0.0523	0.0467
Saturn	-47834-09-25 04:04 J	-15749678.48	-15749678.33	-15749678.16	0.0275	0.0182

Saturn -47833-05-11 17:30 J -15749448.97 -15749448.77 -15749448.56 0.0274 0.0100
 Jupiter -47828-04-25 13:54 J -15747639.08 -15747638.92 -15747638.75 0.0498 0.0309
 Jupiter -47822-03-06 16:33 J -15745498.00 -15745497.81 -15745497.62 0.0526 0.0160
 Saturn -47818-06-08 15:35 J -15743943.06 -15743942.85 -15743942.65 0.0285 0.0027
 Saturn -47817-01-24 01:40 J -15743713.48 -15743713.43 -15743713.36 0.0287 0.0274
 Jupiter -47816-08-23 14:52 J -15743135.98 -15743135.88 -15743135.77 0.0504 0.0438
 Neptune -47814-06-16 03:50 J -15742474.43 -15742474.34 -15742474.24 0.0088 0.0080
 Neptune -47813-01-27 17:30 J -15742248.90 -15742248.77 -15742248.59 0.0088 0.0064
 Neptune -47813-09-09 07:54 J -15742023.35 -15742023.17 -15742022.97 0.0088 0.0046
 Neptune -47812-04-22 22:04 J -15741797.79 -15741797.58 -15741797.36 0.0088 0.0029
 Neptune -47812-12-04 11:59 J -15741572.22 -15741572.00 -15741571.77 0.0088 0.0013
 Neptune -47811-07-18 02:09 J -15741346.64 -15741346.41 -15741346.19 0.0088 0.0004
 Uranus -47811-11-06 02:09 J -15741235.47 -15741235.41 -15741235.32 0.0137 0.0128
 Jupiter -47811-11-09 13:26 J -15741232.13 -15741231.94 -15741231.75 0.0528 0.0156
 Neptune -47810-02-28 15:50 J -15741121.05 -15741120.84 -15741120.60 0.0088 0.0021
 Mars -47810-06-18 04:04 J -15741011.36 -15741011.33 -15741011.30 0.1873 0.1835
 Uranus -47810-06-20 07:11 J -15741009.31 -15741009.20 -15741009.06 0.0137 0.0108
 Neptune -47810-10-12 05:59 J -15740895.45 -15740895.25 -15740895.03 0.0088 0.0038
 Uranus -47809-02-01 12:28 J -15740783.13 -15740782.98 -15740782.81 0.0137 0.0089
 Neptune -47809-05-24 19:54 J -15740669.84 -15740669.67 -15740669.48 0.0088 0.0054
 Uranus -47809-09-14 18:14 J -15740556.92 -15740556.74 -15740556.55 0.0138 0.0068
 Neptune -47808-01-05 09:35 J -15740444.21 -15740444.10 -15740443.94 0.0088 0.0071
 Uranus -47808-04-28 23:45 J -15740330.71 -15740330.51 -15740330.31 0.0138 0.0047
 Neptune -47808-08-18 23:59 J -15740218.51 -15740218.50 -15740218.46 0.0088 0.0087
 Uranus -47808-12-11 05:16 J -15740104.48 -15740104.28 -15740104.07 0.0138 0.0027
 Uranus -47807-07-25 11:02 J -15739878.25 -15739878.04 -15739877.83 0.0139 0.0006
 Uranus -47806-03-08 17:02 J -15739652.00 -15739651.79 -15739651.58 0.0139 0.0016
 Uranus -47806-10-20 23:02 J -15739425.74 -15739425.54 -15739425.33 0.0140 0.0037
 Mars -47805-01-27 05:16 J -15739327.40 -15739327.28 -15739327.17 0.1660 0.1234
 Uranus -47805-06-03 05:16 J -15739199.46 -15739199.28 -15739199.08 0.0140 0.0059

Uranus -47804-01-15 11:45 J -15738973.17 -15738973.01 -15738972.83 0.0140 0.0080
 Saturn -47804-04-06 10:18 J -15738892.26 -15738892.07 -15738891.88 0.0275 0.0141
 Jupiter -47804-04-28 09:21 J -15738870.31 -15738870.11 -15738869.91 0.0501 0.0146
 Uranus -47804-08-29 18:42 J -15738746.87 -15738746.72 -15738746.58 0.0141 0.0102
 Saturn -47804-11-21 23:45 J -15738662.69 -15738662.51 -15738662.32 0.0274 0.0141
 Uranus -47803-04-13 01:11 J -15738520.53 -15738520.45 -15738520.34 0.0141 0.0124
 Jupiter -47799-07-15 07:26 J -15736966.27 -15736966.19 -15736966.12 0.0531 0.0485
 Jupiter -47792-01-01 03:50 J -15734604.54 -15734604.34 -15734604.14 0.0499 0.0144
 Saturn -47789-05-03 16:18 J -15733385.88 -15733385.82 -15733385.75 0.0284 0.0268
 Saturn -47789-12-19 02:23 J -15733156.60 -15733156.40 -15733156.19 0.0285 0.0029
 Jupiter -47787-11-12 02:09 J -15732463.56 -15732463.41 -15732463.25 0.0525 0.0330
 Jupiter -47781-09-05 22:04 J -15730338.68 -15730338.58 -15730338.48 0.0497 0.0430
 Mars -47778-06-17 17:02 J -15729323.92 -15729323.79 -15729323.67 0.1885 0.1205
 Jupiter -47775-07-18 01:26 J -15728197.63 -15728197.44 -15728197.24 0.0527 0.0025
 Saturn -47775-10-17 17:30 J -15728105.97 -15728105.77 -15728105.56 0.0275 0.0096
 Saturn -47774-06-04 06:28 J -15727876.38 -15727876.23 -15727876.06 0.0274 0.0185
 Mars -47773-01-26 05:59 J -15727640.41 -15727640.25 -15727640.09 0.1651 0.0778
 Uranus -47771-07-11 17:45 J -15726742.85 -15726742.76 -15726742.65 0.0142 0.0125
 Uranus -47770-02-23 06:28 J -15726516.37 -15726516.23 -15726516.06 0.0141 0.0102
 Uranus -47770-10-07 19:11 J -15726289.88 -15726289.70 -15726289.50 0.0141 0.0078
 Uranus -47769-05-21 07:26 J -15726063.38 -15726063.19 -15726062.97 0.0141 0.0055
 Uranus -47768-01-02 19:54 J -15725836.89 -15725836.67 -15725836.45 0.0140 0.0030
 Jupiter -47768-01-03 21:21 J -15725835.77 -15725835.61 -15725835.44 0.0503 0.0308
 Uranus -47768-08-17 07:54 J -15725610.39 -15725610.17 -15725609.94 0.0140 0.0007
 Uranus -47767-03-31 19:54 J -15725383.89 -15725383.67 -15725383.45 0.0139 0.0016
 Uranus -47767-11-13 07:11 J -15725157.40 -15725157.20 -15725156.97 0.0139 0.0040
 Uranus -47766-06-27 18:28 J -15724930.92 -15724930.73 -15724930.52 0.0139 0.0062
 Uranus -47765-02-09 05:45 J -15724704.43 -15724704.26 -15724704.07 0.0138 0.0084
 Uranus -47765-09-22 16:33 J -15724477.94 -15724477.81 -15724477.65 0.0138 0.0106
 Uranus -47764-05-07 03:06 J -15724251.44 -15724251.37 -15724251.27 0.0138 0.0127

Jupiter -47763-03-22 22:33 J -15723931.72 -15723931.56 -15723931.39 0.0529 0.0293
 Saturn -47760-11-13 18:28 J -15722599.84 -15722599.73 -15722599.60 0.0284 0.0233
 Saturn -47759-07-01 04:47 J -15722370.50 -15722370.30 -15722370.10 0.0286 0.0065
 Jupiter -47757-09-08 16:33 J -15721570.02 -15721569.81 -15721569.60 0.0501 0.0020
 Jupiter -47751-07-20 14:52 J -15719428.93 -15719428.88 -15719428.83 0.0523 0.0504
 Saturn -47745-04-28 23:30 J -15717319.73 -15717319.52 -15717319.31 0.0275 0.0055
 Jupiter -47745-05-14 12:28 J -15717304.15 -15717303.98 -15717303.80 0.0498 0.0264
 Saturn -47745-12-14 12:42 J -15717090.08 -15717089.97 -15717089.84 0.0273 0.0225
 Mars -47740-11-23 14:38 J -15715284.96 -15715284.89 -15715284.82 0.1663 0.1521
 Jupiter -47739-03-25 10:47 J -15715163.23 -15715163.05 -15715162.86 0.0526 0.0192
 Jupiter -47733-09-11 12:14 J -15712801.05 -15712800.99 -15712800.93 0.0504 0.0478
 Neptune -47732-08-02 18:14 J -15712475.75 -15712475.74 -15712475.69 0.0089 0.0088
 Neptune -47731-03-16 06:14 J -15712250.35 -15712250.24 -15712250.10 0.0089 0.0072
 Moon -47731-10-08 17:59 J -15712043.91 -15712043.75 -15712043.60 0.2695 0.0239
 Earth -47731-10-08 23:16 J -15712043.68 -15712043.53 -15712043.38 0.2694 0.0488 *
 Neptune -47731-10-27 17:59 J -15712024.89 -15712024.75 -15712024.56 0.0089 0.0057
 Saturn -47730-05-27 05:30 J -15711813.43 -15711813.27 -15711813.10 0.0284 0.0177
 Neptune -47730-06-10 06:28 J -15711799.42 -15711799.23 -15711799.04 0.0089 0.0040
 Saturn -47729-01-11 15:50 J -15711584.02 -15711583.84 -15711583.65 0.0286 0.0121
 Neptune -47729-01-21 18:28 J -15711573.93 -15711573.73 -15711573.52 0.0089 0.0023
 Neptune -47729-09-03 06:42 J -15711348.43 -15711348.22 -15711348.01 0.0089 0.0007
 Neptune -47728-04-16 18:42 J -15711122.93 -15711122.72 -15711122.51 0.0089 0.0009
 Neptune -47728-11-28 06:42 J -15710897.42 -15710897.22 -15710897.02 0.0089 0.0025
 Jupiter -47728-11-28 08:23 J -15710897.34 -15710897.15 -15710896.96 0.0529 0.0121 *
 Uranus -47727-07-06 13:40 J -15710676.95 -15710676.93 -15710676.87 0.0137 0.0134
 Neptune -47727-07-11 18:14 J -15710671.91 -15710671.74 -15710671.53 0.0089 0.0042
 Uranus -47726-02-17 18:42 J -15710450.82 -15710450.72 -15710450.59 0.0137 0.0115
 Neptune -47726-02-22 06:14 J -15710446.38 -15710446.24 -15710446.06 0.0089 0.0058
 Uranus -47726-10-01 23:59 J -15710224.64 -15710224.50 -15710224.34 0.0137 0.0095
 Neptune -47726-10-05 18:28 J -15710220.83 -15710220.73 -15710220.60 0.0089 0.0074

Uranus -47725-05-15 05:30 J -15709998.45 -15709998.27 -15709998.09 0.0138 0.0075
 Uranus -47725-12-27 10:33 J -15709772.24 -15709772.06 -15709771.85 0.0138 0.0055
 Uranus -47724-08-10 16:18 J -15709546.02 -15709545.82 -15709545.61 0.0138 0.0034
 Uranus -47723-03-24 22:04 J -15709319.79 -15709319.58 -15709319.37 0.0139 0.0013
 Uranus -47723-11-06 03:50 J -15709093.55 -15709093.34 -15709093.13 0.0139 0.0008
 Uranus -47722-06-20 09:35 J -15708867.30 -15708867.10 -15708866.89 0.0139 0.0029
 Uranus -47721-02-01 15:50 J -15708641.03 -15708640.84 -15708640.64 0.0140 0.0050
 Jupiter -47721-05-17 04:04 J -15708535.52 -15708535.33 -15708535.13 0.0502 0.0179
 Uranus -47721-09-14 22:04 J -15708414.74 -15708414.58 -15708414.38 0.0140 0.0072
 Uranus -47720-04-29 04:33 J -15708188.45 -15708188.31 -15708188.13 0.0140 0.0094
 Uranus -47720-12-11 11:16 J -15707962.13 -15707962.03 -15707961.89 0.0141 0.0115
 Uranus -47719-07-25 18:14 J -15707735.78 -15707735.74 -15707735.67 0.0141 0.0136
 Jupiter -47716-08-03 06:28 J -15706631.34 -15706631.23 -15706631.12 0.0531 0.0435
 Saturn -47716-11-09 07:54 J -15706533.39 -15706533.17 -15706532.95 0.0274 0.0007
 Saturn -47715-06-26 20:52 J -15706303.65 -15706303.63 -15706303.60 0.0273 0.0271
 Mars -47712-04-13 23:16 J -15705281.68 -15705281.53 -15705281.37 0.1881 0.0671
 Pluto -47711-09-08 09:50 J -15704769.29 -15704769.09 -15704768.89 0.0067 0.0029
 Pluto -47710-04-21 14:52 J -15704544.09 -15704543.88 -15704543.66 0.0067 0.0016
 Pluto -47710-12-02 19:54 J -15704318.74 -15704318.67 -15704318.55 0.0068 0.0061
 Jupiter -47709-01-20 23:30 J -15704269.73 -15704269.52 -15704269.32 0.0499 0.0108
 Mars -47708-11-22 16:18 J -15703597.99 -15703597.82 -15703597.65 0.1653 0.0519
 Jupiter -47704-12-01 00:42 J -15702128.60 -15702128.47 -15702128.33 0.0524 0.0374
 Saturn -47701-12-06 08:09 J -15701027.33 -15701027.16 -15701026.97 0.0285 0.0141
 Saturn -47700-07-23 18:42 J -15700797.89 -15700797.72 -15700797.55 0.0286 0.0158
 Jupiter -47698-09-25 19:54 J -15700003.80 -15700003.67 -15700003.54 0.0498 0.0388
 Jupiter -47692-08-05 22:18 J -15697862.76 -15697862.57 -15697862.37 0.0527 0.0064
 Uranus -47687-03-10 22:04 J -15696184.63 -15696184.58 -15696184.49 0.0142 0.0135
 Saturn -47687-10-04 23:30 J -15695976.60 -15695976.52 -15695976.42 0.0275 0.0250
 Uranus -47687-10-23 11:16 J -15695958.17 -15695958.03 -15695957.89 0.0141 0.0111
 Saturn -47686-05-22 13:11 J -15695747.16 -15695746.95 -15695746.73 0.0274 0.0032

Uranus -47686-06-06 23:45 J -15695731.68 -15695731.51 -15695731.33 0.0141 0.0088
 Uranus -47685-01-19 12:14 J -15695505.18 -15695504.99 -15695504.78 0.0141 0.0064
 Jupiter -47685-01-23 19:54 J -15695500.82 -15695500.67 -15695500.52 0.0503 0.0353
 Uranus -47685-09-02 00:42 J -15695278.68 -15695278.47 -15695278.25 0.0140 0.0040
 Uranus -47684-04-16 12:57 J -15695052.18 -15695051.96 -15695051.73 0.0140 0.0017
 Uranus -47684-11-29 00:57 J -15694825.69 -15694825.46 -15694825.24 0.0140 0.0006
 Uranus -47683-07-13 12:28 J -15694599.20 -15694598.98 -15694598.76 0.0139 0.0029
 Uranus -47682-02-24 23:45 J -15694372.70 -15694372.51 -15694372.29 0.0139 0.0052
 Uranus -47682-10-09 11:02 J -15694146.22 -15694146.04 -15694145.84 0.0139 0.0074
 Uranus -47681-05-22 22:04 J -15693919.73 -15693919.58 -15693919.41 0.0138 0.0096
 Uranus -47680-01-04 08:38 J -15693693.24 -15693693.14 -15693693.00 0.0138 0.0117
 Jupiter -47680-04-10 16:33 J -15693596.97 -15693596.81 -15693596.63 0.0529 0.0263
 Uranus -47680-08-18 19:26 J -15693466.69 -15693466.69 -15693466.68 0.0138 0.0138
 Jupiter -47674-09-28 13:54 J -15691235.12 -15691234.92 -15691234.71 0.0500 0.0062
 Saturn -47671-06-18 18:42 J -15690240.92 -15690240.72 -15690240.52 0.0285 0.0086
 Saturn -47670-02-03 05:02 J -15690011.42 -15690011.29 -15690011.15 0.0286 0.0213
 Jupiter -47662-06-03 06:57 J -15686969.39 -15686969.21 -15686969.02 0.0498 0.0233
 Saturn -47657-04-16 09:21 J -15685190.25 -15685190.11 -15685189.96 0.0275 0.0198
 Saturn -47657-12-01 22:33 J -15684960.76 -15684960.56 -15684960.35 0.0274 0.0083
 Jupiter -47656-04-13 09:50 J -15684828.27 -15684828.09 -15684827.92 0.0526 0.0239
 Neptune -47650-09-17 12:14 J -15682480.00 -15682479.99 -15682479.92 0.0088 0.0088
 Neptune -47649-04-30 02:38 J -15682254.51 -15682254.39 -15682254.24 0.0088 0.0070
 Neptune -47649-12-11 17:02 J -15682028.97 -15682028.79 -15682028.61 0.0088 0.0054
 Neptune -47648-07-25 06:42 J -15681803.41 -15681803.22 -15681803.00 0.0088 0.0037
 Neptune -47647-03-07 21:06 J -15681577.84 -15681577.62 -15681577.40 0.0088 0.0020
 Neptune -47647-10-19 11:16 J -15681352.26 -15681352.03 -15681351.80 0.0088 0.0004
 Mars -47646-02-09 04:47 J -15681239.47 -15681239.30 -15681239.13 0.1877 0.0122
 Neptune -47646-06-02 01:11 J -15681126.67 -15681126.45 -15681126.22 0.0088 0.0013
 Neptune -47645-01-13 14:52 J -15680901.08 -15680900.88 -15680900.65 0.0088 0.0030
 Neptune -47645-08-26 05:02 J -15680675.47 -15680675.29 -15680675.09 0.0088 0.0046

Jupiter -47645-12-17 07:40 J -15680562.38 -15680562.18 -15680561.99 0.0528 0.0073
 Neptune -47644-04-08 18:57 J -15680449.85 -15680449.71 -15680449.54 0.0088 0.0063
 Neptune -47644-11-20 09:21 J -15680224.21 -15680224.11 -15680224.02 0.0088 0.0080
 Uranus -47643-10-18 05:59 J -15679892.33 -15679892.25 -15679892.14 0.0137 0.0121
 Uranus -47642-06-01 11:02 J -15679666.17 -15679666.04 -15679665.89 0.0137 0.0102
 Mars -47642-09-20 02:09 J -15679555.59 -15679555.41 -15679555.23 0.1656 0.0245
 Saturn -47642-12-29 21:06 J -15679454.82 -15679454.62 -15679454.41 0.0285 0.0050
 Uranus -47641-01-13 16:04 J -15679439.98 -15679439.83 -15679439.64 0.0137 0.0083
 Saturn -47641-08-15 07:40 J -15679225.27 -15679225.18 -15679225.07 0.0286 0.0249
 Uranus -47641-08-26 21:50 J -15679213.78 -15679213.59 -15679213.40 0.0138 0.0062
 Uranus -47640-04-10 03:06 J -15678987.56 -15678987.37 -15678987.16 0.0138 0.0042
 Uranus -47640-11-22 08:38 J -15678761.34 -15678761.14 -15678760.93 0.0138 0.0021
 Uranus -47639-07-06 14:23 J -15678535.11 -15678534.90 -15678534.69 0.0139 0.0001
 Uranus -47638-02-17 20:09 J -15678308.86 -15678308.66 -15678308.45 0.0139 0.0021
 Jupiter -47638-06-06 02:23 J -15678200.59 -15678200.40 -15678200.21 0.0502 0.0222
 Uranus -47638-10-02 02:23 J -15678082.60 -15678082.40 -15678082.20 0.0139 0.0042
 Uranus -47637-05-15 08:38 J -15677856.32 -15677856.14 -15677855.95 0.0140 0.0063
 Uranus -47637-12-27 14:52 J -15677630.04 -15677629.88 -15677629.70 0.0140 0.0084
 Uranus -47636-08-10 21:21 J -15677403.73 -15677403.61 -15677403.46 0.0140 0.0106
 Uranus -47635-03-25 04:18 J -15677177.40 -15677177.32 -15677177.22 0.0141 0.0127
 Jupiter -47633-08-22 03:50 J -15676296.47 -15676296.34 -15676296.21 0.0530 0.0392
 Saturn -47628-10-27 13:40 J -15674404.10 -15674403.93 -15674403.75 0.0275 0.0161
 Saturn -47627-06-14 03:06 J -15674174.56 -15674174.37 -15674174.17 0.0274 0.0118
 Jupiter -47626-02-08 22:04 J -15673934.78 -15673934.58 -15673934.37 0.0500 0.0063
 Moon -47625-04-07 16:04 J -15673510.92 -15673510.83 -15673510.73 0.2645 0.2024
 Earth -47625-04-07 17:16 J -15673510.84 -15673510.78 -15673510.72 0.2638 0.2436 *
 Pluto -47625-07-08 16:04 J -15673418.98 -15673418.83 -15673418.66 0.0077 0.0055
 Pluto -47624-02-19 01:11 J -15673193.66 -15673193.45 -15673193.22 0.0077 0.0013
 Jupiter -47621-12-19 19:11 J -15671793.82 -15671793.70 -15671793.57 0.0524 0.0405
 Earth -47617-04-05 06:42 J -15670591.35 -15670591.22 -15670591.08 0.2640 0.1562

Moon	-47617-04-05 10:18 J	-15670591.21	-15670591.07	-15670590.94	0.2645	0.1252 *
Jupiter	-47615-10-14 17:45 J	-15669668.91	-15669668.76	-15669668.61	0.0497	0.0345
Saturn	-47612-07-11 07:11 J	-15668668.41	-15668668.20	-15668667.99	0.0285	0.0004
Jupiter	-47609-08-24 17:16 J	-15667527.97	-15667527.78	-15667527.58	0.0527	0.0098
Uranus	-47603-06-22 16:33 J	-15665399.93	-15665399.81	-15665399.69	0.0142	0.0120
Uranus	-47602-02-04 05:16 J	-15665173.44	-15665173.28	-15665173.11	0.0141	0.0097
Jupiter	-47602-02-11 14:23 J	-15665166.04	-15665165.90	-15665165.77	0.0503	0.0382
Uranus	-47602-09-18 17:59 J	-15664946.94	-15664946.75	-15664946.56	0.0141	0.0073
Uranus	-47601-05-02 06:28 J	-15664720.44	-15664720.23	-15664720.02	0.0141	0.0050
Uranus	-47601-12-14 18:42 J	-15664493.94	-15664493.72	-15664493.50	0.0140	0.0027
Uranus	-47600-07-29 06:42 J	-15664267.45	-15664267.22	-15664267.00	0.0140	0.0004
Uranus	-47599-03-12 18:28 J	-15664040.95	-15664040.73	-15664040.50	0.0140	0.0020
Uranus	-47599-10-25 05:59 J	-15663814.46	-15663814.25	-15663814.03	0.0139	0.0042
Saturn	-47598-05-09 23:45 J	-15663617.71	-15663617.51	-15663617.31	0.0275	0.0109
Uranus	-47598-06-08 17:16 J	-15663587.97	-15663587.78	-15663587.57	0.0139	0.0064
Saturn	-47598-12-25 12:42 J	-15663388.13	-15663387.97	-15663387.79	0.0274	0.0170
Uranus	-47597-01-21 04:33 J	-15663361.49	-15663361.31	-15663361.13	0.0139	0.0086
Jupiter	-47597-04-29 15:50 J	-15663262.02	-15663261.84	-15663261.66	0.0530	0.0214
Uranus	-47597-09-03 15:06 J	-15663135.00	-15663134.87	-15663134.72	0.0138	0.0108
Uranus	-47596-04-18 02:09 J	-15662908.49	-15662908.41	-15662908.33	0.0138	0.0128
Jupiter	-47591-10-17 09:06 J	-15660900.32	-15660900.12	-15660899.91	0.0501	0.0094
Jupiter	-47585-01-03 12:28 J	-15658995.99	-15658995.98	-15658995.97	0.0532	0.0530
Saturn	-47583-06-05 23:16 J	-15658111.62	-15658111.53	-15658111.44	0.0284	0.0255
Saturn	-47582-01-21 09:21 J	-15657882.31	-15657882.11	-15657881.90	0.0285	0.0040
Mars	-47581-12-06 11:16 J	-15657197.19	-15657197.03	-15657196.86	0.1873	0.0402
Jupiter	-47579-06-22 05:02 J	-15656634.48	-15656634.29	-15656634.09	0.0499	0.0190
Mars	-47576-07-17 11:59 J	-15655513.18	-15655513.00	-15655512.82	0.1660	0.0035
Jupiter	-47573-05-02 07:26 J	-15654493.35	-15654493.19	-15654493.02	0.0525	0.0281
Saturn	-47569-11-19 03:06 J	-15652831.58	-15652831.37	-15652831.16	0.0275	0.0075
Saturn	-47568-07-06 16:18 J	-15652601.96	-15652601.82	-15652601.67	0.0273	0.0203

Jupiter -47567-02-25 02:23 J -15652368.47 -15652368.40 -15652368.32 0.0497 0.0462
 Neptune -47567-06-17 17:16 J -15652255.86 -15652255.78 -15652255.67 0.0089 0.0080
 Neptune -47566-01-29 05:16 J -15652030.41 -15652030.28 -15652030.12 0.0089 0.0063
 Neptune -47566-09-11 17:30 J -15651804.94 -15651804.77 -15651804.58 0.0089 0.0047
 Neptune -47565-04-24 05:30 J -15651579.46 -15651579.27 -15651579.06 0.0089 0.0031
 Neptune -47565-12-05 17:30 J -15651353.98 -15651353.77 -15651353.55 0.0089 0.0015
 Neptune -47564-07-19 05:30 J -15651128.48 -15651128.27 -15651128.05 0.0089 0.0002
 Neptune -47563-03-01 17:30 J -15650902.98 -15650902.77 -15650902.56 0.0089 0.0018
 Neptune -47563-10-13 05:16 J -15650677.46 -15650677.28 -15650677.07 0.0089 0.0034
 Neptune -47562-05-26 17:16 J -15650451.94 -15650451.78 -15650451.59 0.0089 0.0050
 Jupiter -47561-01-06 02:38 J -15650227.58 -15650227.39 -15650227.19 0.0528 0.0040
 Neptune -47561-01-07 05:02 J -15650226.41 -15650226.29 -15650226.13 0.0089 0.0067
 Neptune -47561-08-19 17:16 J -15650000.84 -15650000.78 -15650000.68 0.0089 0.0082
 Uranus -47559-06-17 17:16 J -15649333.84 -15649333.78 -15649333.69 0.0137 0.0128
 Uranus -47558-01-29 22:33 J -15649107.69 -15649107.56 -15649107.43 0.0137 0.0108
 Uranus -47558-09-13 03:35 J -15648881.50 -15648881.35 -15648881.18 0.0137 0.0089
 Uranus -47557-04-26 08:38 J -15648655.31 -15648655.14 -15648654.94 0.0138 0.0070
 Uranus -47557-12-08 13:54 J -15648429.10 -15648428.92 -15648428.71 0.0138 0.0050
 Uranus -47556-07-22 19:40 J -15648202.88 -15648202.68 -15648202.47 0.0138 0.0029
 Uranus -47555-03-06 01:11 J -15647976.65 -15647976.45 -15647976.23 0.0139 0.0009
 Jupiter -47555-06-25 00:28 J -15647865.65 -15647865.48 -15647865.30 0.0502 0.0266
 Uranus -47555-10-18 07:11 J -15647750.41 -15647750.20 -15647749.99 0.0139 0.0012
 Uranus -47554-06-01 12:57 J -15647524.16 -15647523.96 -15647523.75 0.0139 0.0033
 Saturn -47554-12-17 07:26 J -15647325.33 -15647325.19 -15647325.04 0.0284 0.0206
 Uranus -47553-01-13 18:57 J -15647297.89 -15647297.71 -15647297.50 0.0140 0.0055
 Saturn -47553-08-02 17:59 J -15647095.94 -15647095.75 -15647095.55 0.0286 0.0090
 Uranus -47553-08-27 01:40 J -15647071.61 -15647071.43 -15647071.25 0.0140 0.0075
 Uranus -47552-04-10 08:09 J -15646845.31 -15646845.16 -15646845.01 0.0140 0.0096
 Uranus -47552-11-22 14:38 J -15646618.99 -15646618.89 -15646618.76 0.0141 0.0118
 Uranus -47551-07-06 21:35 J -15646392.62 -15646392.60 -15646392.56 0.0141 0.0139

Jupiter -47550-09-10 23:16 J -15645961.67 -15645961.53 -15645961.38 0.0530 0.0356
 Jupiter -47543-02-27 17:02 J -15643600.00 -15643599.79 -15643599.58 0.0500 0.0032
 Saturn -47539-06-01 12:57 J -15642045.17 -15642044.96 -15642044.74 0.0275 0.0023
 Saturn -47538-01-17 02:09 J -15641815.48 -15641815.41 -15641815.33 0.0274 0.0255
 Jupiter -47537-01-08 18:42 J -15641458.81 -15641458.72 -15641458.62 0.0524 0.0453
 Jupiter -47532-11-02 13:11 J -15639334.11 -15639333.95 -15639333.79 0.0497 0.0311
 Jupiter -47526-09-13 17:45 J -15637192.95 -15637192.76 -15637192.57 0.0527 0.0149
 Saturn -47524-06-28 10:04 J -15636539.24 -15636539.08 -15636538.91 0.0284 0.0170
 Saturn -47523-02-12 20:09 J -15636309.84 -15636309.66 -15636309.47 0.0285 0.0125
 Uranus -47519-02-19 21:21 J -15634841.68 -15634841.61 -15634841.50 0.0142 0.0130
 Jupiter -47519-03-02 13:26 J -15634831.04 -15634830.94 -15634830.83 0.0503 0.0428
 Uranus -47519-10-04 10:18 J -15634615.21 -15634615.07 -15634614.91 0.0141 0.0106
 Uranus -47518-05-18 22:47 J -15634388.72 -15634388.55 -15634388.35 0.0141 0.0084
 Uranus -47518-12-31 11:30 J -15634162.22 -15634162.02 -15634161.81 0.0141 0.0060
 Uranus -47517-08-13 23:45 J -15633935.72 -15633935.51 -15633935.29 0.0140 0.0037
 Uranus -47516-03-28 11:59 J -15633709.22 -15633709.00 -15633708.77 0.0140 0.0014
 Uranus -47516-11-09 23:45 J -15633482.73 -15633482.51 -15633482.28 0.0140 0.0010
 Uranus -47515-06-24 11:30 J -15633256.24 -15633256.02 -15633255.80 0.0139 0.0032
 Mars -47515-10-03 17:16 J -15633154.93 -15633154.78 -15633154.64 0.1869 0.0934
 Uranus -47514-02-05 22:47 J -15633029.75 -15633029.55 -15633029.34 0.0139 0.0054
 Jupiter -47514-05-19 14:52 J -15632927.07 -15632926.88 -15632926.70 0.0529 0.0164
 Uranus -47514-09-20 09:50 J -15632803.26 -15632803.09 -15632802.89 0.0139 0.0076
 Uranus -47513-05-03 20:52 J -15632576.77 -15632576.63 -15632576.46 0.0138 0.0098
 Uranus -47513-12-16 07:40 J -15632350.28 -15632350.18 -15632350.06 0.0138 0.0119
 Saturn -47510-04-27 01:26 J -15631488.47 -15631488.44 -15631488.40 0.0276 0.0271
 Mars -47510-05-14 21:35 J -15631470.78 -15631470.60 -15631470.43 0.1663 0.0314
 Saturn -47510-12-12 15:06 J -15631259.08 -15631258.87 -15631258.65 0.0274 0.0010
 Jupiter -47508-11-05 08:52 J -15630565.33 -15630565.13 -15630564.92 0.0501 0.0143
 Jupiter -47502-01-22 08:52 J -15628661.20 -15628661.13 -15628661.06 0.0531 0.0491
 Jupiter -47496-07-11 04:04 J -15626299.53 -15626299.33 -15626299.13 0.0499 0.0143

Saturn -47494-01-08 17:02 J -15625752.98 -15625752.79 -15625752.60 0.0285 0.0124
 Saturn -47494-08-26 03:35 J -15625523.51 -15625523.35 -15625523.19 0.0286 0.0172
 Jupiter -47490-05-22 03:50 J -15624158.49 -15624158.34 -15624158.18 0.0525 0.0319
 Earth -47488-10-09 02:09 J -15623287.56 -15623287.41 -15623287.26 0.2693 0.0640
 Moon -47488-10-09 07:40 J -15623287.33 -15623287.18 -15623287.04 0.2695 0.0921 *
 Neptune -47485-08-01 11:30 J -15622260.11 -15622260.02 -15622259.89 0.0088 0.0078
 Neptune -47484-03-15 02:09 J -15622034.57 -15622034.41 -15622034.25 0.0088 0.0061
 Jupiter -47484-03-15 22:04 J -15622033.68 -15622033.58 -15622033.47 0.0496 0.0429
 Neptune -47484-10-26 15:50 J -15621809.02 -15621808.84 -15621808.63 0.0088 0.0044
 Neptune -47483-06-09 06:14 J -15621583.46 -15621583.24 -15621583.03 0.0088 0.0028
 Neptune -47482-01-20 20:09 J -15621357.88 -15621357.66 -15621357.43 0.0088 0.0011
 Neptune -47482-09-03 10:18 J -15621132.29 -15621132.07 -15621131.84 0.0088 0.0006
 Neptune -47481-04-16 00:28 J -15620906.70 -15620906.48 -15620906.26 0.0088 0.0022
 Saturn -47481-11-06 11:02 J -15620702.16 -15620702.04 -15620701.90 0.0276 0.0219
 Neptune -47481-11-27 14:09 J -15620681.10 -15620680.91 -15620680.69 0.0088 0.0039
 Saturn -47480-06-24 00:57 J -15620472.68 -15620472.46 -15620472.25 0.0275 0.0061
 Neptune -47480-07-11 04:33 J -15620455.49 -15620455.31 -15620455.14 0.0088 0.0056
 Moon -47480-10-06 23:30 J -15620367.60 -15620367.52 -15620367.43 0.2688 0.2268
 Neptune -47479-02-21 18:14 J -15620229.85 -15620229.74 -15620229.59 0.0088 0.0072
 Jupiter -47478-01-25 02:38 J -15619892.58 -15619892.39 -15619892.19 0.0528 0.0015
 Uranus -47475-02-15 04:18 J -15618775.34 -15618775.32 -15618775.27 0.0136 0.0134
 Uranus -47475-09-29 09:06 J -15618549.21 -15618549.12 -15618548.99 0.0137 0.0116
 Uranus -47474-05-13 14:23 J -15618323.04 -15618322.90 -15618322.74 0.0137 0.0096
 Uranus -47474-12-25 19:40 J -15618096.85 -15618096.68 -15618096.51 0.0137 0.0077
 Uranus -47473-08-08 00:57 J -15617870.65 -15617870.46 -15617870.27 0.0138 0.0057
 Uranus -47472-03-22 06:14 J -15617644.44 -15617644.24 -15617644.03 0.0138 0.0037
 Jupiter -47472-07-13 20:38 J -15617530.80 -15617530.64 -15617530.47 0.0502 0.0301
 Uranus -47472-11-03 11:45 J -15617418.22 -15617418.01 -15617417.80 0.0138 0.0017
 Uranus -47471-06-17 17:30 J -15617191.98 -15617191.77 -15617191.56 0.0139 0.0004
 Uranus -47470-01-29 23:16 J -15616965.73 -15616965.53 -15616965.32 0.0139 0.0024

Uranus -47470-09-13 05:16 J -15616739.47 -15616739.28 -15616739.07 0.0139 0.0046
 Uranus -47469-04-26 11:45 J -15616513.19 -15616513.01 -15616512.82 0.0140 0.0066
 Uranus -47469-12-08 17:59 J -15616286.90 -15616286.75 -15616286.58 0.0140 0.0087
 Uranus -47468-07-23 00:28 J -15616060.60 -15616060.48 -15616060.33 0.0140 0.0109
 Uranus -47467-03-06 07:11 J -15615834.26 -15615834.20 -15615834.10 0.0141 0.0130
 Jupiter -47467-09-30 00:28 J -15615626.64 -15615626.48 -15615626.31 0.0530 0.0300
 Saturn -47465-07-20 19:26 J -15614966.88 -15614966.69 -15614966.49 0.0284 0.0088
 Pluto -47465-10-06 12:42 J -15614889.13 -15614888.97 -15614888.77 0.0067 0.0038
 Saturn -47464-03-07 05:16 J -15614737.41 -15614737.28 -15614737.12 0.0286 0.0207
 Pluto -47464-05-19 18:14 J -15614663.96 -15614663.74 -15614663.52 0.0067 0.0007
 Pluto -47464-12-30 23:16 J -15614438.65 -15614438.53 -15614438.37 0.0068 0.0052
 Jupiter -47460-03-18 16:33 J -15613265.02 -15613264.81 -15613264.60 0.0500 0.0016
 Jupiter -47454-01-27 18:28 J -15611123.78 -15611123.73 -15611123.67 0.0524 0.0500
 Saturn -47451-05-19 11:59 J -15609916.15 -15609916.00 -15609915.84 0.0276 0.0191
 Saturn -47450-01-04 01:54 J -15609686.62 -15609686.42 -15609686.21 0.0274 0.0088
 Mars -47449-07-30 23:30 J -15609112.62 -15609112.52 -15609112.41 0.1865 0.1442
 Jupiter -47449-11-21 13:11 J -15608999.12 -15608998.95 -15608998.76 0.0498 0.0261
 Mars -47444-03-11 07:26 J -15607428.36 -15607428.19 -15607428.03 0.1666 0.0590
 Jupiter -47443-10-02 14:52 J -15606858.06 -15606857.88 -15606857.69 0.0526 0.0192
 Jupiter -47436-03-21 13:26 J -15604496.00 -15604495.94 -15604495.87 0.0504 0.0476
 Uranus -47436-10-20 03:21 J -15604283.39 -15604283.36 -15604283.29 0.0142 0.0138
 Saturn -47435-01-31 00:57 J -15604180.67 -15604180.46 -15604180.26 0.0285 0.0046
 Uranus -47435-06-03 16:33 J -15604056.94 -15604056.81 -15604056.68 0.0142 0.0115
 Saturn -47435-09-17 11:16 J -15603951.12 -15603951.03 -15603950.93 0.0286 0.0250
 Uranus -47434-01-16 05:02 J -15603830.45 -15603830.29 -15603830.11 0.0141 0.0092
 Uranus -47434-08-30 17:45 J -15603603.95 -15603603.76 -15603603.56 0.0141 0.0069
 Uranus -47433-04-13 06:14 J -15603377.45 -15603377.24 -15603377.03 0.0141 0.0046
 Uranus -47433-11-25 18:14 J -15603150.96 -15603150.74 -15603150.51 0.0140 0.0023
 Uranus -47432-07-10 06:14 J -15602924.46 -15602924.24 -15602924.01 0.0140 0.0001
 Uranus -47431-02-21 17:59 J -15602697.97 -15602697.75 -15602697.52 0.0140 0.0022

Jupiter -47431-06-07 11:59 J -15602592.19 -15602592.00 -15602591.80 0.0529 0.0122
 Uranus -47431-10-06 05:30 J -15602471.48 -15602471.27 -15602471.05 0.0139 0.0044
 Uranus -47430-05-20 16:47 J -15602244.99 -15602244.80 -15602244.60 0.0139 0.0066
 Uranus -47429-01-02 03:50 J -15602018.51 -15602018.34 -15602018.16 0.0139 0.0088
 Uranus -47429-08-15 14:23 J -15601792.02 -15601791.90 -15601791.75 0.0138 0.0109
 Uranus -47428-03-30 01:11 J -15601565.51 -15601565.45 -15601565.36 0.0138 0.0130
 Jupiter -47425-11-24 05:16 J -15600230.47 -15600230.28 -15600230.08 0.0501 0.0178
 Saturn -47422-11-29 21:21 J -15599129.79 -15599129.61 -15599129.42 0.0276 0.0140
 Saturn -47421-07-16 11:02 J -15598900.23 -15598900.04 -15598899.85 0.0274 0.0139
 Jupiter -47419-02-10 09:06 J -15598326.23 -15598326.12 -15598326.01 0.0532 0.0439
 Mars -47417-07-30 11:45 J -15597425.11 -15597425.01 -15597424.92 0.1877 0.1523
 Jupiter -47413-07-30 01:11 J -15595964.65 -15595964.45 -15595964.24 0.0499 0.0105
 Mars -47412-03-10 08:52 J -15595741.22 -15595741.13 -15595741.04 0.1656 0.1431
 Jupiter -47407-06-10 05:45 J -15593823.40 -15593823.26 -15593823.12 0.0525 0.0374
 Saturn -47406-08-13 03:35 J -15593394.56 -15593394.35 -15593394.14 0.0284 0.0010
 Saturn -47405-03-29 13:26 J -15593164.95 -15593164.94 -15593164.91 0.0286 0.0284
 Neptune -47403-09-19 04:47 J -15592261.33 -15592261.30 -15592261.22 0.0089 0.0087
 Neptune -47402-05-02 17:02 J -15592035.90 -15592035.79 -15592035.64 0.0089 0.0070
 Neptune -47402-12-14 05:02 J -15591810.44 -15591810.29 -15591810.10 0.0089 0.0054
 Jupiter -47401-04-03 22:04 J -15591698.71 -15591698.58 -15591698.44 0.0497 0.0380
 Neptune -47401-07-26 17:02 J -15591584.97 -15591584.79 -15591584.58 0.0089 0.0038
 Neptune -47400-03-09 05:02 J -15591359.48 -15591359.29 -15591359.07 0.0089 0.0022
 Neptune -47400-10-20 17:16 J -15591133.99 -15591133.78 -15591133.56 0.0089 0.0006
 Neptune -47399-06-03 05:16 J -15590908.49 -15590908.28 -15590908.07 0.0089 0.0010
 Neptune -47398-01-14 17:16 J -15590682.98 -15590682.78 -15590682.58 0.0089 0.0027
 Neptune -47398-08-28 05:16 J -15590457.46 -15590457.28 -15590457.09 0.0089 0.0043
 Neptune -47397-04-09 17:16 J -15590231.94 -15590231.78 -15590231.62 0.0089 0.0059
 Neptune -47397-11-21 05:16 J -15590006.40 -15590006.28 -15590006.17 0.0089 0.0075
 Jupiter -47395-02-13 03:50 J -15589557.53 -15589557.34 -15589557.14 0.0528 0.0069
 Saturn -47392-06-10 21:06 J -15588343.81 -15588343.62 -15588343.42 0.0275 0.0115

Saturn -47391-01-26 11:02 J -15588114.21 -15588114.04 -15588113.87 0.0274 0.0164
 Uranus -47391-05-29 20:09 J -15587990.75 -15587990.66 -15587990.56 0.0137 0.0122
 Uranus -47390-01-11 01:11 J -15587764.59 -15587764.45 -15587764.32 0.0137 0.0103
 Uranus -47390-08-25 05:59 J -15587538.40 -15587538.25 -15587538.07 0.0137 0.0085
 Uranus -47389-04-07 11:16 J -15587312.21 -15587312.03 -15587311.84 0.0138 0.0065
 Jupiter -47389-08-01 22:04 J -15587195.72 -15587195.58 -15587195.43 0.0503 0.0355
 Uranus -47389-11-19 16:33 J -15587086.00 -15587085.81 -15587085.60 0.0138 0.0045
 Uranus -47388-07-03 22:04 J -15586859.79 -15586859.58 -15586859.37 0.0138 0.0025
 Uranus -47387-02-15 03:50 J -15586633.55 -15586633.34 -15586633.13 0.0139 0.0006
 Uranus -47387-09-29 09:35 J -15586407.31 -15586407.10 -15586406.89 0.0139 0.0016
 Uranus -47386-05-13 15:35 J -15586181.05 -15586180.85 -15586180.64 0.0139 0.0036
 Uranus -47386-12-25 21:50 J -15585954.78 -15585954.59 -15585954.40 0.0140 0.0057
 Uranus -47385-08-08 03:50 J -15585728.50 -15585728.34 -15585728.15 0.0140 0.0078
 Uranus -47384-03-22 10:18 J -15585502.20 -15585502.07 -15585501.90 0.0140 0.0099
 Jupiter -47384-10-18 23:16 J -15585291.70 -15585291.53 -15585291.36 0.0530 0.0251
 Uranus -47384-11-03 17:30 J -15585275.88 -15585275.77 -15585275.66 0.0141 0.0120
 Uranus -47383-06-18 00:28 J -15585049.48 -15585049.48 -15585049.47 0.0141 0.0141
 Earth -47382-04-08 16:33 J -15584754.88 -15584754.81 -15584754.74 0.2639 0.2391
 Pluto -47379-08-06 18:57 J -15583538.81 -15583538.71 -15583538.58 0.0078 0.0066
 Mars -47378-01-06 16:47 J -15583385.95 -15583385.80 -15583385.65 0.1669 0.0878
 Pluto -47378-03-20 04:33 J -15583313.54 -15583313.31 -15583313.09 0.0077 0.0002
 Pluto -47378-10-31 12:42 J -15583088.04 -15583087.97 -15583087.84 0.0077 0.0069
 Jupiter -47377-04-06 17:16 J -15582929.98 -15582929.78 -15582929.57 0.0500 0.0069
 Saturn -47377-07-07 21:35 J -15582837.67 -15582837.60 -15582837.52 0.0284 0.0262
 Saturn -47376-02-22 07:40 J -15582608.39 -15582608.18 -15582607.98 0.0285 0.0029
 Moon -47374-04-06 05:30 J -15581835.39 -15581835.27 -15581835.15 0.2634 0.1842
 Earth -47374-04-06 06:28 J -15581835.36 -15581835.23 -15581835.10 0.2640 0.1553 *
 Jupiter -47366-12-11 11:02 J -15578664.22 -15578664.04 -15578663.85 0.0498 0.0221
 Saturn -47363-12-22 05:45 J -15577557.47 -15577557.26 -15577557.05 0.0276 0.0065
 Saturn -47362-08-08 19:26 J -15577327.82 -15577327.69 -15577327.55 0.0274 0.0213

Jupiter -47360-10-21 16:04 J -15576523.01 -15576522.83 -15576522.66 0.0527 0.0244
 Jupiter -47354-08-16 08:09 J -15574398.17 -15574398.16 -15574398.13 0.0496 0.0493
 Uranus -47351-01-31 21:35 J -15573498.69 -15573498.60 -15573498.48 0.0142 0.0124
 Mars -47351-05-27 17:16 J -15573382.92 -15573382.78 -15573382.63 0.1873 0.0976
 Uranus -47351-09-15 10:47 J -15573272.21 -15573272.05 -15573271.90 0.0141 0.0101
 Uranus -47350-04-29 23:02 J -15573045.71 -15573045.54 -15573045.34 0.0141 0.0078
 Uranus -47350-12-12 11:16 J -15572819.22 -15572819.03 -15572818.81 0.0141 0.0056
 Uranus -47349-07-25 23:45 J -15572592.73 -15572592.51 -15572592.29 0.0140 0.0033
 Uranus -47348-03-09 11:59 J -15572366.23 -15572366.00 -15572365.78 0.0140 0.0010
 Jupiter -47348-06-26 14:23 J -15572257.09 -15572256.90 -15572256.70 0.0529 0.0063
 Uranus -47348-10-21 23:45 J -15572139.73 -15572139.51 -15572139.29 0.0140 0.0012
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 Saturn -47347-09-04 10:18 J -15571822.27 -15571822.07 -15571821.87 0.0284 0.0064
 Mars -47346-01-05 18:28 J -15571698.86 -15571698.73 -15571698.60 0.1659 0.1159
 Uranus -47346-01-17 22:33 J -15571686.76 -15571686.56 -15571686.35 0.0139 0.0057
 Uranus -47346-09-01 09:50 J -15571460.27 -15571460.09 -15571459.90 0.0139 0.0078
 Uranus -47345-04-14 20:38 J -15571233.78 -15571233.64 -15571233.47 0.0138 0.0100
 Uranus -47345-11-27 07:26 J -15571007.28 -15571007.19 -15571007.06 0.0138 0.0120
 Jupiter -47342-12-14 06:14 J -15569895.42 -15569895.24 -15569895.05 0.0501 0.0231
 Jupiter -47336-03-01 11:30 J -15567991.15 -15567991.02 -15567990.88 0.0531 0.0377
 Saturn -47333-07-03 05:02 J -15566771.51 -15566771.29 -15566771.08 0.0275 0.0041
 Saturn -47332-02-17 18:42 J -15566541.82 -15566541.72 -15566541.60 0.0274 0.0236
 Jupiter -47330-08-19 02:52 J -15565629.59 -15565629.38 -15565629.17 0.0499 0.0051
 Jupiter -47324-06-29 05:02 J -15563488.40 -15563488.29 -15563488.17 0.0525 0.0422
 Neptune -47321-11-02 21:35 J -15562265.66 -15562265.60 -15562265.52 0.0088 0.0084
 Neptune -47320-06-16 11:30 J -15562040.15 -15562040.02 -15562039.86 0.0088 0.0067
 Neptune -47319-01-28 01:54 J -15561814.60 -15561814.42 -15561814.23 0.0088 0.0051
 Neptune -47319-09-10 15:50 J -15561589.04 -15561588.84 -15561588.62 0.0088 0.0034
 Jupiter -47318-04-23 23:30 J -15561363.67 -15561363.52 -15561363.36 0.0497 0.0326

Neptune -47318-04-24 05:45 J -15561363.47 -15561363.26 -15561363.02 0.0088 0.0018 *
 Saturn -47318-07-31 03:21 J -15561265.50 -15561265.36 -15561265.19 0.0284 0.0190
 Neptune -47318-12-05 20:09 J -15561137.89 -15561137.66 -15561137.43 0.0088 0.0001
 Saturn -47317-03-16 13:26 J -15561036.13 -15561035.94 -15561035.74 0.0285 0.0102
 Neptune -47317-07-18 10:04 J -15560912.30 -15560912.08 -15560911.85 0.0088 0.0015
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 Neptune -47316-10-12 14:23 J -15560461.09 -15560460.90 -15560460.71 0.0088 0.0048
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 Mars -47313-11-03 02:09 J -15559343.53 -15559343.41 -15559343.28 0.1672 0.1170
 Jupiter -47312-03-04 03:06 J -15559222.57 -15559222.37 -15559222.18 0.0527 0.0117
 Uranus -47307-01-27 06:14 J -15557432.30 -15557432.24 -15557432.17 0.0136 0.0129
 Uranus -47307-09-10 11:02 J -15557206.15 -15557206.04 -15557205.90 0.0137 0.0111
 Uranus -47306-04-24 15:50 J -15556979.98 -15556979.84 -15556979.66 0.0137 0.0092
 Jupiter -47306-08-21 20:38 J -15556860.77 -15556860.64 -15556860.51 0.0502 0.0395
 Uranus -47306-12-06 21:06 J -15556753.79 -15556753.62 -15556753.43 0.0137 0.0073
 Uranus -47305-07-20 02:23 J -15556527.59 -15556527.40 -15556527.20 0.0138 0.0053
 Uranus -47304-03-03 07:54 J -15556301.37 -15556301.17 -15556300.96 0.0138 0.0033
 Saturn -47304-05-28 22:18 J -15556214.58 -15556214.57 -15556214.54 0.0277 0.0275
 Uranus -47304-10-15 13:26 J -15556075.15 -15556074.94 -15556074.73 0.0138 0.0014
 Saturn -47303-01-13 12:42 J -15555985.18 -15555984.97 -15555984.75 0.0276 0.0008
 Uranus -47303-05-29 19:11 J -15555848.91 -15555848.70 -15555848.49 0.0139 0.0007
 Uranus -47302-01-11 01:11 J -15555622.66 -15555622.45 -15555622.25 0.0139 0.0027
 Uranus -47302-08-25 06:57 J -15555396.39 -15555396.21 -15555396.00 0.0139 0.0049
 Uranus -47301-04-07 13:26 J -15555170.12 -15555169.94 -15555169.75 0.0140 0.0069
 Jupiter -47301-11-06 23:59 J -15554956.68 -15554956.50 -15554956.31 0.0530 0.0199
 Uranus -47301-11-19 19:54 J -15554943.83 -15554943.67 -15554943.50 0.0140 0.0089
 Uranus -47300-07-04 02:23 J -15554717.52 -15554717.40 -15554717.26 0.0140 0.0110
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 Jupiter -47294-04-26 16:04 J -15552595.03 -15552594.83 -15552594.62 0.0500 0.0111

Jupiter -47289-07-12 21:21 J -15550690.66 -15550690.61 -15550690.56 0.0533 0.0511
 Saturn -47288-02-09 07:11 J -15550479.37 -15550479.20 -15550479.02 0.0283 0.0152
 Saturn -47288-09-26 16:47 J -15550249.98 -15550249.80 -15550249.62 0.0284 0.0137
 Mars -47285-03-24 00:14 J -15549340.66 -15549340.49 -15549340.33 0.1869 0.0473
 Jupiter -47283-12-30 12:14 J -15548329.19 -15548328.99 -15548328.79 0.0498 0.0168
 Mars -47281-11-02 04:47 J -15547656.45 -15547656.30 -15547656.15 0.1662 0.0897
 Jupiter -47277-11-09 18:28 J -15546187.89 -15546187.73 -15546187.57 0.0526 0.0304
 Saturn -47275-12-08 21:06 J -15545428.69 -15545428.62 -15545428.52 0.0277 0.0252
 Saturn -47274-07-26 11:45 J -15545199.23 -15545199.01 -15545198.80 0.0275 0.0029
 Jupiter -47271-09-04 10:04 J -15544063.17 -15544063.08 -15544062.98 0.0496 0.0437
 Uranus -47268-10-01 02:23 J -15542940.46 -15542940.40 -15542940.31 0.0142 0.0133
 Uranus -47267-05-15 15:21 J -15542713.99 -15542713.86 -15542713.71 0.0142 0.0110
 Uranus -47267-12-28 03:50 J -15542487.50 -15542487.34 -15542487.15 0.0141 0.0088
 Uranus -47266-08-11 16:47 J -15542261.00 -15542260.80 -15542260.61 0.0141 0.0065
 Uranus -47265-03-25 05:02 J -15542034.50 -15542034.29 -15542034.07 0.0141 0.0042
 Jupiter -47265-07-15 15:06 J -15541922.07 -15541921.87 -15541921.68 0.0528 0.0015
 Uranus -47265-11-06 17:02 J -15541808.01 -15541807.79 -15541807.56 0.0140 0.0020
 Uranus -47264-06-21 05:02 J -15541581.51 -15541581.29 -15541581.06 0.0140 0.0003
 Uranus -47263-02-02 16:47 J -15541355.02 -15541354.80 -15541354.58 0.0140 0.0025
 Uranus -47263-09-17 04:18 J -15541128.53 -15541128.32 -15541128.10 0.0139 0.0047
 Uranus -47262-05-01 15:35 J -15540902.03 -15540901.85 -15540901.64 0.0139 0.0069
 Uranus -47262-12-14 02:38 J -15540675.54 -15540675.39 -15540675.20 0.0139 0.0091
 Uranus -47261-07-27 13:26 J -15540449.05 -15540448.94 -15540448.79 0.0138 0.0112
 Uranus -47260-03-11 00:42 J -15540222.53 -15540222.47 -15540222.40 0.0138 0.0131
 Saturn -47259-08-22 09:06 J -15539693.31 -15539693.12 -15539692.93 0.0284 0.0119
 Jupiter -47258-01-02 08:38 J -15539560.31 -15539560.14 -15539559.97 0.0502 0.0286
 Saturn -47258-04-08 18:42 J -15539463.88 -15539463.72 -15539463.55 0.0285 0.0172
 Jupiter -47253-03-20 11:16 J -15537656.18 -15537656.03 -15537655.87 0.0531 0.0326
 Mars -47247-08-31 11:59 J -15535301.09 -15535301.00 -15535300.91 0.1675 0.1453
 Jupiter -47247-09-07 02:38 J -15535294.60 -15535294.39 -15535294.18 0.0499 0.0009

Saturn -47245-06-20 04:18 J -15534642.45 -15534642.32 -15534642.17 0.0277 0.0207
 Moon -47245-10-09 00:14 J -15534531.65 -15534531.49 -15534531.33 0.2689 0.0413
 Earth -47245-10-09 05:02 J -15534531.44 -15534531.29 -15534531.14 0.2692 0.0783 *
 Saturn -47244-02-04 18:57 J -15534412.91 -15534412.71 -15534412.50 0.0276 0.0074
 Jupiter -47241-07-18 06:14 J -15533153.32 -15533153.24 -15533153.16 0.0525 0.0475
 Neptune -47238-08-04 05:02 J -15532041.38 -15532041.29 -15532041.16 0.0089 0.0077
 Neptune -47237-03-16 17:16 J -15531815.93 -15531815.78 -15531815.61 0.0089 0.0060
 Neptune -47237-10-28 05:16 J -15531590.46 -15531590.28 -15531590.09 0.0089 0.0044
 Neptune -47236-06-10 17:16 J -15531364.98 -15531364.78 -15531364.57 0.0089 0.0028
 Neptune -47235-01-22 05:16 J -15531139.49 -15531139.28 -15531139.07 0.0089 0.0012
 Jupiter -47235-05-12 23:16 J -15531028.70 -15531028.53 -15531028.36 0.0497 0.0280
 Neptune -47235-09-04 17:30 J -15530913.98 -15530913.77 -15530913.56 0.0089 0.0004
 Neptune -47234-04-18 05:16 J -15530688.48 -15530688.28 -15530688.07 0.0089 0.0020
 Neptune -47234-11-29 17:16 J -15530462.97 -15530462.78 -15530462.58 0.0089 0.0036
 Neptune -47233-07-12 05:16 J -15530237.45 -15530237.28 -15530237.11 0.0089 0.0052
 Neptune -47232-02-22 17:02 J -15530011.92 -15530011.79 -15530011.65 0.0089 0.0068
 Neptune -47232-10-06 05:02 J -15529786.35 -15529786.29 -15529786.21 0.0089 0.0084
 Saturn -47229-03-03 13:26 J -15528907.13 -15528906.94 -15528906.73 0.0283 0.0080
 Jupiter -47229-03-23 05:30 J -15528887.46 -15528887.27 -15528887.09 0.0528 0.0176
 Saturn -47229-10-18 22:47 J -15528677.68 -15528677.55 -15528677.40 0.0284 0.0209
 Uranus -47224-09-26 16:04 J -15526873.84 -15526873.83 -15526873.79 0.0136 0.0136
 Uranus -47223-05-10 21:06 J -15526647.72 -15526647.62 -15526647.51 0.0137 0.0117
 Jupiter -47223-09-09 22:18 J -15526525.66 -15526525.57 -15526525.48 0.0503 0.0449
 Uranus -47223-12-23 01:40 J -15526421.56 -15526421.43 -15526421.26 0.0137 0.0099
 Uranus -47222-08-06 07:11 J -15526195.37 -15526195.20 -15526195.03 0.0137 0.0080
 Uranus -47221-03-19 12:14 J -15525969.17 -15525968.99 -15525968.79 0.0137 0.0060
 Uranus -47221-10-31 17:30 J -15525742.96 -15525742.77 -15525742.56 0.0138 0.0041
 Uranus -47220-06-14 23:02 J -15525516.75 -15525516.54 -15525516.33 0.0138 0.0021
 Mars -47219-01-19 06:14 J -15525298.41 -15525298.24 -15525298.07 0.1865 0.0046
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Uranus -47219-09-10 10:47 J -15525064.26 -15525064.05 -15525063.84 0.0139 0.0019
 Pluto -47219-11-04 18:42 J -15525008.89 -15525008.72 -15525008.53 0.0067 0.0038
 Uranus -47218-04-24 16:47 J -15524838.00 -15524837.80 -15524837.60 0.0139 0.0039
 Pluto -47218-06-17 23:59 J -15524783.72 -15524783.50 -15524783.28 0.0067 0.0006
 Jupiter -47218-11-27 03:21 J -15524621.55 -15524621.36 -15524621.17 0.0530 0.0133
 Uranus -47218-12-06 22:47 J -15524611.74 -15524611.55 -15524611.36 0.0139 0.0060
 Pluto -47217-01-29 05:02 J -15524558.42 -15524558.29 -15524558.13 0.0068 0.0051
 Uranus -47217-07-20 04:47 J -15524385.45 -15524385.30 -15524385.11 0.0140 0.0081
 Uranus -47216-03-03 11:30 J -15524159.15 -15524159.02 -15524158.86 0.0140 0.0101
 Uranus -47216-10-15 18:28 J -15523932.83 -15523932.73 -15523932.62 0.0140 0.0122
 Saturn -47216-12-31 03:35 J -15523856.51 -15523856.35 -15523856.19 0.0277 0.0183
 Saturn -47215-08-17 17:59 J -15523626.96 -15523626.75 -15523626.55 0.0275 0.0097
 Mars -47215-08-30 14:23 J -15523614.07 -15523613.90 -15523613.74 0.1665 0.0620
 Jupiter -47211-05-15 18:14 J -15522259.93 -15522259.74 -15522259.54 0.0501 0.0168
 Jupiter -47206-08-01 22:47 J -15520355.65 -15520355.55 -15520355.45 0.0532 0.0453
 Saturn -47200-09-13 15:06 J -15518121.07 -15518120.87 -15518120.67 0.0284 0.0047
 Jupiter -47199-01-18 14:38 J -15517994.10 -15517993.89 -15517993.69 0.0498 0.0111
 Saturn -47199-05-01 00:28 J -15517891.58 -15517891.48 -15517891.36 0.0285 0.0243
 Jupiter -47194-11-29 18:14 J -15515852.88 -15515852.74 -15515852.59 0.0526 0.0353
 Jupiter -47188-09-23 10:33 J -15513728.19 -15513728.06 -15513727.93 0.0496 0.0389
 Saturn -47186-07-13 10:04 J -15513070.26 -15513070.08 -15513069.89 0.0277 0.0140
 Saturn -47185-02-28 00:28 J -15512840.66 -15512840.48 -15512840.28 0.0275 0.0141
 Uranus -47184-05-31 06:14 J -15512382.24 -15512382.24 -15512382.22 0.0142 0.0142
 Uranus -47183-01-12 19:11 J -15512155.81 -15512155.70 -15512155.57 0.0142 0.0119
 Uranus -47183-08-27 07:54 J -15511929.33 -15511929.17 -15511929.00 0.0142 0.0097
 Uranus -47182-04-10 20:23 J -15511702.83 -15511702.65 -15511702.45 0.0141 0.0075
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 Uranus -47177-03-26 18:28 J -15509890.86 -15509890.73 -15509890.56 0.0138 0.0102
 Uranus -47177-11-08 05:16 J -15509664.36 -15509664.28 -15509664.15 0.0138 0.0123
 Jupiter -47175-01-21 08:09 J -15509225.31 -15509225.16 -15509225.00 0.0501 0.0331
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 Jupiter -47170-04-09 12:57 J -15507321.12 -15507320.96 -15507320.79 0.0531 0.0268
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 Jupiter -47164-09-26 03:50 J -15504959.55 -15504959.34 -15504959.13 0.0499 0.0050
 Saturn -47156-01-22 09:50 J -15502284.28 -15502284.09 -15502283.89 0.0277 0.0114
 Saturn -47156-09-09 00:14 J -15502054.66 -15502054.49 -15502054.31 0.0275 0.0165
 Neptune -47156-09-17 21:35 J -15502045.71 -15502045.60 -15502045.46 0.0088 0.0074
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 Neptune -47155-12-13 01:54 J -15501594.62 -15501594.42 -15501594.22 0.0088 0.0041
 Neptune -47154-07-26 15:50 J -15501369.05 -15501368.84 -15501368.61 0.0088 0.0024
 Mars -47154-11-16 13:11 J -15501256.11 -15501255.95 -15501255.79 0.1861 0.0535
 Neptune -47153-03-08 06:14 J -15501143.47 -15501143.24 -15501143.01 0.0088 0.0008
 Neptune -47153-10-19 20:09 J -15500917.88 -15500917.66 -15500917.43 0.0088 0.0009
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 Neptune -47152-06-02 10:18 J -15500692.29 -15500692.07 -15500691.85 0.0088 0.0025
 Neptune -47151-01-13 23:59 J -15500466.68 -15500466.50 -15500466.28 0.0088 0.0042
 Neptune -47151-08-27 14:23 J -15500241.06 -15500240.90 -15500240.72 0.0088 0.0058
 Neptune -47150-04-10 04:04 J -15500015.42 -15500015.33 -15500015.18 0.0088 0.0075
 Mars -47149-06-26 23:59 J -15499571.67 -15499571.50 -15499571.32 0.1668 0.0346
 Jupiter -47146-04-12 06:28 J -15498552.41 -15498552.23 -15498552.05 0.0527 0.0230
 Saturn -47141-02-19 12:14 J -15496778.06 -15496777.99 -15496777.90 0.0282 0.0260
 Saturn -47141-10-05 21:35 J -15496548.81 -15496548.60 -15496548.40 0.0284 0.0026
 Jupiter -47140-02-03 22:18 J -15496427.58 -15496427.57 -15496427.54 0.0495 0.0494

Uranus -47139-01-08 06:57 J -15496089.29 -15496089.21 -15496089.12 0.0136 0.0124
 Moon -47139-04-08 11:02 J -15495999.16 -15495999.04 -15495998.93 0.2642 0.1751
 Earth -47139-04-08 16:18 J -15495998.89 -15495998.82 -15495998.76 0.2640 0.2394
 Uranus -47139-08-22 11:45 J -15495863.13 -15495863.01 -15495862.87 0.0137 0.0106
 Uranus -47138-04-05 16:47 J -15495636.96 -15495636.80 -15495636.63 0.0137 0.0087
 Uranus -47138-11-17 21:35 J -15495410.77 -15495410.60 -15495410.40 0.0137 0.0069
 Uranus -47137-07-01 03:06 J -15495184.56 -15495184.37 -15495184.17 0.0138 0.0049
 Uranus -47136-02-12 08:38 J -15494958.35 -15494958.14 -15494957.93 0.0138 0.0029
 Uranus -47136-09-26 14:23 J -15494732.11 -15494731.90 -15494731.69 0.0138 0.0009
 Uranus -47135-05-10 20:09 J -15494505.87 -15494505.66 -15494505.45 0.0138 0.0011
 Jupiter -47135-12-16 03:21 J -15494286.56 -15494286.36 -15494286.17 0.0530 0.0083
 Uranus -47135-12-23 01:54 J -15494279.62 -15494279.42 -15494279.21 0.0139 0.0031
 Uranus -47134-08-06 07:54 J -15494053.36 -15494053.17 -15494052.97 0.0139 0.0051
 Uranus -47133-03-19 14:09 J -15493827.08 -15493826.91 -15493826.72 0.0139 0.0072
 Pluto -47133-09-03 23:45 J -15493658.58 -15493658.51 -15493658.39 0.0078 0.0070
 Uranus -47133-10-31 20:38 J -15493600.79 -15493600.64 -15493600.47 0.0140 0.0092
 Pluto -47132-04-17 09:21 J -15493433.33 -15493433.11 -15493432.89 0.0077 0.0002
 Uranus -47132-06-15 03:06 J -15493374.48 -15493374.37 -15493374.23 0.0140 0.0113
 Pluto -47132-11-28 18:14 J -15493207.85 -15493207.74 -15493207.62 0.0077 0.0065
 Uranus -47131-01-27 09:50 J -15493148.14 -15493148.09 -15493148.01 0.0141 0.0133
 Moon -47131-04-06 04:04 J -15493079.46 -15493079.33 -15493079.21 0.2647 0.1467
 Earth -47131-04-06 05:59 J -15493079.38 -15493079.25 -15493079.12 0.2641 0.1561 *
 Jupiter -47128-06-03 18:42 J -15491924.91 -15491924.72 -15491924.53 0.0500 0.0216
 Saturn -47127-08-04 16:04 J -15491498.04 -15491497.83 -15491497.62 0.0277 0.0072
 Saturn -47126-03-22 06:42 J -15491268.36 -15491268.22 -15491268.08 0.0275 0.0207
 Jupiter -47123-08-20 22:04 J -15490020.71 -15490020.58 -15490020.46 0.0533 0.0405
 Jupiter -47116-02-06 14:38 J -15487659.10 -15487658.89 -15487658.68 0.0498 0.0063
 Saturn -47112-08-31 19:26 J -15485991.82 -15485991.69 -15485991.56 0.0282 0.0215
 Saturn -47111-04-18 04:18 J -15485762.52 -15485762.32 -15485762.12 0.0283 0.0069
 Jupiter -47111-12-18 19:11 J -15485517.82 -15485517.70 -15485517.57 0.0526 0.0407

Jupiter -47105-10-12 10:47 J -15483393.20 -15483393.05 -15483392.89 0.0496 0.0338
 Uranus -47100-09-11 23:02 J -15481597.63 -15481597.54 -15481597.44 0.0142 0.0128
 Uranus -47099-04-26 11:45 J -15481371.15 -15481371.01 -15481370.85 0.0142 0.0106
 Jupiter -47099-08-23 17:59 J -15481251.94 -15481251.75 -15481251.55 0.0529 0.0106
 Uranus -47099-12-09 00:28 J -15481144.66 -15481144.48 -15481144.30 0.0141 0.0084
 Uranus -47098-07-23 12:57 J -15480918.16 -15480917.96 -15480917.76 0.0141 0.0061
 Saturn -47097-02-14 16:47 J -15480712.01 -15480711.80 -15480711.59 0.0276 0.0045
 Uranus -47097-03-06 01:26 J -15480691.66 -15480691.44 -15480691.22 0.0141 0.0039
 Saturn -47097-10-01 06:57 J -15480482.31 -15480482.21 -15480482.09 0.0275 0.0233
 Uranus -47097-10-18 13:40 J -15480465.16 -15480464.93 -15480464.71 0.0140 0.0017
 Uranus -47096-06-02 01:40 J -15480238.66 -15480238.43 -15480238.21 0.0140 0.0006
 Uranus -47095-01-14 13:11 J -15480012.16 -15480011.95 -15480011.72 0.0140 0.0028
 Uranus -47095-08-29 00:57 J -15479785.67 -15479785.46 -15479785.25 0.0139 0.0049
 Uranus -47094-04-12 12:14 J -15479559.17 -15479558.99 -15479558.78 0.0139 0.0071
 Uranus -47094-11-24 23:30 J -15479332.67 -15479332.52 -15479332.34 0.0139 0.0092
 Uranus -47093-07-08 10:33 J -15479106.18 -15479106.06 -15479105.92 0.0138 0.0113
 Jupiter -47092-02-09 09:35 J -15478890.23 -15478890.10 -15478889.96 0.0502 0.0386
 Uranus -47092-02-19 21:50 J -15478879.65 -15478879.59 -15478879.53 0.0138 0.0132
 Mars -47088-09-12 19:26 J -15477213.83 -15477213.69 -15477213.55 0.1857 0.1039
 Jupiter -47087-04-28 14:23 J -15476986.09 -15476985.90 -15476985.72 0.0531 0.0211
 Mars -47083-04-24 09:21 J -15475529.29 -15475529.11 -15475528.93 0.1672 0.0052
 Saturn -47082-03-13 20:09 J -15475205.81 -15475205.66 -15475205.50 0.0282 0.0185
 Saturn -47082-10-29 05:16 J -15474976.47 -15474976.28 -15474976.09 0.0284 0.0101
 Jupiter -47081-10-15 05:30 J -15474624.47 -15474624.27 -15474624.06 0.0500 0.0105
 Jupiter -47075-01-01 09:21 J -15472720.12 -15472720.11 -15472720.09 0.0533 0.0530
 Neptune -47074-11-05 17:30 J -15472046.83 -15472046.77 -15472046.66 0.0089 0.0083
 Neptune -47073-06-18 05:45 J -15471821.39 -15471821.26 -15471821.10 0.0089 0.0066
 Neptune -47072-01-29 17:45 J -15471595.92 -15471595.76 -15471595.57 0.0089 0.0051
 Neptune -47072-09-12 05:59 J -15471370.43 -15471370.25 -15471370.04 0.0089 0.0035
 Neptune -47071-04-25 18:14 J -15471144.95 -15471144.74 -15471144.53 0.0089 0.0018

Neptune -47071-12-07 06:14 J -15470919.46 -15470919.24 -15470919.03 0.0089 0.0003
 Neptune -47070-07-20 17:59 J -15470693.96 -15470693.75 -15470693.53 0.0089 0.0014
 Neptune -47069-03-02 05:59 J -15470468.45 -15470468.25 -15470468.05 0.0089 0.0029
 Jupiter -47069-06-20 01:11 J -15470358.64 -15470358.45 -15470358.25 0.0497 0.0175
 Neptune -47069-10-13 17:45 J -15470242.93 -15470242.76 -15470242.56 0.0089 0.0046
 Neptune -47068-05-27 05:30 J -15470017.40 -15470017.27 -15470017.10 0.0089 0.0062
 Saturn -47068-08-26 22:47 J -15469925.76 -15469925.55 -15469925.33 0.0277 0.0006
 Neptune -47067-01-07 17:16 J -15469791.86 -15469791.78 -15469791.65 0.0089 0.0078
 Saturn -47067-04-13 13:26 J -15469695.95 -15469695.94 -15469695.92 0.0275 0.0274
 Jupiter -47063-05-01 05:02 J -15468217.46 -15468217.29 -15468217.12 0.0528 0.0275
 Jupiter -47057-02-23 22:33 J -15466092.65 -15466092.56 -15466092.47 0.0495 0.0444
 Uranus -47056-09-07 16:47 J -15465530.85 -15465530.80 -15465530.73 0.0136 0.0130
 Mars -47056-09-12 06:57 J -15465526.23 -15465526.21 -15465526.19 0.1870 0.1852
 Uranus -47055-04-21 21:35 J -15465304.71 -15465304.60 -15465304.47 0.0136 0.0113
 Uranus -47055-12-04 02:38 J -15465078.54 -15465078.39 -15465078.23 0.0137 0.0094
 Uranus -47054-07-18 07:40 J -15464852.35 -15464852.18 -15464852.00 0.0137 0.0075
 Uranus -47053-02-29 12:42 J -15464626.15 -15464625.97 -15464625.77 0.0137 0.0057
 Saturn -47053-09-23 04:04 J -15464419.50 -15464419.33 -15464419.14 0.0282 0.0138
 Uranus -47053-10-12 18:14 J -15464399.94 -15464399.74 -15464399.53 0.0138 0.0037
 Saturn -47052-05-10 12:57 J -15464190.13 -15464189.96 -15464189.78 0.0283 0.0147
 Uranus -47052-05-26 23:59 J -15464173.71 -15464173.50 -15464173.29 0.0138 0.0017
 Jupiter -47051-01-04 02:52 J -15463951.58 -15463951.38 -15463951.19 0.0530 0.0032
 Uranus -47051-01-08 05:30 J -15463947.48 -15463947.27 -15463947.05 0.0138 0.0004
 Uranus -47051-08-22 11:30 J -15463721.23 -15463721.02 -15463720.81 0.0139 0.0022
 Uranus -47050-04-05 17:16 J -15463494.97 -15463494.78 -15463494.57 0.0139 0.0043
 Uranus -47050-11-17 23:30 J -15463268.70 -15463268.52 -15463268.33 0.0139 0.0063
 Uranus -47049-07-01 05:45 J -15463042.42 -15463042.26 -15463042.08 0.0140 0.0083
 Uranus -47048-02-12 12:14 J -15462816.12 -15462815.99 -15462815.84 0.0140 0.0103
 Uranus -47048-09-26 18:57 J -15462589.80 -15462589.71 -15462589.60 0.0140 0.0123
 Jupiter -47045-06-22 18:14 J -15461589.91 -15461589.74 -15461589.56 0.0500 0.0265

Jupiter	-47040-09-09 00:14 J	-15459685.64	-15459685.49	-15459685.34	0.0532	0.0342
Saturn	-47039-07-22 09:50 J	-15459369.17	-15459369.09	-15459368.99	0.0278	0.0253
Saturn	-47038-03-09 00:42 J	-15459139.68	-15459139.47	-15459139.25	0.0276	0.0029
Jupiter	-47033-02-26 14:52 J	-15457324.09	-15457323.88	-15457323.67	0.0498	0.0016
Jupiter	-47027-01-06 19:40 J	-15455182.77	-15455182.68	-15455182.58	0.0526	0.0457
Saturn	-47023-04-05 05:30 J	-15453633.46	-15453633.27	-15453633.08	0.0283	0.0106
Saturn	-47023-11-20 14:38 J	-15453404.05	-15453403.89	-15453403.73	0.0284	0.0179
Mars	-47022-07-11 02:09 J	-15453171.50	-15453171.41	-15453171.31	0.1853	0.1515
Jupiter	-47022-11-01 11:45 J	-15453058.18	-15453058.01	-15453057.83	0.0496	0.0286
Mars	-47017-02-19 18:57 J	-15451486.89	-15451486.71	-15451486.54	0.1675	0.0234
Uranus	-47016-05-12 02:23 J	-15451039.43	-15451039.40	-15451039.33	0.0142	0.0139
Jupiter	-47016-09-11 16:47 J	-15450916.98	-15450916.80	-15450916.61	0.0528	0.0152
Uranus	-47016-12-24 15:21 J	-15450812.97	-15450812.86	-15450812.72	0.0142	0.0116
Uranus	-47015-08-08 04:04 J	-15450586.49	-15450586.33	-15450586.15	0.0142	0.0094
Uranus	-47014-03-22 16:47 J	-15450359.98	-15450359.80	-15450359.60	0.0141	0.0071
Uranus	-47014-11-04 05:16 J	-15450133.48	-15450133.28	-15450133.06	0.0141	0.0049
Uranus	-47013-06-17 17:30 J	-15449906.99	-15449906.77	-15449906.54	0.0141	0.0027
Uranus	-47012-01-30 05:45 J	-15449680.48	-15449680.26	-15449680.03	0.0140	0.0004
Uranus	-47012-09-13 17:30 J	-15449453.98	-15449453.77	-15449453.54	0.0140	0.0018
Uranus	-47011-04-28 05:16 J	-15449227.49	-15449227.28	-15449227.05	0.0140	0.0040
Uranus	-47011-12-10 17:02 J	-15449000.99	-15449000.79	-15449000.59	0.0139	0.0061
Uranus	-47010-07-25 04:04 J	-15448774.50	-15448774.33	-15448774.13	0.0139	0.0082
Saturn	-47009-02-01 15:50 J	-15448582.98	-15448582.84	-15448582.70	0.0278	0.0213
Jupiter	-47009-02-29 09:35 J	-15448555.20	-15448555.10	-15448554.99	0.0501	0.0434
Uranus	-47009-03-07 15:21 J	-15448547.99	-15448547.86	-15448547.69	0.0139	0.0103
Saturn	-47009-09-18 06:57 J	-15448353.43	-15448353.21	-15448353.00	0.0276	0.0068
Uranus	-47009-10-20 02:09 J	-15448321.49	-15448321.41	-15448321.28	0.0138	0.0124
Jupiter	-47004-05-17 11:16 J	-15446651.21	-15446651.03	-15446650.84	0.0531	0.0169
Earth	-47002-10-10 07:40 J	-15445775.33	-15445775.18	-15445775.04	0.2692	0.0921
Moon	-47002-10-10 10:04 J	-15445775.20	-15445775.08	-15445774.95	0.2698	0.1356 *

47TH MILLENNIUM BCE

This is a list of transits of Venus in the 47th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-46998-11-04 04:47 J	-15444289.50	-15444289.30	-15444289.10	0.0499	0.0151		
Moon	-46994-10-08 05:30 J	-15442855.38	-15442855.27	-15442855.17	0.2692	0.1952		
Saturn	-46994-10-16 14:23 J	-15442847.10	-15442846.90	-15442846.69	0.0282	0.0057		
Saturn	-46993-06-01 23:16 J	-15442617.65	-15442617.53	-15442617.40	0.0283	0.0227		
Jupiter	-46992-01-20 07:11 J	-15442385.27	-15442385.20	-15442385.11	0.0533	0.0485		
Neptune	-46992-12-20 07:54 J	-15442051.24	-15442051.17	-15442051.05	0.0088	0.0080		
Neptune	-46991-08-02 21:50 J	-15441825.72	-15441825.59	-15441825.41	0.0088	0.0064		
Neptune	-46990-03-16 12:28 J	-15441600.17	-15441599.98	-15441599.78	0.0088	0.0047		
Mars	-46990-07-10 13:11 J	-15441484.06	-15441483.95	-15441483.83	0.1865	0.1340		
Neptune	-46990-10-28 02:23 J	-15441374.61	-15441374.40	-15441374.18	0.0088	0.0030		
Neptune	-46989-06-09 16:18 J	-15441149.04	-15441148.82	-15441148.59	0.0088	0.0014		
Neptune	-46988-01-21 06:28 J	-15440923.45	-15440923.23	-15440923.00	0.0088	0.0003		
Neptune	-46988-09-03 20:23 J	-15440697.86	-15440697.65	-15440697.42	0.0088	0.0019		
Neptune	-46987-04-17 10:33 J	-15440472.26	-15440472.06	-15440471.84	0.0088	0.0036		
Neptune	-46987-11-29 00:14 J	-15440246.65	-15440246.49	-15440246.28	0.0088	0.0053		
Jupiter	-46986-07-09 23:45 J	-15440023.71	-15440023.51	-15440023.31	0.0497	0.0130		
Neptune	-46986-07-12 14:23 J	-15440021.02	-15440020.90	-15440020.74	0.0088	0.0068		
Neptune	-46985-02-23 04:47 J	-15439795.35	-15439795.30	-15439795.22	0.0088	0.0084		
Jupiter	-46980-05-20 05:59 J	-15437882.40	-15437882.25	-15437882.09	0.0527	0.0331		

Saturn -46980-08-13 19:40 J -15437796.84 -15437796.68 -15437796.51 0.0277 0.0176
 Saturn -46979-03-31 10:18 J -15437567.27 -15437567.07 -15437566.86 0.0276 0.0103
 Jupiter -46974-03-14 21:21 J -15435757.74 -15435757.61 -15435757.49 0.0495 0.0398
 Pluto -46973-12-03 00:14 J -15435128.66 -15435128.49 -15435128.31 0.0067 0.0041
 Pluto -46972-07-16 05:30 J -15434903.49 -15434903.27 -15434903.05 0.0067 0.0004
 Uranus -46972-12-20 07:11 J -15434746.28 -15434746.20 -15434746.08 0.0136 0.0120
 Pluto -46971-02-26 10:18 J -15434678.21 -15434678.07 -15434677.90 0.0068 0.0049
 Uranus -46971-08-03 12:14 J -15434520.12 -15434519.99 -15434519.84 0.0137 0.0102
 Uranus -46970-03-17 17:16 J -15434293.94 -15434293.78 -15434293.60 0.0137 0.0083
 Uranus -46970-10-29 22:33 J -15434067.74 -15434067.56 -15434067.37 0.0137 0.0064
 Uranus -46969-06-12 04:04 J -15433841.53 -15433841.33 -15433841.13 0.0138 0.0045
 Jupiter -46968-01-23 02:52 J -15433616.57 -15433616.38 -15433616.18 0.0529 0.0024
 Uranus -46968-01-24 09:21 J -15433615.31 -15433615.11 -15433614.90 0.0138 0.0026
 Uranus -46968-09-07 15:21 J -15433389.07 -15433388.86 -15433388.65 0.0138 0.0006
 Uranus -46967-04-21 21:06 J -15433162.83 -15433162.62 -15433162.41 0.0139 0.0014
 Uranus -46967-12-04 02:38 J -15432936.58 -15432936.39 -15432936.18 0.0139 0.0034
 Uranus -46966-07-18 08:52 J -15432710.32 -15432710.13 -15432709.93 0.0139 0.0054
 Uranus -46965-02-29 14:52 J -15432484.05 -15432483.88 -15432483.69 0.0140 0.0074
 Uranus -46965-10-12 21:21 J -15432257.75 -15432257.61 -15432257.44 0.0140 0.0094
 Saturn -46964-04-27 16:04 J -15432061.04 -15432060.83 -15432060.63 0.0283 0.0025
 Uranus -46964-05-27 03:50 J -15432031.45 -15432031.34 -15432031.20 0.0140 0.0114
 Saturn -46964-12-13 00:57 J -15431831.53 -15431831.46 -15431831.37 0.0284 0.0260
 Uranus -46963-01-08 10:47 J -15431805.11 -15431805.05 -15431804.98 0.0141 0.0134
 Jupiter -46962-07-12 18:42 J -15431254.88 -15431254.72 -15431254.55 0.0501 0.0315
 Jupiter -46957-09-27 22:33 J -15429350.72 -15429350.56 -15429350.39 0.0532 0.0296
 Mars -46952-12-17 04:04 J -15427444.50 -15427444.33 -15427444.16 0.1678 0.0532
 Saturn -46950-02-24 01:26 J -15427010.62 -15427010.44 -15427010.25 0.0277 0.0137
 Jupiter -46950-03-17 14:38 J -15426989.10 -15426988.89 -15426988.68 0.0498 0.0037
 Saturn -46950-10-11 16:18 J -15426781.00 -15426780.82 -15426780.63 0.0276 0.0142
 Jupiter -46944-01-25 15:50 J -15424847.90 -15424847.84 -15424847.77 0.0526 0.0495

Jupiter -46939-11-20 10:47 J -15422723.24 -15422723.05 -15422722.87 0.0496 0.0239
 Saturn -46935-03-23 17:02 J -15421503.87 -15421503.79 -15421503.69 0.0281 0.0255
 Saturn -46935-11-08 01:54 J -15421274.62 -15421274.42 -15421274.21 0.0283 0.0028
 Jupiter -46933-09-30 13:54 J -15420582.10 -15420581.92 -15420581.73 0.0529 0.0194
 Uranus -46932-08-23 19:54 J -15420254.76 -15420254.67 -15420254.55 0.0142 0.0125
 Uranus -46931-04-07 08:38 J -15420028.28 -15420028.14 -15420027.97 0.0142 0.0103
 Uranus -46931-11-19 21:21 J -15419801.78 -15419801.61 -15419801.42 0.0141 0.0081
 Uranus -46930-07-04 10:04 J -15419575.28 -15419575.08 -15419574.88 0.0141 0.0058
 Uranus -46929-02-15 22:33 J -15419348.78 -15419348.56 -15419348.34 0.0141 0.0036
 Uranus -46929-09-29 10:33 J -15419122.28 -15419122.06 -15419121.83 0.0140 0.0015
 Uranus -46928-05-13 22:47 J -15418895.78 -15418895.55 -15418895.33 0.0140 0.0008
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 Uranus -46927-08-09 22:04 J -15418442.78 -15418442.58 -15418442.36 0.0139 0.0051
 Jupiter -46926-03-20 06:57 J -15418220.27 -15418220.21 -15418220.13 0.0502 0.0474
 Uranus -46926-03-24 09:35 J -15418216.28 -15418216.10 -15418215.90 0.0139 0.0072
 Uranus -46926-11-05 20:52 J -15417989.78 -15417989.63 -15417989.45 0.0139 0.0093
 Uranus -46925-06-19 07:40 J -15417763.29 -15417763.18 -15417763.03 0.0138 0.0114
 Uranus -46924-01-31 18:42 J -15417536.76 -15417536.72 -15417536.65 0.0138 0.0133
 Mars -46924-05-06 19:26 J -15417441.84 -15417441.69 -15417441.54 0.1861 0.0825
 Jupiter -46921-06-05 11:45 J -15416316.20 -15416316.01 -15416315.82 0.0531 0.0114
 Saturn -46921-09-05 07:11 J -15416224.40 -15416224.20 -15416223.99 0.0277 0.0096
 Saturn -46920-04-22 21:21 J -15415994.76 -15415994.61 -15415994.43 0.0276 0.0182
 Mars -46920-12-16 06:28 J -15415757.29 -15415757.23 -15415757.16 0.1668 0.1532
 Jupiter -46915-11-23 02:38 J -15413954.58 -15413954.39 -15413954.19 0.0500 0.0194
 Neptune -46909-02-07 05:59 J -15412052.26 -15412052.25 -15412052.19 0.0089 0.0088
 Jupiter -46909-02-09 07:26 J -15412050.30 -15412050.19 -15412050.07 0.0533 0.0431
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 Jupiter -46903-07-28 23:02 J -15409688.74 -15409688.54 -15409688.33 0.0498 0.0083
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 Saturn -46891-03-18 12:42 J -15405438.18 -15405437.97 -15405437.75 0.0277 0.0057
 Jupiter -46891-04-02 20:23 J -15405422.79 -15405422.65 -15405422.50 0.0495 0.0351
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 Pluto -46887-10-03 04:47 J -15403778.37 -15403778.30 -15403778.20 0.0078 0.0072
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 Pluto -46886-05-16 14:23 J -15403553.12 -15403552.90 -15403552.68 0.0077 0.0003
 Uranus -46886-06-29 08:23 J -15403509.33 -15403509.15 -15403508.97 0.0137 0.0071
 Mars -46886-10-14 13:26 J -15403402.10 -15403401.94 -15403401.79 0.1681 0.0831
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 Saturn -46876-04-15 05:30 J -15399931.44 -15399931.27 -15399931.11 0.0282 0.0169
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 Mars -46858-03-04 02:23 J -15393399.56 -15393399.40 -15393399.23 0.1857 0.0348
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 Jupiter -46850-10-20 12:57 J -15390247.13 -15390246.96 -15390246.78 0.0528 0.0241
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 Neptune -46826-06-17 23:02 J -15381605.71 -15381605.54 -15381605.34 0.0088 0.0053
 Neptune -46825-01-29 13:11 J -15381380.15 -15381379.95 -15381379.73 0.0088 0.0036
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 Neptune -46821-05-26 15:21 J -15379800.94 -15379800.86 -15379800.74 0.0088 0.0078
 Mars -46820-08-10 22:33 J -15379359.69 -15379359.56 -15379359.43 0.1685 0.1126
 Jupiter -46820-08-16 20:52 J -15379353.84 -15379353.63 -15379353.42 0.0497 0.0041
 Saturn -46817-05-07 18:14 J -15378358.94 -15378358.74 -15378358.54 0.0282 0.0082
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 Jupiter -46808-04-21 15:35 J -15375088.00 -15375087.85 -15375087.68 0.0495 0.0319
 Uranus -46804-04-19 02:23 J -15373629.42 -15373629.40 -15373629.34 0.0136 0.0133
 Uranus -46804-12-01 07:26 J -15373403.29 -15373403.19 -15373403.07 0.0136 0.0115
 Saturn -46803-03-05 19:40 J -15373308.82 -15373308.68 -15373308.53 0.0278 0.0204
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 Saturn -46803-10-21 10:18 J -15373079.28 -15373079.07 -15373078.86 0.0276 0.0074

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 Uranus -46802-10-10 22:47 J -15372724.73 -15372724.55 -15372724.35 0.0137 0.0061
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 Saturn -46774-09-16 00:42 J -15362522.63 -15362522.47 -15362522.29 0.0277 0.0167
 Saturn -46773-05-02 15:35 J -15362293.05 -15362292.85 -15362292.65 0.0276 0.0110
 Jupiter -46773-12-28 05:45 J -15362053.46 -15362053.26 -15362053.06 0.0496 0.0157
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 Jupiter -46761-09-02 02:38 J -15357787.49 -15357787.39 -15357787.28 0.0494 0.0425
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 Earth -46759-10-10 10:18 J -15357019.22 -15357019.07 -15357018.93 0.2691 0.1060 *
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 Uranus -46718-06-10 07:54 J -15342166.34 -15342166.17 -15342165.98 0.0137 0.0068
 Uranus -46717-01-22 13:11 J -15341940.14 -15341939.95 -15341939.74 0.0137 0.0049
 Uranus -46717-09-04 18:42 J -15341713.92 -15341713.72 -15341713.51 0.0138 0.0031
 Uranus -46716-04-19 00:14 J -15341487.70 -15341487.49 -15341487.27 0.0138 0.0012
 Uranus -46716-12-01 05:45 J -15341261.46 -15341261.26 -15341261.04 0.0138 0.0009
 Uranus -46715-07-15 11:30 J -15341035.22 -15341035.02 -15341034.81 0.0139 0.0027
 Saturn -46715-10-08 15:06 J -15340950.08 -15340949.87 -15340949.66 0.0277 0.0079
 Uranus -46714-02-26 17:30 J -15340808.97 -15340808.77 -15340808.57 0.0139 0.0046
 Saturn -46714-05-26 05:30 J -15340720.42 -15340720.27 -15340720.11 0.0276 0.0195
 Uranus -46714-10-10 23:30 J -15340582.70 -15340582.52 -15340582.33 0.0139 0.0066
 Uranus -46713-05-24 05:30 J -15340356.42 -15340356.27 -15340356.09 0.0140 0.0086
 Jupiter -46713-09-07 11:30 J -15340250.12 -15340250.02 -15340249.92 0.0501 0.0437
 Uranus -46712-01-05 11:59 J -15340130.12 -15340130.00 -15340129.85 0.0140 0.0105
 Uranus -46712-08-19 18:42 J -15339903.81 -15339903.72 -15339903.62 0.0140 0.0125

Jupiter -46708-11-24 11:59 J -15338346.18 -15338346.00 -15338345.81 0.0531 0.0177
 Jupiter -46701-05-13 06:28 J -15335984.43 -15335984.23 -15335984.03 0.0499 0.0156
 Saturn -46700-11-05 09:35 J -15335443.24 -15335443.10 -15335442.94 0.0282 0.0191
 Saturn -46699-06-22 18:57 J -15335213.90 -15335213.71 -15335213.51 0.0283 0.0090
 Jupiter -46696-07-30 06:42 J -15334080.28 -15334080.22 -15334080.14 0.0534 0.0495
 Jupiter -46689-01-17 00:14 J -15331718.69 -15331718.49 -15331718.28 0.0496 0.0127
 Saturn -46685-04-20 01:40 J -15330163.64 -15330163.43 -15330163.21 0.0277 0.0027
 Saturn -46685-12-05 15:50 J -15329933.93 -15329933.84 -15329933.74 0.0276 0.0248
 Jupiter -46684-11-27 05:59 J -15329577.40 -15329577.25 -15329577.09 0.0528 0.0317
 Uranus -46680-04-03 22:33 J -15328353.65 -15328353.56 -15328353.46 0.0142 0.0129
 Uranus -46680-11-16 11:16 J -15328127.17 -15328127.03 -15328126.88 0.0142 0.0107
 Uranus -46679-06-30 23:59 J -15327900.67 -15327900.50 -15327900.31 0.0142 0.0085
 Uranus -46678-02-12 12:42 J -15327674.16 -15327673.97 -15327673.76 0.0141 0.0064
 Jupiter -46678-09-21 21:50 J -15327452.71 -15327452.59 -15327452.46 0.0494 0.0393
 Uranus -46678-09-27 01:11 J -15327447.65 -15327447.45 -15327447.22 0.0141 0.0042
 Uranus -46677-05-10 13:40 J -15327221.15 -15327220.93 -15327220.70 0.0141 0.0020
 Uranus -46677-12-23 01:54 J -15326994.65 -15326994.42 -15326994.20 0.0140 0.0002
 Uranus -46676-08-06 13:40 J -15326768.15 -15326767.93 -15326767.70 0.0140 0.0023
 Uranus -46675-03-21 01:40 J -15326541.64 -15326541.43 -15326541.21 0.0140 0.0044
 Uranus -46675-11-02 13:11 J -15326315.14 -15326314.95 -15326314.75 0.0139 0.0065
 Uranus -46674-06-17 00:28 J -15326088.65 -15326088.48 -15326088.30 0.0139 0.0085
 Uranus -46673-01-29 11:45 J -15325862.16 -15325862.01 -15325861.87 0.0139 0.0105
 Uranus -46673-09-11 22:33 J -15325635.65 -15325635.56 -15325635.46 0.0138 0.0125
 Jupiter -46672-08-02 03:35 J -15325311.55 -15325311.35 -15325311.16 0.0530 0.0015
 Saturn -46670-05-18 12:28 J -15324657.15 -15324656.98 -15324656.81 0.0282 0.0156
 Saturn -46669-01-02 21:21 J -15324427.79 -15324427.61 -15324427.42 0.0283 0.0124
 Jupiter -46665-01-19 18:14 J -15322949.90 -15322949.74 -15322949.57 0.0500 0.0311
 Neptune -46662-02-05 19:54 J -15321836.77 -15321836.67 -15321836.53 0.0088 0.0074
 Neptune -46662-09-19 09:50 J -15321611.24 -15321611.09 -15321610.89 0.0088 0.0058
 Neptune -46661-05-02 00:14 J -15321385.68 -15321385.49 -15321385.28 0.0088 0.0042

Mars -46661-08-22 22:47 J -15321272.68 -15321272.55 -15321272.41 0.1844 0.1086
 Neptune -46661-12-13 14:09 J -15321160.12 -15321159.91 -15321159.69 0.0088 0.0026
 Jupiter -46660-04-06 23:02 J -15321045.70 -15321045.54 -15321045.38 0.0532 0.0305
 Neptune -46660-07-27 04:04 J -15320934.55 -15320934.33 -15320934.10 0.0088 0.0010
 Neptune -46659-03-09 18:14 J -15320708.96 -15320708.74 -15320708.51 0.0088 0.0007
 Neptune -46659-10-21 08:09 J -15320483.37 -15320483.16 -15320482.93 0.0088 0.0023
 Neptune -46658-06-03 22:04 J -15320257.77 -15320257.58 -15320257.37 0.0088 0.0040
 Neptune -46657-01-15 12:14 J -15320032.16 -15320031.99 -15320031.81 0.0088 0.0056
 Neptune -46657-08-28 01:54 J -15319806.53 -15319806.42 -15319806.27 0.0088 0.0072
 Saturn -46656-03-15 14:09 J -15319606.95 -15319606.91 -15319606.85 0.0278 0.0270
 Mars -46656-04-03 20:09 J -15319587.83 -15319587.66 -15319587.48 0.1681 0.0390
 Neptune -46656-04-10 16:18 J -15319580.82 -15319580.82 -15319580.79 0.0088 0.0088
 Saturn -46656-10-31 05:16 J -15319377.50 -15319377.28 -15319377.07 0.0277 0.0007
 Jupiter -46654-09-24 15:06 J -15318684.08 -15318683.87 -15318683.66 0.0498 0.0038
 Moon -46653-04-08 10:33 J -15318487.16 -15318487.06 -15318486.97 0.2638 0.2175
 Earth -46653-04-08 15:35 J -15318486.91 -15318486.85 -15318486.78 0.2641 0.2382
 Jupiter -46648-08-04 16:33 J -15316542.88 -15316542.81 -15316542.72 0.0526 0.0483
 Moon -46645-04-05 23:59 J -15315567.58 -15315567.50 -15315567.41 0.2644 0.2196
 Earth -46645-04-06 05:45 J -15315567.39 -15315567.26 -15315567.13 0.2642 0.1516
 Jupiter -46642-05-30 11:30 J -15314418.20 -15314418.02 -15314417.84 0.0496 0.0235
 Pluto -46641-10-31 10:18 J -15313898.13 -15313898.07 -15313897.95 0.0078 0.0071
 Saturn -46641-11-27 20:38 J -15313870.83 -15313870.64 -15313870.44 0.0283 0.0108
 Pluto -46640-06-13 20:23 J -15313672.87 -15313672.65 -15313672.43 0.0077 0.0002
 Saturn -46640-07-15 05:59 J -15313641.41 -15313641.25 -15313641.08 0.0284 0.0173
 Pluto -46639-01-25 05:30 J -15313447.38 -15313447.27 -15313447.16 0.0077 0.0065
 Uranus -46636-03-31 01:54 J -15312286.47 -15312286.42 -15312286.34 0.0136 0.0128
 Jupiter -46636-04-09 13:40 J -15312277.11 -15312276.93 -15312276.74 0.0529 0.0179
 Uranus -46636-11-12 06:57 J -15312060.33 -15312060.21 -15312060.08 0.0136 0.0111
 Uranus -46635-06-26 11:59 J -15311834.15 -15311834.00 -15311833.85 0.0137 0.0093
 Uranus -46634-02-07 16:47 J -15311607.96 -15311607.80 -15311607.61 0.0137 0.0075

Uranus	-46634-09-21 22:18 J	-15311381.76	-15311381.57	-15311381.37	0.0137	0.0057
Uranus	-46633-05-05 03:21 J	-15311155.55	-15311155.36	-15311155.14	0.0138	0.0039
Uranus	-46633-12-17 08:52 J	-15310929.33	-15310929.13	-15310928.92	0.0138	0.0020
Uranus	-46632-07-31 14:23 J	-15310703.11	-15310702.90	-15310702.68	0.0138	0.0003
Uranus	-46631-03-14 20:09 J	-15310476.87	-15310476.66	-15310476.45	0.0138	0.0019
Uranus	-46631-10-27 01:54 J	-15310250.62	-15310250.42	-15310250.21	0.0139	0.0038
Uranus	-46630-06-10 07:40 J	-15310024.36	-15310024.18	-15310023.98	0.0139	0.0058
Jupiter	-46630-09-27 06:14 J	-15309915.31	-15309915.24	-15309915.16	0.0501	0.0465
Uranus	-46629-01-22 13:54 J	-15309798.09	-15309797.92	-15309797.74	0.0139	0.0077
Mars	-46629-08-22 09:06 J	-15309585.19	-15309585.12	-15309585.05	0.1858	0.1696
Uranus	-46629-09-04 20:09 J	-15309571.80	-15309571.66	-15309571.49	0.0140	0.0096
Uranus	-46628-04-19 02:38 J	-15309345.49	-15309345.39	-15309345.26	0.0140	0.0115
Uranus	-46628-12-01 09:06 J	-15309119.16	-15309119.12	-15309119.04	0.0140	0.0135
Saturn	-46627-09-26 01:11 J	-15308820.58	-15308820.45	-15308820.31	0.0278	0.0216
Saturn	-46626-05-13 15:50 J	-15308591.05	-15308590.84	-15308590.63	0.0277	0.0060
Jupiter	-46625-12-13 11:02 J	-15308011.23	-15308011.04	-15308010.84	0.0532	0.0130
Jupiter	-46618-06-02 01:54 J	-15305649.62	-15305649.42	-15305649.23	0.0499	0.0188
Jupiter	-46613-08-18 07:11 J	-15303745.30	-15303745.20	-15303745.08	0.0534	0.0443
Saturn	-46611-06-09 23:45 J	-15303084.71	-15303084.51	-15303084.31	0.0282	0.0073
Saturn	-46610-01-25 08:38 J	-15302855.27	-15302855.14	-15302854.99	0.0283	0.0207
Jupiter	-46606-02-04 22:33 J	-15301383.76	-15301383.56	-15301383.35	0.0497	0.0085
Jupiter	-46601-12-16 04:47 J	-15299242.44	-15299242.30	-15299242.15	0.0528	0.0361
Saturn	-46597-04-07 03:21 J	-15298034.52	-15298034.36	-15298034.20	0.0278	0.0186
Saturn	-46597-11-22 17:59 J	-15297804.95	-15297804.75	-15297804.54	0.0276	0.0090
Uranus	-46597-12-02 01:40 J	-15297795.47	-15297795.43	-15297795.35	0.0142	0.0138
Uranus	-46596-07-16 14:38 J	-15297569.00	-15297568.89	-15297568.74	0.0142	0.0116
Uranus	-46595-02-28 04:04 J	-15297342.49	-15297342.33	-15297342.16	0.0142	0.0094
Mars	-46595-06-20 05:59 J	-15297230.34	-15297230.25	-15297230.16	0.1840	0.1539
Jupiter	-46595-10-10 20:52 J	-15297117.78	-15297117.63	-15297117.48	0.0495	0.0348
Uranus	-46595-10-12 16:33 J	-15297115.99	-15297115.81	-15297115.60	0.0141	0.0073

Uranus -46594-05-27 05:02 J -15296889.48 -15296889.29 -15296889.07 0.0141 0.0052
 Uranus -46593-01-08 17:45 J -15296662.98 -15296662.76 -15296662.54 0.0141 0.0029
 Uranus -46593-08-22 05:59 J -15296436.47 -15296436.25 -15296436.02 0.0140 0.0008
 Uranus -46592-04-05 17:59 J -15296209.97 -15296209.75 -15296209.52 0.0140 0.0014
 Uranus -46592-11-18 05:59 J -15295983.47 -15295983.25 -15295983.03 0.0140 0.0035
 Uranus -46591-07-02 17:30 J -15295756.97 -15295756.77 -15295756.56 0.0139 0.0056
 Mars -46590-01-30 05:16 J -15295545.46 -15295545.28 -15295545.10 0.1685 0.0098
 Uranus -46590-02-14 04:47 J -15295530.47 -15295530.30 -15295530.10 0.0139 0.0076
 Uranus -46590-09-28 16:18 J -15295303.98 -15295303.82 -15295303.65 0.0139 0.0096
 Uranus -46589-05-12 03:21 J -15295077.48 -15295077.36 -15295077.23 0.0138 0.0116
 Jupiter -46589-08-20 23:30 J -15294976.72 -15294976.52 -15294976.32 0.0530 0.0047
 Uranus -46589-12-24 13:40 J -15294850.95 -15294850.93 -15294850.86 0.0138 0.0136
 Jupiter -46582-02-07 17:02 J -15292614.93 -15292614.79 -15292614.64 0.0500 0.0355
 Saturn -46582-12-21 06:28 J -15292298.44 -15292298.23 -15292298.03 0.0283 0.0029
 Saturn -46581-08-06 15:35 J -15292068.93 -15292068.85 -15292068.74 0.0284 0.0252
 Neptune -46580-03-25 20:38 J -15291837.71 -15291837.64 -15291837.56 0.0089 0.0083
 Neptune -46580-11-06 08:23 J -15291612.27 -15291612.15 -15291611.99 0.0089 0.0067
 Neptune -46579-06-19 20:38 J -15291386.81 -15291386.64 -15291386.46 0.0089 0.0051
 Neptune -46578-01-31 08:52 J -15291161.33 -15291161.13 -15291160.93 0.0089 0.0036
 Neptune -46578-09-13 20:52 J -15290935.83 -15290935.63 -15290935.41 0.0089 0.0020
 Jupiter -46577-04-25 18:57 J -15290710.88 -15290710.71 -15290710.54 0.0532 0.0268
 Neptune -46577-04-26 09:06 J -15290710.33 -15290710.12 -15290709.90 0.0089 0.0004
 Neptune -46577-12-07 21:06 J -15290484.83 -15290484.62 -15290484.41 0.0089 0.0012
 Neptune -46576-07-21 09:06 J -15290259.32 -15290259.12 -15290258.91 0.0089 0.0027
 Neptune -46575-03-03 20:52 J -15290033.80 -15290033.63 -15290033.43 0.0089 0.0043
 Neptune -46575-10-15 08:52 J -15289808.27 -15289808.13 -15289807.95 0.0089 0.0059
 Neptune -46574-05-28 20:52 J -15289582.73 -15289582.63 -15289582.50 0.0089 0.0075
 Jupiter -46571-10-13 10:33 J -15288349.27 -15288349.06 -15288348.85 0.0498 0.0069
 Saturn -46568-10-18 13:40 J -15287248.11 -15287247.93 -15287247.73 0.0278 0.0133
 Saturn -46567-06-05 04:33 J -15287018.50 -15287018.31 -15287018.13 0.0276 0.0142

Mars -46563-06-19 15:35 J -15285542.97 -15285542.85 -15285542.72 0.1853 0.1207
 Jupiter -46559-06-18 07:26 J -15284083.38 -15284083.19 -15284082.99 0.0496 0.0201
 Jupiter -46553-04-28 14:38 J -15281942.06 -15281941.89 -15281941.71 0.0529 0.0231
 Saturn -46553-11-15 00:28 J -15281741.53 -15281741.48 -15281741.42 0.0281 0.0270
 Uranus -46553-11-28 11:16 J -15281728.05 -15281728.03 -15281727.99 0.0136 0.0134
 Saturn -46552-07-02 09:21 J -15281512.32 -15281512.11 -15281511.90 0.0282 0.0007
 Uranus -46552-07-12 16:04 J -15281501.92 -15281501.83 -15281501.71 0.0136 0.0117
 Uranus -46551-02-23 21:06 J -15281275.76 -15281275.62 -15281275.47 0.0136 0.0100
 Uranus -46551-10-08 02:09 J -15281049.57 -15281049.41 -15281049.23 0.0137 0.0082
 Uranus -46550-05-22 07:11 J -15280823.38 -15280823.20 -15280823.01 0.0137 0.0064
 Uranus -46549-01-03 12:28 J -15280597.18 -15280596.98 -15280596.78 0.0137 0.0046
 Uranus -46549-08-16 17:59 J -15280370.96 -15280370.75 -15280370.55 0.0138 0.0027
 Uranus -46548-03-30 23:16 J -15280144.74 -15280144.53 -15280144.32 0.0138 0.0009
 Uranus -46548-11-12 04:47 J -15279918.51 -15279918.30 -15279918.09 0.0138 0.0011
 Jupiter -46547-02-21 05:30 J -15279817.33 -15279817.27 -15279817.20 0.0494 0.0463
 Uranus -46547-06-26 10:18 J -15279692.27 -15279692.07 -15279691.85 0.0139 0.0030
 Uranus -46546-02-07 16:04 J -15279466.01 -15279465.83 -15279465.62 0.0139 0.0049
 Uranus -46546-09-21 22:33 J -15279239.74 -15279239.56 -15279239.37 0.0139 0.0068
 Uranus -46545-05-05 04:47 J -15279013.46 -15279013.30 -15279013.14 0.0140 0.0087
 Uranus -46545-12-17 11:02 J -15278787.17 -15278787.04 -15278786.90 0.0140 0.0106
 Uranus -46544-07-31 17:30 J -15278560.85 -15278560.77 -15278560.67 0.0140 0.0125
 Jupiter -46541-01-02 11:16 J -15277676.23 -15277676.03 -15277675.84 0.0531 0.0077
 Saturn -46538-04-30 14:52 J -15276462.08 -15276461.88 -15276461.68 0.0277 0.0105
 Saturn -46538-12-16 05:30 J -15276232.43 -15276232.27 -15276232.09 0.0276 0.0169
 Jupiter -46535-06-21 01:54 J -15275314.61 -15275314.42 -15275314.24 0.0499 0.0236
 Jupiter -46530-09-07 04:47 J -15273410.43 -15273410.30 -15273410.17 0.0533 0.0400
 Mars -46525-11-26 14:09 J -15271503.09 -15271502.91 -15271502.73 0.1688 0.0217
 Jupiter -46523-02-23 22:18 J -15271048.78 -15271048.57 -15271048.36 0.0497 0.0038
 Saturn -46523-05-28 05:45 J -15270955.37 -15270955.26 -15270955.13 0.0282 0.0229
 Saturn -46522-01-12 14:52 J -15270726.08 -15270725.88 -15270725.67 0.0283 0.0048

Jupiter -46517-01-05 01:40 J -15268907.55 -15268907.43 -15268907.30 0.0528 0.0400
 Moon -46516-10-10 10:04 J -15268263.21 -15268263.08 -15268262.94 0.2696 0.1135
 Earth -46516-10-10 12:57 J -15268263.10 -15268262.96 -15268262.82 0.2690 0.1207 *
 Uranus -46512-03-15 18:42 J -15267010.81 -15267010.72 -15267010.60 0.0142 0.0124
 Uranus -46512-10-28 07:40 J -15266784.32 -15266784.18 -15266784.02 0.0142 0.0103
 Jupiter -46512-10-29 17:16 J -15266782.94 -15266782.78 -15266782.61 0.0495 0.0314
 Uranus -46511-06-11 20:23 J -15266557.82 -15266557.65 -15266557.46 0.0142 0.0082
 Uranus -46510-01-24 09:06 J -15266331.31 -15266331.12 -15266330.91 0.0141 0.0060
 Uranus -46510-09-07 21:50 J -15266104.81 -15266104.59 -15266104.37 0.0141 0.0038
 Uranus -46509-04-21 10:04 J -15265878.30 -15265878.08 -15265877.85 0.0141 0.0017
 Saturn -46509-11-10 00:42 J -15265675.68 -15265675.47 -15265675.26 0.0277 0.0054
 Uranus -46509-12-03 22:18 J -15265651.80 -15265651.57 -15265651.35 0.0140 0.0004
 Saturn -46508-06-27 15:06 J -15265445.99 -15265445.87 -15265445.73 0.0276 0.0221
 Uranus -46508-07-18 10:18 J -15265425.30 -15265425.07 -15265424.85 0.0140 0.0025
 Earth -46508-10-08 05:16 J -15265343.33 -15265343.28 -15265343.22 0.2689 0.2496
 Moon -46508-10-08 06:42 J -15265343.25 -15265343.22 -15265343.19 0.2695 0.2617 *
 Uranus -46507-03-01 22:04 J -15265198.79 -15265198.58 -15265198.37 0.0140 0.0046
 Uranus -46507-10-14 09:21 J -15264972.30 -15264972.11 -15264971.90 0.0139 0.0067
 Uranus -46506-05-28 20:52 J -15264745.80 -15264745.63 -15264745.45 0.0139 0.0086
 Jupiter -46506-09-09 23:30 J -15264641.71 -15264641.52 -15264641.33 0.0530 0.0096
 Uranus -46505-01-10 07:54 J -15264519.31 -15264519.17 -15264519.02 0.0139 0.0106
 Uranus -46505-08-23 18:28 J -15264292.80 -15264292.73 -15264292.62 0.0138 0.0126
 Jupiter -46499-02-26 13:54 J -15262280.05 -15262279.92 -15262279.79 0.0500 0.0389
 Neptune -46498-05-10 06:57 J -15261842.28 -15261842.21 -15261842.09 0.0088 0.0080
 Neptune -46498-12-21 21:06 J -15261616.76 -15261616.62 -15261616.45 0.0088 0.0063
 Mars -46497-04-15 22:18 J -15261500.73 -15261500.57 -15261500.42 0.1849 0.0713
 Neptune -46497-08-03 11:02 J -15261391.21 -15261391.04 -15261390.83 0.0088 0.0048
 Neptune -46496-03-17 01:11 J -15261165.65 -15261165.45 -15261165.22 0.0088 0.0031
 Neptune -46496-10-28 15:21 J -15260940.08 -15260939.86 -15260939.63 0.0088 0.0015
 Neptune -46495-06-11 05:30 J -15260714.50 -15260714.27 -15260714.04 0.0088 0.0001

Neptune -46494-01-22 19:26 J -15260488.91 -15260488.69 -15260488.46 0.0088 0.0017
 Jupiter -46494-05-15 20:38 J -15260375.83 -15260375.64 -15260375.46 0.0533 0.0212
 Neptune -46494-09-05 09:21 J -15260263.31 -15260263.11 -15260262.89 0.0088 0.0034
 Saturn -46494-12-08 08:52 J -15260169.27 -15260169.13 -15260168.97 0.0281 0.0194
 Neptune -46493-04-17 23:30 J -15260037.71 -15260037.52 -15260037.33 0.0088 0.0050
 Saturn -46493-07-24 17:45 J -15259939.95 -15259939.76 -15259939.55 0.0282 0.0083
 Neptune -46493-11-29 12:57 J -15259812.09 -15259811.96 -15259811.79 0.0088 0.0066
 Neptune -46492-07-13 02:52 J -15259586.44 -15259586.38 -15259586.27 0.0088 0.0082
 Jupiter -46488-11-01 10:18 J -15258014.28 -15258014.07 -15258013.87 0.0498 0.0116
 Jupiter -46482-01-18 15:50 J -15256109.87 -15256109.84 -15256109.80 0.0534 0.0526
 Pluto -46480-01-29 13:40 J -15255368.11 -15255367.93 -15255367.73 0.0067 0.0033
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 Pluto -46479-04-24 23:45 J -15254917.62 -15254917.51 -15254917.37 0.0068 0.0056
 Saturn -46479-05-23 00:42 J -15254889.68 -15254889.47 -15254889.25 0.0277 0.0029
 Saturn -46478-01-07 15:21 J -15254659.94 -15254659.86 -15254659.75 0.0276 0.0245
 Jupiter -46476-07-07 07:54 J -15253748.37 -15253748.17 -15253747.97 0.0496 0.0151
 Jupiter -46470-05-18 12:57 J -15251607.12 -15251606.96 -15251606.79 0.0528 0.0275
 Uranus -46468-03-12 01:40 J -15250943.52 -15250943.43 -15250943.34 0.0136 0.0123
 Uranus -46468-10-24 06:14 J -15250717.36 -15250717.24 -15250717.10 0.0136 0.0106
 Uranus -46467-06-07 11:16 J -15250491.19 -15250491.03 -15250490.87 0.0137 0.0089
 Uranus -46466-01-19 16:18 J -15250265.00 -15250264.82 -15250264.64 0.0137 0.0071
 Uranus -46466-09-02 21:21 J -15250038.79 -15250038.61 -15250038.40 0.0137 0.0054
 Uranus -46465-04-16 02:52 J -15249812.58 -15249812.38 -15249812.18 0.0137 0.0035
 Uranus -46465-11-28 08:09 J -15249586.37 -15249586.16 -15249585.95 0.0138 0.0016
 Jupiter -46464-03-12 05:45 J -15249482.37 -15249482.26 -15249482.14 0.0494 0.0415
 Saturn -46464-06-19 13:11 J -15249383.13 -15249382.95 -15249382.78 0.0282 0.0156
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 Saturn -46463-02-03 22:04 J -15249153.77 -15249153.58 -15249153.40 0.0283 0.0121
 Uranus -46463-02-23 19:11 J -15249133.91 -15249133.70 -15249133.49 0.0138 0.0021
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Uranus -46462-05-22 06:57 J -15248681.39 -15248681.21 -15248681.01 0.0139 0.0059
 Uranus -46461-01-03 12:57 J -15248455.12 -15248454.96 -15248454.77 0.0139 0.0078
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 Uranus -46460-03-31 01:54 J -15248002.53 -15248002.42 -15248002.30 0.0140 0.0116
 Uranus -46460-11-12 08:23 J -15247776.18 -15247776.15 -15247776.08 0.0140 0.0136
 Mars -46459-09-23 23:02 J -15247460.71 -15247460.54 -15247460.37 0.1691 0.0527
 Jupiter -46458-01-21 09:06 J -15247341.32 -15247341.12 -15247340.92 0.0531 0.0034
 Jupiter -46452-07-09 23:16 J -15244979.71 -15244979.53 -15244979.36 0.0499 0.0273
 Saturn -46450-04-17 18:28 J -15244332.80 -15244332.73 -15244332.64 0.0279 0.0256
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 Jupiter -46447-09-26 04:47 J -15243075.44 -15243075.30 -15243075.15 0.0534 0.0350
 Jupiter -46440-03-14 20:09 J -15240713.87 -15240713.66 -15240713.45 0.0497 0.0008
 Saturn -46435-12-30 16:47 J -15238596.99 -15238596.80 -15238596.61 0.0281 0.0120
 Jupiter -46434-01-24 03:50 J -15238572.44 -15238572.34 -15238572.24 0.0528 0.0455
 Saturn -46434-08-17 01:26 J -15238367.61 -15238367.44 -15238367.26 0.0282 0.0155
 Mars -46431-02-11 05:30 J -15237458.44 -15237458.27 -15237458.11 0.1845 0.0259
 Uranus -46429-11-12 22:47 J -15236452.62 -15236452.55 -15236452.46 0.0142 0.0133
 Jupiter -46429-11-17 17:30 J -15236447.95 -15236447.77 -15236447.59 0.0495 0.0264
 Uranus -46428-06-27 11:59 J -15236226.14 -15236226.00 -15236225.86 0.0142 0.0111
 Uranus -46427-02-09 00:57 J -15235999.63 -15235999.46 -15235999.29 0.0142 0.0090
 Mars -46427-09-23 03:06 J -15235773.42 -15235773.37 -15235773.31 0.1681 0.1593
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 Uranus -46426-05-08 02:09 J -15235546.62 -15235546.41 -15235546.20 0.0141 0.0047
 Uranus -46426-12-20 14:23 J -15235320.12 -15235319.90 -15235319.68 0.0141 0.0026
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 Uranus -46424-03-17 14:38 J -15234867.11 -15234866.89 -15234866.66 0.0140 0.0016
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 Uranus -46423-06-13 13:54 J -15234414.11 -15234413.92 -15234413.70 0.0140 0.0057
 Jupiter -46423-09-29 01:26 J -15234306.62 -15234306.44 -15234306.25 0.0530 0.0155
 Uranus -46422-01-26 01:26 J -15234187.62 -15234187.44 -15234187.25 0.0139 0.0077

Uranus -46422-09-09 12:28 J -15233961.13 -15233960.98 -15233960.81 0.0139 0.0097
 Uranus -46421-04-22 23:30 J -15233734.62 -15233734.52 -15233734.38 0.0139 0.0117
 Saturn -46421-10-27 17:59 J -15233546.87 -15233546.75 -15233546.63 0.0279 0.0232
 Uranus -46421-12-05 10:18 J -15233508.09 -15233508.07 -15233508.01 0.0138 0.0136
 Saturn -46420-06-14 09:06 J -15233317.33 -15233317.12 -15233316.91 0.0277 0.0044
 Jupiter -46416-03-17 15:21 J -15231944.95 -15231944.86 -15231944.76 0.0500 0.0442
 Neptune -46416-06-27 09:06 J -15231843.12 -15231843.12 -15231843.06 0.0089 0.0089
 Neptune -46415-02-07 21:35 J -15231617.71 -15231617.60 -15231617.47 0.0089 0.0072
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 Neptune -46414-05-04 21:50 J -15231166.77 -15231166.59 -15231166.39 0.0089 0.0041
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 Neptune -46412-10-22 22:04 J -15230264.79 -15230264.58 -15230264.37 0.0089 0.0021
 Jupiter -46411-06-03 20:09 J -15230040.85 -15230040.66 -15230040.47 0.0532 0.0161
 Neptune -46411-06-05 09:50 J -15230039.27 -15230039.09 -15230038.88 0.0089 0.0037
 Neptune -46410-01-16 22:04 J -15229813.75 -15229813.58 -15229813.41 0.0089 0.0053
 Earth -46410-04-09 15:21 J -15229730.93 -15229730.86 -15229730.79 0.2642 0.2379
 Moon -46410-04-09 18:28 J -15229730.78 -15229730.73 -15229730.67 0.2648 0.2468
 Neptune -46410-08-30 09:50 J -15229588.21 -15229588.09 -15229587.94 0.0089 0.0069
 Neptune -46409-04-11 21:35 J -15229362.64 -15229362.60 -15229362.50 0.0089 0.0085
 Saturn -46405-07-11 19:40 J -15227810.88 -15227810.68 -15227810.48 0.0282 0.0085
 Jupiter -46405-11-20 11:30 J -15227679.22 -15227679.02 -15227678.82 0.0498 0.0168
 Saturn -46404-02-26 04:04 J -15227581.47 -15227581.33 -15227581.17 0.0283 0.0191
 Earth -46402-04-07 05:45 J -15226811.39 -15226811.26 -15226811.12 0.2643 0.1481
 Moon -46402-04-07 11:30 J -15226811.17 -15226811.02 -15226810.86 0.2645 0.0535 *
 Jupiter -46399-02-06 14:52 J -15225774.97 -15225774.88 -15225774.80 0.0534 0.0478
 Pluto -46395-11-29 16:33 J -15224017.89 -15224017.81 -15224017.68 0.0078 0.0068
 Pluto -46394-07-13 02:23 J -15223792.62 -15223792.40 -15223792.17 0.0077 0.0002
 Pluto -46393-02-23 11:02 J -15223567.11 -15223567.04 -15223566.92 0.0077 0.0069

Mars -46393-07-21 07:40 J -15223418.33 -15223418.18 -15223418.02 0.1695 0.0841
 Jupiter -46393-07-26 06:28 J -15223413.43 -15223413.23 -15223413.02 0.0496 0.0110
 Saturn -46391-05-10 01:54 J -15222760.58 -15222760.42 -15222760.26 0.0279 0.0186
 Saturn -46391-12-25 17:16 J -15222530.98 -15222530.78 -15222530.57 0.0277 0.0090
 Jupiter -46387-06-06 13:26 J -15221272.09 -15221271.94 -15221271.78 0.0529 0.0326
 Uranus -46385-11-09 10:47 J -15220385.09 -15220385.05 -15220384.97 0.0136 0.0130
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 Uranus -46383-02-04 20:38 J -15219932.78 -15219932.64 -15219932.48 0.0136 0.0096
 Uranus -46383-09-19 01:54 J -15219706.59 -15219706.42 -15219706.25 0.0137 0.0078
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 Jupiter -46381-03-31 04:47 J -15219147.44 -15219147.30 -15219147.16 0.0494 0.0371
 Uranus -46381-07-28 17:16 J -15219027.99 -15219027.78 -15219027.57 0.0138 0.0024
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 Uranus -46377-04-16 04:04 J -15217670.48 -15217670.33 -15217670.16 0.0140 0.0089
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 Saturn -46375-01-21 23:30 J -15217024.72 -15217024.52 -15217024.31 0.0281 0.0050
 Jupiter -46375-02-09 11:16 J -15217006.23 -15217006.03 -15217005.83 0.0531 0.0024
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 Jupiter -46369-07-28 23:59 J -15214644.65 -15214644.50 -15214644.33 0.0499 0.0325
 Mars -46366-12-09 12:28 J -15213416.15 -15213415.98 -15213415.82 0.1840 0.0211
 Jupiter -46364-10-15 07:54 J -15212740.34 -15212740.17 -15212740.01 0.0533 0.0285
 Saturn -46362-11-20 00:42 J -15211974.63 -15211974.47 -15211974.28 0.0278 0.0163
 Saturn -46361-07-06 16:04 J -15211745.02 -15211744.83 -15211744.62 0.0277 0.0113
 Mars -46361-07-20 11:45 J -15211731.12 -15211731.01 -15211730.89 0.1684 0.1287

Jupiter -46357-04-02 21:35 J -15210378.81 -15210378.60 -15210378.39 0.0497 0.0055
 Jupiter -46351-02-12 04:04 J -15208237.39 -15208237.33 -15208237.28 0.0527 0.0503
 Saturn -46346-08-04 01:26 J -15206238.64 -15206238.44 -15206238.23 0.0282 0.0018
 Jupiter -46346-12-07 19:11 J -15206112.89 -15206112.70 -15206112.51 0.0495 0.0212
 Saturn -46345-03-20 09:50 J -15206009.16 -15206009.09 -15206008.99 0.0283 0.0260
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 Uranus -46344-02-24 17:02 J -15205667.91 -15205667.79 -15205667.67 0.0142 0.0120
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 Uranus -46343-05-23 18:14 J -15205214.91 -15205214.74 -15205214.54 0.0142 0.0078
 Uranus -46342-01-05 06:57 J -15204988.41 -15204988.21 -15204988.00 0.0141 0.0056
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 Jupiter -46334-08-12 16:18 J -15201846.87 -15201846.82 -15201846.77 0.0493 0.0475
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 Jupiter -46333-04-05 14:38 J -15201609.94 -15201609.89 -15201609.84 0.0500 0.0484
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 Saturn -46332-06-01 08:09 J -15201188.35 -15201188.16 -15201187.96 0.0279 0.0119
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Neptune -46330-04-26 06:28 J -15200494.46 -15200494.23 -15200494.01 0.0088 0.0012
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 Mars -46327-05-18 16:04 J -15199375.95 -15199375.83 -15199375.70 0.1699 0.1169
 Jupiter -46322-12-10 10:47 J -15197344.24 -15197344.05 -15197343.86 0.0498 0.0212
 Saturn -46317-06-28 22:04 J -15195681.66 -15195681.58 -15195681.48 0.0280 0.0249
 Saturn -46316-02-13 06:14 J -15195452.45 -15195452.24 -15195452.03 0.0281 0.0021
 Jupiter -46316-02-25 16:33 J -15195439.92 -15195439.81 -15195439.68 0.0535 0.0421
 Jupiter -46310-08-15 07:26 J -15193078.39 -15193078.19 -15193077.98 0.0496 0.0059
 Jupiter -46304-06-25 16:33 J -15190936.94 -15190936.81 -15190936.68 0.0528 0.0387
 Saturn -46303-12-12 07:11 J -15190402.40 -15190402.20 -15190401.99 0.0278 0.0095
 Saturn -46302-07-29 22:18 J -15190172.72 -15190172.57 -15190172.39 0.0277 0.0181
 Uranus -46300-02-21 00:57 J -15189600.55 -15189600.46 -15189600.35 0.0136 0.0119
 Uranus -46300-10-05 05:45 J -15189374.39 -15189374.26 -15189374.11 0.0136 0.0103
 Mars -46300-10-05 19:40 J -15189373.83 -15189373.68 -15189373.52 0.1836 0.0653
 Uranus -46299-05-19 10:33 J -15189148.21 -15189148.06 -15189147.88 0.0137 0.0086
 Uranus -46299-12-31 15:35 J -15188922.02 -15188921.85 -15188921.65 0.0137 0.0068
 Jupiter -46298-04-20 05:59 J -15188812.40 -15188812.25 -15188812.08 0.0494 0.0319
 Uranus -46298-08-14 20:52 J -15188695.82 -15188695.63 -15188695.42 0.0137 0.0050
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 Mars -46295-05-17 21:06 J -15187688.76 -15187688.62 -15187688.48 0.1688 0.0996
 Uranus -46295-09-19 00:42 J -15187564.67 -15187564.47 -15187564.26 0.0139 0.0042
 Uranus -46294-05-03 06:42 J -15187338.41 -15187338.22 -15187338.03 0.0139 0.0061
 Uranus -46294-12-15 12:42 J -15187112.13 -15187111.97 -15187111.79 0.0139 0.0080

Uranus	-46293-07-28 19:11 J	-15186885.84	-15186885.70	-15186885.55	0.0140	0.0098
Jupiter	-46292-02-28 12:28 J	-15186671.18	-15186670.98	-15186670.79	0.0531	0.0079
Uranus	-46292-03-12 01:40 J	-15186659.53	-15186659.43	-15186659.31	0.0140	0.0117
Uranus	-46292-10-24 08:38 J	-15186433.18	-15186433.14	-15186433.08	0.0140	0.0136
Saturn	-46287-01-08 23:02 J	-15184895.67	-15184895.54	-15184895.41	0.0280	0.0220
Saturn	-46287-08-26 07:26 J	-15184666.39	-15184666.19	-15184665.99	0.0282	0.0052
Jupiter	-46286-08-18 02:23 J	-15184309.53	-15184309.40	-15184309.26	0.0500	0.0378
Jupiter	-46281-11-03 07:54 J	-15182405.35	-15182405.17	-15182405.00	0.0533	0.0234
Jupiter	-46274-04-22 21:50 J	-15180043.80	-15180043.59	-15180043.38	0.0497	0.0102
Saturn	-46273-06-23 13:54 J	-15179616.13	-15179615.92	-15179615.71	0.0278	0.0053
Earth	-46273-10-10 15:06 J	-15179507.00	-15179506.87	-15179506.73	0.2690	0.1325
Moon	-46273-10-10 19:54 J	-15179506.78	-15179506.67	-15179506.56	0.2687	0.1920 *
Saturn	-46272-02-08 05:30 J	-15179386.40	-15179386.27	-15179386.14	0.0277	0.0222
Earth	-46265-10-08 07:40 J	-15176587.25	-15176587.18	-15176587.11	0.2688	0.2370
Moon	-46265-10-08 09:06 J	-15176587.24	-15176587.12	-15176587.01	0.2682	0.1901 *
Jupiter	-46263-12-26 19:11 J	-15175777.90	-15175777.70	-15175777.50	0.0495	0.0164
Mars	-46261-03-15 00:57 J	-15175333.54	-15175333.46	-15175333.37	0.1702	0.1482
Uranus	-46261-10-24 21:50 J	-15175109.67	-15175109.59	-15175109.48	0.0142	0.0128
Uranus	-46260-06-08 11:02 J	-15174883.18	-15174883.04	-15174882.89	0.0142	0.0107
Uranus	-46259-01-20 23:30 J	-15174656.68	-15174656.52	-15174656.33	0.0142	0.0086
Uranus	-46259-09-04 12:14 J	-15174430.18	-15174429.99	-15174429.78	0.0142	0.0065
Uranus	-46258-04-19 00:57 J	-15174203.67	-15174203.46	-15174203.24	0.0141	0.0043
Saturn	-46258-07-22 04:47 J	-15174109.45	-15174109.30	-15174109.13	0.0280	0.0180
Uranus	-46258-12-01 13:11 J	-15173977.17	-15173976.95	-15173976.73	0.0141	0.0023
Saturn	-46257-03-07 12:57 J	-15173880.16	-15173879.96	-15173879.76	0.0281	0.0091
Uranus	-46257-07-15 01:11 J	-15173750.67	-15173750.45	-15173750.22	0.0141	0.0003
Jupiter	-46257-11-06 02:23 J	-15173636.57	-15173636.40	-15173636.22	0.0530	0.0259
Uranus	-46256-02-26 13:11 J	-15173524.17	-15173523.95	-15173523.72	0.0140	0.0019
Uranus	-46256-10-11 00:57 J	-15173297.67	-15173297.46	-15173297.24	0.0140	0.0039
Uranus	-46255-05-25 12:28 J	-15173071.17	-15173070.98	-15173070.77	0.0140	0.0059

Uranus -46254-01-06 23:45 J -15172844.68 -15172844.51 -15172844.31 0.0139 0.0079
 Uranus -46254-08-21 11:16 J -15172618.19 -15172618.03 -15172617.87 0.0139 0.0098
 Uranus -46253-04-03 22:04 J -15172391.68 -15172391.58 -15172391.45 0.0139 0.0118
 Uranus -46253-11-16 08:52 J -15172165.15 -15172165.13 -15172165.07 0.0138 0.0136
 Neptune -46251-05-12 10:47 J -15171623.14 -15171623.05 -15171622.94 0.0089 0.0078
 Jupiter -46251-08-31 17:02 J -15171511.89 -15171511.79 -15171511.68 0.0493 0.0424
 Neptune -46251-12-23 22:33 J -15171397.69 -15171397.56 -15171397.39 0.0089 0.0063
 Neptune -46250-08-06 11:02 J -15171172.22 -15171172.04 -15171171.85 0.0089 0.0047
 Neptune -46249-03-18 22:47 J -15170946.74 -15170946.55 -15170946.34 0.0089 0.0032
 Neptune -46249-10-30 11:02 J -15170721.25 -15170721.04 -15170720.83 0.0089 0.0016
 Neptune -46248-06-12 23:02 J -15170495.75 -15170495.54 -15170495.32 0.0089 0.0001
 Neptune -46247-01-24 11:02 J -15170270.25 -15170270.04 -15170269.83 0.0089 0.0016
 Neptune -46247-09-06 23:02 J -15170044.73 -15170044.54 -15170044.33 0.0089 0.0031
 Neptune -46246-04-20 11:16 J -15169819.21 -15169819.03 -15169818.85 0.0089 0.0047
 Neptune -46246-12-01 22:47 J -15169593.68 -15169593.55 -15169593.38 0.0089 0.0063
 Jupiter -46245-07-11 23:45 J -15169370.70 -15169370.51 -15169370.31 0.0532 0.0045
 Neptune -46245-07-14 11:02 J -15169368.13 -15169368.04 -15169367.93 0.0089 0.0078
 Saturn -46243-01-03 13:40 J -15168830.14 -15168829.93 -15168829.71 0.0278 0.0028
 Saturn -46243-08-21 04:47 J -15168600.38 -15168600.30 -15168600.19 0.0277 0.0246
 Jupiter -46239-12-29 12:28 J -15167009.16 -15167008.98 -15167008.80 0.0498 0.0266
 Pluto -46235-07-17 18:14 J -15165712.78 -15165712.74 -15165712.64 0.0067 0.0063
 Pluto -46234-02-27 23:30 J -15165487.72 -15165487.52 -15165487.30 0.0067 0.0019
 Mars -46234-08-03 02:38 J -15165331.52 -15165331.39 -15165331.25 0.1832 0.1106
 Pluto -46234-10-11 04:33 J -15165262.51 -15165262.31 -15165262.10 0.0067 0.0025
 Jupiter -46233-03-16 18:28 J -15165104.87 -15165104.73 -15165104.58 0.0534 0.0361
 Mars -46229-03-14 05:30 J -15163646.43 -15163646.27 -15163646.10 0.1691 0.0682
 Saturn -46228-01-31 05:30 J -15163323.44 -15163323.27 -15163323.09 0.0281 0.0151
 Saturn -46228-09-17 13:40 J -15163094.11 -15163093.93 -15163093.74 0.0282 0.0121
 Jupiter -46227-09-03 09:35 J -15162743.31 -15162743.10 -15162742.89 0.0496 0.0011
 Jupiter -46221-07-14 16:18 J -15160601.93 -15160601.82 -15160601.71 0.0528 0.0434

Uranus	-46217-10-21 10:33 J	-15159042.14	-15159042.06	-15159041.98	0.0136	0.0125
Uranus	-46216-06-04 15:21 J	-15158815.99	-15158815.86	-15158815.74	0.0136	0.0109
Uranus	-46215-01-16 20:09 J	-15158589.81	-15158589.66	-15158589.50	0.0136	0.0092
Jupiter	-46215-05-09 06:42 J	-15158477.39	-15158477.22	-15158477.04	0.0494	0.0269
Uranus	-46215-08-31 00:57 J	-15158363.62	-15158363.46	-15158363.27	0.0137	0.0075
Saturn	-46215-11-29 03:21 J	-15158273.41	-15158273.36	-15158273.28	0.0280	0.0266
Uranus	-46214-04-14 06:14 J	-15158137.43	-15158137.24	-15158137.05	0.0137	0.0057
Saturn	-46214-07-16 19:40 J	-15158043.90	-15158043.68	-15158043.47	0.0278	0.0012
Uranus	-46214-11-26 11:16 J	-15157911.23	-15157911.03	-15157910.82	0.0137	0.0040
Uranus	-46213-07-09 16:33 J	-15157685.01	-15157684.81	-15157684.60	0.0138	0.0022
Uranus	-46212-02-20 22:04 J	-15157458.79	-15157458.58	-15157458.37	0.0138	0.0004
Uranus	-46212-10-05 03:50 J	-15157232.55	-15157232.34	-15157232.13	0.0138	0.0015
Uranus	-46211-05-19 09:35 J	-15157006.30	-15157006.10	-15157005.89	0.0139	0.0034
Uranus	-46211-12-31 15:35 J	-15156780.05	-15156779.85	-15156779.66	0.0139	0.0052
Uranus	-46210-08-14 21:21 J	-15156553.78	-15156553.61	-15156553.41	0.0139	0.0071
Jupiter	-46209-03-19 11:45 J	-15156336.20	-15156336.01	-15156335.82	0.0531	0.0128
Uranus	-46209-03-28 03:50 J	-15156327.49	-15156327.34	-15156327.17	0.0140	0.0090
Uranus	-46209-11-09 10:18 J	-15156101.19	-15156101.07	-15156100.93	0.0140	0.0108
Uranus	-46208-06-23 16:47 J	-15155874.87	-15155874.80	-15155874.70	0.0140	0.0127
Jupiter	-46203-09-06 02:23 J	-15153974.51	-15153974.40	-15153974.29	0.0499	0.0424
Mars	-46202-08-02 11:45 J	-15153644.10	-15153644.01	-15153643.93	0.1845	0.1569
Saturn	-46199-08-13 12:28 J	-15152537.17	-15152536.98	-15152536.79	0.0280	0.0108
Saturn	-46198-03-30 20:23 J	-15152307.82	-15152307.65	-15152307.48	0.0281	0.0161
Jupiter	-46198-11-23 08:23 J	-15152070.34	-15152070.15	-15152069.96	0.0534	0.0180
Jupiter	-46191-05-11 22:18 J	-15149708.77	-15149708.57	-15149708.37	0.0497	0.0152
Jupiter	-46186-07-29 04:18 J	-15147804.39	-15147804.32	-15147804.23	0.0535	0.0491
Saturn	-46185-06-10 04:33 J	-15147487.41	-15147487.31	-15147487.19	0.0279	0.0236
Saturn	-46184-01-25 20:38 J	-15147257.86	-15147257.64	-15147257.43	0.0278	0.0040
Jupiter	-46179-01-14 20:09 J	-15145442.87	-15145442.66	-15145442.46	0.0495	0.0112
Uranus	-46177-06-24 02:52 J	-15144551.44	-15144551.38	-15144551.30	0.0143	0.0135

Uranus -46176-02-05 15:50 J -15144324.96 -15144324.84 -15144324.69 0.0142 0.0114
 Uranus -46176-09-20 05:02 J -15144098.46 -15144098.29 -15144098.12 0.0142 0.0093
 Uranus -46175-05-04 17:30 J -15143871.96 -15143871.77 -15143871.57 0.0142 0.0073
 Uranus -46175-12-17 05:59 J -15143645.45 -15143645.25 -15143645.04 0.0141 0.0052
 Uranus -46174-07-31 18:14 J -15143418.95 -15143418.74 -15143418.51 0.0141 0.0032
 Jupiter -46174-11-26 03:50 J -15143301.50 -15143301.34 -15143301.18 0.0529 0.0313
 Uranus -46173-03-14 06:42 J -15143192.44 -15143192.22 -15143191.99 0.0141 0.0011
 Uranus -46173-10-26 18:42 J -15142965.94 -15142965.72 -15142965.49 0.0140 0.0011
 Uranus -46172-06-10 06:42 J -15142739.44 -15142739.22 -15142739.00 0.0140 0.0031
 Uranus -46171-01-22 18:14 J -15142512.94 -15142512.74 -15142512.53 0.0140 0.0051
 Uranus -46171-09-06 05:45 J -15142286.45 -15142286.26 -15142286.06 0.0139 0.0070
 Uranus -46170-04-20 17:02 J -15142059.95 -15142059.79 -15142059.61 0.0139 0.0090
 Uranus -46170-12-03 04:18 J -15141833.45 -15141833.32 -15141833.17 0.0139 0.0109
 Saturn -46169-02-23 12:57 J -15141751.16 -15141750.96 -15141750.77 0.0281 0.0080
 Neptune -46169-06-25 18:28 J -15141627.83 -15141627.73 -15141627.59 0.0088 0.0075
 Uranus -46169-07-16 15:21 J -15141606.94 -15141606.86 -15141606.77 0.0138 0.0128
 Saturn -46169-10-09 20:38 J -15141521.78 -15141521.64 -15141521.48 0.0282 0.0191
 Neptune -46168-02-06 08:38 J -15141402.29 -15141402.14 -15141401.96 0.0088 0.0059
 Mars -46168-05-30 10:04 J -15141289.17 -15141289.08 -15141288.99 0.1828 0.1534
 Jupiter -46168-09-19 18:42 J -15141176.86 -15141176.72 -15141176.58 0.0493 0.0372
 Neptune -46168-09-19 22:47 J -15141176.74 -15141176.55 -15141176.34 0.0088 0.0043 *
 Moon -46167-04-09 14:38 J -15140974.97 -15140974.89 -15140974.82 0.2636 0.2334
 Earth -46167-04-09 15:35 J -15140974.91 -15140974.85 -15140974.78 0.2643 0.2431 *
 Neptune -46167-05-03 12:57 J -15140951.17 -15140950.96 -15140950.74 0.0088 0.0027
 Neptune -46167-12-15 02:52 J -15140725.60 -15140725.38 -15140725.15 0.0088 0.0011
 Neptune -46166-07-28 17:02 J -15140500.02 -15140499.79 -15140499.57 0.0088 0.0005
 Neptune -46165-03-10 06:57 J -15140274.42 -15140274.21 -15140273.98 0.0088 0.0022
 Neptune -46165-10-21 20:52 J -15140048.82 -15140048.63 -15140048.41 0.0088 0.0038
 Neptune -46164-06-04 10:47 J -15139823.22 -15139823.05 -15139822.86 0.0088 0.0054
 Mars -46163-01-09 14:23 J -15139604.08 -15139603.90 -15139603.73 0.1695 0.0375

Neptune -46163-01-16 00:42 J -15139597.59 -15139597.47 -15139597.31 0.0088 0.0070
 Neptune -46163-08-29 14:38 J -15139371.92 -15139371.89 -15139371.81 0.0088 0.0086
 Jupiter -46162-07-31 23:30 J -15139035.71 -15139035.52 -15139035.32 0.0532 0.0012
 Moon -46159-04-07 00:57 J -15138055.53 -15138055.46 -15138055.38 0.2640 0.2332
 Earth -46159-04-07 05:59 J -15138055.38 -15138055.25 -15138055.11 0.2644 0.1422 *
 Saturn -46156-12-21 10:18 J -15136701.22 -15136701.07 -15136700.91 0.0279 0.0198
 Jupiter -46155-01-17 12:57 J -15136674.12 -15136673.96 -15136673.79 0.0498 0.0314
 Saturn -46155-08-08 02:23 J -15136471.61 -15136471.40 -15136471.20 0.0278 0.0078
 Jupiter -46150-04-05 16:47 J -15134769.96 -15134769.80 -15134769.64 0.0535 0.0316
 Pluto -46149-12-28 02:38 J -15134137.54 -15134137.39 -15134137.21 0.0078 0.0051
 Pluto -46148-08-10 12:14 J -15133912.20 -15133911.99 -15133911.77 0.0077 0.0018
 Jupiter -46144-09-22 09:50 J -15132408.30 -15132408.09 -15132407.88 0.0496 0.0045
 Saturn -46140-09-04 20:52 J -15130964.84 -15130964.63 -15130964.43 0.0280 0.0036
 Saturn -46139-04-22 04:47 J -15130735.42 -15130735.30 -15130735.19 0.0281 0.0234
 Jupiter -46138-08-03 16:04 J -15130266.90 -15130266.83 -15130266.75 0.0529 0.0485
 Mars -46136-05-29 18:42 J -15129601.85 -15129601.72 -15129601.58 0.1841 0.1107
 Uranus -46133-06-20 19:26 J -15128483.74 -15128483.69 -15128483.63 0.0136 0.0131
 Uranus -46132-02-01 23:59 J -15128257.60 -15128257.50 -15128257.38 0.0136 0.0115
 Jupiter -46132-05-28 06:28 J -15128142.42 -15128142.23 -15128142.04 0.0494 0.0221
 Uranus -46132-09-16 04:47 J -15128031.43 -15128031.30 -15128031.14 0.0136 0.0099
 Uranus -46131-04-30 09:50 J -15127805.25 -15127805.09 -15127804.91 0.0137 0.0081
 Uranus -46131-12-12 14:52 J -15127579.06 -15127578.88 -15127578.68 0.0137 0.0064
 Uranus -46130-07-26 20:09 J -15127352.86 -15127352.66 -15127352.46 0.0137 0.0046
 Uranus -46129-03-09 01:26 J -15127126.65 -15127126.44 -15127126.23 0.0137 0.0029
 Uranus -46129-10-21 06:57 J -15126900.42 -15126900.21 -15126900.00 0.0138 0.0011
 Uranus -46128-06-04 12:28 J -15126674.19 -15126673.98 -15126673.77 0.0138 0.0007
 Uranus -46127-01-16 18:14 J -15126447.95 -15126447.74 -15126447.53 0.0138 0.0026
 Uranus -46127-08-31 00:14 J -15126221.69 -15126221.49 -15126221.29 0.0139 0.0044
 Jupiter -46126-04-08 14:09 J -15126001.09 -15126000.91 -15126000.72 0.0531 0.0188
 Uranus -46126-04-14 06:14 J -15125995.43 -15125995.24 -15125995.05 0.0139 0.0063

Saturn	-46126-07-03 12:28 J	-15125915.14	-15125914.98	-15125914.80	0.0279	0.0166
Uranus	-46126-11-26 11:59 J	-15125769.15	-15125769.00	-15125768.81	0.0139	0.0082
Saturn	-46125-02-18 04:18 J	-15125685.51	-15125685.32	-15125685.12	0.0278	0.0109
Uranus	-46125-07-09 18:28 J	-15125542.87	-15125542.73	-15125542.57	0.0140	0.0100
Uranus	-46124-02-21 00:57 J	-15125316.56	-15125316.46	-15125316.33	0.0140	0.0118
Uranus	-46124-10-05 07:54 J	-15125090.21	-15125090.17	-15125090.11	0.0140	0.0137
Jupiter	-46120-01-31 05:16 J	-15123876.32	-15123876.28	-15123876.22	0.0492	0.0476
Jupiter	-46120-09-25 02:38 J	-15123639.44	-15123639.39	-15123639.31	0.0500	0.0475
Jupiter	-46115-12-12 09:50 J	-15121735.28	-15121735.09	-15121734.90	0.0533	0.0123
Saturn	-46111-07-31 13:26 J	-15120407.97	-15120407.94	-15120407.89	0.0280	0.0274
Saturn	-46110-03-17 21:35 J	-15120178.81	-15120178.60	-15120178.39	0.0281	0.0007
Saturn	-46110-11-02 05:16 J	-15119949.34	-15119949.28	-15119949.20	0.0282	0.0264
Jupiter	-46108-05-30 23:30 J	-15119373.71	-15119373.52	-15119373.32	0.0497	0.0204
Jupiter	-46103-08-17 04:04 J	-15117469.44	-15117469.33	-15117469.22	0.0535	0.0439
Mars	-46098-11-06 22:47 J	-15115561.73	-15115561.55	-15115561.37	0.1698	0.0054
Saturn	-46096-01-12 17:59 J	-15115128.93	-15115128.75	-15115128.55	0.0279	0.0128
Jupiter	-46096-02-02 20:38 J	-15115107.85	-15115107.64	-15115107.43	0.0495	0.0062
Saturn	-46096-08-30 10:04 J	-15114899.26	-15114899.08	-15114898.90	0.0278	0.0147
Uranus	-46093-02-22 07:40 J	-15113993.19	-15113993.18	-15113993.16	0.0143	0.0142
Uranus	-46093-10-05 20:38 J	-15113766.75	-15113766.64	-15113766.52	0.0142	0.0122
Uranus	-46092-05-20 09:21 J	-15113540.26	-15113540.11	-15113539.94	0.0142	0.0101
Uranus	-46091-01-01 21:50 J	-15113313.76	-15113313.59	-15113313.39	0.0142	0.0081
Uranus	-46091-08-16 10:47 J	-15113087.25	-15113087.05	-15113086.84	0.0142	0.0060
Jupiter	-46091-12-15 01:11 J	-15112966.59	-15112966.45	-15112966.30	0.0530	0.0354
Uranus	-46090-03-30 23:16 J	-15112860.74	-15112860.53	-15112860.31	0.0141	0.0039
Uranus	-46090-11-12 11:30 J	-15112634.24	-15112634.02	-15112633.79	0.0141	0.0019
Uranus	-46089-06-25 23:45 J	-15112407.73	-15112407.51	-15112407.28	0.0141	0.0002
Uranus	-46088-02-07 11:45 J	-15112181.23	-15112181.01	-15112180.78	0.0140	0.0022
Uranus	-46088-09-21 23:30 J	-15111954.73	-15111954.52	-15111954.30	0.0140	0.0043
Uranus	-46087-05-06 11:02 J	-15111728.23	-15111728.04	-15111727.82	0.0140	0.0063

Neptune -46087-08-13 23:16 J -15111628.58 -15111628.53 -15111628.44 0.0089 0.0083
 Uranus -46087-12-18 22:33 J -15111501.73 -15111501.56 -15111501.37 0.0139 0.0082
 Neptune -46086-03-27 11:16 J -15111403.15 -15111403.03 -15111402.87 0.0089 0.0068
 Uranus -46086-08-02 09:50 J -15111275.23 -15111275.09 -15111274.92 0.0139 0.0101
 Neptune -46086-11-07 23:30 J -15111177.68 -15111177.52 -15111177.34 0.0089 0.0052
 Uranus -46085-03-15 21:06 J -15111048.72 -15111048.62 -15111048.49 0.0139 0.0120
 Neptune -46085-06-20 11:30 J -15110952.20 -15110952.02 -15110951.82 0.0089 0.0037
 Jupiter -46085-10-08 18:42 J -15110841.88 -15110841.72 -15110841.56 0.0493 0.0323
 Uranus -46085-10-28 08:09 J -15110822.16 -15110822.16 -15110822.14 0.0138 0.0138
 Neptune -46084-01-31 23:45 J -15110726.72 -15110726.51 -15110726.30 0.0089 0.0021
 Neptune -46084-09-14 11:59 J -15110501.22 -15110501.00 -15110500.79 0.0089 0.0006
 Neptune -46083-04-27 23:59 J -15110275.71 -15110275.50 -15110275.29 0.0089 0.0010
 Neptune -46083-12-09 11:45 J -15110050.21 -15110050.01 -15110049.80 0.0089 0.0025
 Neptune -46082-07-22 23:45 J -15109824.70 -15109824.51 -15109824.32 0.0089 0.0040
 Saturn -46081-02-10 22:04 J -15109621.69 -15109621.58 -15109621.45 0.0279 0.0228
 Neptune -46081-03-04 11:30 J -15109599.17 -15109599.02 -15109598.84 0.0089 0.0056
 Saturn -46081-09-27 06:14 J -15109392.45 -15109392.24 -15109392.04 0.0281 0.0040
 Neptune -46081-10-15 23:30 J -15109373.63 -15109373.52 -15109373.38 0.0089 0.0072
 Neptune -46080-05-29 11:59 J -15109148.05 -15109148.00 -15109147.96 0.0089 0.0087
 Jupiter -46079-08-19 22:04 J -15108700.78 -15108700.58 -15108700.39 0.0532 0.0052
 Jupiter -46072-02-05 11:45 J -15106339.15 -15106339.01 -15106338.86 0.0498 0.0359
 Mars -46070-03-27 01:40 J -15105559.59 -15105559.43 -15105559.28 0.1837 0.0638
 Jupiter -46067-04-24 18:28 J -15104434.90 -15104434.73 -15104434.55 0.0534 0.0257
 Saturn -46067-07-25 22:18 J -15104342.77 -15104342.57 -15104342.37 0.0279 0.0092
 Saturn -46066-03-12 13:54 J -15104113.08 -15104112.92 -15104112.76 0.0278 0.0182
 Jupiter -46061-10-11 08:52 J -15102073.33 -15102073.13 -15102072.92 0.0496 0.0092
 Saturn -46052-08-22 23:16 J -15098835.67 -15098835.53 -15098835.37 0.0280 0.0198
 Saturn -46051-04-09 07:11 J -15098606.39 -15098606.20 -15098605.99 0.0281 0.0070
 Jupiter -46049-06-16 06:42 J -15097807.41 -15097807.22 -15097807.02 0.0494 0.0173
 Uranus -46049-10-02 09:50 J -15097699.19 -15097699.09 -15097698.99 0.0136 0.0120

Uranus	-46048-05-16 14:09 J	-15097473.03	-15097472.91	-15097472.76	0.0136	0.0104
Uranus	-46048-12-28 19:11 J	-15097246.85	-15097246.70	-15097246.53	0.0136	0.0087
Uranus	-46047-08-11 23:59 J	-15097020.66	-15097020.50	-15097020.30	0.0137	0.0071
Uranus	-46046-03-26 05:16 J	-15096794.47	-15096794.28	-15096794.08	0.0137	0.0053
Uranus	-46046-11-07 10:33 J	-15096568.26	-15096568.06	-15096567.85	0.0137	0.0036
Uranus	-46045-06-20 16:04 J	-15096342.04	-15096341.83	-15096341.62	0.0138	0.0018
Uranus	-46044-02-01 21:21 J	-15096115.82	-15096115.61	-15096115.39	0.0138	0.0003
Uranus	-46044-09-16 03:21 J	-15095889.57	-15095889.36	-15095889.15	0.0138	0.0018
Jupiter	-46043-04-27 12:57 J	-15095666.14	-15095665.96	-15095665.78	0.0530	0.0233
Uranus	-46043-04-30 08:52 J	-15095663.32	-15095663.13	-15095662.92	0.0138	0.0037
Uranus	-46043-12-12 14:52 J	-15095437.07	-15095436.88	-15095436.68	0.0139	0.0055
Uranus	-46042-07-26 20:52 J	-15095210.80	-15095210.63	-15095210.44	0.0139	0.0073
Uranus	-46041-03-09 03:06 J	-15094984.52	-15094984.37	-15094984.20	0.0139	0.0092
Uranus	-46041-10-21 09:35 J	-15094758.22	-15094758.10	-15094757.96	0.0140	0.0110
Uranus	-46040-06-04 16:04 J	-15094531.90	-15094531.83	-15094531.73	0.0140	0.0129
Saturn	-46037-02-05 03:35 J	-15093556.56	-15093556.35	-15093556.14	0.0279	0.0055
Jupiter	-46037-02-20 05:30 J	-15093541.37	-15093541.27	-15093541.16	0.0492	0.0427
Saturn	-46037-09-21 19:11 J	-15093326.82	-15093326.70	-15093326.56	0.0278	0.0219
Mars	-46032-09-03 07:11 J	-15091519.37	-15091519.20	-15091519.02	0.1702	0.0270
Jupiter	-46032-12-31 05:59 J	-15091400.45	-15091400.25	-15091400.06	0.0533	0.0085
Moon	-46030-10-11 12:14 J	-15090751.14	-15090750.99	-15090750.83	0.2689	0.0611
Earth	-46030-10-11 17:45 J	-15090750.89	-15090750.76	-15090750.63	0.2689	0.1493 *
Jupiter	-46025-06-18 22:47 J	-15089038.73	-15089038.55	-15089038.37	0.0497	0.0249
Saturn	-46022-03-05 09:06 J	-15088049.30	-15088049.12	-15088048.94	0.0280	0.0149
Earth	-46022-10-09 09:50 J	-15087831.17	-15087831.09	-15087831.00	0.2688	0.2231
Saturn	-46022-10-20 17:02 J	-15087819.98	-15087819.79	-15087819.60	0.0281	0.0118
Jupiter	-46020-09-05 00:57 J	-15087134.59	-15087134.46	-15087134.33	0.0535	0.0398
Jupiter	-46013-02-22 18:14 J	-15084772.95	-15084772.74	-15084772.53	0.0495	0.0023
Uranus	-46009-06-05 00:28 J	-15083208.55	-15083208.48	-15083208.37	0.0143	0.0130
Uranus	-46008-01-17 13:26 J	-15082982.06	-15082981.94	-15082981.78	0.0142	0.0110

Saturn -46008-08-17 09:21 J -15082770.32 -15082770.11 -15082769.89 0.0279 0.0015
 Uranus -46008-09-01 02:38 J -15082755.56 -15082755.39 -15082755.21 0.0142 0.0089
 Jupiter -46007-01-03 01:54 J -15082631.54 -15082631.42 -15082631.29 0.0530 0.0407
 Saturn -46007-04-04 00:42 J -15082540.54 -15082540.47 -15082540.38 0.0278 0.0258
 Uranus -46007-04-15 15:21 J -15082529.05 -15082528.86 -15082528.66 0.0142 0.0068
 Uranus -46007-11-28 03:50 J -15082302.55 -15082302.34 -15082302.12 0.0141 0.0047
 Uranus -46006-07-12 16:04 J -15082076.04 -15082075.83 -15082075.60 0.0141 0.0028
 Uranus -46005-02-24 04:47 J -15081849.53 -15081849.30 -15081849.08 0.0141 0.0007
 Neptune -46005-09-27 04:47 J -15081633.37 -15081633.30 -15081633.18 0.0088 0.0081
 Uranus -46005-10-07 16:47 J -15081623.02 -15081622.80 -15081622.57 0.0140 0.0014
 Mars -46004-01-21 09:06 J -15081517.29 -15081517.12 -15081516.95 0.1832 0.0205
 Neptune -46004-05-10 18:57 J -15081407.85 -15081407.71 -15081407.54 0.0088 0.0065
 Uranus -46004-05-22 04:33 J -15081396.52 -15081396.31 -15081396.08 0.0140 0.0034
 Neptune -46004-12-22 09:06 J -15081182.30 -15081182.12 -15081181.92 0.0088 0.0048
 Uranus -46003-01-03 16:18 J -15081170.02 -15081169.82 -15081169.60 0.0140 0.0054
 Neptune -46003-08-04 23:16 J -15080956.74 -15080956.53 -15080956.32 0.0088 0.0033
 Uranus -46003-08-18 03:50 J -15080943.52 -15080943.34 -15080943.14 0.0139 0.0074
 Neptune -46002-03-18 13:26 J -15080731.16 -15080730.94 -15080730.72 0.0088 0.0017
 Uranus -46002-04-01 15:21 J -15080717.01 -15080716.86 -15080716.68 0.0139 0.0093
 Jupiter -46002-10-28 16:18 J -15080506.99 -15080506.82 -15080506.64 0.0493 0.0282
 Neptune -46002-10-30 03:21 J -15080505.58 -15080505.36 -15080505.13 0.0088 0.0002
 Uranus -46002-11-14 02:38 J -15080490.51 -15080490.39 -15080490.24 0.0139 0.0112
 Neptune -46001-06-11 17:16 J -15080280.00 -15080279.78 -15080279.55 0.0088 0.0015
 Uranus -46001-06-27 13:54 J -15080263.99 -15080263.92 -15080263.84 0.0138 0.0130

46TH MILLENNIUM BCE

This is a list of transits of Venus in the 46th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	-46000-01-23 07:11 J	-15080054.40	-15080054.20	-15080053.97	0.0088	0.0031		
Neptune	-46000-09-05 21:06 J	-15079828.79	-15079828.62	-15079828.41	0.0088	0.0048		
Neptune	-45999-04-19 11:16 J	-15079603.17	-15079603.03	-15079602.85	0.0088	0.0063		
Neptune	-45999-12-01 01:40 J	-15079377.53	-15079377.43	-15079377.33	0.0088	0.0079		
Jupiter	-45996-09-07 22:18 J	-15078365.76	-15078365.57	-15078365.37	0.0532	0.0103		
Saturn	-45993-09-14 10:18 J	-15077263.25	-15077263.07	-15077262.88	0.0280	0.0119		
Saturn	-45992-05-01 18:14 J	-15077033.91	-15077033.74	-15077033.56	0.0281	0.0149		
Jupiter	-45989-02-25 11:45 J	-15076004.13	-15076004.01	-15076003.89	0.0499	0.0405		
Pluto	-45989-08-15 04:18 J	-15075832.45	-15075832.32	-15075832.15	0.0067	0.0049		
Pluto	-45988-03-28 09:35 J	-15075607.31	-15075607.10	-15075606.87	0.0067	0.0005		
Pluto	-45988-11-08 14:09 J	-15075382.06	-15075381.91	-15075381.71	0.0067	0.0041		
Jupiter	-45984-05-13 17:02 J	-15074099.97	-15074099.79	-15074099.61	0.0534	0.0210		
Saturn	-45979-07-12 22:47 J	-15072213.64	-15072213.55	-15072213.46	0.0280	0.0252		
Saturn	-45978-02-27 14:52 J	-15071984.10	-15071983.88	-15071983.67	0.0278	0.0023		
Jupiter	-45978-10-31 08:38 J	-15071738.34	-15071738.14	-15071737.94	0.0496	0.0138		
Mars	-45966-07-01 15:35 J	-15067477.02	-15067476.85	-15067476.68	0.1705	0.0595		
Jupiter	-45966-07-06 05:30 J	-15067472.47	-15067472.27	-15067472.07	0.0494	0.0127		
Uranus	-45965-06-01 18:57 J	-15067140.78	-15067140.71	-15067140.63	0.0136	0.0126		
Uranus	-45964-01-13 23:30 J	-15066914.64	-15066914.52	-15066914.39	0.0136	0.0110		
Uranus	-45964-08-28 04:33 J	-15066688.46	-15066688.31	-15066688.15	0.0136	0.0093		
Saturn	-45963-03-27 20:38 J	-15066476.85	-15066476.64	-15066476.44	0.0280	0.0070		
Uranus	-45963-04-11 09:21 J	-15066462.28	-15066462.11	-15066461.93	0.0136	0.0077		
Saturn	-45963-11-12 04:18 J	-15066247.46	-15066247.32	-15066247.16	0.0281	0.0199		
Uranus	-45963-11-23 14:23 J	-15066236.08	-15066235.90	-15066235.70	0.0137	0.0060		
Uranus	-45962-07-07 19:40 J	-15066009.88	-15066009.68	-15066009.48	0.0137	0.0042		

Uranus	-45961-02-19 00:42 J	-15065783.67	-15065783.47	-15065783.25	0.0137	0.0026
Uranus	-45961-10-02 06:28 J	-15065557.44	-15065557.23	-15065557.02	0.0138	0.0007
Jupiter	-45960-05-16 08:52 J	-15065331.30	-15065331.13	-15065330.96	0.0531	0.0271
Uranus	-45960-05-16 12:14 J	-15065331.20	-15065330.99	-15065330.78	0.0138	0.0011 *
Uranus	-45960-12-28 17:45 J	-15065104.96	-15065104.76	-15065104.55	0.0138	0.0029
Uranus	-45959-08-11 23:45 J	-15064878.71	-15064878.51	-15064878.31	0.0139	0.0047
Uranus	-45958-03-26 05:30 J	-15064652.45	-15064652.27	-15064652.07	0.0139	0.0065
Uranus	-45958-11-07 11:45 J	-15064426.17	-15064426.01	-15064425.83	0.0139	0.0084
Uranus	-45957-06-20 17:59 J	-15064199.88	-15064199.75	-15064199.60	0.0140	0.0102
Uranus	-45956-02-02 00:14 J	-15063973.58	-15063973.49	-15063973.36	0.0140	0.0120
Uranus	-45956-09-16 07:26 J	-15063747.22	-15063747.19	-15063747.15	0.0140	0.0138
Jupiter	-45954-03-11 01:54 J	-15063206.54	-15063206.42	-15063206.28	0.0492	0.0391
Saturn	-45949-01-23 06:28 J	-15061427.36	-15061427.23	-15061427.08	0.0280	0.0207
Saturn	-45949-09-08 22:18 J	-15061197.78	-15061197.57	-15061197.36	0.0278	0.0067
Jupiter	-45948-01-19 05:59 J	-15061065.45	-15061065.25	-15061065.05	0.0533	0.0033
Jupiter	-45942-07-08 19:40 J	-15058703.85	-15058703.68	-15058703.51	0.0497	0.0287
Mars	-45939-11-18 16:18 J	-15057474.98	-15057474.82	-15057474.65	0.1828	0.0241
Jupiter	-45937-09-24 01:11 J	-15056799.60	-15056799.45	-15056799.30	0.0535	0.0345
Mars	-45934-06-30 20:38 J	-15055789.70	-15055789.64	-15055789.57	0.1694	0.1566
Saturn	-45934-10-07 22:33 J	-15055690.77	-15055690.56	-15055690.35	0.0280	0.0037
Saturn	-45933-05-24 06:14 J	-15055461.34	-15055461.24	-15055461.11	0.0282	0.0231
Jupiter	-45930-03-13 17:02 J	-15054438.00	-15054437.79	-15054437.58	0.0496	0.0023
Uranus	-45925-02-03 05:16 J	-15052650.33	-15052650.28	-15052650.21	0.0143	0.0137
Uranus	-45925-09-16 18:14 J	-15052423.85	-15052423.74	-15052423.60	0.0143	0.0117
Jupiter	-45924-01-21 23:30 J	-15052296.62	-15052296.52	-15052296.42	0.0529	0.0447
Moon	-45924-04-09 14:38 J	-15052218.93	-15052218.89	-15052218.86	0.2650	0.2553
Earth	-45924-04-09 15:50 J	-15052218.90	-15052218.84	-15052218.78	0.2643	0.2454 *
Uranus	-45924-05-01 07:11 J	-15052197.35	-15052197.20	-15052197.03	0.0142	0.0097
Uranus	-45924-12-13 19:54 J	-15051970.85	-15051970.67	-15051970.47	0.0142	0.0076
Uranus	-45923-07-28 08:38 J	-15051744.34	-15051744.14	-15051743.93	0.0142	0.0056

Neptune -45923-11-15 11:59 J -15051634.00 -15051634.00 -15051633.97 0.0089 0.0089
 Uranus -45922-03-11 21:06 J -15051517.83 -15051517.62 -15051517.39 0.0141 0.0036
 Neptune -45922-06-28 23:59 J -15051408.60 -15051408.50 -15051408.36 0.0089 0.0074
 Uranus -45922-10-24 09:35 J -15051291.32 -15051291.10 -15051290.87 0.0141 0.0015
 Neptune -45921-02-09 11:59 J -15051183.14 -15051183.00 -15051182.82 0.0089 0.0058
 Uranus -45921-06-06 21:50 J -15051064.81 -15051064.59 -15051064.36 0.0141 0.0006
 Neptune -45921-09-22 00:42 J -15050957.66 -15050957.47 -15050957.29 0.0089 0.0043
 Uranus -45920-01-19 09:50 J -15050838.30 -15050838.09 -15050837.86 0.0140 0.0026
 Neptune -45920-05-05 12:28 J -15050732.18 -15050731.98 -15050731.77 0.0089 0.0027
 Saturn -45920-08-04 11:30 J -15050641.19 -15050641.02 -15050640.85 0.0279 0.0171
 Uranus -45920-09-02 21:35 J -15050611.80 -15050611.60 -15050611.37 0.0140 0.0046
 Neptune -45920-12-17 00:28 J -15050506.69 -15050506.48 -15050506.26 0.0089 0.0012
 Saturn -45919-03-22 03:21 J -15050411.56 -15050411.36 -15050411.16 0.0278 0.0102
 Uranus -45919-04-17 09:35 J -15050385.29 -15050385.10 -15050384.89 0.0140 0.0065
 Neptune -45919-07-30 12:28 J -15050281.19 -15050280.98 -15050280.76 0.0089 0.0004
 Jupiter -45919-11-16 15:21 J -15050172.04 -15050171.86 -15050171.67 0.0494 0.0236
 Uranus -45919-11-29 21:06 J -15050158.79 -15050158.62 -15050158.43 0.0139 0.0085
 Neptune -45918-03-13 00:28 J -15050055.68 -15050055.48 -15050055.27 0.0089 0.0019
 Uranus -45918-07-14 08:38 J -15049932.29 -15049932.14 -15049931.99 0.0139 0.0103
 Neptune -45918-10-24 12:28 J -15049830.17 -15049829.98 -15049829.78 0.0089 0.0034
 Uranus -45917-02-25 19:40 J -15049705.77 -15049705.68 -15049705.56 0.0139 0.0122
 Neptune -45917-06-06 00:28 J -15049604.66 -15049604.48 -15049604.30 0.0089 0.0050
 Neptune -45916-01-17 11:59 J -15049379.13 -15049379.00 -15049378.83 0.0089 0.0065
 Earth -45916-04-07 06:28 J -15049299.37 -15049299.23 -15049299.09 0.2645 0.1358
 Moon -45916-04-07 09:35 J -15049299.25 -15049299.10 -15049298.95 0.2650 0.0813 *
 Neptune -45916-08-30 23:59 J -15049153.57 -15049153.50 -15049153.39 0.0089 0.0081
 Jupiter -45913-09-26 16:47 J -15048030.99 -15048030.80 -15048030.60 0.0532 0.0136
 Jupiter -45907-07-22 13:40 J -15045905.93 -15045905.93 -15045905.93 0.0492 0.0492
 Jupiter -45906-03-16 09:50 J -15045669.18 -15045669.09 -15045669.00 0.0498 0.0446
 Saturn -45905-09-02 00:28 J -15045133.56 -15045133.48 -15045133.39 0.0280 0.0252

Saturn -45904-04-19 08:38 J -15044904.34 -15044904.14 -15044903.93 0.0281 0.0013
 Saturn -45904-12-04 16:47 J -15044674.81 -15044674.80 -15044674.78 0.0282 0.0280
 Pluto -45902-01-26 13:40 J -15044257.13 -15044256.93 -15044256.71 0.0078 0.0029
 Pluto -45902-09-08 22:47 J -15044031.72 -15044031.55 -15044031.35 0.0077 0.0040
 Jupiter -45901-06-01 11:45 J -15043765.19 -15043765.01 -15043764.82 0.0534 0.0176
 Mars -45900-04-27 23:45 J -15043434.66 -15043434.51 -15043434.36 0.1709 0.0930
 Jupiter -45895-11-19 04:04 J -15041403.53 -15041403.33 -15041403.13 0.0496 0.0171
 Saturn -45890-02-14 20:38 J -15039854.83 -15039854.64 -15039854.44 0.0279 0.0122
 Saturn -45890-10-02 12:14 J -15039625.17 -15039624.99 -15039624.81 0.0278 0.0150
 Jupiter -45889-02-05 07:11 J -15039499.27 -15039499.20 -15039499.11 0.0536 0.0488
 Jupiter -45883-07-25 01:26 J -15037137.64 -15037137.44 -15037137.23 0.0494 0.0093
 Uranus -45881-01-31 04:33 J -15036582.34 -15036582.31 -15036582.25 0.0135 0.0132
 Uranus -45881-09-13 09:21 J -15036356.20 -15036356.11 -15036355.98 0.0136 0.0116
 Uranus -45880-04-27 14:23 J -15036130.04 -15036129.90 -15036129.75 0.0136 0.0099
 Uranus -45880-12-09 18:57 J -15035903.86 -15035903.71 -15035903.52 0.0136 0.0084
 Uranus -45879-07-24 00:14 J -15035677.67 -15035677.49 -15035677.30 0.0137 0.0066
 Uranus -45878-03-07 05:16 J -15035451.47 -15035451.28 -15035451.07 0.0137 0.0049
 Uranus -45878-10-19 10:47 J -15035225.25 -15035225.05 -15035224.84 0.0137 0.0031
 Uranus -45877-06-01 16:04 J -15034999.04 -15034998.83 -15034998.61 0.0137 0.0014
 Jupiter -45877-06-04 08:23 J -15034996.31 -15034996.15 -15034995.99 0.0530 0.0317
 Uranus -45876-01-13 21:35 J -15034772.81 -15034772.60 -15034772.38 0.0138 0.0005
 Uranus -45876-08-28 03:21 J -15034546.57 -15034546.36 -15034546.15 0.0138 0.0022
 Saturn -45875-03-15 03:06 J -15034347.50 -15034347.37 -15034347.24 0.0280 0.0220
 Uranus -45875-04-11 09:06 J -15034320.32 -15034320.12 -15034319.91 0.0138 0.0040
 Saturn -45875-10-30 11:02 J -15034118.24 -15034118.04 -15034117.83 0.0281 0.0045
 Uranus -45875-11-23 14:52 J -15034094.06 -15034093.88 -15034093.68 0.0139 0.0058
 Uranus -45874-07-07 21:06 J -15033867.80 -15033867.62 -15033867.44 0.0139 0.0075
 Uranus -45873-02-19 03:06 J -15033641.52 -15033641.37 -15033641.21 0.0139 0.0094
 Mars -45873-09-15 00:14 J -15033432.65 -15033432.49 -15033432.33 0.1824 0.0657
 Uranus -45873-10-02 09:21 J -15033415.21 -15033415.11 -15033414.96 0.0140 0.0112

Uranus -45872-05-16 16:04 J -15033188.90 -15033188.83 -15033188.74 0.0140 0.0130
 Jupiter -45871-03-29 23:59 J -15032871.65 -15032871.50 -15032871.35 0.0493 0.0350
 Mars -45868-04-27 05:45 J -15031747.38 -15031747.26 -15031747.14 0.1698 0.1269
 Jupiter -45865-02-08 03:35 J -15030730.55 -15030730.35 -15030730.15 0.0533 0.0010
 Saturn -45861-08-27 01:26 J -15029068.64 -15029068.44 -15029068.23 0.0279 0.0087
 Saturn -45860-04-13 16:47 J -15028838.95 -15028838.80 -15028838.63 0.0278 0.0185
 Jupiter -45859-07-27 18:28 J -15028368.89 -15028368.73 -15028368.57 0.0498 0.0332
 Jupiter -45854-10-13 19:26 J -15026464.85 -15026464.69 -15026464.53 0.0535 0.0313
 Jupiter -45847-04-01 14:52 J -15024103.09 -15024102.88 -15024102.67 0.0495 0.0064
 Saturn -45846-09-25 12:42 J -15023561.13 -15023560.97 -15023560.80 0.0280 0.0170
 Saturn -45845-05-11 21:06 J -15023331.82 -15023331.62 -15023331.43 0.0281 0.0096
 Jupiter -45841-02-10 17:59 J -15021961.83 -15021961.75 -15021961.66 0.0529 0.0478
 Uranus -45841-05-16 23:30 J -15021865.62 -15021865.52 -15021865.41 0.0143 0.0124
 Uranus -45841-12-29 11:59 J -15021639.13 -15021639.00 -15021638.83 0.0142 0.0105
 Neptune -45841-12-29 14:52 J -15021638.90 -15021638.88 -15021638.81 0.0088 0.0086 *
 Neptune -45840-08-12 05:02 J -15021413.41 -15021413.29 -15021413.14 0.0088 0.0071
 Uranus -45840-08-13 00:57 J -15021412.63 -15021412.46 -15021412.27 0.0142 0.0084
 Neptune -45839-03-25 19:11 J -15021187.87 -15021187.70 -15021187.52 0.0088 0.0055
 Uranus -45839-03-27 13:40 J -15021186.11 -15021185.93 -15021185.71 0.0142 0.0064
 Neptune -45839-11-06 08:52 J -15020962.32 -15020962.13 -15020961.91 0.0088 0.0039
 Uranus -45839-11-09 02:23 J -15020959.60 -15020959.40 -15020959.18 0.0141 0.0044
 Neptune -45838-06-19 23:02 J -15020736.75 -15020736.54 -15020736.32 0.0088 0.0023
 Uranus -45838-06-23 14:52 J -15020733.09 -15020732.88 -15020732.65 0.0141 0.0023
 Neptune -45837-01-31 13:11 J -15020511.18 -15020510.95 -15020510.72 0.0088 0.0007
 Uranus -45837-02-05 03:21 J -15020506.58 -15020506.36 -15020506.13 0.0141 0.0004
 Neptune -45837-09-13 03:21 J -15020285.59 -15020285.36 -15020285.14 0.0088 0.0009
 Uranus -45837-09-18 15:35 J -15020280.07 -15020279.85 -15020279.62 0.0140 0.0018
 Neptune -45836-04-26 17:16 J -15020060.00 -15020059.78 -15020059.56 0.0088 0.0024
 Uranus -45836-05-03 03:35 J -15020053.56 -15020053.35 -15020053.13 0.0140 0.0038
 Jupiter -45836-12-05 10:18 J -15019837.26 -15019837.07 -15019836.88 0.0493 0.0206

Neptune -45836-12-08 06:57 J -15019834.40 -15019834.21 -15019833.99 0.0088 0.0040
 Uranus -45836-12-15 15:21 J -15019827.06 -15019826.86 -15019826.65 0.0140 0.0057
 Neptune -45835-07-21 20:52 J -15019608.79 -15019608.63 -15019608.44 0.0088 0.0056
 Uranus -45835-07-30 02:52 J -15019600.55 -15019600.38 -15019600.18 0.0139 0.0077
 Mars -45834-02-23 08:23 J -15019392.27 -15019392.15 -15019392.03 0.1713 0.1257
 Neptune -45834-03-04 11:30 J -15019383.15 -15019383.02 -15019382.89 0.0088 0.0072
 Uranus -45834-03-13 14:38 J -15019374.05 -15019373.89 -15019373.72 0.0139 0.0095
 Neptune -45834-10-16 01:11 J -15019157.46 -15019157.45 -15019157.41 0.0088 0.0088
 Uranus -45834-10-26 01:40 J -15019147.54 -15019147.43 -15019147.28 0.0139 0.0114
 Uranus -45833-06-08 12:57 J -15018921.02 -15018920.96 -15018920.88 0.0138 0.0132
 Saturn -45831-03-09 11:30 J -15018282.23 -15018282.02 -15018281.80 0.0279 0.0036
 Saturn -45831-10-25 02:38 J -15018052.49 -15018052.39 -15018052.26 0.0278 0.0235
 Jupiter -45830-10-16 15:35 J -15017696.03 -15017695.85 -15017695.66 0.0532 0.0182
 Jupiter -45824-08-10 09:06 J -15015571.19 -15015571.12 -15015571.05 0.0492 0.0460
 Jupiter -45823-04-04 05:16 J -15015334.34 -15015334.28 -15015334.22 0.0499 0.0478
 Jupiter -45818-06-21 11:30 J -15013430.21 -15013430.02 -15013429.83 0.0534 0.0126
 Saturn -45816-04-06 15:35 J -15012775.03 -15012774.85 -15012774.66 0.0280 0.0137
 Saturn -45816-11-21 23:45 J -15012545.70 -15012545.51 -15012545.33 0.0281 0.0128
 Jupiter -45812-12-08 01:54 J -15011068.61 -15011068.42 -15011068.23 0.0497 0.0211
 Mars -45807-07-13 07:40 J -15009390.32 -15009390.18 -15009390.05 0.1819 0.1079
 Jupiter -45806-02-24 05:30 J -15009164.38 -15009164.27 -15009164.16 0.0536 0.0442
 Saturn -45802-02-01 23:59 J -15007725.54 -15007725.50 -15007725.46 0.0280 0.0274
 Mars -45802-02-22 13:54 J -15007705.07 -15007704.92 -15007704.77 0.1701 0.0944
 Saturn -45802-09-19 15:50 J -15007496.06 -15007495.84 -15007495.63 0.0279 0.0005
 Saturn -45801-05-06 06:57 J -15007266.25 -15007266.21 -15007266.14 0.0277 0.0268
 Jupiter -45800-08-12 23:59 J -15006802.71 -15006802.50 -15006802.29 0.0495 0.0050
 Uranus -45797-05-13 18:57 J -15005797.78 -15005797.71 -15005797.60 0.0136 0.0122
 Uranus -45797-12-25 23:59 J -15005571.63 -15005571.50 -15005571.36 0.0136 0.0105
 Uranus -45796-08-09 04:47 J -15005345.45 -15005345.30 -15005345.13 0.0136 0.0089
 Uranus -45795-03-23 09:50 J -15005119.26 -15005119.09 -15005118.90 0.0136 0.0072

Uranus	-45795-11-04 14:52 J	-15004893.06	-15004892.88	-15004892.68	0.0137	0.0056
Uranus	-45794-06-18 20:09 J	-15004666.86	-15004666.66	-15004666.45	0.0137	0.0038
Jupiter	-45794-06-24 02:38 J	-15004661.54	-15004661.39	-15004661.24	0.0530	0.0347
Uranus	-45793-01-31 01:26 J	-15004440.64	-15004440.44	-15004440.22	0.0137	0.0021
Uranus	-45793-09-13 07:11 J	-15004214.41	-15004214.20	-15004213.99	0.0138	0.0004
Uranus	-45792-04-27 12:42 J	-15003988.18	-15003987.97	-15003987.76	0.0138	0.0014
Uranus	-45792-12-09 18:28 J	-15003761.94	-15003761.73	-15003761.53	0.0138	0.0032
Uranus	-45791-07-23 23:59 J	-15003535.69	-15003535.50	-15003535.30	0.0139	0.0050
Uranus	-45790-03-07 06:14 J	-15003309.43	-15003309.24	-15003309.06	0.0139	0.0067
Uranus	-45790-10-19 12:14 J	-15003083.15	-15003082.99	-15003082.82	0.0139	0.0085
Uranus	-45789-06-01 18:14 J	-15002856.86	-15002856.74	-15002856.58	0.0140	0.0104
Uranus	-45788-01-14 00:42 J	-15002630.56	-15002630.47	-15002630.35	0.0140	0.0121
Jupiter	-45788-04-17 21:50 J	-15002536.75	-15002536.59	-15002536.43	0.0493	0.0309
Uranus	-45788-08-28 07:26 J	-15002404.21	-15002404.19	-15002404.15	0.0140	0.0139
Earth	-45787-10-11 19:40 J	-15001994.80	-15001994.68	-15001994.55	0.2688	0.1593
Moon	-45787-10-12 00:42 J	-15001994.52	-15001994.47	-15001994.42	0.2692	0.2501
Saturn	-45787-10-18 00:28 J	-15001988.67	-15001988.48	-15001988.28	0.0280	0.0089
Saturn	-45786-06-04 08:52 J	-15001759.29	-15001759.13	-15001758.97	0.0282	0.0177
Jupiter	-45782-02-26 22:04 J	-15000395.78	-15000395.58	-15000395.38	0.0533	0.0041
Earth	-45779-10-09 11:59 J	-14999075.09	-14999075.00	-14999074.90	0.2687	0.2111
Moon	-45779-10-09 17:30 J	-14999074.90	-14999074.77	-14999074.65	0.2685	0.1696 *
Jupiter	-45776-08-15 12:57 J	-14998034.10	-14998033.96	-14998033.81	0.0497	0.0359
Mars	-45775-07-12 15:35 J	-14997702.95	-14997702.85	-14997702.76	0.1833	0.1496
Saturn	-45773-08-14 10:47 J	-14996939.17	-14996939.05	-14996938.91	0.0280	0.0221
Saturn	-45772-04-01 02:38 J	-14996709.60	-14996709.39	-14996709.18	0.0279	0.0051
Jupiter	-45771-11-01 17:59 J	-14996129.92	-14996129.75	-14996129.58	0.0535	0.0268
Mars	-45769-12-20 16:04 J	-14995349.89	-14995349.83	-14995349.77	0.1717	0.1601
Jupiter	-45764-04-20 10:04 J	-14993768.29	-14993768.08	-14993767.87	0.0495	0.0094
Jupiter	-45758-03-01 17:30 J	-14991626.78	-14991626.77	-14991626.74	0.0529	0.0524
Neptune	-45758-09-30 12:14 J	-14991414.08	-14991413.99	-14991413.88	0.0089	0.0079

Uranus -45757-01-15 05:16 J -14991307.36 -14991307.28 -14991307.18 0.0143 0.0131
 Saturn -45757-04-29 03:50 J -14991202.55 -14991202.34 -14991202.14 0.0280 0.0055
 Neptune -45757-05-13 00:14 J -14991188.62 -14991188.49 -14991188.33 0.0089 0.0064
 Uranus -45757-08-28 17:59 J -14991080.87 -14991080.75 -14991080.59 0.0143 0.0112
 Saturn -45757-12-14 11:30 J -14990973.14 -14990973.02 -14990972.87 0.0281 0.0211
 Neptune -45757-12-24 12:14 J -14990963.15 -14990962.99 -14990962.79 0.0089 0.0049
 Uranus -45756-04-12 07:11 J -14990854.36 -14990854.20 -14990854.02 0.0142 0.0091
 Neptune -45756-08-07 00:42 J -14990737.67 -14990737.47 -14990737.27 0.0089 0.0033
 Uranus -45756-11-24 19:54 J -14990627.85 -14990627.67 -14990627.46 0.0142 0.0071
 Neptune -45755-03-20 12:42 J -14990512.17 -14990511.97 -14990511.76 0.0089 0.0018
 Uranus -45755-07-09 08:38 J -14990401.34 -14990401.14 -14990400.92 0.0142 0.0051
 Neptune -45755-11-01 00:42 J -14990286.68 -14990286.47 -14990286.25 0.0089 0.0003
 Uranus -45754-02-20 21:21 J -14990174.82 -14990174.61 -14990174.38 0.0141 0.0031
 Neptune -45754-06-14 12:42 J -14990061.18 -14990060.97 -14990060.75 0.0089 0.0013
 Uranus -45754-10-05 09:50 J -14989948.31 -14989948.09 -14989947.86 0.0141 0.0011
 Neptune -45753-01-26 00:28 J -14989835.67 -14989835.48 -14989835.26 0.0089 0.0028
 Uranus -45753-05-18 22:04 J -14989721.80 -14989721.58 -14989721.35 0.0141 0.0010
 Neptune -45753-09-07 12:42 J -14989610.15 -14989609.97 -14989609.77 0.0089 0.0043
 Jupiter -45753-12-24 07:54 J -14989502.37 -14989502.17 -14989501.97 0.0494 0.0166
 Uranus -45753-12-31 10:04 J -14989495.29 -14989495.08 -14989494.85 0.0140 0.0030
 Neptune -45752-04-21 00:42 J -14989384.62 -14989384.47 -14989384.30 0.0089 0.0058
 Uranus -45752-08-14 22:04 J -14989268.79 -14989268.58 -14989268.37 0.0140 0.0049
 Neptune -45752-12-02 12:42 J -14989159.08 -14989158.97 -14989158.85 0.0089 0.0073
 Uranus -45751-03-29 09:50 J -14989042.28 -14989042.09 -14989041.89 0.0140 0.0068
 Neptune -45751-07-16 00:42 J -14988933.49 -14988933.47 -14988933.45 0.0089 0.0089
 Uranus -45751-11-10 21:21 J -14988815.77 -14988815.61 -14988815.42 0.0139 0.0087
 Uranus -45750-06-25 08:38 J -14988589.27 -14988589.14 -14988588.98 0.0139 0.0106
 Uranus -45749-02-06 19:54 J -14988362.76 -14988362.67 -14988362.56 0.0139 0.0124
 Jupiter -45747-11-04 13:54 J -14987361.10 -14987360.92 -14987360.74 0.0531 0.0224
 Saturn -45743-02-24 14:09 J -14986153.07 -14986152.91 -14986152.75 0.0280 0.0189

Pluto -45743-09-13 16:47 J -14985951.99 -14985951.80 -14985951.58 0.0067 0.0026
 Saturn -45743-10-12 05:45 J -14985923.46 -14985923.26 -14985923.05 0.0278 0.0082
 Pluto -45742-04-26 22:04 J -14985726.79 -14985726.58 -14985726.37 0.0067 0.0019
 Pluto -45742-12-08 03:06 J -14985501.43 -14985501.37 -14985501.29 0.0068 0.0064
 Mars -45741-05-09 15:35 J -14985347.94 -14985347.85 -14985347.75 0.1815 0.1479
 Jupiter -45741-08-29 07:11 J -14985236.30 -14985236.20 -14985236.09 0.0492 0.0418
 Mars -45737-12-19 22:18 J -14983662.73 -14983662.57 -14983662.40 0.1705 0.0629
 Jupiter -45735-07-10 06:28 J -14983095.42 -14983095.23 -14983095.03 0.0533 0.0093
 Jupiter -45729-12-26 23:59 J -14980733.68 -14980733.50 -14980733.32 0.0497 0.0252
 Saturn -45728-03-25 03:35 J -14980645.39 -14980645.35 -14980645.30 0.0280 0.0272
 Saturn -45728-11-09 11:45 J -14980416.22 -14980416.01 -14980415.80 0.0281 0.0009
 Saturn -45727-06-26 19:54 J -14980186.74 -14980186.67 -14980186.58 0.0282 0.0257
 Jupiter -45723-03-15 00:14 J -14978829.61 -14978829.49 -14978829.36 0.0536 0.0409
 Jupiter -45717-08-31 18:42 J -14976467.93 -14976467.72 -14976467.51 0.0494 0.0023
 Saturn -45714-09-07 01:26 J -14975366.63 -14975366.44 -14975366.25 0.0279 0.0135
 Uranus -45713-01-12 05:16 J -14975239.33 -14975239.28 -14975239.19 0.0135 0.0127
 Saturn -45713-04-23 16:47 J -14975136.98 -14975136.80 -14975136.61 0.0278 0.0135
 Uranus -45713-08-25 10:18 J -14975013.18 -14975013.07 -14975012.94 0.0136 0.0111
 Uranus -45712-04-08 15:21 J -14974787.01 -14974786.86 -14974786.71 0.0136 0.0094
 Uranus -45712-11-20 20:09 J -14974560.83 -14974560.66 -14974560.48 0.0136 0.0078
 Uranus -45711-07-05 01:11 J -14974334.63 -14974334.45 -14974334.26 0.0137 0.0062
 Jupiter -45711-07-13 01:26 J -14974326.57 -14974326.44 -14974326.30 0.0530 0.0391
 Uranus -45710-02-16 06:14 J -14974108.43 -14974108.24 -14974108.03 0.0137 0.0045
 Uranus -45710-09-30 11:45 J -14973882.21 -14973882.01 -14973881.80 0.0137 0.0028
 Mars -45709-05-08 23:02 J -14973660.67 -14973660.54 -14973660.40 0.1829 0.1061
 Uranus -45709-05-13 17:16 J -14973656.00 -14973655.78 -14973655.57 0.0137 0.0011
 Uranus -45709-12-25 22:33 J -14973429.77 -14973429.56 -14973429.35 0.0138 0.0007
 Uranus -45708-08-09 04:04 J -14973203.53 -14973203.33 -14973203.12 0.0138 0.0025
 Uranus -45707-03-23 09:50 J -14972977.29 -14972977.09 -14972976.89 0.0138 0.0042
 Uranus -45707-11-04 15:35 J -14972751.03 -14972750.85 -14972750.65 0.0139 0.0060

Uranus -45706-06-18 21:50 J -14972524.77 -14972524.59 -14972524.42 0.0139 0.0078
 Uranus -45705-01-31 03:35 J -14972298.49 -14972298.35 -14972298.18 0.0140 0.0096
 Jupiter -45705-05-06 17:02 J -14972201.96 -14972201.79 -14972201.61 0.0493 0.0278
 Uranus -45705-09-13 10:04 J -14972072.19 -14972072.08 -14972071.94 0.0140 0.0113
 Uranus -45704-04-27 16:33 J -14971845.87 -14971845.81 -14971845.72 0.0140 0.0131
 Jupiter -45699-03-17 22:18 J -14970060.76 -14970060.57 -14970060.37 0.0533 0.0091
 Saturn -45699-10-05 06:57 J -14969859.32 -14969859.21 -14969859.10 0.0279 0.0238
 Saturn -45698-05-22 14:52 J -14969630.09 -14969629.88 -14969629.67 0.0280 0.0025
 Jupiter -45693-09-03 11:16 J -14967699.15 -14967699.03 -14967698.91 0.0498 0.0400
 Jupiter -45688-11-20 17:16 J -14965794.96 -14965794.78 -14965794.60 0.0535 0.0219
 Saturn -45684-03-19 03:35 J -14964580.55 -14964580.35 -14964580.15 0.0279 0.0106
 Saturn -45684-11-03 19:11 J -14964350.87 -14964350.70 -14964350.53 0.0278 0.0164
 Earth -45681-04-09 16:18 J -14963462.87 -14963462.82 -14963462.78 0.2644 0.2514
 Moon -45681-04-09 19:54 J -14963462.70 -14963462.67 -14963462.63 0.2639 0.2559
 Jupiter -45681-05-09 08:52 J -14963433.33 -14963433.13 -14963432.92 0.0496 0.0139
 Neptune -45676-11-13 14:52 J -14961418.98 -14961418.88 -14961418.76 0.0088 0.0077
 Neptune -45675-06-27 04:33 J -14961193.45 -14961193.31 -14961193.13 0.0088 0.0062
 Neptune -45674-02-07 18:42 J -14960967.90 -14960967.72 -14960967.51 0.0088 0.0046
 Uranus -45674-09-14 11:02 J -14960749.08 -14960749.04 -14960748.96 0.0143 0.0138
 Neptune -45674-09-21 08:38 J -14960742.34 -14960742.14 -14960741.91 0.0088 0.0030
 Moon -45673-04-07 05:59 J -14960543.40 -14960543.25 -14960543.11 0.2639 0.1342
 Earth -45673-04-07 06:57 J -14960543.35 -14960543.21 -14960543.07 0.2645 0.1298 *
 Uranus -45673-04-28 00:14 J -14960522.60 -14960522.49 -14960522.35 0.0143 0.0118
 Neptune -45673-05-03 22:47 J -14960516.77 -14960516.55 -14960516.32 0.0088 0.0014
 Uranus -45673-12-10 13:26 J -14960296.10 -14960295.94 -14960295.78 0.0143 0.0098
 Neptune -45673-12-15 12:42 J -14960291.19 -14960290.97 -14960290.74 0.0088 0.0003
 Uranus -45672-07-25 02:09 J -14960069.59 -14960069.41 -14960069.21 0.0142 0.0078
 Neptune -45672-07-29 02:38 J -14960065.61 -14960065.39 -14960065.16 0.0088 0.0018
 Uranus -45671-03-08 15:06 J -14959843.07 -14959842.87 -14959842.66 0.0142 0.0058
 Neptune -45671-03-11 16:47 J -14959840.00 -14959839.80 -14959839.58 0.0088 0.0033

Mars -45671-10-17 06:42 J -14959620.39 -14959620.22 -14959620.04 0.1709 0.0301
 Uranus -45671-10-21 03:50 J -14959616.55 -14959616.34 -14959616.12 0.0142 0.0038
 Neptune -45671-10-23 06:28 J -14959614.40 -14959614.23 -14959614.02 0.0088 0.0050
 Uranus -45670-06-04 16:18 J -14959390.04 -14959389.82 -14959389.59 0.0141 0.0018
 Neptune -45670-06-05 20:52 J -14959388.78 -14959388.63 -14959388.47 0.0088 0.0065
 Jupiter -45669-01-13 06:28 J -14959167.44 -14959167.23 -14959167.03 0.0494 0.0124
 Uranus -45669-01-17 04:47 J -14959163.53 -14959163.30 -14959163.08 0.0141 0.0002
 Neptune -45669-01-17 10:33 J -14959163.13 -14959163.06 -14959162.95 0.0088 0.0081 *
 Saturn -45669-04-16 13:11 J -14959073.09 -14959072.95 -14959072.79 0.0280 0.0196
 Uranus -45669-08-30 16:47 J -14958937.01 -14958936.80 -14958936.57 0.0141 0.0023
 Saturn -45669-12-01 21:35 J -14958843.80 -14958843.60 -14958843.40 0.0281 0.0068
 Uranus -45668-04-14 05:02 J -14958710.50 -14958710.29 -14958710.07 0.0140 0.0042
 Uranus -45668-11-26 16:47 J -14958484.00 -14958483.80 -14958483.59 0.0140 0.0061
 Uranus -45667-07-11 04:18 J -14958257.49 -14958257.32 -14958257.13 0.0139 0.0080
 Uranus -45666-02-22 15:50 J -14958030.99 -14958030.84 -14958030.67 0.0139 0.0099
 Uranus -45666-10-07 02:52 J -14957804.48 -14957804.38 -14957804.24 0.0139 0.0117
 Uranus -45665-05-20 13:54 J -14957577.95 -14957577.92 -14957577.85 0.0139 0.0135
 Jupiter -45664-11-23 09:21 J -14957026.28 -14957026.11 -14957025.93 0.0531 0.0258
 Jupiter -45658-09-18 02:52 J -14954901.50 -14954901.38 -14954901.25 0.0492 0.0387
 Pluto -45657-07-13 17:45 J -14954601.87 -14954601.76 -14954601.62 0.0078 0.0064
 Pluto -45656-02-24 03:21 J -14954376.58 -14954376.36 -14954376.13 0.0077 0.0006
 Pluto -45656-10-07 12:28 J -14954151.04 -14954150.98 -14954150.91 0.0077 0.0073
 Saturn -45655-09-29 14:38 J -14953794.10 -14953793.89 -14953793.68 0.0279 0.0053
 Saturn -45654-05-17 05:59 J -14953564.38 -14953564.25 -14953564.11 0.0278 0.0216
 Jupiter -45652-07-29 05:30 J -14952760.46 -14952760.27 -14952760.07 0.0534 0.0048
 Jupiter -45645-01-15 19:40 J -14950398.85 -14950398.68 -14950398.50 0.0497 0.0283
 Mars -45643-03-06 06:14 J -14949618.40 -14949618.24 -14949618.08 0.1824 0.0619
 Jupiter -45640-04-03 01:11 J -14948494.60 -14948494.45 -14948494.31 0.0536 0.0356
 Saturn -45640-10-27 17:02 J -14948286.96 -14948286.79 -14948286.62 0.0279 0.0161
 Saturn -45639-06-14 00:57 J -14948057.65 -14948057.46 -14948057.26 0.0280 0.0101

Jupiter -45634-09-20 17:16 J -14946132.99 -14946132.78 -14946132.57 0.0495 0.0023
 Uranus -45630-09-11 15:21 J -14944680.89 -14944680.86 -14944680.79 0.0135 0.0131
 Uranus -45629-04-24 20:09 J -14944454.76 -14944454.66 -14944454.54 0.0135 0.0116
 Uranus -45629-12-07 00:57 J -14944228.59 -14944228.46 -14944228.31 0.0136 0.0100
 Uranus -45628-07-21 05:45 J -14944002.41 -14944002.26 -14944002.08 0.0136 0.0084
 Jupiter -45628-08-01 01:11 J -14943991.55 -14943991.45 -14943991.33 0.0530 0.0439
 Uranus -45627-03-04 10:47 J -14943776.22 -14943776.05 -14943775.86 0.0136 0.0068
 Uranus -45627-10-16 16:04 J -14943550.02 -14943549.83 -14943549.63 0.0137 0.0051
 Uranus -45626-05-30 21:06 J -14943323.82 -14943323.62 -14943323.41 0.0137 0.0034
 Uranus -45625-01-12 02:23 J -14943097.60 -14943097.40 -14943097.18 0.0137 0.0018
 Saturn -45625-04-10 15:35 J -14943008.06 -14943007.85 -14943007.63 0.0279 0.0027
 Uranus -45625-08-25 07:54 J -14942871.38 -14942871.17 -14942870.95 0.0138 0.0003
 Saturn -45625-11-26 06:57 J -14942778.30 -14942778.21 -14942778.09 0.0278 0.0243
 Uranus -45624-04-08 13:26 J -14942645.15 -14942644.94 -14942644.73 0.0138 0.0017
 Uranus -45624-11-20 18:57 J -14942418.91 -14942418.71 -14942418.50 0.0138 0.0035
 Uranus -45623-07-05 00:28 J -14942192.66 -14942192.48 -14942192.27 0.0139 0.0053
 Uranus -45622-02-16 06:28 J -14941966.40 -14941966.23 -14941966.04 0.0139 0.0070
 Jupiter -45622-05-26 16:18 J -14941867.01 -14941866.82 -14941866.64 0.0493 0.0234
 Uranus -45622-09-30 12:42 J -14941740.12 -14941739.97 -14941739.80 0.0139 0.0087
 Uranus -45621-05-13 18:57 J -14941513.84 -14941513.71 -14941513.56 0.0140 0.0105
 Uranus -45621-12-26 01:11 J -14941287.54 -14941287.45 -14941287.34 0.0140 0.0122
 Uranus -45620-08-09 07:40 J -14941061.18 -14941061.18 -14941061.14 0.0140 0.0140
 Jupiter -45616-04-05 19:26 J -14939725.88 -14939725.69 -14939725.50 0.0532 0.0130
 Jupiter -45610-01-29 15:06 J -14937600.89 -14937600.87 -14937600.83 0.0492 0.0485
 Saturn -45610-05-09 22:18 J -14937500.76 -14937500.57 -14937500.38 0.0280 0.0122
 Jupiter -45610-09-23 10:33 J -14937364.15 -14937364.06 -14937363.96 0.0498 0.0444
 Saturn -45610-12-25 06:28 J -14937271.41 -14937271.23 -14937271.05 0.0281 0.0142
 Mars -45605-08-13 14:52 J -14935578.06 -14935577.88 -14935577.71 0.1713 0.0049
 Jupiter -45605-12-09 13:54 J -14935460.11 -14935459.92 -14935459.74 0.0534 0.0182
 Jupiter -45598-05-29 05:16 J -14933098.48 -14933098.28 -14933098.08 0.0496 0.0170

Saturn -45596-03-06 10:04 J -14932451.17 -14932451.08 -14932450.97 0.0280 0.0246
 Saturn -45596-10-22 02:09 J -14932221.63 -14932221.41 -14932221.20 0.0279 0.0025
 Neptune -45593-01-01 23:45 J -14931419.56 -14931419.51 -14931419.44 0.0089 0.0086
 Jupiter -45593-08-14 07:54 J -14931194.24 -14931194.17 -14931194.10 0.0537 0.0496
 Neptune -45593-08-14 11:59 J -14931194.12 -14931194.00 -14931193.86 0.0089 0.0070 *
 Neptune -45592-03-27 23:59 J -14930968.65 -14930968.50 -14930968.32 0.0089 0.0055
 Neptune -45592-11-08 11:59 J -14930743.17 -14930743.00 -14930742.79 0.0089 0.0041
 Neptune -45591-06-22 00:14 J -14930517.69 -14930517.49 -14930517.27 0.0089 0.0025
 Neptune -45590-02-02 12:28 J -14930292.19 -14930291.98 -14930291.76 0.0089 0.0009
 Neptune -45590-09-16 00:42 J -14930066.68 -14930066.47 -14930066.25 0.0089 0.0006
 Uranus -45590-12-27 06:28 J -14929964.33 -14929964.23 -14929964.12 0.0143 0.0124
 Neptune -45589-04-28 12:28 J -14929841.18 -14929840.98 -14929840.76 0.0089 0.0022
 Uranus -45589-08-09 19:26 J -14929737.83 -14929737.69 -14929737.53 0.0143 0.0105
 Neptune -45589-12-10 00:28 J -14929615.67 -14929615.48 -14929615.28 0.0089 0.0036
 Uranus -45588-03-24 08:38 J -14929511.31 -14929511.14 -14929510.95 0.0142 0.0085
 Neptune -45588-07-23 12:28 J -14929390.15 -14929389.98 -14929389.80 0.0089 0.0052
 Uranus -45588-11-05 21:21 J -14929284.80 -14929284.61 -14929284.40 0.0142 0.0065
 Neptune -45587-03-06 00:28 J -14929164.61 -14929164.48 -14929164.33 0.0089 0.0067
 Uranus -45587-06-20 10:18 J -14929058.28 -14929058.07 -14929057.85 0.0142 0.0045
 Neptune -45587-10-17 11:59 J -14928939.05 -14928939.00 -14928938.89 0.0089 0.0082
 Jupiter -45586-02-01 03:06 J -14928832.57 -14928832.37 -14928832.16 0.0494 0.0089
 Uranus -45586-02-01 23:02 J -14928831.76 -14928831.54 -14928831.32 0.0141 0.0025
 Uranus -45586-09-16 11:30 J -14928605.24 -14928605.02 -14928604.79 0.0141 0.0005
 Uranus -45585-04-29 23:45 J -14928378.73 -14928378.51 -14928378.28 0.0141 0.0015
 Uranus -45585-12-12 11:59 J -14928152.22 -14928152.00 -14928151.78 0.0140 0.0034
 Uranus -45584-07-26 23:30 J -14927925.71 -14927925.52 -14927925.30 0.0140 0.0054
 Uranus -45583-03-10 11:30 J -14927699.20 -14927699.02 -14927698.82 0.0140 0.0073
 Uranus -45583-10-22 23:02 J -14927472.70 -14927472.54 -14927472.36 0.0139 0.0091
 Uranus -45582-06-06 10:18 J -14927246.19 -14927246.07 -14927245.92 0.0139 0.0110
 Uranus -45581-01-18 21:35 J -14927019.68 -14927019.60 -14927019.51 0.0139 0.0127

Saturn	-45581-11-19 01:54 J	-14926714.61	-14926714.42	-14926714.22	0.0279	0.0088
Jupiter	-45581-12-12 10:33 J	-14926691.21	-14926691.06	-14926690.89	0.0531	0.0311
Saturn	-45580-07-06 09:35 J	-14926485.25	-14926485.10	-14926484.93	0.0281	0.0175
Mars	-45577-01-01 14:23 J	-14925576.07	-14925575.90	-14925575.73	0.1820	0.0218
Jupiter	-45575-10-07 01:54 J	-14924566.57	-14924566.42	-14924566.27	0.0492	0.0343
Jupiter	-45569-08-17 06:42 J	-14922425.42	-14922425.22	-14922425.02	0.0533	0.0008
Saturn	-45567-09-16 10:33 J	-14921665.19	-14921665.06	-14921664.93	0.0280	0.0221
Saturn	-45566-05-04 02:23 J	-14921435.61	-14921435.40	-14921435.18	0.0279	0.0050
Jupiter	-45562-02-03 19:54 J	-14920063.82	-14920063.67	-14920063.51	0.0497	0.0331
Jupiter	-45557-04-21 23:45 J	-14918159.67	-14918159.51	-14918159.35	0.0535	0.0310
Saturn	-45551-06-01 05:59 J	-14915928.46	-14915928.25	-14915928.05	0.0280	0.0051
Jupiter	-45551-10-09 17:16 J	-14915797.98	-14915797.78	-14915797.57	0.0495	0.0069
Saturn	-45550-01-16 13:54 J	-14915699.05	-14915698.92	-14915698.78	0.0281	0.0212
Uranus	-45546-12-24 06:42 J	-14913896.30	-14913896.22	-14913896.11	0.0135	0.0120
Uranus	-45545-08-06 11:30 J	-14913670.14	-14913670.02	-14913669.87	0.0136	0.0105
Jupiter	-45545-08-19 22:47 J	-14913656.63	-14913656.55	-14913656.46	0.0530	0.0478
Uranus	-45544-03-20 16:18 J	-14913443.97	-14913443.82	-14913443.65	0.0136	0.0089
Moon	-45544-10-11 18:14 J	-14913238.89	-14913238.74	-14913238.59	0.2682	0.1094
Earth	-45544-10-11 22:04 J	-14913238.70	-14913238.58	-14913238.46	0.2688	0.1744 *
Uranus	-45544-11-01 21:06 J	-14913217.78	-14913217.62	-14913217.43	0.0136	0.0073
Uranus	-45543-06-16 02:09 J	-14912991.59	-14912991.41	-14912991.21	0.0136	0.0057
Uranus	-45542-01-28 07:26 J	-14912765.39	-14912765.19	-14912764.99	0.0137	0.0040
Uranus	-45542-09-11 12:42 J	-14912539.17	-14912538.97	-14912538.76	0.0137	0.0023
Uranus	-45541-04-24 17:59 J	-14912312.96	-14912312.75	-14912312.53	0.0137	0.0007
Uranus	-45541-12-06 23:30 J	-14912086.73	-14912086.52	-14912086.31	0.0138	0.0011
Uranus	-45540-07-21 04:47 J	-14911860.50	-14911860.30	-14911860.09	0.0138	0.0028
Uranus	-45539-03-04 10:18 J	-14911634.26	-14911634.07	-14911633.86	0.0138	0.0046
Mars	-45539-06-10 22:47 J	-14911535.72	-14911535.55	-14911535.37	0.1716	0.0370
Jupiter	-45539-06-14 13:40 J	-14911532.12	-14911531.93	-14911531.73	0.0493	0.0197
Uranus	-45539-10-16 16:18 J	-14911408.00	-14911407.82	-14911407.62	0.0139	0.0063

Uranus -45538-05-30 22:04 J -14911181.74 -14911181.58 -14911181.39 0.0139 0.0081
 Uranus -45537-01-12 04:18 J -14910955.46 -14910955.32 -14910955.16 0.0139 0.0097
 Saturn -45537-03-28 19:54 J -14910878.84 -14910878.67 -14910878.50 0.0280 0.0173
 Uranus -45537-08-25 10:33 J -14910729.16 -14910729.06 -14910728.93 0.0140 0.0115
 Saturn -45537-11-13 11:45 J -14910649.21 -14910649.01 -14910648.81 0.0279 0.0098
 Uranus -45536-04-08 17:02 J -14910502.84 -14910502.79 -14910502.71 0.0140 0.0132
 Moon -45536-10-09 08:09 J -14910319.24 -14910319.16 -14910319.08 0.2686 0.2288
 Earth -45536-10-09 14:09 J -14910319.02 -14910318.91 -14910318.81 0.2686 0.1998
 Jupiter -45533-04-24 19:11 J -14909390.89 -14909390.70 -14909390.52 0.0533 0.0178
 Jupiter -45527-02-17 13:11 J -14907266.03 -14907265.95 -14907265.86 0.0491 0.0445
 Jupiter -45527-10-12 07:54 J -14907029.21 -14907029.17 -14907029.11 0.0498 0.0480
 Saturn -45522-04-27 02:38 J -14905371.42 -14905371.39 -14905371.36 0.0278 0.0274
 Saturn -45522-12-12 10:04 J -14905142.28 -14905142.08 -14905141.87 0.0279 0.0017
 Jupiter -45522-12-29 15:21 J -14905125.05 -14905124.86 -14905124.67 0.0535 0.0126
 Saturn -45521-07-28 17:45 J -14904912.85 -14904912.76 -14904912.65 0.0281 0.0245
 Jupiter -45515-06-17 05:02 J -14902763.48 -14902763.29 -14902763.10 0.0496 0.0217
 Mars -45512-10-28 22:04 J -14901533.75 -14901533.58 -14901533.41 0.1816 0.0198
 Neptune -45511-02-14 23:45 J -14901424.56 -14901424.51 -14901424.41 0.0088 0.0084
 Neptune -45511-09-28 14:09 J -14901199.05 -14901198.91 -14901198.76 0.0088 0.0068
 Neptune -45510-05-12 03:50 J -14900973.51 -14900973.34 -14900973.15 0.0088 0.0052
 Jupiter -45510-09-03 10:18 J -14900859.18 -14900859.07 -14900858.96 0.0537 0.0435
 Neptune -45510-12-23 17:59 J -14900747.96 -14900747.75 -14900747.55 0.0088 0.0037
 Neptune -45509-08-05 07:40 J -14900522.39 -14900522.18 -14900521.95 0.0088 0.0021
 Neptune -45508-03-18 21:50 J -14900296.82 -14900296.59 -14900296.36 0.0088 0.0006
 Saturn -45508-10-08 19:26 J -14900092.87 -14900092.69 -14900092.50 0.0280 0.0148
 Neptune -45508-10-30 11:45 J -14900071.23 -14900071.01 -14900070.78 0.0088 0.0010
 Saturn -45507-05-26 11:16 J -14899863.21 -14899863.03 -14899862.83 0.0279 0.0122
 Neptune -45507-06-13 01:26 J -14899845.64 -14899845.44 -14899845.21 0.0088 0.0026
 Neptune -45506-01-24 15:35 J -14899620.04 -14899619.85 -14899619.64 0.0088 0.0041
 Uranus -45506-08-26 12:14 J -14899406.08 -14899405.99 -14899405.90 0.0143 0.0131

Neptune -45506-09-07 05:16 J -14899394.43 -14899394.28 -14899394.09 0.0088 0.0058
 Uranus -45505-04-09 01:11 J -14899179.58 -14899179.45 -14899179.30 0.0143 0.0111
 Neptune -45505-04-19 19:54 J -14899168.80 -14899168.67 -14899168.55 0.0088 0.0073
 Uranus -45505-11-21 14:09 J -14898953.07 -14898952.91 -14898952.73 0.0143 0.0092
 Neptune -45505-12-01 09:50 J -14898943.09 -14898943.09 -14898943.09 0.0088 0.0088
 Uranus -45504-07-06 03:06 J -14898726.55 -14898726.37 -14898726.17 0.0142 0.0072
 Uranus -45503-02-17 16:04 J -14898500.03 -14898499.83 -14898499.61 0.0142 0.0052
 Jupiter -45503-02-20 03:50 J -14898497.55 -14898497.34 -14898497.13 0.0494 0.0041
 Uranus -45503-10-02 05:02 J -14898273.51 -14898273.29 -14898273.07 0.0142 0.0032
 Uranus -45502-05-16 17:30 J -14898046.99 -14898046.77 -14898046.54 0.0141 0.0012
 Uranus -45502-12-29 05:59 J -14897820.47 -14897820.25 -14897820.03 0.0141 0.0008
 Uranus -45501-08-11 17:59 J -14897593.96 -14897593.75 -14897593.52 0.0141 0.0028
 Uranus -45500-03-26 06:14 J -14897367.45 -14897367.24 -14897367.02 0.0140 0.0047
 Uranus -45500-11-07 18:14 J -14897140.94 -14897140.74 -14897140.54 0.0140 0.0065
 Uranus -45499-06-22 05:45 J -14896914.43 -14896914.26 -14896914.08 0.0140 0.0084
 Uranus -45498-02-03 17:02 J -14896687.93 -14896687.79 -14896687.63 0.0139 0.0102
 Uranus -45498-09-18 04:18 J -14896461.42 -14896461.32 -14896461.20 0.0139 0.0120
 Jupiter -45497-01-01 10:04 J -14896356.23 -14896356.08 -14896355.94 0.0531 0.0356
 Pluto -45497-02-29 23:30 J -14896296.66 -14896296.52 -14896296.36 0.0067 0.0049
 Uranus -45497-05-01 15:06 J -14896234.87 -14896234.87 -14896234.82 0.0139 0.0138
 Pluto -45497-10-12 04:33 J -14896071.53 -14896071.31 -14896071.09 0.0067 0.0005
 Pluto -45496-05-25 09:06 J -14895846.28 -14895846.12 -14895845.92 0.0067 0.0040
 Saturn -45493-11-06 04:47 J -14894585.40 -14894585.30 -14894585.19 0.0279 0.0242
 Saturn -45492-06-23 12:28 J -14894356.18 -14894355.98 -14894355.77 0.0280 0.0018
 Jupiter -45492-10-26 02:23 J -14894231.56 -14894231.40 -14894231.23 0.0492 0.0295
 Saturn -45491-02-07 20:23 J -14894126.67 -14894126.65 -14894126.62 0.0281 0.0279
 Jupiter -45486-09-06 05:16 J -14892090.48 -14892090.28 -14892090.08 0.0533 0.0052
 Jupiter -45479-02-22 18:14 J -14889728.87 -14889728.74 -14889728.60 0.0497 0.0370
 Saturn -45478-04-21 03:50 J -14889306.53 -14889306.34 -14889306.13 0.0280 0.0103
 Saturn -45478-12-06 19:54 J -14889076.83 -14889076.67 -14889076.49 0.0279 0.0168

Jupiter -45474-05-11 23:16 J -14887824.70 -14887824.53 -14887824.36 0.0536 0.0261
 Mars -45473-04-07 06:57 J -14887493.38 -14887493.21 -14887493.05 0.1720 0.0708
 Jupiter -45468-10-28 15:50 J -14885463.04 -14885462.84 -14885462.63 0.0495 0.0109
 Saturn -45463-05-19 09:35 J -14883799.23 -14883799.10 -14883798.95 0.0278 0.0206
 Saturn -45462-01-03 17:16 J -14883569.99 -14883569.78 -14883569.58 0.0279 0.0052
 Uranus -45462-08-23 16:47 J -14883337.86 -14883337.80 -14883337.70 0.0135 0.0125
 Uranus -45461-04-05 21:35 J -14883111.71 -14883111.60 -14883111.46 0.0135 0.0110
 Uranus -45461-11-18 02:23 J -14882885.54 -14882885.40 -14882885.24 0.0136 0.0094
 Uranus -45460-07-02 07:11 J -14882659.37 -14882659.20 -14882659.02 0.0136 0.0078
 Uranus -45459-02-13 11:59 J -14882433.18 -14882433.00 -14882432.80 0.0136 0.0062
 Uranus -45459-09-27 17:16 J -14882206.98 -14882206.78 -14882206.58 0.0137 0.0046
 Uranus -45458-05-11 22:18 J -14881980.77 -14881980.57 -14881980.36 0.0137 0.0029
 Uranus -45458-12-24 03:35 J -14881754.56 -14881754.35 -14881754.14 0.0137 0.0013
 Uranus -45457-08-06 08:52 J -14881528.34 -14881528.13 -14881527.92 0.0138 0.0004
 Uranus -45456-03-20 14:09 J -14881302.11 -14881301.91 -14881301.69 0.0138 0.0022
 Jupiter -45456-07-03 13:54 J -14881197.12 -14881196.92 -14881196.72 0.0493 0.0148
 Uranus -45456-11-01 19:54 J -14881075.87 -14881075.67 -14881075.47 0.0138 0.0038
 Uranus -45455-06-16 01:26 J -14880849.63 -14880849.44 -14880849.24 0.0139 0.0056
 Uranus -45454-01-28 07:11 J -14880623.37 -14880623.20 -14880623.01 0.0139 0.0073
 Uranus -45454-09-11 13:11 J -14880397.09 -14880396.95 -14880396.77 0.0139 0.0091
 Uranus -45453-04-24 19:54 J -14880170.81 -14880170.67 -14880170.54 0.0140 0.0107
 Uranus -45453-12-07 01:54 J -14879944.50 -14879944.42 -14879944.31 0.0140 0.0124
 Jupiter -45450-05-14 21:50 J -14879055.76 -14879055.59 -14879055.41 0.0532 0.0238
 Saturn -45449-10-31 03:06 J -14878520.57 -14878520.37 -14878520.16 0.0280 0.0079
 Saturn -45448-06-17 18:57 J -14878290.85 -14878290.71 -14878290.54 0.0279 0.0191
 Mars -45446-08-26 06:14 J -14877491.40 -14877491.24 -14877491.08 0.1812 0.0593
 Jupiter -45444-03-08 13:40 J -14876931.04 -14876930.93 -14876930.80 0.0492 0.0397
 Mars -45441-04-06 13:54 J -14875805.99 -14875805.92 -14875805.84 0.1708 0.1530
 Jupiter -45438-01-17 16:04 J -14874790.03 -14874789.83 -14874789.64 0.0534 0.0073
 Moon -45438-04-10 11:30 J -14874707.09 -14874707.02 -14874706.94 0.2648 0.2273

Earth -45438-04-10 16:47 J -14874706.84 -14874706.80 -14874706.77 0.2645 0.2562
 Saturn -45434-11-29 11:16 J -14873013.18 -14873013.03 -14873012.86 0.0279 0.0175
 Saturn -45433-07-15 18:57 J -14872783.90 -14872783.71 -14872783.51 0.0280 0.0084
 Jupiter -45432-07-06 06:28 J -14872428.40 -14872428.23 -14872428.05 0.0496 0.0268
 Moon -45430-04-08 05:45 J -14871787.37 -14871787.26 -14871787.14 0.2652 0.1685
 Earth -45430-04-08 07:26 J -14871787.33 -14871787.19 -14871787.04 0.2646 0.1209 *
 Neptune -45429-11-15 22:47 J -14871199.63 -14871199.55 -14871199.42 0.0089 0.0077
 Neptune -45428-06-29 11:02 J -14870974.17 -14870974.04 -14870973.87 0.0089 0.0062
 Neptune -45427-02-09 23:30 J -14870748.70 -14870748.52 -14870748.33 0.0089 0.0047
 Jupiter -45427-09-22 09:50 J -14870524.23 -14870524.09 -14870523.95 0.0536 0.0386
 Neptune -45427-09-23 11:45 J -14870523.20 -14870523.01 -14870522.80 0.0089 0.0031
 Neptune -45426-05-06 23:59 J -14870297.71 -14870297.50 -14870297.29 0.0089 0.0016
 Neptune -45426-12-18 11:59 J -14870072.21 -14870072.00 -14870071.78 0.0089 0.0002
 Neptune -45425-07-30 23:59 J -14869846.70 -14869846.50 -14869846.28 0.0089 0.0015
 Neptune -45424-03-13 11:59 J -14869621.19 -14869621.00 -14869620.79 0.0089 0.0030
 Neptune -45424-10-25 00:14 J -14869395.67 -14869395.49 -14869395.30 0.0089 0.0044
 Neptune -45423-06-07 12:14 J -14869170.15 -14869169.99 -14869169.83 0.0089 0.0060
 Neptune -45422-01-19 00:14 J -14868944.60 -14868944.49 -14868944.37 0.0089 0.0075
 Uranus -45422-04-25 17:30 J -14868847.81 -14868847.77 -14868847.69 0.0143 0.0138
 Uranus -45422-12-08 06:42 J -14868621.33 -14868621.22 -14868621.08 0.0143 0.0118
 Uranus -45421-07-21 20:09 J -14868394.81 -14868394.66 -14868394.49 0.0143 0.0098
 Uranus -45420-03-05 09:21 J -14868168.29 -14868168.11 -14868167.92 0.0142 0.0078
 Jupiter -45420-03-11 03:21 J -14868162.57 -14868162.36 -14868162.15 0.0494 0.0008
 Uranus -45420-10-17 22:18 J -14867941.77 -14867941.57 -14867941.36 0.0142 0.0059
 Saturn -45419-05-13 10:33 J -14867734.27 -14867734.06 -14867733.84 0.0280 0.0037
 Uranus -45419-06-01 11:02 J -14867715.25 -14867715.04 -14867714.82 0.0142 0.0039
 Saturn -45419-12-29 02:52 J -14867504.49 -14867504.38 -14867504.26 0.0279 0.0233
 Uranus -45418-01-13 23:45 J -14867488.73 -14867488.51 -14867488.28 0.0141 0.0019
 Uranus -45418-08-28 12:28 J -14867262.21 -14867261.98 -14867261.76 0.0141 0.0003
 Uranus -45417-04-11 00:42 J -14867035.69 -14867035.47 -14867035.24 0.0141 0.0020

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 Uranus -45416-07-08 00:42 J -14866582.67 -14866582.47 -14866582.26 0.0140 0.0058
 Uranus -45415-02-19 12:28 J -14866356.16 -14866355.98 -14866355.79 0.0140 0.0077
 Uranus -45415-10-04 00:14 J -14866129.66 -14866129.49 -14866129.33 0.0139 0.0095
 Jupiter -45414-01-20 10:04 J -14866021.21 -14866021.08 -14866020.95 0.0531 0.0405
 Uranus -45414-05-18 11:02 J -14865903.15 -14865903.04 -14865902.89 0.0139 0.0113
 Uranus -45414-12-30 22:33 J -14865676.63 -14865676.56 -14865676.48 0.0139 0.0130
 Pluto -45411-08-12 06:42 J -14864721.40 -14864721.22 -14864721.00 0.0078 0.0033
 Pluto -45410-03-25 15:50 J -14864496.01 -14864495.84 -14864495.62 0.0077 0.0038
 Jupiter -45409-11-14 02:09 J -14863896.59 -14863896.41 -14863896.23 0.0492 0.0249
 Mars -45407-02-02 15:06 J -14863451.01 -14863450.87 -14863450.73 0.1724 0.1041
 Saturn -45404-06-10 16:47 J -14862226.98 -14862226.80 -14862226.62 0.0278 0.0138
 Saturn -45403-01-25 23:59 J -14861997.69 -14861997.50 -14861997.31 0.0279 0.0119
 Jupiter -45403-09-25 06:57 J -14861755.40 -14861755.21 -14861755.02 0.0534 0.0108
 Jupiter -45396-03-13 18:57 J -14859393.81 -14859393.71 -14859393.59 0.0497 0.0419
 Jupiter -45391-05-31 02:38 J -14857489.57 -14857489.39 -14857489.20 0.0536 0.0197
 Saturn -45390-11-23 10:04 J -14856948.29 -14856948.08 -14856947.86 0.0280 0.0014
 Saturn -45389-07-10 02:23 J -14856718.48 -14856718.40 -14856718.32 0.0279 0.0256
 Jupiter -45385-11-16 17:16 J -14855127.98 -14855127.78 -14855127.58 0.0495 0.0160
 Mars -45380-06-22 14:09 J -14853449.05 -14853448.91 -14853448.77 0.1807 0.0986
 Jupiter -45379-02-02 19:54 J -14853223.73 -14853223.67 -14853223.61 0.0537 0.0512
 Uranus -45378-04-23 04:04 J -14852779.38 -14852779.33 -14852779.26 0.0135 0.0129
 Uranus -45378-12-05 08:38 J -14852553.24 -14852553.14 -14852553.01 0.0135 0.0114
 Uranus -45377-07-18 13:26 J -14852327.08 -14852326.94 -14852326.79 0.0135 0.0099
 Uranus -45376-03-01 18:14 J -14852100.90 -14852100.74 -14852100.57 0.0136 0.0083
 Uranus -45376-10-13 23:02 J -14851874.72 -14851874.54 -14851874.35 0.0136 0.0067
 Mars -45375-02-01 21:50 J -14851763.71 -14851763.59 -14851763.46 0.1712 0.1196
 Uranus -45375-05-28 03:50 J -14851648.53 -14851648.34 -14851648.13 0.0136 0.0051
 Saturn -45375-12-21 17:30 J -14851440.96 -14851440.77 -14851440.58 0.0279 0.0109
 Uranus -45374-01-09 08:52 J -14851422.33 -14851422.13 -14851421.92 0.0137 0.0035

Saturn -45374-08-08 00:57 J -14851211.63 -14851211.46 -14851211.28 0.0280 0.0149
 Uranus -45374-08-23 14:09 J -14851196.12 -14851195.91 -14851195.70 0.0137 0.0018
 Uranus -45373-04-05 19:26 J -14850969.90 -14850969.69 -14850969.48 0.0137 0.0002
 Jupiter -45373-07-22 15:35 J -14850862.05 -14850861.85 -14850861.64 0.0493 0.0097
 Uranus -45373-11-18 00:42 J -14850743.68 -14850743.47 -14850743.26 0.0138 0.0015
 Uranus -45372-07-02 05:59 J -14850517.45 -14850517.25 -14850517.04 0.0138 0.0032
 Uranus -45371-02-13 11:30 J -14850291.20 -14850291.02 -14850290.81 0.0138 0.0050
 Uranus -45371-09-27 17:45 J -14850064.94 -14850064.76 -14850064.57 0.0139 0.0066
 Uranus -45370-05-11 23:30 J -14849838.68 -14849838.52 -14849838.34 0.0139 0.0083
 Uranus -45370-12-24 05:30 J -14849612.40 -14849612.27 -14849612.11 0.0139 0.0100
 Uranus -45369-08-06 11:59 J -14849386.11 -14849386.00 -14849385.88 0.0140 0.0117
 Uranus -45368-03-20 18:14 J -14849159.78 -14849159.74 -14849159.67 0.0140 0.0134
 Jupiter -45367-06-02 21:35 J -14848720.77 -14848720.60 -14848720.43 0.0532 0.0286
 Jupiter -45361-03-27 14:23 J -14846596.05 -14846595.90 -14846595.76 0.0491 0.0349
 Saturn -45361-10-17 23:45 J -14846391.60 -14846391.51 -14846391.39 0.0281 0.0245
 Saturn -45360-06-04 16:33 J -14846162.02 -14846161.81 -14846161.59 0.0280 0.0028
 Jupiter -45355-02-05 15:21 J -14844455.05 -14844454.86 -14844454.66 0.0535 0.0026
 Jupiter -45349-07-25 06:14 J -14842093.39 -14842093.24 -14842093.07 0.0496 0.0313
 Mars -45348-06-21 20:52 J -14841761.72 -14841761.63 -14841761.53 0.1821 0.1495
 Neptune -45347-12-30 22:47 J -14841204.67 -14841204.55 -14841204.43 0.0088 0.0075
 Neptune -45346-08-13 12:14 J -14840979.14 -14840978.99 -14840978.81 0.0088 0.0060
 Neptune -45345-03-26 02:09 J -14840753.59 -14840753.41 -14840753.19 0.0088 0.0045
 Saturn -45345-07-02 23:45 J -14840654.71 -14840654.51 -14840654.31 0.0278 0.0070
 Neptune -45345-11-06 16:18 J -14840528.03 -14840527.82 -14840527.60 0.0088 0.0029
 Saturn -45344-02-17 06:42 J -14840425.36 -14840425.22 -14840425.06 0.0279 0.0187
 Neptune -45344-06-20 06:14 J -14840302.46 -14840302.24 -14840302.01 0.0088 0.0013
 Jupiter -45344-10-11 10:47 J -14840189.21 -14840189.05 -14840188.90 0.0537 0.0331
 Neptune -45343-01-31 20:23 J -14840076.88 -14840076.65 -14840076.43 0.0088 0.0003
 Neptune -45343-09-14 10:04 J -14839851.29 -14839851.08 -14839850.85 0.0088 0.0018
 Neptune -45342-04-28 00:14 J -14839625.70 -14839625.49 -14839625.28 0.0088 0.0034

Mars -45342-11-30 22:33 J -14839408.66 -14839408.56 -14839408.45 0.1728 0.1395
 Neptune -45342-12-09 13:40 J -14839400.10 -14839399.93 -14839399.72 0.0088 0.0050
 Neptune -45341-07-22 04:04 J -14839174.48 -14839174.33 -14839174.18 0.0088 0.0065
 Neptune -45340-03-04 17:45 J -14838948.83 -14838948.76 -14838948.65 0.0088 0.0080
 Uranus -45339-12-23 23:30 J -14838289.52 -14838289.52 -14838289.51 0.0144 0.0143
 Uranus -45338-08-07 12:42 J -14838063.07 -14838062.97 -14838062.85 0.0143 0.0124
 Uranus -45337-03-21 01:54 J -14837836.55 -14837836.42 -14837836.25 0.0143 0.0105
 Jupiter -45337-03-30 03:50 J -14837827.55 -14837827.34 -14837827.13 0.0494 0.0054
 Uranus -45337-11-02 15:21 J -14837610.04 -14837609.86 -14837609.68 0.0143 0.0085
 Uranus -45336-06-17 04:18 J -14837383.52 -14837383.32 -14837383.12 0.0142 0.0065
 Uranus -45335-01-29 17:02 J -14837156.99 -14837156.79 -14837156.57 0.0142 0.0046
 Uranus -45335-09-13 05:59 J -14836930.47 -14836930.25 -14836930.03 0.0142 0.0026
 Uranus -45334-04-27 18:42 J -14836703.95 -14836703.72 -14836703.50 0.0141 0.0007
 Uranus -45334-12-10 06:57 J -14836477.43 -14836477.21 -14836476.98 0.0141 0.0013
 Uranus -45333-07-23 19:11 J -14836250.92 -14836250.70 -14836250.48 0.0141 0.0032
 Uranus -45332-03-07 06:57 J -14836024.40 -14836024.21 -14836023.98 0.0140 0.0052
 Uranus -45332-10-19 19:11 J -14835797.89 -14835797.70 -14835797.50 0.0140 0.0069
 Jupiter -45331-02-08 13:11 J -14835686.04 -14835685.95 -14835685.85 0.0531 0.0466
 Saturn -45331-04-30 00:14 J -14835605.62 -14835605.49 -14835605.35 0.0281 0.0218
 Uranus -45331-06-03 06:28 J -14835571.39 -14835571.23 -14835571.04 0.0140 0.0088
 Saturn -45331-12-15 16:33 J -14835376.02 -14835375.81 -14835375.59 0.0280 0.0053
 Uranus -45330-01-15 17:59 J -14835344.88 -14835344.75 -14835344.59 0.0139 0.0106
 Uranus -45330-08-30 05:16 J -14835118.37 -14835118.28 -14835118.17 0.0139 0.0123
 Jupiter -45326-12-04 03:06 J -14833561.56 -14833561.37 -14833561.18 0.0492 0.0198
 Jupiter -45320-10-14 08:38 J -14831420.33 -14831420.14 -14831419.95 0.0533 0.0164
 Saturn -45315-01-12 23:59 J -14829868.71 -14829868.50 -14829868.29 0.0279 0.0043
 Saturn -45315-08-30 07:26 J -14829639.32 -14829639.19 -14829639.06 0.0280 0.0214
 Mars -45314-04-19 22:47 J -14829406.66 -14829406.55 -14829406.44 0.1803 0.1363
 Jupiter -45314-08-09 02:52 J -14829295.47 -14829295.38 -14829295.30 0.0491 0.0446
 Jupiter -45313-04-01 21:06 J -14829058.67 -14829058.62 -14829058.55 0.0497 0.0472

Mars	-45310-11-30 05:59 J	-14827721.40	-14827721.25	-14827721.09	0.1716	0.0875
Jupiter	-45308-06-19 02:52 J	-14827154.57	-14827154.38	-14827154.19	0.0535	0.0145
Saturn	-45302-11-10 05:45 J	-14824819.42	-14824819.26	-14824819.09	0.0281	0.0180
Jupiter	-45302-12-06 17:45 J	-14824792.94	-14824792.76	-14824792.56	0.0495	0.0209
Saturn	-45301-06-26 22:33 J	-14824589.77	-14824589.56	-14824589.36	0.0280	0.0091
Earth	-45301-10-11 23:45 J	-14824482.62	-14824482.51	-14824482.39	0.2687	0.1840
Moon	-45301-10-12 01:26 J	-14824482.54	-14824482.44	-14824482.34	0.2694	0.1980 *
Jupiter	-45296-02-21 18:28 J	-14822888.82	-14822888.73	-14822888.63	0.0538	0.0465
Uranus	-45295-12-21 14:38 J	-14822220.89	-14822220.89	-14822220.84	0.0135	0.0134
Uranus	-45294-08-04 19:11 J	-14821994.78	-14821994.70	-14821994.58	0.0135	0.0119
Uranus	-45293-03-18 00:14 J	-14821768.62	-14821768.49	-14821768.35	0.0135	0.0104
Earth	-45293-10-09 15:50 J	-14821562.95	-14821562.84	-14821562.73	0.2686	0.1891
Moon	-45293-10-09 20:52 J	-14821562.75	-14821562.63	-14821562.51	0.2689	0.1671 *
Uranus	-45293-10-30 04:33 J	-14821542.46	-14821542.31	-14821542.13	0.0136	0.0089
Uranus	-45292-06-13 09:21 J	-14821316.28	-14821316.11	-14821315.92	0.0136	0.0073
Uranus	-45291-01-25 14:09 J	-14821090.09	-14821089.91	-14821089.71	0.0136	0.0057
Uranus	-45291-09-08 19:26 J	-14820863.89	-14820863.69	-14820863.49	0.0137	0.0041
Uranus	-45290-04-23 00:28 J	-14820637.69	-14820637.48	-14820637.27	0.0137	0.0025
Jupiter	-45290-08-11 16:04 J	-14820527.04	-14820526.83	-14820526.62	0.0493	0.0048
Uranus	-45290-12-05 05:30 J	-14820411.48	-14820411.27	-14820411.06	0.0137	0.0008
Uranus	-45289-07-18 10:47 J	-14820185.26	-14820185.05	-14820184.84	0.0137	0.0008
Uranus	-45288-03-01 16:18 J	-14819959.03	-14819958.82	-14819958.62	0.0138	0.0025
Uranus	-45288-10-13 21:50 J	-14819732.79	-14819732.59	-14819732.39	0.0138	0.0042
Uranus	-45287-05-28 03:35 J	-14819506.54	-14819506.35	-14819506.16	0.0138	0.0059
Saturn	-45287-12-08 23:45 J	-14819311.58	-14819311.51	-14819311.42	0.0277	0.0256
Uranus	-45286-01-09 09:21 J	-14819280.28	-14819280.11	-14819279.93	0.0139	0.0076
Saturn	-45286-07-26 06:57 J	-14819082.41	-14819082.21	-14819082.00	0.0278	0.0007
Uranus	-45286-08-23 15:06 J	-14819054.01	-14819053.87	-14819053.70	0.0139	0.0093
Saturn	-45285-03-11 14:09 J	-14818853.00	-14818852.91	-14818852.82	0.0280	0.0253
Uranus	-45285-04-05 21:35 J	-14818827.72	-14818827.60	-14818827.46	0.0139	0.0110

Uranus -45285-11-18 03:50 J -14818601.41 -14818601.34 -14818601.24 0.0140 0.0127
 Jupiter -45284-06-21 22:04 J -14818385.73 -14818385.58 -14818385.42 0.0532 0.0339
 Mars -45282-04-19 05:02 J -14817719.42 -14817719.29 -14817719.15 0.1816 0.1085
 Jupiter -45278-04-16 14:23 J -14816261.06 -14816260.90 -14816260.73 0.0491 0.0301
 Jupiter -45272-02-24 18:42 J -14814119.91 -14814119.72 -14814119.52 0.0534 0.0040
 Saturn -45272-05-22 07:11 J -14814033.38 -14814033.20 -14814033.02 0.0281 0.0151
 Saturn -45271-01-06 23:30 J -14813803.71 -14813803.52 -14813803.32 0.0280 0.0119
 Jupiter -45266-08-14 07:11 J -14811758.33 -14811758.20 -14811758.05 0.0496 0.0364
 Neptune -45264-02-17 10:04 J -14811205.15 -14811205.08 -14811205.01 0.0089 0.0084
 Neptune -45264-09-30 22:18 J -14810979.71 -14810979.57 -14810979.44 0.0089 0.0069
 Neptune -45263-05-14 10:18 J -14810754.24 -14810754.07 -14810753.90 0.0089 0.0053
 Neptune -45263-12-25 22:18 J -14810528.76 -14810528.57 -14810528.37 0.0089 0.0038
 Neptune -45262-08-08 10:33 J -14810303.27 -14810303.06 -14810302.85 0.0089 0.0023
 Neptune -45261-03-20 22:33 J -14810077.77 -14810077.56 -14810077.34 0.0089 0.0009
 Jupiter -45261-10-30 12:57 J -14809854.13 -14809853.96 -14809853.79 0.0536 0.0271
 Neptune -45261-11-01 10:47 J -14809852.26 -14809852.05 -14809851.84 0.0089 0.0007
 Neptune -45260-06-14 22:33 J -14809626.76 -14809626.56 -14809626.34 0.0089 0.0022
 Neptune -45259-01-26 10:33 J -14809401.24 -14809401.06 -14809400.85 0.0089 0.0037
 Neptune -45259-09-08 22:47 J -14809175.71 -14809175.55 -14809175.36 0.0089 0.0052
 Neptune -45258-04-22 10:47 J -14808950.17 -14808950.05 -14808949.90 0.0089 0.0067
 Neptune -45258-12-03 22:33 J -14808724.62 -14808724.56 -14808724.46 0.0089 0.0082
 Saturn -45257-06-19 23:59 J -14808525.61 -14808525.50 -14808525.38 0.0278 0.0230
 Saturn -45256-02-04 07:11 J -14808296.41 -14808296.20 -14808295.99 0.0279 0.0024
 Uranus -45254-04-06 19:26 J -14807504.77 -14807504.69 -14807504.59 0.0144 0.0131
 Jupiter -45254-04-19 05:30 J -14807492.47 -14807492.27 -14807492.06 0.0494 0.0106
 Uranus -45254-11-19 08:38 J -14807278.26 -14807278.14 -14807277.99 0.0143 0.0112
 Uranus -45253-07-02 21:50 J -14807051.75 -14807051.59 -14807051.41 0.0143 0.0092
 Uranus -45252-02-14 11:02 J -14806825.22 -14806825.04 -14806824.83 0.0143 0.0073
 Pluto -45252-08-17 08:23 J -14806641.19 -14806641.15 -14806641.10 0.0067 0.0065
 Uranus -45252-09-29 00:14 J -14806598.70 -14806598.49 -14806598.28 0.0142 0.0053

Pluto -45251-03-30 12:57 J -14806416.15 -14806415.96 -14806415.74 0.0067 0.0022
 Uranus -45251-05-13 12:57 J -14806372.17 -14806371.96 -14806371.74 0.0142 0.0033
 Pluto -45251-11-10 17:45 J -14806190.95 -14806190.76 -14806190.53 0.0067 0.0024
 Uranus -45251-12-26 01:40 J -14806145.66 -14806145.43 -14806145.21 0.0142 0.0014
 Uranus -45250-08-09 13:54 J -14805919.14 -14805918.92 -14805918.69 0.0141 0.0007
 Uranus -45249-03-23 02:23 J -14805692.62 -14805692.40 -14805692.18 0.0141 0.0025
 Uranus -45249-11-04 14:23 J -14805466.11 -14805465.90 -14805465.68 0.0141 0.0044
 Mars -45248-02-14 06:42 J -14805364.26 -14805364.22 -14805364.18 0.1799 0.1744
 Jupiter -45248-02-27 12:57 J -14805351.00 -14805350.96 -14805350.91 0.0530 0.0512
 Uranus -45248-06-19 02:09 J -14805239.60 -14805239.41 -14805239.19 0.0140 0.0063
 Uranus -45247-01-31 14:09 J -14805013.09 -14805012.91 -14805012.72 0.0140 0.0080
 Uranus -45247-09-15 01:26 J -14804786.58 -14804786.44 -14804786.26 0.0140 0.0099
 Uranus -45246-04-29 12:57 J -14804560.07 -14804559.96 -14804559.82 0.0139 0.0116
 Uranus -45246-12-12 00:14 J -14804333.54 -14804333.49 -14804333.42 0.0139 0.0133
 Mars -45244-09-26 14:09 J -14803679.08 -14803678.91 -14803678.74 0.1720 0.0539
 Saturn -45243-12-02 12:14 J -14803247.19 -14803246.99 -14803246.80 0.0281 0.0115
 Jupiter -45243-12-23 04:04 J -14803226.53 -14803226.33 -14803226.13 0.0492 0.0148
 Saturn -45242-07-20 04:47 J -14803017.48 -14803017.30 -14803017.12 0.0280 0.0155
 Jupiter -45237-11-02 06:57 J -14801085.39 -14801085.21 -14801085.03 0.0533 0.0209
 Jupiter -45231-08-28 03:35 J -14798960.47 -14798960.35 -14798960.23 0.0490 0.0396
 Saturn -45228-12-31 07:40 J -14797739.32 -14797739.18 -14797739.01 0.0278 0.0188
 Saturn -45227-08-17 15:06 J -14797510.07 -14797509.87 -14797509.67 0.0279 0.0066
 Jupiter -45225-07-08 02:09 J -14796819.60 -14796819.41 -14796819.21 0.0536 0.0096
 Jupiter -45219-12-25 17:30 J -14794457.94 -14794457.77 -14794457.58 0.0495 0.0255
 Mars -45216-02-13 12:42 J -14793677.13 -14793676.97 -14793676.82 0.1812 0.0670
 Jupiter -45213-03-12 21:35 J -14792553.73 -14792553.60 -14792553.47 0.0538 0.0402
 Saturn -45213-06-13 14:38 J -14792461.09 -14792460.89 -14792460.68 0.0281 0.0083
 Saturn -45212-01-29 06:57 J -14792231.36 -14792231.21 -14792231.04 0.0280 0.0186
 Uranus -45210-04-04 07:11 J -14791436.27 -14791436.20 -14791436.10 0.0135 0.0123
 Uranus -45210-11-16 11:30 J -14791210.13 -14791210.02 -14791209.88 0.0135 0.0109

Uranus	-45209-06-29 16:33 J	-14790983.97	-14790983.81	-14790983.66	0.0135	0.0093
Uranus	-45208-02-10 20:52 J	-14790757.79	-14790757.63	-14790757.44	0.0136	0.0078
Uranus	-45208-09-25 01:54 J	-14790531.60	-14790531.42	-14790531.23	0.0136	0.0062
Uranus	-45207-05-09 06:42 J	-14790305.41	-14790305.22	-14790305.01	0.0136	0.0046
Jupiter	-45207-08-30 16:18 J	-14790192.03	-14790191.82	-14790191.61	0.0493	0.0008
Uranus	-45207-12-21 11:45 J	-14790079.21	-14790079.01	-14790078.80	0.0137	0.0030
Uranus	-45206-08-04 16:47 J	-14789853.01	-14789852.80	-14789852.59	0.0137	0.0014
Uranus	-45205-03-17 22:04 J	-14789626.79	-14789626.58	-14789626.37	0.0137	0.0003
Uranus	-45205-10-30 03:21 J	-14789400.57	-14789400.36	-14789400.15	0.0138	0.0019
Uranus	-45204-06-13 08:52 J	-14789174.33	-14789174.13	-14789173.92	0.0138	0.0036
Uranus	-45203-01-25 14:23 J	-14788948.09	-14788947.90	-14788947.70	0.0138	0.0053
Uranus	-45203-09-08 20:09 J	-14788721.83	-14788721.66	-14788721.46	0.0139	0.0070
Uranus	-45202-04-23 02:09 J	-14788495.56	-14788495.41	-14788495.23	0.0139	0.0086
Uranus	-45202-12-05 08:09 J	-14788269.28	-14788269.16	-14788269.00	0.0139	0.0103
Jupiter	-45201-07-10 23:45 J	-14788050.64	-14788050.51	-14788050.38	0.0532	0.0392
Uranus	-45201-07-18 14:38 J	-14788042.99	-14788042.89	-14788042.77	0.0140	0.0120
Uranus	-45200-03-01 21:21 J	-14787816.65	-14787816.61	-14787816.56	0.0140	0.0136
Saturn	-45198-07-13 08:09 J	-14786953.32	-14786953.16	-14786952.99	0.0278	0.0161
Saturn	-45197-02-27 15:21 J	-14786724.06	-14786723.86	-14786723.66	0.0279	0.0094
Earth	-45195-04-10 17:02 J	-14785950.81	-14785950.79	-14785950.76	0.2645	0.2612
Jupiter	-45195-05-05 15:21 J	-14785926.03	-14785925.86	-14785925.67	0.0492	0.0251
Jupiter	-45189-03-15 18:28 J	-14783784.92	-14783784.73	-14783784.53	0.0534	0.0090
Earth	-45187-04-08 08:09 J	-14783031.31	-14783031.16	-14783031.02	0.2647	0.1151
Moon	-45187-04-08 12:14 J	-14783031.15	-14783030.99	-14783030.82	0.2643	0.0396 *
Saturn	-45184-12-24 19:40 J	-14781674.89	-14781674.68	-14781674.47	0.0281	0.0048
Saturn	-45183-08-11 12:14 J	-14781445.12	-14781444.99	-14781444.86	0.0280	0.0221
Jupiter	-45183-09-02 08:09 J	-14781423.27	-14781423.16	-14781423.04	0.0496	0.0411
Neptune	-45182-04-03 06:14 J	-14781210.30	-14781210.24	-14781210.14	0.0088	0.0082
Neptune	-45182-11-14 19:54 J	-14780984.79	-14780984.67	-14780984.50	0.0088	0.0068
Neptune	-45181-06-27 10:18 J	-14780759.25	-14780759.07	-14780758.88	0.0088	0.0051

Neptune -45180-02-07 23:59 J -14780533.69 -14780533.50 -14780533.27 0.0088 0.0037
 Neptune -45180-09-21 14:23 J -14780308.12 -14780307.90 -14780307.68 0.0088 0.0021
 Neptune -45179-05-05 04:18 J -14780082.55 -14780082.32 -14780082.09 0.0088 0.0005
 Neptune -45179-12-16 17:59 J -14779856.97 -14779856.75 -14779856.52 0.0088 0.0011
 Mars -45178-07-24 21:50 J -14779636.77 -14779636.59 -14779636.41 0.1724 0.0193
 Neptune -45178-07-30 07:40 J -14779631.38 -14779631.18 -14779630.95 0.0088 0.0026
 Jupiter -45178-11-19 10:04 J -14779519.26 -14779519.08 -14779518.90 0.0537 0.0229
 Neptune -45177-03-11 21:50 J -14779405.78 -14779405.59 -14779405.38 0.0088 0.0041
 Neptune -45177-10-23 11:59 J -14779180.17 -14779180.00 -14779179.82 0.0088 0.0056
 Neptune -45176-06-06 01:26 J -14778954.55 -14778954.44 -14778954.29 0.0088 0.0072
 Neptune -45175-01-17 15:35 J -14778728.86 -14778728.85 -14778728.81 0.0088 0.0087
 Jupiter -45171-05-08 05:45 J -14777157.46 -14777157.26 -14777157.06 0.0494 0.0153
 Uranus -45171-12-05 02:38 J -14776946.45 -14776946.39 -14776946.31 0.0144 0.0136
 Uranus -45170-07-19 15:35 J -14776719.95 -14776719.85 -14776719.70 0.0143 0.0118
 Uranus -45169-03-02 05:02 J -14776493.43 -14776493.29 -14776493.11 0.0143 0.0099
 Uranus -45169-10-14 18:14 J -14776266.91 -14776266.74 -14776266.54 0.0143 0.0079
 Saturn -45168-01-22 16:33 J -14776166.99 -14776166.81 -14776166.61 0.0278 0.0117
 Uranus -45168-05-29 07:11 J -14776040.39 -14776040.20 -14776039.98 0.0143 0.0060
 Saturn -45168-09-08 23:59 J -14775937.68 -14775937.50 -14775937.32 0.0279 0.0137
 Uranus -45167-01-10 20:23 J -14775813.87 -14775813.65 -14775813.44 0.0142 0.0040
 Uranus -45167-08-25 08:52 J -14775587.35 -14775587.13 -14775586.90 0.0142 0.0021
 Uranus -45166-04-08 21:35 J -14775360.82 -14775360.60 -14775360.37 0.0142 0.0001
 Uranus -45166-11-21 09:50 J -14775134.31 -14775134.09 -14775133.86 0.0141 0.0018
 Pluto -45165-01-28 13:26 J -14775066.07 -14775065.94 -14775065.80 0.0078 0.0060
 Uranus -45165-07-04 22:04 J -14774907.79 -14774907.58 -14774907.36 0.0141 0.0037
 Pluto -45165-09-09 22:47 J -14774840.77 -14774840.55 -14774840.33 0.0077 0.0010
 Uranus -45164-02-16 10:04 J -14774681.28 -14774681.08 -14774680.87 0.0141 0.0055
 Uranus -45164-09-30 22:04 J -14774454.77 -14774454.58 -14774454.39 0.0140 0.0073
 Uranus -45163-05-15 09:21 J -14774228.26 -14774228.11 -14774227.92 0.0140 0.0092
 Uranus -45163-12-27 20:52 J -14774001.75 -14774001.63 -14774001.47 0.0139 0.0110

Uranus -45162-08-11 08:23 J -14773775.23 -14773775.15 -14773775.05 0.0139 0.0126
 Jupiter -45159-01-11 02:52 J -14772891.58 -14772891.38 -14772891.17 0.0492 0.0105
 Saturn -45155-11-19 07:26 J -14771118.19 -14771118.19 -14771118.18 0.0282 0.0281
 Saturn -45154-07-06 23:45 J -14770888.72 -14770888.51 -14770888.29 0.0281 0.0012
 Jupiter -45154-11-22 08:52 J -14770750.30 -14770750.13 -14770749.96 0.0533 0.0266
 Saturn -45153-02-21 15:50 J -14770658.91 -14770658.84 -14770658.74 0.0279 0.0256
 Mars -45151-12-11 21:21 J -14769634.78 -14769634.61 -14769634.45 0.1808 0.0294
 Jupiter -45148-09-16 02:23 J -14768625.54 -14768625.40 -14768625.25 0.0491 0.0352
 Jupiter -45142-07-28 03:50 J -14766484.54 -14766484.34 -14766484.14 0.0535 0.0039
 Saturn -45139-08-04 17:30 J -14765380.97 -14765380.77 -14765380.57 0.0278 0.0089
 Saturn -45138-03-22 00:28 J -14765151.64 -14765151.48 -14765151.30 0.0279 0.0166
 Jupiter -45135-01-13 18:14 J -14764122.90 -14764122.74 -14764122.57 0.0496 0.0303
 Jupiter -45130-04-01 21:21 J -14762218.76 -14762218.61 -14762218.47 0.0537 0.0351
 Uranus -45127-12-02 18:28 J -14760877.79 -14760877.73 -14760877.65 0.0135 0.0127
 Uranus -45126-07-16 23:02 J -14760651.65 -14760651.54 -14760651.42 0.0135 0.0112
 Uranus -45125-02-28 03:35 J -14760425.49 -14760425.35 -14760425.20 0.0135 0.0098
 Saturn -45125-05-31 11:59 J -14760332.10 -14760332.00 -14760331.90 0.0281 0.0247
 Uranus -45125-10-11 07:54 J -14760199.32 -14760199.17 -14760198.99 0.0136 0.0083
 Saturn -45124-01-16 04:33 J -14760102.52 -14760102.31 -14760102.09 0.0280 0.0023
 Uranus -45124-05-25 12:57 J -14759973.15 -14759972.96 -14759972.78 0.0136 0.0067
 Jupiter -45124-09-18 16:33 J -14759857.01 -14759856.81 -14759856.60 0.0493 0.0051
 Uranus -45123-01-06 17:30 J -14759746.96 -14759746.77 -14759746.57 0.0136 0.0052
 Uranus -45123-08-20 22:33 J -14759520.76 -14759520.56 -14759520.35 0.0136 0.0036
 Uranus -45122-04-04 03:35 J -14759294.56 -14759294.35 -14759294.14 0.0137 0.0020
 Uranus -45122-11-16 08:38 J -14759068.35 -14759068.14 -14759067.92 0.0137 0.0004
 Uranus -45121-06-29 13:54 J -14758842.13 -14758841.92 -14758841.71 0.0137 0.0013
 Uranus -45120-02-10 19:26 J -14758615.90 -14758615.69 -14758615.49 0.0138 0.0029
 Uranus -45120-09-25 00:57 J -14758389.65 -14758389.46 -14758389.26 0.0138 0.0046
 Uranus -45119-05-09 06:28 J -14758163.40 -14758163.23 -14758163.03 0.0138 0.0063
 Uranus -45119-12-21 12:28 J -14757937.14 -14757936.98 -14757936.80 0.0139 0.0079

Jupiter -45118-07-30 20:09 J -14757715.77 -14757715.66 -14757715.55 0.0532 0.0430
 Uranus -45118-08-04 18:42 J -14757710.87 -14757710.72 -14757710.57 0.0139 0.0096
 Uranus -45117-03-18 00:28 J -14757484.58 -14757484.48 -14757484.34 0.0139 0.0113
 Uranus -45117-10-30 07:11 J -14757258.27 -14757258.20 -14757258.11 0.0140 0.0129
 Mars -45112-05-21 05:45 J -14755594.44 -14755594.26 -14755594.08 0.1727 0.0152
 Jupiter -45112-05-24 15:21 J -14755591.05 -14755590.86 -14755590.67 0.0491 0.0203
 Saturn -45109-02-15 02:38 J -14754594.59 -14754594.39 -14754594.18 0.0278 0.0044
 Saturn -45109-10-01 09:50 J -14754365.22 -14754365.09 -14754364.95 0.0279 0.0211
 Jupiter -45106-04-04 15:35 J -14753450.04 -14753449.85 -14753449.65 0.0534 0.0132
 Jupiter -45100-01-27 13:26 J -14751325.01 -14751324.94 -14751324.86 0.0490 0.0453
 Jupiter -45100-09-21 05:59 J -14751088.33 -14751088.25 -14751088.16 0.0496 0.0451
 Neptune -45099-01-02 08:38 J -14750985.25 -14750985.14 -14750985.03 0.0089 0.0076
 Neptune -45099-08-15 20:09 J -14750759.79 -14750759.66 -14750759.48 0.0089 0.0062
 Neptune -45098-03-29 08:23 J -14750534.31 -14750534.15 -14750533.95 0.0089 0.0046
 Neptune -45098-11-09 20:38 J -14750308.83 -14750308.64 -14750308.43 0.0089 0.0031
 Neptune -45097-06-22 08:52 J -14750083.34 -14750083.13 -14750082.92 0.0089 0.0016
 Neptune -45096-02-02 21:06 J -14749857.84 -14749857.62 -14749857.41 0.0089 0.0001
 Neptune -45096-09-16 09:06 J -14749632.32 -14749632.12 -14749631.90 0.0089 0.0015
 Saturn -45096-12-11 17:59 J -14749545.88 -14749545.75 -14749545.59 0.0281 0.0207
 Neptune -45095-04-29 21:06 J -14749406.81 -14749406.62 -14749406.41 0.0089 0.0030
 Saturn -45095-07-29 10:33 J -14749316.27 -14749316.06 -14749315.85 0.0280 0.0062
 Jupiter -45095-12-08 11:30 J -14749184.21 -14749184.02 -14749183.84 0.0536 0.0173
 Neptune -45095-12-11 09:06 J -14749181.29 -14749181.12 -14749180.92 0.0089 0.0044
 Neptune -45094-07-24 21:06 J -14748955.77 -14748955.62 -14748955.45 0.0089 0.0059
 Neptune -45093-03-06 09:06 J -14748730.22 -14748730.12 -14748729.99 0.0089 0.0074
 Neptune -45093-10-17 21:21 J -14748504.61 -14748504.61 -14748504.59 0.0089 0.0089
 Jupiter -45088-05-27 03:50 J -14746822.53 -14746822.34 -14746822.14 0.0494 0.0194
 Uranus -45087-08-04 09:35 J -14746388.12 -14746388.10 -14746388.05 0.0144 0.0142
 Uranus -45086-03-18 23:16 J -14746161.63 -14746161.53 -14746161.41 0.0144 0.0123
 Uranus -45086-10-31 12:42 J -14745935.12 -14745934.97 -14745934.82 0.0143 0.0104

Uranus	-45085-06-14 01:26 J	-14745708.60	-14745708.44	-14745708.24	0.0143	0.0086
Mars	-45085-10-08 05:16 J	-14745592.45	-14745592.28	-14745592.11	0.1803	0.0103
Uranus	-45084-01-26 14:38 J	-14745482.07	-14745481.89	-14745481.68	0.0143	0.0066
Uranus	-45084-09-10 03:50 J	-14745255.55	-14745255.34	-14745255.12	0.0142	0.0046
Uranus	-45083-04-24 16:33 J	-14745029.02	-14745028.81	-14745028.58	0.0142	0.0027
Jupiter	-45083-08-13 05:02 J	-14744918.37	-14744918.29	-14744918.20	0.0538	0.0484
Uranus	-45083-12-07 05:16 J	-14744802.50	-14744802.28	-14744802.05	0.0142	0.0008
Uranus	-45082-07-21 17:45 J	-14744575.98	-14744575.76	-14744575.53	0.0141	0.0011
Uranus	-45081-03-04 06:14 J	-14744349.46	-14744349.24	-14744349.02	0.0141	0.0030
Uranus	-45081-10-16 18:14 J	-14744122.94	-14744122.74	-14744122.52	0.0141	0.0049
Saturn	-45080-01-09 20:23 J	-14744037.70	-14744037.65	-14744037.59	0.0278	0.0267
Uranus	-45080-05-31 06:28 J	-14743896.43	-14743896.23	-14743896.04	0.0140	0.0067
Saturn	-45080-08-27 03:50 J	-14743808.55	-14743808.34	-14743808.13	0.0279	0.0015
Uranus	-45079-01-12 17:45 J	-14743669.92	-14743669.76	-14743669.56	0.0140	0.0086
Saturn	-45079-04-13 10:47 J	-14743579.15	-14743579.05	-14743578.94	0.0280	0.0239
Uranus	-45079-08-27 05:30 J	-14743443.41	-14743443.27	-14743443.10	0.0140	0.0103
Uranus	-45078-04-10 17:16 J	-14743216.88	-14743216.78	-14743216.66	0.0139	0.0120
Uranus	-45078-11-23 04:47 J	-14742990.34	-14742990.30	-14742990.26	0.0139	0.0136
Jupiter	-45076-01-30 02:23 J	-14742556.60	-14742556.40	-14742556.19	0.0493	0.0060
Jupiter	-45071-12-11 07:26 J	-14740415.34	-14740415.19	-14740415.02	0.0533	0.0311
Saturn	-45066-06-23 22:47 J	-14738759.71	-14738759.55	-14738759.38	0.0281	0.0171
Saturn	-45065-02-08 15:21 J	-14738530.06	-14738529.86	-14738529.65	0.0280	0.0097
Jupiter	-45065-10-05 02:23 J	-14738290.56	-14738290.40	-14738290.24	0.0491	0.0305
Jupiter	-45059-08-15 23:16 J	-14736149.73	-14736149.53	-14736149.33	0.0535	0.0006
Earth	-45058-10-13 01:40 J	-14735726.53	-14735726.43	-14735726.32	0.2686	0.1956
Moon	-45058-10-13 02:38 J	-14735726.48	-14735726.39	-14735726.31	0.2680	0.2303 *
Jupiter	-45052-02-01 17:16 J	-14733787.92	-14733787.78	-14733787.63	0.0495	0.0347
Saturn	-45051-07-23 05:59 J	-14733251.37	-14733251.25	-14733251.11	0.0278	0.0220
Saturn	-45050-03-09 13:26 J	-14733022.14	-14733021.94	-14733021.73	0.0279	0.0033
Moon	-45050-10-10 13:54 J	-14732807.03	-14732806.92	-14732806.82	0.2680	0.2041

Earth -45050-10-10 17:30 J -14732806.88 -14732806.77 -14732806.65 0.2685 0.1791 *
 Jupiter -45047-04-20 17:02 J -14731883.95 -14731883.79 -14731883.63 0.0537 0.0314
 Mars -45046-03-18 13:26 J -14731552.12 -14731551.94 -14731551.77 0.1731 0.0507
 Uranus -45043-08-02 06:14 J -14730319.27 -14730319.24 -14730319.17 0.0135 0.0131
 Uranus -45042-03-16 10:47 J -14730093.14 -14730093.05 -14730092.93 0.0135 0.0116
 Uranus -45042-10-28 15:21 J -14729866.99 -14729866.86 -14729866.71 0.0135 0.0102
 Uranus -45041-06-10 19:54 J -14729640.83 -14729640.67 -14729640.50 0.0135 0.0087
 Jupiter -45041-10-07 13:26 J -14729522.14 -14729521.94 -14729521.73 0.0493 0.0086
 Uranus -45040-01-23 00:28 J -14729414.65 -14729414.48 -14729414.29 0.0136 0.0072
 Uranus -45040-09-06 05:30 J -14729188.46 -14729188.27 -14729188.07 0.0136 0.0056
 Uranus -45039-04-20 10:18 J -14728962.27 -14728962.07 -14728961.86 0.0136 0.0041
 Uranus -45039-12-02 15:21 J -14728736.07 -14728735.86 -14728735.65 0.0137 0.0025
 Uranus -45038-07-16 20:23 J -14728509.86 -14728509.65 -14728509.44 0.0137 0.0009
 Uranus -45037-02-28 01:26 J -14728283.65 -14728283.44 -14728283.22 0.0137 0.0008
 Uranus -45037-10-11 06:57 J -14728057.42 -14728057.21 -14728057.00 0.0137 0.0024
 Saturn -45036-01-03 06:42 J -14727973.41 -14727973.22 -14727973.03 0.0281 0.0127
 Uranus -45036-05-25 12:28 J -14727831.18 -14727830.98 -14727830.78 0.0138 0.0040
 Saturn -45036-08-20 22:47 J -14727743.73 -14727743.55 -14727743.36 0.0280 0.0140
 Uranus -45035-01-06 17:59 J -14727604.94 -14727604.75 -14727604.55 0.0138 0.0057
 Jupiter -45035-08-18 20:23 J -14727380.73 -14727380.65 -14727380.56 0.0532 0.0479
 Uranus -45035-08-20 23:59 J -14727378.68 -14727378.50 -14727378.32 0.0138 0.0073
 Uranus -45034-04-04 05:30 J -14727152.41 -14727152.27 -14727152.09 0.0139 0.0090
 Uranus -45034-11-16 11:45 J -14726926.13 -14726926.01 -14726925.86 0.0139 0.0106
 Uranus -45033-06-29 17:59 J -14726699.83 -14726699.75 -14726699.63 0.0140 0.0123
 Uranus -45032-02-11 00:14 J -14726473.49 -14726473.49 -14726473.44 0.0140 0.0139
 Jupiter -45029-06-12 12:14 J -14725256.18 -14725255.99 -14725255.79 0.0492 0.0166
 Jupiter -45023-04-23 16:04 J -14723115.01 -14723114.83 -14723114.64 0.0534 0.0182
 Saturn -45021-02-02 07:40 J -14722465.32 -14722465.18 -14722465.02 0.0278 0.0191
 Saturn -45021-09-18 15:21 J -14722236.07 -14722235.86 -14722235.66 0.0279 0.0062
 Mars -45019-08-05 13:40 J -14721550.09 -14721549.93 -14721549.76 0.1799 0.0475

Neptune -45017-02-16 03:50 J -14720990.45 -14720990.34 -14720990.22 0.0088 0.0075
 Jupiter -45017-02-16 11:59 J -14720990.11 -14720990.00 -14720989.89 0.0490 0.0411
 Neptune -45017-09-28 17:30 J -14720764.92 -14720764.77 -14720764.59 0.0088 0.0060
 Jupiter -45017-10-10 05:16 J -14720753.29 -14720753.28 -14720753.26 0.0497 0.0494
 Neptune -45016-05-12 07:26 J -14720539.37 -14720539.19 -14720538.98 0.0088 0.0044
 Neptune -45016-12-23 21:06 J -14720313.82 -14720313.62 -14720313.39 0.0088 0.0030
 Neptune -45015-08-06 11:30 J -14720088.25 -14720088.02 -14720087.80 0.0088 0.0013
 Neptune -45014-03-20 01:26 J -14719862.66 -14719862.44 -14719862.21 0.0088 0.0002
 Neptune -45014-10-31 15:21 J -14719637.08 -14719636.86 -14719636.63 0.0088 0.0017
 Neptune -45013-06-13 05:16 J -14719411.49 -14719411.28 -14719411.07 0.0088 0.0033
 Neptune -45012-01-24 18:42 J -14719185.89 -14719185.72 -14719185.51 0.0088 0.0049
 Neptune -45012-09-07 08:52 J -14718960.27 -14718960.13 -14718959.96 0.0088 0.0063
 Jupiter -45012-12-27 09:50 J -14718849.28 -14718849.09 -14718848.89 0.0536 0.0128
 Neptune -45011-04-20 23:02 J -14718734.63 -14718734.54 -14718734.43 0.0088 0.0079
 Saturn -45007-07-16 11:16 J -14717187.23 -14717187.03 -14717186.83 0.0281 0.0093
 Saturn -45006-03-03 03:35 J -14716957.51 -14716957.35 -14716957.17 0.0280 0.0174
 Pluto -45006-09-15 20:52 J -14716760.79 -14716760.63 -14716760.44 0.0067 0.0041
 Pluto -45005-04-28 02:09 J -14716535.63 -14716535.41 -14716535.19 0.0067 0.0003
 Jupiter -45005-06-15 03:06 J -14716487.55 -14716487.37 -14716487.18 0.0494 0.0239
 Pluto -45005-12-09 06:57 J -14716310.35 -14716310.21 -14716310.04 0.0067 0.0048
 Uranus -45003-11-16 06:14 J -14715603.33 -14715603.24 -14715603.13 0.0144 0.0128
 Uranus -45002-06-30 19:11 J -14715376.82 -14715376.70 -14715376.54 0.0144 0.0110
 Uranus -45001-02-12 08:52 J -14715150.29 -14715150.13 -14715149.95 0.0143 0.0090
 Uranus -45001-09-25 22:04 J -14714923.77 -14714923.58 -14714923.38 0.0143 0.0071

45TH MILLENNIUM BCE

This is a list of transits of Venus in the 45th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	-45000-05-10 11:02 J	-14714697.24	-14714697.04	-14714696.83	0.0143	0.0052		
Jupiter	-45000-08-31 23:59 J	-14714583.61	-14714583.50	-14714583.39	0.0538	0.0450		
Uranus	-45000-12-22 23:45 J	-14714470.72	-14714470.51	-14714470.28	0.0142	0.0033		
Uranus	-44999-08-06 12:42 J	-14714244.19	-14714243.97	-14714243.75	0.0142	0.0014		
Uranus	-44998-03-21 01:26 J	-14714017.67	-14714017.44	-14714017.22	0.0142	0.0005		
Uranus	-44998-11-02 13:40 J	-14713791.14	-14713790.93	-14713790.70	0.0141	0.0024		
Uranus	-44997-06-16 02:09 J	-14713564.63	-14713564.41	-14713564.20	0.0141	0.0042		
Uranus	-44996-01-28 14:09 J	-14713338.11	-14713337.91	-14713337.70	0.0141	0.0061		
Uranus	-44996-09-12 02:09 J	-14713111.59	-14713111.41	-14713111.22	0.0140	0.0079		
Uranus	-44995-04-26 14:09 J	-14712885.07	-14712884.91	-14712884.75	0.0140	0.0096		
Uranus	-44995-12-09 01:26 J	-14712658.55	-14712658.44	-14712658.30	0.0139	0.0114		
Uranus	-44994-07-23 12:57 J	-14712432.03	-14712431.96	-14712431.87	0.0139	0.0131		
Jupiter	-44993-02-19 01:11 J	-14712221.66	-14712221.45	-14712221.24	0.0493	0.0016		
Saturn	-44992-08-14 17:30 J	-14711678.95	-14711678.77	-14711678.59	0.0278	0.0144		
Saturn	-44991-04-01 00:42 J	-14711449.65	-14711449.47	-14711449.27	0.0279	0.0110		
Jupiter	-44988-12-30 02:38 J	-14710080.54	-14710080.39	-14710080.24	0.0533	0.0344		
Jupiter	-44982-10-24 22:18 J	-14707955.74	-14707955.57	-14707955.40	0.0491	0.0272		
Mars	-44980-01-12 21:06 J	-14707509.78	-14707509.62	-14707509.47	0.1735	0.0852		
Saturn	-44977-01-26 20:52 J	-14706400.84	-14706400.63	-14706400.42	0.0281	0.0045		
Saturn	-44977-09-12 12:42 J	-14706171.09	-14706170.97	-14706170.83	0.0280	0.0221		
Jupiter	-44976-09-03 22:47 J	-14705814.74	-14705814.55	-14705814.35	0.0535	0.0046		
Jupiter	-44969-02-21 13:40 J	-14703453.06	-14703452.93	-14703452.80	0.0495	0.0381		
Jupiter	-44964-05-09 17:16 J	-14701548.95	-14701548.78	-14701548.61	0.0537	0.0262		
Saturn	-44962-02-24 19:54 J	-14700892.86	-14700892.67	-14700892.48	0.0278	0.0113		
Saturn	-44962-10-12 03:06 J	-14700663.54	-14700663.37	-14700663.18	0.0279	0.0140		

Uranus	-44959-04-01 17:59 J	-14699760.75	-14699760.75	-14699760.72	0.0134	0.0134
Uranus	-44959-11-13 22:33 J	-14699534.65	-14699534.56	-14699534.46	0.0135	0.0120
Uranus	-44958-06-28 02:38 J	-14699308.51	-14699308.39	-14699308.24	0.0135	0.0106
Jupiter	-44958-10-27 11:45 J	-14699187.21	-14699187.01	-14699186.81	0.0494	0.0126
Uranus	-44957-02-09 07:11 J	-14699082.34	-14699082.20	-14699082.03	0.0135	0.0091
Uranus	-44957-09-22 11:45 J	-14698856.17	-14698856.01	-14698855.82	0.0135	0.0077
Uranus	-44956-05-06 16:47 J	-14698629.99	-14698629.80	-14698629.61	0.0136	0.0061
Uranus	-44956-12-18 21:21 J	-14698403.80	-14698403.61	-14698403.40	0.0136	0.0046
Uranus	-44955-08-02 02:09 J	-14698177.61	-14698177.41	-14698177.19	0.0136	0.0031
Uranus	-44954-03-16 07:26 J	-14697951.40	-14697951.19	-14697950.98	0.0137	0.0014
Uranus	-44954-10-28 12:28 J	-14697725.19	-14697724.98	-14697724.76	0.0137	0.0003
Mars	-44953-06-01 22:04 J	-14697507.73	-14697507.58	-14697507.43	0.1795	0.0844
Uranus	-44953-06-10 17:45 J	-14697498.97	-14697498.76	-14697498.55	0.0137	0.0018
Uranus	-44952-01-22 23:02 J	-14697272.74	-14697272.54	-14697272.33	0.0138	0.0034
Moon	-44952-04-10 13:26 J	-14697195.05	-14697194.94	-14697194.83	0.2643	0.1924
Uranus	-44952-09-06 05:02 J	-14697046.49	-14697046.29	-14697046.10	0.0138	0.0050
Jupiter	-44952-09-06 18:14 J	-14697045.77	-14697045.74	-14697045.70	0.0531	0.0519
Uranus	-44951-04-20 10:33 J	-14696820.24	-14696820.06	-14696819.87	0.0138	0.0067
Uranus	-44951-12-02 16:18 J	-14696593.98	-14696593.82	-14696593.65	0.0139	0.0083
Uranus	-44950-07-16 22:18 J	-14696367.71	-14696367.57	-14696367.42	0.0139	0.0099
Uranus	-44949-02-28 04:18 J	-14696141.43	-14696141.32	-14696141.19	0.0139	0.0115
Uranus	-44949-10-11 10:33 J	-14695915.11	-14695915.06	-14695914.97	0.0140	0.0132
Saturn	-44949-12-21 08:23 J	-14695844.17	-14695844.15	-14695844.11	0.0281	0.0278
Mars	-44948-01-12 05:02 J	-14695822.39	-14695822.29	-14695822.19	0.1723	0.1423
Saturn	-44948-08-08 00:57 J	-14695614.67	-14695614.46	-14695614.24	0.0280	0.0012
Saturn	-44947-03-25 17:02 J	-14695384.87	-14695384.79	-14695384.69	0.0279	0.0254
Jupiter	-44946-07-02 11:02 J	-14694921.25	-14694921.04	-14694920.84	0.0492	0.0123
Moon	-44944-04-08 03:35 J	-14694275.46	-14694275.35	-14694275.23	0.2649	0.1728
Earth	-44944-04-08 09:06 J	-14694275.27	-14694275.12	-14694274.97	0.2647	0.1034 *
Jupiter	-44940-05-12 10:33 J	-14692780.24	-14692780.06	-14692779.88	0.0534	0.0212

Neptune -44935-04-05 17:45 J -14690990.81 -14690990.76 -14690990.66 0.0089 0.0083
 Neptune -44935-11-17 05:59 J -14690765.37 -14690765.25 -14690765.10 0.0089 0.0068
 Jupiter -44934-03-07 10:04 J -14690655.21 -14690655.08 -14690654.94 0.0490 0.0370
 Neptune -44934-06-30 18:14 J -14690539.90 -14690539.74 -14690539.56 0.0089 0.0053
 Neptune -44933-02-11 06:28 J -14690314.42 -14690314.23 -14690314.03 0.0089 0.0038
 Saturn -44933-09-06 05:16 J -14690106.48 -14690106.28 -14690106.07 0.0279 0.0066
 Neptune -44933-09-23 18:42 J -14690088.92 -14690088.72 -14690088.51 0.0089 0.0024
 Saturn -44932-04-23 12:57 J -14689877.11 -14689876.96 -14689876.81 0.0280 0.0187
 Neptune -44932-05-07 06:42 J -14689863.43 -14689863.22 -14689863.00 0.0089 0.0009
 Neptune -44932-12-18 18:57 J -14689637.92 -14689637.71 -14689637.50 0.0089 0.0006
 Neptune -44931-08-01 06:57 J -14689412.42 -14689412.21 -14689412.00 0.0089 0.0021
 Neptune -44930-03-14 18:57 J -14689186.90 -14689186.71 -14689186.51 0.0089 0.0036
 Neptune -44930-10-26 06:57 J -14688961.37 -14688961.21 -14688961.03 0.0089 0.0051
 Neptune -44929-06-07 18:42 J -14688735.84 -14688735.72 -14688735.55 0.0089 0.0066
 Jupiter -44928-01-15 04:18 J -14688514.51 -14688514.32 -14688514.12 0.0536 0.0096
 Neptune -44928-01-19 07:26 J -14688510.28 -14688510.19 -14688510.11 0.0089 0.0081
 Jupiter -44922-07-04 22:18 J -14686152.74 -14686152.57 -14686152.39 0.0494 0.0268
 Mars -44921-06-01 03:50 J -14685820.42 -14685820.34 -14685820.25 0.1809 0.1546
 Pluto -44919-02-26 03:06 J -14685185.57 -14685185.37 -14685185.15 0.0078 0.0024
 Saturn -44919-07-03 19:11 J -14685057.82 -14685057.70 -14685057.57 0.0281 0.0227
 Uranus -44919-07-16 12:28 J -14685045.04 -14685044.98 -14685044.88 0.0144 0.0134
 Pluto -44919-10-09 12:28 J -14684960.15 -14684959.98 -14684959.79 0.0077 0.0046
 Saturn -44918-02-18 11:30 J -14684828.23 -14684828.02 -14684827.81 0.0280 0.0039
 Uranus -44918-02-28 02:23 J -14684818.53 -14684818.40 -14684818.27 0.0144 0.0115
 Uranus -44918-10-12 15:21 J -14684592.01 -14684591.86 -14684591.68 0.0144 0.0097
 Uranus -44917-05-26 04:47 J -14684365.48 -14684365.30 -14684365.11 0.0143 0.0078
 Jupiter -44917-09-19 22:47 J -14684248.68 -14684248.55 -14684248.42 0.0538 0.0404
 Uranus -44916-01-07 17:45 J -14684138.96 -14684138.76 -14684138.55 0.0143 0.0059
 Uranus -44916-08-22 06:42 J -14683912.43 -14683912.22 -14683912.00 0.0143 0.0040
 Uranus -44915-04-05 19:54 J -14683685.89 -14683685.67 -14683685.45 0.0142 0.0020

Mars -44915-11-10 04:18 J -14683467.44 -14683467.32 -14683467.19 0.1739 0.1217
 Uranus -44915-11-18 08:38 J -14683459.37 -14683459.14 -14683458.92 0.0142 0.0002
 Uranus -44914-07-02 21:06 J -14683232.84 -14683232.62 -14683232.40 0.0142 0.0017
 Uranus -44913-02-14 09:21 J -14683006.32 -14683006.11 -14683005.88 0.0141 0.0037
 Uranus -44913-09-27 21:50 J -14682779.79 -14682779.59 -14682779.38 0.0141 0.0054
 Uranus -44912-05-12 09:50 J -14682553.27 -14682553.09 -14682552.89 0.0140 0.0073
 Uranus -44912-12-24 21:50 J -14682326.75 -14682326.59 -14682326.41 0.0140 0.0090
 Uranus -44911-08-08 09:21 J -14682100.23 -14682100.11 -14682099.95 0.0140 0.0108
 Jupiter -44910-03-09 20:38 J -14681886.85 -14681886.64 -14681886.43 0.0493 0.0016
 Uranus -44910-03-22 21:06 J -14681873.70 -14681873.62 -14681873.50 0.0139 0.0125
 Jupiter -44904-01-18 02:23 J -14679745.53 -14679745.40 -14679745.26 0.0533 0.0391
 Saturn -44903-03-19 08:09 J -14679320.37 -14679320.16 -14679319.95 0.0278 0.0034
 Saturn -44903-11-03 15:21 J -14679090.98 -14679090.86 -14679090.73 0.0280 0.0218
 Jupiter -44899-11-12 19:40 J -14677620.86 -14677620.68 -14677620.49 0.0491 0.0233
 Jupiter -44893-09-22 21:06 J -14675479.82 -14675479.62 -14675479.43 0.0535 0.0088
 Saturn -44889-01-13 23:16 J -14674271.69 -14674271.53 -14674271.38 0.0281 0.0195
 Saturn -44889-08-30 15:35 J -14674042.06 -14674041.85 -14674041.64 0.0280 0.0071
 Mars -44887-03-30 06:57 J -14673465.34 -14673465.21 -14673465.09 0.1791 0.1203
 Jupiter -44887-07-18 20:09 J -14673354.71 -14673354.66 -14673354.61 0.0490 0.0473
 Jupiter -44886-03-12 12:14 J -14673118.09 -14673117.99 -14673117.88 0.0496 0.0423
 Mars -44883-11-09 12:57 J -14671780.09 -14671779.96 -14671779.82 0.1727 0.1093
 Jupiter -44881-05-28 11:45 J -14671214.18 -14671214.01 -14671213.83 0.0537 0.0231
 Uranus -44875-07-14 10:33 J -14668976.12 -14668976.06 -14668975.96 0.0134 0.0124
 Jupiter -44875-11-15 09:35 J -14668852.30 -14668852.10 -14668851.90 0.0494 0.0166
 Saturn -44874-02-12 09:06 J -14668763.22 -14668763.12 -14668763.01 0.0278 0.0238
 Uranus -44874-02-25 15:06 J -14668749.98 -14668749.87 -14668749.74 0.0135 0.0109
 Saturn -44874-09-29 17:02 J -14668534.00 -14668533.79 -14668533.59 0.0279 0.0013
 Uranus -44874-10-09 19:26 J -14668523.82 -14668523.69 -14668523.52 0.0135 0.0095
 Saturn -44873-05-16 00:28 J -14668304.54 -14668304.48 -14668304.41 0.0280 0.0264
 Uranus -44873-05-22 23:59 J -14668297.66 -14668297.50 -14668297.31 0.0135 0.0080

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 Uranus -44872-08-18 09:35 J -14667845.29 -14667845.10 -14667844.90 0.0136 0.0050
 Uranus -44871-04-01 14:38 J -14667619.10 -14667618.89 -14667618.69 0.0136 0.0034
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 Uranus -44869-09-22 11:02 J -14666714.24 -14666714.04 -14666713.82 0.0137 0.0029
 Uranus -44868-05-06 16:47 J -14666488.00 -14666487.80 -14666487.60 0.0138 0.0045
 Uranus -44868-12-18 22:04 J -14666261.76 -14666261.58 -14666261.38 0.0138 0.0061
 Uranus -44867-08-02 03:50 J -14666035.51 -14666035.34 -14666035.16 0.0138 0.0077
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 Jupiter -44863-07-21 05:45 J -14664586.46 -14664586.26 -14664586.05 0.0492 0.0095
 Saturn -44860-07-26 10:18 J -14663485.25 -14663485.07 -14663484.88 0.0281 0.0142
 Saturn -44859-03-13 02:38 J -14663255.58 -14663255.39 -14663255.20 0.0280 0.0123
 Jupiter -44857-05-31 09:06 J -14662445.29 -14662445.12 -14662444.95 0.0534 0.0255
 Mars -44855-03-29 11:59 J -14661778.12 -14661778.00 -14661777.87 0.1804 0.1155
 Neptune -44853-05-19 10:33 J -14660996.12 -14660996.06 -14660995.97 0.0088 0.0083
 Neptune -44853-12-31 00:28 J -14660770.61 -14660770.48 -14660770.32 0.0088 0.0067
 Neptune -44852-08-13 14:09 J -14660545.07 -14660544.91 -14660544.71 0.0088 0.0053
 Jupiter -44851-03-26 05:30 J -14660320.42 -14660320.27 -14660320.12 0.0490 0.0340
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 Neptune -44849-02-01 22:18 J -14659642.79 -14659642.57 -14659642.34 0.0088 0.0009
 Mars -44849-09-06 12:14 J -14659425.06 -14659424.99 -14659424.91 0.1743 0.1566
 Neptune -44849-09-14 12:14 J -14659417.20 -14659416.99 -14659416.77 0.0088 0.0024
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 Jupiter -44845-02-04 04:18 J -14658179.52 -14658179.32 -14658179.13 0.0536 0.0047
 Saturn -44845-08-24 12:57 J -14657977.10 -14657976.96 -14657976.82 0.0278 0.0205
 Saturn -44844-04-10 20:23 J -14657747.86 -14657747.65 -14657747.45 0.0279 0.0045
 Jupiter -44839-07-23 19:54 J -14655817.83 -14655817.67 -14655817.50 0.0495 0.0307
 Uranus -44835-03-15 19:26 J -14654486.73 -14654486.69 -14654486.62 0.0144 0.0139
 Uranus -44835-10-28 08:38 J -14654260.24 -14654260.14 -14654260.00 0.0144 0.0122
 Uranus -44834-06-11 22:18 J -14654033.72 -14654033.57 -14654033.41 0.0144 0.0102
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 Uranus -44832-04-21 13:54 J -14653354.13 -14653353.92 -14653353.70 0.0143 0.0046
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 Uranus -44830-03-02 04:33 J -14652674.53 -14652674.31 -14652674.09 0.0142 0.0011
 Saturn -44830-09-23 05:45 J -14652469.43 -14652469.26 -14652469.08 0.0280 0.0153
 Uranus -44830-10-14 17:02 J -14652448.00 -14652447.79 -14652447.56 0.0141 0.0030
 Uranus -44829-05-28 05:16 J -14652221.48 -14652221.28 -14652221.06 0.0141 0.0048
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 Uranus -44828-08-24 05:45 J -14651768.43 -14651768.26 -14651768.07 0.0140 0.0084
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 Mars -44821-01-25 15:06 J -14649422.95 -14649422.87 -14649422.79 0.1787 0.1566
 Jupiter -44821-02-06 21:21 J -14649410.73 -14649410.61 -14649410.49 0.0532 0.0421
 Mars -44817-09-05 20:38 J -14647737.80 -14647737.64 -14647737.48 0.1731 0.0742
 Jupiter -44816-12-01 17:30 J -14647285.96 -14647285.77 -14647285.57 0.0491 0.0194

Saturn -44815-03-06 20:23 J -14647190.82 -14647190.65 -14647190.48 0.0278 0.0162
 Moon -44815-10-13 00:14 J -14646970.61 -14646970.49 -14646970.36 0.2691 0.1420
 Earth -44815-10-13 03:21 J -14646970.45 -14646970.36 -14646970.26 0.2685 0.2067 *
 Saturn -44815-10-22 03:50 J -14646961.53 -14646961.34 -14646961.13 0.0279 0.0089
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 Earth -44807-10-10 19:11 J -14644050.82 -14644050.70 -14644050.58 0.2684 0.1695
 Moon -44807-10-10 19:54 J -14644050.79 -14644050.67 -14644050.54 0.2691 0.1446 *
 Jupiter -44804-08-06 15:21 J -14643019.94 -14643019.86 -14643019.77 0.0489 0.0444
 Jupiter -44803-03-31 06:57 J -14642783.29 -14642783.21 -14642783.12 0.0496 0.0450
 Saturn -44801-08-18 01:11 J -14641912.66 -14641912.45 -14641912.24 0.0281 0.0058
 Saturn -44800-04-04 17:16 J -14641682.92 -14641682.78 -14641682.63 0.0280 0.0206
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 Jupiter -44792-12-04 04:47 J -14638517.49 -14638517.30 -14638517.10 0.0494 0.0195
 Uranus -44791-03-13 22:47 J -14638417.60 -14638417.55 -14638417.47 0.0134 0.0127
 Uranus -44791-10-26 03:21 J -14638191.47 -14638191.36 -14638191.24 0.0134 0.0113
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 Uranus -44788-11-30 02:23 J -14637060.60 -14637060.40 -14637060.20 0.0136 0.0039
 Uranus -44787-07-14 07:11 J -14636834.41 -14636834.20 -14636833.99 0.0136 0.0024
 Jupiter -44786-02-20 04:04 J -14636613.41 -14636613.33 -14636613.25 0.0539 0.0495
 Uranus -44786-02-25 12:14 J -14636608.20 -14636607.99 -14636607.78 0.0136 0.0008
 Saturn -44786-09-17 00:14 J -14636404.67 -14636404.49 -14636404.30 0.0278 0.0128
 Uranus -44786-10-09 17:30 J -14636381.98 -14636381.77 -14636381.56 0.0137 0.0008
 Saturn -44785-05-03 07:40 J -14636175.37 -14636175.18 -14636174.99 0.0279 0.0121
 Uranus -44785-05-22 22:47 J -14636155.76 -14636155.55 -14636155.35 0.0137 0.0023
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Uranus -44783-04-01 14:52 J -14635477.05 -14635476.88 -14635476.69 0.0138 0.0071
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 Jupiter -44774-06-20 08:09 J -14632110.32 -14632110.16 -14632110.00 0.0533 0.0300
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 Saturn -44771-10-15 19:26 J -14630896.80 -14630896.69 -14630896.56 0.0280 0.0234
 Neptune -44770-02-18 15:06 J -14630770.96 -14630770.87 -14630770.74 0.0089 0.0076
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 Neptune -44769-05-14 15:50 J -14630320.02 -14630319.84 -14630319.65 0.0089 0.0046
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 Neptune -44764-04-22 16:04 J -14628515.93 -14628515.83 -14628515.68 0.0089 0.0073
 Neptune -44764-12-04 04:33 J -14628290.35 -14628290.31 -14628290.26 0.0089 0.0087
 Jupiter -44762-02-23 00:14 J -14627844.69 -14627844.49 -14627844.29 0.0535 0.0013
 Pluto -44760-03-03 06:42 J -14627105.34 -14627105.22 -14627105.08 0.0067 0.0053
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 Saturn -44756-03-29 06:42 J -14625618.41 -14625618.22 -14625618.01 0.0279 0.0088
 Jupiter -44756-08-11 18:14 J -14625482.88 -14625482.74 -14625482.59 0.0495 0.0347
 Saturn -44756-11-13 14:23 J -14625389.07 -14625388.90 -14625388.73 0.0280 0.0163
 Uranus -44751-06-27 15:06 J -14623701.95 -14623701.87 -14623701.75 0.0144 0.0128

Mars -44751-07-04 03:35 J -14623695.52 -14623695.35 -14623695.17 0.1735 0.0380
 Jupiter -44751-10-28 16:47 J -14623578.95 -14623578.80 -14623578.64 0.0537 0.0323
 Uranus -44750-02-09 05:02 J -14623475.43 -14623475.29 -14623475.14 0.0144 0.0109
 Uranus -44750-09-23 18:14 J -14623248.90 -14623248.74 -14623248.56 0.0144 0.0090
 Uranus -44749-05-07 07:26 J -14623022.37 -14623022.19 -14623021.98 0.0143 0.0072
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 Uranus -44745-01-26 12:57 J -14621663.17 -14621662.96 -14621662.74 0.0141 0.0041
 Uranus -44745-09-09 01:26 J -14621436.64 -14621436.44 -14621436.23 0.0141 0.0059
 Jupiter -44744-04-16 14:23 J -14621217.10 -14621216.90 -14621216.69 0.0493 0.0086
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 Uranus -44743-07-20 13:26 J -14620757.06 -14620756.94 -14620756.79 0.0140 0.0112
 Saturn -44742-01-23 22:18 J -14620569.67 -14620569.57 -14620569.46 0.0282 0.0243
 Uranus -44742-03-04 01:11 J -14620530.52 -14620530.45 -14620530.35 0.0140 0.0128
 Saturn -44742-09-10 14:38 J -14620340.10 -14620339.89 -14620339.67 0.0281 0.0023
 Jupiter -44738-02-25 19:54 J -14619075.76 -14619075.67 -14619075.57 0.0533 0.0463
 Jupiter -44733-12-20 13:26 J -14616951.13 -14616950.94 -14616950.74 0.0491 0.0162
 Saturn -44727-10-09 10:47 J -14614832.25 -14614832.05 -14614831.84 0.0278 0.0054
 Jupiter -44727-10-31 16:04 J -14614810.02 -14614809.83 -14614809.64 0.0535 0.0169
 Saturn -44726-05-26 17:59 J -14614602.89 -14614602.75 -14614602.60 0.0279 0.0195
 Mars -44724-11-21 04:47 J -14613693.46 -14613693.30 -14613693.13 0.1796 0.0399
 Jupiter -44721-08-25 13:11 J -14612685.06 -14612684.95 -14612684.83 0.0490 0.0404
 Jupiter -44720-04-19 05:16 J -14612448.30 -14612448.28 -14612448.24 0.0496 0.0490
 Jupiter -44715-07-06 10:18 J -14610544.26 -14610544.07 -14610543.88 0.0537 0.0136
 Saturn -44713-08-04 23:30 J -14609783.65 -14609783.52 -14609783.38 0.0282 0.0216
 Saturn -44712-03-22 15:50 J -14609554.05 -14609553.84 -14609553.62 0.0281 0.0049

Jupiter -44709-12-23 03:50 J -14608182.52 -14608182.34 -14608182.15 0.0494 0.0238
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 Uranus -44707-06-25 16:04 J -14607632.92 -14607632.83 -14607632.71 0.0134 0.0116
 Uranus -44706-02-06 20:23 J -14607406.77 -14607406.65 -14607406.50 0.0135 0.0102
 Uranus -44706-09-21 00:57 J -14607180.60 -14607180.46 -14607180.28 0.0135 0.0088
 Uranus -44705-05-04 05:45 J -14606954.43 -14606954.26 -14606954.08 0.0135 0.0073
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 Jupiter -44703-03-11 01:26 J -14606278.54 -14606278.44 -14606278.33 0.0538 0.0453
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 Uranus -44701-01-21 11:02 J -14605597.24 -14605597.04 -14605596.82 0.0137 0.0019
 Earth -44701-04-08 09:50 J -14605519.24 -14605519.09 -14605518.94 0.2648 0.0948
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 Uranus -44699-07-14 08:52 J -14604692.29 -14604692.13 -14604691.95 0.0138 0.0082
 Uranus -44698-02-25 14:23 J -14604466.03 -14604465.90 -14604465.73 0.0139 0.0098
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 Saturn -44697-04-20 16:04 J -14604046.04 -14604045.83 -14604045.62 0.0279 0.0016
 Uranus -44697-05-23 02:52 J -14604013.45 -14604013.38 -14604013.29 0.0139 0.0129
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 Saturn -44697-12-05 23:30 J -14603816.63 -14603816.52 -14603816.41 0.0280 0.0234
 Jupiter -44691-07-09 04:18 J -14601775.48 -14601775.32 -14601775.17 0.0533 0.0334
 Neptune -44688-04-03 06:57 J -14600776.31 -14600776.21 -14600776.08 0.0088 0.0076
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 Jupiter -44685-05-03 00:14 J -14599650.67 -14599650.49 -14599650.32 0.0490 0.0265
 Neptune -44685-05-05 04:47 J -14599648.53 -14599648.30 -14599648.08 0.0088 0.0001
 Neptune -44685-12-16 18:28 J -14599422.95 -14599422.73 -14599422.50 0.0088 0.0015
 Neptune -44684-07-30 08:23 J -14599197.36 -14599197.15 -14599196.93 0.0088 0.0031
 Saturn -44683-02-15 10:18 J -14598997.24 -14598997.07 -14598996.90 0.0282 0.0166
 Neptune -44683-03-12 22:33 J -14598971.75 -14598971.56 -14598971.36 0.0088 0.0046
 Saturn -44683-10-03 02:38 J -14598767.59 -14598767.39 -14598767.18 0.0281 0.0099
 Neptune -44683-10-24 11:59 J -14598746.14 -14598746.00 -14598745.81 0.0088 0.0061
 Neptune -44682-06-07 01:54 J -14598520.51 -14598520.42 -14598520.28 0.0088 0.0076
 Jupiter -44679-03-13 23:02 J -14597509.74 -14597509.54 -14597509.34 0.0536 0.0033
 Pluto -44674-08-14 11:02 J -14595530.22 -14595530.04 -14595529.86 0.0078 0.0045
 Pluto -44673-03-26 20:09 J -14595304.86 -14595304.66 -14595304.44 0.0077 0.0025
 Jupiter -44673-08-30 14:52 J -14595148.02 -14595147.88 -14595147.75 0.0495 0.0379
 Saturn -44668-03-16 13:11 J -14593489.06 -14593488.95 -14593488.82 0.0277 0.0228
 Saturn -44668-10-31 20:23 J -14593259.86 -14593259.65 -14593259.44 0.0278 0.0018
 Jupiter -44668-11-16 17:45 J -14593243.93 -14593243.76 -14593243.59 0.0538 0.0271
 Uranus -44667-02-24 23:02 J -14593143.61 -14593143.54 -14593143.43 0.0144 0.0133
 Saturn -44667-06-18 03:21 J -14593030.41 -14593030.36 -14593030.29 0.0279 0.0266
 Uranus -44667-10-09 12:28 J -14592917.10 -14592916.98 -14592916.83 0.0144 0.0114
 Uranus -44666-05-24 02:23 J -14592690.57 -14592690.40 -14592690.24 0.0144 0.0095
 Uranus -44665-01-05 15:21 J -14592464.04 -14592463.86 -14592463.66 0.0144 0.0077
 Uranus -44665-08-19 04:33 J -14592237.50 -14592237.31 -14592237.09 0.0143 0.0058
 Uranus -44664-04-02 17:59 J -14592010.96 -14592010.75 -14592010.53 0.0143 0.0039
 Uranus -44664-11-15 06:57 J -14591784.43 -14591784.21 -14591783.98 0.0143 0.0021
 Uranus -44663-06-29 19:54 J -14591557.89 -14591557.67 -14591557.44 0.0142 0.0002
 Uranus -44662-02-11 08:52 J -14591331.35 -14591331.13 -14591330.91 0.0142 0.0017
 Uranus -44662-09-25 21:21 J -14591104.82 -14591104.61 -14591104.39 0.0142 0.0035

Jupiter -44661-05-05 13:11 J -14590882.16 -14590881.95 -14590881.75 0.0493 0.0128
 Uranus -44661-05-09 09:50 J -14590878.29 -14590878.09 -14590877.87 0.0141 0.0053
 Uranus -44661-12-21 22:04 J -14590651.76 -14590651.58 -14590651.38 0.0141 0.0071
 Uranus -44660-08-05 10:04 J -14590425.24 -14590425.08 -14590424.89 0.0140 0.0089
 Uranus -44659-03-19 22:18 J -14590198.71 -14590198.57 -14590198.41 0.0140 0.0106
 Uranus -44659-11-01 10:18 J -14589972.18 -14589972.07 -14589971.96 0.0140 0.0122
 Uranus -44658-06-15 21:21 J -14589745.61 -14589745.61 -14589745.56 0.0139 0.0139
 Mars -44658-09-18 12:57 J -14589651.12 -14589650.96 -14589650.79 0.1791 0.0055
 Jupiter -44655-03-16 20:38 J -14588740.68 -14588740.64 -14588740.58 0.0532 0.0513
 Saturn -44654-08-28 10:33 J -14588211.24 -14588211.06 -14588210.87 0.0282 0.0141
 Saturn -44653-04-14 03:06 J -14587981.56 -14587981.37 -14587981.17 0.0280 0.0124
 Jupiter -44649-01-09 12:42 J -14586616.17 -14586615.97 -14586615.76 0.0491 0.0118
 Jupiter -44644-11-19 14:09 J -14584475.09 -14584474.91 -14584474.72 0.0534 0.0211
 Saturn -44639-09-26 16:47 J -14582702.94 -14582702.80 -14582702.64 0.0278 0.0194
 Saturn -44638-05-14 00:14 J -14582473.69 -14582473.49 -14582473.28 0.0279 0.0054
 Jupiter -44638-09-14 12:42 J -14582350.11 -14582349.97 -14582349.83 0.0490 0.0361
 Jupiter -44632-07-25 07:40 J -14580209.37 -14580209.18 -14580208.99 0.0536 0.0096
 Jupiter -44625-01-12 00:57 J -14577847.63 -14577847.46 -14577847.28 0.0494 0.0273
 Saturn -44624-03-09 20:09 J -14577424.86 -14577424.66 -14577424.45 0.0282 0.0094
 Uranus -44624-07-12 00:42 J -14577300.48 -14577300.47 -14577300.44 0.0134 0.0133
 Saturn -44624-10-25 12:57 J -14577195.13 -14577194.96 -14577194.79 0.0280 0.0171
 Uranus -44623-02-23 05:02 J -14577074.38 -14577074.29 -14577074.19 0.0134 0.0120
 Uranus -44623-10-07 09:21 J -14576848.23 -14576848.11 -14576847.97 0.0134 0.0106
 Uranus -44622-05-21 13:40 J -14576622.07 -14576621.93 -14576621.76 0.0135 0.0092
 Uranus -44621-01-02 18:28 J -14576395.90 -14576395.73 -14576395.56 0.0135 0.0077
 Uranus -44621-08-15 22:47 J -14576169.72 -14576169.55 -14576169.35 0.0135 0.0063
 Jupiter -44620-03-29 23:59 J -14575943.62 -14575943.50 -14575943.36 0.0539 0.0409
 Uranus -44620-03-30 03:50 J -14575943.54 -14575943.34 -14575943.14 0.0135 0.0048 *
 Uranus -44620-11-11 08:23 J -14575717.35 -14575717.15 -14575716.94 0.0136 0.0033
 Mars -44619-02-25 18:14 J -14575610.91 -14575610.74 -14575610.56 0.1743 0.0350

Uranus -44619-06-25 13:11 J -14575491.15 -14575490.95 -14575490.73 0.0136 0.0018
 Uranus -44618-02-06 18:14 J -14575264.95 -14575264.74 -14575264.53 0.0136 0.0003
 Uranus -44618-09-20 23:30 J -14575038.73 -14575038.52 -14575038.31 0.0137 0.0013
 Uranus -44617-05-04 04:33 J -14574812.51 -14574812.31 -14574812.10 0.0137 0.0028
 Uranus -44617-12-16 09:35 J -14574586.29 -14574586.10 -14574585.89 0.0137 0.0045
 Uranus -44616-07-30 15:06 J -14574360.06 -14574359.87 -14574359.68 0.0138 0.0060
 Uranus -44615-03-13 20:38 J -14574133.81 -14574133.64 -14574133.46 0.0138 0.0075
 Uranus -44615-10-26 02:23 J -14573907.55 -14573907.40 -14573907.24 0.0138 0.0091
 Uranus -44614-06-09 07:54 J -14573681.29 -14573681.17 -14573681.02 0.0139 0.0107
 Jupiter -44614-09-16 23:59 J -14573581.71 -14573581.50 -14573581.29 0.0492 0.0024
 Uranus -44613-01-21 13:54 J -14573455.00 -14573454.92 -14573454.80 0.0139 0.0122
 Uranus -44613-09-03 19:54 J -14573228.68 -14573228.67 -14573228.61 0.0139 0.0138
 Saturn -44609-04-07 21:50 J -14571916.75 -14571916.59 -14571916.41 0.0277 0.0159
 Saturn -44609-11-23 04:47 J -14571687.49 -14571687.30 -14571687.10 0.0278 0.0087
 Jupiter -44608-07-28 05:30 J -14571440.40 -14571440.27 -14571440.13 0.0534 0.0387
 Neptune -44606-05-22 23:45 J -14570776.55 -14570776.51 -14570776.42 0.0089 0.0084
 Neptune -44605-01-03 12:14 J -14570551.11 -14570550.99 -14570550.84 0.0089 0.0069
 Neptune -44605-08-16 00:42 J -14570325.64 -14570325.47 -14570325.30 0.0089 0.0054
 Neptune -44604-03-29 12:28 J -14570100.15 -14570099.98 -14570099.77 0.0089 0.0040
 Neptune -44604-11-10 00:42 J -14569874.66 -14569874.47 -14569874.25 0.0089 0.0025
 Neptune -44603-06-23 12:57 J -14569649.17 -14569648.96 -14569648.74 0.0089 0.0010
 Neptune -44602-02-04 01:11 J -14569423.66 -14569423.45 -14569423.24 0.0089 0.0005
 Jupiter -44602-05-22 23:16 J -14569315.71 -14569315.53 -14569315.34 0.0490 0.0222
 Neptune -44602-09-17 13:26 J -14569198.15 -14569197.94 -14569197.73 0.0089 0.0019
 Neptune -44601-04-30 01:11 J -14568972.63 -14568972.45 -14568972.24 0.0089 0.0034
 Neptune -44601-12-11 12:57 J -14568747.11 -14568746.96 -14568746.76 0.0089 0.0050
 Neptune -44600-07-25 01:11 J -14568521.58 -14568521.45 -14568521.29 0.0089 0.0064
 Neptune -44599-03-07 13:11 J -14568296.03 -14568295.95 -14568295.83 0.0089 0.0078
 Jupiter -44596-04-02 00:57 J -14567174.65 -14567174.46 -14567174.26 0.0536 0.0090
 Saturn -44595-09-19 20:23 J -14566638.86 -14566638.65 -14566638.44 0.0281 0.0069

Saturn -44594-05-07 12:42 J -14566409.12 -14566408.97 -14566408.81 0.0280 0.0195
 Mars -44592-07-15 21:50 J -14565608.76 -14565608.59 -14565608.42 0.1787 0.0333
 Jupiter -44590-01-26 00:14 J -14565049.56 -14565049.49 -14565049.42 0.0489 0.0459
 Jupiter -44590-09-19 15:06 J -14564812.97 -14564812.87 -14564812.76 0.0495 0.0426
 Jupiter -44585-12-05 17:30 J -14562908.95 -14562908.77 -14562908.59 0.0537 0.0222
 Uranus -44584-10-25 06:14 J -14562585.29 -14562585.24 -14562585.16 0.0145 0.0138
 Uranus -44583-06-08 19:54 J -14562358.78 -14562358.67 -14562358.54 0.0144 0.0120
 Uranus -44582-01-21 09:21 J -14562132.25 -14562132.11 -14562131.94 0.0144 0.0101
 Uranus -44582-09-04 22:47 J -14561905.72 -14561905.55 -14561905.35 0.0144 0.0083
 Uranus -44581-04-18 12:28 J -14561679.18 -14561678.98 -14561678.78 0.0143 0.0064
 Uranus -44581-12-01 01:40 J -14561452.64 -14561452.43 -14561452.22 0.0143 0.0045
 Uranus -44580-07-15 14:52 J -14561226.10 -14561225.88 -14561225.66 0.0143 0.0027
 Saturn -44580-10-18 23:59 J -14561130.68 -14561130.50 -14561130.30 0.0278 0.0128
 Uranus -44579-02-27 04:04 J -14560999.55 -14560999.33 -14560999.11 0.0142 0.0008
 Saturn -44579-06-05 07:11 J -14560901.38 -14560901.20 -14560901.00 0.0279 0.0120
 Uranus -44579-10-11 17:02 J -14560773.01 -14560772.79 -14560772.57 0.0142 0.0010
 Jupiter -44578-05-25 13:26 J -14560547.13 -14560546.94 -14560546.74 0.0493 0.0174
 Uranus -44578-05-26 05:30 J -14560546.48 -14560546.27 -14560546.04 0.0142 0.0029
 Uranus -44577-01-07 18:14 J -14560319.95 -14560319.74 -14560319.52 0.0141 0.0047
 Uranus -44577-08-21 06:42 J -14560093.42 -14560093.22 -14560093.02 0.0141 0.0064
 Uranus -44576-04-04 18:57 J -14559866.88 -14559866.71 -14559866.52 0.0141 0.0082
 Uranus -44576-11-17 06:57 J -14559640.36 -14559640.21 -14559640.04 0.0140 0.0099
 Uranus -44575-07-01 18:42 J -14559413.83 -14559413.72 -14559413.58 0.0140 0.0116
 Uranus -44574-02-13 06:28 J -14559187.29 -14559187.23 -14559187.15 0.0140 0.0132
 Jupiter -44573-08-10 09:21 J -14558643.13 -14558643.11 -14558643.08 0.0539 0.0534
 Earth -44572-10-13 05:02 J -14558214.38 -14558214.29 -14558214.20 0.2685 0.2168
 Jupiter -44566-01-28 11:16 J -14556281.23 -14556281.03 -14556280.82 0.0491 0.0078
 Saturn -44565-04-01 04:47 J -14555852.51 -14555852.30 -14555852.08 0.0281 0.0025
 Saturn -44565-11-16 21:35 J -14555622.71 -14555622.60 -14555622.49 0.0280 0.0239
 Earth -44564-10-10 20:38 J -14555294.77 -14555294.64 -14555294.51 0.2683 0.1596

Moon	-44564-10-10 22:33 J	-14555294.68	-14555294.56	-14555294.43	0.2678	0.1680 *
Jupiter	-44561-12-08 13:40 J	-14554140.10	-14554139.93	-14554139.76	0.0535	0.0257
Jupiter	-44555-10-03 11:30 J	-14552015.17	-14552015.02	-14552014.86	0.0489	0.0319
Mars	-44554-12-24 01:40 J	-14551568.60	-14551568.43	-14551568.27	0.1747	0.0712
Saturn	-44550-05-01 05:30 J	-14550344.46	-14550344.27	-14550344.06	0.0277	0.0092
Saturn	-44550-12-16 12:28 J	-14550115.15	-14550114.98	-14550114.80	0.0278	0.0153
Jupiter	-44549-08-13 08:52 J	-14549874.32	-14549874.13	-14549873.93	0.0537	0.0043
Jupiter	-44542-01-31 00:57 J	-14547512.61	-14547512.46	-14547512.30	0.0494	0.0319
Uranus	-44540-10-23 18:14 J	-14546515.81	-14546515.74	-14546515.64	0.0134	0.0122
Uranus	-44539-06-06 22:33 J	-14546289.67	-14546289.56	-14546289.43	0.0134	0.0109
Uranus	-44538-01-19 02:52 J	-14546063.52	-14546063.38	-14546063.22	0.0134	0.0095
Uranus	-44538-09-02 07:26 J	-14545837.34	-14545837.19	-14545837.00	0.0135	0.0081
Uranus	-44537-04-15 12:14 J	-14545611.17	-14545610.99	-14545610.80	0.0135	0.0066
Jupiter	-44537-04-18 03:06 J	-14545608.51	-14545608.37	-14545608.21	0.0539	0.0347
Uranus	-44537-11-27 16:47 J	-14545384.99	-14545384.80	-14545384.60	0.0135	0.0052
Saturn	-44536-02-24 11:30 J	-14545296.08	-14545296.02	-14545295.93	0.0282	0.0266
Uranus	-44536-07-11 21:35 J	-14545158.81	-14545158.60	-14545158.40	0.0136	0.0037
Saturn	-44536-10-12 04:18 J	-14545066.53	-14545066.32	-14545066.10	0.0281	0.0007
Uranus	-44535-02-23 02:23 J	-14544932.61	-14544932.40	-14544932.19	0.0136	0.0022
Saturn	-44535-05-29 20:52 J	-14544836.70	-14544836.63	-14544836.55	0.0280	0.0262
Uranus	-44535-10-07 07:26 J	-14544706.41	-14544706.19	-14544705.98	0.0136	0.0007
Uranus	-44534-05-21 12:14 J	-14544480.20	-14544479.99	-14544479.78	0.0137	0.0009
Uranus	-44533-01-02 17:16 J	-14544253.99	-14544253.78	-14544253.57	0.0137	0.0024
Uranus	-44533-08-15 22:18 J	-14544027.76	-14544027.57	-14544027.36	0.0137	0.0039
Uranus	-44532-03-30 03:35 J	-14543801.54	-14543801.35	-14543801.15	0.0138	0.0055
Uranus	-44532-11-11 09:06 J	-14543575.30	-14543575.12	-14543574.93	0.0138	0.0070
Uranus	-44531-06-25 14:38 J	-14543349.05	-14543348.89	-14543348.72	0.0138	0.0085
Jupiter	-44531-10-06 00:28 J	-14543246.69	-14543246.48	-14543246.27	0.0492	0.0071
Uranus	-44530-02-06 20:23 J	-14543122.79	-14543122.65	-14543122.50	0.0139	0.0101
Uranus	-44530-09-21 02:09 J	-14542896.51	-14542896.41	-14542896.28	0.0139	0.0116

Uranus -44529-05-04 08:09 J -14542670.21 -14542670.16 -14542670.08 0.0139 0.0132
 Mars -44526-05-13 06:28 J -14541566.38 -14541566.23 -14541566.07 0.1783 0.0687
 Jupiter -44525-08-16 05:59 J -14541105.36 -14541105.25 -14541105.14 0.0533 0.0435
 Neptune -44524-07-05 13:40 J -14540781.98 -14540781.93 -14540781.84 0.0088 0.0084
 Neptune -44523-02-16 03:50 J -14540556.47 -14540556.34 -14540556.19 0.0088 0.0068
 Neptune -44523-09-29 17:30 J -14540330.94 -14540330.77 -14540330.58 0.0088 0.0054
 Neptune -44522-05-13 07:26 J -14540105.39 -14540105.19 -14540104.98 0.0088 0.0039
 Mars -44522-12-23 10:33 J -14539881.12 -14539881.06 -14539880.99 0.1734 0.1604
 Neptune -44522-12-24 21:21 J -14539879.83 -14539879.61 -14539879.39 0.0088 0.0023
 Neptune -44521-08-06 11:16 J -14539654.26 -14539654.03 -14539653.81 0.0088 0.0009
 Saturn -44521-11-10 06:57 J -14539558.41 -14539558.21 -14539558.01 0.0278 0.0063
 Neptune -44520-03-20 01:11 J -14539428.68 -14539428.45 -14539428.22 0.0088 0.0007
 Saturn -44520-06-27 13:54 J -14539329.07 -14539328.92 -14539328.76 0.0279 0.0183
 Neptune -44520-10-31 14:52 J -14539203.09 -14539202.88 -14539202.65 0.0088 0.0022
 Jupiter -44519-06-10 23:59 J -14538980.69 -14538980.50 -14538980.30 0.0491 0.0175
 Neptune -44519-06-14 04:33 J -14538977.50 -14538977.31 -14538977.09 0.0088 0.0037
 Neptune -44518-01-25 18:28 J -14538751.90 -14538751.73 -14538751.53 0.0088 0.0052
 Neptune -44518-09-08 08:23 J -14538526.28 -14538526.15 -14538525.98 0.0088 0.0067
 Neptune -44517-04-20 22:18 J -14538300.63 -14538300.57 -14538300.47 0.0088 0.0082
 Pluto -44514-04-01 20:23 J -14537224.84 -14537224.65 -14537224.44 0.0067 0.0025
 Pluto -44514-11-13 01:26 J -14536999.65 -14536999.44 -14536999.23 0.0067 0.0020
 Jupiter -44513-04-21 00:14 J -14536839.68 -14536839.49 -14536839.30 0.0535 0.0136
 Pluto -44513-06-25 05:59 J -14536774.29 -14536774.25 -14536774.17 0.0067 0.0065
 Jupiter -44507-02-13 23:45 J -14534714.61 -14534714.51 -14534714.40 0.0489 0.0415
 Saturn -44507-09-06 18:57 J -14534509.83 -14534509.71 -14534509.57 0.0282 0.0225
 Jupiter -44507-10-08 14:23 J -14534477.96 -14534477.90 -14534477.83 0.0495 0.0467
 Saturn -44506-04-24 11:59 J -14534280.21 -14534280.00 -14534279.79 0.0281 0.0040
 Jupiter -44502-12-25 16:33 J -14532574.00 -14532573.81 -14532573.62 0.0538 0.0174
 Uranus -44500-06-24 14:09 J -14532026.94 -14532026.91 -14532026.85 0.0145 0.0142
 Uranus -44499-02-06 04:04 J -14531800.43 -14531800.33 -14531800.21 0.0145 0.0124

Uranus	-44499-09-20 17:30 J	-14531573.91	-14531573.77	-14531573.61	0.0144	0.0106
Uranus	-44498-05-05 07:26 J	-14531347.37	-14531347.19	-14531347.02	0.0144	0.0087
Uranus	-44498-12-17 20:38 J	-14531120.83	-14531120.64	-14531120.44	0.0144	0.0069
Uranus	-44497-07-31 09:50 J	-14530894.29	-14530894.09	-14530893.87	0.0143	0.0051
Uranus	-44496-03-14 23:16 J	-14530667.74	-14530667.53	-14530667.31	0.0143	0.0032
Uranus	-44496-10-27 12:28 J	-14530441.20	-14530440.98	-14530440.75	0.0143	0.0014
Uranus	-44495-06-11 01:40 J	-14530214.66	-14530214.43	-14530214.21	0.0142	0.0006
Jupiter	-44495-06-13 12:42 J	-14530212.15	-14530211.97	-14530211.78	0.0493	0.0217
Uranus	-44494-01-23 14:23 J	-14529988.12	-14529987.90	-14529987.68	0.0142	0.0023
Mars	-44494-05-12 11:16 J	-14529879.10	-14529879.03	-14529878.96	0.1796	0.1614
Uranus	-44494-09-07 02:52 J	-14529761.58	-14529761.38	-14529761.15	0.0142	0.0042
Uranus	-44493-04-20 15:35 J	-14529535.05	-14529534.85	-14529534.64	0.0141	0.0059
Uranus	-44493-12-03 04:04 J	-14529308.52	-14529308.33	-14529308.14	0.0141	0.0076
Uranus	-44492-07-17 15:50 J	-14529081.99	-14529081.84	-14529081.66	0.0141	0.0094
Saturn	-44492-10-06 05:45 J	-14529001.30	-14529001.26	-14529001.21	0.0276	0.0269
Uranus	-44491-03-01 04:04 J	-14528855.46	-14528855.33	-14528855.18	0.0140	0.0110
Saturn	-44491-05-23 12:42 J	-14528772.18	-14528771.97	-14528771.76	0.0277	0.0027
Uranus	-44491-10-13 16:04 J	-14528628.92	-14528628.83	-14528628.74	0.0140	0.0126
Saturn	-44490-01-07 19:11 J	-14528542.82	-14528542.70	-14528542.57	0.0278	0.0217
Jupiter	-44490-08-30 10:18 J	-14528308.15	-14528308.07	-14528307.98	0.0540	0.0480
Mars	-44488-10-20 08:38 J	-14527526.28	-14527526.14	-14527526.00	0.1751	0.1090
Jupiter	-44483-02-16 11:30 J	-14525946.22	-14525946.02	-14525945.81	0.0491	0.0032
Jupiter	-44478-12-28 16:47 J	-14523804.95	-14523804.80	-14523804.64	0.0534	0.0318
Saturn	-44477-03-18 19:11 J	-14523723.85	-14523723.70	-14523723.55	0.0282	0.0199
Saturn	-44477-11-03 11:45 J	-14523494.22	-14523494.01	-14523493.80	0.0281	0.0065
Jupiter	-44472-10-22 11:59 J	-14521680.17	-14521680.00	-14521679.82	0.0490	0.0272
Jupiter	-44466-09-02 10:33 J	-14519539.25	-14519539.06	-14519538.86	0.0536	0.0017
Saturn	-44462-04-18 06:28 J	-14518215.33	-14518215.23	-14518215.13	0.0277	0.0243
Saturn	-44462-12-03 13:11 J	-14517986.16	-14517985.95	-14517985.74	0.0278	0.0005
Saturn	-44461-07-19 19:54 J	-14517756.76	-14517756.67	-14517756.56	0.0279	0.0246

Mars -44460-03-09 15:21 J -14517524.00 -14517523.86 -14517523.72 0.1779 0.1030
 Jupiter -44459-02-19 02:38 J -14517177.52 -14517177.39 -14517177.25 0.0494 0.0368
 Moon -44458-04-09 06:42 J -14516763.37 -14516763.22 -14516763.07 0.2644 0.0944
 Earth -44458-04-09 11:16 J -14516763.18 -14516763.03 -14516762.88 0.2649 0.0814 *
 Uranus -44456-06-23 07:11 J -14515957.26 -14515957.20 -14515957.11 0.0134 0.0125
 Mars -44456-10-19 18:14 J -14515838.86 -14515838.74 -14515838.62 0.1738 0.1260
 Uranus -44455-02-04 11:45 J -14515731.12 -14515731.01 -14515730.89 0.0134 0.0111
 Uranus -44455-09-18 16:18 J -14515504.96 -14515504.82 -14515504.67 0.0134 0.0098
 Uranus -44454-05-02 20:38 J -14515278.80 -14515278.64 -14515278.47 0.0135 0.0084
 Jupiter -44454-05-08 03:21 J -14515273.52 -14515273.36 -14515273.20 0.0538 0.0295
 Uranus -44454-12-15 00:57 J -14515052.63 -14515052.46 -14515052.27 0.0135 0.0070
 Uranus -44453-07-28 05:30 J -14514826.45 -14514826.27 -14514826.07 0.0135 0.0056
 Uranus -44452-03-11 10:18 J -14514600.27 -14514600.07 -14514599.86 0.0135 0.0041
 Uranus -44452-10-23 15:06 J -14514374.08 -14514373.87 -14514373.66 0.0136 0.0026
 Uranus -44451-06-06 19:54 J -14514147.89 -14514147.67 -14514147.46 0.0136 0.0011
 Uranus -44450-01-19 00:42 J -14513921.68 -14513921.47 -14513921.26 0.0136 0.0004
 Uranus -44450-09-02 05:45 J -14513695.47 -14513695.26 -14513695.05 0.0137 0.0019
 Uranus -44449-04-15 10:47 J -14513469.26 -14513469.05 -14513468.85 0.0137 0.0034
 Uranus -44449-11-27 15:50 J -14513243.03 -14513242.84 -14513242.64 0.0137 0.0049
 Uranus -44448-07-11 20:52 J -14513016.80 -14513016.63 -14513016.43 0.0138 0.0065
 Saturn -44448-09-29 01:11 J -14512937.62 -14512937.45 -14512937.27 0.0282 0.0162
 Jupiter -44448-10-25 00:42 J -14512911.67 -14512911.47 -14512911.26 0.0492 0.0117
 Uranus -44447-02-23 02:23 J -14512790.56 -14512790.40 -14512790.22 0.0138 0.0080
 Saturn -44447-05-16 18:14 J -14512707.94 -14512707.74 -14512707.54 0.0281 0.0103
 Uranus -44447-10-07 08:23 J -14512564.30 -14512564.15 -14512564.00 0.0138 0.0095
 Uranus -44446-05-21 13:54 J -14512338.04 -14512337.92 -14512337.78 0.0139 0.0110
 Uranus -44445-01-02 19:40 J -14512111.75 -14512111.68 -14512111.58 0.0139 0.0125
 Jupiter -44442-09-05 05:30 J -14510770.36 -14510770.27 -14510770.19 0.0534 0.0482
 Neptune -44441-04-05 20:38 J -14510556.74 -14510556.64 -14510556.53 0.0089 0.0078
 Neptune -44441-11-17 08:23 J -14510331.28 -14510331.15 -14510330.98 0.0089 0.0064

Neptune -44440-06-30 20:52 J -14510105.80 -14510105.63 -14510105.44 0.0089 0.0048
 Neptune -44439-02-11 09:21 J -14509880.31 -14509880.11 -14509879.91 0.0089 0.0034
 Neptune -44439-09-24 21:21 J -14509654.81 -14509654.61 -14509654.39 0.0089 0.0019
 Neptune -44438-05-08 09:50 J -14509429.31 -14509429.09 -14509428.88 0.0089 0.0004
 Neptune -44438-12-19 21:50 J -14509203.80 -14509203.59 -14509203.38 0.0089 0.0011
 Neptune -44437-08-01 09:50 J -14508978.29 -14508978.09 -14508977.88 0.0089 0.0025
 Neptune -44436-03-14 21:35 J -14508752.78 -14508752.60 -14508752.39 0.0089 0.0040
 Jupiter -44436-06-30 00:14 J -14508645.69 -14508645.49 -14508645.28 0.0490 0.0127
 Neptune -44436-10-26 09:50 J -14508527.25 -14508527.09 -14508526.91 0.0089 0.0055
 Neptune -44435-06-08 21:35 J -14508301.71 -14508301.60 -14508301.44 0.0089 0.0070
 Neptune -44434-01-20 10:04 J -14508076.15 -14508076.08 -14508076.00 0.0089 0.0084
 Saturn -44433-10-28 12:57 J -14507429.09 -14507428.96 -14507428.82 0.0276 0.0205
 Saturn -44432-06-14 19:40 J -14507199.89 -14507199.68 -14507199.47 0.0277 0.0037
 Jupiter -44430-05-11 01:11 J -14506504.64 -14506504.45 -14506504.27 0.0536 0.0190
 Pluto -44428-01-29 16:33 J -14505874.85 -14505874.81 -14505874.71 0.0078 0.0074
 Mars -44428-03-08 19:26 J -14505836.81 -14505836.69 -14505836.56 0.1792 0.1239
 Pluto -44428-09-12 02:38 J -14505649.61 -14505649.39 -14505649.17 0.0078 0.0003
 Pluto -44427-04-25 11:30 J -14505424.11 -14505424.02 -14505423.89 0.0077 0.0067
 Jupiter -44424-03-05 00:14 J -14504379.63 -14504379.49 -14504379.35 0.0489 0.0367
 Mars -44422-08-17 15:50 J -14503483.94 -14503483.84 -14503483.75 0.1755 0.1459
 Jupiter -44418-01-13 20:09 J -14502238.85 -14502238.66 -14502238.46 0.0538 0.0110
 Saturn -44418-04-11 01:54 J -14502151.61 -14502151.42 -14502151.23 0.0282 0.0135
 Saturn -44418-11-26 18:28 J -14501921.92 -14501921.73 -14501921.54 0.0281 0.0129
 Uranus -44416-10-06 10:47 J -14501242.15 -14501242.05 -14501241.95 0.0145 0.0129
 Uranus -44415-05-20 23:59 J -14501015.62 -14501015.50 -14501015.34 0.0144 0.0112
 Uranus -44414-01-02 13:40 J -14500789.09 -14500788.93 -14500788.75 0.0144 0.0093
 Uranus -44414-08-17 03:21 J -14500562.54 -14500562.36 -14500562.16 0.0144 0.0075
 Uranus -44413-03-30 16:47 J -14500335.99 -14500335.80 -14500335.58 0.0144 0.0057
 Uranus -44413-11-12 06:14 J -14500109.45 -14500109.24 -14500109.02 0.0143 0.0038
 Uranus -44412-06-26 19:26 J -14499882.90 -14499882.69 -14499882.46 0.0143 0.0020

Jupiter -44412-07-02 13:40 J -14499877.10 -14499876.93 -14499876.75 0.0493 0.0266
 Uranus -44411-02-08 08:52 J -14499656.36 -14499656.13 -14499655.91 0.0143 0.0001
 Uranus -44411-09-22 21:50 J -14499429.81 -14499429.59 -14499429.37 0.0142 0.0017
 Uranus -44410-05-07 10:33 J -14499203.27 -14499203.06 -14499202.84 0.0142 0.0035
 Uranus -44410-12-19 23:16 J -14498976.74 -14498976.53 -14498976.32 0.0142 0.0053
 Uranus -44409-08-02 11:30 J -14498750.20 -14498750.02 -14498749.81 0.0141 0.0071
 Uranus -44408-03-17 00:14 J -14498523.67 -14498523.49 -14498523.31 0.0141 0.0087
 Uranus -44408-10-29 11:59 J -14498297.13 -14498297.00 -14498296.83 0.0141 0.0104
 Uranus -44407-06-12 23:59 J -14498070.60 -14498070.50 -14498070.38 0.0140 0.0120
 Jupiter -44407-09-18 12:57 J -14497973.08 -14497972.96 -14497972.83 0.0539 0.0420
 Uranus -44406-01-25 11:45 J -14497844.05 -14497844.01 -14497843.96 0.0140 0.0136
 Saturn -44403-05-10 12:42 J -14496643.12 -14496642.97 -14496642.81 0.0277 0.0180
 Saturn -44403-12-25 19:26 J -14496413.89 -14496413.69 -14496413.48 0.0278 0.0063
 Jupiter -44400-03-07 13:11 J -14495611.16 -14495610.95 -14495610.74 0.0492 0.0019
 Mars -44394-01-04 23:59 J -14493481.60 -14493481.50 -14493481.39 0.1775 0.1373
 Jupiter -44394-01-16 16:47 J -14493469.94 -14493469.80 -14493469.65 0.0534 0.0366
 Mars -44390-08-17 01:11 J -14491796.60 -14491796.45 -14491796.30 0.1742 0.0890
 Saturn -44389-10-21 07:11 J -14491365.40 -14491365.20 -14491364.99 0.0282 0.0099
 Jupiter -44389-11-10 12:57 J -14491345.15 -14491344.96 -14491344.77 0.0490 0.0222
 Saturn -44388-06-07 23:59 J -14491135.66 -14491135.50 -14491135.31 0.0281 0.0166
 Jupiter -44383-09-21 09:21 J -14489204.31 -14489204.11 -14489203.91 0.0537 0.0060
 Jupiter -44377-07-16 13:40 J -14487078.99 -14487078.93 -14487078.85 0.0488 0.0457
 Jupiter -44376-03-10 03:06 J -14486842.48 -14486842.37 -14486842.26 0.0494 0.0414
 Saturn -44374-11-20 19:54 J -14485856.84 -14485856.67 -14485856.48 0.0276 0.0141
 Saturn -44373-07-07 02:38 J -14485627.58 -14485627.39 -14485627.19 0.0277 0.0101
 Uranus -44372-02-20 20:38 J -14485398.69 -14485398.64 -14485398.57 0.0134 0.0127
 Uranus -44372-10-05 00:42 J -14485172.56 -14485172.47 -14485172.34 0.0134 0.0114
 Uranus -44371-05-19 05:16 J -14484946.41 -14484946.28 -14484946.13 0.0134 0.0100
 Jupiter -44371-05-27 03:21 J -14484938.54 -14484938.36 -14484938.18 0.0539 0.0243
 Uranus -44371-12-31 09:35 J -14484720.25 -14484720.10 -14484719.93 0.0134 0.0087

Uranus -44370-08-14 14:09 J -14484494.08 -14484493.91 -14484493.72 0.0135 0.0073
 Uranus -44369-03-27 18:57 J -14484267.91 -14484267.71 -14484267.52 0.0135 0.0058
 Uranus -44369-11-08 23:16 J -14484041.73 -14484041.53 -14484041.33 0.0135 0.0044
 Uranus -44368-06-23 03:50 J -14483815.54 -14483815.34 -14483815.13 0.0135 0.0030
 Uranus -44367-02-04 08:38 J -14483589.35 -14483589.14 -14483588.93 0.0136 0.0015
 Uranus -44367-09-18 13:26 J -14483363.15 -14483362.94 -14483362.72 0.0136 0.0003
 Uranus -44366-05-02 18:14 J -14483136.94 -14483136.74 -14483136.52 0.0136 0.0015
 Uranus -44366-12-14 23:16 J -14482910.73 -14482910.53 -14482910.32 0.0137 0.0030
 Uranus -44365-07-28 04:04 J -14482684.52 -14482684.33 -14482684.12 0.0137 0.0045
 Jupiter -44365-11-13 00:57 J -14482576.66 -14482576.46 -14482576.26 0.0492 0.0164
 Uranus -44364-03-11 09:35 J -14482458.29 -14482458.10 -14482457.91 0.0137 0.0060
 Uranus -44364-10-23 14:52 J -14482232.05 -14482231.88 -14482231.69 0.0138 0.0075
 Uranus -44363-06-06 20:23 J -14482005.80 -14482005.65 -14482005.48 0.0138 0.0090
 Mars -44362-01-04 03:50 J -14481794.48 -14481794.34 -14481794.19 0.1788 0.0866
 Uranus -44362-01-19 02:09 J -14481779.54 -14481779.41 -14481779.27 0.0138 0.0105
 Uranus -44362-09-02 07:54 J -14481553.26 -14481553.17 -14481553.06 0.0139 0.0120
 Uranus -44361-04-15 13:40 J -14481326.96 -14481326.93 -14481326.86 0.0139 0.0135
 Saturn -44359-05-03 08:38 J -14480579.34 -14480579.14 -14480578.93 0.0282 0.0071
 Neptune -44359-05-20 10:18 J -14480562.16 -14480562.07 -14480561.94 0.0088 0.0077
 Saturn -44359-12-19 01:11 J -14480349.59 -14480349.45 -14480349.28 0.0281 0.0193
 Neptune -44358-01-01 00:14 J -14480336.64 -14480336.49 -14480336.32 0.0088 0.0062
 Neptune -44358-08-14 13:40 J -14480111.10 -14480110.93 -14480110.72 0.0088 0.0047
 Neptune -44357-03-27 03:35 J -14479885.54 -14479885.35 -14479885.12 0.0088 0.0033
 Neptune -44357-11-07 17:30 J -14479659.98 -14479659.77 -14479659.54 0.0088 0.0018
 Neptune -44356-06-21 07:40 J -14479434.41 -14479434.18 -14479433.96 0.0088 0.0002
 Neptune -44355-02-01 21:21 J -14479208.83 -14479208.61 -14479208.38 0.0088 0.0013
 Neptune -44355-09-15 11:02 J -14478983.24 -14478983.04 -14478982.81 0.0088 0.0029
 Neptune -44354-04-29 00:57 J -14478757.64 -14478757.46 -14478757.25 0.0088 0.0043
 Neptune -44354-12-10 14:38 J -14478532.04 -14478531.89 -14478531.70 0.0088 0.0059
 Jupiter -44353-07-19 00:42 J -14478310.67 -14478310.47 -14478310.26 0.0491 0.0080

Neptune -44353-07-23 04:33 J -14478306.41 -14478306.31 -14478306.16 0.0088 0.0073
 Neptune -44352-03-05 18:42 J -14478080.72 -14478080.72 -14478080.68 0.0088 0.0088
 Jupiter -44347-05-30 03:21 J -14476169.53 -14476169.36 -14476169.18 0.0535 0.0246
 Saturn -44344-06-01 19:54 J -14475070.86 -14475070.67 -14475070.48 0.0277 0.0116
 Saturn -44343-01-17 02:23 J -14474841.58 -14474841.40 -14474841.21 0.0278 0.0127
 Jupiter -44341-03-24 01:26 J -14474044.60 -14474044.44 -14474044.28 0.0489 0.0318
 Jupiter -44335-02-01 20:38 J -14471903.84 -14471903.64 -14471903.44 0.0537 0.0058
 Uranus -44332-06-05 17:45 J -14470683.83 -14470683.76 -14470683.66 0.0145 0.0134
 Uranus -44331-01-18 07:40 J -14470457.30 -14470457.18 -14470457.04 0.0145 0.0116
 Uranus -44331-09-01 21:35 J -14470230.76 -14470230.60 -14470230.44 0.0144 0.0098
 Uranus -44330-04-16 10:47 J -14470004.22 -14470004.05 -14470003.85 0.0144 0.0080
 Saturn -44330-11-13 13:26 J -14469793.15 -14469792.94 -14469792.72 0.0282 0.0036
 Uranus -44330-11-29 00:28 J -14469777.67 -14469777.48 -14469777.27 0.0144 0.0061
 Saturn -44329-06-30 06:28 J -14469563.35 -14469563.23 -14469563.10 0.0281 0.0226
 Uranus -44329-07-12 13:54 J -14469551.13 -14469550.92 -14469550.70 0.0143 0.0043
 Jupiter -44329-07-21 14:38 J -14469542.05 -14469541.89 -14469541.73 0.0493 0.0314
 Moon -44329-10-13 01:11 J -14469458.56 -14469458.45 -14469458.33 0.2683 0.1848
 Earth -44329-10-13 06:42 J -14469458.30 -14469458.22 -14469458.14 0.2684 0.2276
 Mars -44329-11-01 09:06 J -14469439.16 -14469439.12 -14469439.07 0.1771 0.1702
 Uranus -44328-02-24 03:21 J -14469324.57 -14469324.36 -14469324.13 0.0143 0.0025
 Uranus -44328-10-08 16:47 J -14469098.03 -14469097.80 -14469097.58 0.0143 0.0007
 Uranus -44327-05-23 05:45 J -14468871.48 -14468871.26 -14468871.04 0.0142 0.0012
 Uranus -44326-01-04 18:28 J -14468644.94 -14468644.73 -14468644.51 0.0142 0.0030
 Uranus -44326-08-19 06:57 J -14468418.41 -14468418.21 -14468417.98 0.0142 0.0048
 Uranus -44325-04-01 19:54 J -14468191.87 -14468191.67 -14468191.47 0.0141 0.0065
 Uranus -44325-11-14 08:09 J -14467965.33 -14467965.16 -14467964.97 0.0141 0.0082
 Mars -44324-06-13 07:54 J -14467754.34 -14467754.17 -14467754.00 0.1747 0.0512
 Uranus -44324-06-28 20:09 J -14467738.80 -14467738.66 -14467738.48 0.0141 0.0099
 Jupiter -44324-10-07 10:47 J -14467638.19 -14467638.05 -14467637.91 0.0539 0.0375
 Uranus -44323-02-10 08:23 J -14467512.27 -14467512.15 -14467512.02 0.0140 0.0115

Uranus	-44323-09-24 19:54 J	-14467285.73	-14467285.67	-14467285.57	0.0140	0.0131
Moon	-44321-10-10 17:59 J	-14466538.87	-14466538.75	-14466538.64	0.2687	0.1730
Earth	-44321-10-10 22:04 J	-14466538.71	-14466538.58	-14466538.45	0.2683	0.1495 *
Jupiter	-44317-03-26 13:54 J	-14465276.13	-14465275.92	-14465275.71	0.0491	0.0068
Saturn	-44315-12-13 03:35 J	-14464284.55	-14464284.35	-14464284.15	0.0277	0.0076
Saturn	-44314-07-30 10:04 J	-14464055.24	-14464055.08	-14464054.90	0.0277	0.0166
Jupiter	-44311-02-04 16:18 J	-14463134.94	-14463134.82	-14463134.69	0.0535	0.0415
Jupiter	-44306-11-30 12:42 J	-14461010.17	-14461009.97	-14461009.78	0.0490	0.0177
Saturn	-44301-10-07 23:30 J	-14459236.58	-14459236.52	-14459236.44	0.0283	0.0267
Saturn	-44300-05-25 16:18 J	-14459007.03	-14459006.82	-14459006.60	0.0282	0.0005
Jupiter	-44300-10-10 12:28 J	-14458869.18	-14458868.98	-14458868.79	0.0537	0.0122
Saturn	-44299-01-10 09:06 J	-14458777.20	-14458777.12	-14458777.03	0.0281	0.0257
Mars	-44297-10-31 12:57 J	-14457752.12	-14457751.96	-14457751.80	0.1784	0.0521
Jupiter	-44294-08-05 13:26 J	-14456744.04	-14456743.94	-14456743.82	0.0488	0.0413
Jupiter	-44293-03-29 03:06 J	-14456507.43	-14456507.37	-14456507.28	0.0494	0.0461
Uranus	-44289-10-21 09:50 J	-14454840.13	-14454840.09	-14454840.03	0.0133	0.0130
Uranus	-44288-06-04 13:54 J	-14454614.00	-14454613.92	-14454613.80	0.0134	0.0117
Jupiter	-44288-06-15 05:45 J	-14454603.44	-14454603.26	-14454603.07	0.0538	0.0184
Uranus	-44287-01-16 18:28 J	-14454387.86	-14454387.73	-14454387.59	0.0134	0.0103
Uranus	-44287-08-30 23:02 J	-14454161.69	-14454161.54	-14454161.38	0.0134	0.0090
Uranus	-44286-04-14 03:21 J	-14453935.53	-14453935.36	-14453935.18	0.0134	0.0076
Uranus	-44286-11-26 07:40 J	-14453709.36	-14453709.18	-14453708.99	0.0135	0.0062
Saturn	-44285-06-24 03:35 J	-14453498.55	-14453498.35	-14453498.14	0.0277	0.0051
Uranus	-44285-07-09 11:59 J	-14453483.19	-14453483.00	-14453482.79	0.0135	0.0048
Saturn	-44284-02-08 10:18 J	-14453269.22	-14453269.07	-14453268.92	0.0278	0.0191
Uranus	-44284-02-20 16:47 J	-14453257.01	-14453256.80	-14453256.60	0.0135	0.0033
Uranus	-44284-10-04 21:21 J	-14453030.82	-14453030.61	-14453030.39	0.0136	0.0019
Uranus	-44283-05-19 02:09 J	-14452804.62	-14452804.41	-14452804.20	0.0136	0.0004
Uranus	-44283-12-31 06:57 J	-14452578.42	-14452578.21	-14452578.00	0.0136	0.0010
Uranus	-44282-08-14 11:45 J	-14452352.22	-14452352.01	-14452351.80	0.0136	0.0025

Jupiter -44282-12-03 02:09 J -14452241.60 -14452241.41 -14452241.22 0.0493 0.0213
 Uranus -44281-03-27 16:33 J -14452126.00 -14452125.81 -14452125.60 0.0137 0.0040
 Uranus -44281-11-08 21:35 J -14451899.78 -14451899.60 -14451899.39 0.0137 0.0055
 Uranus -44280-06-23 03:06 J -14451673.55 -14451673.37 -14451673.19 0.0137 0.0070
 Uranus -44279-02-04 08:09 J -14451447.31 -14451447.16 -14451446.98 0.0138 0.0085
 Uranus -44279-09-18 14:09 J -14451221.05 -14451220.91 -14451220.76 0.0138 0.0099
 Uranus -44278-05-02 19:40 J -14450994.78 -14450994.68 -14450994.55 0.0138 0.0114
 Uranus -44278-12-15 01:40 J -14450768.50 -14450768.43 -14450768.35 0.0139 0.0129
 Neptune -44277-07-08 04:18 J -14450562.35 -14450562.32 -14450562.25 0.0089 0.0086
 Jupiter -44276-02-17 21:35 J -14450337.67 -14450337.60 -14450337.52 0.0540 0.0495
 Neptune -44276-02-18 16:47 J -14450336.92 -14450336.80 -14450336.66 0.0089 0.0071
 Neptune -44276-10-02 05:02 J -14450111.44 -14450111.29 -14450111.11 0.0089 0.0057
 Neptune -44275-05-15 17:30 J -14449885.95 -14449885.77 -14449885.57 0.0089 0.0042
 Neptune -44275-12-27 05:45 J -14449660.46 -14449660.26 -14449660.05 0.0089 0.0028
 Neptune -44274-08-09 17:59 J -14449434.96 -14449434.75 -14449434.53 0.0089 0.0013
 Neptune -44273-03-22 06:14 J -14449209.45 -14449209.24 -14449209.02 0.0089 0.0002
 Neptune -44273-11-02 18:28 J -14448983.94 -14448983.73 -14448983.52 0.0089 0.0016
 Neptune -44272-06-16 06:14 J -14448758.43 -14448758.24 -14448758.03 0.0089 0.0031
 Neptune -44271-01-27 18:28 J -14448532.91 -14448532.73 -14448532.54 0.0089 0.0046
 Saturn -44271-04-20 03:50 J -14448450.45 -14448450.34 -14448450.22 0.0283 0.0234
 Neptune -44271-09-10 06:28 J -14448307.37 -14448307.23 -14448307.06 0.0089 0.0060
 Saturn -44271-12-05 20:38 J -14448220.85 -14448220.64 -14448220.42 0.0282 0.0029
 Neptune -44270-04-23 18:42 J -14448081.83 -14448081.72 -14448081.60 0.0089 0.0075
 Jupiter -44270-08-08 01:40 J -14447975.63 -14447975.43 -14447975.22 0.0491 0.0032
 Neptune -44270-12-05 06:28 J -14447856.23 -14447856.23 -14447856.20 0.0089 0.0089
 Pluto -44269-09-17 07:11 J -14447569.38 -14447569.20 -14447569.00 0.0067 0.0034
 Pluto -44268-04-30 11:59 J -14447344.21 -14447344.00 -14447343.77 0.0067 0.0010
 Pluto -44268-12-11 16:33 J -14447118.90 -14447118.81 -14447118.65 0.0067 0.0056
 Jupiter -44264-06-18 00:42 J -14445834.64 -14445834.47 -14445834.31 0.0535 0.0288
 Mars -44258-04-10 15:06 J -14443712.05 -14443711.87 -14443711.70 0.1750 0.0149

Jupiter -44258-04-13 01:54 J -14443709.59 -14443709.42 -14443709.24 0.0489 0.0269
 Saturn -44256-05-20 05:02 J -14442941.37 -14442941.29 -14442941.19 0.0276 0.0248
 Saturn -44255-01-04 12:14 J -14442712.20 -14442711.99 -14442711.79 0.0277 0.0010
 Saturn -44255-08-21 18:42 J -14442482.83 -14442482.72 -14442482.60 0.0278 0.0233
 Jupiter -44252-02-20 18:57 J -14441568.91 -14441568.71 -14441568.52 0.0538 0.0017
 Uranus -44248-02-02 23:45 J -14440125.56 -14440125.51 -14440125.44 0.0145 0.0139
 Uranus -44248-09-17 13:26 J -14439899.04 -14439898.94 -14439898.80 0.0145 0.0122
 Uranus -44247-05-02 03:21 J -14439672.50 -14439672.36 -14439672.20 0.0145 0.0104
 Uranus -44247-12-14 17:02 J -14439445.96 -14439445.79 -14439445.61 0.0144 0.0086
 Uranus -44246-07-29 06:42 J -14439219.42 -14439219.22 -14439219.02 0.0144 0.0067
 Jupiter -44246-08-10 13:54 J -14439207.07 -14439206.92 -14439206.78 0.0493 0.0357
 Uranus -44245-03-11 20:09 J -14438992.86 -14438992.66 -14438992.44 0.0144 0.0050
 Uranus -44245-10-24 09:35 J -14438766.31 -14438766.10 -14438765.87 0.0143 0.0031
 Uranus -44244-06-07 23:02 J -14438539.76 -14438539.54 -14438539.32 0.0143 0.0013
 Uranus -44243-01-20 12:14 J -14438313.22 -14438312.99 -14438312.77 0.0143 0.0006
 Uranus -44243-09-04 00:57 J -14438086.67 -14438086.46 -14438086.23 0.0142 0.0024
 Uranus -44242-04-18 13:54 J -14437860.13 -14437859.92 -14437859.70 0.0142 0.0041
 Saturn -44242-10-31 08:09 J -14437664.30 -14437664.16 -14437664.00 0.0283 0.0198
 Uranus -44242-12-01 02:23 J -14437633.59 -14437633.40 -14437633.18 0.0142 0.0059
 Saturn -44241-06-17 00:57 J -14437434.67 -14437434.46 -14437434.25 0.0282 0.0064
 Uranus -44241-07-14 14:52 J -14437407.06 -14437406.88 -14437406.68 0.0141 0.0076
 Jupiter -44241-10-26 13:11 J -14437303.11 -14437302.95 -14437302.79 0.0539 0.0315
 Uranus -44240-02-26 03:21 J -14437180.52 -14437180.36 -14437180.18 0.0141 0.0092
 Uranus -44240-10-10 15:21 J -14436953.99 -14436953.86 -14436953.70 0.0141 0.0109
 Uranus -44239-05-25 03:21 J -14436727.45 -14436727.36 -14436727.24 0.0140 0.0125
 Uranus -44238-01-06 15:21 J -14436500.86 -14436500.86 -14436500.85 0.0140 0.0140
 Jupiter -44234-04-15 13:11 J -14434941.16 -14434940.95 -14434940.75 0.0492 0.0112
 Mars -44231-08-28 21:21 J -14433709.78 -14433709.61 -14433709.44 0.1779 0.0157
 Jupiter -44228-02-23 18:14 J -14432799.84 -14432799.74 -14432799.65 0.0534 0.0467
 Saturn -44227-11-30 05:45 J -14432155.38 -14432155.26 -14432155.14 0.0276 0.0223

Saturn -44226-07-17 12:28 J -14431926.19 -14431925.98 -14431925.77 0.0277 0.0018
 Saturn -44225-03-02 18:57 J -14431696.78 -14431696.71 -14431696.63 0.0278 0.0258
 Jupiter -44223-12-19 12:57 J -14430675.16 -14430674.96 -14430674.75 0.0490 0.0130
 Jupiter -44217-10-29 12:14 J -14428534.18 -14428533.99 -14428533.81 0.0536 0.0170
 Earth -44215-04-09 12:28 J -14428007.14 -14428006.98 -14428006.83 0.2649 0.0701
 Moon -44215-04-09 14:52 J -14428007.03 -14428006.88 -14428006.74 0.2656 0.0754 *
 Saturn -44212-05-12 12:28 J -14426878.15 -14426877.98 -14426877.80 0.0282 0.0166
 Saturn -44212-12-28 05:16 J -14426648.48 -14426648.28 -14426648.07 0.0282 0.0097
 Jupiter -44211-08-24 13:54 J -14426409.05 -14426408.92 -14426408.77 0.0489 0.0365
 Uranus -44205-06-20 23:16 J -14424281.55 -14424281.53 -14424281.49 0.0133 0.0132
 Jupiter -44205-07-04 02:09 J -14424268.60 -14424268.41 -14424268.22 0.0538 0.0145
 Uranus -44204-02-02 03:35 J -14424055.44 -14424055.35 -14424055.25 0.0134 0.0119
 Uranus -44204-09-16 07:40 J -14423829.29 -14423829.18 -14423829.03 0.0134 0.0106
 Uranus -44203-04-30 12:14 J -14423603.14 -14423602.99 -14423602.83 0.0134 0.0092
 Uranus -44203-12-12 16:18 J -14423376.98 -14423376.82 -14423376.64 0.0134 0.0079
 Uranus -44202-07-26 20:52 J -14423150.81 -14423150.63 -14423150.44 0.0135 0.0065
 Uranus -44201-03-09 01:11 J -14422924.64 -14422924.45 -14422924.25 0.0135 0.0051
 Uranus -44201-10-21 05:30 J -14422698.46 -14422698.27 -14422698.05 0.0135 0.0038
 Uranus -44200-06-04 10:18 J -14422472.28 -14422472.07 -14422471.86 0.0135 0.0023
 Uranus -44199-01-16 14:52 J -14422246.09 -14422245.88 -14422245.67 0.0136 0.0008
 Uranus -44199-08-30 19:40 J -14422019.89 -14422019.68 -14422019.47 0.0136 0.0006
 Jupiter -44199-12-22 02:09 J -14421906.59 -14421906.41 -14421906.23 0.0492 0.0260
 Uranus -44198-04-14 00:28 J -14421793.69 -14421793.48 -14421793.27 0.0136 0.0021
 Uranus -44198-11-26 05:16 J -14421567.48 -14421567.28 -14421567.07 0.0137 0.0035
 Saturn -44197-06-11 14:23 J -14421369.05 -14421368.90 -14421368.73 0.0276 0.0179
 Uranus -44197-07-09 10:18 J -14421341.26 -14421341.07 -14421340.87 0.0137 0.0050
 Saturn -44196-01-26 21:21 J -14421139.81 -14421139.61 -14421139.41 0.0277 0.0061
 Uranus -44196-02-20 15:21 J -14421115.03 -14421114.86 -14421114.66 0.0137 0.0065
 Uranus -44196-10-04 20:52 J -14420888.79 -14420888.63 -14420888.45 0.0138 0.0080
 Uranus -44195-05-19 02:38 J -14420662.54 -14420662.39 -14420662.24 0.0138 0.0094

Neptune -44195-08-21 17:16 J -14420567.82 -14420567.78 -14420567.69 0.0088 0.0084
 Uranus -44195-12-31 07:54 J -14420436.28 -14420436.17 -14420436.03 0.0138 0.0109
 Neptune -44194-04-04 07:11 J -14420342.32 -14420342.20 -14420342.05 0.0088 0.0070
 Uranus -44194-08-14 13:54 J -14420210.01 -14420209.92 -14420209.82 0.0139 0.0124
 Neptune -44194-11-15 20:38 J -14420116.79 -14420116.64 -14420116.44 0.0088 0.0055
 Jupiter -44193-03-08 18:28 J -14420002.83 -14420002.73 -14420002.62 0.0540 0.0453
 Uranus -44193-03-27 19:54 J -14419983.68 -14419983.67 -14419983.64 0.0139 0.0138
 Neptune -44193-06-28 10:33 J -14419891.25 -14419891.06 -14419890.84 0.0088 0.0040
 Mars -44192-02-04 21:35 J -14419669.77 -14419669.60 -14419669.42 0.1754 0.0242
 Neptune -44192-02-09 00:28 J -14419665.69 -14419665.48 -14419665.25 0.0088 0.0025
 Neptune -44192-09-22 14:23 J -14419440.12 -14419439.90 -14419439.67 0.0088 0.0010
 Neptune -44191-05-06 04:18 J -14419214.55 -14419214.32 -14419214.10 0.0088 0.0005
 Neptune -44191-12-17 17:59 J -14418988.97 -14418988.75 -14418988.53 0.0088 0.0019
 Neptune -44190-07-31 07:40 J -14418763.38 -14418763.18 -14418762.97 0.0088 0.0034
 Neptune -44189-03-12 21:21 J -14418537.78 -14418537.61 -14418537.40 0.0088 0.0050
 Neptune -44189-10-24 11:16 J -14418312.17 -14418312.03 -14418311.86 0.0088 0.0064
 Neptune -44188-06-07 00:57 J -14418086.53 -14418086.46 -14418086.33 0.0088 0.0079
 Jupiter -44187-08-26 23:59 J -14417640.71 -14417640.50 -14417640.29 0.0491 0.0011
 Saturn -44183-11-22 18:28 J -14416091.92 -14416091.73 -14416091.53 0.0282 0.0126
 Pluto -44182-02-28 11:02 J -14415994.24 -14415994.04 -14415993.81 0.0078 0.0020
 Saturn -44182-07-10 11:16 J -14415862.22 -14415862.03 -14415861.84 0.0282 0.0135
 Pluto -44182-10-11 20:23 J -14415768.80 -14415768.65 -14415768.47 0.0077 0.0051
 Jupiter -44181-07-07 02:09 J -14415499.56 -14415499.41 -14415499.26 0.0535 0.0341
 Jupiter -44175-05-02 00:14 J -14413374.67 -14413374.49 -14413374.30 0.0489 0.0229
 Jupiter -44169-03-11 20:38 J -14411233.84 -14411233.64 -14411233.45 0.0537 0.0044
 Saturn -44168-12-22 15:21 J -14410583.03 -14410582.86 -14410582.68 0.0276 0.0153
 Saturn -44167-08-08 22:33 J -14410353.76 -14410353.56 -14410353.37 0.0277 0.0088
 Mars -44165-06-25 06:28 J -14409667.40 -14409667.23 -14409667.06 0.1776 0.0173
 Uranus -44165-10-03 07:26 J -14409567.21 -14409567.19 -14409567.15 0.0145 0.0144
 Uranus -44164-05-17 21:06 J -14409340.72 -14409340.62 -14409340.50 0.0145 0.0126

Uranus	-44164-12-30 10:33 J	-14409114.19	-14409114.06	-14409113.89	0.0145	0.0109
Jupiter	-44163-01-05 00:57 J	-14409108.51	-14409108.46	-14409108.39	0.0488	0.0463
Uranus	-44163-08-14 00:28 J	-14408887.64	-14408887.48	-14408887.30	0.0144	0.0091
Jupiter	-44163-08-29 13:40 J	-14408872.04	-14408871.93	-14408871.80	0.0494	0.0402
Uranus	-44162-03-28 14:23 J	-14408661.09	-14408660.90	-14408660.71	0.0144	0.0073
Uranus	-44162-11-10 03:35 J	-14408434.54	-14408434.35	-14408434.13	0.0144	0.0055
Uranus	-44161-06-23 17:16 J	-14408208.00	-14408207.78	-14408207.56	0.0144	0.0037
Uranus	-44160-02-05 06:42 J	-14407981.44	-14407981.22	-14407981.00	0.0143	0.0018
Uranus	-44160-09-19 19:54 J	-14407754.90	-14407754.67	-14407754.45	0.0143	0.0002
Uranus	-44159-05-04 08:52 J	-14407528.35	-14407528.13	-14407527.91	0.0143	0.0017
Uranus	-44159-12-16 21:35 J	-14407301.81	-14407301.60	-14407301.38	0.0142	0.0035
Uranus	-44158-07-31 10:18 J	-14407075.27	-14407075.07	-14407074.86	0.0142	0.0052
Jupiter	-44158-11-15 12:57 J	-14406968.13	-14406967.96	-14406967.79	0.0539	0.0265
Uranus	-44157-03-13 22:47 J	-14406848.73	-14406848.55	-14406848.34	0.0142	0.0070
Uranus	-44157-10-26 11:16 J	-14406622.20	-14406622.03	-14406621.84	0.0141	0.0086
Uranus	-44156-06-09 23:16 J	-14406395.66	-14406395.53	-14406395.36	0.0141	0.0103
Uranus	-44155-01-22 11:30 J	-14406169.13	-14406169.02	-14406168.89	0.0141	0.0119
Uranus	-44155-09-05 23:16 J	-14405942.58	-14405942.53	-14405942.45	0.0140	0.0134
Saturn	-44153-06-03 22:33 J	-14405305.76	-14405305.56	-14405305.35	0.0282	0.0094
Saturn	-44152-01-19 15:21 J	-14405076.02	-14405075.86	-14405075.68	0.0281	0.0167
Jupiter	-44151-05-04 13:11 J	-14404606.15	-14404605.95	-14404605.75	0.0492	0.0159
Jupiter	-44145-03-14 13:40 J	-14402464.98	-14402464.93	-14402464.86	0.0534	0.0502
Jupiter	-44139-01-07 12:42 J	-14400340.18	-14400339.97	-14400339.77	0.0490	0.0085
Saturn	-44138-07-05 00:42 J	-14399796.66	-14399796.47	-14399796.27	0.0277	0.0108
Saturn	-44137-02-19 07:40 J	-14399567.36	-14399567.18	-14399567.00	0.0278	0.0132
Jupiter	-44134-11-18 08:09 J	-14398199.34	-14398199.16	-14398198.98	0.0536	0.0207
Jupiter	-44128-09-12 11:16 J	-14396074.18	-14396074.03	-14396073.87	0.0488	0.0328
Mars	-44127-12-03 04:33 J	-14395627.48	-14395627.31	-14395627.14	0.1758	0.0618
Saturn	-44124-12-15 06:28 J	-14394519.44	-14394519.23	-14394519.02	0.0282	0.0050
Saturn	-44123-08-01 22:47 J	-14394289.68	-14394289.55	-14394289.39	0.0281	0.0210

Jupiter -44122-07-24 02:52 J -14393933.58 -14393933.38 -14393933.18 0.0538 0.0093
 Uranus -44121-10-02 16:47 J -14393496.87 -14393496.80 -14393496.70 0.0133 0.0122
 Uranus -44120-05-16 20:52 J -14393270.73 -14393270.63 -14393270.49 0.0134 0.0109
 Uranus -44120-12-29 01:26 J -14393044.58 -14393044.44 -14393044.29 0.0134 0.0095
 Uranus -44119-08-12 05:30 J -14392818.42 -14392818.27 -14392818.09 0.0134 0.0082
 Uranus -44118-03-26 09:50 J -14392592.26 -14392592.09 -14392591.89 0.0134 0.0069
 Uranus -44118-11-07 14:09 J -14392366.09 -14392365.91 -14392365.70 0.0135 0.0055
 Uranus -44117-06-20 18:42 J -14392139.92 -14392139.72 -14392139.51 0.0135 0.0041
 Uranus -44116-02-01 23:02 J -14391913.74 -14391913.54 -14391913.32 0.0135 0.0027
 Uranus -44116-09-16 03:50 J -14391687.55 -14391687.34 -14391687.12 0.0136 0.0013
 Jupiter -44115-01-09 23:30 J -14391571.68 -14391571.52 -14391571.35 0.0493 0.0296
 Uranus -44115-04-30 08:38 J -14391461.35 -14391461.14 -14391460.93 0.0136 0.0002
 Uranus -44115-12-12 13:11 J -14391235.16 -14391234.95 -14391234.74 0.0136 0.0016
 Uranus -44114-07-26 17:59 J -14391008.95 -14391008.75 -14391008.54 0.0136 0.0031
 Uranus -44113-03-08 23:02 J -14390782.74 -14390782.54 -14390782.34 0.0137 0.0045
 Uranus -44113-10-21 04:04 J -14390556.51 -14390556.33 -14390556.13 0.0137 0.0060
 Neptune -44112-05-23 00:28 J -14390342.55 -14390342.48 -14390342.36 0.0089 0.0080
 Uranus -44112-06-04 09:21 J -14390330.28 -14390330.11 -14390329.92 0.0137 0.0075
 Neptune -44111-01-03 12:57 J -14390117.09 -14390116.96 -14390116.80 0.0089 0.0065
 Uranus -44111-01-16 14:52 J -14390104.03 -14390103.88 -14390103.71 0.0138 0.0089
 Neptune -44111-08-17 01:11 J -14389891.61 -14389891.45 -14389891.25 0.0089 0.0051
 Uranus -44111-08-30 20:09 J -14389877.78 -14389877.66 -14389877.50 0.0138 0.0104
 Jupiter -44110-03-28 19:54 J -14389667.80 -14389667.67 -14389667.53 0.0540 0.0398
 Neptune -44110-03-30 13:40 J -14389666.12 -14389665.93 -14389665.72 0.0089 0.0036
 Uranus -44110-04-14 01:54 J -14389651.51 -14389651.42 -14389651.29 0.0138 0.0119
 Neptune -44110-11-11 02:09 J -14389440.62 -14389440.41 -14389440.20 0.0089 0.0022
 Uranus -44110-11-26 07:54 J -14389425.21 -14389425.17 -14389425.10 0.0139 0.0133
 Neptune -44109-06-23 14:23 J -14389215.12 -14389214.90 -14389214.69 0.0089 0.0007
 Saturn -44108-01-14 02:23 J -14389010.60 -14389010.40 -14389010.20 0.0277 0.0080
 Neptune -44108-02-04 02:38 J -14388989.61 -14388989.39 -14388989.18 0.0089 0.0008

Saturn -44108-08-31 09:06 J -14388781.28 -14388781.12 -14388780.94 0.0278 0.0160
 Neptune -44108-09-17 14:38 J -14388764.09 -14388763.89 -14388763.67 0.0089 0.0023
 Neptune -44107-05-01 03:06 J -14388538.57 -14388538.37 -14388538.18 0.0089 0.0037
 Neptune -44107-12-12 14:52 J -14388313.04 -14388312.88 -14388312.69 0.0089 0.0051
 Neptune -44106-07-26 03:06 J -14388087.51 -14388087.37 -14388087.22 0.0089 0.0066
 Neptune -44105-03-07 14:52 J -14387861.95 -14387861.88 -14387861.77 0.0089 0.0080
 Jupiter -44104-09-14 23:02 J -14387305.75 -14387305.54 -14387305.33 0.0491 0.0053
 Mars -44099-04-22 15:35 J -14385625.01 -14385624.85 -14385624.69 0.1771 0.0507
 Jupiter -44098-07-27 00:42 J -14385164.60 -14385164.47 -14385164.33 0.0535 0.0385
 Saturn -44095-11-09 17:45 J -14383962.79 -14383962.76 -14383962.72 0.0283 0.0278
 Mars -44095-12-02 14:38 J -14383939.90 -14383939.89 -14383939.88 0.1746 0.1740
 Saturn -44094-06-27 10:33 J -14383733.28 -14383733.06 -14383732.85 0.0282 0.0019
 Saturn -44093-02-12 03:21 J -14383503.46 -14383503.36 -14383503.25 0.0281 0.0240
 Jupiter -44092-05-20 23:30 J -14383039.71 -14383039.52 -14383039.32 0.0489 0.0185
 Jupiter -44086-03-31 15:35 J -14380899.05 -14380898.85 -14380898.65 0.0537 0.0076
 Earth -44086-10-14 08:09 J -14380702.23 -14380702.16 -14380702.09 0.2683 0.2380
 Moon -44086-10-14 12:42 J -14380702.02 -14380701.97 -14380701.92 0.2688 0.2526
 Uranus -44080-01-15 03:21 J -14378782.44 -14378782.36 -14378782.25 0.0145 0.0131
 Jupiter -44080-01-24 00:14 J -14378773.60 -14378773.49 -14378773.39 0.0488 0.0420
 Uranus -44080-08-29 17:16 J -14378555.91 -14378555.78 -14378555.63 0.0145 0.0114
 Jupiter -44080-09-17 12:42 J -14378537.06 -14378536.97 -14378536.88 0.0493 0.0443
 Saturn -44080-12-10 04:18 J -14378453.34 -14378453.32 -14378453.29 0.0276 0.0273
 Uranus -44079-04-13 07:11 J -14378329.36 -14378329.20 -14378329.03 0.0145 0.0096
 Saturn -44079-07-27 11:45 J -14378224.22 -14378224.01 -14378223.80 0.0277 0.0035
 Uranus -44079-11-25 20:38 J -14378102.82 -14378102.64 -14378102.45 0.0144 0.0078
 Saturn -44078-03-13 18:28 J -14377994.86 -14377994.73 -14377994.58 0.0278 0.0205
 Uranus -44078-07-10 10:18 J -14377876.27 -14377876.07 -14377875.87 0.0144 0.0060
 Earth -44078-10-11 23:16 J -14377782.66 -14377782.53 -14377782.39 0.2682 0.1420
 Moon -44078-10-12 04:47 J -14377782.45 -14377782.30 -14377782.14 0.2681 0.0750 *
 Uranus -44077-02-21 23:45 J -14377649.72 -14377649.51 -14377649.29 0.0144 0.0043

Uranus	-44077-10-05 13:11 J	-14377423.17	-14377422.95	-14377422.73	0.0143	0.0025
Uranus	-44076-05-20 02:23 J	-14377196.62	-14377196.40	-14377196.17	0.0143	0.0007
Uranus	-44075-01-01 15:21 J	-14376970.08	-14376969.86	-14376969.63	0.0143	0.0011
Uranus	-44075-08-16 04:18 J	-14376743.54	-14376743.32	-14376743.10	0.0143	0.0028
Jupiter	-44075-12-04 07:54 J	-14376633.35	-14376633.17	-14376632.99	0.0539	0.0232
Uranus	-44074-03-30 17:02 J	-14376516.99	-14376516.79	-14376516.57	0.0142	0.0046
Uranus	-44074-11-12 05:45 J	-14376290.45	-14376290.26	-14376290.05	0.0142	0.0063
Uranus	-44073-06-25 18:14 J	-14376063.92	-14376063.74	-14376063.55	0.0141	0.0080
Uranus	-44072-02-07 06:28 J	-14375837.38	-14375837.23	-14375837.05	0.0141	0.0096
Uranus	-44072-09-21 18:42 J	-14375610.84	-14375610.72	-14375610.57	0.0141	0.0112
Uranus	-44071-05-06 06:57 J	-14375384.29	-14375384.21	-14375384.11	0.0140	0.0128
Jupiter	-44068-05-23 09:35 J	-14374271.30	-14374271.10	-14374270.91	0.0492	0.0191
Mars	-44067-04-21 19:11 J	-14373937.74	-14373937.70	-14373937.65	0.1784	0.1709
Saturn	-44065-05-22 03:21 J	-14373176.48	-14373176.36	-14373176.24	0.0283	0.0231
Saturn	-44064-01-06 19:54 J	-14372946.88	-14372946.67	-14372946.46	0.0282	0.0028
Jupiter	-44063-08-09 00:57 J	-14372367.48	-14372367.46	-14372367.44	0.0541	0.0537
Mars	-44061-09-29 11:16 J	-14371585.18	-14371585.03	-14371584.89	0.1763	0.1009
Jupiter	-44056-01-26 09:06 J	-14370005.33	-14370005.12	-14370004.91	0.0490	0.0051
Jupiter	-44051-12-07 08:38 J	-14367864.31	-14367864.14	-14367863.96	0.0536	0.0256
Saturn	-44050-06-22 06:42 J	-14367667.30	-14367667.22	-14367667.11	0.0276	0.0244
Saturn	-44049-02-06 13:54 J	-14367438.12	-14367437.92	-14367437.71	0.0277	0.0008
Saturn	-44049-09-22 20:38 J	-14367208.74	-14367208.64	-14367208.52	0.0278	0.0234
Jupiter	-44045-10-01 09:21 J	-14365739.27	-14365739.11	-14365738.94	0.0489	0.0288
Jupiter	-44039-08-12 01:40 J	-14363598.62	-14363598.43	-14363598.23	0.0538	0.0047
Uranus	-44037-06-02 05:59 J	-14362938.32	-14362938.25	-14362938.16	0.0133	0.0124
Uranus	-44036-01-14 10:18 J	-14362712.18	-14362712.07	-14362711.95	0.0134	0.0111
Uranus	-44036-08-28 14:38 J	-14362486.03	-14362485.89	-14362485.74	0.0134	0.0098
Saturn	-44036-12-02 06:42 J	-14362390.36	-14362390.22	-14362390.06	0.0283	0.0200
Uranus	-44035-04-11 18:42 J	-14362259.87	-14362259.72	-14362259.54	0.0134	0.0085
Saturn	-44035-07-19 23:30 J	-14362160.73	-14362160.52	-14362160.31	0.0282	0.0059

Uranus -44035-11-23 23:02 J -14362033.72 -14362033.54 -14362033.36 0.0134 0.0072
 Uranus -44034-07-08 03:21 J -14361807.55 -14361807.36 -14361807.17 0.0135 0.0058
 Mars -44033-02-18 00:42 J -14361582.62 -14361582.47 -14361582.32 0.1768 0.0834
 Uranus -44033-02-19 07:26 J -14361581.38 -14361581.19 -14361580.98 0.0135 0.0045
 Uranus -44033-10-02 12:14 J -14361355.19 -14361354.99 -14361354.78 0.0135 0.0030
 Jupiter -44032-01-28 22:33 J -14361236.71 -14361236.56 -14361236.41 0.0493 0.0339
 Uranus -44032-05-16 16:47 J -14361129.01 -14361128.80 -14361128.59 0.0135 0.0016
 Uranus -44032-12-28 21:21 J -14360902.82 -14360902.61 -14360902.40 0.0136 0.0002
 Uranus -44031-08-12 02:09 J -14360676.62 -14360676.41 -14360676.20 0.0136 0.0012
 Uranus -44030-03-26 06:42 J -14360450.42 -14360450.22 -14360450.00 0.0136 0.0027
 Neptune -44030-07-06 14:09 J -14360347.99 -14360347.91 -14360347.77 0.0088 0.0078
 Uranus -44030-11-07 11:45 J -14360224.21 -14360224.01 -14360223.80 0.0137 0.0041
 Neptune -44029-02-17 04:18 J -14360122.46 -14360122.32 -14360122.15 0.0088 0.0062
 Uranus -44029-06-20 16:47 J -14359997.99 -14359997.80 -14359997.60 0.0137 0.0055
 Mars -44029-09-28 22:04 J -14359897.68 -14359897.58 -14359897.47 0.1750 0.1387
 Neptune -44029-09-29 18:14 J -14359896.92 -14359896.74 -14359896.54 0.0088 0.0048
 Uranus -44028-02-01 22:04 J -14359771.76 -14359771.58 -14359771.40 0.0137 0.0070
 Neptune -44028-05-13 07:54 J -14359671.37 -14359671.17 -14359670.95 0.0088 0.0033
 Uranus -44028-09-16 03:21 J -14359545.52 -14359545.36 -14359545.18 0.0137 0.0084
 Neptune -44028-12-24 21:35 J -14359445.81 -14359445.60 -14359445.37 0.0088 0.0019
 Jupiter -44027-04-16 14:52 J -14359333.03 -14359332.88 -14359332.74 0.0539 0.0365
 Uranus -44027-04-30 08:38 J -14359319.27 -14359319.14 -14359318.97 0.0138 0.0099
 Neptune -44027-08-07 11:30 J -14359220.24 -14359220.02 -14359219.79 0.0088 0.0004
 Uranus -44027-12-12 14:23 J -14359093.01 -14359092.90 -14359092.77 0.0138 0.0113
 Neptune -44026-03-21 01:26 J -14358994.66 -14358994.44 -14358994.21 0.0088 0.0011
 Uranus -44026-07-26 20:09 J -14358866.73 -14358866.66 -14358866.56 0.0138 0.0128
 Neptune -44026-11-01 15:06 J -14358769.08 -14358768.87 -14358768.65 0.0088 0.0026
 Neptune -44025-06-14 04:33 J -14358543.49 -14358543.31 -14358543.09 0.0088 0.0041
 Neptune -44024-01-25 18:42 J -14358317.89 -14358317.72 -14358317.54 0.0088 0.0055
 Neptune -44024-09-08 08:23 J -14358092.27 -14358092.15 -14358092.00 0.0088 0.0070

Pluto -44023-03-05 16:04 J -14357913.97 -14357913.83 -14357913.67 0.0067 0.0049
 Neptune -44023-04-21 22:04 J -14357866.61 -14357866.58 -14357866.50 0.0088 0.0085
 Pluto -44023-10-16 21:06 J -14357688.84 -14357688.62 -14357688.40 0.0067 0.0005
 Pluto -44022-05-30 01:54 J -14357463.59 -14357463.42 -14357463.24 0.0067 0.0040
 Jupiter -44021-10-03 21:21 J -14356970.81 -14356970.61 -14356970.40 0.0491 0.0093
 Saturn -44020-01-01 15:35 J -14356880.99 -14356880.85 -14356880.70 0.0277 0.0200
 Saturn -44020-08-18 23:02 J -14356651.74 -14356651.54 -14356651.33 0.0278 0.0039
 Saturn -44019-04-05 05:59 J -14356422.25 -14356422.25 -14356422.24 0.0278 0.0278
 Jupiter -44015-08-14 19:26 J -14354829.81 -14354829.69 -14354829.56 0.0535 0.0415
 Jupiter -44009-06-08 19:11 J -14352704.89 -14352704.70 -14352704.50 0.0489 0.0154
 Saturn -44006-06-14 17:45 J -14351603.94 -14351603.76 -14351603.58 0.0282 0.0150
 Saturn -44005-01-30 10:18 J -14351374.26 -14351374.07 -14351373.87 0.0282 0.0109
 Jupiter -44003-04-19 14:38 J -14350564.09 -14350563.89 -14350563.70 0.0537 0.0120
 Mars -44001-02-17 03:50 J -14349895.45 -14349895.34 -14349895.23 0.1780 0.1353

44TH MILLENNIUM BCE

This is a list of transits of Venus in the 44th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-43997-02-12 19:54 J	-14348438.79	-14348438.67	-14348438.54	0.0488	0.0388		
Uranus	-43997-09-14 11:16 J	-14348224.10	-14348224.03	-14348223.94	0.0145	0.0135		
Jupiter	-43997-10-06 08:38 J	-14348202.20	-14348202.14	-14348202.09	0.0494	0.0473		
Uranus	-43996-04-29 00:57 J	-14347997.57	-14347997.46	-14347997.32	0.0145	0.0118		
Uranus	-43996-12-11 14:38 J	-14347771.04	-14347770.89	-14347770.72	0.0145	0.0101		

Uranus	-43995-07-26 04:33 J	-14347544.49	-14347544.31	-14347544.13	0.0144	0.0083
Mars	-43995-07-27 17:59 J	-14347542.86	-14347542.75	-14347542.64	0.1767	0.1392
Uranus	-43994-03-09 17:59 J	-14347317.94	-14347317.75	-14347317.54	0.0144	0.0066
Uranus	-43994-10-22 07:26 J	-14347091.39	-14347091.19	-14347090.97	0.0144	0.0048
Uranus	-43993-06-04 21:06 J	-14346864.84	-14346864.62	-14346864.40	0.0144	0.0030
Uranus	-43992-01-17 10:18 J	-14346638.29	-14346638.07	-14346637.85	0.0143	0.0012
Uranus	-43992-08-31 23:30 J	-14346411.75	-14346411.52	-14346411.30	0.0143	0.0006
Jupiter	-43992-12-23 08:09 J	-14346298.34	-14346298.16	-14346297.97	0.0539	0.0182
Uranus	-43991-04-15 12:28 J	-14346185.20	-14346184.98	-14346184.76	0.0143	0.0023
Saturn	-43991-07-14 18:42 J	-14346094.88	-14346094.72	-14346094.55	0.0276	0.0169
Uranus	-43991-11-28 01:11 J	-14345958.66	-14345958.45	-14345958.23	0.0142	0.0040
Saturn	-43990-03-01 01:54 J	-14345865.62	-14345865.42	-14345865.22	0.0277	0.0069
Uranus	-43990-07-12 13:54 J	-14345732.12	-14345731.92	-14345731.71	0.0142	0.0057
Uranus	-43989-02-24 02:38 J	-14345505.58	-14345505.39	-14345505.19	0.0142	0.0074
Uranus	-43989-10-07 15:06 J	-14345279.04	-14345278.87	-14345278.69	0.0141	0.0090
Uranus	-43988-05-22 03:35 J	-14345052.50	-14345052.35	-14345052.21	0.0141	0.0106
Uranus	-43987-01-03 15:06 J	-14344825.96	-14344825.87	-14344825.74	0.0141	0.0123
Uranus	-43987-08-18 03:21 J	-14344599.39	-14344599.36	-14344599.31	0.0140	0.0138
Jupiter	-43985-06-11 07:11 J	-14343936.38	-14343936.20	-14343936.01	0.0492	0.0229
Jupiter	-43980-08-27 23:59 J	-14342032.58	-14342032.50	-14342032.41	0.0540	0.0490
Saturn	-43977-12-24 21:06 J	-14340817.81	-14340817.62	-14340817.42	0.0282	0.0119
Saturn	-43976-08-11 13:40 J	-14340588.11	-14340587.93	-14340587.73	0.0281	0.0140
Jupiter	-43973-02-15 07:26 J	-14339670.40	-14339670.19	-14339669.98	0.0490	0.0010
Moon	-43972-04-09 13:40 J	-14339251.09	-14339250.93	-14339250.76	0.2643	0.0478
Earth	-43972-04-09 13:54 J	-14339251.07	-14339250.92	-14339250.76	0.2650	0.0549 *
Mars	-43968-12-15 09:50 J	-14337540.22	-14337540.09	-14337539.96	0.1764	0.1156
Jupiter	-43968-12-26 03:21 J	-14337529.53	-14337529.36	-14337529.20	0.0536	0.0286
Mars	-43963-07-27 04:33 J	-14335855.45	-14335855.31	-14335855.16	0.1754	0.1002
Jupiter	-43962-10-21 07:26 J	-14335404.37	-14335404.19	-14335404.01	0.0489	0.0249
Saturn	-43961-01-25 03:06 J	-14335308.56	-14335308.37	-14335308.18	0.0277	0.0126

Saturn -43961-09-10 10:33 J -14335079.25 -14335079.06 -14335078.87 0.0278 0.0113
 Jupiter -43956-08-30 20:09 J -14333263.86 -14333263.66 -14333263.47 0.0538 0.0021
 Uranus -43953-01-31 19:26 J -14332379.76 -14332379.69 -14332379.62 0.0133 0.0126
 Uranus -43953-09-13 23:16 J -14332153.62 -14332153.53 -14332153.40 0.0133 0.0114
 Uranus -43952-04-28 03:21 J -14331927.48 -14331927.36 -14331927.20 0.0134 0.0101
 Uranus -43952-12-10 07:40 J -14331701.33 -14331701.18 -14331701.01 0.0134 0.0088
 Uranus -43951-07-24 11:59 J -14331475.17 -14331475.00 -14331474.82 0.0134 0.0074
 Uranus -43950-03-07 16:04 J -14331249.00 -14331248.83 -14331248.62 0.0134 0.0062
 Jupiter -43950-06-26 06:28 J -14331138.23 -14331138.23 -14331138.23 0.0487 0.0487
 Uranus -43950-10-19 20:38 J -14331022.83 -14331022.64 -14331022.43 0.0135 0.0048
 Jupiter -43949-02-17 17:45 J -14330901.90 -14330901.76 -14330901.62 0.0493 0.0366
 Uranus -43949-06-02 00:57 J -14330796.66 -14330796.46 -14330796.25 0.0135 0.0034
 Uranus -43948-01-14 05:30 J -14330570.48 -14330570.27 -14330570.06 0.0135 0.0020
 Neptune -43948-08-24 09:06 J -14330348.13 -14330348.12 -14330348.06 0.0089 0.0088
 Uranus -43948-08-28 10:18 J -14330344.28 -14330344.07 -14330343.86 0.0135 0.0006
 Neptune -43947-04-06 21:35 J -14330122.71 -14330122.60 -14330122.47 0.0089 0.0074
 Uranus -43947-04-11 14:52 J -14330118.09 -14330117.88 -14330117.67 0.0136 0.0008
 Saturn -43947-07-07 08:38 J -14330031.34 -14330031.14 -14330030.93 0.0282 0.0068
 Neptune -43947-11-18 09:35 J -14329897.24 -14329897.10 -14329896.92 0.0089 0.0060
 Uranus -43947-11-23 19:40 J -14329891.89 -14329891.68 -14329891.47 0.0136 0.0022
 Saturn -43946-02-22 01:11 J -14329801.60 -14329801.45 -14329801.29 0.0281 0.0190
 Neptune -43946-07-01 22:18 J -14329671.76 -14329671.57 -14329671.39 0.0089 0.0045
 Uranus -43946-07-08 00:28 J -14329665.68 -14329665.48 -14329665.28 0.0136 0.0036
 Neptune -43945-02-12 10:18 J -14329446.26 -14329446.07 -14329445.86 0.0089 0.0030
 Uranus -43945-02-19 05:16 J -14329439.47 -14329439.28 -14329439.07 0.0137 0.0051
 Neptune -43945-09-24 22:47 J -14329220.76 -14329220.55 -14329220.33 0.0089 0.0016
 Uranus -43945-10-02 10:33 J -14329213.24 -14329213.06 -14329212.86 0.0137 0.0065
 Jupiter -43944-05-05 12:57 J -14328998.11 -14328997.96 -14328997.79 0.0540 0.0323
 Neptune -43944-05-08 11:02 J -14328995.25 -14328995.04 -14328994.82 0.0089 0.0002
 Uranus -43944-05-16 15:50 J -14328987.00 -14328986.84 -14328986.66 0.0137 0.0080

Neptune -43944-12-19 23:16 J -14328769.74 -14328769.53 -14328769.32 0.0089 0.0013
 Uranus -43944-12-28 21:06 J -14328760.76 -14328760.62 -14328760.45 0.0138 0.0094
 Neptune -43943-08-02 11:16 J -14328544.22 -14328544.03 -14328543.82 0.0089 0.0028
 Uranus -43943-08-12 02:38 J -14328534.50 -14328534.39 -14328534.24 0.0138 0.0108
 Neptune -43942-03-15 23:30 J -14328318.70 -14328318.52 -14328318.32 0.0089 0.0042
 Uranus -43942-03-26 08:23 J -14328308.23 -14328308.15 -14328308.04 0.0138 0.0122
 Neptune -43942-10-27 11:59 J -14328093.17 -14328093.00 -14328092.84 0.0089 0.0057
 Uranus -43942-11-07 14:38 J -14328081.92 -14328081.89 -14328081.85 0.0139 0.0136
 Neptune -43941-06-08 23:30 J -14327867.63 -14327867.52 -14327867.37 0.0089 0.0072
 Neptune -43940-01-20 11:45 J -14327642.05 -14327642.01 -14327641.93 0.0089 0.0086
 Jupiter -43938-10-23 16:47 J -14326636.00 -14326635.80 -14326635.60 0.0491 0.0122
 Pluto -43937-08-15 16:47 J -14326338.96 -14326338.80 -14326338.60 0.0078 0.0047
 Pluto -43936-03-29 02:38 J -14326113.60 -14326113.39 -14326113.17 0.0078 0.0024
 Mars -43936-12-14 12:42 J -14325853.11 -14325852.97 -14325852.83 0.1776 0.1003
 Saturn -43932-08-06 06:57 J -14324522.41 -14324522.21 -14324522.01 0.0277 0.0094
 Jupiter -43932-09-02 19:26 J -14324494.78 -14324494.69 -14324494.59 0.0535 0.0461
 Saturn -43931-03-23 13:54 J -14324293.10 -14324292.92 -14324292.74 0.0277 0.0143
 Jupiter -43926-06-28 16:33 J -14322370.02 -14322369.81 -14322369.61 0.0490 0.0117
 Jupiter -43920-05-08 13:26 J -14320229.13 -14320228.94 -14320228.75 0.0537 0.0165
 Saturn -43917-01-17 11:45 J -14319245.22 -14319245.01 -14319244.80 0.0282 0.0038
 Saturn -43917-09-03 04:18 J -14319015.45 -14319015.32 -14319015.18 0.0281 0.0219
 Jupiter -43914-03-03 17:45 J -14318103.90 -14318103.76 -14318103.61 0.0488 0.0349
 Uranus -43913-05-14 17:16 J -14317665.83 -14317665.78 -14317665.72 0.0145 0.0140
 Uranus -43913-12-27 06:42 J -14317439.32 -14317439.22 -14317439.09 0.0145 0.0123
 Uranus -43912-08-10 20:23 J -14317212.78 -14317212.65 -14317212.48 0.0145 0.0106
 Uranus -43911-03-25 10:33 J -14316986.23 -14316986.06 -14316985.88 0.0145 0.0088
 Uranus -43911-11-06 23:59 J -14316759.69 -14316759.50 -14316759.30 0.0144 0.0071
 Uranus -43910-06-21 13:26 J -14316533.14 -14316532.94 -14316532.73 0.0144 0.0053
 Uranus -43909-02-03 02:52 J -14316306.59 -14316306.38 -14316306.16 0.0144 0.0036
 Uranus -43909-09-16 16:18 J -14316080.04 -14316079.82 -14316079.59 0.0144 0.0018

Jupiter -43908-01-11 03:35 J -14315963.54 -14315963.35 -14315963.16 0.0538 0.0149
 Uranus -43908-05-01 05:30 J -14315853.49 -14315853.27 -14315853.04 0.0143 0.0003
 Uranus -43908-12-13 18:42 J -14315626.94 -14315626.72 -14315626.50 0.0143 0.0017
 Uranus -43907-07-28 07:26 J -14315400.40 -14315400.19 -14315399.96 0.0143 0.0035
 Uranus -43906-03-11 20:23 J -14315173.85 -14315173.65 -14315173.43 0.0142 0.0051
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 Uranus -43905-06-06 21:35 J -14314720.76 -14314720.60 -14314720.41 0.0142 0.0085
 Uranus -43904-01-19 10:04 J -14314494.23 -14314494.08 -14314493.91 0.0141 0.0101
 Uranus -43904-09-02 22:33 J -14314267.68 -14314267.56 -14314267.43 0.0141 0.0116
 Uranus -43903-04-17 10:33 J -14314041.12 -14314041.06 -14314040.97 0.0140 0.0132
 Saturn -43902-02-16 14:09 J -14313736.12 -14313735.91 -14313735.70 0.0277 0.0053
 Jupiter -43902-07-01 05:02 J -14313601.46 -14313601.29 -14313601.11 0.0492 0.0267
 Saturn -43902-10-03 21:06 J -14313506.76 -14313506.62 -14313506.45 0.0278 0.0187
 Mars -43902-10-12 19:11 J -14313497.79 -14313497.70 -14313497.60 0.1760 0.1466
 Mars -43897-05-23 11:02 J -14311813.21 -14311813.04 -14311812.87 0.1758 0.0612
 Jupiter -43897-09-15 18:28 J -14311697.83 -14311697.73 -14311697.62 0.0540 0.0459
 Jupiter -43890-03-06 02:38 J -14309335.60 -14309335.39 -14309335.18 0.0490 0.0018
 Saturn -43889-12-12 07:11 J -14308688.30 -14308688.20 -14308688.09 0.0283 0.0244
 Saturn -43888-07-29 23:45 J -14308458.73 -14308458.51 -14308458.30 0.0282 0.0014
 Saturn -43887-03-16 16:04 J -14308228.87 -14308228.83 -14308228.76 0.0281 0.0270
 Jupiter -43884-01-14 01:26 J -14307194.59 -14307194.44 -14307194.28 0.0536 0.0327
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 Saturn -43873-01-12 11:16 J -14303179.11 -14303179.03 -14303178.96 0.0276 0.0256
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 Jupiter -43873-09-18 20:09 J -14302928.86 -14302928.66 -14302928.46 0.0538 0.0032
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 Uranus -43870-10-01 08:09 J -14301821.22 -14301821.16 -14301821.10 0.0133 0.0128
 Mars -43870-10-11 22:04 J -14301810.74 -14301810.58 -14301810.42 0.1772 0.0680
 Uranus -43869-05-14 11:59 J -14301595.09 -14301595.00 -14301594.88 0.0133 0.0115
 Uranus -43869-12-26 16:18 J -14301368.95 -14301368.82 -14301368.68 0.0134 0.0103

Uranus -43868-08-09 20:23 J -14301142.80 -14301142.65 -14301142.48 0.0134 0.0090
 Uranus -43867-03-24 00:28 J -14300916.64 -14300916.48 -14300916.29 0.0134 0.0077
 Jupiter -43867-07-15 03:35 J -14300803.43 -14300803.35 -14300803.27 0.0488 0.0451
 Uranus -43867-11-05 04:47 J -14300690.48 -14300690.30 -14300690.10 0.0134 0.0064
 Jupiter -43866-03-08 15:06 J -14300566.98 -14300566.87 -14300566.74 0.0493 0.0403
 Uranus -43866-06-19 09:06 J -14300464.31 -14300464.12 -14300463.92 0.0134 0.0051
 Neptune -43866-10-07 22:04 J -14300353.63 -14300353.58 -14300353.50 0.0088 0.0084
 Uranus -43865-01-31 13:40 J -14300238.14 -14300237.93 -14300237.73 0.0135 0.0037
 Neptune -43865-05-20 11:30 J -14300128.13 -14300128.02 -14300127.86 0.0088 0.0070
 Uranus -43865-09-13 18:14 J -14300011.95 -14300011.74 -14300011.53 0.0135 0.0023
 Neptune -43864-01-01 01:26 J -14299902.60 -14299902.44 -14299902.25 0.0088 0.0056
 Uranus -43864-04-27 22:47 J -14299785.76 -14299785.55 -14299785.34 0.0135 0.0010
 Neptune -43864-08-14 15:35 J -14299677.05 -14299676.85 -14299676.65 0.0088 0.0041
 Uranus -43864-12-10 03:21 J -14299559.57 -14299559.36 -14299559.15 0.0136 0.0004
 Neptune -43863-03-28 05:16 J -14299451.49 -14299451.28 -14299451.06 0.0088 0.0026
 Uranus -43863-07-24 07:54 J -14299333.38 -14299333.17 -14299332.96 0.0136 0.0018
 Neptune -43863-11-08 19:11 J -14299225.92 -14299225.70 -14299225.48 0.0088 0.0011
 Uranus -43862-03-07 12:42 J -14299107.17 -14299106.97 -14299106.76 0.0136 0.0033
 Neptune -43862-06-22 08:52 J -14299000.35 -14299000.13 -14298999.90 0.0088 0.0003
 Uranus -43862-10-19 17:45 J -14298880.95 -14298880.76 -14298880.55 0.0136 0.0047
 Neptune -43861-02-02 22:33 J -14298774.77 -14298774.56 -14298774.33 0.0088 0.0018
 Jupiter -43861-05-24 12:42 J -14298663.14 -14298662.97 -14298662.80 0.0539 0.0273
 Uranus -43861-06-01 22:47 J -14298654.73 -14298654.55 -14298654.35 0.0137 0.0061
 Neptune -43861-09-15 12:14 J -14298549.19 -14298548.99 -14298548.77 0.0088 0.0033
 Uranus -43860-01-14 04:04 J -14298428.50 -14298428.33 -14298428.15 0.0137 0.0075
 Neptune -43860-04-29 02:09 J -14298323.59 -14298323.41 -14298323.21 0.0088 0.0047
 Uranus -43860-08-28 09:21 J -14298202.26 -14298202.11 -14298201.94 0.0137 0.0089
 Neptune -43860-12-10 15:35 J -14298097.99 -14298097.85 -14298097.67 0.0088 0.0062
 Uranus -43859-04-11 15:06 J -14297976.01 -14297975.87 -14297975.73 0.0138 0.0103
 Saturn -43859-06-24 09:06 J -14297902.25 -14297902.12 -14297901.98 0.0283 0.0216

Neptune -43859-07-24 05:45 J -14297872.36 -14297872.26 -14297872.14 0.0088 0.0077
 Uranus -43859-11-23 20:23 J -14297749.75 -14297749.65 -14297749.53 0.0138 0.0117
 Saturn -43858-02-09 01:40 J -14297672.64 -14297672.43 -14297672.21 0.0282 0.0042
 Uranus -43858-07-08 01:54 J -14297523.46 -14297523.42 -14297523.33 0.0138 0.0132
 Jupiter -43855-11-11 14:52 J -14296301.07 -14296300.88 -14296300.68 0.0491 0.0162
 Jupiter -43849-09-21 15:06 J -14294159.94 -14294159.87 -14294159.79 0.0534 0.0492
 Saturn -43844-07-24 17:30 J -14292392.90 -14292392.77 -14292392.64 0.0277 0.0218
 Saturn -43843-03-11 00:57 J -14292163.67 -14292163.46 -14292163.26 0.0278 0.0020
 Jupiter -43843-07-17 14:23 J -14292035.10 -14292034.90 -14292034.69 0.0490 0.0079
 Moon -43843-10-14 06:28 J -14291946.30 -14291946.23 -14291946.17 0.2676 0.2427
 Earth -43843-10-14 09:21 J -14291946.17 -14291946.11 -14291946.05 0.2683 0.2465 *
 Saturn -43843-10-26 07:54 J -14291934.25 -14291934.17 -14291934.09 0.0278 0.0257
 Jupiter -43837-05-27 08:23 J -14289894.33 -14289894.15 -14289893.97 0.0537 0.0195
 Moon -43835-10-11 18:57 J -14289026.80 -14289026.71 -14289026.62 0.2680 0.2206
 Earth -43835-10-12 00:42 J -14289026.61 -14289026.47 -14289026.34 0.2681 0.1317
 Mars -43831-03-20 17:59 J -14287770.93 -14287770.75 -14287770.58 0.1762 0.0237
 Jupiter -43831-03-22 13:26 J -14287769.09 -14287768.94 -14287768.78 0.0488 0.0319
 Saturn -43829-01-04 21:06 J -14287115.79 -14287115.62 -14287115.45 0.0283 0.0165
 Uranus -43829-01-12 23:59 J -14287107.52 -14287107.50 -14287107.46 0.0145 0.0144
 Saturn -43829-08-21 13:26 J -14286886.13 -14286885.94 -14286885.73 0.0282 0.0093
 Uranus -43829-08-26 13:26 J -14286881.02 -14286880.94 -14286880.81 0.0145 0.0128
 Uranus -43828-04-10 03:21 J -14286654.49 -14286654.36 -14286654.20 0.0145 0.0110
 Uranus -43828-11-22 17:02 J -14286427.95 -14286427.79 -14286427.61 0.0145 0.0093
 Uranus -43827-07-07 06:28 J -14286201.41 -14286201.23 -14286201.03 0.0145 0.0076
 Uranus -43826-02-18 20:09 J -14285974.85 -14285974.66 -14285974.44 0.0144 0.0059
 Uranus -43826-10-03 09:35 J -14285748.30 -14285748.10 -14285747.87 0.0144 0.0041
 Jupiter -43825-01-31 01:26 J -14285628.63 -14285628.44 -14285628.25 0.0539 0.0107
 Uranus -43825-05-16 23:02 J -14285521.75 -14285521.54 -14285521.31 0.0144 0.0024
 Uranus -43825-12-29 12:28 J -14285295.21 -14285294.98 -14285294.76 0.0143 0.0006
 Uranus -43824-08-13 01:26 J -14285068.66 -14285068.44 -14285068.21 0.0143 0.0012

Uranus	-43823-03-27 14:38 J	-14284842.10	-14284841.89	-14284841.67	0.0143	0.0029
Uranus	-43823-11-09 03:35 J	-14284615.56	-14284615.35	-14284615.13	0.0142	0.0046
Uranus	-43822-06-23 16:33 J	-14284389.01	-14284388.81	-14284388.61	0.0142	0.0062
Uranus	-43821-02-05 05:02 J	-14284162.47	-14284162.29	-14284162.10	0.0142	0.0079
Uranus	-43821-09-18 17:30 J	-14283935.92	-14283935.77	-14283935.59	0.0141	0.0095
Uranus	-43820-05-03 05:59 J	-14283709.37	-14283709.25	-14283709.10	0.0141	0.0111
Uranus	-43820-12-15 17:59 J	-14283482.82	-14283482.75	-14283482.63	0.0141	0.0127
Jupiter	-43819-07-20 00:42 J	-14283266.63	-14283266.47	-14283266.30	0.0492	0.0297
Saturn	-43814-02-03 22:04 J	-14281606.73	-14281606.58	-14281606.42	0.0276	0.0185
Saturn	-43814-09-21 05:16 J	-14281377.49	-14281377.28	-14281377.07	0.0277	0.0051
Jupiter	-43814-10-05 18:42 J	-14281362.85	-14281362.72	-14281362.59	0.0540	0.0409
Jupiter	-43807-03-25 00:14 J	-14279000.69	-14279000.49	-14279000.28	0.0490	0.0056
Mars	-43804-08-08 06:42 J	-14277768.38	-14277768.22	-14277768.05	0.1768	0.0339
Jupiter	-43801-02-03 01:26 J	-14276859.58	-14276859.44	-14276859.30	0.0536	0.0374
Saturn	-43800-07-16 22:18 J	-14276329.75	-14276329.57	-14276329.38	0.0283	0.0138
Saturn	-43799-03-03 15:06 J	-14276100.06	-14276099.87	-14276099.67	0.0282	0.0119
Jupiter	-43796-11-28 00:57 J	-14274734.65	-14274734.46	-14274734.26	0.0489	0.0179
Jupiter	-43790-10-08 17:02 J	-14272593.98	-14272593.79	-14272593.59	0.0537	0.0070
Uranus	-43786-05-31 20:09 J	-14271262.68	-14271262.66	-14271262.59	0.0133	0.0130
Uranus	-43785-01-13 00:42 J	-14271036.56	-14271036.47	-14271036.37	0.0133	0.0118
Saturn	-43785-08-16 03:06 J	-14270820.54	-14270820.37	-14270820.19	0.0277	0.0149
Uranus	-43785-08-26 04:47 J	-14270810.42	-14270810.30	-14270810.16	0.0133	0.0105
Saturn	-43784-04-02 10:18 J	-14270591.26	-14270591.07	-14270590.87	0.0278	0.0088
Uranus	-43784-04-09 08:52 J	-14270584.27	-14270584.13	-14270583.96	0.0134	0.0093
Jupiter	-43784-08-03 01:54 J	-14270468.53	-14270468.42	-14270468.31	0.0488	0.0412
Uranus	-43784-11-21 13:11 J	-14270358.11	-14270357.95	-14270357.77	0.0134	0.0080
Jupiter	-43783-03-27 13:54 J	-14270232.01	-14270231.92	-14270231.82	0.0493	0.0442
Uranus	-43783-07-05 17:16 J	-14270131.95	-14270131.78	-14270131.58	0.0134	0.0067
Neptune	-43783-07-09 06:14 J	-14270128.31	-14270128.24	-14270128.14	0.0089	0.0081
Uranus	-43782-02-16 21:50 J	-14269905.79	-14269905.59	-14269905.40	0.0134	0.0054

Neptune -43782-02-19 18:28 J -14269902.85 -14269902.73 -14269902.57 0.0089 0.0067
 Uranus -43782-10-01 02:09 J -14269679.61 -14269679.41 -14269679.20 0.0135 0.0040
 Neptune -43782-10-03 07:11 J -14269677.37 -14269677.20 -14269677.02 0.0089 0.0052
 Uranus -43781-05-14 06:28 J -14269453.43 -14269453.23 -14269453.01 0.0135 0.0027
 Neptune -43781-05-15 19:11 J -14269451.88 -14269451.70 -14269451.49 0.0089 0.0039
 Uranus -43781-12-26 11:02 J -14269227.25 -14269227.04 -14269226.82 0.0135 0.0013
 Neptune -43781-12-27 07:26 J -14269226.38 -14269226.19 -14269225.97 0.0089 0.0024
 Uranus -43780-08-09 15:50 J -14269001.06 -14269000.84 -14269000.63 0.0135 0.0002
 Neptune -43780-08-09 19:54 J -14269000.88 -14269000.67 -14269000.45 0.0089 0.0009 *
 Neptune -43779-03-23 08:09 J -14268775.37 -14268775.16 -14268774.94 0.0089 0.0005
 Uranus -43779-03-23 20:23 J -14268774.86 -14268774.65 -14268774.44 0.0136 0.0015
 Neptune -43779-11-03 20:23 J -14268549.86 -14268549.65 -14268549.44 0.0089 0.0020
 Uranus -43779-11-05 01:11 J -14268548.65 -14268548.45 -14268548.24 0.0136 0.0029
 Jupiter -43778-06-13 08:38 J -14268328.32 -14268328.14 -14268327.96 0.0539 0.0238
 Neptune -43778-06-17 08:23 J -14268324.34 -14268324.15 -14268323.94 0.0089 0.0034
 Uranus -43778-06-19 06:14 J -14268322.44 -14268322.24 -14268322.04 0.0136 0.0043
 Pluto -43778-08-22 00:57 J -14268258.50 -14268258.46 -14268258.36 0.0067 0.0063
 Neptune -43777-01-28 20:38 J -14268098.81 -14268098.64 -14268098.45 0.0089 0.0048
 Uranus -43777-01-31 11:02 J -14268096.22 -14268096.04 -14268095.84 0.0136 0.0057
 Pluto -43777-04-03 06:14 J -14268033.44 -14268033.24 -14268033.02 0.0067 0.0019
 Neptune -43777-09-10 09:06 J -14267873.27 -14267873.12 -14267872.96 0.0089 0.0063
 Uranus -43777-09-13 16:18 J -14267869.99 -14267869.82 -14267869.63 0.0137 0.0071
 Pluto -43777-11-14 11:02 J -14267808.24 -14267808.04 -14267807.83 0.0067 0.0026
 Neptune -43776-04-23 20:52 J -14267647.72 -14267647.63 -14267647.50 0.0089 0.0077
 Uranus -43776-04-27 21:35 J -14267643.76 -14267643.60 -14267643.43 0.0137 0.0085
 Uranus -43776-12-10 02:52 J -14267417.52 -14267417.38 -14267417.23 0.0137 0.0099
 Uranus -43775-07-24 08:38 J -14267191.26 -14267191.14 -14267191.02 0.0138 0.0112
 Uranus -43774-03-07 13:54 J -14266964.99 -14266964.92 -14266964.82 0.0138 0.0126
 Jupiter -43772-11-30 11:16 J -14265966.23 -14265966.03 -14265965.84 0.0491 0.0193
 Saturn -43770-01-27 09:21 J -14265543.31 -14265543.11 -14265542.90 0.0283 0.0090

Saturn -43770-09-14 02:09 J -14265313.58 -14265313.41 -14265313.23 0.0282 0.0167
 Jupiter -43766-10-11 13:40 J -14263824.94 -14263824.93 -14263824.91 0.0535 0.0533
 Mars -43765-01-15 23:59 J -14263728.67 -14263728.50 -14263728.32 0.1766 0.0171
 Jupiter -43760-08-05 11:02 J -14261700.25 -14261700.04 -14261699.83 0.0489 0.0046
 Saturn -43755-02-26 08:38 J -14260034.33 -14260034.14 -14260033.95 0.0276 0.0114
 Saturn -43755-10-13 15:21 J -14259805.05 -14259804.86 -14259804.67 0.0277 0.0121
 Jupiter -43754-06-16 08:52 J -14259559.31 -14259559.13 -14259558.96 0.0537 0.0245
 Jupiter -43748-04-10 11:30 J -14257434.19 -14257434.02 -14257433.84 0.0488 0.0280
 Uranus -43745-04-25 18:57 J -14256322.80 -14256322.71 -14256322.62 0.0145 0.0132
 Uranus -43745-12-08 08:23 J -14256096.27 -14256096.15 -14256096.01 0.0145 0.0115
 Uranus -43744-07-22 22:04 J -14255869.73 -14255869.58 -14255869.41 0.0145 0.0098
 Uranus -43743-03-06 11:45 J -14255643.18 -14255643.01 -14255642.82 0.0145 0.0081
 Uranus -43743-10-19 01:26 J -14255416.64 -14255416.44 -14255416.24 0.0144 0.0064
 Jupiter -43742-02-19 02:23 J -14255293.59 -14255293.40 -14255293.20 0.0539 0.0055
 Uranus -43742-06-02 14:52 J -14255190.09 -14255189.88 -14255189.67 0.0144 0.0046
 Uranus -43741-01-15 04:18 J -14254963.54 -14254963.32 -14254963.10 0.0144 0.0029
 Saturn -43741-08-08 10:18 J -14254757.28 -14254757.07 -14254756.87 0.0283 0.0064
 Uranus -43741-08-28 17:30 J -14254736.99 -14254736.77 -14254736.54 0.0144 0.0012
 Saturn -43740-03-26 02:52 J -14254527.53 -14254527.38 -14254527.22 0.0282 0.0192
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 Uranus -43738-02-20 22:04 J -14253830.78 -14253830.58 -14253830.37 0.0142 0.0056
 Mars -43738-06-05 16:33 J -14253725.98 -14253725.81 -14253725.64 0.1764 0.0053
 Uranus -43738-10-05 10:47 J -14253604.24 -14253604.05 -14253603.85 0.0142 0.0073
 Moon -43737-04-11 18:42 J -14253414.79 -14253414.72 -14253414.65 0.2652 0.2362
 Uranus -43737-05-18 23:30 J -14253377.69 -14253377.52 -14253377.34 0.0142 0.0089
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 Jupiter -43736-08-07 23:59 J -14252931.65 -14252931.50 -14252931.35 0.0492 0.0338
 Uranus -43736-08-15 00:14 J -14252924.60 -14252924.49 -14252924.37 0.0141 0.0120

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 Jupiter -43731-10-24 17:16 J -14251027.92 -14251027.78 -14251027.63 0.0540 0.0364
 Moon -43729-04-09 13:11 J -14250495.10 -14250494.95 -14250494.80 0.2657 0.0476
 Earth -43729-04-09 15:21 J -14250495.02 -14250494.86 -14250494.70 0.2651 0.0420 *
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 Jupiter -43718-02-21 22:18 J -14246524.70 -14246524.57 -14246524.44 0.0535 0.0410
 Jupiter -43713-12-16 22:18 J -14244399.77 -14244399.57 -14244399.37 0.0489 0.0144
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 Saturn -43711-02-18 20:23 J -14243970.87 -14243970.65 -14243970.44 0.0283 0.0018
 Saturn -43711-10-06 12:57 J -14243741.06 -14243740.96 -14243740.83 0.0282 0.0239
 Jupiter -43707-10-27 15:35 J -14242259.05 -14242258.85 -14242258.66 0.0538 0.0113
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 Neptune -43701-08-21 20:09 J -14240133.76 -14240133.66 -14240133.54 0.0088 0.0077
 Jupiter -43701-08-21 23:45 J -14240133.64 -14240133.51 -14240133.38 0.0487 0.0374 *
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 Neptune -43697-12-17 20:38 J -14238554.85 -14238554.64 -14238554.42 0.0088 0.0025
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 Uranus -43693-12-26 09:06 J -14237085.28 -14237085.12 -14237084.94 0.0137 0.0080
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 Pluto -43691-09-14 10:04 J -14236458.30 -14236458.08 -14236457.85 0.0078 0.0003
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 Jupiter -43689-12-19 10:04 J -14235631.27 -14235631.08 -14235630.90 0.0491 0.0234
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 Saturn -43682-08-31 20:38 J -14233184.86 -14233184.64 -14233184.43 0.0283 0.0007
 Saturn -43681-04-17 13:26 J -14232955.02 -14232954.94 -14232954.87 0.0282 0.0262

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 Mars -43672-04-02 01:54 J -14229683.59 -14229683.42 -14229683.25 0.1760 0.0287
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 Uranus -43660-03-22 04:04 J -14225311.48 -14225311.33 -14225311.17 0.0145 0.0103
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 Uranus -43655-03-08 15:21 J -14223499.07 -14223498.86 -14223498.64 0.0143 0.0034
 Uranus -43655-10-21 04:18 J -14223272.52 -14223272.32 -14223272.10 0.0142 0.0051
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 Jupiter -43653-01-03 11:45 J -14222833.06 -14222833.01 -14222832.94 0.0487 0.0467
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 Uranus -43653-08-30 18:28 J -14222592.88 -14222592.73 -14222592.56 0.0141 0.0099
 Saturn -43652-03-13 05:16 J -14222398.49 -14222398.28 -14222398.07 0.0282 0.0050
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Jupiter -43641-05-01 21:50 J -14218330.79 -14218330.59 -14218330.39 0.0490 0.0137
 Saturn -43638-08-26 19:11 J -14217118.82 -14217118.70 -14217118.56 0.0275 0.0214
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 Saturn -43623-02-05 12:28 J -14211842.13 -14211841.98 -14211841.81 0.0283 0.0182
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 Moon -43600-10-14 11:02 J -14203190.08 -14203190.04 -14203190.00 0.2689 0.2578 *
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 Jupiter -43570-09-15 22:04 J -14192261.68 -14192261.58 -14192261.47 0.0492 0.0419
 Uranus -43570-09-16 11:16 J -14192261.21 -14192261.03 -14192260.83 0.0142 0.0077
 Uranus -43569-04-29 23:59 J -14192034.66 -14192034.50 -14192034.32 0.0142 0.0093
 Uranus -43569-12-12 12:28 J -14191808.11 -14191807.98 -14191807.82 0.0141 0.0108
 Mars -43568-07-06 19:40 J -14191601.80 -14191601.68 -14191601.57 0.1779 0.1346
 Uranus -43568-07-27 00:57 J -14191581.56 -14191581.46 -14191581.35 0.0141 0.0123
 Uranus -43567-03-10 13:26 J -14191354.98 -14191354.94 -14191354.90 0.0141 0.0138
 Jupiter -43565-12-01 18:57 J -14190357.88 -14190357.71 -14190357.54 0.0540 0.0258
 Saturn -43564-02-27 20:09 J -14190269.85 -14190269.66 -14190269.46 0.0283 0.0118
 Saturn -43564-10-15 12:57 J -14190040.14 -14190039.96 -14190039.77 0.0282 0.0138
 Jupiter -43558-05-21 22:18 J -14187995.76 -14187995.57 -14187995.38 0.0491 0.0182
 Jupiter -43552-04-01 00:42 J -14185854.53 -14185854.47 -14185854.42 0.0535 0.0511

Saturn -43549-03-30 03:21 J -14184760.55 -14184760.36 -14184760.17 0.0276 0.0125
 Saturn -43549-11-14 09:50 J -14184531.28 -14184531.09 -14184530.89 0.0277 0.0107
 Jupiter -43546-01-24 22:47 J -14183729.76 -14183729.55 -14183729.34 0.0489 0.0054
 Mars -43541-11-24 20:52 J -14181598.77 -14181598.63 -14181598.48 0.1752 0.0897
 Jupiter -43541-12-04 17:45 J -14181588.94 -14181588.76 -14181588.57 0.0537 0.0218
 Neptune -43537-11-23 04:18 J -14180139.37 -14180139.32 -14180139.23 0.0088 0.0083
 Mars -43536-07-06 07:26 J -14179914.33 -14179914.19 -14179914.05 0.1766 0.1094
 Neptune -43536-07-06 17:59 J -14179913.87 -14179913.75 -14179913.59 0.0088 0.0069
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 Saturn -43535-09-10 02:23 J -14179483.61 -14179483.40 -14179483.20 0.0283 0.0082
 Jupiter -43535-09-29 23:45 J -14179463.68 -14179463.51 -14179463.34 0.0488 0.0284
 Neptune -43535-09-30 21:50 J -14179462.78 -14179462.59 -14179462.38 0.0088 0.0040
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 Saturn -43534-04-27 19:11 J -14179253.86 -14179253.70 -14179253.52 0.0282 0.0175
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 Neptune -43534-12-26 01:26 J -14179011.66 -14179011.44 -14179011.21 0.0088 0.0011
 Uranus -43533-04-06 21:06 J -14178908.74 -14178908.62 -14178908.46 0.0133 0.0101
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 Uranus -43531-09-28 14:23 J -14178004.09 -14178003.90 -14178003.69 0.0134 0.0051
 Pluto -43531-12-13 23:02 J -14177927.69 -14177927.54 -14177927.38 0.0067 0.0048
 Neptune -43530-01-26 22:33 J -14177883.71 -14177883.56 -14177883.39 0.0088 0.0061

Uranus -43530-05-12 18:57 J -14177777.91 -14177777.71 -14177777.50 0.0134 0.0037
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 Uranus -43525-04-25 08:38 J -14175968.31 -14175968.14 -14175967.95 0.0137 0.0071
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 Uranus -43523-10-17 05:59 J -14175063.33 -14175063.25 -14175063.16 0.0138 0.0124
 Jupiter -43522-01-27 10:33 J -14174961.21 -14174961.06 -14174960.90 0.0491 0.0324
 Uranus -43522-05-31 11:30 J -14174837.03 -14174837.02 -14174836.99 0.0138 0.0137
 Saturn -43520-10-10 10:04 J -14173974.27 -14173974.08 -14173973.87 0.0275 0.0088
 Saturn -43519-05-27 16:18 J -14173744.99 -14173744.82 -14173744.63 0.0276 0.0144
 Jupiter -43517-04-14 01:11 J -14173057.58 -14173057.45 -14173057.31 0.0541 0.0391
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 Mars -43509-11-23 23:02 J -14169911.67 -14169911.54 -14169911.42 0.1765 0.1191
 Saturn -43505-03-22 03:06 J -14168697.58 -14168697.37 -14168697.16 0.0283 0.0055
 Jupiter -43505-08-12 10:33 J -14168554.19 -14168554.06 -14168553.93 0.0537 0.0395
 Saturn -43505-11-06 19:54 J -14168467.81 -14168467.67 -14168467.51 0.0282 0.0200
 Mars -43502-05-04 01:11 J -14167559.46 -14167559.45 -14167559.43 0.1783 0.1772
 Jupiter -43499-06-07 11:16 J -14166429.23 -14166429.03 -14166428.83 0.0488 0.0147
 Uranus -43494-04-23 12:14 J -14164648.00 -14164647.99 -14164647.96 0.0146 0.0145
 Uranus -43494-12-06 01:26 J -14164421.52 -14164421.44 -14164421.32 0.0146 0.0130
 Jupiter -43493-04-17 03:50 J -14164288.53 -14164288.34 -14164288.14 0.0538 0.0098

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 Uranus -43492-03-03 05:02 J -14163968.45 -14163968.29 -14163968.12 0.0145 0.0097
 Uranus -43492-10-15 18:28 J -14163741.91 -14163741.73 -14163741.54 0.0145 0.0080
 Uranus -43491-05-30 08:09 J -14163515.36 -14163515.16 -14163514.96 0.0145 0.0063
 Uranus -43490-01-11 21:21 J -14163288.81 -14163288.61 -14163288.39 0.0144 0.0047
 Saturn -43490-04-22 10:04 J -14163188.28 -14163188.08 -14163187.88 0.0276 0.0064
 Uranus -43490-08-26 11:02 J -14163062.26 -14163062.04 -14163061.82 0.0144 0.0029
 Saturn -43490-12-07 16:18 J -14162958.98 -14162958.82 -14162958.65 0.0277 0.0168
 Uranus -43489-04-09 00:28 J -14162835.70 -14162835.48 -14162835.26 0.0144 0.0012
 Uranus -43489-11-21 13:54 J -14162609.15 -14162608.92 -14162608.70 0.0143 0.0005
 Uranus -43488-07-06 02:52 J -14162382.59 -14162382.38 -14162382.15 0.0143 0.0022
 Jupiter -43487-02-10 12:42 J -14162163.10 -14162162.97 -14162162.83 0.0487 0.0375
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 Earth -43486-04-10 17:02 J -14161738.95 -14161738.79 -14161738.63 0.2652 0.0262
 Moon -43486-04-10 21:35 J -14161738.77 -14161738.60 -14161738.44 0.2648 0.0133 *
 Uranus -43486-05-16 17:59 J -14161702.94 -14161702.75 -14161702.55 0.0142 0.0071
 Uranus -43486-12-29 06:42 J -14161476.39 -14161476.22 -14161476.04 0.0142 0.0087
 Uranus -43485-08-11 19:11 J -14161249.84 -14161249.70 -14161249.54 0.0141 0.0103
 Uranus -43484-03-26 07:54 J -14161023.29 -14161023.17 -14161023.04 0.0141 0.0117
 Uranus -43484-11-07 20:09 J -14160796.73 -14160796.66 -14160796.58 0.0141 0.0132
 Jupiter -43482-12-21 19:40 J -14160022.87 -14160022.68 -14160022.50 0.0540 0.0206
 Saturn -43476-02-14 15:21 J -14158140.90 -14158140.86 -14158140.81 0.0284 0.0276
 Saturn -43476-10-02 08:23 J -14157911.36 -14157911.15 -14157910.94 0.0283 0.0021
 Saturn -43475-05-20 01:11 J -14157681.55 -14157681.45 -14157681.32 0.0282 0.0235
 Jupiter -43475-06-09 23:02 J -14157660.73 -14157660.54 -14157660.36 0.0490 0.0229
 Mars -43475-09-22 06:42 J -14157556.34 -14157556.22 -14157556.09 0.1749 0.1190
 Mars -43470-05-03 13:40 J -14155872.09 -14155871.93 -14155871.77 0.1770 0.0698
 Jupiter -43470-08-26 08:09 J -14155757.21 -14155757.16 -14155757.10 0.0542 0.0520

Jupiter -43463-02-12 23:30 J -14153394.73 -14153394.52 -14153394.31 0.0489 0.0006
 Saturn -43461-03-17 10:47 J -14152631.12 -14152631.05 -14152630.97 0.0275 0.0255
 Saturn -43461-11-01 17:30 J -14152401.98 -14152401.77 -14152401.57 0.0276 0.0027
 Saturn -43460-06-18 23:30 J -14152172.65 -14152172.52 -14152172.37 0.0276 0.0204
 Jupiter -43458-12-24 17:59 J -14151253.92 -14151253.75 -14151253.58 0.0538 0.0268
 Neptune -43454-08-25 14:38 J -14149913.97 -14149913.89 -14149913.80 0.0089 0.0081
 Neptune -43453-04-07 02:52 J -14149688.52 -14149688.38 -14149688.23 0.0089 0.0067
 Neptune -43453-11-18 15:06 J -14149463.04 -14149462.87 -14149462.69 0.0089 0.0052
 Neptune -43452-07-02 03:06 J -14149237.55 -14149237.37 -14149237.16 0.0089 0.0039
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 Neptune -43451-09-26 03:50 J -14148786.54 -14148786.34 -14148786.12 0.0089 0.0011
 Uranus -43450-04-24 05:02 J -14148576.39 -14148576.29 -14148576.18 0.0133 0.0115
 Neptune -43450-05-09 16:18 J -14148561.04 -14148560.82 -14148560.61 0.0089 0.0005
 Uranus -43450-12-06 09:06 J -14148350.24 -14148350.12 -14148349.98 0.0133 0.0104
 Neptune -43450-12-21 04:18 J -14148335.53 -14148335.32 -14148335.11 0.0089 0.0019
 Uranus -43449-07-19 13:11 J -14148124.09 -14148123.95 -14148123.78 0.0133 0.0092
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 Neptune -43448-10-27 16:33 J -14147658.95 -14147658.81 -14147658.64 0.0089 0.0061
 Uranus -43447-05-29 02:23 J -14147445.59 -14147445.40 -14147445.20 0.0134 0.0053
 Neptune -43447-06-10 04:47 J -14147433.40 -14147433.30 -14147433.17 0.0089 0.0075
 Saturn -43447-08-27 17:16 J -14147354.88 -14147354.78 -14147354.67 0.0284 0.0247
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 Neptune -43446-01-21 17:02 J -14147207.79 -14147207.79 -14147207.77 0.0089 0.0089
 Saturn -43446-04-14 09:50 J -14147125.30 -14147125.09 -14147124.87 0.0283 0.0009
 Uranus -43446-08-24 11:16 J -14146993.23 -14146993.03 -14146992.81 0.0135 0.0028

Jupiter -43446-08-29 12:14 J -14146988.18 -14146987.99 -14146987.79 0.0539 0.0029
 Saturn -43446-11-30 02:38 J -14146895.46 -14146895.39 -14146895.30 0.0282 0.0262
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 Jupiter -43434-05-04 04:33 J -14142722.47 -14142722.31 -14142722.15 0.0541 0.0329
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 Saturn -43431-12-29 23:16 J -14141386.64 -14141386.53 -14141386.41 0.0277 0.0228
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Uranus -43409-03-18 20:38 J -14133636.76 -14133636.64 -14133636.50 0.0145 0.0118
 Mars -43409-07-19 16:18 J -14133513.91 -14133513.82 -14133513.73 0.1745 0.1483
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 Saturn -43387-05-06 17:30 J -14125552.98 -14125552.77 -14125552.56 0.0283 0.0071
 Jupiter -43387-09-14 11:30 J -14125422.12 -14125422.02 -14125421.91 0.0542 0.0458
 Jupiter -43380-03-03 23:30 J -14123059.73 -14123059.52 -14123059.31 0.0489 0.0039
 Mars -43377-07-18 17:45 J -14121826.92 -14121826.76 -14121826.60 0.1757 0.0561

Jupiter -43374-01-12 20:38 J -14120918.80 -14120918.64 -14120918.49 0.0537 0.0324
 Saturn -43373-10-19 17:45 J -14120272.92 -14120272.76 -14120272.59 0.0275 0.0170
 Saturn -43372-06-06 00:28 J -14120043.69 -14120043.48 -14120043.28 0.0276 0.0059
 Neptune -43372-10-08 03:21 J -14119919.46 -14119919.36 -14119919.22 0.0088 0.0075
 Neptune -43371-05-21 17:02 J -14119693.93 -14119693.79 -14119693.61 0.0088 0.0061
 Neptune -43370-01-02 06:57 J -14119468.39 -14119468.21 -14119468.01 0.0088 0.0047
 Neptune -43370-08-15 20:38 J -14119242.84 -14119242.64 -14119242.42 0.0088 0.0032
 Neptune -43369-03-28 10:33 J -14119017.27 -14119017.06 -14119016.83 0.0088 0.0018
 Jupiter -43369-11-07 00:28 J -14118793.67 -14118793.48 -14118793.28 0.0488 0.0192
 Neptune -43369-11-09 00:28 J -14118791.70 -14118791.48 -14118791.25 0.0088 0.0003
 Neptune -43368-06-22 14:09 J -14118566.13 -14118565.91 -14118565.68 0.0088 0.0011
 Neptune -43367-02-03 04:04 J -14118340.55 -14118340.33 -14118340.11 0.0088 0.0025
 Uranus -43367-05-10 11:59 J -14118244.04 -14118244.00 -14118243.95 0.0133 0.0129
 Neptune -43367-09-16 17:30 J -14118114.95 -14118114.77 -14118114.55 0.0088 0.0040
 Uranus -43367-12-22 15:50 J -14118017.92 -14118017.84 -14118017.72 0.0133 0.0118
 Neptune -43366-04-30 07:26 J -14117889.35 -14117889.19 -14117889.00 0.0088 0.0055
 Uranus -43366-08-05 20:23 J -14117791.77 -14117791.65 -14117791.51 0.0133 0.0106
 Neptune -43366-12-11 20:52 J -14117663.74 -14117663.63 -14117663.46 0.0088 0.0070
 Uranus -43365-03-19 00:57 J -14117565.61 -14117565.46 -14117565.31 0.0133 0.0094
 Neptune -43365-07-24 10:47 J -14117438.10 -14117438.05 -14117437.95 0.0088 0.0083
 Uranus -43365-10-31 05:02 J -14117339.45 -14117339.29 -14117339.11 0.0134 0.0082
 Uranus -43364-06-14 09:21 J -14117113.29 -14117113.11 -14117112.92 0.0134 0.0069
 Uranus -43363-01-26 13:40 J -14116887.11 -14116886.93 -14116886.73 0.0134 0.0057
 Uranus -43363-09-09 18:14 J -14116660.93 -14116660.74 -14116660.53 0.0134 0.0044
 Jupiter -43363-09-17 13:11 J -14116653.15 -14116652.95 -14116652.76 0.0539 0.0029
 Uranus -43362-04-23 22:47 J -14116434.75 -14116434.55 -14116434.34 0.0134 0.0031
 Uranus -43362-12-06 03:21 J -14116208.57 -14116208.36 -14116208.15 0.0135 0.0018
 Uranus -43361-07-19 07:54 J -14115982.39 -14115982.17 -14115981.96 0.0135 0.0005
 Uranus -43360-03-02 12:28 J -14115756.19 -14115755.98 -14115755.77 0.0135 0.0009
 Uranus -43360-10-14 17:16 J -14115529.99 -14115529.78 -14115529.57 0.0135 0.0022

Uranus -43359-05-28 21:50 J -14115303.79 -14115303.59 -14115303.38 0.0136 0.0035
 Uranus -43358-01-10 02:38 J -14115077.59 -14115077.39 -14115077.19 0.0136 0.0048
 Saturn -43358-04-01 04:18 J -14114996.49 -14114996.32 -14114996.13 0.0283 0.0153
 Uranus -43358-08-24 07:26 J -14114851.38 -14114851.19 -14114851.00 0.0136 0.0062
 Saturn -43358-11-16 21:21 J -14114766.81 -14114766.61 -14114766.41 0.0283 0.0102
 Uranus -43357-04-06 12:14 J -14114625.16 -14114624.99 -14114624.80 0.0137 0.0075
 Jupiter -43357-07-13 02:38 J -14114527.49 -14114527.39 -14114527.28 0.0487 0.0415
 Earth -43357-10-14 11:16 J -14114434.06 -14114434.03 -14114433.99 0.2681 0.2620
 Moon -43357-10-14 13:11 J -14114433.99 -14114433.95 -14114433.91 0.2675 0.2587 *
 Uranus -43357-11-18 17:16 J -14114398.93 -14114398.78 -14114398.61 0.0137 0.0088
 Jupiter -43356-03-06 12:14 J -14114291.09 -14114290.99 -14114290.88 0.0491 0.0418
 Uranus -43356-07-02 22:18 J -14114172.69 -14114172.57 -14114172.41 0.0137 0.0102
 Uranus -43355-02-14 04:04 J -14113946.45 -14113946.33 -14113946.21 0.0138 0.0114
 Uranus -43355-09-28 09:21 J -14113720.18 -14113720.11 -14113720.02 0.0138 0.0127
 Jupiter -43351-05-23 01:40 J -14112387.60 -14112387.43 -14112387.26 0.0541 0.0287
 Moon -43349-10-11 23:30 J -14111514.65 -14111514.52 -14111514.40 0.2674 0.1736
 Earth -43349-10-12 02:23 J -14111514.54 -14111514.40 -14111514.26 0.2680 0.1188 *
 Jupiter -43345-11-09 12:14 J -14110025.19 -14110024.99 -14110024.80 0.0490 0.0182
 Saturn -43343-05-02 02:09 J -14109486.60 -14109486.41 -14109486.23 0.0275 0.0130
 Saturn -43343-12-17 08:38 J -14109257.33 -14109257.14 -14109256.94 0.0276 0.0099
 Jupiter -43339-09-20 09:21 J -14107884.19 -14107884.11 -14107884.02 0.0537 0.0487
 Mars -43339-12-26 02:09 J -14107787.59 -14107787.41 -14107787.24 0.1778 0.0112
 Jupiter -43333-07-15 11:30 J -14105759.23 -14105759.02 -14105758.81 0.0488 0.0055
 Saturn -43329-10-11 08:52 J -14104210.31 -14104210.13 -14104209.93 0.0283 0.0118
 Saturn -43328-05-29 01:54 J -14103980.61 -14103980.42 -14103980.24 0.0283 0.0136
 Jupiter -43327-05-26 04:18 J -14103618.50 -14103618.32 -14103618.13 0.0539 0.0199
 Uranus -43326-04-04 12:28 J -14103305.03 -14103304.98 -14103304.89 0.0146 0.0138
 Uranus -43326-11-17 02:09 J -14103078.52 -14103078.41 -14103078.28 0.0145 0.0122
 Uranus -43325-06-30 15:50 J -14102851.99 -14102851.84 -14102851.69 0.0145 0.0106
 Uranus -43324-02-12 05:30 J -14102625.44 -14102625.27 -14102625.10 0.0145 0.0089

Uranus	-43324-09-26 18:57 J	-14102398.89	-14102398.71	-14102398.51	0.0145	0.0073
Uranus	-43323-05-11 08:23 J	-14102172.34	-14102172.15	-14102171.94	0.0144	0.0057
Uranus	-43323-12-23 22:04 J	-14101945.79	-14101945.58	-14101945.37	0.0144	0.0040
Uranus	-43322-08-07 11:30 J	-14101719.24	-14101719.02	-14101718.80	0.0144	0.0023
Jupiter	-43321-03-20 13:11 J	-14101493.12	-14101492.95	-14101492.78	0.0487	0.0283
Uranus	-43321-03-21 00:57 J	-14101492.68	-14101492.46	-14101492.23	0.0144	0.0006
Uranus	-43321-11-02 14:23 J	-14101266.12	-14101265.90	-14101265.68	0.0143	0.0011
Uranus	-43320-06-17 03:21 J	-14101039.57	-14101039.36	-14101039.13	0.0143	0.0027
Uranus	-43319-01-29 16:33 J	-14100813.02	-14100812.81	-14100812.59	0.0143	0.0043
Uranus	-43319-09-13 05:30 J	-14100586.47	-14100586.27	-14100586.06	0.0142	0.0060
Uranus	-43318-04-27 18:28 J	-14100359.91	-14100359.73	-14100359.54	0.0142	0.0075
Uranus	-43318-12-10 06:57 J	-14100133.37	-14100133.21	-14100133.03	0.0142	0.0091
Uranus	-43317-07-23 19:40 J	-14099906.82	-14099906.68	-14099906.53	0.0142	0.0106
Uranus	-43316-03-07 07:40 J	-14099680.27	-14099680.18	-14099680.04	0.0141	0.0122
Uranus	-43316-10-19 20:09 J	-14099453.71	-14099453.66	-14099453.58	0.0141	0.0135
Jupiter	-43315-01-28 21:06 J	-14099352.81	-14099352.62	-14099352.42	0.0540	0.0100
Saturn	-43314-11-12 01:54 J	-14098700.61	-14098700.42	-14098700.22	0.0275	0.0107
Saturn	-43313-06-28 08:38 J	-14098471.33	-14098471.14	-14098470.95	0.0276	0.0123
Mars	-43311-05-16 03:50 J	-14097784.51	-14097784.34	-14097784.17	0.1753	0.0272
Jupiter	-43309-07-17 23:16 J	-14096990.68	-14096990.53	-14096990.36	0.0491	0.0319
Jupiter	-43304-10-03 12:14 J	-14095087.11	-14095086.99	-14095086.85	0.0541	0.0405
Saturn	-43299-04-23 12:57 J	-14093424.16	-14093423.96	-14093423.76	0.0283	0.0087
Saturn	-43299-12-09 05:45 J	-14093194.43	-14093194.26	-14093194.08	0.0282	0.0166
Jupiter	-43297-03-23 00:14 J	-14092724.70	-14092724.49	-14092724.28	0.0489	0.0087
Jupiter	-43291-01-31 17:02 J	-14090583.93	-14090583.79	-14090583.64	0.0537	0.0363
Neptune	-43290-11-27 00:42 J	-14089919.49	-14089919.47	-14089919.40	0.0089	0.0087
Neptune	-43289-07-09 12:57 J	-14089694.06	-14089693.96	-14089693.81	0.0089	0.0073
Neptune	-43288-02-20 01:26 J	-14089468.58	-14089468.44	-14089468.26	0.0089	0.0059
Neptune	-43288-10-03 14:09 J	-14089243.09	-14089242.91	-14089242.72	0.0089	0.0045
Neptune	-43287-05-17 02:23 J	-14089017.60	-14089017.40	-14089017.19	0.0089	0.0031

Neptune -43287-12-28 14:38 J -14088792.10 -14088791.89 -14088791.68 0.0089 0.0016
 Pluto -43286-03-07 19:54 J -14088722.71 -14088722.67 -14088722.59 0.0066 0.0064
 Neptune -43286-08-11 02:52 J -14088566.59 -14088566.38 -14088566.16 0.0089 0.0002
 Pluto -43286-10-19 00:57 J -14088497.67 -14088497.46 -14088497.25 0.0067 0.0020
 Jupiter -43286-11-27 00:57 J -14088458.65 -14088458.46 -14088458.25 0.0488 0.0145
 Neptune -43285-03-23 14:52 J -14088341.08 -14088340.88 -14088340.66 0.0089 0.0012
 Pluto -43285-05-31 05:30 J -14088272.47 -14088272.27 -14088272.06 0.0067 0.0024
 Neptune -43285-11-04 03:06 J -14088115.57 -14088115.37 -14088115.16 0.0089 0.0026
 Saturn -43284-05-24 10:33 J -14087914.26 -14087914.06 -14087913.85 0.0276 0.0065
 Neptune -43284-06-17 15:06 J -14087890.05 -14087889.87 -14087889.66 0.0089 0.0040
 Uranus -43283-01-07 23:16 J -14087685.56 -14087685.53 -14087685.50 0.0133 0.0131
 Saturn -43283-01-08 17:02 J -14087684.94 -14087684.79 -14087684.61 0.0276 0.0165
 Neptune -43283-01-29 03:06 J -14087664.52 -14087664.37 -14087664.18 0.0089 0.0055
 Uranus -43283-08-22 03:21 J -14087459.44 -14087459.36 -14087459.26 0.0133 0.0120
 Neptune -43283-09-11 15:21 J -14087438.97 -14087438.86 -14087438.70 0.0089 0.0069
 Uranus -43282-04-05 07:40 J -14087233.29 -14087233.18 -14087233.04 0.0133 0.0108
 Neptune -43282-04-25 03:35 J -14087213.41 -14087213.35 -14087213.25 0.0089 0.0082
 Uranus -43282-11-17 11:59 J -14087007.14 -14087007.00 -14087006.84 0.0133 0.0096
 Uranus -43281-06-30 16:04 J -14086780.98 -14086780.83 -14086780.65 0.0133 0.0085
 Uranus -43280-02-11 20:38 J -14086554.81 -14086554.64 -14086554.45 0.0134 0.0072
 Uranus -43280-09-26 00:57 J -14086328.64 -14086328.46 -14086328.25 0.0134 0.0060
 Jupiter -43280-10-06 10:04 J -14086318.27 -14086318.08 -14086317.88 0.0539 0.0068
 Uranus -43279-05-10 05:30 J -14086102.46 -14086102.27 -14086102.06 0.0134 0.0047
 Uranus -43279-12-22 09:50 J -14085876.29 -14085876.09 -14085875.87 0.0134 0.0035
 Uranus -43278-08-05 14:23 J -14085650.10 -14085649.90 -14085649.68 0.0134 0.0022
 Uranus -43277-03-18 18:57 J -14085423.92 -14085423.71 -14085423.49 0.0135 0.0009
 Uranus -43277-10-30 23:30 J -14085197.73 -14085197.52 -14085197.30 0.0135 0.0006
 Uranus -43276-06-14 04:04 J -14084971.54 -14084971.33 -14084971.11 0.0135 0.0018
 Uranus -43275-01-26 08:38 J -14084745.34 -14084745.14 -14084744.92 0.0136 0.0032
 Uranus -43275-09-09 13:40 J -14084519.13 -14084518.93 -14084518.73 0.0136 0.0044

Uranus -43274-04-23 18:28 J -14084292.92 -14084292.73 -14084292.54 0.0136 0.0057
 Jupiter -43274-08-02 01:26 J -14084192.57 -14084192.44 -14084192.31 0.0487 0.0375
 Uranus -43274-12-05 23:02 J -14084066.71 -14084066.54 -14084066.34 0.0136 0.0071
 Jupiter -43273-03-25 10:47 J -14083956.12 -14083956.05 -14083955.97 0.0491 0.0456
 Uranus -43273-07-19 04:04 J -14083840.48 -14083840.33 -14083840.15 0.0137 0.0084
 Mars -43273-10-22 08:38 J -14083745.31 -14083745.14 -14083744.97 0.1782 0.0499
 Uranus -43272-03-02 09:21 J -14083614.25 -14083614.11 -14083613.95 0.0137 0.0097
 Uranus -43272-10-14 14:38 J -14083388.00 -14083387.89 -14083387.75 0.0137 0.0110
 Uranus -43271-05-28 20:23 J -14083161.75 -14083161.65 -14083161.56 0.0138 0.0122
 Uranus -43270-01-10 01:26 J -14082935.46 -14082935.44 -14082935.38 0.0138 0.0135
 Saturn -43270-11-03 18:42 J -14082637.92 -14082637.72 -14082637.50 0.0283 0.0049
 Saturn -43269-06-20 11:30 J -14082408.16 -14082408.02 -14082407.87 0.0283 0.0204
 Jupiter -43268-06-11 03:21 J -14082052.53 -14082052.36 -14082052.18 0.0541 0.0232
 Jupiter -43262-11-29 10:33 J -14079690.24 -14079690.06 -14079689.87 0.0490 0.0221
 Jupiter -43256-02-13 19:11 J -14077786.73 -14077786.70 -14077786.66 0.0542 0.0533
 Saturn -43255-04-19 04:33 J -14077357.35 -14077357.31 -14077357.26 0.0275 0.0267
 Saturn -43255-12-04 11:30 J -14077128.23 -14077128.02 -14077127.81 0.0276 0.0040
 Saturn -43254-07-21 17:59 J -14076898.90 -14076898.75 -14076898.59 0.0276 0.0189
 Jupiter -43250-08-04 11:02 J -14075424.24 -14075424.04 -14075423.83 0.0489 0.0016
 Mars -43245-03-12 13:26 J -14073742.11 -14073741.94 -14073741.77 0.1749 0.0033
 Jupiter -43244-06-14 04:18 J -14073283.50 -14073283.32 -14073283.15 0.0538 0.0247
 Moon -43243-04-10 13:26 J -14072983.09 -14072982.94 -14072982.78 0.2653 0.0426
 Earth -43243-04-10 18:42 J -14072982.88 -14072982.72 -14072982.56 0.2652 0.0128 *
 Uranus -43243-12-02 17:30 J -14072746.81 -14072746.77 -14072746.72 0.0146 0.0142
 Uranus -43242-07-17 06:42 J -14072520.31 -14072520.22 -14072520.10 0.0145 0.0127
 Uranus -43241-02-28 20:38 J -14072293.78 -14072293.64 -14072293.49 0.0145 0.0110
 Saturn -43241-09-28 05:45 J -14072081.31 -14072081.26 -14072081.19 0.0284 0.0270
 Uranus -43241-10-12 10:18 J -14072067.24 -14072067.07 -14072066.90 0.0145 0.0094
 Saturn -43240-05-15 22:33 J -14071851.77 -14071851.56 -14071851.35 0.0283 0.0018
 Uranus -43240-05-26 23:45 J -14071840.69 -14071840.51 -14071840.32 0.0145 0.0078

Saturn -43240-12-31 15:21 J -14071621.97 -14071621.86 -14071621.73 0.0282 0.0234
 Uranus -43239-01-08 13:11 J -14071614.14 -14071613.95 -14071613.74 0.0145 0.0062
 Uranus -43239-08-23 02:38 J -14071387.59 -14071387.39 -14071387.17 0.0144 0.0045
 Uranus -43238-04-06 16:18 J -14071161.04 -14071160.82 -14071160.60 0.0144 0.0028
 Jupiter -43238-04-09 13:11 J -14071158.13 -14071157.95 -14071157.77 0.0487 0.0237
 Uranus -43238-11-19 05:45 J -14070934.48 -14070934.26 -14070934.04 0.0144 0.0012
 Uranus -43237-07-02 18:57 J -14070707.93 -14070707.71 -14070707.49 0.0143 0.0005
 Uranus -43236-02-14 08:09 J -14070481.37 -14070481.16 -14070480.93 0.0143 0.0022
 Uranus -43236-09-28 21:21 J -14070254.82 -14070254.61 -14070254.39 0.0143 0.0038
 Uranus -43235-05-13 10:18 J -14070028.27 -14070028.07 -14070027.86 0.0143 0.0054
 Uranus -43235-12-25 23:02 J -14069801.72 -14069801.54 -14069801.34 0.0142 0.0070
 Uranus -43234-08-09 11:45 J -14069575.18 -14069575.01 -14069574.82 0.0142 0.0085
 Uranus -43233-03-23 00:28 J -14069348.63 -14069348.48 -14069348.31 0.0142 0.0100
 Uranus -43233-11-04 12:57 J -14069122.08 -14069121.96 -14069121.82 0.0141 0.0115
 Jupiter -43232-02-16 17:02 J -14069017.98 -14069017.79 -14069017.59 0.0540 0.0064
 Uranus -43232-06-19 00:57 J -14068895.53 -14068895.46 -14068895.35 0.0141 0.0130
 Jupiter -43227-12-13 14:52 J -14066891.94 -14066891.88 -14066891.81 0.0486 0.0462
 Jupiter -43226-08-06 23:16 J -14066655.67 -14066655.53 -14066655.39 0.0491 0.0363
 Saturn -43226-10-30 12:57 J -14066571.07 -14066570.96 -14066570.83 0.0276 0.0226
 Saturn -43225-06-15 20:09 J -14066341.87 -14066341.66 -14066341.45 0.0276 0.0003
 Saturn -43224-01-31 02:52 J -14066112.49 -14066112.38 -14066112.27 0.0277 0.0230
 Jupiter -43221-10-22 08:09 J -14064752.30 -14064752.16 -14064752.01 0.0541 0.0368
 Jupiter -43214-04-11 21:50 J -14062389.79 -14062389.59 -14062389.39 0.0489 0.0123
 Saturn -43211-04-10 13:54 J -14061295.04 -14061294.92 -14061294.79 0.0284 0.0227
 Saturn -43211-11-26 06:28 J -14061065.45 -14061065.23 -14061065.02 0.0283 0.0025
 Saturn -43210-07-13 23:02 J -14060835.58 -14060835.54 -14060835.49 0.0282 0.0275
 Jupiter -43208-02-19 17:45 J -14060248.88 -14060248.76 -14060248.63 0.0537 0.0413
 Neptune -43207-01-09 13:26 J -14059925.03 -14059924.94 -14059924.85 0.0088 0.0081
 Mars -43207-08-19 14:23 J -14059703.05 -14059702.90 -14059702.74 0.1786 0.0914
 Neptune -43207-08-23 02:52 J -14059699.52 -14059699.38 -14059699.23 0.0088 0.0067

Neptune -43206-04-05 16:33 J -14059473.98 -14059473.81 -14059473.62 0.0088 0.0053
 Neptune -43206-11-17 06:14 J -14059248.43 -14059248.24 -14059248.02 0.0088 0.0038
 Neptune -43205-06-29 19:54 J -14059022.87 -14059022.67 -14059022.44 0.0088 0.0024
 Neptune -43204-02-10 10:04 J -14058797.30 -14058797.08 -14058796.86 0.0088 0.0010
 Neptune -43204-09-23 23:45 J -14058571.73 -14058571.51 -14058571.28 0.0088 0.0005
 Neptune -43203-05-07 13:26 J -14058346.15 -14058345.94 -14058345.71 0.0088 0.0020
 Jupiter -43203-12-15 22:33 J -14058123.76 -14058123.56 -14058123.35 0.0488 0.0108
 Neptune -43203-12-19 03:21 J -14058120.56 -14058120.36 -14058120.15 0.0088 0.0033
 Neptune -43202-08-01 16:47 J -14057894.97 -14057894.80 -14057894.59 0.0088 0.0048
 Neptune -43201-03-14 06:57 J -14057669.36 -14057669.21 -14057669.04 0.0088 0.0062
 Neptune -43201-10-25 20:52 J -14057443.73 -14057443.63 -14057443.51 0.0088 0.0076
 Pluto -43199-03-31 01:11 J -14056922.67 -14056922.45 -14056922.23 0.0078 0.0009
 Uranus -43199-04-21 14:23 J -14056900.98 -14056900.90 -14056900.82 0.0133 0.0122
 Pluto -43199-11-11 10:33 J -14056697.18 -14056697.06 -14056696.92 0.0077 0.0062
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 Uranus -43198-07-17 22:33 J -14056448.68 -14056448.56 -14056448.40 0.0133 0.0100
 Uranus -43197-02-29 02:52 J -14056222.52 -14056222.38 -14056222.20 0.0133 0.0088
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 Jupiter -43197-10-25 11:45 J -14055983.20 -14055983.01 -14055982.82 0.0539 0.0120
 Saturn -43196-05-11 14:38 J -14055785.03 -14055784.89 -14055784.74 0.0275 0.0199
 Uranus -43196-05-26 11:45 J -14055770.18 -14055770.01 -14055769.81 0.0134 0.0063
 Saturn -43196-12-26 21:35 J -14055555.81 -14055555.60 -14055555.39 0.0276 0.0029
 Uranus -43195-01-07 16:18 J -14055544.01 -14055543.82 -14055543.62 0.0134 0.0050
 Saturn -43195-08-13 04:18 J -14055326.39 -14055326.32 -14055326.24 0.0277 0.0256
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 Uranus -43194-11-17 05:45 J -14054865.47 -14054865.26 -14054865.05 0.0135 0.0012
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 Uranus -43192-09-25 19:26 J -14054186.89 -14054186.69 -14054186.48 0.0135 0.0027

Uranus -43191-05-10 00:14 J -14053960.69 -14053960.49 -14053960.29 0.0136 0.0040
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 Uranus -43191-12-22 04:47 J -14053734.49 -14053734.30 -14053734.10 0.0136 0.0053
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 Jupiter -43185-06-30 03:06 J -14051717.55 -14051717.37 -14051717.18 0.0540 0.0183
 Saturn -43182-10-21 17:02 J -14050508.93 -14050508.79 -14050508.63 0.0284 0.0198
 Saturn -43181-06-07 09:50 J -14050279.30 -14050279.09 -14050278.88 0.0283 0.0054
 Mars -43179-01-07 23:16 J -14049699.69 -14049699.53 -14049699.36 0.1745 0.0320
 Jupiter -43179-12-18 10:18 J -14049355.25 -14049355.07 -14049354.90 0.0490 0.0265
 Mars -43175-08-19 03:50 J -14048015.42 -14048015.34 -14048015.26 0.1773 0.1573
 Jupiter -43173-03-04 14:38 J -14047451.96 -14047451.89 -14047451.81 0.0542 0.0498
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 Saturn -43167-11-21 23:30 J -14044998.69 -14044998.52 -14044998.34 0.0276 0.0157
 Saturn -43166-07-09 06:42 J -14044769.42 -14044769.22 -14044769.02 0.0276 0.0071
 Jupiter -43161-07-02 23:16 J -14042948.69 -14042948.53 -14042948.35 0.0538 0.0280
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 Uranus -43158-10-29 00:57 J -14041735.57 -14041735.46 -14041735.30 0.0145 0.0116
 Uranus -43157-06-11 14:38 J -14041509.04 -14041508.89 -14041508.72 0.0145 0.0099
 Uranus -43156-01-24 04:18 J -14041282.49 -14041282.32 -14041282.13 0.0145 0.0083
 Uranus -43156-09-07 17:59 J -14041055.94 -14041055.75 -14041055.55 0.0145 0.0067
 Uranus -43155-04-22 07:26 J -14040829.39 -14040829.19 -14040828.97 0.0144 0.0050
 Jupiter -43155-04-28 09:50 J -14040823.27 -14040823.09 -14040822.89 0.0487 0.0204
 Uranus -43155-12-04 21:06 J -14040602.84 -14040602.62 -14040602.41 0.0144 0.0034
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Uranus -43153-10-14 13:11 J -14039923.17 -14039922.95 -14039922.73 0.0143 0.0016
 Saturn -43152-05-03 02:52 J -14039722.56 -14039722.38 -14039722.20 0.0283 0.0152
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 Uranus -43151-01-10 15:06 J -14039470.07 -14039469.87 -14039469.65 0.0143 0.0048
 Uranus -43151-08-25 04:04 J -14039243.52 -14039243.33 -14039243.12 0.0142 0.0064
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 Mars -43147-01-07 00:42 J -14038012.49 -14038012.47 -14038012.44 0.1757 0.1724
 Jupiter -43143-01-01 11:30 J -14036557.11 -14036557.02 -14036556.91 0.0486 0.0429
 Jupiter -43143-08-25 20:09 J -14036320.79 -14036320.66 -14036320.54 0.0491 0.0395
 Mars -43141-06-15 20:23 J -14035660.76 -14035660.65 -14035660.53 0.1791 0.1328
 Jupiter -43138-11-11 09:21 J -14034417.27 -14034417.11 -14034416.94 0.0541 0.0314
 Saturn -43137-06-03 01:40 J -14034212.61 -14034212.43 -14034212.24 0.0275 0.0129
 Saturn -43136-01-18 08:38 J -14033983.33 -14033983.14 -14033982.94 0.0276 0.0098
 Jupiter -43131-04-30 20:09 J -14032054.86 -14032054.66 -14032054.46 0.0490 0.0162
 Jupiter -43125-03-10 17:02 J -14029913.89 -14029913.79 -14029913.69 0.0537 0.0455
 Neptune -43125-10-11 00:42 J -14029699.56 -14029699.47 -14029699.36 0.0089 0.0079
 Neptune -43124-05-24 13:11 J -14029474.09 -14029473.95 -14029473.80 0.0089 0.0064
 Neptune -43123-01-05 01:26 J -14029248.61 -14029248.44 -14029248.26 0.0089 0.0051
 Neptune -43123-08-18 13:54 J -14029023.11 -14029022.92 -14029022.72 0.0089 0.0036
 Saturn -43123-11-13 05:45 J -14028936.44 -14028936.26 -14028936.06 0.0283 0.0123
 Neptune -43122-04-01 02:09 J -14028797.62 -14028797.41 -14028797.20 0.0089 0.0022
 Saturn -43122-06-30 22:33 J -14028706.75 -14028706.56 -14028706.37 0.0283 0.0128
 Neptune -43122-11-12 14:23 J -14028572.11 -14028571.90 -14028571.69 0.0089 0.0008
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 Neptune -43119-12-14 03:06 J -14027444.51 -14027444.37 -14027444.21 0.0089 0.0061
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 Moon -43114-10-15 08:38 J -14025678.16 -14025678.14 -14025678.12 0.2686 0.2650
 Uranus -43114-10-29 14:09 J -14025664.07 -14025663.91 -14025663.75 0.0133 0.0090
 Mars -43114-11-05 09:06 J -14025657.28 -14025657.12 -14025656.96 0.1742 0.0606
 Jupiter -43114-11-14 06:42 J -14025648.41 -14025648.22 -14025648.03 0.0539 0.0152
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 Uranus -43112-09-07 03:21 J -14024985.56 -14024985.36 -14024985.17 0.0134 0.0053
 Uranus -43111-04-21 07:26 J -14024759.38 -14024759.19 -14024758.98 0.0134 0.0041
 Uranus -43111-12-03 11:59 J -14024533.21 -14024533.00 -14024532.79 0.0134 0.0028
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 Mars -43109-06-15 09:35 J -14023973.24 -14023973.10 -14023972.97 0.1778 0.1159
 Uranus -43109-10-12 01:26 J -14023854.65 -14023854.44 -14023854.22 0.0135 0.0010
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 Jupiter -43108-09-08 22:47 J -14023522.72 -14023522.55 -14023522.39 0.0487 0.0294
 Saturn -43108-12-14 10:18 J -14023426.27 -14023426.07 -14023425.87 0.0276 0.0087
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 Saturn -43107-07-31 17:30 J -14023196.95 -14023196.77 -14023196.59 0.0277 0.0141
 Uranus -43107-08-21 15:21 J -14023176.05 -14023175.86 -14023175.66 0.0136 0.0049
 Uranus -43106-04-04 20:09 J -14022949.84 -14022949.66 -14022949.46 0.0136 0.0062

Earth -43106-10-13 02:52 J -14022758.52 -14022758.38 -14022758.24 0.2679 0.1152
 Moon -43106-10-13 03:21 J -14022758.50 -14022758.36 -14022758.23 0.2686 0.1151 *
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 Uranus -43105-06-30 06:14 J -14022497.40 -14022497.24 -14022497.08 0.0137 0.0087
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 Jupiter -43102-07-19 21:50 J -14021382.78 -14021382.59 -14021382.40 0.0540 0.0151
 Jupiter -43095-01-06 06:14 J -14019020.41 -14019020.24 -14019020.07 0.0490 0.0294
 Saturn -43093-05-25 16:47 J -14018150.00 -14018149.80 -14018149.59 0.0283 0.0074
 Saturn -43092-01-10 09:06 J -14017920.27 -14017920.12 -14017919.94 0.0283 0.0177
 Jupiter -43090-03-24 13:40 J -14017117.04 -14017116.93 -14017116.82 0.0542 0.0453
 Jupiter -43084-09-11 06:28 J -14014754.43 -14014754.23 -14014754.02 0.0489 0.0062
 Mars -43082-11-04 10:18 J -14013970.17 -14013970.07 -14013969.97 0.1754 0.1410
 Saturn -43078-06-26 13:40 J -14012640.14 -14012639.93 -14012639.72 0.0276 0.0058
 Jupiter -43078-07-22 23:45 J -14012613.66 -14012613.51 -14012613.35 0.0538 0.0328
 Saturn -43077-02-10 20:23 J -14012410.81 -14012410.65 -14012410.48 0.0276 0.0169
 Mars -43075-04-13 01:40 J -14011618.45 -14011618.43 -14011618.40 0.1795 0.1764
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 Uranus -43029-09-23 09:21 J -13994653.30 -13994653.11 -13994652.93 0.0134 0.0069
 Uranus -43028-05-07 13:26 J -13994427.13 -13994426.94 -13994426.74 0.0134 0.0057
 Uranus -43028-12-19 17:45 J -13994200.95 -13994200.76 -13994200.55 0.0134 0.0045
 Uranus -43027-08-02 22:18 J -13993974.78 -13993974.57 -13993974.36 0.0134 0.0032
 Uranus -43026-03-17 02:38 J -13993748.60 -13993748.39 -13993748.17 0.0134 0.0020
 Uranus -43026-10-29 07:11 J -13993522.41 -13993522.20 -13993521.99 0.0135 0.0007
 Uranus -43025-06-11 11:45 J -13993296.23 -13993296.01 -13993295.80 0.0135 0.0006
 Jupiter -43025-09-27 18:28 J -13993187.90 -13993187.73 -13993187.55 0.0487 0.0264
 Uranus -43024-01-23 16:18 J -13993070.03 -13993069.82 -13993069.61 0.0135 0.0018
 Uranus -43024-09-06 20:52 J -13992843.83 -13992843.63 -13992843.42 0.0135 0.0031
 Uranus -43023-04-21 01:40 J -13992617.63 -13992617.43 -13992617.23 0.0136 0.0044
 Uranus -43023-12-03 06:14 J -13992391.42 -13992391.24 -13992391.04 0.0136 0.0057
 Uranus -43022-07-17 11:02 J -13992165.21 -13992165.04 -13992164.85 0.0136 0.0070

Uranus	-43021-02-28 16:04 J	-13991938.99	-13991938.83	-13991938.65	0.0137	0.0082
Uranus	-43021-10-11 21:21 J	-13991712.75	-13991712.61	-13991712.45	0.0137	0.0095
Uranus	-43020-05-26 02:52 J	-13991486.51	-13991486.38	-13991486.25	0.0137	0.0107
Saturn	-43020-12-01 18:28 J	-13991296.87	-13991296.73	-13991296.60	0.0275	0.0211
Uranus	-43019-01-07 07:54 J	-13991260.26	-13991260.17	-13991260.05	0.0137	0.0120
Saturn	-43019-07-19 01:40 J	-13991067.64	-13991067.43	-13991067.22	0.0276	0.0014
Jupiter	-43019-08-07 22:04 J	-13991047.78	-13991047.58	-13991047.39	0.0541	0.0102
Uranus	-43019-08-21 13:26 J	-13991033.98	-13991033.94	-13991033.87	0.0138	0.0133
Saturn	-43018-03-05 08:23 J	-13990838.25	-13990838.15	-13990838.04	0.0276	0.0240
Mars	-43016-08-31 20:09 J	-13989927.79	-13989927.66	-13989927.53	0.1750	0.1112
Jupiter	-43012-01-25 03:35 J	-13988685.50	-13988685.35	-13988685.20	0.0490	0.0330
Jupiter	-43007-04-12 13:11 J	-13986782.08	-13986781.95	-13986781.81	0.0542	0.0405
Saturn	-43005-05-12 17:30 J	-13986020.90	-13986020.77	-13986020.63	0.0284	0.0216
Saturn	-43005-12-28 10:04 J	-13985791.29	-13985791.08	-13985790.87	0.0283	0.0033
Saturn	-43004-08-15 02:38 J	-13985561.40	-13985561.39	-13985561.36	0.0282	0.0281
Jupiter	-43001-09-30 04:33 J	-13984419.51	-13984419.31	-13984419.10	0.0489	0.0100

43RD MILLENNIUM BCE

This is a list of transits of Venus in the 43rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Earth	-43000-04-10 20:38 J	-13984226.80	-13984226.64	-13984226.48	0.2653	0.0044		
Moon	-43000-04-11 01:26 J	-13984226.59	-13984226.44	-13984226.29	0.2656	0.0600	*	
Jupiter	-42995-08-10 18:57 J	-13982278.85	-13982278.71	-13982278.56	0.0537	0.0359		

Uranus	-42991-07-13 21:06 J	-13980845.66	-13980845.62	-13980845.54	0.0146	0.0140
Uranus	-42990-02-25 10:33 J	-13980619.15	-13980619.06	-13980618.93	0.0145	0.0125
Saturn	-42990-06-14 01:26 J	-13980510.60	-13980510.44	-13980510.28	0.0276	0.0173
Uranus	-42990-10-10 00:28 J	-13980392.62	-13980392.48	-13980392.33	0.0145	0.0109
Saturn	-42989-01-29 08:52 J	-13980281.34	-13980281.13	-13980280.92	0.0277	0.0054
Uranus	-42989-05-23 13:40 J	-13980166.09	-13980165.93	-13980165.75	0.0145	0.0093
Jupiter	-42989-06-05 05:16 J	-13980153.48	-13980153.28	-13980153.08	0.0488	0.0131
Uranus	-42988-01-05 03:06 J	-13979939.55	-13979939.37	-13979939.17	0.0145	0.0077
Uranus	-42988-08-19 16:47 J	-13979713.00	-13979712.80	-13979712.60	0.0145	0.0061
Uranus	-42987-04-03 06:14 J	-13979486.45	-13979486.24	-13979486.03	0.0144	0.0045
Uranus	-42987-11-15 19:40 J	-13979259.90	-13979259.68	-13979259.47	0.0144	0.0029
Uranus	-42986-06-30 08:52 J	-13979033.35	-13979033.13	-13979032.91	0.0144	0.0012
Uranus	-42985-02-11 22:04 J	-13978806.80	-13978806.58	-13978806.35	0.0144	0.0004
Uranus	-42985-09-25 11:16 J	-13978580.25	-13978580.03	-13978579.81	0.0143	0.0020
Uranus	-42984-05-10 00:14 J	-13978353.70	-13978353.49	-13978353.27	0.0143	0.0036
Uranus	-42984-12-22 13:11 J	-13978127.16	-13978126.95	-13978126.74	0.0143	0.0051
Jupiter	-42983-04-15 10:47 J	-13978013.25	-13978013.05	-13978012.85	0.0539	0.0060
Uranus	-42983-08-06 01:54 J	-13977900.61	-13977900.42	-13977900.22	0.0143	0.0067
Uranus	-42982-03-20 14:52 J	-13977674.06	-13977673.88	-13977673.70	0.0142	0.0082
Mars	-42982-06-30 05:02 J	-13977572.42	-13977572.29	-13977572.17	0.1734	0.1168
Uranus	-42982-11-02 03:06 J	-13977447.52	-13977447.37	-13977447.19	0.0142	0.0097
Uranus	-42981-06-15 15:50 J	-13977220.97	-13977220.84	-13977220.70	0.0142	0.0111
Uranus	-42980-01-28 03:50 J	-13976994.42	-13976994.34	-13976994.22	0.0141	0.0126
Uranus	-42980-09-11 16:04 J	-13976767.84	-13976767.83	-13976767.78	0.0141	0.0139
Mars	-42977-02-07 21:21 J	-13975888.78	-13975888.61	-13975888.43	0.1786	0.0347
Jupiter	-42977-02-09 05:30 J	-13975887.41	-13975887.27	-13975887.13	0.0486	0.0360
Jupiter	-42977-10-02 13:54 J	-13975650.98	-13975650.92	-13975650.85	0.0491	0.0462
Saturn	-42976-11-23 05:45 J	-13975234.43	-13975234.26	-13975234.09	0.0283	0.0165
Saturn	-42975-07-10 22:04 J	-13975004.78	-13975004.58	-13975004.38	0.0283	0.0083
Jupiter	-42972-12-19 02:23 J	-13973747.58	-13973747.40	-13973747.22	0.0541	0.0241

Jupiter -42965-06-07 13:40 J -13971385.11 -13971384.93 -13971384.74 0.0489 0.0229
 Saturn -42961-12-24 06:14 J -13969724.42 -13969724.24 -13969724.05 0.0275 0.0140
 Neptune -42960-01-12 11:45 J -13969705.05 -13969705.01 -13969704.91 0.0089 0.0084
 Saturn -42960-08-10 13:26 J -13969495.14 -13969494.94 -13969494.74 0.0276 0.0085
 Jupiter -42960-08-23 17:59 J -13969481.76 -13969481.75 -13969481.73 0.0542 0.0540
 Neptune -42960-08-26 00:28 J -13969479.59 -13969479.48 -13969479.33 0.0089 0.0070
 Neptune -42959-04-08 12:57 J -13969254.11 -13969253.96 -13969253.78 0.0089 0.0056
 Jupiter -42959-04-18 11:16 J -13969244.06 -13969244.03 -13969243.99 0.0537 0.0528
 Neptune -42959-11-20 01:11 J -13969028.62 -13969028.45 -13969028.24 0.0089 0.0042
 Neptune -42958-07-03 13:40 J -13968803.13 -13968802.93 -13968802.72 0.0089 0.0028
 Neptune -42957-02-14 02:09 J -13968577.62 -13968577.41 -13968577.20 0.0089 0.0014
 Neptune -42957-09-26 14:38 J -13968352.11 -13968351.89 -13968351.68 0.0089 0.0000
 Neptune -42956-05-10 02:38 J -13968126.59 -13968126.39 -13968126.17 0.0089 0.0014
 Neptune -42956-12-21 14:38 J -13967901.08 -13967900.89 -13967900.67 0.0089 0.0028
 Neptune -42955-08-04 03:06 J -13967675.55 -13967675.37 -13967675.18 0.0089 0.0042
 Neptune -42954-03-17 15:06 J -13967450.02 -13967449.87 -13967449.69 0.0089 0.0056
 Pluto -42954-09-16 00:42 J -13967267.59 -13967267.47 -13967267.32 0.0078 0.0063
 Neptune -42954-10-29 03:21 J -13967224.48 -13967224.36 -13967224.21 0.0089 0.0069
 Jupiter -42953-02-11 14:09 J -13967119.12 -13967118.91 -13967118.70 0.0488 0.0005
 Pluto -42953-04-28 10:33 J -13967042.28 -13967042.06 -13967041.83 0.0078 0.0009
 Neptune -42953-06-10 15:21 J -13966998.92 -13966998.86 -13966998.77 0.0089 0.0083
 Mars -42950-06-29 05:30 J -13965885.42 -13965885.27 -13965885.12 0.1746 0.0808
 Uranus -42948-04-18 21:21 J -13965225.64 -13965225.61 -13965225.55 0.0133 0.0130
 Uranus -42948-12-01 02:09 J -13964999.50 -13964999.41 -13964999.31 0.0133 0.0118
 Jupiter -42948-12-22 04:33 J -13964978.49 -13964978.31 -13964978.13 0.0539 0.0239
 Uranus -42947-07-15 06:14 J -13964773.35 -13964773.24 -13964773.10 0.0133 0.0107
 Uranus -42946-02-26 10:47 J -13964547.19 -13964547.05 -13964546.89 0.0133 0.0096
 Saturn -42946-06-05 07:26 J -13964448.37 -13964448.19 -13964448.00 0.0283 0.0139
 Uranus -42946-10-10 15:21 J -13964321.03 -13964320.86 -13964320.69 0.0133 0.0084
 Saturn -42945-01-21 00:14 J -13964218.69 -13964218.49 -13964218.29 0.0283 0.0110

Uranus	-42945-05-23 19:40 J	-13964094.86	-13964094.68	-13964094.50	0.0134	0.0072
Uranus	-42944-01-04 23:59 J	-13963868.69	-13963868.50	-13963868.31	0.0134	0.0060
Uranus	-42944-08-19 04:18 J	-13963642.52	-13963642.32	-13963642.12	0.0134	0.0048
Uranus	-42943-04-02 08:38 J	-13963416.34	-13963416.14	-13963415.93	0.0134	0.0036
Uranus	-42943-11-14 12:57 J	-13963190.16	-13963189.96	-13963189.74	0.0134	0.0024
Uranus	-42942-06-28 17:30 J	-13962963.98	-13962963.77	-13962963.56	0.0135	0.0011
Jupiter	-42942-10-17 16:04 J	-13962853.01	-13962852.83	-13962852.64	0.0487	0.0227
Uranus	-42941-02-09 22:04 J	-13962737.80	-13962737.58	-13962737.37	0.0135	0.0003
Uranus	-42941-09-23 02:38 J	-13962511.60	-13962511.39	-13962511.18	0.0135	0.0014
Uranus	-42940-05-07 07:11 J	-13962285.41	-13962285.20	-13962284.99	0.0135	0.0027
Uranus	-42940-12-19 11:45 J	-13962059.21	-13962059.01	-13962058.80	0.0136	0.0040
Uranus	-42939-08-02 16:33 J	-13961833.00	-13961832.81	-13961832.61	0.0136	0.0052
Uranus	-42938-03-16 21:21 J	-13961606.79	-13961606.61	-13961606.42	0.0136	0.0065
Uranus	-42938-10-29 02:23 J	-13961380.56	-13961380.40	-13961380.22	0.0136	0.0078
Uranus	-42937-06-11 07:40 J	-13961154.34	-13961154.18	-13961154.02	0.0137	0.0090
Uranus	-42936-01-23 12:28 J	-13960928.10	-13960927.98	-13960927.82	0.0137	0.0103
Jupiter	-42936-08-26 18:14 J	-13960712.93	-13960712.74	-13960712.54	0.0540	0.0068
Uranus	-42936-09-06 17:59 J	-13960701.85	-13960701.75	-13960701.62	0.0137	0.0115
Uranus	-42935-04-20 23:30 J	-13960475.58	-13960475.52	-13960475.43	0.0138	0.0128
Saturn	-42931-07-06 12:14 J	-13958938.18	-13958937.99	-13958937.79	0.0276	0.0103
Saturn	-42930-02-20 19:40 J	-13958708.87	-13958708.68	-13958708.49	0.0277	0.0123
Jupiter	-42930-06-22 17:45 J	-13958586.83	-13958586.76	-13958586.68	0.0486	0.0450
Jupiter	-42929-02-14 01:40 J	-13958350.56	-13958350.43	-13958350.29	0.0491	0.0367
Jupiter	-42924-05-01 08:23 J	-13956447.29	-13956447.15	-13956447.01	0.0541	0.0373
Jupiter	-42918-10-20 00:14 J	-13954084.69	-13954084.49	-13954084.29	0.0489	0.0129
Saturn	-42917-12-15 19:26 J	-13953661.88	-13953661.69	-13953661.48	0.0283	0.0090
Mars	-42916-04-26 15:06 J	-13953529.96	-13953529.87	-13953529.78	0.1731	0.1438
Saturn	-42916-08-02 11:59 J	-13953432.17	-13953432.00	-13953431.82	0.0283	0.0160
Jupiter	-42912-08-29 17:02 J	-13951943.92	-13951943.79	-13951943.66	0.0538	0.0397
Mars	-42912-12-05 02:52 J	-13951846.56	-13951846.38	-13951846.20	0.1790	0.0086

Uranus	-42907-03-13 02:38 J	-13950287.42	-13950287.39	-13950287.35	0.0146	0.0143
Uranus	-42907-10-25 15:35 J	-13950060.93	-13950060.85	-13950060.73	0.0146	0.0129
Uranus	-42906-06-09 05:02 J	-13949834.41	-13949834.29	-13949834.14	0.0145	0.0114
Jupiter	-42906-06-25 01:11 J	-13949818.65	-13949818.45	-13949818.24	0.0487	0.0099
Uranus	-42905-01-21 18:57 J	-13949607.87	-13949607.71	-13949607.55	0.0145	0.0098
Uranus	-42905-09-04 08:09 J	-13949381.33	-13949381.16	-13949380.97	0.0145	0.0082
Uranus	-42904-04-18 21:35 J	-13949154.79	-13949154.60	-13949154.40	0.0145	0.0066
Uranus	-42904-12-01 10:47 J	-13948928.25	-13948928.05	-13948927.83	0.0145	0.0050
Uranus	-42903-07-16 00:14 J	-13948701.70	-13948701.49	-13948701.27	0.0144	0.0034
Uranus	-42902-02-27 13:40 J	-13948475.15	-13948474.93	-13948474.71	0.0144	0.0018
Uranus	-42902-10-12 02:52 J	-13948248.60	-13948248.38	-13948248.16	0.0144	0.0002
Saturn	-42901-01-16 17:45 J	-13948151.97	-13948151.76	-13948151.56	0.0275	0.0071
Uranus	-42901-05-25 16:04 J	-13948022.06	-13948021.83	-13948021.61	0.0144	0.0014
Saturn	-42901-09-02 00:42 J	-13947922.64	-13947922.47	-13947922.30	0.0276	0.0154
Uranus	-42900-01-07 05:02 J	-13947795.51	-13947795.29	-13947795.08	0.0143	0.0030
Jupiter	-42900-05-04 10:47 J	-13947678.25	-13947678.05	-13947677.86	0.0540	0.0108
Uranus	-42900-08-21 17:45 J	-13947568.97	-13947568.76	-13947568.54	0.0143	0.0045
Uranus	-42899-04-05 06:42 J	-13947342.42	-13947342.22	-13947342.01	0.0143	0.0061
Uranus	-42899-11-17 19:26 J	-13947115.87	-13947115.69	-13947115.49	0.0142	0.0076
Uranus	-42898-07-02 08:09 J	-13946889.33	-13946889.16	-13946888.99	0.0142	0.0090
Uranus	-42897-02-13 20:38 J	-13946662.78	-13946662.64	-13946662.48	0.0142	0.0105
Uranus	-42897-09-27 08:52 J	-13946436.23	-13946436.13	-13946436.00	0.0141	0.0119
Uranus	-42896-05-11 21:06 J	-13946209.67	-13946209.62	-13946209.53	0.0141	0.0133
Jupiter	-42894-02-28 02:38 J	-13945552.54	-13945552.39	-13945552.23	0.0486	0.0324
Jupiter	-42888-01-07 02:38 J	-13943412.57	-13943412.39	-13943412.20	0.0541	0.0191
Saturn	-42887-06-27 21:06 J	-13942875.83	-13942875.62	-13942875.41	0.0283	0.0063
Saturn	-42886-02-12 13:40 J	-13942646.08	-13942645.93	-13942645.76	0.0283	0.0185
Mars	-42884-04-25 15:50 J	-13941843.00	-13941842.84	-13941842.68	0.1742	0.0530
Jupiter	-42882-06-27 11:45 J	-13941050.18	-13941050.01	-13941049.83	0.0490	0.0267
Neptune	-42878-02-25 23:30 J	-13939710.60	-13939710.52	-13939710.39	0.0088	0.0078

Neptune -42878-10-09 13:11 J -13939485.08 -13939484.95 -13939484.77 0.0088 0.0064
 Neptune -42877-05-22 02:52 J -13939259.55 -13939259.38 -13939259.17 0.0088 0.0050
 Jupiter -42877-09-11 15:50 J -13939146.92 -13939146.84 -13939146.77 0.0542 0.0499
 Neptune -42876-01-02 16:33 J -13939034.00 -13939033.81 -13939033.59 0.0088 0.0036
 Neptune -42876-08-16 06:28 J -13938808.44 -13938808.23 -13938808.00 0.0088 0.0021
 Neptune -42875-03-29 20:23 J -13938582.87 -13938582.65 -13938582.42 0.0088 0.0007
 Neptune -42875-11-10 10:04 J -13938357.30 -13938357.08 -13938356.85 0.0088 0.0007
 Neptune -42874-06-23 23:45 J -13938131.72 -13938131.51 -13938131.29 0.0088 0.0021
 Neptune -42873-02-04 13:40 J -13937906.14 -13937905.93 -13937905.73 0.0088 0.0036
 Neptune -42873-09-17 03:21 J -13937680.54 -13937680.36 -13937680.17 0.0088 0.0050
 Saturn -42873-12-11 14:38 J -13937594.94 -13937594.89 -13937594.81 0.0276 0.0261
 Neptune -42872-04-30 16:47 J -13937454.93 -13937454.80 -13937454.62 0.0088 0.0064
 Saturn -42872-07-28 22:33 J -13937365.77 -13937365.56 -13937365.35 0.0276 0.0036
 Neptune -42872-12-12 06:28 J -13937229.31 -13937229.23 -13937229.10 0.0088 0.0078
 Saturn -42871-03-15 05:30 J -13937136.41 -13937136.27 -13937136.11 0.0277 0.0190
 Jupiter -42870-03-02 12:28 J -13936784.19 -13936783.98 -13936783.77 0.0489 0.0036
 Uranus -42865-12-17 07:11 J -13934667.21 -13934667.20 -13934667.16 0.0133 0.0132
 Jupiter -42864-01-10 00:14 J -13934643.66 -13934643.49 -13934643.32 0.0538 0.0271
 Uranus -42864-07-31 11:45 J -13934441.08 -13934441.01 -13934440.91 0.0133 0.0121
 Uranus -42863-03-14 16:04 J -13934214.93 -13934214.83 -13934214.69 0.0133 0.0110
 Earth -42863-10-13 03:35 J -13934002.50 -13934002.35 -13934002.21 0.2678 0.1092
 Moon -42863-10-13 05:59 J -13934002.42 -13934002.25 -13934002.09 0.2673 0.0555 *
 Uranus -42863-10-26 20:38 J -13933988.77 -13933988.64 -13933988.49 0.0133 0.0098
 Uranus -42862-06-10 00:42 J -13933762.61 -13933762.47 -13933762.29 0.0133 0.0088
 Uranus -42861-01-22 05:16 J -13933536.45 -13933536.28 -13933536.09 0.0133 0.0075
 Uranus -42861-09-04 09:50 J -13933310.27 -13933310.09 -13933309.89 0.0134 0.0064
 Uranus -42860-04-18 14:09 J -13933084.10 -13933083.91 -13933083.70 0.0134 0.0052
 Uranus -42860-11-30 18:42 J -13932857.93 -13932857.72 -13932857.52 0.0134 0.0039
 Uranus -42859-07-14 23:02 J -13932631.75 -13932631.54 -13932631.33 0.0134 0.0027
 Jupiter -42859-11-05 12:28 J -13932518.17 -13932517.98 -13932517.79 0.0487 0.0195

Uranus -42858-02-26 03:21 J -13932405.57 -13932405.36 -13932405.14 0.0134 0.0015
 Saturn -42858-05-23 15:50 J -13932318.91 -13932318.84 -13932318.76 0.0284 0.0263
 Uranus -42858-10-10 08:09 J -13932179.38 -13932179.16 -13932178.95 0.0135 0.0003
 Saturn -42857-01-08 08:23 J -13932089.37 -13932089.15 -13932088.94 0.0283 0.0017
 Uranus -42857-05-23 12:28 J -13931953.19 -13931952.98 -13931952.76 0.0135 0.0010
 Saturn -42857-08-25 00:57 J -13931859.58 -13931859.46 -13931859.34 0.0283 0.0232
 Uranus -42856-01-04 17:16 J -13931726.99 -13931726.78 -13931726.57 0.0135 0.0023
 Uranus -42856-08-18 21:35 J -13931500.79 -13931500.60 -13931500.38 0.0135 0.0036
 Uranus -42855-04-02 02:23 J -13931274.59 -13931274.40 -13931274.19 0.0136 0.0048
 Uranus -42855-11-14 07:26 J -13931048.38 -13931048.19 -13931048.00 0.0136 0.0060
 Uranus -42854-06-28 12:28 J -13930822.16 -13930821.98 -13930821.80 0.0136 0.0073
 Uranus -42853-02-09 17:16 J -13930595.93 -13930595.78 -13930595.60 0.0137 0.0085
 Jupiter -42853-09-14 15:50 J -13930378.04 -13930377.84 -13930377.64 0.0541 0.0029
 Uranus -42853-09-22 22:33 J -13930369.69 -13930369.56 -13930369.40 0.0137 0.0098
 Uranus -42852-05-07 03:50 J -13930143.45 -13930143.34 -13930143.20 0.0137 0.0110
 Uranus -42852-12-19 09:06 J -13929917.19 -13929917.12 -13929917.01 0.0137 0.0123
 Uranus -42851-08-02 15:06 J -13929690.91 -13929690.87 -13929690.83 0.0138 0.0134
 Mars -42850-02-22 01:11 J -13929487.47 -13929487.45 -13929487.42 0.1727 0.1699
 Jupiter -42847-07-11 14:38 J -13928251.99 -13928251.89 -13928251.78 0.0486 0.0415
 Jupiter -42846-03-04 22:04 J -13928015.70 -13928015.58 -13928015.46 0.0490 0.0397
 Mars -42846-10-02 09:06 J -13927804.30 -13927804.12 -13927803.95 0.1794 0.0496
 Saturn -42843-06-23 21:06 J -13926808.73 -13926808.62 -13926808.50 0.0275 0.0226
 Saturn -42842-02-08 04:18 J -13926579.53 -13926579.32 -13926579.11 0.0275 0.0003
 Saturn -42842-09-25 11:02 J -13926350.16 -13926350.04 -13926349.91 0.0276 0.0221
 Jupiter -42841-05-20 08:09 J -13926112.32 -13926112.16 -13926112.00 0.0542 0.0324
 Jupiter -42835-11-07 22:04 J -13923749.78 -13923749.58 -13923749.38 0.0489 0.0166
 Jupiter -42829-09-17 17:45 J -13921608.86 -13921608.76 -13921608.65 0.0538 0.0446
 Saturn -42829-12-02 17:02 J -13921532.90 -13921532.79 -13921532.67 0.0284 0.0237
 Saturn -42828-07-20 09:21 J -13921303.32 -13921303.11 -13921302.90 0.0283 0.0010
 Saturn -42827-03-07 02:09 J -13921073.50 -13921073.41 -13921073.32 0.0283 0.0257

Uranus	-42823-06-24 20:38 J	-13919502.72	-13919502.64	-13919502.54	0.0146	0.0132
Jupiter	-42823-07-13 23:30 J	-13919483.73	-13919483.52	-13919483.31	0.0488	0.0060
Uranus	-42822-02-06 09:50 J	-13919276.20	-13919276.09	-13919275.94	0.0145	0.0118
Uranus	-42822-09-20 23:16 J	-13919049.67	-13919049.53	-13919049.36	0.0145	0.0102
Uranus	-42821-05-04 12:57 J	-13918823.14	-13918822.96	-13918822.78	0.0145	0.0086
Uranus	-42821-12-17 01:54 J	-13918596.60	-13918596.42	-13918596.21	0.0145	0.0071
Uranus	-42820-07-31 15:35 J	-13918370.05	-13918369.85	-13918369.65	0.0145	0.0055
Uranus	-42819-03-15 04:47 J	-13918143.50	-13918143.30	-13918143.08	0.0144	0.0040
Uranus	-42819-10-27 18:14 J	-13917916.96	-13917916.74	-13917916.52	0.0144	0.0023
Mars	-42818-02-21 01:40 J	-13917800.60	-13917800.43	-13917800.27	0.1738	0.0245
Uranus	-42818-06-11 07:26 J	-13917690.41	-13917690.19	-13917689.97	0.0144	0.0007
Uranus	-42817-01-23 20:38 J	-13917463.86	-13917463.64	-13917463.42	0.0144	0.0009
Jupiter	-42817-05-23 08:52 J	-13917343.32	-13917343.13	-13917342.94	0.0539	0.0149
Uranus	-42817-09-06 09:35 J	-13917237.32	-13917237.10	-13917236.88	0.0143	0.0024
Uranus	-42816-04-20 22:33 J	-13917010.77	-13917010.56	-13917010.34	0.0143	0.0040
Uranus	-42816-12-03 11:30 J	-13916784.22	-13916784.02	-13916783.81	0.0143	0.0055
Uranus	-42815-07-18 00:28 J	-13916557.68	-13916557.48	-13916557.29	0.0143	0.0070
Uranus	-42814-03-01 12:57 J	-13916331.13	-13916330.96	-13916330.77	0.0142	0.0085
Uranus	-42814-10-14 01:54 J	-13916104.58	-13916104.42	-13916104.26	0.0142	0.0099
Saturn	-42813-01-04 00:14 J	-13916022.63	-13916022.49	-13916022.34	0.0276	0.0196
Uranus	-42813-05-27 14:09 J	-13915878.03	-13915877.91	-13915877.77	0.0142	0.0114
Saturn	-42813-08-20 07:40 J	-13915793.39	-13915793.18	-13915792.97	0.0276	0.0029
Uranus	-42812-01-09 02:23 J	-13915651.48	-13915651.40	-13915651.29	0.0141	0.0128
Saturn	-42812-04-06 14:38 J	-13915563.97	-13915563.89	-13915563.81	0.0277	0.0253
Uranus	-42812-08-23 14:52 J	-13915424.88	-13915424.88	-13915424.87	0.0141	0.0141
Jupiter	-42811-03-19 01:11 J	-13915217.62	-13915217.45	-13915217.28	0.0487	0.0285
Jupiter	-42805-01-26 23:30 J	-13913077.71	-13913077.52	-13913077.32	0.0541	0.0153
Saturn	-42799-06-15 03:06 J	-13910746.53	-13910746.37	-13910746.22	0.0284	0.0193
Jupiter	-42799-07-16 08:52 J	-13910715.29	-13910715.13	-13910714.96	0.0490	0.0300
Saturn	-42798-01-30 19:40 J	-13910516.89	-13910516.68	-13910516.47	0.0283	0.0054

Neptune -42796-04-16 00:14 J -13909710.49 -13909710.49 -13909710.46 0.0089 0.0089
 Neptune -42796-11-27 12:28 J -13909485.08 -13909484.98 -13909484.85 0.0089 0.0075
 Neptune -42795-07-11 00:57 J -13909259.60 -13909259.46 -13909259.29 0.0089 0.0061
 Neptune -42794-02-21 13:26 J -13909034.11 -13909033.94 -13909033.75 0.0089 0.0047
 Pluto -42794-05-04 17:16 J -13908961.98 -13908961.78 -13908961.59 0.0067 0.0030
 Jupiter -42794-10-01 13:11 J -13908812.06 -13908811.95 -13908811.85 0.0543 0.0459
 Neptune -42794-10-05 01:54 J -13908808.61 -13908808.42 -13908808.21 0.0089 0.0034
 Pluto -42794-12-15 21:50 J -13908736.80 -13908736.59 -13908736.37 0.0067 0.0014
 Neptune -42793-05-17 14:23 J -13908583.11 -13908582.90 -13908582.69 0.0089 0.0020
 Pluto -42793-07-28 02:38 J -13908511.49 -13908511.39 -13908511.28 0.0067 0.0058
 Neptune -42793-12-29 02:38 J -13908357.60 -13908357.39 -13908357.17 0.0089 0.0006
 Neptune -42792-08-11 14:52 J -13908132.09 -13908131.88 -13908131.66 0.0089 0.0008
 Neptune -42791-03-25 03:06 J -13907906.57 -13907906.37 -13907906.16 0.0089 0.0022
 Neptune -42791-11-05 15:06 J -13907681.05 -13907680.87 -13907680.66 0.0089 0.0037
 Neptune -42790-06-19 03:35 J -13907455.52 -13907455.35 -13907455.17 0.0089 0.0050
 Neptune -42789-01-30 15:35 J -13907229.99 -13907229.85 -13907229.69 0.0089 0.0064
 Neptune -42789-09-12 03:35 J -13907004.43 -13907004.35 -13907004.22 0.0089 0.0078
 Jupiter -42787-03-21 09:50 J -13906449.29 -13906449.09 -13906448.88 0.0488 0.0072
 Saturn -42784-07-16 06:57 J -13905236.38 -13905236.21 -13905236.04 0.0275 0.0160
 Saturn -42783-03-02 13:54 J -13905007.12 -13905006.92 -13905006.71 0.0275 0.0063
 Jupiter -42781-01-30 00:28 J -13904308.64 -13904308.48 -13904308.32 0.0539 0.0320
 Uranus -42780-03-30 21:50 J -13903882.66 -13903882.59 -13903882.50 0.0133 0.0123
 Mars -42780-07-29 14:09 J -13903762.06 -13903761.91 -13903761.76 0.1798 0.0930
 Uranus -42780-11-12 02:09 J -13903656.51 -13903656.41 -13903656.29 0.0133 0.0112
 Uranus -42779-06-26 06:28 J -13903430.36 -13903430.23 -13903430.08 0.0133 0.0101
 Uranus -42778-02-07 11:02 J -13903204.19 -13903204.04 -13903203.88 0.0133 0.0089
 Uranus -42778-09-21 15:35 J -13902978.02 -13902977.85 -13902977.68 0.0133 0.0078
 Uranus -42777-05-04 19:40 J -13902751.85 -13902751.68 -13902751.48 0.0134 0.0067
 Uranus -42777-12-16 23:59 J -13902525.68 -13902525.50 -13902525.29 0.0134 0.0055
 Uranus -42776-07-31 04:18 J -13902299.51 -13902299.32 -13902299.10 0.0134 0.0043

Jupiter -42776-11-24 10:47 J -13902183.24 -13902183.05 -13902182.85 0.0487 0.0155
 Uranus -42775-03-14 09:06 J -13902073.33 -13902073.12 -13902072.91 0.0134 0.0030
 Uranus -42775-10-26 13:26 J -13901847.15 -13901846.94 -13901846.73 0.0134 0.0018
 Uranus -42774-06-09 17:59 J -13901620.97 -13901620.75 -13901620.54 0.0135 0.0006
 Uranus -42773-01-21 22:33 J -13901394.78 -13901394.56 -13901394.35 0.0135 0.0007
 Uranus -42773-09-04 03:06 J -13901168.58 -13901168.37 -13901168.16 0.0135 0.0019
 Uranus -42772-04-18 07:40 J -13900942.38 -13900942.18 -13900941.96 0.0135 0.0031
 Uranus -42772-11-30 12:28 J -13900716.18 -13900715.98 -13900715.77 0.0136 0.0044
 Uranus -42771-07-14 17:16 J -13900489.97 -13900489.78 -13900489.58 0.0136 0.0056
 Uranus -42770-02-25 22:18 J -13900263.75 -13900263.57 -13900263.38 0.0136 0.0068
 Jupiter -42770-10-04 17:45 J -13900042.96 -13900042.76 -13900042.56 0.0540 0.0028
 Uranus -42770-10-10 03:35 J -13900037.52 -13900037.35 -13900037.18 0.0136 0.0081
 Saturn -42770-12-26 03:35 J -13899960.51 -13899960.35 -13899960.17 0.0284 0.0168
 Uranus -42769-05-23 08:23 J -13899811.29 -13899811.15 -13899810.98 0.0137 0.0094
 Saturn -42769-08-11 20:09 J -13899730.86 -13899730.66 -13899730.45 0.0283 0.0079
 Uranus -42768-01-04 13:54 J -13899585.05 -13899584.92 -13899584.78 0.0137 0.0105
 Uranus -42768-08-18 19:11 J -13899358.80 -13899358.70 -13899358.59 0.0137 0.0118
 Uranus -42767-04-02 00:28 J -13899132.53 -13899132.48 -13899132.40 0.0138 0.0130
 Jupiter -42764-07-30 13:11 J -13897917.08 -13897916.95 -13897916.81 0.0486 0.0375
 Jupiter -42763-03-23 21:21 J -13897680.70 -13897680.61 -13897680.52 0.0491 0.0438
 Jupiter -42758-06-09 07:54 J -13895777.34 -13895777.17 -13895776.99 0.0541 0.0276
 Moon -42757-04-10 19:26 J -13895470.86 -13895470.69 -13895470.53 0.2648 0.0405
 Earth -42757-04-10 22:47 J -13895470.71 -13895470.55 -13895470.39 0.2654 0.0231 *
 Saturn -42754-01-26 08:52 J -13894450.30 -13894450.13 -13894449.93 0.0275 0.0133
 Saturn -42754-09-12 16:18 J -13894221.02 -13894220.82 -13894220.62 0.0276 0.0092
 Mars -42753-12-18 11:45 J -13893758.18 -13893758.01 -13893757.84 0.1735 0.0039
 Jupiter -42752-11-26 21:21 J -13893414.79 -13893414.61 -13893414.41 0.0489 0.0208
 Mars -42748-07-29 04:47 J -13892074.38 -13892074.30 -13892074.22 0.1785 0.1603
 Jupiter -42746-10-07 15:35 J -13891273.93 -13891273.85 -13891273.77 0.0537 0.0483
 Saturn -42740-07-07 12:14 J -13889174.17 -13889173.99 -13889173.79 0.0284 0.0128

Jupiter -42740-08-01 21:35 J -13889148.81 -13889148.60 -13889148.39 0.0488 0.0023
 Uranus -42739-02-22 01:26 J -13888944.51 -13888944.44 -13888944.36 0.0146 0.0136
 Saturn -42739-02-22 05:02 J -13888944.48 -13888944.29 -13888944.09 0.0283 0.0120 *
 Uranus -42739-10-06 14:38 J -13888718.00 -13888717.89 -13888717.76 0.0145 0.0121
 Uranus -42738-05-21 03:50 J -13888491.47 -13888491.34 -13888491.18 0.0145 0.0107
 Uranus -42737-01-02 17:02 J -13888264.94 -13888264.79 -13888264.60 0.0145 0.0092
 Uranus -42737-08-16 06:28 J -13888038.41 -13888038.23 -13888038.03 0.0145 0.0076
 Uranus -42736-03-30 19:54 J -13887811.86 -13887811.67 -13887811.46 0.0145 0.0060
 Uranus -42736-11-12 09:06 J -13887585.32 -13887585.12 -13887584.90 0.0145 0.0045
 Uranus -42735-06-26 22:33 J -13887358.78 -13887358.56 -13887358.34 0.0144 0.0029
 Uranus -42734-02-08 11:45 J -13887132.23 -13887132.01 -13887131.79 0.0144 0.0013
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 Uranus -42733-05-06 13:54 J -13886679.14 -13886678.92 -13886678.69 0.0144 0.0019
 Uranus -42733-12-19 02:52 J -13886452.59 -13886452.38 -13886452.16 0.0143 0.0034
 Uranus -42732-08-02 15:50 J -13886226.05 -13886225.84 -13886225.63 0.0143 0.0049
 Uranus -42731-03-17 04:33 J -13885999.49 -13885999.31 -13885999.09 0.0143 0.0065
 Uranus -42731-10-29 17:30 J -13885772.94 -13885772.77 -13885772.57 0.0142 0.0079
 Uranus -42730-06-13 05:59 J -13885546.40 -13885546.25 -13885546.06 0.0142 0.0094
 Uranus -42729-01-25 18:42 J -13885319.85 -13885319.72 -13885319.57 0.0142 0.0108
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 Jupiter -42728-04-06 23:45 J -13884882.68 -13884882.51 -13884882.33 0.0486 0.0245
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 Saturn -42724-03-24 22:33 J -13883434.75 -13883434.56 -13883434.37 0.0275 0.0125
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 Jupiter -42717-12-11 01:40 J -13880616.48 -13880616.43 -13880616.37 0.0485 0.0464
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 Neptune -42714-05-30 10:04 J -13879716.13 -13879716.08 -13879715.97 0.0088 0.0083

Neptune -42713-01-10 23:59 J -13879490.62 -13879490.50 -13879490.34 0.0088 0.0068
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 Neptune -42712-11-17 17:16 J -13878813.98 -13878813.78 -13878813.55 0.0088 0.0026
 Neptune -42711-07-01 06:57 J -13878588.42 -13878588.21 -13878587.98 0.0088 0.0013
 Jupiter -42711-10-20 15:50 J -13878476.97 -13878476.84 -13878476.71 0.0542 0.0399
 Saturn -42710-01-17 13:11 J -13878388.14 -13878387.95 -13878387.75 0.0284 0.0102
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 Saturn -42710-09-04 05:45 J -13878158.44 -13878158.26 -13878158.07 0.0283 0.0145
 Neptune -42710-09-25 10:33 J -13878137.28 -13878137.06 -13878136.83 0.0088 0.0016
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 Neptune -42708-08-02 03:21 J -13877460.51 -13877460.36 -13877460.17 0.0088 0.0059
 Pluto -42708-10-14 12:42 J -13877387.17 -13877386.97 -13877386.77 0.0078 0.0035
 Neptune -42707-03-15 17:16 J -13877234.89 -13877234.78 -13877234.63 0.0088 0.0072
 Pluto -42707-05-27 22:04 J -13877161.77 -13877161.58 -13877161.37 0.0078 0.0036
 Neptune -42707-10-27 07:11 J -13877009.23 -13877009.20 -13877009.13 0.0088 0.0086
 Jupiter -42704-04-09 09:21 J -13876114.31 -13876114.11 -13876113.91 0.0488 0.0113
 Jupiter -42698-02-18 00:57 J -13873973.60 -13873973.46 -13873973.31 0.0538 0.0367
 Uranus -42697-11-28 06:42 J -13873324.26 -13873324.22 -13873324.13 0.0133 0.0126
 Uranus -42696-07-12 11:45 J -13873098.12 -13873098.01 -13873097.90 0.0133 0.0114
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 Uranus -42695-02-23 16:04 J -13872871.96 -13872871.83 -13872871.69 0.0133 0.0103
 Saturn -42695-10-04 23:30 J -13872648.68 -13872648.52 -13872648.33 0.0276 0.0152
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 Jupiter -42693-12-13 10:33 J -13871848.26 -13871848.06 -13871847.85 0.0487 0.0113
 Uranus -42692-03-30 13:54 J -13871741.11 -13871740.92 -13871740.71 0.0134 0.0046

Uranus	-42692-11-11 18:28 J	-13871514.94	-13871514.73	-13871514.52	0.0134	0.0034
Uranus	-42691-06-25 22:47 J	-13871288.76	-13871288.55	-13871288.33	0.0134	0.0022
Uranus	-42690-02-07 03:21 J	-13871062.57	-13871062.36	-13871062.14	0.0134	0.0010
Uranus	-42690-09-21 08:09 J	-13870836.38	-13870836.16	-13870835.95	0.0135	0.0003
Uranus	-42689-05-04 12:42 J	-13870610.18	-13870609.97	-13870609.76	0.0135	0.0015
Uranus	-42689-12-16 17:16 J	-13870383.99	-13870383.78	-13870383.57	0.0135	0.0027
Uranus	-42688-07-30 22:04 J	-13870157.78	-13870157.58	-13870157.38	0.0135	0.0039
Uranus	-42687-03-14 02:52 J	-13869931.57	-13869931.38	-13869931.18	0.0136	0.0052
Mars	-42687-10-15 21:50 J	-13869715.76	-13869715.59	-13869715.42	0.1731	0.0309
Jupiter	-42687-10-23 16:47 J	-13869708.00	-13869707.80	-13869707.61	0.0540	0.0073
Uranus	-42687-10-26 07:54 J	-13869705.35	-13869705.17	-13869704.98	0.0136	0.0064
Uranus	-42686-06-09 12:57 J	-13869479.13	-13869478.96	-13869478.78	0.0136	0.0076
Uranus	-42685-01-21 17:59 J	-13869252.90	-13869252.75	-13869252.58	0.0136	0.0089
Uranus	-42685-09-03 23:16 J	-13869026.67	-13869026.53	-13869026.38	0.0137	0.0101
Uranus	-42684-04-18 04:18 J	-13868800.42	-13868800.32	-13868800.18	0.0137	0.0113
Uranus	-42684-11-30 10:04 J	-13868574.16	-13868574.08	-13868573.99	0.0137	0.0125
Uranus	-42683-07-14 15:06 J	-13868347.87	-13868347.87	-13868347.83	0.0138	0.0137
Mars	-42682-05-26 10:04 J	-13868032.22	-13868032.08	-13868031.95	0.1789	0.1170
Saturn	-42681-07-29 20:23 J	-13867601.86	-13867601.65	-13867601.45	0.0284	0.0065
Jupiter	-42681-08-18 12:28 J	-13867582.13	-13867581.98	-13867581.83	0.0486	0.0333
Saturn	-42680-03-16 13:11 J	-13867372.11	-13867371.95	-13867371.79	0.0283	0.0182
Jupiter	-42680-04-11 20:23 J	-13867345.70	-13867345.65	-13867345.61	0.0490	0.0477
Jupiter	-42675-06-28 05:45 J	-13865442.43	-13865442.26	-13865442.08	0.0542	0.0233
Jupiter	-42669-12-15 20:38 J	-13863079.81	-13863079.64	-13863079.46	0.0489	0.0249
Saturn	-42666-01-13 16:47 J	-13862320.87	-13862320.80	-13862320.72	0.0274	0.0256
Saturn	-42666-08-30 23:59 J	-13862091.71	-13862091.50	-13862091.29	0.0275	0.0035
Saturn	-42665-04-16 06:28 J	-13861862.38	-13861862.23	-13861862.07	0.0275	0.0186
Jupiter	-42663-03-02 21:06 J	-13861176.66	-13861176.62	-13861176.58	0.0543	0.0531
Jupiter	-42663-10-26 16:04 J	-13860938.85	-13860938.83	-13860938.81	0.0538	0.0533
Jupiter	-42657-08-20 21:21 J	-13858813.82	-13858813.61	-13858813.40	0.0488	0.0021

Uranus -42656-10-22 05:30 J -13858386.32 -13858386.27 -13858386.20 0.0146 0.0140
 Uranus -42655-06-05 18:28 J -13858159.82 -13858159.73 -13858159.60 0.0146 0.0126
 Mars -42655-10-14 22:04 J -13858028.64 -13858028.58 -13858028.53 0.1743 0.1637
 Uranus -42654-01-18 07:54 J -13857933.29 -13857933.17 -13857933.01 0.0145 0.0111
 Uranus -42654-09-01 21:21 J -13857706.76 -13857706.61 -13857706.43 0.0145 0.0095
 Uranus -42653-04-15 10:33 J -13857480.23 -13857480.06 -13857479.86 0.0145 0.0080
 Uranus -42653-11-27 23:45 J -13857253.69 -13857253.51 -13857253.30 0.0145 0.0065
 Saturn -42652-06-24 05:02 J -13857045.30 -13857045.29 -13857045.28 0.0284 0.0284
 Uranus -42652-07-12 12:57 J -13857027.15 -13857026.96 -13857026.74 0.0145 0.0050
 Saturn -42651-02-08 21:06 J -13856815.83 -13856815.62 -13856815.40 0.0284 0.0039
 Uranus -42651-02-24 02:38 J -13856800.60 -13856800.39 -13856800.17 0.0144 0.0034
 Jupiter -42651-07-01 10:04 J -13856673.26 -13856673.08 -13856672.91 0.0540 0.0249
 Saturn -42651-09-26 13:54 J -13856586.06 -13856585.92 -13856585.77 0.0283 0.0207
 Uranus -42651-10-08 15:50 J -13856574.06 -13856573.84 -13856573.62 0.0144 0.0018
 Uranus -42650-05-23 05:02 J -13856347.51 -13856347.29 -13856347.07 0.0144 0.0003
 Uranus -42649-01-04 17:59 J -13856120.97 -13856120.75 -13856120.53 0.0144 0.0013
 Uranus -42649-08-18 06:57 J -13855894.42 -13855894.21 -13855893.99 0.0143 0.0029
 Uranus -42648-04-01 19:54 J -13855667.87 -13855667.67 -13855667.45 0.0143 0.0044
 Uranus -42648-11-14 08:52 J -13855441.32 -13855441.13 -13855440.92 0.0143 0.0059
 Uranus -42647-06-28 21:50 J -13855214.77 -13855214.59 -13855214.39 0.0142 0.0074
 Uranus -42646-02-10 10:33 J -13854988.22 -13854988.06 -13854987.88 0.0142 0.0088
 Uranus -42646-09-24 23:02 J -13854761.68 -13854761.54 -13854761.37 0.0142 0.0103
 Jupiter -42645-04-25 23:30 J -13854547.71 -13854547.52 -13854547.33 0.0487 0.0201
 Uranus -42645-05-08 11:45 J -13854535.12 -13854535.01 -13854534.87 0.0141 0.0117
 Uranus -42645-12-20 23:59 J -13854308.57 -13854308.50 -13854308.40 0.0141 0.0130
 Jupiter -42639-03-06 01:40 J -13852407.63 -13852407.43 -13852407.23 0.0541 0.0048
 Saturn -42637-07-25 16:47 J -13851534.90 -13851534.80 -13851534.68 0.0275 0.0233
 Saturn -42636-03-12 00:14 J -13851305.70 -13851305.49 -13851305.28 0.0275 0.0012
 Saturn -42636-10-27 06:28 J -13851076.35 -13851076.23 -13851076.08 0.0276 0.0210
 Jupiter -42634-12-31 01:40 J -13850281.52 -13850281.43 -13850281.32 0.0486 0.0421

Jupiter -42633-08-23 08:38 J -13850045.26 -13850045.14 -13850045.00 0.0490 0.0385
 Neptune -42631-03-01 01:11 J -13849490.54 -13849490.45 -13849490.35 0.0089 0.0080
 Neptune -42631-10-12 13:26 J -13849265.07 -13849264.94 -13849264.78 0.0089 0.0066
 Neptune -42630-05-26 01:54 J -13849039.58 -13849039.42 -13849039.23 0.0089 0.0052
 Neptune -42629-01-06 14:23 J -13848814.09 -13848813.90 -13848813.70 0.0089 0.0038
 Neptune -42629-08-19 02:52 J -13848588.59 -13848588.38 -13848588.17 0.0089 0.0025
 Neptune -42628-04-01 15:06 J -13848363.08 -13848362.87 -13848362.65 0.0089 0.0011
 Moon -42628-10-15 08:09 J -13848166.24 -13848166.16 -13848166.07 0.2678 0.2244
 Jupiter -42628-11-08 16:04 J -13848141.99 -13848141.83 -13848141.68 0.0542 0.0349
 Neptune -42628-11-13 03:35 J -13848137.57 -13848137.35 -13848137.14 0.0089 0.0003
 Neptune -42627-06-26 15:35 J -13847912.05 -13847911.85 -13847911.63 0.0089 0.0017
 Neptune -42626-02-07 04:04 J -13847686.53 -13847686.33 -13847686.13 0.0089 0.0030
 Neptune -42626-09-20 16:18 J -13847461.00 -13847460.82 -13847460.62 0.0089 0.0044
 Neptune -42625-05-03 04:18 J -13847235.46 -13847235.32 -13847235.14 0.0089 0.0058
 Neptune -42625-12-14 16:47 J -13847009.92 -13847009.80 -13847009.67 0.0089 0.0071
 Neptune -42624-07-28 04:33 J -13846784.35 -13846784.31 -13846784.23 0.0089 0.0085
 Saturn -42622-01-04 10:47 J -13846259.14 -13846259.05 -13846258.95 0.0284 0.0249
 Saturn -42622-08-22 03:21 J -13846029.57 -13846029.36 -13846029.15 0.0284 0.0004
 Saturn -42621-04-07 20:09 J -13845799.76 -13845799.66 -13845799.54 0.0283 0.0242
 Jupiter -42621-04-28 09:21 J -13845779.31 -13845779.11 -13845778.91 0.0488 0.0158
 Mars -42621-08-12 07:54 J -13845673.33 -13845673.17 -13845673.01 0.1728 0.0585
 Moon -42620-10-12 23:45 J -13845246.62 -13845246.51 -13845246.40 0.2681 0.1843
 Earth -42620-10-13 04:04 J -13845246.48 -13845246.33 -13845246.19 0.2678 0.1041 *
 Mars -42616-03-22 15:21 J -13843990.02 -13843989.86 -13843989.70 0.1794 0.0745
 Jupiter -42615-03-08 23:16 J -13843638.65 -13843638.53 -13843638.40 0.0539 0.0410
 Uranus -42613-07-28 16:18 J -13842765.85 -13842765.82 -13842765.74 0.0133 0.0128
 Uranus -42612-03-11 20:52 J -13842539.71 -13842539.63 -13842539.51 0.0133 0.0117
 Uranus -42612-10-24 01:26 J -13842313.56 -13842313.44 -13842313.30 0.0133 0.0106
 Uranus -42611-06-07 05:45 J -13842087.40 -13842087.26 -13842087.10 0.0133 0.0095
 Uranus -42610-01-19 10:18 J -13841861.23 -13841861.07 -13841860.90 0.0133 0.0084

Uranus -42610-09-02 14:38 J -13841635.06 -13841634.89 -13841634.70 0.0133 0.0073
 Jupiter -42609-01-02 11:02 J -13841513.25 -13841513.04 -13841512.83 0.0487 0.0067
 Uranus -42609-04-15 19:11 J -13841408.89 -13841408.70 -13841408.50 0.0134 0.0061
 Uranus -42609-11-27 23:30 J -13841182.71 -13841182.52 -13841182.31 0.0134 0.0049
 Uranus -42608-07-12 04:04 J -13840956.54 -13840956.33 -13840956.12 0.0134 0.0037
 Saturn -42607-02-05 00:28 J -13840748.62 -13840748.48 -13840748.33 0.0274 0.0195
 Uranus -42607-02-23 08:38 J -13840730.35 -13840730.14 -13840729.93 0.0134 0.0025
 Saturn -42607-09-22 07:26 J -13840519.40 -13840519.19 -13840518.98 0.0275 0.0025
 Uranus -42607-10-07 13:11 J -13840504.16 -13840503.95 -13840503.74 0.0134 0.0013
 Saturn -42606-05-09 13:40 J -13840290.02 -13840289.93 -13840289.83 0.0275 0.0244
 Uranus -42606-05-21 17:45 J -13840277.98 -13840277.76 -13840277.55 0.0134 0.0002
 Uranus -42605-01-02 22:18 J -13840051.78 -13840051.57 -13840051.36 0.0135 0.0011
 Uranus -42605-08-16 02:52 J -13839825.59 -13839825.38 -13839825.17 0.0135 0.0023
 Uranus -42604-03-30 07:40 J -13839599.38 -13839599.18 -13839598.97 0.0135 0.0036
 Uranus -42604-11-11 12:28 J -13839373.18 -13839372.98 -13839372.78 0.0135 0.0048
 Jupiter -42604-11-11 16:33 J -13839373.00 -13839372.81 -13839372.61 0.0541 0.0122 *
 Uranus -42603-06-25 17:16 J -13839146.96 -13839146.78 -13839146.58 0.0136 0.0060
 Uranus -42602-02-06 22:18 J -13838920.74 -13838920.57 -13838920.39 0.0136 0.0072
 Uranus -42602-09-21 03:21 J -13838694.51 -13838694.36 -13838694.18 0.0136 0.0085
 Uranus -42601-05-04 08:23 J -13838468.28 -13838468.15 -13838467.99 0.0137 0.0097
 Uranus -42601-12-16 13:54 J -13838242.05 -13838241.92 -13838241.79 0.0137 0.0108
 Uranus -42600-07-30 18:57 J -13838015.80 -13838015.71 -13838015.60 0.0137 0.0120
 Uranus -42599-03-14 00:28 J -13837789.53 -13837789.48 -13837789.41 0.0138 0.0132
 Jupiter -42598-09-07 12:28 J -13837247.14 -13837246.98 -13837246.81 0.0486 0.0289
 Saturn -42593-07-16 11:59 J -13835473.12 -13835473.00 -13835472.86 0.0284 0.0223
 Saturn -42592-03-03 04:33 J -13835243.53 -13835243.31 -13835243.10 0.0284 0.0023
 Jupiter -42592-07-17 09:21 J -13835107.29 -13835107.11 -13835106.92 0.0542 0.0171
 Saturn -42592-10-18 21:06 J -13835013.68 -13835013.62 -13835013.55 0.0283 0.0268
 Mars -42589-08-11 07:54 J -13833986.28 -13833986.17 -13833986.06 0.1739 0.1350
 Jupiter -42585-01-04 20:52 J -13832744.79 -13832744.63 -13832744.46 0.0489 0.0292

Jupiter -42580-03-22 00:14 J -13830841.58 -13830841.49 -13830841.39 0.0543 0.0470
 Saturn -42578-08-18 00:14 J -13829962.65 -13829962.49 -13829962.32 0.0275 0.0173
 Saturn -42577-04-03 07:11 J -13829733.40 -13829733.20 -13829732.99 0.0275 0.0048
 Saturn -42577-11-18 13:40 J -13829503.98 -13829503.93 -13829503.88 0.0276 0.0267
 Jupiter -42574-09-09 22:04 J -13828478.78 -13828478.58 -13828478.37 0.0488 0.0067
 Uranus -42572-06-21 09:35 J -13827828.11 -13827828.10 -13827828.04 0.0146 0.0144
 Uranus -42571-02-02 23:16 J -13827601.62 -13827601.53 -13827601.43 0.0146 0.0129
 Uranus -42571-09-17 12:14 J -13827375.11 -13827374.99 -13827374.84 0.0146 0.0115
 Uranus -42570-05-02 01:11 J -13827148.59 -13827148.45 -13827148.27 0.0145 0.0101
 Uranus -42570-12-14 14:38 J -13826922.06 -13826921.89 -13826921.70 0.0145 0.0085
 Uranus -42569-07-28 03:50 J -13826695.52 -13826695.34 -13826695.14 0.0145 0.0070
 Uranus -42568-03-11 17:02 J -13826468.98 -13826468.79 -13826468.57 0.0145 0.0055
 Jupiter -42568-07-20 10:18 J -13826338.23 -13826338.07 -13826337.90 0.0539 0.0298
 Uranus -42568-10-24 06:14 J -13826242.44 -13826242.24 -13826242.01 0.0145 0.0040
 Uranus -42567-06-07 19:40 J -13826015.90 -13826015.68 -13826015.46 0.0144 0.0024
 Uranus -42566-01-20 08:52 J -13825789.35 -13825789.13 -13825788.91 0.0144 0.0008
 Uranus -42566-09-03 22:04 J -13825562.80 -13825562.58 -13825562.36 0.0144 0.0007
 Uranus -42565-04-17 11:16 J -13825336.25 -13825336.03 -13825335.81 0.0144 0.0023
 Uranus -42565-11-29 23:59 J -13825109.70 -13825109.50 -13825109.28 0.0143 0.0039
 Uranus -42564-07-14 13:11 J -13824883.16 -13824882.95 -13824882.74 0.0143 0.0053
 Saturn -42563-01-26 16:47 J -13824686.95 -13824686.80 -13824686.64 0.0284 0.0191
 Uranus -42563-02-26 02:09 J -13824656.60 -13824656.41 -13824656.21 0.0143 0.0068
 Saturn -42563-09-13 09:35 J -13824457.31 -13824457.10 -13824456.89 0.0284 0.0055
 Uranus -42563-10-10 14:52 J -13824430.05 -13824429.88 -13824429.69 0.0142 0.0083
 Jupiter -42562-05-16 00:14 J -13824212.69 -13824212.49 -13824212.29 0.0487 0.0155
 Uranus -42562-05-25 03:21 J -13824203.50 -13824203.36 -13824203.18 0.0142 0.0097
 Uranus -42561-01-06 16:04 J -13823976.96 -13823976.83 -13823976.68 0.0142 0.0111
 Uranus -42561-08-20 04:18 J -13823750.40 -13823750.32 -13823750.20 0.0141 0.0125
 Uranus -42560-04-03 17:02 J -13823523.83 -13823523.79 -13823523.73 0.0141 0.0137
 Jupiter -42556-03-24 23:45 J -13822072.71 -13822072.51 -13822072.31 0.0541 0.0009

Mars -42555-06-09 17:59 J -13821630.90 -13821630.75 -13821630.61 0.1724 0.0850
 Mars -42550-01-17 20:52 J -13819947.81 -13819947.63 -13819947.46 0.1798 0.0319
 Jupiter -42550-01-19 02:52 J -13819946.51 -13819946.38 -13819946.24 0.0485 0.0372
 Neptune -42550-08-31 21:35 J -13819721.62 -13819721.60 -13819721.54 0.0088 0.0087
 Jupiter -42550-09-12 09:21 J -13819710.20 -13819710.11 -13819710.01 0.0490 0.0430
 Neptune -42549-04-13 11:30 J -13819496.14 -13819496.02 -13819495.88 0.0088 0.0073
 Pluto -42549-10-19 21:35 J -13819306.67 -13819306.60 -13819306.49 0.0066 0.0061
 Neptune -42549-11-25 01:26 J -13819270.61 -13819270.44 -13819270.28 0.0088 0.0059
 Saturn -42548-02-27 07:54 J -13819176.35 -13819176.17 -13819175.98 0.0275 0.0135
 Pluto -42548-06-02 02:38 J -13819081.60 -13819081.39 -13819081.17 0.0067 0.0017
 Neptune -42548-07-08 14:38 J -13819045.07 -13819044.89 -13819044.68 0.0088 0.0045
 Saturn -42548-10-14 14:38 J -13818947.09 -13818946.89 -13818946.69 0.0275 0.0084
 Pluto -42547-01-13 07:26 J -13818856.38 -13818856.19 -13818855.98 0.0067 0.0027
 Neptune -42547-02-19 04:33 J -13818819.51 -13818819.31 -13818819.09 0.0088 0.0031
 Neptune -42547-10-02 18:14 J -13818593.95 -13818593.74 -13818593.51 0.0088 0.0018
 Neptune -42546-05-16 08:09 J -13818368.38 -13818368.16 -13818367.93 0.0088 0.0003
 Neptune -42546-12-27 21:50 J -13818142.81 -13818142.59 -13818142.37 0.0088 0.0011
 Neptune -42545-08-09 11:30 J -13817917.24 -13817917.02 -13817916.80 0.0088 0.0025
 Jupiter -42545-11-27 15:06 J -13817807.03 -13817806.87 -13817806.70 0.0543 0.0301
 Neptune -42544-03-23 01:11 J -13817691.65 -13817691.45 -13817691.24 0.0088 0.0039
 Neptune -42544-11-03 14:52 J -13817466.05 -13817465.88 -13817465.69 0.0088 0.0053
 Neptune -42543-06-17 04:33 J -13817240.45 -13817240.31 -13817240.15 0.0088 0.0066
 Neptune -42542-01-28 17:59 J -13817014.82 -13817014.75 -13817014.64 0.0088 0.0081
 Jupiter -42538-05-18 09:21 J -13815444.30 -13815444.11 -13815443.92 0.0488 0.0201
 Saturn -42534-08-08 19:11 J -13813900.88 -13813900.70 -13813900.53 0.0284 0.0162
 Saturn -42533-03-25 11:30 J -13813671.22 -13813671.02 -13813670.82 0.0284 0.0083
 Jupiter -42532-03-28 02:52 J -13813303.47 -13813303.38 -13813303.28 0.0539 0.0469
 Uranus -42529-03-28 01:26 J -13812207.46 -13812207.44 -13812207.38 0.0133 0.0130
 Uranus -42529-11-09 06:14 J -13811981.33 -13811981.24 -13811981.15 0.0133 0.0119
 Uranus -42528-06-23 10:18 J -13811755.18 -13811755.07 -13811754.93 0.0133 0.0109

Uranus	-42527-02-04 14:38 J	-13811529.01	-13811528.89	-13811528.72	0.0133	0.0098
Uranus	-42527-09-18 19:40 J	-13811302.84	-13811302.68	-13811302.52	0.0133	0.0087
Jupiter	-42526-01-21 11:02 J	-13811178.24	-13811178.04	-13811177.83	0.0487	0.0024
Uranus	-42526-05-02 23:45 J	-13811076.68	-13811076.51	-13811076.32	0.0133	0.0076
Uranus	-42526-12-15 04:04 J	-13810850.50	-13810850.33	-13810850.13	0.0133	0.0065
Uranus	-42525-07-28 08:38 J	-13810624.33	-13810624.14	-13810623.93	0.0134	0.0053
Uranus	-42524-03-11 13:11 J	-13810398.15	-13810397.95	-13810397.74	0.0134	0.0041
Uranus	-42524-10-23 17:45 J	-13810171.97	-13810171.76	-13810171.55	0.0134	0.0029
Uranus	-42523-06-06 22:18 J	-13809945.78	-13809945.57	-13809945.36	0.0134	0.0017
Mars	-42523-06-08 17:30 J	-13809943.90	-13809943.77	-13809943.63	0.1735	0.1060
Uranus	-42522-01-19 02:52 J	-13809719.59	-13809719.38	-13809719.17	0.0134	0.0005
Uranus	-42522-09-02 07:40 J	-13809493.40	-13809493.18	-13809492.97	0.0135	0.0007
Uranus	-42521-04-15 12:14 J	-13809267.20	-13809266.99	-13809266.78	0.0135	0.0019
Uranus	-42521-11-27 16:47 J	-13809041.00	-13809040.80	-13809040.58	0.0135	0.0032
Jupiter	-42521-11-30 19:40 J	-13809037.87	-13809037.68	-13809037.49	0.0540	0.0180
Uranus	-42520-07-11 21:35 J	-13808814.79	-13808814.60	-13808814.39	0.0135	0.0044
Uranus	-42519-02-23 02:23 J	-13808588.58	-13808588.40	-13808588.20	0.0136	0.0056
Saturn	-42519-09-09 07:26 J	-13808390.38	-13808390.19	-13808389.99	0.0275	0.0114
Uranus	-42519-10-07 07:26 J	-13808362.36	-13808362.19	-13808361.99	0.0136	0.0068
Saturn	-42518-04-26 14:09 J	-13808161.10	-13808160.91	-13808160.71	0.0275	0.0106
Uranus	-42518-05-21 12:42 J	-13808136.14	-13808135.97	-13808135.80	0.0136	0.0080
Uranus	-42517-01-02 17:30 J	-13807909.91	-13807909.77	-13807909.60	0.0136	0.0092
Uranus	-42517-08-15 22:33 J	-13807683.68	-13807683.56	-13807683.41	0.0137	0.0104
Uranus	-42516-03-30 04:04 J	-13807457.44	-13807457.33	-13807457.21	0.0137	0.0115
Uranus	-42516-11-11 09:35 J	-13807231.17	-13807231.10	-13807231.02	0.0137	0.0127
Jupiter	-42515-09-26 13:26 J	-13806912.12	-13806911.94	-13806911.76	0.0486	0.0244
Earth	-42514-04-12 00:57 J	-13806714.62	-13806714.46	-13806714.30	0.2654	0.0407
Moon	-42514-04-12 01:54 J	-13806714.56	-13806714.42	-13806714.27	0.2661	0.0864 *
Jupiter	-42509-08-05 10:33 J	-13804772.25	-13804772.06	-13804771.86	0.0541	0.0118
Saturn	-42504-02-17 23:02 J	-13803114.72	-13803114.54	-13803114.35	0.0284	0.0132

Saturn -42504-10-05 15:35 J -13802885.04 -13802884.85 -13802884.65 0.0283 0.0114
 Jupiter -42503-06-01 16:18 J -13802645.88 -13802645.82 -13802645.74 0.0485 0.0458
 Jupiter -42502-01-23 21:50 J -13802409.73 -13802409.59 -13802409.43 0.0489 0.0340
 Jupiter -42497-04-09 21:50 J -13800506.71 -13800506.59 -13800506.46 0.0543 0.0428
 Jupiter -42491-09-28 23:16 J -13798143.73 -13798143.53 -13798143.33 0.0488 0.0114
 Saturn -42489-03-21 15:21 J -13797604.06 -13797603.86 -13797603.65 0.0275 0.0075
 Mars -42489-04-06 04:18 J -13797588.45 -13797588.32 -13797588.19 0.1721 0.1111
 Saturn -42489-11-05 22:04 J -13797374.76 -13797374.58 -13797374.40 0.0275 0.0144
 Uranus -42488-10-03 03:35 J -13797043.44 -13797043.35 -13797043.26 0.0146 0.0133
 Uranus -42487-05-17 16:33 J -13796816.93 -13796816.81 -13796816.68 0.0146 0.0119
 Uranus -42487-12-30 05:30 J -13796590.41 -13796590.27 -13796590.11 0.0146 0.0104
 Uranus -42486-08-13 18:42 J -13796363.89 -13796363.72 -13796363.54 0.0145 0.0090
 Uranus -42485-03-27 08:09 J -13796137.35 -13796137.16 -13796136.97 0.0145 0.0075
 Jupiter -42485-08-08 09:35 J -13796003.26 -13796003.10 -13796002.95 0.0540 0.0344
 Uranus -42485-11-08 20:52 J -13795910.82 -13795910.63 -13795910.41 0.0145 0.0060
 Mars -42485-11-14 01:54 J -13795905.60 -13795905.42 -13795905.25 0.1802 0.0129
 Uranus -42484-06-23 10:04 J -13795684.28 -13795684.08 -13795683.86 0.0145 0.0045
 Uranus -42483-02-04 23:45 J -13795457.73 -13795457.51 -13795457.30 0.0144 0.0029
 Uranus -42483-09-19 12:57 J -13795231.18 -13795230.96 -13795230.74 0.0144 0.0014
 Uranus -42482-05-04 01:54 J -13795004.64 -13795004.42 -13795004.19 0.0144 0.0004
 Uranus -42482-12-16 15:06 J -13794778.09 -13794777.87 -13794777.65 0.0144 0.0017
 Uranus -42481-07-30 04:04 J -13794551.54 -13794551.33 -13794551.11 0.0143 0.0033
 Uranus -42480-03-13 17:16 J -13794324.99 -13794324.78 -13794324.57 0.0143 0.0047
 Uranus -42480-10-26 05:59 J -13794098.44 -13794098.25 -13794098.04 0.0143 0.0063
 Jupiter -42479-06-03 23:59 J -13793877.70 -13793877.50 -13793877.29 0.0486 0.0113
 Uranus -42479-06-09 19:11 J -13793871.89 -13793871.70 -13793871.51 0.0142 0.0077
 Uranus -42478-01-22 07:40 J -13793645.34 -13793645.18 -13793645.00 0.0142 0.0091
 Uranus -42478-09-05 20:23 J -13793418.79 -13793418.65 -13793418.49 0.0142 0.0105
 Uranus -42477-04-19 08:52 J -13793192.24 -13793192.13 -13793192.00 0.0142 0.0119
 Uranus -42477-12-01 21:06 J -13792965.68 -13792965.62 -13792965.52 0.0141 0.0132

Saturn -42475-08-31 02:09 J -13792328.60 -13792328.41 -13792328.21 0.0284 0.0101
 Saturn -42474-04-17 18:42 J -13792098.90 -13792098.72 -13792098.54 0.0284 0.0144
 Jupiter -42473-04-13 03:06 J -13791737.57 -13791737.37 -13791737.17 0.0541 0.0056
 Jupiter -42467-02-07 02:38 J -13789611.53 -13789611.39 -13789611.23 0.0486 0.0330
 Neptune -42467-06-02 13:26 J -13789495.98 -13789495.94 -13789495.85 0.0089 0.0085
 Jupiter -42467-10-01 09:35 J -13789375.15 -13789375.10 -13789375.05 0.0490 0.0472
 Neptune -42466-01-14 02:09 J -13789270.53 -13789270.41 -13789270.27 0.0089 0.0070
 Neptune -42466-08-27 14:23 J -13789045.05 -13789044.90 -13789044.72 0.0089 0.0057
 Neptune -42465-04-09 02:52 J -13788819.56 -13788819.38 -13788819.18 0.0089 0.0043
 Neptune -42465-11-20 15:21 J -13788594.06 -13788593.86 -13788593.66 0.0089 0.0030
 Neptune -42464-07-04 03:35 J -13788368.56 -13788368.35 -13788368.14 0.0089 0.0016
 Neptune -42463-02-14 15:50 J -13788143.05 -13788142.84 -13788142.62 0.0089 0.0003
 Neptune -42463-09-28 04:18 J -13787917.53 -13787917.32 -13787917.10 0.0089 0.0012
 Neptune -42462-05-11 16:33 J -13787692.01 -13787691.81 -13787691.60 0.0089 0.0025
 Pluto -42462-11-12 21:35 J -13787506.81 -13787506.60 -13787506.38 0.0078 0.0020
 Jupiter -42462-12-17 18:42 J -13787471.90 -13787471.72 -13787471.54 0.0542 0.0240
 Neptune -42462-12-23 04:33 J -13787466.49 -13787466.31 -13787466.10 0.0089 0.0039
 Pluto -42461-06-25 06:57 J -13787281.35 -13787281.21 -13787281.02 0.0078 0.0052
 Neptune -42461-08-04 17:02 J -13787240.95 -13787240.79 -13787240.61 0.0089 0.0053
 Saturn -42460-02-14 07:54 J -13787047.20 -13787047.17 -13787047.15 0.0274 0.0272
 Neptune -42460-03-18 05:02 J -13787015.41 -13787015.29 -13787015.13 0.0089 0.0066
 Saturn -42460-10-01 14:52 J -13786818.08 -13786817.88 -13786817.67 0.0275 0.0054
 Neptune -42460-10-29 17:45 J -13786789.85 -13786789.76 -13786789.66 0.0089 0.0080
 Saturn -42459-05-18 21:35 J -13786588.76 -13786588.60 -13786588.43 0.0275 0.0166
 Mars -42457-04-05 04:04 J -13785901.48 -13785901.33 -13785901.18 0.1732 0.0792
 Jupiter -42455-06-06 10:04 J -13785109.25 -13785109.08 -13785108.89 0.0489 0.0247
 Jupiter -42450-08-22 08:23 J -13783206.16 -13783206.15 -13783206.13 0.0543 0.0541
 Jupiter -42449-04-16 03:35 J -13782968.40 -13782968.35 -13782968.29 0.0538 0.0517
 Uranus -42446-11-26 10:47 J -13781649.05 -13781649.05 -13781649.02 0.0133 0.0132
 Saturn -42445-03-12 05:30 J -13781542.47 -13781542.27 -13781542.06 0.0284 0.0072

Uranus -42445-07-09 15:21 J -13781422.93 -13781422.86 -13781422.76 0.0133 0.0122
 Saturn -42445-10-27 22:18 J -13781312.73 -13781312.57 -13781312.40 0.0283 0.0173
 Uranus -42444-02-20 19:54 J -13781196.78 -13781196.67 -13781196.54 0.0133 0.0111
 Uranus -42444-10-05 00:28 J -13780970.61 -13780970.48 -13780970.33 0.0133 0.0100
 Jupiter -42443-02-09 12:14 J -13780843.20 -13780842.99 -13780842.78 0.0487 0.0026
 Uranus -42443-05-19 04:47 J -13780744.45 -13780744.30 -13780744.13 0.0133 0.0089
 Uranus -42443-12-31 09:06 J -13780518.28 -13780518.12 -13780517.93 0.0133 0.0079
 Uranus -42442-08-14 13:40 J -13780292.10 -13780291.93 -13780291.73 0.0133 0.0067
 Uranus -42441-03-27 18:14 J -13780065.93 -13780065.74 -13780065.54 0.0134 0.0056
 Uranus -42441-11-08 22:47 J -13779839.75 -13779839.55 -13779839.35 0.0134 0.0044
 Uranus -42440-06-23 03:06 J -13779613.57 -13779613.37 -13779613.16 0.0134 0.0033
 Uranus -42439-02-04 07:40 J -13779387.39 -13779387.18 -13779386.96 0.0134 0.0021
 Uranus -42439-09-18 12:28 J -13779161.19 -13779160.98 -13779160.76 0.0134 0.0009
 Uranus -42438-05-02 17:02 J -13778935.00 -13778934.79 -13778934.57 0.0134 0.0004
 Uranus -42438-12-14 21:50 J -13778708.80 -13778708.59 -13778708.38 0.0135 0.0015
 Jupiter -42438-12-20 17:02 J -13778702.97 -13778702.79 -13778702.61 0.0540 0.0220
 Uranus -42437-07-28 02:23 J -13778482.61 -13778482.40 -13778482.19 0.0135 0.0027
 Uranus -42436-03-11 07:11 J -13778256.40 -13778256.20 -13778255.99 0.0135 0.0039
 Uranus -42436-10-23 11:59 J -13778030.19 -13778030.00 -13778029.79 0.0135 0.0052
 Uranus -42435-06-06 16:47 J -13777803.98 -13777803.80 -13777803.60 0.0136 0.0064
 Uranus -42434-01-18 21:50 J -13777577.76 -13777577.59 -13777577.41 0.0136 0.0075
 Uranus -42434-09-02 02:38 J -13777351.54 -13777351.39 -13777351.21 0.0136 0.0088
 Uranus -42433-04-15 07:54 J -13777125.31 -13777125.17 -13777125.02 0.0137 0.0099
 Uranus -42433-11-27 12:57 J -13776899.07 -13776898.96 -13776898.82 0.0137 0.0111
 Uranus -42432-07-11 18:14 J -13776672.82 -13776672.74 -13776672.63 0.0137 0.0122
 Jupiter -42432-10-15 14:23 J -13776577.09 -13776576.90 -13776576.71 0.0486 0.0196
 Uranus -42431-02-22 23:30 J -13776446.55 -13776446.52 -13776446.45 0.0138 0.0134
 Saturn -42431-08-27 15:50 J -13776260.94 -13776260.84 -13776260.72 0.0275 0.0233
 Saturn -42430-04-13 23:16 J -13776031.74 -13776031.53 -13776031.32 0.0275 0.0014
 Saturn -42430-11-29 05:45 J -13775802.40 -13775802.26 -13775802.12 0.0275 0.0204

Jupiter -42426-08-25 08:38 J -13774437.34 -13774437.14 -13774436.94 0.0542 0.0074
 Mars -42423-02-01 14:38 J -13773545.99 -13773545.89 -13773545.79 0.1717 0.1361
 Jupiter -42420-06-20 16:04 J -13772310.93 -13772310.83 -13772310.72 0.0485 0.0415
 Jupiter -42419-02-11 21:21 J -13772074.73 -13772074.61 -13772074.47 0.0489 0.0380
 Mars -42419-09-11 07:26 J -13771863.36 -13771863.19 -13771863.02 0.1806 0.0550
 Saturn -42416-02-04 18:14 J -13770985.77 -13770985.74 -13770985.70 0.0284 0.0279
 Saturn -42416-09-22 10:18 J -13770756.28 -13770756.07 -13770755.86 0.0284 0.0037
 Saturn -42415-05-10 02:38 J -13770526.53 -13770526.39 -13770526.24 0.0283 0.0206
 Jupiter -42414-04-30 00:42 J -13770171.61 -13770171.47 -13770171.32 0.0543 0.0369
 Jupiter -42408-10-17 22:47 J -13767808.75 -13767808.55 -13767808.35 0.0488 0.0155
 Uranus -42404-06-02 07:54 J -13766485.23 -13766485.17 -13766485.09 0.0146 0.0137
 Uranus -42403-01-14 20:52 J -13766258.73 -13766258.63 -13766258.50 0.0146 0.0123
 Uranus -42403-08-29 10:04 J -13766032.22 -13766032.08 -13766031.93 0.0146 0.0109
 Uranus -42402-04-12 23:02 J -13765805.69 -13765805.54 -13765805.36 0.0145 0.0094
 Jupiter -42402-08-28 12:14 J -13765668.11 -13765667.99 -13765667.85 0.0539 0.0400
 Uranus -42402-11-25 12:14 J -13765579.17 -13765578.99 -13765578.80 0.0145 0.0079
 Saturn -42401-03-08 15:50 J -13765474.97 -13765474.84 -13765474.70 0.0274 0.0211
 Uranus -42401-07-09 01:26 J -13765352.63 -13765352.44 -13765352.24 0.0145 0.0064
 Saturn -42401-10-23 23:02 J -13765245.75 -13765245.54 -13765245.33 0.0275 0.0009
 Uranus -42400-02-20 14:52 J -13765126.09 -13765125.88 -13765125.67 0.0145 0.0049
 Saturn -42400-06-10 05:30 J -13765016.38 -13765016.27 -13765016.14 0.0275 0.0226
 Uranus -42400-10-05 04:04 J -13764899.54 -13764899.33 -13764899.11 0.0145 0.0034
 Uranus -42399-05-19 17:16 J -13764673.00 -13764672.78 -13764672.56 0.0144 0.0019
 Uranus -42398-01-01 06:14 J -13764446.46 -13764446.24 -13764446.01 0.0144 0.0005
 Uranus -42398-08-15 19:26 J -13764219.91 -13764219.69 -13764219.47 0.0144 0.0012
 Uranus -42397-03-29 08:38 J -13763993.35 -13763993.14 -13763992.92 0.0144 0.0027
 Uranus -42397-11-10 21:35 J -13763766.81 -13763766.60 -13763766.38 0.0143 0.0042
 Jupiter -42396-06-23 00:14 J -13763542.69 -13763542.49 -13763542.28 0.0487 0.0068
 Uranus -42396-06-25 10:33 J -13763540.26 -13763540.06 -13763539.85 0.0143 0.0057
 Uranus -42395-02-06 23:16 J -13763313.71 -13763313.53 -13763313.32 0.0143 0.0072

Uranus -42395-09-21 12:14 J -13763087.16 -13763086.99 -13763086.80 0.0142 0.0086
 Uranus -42394-05-06 00:57 J -13762860.61 -13762860.46 -13762860.29 0.0142 0.0100
 Uranus -42394-12-18 13:26 J -13762634.06 -13762633.94 -13762633.80 0.0142 0.0113
 Uranus -42393-08-01 01:40 J -13762407.51 -13762407.43 -13762407.32 0.0141 0.0127
 Uranus -42392-03-15 14:09 J -13762180.93 -13762180.91 -13762180.86 0.0141 0.0139
 Mars -42391-01-31 14:09 J -13761859.08 -13761858.91 -13761858.75 0.1728 0.0518
 Jupiter -42390-05-03 04:04 J -13761402.53 -13761402.33 -13761402.14 0.0541 0.0107
 Saturn -42387-08-17 21:06 J -13760199.71 -13760199.62 -13760199.52 0.0284 0.0252
 Saturn -42386-04-04 13:26 J -13759970.15 -13759969.94 -13759969.73 0.0284 0.0009
 Saturn -42386-11-20 05:59 J -13759740.36 -13759740.25 -13759740.12 0.0283 0.0234
 Neptune -42385-07-15 22:18 J -13759501.66 -13759501.57 -13759501.44 0.0088 0.0077
 Jupiter -42384-02-26 03:21 J -13759276.53 -13759276.36 -13759276.19 0.0486 0.0283
 Neptune -42384-02-26 12:14 J -13759276.13 -13759275.99 -13759275.82 0.0088 0.0064
 Neptune -42384-10-10 02:09 J -13759050.59 -13759050.41 -13759050.22 0.0088 0.0050
 Neptune -42383-05-23 15:35 J -13758825.04 -13758824.85 -13758824.63 0.0088 0.0036
 Neptune -42382-01-04 05:16 J -13758599.48 -13758599.28 -13758599.05 0.0088 0.0023
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 Neptune -42381-11-10 22:47 J -13757922.76 -13757922.55 -13757922.33 0.0088 0.0020
 Neptune -42380-06-24 12:28 J -13757697.18 -13757696.98 -13757696.77 0.0088 0.0033
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 Neptune -42379-09-18 15:35 J -13757245.99 -13757245.85 -13757245.67 0.0088 0.0062
 Jupiter -42378-01-05 15:21 J -13757137.04 -13757136.86 -13757136.67 0.0542 0.0201
 Neptune -42378-05-02 05:16 J -13757020.37 -13757020.28 -13757020.13 0.0088 0.0076
 Earth -42377-10-13 04:18 J -13756490.47 -13756490.32 -13756490.17 0.2677 0.1000
 Moon -42377-10-13 10:04 J -13756490.24 -13756490.08 -13756489.92 0.2677 0.0293 *
 Jupiter -42372-06-25 11:02 J -13754774.21 -13754774.04 -13754773.87 0.0488 0.0292
 Saturn -42372-09-19 00:28 J -13754688.65 -13754688.48 -13754688.32 0.0275 0.0170
 Saturn -42371-05-06 07:26 J -13754459.39 -13754459.19 -13754458.98 0.0275 0.0049
 Saturn -42371-12-21 14:09 J -13754229.96 -13754229.91 -13754229.85 0.0276 0.0265

Jupiter -42367-09-10 05:16 J -13752871.35 -13752871.28 -13752871.20 0.0543 0.0501
 Uranus -42361-03-09 00:14 J -13750864.55 -13750864.49 -13750864.40 0.0133 0.0124
 Uranus -42361-10-21 04:33 J -13750638.40 -13750638.31 -13750638.18 0.0133 0.0114
 Jupiter -42360-02-28 11:02 J -13750508.25 -13750508.04 -13750507.83 0.0487 0.0064
 Uranus -42360-06-04 09:06 J -13750412.24 -13750412.12 -13750411.97 0.0133 0.0103
 Uranus -42359-01-16 13:54 J -13750186.07 -13750185.92 -13750185.76 0.0133 0.0092
 Uranus -42359-08-30 18:28 J -13749959.89 -13749959.73 -13749959.55 0.0133 0.0081
 Uranus -42358-04-13 22:47 J -13749733.72 -13749733.55 -13749733.35 0.0133 0.0070
 Uranus -42358-11-26 03:35 J -13749507.55 -13749507.35 -13749507.16 0.0133 0.0059
 Mars -42358-11-30 00:57 J -13749503.52 -13749503.46 -13749503.41 0.1714 0.1613
 Saturn -42357-02-28 03:35 J -13749413.49 -13749413.35 -13749413.22 0.0284 0.0214
 Uranus -42357-07-09 07:54 J -13749281.37 -13749281.17 -13749280.96 0.0134 0.0047
 Saturn -42357-10-14 19:26 J -13749183.90 -13749183.69 -13749183.48 0.0284 0.0028
 Uranus -42356-02-20 12:28 J -13749055.18 -13749054.98 -13749054.77 0.0134 0.0036
 Saturn -42356-06-01 11:45 J -13748954.06 -13748954.01 -13748953.94 0.0283 0.0271
 Uranus -42356-10-04 17:16 J -13748828.99 -13748828.78 -13748828.57 0.0134 0.0024
 Uranus -42355-05-18 21:50 J -13748602.81 -13748602.59 -13748602.38 0.0134 0.0012
 Uranus -42355-12-31 02:23 J -13748376.61 -13748376.40 -13748376.19 0.0134 0.0001
 Jupiter -42354-01-08 18:57 J -13748367.88 -13748367.71 -13748367.54 0.0540 0.0274
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 Uranus -42349-07-27 21:50 J -13746340.71 -13746340.59 -13746340.44 0.0137 0.0106
 Jupiter -42349-11-03 13:11 J -13746242.15 -13746241.95 -13746241.76 0.0486 0.0157

Uranus -42348-03-11 03:06 J -13746114.46 -13746114.37 -13746114.25 0.0137 0.0117
 Uranus -42348-10-23 08:38 J -13745888.20 -13745888.14 -13745888.05 0.0137 0.0129
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 Saturn -42342-04-01 00:57 J -13743902.63 -13743902.46 -13743902.28 0.0275 0.0147
 Saturn -42342-11-16 08:09 J -13743673.36 -13743673.16 -13743672.96 0.0275 0.0071
 Jupiter -42337-07-09 15:21 J -13741975.99 -13741975.86 -13741975.72 0.0485 0.0373
 Jupiter -42336-03-02 21:21 J -13741739.71 -13741739.61 -13741739.50 0.0489 0.0422
 Jupiter -42331-05-19 01:40 J -13739836.59 -13739836.43 -13739836.27 0.0542 0.0316
 Saturn -42328-09-09 06:14 J -13738627.39 -13738627.24 -13738627.08 0.0284 0.0186
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 Mars -42326-11-29 00:28 J -13737816.65 -13737816.48 -13737816.31 0.1725 0.0253
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Saturn -42312-05-28 16:18 J -13732887.00 -13732886.82 -13732886.62 0.0276 0.0112
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 Jupiter -42307-05-22 00:14 J -13731067.68 -13731067.49 -13731067.30 0.0541 0.0143
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 Pluto -42303-11-18 06:42 J -13729426.35 -13729426.22 -13729426.06 0.0066 0.0050
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 Jupiter -42295-01-24 16:18 J -13726802.01 -13726801.82 -13726801.62 0.0542 0.0150
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Jupiter -42289-07-14 08:38 J -13724439.28 -13724439.14 -13724438.98 0.0488 0.0328
 Mars -42287-05-05 17:30 J -13723778.88 -13723778.77 -13723778.67 0.1814 0.1448
 Jupiter -42284-09-29 07:54 J -13722536.29 -13722536.17 -13722536.06 0.0543 0.0444
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 Jupiter -42271-01-27 18:57 J -13718032.86 -13718032.71 -13718032.55 0.0540 0.0321
 Earth -42271-04-12 03:21 J -13717958.52 -13717958.36 -13717958.21 0.2655 0.0607
 Moon -42271-04-12 04:33 J -13717958.48 -13717958.31 -13717958.15 0.2648 0.0548 *
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 Uranus -42186-07-26 06:14 J -13686807.45 -13686807.24 -13686807.02 0.0135 0.0016
 Uranus -42185-03-08 11:02 J -13686581.25 -13686581.04 -13686580.83 0.0135 0.0028

Uranus	-42185-10-20 15:50 J	-13686355.04	-13686354.84	-13686354.63	0.0135	0.0039
Uranus	-42184-06-03 20:23 J	-13686128.84	-13686128.65	-13686128.44	0.0135	0.0051
Uranus	-42183-01-16 01:11 J	-13685902.63	-13685902.45	-13685902.25	0.0136	0.0063
Uranus	-42183-08-30 06:14 J	-13685676.41	-13685676.24	-13685676.06	0.0136	0.0074
Jupiter	-42183-12-12 09:06 J	-13685572.33	-13685572.12	-13685571.92	0.0486	0.0083
Uranus	-42182-04-13 11:02 J	-13685450.19	-13685450.04	-13685449.86	0.0136	0.0086
Uranus	-42182-11-25 16:04 J	-13685223.97	-13685223.83	-13685223.67	0.0136	0.0097
Uranus	-42181-07-08 21:21 J	-13684997.73	-13684997.61	-13684997.48	0.0137	0.0108
Saturn	-42181-09-19 00:14 J	-13684925.60	-13684925.49	-13684925.37	0.0284	0.0238
Uranus	-42180-02-20 02:23 J	-13684771.49	-13684771.40	-13684771.28	0.0137	0.0119
Saturn	-42180-05-06 15:50 J	-13684696.05	-13684695.84	-13684695.62	0.0284	0.0006
Uranus	-42180-10-04 07:54 J	-13684545.22	-13684545.17	-13684545.09	0.0137	0.0130
Saturn	-42180-12-22 07:54 J	-13684466.27	-13684466.17	-13684466.05	0.0283	0.0240
Jupiter	-42177-10-21 06:14 J	-13683432.44	-13683432.24	-13683432.04	0.0542	0.0061
Jupiter	-42171-08-17 11:16 J	-13681306.18	-13681306.03	-13681305.86	0.0485	0.0300
Saturn	-42166-10-22 01:11 J	-13679414.61	-13679414.45	-13679414.27	0.0275	0.0165
Saturn	-42165-06-07 08:52 J	-13679185.33	-13679185.13	-13679184.92	0.0275	0.0052
Jupiter	-42165-06-25 21:50 J	-13679166.77	-13679166.59	-13679166.41	0.0543	0.0232
Saturn	-42164-01-22 15:50 J	-13678955.88	-13678955.84	-13678955.79	0.0276	0.0267
Mars	-42162-07-22 20:23 J	-13678044.71	-13678044.65	-13678044.59	0.1729	0.1601
Jupiter	-42159-12-14 17:45 J	-13676803.93	-13676803.76	-13676803.58	0.0488	0.0269
Jupiter	-42153-02-29 11:30 J	-13674901.05	-13674901.02	-13674900.97	0.0543	0.0530
Jupiter	-42153-10-24 07:54 J	-13674663.21	-13674663.17	-13674663.12	0.0539	0.0523
Uranus	-42152-01-11 10:33 J	-13674584.14	-13674584.06	-13674583.96	0.0146	0.0133
Uranus	-42152-08-25 23:16 J	-13674357.63	-13674357.53	-13674357.39	0.0146	0.0120
Saturn	-42151-04-01 02:38 J	-13674139.53	-13674139.39	-13674139.25	0.0284	0.0211
Uranus	-42151-04-09 12:28 J	-13674131.12	-13674130.98	-13674130.82	0.0146	0.0106
Saturn	-42151-11-16 18:28 J	-13673909.94	-13673909.73	-13673909.52	0.0284	0.0028
Uranus	-42151-11-22 01:26 J	-13673904.60	-13673904.44	-13673904.26	0.0145	0.0092
Saturn	-42150-07-04 10:33 J	-13673680.11	-13673680.06	-13673679.98	0.0283	0.0267

Uranus	-42150-07-06 14:38 J	-13673678.07	-13673677.89	-13673677.69	0.0145	0.0077
Uranus	-42149-02-18 04:04 J	-13673451.52	-13673451.33	-13673451.12	0.0145	0.0062
Uranus	-42149-10-01 17:16 J	-13673224.98	-13673224.78	-13673224.56	0.0145	0.0048
Uranus	-42148-05-16 06:28 J	-13672998.44	-13672998.23	-13672998.01	0.0145	0.0033
Uranus	-42148-12-28 19:54 J	-13672771.89	-13672771.67	-13672771.46	0.0144	0.0018
Uranus	-42147-08-12 08:52 J	-13672545.35	-13672545.13	-13672544.90	0.0144	0.0004
Jupiter	-42147-08-19 19:54 J	-13672537.88	-13672537.67	-13672537.47	0.0487	0.0049
Uranus	-42146-03-26 22:18 J	-13672318.79	-13672318.57	-13672318.35	0.0144	0.0012
Uranus	-42146-11-08 11:16 J	-13672092.24	-13672092.03	-13672091.81	0.0144	0.0027
Uranus	-42145-06-22 00:14 J	-13671865.70	-13671865.49	-13671865.27	0.0143	0.0042
Uranus	-42144-02-03 13:11 J	-13671639.15	-13671638.95	-13671638.74	0.0143	0.0056
Uranus	-42144-09-18 02:09 J	-13671412.60	-13671412.41	-13671412.21	0.0143	0.0070
Uranus	-42143-05-02 14:38 J	-13671186.05	-13671185.89	-13671185.69	0.0143	0.0085
Uranus	-42143-12-15 03:35 J	-13670959.51	-13670959.35	-13670959.18	0.0142	0.0098
Uranus	-42142-07-29 15:50 J	-13670732.96	-13670732.84	-13670732.69	0.0142	0.0111
Moon	-42142-10-16 12:28 J	-13670654.06	-13670653.98	-13670653.90	0.2671	0.2343
Uranus	-42141-03-12 04:33 J	-13670506.41	-13670506.31	-13670506.20	0.0142	0.0124
Jupiter	-42141-06-28 20:52 J	-13670397.81	-13670397.63	-13670397.45	0.0540	0.0226
Uranus	-42141-10-24 16:33 J	-13670279.85	-13670279.81	-13670279.73	0.0141	0.0137
Neptune	-42138-07-20 03:35 J	-13669281.43	-13669281.35	-13669281.24	0.0089	0.0079
Neptune	-42137-03-01 15:50 J	-13669055.96	-13669055.84	-13669055.67	0.0089	0.0066
Neptune	-42137-10-13 04:33 J	-13668830.47	-13668830.31	-13668830.13	0.0089	0.0052
Saturn	-42136-05-03 08:38 J	-13668628.32	-13668628.14	-13668627.95	0.0276	0.0126
Neptune	-42136-05-26 16:47 J	-13668604.98	-13668604.80	-13668604.59	0.0089	0.0039
Saturn	-42136-12-18 16:33 J	-13668399.01	-13668398.81	-13668398.61	0.0276	0.0091
Neptune	-42135-01-07 05:16 J	-13668379.48	-13668379.28	-13668379.07	0.0089	0.0025
Jupiter	-42135-04-24 21:50 J	-13668271.79	-13668271.59	-13668271.40	0.0486	0.0171
Neptune	-42135-08-20 17:30 J	-13668153.97	-13668153.77	-13668153.55	0.0089	0.0013
Neptune	-42134-04-03 05:59 J	-13667928.46	-13667928.25	-13667928.03	0.0089	0.0002
Moon	-42134-10-13 23:16 J	-13667734.67	-13667734.53	-13667734.40	0.2674	0.1400

Earth -42134-10-14 04:33 J -13667734.45 -13667734.31 -13667734.16 0.2676 0.0961 *
 Neptune -42134-11-14 18:14 J -13667702.95 -13667702.74 -13667702.52 0.0089 0.0015
 Neptune -42133-06-27 06:28 J -13667477.43 -13667477.23 -13667477.02 0.0089 0.0029
 Neptune -42132-02-07 18:28 J -13667251.90 -13667251.73 -13667251.53 0.0089 0.0042
 Neptune -42132-09-21 06:57 J -13667026.37 -13667026.21 -13667026.03 0.0089 0.0056
 Neptune -42131-05-04 18:57 J -13666800.82 -13666800.71 -13666800.55 0.0089 0.0069
 Neptune -42131-12-16 07:11 J -13666575.26 -13666575.20 -13666575.10 0.0089 0.0082
 Jupiter -42129-03-03 11:02 J -13666132.24 -13666132.04 -13666131.85 0.0542 0.0072
 Mars -42128-05-20 07:26 J -13665689.35 -13665689.19 -13665689.02 0.1714 0.0524
 Mars -42124-12-27 18:57 J -13664006.89 -13664006.71 -13664006.54 0.1810 0.0249
 Jupiter -42124-12-28 22:47 J -13664005.66 -13664005.55 -13664005.42 0.0485 0.0391
 Jupiter -42123-08-22 03:35 J -13663769.46 -13663769.35 -13663769.22 0.0489 0.0396
 Saturn -42122-10-12 14:38 J -13663353.06 -13663352.89 -13663352.72 0.0284 0.0163
 Saturn -42121-05-29 06:14 J -13663123.44 -13663123.24 -13663123.03 0.0283 0.0076
 Jupiter -42118-11-07 01:26 J -13661866.59 -13661866.44 -13661866.30 0.0543 0.0369
 Jupiter -42111-04-27 04:47 J -13659503.49 -13659503.30 -13659503.10 0.0487 0.0173
 Uranus -42110-03-07 03:21 J -13659189.38 -13659189.36 -13659189.30 0.0132 0.0130
 Uranus -42110-10-19 07:54 J -13658963.24 -13658963.17 -13658963.05 0.0133 0.0120
 Uranus -42109-06-01 12:57 J -13658737.08 -13658736.96 -13658736.83 0.0133 0.0109
 Uranus -42108-01-13 17:16 J -13658510.91 -13658510.78 -13658510.62 0.0133 0.0099
 Uranus -42108-08-27 22:18 J -13658284.73 -13658284.57 -13658284.40 0.0133 0.0088
 Uranus -42107-04-11 02:52 J -13658058.55 -13658058.38 -13658058.20 0.0133 0.0077
 Saturn -42107-11-13 13:11 J -13657842.15 -13657841.95 -13657841.75 0.0275 0.0096
 Uranus -42107-11-23 07:26 J -13657832.37 -13657832.19 -13657832.00 0.0133 0.0066
 Saturn -42106-06-30 20:38 J -13657612.83 -13657612.64 -13657612.45 0.0275 0.0120
 Uranus -42106-07-07 11:59 J -13657606.19 -13657606.00 -13657605.80 0.0133 0.0055
 Uranus -42105-02-18 16:33 J -13657380.01 -13657379.81 -13657379.60 0.0133 0.0044
 Jupiter -42105-03-06 13:54 J -13657363.05 -13657362.92 -13657362.78 0.0540 0.0397
 Uranus -42105-10-01 21:21 J -13657153.82 -13657153.61 -13657153.40 0.0134 0.0033
 Uranus -42104-05-16 01:54 J -13656927.63 -13656927.42 -13656927.21 0.0134 0.0022

Uranus	-42104-12-28 06:28 J	-13656701.44	-13656701.23	-13656701.01	0.0134	0.0010
Uranus	-42103-08-11 11:02 J	-13656475.25	-13656475.04	-13656474.82	0.0134	0.0003
Uranus	-42102-03-25 15:35 J	-13656249.06	-13656248.85	-13656248.63	0.0134	0.0013
Uranus	-42102-11-06 20:09 J	-13656022.86	-13656022.66	-13656022.44	0.0135	0.0025
Uranus	-42101-06-20 00:57 J	-13655796.66	-13655796.46	-13655796.25	0.0135	0.0036
Uranus	-42100-02-01 05:30 J	-13655570.46	-13655570.27	-13655570.06	0.0135	0.0048
Uranus	-42100-09-15 10:33 J	-13655344.25	-13655344.06	-13655343.86	0.0135	0.0059
Jupiter	-42100-12-31 06:14 J	-13655237.45	-13655237.24	-13655237.04	0.0486	0.0049
Uranus	-42099-04-29 15:21 J	-13655118.04	-13655117.86	-13655117.67	0.0136	0.0070
Uranus	-42099-12-11 20:23 J	-13654891.82	-13654891.65	-13654891.48	0.0136	0.0081
Uranus	-42098-07-26 01:11 J	-13654665.60	-13654665.45	-13654665.29	0.0136	0.0093
Uranus	-42097-03-08 06:14 J	-13654439.37	-13654439.24	-13654439.09	0.0137	0.0104
Uranus	-42097-10-20 11:30 J	-13654213.12	-13654213.02	-13654212.89	0.0137	0.0115
Mars	-42096-05-19 06:28 J	-13654002.34	-13654002.23	-13654002.12	0.1725	0.1327
Uranus	-42096-06-03 16:47 J	-13653986.86	-13653986.80	-13653986.70	0.0137	0.0126
Uranus	-42095-01-15 22:18 J	-13653760.57	-13653760.57	-13653760.54	0.0137	0.0137
Jupiter	-42094-11-10 05:45 J	-13653097.45	-13653097.26	-13653097.07	0.0541	0.0107
Saturn	-42092-04-23 16:33 J	-13652566.99	-13652566.81	-13652566.62	0.0284	0.0137
Saturn	-42092-12-09 08:23 J	-13652337.34	-13652337.15	-13652336.95	0.0283	0.0103
Jupiter	-42088-09-05 08:52 J	-13650971.30	-13650971.13	-13650970.95	0.0486	0.0264
Jupiter	-42082-07-15 17:45 J	-13648831.95	-13648831.76	-13648831.58	0.0542	0.0198
Saturn	-42078-10-09 11:45 J	-13647285.01	-13647285.01	-13647285.00	0.0275	0.0275
Saturn	-42077-05-25 19:54 J	-13647055.87	-13647055.67	-13647055.46	0.0276	0.0059
Saturn	-42076-01-10 03:35 J	-13646826.52	-13646826.35	-13646826.17	0.0276	0.0158
Jupiter	-42076-05-11 11:30 J	-13646705.04	-13646705.02	-13646704.98	0.0485	0.0478
Jupiter	-42075-01-02 15:50 J	-13646469.00	-13646468.84	-13646468.68	0.0488	0.0304
Jupiter	-42070-03-20 06:28 J	-13644566.31	-13644566.23	-13644566.16	0.0543	0.0499
Uranus	-42069-09-10 15:06 J	-13644025.94	-13644025.87	-13644025.79	0.0146	0.0136
Uranus	-42068-04-25 03:50 J	-13643799.44	-13643799.34	-13643799.21	0.0146	0.0123
Uranus	-42068-12-07 17:02 J	-13643572.93	-13643572.79	-13643572.64	0.0146	0.0109

Uranus -42067-07-22 05:45 J -13643346.41 -13643346.26 -13643346.08 0.0146 0.0096
 Uranus -42066-03-05 19:26 J -13643119.87 -13643119.69 -13643119.51 0.0145 0.0081
 Uranus -42066-10-18 08:23 J -13642893.33 -13642893.15 -13642892.94 0.0145 0.0067
 Uranus -42065-05-31 21:35 J -13642666.80 -13642666.60 -13642666.38 0.0145 0.0052
 Uranus -42064-01-13 11:02 J -13642440.25 -13642440.04 -13642439.83 0.0145 0.0037
 Uranus -42064-08-28 00:14 J -13642213.71 -13642213.49 -13642213.27 0.0145 0.0022
 Jupiter -42064-09-07 15:35 J -13642203.06 -13642202.85 -13642202.64 0.0487 0.0077
 Uranus -42063-04-11 13:26 J -13641987.16 -13641986.94 -13641986.72 0.0144 0.0008
 Saturn -42063-11-04 04:47 J -13641780.50 -13641780.30 -13641780.10 0.0284 0.0088
 Uranus -42063-11-24 02:38 J -13641760.61 -13641760.39 -13641760.17 0.0144 0.0008
 Mars -42062-03-17 17:59 J -13641646.90 -13641646.75 -13641646.60 0.1711 0.0771
 Saturn -42062-06-21 20:38 J -13641550.81 -13641550.64 -13641550.46 0.0283 0.0151
 Uranus -42062-07-08 15:35 J -13641534.06 -13641533.85 -13641533.62 0.0144 0.0023
 Uranus -42061-02-20 04:47 J -13641307.51 -13641307.30 -13641307.08 0.0144 0.0037
 Uranus -42061-10-03 17:45 J -13641080.96 -13641080.76 -13641080.55 0.0143 0.0051
 Uranus -42060-05-18 06:42 J -13640854.42 -13640854.22 -13640854.02 0.0143 0.0065
 Uranus -42060-12-30 19:26 J -13640627.87 -13640627.69 -13640627.50 0.0143 0.0079
 Uranus -42059-08-14 07:54 J -13640401.33 -13640401.17 -13640400.99 0.0142 0.0093
 Uranus -42058-03-28 20:23 J -13640174.78 -13640174.65 -13640174.48 0.0142 0.0107
 Jupiter -42058-07-18 18:28 J -13640062.90 -13640062.73 -13640062.55 0.0541 0.0264
 Mars -42058-10-24 23:45 J -13639964.69 -13639964.51 -13639964.33 0.1814 0.0205
 Uranus -42058-11-10 08:52 J -13639948.23 -13639948.13 -13639947.99 0.0142 0.0119
 Uranus -42057-06-23 21:06 J -13639721.68 -13639721.62 -13639721.52 0.0142 0.0132
 Pluto -42057-12-16 13:54 J -13639546.06 -13639545.92 -13639545.73 0.0066 0.0045
 Neptune -42056-01-18 21:35 J -13639512.65 -13639512.60 -13639512.55 0.0088 0.0086
 Pluto -42056-07-29 19:11 J -13639320.92 -13639320.70 -13639320.48 0.0067 0.0001
 Neptune -42056-09-01 10:47 J -13639287.16 -13639287.05 -13639286.91 0.0088 0.0073
 Pluto -42055-03-11 23:16 J -13639095.67 -13639095.53 -13639095.34 0.0067 0.0044
 Neptune -42055-04-15 00:14 J -13639061.63 -13639061.49 -13639061.30 0.0088 0.0060
 Neptune -42055-11-26 14:09 J -13638836.09 -13638835.91 -13638835.71 0.0088 0.0046

Neptune -42054-07-10 04:04 J -13638610.54 -13638610.33 -13638610.12 0.0088 0.0032
 Neptune -42053-02-20 17:45 J -13638384.98 -13638384.76 -13638384.54 0.0088 0.0018
 Neptune -42053-10-03 07:40 J -13638159.41 -13638159.18 -13638158.96 0.0088 0.0005
 Jupiter -42052-05-13 17:45 J -13637936.96 -13637936.76 -13637936.56 0.0486 0.0141
 Neptune -42052-05-16 21:06 J -13637933.84 -13637933.62 -13637933.39 0.0088 0.0010
 Neptune -42052-12-28 10:47 J -13637708.26 -13637708.05 -13637707.82 0.0088 0.0023
 Neptune -42051-08-11 00:28 J -13637482.67 -13637482.48 -13637482.27 0.0088 0.0037
 Neptune -42050-03-24 14:23 J -13637257.07 -13637256.90 -13637256.71 0.0088 0.0050
 Neptune -42050-11-05 03:50 J -13637031.47 -13637031.34 -13637031.16 0.0088 0.0064
 Neptune -42049-06-17 17:45 J -13636805.85 -13636805.76 -13636805.64 0.0088 0.0078
 Saturn -42048-04-20 17:16 J -13636498.87 -13636498.78 -13636498.68 0.0275 0.0243
 Saturn -42048-12-06 01:11 J -13636269.66 -13636269.45 -13636269.24 0.0275 0.0028
 Saturn -42047-07-23 08:23 J -13636040.30 -13636040.15 -13636039.99 0.0275 0.0187
 Jupiter -42046-03-23 10:47 J -13635797.25 -13635797.05 -13635796.85 0.0542 0.0025
 Jupiter -42040-01-16 19:54 J -13633670.81 -13633670.67 -13633670.53 0.0485 0.0356
 Jupiter -42040-09-10 00:57 J -13633434.56 -13633434.46 -13633434.36 0.0489 0.0429
 Jupiter -42035-11-26 01:26 J -13631531.60 -13631531.44 -13631531.28 0.0543 0.0320
 Saturn -42033-05-16 06:57 J -13630994.42 -13630994.21 -13630994.01 0.0284 0.0062
 Saturn -42033-12-31 22:47 J -13630764.71 -13630764.55 -13630764.38 0.0283 0.0177
 Mars -42030-03-16 17:02 J -13629959.92 -13629959.79 -13629959.65 0.1722 0.1073
 Moon -42028-04-12 02:38 J -13629202.54 -13629202.39 -13629202.24 0.2662 0.0426
 Earth -42028-04-12 05:45 J -13629202.41 -13629202.26 -13629202.11 0.2656 0.0814 *
 Jupiter -42028-05-16 02:23 J -13629168.58 -13629168.40 -13629168.21 0.0488 0.0209
 Uranus -42027-11-04 11:59 J -13628631.00 -13628631.00 -13628630.95 0.0132 0.0132
 Uranus -42026-06-18 16:47 J -13628404.87 -13628404.80 -13628404.70 0.0132 0.0122
 Uranus -42025-01-30 21:35 J -13628178.70 -13628178.60 -13628178.47 0.0133 0.0111
 Uranus -42025-09-13 02:23 J -13627952.52 -13627952.40 -13627952.25 0.0133 0.0101
 Uranus -42024-04-27 06:57 J -13627726.35 -13627726.21 -13627726.03 0.0133 0.0091
 Uranus -42024-12-09 11:45 J -13627500.17 -13627500.01 -13627499.83 0.0133 0.0080
 Uranus -42023-07-23 16:18 J -13627273.99 -13627273.82 -13627273.62 0.0133 0.0069

Uranus	-42022-03-06 21:06 J	-13627047.81	-13627047.62	-13627047.42	0.0133	0.0058
Jupiter	-42022-03-26 10:04 J	-13627028.20	-13627028.08	-13627027.96	0.0539	0.0428
Uranus	-42022-10-19 01:40 J	-13626821.63	-13626821.43	-13626821.22	0.0133	0.0047
Uranus	-42021-06-01 06:28 J	-13626595.44	-13626595.23	-13626595.03	0.0134	0.0036
Uranus	-42020-01-13 10:47 J	-13626369.26	-13626369.05	-13626368.83	0.0134	0.0025
Uranus	-42020-08-27 15:35 J	-13626143.06	-13626142.85	-13626142.64	0.0134	0.0013
Uranus	-42019-04-10 20:09 J	-13625916.87	-13625916.66	-13625916.45	0.0134	0.0002
Saturn	-42019-10-31 23:02 J	-13625712.68	-13625712.54	-13625712.41	0.0275	0.0209
Uranus	-42019-11-23 00:42 J	-13625690.69	-13625690.47	-13625690.26	0.0134	0.0009
Saturn	-42018-06-18 06:57 J	-13625483.42	-13625483.21	-13625483.00	0.0276	0.0008
Uranus	-42018-07-07 05:16 J	-13625464.49	-13625464.28	-13625464.07	0.0135	0.0021
Saturn	-42017-02-02 14:23 J	-13625254.02	-13625253.90	-13625253.77	0.0276	0.0223
Uranus	-42017-02-18 09:50 J	-13625238.29	-13625238.09	-13625237.88	0.0135	0.0032
Uranus	-42017-10-01 14:38 J	-13625012.09	-13625011.89	-13625011.68	0.0135	0.0044
Jupiter	-42016-01-19 03:50 J	-13624902.55	-13624902.34	-13624902.13	0.0487	0.0014
Uranus	-42016-05-15 19:26 J	-13624785.88	-13624785.69	-13624785.49	0.0135	0.0055
Uranus	-42016-12-28 00:14 J	-13624559.67	-13624559.49	-13624559.30	0.0136	0.0066
Uranus	-42015-08-11 04:47 J	-13624333.46	-13624333.30	-13624333.11	0.0136	0.0078
Uranus	-42014-03-25 10:04 J	-13624107.24	-13624107.08	-13624106.92	0.0136	0.0089
Uranus	-42014-11-06 15:21 J	-13623881.00	-13623880.86	-13623880.72	0.0136	0.0100
Uranus	-42013-06-19 20:23 J	-13623654.77	-13623654.65	-13623654.52	0.0137	0.0111
Uranus	-42012-02-01 01:26 J	-13623428.52	-13623428.44	-13623428.33	0.0137	0.0122
Uranus	-42012-09-15 07:11 J	-13623202.25	-13623202.20	-13623202.14	0.0137	0.0132
Jupiter	-42011-11-29 00:42 J	-13622762.66	-13622762.47	-13622762.28	0.0541	0.0136
Jupiter	-42005-09-24 05:02 J	-13620636.47	-13620636.29	-13620636.11	0.0485	0.0233
Saturn	-42004-04-11 03:06 J	-13620437.46	-13620437.37	-13620437.27	0.0284	0.0251
Saturn	-42004-11-26 18:42 J	-13620207.93	-13620207.72	-13620207.51	0.0284	0.0014
Saturn	-42003-07-14 10:47 J	-13619978.17	-13619978.05	-13619977.92	0.0283	0.0224

42ND MILLENNIUM BCE

This is a list of transits of Venus in the 42nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-41999-08-03 14:52 J	-13618497.07	-13618496.88	-13618496.69	0.0543	0.0160		
Mars	-41996-01-12 04:47 J	-13617604.44	-13617604.30	-13617604.17	0.1708	0.1008		
Jupiter	-41993-05-30 08:09 J	-13616370.24	-13616370.16	-13616370.08	0.0485	0.0445		
Jupiter	-41992-01-21 11:45 J	-13616134.16	-13616134.01	-13616133.86	0.0488	0.0333		
Mars	-41992-08-21 05:02 J	-13615922.46	-13615922.29	-13615922.13	0.1818	0.0642		
Saturn	-41989-05-13 05:16 J	-13614926.44	-13614926.28	-13614926.11	0.0275	0.0175		
Saturn	-41989-12-28 12:57 J	-13614697.17	-13614696.96	-13614696.75	0.0275	0.0040		
Saturn	-41988-08-14 19:54 J	-13614467.74	-13614467.67	-13614467.58	0.0275	0.0254		
Jupiter	-41987-04-08 05:45 J	-13614231.37	-13614231.26	-13614231.15	0.0544	0.0453		
Uranus	-41985-05-10 19:54 J	-13613467.73	-13613467.67	-13613467.61	0.0146	0.0139		
Uranus	-41985-12-23 08:38 J	-13613241.24	-13613241.14	-13613241.03	0.0146	0.0126		
Uranus	-41984-08-06 21:21 J	-13613014.73	-13613014.61	-13613014.46	0.0146	0.0113		
Uranus	-41983-03-21 10:33 J	-13612788.21	-13612788.06	-13612787.89	0.0146	0.0099		
Uranus	-41983-11-02 23:45 J	-13612561.68	-13612561.51	-13612561.33	0.0145	0.0085		
Uranus	-41982-06-17 12:57 J	-13612335.15	-13612334.96	-13612334.76	0.0145	0.0070		
Uranus	-41981-01-30 02:09 J	-13612108.61	-13612108.41	-13612108.20	0.0145	0.0056		
Uranus	-41981-09-12 15:35 J	-13611882.06	-13611881.85	-13611881.64	0.0145	0.0041		
Jupiter	-41981-09-26 12:42 J	-13611868.17	-13611867.97	-13611867.76	0.0487	0.0112		
Uranus	-41980-04-27 04:33 J	-13611655.52	-13611655.31	-13611655.09	0.0145	0.0027		
Uranus	-41980-12-09 17:45 J	-13611428.98	-13611428.76	-13611428.54	0.0144	0.0012		

Uranus -41979-07-24 06:57 J -13611202.43 -13611202.21 -13611201.99 0.0144 0.0003
 Uranus -41978-03-07 20:09 J -13610975.88 -13610975.66 -13610975.44 0.0144 0.0018
 Uranus -41978-10-20 09:06 J -13610749.33 -13610749.12 -13610748.90 0.0144 0.0032
 Uranus -41977-06-02 22:04 J -13610522.78 -13610522.58 -13610522.36 0.0143 0.0046
 Uranus -41976-01-15 11:02 J -13610296.24 -13610296.04 -13610295.84 0.0143 0.0060
 Uranus -41976-08-29 23:45 J -13610069.69 -13610069.51 -13610069.31 0.0143 0.0074
 Uranus -41975-04-13 12:28 J -13609843.14 -13609842.98 -13609842.80 0.0143 0.0088
 Jupiter -41975-08-06 18:42 J -13609727.88 -13609727.72 -13609727.56 0.0540 0.0311
 Saturn -41975-10-22 04:47 J -13609651.42 -13609651.30 -13609651.17 0.0284 0.0225
 Uranus -41975-11-26 00:57 J -13609616.60 -13609616.46 -13609616.29 0.0142 0.0101
 Saturn -41974-06-08 20:23 J -13609421.86 -13609421.65 -13609421.44 0.0284 0.0012
 Uranus -41974-07-10 13:26 J -13609390.06 -13609389.94 -13609389.79 0.0142 0.0114
 Neptune -41974-10-21 16:33 J -13609286.88 -13609286.81 -13609286.73 0.0089 0.0083
 Saturn -41973-01-24 12:28 J -13609192.07 -13609191.98 -13609191.87 0.0283 0.0249
 Uranus -41973-02-22 01:40 J -13609163.51 -13609163.43 -13609163.31 0.0142 0.0127
 Neptune -41973-06-03 04:47 J -13609061.42 -13609061.30 -13609061.16 0.0089 0.0070
 Uranus -41973-10-05 14:23 J -13608936.94 -13608936.90 -13608936.85 0.0141 0.0139
 Neptune -41972-01-14 17:02 J -13608835.94 -13608835.79 -13608835.61 0.0089 0.0057
 Neptune -41972-08-28 05:45 J -13608610.44 -13608610.26 -13608610.07 0.0089 0.0043
 Neptune -41971-04-10 17:59 J -13608384.94 -13608384.75 -13608384.54 0.0089 0.0030
 Neptune -41971-11-22 06:14 J -13608159.44 -13608159.24 -13608159.02 0.0089 0.0017
 Pluto -41970-05-29 02:23 J -13607971.45 -13607971.40 -13607971.29 0.0078 0.0073
 Neptune -41970-07-05 18:42 J -13607933.93 -13607933.72 -13607933.50 0.0089 0.0003
 Pluto -41969-01-09 12:57 J -13607746.19 -13607745.96 -13607745.74 0.0078 0.0001
 Neptune -41969-02-16 06:57 J -13607708.42 -13607708.21 -13607707.99 0.0089 0.0010
 Jupiter -41969-06-01 15:06 J -13607602.07 -13607601.87 -13607601.66 0.0486 0.0106
 Pluto -41969-08-21 21:50 J -13607520.65 -13607520.59 -13607520.48 0.0078 0.0072
 Neptune -41969-09-28 19:26 J -13607482.90 -13607482.69 -13607482.48 0.0089 0.0023
 Neptune -41968-05-12 07:11 J -13607257.38 -13607257.20 -13607256.98 0.0089 0.0038
 Neptune -41968-12-23 19:26 J -13607031.85 -13607031.69 -13607031.49 0.0089 0.0050

Neptune -41967-08-06 07:40 J -13606806.31 -13606806.18 -13606806.01 0.0089 0.0064
 Neptune -41966-03-19 20:09 J -13606580.76 -13606580.66 -13606580.55 0.0089 0.0076
 Mars -41964-01-11 03:21 J -13605917.50 -13605917.36 -13605917.21 0.1718 0.0814
 Jupiter -41963-04-11 08:09 J -13605462.36 -13605462.16 -13605461.96 0.0541 0.0014
 Saturn -41960-11-23 09:35 J -13604140.27 -13604140.10 -13604139.91 0.0275 0.0144
 Saturn -41959-07-10 17:45 J -13603910.97 -13603910.76 -13603910.56 0.0276 0.0073
 Jupiter -41957-02-05 17:30 J -13603335.92 -13603335.77 -13603335.61 0.0486 0.0321
 Jupiter -41957-09-28 23:02 J -13603099.60 -13603099.54 -13603099.47 0.0489 0.0464
 Jupiter -41952-12-14 21:21 J -13601196.78 -13601196.61 -13601196.44 0.0542 0.0286
 Saturn -41945-05-03 15:50 J -13598865.00 -13598864.84 -13598864.67 0.0284 0.0181
 Jupiter -41945-06-03 22:47 J -13598833.73 -13598833.55 -13598833.37 0.0487 0.0239
 Saturn -41945-12-19 07:40 J -13598635.39 -13598635.18 -13598634.97 0.0284 0.0057
 Uranus -41942-02-16 02:38 J -13597846.47 -13597846.39 -13597846.31 0.0132 0.0123
 Uranus -41942-09-30 07:26 J -13597620.30 -13597620.19 -13597620.08 0.0133 0.0113
 Uranus -41941-05-13 11:59 J -13597394.13 -13597394.00 -13597393.86 0.0133 0.0103
 Uranus -41941-12-25 16:33 J -13597167.95 -13597167.81 -13597167.65 0.0133 0.0093
 Uranus -41940-08-08 21:21 J -13596941.77 -13596941.61 -13596941.43 0.0133 0.0082
 Uranus -41939-03-23 02:09 J -13596715.59 -13596715.41 -13596715.23 0.0133 0.0071
 Jupiter -41939-04-14 07:26 J -13596693.28 -13596693.19 -13596693.09 0.0540 0.0466
 Uranus -41939-11-04 06:42 J -13596489.41 -13596489.22 -13596489.03 0.0133 0.0061
 Uranus -41938-06-18 11:16 J -13596263.23 -13596263.03 -13596262.83 0.0133 0.0050
 Uranus -41937-01-30 15:50 J -13596037.05 -13596036.84 -13596036.64 0.0133 0.0039
 Uranus -41937-09-12 20:23 J -13595810.86 -13595810.65 -13595810.44 0.0134 0.0028
 Uranus -41936-04-27 00:57 J -13595584.67 -13595584.46 -13595584.25 0.0134 0.0017
 Uranus -41936-12-09 05:30 J -13595358.49 -13595358.27 -13595358.06 0.0134 0.0005
 Uranus -41935-07-23 10:04 J -13595132.30 -13595132.08 -13595131.87 0.0134 0.0006
 Uranus -41934-03-06 14:38 J -13594906.10 -13594905.89 -13594905.68 0.0134 0.0017
 Uranus -41934-10-18 19:11 J -13594679.90 -13594679.70 -13594679.49 0.0135 0.0029
 Jupiter -41933-02-08 00:28 J -13594567.68 -13594567.48 -13594567.27 0.0486 0.0022
 Uranus -41933-05-31 23:45 J -13594453.71 -13594453.51 -13594453.30 0.0135 0.0040

Uranus	-41932-01-13 04:33 J	-13594227.50	-13594227.31	-13594227.11	0.0135	0.0051
Uranus	-41932-08-27 09:21 J	-13594001.29	-13594001.11	-13594000.91	0.0135	0.0062
Uranus	-41931-04-10 14:09 J	-13593775.08	-13593774.91	-13593774.72	0.0136	0.0074
Mars	-41931-11-09 15:21 J	-13593561.98	-13593561.86	-13593561.75	0.1704	0.1247
Uranus	-41931-11-22 18:57 J	-13593548.86	-13593548.71	-13593548.53	0.0136	0.0085
Saturn	-41930-06-05 16:33 J	-13593354.00	-13593353.81	-13593353.61	0.0275	0.0109
Uranus	-41930-07-07 00:14 J	-13593322.63	-13593322.49	-13593322.33	0.0136	0.0096
Saturn	-41929-01-20 23:59 J	-13593124.69	-13593124.50	-13593124.30	0.0275	0.0105
Uranus	-41929-02-18 05:16 J	-13593096.40	-13593096.28	-13593096.14	0.0136	0.0107
Uranus	-41929-10-01 10:33 J	-13592870.15	-13592870.06	-13592869.94	0.0137	0.0118
Uranus	-41928-05-15 16:04 J	-13592643.89	-13592643.83	-13592643.74	0.0137	0.0128
Jupiter	-41928-12-18 00:14 J	-13592427.68	-13592427.49	-13592427.30	0.0541	0.0183
Mars	-41926-06-18 09:21 J	-13591880.25	-13591880.11	-13591879.97	0.1822	0.1110
Jupiter	-41922-10-14 02:38 J	-13590301.58	-13590301.39	-13590301.20	0.0485	0.0198
Jupiter	-41916-08-22 15:50 J	-13588162.03	-13588161.84	-13588161.64	0.0542	0.0108
Saturn	-41916-11-13 17:16 J	-13588078.96	-13588078.78	-13588078.60	0.0284	0.0154
Saturn	-41915-07-01 08:52 J	-13587849.33	-13587849.13	-13587848.92	0.0284	0.0082
Jupiter	-41910-06-19 05:45 J	-13586035.37	-13586035.26	-13586035.15	0.0485	0.0409
Jupiter	-41909-02-10 09:50 J	-13585799.22	-13585799.09	-13585798.95	0.0488	0.0370
Jupiter	-41904-04-27 04:33 J	-13583896.43	-13583896.31	-13583896.17	0.0543	0.0409
Uranus	-41901-01-09 00:28 J	-13582909.51	-13582909.48	-13582909.42	0.0146	0.0143
Uranus	-41901-08-22 13:40 J	-13582683.03	-13582682.93	-13582682.83	0.0146	0.0129
Saturn	-41901-12-15 19:54 J	-13582567.87	-13582567.67	-13582567.47	0.0275	0.0079
Uranus	-41900-04-06 02:23 J	-13582456.52	-13582456.40	-13582456.26	0.0146	0.0116
Saturn	-41900-08-02 03:35 J	-13582338.53	-13582338.35	-13582338.16	0.0276	0.0136
Uranus	-41900-11-18 15:06 J	-13582230.01	-13582229.87	-13582229.70	0.0146	0.0103
Uranus	-41899-07-03 04:18 J	-13582003.48	-13582003.32	-13582003.14	0.0146	0.0089
Mars	-41899-11-08 14:09 J	-13581875.07	-13581874.91	-13581874.75	0.1715	0.0565
Uranus	-41898-02-14 17:45 J	-13581776.94	-13581776.76	-13581776.57	0.0145	0.0074
Uranus	-41898-09-29 06:42 J	-13581550.41	-13581550.22	-13581550.01	0.0145	0.0061

Jupiter -41898-10-16 11:16 J -13581533.23 -13581533.03 -13581532.83 0.0487 0.0149
 Uranus -41897-05-12 19:54 J -13581323.87 -13581323.67 -13581323.45 0.0145 0.0046
 Uranus -41897-12-25 09:06 J -13581097.33 -13581097.12 -13581096.90 0.0145 0.0031
 Uranus -41896-08-08 22:18 J -13580870.78 -13580870.57 -13580870.35 0.0145 0.0017
 Uranus -41895-03-23 11:45 J -13580644.23 -13580644.01 -13580643.79 0.0144 0.0003
 Uranus -41895-11-05 00:42 J -13580417.69 -13580417.47 -13580417.25 0.0144 0.0013
 Mars -41894-06-18 02:23 J -13580192.49 -13580192.40 -13580192.30 0.1809 0.1517
 Uranus -41894-06-19 13:40 J -13580191.14 -13580190.93 -13580190.71 0.0144 0.0027
 Uranus -41893-02-01 02:38 J -13579964.60 -13579964.39 -13579964.17 0.0144 0.0041
 Uranus -41893-09-14 15:21 J -13579738.05 -13579737.86 -13579737.64 0.0143 0.0056
 Uranus -41892-04-29 04:18 J -13579511.51 -13579511.32 -13579511.12 0.0143 0.0069
 Jupiter -41892-08-25 15:21 J -13579393.01 -13579392.86 -13579392.71 0.0540 0.0345
 Neptune -41892-12-03 21:35 J -13579292.68 -13579292.60 -13579292.46 0.0088 0.0078
 Uranus -41892-12-11 17:02 J -13579284.96 -13579284.79 -13579284.60 0.0143 0.0083
 Neptune -41891-07-17 11:30 J -13579067.16 -13579067.02 -13579066.85 0.0088 0.0064
 Uranus -41891-07-26 05:45 J -13579058.42 -13579058.26 -13579058.09 0.0143 0.0096
 Earth -41891-10-14 04:47 J -13578978.45 -13578978.30 -13578978.15 0.2675 0.0929
 Moon -41891-10-14 08:38 J -13578978.28 -13578978.14 -13578977.99 0.2681 0.0855 *
 Neptune -41890-02-28 01:11 J -13578841.62 -13578841.45 -13578841.25 0.0088 0.0050
 Uranus -41890-03-09 17:59 J -13578831.87 -13578831.75 -13578831.59 0.0142 0.0110
 Neptune -41890-10-11 15:06 J -13578616.07 -13578615.87 -13578615.67 0.0088 0.0037
 Uranus -41890-10-22 06:28 J -13578605.32 -13578605.23 -13578605.09 0.0142 0.0122
 Neptune -41889-05-24 04:33 J -13578390.52 -13578390.31 -13578390.09 0.0088 0.0023
 Uranus -41889-06-04 18:57 J -13578378.76 -13578378.71 -13578378.62 0.0142 0.0134
 Neptune -41888-01-04 18:14 J -13578164.96 -13578164.74 -13578164.51 0.0088 0.0010
 Neptune -41888-08-18 07:54 J -13577939.39 -13577939.17 -13577938.94 0.0088 0.0004
 Neptune -41887-03-31 21:50 J -13577713.81 -13577713.59 -13577713.37 0.0088 0.0017
 Neptune -41887-11-12 11:16 J -13577488.23 -13577488.03 -13577487.81 0.0088 0.0031
 Saturn -41886-05-27 03:06 J -13577292.56 -13577292.37 -13577292.17 0.0284 0.0113
 Jupiter -41886-06-21 12:14 J -13577267.19 -13577266.99 -13577266.78 0.0486 0.0072

Neptune -41886-06-26 01:11 J -13577262.64 -13577262.45 -13577262.25 0.0088 0.0045
 Saturn -41885-01-11 19:11 J -13577062.89 -13577062.70 -13577062.51 0.0284 0.0124
 Neptune -41885-02-06 14:38 J -13577037.04 -13577036.89 -13577036.70 0.0088 0.0059
 Neptune -41885-09-19 04:47 J -13576811.42 -13576811.30 -13576811.17 0.0088 0.0072
 Neptune -41884-05-02 18:14 J -13576585.77 -13576585.74 -13576585.66 0.0088 0.0086
 Jupiter -41880-04-30 05:16 J -13575127.47 -13575127.28 -13575127.08 0.0542 0.0054
 Jupiter -41874-02-24 15:21 J -13573001.03 -13573000.86 -13573000.69 0.0485 0.0284
 Saturn -41872-11-10 19:11 J -13572010.77 -13572010.70 -13572010.63 0.0274 0.0258
 Saturn -41871-06-28 03:06 J -13571781.58 -13571781.37 -13571781.16 0.0275 0.0045
 Saturn -41870-02-12 10:18 J -13571552.24 -13571552.07 -13571551.90 0.0275 0.0168
 Jupiter -41868-01-02 20:38 J -13570861.82 -13570861.64 -13570861.46 0.0543 0.0239
 Mars -41865-09-06 02:38 J -13569519.48 -13569519.39 -13569519.31 0.1701 0.1469
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 Neptune -41721-12-21 14:52 J -13516817.00 -13516816.88 -13516816.70 0.0088 0.0067
 Jupiter -41720-07-29 11:02 J -13516597.25 -13516597.04 -13516596.84 0.0486 0.0013
 Neptune -41720-08-04 04:47 J -13516591.38 -13516591.30 -13516591.18 0.0088 0.0080
 Jupiter -41714-06-08 07:26 J -13514457.37 -13514457.19 -13514456.99 0.0541 0.0156
 Saturn -41710-12-16 12:42 J -13512805.14 -13512804.97 -13512804.80 0.0284 0.0164
 Saturn -41709-08-02 04:18 J -13512575.52 -13512575.32 -13512575.11 0.0284 0.0072
 Jupiter -41708-04-03 13:54 J -13512331.11 -13512330.92 -13512330.73 0.0485 0.0202
 Jupiter -41702-02-10 19:11 J -13510191.89 -13510191.70 -13510191.50 0.0543 0.0146
 Mars -41701-04-29 22:18 J -13509747.74 -13509747.57 -13509747.40 0.1705 0.0171
 Mars -41697-12-06 16:33 J -13508065.98 -13508065.81 -13508065.63 0.1821 0.0165

Jupiter -41697-12-07 17:30 J -13508064.87 -13508064.77 -13508064.65 0.0484 0.0410
 Jupiter -41696-07-31 20:23 J -13507828.79 -13507828.65 -13507828.51 0.0487 0.0359
 Saturn -41694-01-17 21:35 J -13507293.80 -13507293.60 -13507293.39 0.0274 0.0076
 Saturn -41694-09-04 05:02 J -13507064.47 -13507064.29 -13507064.10 0.0275 0.0135
 Uranus -41691-02-13 06:14 J -13506171.28 -13506171.24 -13506171.16 0.0132 0.0128
 Uranus -41691-09-27 11:30 J -13505945.11 -13505945.02 -13505944.92 0.0132 0.0118
 Jupiter -41691-10-16 09:35 J -13505926.21 -13505926.10 -13505925.98 0.0544 0.0438
 Uranus -41690-05-11 16:18 J -13505718.94 -13505718.82 -13505718.69 0.0132 0.0108
 Uranus -41690-12-23 21:06 J -13505492.76 -13505492.62 -13505492.47 0.0132 0.0098
 Uranus -41689-08-06 01:40 J -13505266.58 -13505266.43 -13505266.26 0.0133 0.0088
 Uranus -41688-03-20 06:14 J -13505040.40 -13505040.24 -13505040.05 0.0133 0.0078
 Uranus -41688-11-01 11:02 J -13504814.23 -13504814.04 -13504813.85 0.0133 0.0067
 Uranus -41687-06-15 15:21 J -13504588.05 -13504587.86 -13504587.66 0.0133 0.0057
 Uranus -41686-01-27 19:54 J -13504361.86 -13504361.67 -13504361.46 0.0133 0.0047
 Uranus -41686-09-11 00:42 J -13504135.68 -13504135.47 -13504135.26 0.0133 0.0036
 Uranus -41685-04-24 05:16 J -13503909.49 -13503909.28 -13503909.07 0.0133 0.0025
 Uranus -41685-12-06 09:35 J -13503683.31 -13503683.10 -13503682.88 0.0134 0.0014
 Jupiter -41684-04-05 21:35 J -13503562.79 -13503562.60 -13503562.39 0.0486 0.0140
 Uranus -41684-07-20 14:09 J -13503457.12 -13503456.91 -13503456.69 0.0134 0.0004
 Uranus -41683-03-03 18:42 J -13503230.93 -13503230.72 -13503230.50 0.0134 0.0008
 Uranus -41683-10-15 23:30 J -13503004.73 -13503004.52 -13503004.31 0.0134 0.0019
 Uranus -41682-05-30 04:04 J -13502778.54 -13502778.33 -13502778.12 0.0135 0.0029
 Uranus -41681-01-11 08:38 J -13502552.34 -13502552.14 -13502551.93 0.0135 0.0041
 Uranus -41681-08-24 13:40 J -13502326.13 -13502325.93 -13502325.74 0.0135 0.0051
 Uranus -41680-04-07 18:14 J -13502099.92 -13502099.74 -13502099.54 0.0135 0.0062
 Saturn -41680-06-27 14:09 J -13502019.09 -13502018.91 -13502018.72 0.0284 0.0137
 Uranus -41680-11-19 23:02 J -13501873.71 -13501873.54 -13501873.35 0.0135 0.0073
 Saturn -41679-02-12 05:59 J -13501789.45 -13501789.25 -13501789.05 0.0284 0.0098
 Uranus -41679-07-04 04:04 J -13501647.49 -13501647.33 -13501647.16 0.0136 0.0084
 Jupiter -41678-02-14 00:42 J -13501422.63 -13501422.47 -13501422.31 0.0541 0.0326

Uranus	-41678-02-15 09:06 J	-13501421.26	-13501421.12	-13501420.96	0.0136	0.0095
Uranus	-41678-09-29 14:23 J	-13501195.02	-13501194.90	-13501194.75	0.0136	0.0106
Uranus	-41677-05-12 19:40 J	-13500968.78	-13500968.68	-13500968.56	0.0137	0.0116
Uranus	-41677-12-25 00:57 J	-13500742.53	-13500742.46	-13500742.37	0.0137	0.0126
Uranus	-41676-08-08 06:28 J	-13500516.24	-13500516.23	-13500516.20	0.0137	0.0136
Jupiter	-41673-12-10 00:28 J	-13499296.69	-13499296.48	-13499296.28	0.0486	0.0075
Mars	-41669-04-28 20:23 J	-13498060.70	-13498060.65	-13498060.59	0.1715	0.1623
Jupiter	-41667-10-19 16:04 J	-13497157.02	-13497156.83	-13497156.63	0.0542	0.0040
Saturn	-41666-12-13 13:26 J	-13496736.99	-13496736.94	-13496736.89	0.0274	0.0266
Saturn	-41665-07-29 21:35 J	-13496507.81	-13496507.60	-13496507.39	0.0275	0.0055
Saturn	-41664-03-16 04:47 J	-13496278.47	-13496278.30	-13496278.13	0.0275	0.0156
Jupiter	-41661-08-15 03:06 J	-13495030.53	-13495030.37	-13495030.19	0.0485	0.0287
Jupiter	-41660-04-08 07:54 J	-13494794.18	-13494794.17	-13494794.16	0.0489	0.0488
Jupiter	-41655-06-24 05:30 J	-13492891.44	-13492891.27	-13492891.09	0.0543	0.0258
Saturn	-41650-01-07 18:57 J	-13491232.91	-13491232.71	-13491232.52	0.0284	0.0106
Uranus	-41650-08-20 05:30 J	-13491008.33	-13491008.27	-13491008.19	0.0146	0.0137
Saturn	-41650-08-25 10:47 J	-13491003.23	-13491003.05	-13491002.86	0.0284	0.0129
Uranus	-41649-04-02 17:59 J	-13490781.84	-13490781.75	-13490781.62	0.0146	0.0125
Uranus	-41649-11-15 06:57 J	-13490555.33	-13490555.21	-13490555.06	0.0146	0.0112
Jupiter	-41649-12-12 09:21 J	-13490528.28	-13490528.11	-13490527.93	0.0487	0.0272
Uranus	-41648-06-29 20:09 J	-13490328.82	-13490328.66	-13490328.50	0.0146	0.0098
Moon	-41648-10-14 02:09 J	-13490222.57	-13490222.41	-13490222.25	0.2668	0.0830
Earth	-41648-10-14 04:33 J	-13490222.46	-13490222.31	-13490222.16	0.2675	0.0921 *
Uranus	-41647-02-11 09:06 J	-13490102.28	-13490102.12	-13490101.93	0.0146	0.0085
Uranus	-41647-09-25 22:18 J	-13489875.75	-13489875.57	-13489875.37	0.0146	0.0071
Uranus	-41646-05-10 11:30 J	-13489649.22	-13489649.02	-13489648.82	0.0145	0.0057
Uranus	-41646-12-23 00:14 J	-13489422.69	-13489422.49	-13489422.27	0.0145	0.0044
Uranus	-41645-08-05 13:40 J	-13489196.15	-13489195.93	-13489195.72	0.0145	0.0029
Neptune	-41645-12-07 04:33 J	-13489072.38	-13489072.31	-13489072.19	0.0089	0.0080
Uranus	-41644-03-20 02:52 J	-13488969.60	-13488969.38	-13488969.16	0.0145	0.0014

Neptune -41644-07-20 17:30 J -13488846.91 -13488846.77 -13488846.63 0.0089 0.0066
 Uranus -41644-11-01 15:50 J -13488743.06 -13488742.84 -13488742.62 0.0145 0.0003
 Neptune -41643-03-03 05:45 J -13488621.42 -13488621.26 -13488621.08 0.0089 0.0053
 Uranus -41643-06-16 04:47 J -13488516.51 -13488516.30 -13488516.07 0.0144 0.0015
 Neptune -41643-10-14 18:14 J -13488395.92 -13488395.74 -13488395.53 0.0089 0.0040
 Jupiter -41643-10-22 14:38 J -13488387.97 -13488387.89 -13488387.80 0.0540 0.0484
 Uranus -41642-01-28 17:45 J -13488289.97 -13488289.76 -13488289.53 0.0144 0.0029
 Neptune -41642-05-28 06:42 J -13488170.41 -13488170.22 -13488170.00 0.0089 0.0027
 Uranus -41642-09-12 06:57 J -13488063.42 -13488063.21 -13488063.00 0.0144 0.0042
 Neptune -41641-01-08 19:11 J -13487944.90 -13487944.70 -13487944.48 0.0089 0.0014
 Uranus -41641-04-25 19:40 J -13487836.87 -13487836.68 -13487836.46 0.0144 0.0056
 Neptune -41641-08-21 07:40 J -13487719.39 -13487719.18 -13487718.96 0.0089 0.0002
 Uranus -41641-12-08 08:38 J -13487610.33 -13487610.14 -13487609.94 0.0143 0.0069
 Neptune -41640-04-03 19:54 J -13487493.87 -13487493.67 -13487493.45 0.0089 0.0013
 Uranus -41640-07-22 21:35 J -13487383.78 -13487383.60 -13487383.42 0.0143 0.0082
 Neptune -41640-11-15 08:09 J -13487268.35 -13487268.16 -13487267.94 0.0089 0.0027
 Uranus -41639-03-06 10:04 J -13487157.23 -13487157.08 -13487156.90 0.0143 0.0096
 Neptune -41639-06-28 20:23 J -13487042.83 -13487042.65 -13487042.44 0.0089 0.0040
 Uranus -41639-10-18 22:47 J -13486930.67 -13486930.55 -13486930.39 0.0142 0.0109
 Neptune -41638-02-09 08:38 J -13486817.30 -13486817.14 -13486816.95 0.0089 0.0053
 Uranus -41638-06-02 11:30 J -13486704.12 -13486704.02 -13486703.89 0.0142 0.0121
 Neptune -41638-09-22 21:06 J -13486591.75 -13486591.62 -13486591.47 0.0089 0.0065
 Uranus -41637-01-15 00:14 J -13486477.57 -13486477.49 -13486477.41 0.0142 0.0132
 Neptune -41637-05-05 09:21 J -13486366.20 -13486366.11 -13486366.00 0.0089 0.0078
 Jupiter -41637-08-17 11:45 J -13486262.21 -13486262.01 -13486261.80 0.0486 0.0057
 Saturn -41636-06-24 21:21 J -13485950.73 -13485950.61 -13485950.49 0.0274 0.0229
 Saturn -41635-02-09 05:16 J -13485721.50 -13485721.28 -13485721.07 0.0275 0.0019
 Mars -41635-02-25 08:52 J -13485705.29 -13485705.13 -13485704.96 0.1702 0.0407
 Saturn -41635-09-26 12:14 J -13485492.13 -13485491.99 -13485491.83 0.0275 0.0192
 Jupiter -41631-06-27 06:42 J -13484122.41 -13484122.22 -13484122.04 0.0542 0.0201

Mars -41631-10-03 21:06 J -13484023.79 -13484023.62 -13484023.44 0.1825 0.0302
 Jupiter -41625-04-22 13:54 J -13481996.11 -13481995.92 -13481995.72 0.0485 0.0159
 Saturn -41621-07-19 21:21 J -13480446.82 -13480446.61 -13480446.41 0.0284 0.0078
 Saturn -41620-03-06 12:57 J -13480217.13 -13480216.96 -13480216.77 0.0284 0.0157
 Jupiter -41619-03-01 22:47 J -13479856.74 -13479856.55 -13479856.35 0.0543 0.0086
 Jupiter -41614-12-27 17:30 J -13477729.90 -13477729.77 -13477729.64 0.0484 0.0368
 Jupiter -41613-08-19 20:23 J -13477493.76 -13477493.65 -13477493.53 0.0488 0.0400
 Uranus -41608-10-13 16:04 J -13475612.86 -13475612.83 -13475612.76 0.0132 0.0129
 Jupiter -41608-11-04 13:26 J -13475591.08 -13475590.94 -13475590.80 0.0544 0.0377
 Uranus -41607-05-27 21:21 J -13475386.70 -13475386.61 -13475386.51 0.0132 0.0119
 Saturn -41606-01-04 20:38 J -13475164.77 -13475164.64 -13475164.50 0.0274 0.0208
 Uranus -41606-01-09 01:54 J -13475160.53 -13475160.42 -13475160.29 0.0132 0.0109
 Saturn -41606-08-22 04:47 J -13474935.51 -13474935.30 -13474935.09 0.0275 0.0003
 Uranus -41606-08-23 06:42 J -13474934.34 -13474934.22 -13474934.06 0.0132 0.0100
 Uranus -41605-04-05 11:30 J -13474708.17 -13474708.02 -13474707.85 0.0133 0.0090
 Saturn -41605-04-07 11:45 J -13474706.14 -13474706.01 -13474705.87 0.0275 0.0212
 Uranus -41605-11-17 16:04 J -13474481.99 -13474481.83 -13474481.64 0.0133 0.0080
 Uranus -41604-07-01 20:52 J -13474255.81 -13474255.63 -13474255.44 0.0133 0.0069
 Uranus -41603-02-13 01:11 J -13474029.63 -13474029.45 -13474029.24 0.0133 0.0059
 Mars -41603-02-24 07:11 J -13474018.29 -13474018.20 -13474018.10 0.1712 0.1382
 Uranus -41603-09-27 05:59 J -13473803.45 -13473803.25 -13473803.04 0.0133 0.0048
 Uranus -41602-05-11 10:18 J -13473577.26 -13473577.07 -13473576.85 0.0133 0.0039
 Uranus -41602-12-23 14:52 J -13473351.08 -13473350.88 -13473350.66 0.0133 0.0028
 Jupiter -41601-04-24 22:18 J -13473227.76 -13473227.57 -13473227.37 0.0487 0.0184
 Uranus -41601-08-05 19:40 J -13473124.89 -13473124.68 -13473124.47 0.0134 0.0016
 Uranus -41600-03-20 00:14 J -13472898.71 -13472898.49 -13472898.28 0.0134 0.0006
 Uranus -41600-11-01 04:47 J -13472672.52 -13472672.30 -13472672.09 0.0134 0.0005
 Uranus -41599-06-15 09:21 J -13472446.32 -13472446.11 -13472445.90 0.0134 0.0016
 Uranus -41598-01-27 13:54 J -13472220.13 -13472219.92 -13472219.71 0.0134 0.0027
 Uranus -41598-09-10 18:42 J -13471993.92 -13471993.72 -13471993.51 0.0135 0.0038

Uranus -41597-04-23 23:16 J -13471767.72 -13471767.53 -13471767.32 0.0135 0.0049
 Uranus -41597-12-06 04:18 J -13471541.51 -13471541.32 -13471541.13 0.0135 0.0059
 Uranus -41596-07-20 08:52 J -13471315.30 -13471315.13 -13471314.93 0.0135 0.0071
 Uranus -41595-03-03 14:09 J -13471089.08 -13471088.91 -13471088.74 0.0136 0.0081
 Jupiter -41595-03-05 01:40 J -13471087.57 -13471087.43 -13471087.28 0.0541 0.0375
 Uranus -41595-10-15 18:57 J -13470862.85 -13470862.71 -13470862.53 0.0136 0.0092
 Uranus -41594-05-30 00:14 J -13470636.62 -13470636.49 -13470636.34 0.0136 0.0102
 Uranus -41593-01-11 05:30 J -13470410.38 -13470410.27 -13470410.14 0.0136 0.0113
 Uranus -41593-08-24 10:47 J -13470184.13 -13470184.05 -13470183.95 0.0137 0.0123
 Uranus -41592-04-07 15:50 J -13469957.87 -13469957.84 -13469957.77 0.0137 0.0134
 Saturn -41592-06-14 09:35 J -13469890.13 -13469890.10 -13469890.08 0.0284 0.0282
 Saturn -41591-01-30 00:57 J -13469660.67 -13469660.46 -13469660.25 0.0284 0.0050
 Saturn -41591-09-16 17:02 J -13469430.95 -13469430.79 -13469430.63 0.0284 0.0185
 Jupiter -41590-12-30 01:11 J -13468961.66 -13468961.45 -13468961.24 0.0486 0.0029
 Jupiter -41584-11-07 13:40 J -13466822.13 -13466821.93 -13466821.73 0.0542 0.0079
 Jupiter -41578-09-04 04:47 J -13464695.48 -13464695.30 -13464695.12 0.0485 0.0239
 Saturn -41577-07-17 04:47 J -13464378.46 -13464378.30 -13464378.13 0.0275 0.0171
 Saturn -41576-03-03 12:42 J -13464149.18 -13464148.97 -13464148.76 0.0275 0.0040
 Saturn -41576-10-18 19:40 J -13463919.77 -13463919.68 -13463919.59 0.0275 0.0248
 Jupiter -41572-07-13 04:04 J -13462556.52 -13462556.33 -13462556.15 0.0544 0.0213
 Mars -41570-12-23 19:54 J -13461662.82 -13461662.67 -13461662.51 0.1699 0.0631
 Uranus -41566-04-19 11:02 J -13460450.10 -13460450.04 -13460449.98 0.0146 0.0140
 Jupiter -41566-05-10 07:26 J -13460429.26 -13460429.19 -13460429.11 0.0484 0.0449
 Uranus -41566-12-01 23:30 J -13460223.61 -13460223.52 -13460223.40 0.0146 0.0127
 Jupiter -41565-01-01 09:21 J -13460193.27 -13460193.11 -13460192.95 0.0487 0.0312
 Uranus -41565-07-15 12:28 J -13459997.11 -13459996.98 -13459996.84 0.0146 0.0114
 Mars -41565-07-31 02:09 J -13459981.58 -13459981.41 -13459981.25 0.1829 0.0752
 Pluto -41564-02-12 01:26 J -13459785.57 -13459785.44 -13459785.26 0.0066 0.0047
 Uranus -41564-02-27 01:26 J -13459770.59 -13459770.44 -13459770.27 0.0146 0.0101
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Uranus -41564-10-11 14:23 J -13459544.06 -13459543.90 -13459543.72 0.0146 0.0088
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 Uranus -41563-05-26 03:35 J -13459317.54 -13459317.35 -13459317.16 0.0146 0.0074
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 Saturn -41563-12-25 13:11 J -13459104.05 -13459103.95 -13459103.85 0.0284 0.0250
 Uranus -41562-01-07 16:18 J -13459091.01 -13459090.82 -13459090.61 0.0146 0.0061
 Neptune -41562-01-20 09:06 J -13459078.22 -13459078.12 -13459077.98 0.0088 0.0073
 Saturn -41562-08-12 04:18 J -13458874.53 -13458874.32 -13458874.11 0.0284 0.0019
 Uranus -41562-08-22 05:30 J -13458864.47 -13458864.27 -13458864.05 0.0145 0.0047
 Neptune -41562-09-02 22:33 J -13458852.70 -13458852.56 -13458852.37 0.0088 0.0061
 Saturn -41561-03-28 20:09 J -13458644.79 -13458644.66 -13458644.52 0.0284 0.0215
 Uranus -41561-04-04 18:42 J -13458637.93 -13458637.72 -13458637.50 0.0145 0.0032
 Neptune -41561-04-15 12:42 J -13458627.16 -13458626.97 -13458626.78 0.0088 0.0047
 Uranus -41561-11-17 07:54 J -13458411.39 -13458411.17 -13458410.95 0.0145 0.0018
 Neptune -41561-11-27 02:09 J -13458401.61 -13458401.41 -13458401.20 0.0088 0.0033
 Jupiter -41560-03-17 18:57 J -13458290.78 -13458290.71 -13458290.63 0.0544 0.0503
 Uranus -41560-07-01 20:52 J -13458184.85 -13458184.63 -13458184.41 0.0145 0.0004
 Neptune -41560-07-10 15:35 J -13458176.06 -13458175.85 -13458175.62 0.0088 0.0020
 Jupiter -41560-11-10 17:59 J -13458052.76 -13458052.75 -13458052.74 0.0540 0.0539
 Uranus -41559-02-13 10:04 J -13457958.30 -13457958.08 -13457957.86 0.0145 0.0010
 Neptune -41559-02-21 05:16 J -13457950.50 -13457950.28 -13457950.05 0.0088 0.0008
 Uranus -41559-09-27 23:02 J -13457731.75 -13457731.54 -13457731.32 0.0144 0.0024
 Neptune -41559-10-04 19:11 J -13457724.93 -13457724.70 -13457724.48 0.0088 0.0007
 Uranus -41558-05-12 11:59 J -13457505.21 -13457505.00 -13457504.78 0.0144 0.0038
 Neptune -41558-05-18 08:23 J -13457499.35 -13457499.15 -13457498.92 0.0088 0.0021
 Uranus -41558-12-25 00:57 J -13457278.66 -13457278.46 -13457278.25 0.0144 0.0052
 Neptune -41558-12-29 22:04 J -13457273.78 -13457273.58 -13457273.36 0.0088 0.0033
 Uranus -41557-08-07 13:40 J -13457052.11 -13457051.93 -13457051.72 0.0143 0.0066
 Neptune -41557-08-11 11:59 J -13457048.19 -13457048.00 -13457047.81 0.0088 0.0047
 Uranus -41556-03-22 02:52 J -13456825.56 -13456825.38 -13456825.19 0.0143 0.0078

Neptune -41556-03-25 01:26 J -13456822.59 -13456822.44 -13456822.26 0.0088 0.0060
 Uranus -41556-11-03 15:50 J -13456599.00 -13456598.84 -13456598.66 0.0143 0.0091
 Neptune -41556-11-05 15:06 J -13456596.97 -13456596.87 -13456596.72 0.0088 0.0074
 Uranus -41555-06-18 04:33 J -13456372.46 -13456372.31 -13456372.15 0.0143 0.0104
 Neptune -41555-06-19 05:02 J -13456371.32 -13456371.29 -13456371.23 0.0088 0.0087
 Uranus -41554-01-30 17:02 J -13456145.90 -13456145.79 -13456145.65 0.0142 0.0117
 Jupiter -41554-09-06 11:45 J -13455927.22 -13455927.01 -13455926.81 0.0486 0.0098
 Uranus -41554-09-14 05:45 J -13455919.35 -13455919.26 -13455919.16 0.0142 0.0128
 Uranus -41553-04-27 18:14 J -13455692.76 -13455692.74 -13455692.70 0.0142 0.0140
 Jupiter -41548-07-16 10:04 J -13453787.25 -13453787.08 -13453786.90 0.0541 0.0259
 Saturn -41547-01-27 04:18 J -13453592.50 -13453592.32 -13453592.14 0.0274 0.0151
 Saturn -41547-09-13 11:59 J -13453363.20 -13453363.00 -13453362.79 0.0275 0.0060
 Saturn -41546-04-30 18:42 J -13453133.75 -13453133.72 -13453133.66 0.0275 0.0268
 Moon -41542-04-13 05:45 J -13451690.41 -13451690.26 -13451690.10 0.2658 0.0367
 Earth -41542-04-13 11:02 J -13451690.18 -13451690.04 -13451689.90 0.2657 0.1228 *
 Jupiter -41542-05-12 14:23 J -13451661.10 -13451660.90 -13451660.70 0.0485 0.0115
 Mars -41538-12-22 17:59 J -13449975.87 -13449975.75 -13449975.62 0.1709 0.1138
 Jupiter -41536-03-21 00:28 J -13449521.68 -13449521.48 -13449521.28 0.0543 0.0032
 Moon -41534-04-11 00:14 J -13448770.55 -13448770.49 -13448770.43 0.2663 0.2418
 Earth -41534-04-11 03:35 J -13448770.43 -13448770.35 -13448770.26 0.2658 0.2227 *
 Saturn -41533-07-06 15:50 J -13448317.96 -13448317.84 -13448317.71 0.0284 0.0224
 Saturn -41532-02-21 07:26 J -13448088.40 -13448088.19 -13448087.97 0.0284 0.0010
 Saturn -41532-10-08 23:30 J -13447858.62 -13447858.52 -13447858.40 0.0284 0.0242
 Jupiter -41530-01-15 18:14 J -13447394.89 -13447394.74 -13447394.58 0.0485 0.0322
 Jupiter -41530-09-08 21:35 J -13447158.68 -13447158.60 -13447158.51 0.0488 0.0445
 Jupiter -41525-11-23 10:33 J -13445256.21 -13445256.06 -13445255.90 0.0544 0.0337
 Uranus -41524-06-13 01:40 J -13445054.46 -13445054.43 -13445054.37 0.0132 0.0130
 Uranus -41523-01-25 06:28 J -13444828.30 -13444828.23 -13444828.12 0.0132 0.0121
 Uranus -41523-09-08 11:45 J -13444602.12 -13444602.01 -13444601.89 0.0132 0.0110
 Uranus -41522-04-22 16:33 J -13444375.95 -13444375.81 -13444375.67 0.0132 0.0101

Uranus	-41522-12-04 20:52 J	-13444149.77	-13444149.63	-13444149.46	0.0132	0.0092
Uranus	-41521-07-18 01:54 J	-13443923.59	-13443923.42	-13443923.25	0.0133	0.0081
Uranus	-41520-03-01 06:28 J	-13443697.41	-13443697.23	-13443697.04	0.0133	0.0071
Uranus	-41520-10-13 10:47 J	-13443471.23	-13443471.05	-13443470.85	0.0133	0.0061
Uranus	-41519-05-27 15:35 J	-13443245.05	-13443244.85	-13443244.65	0.0133	0.0050
Uranus	-41518-01-08 19:54 J	-13443018.87	-13443018.67	-13443018.46	0.0133	0.0040
Jupiter	-41518-05-14 23:30 J	-13442892.70	-13442892.52	-13442892.33	0.0487	0.0230
Saturn	-41518-08-09 12:28 J	-13442806.17	-13442805.98	-13442805.78	0.0275	0.0112
Uranus	-41518-08-23 00:42 J	-13442792.68	-13442792.47	-13442792.26	0.0133	0.0030
Saturn	-41517-03-25 20:09 J	-13442576.86	-13442576.66	-13442576.46	0.0275	0.0097
Uranus	-41517-04-05 05:02 J	-13442566.50	-13442566.29	-13442566.07	0.0133	0.0020
Uranus	-41517-11-17 09:35 J	-13442340.31	-13442340.10	-13442339.88	0.0134	0.0009
Uranus	-41516-07-01 14:09 J	-13442114.12	-13442113.91	-13442113.69	0.0134	0.0003
Uranus	-41515-02-12 18:57 J	-13441887.93	-13441887.71	-13441887.50	0.0134	0.0013
Uranus	-41515-09-26 23:30 J	-13441661.73	-13441661.52	-13441661.30	0.0134	0.0024
Uranus	-41514-05-11 04:18 J	-13441435.53	-13441435.32	-13441435.11	0.0134	0.0035
Uranus	-41514-12-23 08:52 J	-13441209.33	-13441209.13	-13441208.92	0.0135	0.0046
Uranus	-41513-08-05 13:54 J	-13440983.12	-13440982.92	-13440982.73	0.0135	0.0056
Uranus	-41512-03-19 18:28 J	-13440756.90	-13440756.73	-13440756.53	0.0135	0.0067
Jupiter	-41512-03-23 23:59 J	-13440752.63	-13440752.50	-13440752.38	0.0541	0.0416
Uranus	-41512-10-31 23:30 J	-13440530.68	-13440530.52	-13440530.34	0.0135	0.0078
Uranus	-41511-06-15 04:18 J	-13440304.46	-13440304.32	-13440304.14	0.0136	0.0089
Uranus	-41510-01-27 09:21 J	-13440078.24	-13440078.11	-13440077.95	0.0136	0.0099
Uranus	-41510-09-10 14:38 J	-13439852.00	-13439851.89	-13439851.75	0.0136	0.0109
Uranus	-41509-04-23 19:40 J	-13439625.76	-13439625.68	-13439625.56	0.0137	0.0120
Uranus	-41509-12-06 01:26 J	-13439399.50	-13439399.44	-13439399.37	0.0137	0.0129
Jupiter	-41506-01-18 00:57 J	-13438626.67	-13438626.46	-13438626.25	0.0485	0.0012
Mars	-41504-10-20 06:57 J	-13437620.36	-13437620.21	-13437620.06	0.1696	0.0855
Saturn	-41503-01-16 20:38 J	-13437531.79	-13437531.64	-13437531.48	0.0284	0.0191
Saturn	-41503-09-03 11:59 J	-13437302.21	-13437302.00	-13437301.79	0.0284	0.0042

Saturn -41502-04-21 03:50 J -13437072.38 -13437072.34 -13437072.28 0.0284 0.0274
 Jupiter -41501-11-26 16:33 J -13436487.00 -13436486.81 -13436486.62 0.0542 0.0135
 Mars -41499-05-28 06:14 J -13435939.37 -13435939.24 -13435939.11 0.1833 0.1230
 Jupiter -41495-09-23 04:04 J -13434360.51 -13434360.33 -13434360.13 0.0485 0.0199
 Jupiter -41489-08-01 07:40 J -13432221.37 -13432221.18 -13432220.98 0.0543 0.0153
 Saturn -41488-02-18 12:28 J -13432020.18 -13432019.98 -13432019.78 0.0274 0.0092
 Saturn -41488-10-05 19:54 J -13431790.85 -13431790.67 -13431790.47 0.0275 0.0118
 Jupiter -41483-05-29 07:26 J -13430094.30 -13430094.19 -13430094.08 0.0484 0.0407
 Uranus -41483-12-17 16:18 J -13429891.85 -13429891.82 -13429891.75 0.0146 0.0142
 Jupiter -41482-01-20 09:50 J -13429858.23 -13429858.09 -13429857.95 0.0487 0.0355
 Uranus -41482-08-01 05:16 J -13429665.37 -13429665.28 -13429665.18 0.0146 0.0130
 Uranus -41481-03-14 17:59 J -13429438.87 -13429438.75 -13429438.61 0.0146 0.0117
 Uranus -41481-10-27 06:42 J -13429212.36 -13429212.22 -13429212.05 0.0146 0.0105
 Neptune -41480-03-10 16:33 J -13429077.86 -13429077.81 -13429077.73 0.0089 0.0084
 Uranus -41480-06-10 19:40 J -13428985.84 -13428985.68 -13428985.50 0.0146 0.0091
 Neptune -41480-10-22 05:16 J -13428852.40 -13428852.28 -13428852.14 0.0089 0.0071
 Uranus -41479-01-23 09:06 J -13428759.31 -13428759.12 -13428758.94 0.0146 0.0077
 Neptune -41479-06-04 17:30 J -13428626.92 -13428626.77 -13428626.59 0.0089 0.0058
 Uranus -41479-09-06 21:50 J -13428532.78 -13428532.59 -13428532.38 0.0146 0.0064
 Neptune -41478-01-16 05:59 J -13428401.42 -13428401.25 -13428401.05 0.0089 0.0045
 Uranus -41478-04-21 11:02 J -13428306.24 -13428306.04 -13428305.83 0.0146 0.0050
 Neptune -41478-08-29 18:28 J -13428175.92 -13428175.73 -13428175.51 0.0089 0.0032
 Uranus -41478-12-03 23:59 J -13428079.71 -13428079.50 -13428079.28 0.0145 0.0036
 Pluto -41477-03-06 20:52 J -13427985.85 -13427985.63 -13427985.41 0.0078 0.0011
 Jupiter -41477-04-05 20:52 J -13427955.74 -13427955.63 -13427955.51 0.0544 0.0447
 Neptune -41477-04-11 06:57 J -13427950.41 -13427950.21 -13427949.99 0.0089 0.0019
 Uranus -41477-07-17 12:57 J -13427853.17 -13427852.96 -13427852.73 0.0145 0.0023
 Pluto -41477-10-18 06:28 J -13427760.37 -13427760.23 -13427760.09 0.0078 0.0060
 Neptune -41477-11-22 19:40 J -13427724.90 -13427724.68 -13427724.47 0.0089 0.0006
 Uranus -41476-03-01 02:23 J -13427626.62 -13427626.40 -13427626.18 0.0145 0.0008

Neptune -41476-07-06 07:54 J -13427499.38 -13427499.17 -13427498.95 0.0089 0.0007
 Uranus -41476-10-13 15:35 J -13427400.07 -13427399.85 -13427399.63 0.0145 0.0006
 Neptune -41475-02-16 20:23 J -13427273.86 -13427273.65 -13427273.44 0.0089 0.0020
 Uranus -41475-05-28 04:33 J -13427173.53 -13427173.31 -13427173.09 0.0144 0.0020
 Neptune -41475-09-30 08:52 J -13427048.33 -13427048.13 -13427047.93 0.0089 0.0034
 Uranus -41474-01-09 17:30 J -13426946.98 -13426946.77 -13426946.55 0.0144 0.0034
 Neptune -41474-05-13 21:06 J -13426822.80 -13426822.62 -13426822.43 0.0089 0.0047
 Saturn -41474-07-29 22:47 J -13426745.71 -13426745.55 -13426745.37 0.0284 0.0165
 Uranus -41474-08-24 06:42 J -13426720.43 -13426720.22 -13426720.01 0.0144 0.0047
 Neptune -41474-12-25 09:21 J -13426597.27 -13426597.11 -13426596.95 0.0089 0.0060
 Saturn -41473-03-15 14:38 J -13426516.10 -13426515.89 -13426515.68 0.0284 0.0067
 Uranus -41473-04-06 19:40 J -13426493.88 -13426493.68 -13426493.48 0.0144 0.0061
 Neptune -41473-08-06 21:35 J -13426371.72 -13426371.60 -13426371.48 0.0089 0.0073
 Uranus -41473-11-19 08:23 J -13426267.32 -13426267.15 -13426266.95 0.0143 0.0075
 Neptune -41472-03-20 09:35 J -13426146.15 -13426146.10 -13426146.03 0.0089 0.0086
 Uranus -41472-07-03 21:21 J -13426040.77 -13426040.61 -13426040.42 0.0143 0.0087
 Mars -41472-10-19 05:02 J -13425933.43 -13425933.29 -13425933.14 0.1706 0.0905
 Uranus -41471-02-15 10:18 J -13425814.22 -13425814.07 -13425813.91 0.0143 0.0100
 Jupiter -41471-09-25 12:28 J -13425592.18 -13425591.98 -13425591.78 0.0486 0.0144
 Uranus -41471-09-29 23:02 J -13425587.67 -13425587.54 -13425587.40 0.0142 0.0112
 Uranus -41470-05-14 11:45 J -13425361.11 -13425361.01 -13425360.90 0.0142 0.0124
 Uranus -41470-12-27 00:14 J -13425134.54 -13425134.49 -13425134.42 0.0142 0.0136
 Mars -41467-05-28 00:28 J -13424251.59 -13424251.48 -13424251.37 0.1821 0.1441
 Jupiter -41465-08-04 06:57 J -13423452.37 -13423452.21 -13423452.04 0.0541 0.0297
 Saturn -41459-01-14 11:59 J -13421463.06 -13421463.00 -13421462.94 0.0275 0.0262
 Jupiter -41459-05-31 15:21 J -13421326.06 -13421325.86 -13421325.65 0.0485 0.0070
 Saturn -41459-08-31 20:38 J -13421233.85 -13421233.64 -13421233.43 0.0275 0.0053
 Saturn -41458-04-18 04:04 J -13421004.50 -13421004.33 -13421004.15 0.0275 0.0156
 Jupiter -41453-04-08 21:35 J -13419186.80 -13419186.60 -13419186.40 0.0543 0.0010
 Jupiter -41447-02-03 17:30 J -13417059.93 -13417059.77 -13417059.60 0.0484 0.0283

Jupiter -41447-09-27 20:38 J -13416823.66 -13416823.64 -13416823.61 0.0488 0.0482
 Saturn -41444-02-08 05:30 J -13415959.46 -13415959.27 -13415959.08 0.0284 0.0128
 Saturn -41444-09-25 20:52 J -13415729.83 -13415729.63 -13415729.43 0.0284 0.0103
 Jupiter -41442-12-13 12:42 J -13414921.14 -13414920.97 -13414920.80 0.0544 0.0282
 Uranus -41440-02-10 11:45 J -13414496.03 -13414496.01 -13414495.96 0.0132 0.0131
 Uranus -41440-09-24 16:47 J -13414269.87 -13414269.80 -13414269.70 0.0132 0.0121
 Uranus -41439-05-08 21:50 J -13414043.70 -13414043.59 -13414043.47 0.0132 0.0112
 Uranus -41439-12-21 02:23 J -13413817.53 -13413817.40 -13413817.25 0.0132 0.0102
 Uranus -41438-08-04 07:11 J -13413591.35 -13413591.20 -13413591.04 0.0132 0.0093
 Mars -41438-08-17 18:14 J -13413577.87 -13413577.74 -13413577.61 0.1693 0.1071
 Uranus -41437-03-17 11:45 J -13413365.17 -13413365.01 -13413364.83 0.0132 0.0083
 Uranus -41437-10-29 16:18 J -13413138.99 -13413138.82 -13413138.63 0.0133 0.0073
 Uranus -41436-06-12 20:52 J -13412912.81 -13412912.63 -13412912.43 0.0133 0.0063
 Uranus -41435-01-25 01:26 J -13412686.63 -13412686.44 -13412686.23 0.0133 0.0053
 Jupiter -41435-06-02 22:33 J -13412557.73 -13412557.56 -13412557.39 0.0487 0.0267
 Uranus -41435-09-08 06:14 J -13412460.44 -13412460.24 -13412460.03 0.0133 0.0042
 Uranus -41434-04-22 10:47 J -13412234.26 -13412234.05 -13412233.84 0.0133 0.0032
 Uranus -41434-12-04 15:21 J -13412008.07 -13412007.86 -13412007.65 0.0133 0.0021
 Mars -41433-03-24 11:02 J -13411897.11 -13411897.04 -13411896.97 0.1837 0.1689
 Uranus -41433-07-17 19:54 J -13411781.89 -13411781.67 -13411781.46 0.0133 0.0011
 Uranus -41432-03-01 00:28 J -13411555.70 -13411555.48 -13411555.27 0.0134 0.0000
 Uranus -41432-10-13 05:02 J -13411329.50 -13411329.29 -13411329.07 0.0134 0.0011
 Uranus -41431-05-27 09:50 J -13411103.30 -13411103.09 -13411102.88 0.0134 0.0021
 Uranus -41430-01-08 14:23 J -13410877.11 -13410876.90 -13410876.69 0.0134 0.0032
 Saturn -41430-07-27 12:28 J -13410677.07 -13410676.98 -13410676.87 0.0274 0.0241
 Uranus -41430-08-22 19:11 J -13410650.90 -13410650.70 -13410650.49 0.0134 0.0043
 Saturn -41429-03-12 21:06 J -13410447.83 -13410447.62 -13410447.41 0.0275 0.0031
 Uranus -41429-04-04 23:45 J -13410424.69 -13410424.51 -13410424.30 0.0135 0.0054
 Jupiter -41429-04-12 02:52 J -13410417.47 -13410417.38 -13410417.28 0.0541 0.0471
 Saturn -41429-10-28 04:18 J -13410218.47 -13410218.32 -13410218.15 0.0275 0.0177

Uranus	-41429-11-17 04:47 J	-13410198.48	-13410198.30	-13410198.11	0.0135	0.0064
Uranus	-41428-07-01 09:35 J	-13409972.27	-13409972.10	-13409971.92	0.0135	0.0075
Uranus	-41427-02-12 14:23 J	-13409746.05	-13409745.90	-13409745.72	0.0135	0.0085
Uranus	-41427-09-26 19:26 J	-13409519.82	-13409519.69	-13409519.52	0.0136	0.0096
Uranus	-41426-05-11 00:28 J	-13409293.59	-13409293.48	-13409293.33	0.0136	0.0106
Uranus	-41426-12-23 05:59 J	-13409067.36	-13409067.25	-13409067.14	0.0136	0.0116
Uranus	-41425-08-05 11:02 J	-13408841.11	-13408841.04	-13408840.95	0.0137	0.0126
Uranus	-41424-03-19 16:04 J	-13408614.84	-13408614.83	-13408614.78	0.0137	0.0136
Jupiter	-41423-02-06 00:42 J	-13408291.68	-13408291.47	-13408291.26	0.0486	0.0054
Jupiter	-41418-12-16 17:45 J	-13406151.95	-13406151.76	-13406151.57	0.0542	0.0186
Saturn	-41415-08-21 07:26 J	-13405173.38	-13405173.19	-13405172.99	0.0284	0.0103
Saturn	-41414-04-07 23:02 J	-13404943.72	-13404943.54	-13404943.35	0.0284	0.0129
Moon	-41413-10-16 10:18 J	-13404386.14	-13404386.07	-13404385.99	0.2680	0.2283
Jupiter	-41412-10-12 04:18 J	-13404025.52	-13404025.32	-13404025.12	0.0485	0.0155
Mars	-41406-08-16 15:50 J	-13401891.00	-13401890.84	-13401890.68	0.1702	0.0660
Jupiter	-41406-08-21 04:18 J	-13401886.51	-13401886.32	-13401886.12	0.0543	0.0116
Earth	-41405-10-14 04:18 J	-13401466.47	-13401466.32	-13401466.17	0.2674	0.0902
Moon	-41405-10-14 04:18 J	-13401466.46	-13401466.32	-13401466.18	0.2681	0.1056 *
Mars	-41401-03-24 04:33 J	-13400209.45	-13400209.31	-13400209.15	0.1825	0.0976
Saturn	-41400-02-05 20:38 J	-13399890.77	-13399890.64	-13399890.49	0.0275	0.0202
Jupiter	-41400-06-17 07:54 J	-13399759.31	-13399759.17	-13399759.04	0.0484	0.0363
Saturn	-41400-09-23 05:16 J	-13399661.49	-13399661.28	-13399661.07	0.0275	0.0008
Jupiter	-41399-02-08 10:18 J	-13399523.19	-13399523.07	-13399522.95	0.0487	0.0398
Saturn	-41399-05-10 12:57 J	-13399432.09	-13399431.96	-13399431.83	0.0275	0.0216
Uranus	-41399-08-16 22:04 J	-13399333.59	-13399333.58	-13399333.53	0.0146	0.0145
Uranus	-41398-03-31 10:47 J	-13399107.13	-13399107.05	-13399106.95	0.0146	0.0132
Neptune	-41398-04-23 19:11 J	-13399083.78	-13399083.70	-13399083.57	0.0088	0.0079
Uranus	-41398-11-12 23:45 J	-13398880.63	-13398880.51	-13398880.39	0.0146	0.0120
Neptune	-41398-12-05 08:52 J	-13398858.26	-13398858.13	-13398857.97	0.0088	0.0065
Uranus	-41397-06-26 12:14 J	-13398654.12	-13398653.99	-13398653.83	0.0146	0.0107

Neptune -41397-07-17 22:18 J -13398632.73 -13398632.57 -13398632.37 0.0088 0.0052
 Uranus -41396-02-08 01:11 J -13398427.60 -13398427.45 -13398427.27 0.0146 0.0094
 Neptune -41396-02-28 11:59 J -13398407.18 -13398407.00 -13398406.78 0.0088 0.0039
 Uranus -41396-09-22 14:09 J -13398201.08 -13398200.91 -13398200.72 0.0146 0.0081
 Neptune -41396-10-12 01:54 J -13398181.63 -13398181.42 -13398181.20 0.0088 0.0026
 Uranus -41395-05-07 03:21 J -13397974.55 -13397974.36 -13397974.17 0.0146 0.0067
 Neptune -41395-05-25 15:35 J -13397956.07 -13397955.85 -13397955.63 0.0088 0.0013
 Uranus -41395-12-19 16:04 J -13397748.02 -13397747.83 -13397747.62 0.0146 0.0054
 Neptune -41394-01-06 05:02 J -13397730.51 -13397730.29 -13397730.06 0.0088 0.0001
 Jupiter -41394-04-25 17:16 J -13397620.91 -13397620.78 -13397620.65 0.0544 0.0411
 Uranus -41394-08-03 05:16 J -13397521.49 -13397521.28 -13397521.07 0.0146 0.0040
 Neptune -41394-08-19 18:28 J -13397504.95 -13397504.73 -13397504.50 0.0088 0.0014
 Uranus -41393-03-16 18:28 J -13397294.94 -13397294.73 -13397294.51 0.0145 0.0026
 Neptune -41393-04-01 08:09 J -13397279.36 -13397279.16 -13397278.94 0.0088 0.0027
 Uranus -41393-10-29 07:40 J -13397068.40 -13397068.18 -13397067.96 0.0145 0.0012
 Neptune -41393-11-12 21:50 J -13397053.78 -13397053.59 -13397053.38 0.0088 0.0040
 Uranus -41392-06-12 20:38 J -13396841.86 -13396841.64 -13396841.42 0.0145 0.0003
 Neptune -41392-06-26 11:30 J -13396828.19 -13396828.02 -13396827.84 0.0088 0.0054
 Uranus -41391-01-25 09:50 J -13396615.31 -13396615.09 -13396614.87 0.0145 0.0016
 Neptune -41391-02-07 00:42 J -13396602.59 -13396602.47 -13396602.30 0.0088 0.0067
 Uranus -41391-09-08 23:02 J -13396388.76 -13396388.54 -13396388.33 0.0144 0.0030
 Neptune -41391-09-20 14:23 J -13396376.97 -13396376.90 -13396376.78 0.0088 0.0081
 Uranus -41390-04-23 11:59 J -13396162.21 -13396162.00 -13396161.78 0.0144 0.0044
 Uranus -41390-12-06 00:57 J -13395935.66 -13395935.46 -13395935.25 0.0144 0.0057
 Uranus -41389-07-19 13:54 J -13395709.10 -13395708.92 -13395708.72 0.0144 0.0070
 Uranus -41388-03-03 02:52 J -13395482.54 -13395482.38 -13395482.18 0.0143 0.0084
 Jupiter -41388-10-14 11:02 J -13395257.23 -13395257.04 -13395256.85 0.0486 0.0179
 Uranus -41388-10-15 15:50 J -13395255.99 -13395255.84 -13395255.66 0.0143 0.0096
 Uranus -41387-05-30 04:33 J -13395029.44 -13395029.31 -13395029.15 0.0143 0.0109
 Uranus -41386-01-11 17:16 J -13394802.88 -13394802.78 -13394802.65 0.0142 0.0121

Uranus -41386-08-26 05:45 J -13394576.32 -13394576.26 -13394576.16 0.0142 0.0132
 Saturn -41385-03-02 15:21 J -13394387.06 -13394386.86 -13394386.65 0.0284 0.0063
 Saturn -41385-10-18 06:42 J -13394157.38 -13394157.22 -13394157.04 0.0284 0.0168
 Jupiter -41382-08-24 08:23 J -13393117.30 -13393117.15 -13393117.00 0.0542 0.0346
 Jupiter -41376-06-19 13:40 J -13390991.14 -13390990.93 -13390990.73 0.0485 0.0034
 Mars -41372-06-14 05:02 J -13389535.40 -13389535.29 -13389535.18 0.1689 0.1290
 Saturn -41371-08-18 22:33 J -13389104.72 -13389104.56 -13389104.40 0.0275 0.0178
 Saturn -41370-04-05 06:42 J -13388875.43 -13388875.22 -13388875.01 0.0275 0.0031
 Jupiter -41370-04-29 00:14 J -13388851.69 -13388851.49 -13388851.29 0.0543 0.0062
 Saturn -41370-11-20 14:09 J -13388646.02 -13388645.91 -13388645.81 0.0275 0.0237
 Jupiter -41364-02-22 16:18 J -13386724.99 -13386724.82 -13386724.63 0.0485 0.0244
 Jupiter -41358-01-01 13:54 J -13384586.10 -13384585.92 -13384585.74 0.0543 0.0230
 Uranus -41357-10-10 21:50 J -13383937.60 -13383937.59 -13383937.56 0.0132 0.0131
 Saturn -41356-01-26 02:23 J -13383830.46 -13383830.40 -13383830.32 0.0284 0.0267
 Uranus -41356-05-25 02:38 J -13383711.46 -13383711.39 -13383711.30 0.0132 0.0122
 Saturn -41356-09-12 17:30 J -13383600.98 -13383600.77 -13383600.56 0.0284 0.0038
 Uranus -41355-01-06 07:26 J -13383485.29 -13383485.19 -13383485.07 0.0132 0.0113
 Saturn -41355-04-30 09:06 J -13383371.27 -13383371.12 -13383370.96 0.0284 0.0193
 Uranus -41355-08-20 12:28 J -13383259.11 -13383258.98 -13383258.84 0.0132 0.0104
 Uranus -41354-04-03 17:02 J -13383032.93 -13383032.79 -13383032.63 0.0132 0.0094
 Uranus -41354-11-15 21:35 J -13382806.75 -13382806.60 -13382806.42 0.0132 0.0085
 Uranus -41353-06-29 02:09 J -13382580.58 -13382580.41 -13382580.22 0.0133 0.0075
 Jupiter -41353-10-28 20:38 J -13382458.71 -13382458.64 -13382458.56 0.0484 0.0447
 Uranus -41352-02-10 06:57 J -13382354.40 -13382354.21 -13382354.02 0.0133 0.0065
 Jupiter -41352-06-21 22:18 J -13382222.73 -13382222.57 -13382222.41 0.0487 0.0309
 Uranus -41352-09-24 11:30 J -13382128.21 -13382128.02 -13382127.82 0.0133 0.0055
 Uranus -41351-05-08 15:50 J -13381902.03 -13381901.84 -13381901.62 0.0133 0.0045
 Uranus -41351-12-20 20:38 J -13381675.85 -13381675.64 -13381675.43 0.0133 0.0034
 Uranus -41350-08-04 01:11 J -13381449.66 -13381449.45 -13381449.23 0.0133 0.0024
 Uranus -41349-03-17 05:45 J -13381223.47 -13381223.26 -13381223.04 0.0133 0.0013

Uranus -41349-10-29 10:18 J -13380997.28 -13380997.07 -13380996.85 0.0133 0.0003
 Uranus -41348-06-12 14:52 J -13380771.09 -13380770.88 -13380770.66 0.0134 0.0008
 Uranus -41347-01-24 19:26 J -13380544.90 -13380544.69 -13380544.47 0.0134 0.0019
 Jupiter -41347-09-05 23:16 J -13380320.55 -13380320.53 -13380320.48 0.0544 0.0534
 Uranus -41347-09-08 00:14 J -13380318.69 -13380318.49 -13380318.27 0.0134 0.0029
 Uranus -41346-04-22 05:02 J -13380092.49 -13380092.29 -13380092.08 0.0134 0.0040
 Jupiter -41346-05-01 22:47 J -13380082.62 -13380082.55 -13380082.48 0.0540 0.0502
 Uranus -41346-12-04 09:35 J -13379866.29 -13379866.10 -13379865.89 0.0135 0.0050
 Uranus -41345-07-17 14:23 J -13379640.08 -13379639.90 -13379639.70 0.0135 0.0061
 Uranus -41344-02-28 19:11 J -13379413.87 -13379413.70 -13379413.51 0.0135 0.0071
 Uranus -41344-10-13 00:14 J -13379187.65 -13379187.49 -13379187.31 0.0135 0.0082
 Uranus -41343-05-27 05:16 J -13378961.43 -13378961.28 -13378961.12 0.0136 0.0092
 Uranus -41342-01-08 10:04 J -13378735.21 -13378735.08 -13378734.93 0.0136 0.0102
 Uranus -41342-08-22 15:06 J -13378508.98 -13378508.87 -13378508.74 0.0136 0.0112
 Saturn -41341-02-29 06:14 J -13378318.42 -13378318.24 -13378318.05 0.0275 0.0140
 Uranus -41341-04-04 20:09 J -13378282.74 -13378282.66 -13378282.55 0.0136 0.0122
 Saturn -41341-10-15 14:38 J -13378089.09 -13378088.89 -13378088.68 0.0276 0.0070
 Uranus -41341-11-17 01:26 J -13378056.48 -13378056.44 -13378056.37 0.0137 0.0132
 Jupiter -41340-02-25 00:28 J -13377956.68 -13377956.48 -13377956.27 0.0486 0.0095
 Mars -41340-06-13 02:38 J -13377848.55 -13377848.39 -13377848.22 0.1699 0.0432
 Mars -41335-01-19 09:06 J -13376167.29 -13376167.12 -13376166.95 0.1829 0.0515
 Jupiter -41334-01-04 13:26 J -13375817.13 -13375816.94 -13375816.76 0.0542 0.0218
 Jupiter -41329-10-31 02:09 J -13373690.61 -13373690.41 -13373690.21 0.0485 0.0121
 Saturn -41327-08-08 11:59 J -13373044.12 -13373044.00 -13373043.86 0.0284 0.0224
 Saturn -41326-03-26 02:52 J -13372814.59 -13372814.38 -13372814.17 0.0284 0.0006
 Saturn -41326-11-10 18:14 J -13372584.85 -13372584.74 -13372584.61 0.0284 0.0235
 Jupiter -41323-09-09 04:33 J -13371551.51 -13371551.31 -13371551.11 0.0543 0.0069
 Pluto -41318-03-13 05:16 J -13369905.38 -13369905.28 -13369905.14 0.0066 0.0055
 Pluto -41318-10-24 10:04 J -13369680.29 -13369680.08 -13369679.86 0.0066 0.0012
 Pluto -41317-06-05 14:23 J -13369455.07 -13369454.90 -13369454.69 0.0067 0.0033

Jupiter -41317-07-06 05:16 J -13369424.43 -13369424.28 -13369424.12 0.0484 0.0329
 Jupiter -41316-02-27 07:40 J -13369188.27 -13369188.18 -13369188.08 0.0487 0.0430
 Neptune -41315-01-23 16:18 J -13368857.92 -13368857.82 -13368857.70 0.0089 0.0076
 Uranus -41315-04-16 04:33 J -13368775.31 -13368775.31 -13368775.30 0.0147 0.0146
 Neptune -41315-09-06 05:02 J -13368632.44 -13368632.29 -13368632.14 0.0089 0.0063
 Uranus -41315-11-28 16:47 J -13368548.87 -13368548.80 -13368548.70 0.0146 0.0135
 Neptune -41314-04-19 17:30 J -13368406.95 -13368406.77 -13368406.59 0.0089 0.0050
 Uranus -41314-07-13 05:30 J -13368322.38 -13368322.27 -13368322.14 0.0146 0.0123
 Neptune -41314-12-01 05:59 J -13368181.45 -13368181.25 -13368181.06 0.0089 0.0037
 Uranus -41313-02-24 18:28 J -13368095.87 -13368095.73 -13368095.58 0.0146 0.0110
 Neptune -41313-07-13 18:14 J -13367955.94 -13367955.74 -13367955.53 0.0089 0.0024
 Uranus -41313-10-08 06:57 J -13367869.35 -13367869.21 -13367869.03 0.0146 0.0098
 Neptune -41312-02-24 06:42 J -13367730.43 -13367730.22 -13367730.00 0.0089 0.0011
 Uranus -41312-05-22 19:54 J -13367642.83 -13367642.67 -13367642.48 0.0146 0.0084
 Saturn -41312-09-10 08:52 J -13367532.32 -13367532.13 -13367531.93 0.0275 0.0114
 Neptune -41312-10-07 19:11 J -13367504.91 -13367504.70 -13367504.48 0.0089 0.0002
 Uranus -41311-01-04 09:06 J -13367416.31 -13367416.12 -13367415.93 0.0146 0.0070
 Saturn -41311-04-27 17:02 J -13367302.98 -13367302.79 -13367302.59 0.0275 0.0094
 Jupiter -41311-05-14 19:11 J -13367285.85 -13367285.70 -13367285.55 0.0544 0.0357
 Neptune -41311-05-21 07:26 J -13367279.39 -13367279.19 -13367278.97 0.0089 0.0015
 Uranus -41311-08-18 22:04 J -13367189.78 -13367189.58 -13367189.37 0.0146 0.0057
 Neptune -41310-01-01 19:40 J -13367053.87 -13367053.68 -13367053.46 0.0089 0.0028
 Uranus -41310-04-02 11:02 J -13366963.24 -13366963.04 -13366962.82 0.0146 0.0044
 Neptune -41310-08-15 07:54 J -13366828.34 -13366828.17 -13366827.96 0.0089 0.0041
 Uranus -41310-11-15 00:14 J -13366736.70 -13366736.49 -13366736.27 0.0146 0.0030
 Neptune -41309-03-27 20:52 J -13366602.81 -13366602.63 -13366602.46 0.0089 0.0054
 Uranus -41309-06-28 13:26 J -13366510.16 -13366509.94 -13366509.72 0.0145 0.0016
 Neptune -41309-11-08 09:06 J -13366377.26 -13366377.12 -13366376.98 0.0089 0.0066
 Uranus -41308-02-10 02:38 J -13366283.61 -13366283.39 -13366283.17 0.0145 0.0002
 Neptune -41308-06-21 21:06 J -13366151.70 -13366151.62 -13366151.51 0.0089 0.0079

Uranus	-41308-09-24 15:50 J	-13366057.06	-13366056.84	-13366056.62	0.0145	0.0012
Uranus	-41307-05-09 04:47 J	-13365830.51	-13365830.30	-13365830.08	0.0145	0.0026
Uranus	-41307-12-21 17:59 J	-13365603.96	-13365603.75	-13365603.54	0.0144	0.0039
Mars	-41306-04-11 16:33 J	-13365492.88	-13365492.81	-13365492.73	0.1687	0.1497
Uranus	-41306-08-05 06:57 J	-13365377.41	-13365377.21	-13365377.00	0.0144	0.0053
Uranus	-41305-03-18 20:09 J	-13365150.85	-13365150.66	-13365150.46	0.0144	0.0066
Uranus	-41305-10-31 09:06 J	-13364924.29	-13364924.12	-13364923.92	0.0143	0.0079
Jupiter	-41305-11-02 09:21 J	-13364922.29	-13364922.11	-13364921.92	0.0486	0.0216
Uranus	-41304-06-14 21:50 J	-13364697.74	-13364697.59	-13364697.40	0.0143	0.0092
Uranus	-41303-01-27 11:02 J	-13364471.19	-13364471.04	-13364470.89	0.0143	0.0104
Uranus	-41303-09-10 23:30 J	-13364244.63	-13364244.52	-13364244.38	0.0143	0.0117
Uranus	-41302-04-25 12:14 J	-13364018.07	-13364017.99	-13364017.88	0.0142	0.0128
Uranus	-41302-12-08 00:57 J	-13363791.49	-13363791.46	-13363791.42	0.0142	0.0139
Earth	-41299-04-13 13:26 J	-13362934.07	-13362933.94	-13362933.81	0.2658	0.1408
Moon	-41299-04-13 17:45 J	-13362933.86	-13362933.76	-13362933.66	0.2661	0.1961 *
Jupiter	-41299-09-12 08:38 J	-13362782.27	-13362782.14	-13362782.00	0.0541	0.0392
Saturn	-41297-02-18 13:54 J	-13362258.06	-13362257.92	-13362257.77	0.0284	0.0199
Saturn	-41297-10-05 05:02 J	-13362028.50	-13362028.29	-13362028.08	0.0284	0.0030
Saturn	-41296-05-22 20:38 J	-13361798.72	-13361798.64	-13361798.55	0.0283	0.0259
Jupiter	-41293-07-08 12:28 J	-13360656.19	-13360655.98	-13360655.77	0.0486	0.0008
Earth	-41291-04-11 06:28 J	-13360014.33	-13360014.23	-13360014.12	0.2659	0.1985
Moon	-41291-04-11 11:45 J	-13360014.13	-13360014.01	-13360013.90	0.2658	0.1786 *
Jupiter	-41287-05-17 20:09 J	-13358516.86	-13358516.66	-13358516.46	0.0542	0.0095
Saturn	-41282-03-23 16:33 J	-13356746.01	-13356745.81	-13356745.60	0.0276	0.0076
Saturn	-41282-11-08 00:57 J	-13356516.64	-13356516.46	-13356516.27	0.0276	0.0133
Jupiter	-41281-03-13 15:21 J	-13356390.04	-13356389.86	-13356389.67	0.0485	0.0205
Jupiter	-41275-01-20 08:52 J	-13354251.31	-13354251.13	-13354250.94	0.0543	0.0199
Mars	-41274-04-10 13:54 J	-13353806.09	-13353805.92	-13353805.75	0.1696	0.0205
Uranus	-41272-01-22 13:11 J	-13353153.02	-13353152.95	-13353152.87	0.0132	0.0123
Uranus	-41272-09-05 17:59 J	-13352926.84	-13352926.75	-13352926.63	0.0132	0.0114

Uranus	-41271-04-19 22:33 J	-13352700.67	-13352700.56	-13352700.41	0.0132	0.0106
Uranus	-41271-12-02 03:35 J	-13352474.49	-13352474.35	-13352474.19	0.0132	0.0096
Uranus	-41270-07-16 08:23 J	-13352248.31	-13352248.15	-13352247.98	0.0132	0.0086
Mars	-41270-11-16 13:40 J	-13352125.11	-13352124.93	-13352124.76	0.1832	0.0057
Jupiter	-41270-11-17 17:45 J	-13352123.86	-13352123.76	-13352123.65	0.0484	0.0415
Uranus	-41269-02-27 12:42 J	-13352022.13	-13352021.97	-13352021.77	0.0132	0.0077
Jupiter	-41269-07-10 19:11 J	-13351887.85	-13351887.70	-13351887.55	0.0487	0.0339
Uranus	-41269-10-10 17:30 J	-13351795.95	-13351795.77	-13351795.57	0.0133	0.0066
Uranus	-41268-05-24 22:04 J	-13351569.77	-13351569.58	-13351569.38	0.0133	0.0056
Saturn	-41268-08-31 00:42 J	-13351471.64	-13351471.47	-13351471.29	0.0284	0.0154
Uranus	-41267-01-06 02:52 J	-13351343.58	-13351343.38	-13351343.18	0.0133	0.0046
Saturn	-41267-04-17 15:35 J	-13351242.05	-13351241.85	-13351241.64	0.0284	0.0074
Uranus	-41267-08-20 07:26 J	-13351117.40	-13351117.19	-13351116.98	0.0133	0.0036
Uranus	-41266-04-03 11:59 J	-13350891.21	-13350891.00	-13350890.79	0.0133	0.0026
Uranus	-41266-11-15 16:33 J	-13350665.03	-13350664.81	-13350664.60	0.0133	0.0015
Uranus	-41265-06-28 21:06 J	-13350438.84	-13350438.62	-13350438.41	0.0133	0.0005
Uranus	-41264-02-10 01:40 J	-13350212.64	-13350212.43	-13350212.21	0.0134	0.0005
Uranus	-41264-09-24 06:28 J	-13349986.44	-13349986.23	-13349986.02	0.0134	0.0016
Jupiter	-41264-09-24 22:18 J	-13349985.65	-13349985.57	-13349985.48	0.0544	0.0491
Uranus	-41263-05-08 11:02 J	-13349760.25	-13349760.04	-13349759.83	0.0134	0.0027
Uranus	-41263-12-20 15:35 J	-13349534.05	-13349533.85	-13349533.64	0.0134	0.0037
Uranus	-41262-08-03 20:23 J	-13349307.85	-13349307.65	-13349307.45	0.0134	0.0047
Uranus	-41261-03-17 01:11 J	-13349081.64	-13349081.45	-13349081.26	0.0135	0.0058
Uranus	-41261-10-29 05:59 J	-13348855.43	-13348855.25	-13348855.06	0.0135	0.0068
Uranus	-41260-06-12 10:47 J	-13348629.22	-13348629.05	-13348628.88	0.0135	0.0079
Uranus	-41259-01-24 15:35 J	-13348403.01	-13348402.85	-13348402.69	0.0135	0.0089
Uranus	-41259-09-07 20:23 J	-13348176.78	-13348176.65	-13348176.49	0.0136	0.0099
Uranus	-41258-04-22 01:26 J	-13347950.55	-13347950.44	-13347950.30	0.0136	0.0109
Uranus	-41258-12-04 06:28 J	-13347724.32	-13347724.23	-13347724.12	0.0136	0.0119
Jupiter	-41257-03-15 21:21 J	-13347621.81	-13347621.61	-13347621.41	0.0486	0.0126

Uranus -41257-07-17 11:30 J -13347498.07 -13347498.02 -13347497.93 0.0137 0.0129
 Saturn -41253-02-16 11:16 J -13346189.09 -13346189.03 -13346188.95 0.0275 0.0257
 Saturn -41253-10-02 20:23 J -13345959.86 -13345959.65 -13345959.44 0.0275 0.0049
 Saturn -41252-05-20 04:18 J -13345730.49 -13345730.32 -13345730.15 0.0275 0.0158
 Jupiter -41251-01-23 14:23 J -13345482.07 -13345481.90 -13345481.73 0.0542 0.0267
 Jupiter -41246-11-19 23:30 J -13343355.72 -13343355.52 -13343355.31 0.0485 0.0086
 Jupiter -41240-09-28 04:47 J -13341216.50 -13341216.30 -13341216.10 0.0543 0.0022
 Saturn -41238-03-13 02:38 J -13340685.57 -13340685.39 -13340685.20 0.0284 0.0129
 Saturn -41238-10-28 17:45 J -13340455.96 -13340455.76 -13340455.56 0.0284 0.0100
 Jupiter -41234-07-26 03:06 J -13339089.53 -13339089.37 -13339089.20 0.0485 0.0293
 Neptune -41234-07-26 04:47 J -13339089.35 -13339089.30 -13339089.21 0.0088 0.0084 *
 Neptune -41233-03-07 18:42 J -13338863.85 -13338863.72 -13338863.58 0.0088 0.0071
 Jupiter -41233-03-18 06:14 J -13338853.29 -13338853.24 -13338853.18 0.0488 0.0467
 Neptune -41233-10-19 08:09 J -13338638.32 -13338638.16 -13338637.98 0.0088 0.0058
 Neptune -41232-06-01 21:50 J -13338412.78 -13338412.59 -13338412.39 0.0088 0.0045
 Neptune -41231-01-13 11:16 J -13338187.23 -13338187.03 -13338186.81 0.0088 0.0032
 Pluto -41231-04-04 21:50 J -13338105.78 -13338105.59 -13338105.36 0.0078 0.0028
 Uranus -41231-07-28 23:02 J -13337990.61 -13337990.54 -13337990.46 0.0147 0.0137
 Neptune -41231-08-27 00:57 J -13337961.68 -13337961.46 -13337961.24 0.0088 0.0018
 Pluto -41231-11-16 07:54 J -13337880.35 -13337880.17 -13337879.99 0.0078 0.0045
 Uranus -41230-03-12 11:30 J -13337764.12 -13337764.02 -13337763.89 0.0147 0.0125
 Neptune -41230-04-09 14:38 J -13337736.11 -13337735.89 -13337735.66 0.0088 0.0006
 Uranus -41230-10-25 00:14 J -13337537.62 -13337537.49 -13337537.34 0.0146 0.0113
 Neptune -41230-11-21 04:18 J -13337510.54 -13337510.32 -13337510.09 0.0088 0.0008
 Uranus -41229-06-07 13:11 J -13337311.11 -13337310.95 -13337310.79 0.0146 0.0100
 Neptune -41229-07-03 17:45 J -13337284.97 -13337284.76 -13337284.53 0.0088 0.0021
 Uranus -41228-01-20 02:09 J -13337084.58 -13337084.41 -13337084.23 0.0146 0.0087
 Neptune -41228-02-14 07:26 J -13337059.39 -13337059.19 -13337058.98 0.0088 0.0034
 Jupiter -41228-06-02 15:06 J -13336951.02 -13336950.87 -13336950.70 0.0543 0.0323
 Uranus -41228-09-03 15:06 J -13336858.06 -13336857.87 -13336857.68 0.0146 0.0073

Neptune -41228-09-27 20:52 J -13336833.80 -13336833.63 -13336833.43 0.0088 0.0048
 Uranus -41227-04-18 03:50 J -13336631.53 -13336631.34 -13336631.13 0.0146 0.0060
 Neptune -41227-05-11 10:33 J -13336608.21 -13336608.06 -13336607.88 0.0088 0.0061
 Uranus -41227-11-30 16:47 J -13336405.00 -13336404.80 -13336404.58 0.0146 0.0047
 Neptune -41227-12-23 00:14 J -13336382.60 -13336382.49 -13336382.36 0.0088 0.0074
 Uranus -41226-07-15 06:14 J -13336178.46 -13336178.24 -13336178.03 0.0146 0.0033
 Neptune -41226-08-05 13:54 J -13336156.95 -13336156.92 -13336156.87 0.0088 0.0087
 Uranus -41225-02-26 19:26 J -13335951.91 -13335951.69 -13335951.47 0.0145 0.0019
 Uranus -41225-10-10 08:38 J -13335725.36 -13335725.14 -13335724.92 0.0145 0.0005
 Uranus -41224-05-24 21:50 J -13335498.81 -13335498.59 -13335498.37 0.0145 0.0008
 Saturn -41224-08-28 18:14 J -13335402.86 -13335402.74 -13335402.61 0.0276 0.0221
 Uranus -41223-01-06 10:47 J -13335272.26 -13335272.05 -13335271.83 0.0145 0.0022
 Saturn -41223-04-15 03:21 J -13335173.57 -13335173.36 -13335173.14 0.0276 0.0013
 Uranus -41223-08-20 23:59 J -13335045.71 -13335045.50 -13335045.28 0.0144 0.0036
 Saturn -41223-11-30 11:30 J -13334944.16 -13334944.02 -13334943.87 0.0276 0.0196
 Uranus -41222-04-04 13:11 J -13334819.15 -13334818.95 -13334818.74 0.0144 0.0049
 Uranus -41222-11-17 02:23 J -13334592.60 -13334592.40 -13334592.20 0.0144 0.0062
 Jupiter -41222-11-22 07:54 J -13334587.35 -13334587.17 -13334586.99 0.0487 0.0252
 Uranus -41221-06-30 15:06 J -13334366.04 -13334365.87 -13334365.67 0.0144 0.0076
 Uranus -41220-02-12 04:04 J -13334139.49 -13334139.33 -13334139.14 0.0143 0.0089
 Uranus -41220-09-26 17:16 J -13333912.93 -13333912.78 -13333912.62 0.0143 0.0100
 Uranus -41219-05-11 05:45 J -13333686.38 -13333686.26 -13333686.11 0.0143 0.0113
 Uranus -41219-12-23 18:28 J -13333459.82 -13333459.73 -13333459.61 0.0143 0.0125
 Uranus -41218-08-07 07:11 J -13333233.26 -13333233.20 -13333233.13 0.0142 0.0136
 Jupiter -41216-10-01 03:21 J -13332447.48 -13332447.36 -13332447.23 0.0541 0.0418
 Jupiter -41210-07-28 08:38 J -13330321.34 -13330321.14 -13330320.93 0.0485 0.0037
 Saturn -41209-09-22 14:23 J -13329899.10 -13329898.90 -13329898.69 0.0284 0.0083
 Mars -41208-02-05 00:42 J -13329763.64 -13329763.47 -13329763.30 0.1693 0.0040
 Saturn -41208-05-10 05:30 J -13329669.45 -13329669.27 -13329669.09 0.0283 0.0145
 Jupiter -41204-06-05 18:14 J -13328181.93 -13328181.74 -13328181.54 0.0543 0.0136

Mars -41204-09-12 17:45 J -13328082.93 -13328082.76 -13328082.59 0.1836 0.0428
 Jupiter -41198-04-02 11:45 J -13326055.20 -13326055.01 -13326054.81 0.0485 0.0174
 Saturn -41194-03-10 23:30 J -13324616.67 -13324616.52 -13324616.37 0.0275 0.0191
 Saturn -41194-10-26 08:09 J -13324387.37 -13324387.16 -13324386.95 0.0275 0.0016
 Saturn -41193-06-11 15:50 J -13324157.96 -13324157.84 -13324157.71 0.0275 0.0223
 Jupiter -41192-02-08 09:06 J -13323916.31 -13323916.12 -13323915.93 0.0544 0.0151
 Uranus -41189-09-21 23:16 J -13322594.58 -13322594.53 -13322594.44 0.0132 0.0124
 Uranus -41188-05-06 04:18 J -13322368.42 -13322368.32 -13322368.21 0.0132 0.0115
 Uranus -41188-12-18 08:52 J -13322142.24 -13322142.13 -13322141.98 0.0132 0.0107
 Uranus -41187-08-01 14:09 J -13321916.06 -13321915.91 -13321915.76 0.0132 0.0097
 Jupiter -41187-12-06 14:52 J -13321789.01 -13321788.88 -13321788.76 0.0484 0.0381
 Uranus -41186-03-15 18:28 J -13321689.88 -13321689.73 -13321689.55 0.0132 0.0088
 Jupiter -41186-07-30 16:18 J -13321552.95 -13321552.82 -13321552.68 0.0487 0.0373
 Uranus -41186-10-27 23:16 J -13321463.70 -13321463.53 -13321463.35 0.0132 0.0078
 Uranus -41185-06-10 04:04 J -13321237.52 -13321237.33 -13321237.14 0.0132 0.0068
 Uranus -41184-01-22 08:23 J -13321011.33 -13321011.15 -13321010.94 0.0133 0.0058
 Uranus -41184-09-05 13:26 J -13320785.14 -13320784.94 -13320784.74 0.0133 0.0048
 Uranus -41183-04-19 17:45 J -13320558.96 -13320558.76 -13320558.55 0.0133 0.0038
 Uranus -41183-12-01 22:18 J -13320332.78 -13320332.57 -13320332.35 0.0133 0.0028
 Uranus -41182-07-16 02:52 J -13320106.59 -13320106.38 -13320106.16 0.0133 0.0018
 Uranus -41181-02-27 07:40 J -13319880.40 -13319880.18 -13319879.97 0.0133 0.0007
 Uranus -41181-10-10 12:14 J -13319654.20 -13319653.99 -13319653.77 0.0133 0.0003
 Jupiter -41181-10-13 22:33 J -13319650.67 -13319650.56 -13319650.44 0.0544 0.0441
 Uranus -41180-05-24 16:47 J -13319428.01 -13319427.80 -13319427.58 0.0134 0.0014
 Saturn -41180-08-18 01:40 J -13319342.43 -13319342.43 -13319342.40 0.0284 0.0283
 Uranus -41179-01-05 21:21 J -13319201.82 -13319201.61 -13319201.39 0.0134 0.0024
 Saturn -41179-04-04 16:04 J -13319113.03 -13319112.83 -13319112.62 0.0284 0.0058
 Uranus -41179-08-20 02:09 J -13318975.62 -13318975.41 -13318975.20 0.0134 0.0034
 Saturn -41179-11-20 07:11 J -13318883.36 -13318883.20 -13318883.02 0.0284 0.0171
 Uranus -41178-04-03 06:42 J -13318749.42 -13318749.22 -13318749.01 0.0134 0.0045

Uranus	-41178-11-15 11:02 J	-13318523.22	-13318523.04	-13318522.83	0.0135	0.0056
Uranus	-41177-06-28 16:04 J	-13318297.01	-13318296.83	-13318296.64	0.0135	0.0065
Uranus	-41176-02-09 20:52 J	-13318070.81	-13318070.63	-13318070.45	0.0135	0.0075
Uranus	-41176-09-24 01:40 J	-13317844.59	-13317844.43	-13317844.26	0.0135	0.0086
Uranus	-41175-05-08 06:28 J	-13317618.37	-13317618.23	-13317618.07	0.0136	0.0096
Uranus	-41175-12-20 11:30 J	-13317392.15	-13317392.02	-13317391.89	0.0136	0.0105
Jupiter	-41174-04-04 18:57 J	-13317286.90	-13317286.71	-13317286.51	0.0486	0.0162
Uranus	-41174-08-03 16:04 J	-13317165.92	-13317165.83	-13317165.70	0.0136	0.0116
Uranus	-41173-03-16 21:21 J	-13316939.68	-13316939.61	-13316939.51	0.0136	0.0125
Uranus	-41173-10-29 02:52 J	-13316713.41	-13316713.38	-13316713.33	0.0137	0.0134
Jupiter	-41168-02-11 10:18 J	-13315147.24	-13315147.07	-13315146.91	0.0541	0.0298
Saturn	-41165-09-20 05:30 J	-13313830.43	-13313830.27	-13313830.08	0.0276	0.0157
Saturn	-41164-05-07 14:38 J	-13313601.10	-13313600.89	-13313600.68	0.0276	0.0052
Saturn	-41164-12-22 22:33 J	-13313371.62	-13313371.56	-13313371.48	0.0276	0.0259
Jupiter	-41163-12-08 21:21 J	-13313020.82	-13313020.61	-13313020.40	0.0485	0.0051
Earth	-41162-10-15 03:50 J	-13312710.49	-13312710.34	-13312710.19	0.2673	0.0913
Moon	-41162-10-15 06:28 J	-13312710.39	-13312710.23	-13312710.07	0.2667	0.0781 *
Jupiter	-41157-10-16 23:30 J	-13310881.72	-13310881.52	-13310881.32	0.0543	0.0008
Neptune	-41151-04-27 03:06 J	-13308863.43	-13308863.37	-13308863.26	0.0089	0.0082
Jupiter	-41151-08-13 23:16 J	-13308754.70	-13308754.53	-13308754.35	0.0484	0.0263
Neptune	-41151-12-08 15:35 J	-13308637.97	-13308637.85	-13308637.70	0.0089	0.0069
Saturn	-41150-02-28 13:54 J	-13308556.03	-13308555.92	-13308555.80	0.0284	0.0237
Neptune	-41150-07-22 04:04 J	-13308412.48	-13308412.33	-13308412.15	0.0089	0.0056
Saturn	-41150-10-16 04:18 J	-13308326.53	-13308326.32	-13308326.11	0.0284	0.0012
Neptune	-41149-03-03 16:33 J	-13308186.99	-13308186.81	-13308186.61	0.0089	0.0043
Saturn	-41149-06-01 19:40 J	-13308096.82	-13308096.68	-13308096.54	0.0283	0.0216
Neptune	-41149-10-15 05:16 J	-13307961.48	-13307961.28	-13307961.07	0.0089	0.0030
Neptune	-41148-05-28 17:45 J	-13307735.97	-13307735.76	-13307735.55	0.0089	0.0017
Neptune	-41147-01-09 06:14 J	-13307510.46	-13307510.24	-13307510.03	0.0089	0.0005
Uranus	-41147-03-28 05:02 J	-13307432.34	-13307432.29	-13307432.21	0.0147	0.0139

Neptune -41147-08-22 18:28 J -13307284.94 -13307284.73 -13307284.51 0.0089 0.0009
 Uranus -41147-11-09 17:45 J -13307205.86 -13307205.76 -13307205.65 0.0147 0.0127
 Neptune -41146-04-05 06:57 J -13307059.42 -13307059.21 -13307059.00 0.0089 0.0022
 Uranus -41146-06-24 06:14 J -13306979.36 -13306979.24 -13306979.10 0.0147 0.0115
 Neptune -41146-11-16 19:11 J -13306833.89 -13306833.70 -13306833.50 0.0089 0.0034
 Uranus -41145-02-05 19:11 J -13306752.85 -13306752.70 -13306752.54 0.0146 0.0102
 Jupiter -41145-06-21 12:14 J -13306616.15 -13306615.99 -13306615.81 0.0544 0.0285
 Neptune -41145-06-29 07:26 J -13306608.36 -13306608.19 -13306608.00 0.0089 0.0047
 Uranus -41145-09-19 08:09 J -13306526.33 -13306526.16 -13306525.99 0.0146 0.0090
 Neptune -41144-02-09 19:40 J -13306382.83 -13306382.68 -13306382.51 0.0089 0.0060
 Uranus -41144-05-03 21:06 J -13306299.80 -13306299.62 -13306299.43 0.0146 0.0077
 Neptune -41144-09-23 07:54 J -13306157.27 -13306157.17 -13306157.03 0.0089 0.0073
 Uranus -41144-12-16 09:50 J -13306073.28 -13306073.09 -13306072.88 0.0146 0.0064
 Neptune -41143-05-06 20:38 J -13305931.69 -13305931.64 -13305931.58 0.0089 0.0086
 Uranus -41143-07-30 23:02 J -13305846.74 -13305846.54 -13305846.33 0.0146 0.0050
 Mars -41143-12-03 11:59 J -13305721.17 -13305721.00 -13305720.83 0.1690 0.0246
 Uranus -41142-03-14 12:14 J -13305620.20 -13305619.99 -13305619.77 0.0146 0.0037
 Uranus -41142-10-27 01:26 J -13305393.65 -13305393.44 -13305393.22 0.0146 0.0023
 Uranus -41141-06-09 14:52 J -13305167.10 -13305166.88 -13305166.66 0.0145 0.0009
 Uranus -41140-01-22 04:04 J -13304940.55 -13304940.33 -13304940.11 0.0145 0.0005
 Uranus -41140-09-05 17:16 J -13304714.00 -13304713.78 -13304713.56 0.0145 0.0018
 Jupiter -41139-04-19 03:21 J -13304488.41 -13304488.36 -13304488.30 0.0484 0.0465
 Uranus -41139-04-20 06:28 J -13304487.44 -13304487.23 -13304487.01 0.0145 0.0032
 Uranus -41139-12-02 19:40 J -13304260.89 -13304260.68 -13304260.47 0.0144 0.0045
 Jupiter -41139-12-11 03:50 J -13304252.51 -13304252.34 -13304252.17 0.0486 0.0281
 Mars -41138-07-10 22:04 J -13304040.73 -13304040.58 -13304040.42 0.1840 0.0893
 Uranus -41138-07-17 08:52 J -13304034.33 -13304034.13 -13304033.93 0.0144 0.0059
 Uranus -41137-02-28 21:50 J -13303807.77 -13303807.59 -13303807.39 0.0144 0.0072
 Uranus -41137-10-12 10:47 J -13303581.21 -13303581.05 -13303580.86 0.0144 0.0085
 Uranus -41136-05-26 23:59 J -13303354.66 -13303354.50 -13303354.33 0.0143 0.0097

Uranus -41135-01-08 12:28 J -13303128.11 -13303127.98 -13303127.82 0.0143 0.0109
 Saturn -41135-04-02 11:30 J -13303044.20 -13303044.02 -13303043.82 0.0275 0.0126
 Uranus -41135-08-23 01:11 J -13302901.55 -13302901.45 -13302901.32 0.0143 0.0121
 Saturn -41135-11-17 19:54 J -13302814.86 -13302814.67 -13302814.46 0.0275 0.0082
 Uranus -41134-04-06 14:23 J -13302674.98 -13302674.90 -13302674.82 0.0142 0.0132
 Jupiter -41133-10-20 03:06 J -13302112.46 -13302112.37 -13302112.26 0.0541 0.0464
 Jupiter -41127-08-16 05:30 J -13299986.47 -13299986.27 -13299986.06 0.0485 0.0070
 Jupiter -41121-06-24 18:14 J -13297846.93 -13297846.74 -13297846.55 0.0542 0.0182
 Saturn -41121-09-09 16:04 J -13297769.97 -13297769.83 -13297769.69 0.0284 0.0211
 Saturn -41120-04-27 06:28 J -13297540.45 -13297540.23 -13297540.02 0.0284 0.0015
 Saturn -41120-12-12 21:21 J -13297310.71 -13297310.61 -13297310.49 0.0283 0.0242
 Jupiter -41115-04-21 09:06 J -13295720.32 -13295720.12 -13295719.92 0.0485 0.0139
 Mars -41111-12-02 09:21 J -13294034.20 -13294034.11 -13294034.03 0.1700 0.1470
 Jupiter -41109-02-28 05:59 J -13293581.44 -13293581.25 -13293581.05 0.0543 0.0115
 Mars -41106-07-10 16:18 J -13292352.85 -13292352.82 -13292352.77 0.1828 0.1775
 Saturn -41106-10-13 17:02 J -13292257.99 -13292257.79 -13292257.59 0.0276 0.0092
 Uranus -41105-05-22 09:50 J -13292036.13 -13292036.09 -13292036.00 0.0132 0.0125
 Saturn -41105-05-30 01:40 J -13292028.62 -13292028.43 -13292028.23 0.0276 0.0116
 Uranus -41104-01-03 14:52 J -13291809.96 -13291809.88 -13291809.76 0.0132 0.0116
 Uranus -41104-08-17 19:54 J -13291583.78 -13291583.67 -13291583.52 0.0132 0.0107
 Jupiter -41104-12-25 11:59 J -13291454.14 -13291454.00 -13291453.85 0.0485 0.0348
 Uranus -41103-04-01 00:57 J -13291357.60 -13291357.46 -13291357.31 0.0132 0.0098
 Jupiter -41103-08-18 14:09 J -13291218.02 -13291217.91 -13291217.79 0.0487 0.0406
 Uranus -41103-11-13 05:30 J -13291131.42 -13291131.27 -13291131.10 0.0132 0.0088
 Uranus -41102-06-27 10:33 J -13290905.24 -13290905.06 -13290904.89 0.0132 0.0079
 Uranus -41101-02-08 14:52 J -13290679.05 -13290678.88 -13290678.68 0.0132 0.0069
 Uranus -41101-09-21 19:40 J -13290452.86 -13290452.68 -13290452.47 0.0132 0.0059
 Uranus -41100-05-06 00:14 J -13290226.68 -13290226.49 -13290226.28 0.0133 0.0050
 Uranus -41100-12-18 04:47 J -13290000.49 -13290000.30 -13290000.08 0.0133 0.0040
 Uranus -41099-08-01 09:50 J -13289774.31 -13289774.09 -13289773.88 0.0133 0.0029

Uranus	-41098-03-15 14:23 J	-13289548.12	-13289547.90	-13289547.69	0.0133	0.0019
Uranus	-41098-10-27 18:57 J	-13289321.93	-13289321.71	-13289321.50	0.0133	0.0009
Jupiter	-41098-11-02 17:59 J	-13289315.88	-13289315.75	-13289315.62	0.0543	0.0409
Uranus	-41097-06-09 23:30 J	-13289095.74	-13289095.52	-13289095.30	0.0133	0.0001
Uranus	-41096-01-22 04:04 J	-13288869.54	-13288869.33	-13288869.11	0.0133	0.0012
Uranus	-41096-09-05 08:52 J	-13288643.34	-13288643.13	-13288642.92	0.0134	0.0022
Uranus	-41095-04-19 13:26 J	-13288417.15	-13288416.94	-13288416.73	0.0134	0.0032
Uranus	-41095-12-01 17:59 J	-13288190.96	-13288190.75	-13288190.55	0.0134	0.0042
Uranus	-41094-07-15 22:33 J	-13287964.76	-13287964.56	-13287964.36	0.0134	0.0053
Uranus	-41093-02-27 03:06 J	-13287738.55	-13287738.37	-13287738.18	0.0135	0.0063
Uranus	-41093-10-10 07:54 J	-13287512.34	-13287512.17	-13287511.98	0.0135	0.0073
Uranus	-41092-05-24 12:28 J	-13287286.13	-13287285.98	-13287285.80	0.0135	0.0083
Uranus	-41091-01-05 17:30 J	-13287059.92	-13287059.77	-13287059.61	0.0135	0.0093
Saturn	-41091-03-23 03:21 J	-13286983.52	-13286983.36	-13286983.19	0.0284	0.0167
Jupiter	-41091-04-23 14:52 J	-13286952.07	-13286951.88	-13286951.68	0.0486	0.0191
Uranus	-41091-08-19 22:04 J	-13286833.70	-13286833.58	-13286833.42	0.0136	0.0103
Saturn	-41091-11-07 17:59 J	-13286753.95	-13286753.75	-13286753.54	0.0284	0.0059
Uranus	-41090-04-03 03:21 J	-13286607.47	-13286607.36	-13286607.24	0.0136	0.0112
Uranus	-41090-11-15 08:38 J	-13286381.23	-13286381.14	-13286381.05	0.0136	0.0122
Uranus	-41089-06-28 13:11 J	-13286154.98	-13286154.95	-13286154.87	0.0137	0.0132
Jupiter	-41085-03-02 07:11 J	-13284812.35	-13284812.20	-13284812.04	0.0542	0.0335
Jupiter	-41080-12-27 17:45 J	-13282685.97	-13282685.76	-13282685.56	0.0485	0.0022
Saturn	-41077-09-07 14:52 J	-13281700.93	-13281700.88	-13281700.83	0.0275	0.0266
Mars	-41077-09-29 23:02 J	-13281678.71	-13281678.54	-13281678.38	0.1687	0.0463
Saturn	-41076-04-24 23:59 J	-13281471.71	-13281471.50	-13281471.29	0.0275	0.0060
Saturn	-41076-12-10 08:09 J	-13281242.34	-13281242.16	-13281241.98	0.0275	0.0146
Jupiter	-41074-11-05 22:47 J	-13280546.75	-13280546.55	-13280546.35	0.0543	0.0053
Mars	-41072-05-07 01:54 J	-13279998.54	-13279998.42	-13279998.31	0.1844	0.1389
Pluto	-41072-11-21 12:28 J	-13279800.17	-13279799.98	-13279799.76	0.0066	0.0024
Pluto	-41071-07-04 17:16 J	-13279574.99	-13279574.78	-13279574.57	0.0067	0.0020

Pluto -41070-02-14 21:50 J -13279349.64 -13279349.59 -13279349.52 0.0067 0.0064
 Neptune -41069-06-09 03:21 J -13278869.46 -13278869.36 -13278869.24 0.0088 0.0077
 Neptune -41068-01-20 16:47 J -13278643.94 -13278643.80 -13278643.63 0.0088 0.0064
 Jupiter -41068-09-01 20:23 J -13278419.83 -13278419.65 -13278419.47 0.0484 0.0229
 Neptune -41068-09-03 06:28 J -13278418.40 -13278418.23 -13278418.04 0.0088 0.0051
 Neptune -41067-04-16 20:09 J -13278192.86 -13278192.66 -13278192.45 0.0088 0.0038
 Neptune -41067-11-28 09:50 J -13277967.30 -13277967.09 -13277966.87 0.0088 0.0025
 Neptune -41066-07-11 23:30 J -13277741.75 -13277741.52 -13277741.30 0.0088 0.0012
 Neptune -41065-02-22 13:11 J -13277516.18 -13277515.95 -13277515.73 0.0088 0.0002
 Neptune -41065-10-05 02:38 J -13277290.61 -13277290.39 -13277290.16 0.0088 0.0015
 Neptune -41064-05-18 16:18 J -13277065.03 -13277064.82 -13277064.61 0.0088 0.0028
 Uranus -41064-11-25 11:30 J -13276874.07 -13276874.02 -13276873.95 0.0147 0.0141
 Neptune -41064-12-30 05:45 J -13276839.45 -13276839.26 -13276839.05 0.0088 0.0041
 Uranus -41063-07-09 23:59 J -13276647.59 -13276647.50 -13276647.39 0.0147 0.0129
 Neptune -41063-08-12 19:26 J -13276613.86 -13276613.69 -13276613.51 0.0088 0.0054
 Uranus -41062-02-21 12:42 J -13276421.09 -13276420.97 -13276420.83 0.0147 0.0117
 Neptune -41062-03-26 09:06 J -13276388.26 -13276388.12 -13276387.96 0.0088 0.0067
 Jupiter -41062-07-11 12:57 J -13276281.14 -13276280.96 -13276280.78 0.0544 0.0235
 Saturn -41062-10-03 05:16 J -13276197.45 -13276197.28 -13276197.09 0.0284 0.0142
 Uranus -41062-10-06 01:26 J -13276194.58 -13276194.44 -13276194.28 0.0146 0.0105
 Neptune -41062-11-06 22:47 J -13276162.63 -13276162.55 -13276162.45 0.0088 0.0080
 Uranus -41061-05-19 14:09 J -13275968.07 -13275967.91 -13275967.73 0.0146 0.0092
 Saturn -41061-05-19 19:54 J -13275967.87 -13275967.67 -13275967.46 0.0284 0.0085 *
 Uranus -41060-01-01 03:06 J -13275741.54 -13275741.37 -13275741.18 0.0146 0.0079
 Uranus -41060-08-15 16:04 J -13275515.01 -13275514.83 -13275514.62 0.0146 0.0066
 Uranus -41059-03-30 05:16 J -13275288.48 -13275288.28 -13275288.07 0.0146 0.0053
 Uranus -41059-11-11 18:28 J -13275061.94 -13275061.73 -13275061.52 0.0146 0.0039
 Uranus -41058-06-26 07:40 J -13274835.39 -13274835.18 -13274834.96 0.0146 0.0026
 Uranus -41057-02-07 21:06 J -13274608.84 -13274608.62 -13274608.40 0.0145 0.0012
 Uranus -41057-09-21 10:18 J -13274382.29 -13274382.07 -13274381.85 0.0145 0.0002

Moon -41056-04-13 13:54 J -13274178.06 -13274177.92 -13274177.79 0.2653 0.1536
 Earth -41056-04-13 16:33 J -13274177.94 -13274177.81 -13274177.69 0.2658 0.1651 *
 Uranus -41056-05-05 23:30 J -13274155.74 -13274155.52 -13274155.30 0.0145 0.0015
 Jupiter -41056-05-08 00:28 J -13274153.57 -13274153.48 -13274153.39 0.0484 0.0432
 Uranus -41056-12-18 12:42 J -13273929.18 -13273928.97 -13273928.75 0.0145 0.0029
 Jupiter -41056-12-30 01:11 J -13273917.60 -13273917.45 -13273917.29 0.0487 0.0315
 Uranus -41055-08-02 01:40 J -13273702.63 -13273702.43 -13273702.21 0.0145 0.0043
 Uranus -41054-03-16 15:06 J -13273476.07 -13273475.87 -13273475.66 0.0144 0.0056
 Uranus -41054-10-29 04:18 J -13273249.51 -13273249.32 -13273249.12 0.0144 0.0068
 Uranus -41053-06-11 17:16 J -13273022.95 -13273022.78 -13273022.59 0.0144 0.0081
 Uranus -41052-01-24 06:14 J -13272796.40 -13272796.24 -13272796.06 0.0144 0.0094
 Uranus -41052-09-07 19:11 J -13272569.84 -13272569.70 -13272569.55 0.0143 0.0106
 Uranus -41051-04-22 08:09 J -13272343.28 -13272343.16 -13272343.03 0.0143 0.0117
 Uranus -41051-12-04 20:38 J -13272116.73 -13272116.64 -13272116.54 0.0143 0.0129
 Jupiter -41050-03-16 00:14 J -13272015.53 -13272015.49 -13272015.45 0.0544 0.0530
 Uranus -41050-07-19 09:06 J -13271890.15 -13271890.12 -13271890.07 0.0142 0.0140
 Jupiter -41050-11-09 00:14 J -13271777.56 -13271777.49 -13271777.41 0.0541 0.0497
 Moon -41048-04-11 04:18 J -13271258.41 -13271258.32 -13271258.22 0.2658 0.2050
 Earth -41048-04-11 09:35 J -13271258.22 -13271258.10 -13271257.99 0.2660 0.1758 *
 Saturn -41047-03-20 18:57 J -13270914.82 -13270914.71 -13270914.61 0.0275 0.0237
 Saturn -41047-11-05 04:04 J -13270685.54 -13270685.33 -13270685.12 0.0276 0.0029
 Saturn -41046-06-22 12:14 J -13270456.14 -13270455.99 -13270455.82 0.0276 0.0178
 Mars -41045-09-28 20:38 J -13269991.76 -13269991.64 -13269991.53 0.1697 0.1245
 Jupiter -41044-09-04 03:21 J -13269651.56 -13269651.36 -13269651.16 0.0486 0.0102
 Mars -41040-05-06 21:06 J -13268310.74 -13268310.62 -13268310.50 0.1832 0.1322
 Jupiter -41038-07-14 13:54 J -13267512.10 -13267511.92 -13267511.74 0.0542 0.0212
 Saturn -41032-04-14 16:33 J -13265411.01 -13265410.81 -13265410.61 0.0284 0.0099
 Jupiter -41032-05-10 05:30 J -13265385.48 -13265385.27 -13265385.07 0.0485 0.0108
 Saturn -41032-11-30 07:11 J -13265181.38 -13265181.20 -13265181.00 0.0284 0.0128
 Jupiter -41026-03-19 02:38 J -13263246.59 -13263246.39 -13263246.19 0.0544 0.0078

Uranus -41021-01-20 21:06 J -13261477.68 -13261477.62 -13261477.55 0.0132 0.0125
 Uranus -41021-09-03 01:40 J -13261251.51 -13261251.43 -13261251.30 0.0132 0.0117
 Jupiter -41020-01-13 09:06 J -13261119.28 -13261119.12 -13261118.96 0.0484 0.0313
 Uranus -41020-04-17 06:42 J -13261025.33 -13261025.22 -13261025.08 0.0132 0.0108
 Jupiter -41020-09-06 10:33 J -13260883.14 -13260883.06 -13260882.96 0.0487 0.0436
 Uranus -41020-11-29 11:59 J -13260799.15 -13260799.00 -13260798.86 0.0132 0.0098
 Uranus -41019-07-13 16:33 J -13260572.96 -13260572.81 -13260572.64 0.0132 0.0089
 Uranus -41018-02-24 21:06 J -13260346.78 -13260346.62 -13260346.43 0.0132 0.0080
 Saturn -41018-10-01 02:38 J -13260128.53 -13260128.39 -13260128.25 0.0275 0.0202
 Uranus -41018-10-09 01:54 J -13260120.59 -13260120.42 -13260120.23 0.0132 0.0070
 Saturn -41017-05-17 11:30 J -13259899.23 -13259899.02 -13259898.81 0.0275 0.0005
 Uranus -41017-05-22 06:42 J -13259894.41 -13259894.22 -13259894.02 0.0132 0.0060
 Saturn -41016-01-01 19:11 J -13259669.82 -13259669.70 -13259669.55 0.0275 0.0209
 Uranus -41016-01-03 11:16 J -13259668.23 -13259668.03 -13259667.82 0.0132 0.0051
 Uranus -41016-08-17 16:04 J -13259442.03 -13259441.83 -13259441.62 0.0132 0.0041
 Uranus -41015-03-31 20:38 J -13259215.85 -13259215.64 -13259215.43 0.0133 0.0031
 Uranus -41015-11-13 01:11 J -13258989.66 -13258989.45 -13258989.23 0.0133 0.0021
 Jupiter -41015-11-21 16:33 J -13258980.96 -13258980.81 -13258980.66 0.0544 0.0365
 Uranus -41014-06-27 05:45 J -13258763.47 -13258763.26 -13258763.04 0.0133 0.0011
 Uranus -41013-02-08 10:18 J -13258537.28 -13258537.07 -13258536.85 0.0133 0.0002
 Uranus -41013-09-21 15:06 J -13258311.09 -13258310.87 -13258310.66 0.0133 0.0010
 Uranus -41012-05-05 19:40 J -13258084.90 -13258084.68 -13258084.47 0.0133 0.0020
 Uranus -41012-12-17 23:59 J -13257858.70 -13257858.50 -13257858.29 0.0134 0.0030
 Mars -41011-07-28 10:18 J -13257636.23 -13257636.07 -13257635.92 0.1684 0.0673
 Uranus -41011-08-01 04:33 J -13257632.51 -13257632.31 -13257632.10 0.0134 0.0040
 Uranus -41010-03-15 09:06 J -13257406.31 -13257406.12 -13257405.92 0.0134 0.0050
 Uranus -41010-10-27 13:40 J -13257180.11 -13257179.93 -13257179.73 0.0134 0.0061
 Uranus -41009-06-09 18:14 J -13256953.91 -13256953.74 -13256953.54 0.0135 0.0071
 Uranus -41008-01-21 23:16 J -13256727.70 -13256727.53 -13256727.36 0.0135 0.0080
 Jupiter -41008-05-12 12:14 J -13256617.17 -13256616.99 -13256616.80 0.0486 0.0224

Uranus	-41008-09-05 03:50 J	-13256501.49	-13256501.34	-13256501.17	0.0135	0.0090
Uranus	-41007-04-19 08:52 J	-13256275.27	-13256275.13	-13256274.98	0.0135	0.0100
Uranus	-41007-12-01 13:26 J	-13256049.05	-13256048.94	-13256048.80	0.0136	0.0110
Uranus	-41006-07-15 18:28 J	-13255822.82	-13255822.73	-13255822.61	0.0136	0.0119
Uranus	-41005-02-26 23:30 J	-13255596.57	-13255596.52	-13255596.43	0.0136	0.0128
Saturn	-41003-10-25 17:59 J	-13254624.95	-13254624.75	-13254624.54	0.0284	0.0073
Jupiter	-41002-03-22 07:54 J	-13254477.30	-13254477.17	-13254477.02	0.0542	0.0383
Saturn	-41002-06-12 08:52 J	-13254395.31	-13254395.13	-13254394.95	0.0284	0.0153

41ST MILLENNIUM BCE

This is a list of transits of Venus in the 41st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-40996-01-15 15:06 J	-13252351.07	-13252350.87	-13252350.66	0.0485	0.0019		
Jupiter	-40991-11-24 21:21 J	-13250211.81	-13250211.61	-13250211.42	0.0542	0.0094		
Saturn	-40988-04-12 05:45 J	-13249342.42	-13249342.26	-13249342.09	0.0275	0.0174		
Saturn	-40988-11-27 14:52 J	-13249113.09	-13249112.88	-13249112.67	0.0275	0.0033		
Saturn	-40987-07-14 22:47 J	-13248883.64	-13248883.55	-13248883.44	0.0276	0.0238		
Neptune	-40987-07-29 13:26 J	-13248868.97	-13248868.94	-13248868.88	0.0089	0.0087		
Neptune	-40986-03-12 02:09 J	-13248643.52	-13248643.41	-13248643.29	0.0089	0.0074		
Neptune	-40986-10-23 14:52 J	-13248418.04	-13248417.88	-13248417.72	0.0089	0.0061		
Pluto	-40985-05-02 20:23 J	-13248225.78	-13248225.65	-13248225.47	0.0078	0.0056		
Neptune	-40985-06-05 02:52 J	-13248192.54	-13248192.38	-13248192.18	0.0089	0.0049		
Jupiter	-40985-09-20 18:14 J	-13248084.93	-13248084.74	-13248084.55	0.0485	0.0194		

Pluto -40985-12-14 06:28 J -13248000.44 -13248000.23 -13248000.00 0.0078 0.0018
 Neptune -40984-01-16 15:21 J -13247967.04 -13247966.86 -13247966.65 0.0089 0.0036
 Neptune -40984-08-30 04:04 J -13247741.53 -13247741.33 -13247741.12 0.0089 0.0023
 Neptune -40983-04-12 16:33 J -13247516.02 -13247515.81 -13247515.59 0.0089 0.0010
 Neptune -40983-11-24 05:02 J -13247290.51 -13247290.29 -13247290.08 0.0089 0.0003
 Neptune -40982-07-07 17:16 J -13247064.99 -13247064.78 -13247064.57 0.0089 0.0015
 Neptune -40981-02-18 05:30 J -13246839.47 -13246839.27 -13246839.06 0.0089 0.0028
 Neptune -40981-09-30 17:45 J -13246613.93 -13246613.76 -13246613.55 0.0089 0.0042
 Neptune -40980-05-14 05:59 J -13246388.40 -13246388.25 -13246388.06 0.0089 0.0054
 Uranus -40980-07-25 17:45 J -13246315.79 -13246315.76 -13246315.69 0.0147 0.0143
 Neptune -40980-12-25 18:28 J -13246162.86 -13246162.73 -13246162.57 0.0089 0.0067
 Uranus -40979-03-09 06:28 J -13246089.32 -13246089.23 -13246089.13 0.0147 0.0131
 Mars -40979-07-27 07:11 J -13245949.33 -13245949.20 -13245949.06 0.1694 0.1011
 Jupiter -40979-07-30 09:35 J -13245946.28 -13245946.10 -13245945.91 0.0543 0.0198
 Neptune -40979-08-08 06:42 J -13245937.30 -13245937.22 -13245937.10 0.0089 0.0079
 Uranus -40979-10-21 19:11 J -13245862.82 -13245862.70 -13245862.57 0.0147 0.0119
 Uranus -40978-06-05 07:54 J -13245636.32 -13245636.17 -13245636.02 0.0147 0.0107
 Uranus -40977-01-17 20:38 J -13245409.80 -13245409.64 -13245409.47 0.0147 0.0095
 Uranus -40977-08-31 09:35 J -13245183.27 -13245183.10 -13245182.92 0.0146 0.0082
 Uranus -40976-04-14 22:33 J -13244956.75 -13244956.56 -13244956.36 0.0146 0.0069
 Uranus -40976-11-27 11:45 J -13244730.21 -13244730.01 -13244729.81 0.0146 0.0055
 Uranus -40975-07-12 00:42 J -13244503.67 -13244503.47 -13244503.25 0.0146 0.0042
 Uranus -40974-02-23 14:09 J -13244277.12 -13244276.91 -13244276.69 0.0146 0.0029
 Mars -40974-03-04 00:57 J -13244268.61 -13244268.46 -13244268.30 0.1836 0.0841
 Saturn -40974-09-20 13:40 J -13244068.01 -13244067.93 -13244067.84 0.0284 0.0257
 Uranus -40974-10-08 03:21 J -13244050.57 -13244050.36 -13244050.13 0.0146 0.0016
 Saturn -40973-05-07 04:04 J -13243838.54 -13243838.33 -13243838.12 0.0284 0.0034
 Uranus -40973-05-21 16:47 J -13243824.02 -13243823.80 -13243823.58 0.0145 0.0002
 Jupiter -40973-05-26 21:21 J -13243818.72 -13243818.61 -13243818.49 0.0484 0.0398
 Saturn -40973-12-22 18:57 J -13243608.85 -13243608.71 -13243608.55 0.0284 0.0193

Uranus -40972-01-03 05:59 J -13243597.47 -13243597.25 -13243597.03 0.0145 0.0012
 Jupiter -40972-01-17 22:04 J -13243582.72 -13243582.58 -13243582.43 0.0486 0.0347
 Uranus -40972-08-17 19:11 J -13243370.91 -13243370.70 -13243370.48 0.0145 0.0026
 Uranus -40971-04-01 08:38 J -13243144.35 -13243144.14 -13243143.93 0.0145 0.0039
 Uranus -40971-11-13 21:50 J -13242917.80 -13242917.59 -13242917.38 0.0145 0.0052
 Uranus -40970-06-28 10:47 J -13242691.24 -13242691.05 -13242690.84 0.0144 0.0065
 Uranus -40969-02-09 23:45 J -13242464.68 -13242464.51 -13242464.31 0.0144 0.0078
 Uranus -40969-09-23 12:57 J -13242238.12 -13242237.96 -13242237.78 0.0144 0.0090
 Uranus -40968-05-08 01:40 J -13242011.57 -13242011.43 -13242011.26 0.0143 0.0103
 Uranus -40968-12-20 14:23 J -13241785.01 -13241784.90 -13241784.75 0.0143 0.0115
 Jupiter -40967-04-03 20:23 J -13241680.73 -13241680.65 -13241680.57 0.0544 0.0494
 Uranus -40967-08-04 03:35 J -13241558.46 -13241558.35 -13241558.25 0.0143 0.0125
 Jupiter -40967-11-27 21:06 J -13241442.65 -13241442.62 -13241442.58 0.0541 0.0533
 Uranus -40966-03-18 15:50 J -13241331.88 -13241331.84 -13241331.76 0.0143 0.0137
 Jupiter -40961-09-23 00:42 J -13239316.67 -13239316.47 -13239316.27 0.0485 0.0137
 Saturn -40959-10-23 13:54 J -13238556.11 -13238555.92 -13238555.74 0.0275 0.0139
 Saturn -40958-06-09 22:18 J -13238326.77 -13238326.57 -13238326.36 0.0275 0.0066
 Saturn -40957-01-25 05:45 J -13238097.29 -13238097.26 -13238097.20 0.0275 0.0269
 Jupiter -40955-08-02 12:57 J -13237177.14 -13237176.96 -13237176.79 0.0543 0.0257
 Jupiter -40949-05-29 03:06 J -13235050.57 -13235050.37 -13235050.16 0.0485 0.0074
 Mars -40945-05-24 21:21 J -13233593.75 -13233593.61 -13233593.46 0.1681 0.0883
 Saturn -40944-04-01 15:21 J -13233281.97 -13233281.86 -13233281.73 0.0284 0.0231
 Saturn -40944-11-17 05:30 J -13233052.48 -13233052.27 -13233052.05 0.0284 0.0010
 Jupiter -40943-04-07 04:04 J -13232911.53 -13232911.33 -13232911.13 0.0543 0.0026
 Saturn -40943-07-04 20:38 J -13232822.77 -13232822.64 -13232822.50 0.0284 0.0218
 Uranus -40938-09-20 07:54 J -13230919.21 -13230919.17 -13230919.08 0.0132 0.0126
 Jupiter -40937-02-02 06:57 J -13230784.38 -13230784.21 -13230784.04 0.0484 0.0277
 Uranus -40937-05-03 13:11 J -13230693.04 -13230692.95 -13230692.84 0.0132 0.0117
 Jupiter -40937-09-25 08:52 J -13230548.17 -13230548.13 -13230548.08 0.0487 0.0471
 Uranus -40937-12-15 18:14 J -13230466.86 -13230466.74 -13230466.61 0.0132 0.0108

Uranus	-40936-07-29 23:02 J	-13230240.67	-13230240.54	-13230240.38	0.0132	0.0099
Uranus	-40935-03-13 03:50 J	-13230014.48	-13230014.34	-13230014.17	0.0132	0.0090
Uranus	-40935-10-25 08:23 J	-13229788.30	-13229788.15	-13229787.96	0.0132	0.0082
Uranus	-40934-06-08 13:26 J	-13229562.12	-13229561.94	-13229561.75	0.0132	0.0071
Uranus	-40933-01-20 18:14 J	-13229335.93	-13229335.74	-13229335.54	0.0132	0.0062
Uranus	-40933-09-02 22:47 J	-13229109.74	-13229109.55	-13229109.34	0.0132	0.0052
Uranus	-40932-04-17 03:35 J	-13228883.55	-13228883.35	-13228883.14	0.0132	0.0042
Uranus	-40932-11-29 08:09 J	-13228657.36	-13228657.16	-13228656.94	0.0133	0.0032
Jupiter	-40932-12-10 16:47 J	-13228645.96	-13228645.80	-13228645.64	0.0544	0.0317
Uranus	-40931-07-13 12:57 J	-13228431.18	-13228430.96	-13228430.75	0.0133	0.0022
Uranus	-40930-02-24 17:30 J	-13228204.99	-13228204.77	-13228204.56	0.0133	0.0012
Uranus	-40930-10-08 22:04 J	-13227978.79	-13227978.58	-13227978.36	0.0133	0.0002
Saturn	-40929-05-04 16:04 J	-13227770.03	-13227769.83	-13227769.64	0.0275	0.0113
Uranus	-40929-05-22 02:38 J	-13227752.61	-13227752.39	-13227752.18	0.0133	0.0008
Saturn	-40929-12-20 00:28 J	-13227540.67	-13227540.48	-13227540.27	0.0275	0.0093
Uranus	-40928-01-03 06:57 J	-13227526.42	-13227526.21	-13227525.99	0.0133	0.0019
Uranus	-40928-08-17 11:30 J	-13227300.22	-13227300.02	-13227299.80	0.0134	0.0029
Uranus	-40927-03-31 16:04 J	-13227074.03	-13227073.83	-13227073.62	0.0134	0.0038
Moon	-40927-10-17 08:23 J	-13226874.23	-13226874.15	-13226874.06	0.2673	0.2230
Uranus	-40927-11-12 20:38 J	-13226847.84	-13226847.64	-13226847.44	0.0134	0.0048
Uranus	-40926-06-27 00:57 J	-13226621.64	-13226621.46	-13226621.25	0.0134	0.0059
Jupiter	-40926-10-08 10:33 J	-13226518.08	-13226518.06	-13226518.03	0.0484	0.0481
Uranus	-40925-02-08 05:30 J	-13226395.44	-13226395.27	-13226395.07	0.0134	0.0069
Jupiter	-40925-05-31 10:47 J	-13226282.23	-13226282.05	-13226281.87	0.0486	0.0260
Uranus	-40925-09-21 10:33 J	-13226169.23	-13226169.06	-13226168.88	0.0135	0.0078
Uranus	-40924-05-05 15:06 J	-13225943.02	-13225942.87	-13225942.70	0.0135	0.0088
Uranus	-40924-12-17 19:54 J	-13225716.81	-13225716.67	-13225716.51	0.0135	0.0097
Uranus	-40923-08-01 00:57 J	-13225490.59	-13225490.46	-13225490.33	0.0136	0.0107
Uranus	-40922-03-15 05:59 J	-13225264.36	-13225264.25	-13225264.14	0.0136	0.0116
Uranus	-40922-10-27 11:02 J	-13225038.11	-13225038.04	-13225037.95	0.0136	0.0126

Uranus -40921-06-09 16:04 J -13224811.85 -13224811.83 -13224811.78 0.0136 0.0135
 Jupiter -40919-04-10 05:30 J -13224142.39 -13224142.27 -13224142.14 0.0541 0.0419
 Moon -40919-10-14 23:02 J -13223954.68 -13223954.54 -13223954.39 0.2677 0.1048
 Earth -40919-10-15 03:35 J -13223954.50 -13223954.35 -13223954.20 0.2672 0.0897 *
 Saturn -40915-10-12 23:30 J -13222495.67 -13222495.52 -13222495.36 0.0284 0.0195
 Saturn -40914-05-30 14:09 J -13222266.12 -13222265.91 -13222265.70 0.0284 0.0029
 Saturn -40913-01-15 05:30 J -13222036.35 -13222036.27 -13222036.17 0.0284 0.0255
 Jupiter -40913-02-04 12:57 J -13222016.17 -13222015.96 -13222015.75 0.0485 0.0051
 Mars -40913-05-23 18:28 J -13221906.88 -13221906.73 -13221906.58 0.1691 0.0789
 Mars -40909-12-29 05:02 J -13220226.47 -13220226.29 -13220226.12 0.1840 0.0365
 Jupiter -40908-12-13 17:59 J -13219876.94 -13219876.75 -13219876.55 0.0543 0.0132
 Neptune -40905-09-10 11:45 J -13218875.07 -13218875.01 -13218874.91 0.0088 0.0083
 Neptune -40904-04-24 01:26 J -13218649.56 -13218649.44 -13218649.29 0.0088 0.0070
 Neptune -40904-12-05 15:06 J -13218424.04 -13218423.87 -13218423.69 0.0088 0.0057
 Neptune -40903-07-19 04:47 J -13218198.50 -13218198.30 -13218198.11 0.0088 0.0044
 Neptune -40902-03-01 17:59 J -13217972.94 -13217972.75 -13217972.52 0.0088 0.0031
 Jupiter -40902-10-10 16:33 J -13217750.00 -13217749.81 -13217749.61 0.0484 0.0156
 Neptune -40902-10-13 07:40 J -13217747.39 -13217747.18 -13217746.95 0.0088 0.0019
 Neptune -40901-05-25 21:21 J -13217521.83 -13217521.61 -13217521.38 0.0088 0.0006
 Neptune -40900-01-06 11:02 J -13217296.26 -13217296.04 -13217295.82 0.0088 0.0008
 Neptune -40900-08-20 00:28 J -13217070.69 -13217070.48 -13217070.25 0.0088 0.0021
 Saturn -40900-11-15 00:14 J -13216983.69 -13216983.49 -13216983.28 0.0275 0.0078
 Neptune -40899-04-02 14:23 J -13216845.11 -13216844.90 -13216844.69 0.0088 0.0034
 Saturn -40899-07-02 08:38 J -13216754.33 -13216754.14 -13216753.95 0.0275 0.0126
 Neptune -40899-11-14 04:04 J -13216619.52 -13216619.33 -13216619.14 0.0088 0.0047
 Neptune -40898-06-27 17:30 J -13216393.93 -13216393.77 -13216393.60 0.0088 0.0060
 Neptune -40897-02-08 06:57 J -13216168.32 -13216168.21 -13216168.07 0.0088 0.0073
 Neptune -40897-09-20 20:38 J -13215942.68 -13215942.64 -13215942.57 0.0088 0.0085
 Uranus -40896-03-25 00:57 J -13215757.49 -13215757.46 -13215757.41 0.0147 0.0144
 Jupiter -40896-08-18 08:23 J -13215611.34 -13215611.15 -13215610.96 0.0544 0.0153

Uranus	-40896-11-06 13:11 J	-13215531.03	-13215530.95	-13215530.85	0.0147	0.0133
Uranus	-40895-06-21 01:54 J	-13215304.54	-13215304.42	-13215304.30	0.0147	0.0121
Uranus	-40894-02-02 14:38 J	-13215078.03	-13215077.89	-13215077.74	0.0147	0.0109
Uranus	-40894-09-17 03:21 J	-13214851.51	-13214851.36	-13214851.19	0.0147	0.0097
Uranus	-40893-04-30 16:04 J	-13214624.99	-13214624.83	-13214624.64	0.0147	0.0085
Uranus	-40893-12-13 05:02 J	-13214398.47	-13214398.29	-13214398.09	0.0146	0.0072
Uranus	-40892-07-27 18:14 J	-13214171.93	-13214171.74	-13214171.53	0.0146	0.0058
Uranus	-40891-03-11 07:26 J	-13213945.39	-13213945.19	-13213944.97	0.0146	0.0045
Uranus	-40891-10-23 20:38 J	-13213718.84	-13213718.64	-13213718.42	0.0146	0.0032
Uranus	-40890-06-07 10:04 J	-13213492.30	-13213492.08	-13213491.86	0.0146	0.0018
Jupiter	-40890-06-15 19:54 J	-13213483.80	-13213483.67	-13213483.53	0.0484	0.0360
Uranus	-40889-01-19 23:16 J	-13213265.75	-13213265.53	-13213265.31	0.0146	0.0005
Jupiter	-40889-02-06 20:38 J	-13213247.77	-13213247.64	-13213247.52	0.0486	0.0383
Uranus	-40889-09-02 12:42 J	-13213039.19	-13213038.97	-13213038.75	0.0145	0.0009
Uranus	-40888-04-17 01:54 J	-13212812.64	-13212812.42	-13212812.20	0.0145	0.0022
Uranus	-40888-11-29 14:52 J	-13212586.08	-13212585.88	-13212585.66	0.0145	0.0036
Uranus	-40887-07-14 04:18 J	-13212359.53	-13212359.32	-13212359.11	0.0145	0.0049
Uranus	-40886-02-25 17:30 J	-13212132.96	-13212132.77	-13212132.57	0.0144	0.0062
Uranus	-40886-10-10 06:42 J	-13211906.41	-13211906.22	-13211906.03	0.0144	0.0074
Saturn	-40885-04-24 01:11 J	-13211709.61	-13211709.45	-13211709.28	0.0284	0.0169
Uranus	-40885-05-23 19:26 J	-13211679.85	-13211679.69	-13211679.50	0.0144	0.0087
Saturn	-40885-12-09 15:35 J	-13211480.05	-13211479.85	-13211479.64	0.0284	0.0055
Uranus	-40884-01-05 08:38 J	-13211453.30	-13211453.14	-13211452.98	0.0144	0.0099
Jupiter	-40884-04-22 22:33 J	-13211345.67	-13211345.56	-13211345.44	0.0544	0.0439
Saturn	-40884-07-27 06:42 J	-13211250.24	-13211250.22	-13211250.17	0.0284	0.0280
Uranus	-40884-08-19 21:21 J	-13211226.74	-13211226.61	-13211226.46	0.0143	0.0111
Uranus	-40883-04-03 10:04 J	-13211000.18	-13211000.08	-13210999.95	0.0143	0.0122
Uranus	-40883-11-15 23:02 J	-13210773.61	-13210773.54	-13210773.46	0.0143	0.0133
Mars	-40879-03-22 08:52 J	-13209551.26	-13209551.13	-13209551.00	0.1679	0.1085
Jupiter	-40878-10-12 23:16 J	-13208981.72	-13208981.53	-13208981.33	0.0486	0.0175

Jupiter -40872-08-21 13:40 J -13206842.09 -13206841.93 -13206841.76 0.0542 0.0305
 Saturn -40871-10-10 16:04 J -13206426.89 -13206426.83 -13206426.76 0.0275 0.0259
 Saturn -40870-05-28 01:26 J -13206197.65 -13206197.44 -13206197.23 0.0275 0.0054
 Saturn -40869-01-12 09:35 J -13205968.27 -13205968.10 -13205967.92 0.0275 0.0150
 Jupiter -40866-06-18 02:09 J -13204715.62 -13204715.41 -13204715.21 0.0485 0.0035
 Jupiter -40860-04-26 03:06 J -13202576.57 -13202576.37 -13202576.17 0.0543 0.0019
 Saturn -40856-11-04 08:09 J -13200923.34 -13200923.16 -13200922.97 0.0284 0.0135
 Saturn -40855-06-21 22:47 J -13200693.75 -13200693.55 -13200693.34 0.0284 0.0089
 Jupiter -40854-02-21 05:30 J -13200449.44 -13200449.27 -13200449.08 0.0484 0.0238
 Uranus -40854-05-20 19:40 J -13200360.74 -13200360.68 -13200360.62 0.0132 0.0126
 Uranus -40853-01-02 00:14 J -13200134.57 -13200134.49 -13200134.38 0.0132 0.0118
 Uranus -40853-08-15 05:30 J -13199908.38 -13199908.27 -13199908.14 0.0132 0.0109
 Uranus -40852-03-29 10:33 J -13199682.20 -13199682.06 -13199681.91 0.0132 0.0100
 Uranus -40852-11-10 15:06 J -13199456.01 -13199455.87 -13199455.70 0.0132 0.0091
 Uranus -40851-06-24 19:54 J -13199229.83 -13199229.67 -13199229.49 0.0132 0.0082
 Uranus -40850-02-06 00:57 J -13199003.64 -13199003.46 -13199003.28 0.0132 0.0072
 Uranus -40850-09-20 05:30 J -13198777.45 -13198777.27 -13198777.07 0.0132 0.0063
 Uranus -40849-05-03 10:18 J -13198551.26 -13198551.07 -13198550.86 0.0132 0.0053
 Uranus -40849-12-15 14:52 J -13198325.08 -13198324.88 -13198324.67 0.0132 0.0044
 Jupiter -40849-12-29 13:26 J -13198311.11 -13198310.94 -13198310.77 0.0544 0.0278
 Uranus -40848-07-29 19:40 J -13198098.89 -13198098.68 -13198098.47 0.0132 0.0034
 Uranus -40847-03-13 00:14 J -13197872.70 -13197872.49 -13197872.27 0.0133 0.0024
 Mars -40847-03-21 05:30 J -13197864.43 -13197864.27 -13197864.11 0.1688 0.0566
 Uranus -40847-10-25 04:47 J -13197646.51 -13197646.30 -13197646.08 0.0133 0.0014
 Uranus -40846-06-08 09:21 J -13197420.33 -13197420.11 -13197419.90 0.0133 0.0004
 Uranus -40845-01-20 13:40 J -13197194.14 -13197193.93 -13197193.71 0.0133 0.0006
 Uranus -40845-09-02 18:14 J -13196967.95 -13196967.74 -13196967.52 0.0133 0.0016
 Uranus -40844-04-16 22:47 J -13196741.76 -13196741.55 -13196741.34 0.0133 0.0026
 Uranus -40844-11-29 03:06 J -13196515.57 -13196515.37 -13196515.16 0.0134 0.0036
 Uranus -40843-07-13 07:26 J -13196289.38 -13196289.19 -13196288.98 0.0134 0.0046

Mars -40843-10-26 09:06 J -13196184.30 -13196184.12 -13196183.94 0.1843 0.0116
 Jupiter -40843-10-27 10:18 J -13196183.16 -13196183.07 -13196182.99 0.0484 0.0438
 Uranus -40842-02-24 11:59 J -13196063.19 -13196063.00 -13196062.80 0.0134 0.0056
 Jupiter -40842-06-20 09:50 J -13195947.25 -13195947.09 -13195946.92 0.0486 0.0299
 Uranus -40842-10-08 16:47 J -13195836.98 -13195836.80 -13195836.61 0.0134 0.0066
 Saturn -40841-04-22 00:28 J -13195640.59 -13195640.48 -13195640.34 0.0275 0.0223
 Uranus -40841-05-21 21:06 J -13195610.78 -13195610.62 -13195610.42 0.0135 0.0076
 Saturn -40841-12-07 09:35 J -13195411.31 -13195411.10 -13195410.88 0.0275 0.0019
 Uranus -40840-01-03 01:54 J -13195384.57 -13195384.42 -13195384.24 0.0135 0.0085
 Saturn -40840-07-24 17:45 J -13195181.91 -13195181.76 -13195181.60 0.0275 0.0184
 Uranus -40840-08-17 06:57 J -13195158.36 -13195158.21 -13195158.06 0.0135 0.0094
 Uranus -40839-03-31 11:30 J -13194932.14 -13194932.02 -13194931.87 0.0135 0.0104
 Uranus -40839-11-12 16:18 J -13194705.91 -13194705.82 -13194705.68 0.0136 0.0114
 Uranus -40838-06-26 21:21 J -13194479.68 -13194479.61 -13194479.50 0.0136 0.0123
 Uranus -40837-02-08 02:52 J -13194253.43 -13194253.38 -13194253.32 0.0136 0.0131
 Jupiter -40836-04-29 04:47 J -13193807.40 -13193807.30 -13193807.20 0.0542 0.0463
 Jupiter -40830-02-23 11:59 J -13191681.20 -13191681.00 -13191680.79 0.0485 0.0090
 Saturn -40826-05-17 09:50 J -13190137.28 -13190137.09 -13190136.89 0.0284 0.0109
 Pluto -40826-12-20 12:57 J -13189920.10 -13189919.96 -13189919.77 0.0066 0.0044
 Saturn -40825-01-02 00:28 J -13189907.67 -13189907.48 -13189907.28 0.0284 0.0115
 Pluto -40825-08-01 17:59 J -13189694.96 -13189694.75 -13189694.53 0.0066 0.0002
 Jupiter -40824-01-01 20:38 J -13189541.82 -13189541.64 -13189541.45 0.0543 0.0187
 Pluto -40824-03-14 22:33 J -13189469.72 -13189469.56 -13189469.39 0.0067 0.0044
 Neptune -40822-06-13 11:45 J -13188649.09 -13188649.01 -13188648.91 0.0089 0.0080
 Neptune -40821-01-25 00:28 J -13188423.62 -13188423.48 -13188423.34 0.0089 0.0067
 Neptune -40821-09-06 12:42 J -13188198.12 -13188197.97 -13188197.78 0.0089 0.0055
 Neptune -40820-04-20 01:26 J -13187972.62 -13187972.44 -13187972.24 0.0089 0.0042
 Neptune -40820-12-01 13:54 J -13187747.12 -13187746.92 -13187746.71 0.0089 0.0029
 Neptune -40819-07-15 02:09 J -13187521.61 -13187521.41 -13187521.19 0.0089 0.0017
 Jupiter -40819-10-29 15:50 J -13187415.05 -13187414.84 -13187414.64 0.0484 0.0117

Neptune -40818-02-25 14:38 J -13187296.10 -13187295.89 -13187295.67 0.0089 0.0004
 Neptune -40818-10-09 03:06 J -13187070.58 -13187070.37 -13187070.15 0.0089 0.0009
 Neptune -40817-05-21 15:35 J -13186845.06 -13186844.85 -13186844.64 0.0089 0.0021
 Neptune -40816-01-02 03:50 J -13186619.53 -13186619.34 -13186619.14 0.0089 0.0034
 Neptune -40816-08-15 15:50 J -13186394.00 -13186393.84 -13186393.64 0.0089 0.0047
 Neptune -40815-03-29 04:33 J -13186168.47 -13186168.31 -13186168.15 0.0089 0.0059
 Neptune -40815-11-09 16:33 J -13185942.92 -13185942.81 -13185942.67 0.0089 0.0072
 Neptune -40814-06-23 05:16 J -13185717.34 -13185717.28 -13185717.21 0.0089 0.0085
 Mars -40813-01-17 20:09 J -13185508.76 -13185508.66 -13185508.55 0.1676 0.1288
 Moon -40813-04-13 19:26 J -13185421.81 -13185421.69 -13185421.57 0.2666 0.1559
 Earth -40813-04-13 19:26 J -13185421.80 -13185421.69 -13185421.58 0.2659 0.1875 *
 Jupiter -40813-09-06 10:47 J -13185276.25 -13185276.05 -13185275.85 0.0543 0.0099
 Uranus -40813-11-22 07:26 J -13185199.19 -13185199.19 -13185199.15 0.0147 0.0146
 Uranus -40812-07-06 19:54 J -13184972.74 -13184972.67 -13184972.58 0.0147 0.0135
 Saturn -40812-11-02 00:57 J -13184854.60 -13184854.46 -13184854.31 0.0275 0.0201
 Uranus -40811-02-18 08:23 J -13184746.25 -13184746.15 -13184746.02 0.0147 0.0124
 Saturn -40811-06-19 10:04 J -13184625.29 -13184625.08 -13184624.87 0.0275 0.0003
 Uranus -40811-10-02 21:06 J -13184519.75 -13184519.62 -13184519.47 0.0147 0.0112
 Saturn -40810-02-03 17:59 J -13184395.88 -13184395.75 -13184395.60 0.0275 0.0206
 Uranus -40810-05-17 09:50 J -13184293.24 -13184293.09 -13184292.92 0.0147 0.0100
 Uranus -40810-12-29 22:47 J -13184066.72 -13184066.55 -13184066.37 0.0147 0.0087
 Uranus -40809-08-12 11:45 J -13183840.19 -13183840.01 -13183839.81 0.0147 0.0074
 Uranus -40808-03-27 00:42 J -13183613.65 -13183613.47 -13183613.26 0.0146 0.0062
 Uranus -40808-11-08 13:54 J -13183387.11 -13183386.92 -13183386.70 0.0146 0.0049
 Uranus -40807-06-23 03:06 J -13183160.57 -13183160.37 -13183160.15 0.0146 0.0035
 Jupiter -40807-07-04 19:11 J -13183148.86 -13183148.70 -13183148.55 0.0484 0.0320
 Uranus -40806-02-04 16:47 J -13182934.02 -13182933.80 -13182933.59 0.0146 0.0021
 Jupiter -40806-02-25 20:23 J -13182912.75 -13182912.65 -13182912.55 0.0487 0.0423
 Uranus -40806-09-19 05:59 J -13182707.47 -13182707.25 -13182707.03 0.0146 0.0008
 Earth -40805-04-11 12:42 J -13182502.10 -13182501.97 -13182501.85 0.2660 0.1507

Moon	-40805-04-11 16:18 J	-13182501.96	-13182501.82	-13182501.69	0.2665	0.1074 *
Uranus	-40805-05-02 19:11 J	-13182480.92	-13182480.70	-13182480.48	0.0146	0.0006
Uranus	-40805-12-15 08:23 J	-13182254.37	-13182254.15	-13182253.93	0.0145	0.0019
Uranus	-40804-07-29 21:35 J	-13182027.81	-13182027.60	-13182027.38	0.0145	0.0032
Uranus	-40803-03-13 11:02 J	-13181801.25	-13181801.04	-13181800.83	0.0145	0.0045
Uranus	-40803-10-26 00:14 J	-13181574.69	-13181574.49	-13181574.28	0.0145	0.0058
Uranus	-40802-06-09 13:11 J	-13181348.13	-13181347.95	-13181347.75	0.0144	0.0071
Uranus	-40801-01-22 02:09 J	-13181121.58	-13181121.41	-13181121.22	0.0144	0.0083
Jupiter	-40801-05-11 23:02 J	-13181010.68	-13181010.54	-13181010.40	0.0544	0.0389
Uranus	-40801-09-04 15:21 J	-13180895.02	-13180894.86	-13180894.69	0.0144	0.0095
Uranus	-40800-04-19 04:33 J	-13180668.46	-13180668.31	-13180668.16	0.0144	0.0107
Uranus	-40800-12-01 17:02 J	-13180441.90	-13180441.79	-13180441.65	0.0143	0.0119
Uranus	-40799-07-16 06:14 J	-13180215.34	-13180215.24	-13180215.15	0.0143	0.0129
Uranus	-40798-02-27 18:28 J	-13179988.75	-13179988.73	-13179988.68	0.0143	0.0141
Saturn	-40797-11-26 15:21 J	-13179351.06	-13179350.86	-13179350.66	0.0284	0.0078
Saturn	-40796-07-14 06:14 J	-13179121.42	-13179121.24	-13179121.06	0.0284	0.0146
Jupiter	-40795-10-31 22:47 J	-13178646.73	-13178646.55	-13178646.36	0.0486	0.0215
Jupiter	-40789-09-09 11:02 J	-13176507.19	-13176507.04	-13176506.88	0.0542	0.0344
Jupiter	-40783-07-07 02:09 J	-13174380.61	-13174380.41	-13174380.20	0.0485	0.0012
Saturn	-40782-05-15 09:35 J	-13174068.27	-13174068.10	-13174067.93	0.0275	0.0164
Saturn	-40782-12-30 18:14 J	-13173838.95	-13173838.74	-13173838.53	0.0275	0.0040
Mars	-40781-01-16 16:33 J	-13173821.98	-13173821.81	-13173821.64	0.1685	0.0347
Saturn	-40781-08-16 02:23 J	-13173609.50	-13173609.40	-13173609.30	0.0275	0.0240
Jupiter	-40777-05-15 01:54 J	-13172241.62	-13172241.42	-13172241.22	0.0544	0.0063
Mars	-40777-08-22 12:28 J	-13172142.14	-13172141.98	-13172141.81	0.1847	0.0615
Jupiter	-40771-03-12 05:16 J	-13170114.47	-13170114.28	-13170114.09	0.0484	0.0198
Uranus	-40770-01-18 06:57 J	-13169802.25	-13169802.21	-13169802.13	0.0132	0.0127
Uranus	-40770-09-01 12:28 J	-13169576.07	-13169575.98	-13169575.88	0.0132	0.0118
Uranus	-40769-04-14 17:16 J	-13169349.89	-13169349.78	-13169349.65	0.0132	0.0110
Uranus	-40769-11-26 22:04 J	-13169123.70	-13169123.58	-13169123.42	0.0132	0.0101

Uranus -40768-07-11 03:06 J -13168897.51 -13168897.37 -13168897.20 0.0132 0.0092
 Saturn -40768-10-22 03:21 J -13168794.41 -13168794.36 -13168794.29 0.0284 0.0272
 Uranus -40767-02-22 08:23 J -13168671.32 -13168671.15 -13168670.98 0.0132 0.0082
 Saturn -40767-06-08 17:16 J -13168564.98 -13168564.78 -13168564.57 0.0284 0.0052
 Uranus -40767-10-06 12:57 J -13168445.13 -13168444.96 -13168444.77 0.0132 0.0073
 Saturn -40766-01-24 08:09 J -13168335.32 -13168335.16 -13168334.98 0.0284 0.0173
 Uranus -40766-05-20 17:30 J -13168218.95 -13168218.77 -13168218.57 0.0132 0.0064
 Uranus -40765-01-01 22:18 J -13167992.76 -13167992.57 -13167992.36 0.0132 0.0054
 Jupiter -40765-01-18 16:33 J -13167975.99 -13167975.81 -13167975.62 0.0544 0.0221
 Uranus -40765-08-15 03:06 J -13167766.57 -13167766.37 -13167766.16 0.0132 0.0045
 Uranus -40764-03-29 07:54 J -13167540.38 -13167540.17 -13167539.96 0.0132 0.0035
 Uranus -40764-11-10 12:14 J -13167314.20 -13167313.99 -13167313.77 0.0133 0.0025
 Uranus -40763-06-24 16:47 J -13167088.02 -13167087.80 -13167087.58 0.0133 0.0015
 Uranus -40762-02-05 21:21 J -13166861.83 -13166861.61 -13166861.40 0.0133 0.0006
 Uranus -40762-09-20 01:54 J -13166635.64 -13166635.42 -13166635.21 0.0133 0.0005
 Uranus -40761-05-03 06:14 J -13166409.45 -13166409.24 -13166409.02 0.0133 0.0014
 Uranus -40761-12-15 10:33 J -13166183.27 -13166183.06 -13166182.84 0.0133 0.0024
 Uranus -40760-07-29 15:06 J -13165957.08 -13165956.87 -13165956.66 0.0134 0.0034
 Jupiter -40760-11-15 09:35 J -13165848.21 -13165848.10 -13165847.98 0.0484 0.0398
 Uranus -40759-03-12 19:26 J -13165730.89 -13165730.69 -13165730.48 0.0134 0.0044
 Jupiter -40759-07-09 09:21 J -13165612.25 -13165612.11 -13165611.96 0.0486 0.0338
 Uranus -40759-10-24 23:59 J -13165504.69 -13165504.50 -13165504.30 0.0134 0.0054
 Uranus -40758-06-08 04:33 J -13165278.49 -13165278.31 -13165278.12 0.0134 0.0063
 Uranus -40757-01-20 08:52 J -13165052.29 -13165052.13 -13165051.93 0.0134 0.0074
 Uranus -40757-09-02 13:40 J -13164826.08 -13164825.93 -13164825.75 0.0135 0.0083
 Uranus -40756-04-16 18:28 J -13164599.87 -13164599.73 -13164599.56 0.0135 0.0092
 Uranus -40756-11-28 23:16 J -13164373.66 -13164373.53 -13164373.38 0.0135 0.0102
 Uranus -40755-07-13 04:18 J -13164147.44 -13164147.32 -13164147.20 0.0135 0.0111
 Uranus -40754-02-24 09:06 J -13163921.20 -13163921.12 -13163921.01 0.0136 0.0120
 Jupiter -40754-09-23 05:59 J -13163710.32 -13163710.25 -13163710.18 0.0544 0.0506

Uranus -40754-10-08 14:23 J -13163694.95 -13163694.90 -13163694.82 0.0136 0.0129
 Jupiter -40753-05-18 07:26 J -13163472.24 -13163472.19 -13163472.13 0.0541 0.0515
 Saturn -40753-11-24 09:21 J -13163282.29 -13163282.11 -13163281.93 0.0275 0.0144
 Saturn -40752-07-11 17:59 J -13163052.95 -13163052.75 -13163052.54 0.0275 0.0060
 Saturn -40751-02-26 01:54 J -13162823.48 -13162823.42 -13162823.35 0.0275 0.0260
 Mars -40748-11-14 07:40 J -13161466.25 -13161466.18 -13161466.10 0.1674 0.1487
 Jupiter -40747-03-14 11:59 J -13161346.19 -13161346.00 -13161345.79 0.0485 0.0131
 Jupiter -40741-01-21 21:21 J -13159206.78 -13159206.61 -13159206.42 0.0543 0.0236
 Neptune -40741-12-12 19:54 J -13158880.67 -13158880.67 -13158880.64 0.0088 0.0088
 Neptune -40740-07-26 09:21 J -13158655.21 -13158655.11 -13158654.98 0.0088 0.0076
 Neptune -40739-03-08 22:33 J -13158429.69 -13158429.56 -13158429.38 0.0088 0.0064
 Neptune -40739-10-20 12:14 J -13158204.15 -13158203.99 -13158203.79 0.0088 0.0051
 Pluto -40738-01-12 04:04 J -13158120.54 -13158120.33 -13158120.11 0.0078 0.0016
 Saturn -40738-05-04 07:26 J -13158008.29 -13158008.19 -13158008.08 0.0284 0.0244
 Neptune -40738-06-03 01:54 J -13157978.61 -13157978.42 -13157978.21 0.0088 0.0038
 Pluto -40738-08-25 13:40 J -13157895.07 -13157894.93 -13157894.76 0.0078 0.0056
 Saturn -40738-12-19 21:50 J -13157778.80 -13157778.59 -13157778.38 0.0284 0.0023
 Neptune -40737-01-14 15:35 J -13157753.06 -13157752.85 -13157752.63 0.0088 0.0025
 Saturn -40737-08-05 12:42 J -13157549.11 -13157548.97 -13157548.81 0.0284 0.0201
 Neptune -40737-08-27 05:02 J -13157527.51 -13157527.29 -13157527.06 0.0088 0.0012
 Neptune -40736-04-09 18:42 J -13157301.94 -13157301.72 -13157301.49 0.0088 0.0002
 Jupiter -40736-11-17 15:50 J -13157080.05 -13157079.84 -13157079.64 0.0485 0.0073
 Neptune -40736-11-21 08:09 J -13157076.37 -13157076.16 -13157075.93 0.0088 0.0014
 Neptune -40735-07-04 22:04 J -13156850.80 -13156850.58 -13156850.37 0.0088 0.0027
 Neptune -40734-02-15 11:30 J -13156625.21 -13156625.02 -13156624.81 0.0088 0.0040
 Neptune -40734-09-29 00:57 J -13156399.62 -13156399.46 -13156399.26 0.0088 0.0053
 Neptune -40733-05-11 14:38 J -13156174.02 -13156173.89 -13156173.72 0.0088 0.0065
 Neptune -40733-12-23 04:04 J -13155948.41 -13155948.33 -13155948.20 0.0088 0.0078
 Jupiter -40730-09-26 08:09 J -13154941.36 -13154941.16 -13154940.96 0.0544 0.0059
 Uranus -40728-03-06 03:35 J -13154414.42 -13154414.35 -13154414.26 0.0147 0.0136

Uranus -40728-10-18 15:50 J -13154187.94 -13154187.84 -13154187.71 0.0147 0.0125
 Uranus -40727-06-02 04:18 J -13153961.44 -13153961.32 -13153961.17 0.0147 0.0114
 Uranus -40726-01-14 17:30 J -13153734.92 -13153734.77 -13153734.61 0.0147 0.0101
 Uranus -40726-08-29 06:14 J -13153508.40 -13153508.24 -13153508.06 0.0147 0.0089
 Uranus -40725-04-11 18:57 J -13153281.88 -13153281.71 -13153281.51 0.0147 0.0077
 Uranus -40725-11-24 08:09 J -13153055.35 -13153055.16 -13153054.96 0.0147 0.0064
 Uranus -40724-07-08 21:21 J -13152828.81 -13152828.61 -13152828.41 0.0146 0.0050
 Jupiter -40724-07-23 19:54 J -13152813.83 -13152813.67 -13152813.49 0.0484 0.0275
 Uranus -40723-02-20 10:33 J -13152602.27 -13152602.06 -13152601.84 0.0146 0.0037
 Jupiter -40723-03-16 20:52 J -13152577.68 -13152577.63 -13152577.56 0.0486 0.0465
 Saturn -40723-06-06 17:30 J -13152495.96 -13152495.77 -13152495.57 0.0275 0.0107
 Uranus -40723-10-04 23:45 J -13152375.72 -13152375.51 -13152375.29 0.0146 0.0024
 Saturn -40722-01-22 02:09 J -13152266.61 -13152266.41 -13152266.21 0.0275 0.0096
 Uranus -40722-05-19 12:57 J -13152149.17 -13152148.96 -13152148.74 0.0146 0.0011
 Uranus -40721-01-01 02:23 J -13151922.62 -13151922.40 -13151922.19 0.0146 0.0004
 Uranus -40721-08-14 15:35 J -13151696.07 -13151695.85 -13151695.63 0.0146 0.0016
 Uranus -40720-03-29 04:47 J -13151469.51 -13151469.30 -13151469.08 0.0145 0.0029
 Uranus -40720-11-10 17:59 J -13151242.96 -13151242.75 -13151242.53 0.0145 0.0042
 Uranus -40719-06-25 06:57 J -13151016.40 -13151016.21 -13151015.99 0.0145 0.0055
 Uranus -40718-02-06 20:09 J -13150789.84 -13150789.66 -13150789.45 0.0145 0.0068
 Jupiter -40718-05-31 21:06 J -13150675.77 -13150675.62 -13150675.46 0.0545 0.0346
 Uranus -40718-09-21 09:35 J -13150563.29 -13150563.10 -13150562.92 0.0144 0.0080
 Uranus -40717-05-04 22:18 J -13150336.73 -13150336.57 -13150336.39 0.0144 0.0092
 Uranus -40717-12-17 11:16 J -13150110.17 -13150110.03 -13150109.87 0.0144 0.0104
 Uranus -40716-07-31 23:59 J -13149883.61 -13149883.50 -13149883.35 0.0144 0.0116
 Mars -40716-11-13 03:50 J -13149779.51 -13149779.34 -13149779.17 0.1682 0.0140
 Uranus -40715-03-15 13:11 J -13149657.04 -13149656.95 -13149656.84 0.0143 0.0126
 Uranus -40715-10-28 01:54 J -13149430.47 -13149430.42 -13149430.35 0.0143 0.0137
 Jupiter -40712-03-28 23:59 J -13148547.53 -13148547.50 -13148547.47 0.0484 0.0476
 Jupiter -40712-11-19 22:47 J -13148311.73 -13148311.55 -13148311.37 0.0485 0.0255

Mars -40711-06-19 16:33 J -13148099.95 -13148099.81 -13148099.66 0.1851 0.1095
 Saturn -40709-11-13 10:18 J -13147222.20 -13147222.07 -13147221.93 0.0284 0.0215
 Saturn -40708-07-01 00:14 J -13146992.70 -13146992.49 -13146992.27 0.0284 0.0009
 Saturn -40707-02-15 15:21 J -13146762.98 -13146762.86 -13146762.73 0.0284 0.0229
 Jupiter -40706-09-29 14:23 J -13146172.03 -13146171.90 -13146171.76 0.0543 0.0399
 Jupiter -40700-07-26 01:54 J -13144045.62 -13144045.42 -13144045.21 0.0485 0.0049
 Jupiter -40694-06-04 05:30 J -13141906.47 -13141906.27 -13141906.08 0.0543 0.0121
 Saturn -40694-12-17 17:02 J -13141709.98 -13141709.79 -13141709.58 0.0275 0.0088
 Saturn -40693-08-03 01:40 J -13141480.62 -13141480.43 -13141480.23 0.0275 0.0115
 Jupiter -40688-03-31 05:30 J -13139779.47 -13139779.27 -13139779.08 0.0484 0.0156
 Uranus -40687-09-17 18:57 J -13139243.76 -13139243.71 -13139243.65 0.0132 0.0127
 Uranus -40686-05-01 23:45 J -13139017.58 -13139017.51 -13139017.40 0.0132 0.0119
 Uranus -40686-12-14 05:16 J -13138791.40 -13138791.28 -13138791.16 0.0132 0.0110
 Uranus -40685-07-27 10:18 J -13138565.20 -13138565.07 -13138564.92 0.0132 0.0101
 Uranus -40684-03-10 15:21 J -13138339.01 -13138338.86 -13138338.70 0.0132 0.0092
 Uranus -40684-10-22 20:09 J -13138112.82 -13138112.66 -13138112.49 0.0132 0.0083
 Uranus -40683-06-06 00:57 J -13137886.64 -13137886.46 -13137886.28 0.0132 0.0074
 Uranus -40682-01-18 05:30 J -13137660.45 -13137660.27 -13137660.07 0.0132 0.0065
 Jupiter -40682-02-06 18:14 J -13137640.93 -13137640.74 -13137640.55 0.0544 0.0167
 Uranus -40682-09-01 10:33 J -13137434.25 -13137434.06 -13137433.86 0.0132 0.0055
 Uranus -40681-04-14 15:06 J -13137208.07 -13137207.87 -13137207.66 0.0132 0.0046
 Uranus -40681-11-26 19:40 J -13136981.89 -13136981.68 -13136981.47 0.0132 0.0036
 Uranus -40680-07-11 00:14 J -13136755.70 -13136755.49 -13136755.28 0.0132 0.0027
 Uranus -40679-02-22 04:47 J -13136529.52 -13136529.30 -13136529.09 0.0133 0.0017
 Saturn -40679-05-26 13:11 J -13136436.10 -13136435.95 -13136435.79 0.0284 0.0190
 Mars -40679-06-19 11:59 J -13136412.09 -13136412.00 -13136411.92 0.1839 0.1608
 Uranus -40679-10-06 09:06 J -13136303.33 -13136303.12 -13136302.90 0.0133 0.0008
 Saturn -40678-01-11 03:50 J -13136206.55 -13136206.34 -13136206.13 0.0284 0.0032
 Uranus -40678-05-20 13:40 J -13136077.15 -13136076.93 -13136076.71 0.0133 0.0003
 Saturn -40678-08-28 18:57 J -13135976.79 -13135976.71 -13135976.61 0.0284 0.0255

Uranus -40677-01-01 17:59 J -13135850.96 -13135850.75 -13135850.53 0.0133 0.0012
 Uranus -40677-08-14 22:18 J -13135624.78 -13135624.57 -13135624.35 0.0133 0.0023
 Jupiter -40677-12-04 09:50 J -13135513.22 -13135513.09 -13135512.94 0.0484 0.0354
 Uranus -40676-03-29 02:52 J -13135398.59 -13135398.38 -13135398.17 0.0133 0.0032
 Jupiter -40676-07-28 10:04 J -13135277.20 -13135277.08 -13135276.95 0.0486 0.0382
 Earth -40676-10-15 02:52 J -13135198.53 -13135198.38 -13135198.23 0.2672 0.0917
 Moon -40676-10-15 08:38 J -13135198.30 -13135198.14 -13135197.99 0.2671 0.0592 *
 Uranus -40676-11-10 07:11 J -13135172.40 -13135172.20 -13135171.99 0.0134 0.0042
 Uranus -40675-06-24 11:45 J -13134946.21 -13134946.01 -13134945.81 0.0134 0.0051
 Uranus -40674-02-05 16:04 J -13134720.01 -13134719.83 -13134719.63 0.0134 0.0061
 Uranus -40674-09-19 20:52 J -13134493.81 -13134493.63 -13134493.44 0.0134 0.0070
 Uranus -40673-05-03 01:26 J -13134267.61 -13134267.44 -13134267.26 0.0134 0.0080
 Uranus -40673-12-15 06:14 J -13134041.40 -13134041.24 -13134041.08 0.0135 0.0089
 Uranus -40672-07-29 10:33 J -13133815.19 -13133815.06 -13133814.90 0.0135 0.0099
 Uranus -40671-03-12 15:21 J -13133588.97 -13133588.86 -13133588.71 0.0135 0.0108
 Jupiter -40671-10-12 03:21 J -13133375.46 -13133375.36 -13133375.25 0.0544 0.0465
 Uranus -40671-10-24 20:52 J -13133362.73 -13133362.63 -13133362.52 0.0135 0.0117
 Uranus -40670-06-08 01:40 J -13133136.50 -13133136.43 -13133136.34 0.0136 0.0126
 Uranus -40669-01-20 06:57 J -13132910.24 -13132910.21 -13132910.18 0.0136 0.0135
 Saturn -40665-11-11 15:50 J -13131152.91 -13131152.84 -13131152.75 0.0275 0.0253
 Jupiter -40664-04-02 13:11 J -13131011.14 -13131010.95 -13131010.75 0.0485 0.0177
 Saturn -40664-06-29 01:26 J -13130923.65 -13130923.44 -13130923.23 0.0275 0.0050
 Saturn -40663-02-13 09:50 J -13130694.26 -13130694.09 -13130693.91 0.0275 0.0151
 Jupiter -40658-02-09 19:40 J -13128871.84 -13128871.68 -13128871.50 0.0543 0.0278
 Neptune -40658-09-14 20:52 J -13128654.67 -13128654.63 -13128654.57 0.0089 0.0086
 Neptune -40657-04-27 09:06 J -13128429.21 -13128429.12 -13128428.97 0.0089 0.0074
 Neptune -40657-12-08 21:50 J -13128203.73 -13128203.59 -13128203.42 0.0089 0.0061
 Neptune -40656-07-22 10:33 J -13127978.23 -13127978.06 -13127977.87 0.0089 0.0048
 Neptune -40655-03-04 23:02 J -13127752.73 -13127752.54 -13127752.33 0.0089 0.0036
 Neptune -40655-10-16 11:45 J -13127527.21 -13127527.01 -13127526.80 0.0089 0.0023

Neptune -40654-05-30 00:14 J -13127301.70 -13127301.49 -13127301.27 0.0089 0.0011
 Neptune -40653-01-10 12:42 J -13127076.19 -13127075.97 -13127075.75 0.0089 0.0002
 Neptune -40653-08-23 00:57 J -13126850.67 -13126850.46 -13126850.24 0.0089 0.0015
 Jupiter -40653-12-06 15:50 J -13126745.05 -13126744.84 -13126744.63 0.0484 0.0032
 Neptune -40652-04-05 13:26 J -13126625.14 -13126624.94 -13126624.73 0.0089 0.0027
 Neptune -40652-11-17 01:26 J -13126399.61 -13126399.44 -13126399.23 0.0089 0.0041
 Neptune -40651-06-30 14:09 J -13126174.08 -13126173.91 -13126173.74 0.0089 0.0052
 Neptune -40650-02-11 02:09 J -13125948.54 -13125948.41 -13125948.25 0.0089 0.0065
 Mars -40650-09-10 15:06 J -13125737.04 -13125736.87 -13125736.70 0.1679 0.0080
 Neptune -40650-09-24 14:38 J -13125722.98 -13125722.89 -13125722.77 0.0089 0.0078
 Saturn -40650-12-06 17:02 J -13125649.96 -13125649.79 -13125649.61 0.0284 0.0159
 Saturn -40649-07-23 07:11 J -13125420.40 -13125420.20 -13125419.99 0.0284 0.0062
 Saturn -40648-03-09 22:33 J -13125190.56 -13125190.56 -13125190.56 0.0284 0.0284
 Jupiter -40647-10-15 11:16 J -13124606.23 -13124606.03 -13124605.83 0.0544 0.0005
 Mars -40645-04-15 19:54 J -13124057.76 -13124057.67 -13124057.58 0.1855 0.1602
 Uranus -40645-11-03 10:18 J -13123856.13 -13123856.07 -13123855.99 0.0147 0.0138
 Uranus -40644-06-17 22:33 J -13123629.65 -13123629.56 -13123629.44 0.0147 0.0127
 Uranus -40643-01-30 11:16 J -13123403.15 -13123403.03 -13123402.88 0.0147 0.0116
 Uranus -40643-09-13 23:59 J -13123176.64 -13123176.50 -13123176.33 0.0147 0.0104
 Uranus -40642-04-28 12:42 J -13122950.12 -13122949.97 -13122949.78 0.0147 0.0092
 Uranus -40642-12-11 01:54 J -13122723.60 -13122723.42 -13122723.23 0.0147 0.0079
 Uranus -40641-07-24 14:38 J -13122497.07 -13122496.89 -13122496.68 0.0147 0.0067
 Jupiter -40641-08-11 19:40 J -13122478.85 -13122478.68 -13122478.49 0.0484 0.0235
 Uranus -40640-03-08 04:04 J -13122270.53 -13122270.33 -13122270.12 0.0147 0.0053
 Uranus -40640-10-20 17:16 J -13122043.99 -13122043.78 -13122043.57 0.0146 0.0040
 Uranus -40639-06-04 06:28 J -13121817.44 -13121817.23 -13121817.01 0.0146 0.0027
 Uranus -40638-01-16 19:40 J -13121590.89 -13121590.68 -13121590.46 0.0146 0.0014
 Uranus -40638-08-31 09:06 J -13121364.34 -13121364.12 -13121363.90 0.0146 0.0001
 Uranus -40637-04-13 22:18 J -13121137.79 -13121137.57 -13121137.35 0.0146 0.0013
 Uranus -40637-11-26 11:30 J -13120911.23 -13120911.02 -13120910.80 0.0146 0.0026

Uranus -40636-07-11 00:42 J -13120684.68 -13120684.47 -13120684.25 0.0145 0.0039
 Uranus -40635-02-22 14:09 J -13120458.11 -13120457.91 -13120457.70 0.0145 0.0051
 Saturn -40635-05-24 15:21 J -13120366.96 -13120366.86 -13120366.74 0.0275 0.0234
 Jupiter -40635-06-20 01:11 J -13120340.61 -13120340.45 -13120340.27 0.0544 0.0285
 Uranus -40635-10-07 03:21 J -13120231.55 -13120231.36 -13120231.16 0.0145 0.0064
 Saturn -40634-01-09 00:42 J -13120137.68 -13120137.47 -13120137.25 0.0275 0.0032
 Uranus -40634-05-21 16:18 J -13120005.00 -13120004.82 -13120004.62 0.0145 0.0077
 Saturn -40634-08-26 09:06 J -13119908.28 -13119908.12 -13119907.94 0.0275 0.0170
 Uranus -40633-01-03 05:16 J -13119778.44 -13119778.28 -13119778.09 0.0144 0.0089
 Uranus -40633-08-16 18:28 J -13119551.88 -13119551.73 -13119551.56 0.0144 0.0100
 Uranus -40632-03-31 07:26 J -13119325.31 -13119325.19 -13119325.03 0.0144 0.0112
 Uranus -40632-11-12 20:38 J -13119098.74 -13119098.64 -13119098.52 0.0143 0.0123
 Uranus -40631-06-27 09:35 J -13118872.17 -13118872.10 -13118872.02 0.0143 0.0133
 Jupiter -40629-04-16 23:45 J -13118212.59 -13118212.51 -13118212.41 0.0484 0.0434
 Jupiter -40629-12-08 23:02 J -13117976.70 -13117976.54 -13117976.37 0.0486 0.0298
 Jupiter -40623-10-18 16:04 J -13115836.94 -13115836.83 -13115836.72 0.0542 0.0449
 Saturn -40620-06-17 19:26 J -13114863.88 -13114863.69 -13114863.51 0.0284 0.0134
 Saturn -40619-02-02 10:04 J -13114634.28 -13114634.08 -13114633.88 0.0284 0.0087
 Mars -40618-09-09 11:59 J -13114050.06 -13114050.00 -13114049.94 0.1689 0.1580
 Jupiter -40617-08-14 02:38 J -13113710.59 -13113710.39 -13113710.18 0.0485 0.0094
 Mars -40613-04-15 16:18 J -13112369.96 -13112369.82 -13112369.69 0.1843 0.1146
 Jupiter -40611-06-23 02:38 J -13111571.58 -13111571.39 -13111571.20 0.0543 0.0160
 Saturn -40606-12-04 23:45 J -13109580.66 -13109580.51 -13109580.36 0.0275 0.0196
 Jupiter -40605-04-19 06:42 J -13109444.42 -13109444.22 -13109444.01 0.0484 0.0110
 Saturn -40605-07-21 09:06 J -13109351.33 -13109351.12 -13109350.91 0.0275 0.0006
 Saturn -40604-03-07 17:16 J -13109121.91 -13109121.78 -13109121.63 0.0275 0.0206
 Uranus -40603-05-18 06:57 J -13108685.26 -13108685.21 -13108685.15 0.0132 0.0127
 Uranus -40603-12-30 11:59 J -13108459.07 -13108459.00 -13108458.89 0.0132 0.0119
 Uranus -40602-08-13 17:45 J -13108232.88 -13108232.76 -13108232.64 0.0132 0.0110
 Uranus -40601-03-26 22:18 J -13108006.69 -13108006.57 -13108006.41 0.0132 0.0102

Uranus	-40601-11-08 03:21 J	-13107780.50	-13107780.36	-13107780.19	0.0132	0.0093
Uranus	-40600-06-22 08:23 J	-13107554.31	-13107554.15	-13107553.97	0.0132	0.0084
Uranus	-40599-02-03 13:11 J	-13107328.12	-13107327.95	-13107327.76	0.0132	0.0075
Jupiter	-40599-02-25 16:04 J	-13107306.03	-13107305.83	-13107305.64	0.0544	0.0127
Uranus	-40599-09-17 18:14 J	-13107101.92	-13107101.74	-13107101.54	0.0132	0.0065
Uranus	-40598-05-01 22:47 J	-13106875.73	-13106875.55	-13106875.34	0.0132	0.0056
Uranus	-40598-12-14 03:35 J	-13106649.55	-13106649.35	-13106649.14	0.0132	0.0046
Uranus	-40597-07-27 08:09 J	-13106423.36	-13106423.16	-13106422.94	0.0132	0.0037
Uranus	-40596-03-10 12:42 J	-13106197.18	-13106196.97	-13106196.75	0.0132	0.0027
Uranus	-40596-10-22 17:16 J	-13105970.99	-13105970.78	-13105970.56	0.0132	0.0018
Uranus	-40595-06-05 21:35 J	-13105744.81	-13105744.60	-13105744.38	0.0133	0.0008
Uranus	-40594-01-18 02:09 J	-13105518.63	-13105518.41	-13105518.20	0.0133	0.0002
Uranus	-40594-09-01 06:42 J	-13105292.44	-13105292.22	-13105292.01	0.0133	0.0011
Jupiter	-40594-12-24 10:04 J	-13105178.24	-13105178.08	-13105177.93	0.0484	0.0314
Uranus	-40593-04-14 10:47 J	-13105066.25	-13105066.05	-13105065.83	0.0133	0.0021
Jupiter	-40593-08-16 09:50 J	-13104942.19	-13104942.09	-13104941.98	0.0486	0.0420
Uranus	-40593-11-26 15:21 J	-13104840.07	-13104839.86	-13104839.65	0.0133	0.0030
Uranus	-40592-07-10 19:26 J	-13104613.88	-13104613.69	-13104613.47	0.0133	0.0041
Uranus	-40591-02-21 23:59 J	-13104387.69	-13104387.50	-13104387.29	0.0134	0.0050
Uranus	-40591-10-06 04:47 J	-13104161.49	-13104161.30	-13104161.10	0.0134	0.0059
Saturn	-40591-12-29 00:14 J	-13104077.68	-13104077.49	-13104077.29	0.0284	0.0101
Uranus	-40590-05-20 09:06 J	-13103935.29	-13103935.12	-13103934.92	0.0134	0.0069
Saturn	-40590-08-15 14:38 J	-13103848.08	-13103847.89	-13103847.70	0.0284	0.0119
Uranus	-40589-01-01 13:40 J	-13103709.09	-13103708.93	-13103708.74	0.0134	0.0078
Uranus	-40589-08-14 18:14 J	-13103482.88	-13103482.74	-13103482.56	0.0135	0.0088
Uranus	-40588-03-28 23:02 J	-13103256.67	-13103256.54	-13103256.38	0.0135	0.0097
Jupiter	-40588-10-31 05:59 J	-13103040.37	-13103040.25	-13103040.11	0.0545	0.0410
Uranus	-40588-11-10 03:50 J	-13103030.45	-13103030.34	-13103030.19	0.0135	0.0106
Uranus	-40587-06-24 09:06 J	-13102804.23	-13102804.12	-13102804.01	0.0135	0.0115
Uranus	-40586-02-05 13:54 J	-13102578.00	-13102577.92	-13102577.83	0.0136	0.0124

Uranus -40586-09-19 19:11 J -13102351.74 -13102351.70 -13102351.65 0.0136 0.0132
 Mars -40584-07-08 02:23 J -13101694.57 -13101694.40 -13101694.23 0.1677 0.0280
 Jupiter -40581-04-21 12:57 J -13100676.15 -13100675.96 -13100675.77 0.0485 0.0215
 Pluto -40579-08-30 17:30 J -13099814.97 -13099814.77 -13099814.57 0.0066 0.0025
 Pluto -40578-04-12 21:50 J -13099589.79 -13099589.59 -13099589.37 0.0066 0.0019
 Pluto -40578-11-24 01:54 J -13099364.47 -13099364.42 -13099364.32 0.0067 0.0063
 Saturn -40576-06-15 23:30 J -13098794.68 -13098794.52 -13098794.35 0.0275 0.0177
 Neptune -40576-10-27 17:30 J -13098660.84 -13098660.77 -13098660.68 0.0088 0.0082
 Saturn -40575-01-31 08:52 J -13098565.34 -13098565.13 -13098564.92 0.0275 0.0025
 Jupiter -40575-02-28 23:30 J -13098536.67 -13098536.52 -13098536.36 0.0543 0.0334
 Neptune -40575-06-10 06:42 J -13098435.34 -13098435.22 -13098435.07 0.0088 0.0069
 Saturn -40575-09-17 17:02 J -13098335.90 -13098335.79 -13098335.66 0.0275 0.0225
 Neptune -40574-01-21 20:09 J -13098209.82 -13098209.66 -13098209.48 0.0088 0.0057
 Neptune -40574-09-04 09:21 J -13097984.28 -13097984.11 -13097983.90 0.0088 0.0045
 Neptune -40573-04-16 23:02 J -13097758.74 -13097758.54 -13097758.32 0.0088 0.0032
 Neptune -40573-11-28 12:42 J -13097533.19 -13097532.97 -13097532.75 0.0088 0.0019
 Neptune -40572-07-12 02:09 J -13097307.63 -13097307.41 -13097307.18 0.0088 0.0006
 Neptune -40571-02-22 15:50 J -13097082.06 -13097081.84 -13097081.62 0.0088 0.0007
 Neptune -40571-10-06 05:16 J -13096856.49 -13096856.28 -13096856.05 0.0088 0.0020
 Earth -40570-04-14 22:33 J -13096665.66 -13096665.56 -13096665.47 0.2660 0.2107
 Moon -40570-04-15 00:57 J -13096665.49 -13096665.46 -13096665.43 0.2653 0.2591 *
 Neptune -40570-05-19 18:42 J -13096630.92 -13096630.72 -13096630.50 0.0088 0.0032
 Jupiter -40570-12-26 15:50 J -13096410.05 -13096409.84 -13096409.63 0.0485 0.0010
 Neptune -40570-12-31 08:09 J -13096405.34 -13096405.16 -13096404.95 0.0088 0.0045
 Neptune -40569-08-12 22:04 J -13096179.75 -13096179.58 -13096179.41 0.0088 0.0057
 Neptune -40568-03-26 11:30 J -13095954.14 -13095954.02 -13095953.87 0.0088 0.0070
 Neptune -40568-11-07 00:57 J -13095728.51 -13095728.46 -13095728.36 0.0088 0.0083
 Jupiter -40564-11-03 13:11 J -13094271.14 -13094270.95 -13094270.75 0.0544 0.0054
 Moon -40562-04-12 13:54 J -13093746.04 -13093745.92 -13093745.79 0.2655 0.1703
 Earth -40562-04-12 15:50 J -13093745.98 -13093745.84 -13093745.70 0.2661 0.1253 *

Uranus	-40561-07-03 18:14 J	-13093297.79	-13093297.74	-13093297.66	0.0147	0.0139
Saturn	-40561-07-10 01:54 J	-13093291.62	-13093291.42	-13093291.21	0.0284	0.0078
Uranus	-40560-02-15 06:42 J	-13093071.31	-13093071.22	-13093071.11	0.0147	0.0128
Saturn	-40560-02-24 16:47 J	-13093061.98	-13093061.80	-13093061.62	0.0284	0.0143
Uranus	-40560-09-29 19:11 J	-13092844.82	-13092844.70	-13092844.56	0.0147	0.0117
Uranus	-40559-05-14 07:54 J	-13092618.31	-13092618.17	-13092618.01	0.0147	0.0105
Uranus	-40559-12-26 20:38 J	-13092391.80	-13092391.64	-13092391.47	0.0147	0.0093
Uranus	-40558-08-10 09:21 J	-13092165.28	-13092165.11	-13092164.92	0.0147	0.0081
Jupiter	-40558-08-31 20:09 J	-13092143.84	-13092143.66	-13092143.46	0.0484	0.0192
Uranus	-40557-03-23 22:33 J	-13091938.75	-13091938.56	-13091938.36	0.0147	0.0068
Uranus	-40557-11-05 11:30 J	-13091712.21	-13091712.02	-13091711.81	0.0147	0.0055
Uranus	-40556-06-20 00:42 J	-13091485.68	-13091485.47	-13091485.26	0.0146	0.0042
Uranus	-40555-02-01 13:54 J	-13091259.13	-13091258.92	-13091258.70	0.0146	0.0029
Uranus	-40555-09-16 03:06 J	-13091032.58	-13091032.37	-13091032.15	0.0146	0.0017
Uranus	-40554-04-30 16:33 J	-13090806.03	-13090805.81	-13090805.60	0.0146	0.0004
Uranus	-40554-12-13 05:30 J	-13090579.48	-13090579.27	-13090579.05	0.0146	0.0010
Uranus	-40553-07-26 18:57 J	-13090352.93	-13090352.71	-13090352.50	0.0146	0.0023
Uranus	-40552-03-10 08:09 J	-13090126.37	-13090126.16	-13090125.94	0.0146	0.0036
Mars	-40552-07-06 22:47 J	-13090007.65	-13090007.55	-13090007.45	0.1686	0.1357
Jupiter	-40552-07-08 22:33 J	-13090005.74	-13090005.56	-13090005.38	0.0544	0.0246
Uranus	-40552-10-22 21:35 J	-13089899.81	-13089899.60	-13089899.39	0.0145	0.0048
Uranus	-40551-06-06 10:33 J	-13089673.25	-13089673.06	-13089672.85	0.0145	0.0061
Uranus	-40550-01-18 23:30 J	-13089446.69	-13089446.52	-13089446.31	0.0145	0.0074
Uranus	-40550-09-02 12:57 J	-13089220.13	-13089219.96	-13089219.77	0.0144	0.0086
Uranus	-40549-04-16 02:09 J	-13088993.56	-13088993.41	-13088993.24	0.0144	0.0098
Uranus	-40549-11-28 15:06 J	-13088767.00	-13088766.87	-13088766.71	0.0144	0.0109
Uranus	-40548-07-13 04:18 J	-13088540.43	-13088540.32	-13088540.19	0.0144	0.0120
Mars	-40547-02-10 19:40 J	-13088327.85	-13088327.68	-13088327.51	0.1847	0.0650
Uranus	-40547-02-24 17:02 J	-13088313.86	-13088313.79	-13088313.68	0.0143	0.0131
Uranus	-40547-10-09 06:14 J	-13088087.26	-13088087.24	-13088087.20	0.0143	0.0141

Saturn -40547-12-27 07:26 J -13088008.37 -13088008.19 -13088008.01 0.0275 0.0140
 Jupiter -40546-05-07 00:57 J -13087877.58 -13087877.46 -13087877.34 0.0484 0.0390
 Saturn -40546-08-13 16:47 J -13087779.01 -13087778.80 -13087778.59 0.0275 0.0062
 Jupiter -40546-12-29 00:14 J -13087641.63 -13087641.49 -13087641.34 0.0486 0.0341
 Saturn -40545-03-30 00:57 J -13087549.52 -13087549.46 -13087549.39 0.0275 0.0261
 Jupiter -40540-03-13 10:18 J -13085740.10 -13085740.07 -13085740.02 0.0544 0.0534
 Jupiter -40540-11-06 13:11 J -13085502.03 -13085501.95 -13085501.86 0.0542 0.0486
 Jupiter -40534-09-03 02:09 J -13083375.61 -13083375.41 -13083375.21 0.0485 0.0132
 Saturn -40532-06-04 19:11 J -13082734.78 -13082734.70 -13082734.62 0.0283 0.0259
 Saturn -40531-01-20 08:38 J -13082505.35 -13082505.14 -13082504.93 0.0284 0.0042
 Saturn -40531-09-06 23:02 J -13082275.70 -13082275.54 -13082275.37 0.0284 0.0178
 Jupiter -40528-07-12 04:47 J -13081236.48 -13081236.30 -13081236.11 0.0544 0.0212
 Jupiter -40522-05-09 05:59 J -13079109.46 -13079109.25 -13079109.05 0.0484 0.0072
 Uranus -40519-01-15 19:11 J -13078126.75 -13078126.70 -13078126.64 0.0132 0.0127
 Uranus -40519-08-30 00:28 J -13077900.56 -13077900.48 -13077900.38 0.0132 0.0119
 Uranus -40518-04-13 05:30 J -13077674.37 -13077674.27 -13077674.13 0.0132 0.0111
 Mars -40518-05-05 13:54 J -13077652.09 -13077651.92 -13077651.76 0.1674 0.0485
 Uranus -40518-11-25 10:47 J -13077448.18 -13077448.05 -13077447.90 0.0132 0.0102
 Saturn -40517-07-08 08:09 J -13077222.35 -13077222.16 -13077221.97 0.0275 0.0119
 Uranus -40517-07-08 15:50 J -13077221.98 -13077221.84 -13077221.67 0.0132 0.0093 *
 Uranus -40516-02-19 20:52 J -13076995.79 -13076995.63 -13076995.45 0.0132 0.0084
 Saturn -40516-02-22 17:16 J -13076992.98 -13076992.78 -13076992.58 0.0275 0.0082
 Jupiter -40516-03-16 19:40 J -13076970.88 -13076970.68 -13076970.48 0.0544 0.0068
 Uranus -40516-10-04 01:54 J -13076769.59 -13076769.42 -13076769.24 0.0132 0.0075
 Uranus -40515-05-18 06:28 J -13076543.41 -13076543.23 -13076543.03 0.0132 0.0066
 Uranus -40515-12-30 11:16 J -13076317.22 -13076317.03 -13076316.83 0.0132 0.0057
 Uranus -40514-08-13 16:04 J -13076091.03 -13076090.83 -13076090.62 0.0132 0.0047
 Uranus -40513-03-26 20:38 J -13075864.84 -13075864.64 -13075864.43 0.0132 0.0038
 Uranus -40513-11-08 01:11 J -13075638.66 -13075638.45 -13075638.24 0.0132 0.0028
 Uranus -40512-06-22 05:30 J -13075412.48 -13075412.27 -13075412.05 0.0132 0.0019

Uranus -40511-02-03 10:04 J -13075186.30 -13075186.08 -13075185.86 0.0132 0.0009
 Uranus -40511-09-17 14:38 J -13074960.11 -13074959.89 -13074959.67 0.0133 0.0001
 Jupiter -40510-01-12 09:21 J -13074843.27 -13074843.11 -13074842.93 0.0484 0.0274
 Uranus -40510-05-01 18:57 J -13074733.92 -13074733.71 -13074733.49 0.0133 0.0010
 Jupiter -40510-09-05 09:50 J -13074607.15 -13074607.09 -13074607.02 0.0486 0.0460
 Uranus -40510-12-13 23:16 J -13074507.74 -13074507.53 -13074507.31 0.0133 0.0019
 Uranus -40509-07-27 03:35 J -13074281.56 -13074281.35 -13074281.13 0.0133 0.0029
 Uranus -40508-03-10 08:09 J -13074055.37 -13074055.16 -13074054.95 0.0133 0.0038
 Uranus -40508-10-22 12:42 J -13073829.17 -13073828.97 -13073828.77 0.0133 0.0048
 Uranus -40507-06-05 16:47 J -13073602.98 -13073602.80 -13073602.59 0.0134 0.0058
 Uranus -40506-01-17 21:21 J -13073376.78 -13073376.61 -13073376.41 0.0134 0.0067
 Uranus -40506-09-01 02:09 J -13073150.58 -13073150.41 -13073150.23 0.0134 0.0076
 Uranus -40505-04-14 06:42 J -13072924.37 -13072924.22 -13072924.05 0.0134 0.0085
 Jupiter -40505-11-19 08:23 J -13072705.30 -13072705.15 -13072705.00 0.0544 0.0355
 Uranus -40505-11-26 11:16 J -13072698.17 -13072698.03 -13072697.86 0.0135 0.0095
 Uranus -40504-07-10 16:04 J -13072471.95 -13072471.83 -13072471.68 0.0135 0.0104
 Uranus -40503-02-21 21:06 J -13072245.73 -13072245.62 -13072245.50 0.0135 0.0112
 Uranus -40503-10-06 01:54 J -13072019.50 -13072019.42 -13072019.31 0.0135 0.0121
 Saturn -40503-12-15 19:54 J -13071948.77 -13071948.67 -13071948.54 0.0284 0.0237
 Uranus -40502-05-20 06:57 J -13071793.26 -13071793.21 -13071793.14 0.0136 0.0130
 Saturn -40502-08-02 09:50 J -13071719.30 -13071719.09 -13071718.88 0.0284 0.0020
 Saturn -40501-03-19 00:28 J -13071489.62 -13071489.48 -13071489.32 0.0284 0.0201
 Jupiter -40499-09-17 14:38 J -13070576.94 -13070576.89 -13070576.84 0.0484 0.0469
 Jupiter -40498-05-11 13:11 J -13070341.12 -13070340.95 -13070340.77 0.0485 0.0257
 Neptune -40493-07-29 17:30 J -13068434.85 -13068434.77 -13068434.66 0.0089 0.0080
 Pluto -40492-02-08 21:21 J -13068240.71 -13068240.61 -13068240.47 0.0078 0.0066
 Neptune -40492-03-12 05:59 J -13068209.37 -13068209.25 -13068209.09 0.0089 0.0068
 Jupiter -40492-03-19 20:09 J -13068201.80 -13068201.66 -13068201.51 0.0542 0.0370
 Pluto -40492-09-22 07:40 J -13068015.40 -13068015.18 -13068014.95 0.0078 0.0008
 Neptune -40492-10-23 18:57 J -13067983.87 -13067983.71 -13067983.53 0.0089 0.0055

Neptune -40491-06-06 07:40 J -13067758.37 -13067758.18 -13067757.99 0.0089 0.0042
 Neptune -40490-01-17 20:09 J -13067532.86 -13067532.66 -13067532.45 0.0089 0.0030
 Neptune -40490-08-31 08:52 J -13067307.34 -13067307.13 -13067306.92 0.0089 0.0017
 Neptune -40489-04-12 21:21 J -13067081.83 -13067081.61 -13067081.39 0.0089 0.0005
 Neptune -40489-11-24 09:35 J -13066856.31 -13066856.10 -13066855.88 0.0089 0.0008
 Neptune -40488-07-07 22:04 J -13066630.79 -13066630.58 -13066630.37 0.0089 0.0020
 Saturn -40487-01-18 15:50 J -13066436.04 -13066435.84 -13066435.63 0.0276 0.0082
 Neptune -40487-02-18 10:18 J -13066405.26 -13066405.07 -13066404.86 0.0089 0.0033
 Saturn -40487-09-05 01:11 J -13066206.64 -13066206.45 -13066206.26 0.0276 0.0120
 Neptune -40487-10-01 22:47 J -13066179.72 -13066179.55 -13066179.35 0.0089 0.0045
 Jupiter -40486-01-14 16:33 J -13066075.02 -13066074.81 -13066074.60 0.0485 0.0052
 Mars -40486-05-04 10:18 J -13065965.20 -13065965.07 -13065964.95 0.1683 0.1142
 Neptune -40486-05-15 10:47 J -13065954.19 -13065954.05 -13065953.86 0.0089 0.0059
 Neptune -40486-12-26 23:16 J -13065728.64 -13065728.53 -13065728.38 0.0089 0.0070
 Neptune -40485-08-08 11:45 J -13065503.08 -13065503.01 -13065502.92 0.0089 0.0082
 Mars -40482-12-08 23:16 J -13064285.71 -13064285.53 -13064285.35 0.1851 0.0160
 Jupiter -40481-11-22 09:50 J -13063936.29 -13063936.09 -13063935.90 0.0544 0.0087
 Uranus -40477-03-03 01:40 J -13062739.49 -13062739.43 -13062739.37 0.0147 0.0140
 Uranus -40477-10-15 13:26 J -13062513.02 -13062512.94 -13062512.82 0.0147 0.0130
 Uranus -40476-05-30 02:23 J -13062286.53 -13062286.40 -13062286.27 0.0147 0.0118
 Uranus -40475-01-11 14:52 J -13062060.02 -13062059.88 -13062059.72 0.0147 0.0107
 Uranus -40475-08-26 03:35 J -13061833.51 -13061833.35 -13061833.18 0.0147 0.0095
 Jupiter -40475-09-19 19:26 J -13061808.89 -13061808.69 -13061808.50 0.0484 0.0154
 Uranus -40474-04-09 16:18 J -13061606.99 -13061606.82 -13061606.63 0.0147 0.0083
 Uranus -40474-11-22 05:02 J -13061380.47 -13061380.29 -13061380.09 0.0147 0.0071
 Saturn -40473-06-27 04:04 J -13061162.47 -13061162.33 -13061162.17 0.0283 0.0198
 Uranus -40473-07-05 18:14 J -13061153.93 -13061153.74 -13061153.54 0.0147 0.0058
 Saturn -40472-02-11 17:59 J -13060932.96 -13060932.75 -13060932.54 0.0283 0.0019
 Uranus -40472-02-17 07:26 J -13060927.39 -13060927.19 -13060926.98 0.0147 0.0045
 Saturn -40472-09-29 08:23 J -13060703.26 -13060703.15 -13060703.03 0.0283 0.0238

Uranus	-40472-10-01 20:38 J	-13060700.85	-13060700.64	-13060700.42	0.0147	0.0032
Uranus	-40471-05-16 09:50 J	-13060474.31	-13060474.09	-13060473.87	0.0146	0.0019
Uranus	-40471-12-28 23:02 J	-13060247.76	-13060247.54	-13060247.32	0.0146	0.0006
Uranus	-40470-08-12 12:14 J	-13060021.21	-13060020.99	-13060020.77	0.0146	0.0007
Uranus	-40469-03-26 01:40 J	-13059794.65	-13059794.43	-13059794.21	0.0146	0.0020
Jupiter	-40469-07-27 23:45 J	-13059670.70	-13059670.51	-13059670.32	0.0545	0.0196
Uranus	-40469-11-07 14:52 J	-13059568.09	-13059567.88	-13059567.66	0.0146	0.0033
Uranus	-40468-06-22 04:04 J	-13059341.53	-13059341.33	-13059341.12	0.0145	0.0045
Uranus	-40467-02-03 17:16 J	-13059114.97	-13059114.78	-13059114.57	0.0145	0.0058
Uranus	-40467-09-18 06:42 J	-13058888.41	-13058888.22	-13058888.02	0.0145	0.0070
Uranus	-40466-05-02 19:40 J	-13058661.84	-13058661.68	-13058661.48	0.0145	0.0083
Uranus	-40466-12-15 08:52 J	-13058435.28	-13058435.13	-13058434.95	0.0144	0.0095
Uranus	-40465-07-28 22:04 J	-13058208.71	-13058208.58	-13058208.41	0.0144	0.0106
Uranus	-40464-03-12 11:30 J	-13057982.14	-13057982.02	-13057981.88	0.0144	0.0117
Uranus	-40464-10-25 00:42 J	-13057755.56	-13057755.47	-13057755.36	0.0143	0.0128
Jupiter	-40463-05-25 23:30 J	-13057542.65	-13057542.52	-13057542.37	0.0484	0.0354
Uranus	-40463-06-08 13:40 J	-13057528.98	-13057528.93	-13057528.87	0.0143	0.0138
Jupiter	-40462-01-16 22:47 J	-13057306.68	-13057306.55	-13057306.42	0.0486	0.0375
Saturn	-40459-12-14 07:11 J	-13055879.26	-13055879.20	-13055879.13	0.0275	0.0261
Saturn	-40458-07-31 17:16 J	-13055649.98	-13055649.78	-13055649.57	0.0275	0.0060
Saturn	-40457-03-17 02:23 J	-13055420.58	-13055420.40	-13055420.22	0.0275	0.0140
Jupiter	-40457-04-01 13:26 J	-13055405.03	-13055404.94	-13055404.84	0.0545	0.0477
Jupiter	-40457-11-25 15:50 J	-13055166.85	-13055166.84	-13055166.81	0.0542	0.0539
Mars	-40452-03-02 01:26 J	-13053609.60	-13053609.44	-13053609.28	0.1672	0.0679
Jupiter	-40451-09-22 01:26 J	-13053040.63	-13053040.44	-13053040.25	0.0485	0.0170
Jupiter	-40445-07-31 06:14 J	-13050901.41	-13050901.24	-13050901.06	0.0543	0.0261
Saturn	-40443-01-07 05:45 J	-13050376.43	-13050376.26	-13050376.10	0.0283	0.0175
Saturn	-40443-08-24 19:26 J	-13050146.90	-13050146.69	-13050146.48	0.0284	0.0042
Saturn	-40442-04-11 10:18 J	-13049917.15	-13049917.07	-13049916.99	0.0284	0.0261
Jupiter	-40439-05-28 05:30 J	-13048774.48	-13048774.27	-13048774.06	0.0484	0.0032

Uranus	-40436-09-15 07:26 J	-13047568.23	-13047568.19	-13047568.11	0.0132	0.0127
Uranus	-40435-04-29 12:42 J	-13047342.04	-13047341.97	-13047341.86	0.0132	0.0119
Uranus	-40435-12-11 18:28 J	-13047115.85	-13047115.73	-13047115.61	0.0132	0.0110
Uranus	-40434-07-25 23:30 J	-13046889.65	-13046889.52	-13046889.37	0.0132	0.0102
Uranus	-40433-03-08 04:47 J	-13046663.45	-13046663.30	-13046663.14	0.0132	0.0093
Jupiter	-40433-04-04 16:18 J	-13046636.02	-13046635.82	-13046635.62	0.0544	0.0034
Moon	-40433-10-14 20:52 J	-13046442.77	-13046442.63	-13046442.49	0.2669	0.1420
Earth	-40433-10-15 02:23 J	-13046442.55	-13046442.40	-13046442.25	0.2671	0.0900 *
Uranus	-40433-10-20 09:35 J	-13046437.26	-13046437.10	-13046436.92	0.0132	0.0084
Uranus	-40432-06-03 14:38 J	-13046211.07	-13046210.89	-13046210.71	0.0132	0.0075
Uranus	-40431-01-15 19:26 J	-13045984.88	-13045984.69	-13045984.50	0.0132	0.0066
Uranus	-40431-08-30 00:14 J	-13045758.68	-13045758.49	-13045758.29	0.0132	0.0057
Uranus	-40430-04-13 04:47 J	-13045532.50	-13045532.30	-13045532.09	0.0132	0.0048
Uranus	-40430-11-25 09:21 J	-13045306.31	-13045306.11	-13045305.90	0.0132	0.0038
Saturn	-40429-06-25 14:23 J	-13045093.01	-13045092.90	-13045092.77	0.0276	0.0226
Uranus	-40429-07-08 13:54 J	-13045080.13	-13045079.92	-13045079.71	0.0132	0.0029
Saturn	-40428-02-10 00:57 J	-13044863.68	-13044863.46	-13044863.25	0.0276	0.0024
Uranus	-40428-02-19 18:28 J	-13044853.95	-13044853.73	-13044853.52	0.0132	0.0020
Saturn	-40428-09-27 09:50 J	-13044634.24	-13044634.09	-13044633.92	0.0276	0.0178
Uranus	-40428-10-03 23:02 J	-13044627.76	-13044627.54	-13044627.33	0.0132	0.0010
Jupiter	-40427-01-31 09:21 J	-13044508.29	-13044508.11	-13044507.93	0.0484	0.0234
Uranus	-40427-05-18 03:21 J	-13044401.58	-13044401.36	-13044401.14	0.0132	0.0001
Uranus	-40427-12-30 07:40 J	-13044175.39	-13044175.18	-13044174.96	0.0133	0.0009
Uranus	-40426-08-13 11:59 J	-13043949.21	-13043949.00	-13043948.78	0.0133	0.0019
Uranus	-40425-03-26 16:33 J	-13043723.02	-13043722.81	-13043722.60	0.0133	0.0028
Uranus	-40425-11-07 20:52 J	-13043496.83	-13043496.63	-13043496.42	0.0133	0.0037
Uranus	-40424-06-22 01:26 J	-13043270.64	-13043270.44	-13043270.24	0.0133	0.0047
Uranus	-40423-02-03 05:45 J	-13043044.45	-13043044.26	-13043044.06	0.0133	0.0056
Uranus	-40423-09-17 10:18 J	-13042818.24	-13042818.07	-13042817.87	0.0134	0.0066
Uranus	-40422-05-01 14:52 J	-13042592.04	-13042591.88	-13042591.69	0.0134	0.0075

Jupiter -40422-12-09 04:18 J -13042370.48 -13042370.32 -13042370.16 0.0544 0.0321
 Uranus -40422-12-13 19:26 J -13042365.84 -13042365.69 -13042365.51 0.0134 0.0084
 Uranus -40421-07-26 23:59 J -13042139.64 -13042139.50 -13042139.33 0.0134 0.0094
 Mars -40420-02-28 21:21 J -13041922.75 -13041922.61 -13041922.47 0.1680 0.0928
 Uranus -40420-03-10 05:02 J -13041913.42 -13041913.29 -13041913.14 0.0135 0.0102
 Uranus -40420-10-22 09:50 J -13041687.20 -13041687.09 -13041686.96 0.0135 0.0111
 Uranus -40419-06-05 14:52 J -13041460.97 -13041460.88 -13041460.78 0.0135 0.0120
 Uranus -40418-01-17 19:54 J -13041234.74 -13041234.67 -13041234.61 0.0135 0.0128
 Mars -40416-10-05 03:06 J -13040243.55 -13040243.37 -13040243.20 0.1854 0.0333
 Jupiter -40416-10-06 12:42 J -13040242.05 -13040241.97 -13040241.87 0.0484 0.0435
 Jupiter -40415-05-30 11:16 J -13040006.19 -13040006.03 -13040005.86 0.0485 0.0290
 Saturn -40414-07-20 14:38 J -13039590.06 -13039589.89 -13039589.69 0.0283 0.0136
 Saturn -40413-03-06 04:33 J -13039360.51 -13039360.31 -13039360.10 0.0283 0.0082
 Neptune -40411-01-29 01:11 J -13038666.47 -13038666.45 -13038666.42 0.0088 0.0088
 Neptune -40411-09-11 14:09 J -13038441.00 -13038440.91 -13038440.77 0.0088 0.0076
 Neptune -40410-04-25 03:35 J -13038215.49 -13038215.35 -13038215.18 0.0088 0.0063
 Neptune -40410-12-06 17:02 J -13037989.96 -13037989.79 -13037989.59 0.0088 0.0051
 Jupiter -40409-04-07 20:38 J -13037866.76 -13037866.64 -13037866.51 0.0543 0.0415
 Neptune -40409-07-19 06:28 J -13037764.42 -13037764.23 -13037764.02 0.0088 0.0038
 Neptune -40408-03-01 20:09 J -13037538.87 -13037538.66 -13037538.44 0.0088 0.0025
 Neptune -40408-10-13 09:35 J -13037313.32 -13037313.10 -13037312.87 0.0088 0.0013
 Neptune -40407-05-26 23:02 J -13037087.76 -13037087.54 -13037087.31 0.0088 0.0002
 Neptune -40406-01-07 12:28 J -13036862.20 -13036861.98 -13036861.75 0.0088 0.0012
 Neptune -40406-08-21 01:54 J -13036636.63 -13036636.42 -13036636.20 0.0088 0.0025
 Neptune -40405-04-02 15:35 J -13036411.04 -13036410.85 -13036410.64 0.0088 0.0038
 Neptune -40405-11-14 05:02 J -13036185.46 -13036185.29 -13036185.09 0.0088 0.0050
 Neptune -40404-06-27 18:57 J -13035959.86 -13035959.71 -13035959.55 0.0088 0.0063
 Jupiter -40403-02-02 14:23 J -13035740.10 -13035739.90 -13035739.69 0.0484 0.0086
 Neptune -40403-02-08 08:09 J -13035734.26 -13035734.16 -13035734.03 0.0088 0.0075
 Neptune -40403-09-21 22:18 J -13035508.59 -13035508.57 -13035508.55 0.0088 0.0088

Saturn -40399-01-05 17:30 J -13034306.91 -13034306.77 -13034306.62 0.0275 0.0200
 Saturn -40399-08-23 03:35 J -13034077.56 -13034077.35 -13034077.13 0.0275 0.0004
 Saturn -40398-04-09 12:14 J -13033848.12 -13033847.99 -13033847.83 0.0275 0.0200
 Jupiter -40398-12-12 11:45 J -13033601.20 -13033601.01 -13033600.81 0.0544 0.0140
 Uranus -40394-11-01 09:50 J -13032181.13 -13032181.09 -13032181.02 0.0147 0.0141
 Uranus -40393-06-14 22:18 J -13031954.66 -13031954.57 -13031954.47 0.0147 0.0130
 Uranus -40392-01-27 10:47 J -13031728.17 -13031728.05 -13031727.92 0.0147 0.0119
 Uranus -40392-09-10 23:02 J -13031501.67 -13031501.54 -13031501.38 0.0147 0.0108
 Jupiter -40392-10-08 17:45 J -13031473.96 -13031473.76 -13031473.56 0.0484 0.0117
 Uranus -40391-04-25 11:59 J -13031275.17 -13031275.00 -13031274.84 0.0147 0.0096
 Uranus -40391-12-08 00:28 J -13031048.65 -13031048.48 -13031048.30 0.0147 0.0084
 Uranus -40390-07-22 13:11 J -13030822.13 -13030821.95 -13030821.75 0.0147 0.0072
 Uranus -40389-03-05 02:09 J -13030595.60 -13030595.41 -13030595.20 0.0147 0.0060
 Uranus -40389-10-17 15:21 J -13030369.06 -13030368.86 -13030368.65 0.0147 0.0047
 Uranus -40388-06-01 04:18 J -13030142.53 -13030142.32 -13030142.10 0.0147 0.0034
 Uranus -40387-01-13 17:30 J -13029915.98 -13029915.77 -13029915.55 0.0146 0.0021
 Uranus -40387-08-28 06:42 J -13029689.44 -13029689.22 -13029689.00 0.0146 0.0008
 Mars -40387-12-28 12:57 J -13029567.11 -13029566.96 -13029566.81 0.1669 0.0874
 Uranus -40386-04-11 19:54 J -13029462.89 -13029462.67 -13029462.45 0.0146 0.0005
 Jupiter -40386-08-17 01:11 J -13029335.64 -13029335.45 -13029335.26 0.0544 0.0144
 Uranus -40386-11-24 09:06 J -13029236.33 -13029236.12 -13029235.90 0.0146 0.0018
 Uranus -40385-07-07 22:33 J -13029009.78 -13029009.56 -13029009.35 0.0146 0.0030
 Saturn -40384-01-29 16:18 J -13028804.01 -13028803.82 -13028803.63 0.0283 0.0111
 Uranus -40384-02-19 11:59 J -13028783.21 -13028783.00 -13028782.79 0.0146 0.0043
 Saturn -40384-09-16 06:14 J -13028574.44 -13028574.24 -13028574.04 0.0283 0.0106
 Uranus -40384-10-04 01:11 J -13028556.65 -13028556.45 -13028556.24 0.0145 0.0055
 Uranus -40383-05-18 14:09 J -13028330.09 -13028329.91 -13028329.70 0.0145 0.0069
 Uranus -40383-12-31 03:35 J -13028103.52 -13028103.35 -13028103.16 0.0145 0.0080
 Uranus -40382-08-14 16:47 J -13027876.96 -13027876.80 -13027876.62 0.0145 0.0092
 Uranus -40381-03-28 06:14 J -13027650.38 -13027650.24 -13027650.08 0.0144 0.0103

Uranus -40381-11-09 19:11 J -13027423.81 -13027423.70 -13027423.55 0.0144 0.0115
 Jupiter -40380-06-13 22:04 J -13027207.73 -13027207.58 -13027207.42 0.0484 0.0317
 Uranus -40380-06-24 08:23 J -13027197.24 -13027197.15 -13027197.03 0.0144 0.0126
 Jupiter -40379-02-04 22:04 J -13026971.69 -13026971.58 -13026971.47 0.0486 0.0413
 Uranus -40379-02-05 21:21 J -13026970.66 -13026970.61 -13026970.52 0.0143 0.0136
 Jupiter -40374-04-21 10:33 J -13025070.18 -13025070.06 -13025069.95 0.0544 0.0440
 Saturn -40370-07-19 00:42 J -13023520.64 -13023520.47 -13023520.30 0.0276 0.0165
 Saturn -40369-03-04 10:47 J -13023291.26 -13023291.05 -13023290.84 0.0276 0.0037
 Saturn -40369-10-19 19:40 J -13023061.78 -13023061.68 -13023061.57 0.0276 0.0236
 Jupiter -40368-10-11 00:42 J -13022705.65 -13022705.47 -13022705.28 0.0485 0.0208
 Jupiter -40362-08-20 01:40 J -13020566.60 -13020566.43 -13020566.26 0.0543 0.0291
 Jupiter -40356-06-16 02:52 J -13018439.59 -13018439.38 -13018439.17 0.0484 0.0004
 Saturn -40356-12-25 13:54 J -13018246.92 -13018246.92 -13018246.90 0.0283 0.0282
 Saturn -40355-08-12 02:52 J -13018017.58 -13018017.38 -13018017.17 0.0283 0.0069
 Mars -40355-12-27 08:52 J -13017880.29 -13017880.13 -13017879.98 0.1677 0.0720
 Saturn -40354-03-29 16:47 J -13017787.98 -13017787.80 -13017787.62 0.0283 0.0148
 Uranus -40352-05-15 19:54 J -13017009.71 -13017009.67 -13017009.60 0.0132 0.0127
 Uranus -40352-12-28 01:11 J -13016783.52 -13016783.45 -13016783.34 0.0132 0.0119
 Uranus -40351-08-11 06:42 J -13016557.32 -13016557.22 -13016557.08 0.0132 0.0111
 Uranus -40350-03-25 12:14 J -13016331.12 -13016330.99 -13016330.85 0.0132 0.0102
 Jupiter -40350-04-24 15:35 J -13016301.05 -13016300.85 -13016300.65 0.0544 0.0011
 Mars -40350-08-02 06:14 J -13016201.40 -13016201.24 -13016201.09 0.1858 0.0842
 Uranus -40350-11-06 17:02 J -13016104.93 -13016104.79 -13016104.62 0.0132 0.0094
 Uranus -40349-06-19 22:04 J -13015878.73 -13015878.58 -13015878.40 0.0132 0.0085
 Uranus -40348-02-01 03:06 J -13015652.54 -13015652.37 -13015652.18 0.0132 0.0076
 Uranus -40348-09-15 07:54 J -13015426.34 -13015426.17 -13015425.97 0.0132 0.0067
 Uranus -40347-04-29 12:42 J -13015200.16 -13015199.97 -13015199.76 0.0132 0.0058
 Uranus -40347-12-11 17:30 J -13014973.97 -13014973.77 -13014973.57 0.0132 0.0048
 Uranus -40346-07-25 22:04 J -13014747.78 -13014747.58 -13014747.37 0.0132 0.0039
 Uranus -40345-03-08 02:38 J -13014521.60 -13014521.39 -13014521.17 0.0132 0.0030

Uranus -40345-10-20 07:11 J -13014295.42 -13014295.20 -13014294.99 0.0132 0.0020
 Jupiter -40344-02-19 06:42 J -13014173.40 -13014173.22 -13014173.03 0.0484 0.0201
 Uranus -40344-06-03 11:30 J -13014069.23 -13014069.02 -13014068.80 0.0132 0.0011
 Uranus -40343-01-15 16:04 J -13013843.05 -13013842.83 -13013842.61 0.0132 0.0002
 Uranus -40343-08-29 20:38 J -13013616.86 -13013616.64 -13013616.43 0.0133 0.0008
 Uranus -40342-04-13 00:57 J -13013390.67 -13013390.46 -13013390.25 0.0133 0.0017
 Uranus -40342-11-25 05:02 J -13013164.49 -13013164.29 -13013164.07 0.0133 0.0027
 Uranus -40341-07-08 09:35 J -13012938.30 -13012938.10 -13012937.89 0.0133 0.0036
 Saturn -40340-01-28 04:47 J -13012734.48 -13012734.30 -13012734.11 0.0275 0.0138
 Uranus -40340-02-19 13:54 J -13012712.11 -13012711.92 -13012711.71 0.0133 0.0046
 Saturn -40340-09-14 14:38 J -13012505.10 -13012504.89 -13012504.68 0.0275 0.0062
 Uranus -40340-10-03 18:42 J -13012485.91 -13012485.72 -13012485.52 0.0133 0.0054
 Saturn -40339-05-01 23:02 J -13012275.59 -13012275.54 -13012275.46 0.0275 0.0260
 Uranus -40339-05-17 23:16 J -13012259.72 -13012259.53 -13012259.34 0.0134 0.0064
 Jupiter -40339-12-28 05:30 J -13012035.45 -13012035.27 -13012035.10 0.0545 0.0271
 Uranus -40339-12-30 03:35 J -13012033.52 -13012033.35 -13012033.16 0.0134 0.0073
 Uranus -40338-08-13 08:09 J -13011807.32 -13011807.16 -13011806.98 0.0134 0.0082
 Uranus -40337-03-26 12:42 J -13011581.11 -13011580.97 -13011580.80 0.0134 0.0091
 Uranus -40337-11-07 17:16 J -13011354.90 -13011354.78 -13011354.62 0.0134 0.0101
 Uranus -40336-06-21 22:18 J -13011128.69 -13011128.57 -13011128.44 0.0135 0.0109
 Uranus -40335-02-03 03:06 J -13010902.47 -13010902.37 -13010902.26 0.0135 0.0117
 Uranus -40335-09-17 08:09 J -13010676.24 -13010676.16 -13010676.08 0.0135 0.0126
 Uranus -40334-05-01 12:57 J -13010449.99 -13010449.96 -13010449.93 0.0136 0.0134
 Pluto -40333-09-27 12:57 J -13009935.02 -13009934.96 -13009934.86 0.0066 0.0061
 Jupiter -40333-10-25 10:33 J -13009907.17 -13009907.06 -13009906.94 0.0484 0.0400
 Pluto -40332-05-10 17:45 J -13009709.97 -13009709.76 -13009709.55 0.0066 0.0019
 Jupiter -40332-06-18 09:06 J -13009671.27 -13009671.12 -13009670.96 0.0485 0.0324
 Pluto -40332-12-21 22:18 J -13009484.77 -13009484.57 -13009484.36 0.0066 0.0025
 Neptune -40329-10-31 01:26 J -13008440.46 -13008440.44 -13008440.37 0.0089 0.0087
 Neptune -40328-06-13 14:23 J -13008215.01 -13008214.90 -13008214.78 0.0089 0.0074

Neptune -40327-01-25 02:38 J -13007989.52 -13007989.39 -13007989.21 0.0089 0.0062
 Moon -40327-04-14 21:35 J -13007909.70 -13007909.60 -13007909.49 0.2665 0.1914
 Earth -40327-04-15 01:40 J -13007909.50 -13007909.43 -13007909.36 0.2660 0.2363 *
 Neptune -40327-09-07 15:50 J -13007764.02 -13007763.84 -13007763.66 0.0089 0.0049
 Neptune -40326-04-21 04:04 J -13007538.51 -13007538.33 -13007538.12 0.0089 0.0038
 Jupiter -40326-04-27 21:21 J -13007531.71 -13007531.61 -13007531.51 0.0542 0.0460
 Saturn -40326-07-07 15:06 J -13007460.94 -13007460.87 -13007460.78 0.0283 0.0259
 Neptune -40326-12-02 17:02 J -13007313.00 -13007312.79 -13007312.58 0.0089 0.0024
 Saturn -40325-02-22 04:18 J -13007231.52 -13007231.32 -13007231.11 0.0283 0.0046
 Neptune -40325-07-15 05:30 J -13007087.48 -13007087.27 -13007087.06 0.0089 0.0012
 Saturn -40325-10-08 18:14 J -13007001.90 -13007001.74 -13007001.56 0.0283 0.0171
 Neptune -40324-02-25 17:59 J -13006861.96 -13006861.75 -13006861.53 0.0089 0.0001
 Neptune -40324-10-09 06:28 J -13006636.44 -13006636.23 -13006636.01 0.0089 0.0013
 Neptune -40323-05-22 18:57 J -13006410.91 -13006410.71 -13006410.50 0.0089 0.0025
 Neptune -40322-01-03 07:11 J -13006185.38 -13006185.20 -13006184.99 0.0089 0.0038
 Neptune -40322-08-16 19:26 J -13005959.85 -13005959.69 -13005959.50 0.0089 0.0051
 Neptune -40321-03-29 08:09 J -13005734.31 -13005734.16 -13005734.00 0.0089 0.0062
 Mars -40321-10-25 00:42 J -13005524.60 -13005524.47 -13005524.34 0.1667 0.1064
 Neptune -40321-11-09 20:09 J -13005508.76 -13005508.66 -13005508.52 0.0089 0.0075
 Jupiter -40320-02-21 12:42 J -13005405.17 -13005404.97 -13005404.77 0.0485 0.0122
 Neptune -40320-06-23 08:23 J -13005283.17 -13005283.15 -13005283.08 0.0089 0.0087
 Moon -40319-04-12 18:42 J -13004989.87 -13004989.72 -13004989.58 0.2669 0.0723
 Earth -40319-04-12 19:11 J -13004989.85 -13004989.70 -13004989.56 0.2662 0.0997 *
 Jupiter -40315-12-31 08:09 J -13003266.34 -13003266.16 -13003265.97 0.0543 0.0172
 Saturn -40311-08-10 11:30 J -13001948.22 -13001948.02 -13001947.82 0.0276 0.0104
 Saturn -40310-03-27 21:21 J -13001718.80 -13001718.61 -13001718.41 0.0276 0.0098
 Uranus -40310-07-01 17:30 J -13001622.81 -13001622.77 -13001622.71 0.0147 0.0142
 Uranus -40309-02-13 05:30 J -13001396.35 -13001396.27 -13001396.16 0.0147 0.0132
 Uranus -40309-09-26 17:45 J -13001169.87 -13001169.76 -13001169.62 0.0147 0.0121
 Jupiter -40309-10-27 16:04 J -13001139.03 -13001138.83 -13001138.62 0.0485 0.0082

Uranus	-40308-05-11 06:14 J	-13000943.37	-13000943.24	-13000943.09	0.0147	0.0110
Uranus	-40308-12-23 18:42 J	-13000716.87	-13000716.72	-13000716.55	0.0147	0.0098
Uranus	-40307-08-07 07:40 J	-13000490.36	-13000490.18	-13000490.01	0.0147	0.0086
Uranus	-40306-03-21 20:09 J	-13000263.84	-13000263.66	-13000263.47	0.0147	0.0074
Uranus	-40306-11-03 09:06 J	-13000037.31	-13000037.12	-13000036.92	0.0147	0.0062
Uranus	-40305-06-16 21:50 J	-12999810.78	-12999810.59	-12999810.38	0.0147	0.0050
Uranus	-40304-01-29 11:02 J	-12999584.24	-12999584.04	-12999583.82	0.0147	0.0037
Uranus	-40304-09-13 00:14 J	-12999357.70	-12999357.49	-12999357.27	0.0147	0.0024
Uranus	-40303-04-27 13:26 J	-12999131.16	-12999130.94	-12999130.72	0.0147	0.0011
Jupiter	-40303-09-04 20:09 J	-12999000.85	-12999000.66	-12999000.46	0.0544	0.0116
Uranus	-40303-12-10 02:38 J	-12998904.61	-12998904.39	-12998904.17	0.0146	0.0003
Uranus	-40302-07-24 15:50 J	-12998678.06	-12998677.84	-12998677.62	0.0146	0.0014
Uranus	-40301-03-07 05:16 J	-12998451.50	-12998451.28	-12998451.07	0.0146	0.0027
Uranus	-40301-10-19 18:28 J	-12998224.94	-12998224.73	-12998224.51	0.0146	0.0040
Uranus	-40300-06-03 07:40 J	-12997998.37	-12997998.18	-12997997.96	0.0146	0.0053
Uranus	-40299-01-15 21:06 J	-12997771.81	-12997771.62	-12997771.42	0.0145	0.0065
Uranus	-40299-08-30 10:18 J	-12997545.24	-12997545.07	-12997544.87	0.0145	0.0077
Uranus	-40298-04-13 23:45 J	-12997318.67	-12997318.51	-12997318.32	0.0145	0.0089
Uranus	-40298-11-26 13:11 J	-12997092.10	-12997091.95	-12997091.78	0.0144	0.0100
Jupiter	-40297-07-02 18:57 J	-12996872.87	-12996872.71	-12996872.54	0.0484	0.0285
Uranus	-40297-07-10 02:38 J	-12996865.52	-12996865.39	-12996865.25	0.0144	0.0111
Saturn	-40296-01-17 02:38 J	-12996674.52	-12996674.39	-12996674.25	0.0283	0.0216
Uranus	-40296-02-21 15:35 J	-12996638.95	-12996638.85	-12996638.72	0.0144	0.0123
Jupiter	-40296-02-23 18:42 J	-12996636.80	-12996636.72	-12996636.64	0.0486	0.0442
Saturn	-40296-09-03 15:50 J	-12996445.05	-12996444.84	-12996444.63	0.0283	0.0003
Uranus	-40296-10-06 05:02 J	-12996412.37	-12996412.29	-12996412.20	0.0144	0.0133
Saturn	-40295-04-21 05:30 J	-12996215.39	-12996215.27	-12996215.12	0.0283	0.0215
Uranus	-40295-05-20 17:59 J	-12996185.75	-12996185.75	-12996185.73	0.0143	0.0143
Jupiter	-40291-05-10 08:23 J	-12994735.29	-12994735.15	-12994735.02	0.0545	0.0401
Mars	-40289-10-23 20:23 J	-12993837.82	-12993837.65	-12993837.49	0.1675	0.0520

Jupiter -40285-03-07 23:30 J -12992606.53 -12992606.52 -12992606.49 0.0484 0.0481
 Jupiter -40285-10-29 21:21 J -12992370.79 -12992370.61 -12992370.43 0.0485 0.0238
 Mars -40284-05-29 10:04 J -12992159.20 -12992159.08 -12992158.96 0.1861 0.1335
 Saturn -40282-07-06 06:14 J -12991391.24 -12991391.24 -12991391.24 0.0275 0.0275
 Saturn -40281-02-20 16:47 J -12991162.00 -12991161.80 -12991161.59 0.0275 0.0075
 Saturn -40281-10-07 02:23 J -12990932.59 -12990932.40 -12990932.21 0.0275 0.0125
 Jupiter -40279-09-08 02:09 J -12990231.57 -12990231.41 -12990231.25 0.0543 0.0337
 Jupiter -40273-07-04 23:59 J -12988104.70 -12988104.50 -12988104.29 0.0484 0.0035
 Uranus -40268-01-13 08:23 J -12986451.19 -12986451.15 -12986451.07 0.0132 0.0127
 Uranus -40268-08-27 14:09 J -12986224.99 -12986224.91 -12986224.80 0.0132 0.0119
 Uranus -40267-04-10 19:26 J -12985998.79 -12985998.69 -12985998.55 0.0132 0.0111
 Jupiter -40267-05-13 16:04 J -12985966.03 -12985965.83 -12985965.63 0.0544 0.0058
 Saturn -40267-07-30 04:04 J -12985888.47 -12985888.33 -12985888.17 0.0283 0.0193
 Uranus -40267-11-23 00:42 J -12985772.59 -12985772.47 -12985772.32 0.0132 0.0102
 Saturn -40266-03-16 17:30 J -12985658.98 -12985658.77 -12985658.56 0.0283 0.0022
 Uranus -40266-07-07 06:14 J -12985546.39 -12985546.24 -12985546.09 0.0132 0.0093
 Saturn -40266-11-01 07:26 J -12985429.29 -12985429.19 -12985429.07 0.0283 0.0238
 Uranus -40265-02-18 11:02 J -12985320.20 -12985320.04 -12985319.86 0.0132 0.0085
 Uranus -40265-10-01 15:50 J -12985094.00 -12985093.84 -12985093.65 0.0132 0.0076
 Uranus -40264-05-15 20:52 J -12984867.81 -12984867.63 -12984867.44 0.0132 0.0067
 Uranus -40264-12-28 01:26 J -12984641.62 -12984641.44 -12984641.23 0.0132 0.0058
 Uranus -40263-08-11 06:14 J -12984415.43 -12984415.24 -12984415.03 0.0132 0.0049
 Uranus -40262-03-25 10:47 J -12984189.25 -12984189.05 -12984188.83 0.0132 0.0040
 Uranus -40262-11-06 15:35 J -12983963.06 -12983962.85 -12983962.64 0.0132 0.0031
 Jupiter -40261-03-10 04:18 J -12983838.51 -12983838.32 -12983838.13 0.0484 0.0166
 Uranus -40261-06-19 19:54 J -12983736.88 -12983736.67 -12983736.45 0.0132 0.0021
 Uranus -40260-02-01 00:28 J -12983510.70 -12983510.48 -12983510.26 0.0132 0.0012
 Uranus -40260-09-15 05:02 J -12983284.51 -12983284.29 -12983284.07 0.0132 0.0003
 Uranus -40259-04-29 09:21 J -12983058.32 -12983058.11 -12983057.89 0.0132 0.0007
 Uranus -40259-12-11 13:54 J -12982832.14 -12982831.92 -12982831.71 0.0133 0.0016

Uranus -40258-07-25 18:14 J -12982605.95 -12982605.74 -12982605.52 0.0133 0.0025
 Uranus -40257-03-07 22:33 J -12982379.76 -12982379.56 -12982379.34 0.0133 0.0035
 Uranus -40257-10-20 03:06 J -12982153.57 -12982153.37 -12982153.16 0.0133 0.0044
 Uranus -40256-06-03 07:40 J -12981927.37 -12981927.18 -12981926.98 0.0133 0.0053
 Uranus -40255-01-15 11:59 J -12981701.18 -12981701.00 -12981700.80 0.0133 0.0063
 Jupiter -40255-01-16 02:23 J -12981700.58 -12981700.40 -12981700.22 0.0544 0.0234
 Mars -40255-08-22 12:14 J -12981482.10 -12981481.99 -12981481.88 0.1664 0.1256
 Uranus -40255-08-29 16:33 J -12981474.98 -12981474.81 -12981474.62 0.0134 0.0072
 Uranus -40254-04-12 21:06 J -12981248.78 -12981248.62 -12981248.44 0.0134 0.0081
 Uranus -40254-11-25 01:54 J -12981022.58 -12981022.42 -12981022.26 0.0134 0.0090
 Uranus -40253-07-08 06:14 J -12980796.37 -12980796.24 -12980796.08 0.0134 0.0099
 Saturn -40252-01-15 11:59 J -12980605.10 -12980605.00 -12980604.90 0.0276 0.0244
 Uranus -40252-02-19 11:16 J -12980570.16 -12980570.03 -12980569.90 0.0135 0.0107
 Mars -40252-05-29 06:14 J -12980471.35 -12980471.24 -12980471.13 0.1849 0.1403
 Saturn -40252-09-01 22:47 J -12980375.76 -12980375.55 -12980375.34 0.0276 0.0042
 Uranus -40252-10-03 15:35 J -12980343.94 -12980343.85 -12980343.72 0.0135 0.0116
 Saturn -40251-04-19 08:23 J -12980146.32 -12980146.15 -12980145.97 0.0276 0.0159
 Uranus -40251-05-17 20:23 J -12980117.71 -12980117.65 -12980117.55 0.0135 0.0124
 Uranus -40251-12-30 01:11 J -12979891.48 -12979891.45 -12979891.39 0.0135 0.0132
 Jupiter -40250-11-14 07:54 J -12979572.30 -12979572.17 -12979572.03 0.0484 0.0367
 Jupiter -40249-07-07 07:11 J -12979336.34 -12979336.20 -12979336.06 0.0486 0.0357
 Neptune -40247-12-13 21:50 J -12978446.66 -12978446.59 -12978446.50 0.0088 0.0082
 Neptune -40246-07-27 11:02 J -12978221.16 -12978221.04 -12978220.89 0.0088 0.0070
 Pluto -40246-10-20 21:35 J -12978135.74 -12978135.60 -12978135.43 0.0078 0.0056
 Neptune -40245-03-09 00:28 J -12977995.63 -12977995.48 -12977995.29 0.0088 0.0057
 Pluto -40245-06-02 07:54 J -12977910.39 -12977910.17 -12977909.95 0.0078 0.0017
 Neptune -40245-10-20 14:09 J -12977770.10 -12977769.91 -12977769.71 0.0088 0.0045
 Neptune -40244-06-03 03:21 J -12977544.56 -12977544.36 -12977544.14 0.0088 0.0032
 Jupiter -40244-09-20 13:11 J -12977435.00 -12977434.95 -12977434.90 0.0544 0.0522
 Neptune -40243-01-14 16:33 J -12977319.01 -12977318.81 -12977318.58 0.0088 0.0020

Jupiter -40243-05-16 16:04 J -12977196.92 -12977196.83 -12977196.74 0.0542 0.0485
 Neptune -40243-08-28 06:14 J -12977093.46 -12977093.24 -12977093.02 0.0088 0.0007
 Neptune -40242-04-10 19:40 J -12976867.90 -12976867.68 -12976867.45 0.0088 0.0005
 Neptune -40242-11-22 09:06 J -12976642.33 -12976642.12 -12976641.89 0.0088 0.0018
 Neptune -40241-07-04 22:18 J -12976416.77 -12976416.57 -12976416.34 0.0088 0.0031
 Neptune -40240-02-15 11:59 J -12976191.19 -12976191.00 -12976190.79 0.0088 0.0043
 Neptune -40240-09-29 01:26 J -12975965.60 -12975965.44 -12975965.25 0.0088 0.0055
 Neptune -40239-05-12 15:06 J -12975740.00 -12975739.87 -12975739.72 0.0088 0.0067
 Neptune -40239-12-24 04:18 J -12975514.39 -12975514.32 -12975514.20 0.0088 0.0080
 Saturn -40237-02-09 16:04 J -12975102.01 -12975101.83 -12975101.65 0.0283 0.0149
 Jupiter -40237-03-12 09:06 J -12975070.32 -12975070.12 -12975069.93 0.0485 0.0151
 Saturn -40237-09-26 05:16 J -12974872.48 -12974872.28 -12974872.07 0.0283 0.0065
 Saturn -40236-05-13 19:26 J -12974642.71 -12974642.69 -12974642.65 0.0283 0.0281
 Jupiter -40231-01-19 05:30 J -12972931.45 -12972931.27 -12972931.08 0.0544 0.0209
 Uranus -40226-03-01 02:23 J -12971064.43 -12971064.40 -12971064.34 0.0147 0.0143
 Uranus -40226-10-13 14:09 J -12970837.98 -12970837.91 -12970837.80 0.0147 0.0133
 Jupiter -40226-11-16 12:28 J -12970804.18 -12970803.98 -12970803.77 0.0484 0.0052
 Uranus -40225-05-27 02:23 J -12970611.50 -12970611.40 -12970611.27 0.0147 0.0122
 Uranus -40224-01-08 14:52 J -12970385.01 -12970384.88 -12970384.73 0.0147 0.0111
 Uranus -40224-08-23 03:06 J -12970158.51 -12970158.37 -12970158.20 0.0147 0.0100
 Uranus -40223-04-06 15:50 J -12969932.00 -12969931.84 -12969931.66 0.0147 0.0088
 Saturn -40223-07-28 18:42 J -12969818.85 -12969818.72 -12969818.58 0.0276 0.0212
 Mars -40223-08-21 07:26 J -12969795.35 -12969795.19 -12969795.02 0.1672 0.0313
 Uranus -40223-11-19 04:18 J -12969705.49 -12969705.32 -12969705.12 0.0147 0.0076
 Saturn -40222-03-15 05:16 J -12969589.50 -12969589.28 -12969589.07 0.0275 0.0012
 Uranus -40222-07-03 17:02 J -12969478.97 -12969478.79 -12969478.58 0.0147 0.0064
 Saturn -40222-10-30 14:09 J -12969360.05 -12969359.91 -12969359.74 0.0275 0.0188
 Uranus -40221-02-15 05:59 J -12969252.44 -12969252.25 -12969252.03 0.0147 0.0052
 Uranus -40221-09-28 19:11 J -12969025.91 -12969025.70 -12969025.49 0.0147 0.0039
 Uranus -40220-05-13 08:09 J -12968799.37 -12968799.16 -12968798.94 0.0147 0.0027

Jupiter -40220-09-23 19:54 J -12968665.87 -12968665.67 -12968665.48 0.0544 0.0071
 Uranus -40220-12-25 21:21 J -12968572.83 -12968572.61 -12968572.39 0.0147 0.0014
 Uranus -40219-08-09 10:33 J -12968346.28 -12968346.06 -12968345.84 0.0146 0.0002
 Uranus -40218-03-23 23:45 J -12968119.72 -12968119.51 -12968119.29 0.0146 0.0012
 Mars -40218-03-26 12:57 J -12968116.97 -12968116.96 -12968116.94 0.1864 0.1850
 Uranus -40218-11-05 13:11 J -12967893.17 -12967892.95 -12967892.74 0.0146 0.0025
 Uranus -40217-06-19 02:23 J -12967666.61 -12967666.40 -12967666.18 0.0146 0.0037
 Uranus -40216-01-31 15:50 J -12967440.04 -12967439.84 -12967439.63 0.0146 0.0050
 Uranus -40216-09-15 05:02 J -12967213.48 -12967213.29 -12967213.08 0.0145 0.0062
 Uranus -40215-04-29 18:28 J -12966986.91 -12966986.73 -12966986.53 0.0145 0.0074
 Uranus -40215-12-12 07:54 J -12966760.34 -12966760.17 -12966759.99 0.0145 0.0086
 Jupiter -40214-07-22 15:50 J -12966538.01 -12966537.84 -12966537.66 0.0484 0.0252
 Uranus -40214-07-26 21:06 J -12966533.77 -12966533.62 -12966533.45 0.0145 0.0098
 Uranus -40213-03-09 10:47 J -12966307.19 -12966307.05 -12966306.91 0.0144 0.0109
 Jupiter -40213-03-14 15:35 J -12966301.89 -12966301.85 -12966301.80 0.0486 0.0473
 Uranus -40213-10-21 23:45 J -12966080.62 -12966080.51 -12966080.38 0.0144 0.0120
 Uranus -40212-06-05 12:42 J -12965854.04 -12965853.97 -12965853.86 0.0144 0.0131
 Uranus -40211-01-18 01:54 J -12965627.45 -12965627.42 -12965627.37 0.0144 0.0141
 Jupiter -40208-05-29 08:52 J -12964400.29 -12964400.13 -12964399.98 0.0544 0.0352
 Saturn -40208-08-21 17:45 J -12964315.95 -12964315.76 -12964315.57 0.0283 0.0124
 Saturn -40207-04-08 06:57 J -12964086.40 -12964086.21 -12964086.00 0.0283 0.0090
 Jupiter -40202-03-27 20:23 J -12962271.71 -12962271.65 -12962271.56 0.0484 0.0448
 Jupiter -40202-11-18 18:42 J -12962035.89 -12962035.72 -12962035.54 0.0485 0.0271
 Jupiter -40196-09-26 22:47 J -12959896.69 -12959896.55 -12959896.40 0.0542 0.0370
 Saturn -40193-02-07 23:45 J -12959032.66 -12959032.51 -12959032.34 0.0276 0.0181
 Saturn -40193-09-24 10:33 J -12958803.28 -12958803.06 -12958802.85 0.0276 0.0020
 Saturn -40192-05-11 19:54 J -12958573.80 -12958573.67 -12958573.54 0.0276 0.0219
 Jupiter -40190-07-24 21:35 J -12957769.81 -12957769.60 -12957769.40 0.0485 0.0067
 Earth -40190-10-16 01:26 J -12957686.60 -12957686.44 -12957686.29 0.2670 0.0948
 Moon -40190-10-16 05:16 J -12957686.44 -12957686.28 -12957686.13 0.2675 0.0299 *

Mars	-40189-06-18 23:45 J	-12957439.59	-12957439.51	-12957439.43	0.1662	0.1445
Mars	-40186-03-26 10:18 J	-12956429.22	-12956429.07	-12956428.92	0.1853	0.0932
Uranus	-40185-09-12 20:52 J	-12955892.66	-12955892.63	-12955892.55	0.0132	0.0127
Uranus	-40184-04-27 02:38 J	-12955666.47	-12955666.39	-12955666.28	0.0132	0.0119
Jupiter	-40184-06-01 11:16 J	-12955631.23	-12955631.03	-12955630.83	0.0543	0.0087
Uranus	-40184-12-09 07:54 J	-12955440.27	-12955440.17	-12955440.03	0.0132	0.0111
Uranus	-40183-07-23 13:40 J	-12955214.06	-12955213.93	-12955213.79	0.0132	0.0102
Uranus	-40182-03-06 18:42 J	-12954987.86	-12954987.72	-12954987.55	0.0132	0.0094
Uranus	-40182-10-18 23:45 J	-12954761.67	-12954761.51	-12954761.33	0.0132	0.0085
Uranus	-40181-06-01 04:47 J	-12954535.47	-12954535.30	-12954535.12	0.0132	0.0076
Uranus	-40180-01-13 09:50 J	-12954309.28	-12954309.09	-12954308.90	0.0132	0.0067
Uranus	-40180-08-27 14:23 J	-12954083.08	-12954082.90	-12954082.69	0.0132	0.0059
Uranus	-40179-04-10 19:11 J	-12953856.90	-12953856.70	-12953856.49	0.0132	0.0050
Uranus	-40179-11-22 23:45 J	-12953630.71	-12953630.51	-12953630.29	0.0132	0.0041
Saturn	-40178-03-04 05:02 J	-12953529.48	-12953529.29	-12953529.08	0.0283	0.0083
Jupiter	-40178-03-30 00:28 J	-12953503.68	-12953503.48	-12953503.28	0.0484	0.0136
Uranus	-40178-07-07 04:33 J	-12953404.52	-12953404.31	-12953404.10	0.0132	0.0031
Saturn	-40178-10-19 18:42 J	-12953299.90	-12953299.72	-12953299.53	0.0283	0.0132
Uranus	-40177-02-18 09:06 J	-12953178.34	-12953178.12	-12953177.91	0.0132	0.0022
Uranus	-40177-10-01 13:40 J	-12952952.15	-12952951.93	-12952951.71	0.0132	0.0013
Uranus	-40176-05-15 17:59 J	-12952725.96	-12952725.75	-12952725.53	0.0132	0.0004
Uranus	-40176-12-27 22:33 J	-12952499.78	-12952499.56	-12952499.35	0.0132	0.0006
Uranus	-40175-08-11 02:52 J	-12952273.59	-12952273.38	-12952273.16	0.0132	0.0015
Uranus	-40174-03-25 07:26 J	-12952047.40	-12952047.19	-12952046.98	0.0133	0.0024
Uranus	-40174-11-06 11:45 J	-12951821.22	-12951821.01	-12951820.80	0.0133	0.0033
Uranus	-40173-06-19 16:04 J	-12951595.03	-12951594.83	-12951594.62	0.0133	0.0043
Uranus	-40172-01-31 20:23 J	-12951368.83	-12951368.65	-12951368.44	0.0133	0.0052
Jupiter	-40172-02-03 22:33 J	-12951365.74	-12951365.56	-12951365.37	0.0544	0.0199
Uranus	-40172-09-15 00:57 J	-12951142.63	-12951142.46	-12951142.25	0.0133	0.0062
Uranus	-40171-04-29 05:45 J	-12950916.44	-12950916.26	-12950916.07	0.0133	0.0070

Uranus -40171-12-11 10:04 J -12950690.24 -12950690.08 -12950689.90 0.0134 0.0079
 Uranus -40170-07-25 14:23 J -12950464.05 -12950463.90 -12950463.72 0.0134 0.0088
 Uranus -40169-03-07 19:11 J -12950237.84 -12950237.70 -12950237.55 0.0134 0.0096
 Uranus -40169-10-19 23:30 J -12950011.63 -12950011.52 -12950011.37 0.0134 0.0106
 Uranus -40168-06-03 04:18 J -12949785.42 -12949785.32 -12949785.19 0.0135 0.0114
 Uranus -40167-01-15 08:52 J -12949559.20 -12949559.13 -12949559.02 0.0135 0.0122
 Uranus -40167-08-29 13:26 J -12949332.97 -12949332.94 -12949332.86 0.0135 0.0131
 Jupiter -40167-12-03 04:33 J -12949237.45 -12949237.31 -12949237.15 0.0484 0.0334
 Jupiter -40166-07-27 03:21 J -12949001.48 -12949001.36 -12949001.23 0.0485 0.0386
 Saturn -40164-08-20 07:40 J -12948246.36 -12948246.18 -12948246.00 0.0275 0.0148
 Neptune -40164-09-14 21:50 J -12948220.66 -12948220.59 -12948220.49 0.0089 0.0081
 Saturn -40163-04-06 17:45 J -12948016.97 -12948016.76 -12948016.55 0.0275 0.0051
 Neptune -40163-04-28 10:18 J -12947995.19 -12947995.07 -12947994.92 0.0089 0.0069
 Saturn -40163-11-22 02:23 J -12947787.47 -12947787.40 -12947787.30 0.0275 0.0249
 Neptune -40163-12-09 23:16 J -12947769.70 -12947769.53 -12947769.36 0.0089 0.0057
 Neptune -40162-07-23 11:45 J -12947544.19 -12947544.01 -12947543.82 0.0089 0.0044
 Neptune -40161-03-05 00:14 J -12947318.68 -12947318.49 -12947318.28 0.0089 0.0032
 Jupiter -40161-10-09 11:45 J -12947100.10 -12947100.01 -12947099.92 0.0545 0.0479
 Neptune -40161-10-16 13:11 J -12947093.16 -12947092.95 -12947092.74 0.0089 0.0019
 Neptune -40160-05-30 01:40 J -12946867.64 -12946867.43 -12946867.21 0.0089 0.0007
 Jupiter -40160-06-04 15:21 J -12946861.90 -12946861.86 -12946861.82 0.0543 0.0528
 Neptune -40159-01-10 14:23 J -12946642.12 -12946641.90 -12946641.69 0.0089 0.0005
 Neptune -40159-08-24 02:38 J -12946416.59 -12946416.39 -12946416.17 0.0089 0.0018
 Neptune -40158-04-06 15:06 J -12946191.06 -12946190.87 -12946190.65 0.0089 0.0031
 Neptune -40158-11-18 03:50 J -12945965.53 -12945965.34 -12945965.15 0.0089 0.0043
 Mars -40157-06-17 19:11 J -12945752.87 -12945752.70 -12945752.53 0.1669 0.0121
 Neptune -40157-06-30 15:50 J -12945739.99 -12945739.84 -12945739.65 0.0089 0.0055
 Neptune -40156-02-11 04:18 J -12945514.44 -12945514.32 -12945514.16 0.0089 0.0067
 Neptune -40156-09-24 16:47 J -12945288.88 -12945288.80 -12945288.69 0.0089 0.0080
 Jupiter -40154-04-01 05:59 J -12944735.44 -12944735.25 -12944735.06 0.0485 0.0182

Saturn -40149-01-27 18:28 J -12942972.78 -12942972.73 -12942972.65 0.0283 0.0269
 Saturn -40149-09-13 07:11 J -12942743.40 -12942743.20 -12942742.99 0.0283 0.0057
 Jupiter -40148-02-07 05:59 J -12942596.43 -12942596.25 -12942596.08 0.0543 0.0255
 Saturn -40148-04-30 20:38 J -12942513.81 -12942513.64 -12942513.46 0.0283 0.0157
 Uranus -40143-10-29 09:50 J -12940506.11 -12940506.09 -12940506.03 0.0147 0.0144
 Jupiter -40143-12-05 09:35 J -12940469.31 -12940469.10 -12940468.89 0.0484 0.0018
 Uranus -40142-06-12 21:35 J -12940279.67 -12940279.60 -12940279.49 0.0147 0.0134
 Uranus -40141-01-25 10:04 J -12940053.19 -12940053.08 -12940052.96 0.0147 0.0123
 Uranus -40141-09-07 22:18 J -12939826.70 -12939826.57 -12939826.43 0.0147 0.0112
 Uranus -40140-04-22 10:33 J -12939600.21 -12939600.06 -12939599.90 0.0147 0.0101
 Uranus -40140-12-04 22:47 J -12939373.71 -12939373.55 -12939373.37 0.0147 0.0090
 Uranus -40139-07-19 11:16 J -12939147.20 -12939147.03 -12939146.84 0.0147 0.0078
 Uranus -40138-03-03 00:14 J -12938920.68 -12938920.49 -12938920.29 0.0147 0.0066
 Uranus -40138-10-15 12:57 J -12938694.15 -12938693.96 -12938693.75 0.0147 0.0054
 Uranus -40137-05-29 01:54 J -12938467.62 -12938467.42 -12938467.21 0.0147 0.0042
 Jupiter -40137-10-12 17:45 J -12938330.96 -12938330.76 -12938330.56 0.0543 0.0031
 Uranus -40136-01-10 14:52 J -12938241.09 -12938240.88 -12938240.66 0.0147 0.0029
 Uranus -40136-08-25 04:04 J -12938014.55 -12938014.33 -12938014.11 0.0147 0.0016
 Uranus -40135-04-08 17:16 J -12937788.00 -12937787.78 -12937787.56 0.0147 0.0004
 Uranus -40135-11-21 06:28 J -12937561.45 -12937561.23 -12937561.01 0.0146 0.0009
 Saturn -40134-03-02 11:45 J -12937460.20 -12937460.01 -12937459.81 0.0276 0.0119
 Uranus -40134-07-05 19:40 J -12937334.89 -12937334.68 -12937334.46 0.0146 0.0022
 Saturn -40134-10-17 22:04 J -12937230.79 -12937230.58 -12937230.38 0.0276 0.0081
 Uranus -40133-02-17 09:06 J -12937108.33 -12937108.12 -12937107.90 0.0146 0.0034
 Uranus -40133-09-30 22:33 J -12936881.76 -12936881.56 -12936881.35 0.0146 0.0047
 Uranus -40132-05-15 11:59 J -12936655.20 -12936655.00 -12936654.79 0.0146 0.0059
 Uranus -40132-12-28 01:11 J -12936428.63 -12936428.45 -12936428.25 0.0145 0.0071
 Jupiter -40131-08-10 12:57 J -12936203.14 -12936202.96 -12936202.77 0.0484 0.0220
 Uranus -40131-08-11 14:38 J -12936202.06 -12936201.89 -12936201.70 0.0145 0.0083
 Uranus -40130-03-26 04:04 J -12935975.48 -12935975.33 -12935975.15 0.0145 0.0095

Uranus	-40130-11-07 17:30 J	-12935748.91	-12935748.77	-12935748.61	0.0145	0.0106
Uranus	-40129-06-21 06:57 J	-12935522.33	-12935522.21	-12935522.08	0.0144	0.0117
Uranus	-40128-02-02 20:09 J	-12935295.76	-12935295.66	-12935295.55	0.0144	0.0127
Uranus	-40128-09-17 08:52 J	-12935069.17	-12935069.13	-12935069.05	0.0144	0.0138
Jupiter	-40125-06-17 04:47 J	-12934065.46	-12934065.30	-12934065.14	0.0544	0.0317
Mars	-40123-04-16 11:30 J	-12933397.05	-12933397.02	-12933396.98	0.1659	0.1626
Mars	-40120-01-20 13:26 J	-12932387.11	-12932386.94	-12932386.77	0.1857	0.0427
Saturn	-40120-08-09 05:02 J	-12932186.40	-12932186.29	-12932186.16	0.0283	0.0229
Saturn	-40119-03-26 17:59 J	-12931956.96	-12931956.75	-12931956.54	0.0283	0.0017
Jupiter	-40119-04-15 17:02 J	-12931936.90	-12931936.79	-12931936.69	0.0484	0.0416
Saturn	-40119-11-11 07:40 J	-12931727.32	-12931727.18	-12931727.02	0.0283	0.0197
Jupiter	-40119-12-07 14:52 J	-12931701.04	-12931700.88	-12931700.71	0.0485	0.0300
Jupiter	-40113-10-15 19:26 J	-12929561.82	-12929561.69	-12929561.56	0.0543	0.0404
Jupiter	-40107-08-12 18:14 J	-12927434.94	-12927434.74	-12927434.53	0.0484	0.0099
Saturn	-40105-09-11 20:09 J	-12926673.86	-12926673.66	-12926673.45	0.0275	0.0085
Saturn	-40104-04-29 05:59 J	-12926444.45	-12926444.25	-12926444.06	0.0275	0.0114
Uranus	-40101-05-13 09:50 J	-12925334.15	-12925334.09	-12925334.03	0.0132	0.0126
Jupiter	-40101-06-20 09:50 J	-12925296.29	-12925296.09	-12925295.90	0.0544	0.0130
Uranus	-40101-12-25 15:21 J	-12925107.95	-12925107.86	-12925107.76	0.0132	0.0118
Uranus	-40100-08-08 20:52 J	-12924881.74	-12924881.63	-12924881.50	0.0132	0.0110
Uranus	-40099-03-23 02:09 J	-12924655.54	-12924655.41	-12924655.26	0.0132	0.0102
Uranus	-40099-11-04 07:11 J	-12924429.34	-12924429.20	-12924429.03	0.0132	0.0094
Uranus	-40098-06-18 12:28 J	-12924203.14	-12924202.98	-12924202.80	0.0132	0.0085
Uranus	-40097-01-30 17:45 J	-12923976.94	-12923976.76	-12923976.58	0.0132	0.0076
Uranus	-40097-09-12 22:18 J	-12923750.74	-12923750.57	-12923750.36	0.0132	0.0068
Uranus	-40096-04-27 03:21 J	-12923524.55	-12923524.36	-12923524.16	0.0132	0.0059
Uranus	-40096-12-09 07:54 J	-12923298.36	-12923298.17	-12923297.95	0.0132	0.0050
Jupiter	-40095-04-17 21:35 J	-12923168.80	-12923168.60	-12923168.40	0.0484	0.0103
Uranus	-40095-07-23 12:42 J	-12923072.17	-12923071.97	-12923071.75	0.0132	0.0041
Uranus	-40094-03-06 17:30 J	-12922845.98	-12922845.77	-12922845.55	0.0132	0.0032

Uranus	-40094-10-18 22:04 J	-12922619.79	-12922619.58	-12922619.36	0.0132	0.0023
Uranus	-40093-06-01 02:38 J	-12922393.60	-12922393.39	-12922393.17	0.0132	0.0013
Uranus	-40092-01-13 07:11 J	-12922167.42	-12922167.20	-12922166.98	0.0132	0.0004
Uranus	-40092-08-27 11:45 J	-12921941.23	-12921941.01	-12921940.79	0.0132	0.0005
Uranus	-40091-04-10 16:04 J	-12921715.04	-12921714.83	-12921714.61	0.0132	0.0015
Mars	-40091-04-15 06:42 J	-12921710.39	-12921710.22	-12921710.04	0.1667	0.0087
Uranus	-40091-11-22 20:38 J	-12921488.85	-12921488.64	-12921488.43	0.0132	0.0023
Saturn	-40090-02-19 07:11 J	-12921400.35	-12921400.20	-12921400.06	0.0283	0.0204
Uranus	-40090-07-07 00:57 J	-12921262.66	-12921262.46	-12921262.24	0.0133	0.0033
Saturn	-40090-10-06 19:54 J	-12921170.88	-12921170.67	-12921170.46	0.0283	0.0008
Uranus	-40089-02-18 05:16 J	-12921036.47	-12921036.28	-12921036.06	0.0133	0.0042
Jupiter	-40089-02-23 23:30 J	-12921030.71	-12921030.52	-12921030.33	0.0544	0.0150
Saturn	-40089-05-23 09:35 J	-12920941.22	-12920941.10	-12920940.96	0.0283	0.0222
Uranus	-40089-10-01 09:50 J	-12920810.28	-12920810.09	-12920809.88	0.0133	0.0051
Uranus	-40088-05-15 14:38 J	-12920584.08	-12920583.89	-12920583.70	0.0133	0.0060
Uranus	-40088-12-27 18:57 J	-12920357.89	-12920357.71	-12920357.52	0.0133	0.0069
Uranus	-40087-08-10 23:16 J	-12920131.70	-12920131.53	-12920131.35	0.0134	0.0078
Uranus	-40086-03-25 03:50 J	-12919905.50	-12919905.34	-12919905.17	0.0134	0.0086
Pluto	-40086-06-08 11:02 J	-12919830.08	-12919830.04	-12919829.95	0.0066	0.0063
Uranus	-40086-11-06 08:09 J	-12919679.30	-12919679.16	-12919678.99	0.0134	0.0095
Pluto	-40085-01-19 16:04 J	-12919605.03	-12919604.83	-12919604.62	0.0066	0.0020
Uranus	-40085-06-19 12:42 J	-12919453.09	-12919452.97	-12919452.82	0.0134	0.0104
Pluto	-40085-08-31 20:38 J	-12919379.84	-12919379.64	-12919379.43	0.0066	0.0023
Uranus	-40084-01-31 17:16 J	-12919226.88	-12919226.78	-12919226.65	0.0135	0.0112
Earth	-40084-04-15 05:02 J	-12919153.32	-12919153.29	-12919153.26	0.2661	0.2600
Uranus	-40084-09-14 22:04 J	-12919000.67	-12919000.58	-12919000.48	0.0135	0.0120
Jupiter	-40084-12-22 01:54 J	-12918902.58	-12918902.42	-12918902.26	0.0484	0.0300
Uranus	-40083-04-29 02:38 J	-12918774.44	-12918774.39	-12918774.31	0.0135	0.0128
Jupiter	-40083-08-15 00:57 J	-12918666.56	-12918666.46	-12918666.36	0.0486	0.0419
Neptune	-40082-03-17 05:45 J	-12918452.28	-12918452.26	-12918452.24	0.0088	0.0088

Neptune -40082-10-28 18:57 J -12918226.82 -12918226.71 -12918226.59 0.0088 0.0076
 Neptune -40081-06-10 08:09 J -12918001.30 -12918001.16 -12918001.00 0.0088 0.0063
 Neptune -40080-01-21 21:21 J -12917775.78 -12917775.61 -12917775.41 0.0088 0.0051
 Neptune -40080-09-04 10:47 J -12917550.24 -12917550.05 -12917549.84 0.0088 0.0039
 Neptune -40079-04-18 00:28 J -12917324.69 -12917324.48 -12917324.26 0.0088 0.0026
 Neptune -40079-11-29 13:40 J -12917099.14 -12917098.93 -12917098.70 0.0088 0.0015
 Neptune -40078-07-13 03:21 J -12916873.59 -12916873.36 -12916873.14 0.0088 0.0002
 Jupiter -40078-10-29 11:02 J -12916765.16 -12916765.04 -12916764.92 0.0544 0.0434
 Neptune -40077-02-23 16:47 J -12916648.03 -12916647.80 -12916647.58 0.0088 0.0011
 Neptune -40077-10-06 05:59 J -12916422.46 -12916422.25 -12916422.03 0.0088 0.0023
 Earth -40076-04-12 22:33 J -12916233.71 -12916233.56 -12916233.41 0.2663 0.0742
 Moon -40076-04-13 01:11 J -12916233.61 -12916233.45 -12916233.29 0.2656 0.0632 *
 Neptune -40076-05-19 19:26 J -12916196.89 -12916196.69 -12916196.48 0.0088 0.0035
 Saturn -40076-08-07 12:28 J -12916117.05 -12916116.98 -12916116.90 0.0276 0.0258
 Neptune -40076-12-31 08:52 J -12915971.31 -12915971.13 -12915970.94 0.0088 0.0048
 Saturn -40075-03-24 23:16 J -12915887.73 -12915887.53 -12915887.32 0.0276 0.0059
 Neptune -40075-08-13 22:04 J -12915745.73 -12915745.58 -12915745.40 0.0088 0.0060
 Saturn -40075-11-09 09:06 J -12915658.30 -12915658.12 -12915657.93 0.0276 0.0141
 Neptune -40074-03-27 11:45 J -12915520.12 -12915520.01 -12915519.86 0.0088 0.0072
 Neptune -40074-11-08 01:26 J -12915294.49 -12915294.44 -12915294.36 0.0088 0.0085
 Jupiter -40071-04-20 03:21 J -12914400.54 -12914400.36 -12914400.17 0.0485 0.0216
 Jupiter -40065-02-27 02:23 J -12912261.57 -12912261.40 -12912261.23 0.0543 0.0288
 Saturn -40061-08-31 16:47 J -12910613.97 -12910613.80 -12910613.63 0.0283 0.0166
 Saturn -40060-04-18 05:45 J -12910384.47 -12910384.26 -12910384.05 0.0283 0.0046
 Saturn -40060-12-03 19:54 J -12910154.75 -12910154.67 -12910154.59 0.0283 0.0260
 Jupiter -40060-12-24 06:28 J -12910134.44 -12910134.23 -12910134.03 0.0484 0.0018
 Mars -40059-04-14 02:52 J -12910023.45 -12910023.38 -12910023.31 0.1675 0.1509
 Uranus -40059-06-28 18:28 J -12909947.74 -12909947.73 -12909947.67 0.0147 0.0145
 Uranus -40058-02-10 06:28 J -12909721.29 -12909721.23 -12909721.13 0.0147 0.0135
 Uranus -40058-09-24 18:42 J -12909494.83 -12909494.72 -12909494.60 0.0147 0.0124

Uranus	-40057-05-08 06:28 J	-12909268.35	-12909268.23	-12909268.08	0.0147	0.0114
Uranus	-40057-12-20 18:57 J	-12909041.86	-12909041.71	-12909041.55	0.0147	0.0102
Uranus	-40056-08-04 07:11 J	-12908815.36	-12908815.20	-12908815.02	0.0147	0.0091
Uranus	-40055-03-18 19:54 J	-12908588.85	-12908588.67	-12908588.49	0.0147	0.0079
Uranus	-40055-10-31 08:09 J	-12908362.34	-12908362.16	-12908361.96	0.0147	0.0068
Mars	-40055-11-17 17:02 J	-12908344.96	-12908344.79	-12908344.61	0.1861	0.0073
Uranus	-40054-06-14 20:52 J	-12908135.82	-12908135.63	-12908135.42	0.0147	0.0056
Jupiter	-40054-11-01 13:40 J	-12907996.13	-12907995.93	-12907995.73	0.0544	0.0011
Uranus	-40053-01-27 10:04 J	-12907909.28	-12907909.08	-12907908.87	0.0147	0.0043
Uranus	-40053-09-09 23:02 J	-12907682.75	-12907682.54	-12907682.32	0.0147	0.0031
Uranus	-40052-04-24 11:59 J	-12907456.21	-12907456.00	-12907455.78	0.0147	0.0019
Uranus	-40052-12-07 01:11 J	-12907229.67	-12907229.45	-12907229.23	0.0147	0.0006
Uranus	-40051-07-21 14:23 J	-12907003.11	-12907002.90	-12907002.68	0.0146	0.0007
Uranus	-40050-03-05 03:50 J	-12906776.55	-12906776.34	-12906776.12	0.0146	0.0020
Uranus	-40050-10-17 17:16 J	-12906549.99	-12906549.78	-12906549.56	0.0146	0.0032
Uranus	-40049-05-31 06:42 J	-12906323.43	-12906323.22	-12906323.01	0.0146	0.0044
Uranus	-40048-01-12 19:54 J	-12906096.86	-12906096.67	-12906096.46	0.0146	0.0057
Uranus	-40048-08-27 09:21 J	-12905870.29	-12905870.11	-12905869.91	0.0146	0.0069
Jupiter	-40048-08-29 10:47 J	-12905868.25	-12905868.05	-12905867.86	0.0484	0.0184
Uranus	-40047-04-10 23:02 J	-12905643.72	-12905643.54	-12905643.35	0.0145	0.0081
Uranus	-40047-11-23 12:14 J	-12905417.15	-12905416.99	-12905416.81	0.0145	0.0092
Saturn	-40046-02-17 21:06 J	-12905330.73	-12905330.62	-12905330.48	0.0276	0.0223
Uranus	-40046-07-08 01:26 J	-12905190.58	-12905190.44	-12905190.27	0.0145	0.0104
Saturn	-40046-10-05 07:54 J	-12905101.38	-12905101.17	-12905100.96	0.0275	0.0023
Uranus	-40045-02-19 14:52 J	-12904964.00	-12904963.88	-12904963.73	0.0145	0.0115
Saturn	-40045-05-21 17:16 J	-12904871.94	-12904871.78	-12904871.61	0.0275	0.0173
Uranus	-40045-10-03 04:04 J	-12904737.42	-12904737.33	-12904737.21	0.0144	0.0125
Uranus	-40044-05-17 17:30 J	-12904510.84	-12904510.77	-12904510.69	0.0144	0.0135
Jupiter	-40042-07-07 02:38 J	-12903730.56	-12903730.39	-12903730.21	0.0545	0.0276
Jupiter	-40036-05-04 14:38 J	-12901602.01	-12901601.89	-12901601.76	0.0484	0.0381

Jupiter -40036-12-26 12:28 J -12901366.13 -12901365.98 -12901365.83 0.0485 0.0333
 Saturn -40031-03-13 18:42 J -12899827.90 -12899827.72 -12899827.54 0.0283 0.0141
 Saturn -40031-10-29 07:40 J -12899598.38 -12899598.18 -12899597.97 0.0283 0.0072
 Jupiter -40030-11-04 20:38 J -12899226.75 -12899226.64 -12899226.53 0.0543 0.0452
 Mars -40025-02-10 18:28 J -12897667.90 -12897667.73 -12897667.56 0.1665 0.0266
 Jupiter -40024-08-31 16:04 J -12897100.03 -12897099.83 -12897099.63 0.0485 0.0132
 Jupiter -40018-07-10 09:35 J -12894961.29 -12894961.10 -12894960.91 0.0543 0.0174
 Uranus -40017-01-11 21:50 J -12894775.64 -12894775.59 -12894775.51 0.0132 0.0126
 Uranus -40017-08-25 03:50 J -12894549.43 -12894549.34 -12894549.24 0.0132 0.0118
 Saturn -40017-08-29 23:30 J -12894544.66 -12894544.52 -12894544.37 0.0276 0.0198
 Uranus -40016-04-08 09:21 J -12894323.22 -12894323.11 -12894322.98 0.0132 0.0110
 Saturn -40016-04-16 10:18 J -12894315.29 -12894315.07 -12894314.86 0.0276 0.0006
 Uranus -40016-11-20 14:38 J -12894097.02 -12894096.89 -12894096.74 0.0132 0.0102
 Saturn -40016-12-01 19:26 J -12894085.82 -12894085.69 -12894085.53 0.0276 0.0199
 Uranus -40015-07-04 19:40 J -12893870.81 -12893870.68 -12893870.50 0.0132 0.0094
 Uranus -40014-02-16 01:11 J -12893644.61 -12893644.45 -12893644.27 0.0132 0.0085
 Uranus -40014-09-30 06:28 J -12893418.41 -12893418.23 -12893418.05 0.0132 0.0076
 Uranus -40013-05-13 11:02 J -12893192.21 -12893192.04 -12893191.84 0.0132 0.0068
 Uranus -40013-12-25 16:04 J -12892966.02 -12892965.83 -12892965.63 0.0132 0.0059
 Jupiter -40012-05-06 19:11 J -12892833.90 -12892833.70 -12892833.49 0.0484 0.0069
 Uranus -40012-08-08 21:06 J -12892739.82 -12892739.62 -12892739.41 0.0132 0.0050
 Uranus -40011-03-23 01:54 J -12892513.63 -12892513.42 -12892513.21 0.0132 0.0041
 Uranus -40011-11-04 06:28 J -12892287.44 -12892287.23 -12892287.01 0.0132 0.0032
 Uranus -40010-06-18 11:02 J -12892061.25 -12892061.04 -12892060.82 0.0132 0.0023
 Uranus -40009-01-30 15:50 J -12891835.06 -12891834.84 -12891834.63 0.0132 0.0014
 Uranus -40009-09-12 20:23 J -12891608.86 -12891608.65 -12891608.43 0.0132 0.0005
 Uranus -40008-04-27 00:57 J -12891382.68 -12891382.46 -12891382.24 0.0132 0.0004
 Uranus -40008-12-09 05:30 J -12891156.49 -12891156.27 -12891156.06 0.0132 0.0013
 Uranus -40007-07-23 09:50 J -12890930.30 -12890930.09 -12890929.87 0.0132 0.0023
 Uranus -40006-03-06 14:23 J -12890704.11 -12890703.90 -12890703.69 0.0133 0.0032

Jupiter	-40006-03-14 21:21 J	-12890695.80	-12890695.61	-12890695.41	0.0544	0.0110
Uranus	-40006-10-18 18:57 J	-12890477.92	-12890477.71	-12890477.50	0.0133	0.0041
Uranus	-40005-05-31 23:16 J	-12890251.73	-12890251.53	-12890251.33	0.0133	0.0050
Uranus	-40004-01-13 03:35 J	-12890025.53	-12890025.35	-12890025.15	0.0133	0.0059
Uranus	-40004-08-27 08:09 J	-12889799.34	-12889799.16	-12889798.97	0.0133	0.0068
Uranus	-40003-04-10 12:28 J	-12889573.15	-12889572.98	-12889572.79	0.0133	0.0076
Uranus	-40003-11-22 17:02 J	-12889346.95	-12889346.79	-12889346.62	0.0134	0.0085
Uranus	-40002-07-06 21:06 J	-12889120.76	-12889120.62	-12889120.45	0.0134	0.0094
Saturn	-40002-09-24 02:52 J	-12889041.57	-12889041.38	-12889041.19	0.0283	0.0106
Uranus	-40001-02-18 01:40 J	-12888894.55	-12888894.43	-12888894.28	0.0134	0.0102
Saturn	-40001-05-10 16:04 J	-12888812.02	-12888811.83	-12888811.63	0.0283	0.0106
Uranus	-40001-10-01 06:14 J	-12888668.34	-12888668.24	-12888668.10	0.0134	0.0110

40TH MILLENNIUM BCE

This is a list of transits of Venus in the 40th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-40000-01-09 23:16 J	-12888567.70	-12888567.53	-12888567.36	0.0484	0.0265		
Uranus	-40000-05-15 11:02 J	-12888442.13	-12888442.04	-12888441.93	0.0135	0.0118		
Jupiter	-40000-09-02 22:18 J	-12888331.64	-12888331.57	-12888331.49	0.0486	0.0452		
Neptune	-40000-12-17 05:16 J	-12888226.29	-12888226.28	-12888226.24	0.0089	0.0088		
Uranus	-40000-12-27 15:21 J	-12888215.92	-12888215.86	-12888215.77	0.0135	0.0126		
Pluto	-39999-06-30 16:47 J	-12888030.90	-12888030.80	-12888030.67	0.0078	0.0067		
Neptune	-39999-07-30 17:45 J	-12888000.85	-12888000.76	-12888000.63	0.0089	0.0076		

Uranus -39999-08-10 20:23 J -12887989.68 -12887989.65 -12887989.62 0.0135 0.0134
 Pluto -39998-02-11 02:52 J -12887805.60 -12887805.38 -12887805.15 0.0078 0.0007
 Neptune -39998-03-13 06:14 J -12887775.36 -12887775.24 -12887775.06 0.0089 0.0065
 Neptune -39998-10-24 19:26 J -12887549.86 -12887549.69 -12887549.51 0.0089 0.0051
 Neptune -39997-06-06 07:54 J -12887324.35 -12887324.17 -12887323.97 0.0089 0.0039
 Neptune -39996-01-17 20:23 J -12887098.84 -12887098.65 -12887098.43 0.0089 0.0027
 Neptune -39996-08-31 09:21 J -12886873.32 -12886873.11 -12886872.90 0.0089 0.0014
 Neptune -39995-04-13 21:50 J -12886647.80 -12886647.59 -12886647.37 0.0089 0.0002
 Jupiter -39995-11-17 06:42 J -12886430.35 -12886430.22 -12886430.08 0.0545 0.0399
 Neptune -39995-11-25 10:18 J -12886422.28 -12886422.07 -12886421.85 0.0089 0.0010
 Neptune -39994-07-08 22:47 J -12886196.75 -12886196.55 -12886196.33 0.0089 0.0023
 Mars -39993-02-09 14:09 J -12885981.02 -12885980.91 -12885980.80 0.1673 0.1303
 Neptune -39993-02-19 11:02 J -12885971.22 -12885971.04 -12885970.82 0.0089 0.0035
 Neptune -39993-10-01 23:45 J -12885745.68 -12885745.51 -12885745.31 0.0089 0.0047
 Neptune -39992-05-15 12:14 J -12885520.14 -12885519.99 -12885519.82 0.0089 0.0059
 Neptune -39992-12-27 00:28 J -12885294.59 -12885294.48 -12885294.33 0.0089 0.0072
 Neptune -39991-08-09 12:57 J -12885069.02 -12885068.96 -12885068.87 0.0089 0.0084
 Mars -39989-09-13 20:38 J -12884302.81 -12884302.64 -12884302.47 0.1864 0.0567
 Jupiter -39989-09-15 04:33 J -12884301.37 -12884301.31 -12884301.25 0.0484 0.0458
 Jupiter -39988-05-09 01:40 J -12884065.61 -12884065.43 -12884065.25 0.0485 0.0252
 Saturn -39987-03-12 08:38 J -12883758.30 -12883758.14 -12883757.96 0.0275 0.0162
 Saturn -39987-10-27 18:57 J -12883528.92 -12883528.71 -12883528.50 0.0275 0.0036
 Saturn -39986-06-14 04:04 J -12883299.44 -12883299.33 -12883299.21 0.0275 0.0231
 Jupiter -39982-03-18 00:57 J -12881926.62 -12881926.46 -12881926.30 0.0544 0.0331
 Jupiter -39976-01-12 04:33 J -12879799.52 -12879799.31 -12879799.10 0.0484 0.0049
 Uranus -39975-02-26 02:38 J -12879389.41 -12879389.39 -12879389.35 0.0146 0.0145
 Uranus -39975-10-10 14:09 J -12879162.98 -12879162.91 -12879162.82 0.0147 0.0135
 Uranus -39974-05-25 01:54 J -12878936.52 -12878936.42 -12878936.30 0.0147 0.0125
 Uranus -39973-01-06 13:40 J -12878710.04 -12878709.93 -12878709.78 0.0147 0.0115
 Uranus -39973-08-20 01:54 J -12878483.56 -12878483.42 -12878483.26 0.0147 0.0104

Uranus -39972-04-03 14:23 J -12878257.07 -12878256.90 -12878256.74 0.0147 0.0092
 Saturn -39972-04-05 04:47 J -12878255.50 -12878255.30 -12878255.09 0.0283 0.0080
 Uranus -39972-11-16 02:23 J -12878030.57 -12878030.40 -12878030.21 0.0147 0.0081
 Saturn -39972-11-20 17:59 J -12878025.93 -12878025.75 -12878025.56 0.0283 0.0133
 Uranus -39971-06-30 15:06 J -12877804.06 -12877803.87 -12877803.68 0.0147 0.0069
 Jupiter -39971-11-20 15:35 J -12877661.05 -12877660.85 -12877660.65 0.0544 0.0057
 Uranus -39970-02-12 03:35 J -12877577.53 -12877577.35 -12877577.14 0.0147 0.0058
 Uranus -39970-09-26 16:33 J -12877351.01 -12877350.81 -12877350.60 0.0147 0.0046
 Uranus -39969-05-10 05:30 J -12877124.48 -12877124.27 -12877124.05 0.0147 0.0033
 Uranus -39969-12-22 18:28 J -12876897.94 -12876897.73 -12876897.51 0.0147 0.0021
 Uranus -39968-08-06 07:40 J -12876671.40 -12876671.18 -12876670.96 0.0147 0.0008
 Uranus -39967-03-20 21:06 J -12876444.84 -12876444.62 -12876444.41 0.0146 0.0005
 Uranus -39967-11-02 10:18 J -12876218.29 -12876218.07 -12876217.85 0.0146 0.0017
 Uranus -39966-06-16 23:30 J -12875991.73 -12875991.52 -12875991.30 0.0146 0.0030
 Uranus -39965-01-29 12:57 J -12875765.16 -12875764.96 -12875764.74 0.0146 0.0042
 Uranus -39965-09-12 02:23 J -12875538.60 -12875538.40 -12875538.19 0.0146 0.0054
 Jupiter -39965-09-17 08:52 J -12875533.33 -12875533.13 -12875532.93 0.0484 0.0148
 Uranus -39964-04-26 16:04 J -12875312.03 -12875311.83 -12875311.64 0.0146 0.0066
 Uranus -39964-12-09 05:30 J -12875085.46 -12875085.27 -12875085.09 0.0145 0.0078
 Uranus -39963-07-23 18:42 J -12874858.89 -12874858.72 -12874858.54 0.0145 0.0090
 Uranus -39962-03-07 08:09 J -12874632.31 -12874632.16 -12874631.99 0.0145 0.0101
 Uranus -39962-10-19 21:35 J -12874405.73 -12874405.60 -12874405.45 0.0145 0.0112
 Uranus -39961-06-02 10:33 J -12874179.16 -12874179.06 -12874178.92 0.0144 0.0123
 Uranus -39960-01-14 23:59 J -12873952.58 -12873952.50 -12873952.41 0.0144 0.0133
 Uranus -39960-08-29 13:11 J -12873725.98 -12873725.95 -12873725.92 0.0144 0.0142
 Mars -39960-12-08 06:14 J -12873625.40 -12873625.24 -12873625.07 0.1662 0.0453
 Jupiter -39959-07-26 04:04 J -12873395.51 -12873395.33 -12873395.15 0.0544 0.0225
 Saturn -39958-09-22 09:50 J -12872972.27 -12872972.09 -12872971.90 0.0276 0.0139
 Saturn -39957-05-08 20:09 J -12872742.87 -12872742.66 -12872742.46 0.0276 0.0059
 Saturn -39957-12-24 05:16 J -12872513.36 -12872513.28 -12872513.20 0.0276 0.0254

Jupiter -39953-05-23 12:42 J -12871267.11 -12871266.97 -12871266.82 0.0484 0.0345
 Jupiter -39952-01-14 11:02 J -12871031.17 -12871031.04 -12871030.90 0.0485 0.0369
 Jupiter -39947-03-30 15:06 J -12869129.93 -12869129.87 -12869129.80 0.0544 0.0508
 Moon -39947-10-15 22:33 J -12868930.70 -12868930.56 -12868930.42 0.2663 0.1507
 Earth -39947-10-16 00:28 J -12868930.63 -12868930.48 -12868930.33 0.2669 0.0946 *
 Jupiter -39947-11-23 18:57 J -12868891.79 -12868891.71 -12868891.62 0.0542 0.0491
 Saturn -39943-02-28 23:16 J -12867698.61 -12867698.53 -12867698.45 0.0283 0.0257
 Saturn -39943-10-16 11:45 J -12867469.21 -12867469.01 -12867468.80 0.0283 0.0049
 Saturn -39942-06-03 01:11 J -12867239.61 -12867239.45 -12867239.27 0.0283 0.0165
 Jupiter -39941-09-19 14:23 J -12866765.10 -12866764.90 -12866764.71 0.0485 0.0170
 Jupiter -39935-07-29 05:59 J -12864626.43 -12864626.25 -12864626.06 0.0544 0.0210
 Uranus -39934-09-11 09:50 J -12864217.13 -12864217.09 -12864217.00 0.0132 0.0127
 Uranus -39933-04-24 15:50 J -12863990.92 -12863990.84 -12863990.73 0.0132 0.0118
 Uranus -39933-12-06 21:21 J -12863764.71 -12863764.61 -12863764.47 0.0132 0.0110
 Uranus -39932-07-21 02:52 J -12863538.50 -12863538.38 -12863538.22 0.0132 0.0102
 Uranus -39931-03-04 08:38 J -12863312.29 -12863312.14 -12863311.98 0.0132 0.0093
 Uranus -39931-10-16 13:40 J -12863086.09 -12863085.93 -12863085.75 0.0132 0.0085
 Uranus -39930-05-30 18:57 J -12862859.89 -12862859.71 -12862859.53 0.0132 0.0076
 Uranus -39929-01-11 23:45 J -12862633.69 -12862633.51 -12862633.31 0.0132 0.0068
 Jupiter -39929-05-25 18:28 J -12862498.93 -12862498.73 -12862498.52 0.0484 0.0031
 Uranus -39929-08-25 05:02 J -12862407.48 -12862407.29 -12862407.09 0.0132 0.0059
 Saturn -39928-04-03 18:57 J -12862185.91 -12862185.71 -12862185.51 0.0275 0.0103
 Uranus -39928-04-08 09:50 J -12862181.29 -12862181.09 -12862180.88 0.0132 0.0050
 Saturn -39928-11-19 04:47 J -12861956.50 -12861956.30 -12861956.10 0.0275 0.0094
 Uranus -39928-11-20 14:23 J -12861955.09 -12861954.90 -12861954.68 0.0132 0.0042
 Mars -39928-12-07 01:40 J -12861938.55 -12861938.43 -12861938.30 0.1670 0.1105
 Uranus -39927-07-04 19:26 J -12861728.90 -12861728.69 -12861728.48 0.0132 0.0032
 Uranus -39926-02-16 00:14 J -12861502.71 -12861502.49 -12861502.28 0.0132 0.0023
 Uranus -39926-09-30 05:02 J -12861276.51 -12861276.29 -12861276.08 0.0132 0.0014
 Uranus -39925-05-13 09:35 J -12861050.32 -12861050.10 -12861049.88 0.0132 0.0005

Uranus	-39925-12-25 14:09 J	-12860824.13	-12860823.91	-12860823.70	0.0132	0.0004
Uranus	-39924-08-08 18:42 J	-12860597.94	-12860597.72	-12860597.50	0.0132	0.0013
Uranus	-39923-03-22 23:02 J	-12860371.75	-12860371.54	-12860371.32	0.0132	0.0022
Jupiter	-39923-04-02 19:26 J	-12860360.88	-12860360.69	-12860360.49	0.0545	0.0068
Mars	-39923-07-11 23:30 J	-12860260.67	-12860260.52	-12860260.38	0.1867	0.1083
Uranus	-39923-11-04 03:35 J	-12860145.56	-12860145.35	-12860145.14	0.0132	0.0031
Uranus	-39922-06-18 08:09 J	-12859919.37	-12859919.16	-12859918.96	0.0133	0.0040
Uranus	-39921-01-30 12:28 J	-12859693.18	-12859692.98	-12859692.78	0.0133	0.0049
Uranus	-39921-09-12 16:47 J	-12859466.98	-12859466.80	-12859466.59	0.0133	0.0058
Uranus	-39920-04-26 21:06 J	-12859240.79	-12859240.62	-12859240.42	0.0133	0.0067
Uranus	-39920-12-09 01:40 J	-12859014.60	-12859014.43	-12859014.25	0.0133	0.0075
Uranus	-39919-07-23 06:14 J	-12858788.41	-12858788.24	-12858788.07	0.0134	0.0084
Uranus	-39918-03-06 10:18 J	-12858562.21	-12858562.07	-12858561.90	0.0134	0.0093
Uranus	-39918-10-18 14:52 J	-12858336.00	-12858335.88	-12858335.72	0.0134	0.0101
Jupiter	-39917-01-29 22:18 J	-12858232.75	-12858232.57	-12858232.39	0.0484	0.0227
Neptune	-39917-01-30 02:23 J	-12858232.48	-12858232.40	-12858232.32	0.0088	0.0082 *
Uranus	-39917-05-31 19:11 J	-12858109.80	-12858109.70	-12858109.55	0.0134	0.0110
Neptune	-39917-09-11 15:35 J	-12858006.98	-12858006.85	-12858006.71	0.0088	0.0070
Uranus	-39916-01-12 23:59 J	-12857883.59	-12857883.50	-12857883.39	0.0134	0.0117
Neptune	-39916-04-25 05:02 J	-12857781.45	-12857781.29	-12857781.12	0.0088	0.0058
Uranus	-39916-08-27 04:33 J	-12857657.38	-12857657.31	-12857657.22	0.0135	0.0125
Neptune	-39916-12-06 18:14 J	-12857555.92	-12857555.74	-12857555.54	0.0088	0.0045
Uranus	-39915-04-10 09:21 J	-12857431.14	-12857431.11	-12857431.06	0.0135	0.0132
Neptune	-39915-07-20 07:40 J	-12857330.38	-12857330.18	-12857329.97	0.0088	0.0033
Neptune	-39914-03-02 21:06 J	-12857104.83	-12857104.62	-12857104.39	0.0088	0.0021
Saturn	-39914-09-11 01:26 J	-12856912.56	-12856912.44	-12856912.32	0.0283	0.0231
Neptune	-39914-10-14 10:33 J	-12856879.28	-12856879.06	-12856878.83	0.0088	0.0009
Saturn	-39913-04-27 13:54 J	-12856683.13	-12856682.92	-12856682.71	0.0283	0.0022
Neptune	-39913-05-26 23:59 J	-12856653.72	-12856653.50	-12856653.27	0.0088	0.0004
Saturn	-39913-12-13 03:21 J	-12856453.52	-12856453.36	-12856453.20	0.0283	0.0190

Neptune -39912-01-07 13:11 J -12856428.16 -12856427.95 -12856427.72 0.0088 0.0016
 Neptune -39912-08-21 02:38 J -12856202.59 -12856202.39 -12856202.17 0.0088 0.0028
 Jupiter -39912-12-06 09:06 J -12856095.27 -12856095.12 -12856094.96 0.0545 0.0345
 Neptune -39911-04-03 16:18 J -12855977.01 -12855976.82 -12855976.61 0.0088 0.0040
 Neptune -39911-11-15 05:45 J -12855751.43 -12855751.26 -12855751.07 0.0088 0.0053
 Neptune -39910-06-28 18:42 J -12855525.84 -12855525.72 -12855525.54 0.0088 0.0066
 Neptune -39909-02-09 08:23 J -12855300.24 -12855300.15 -12855300.02 0.0088 0.0077
 Jupiter -39906-10-05 03:06 J -12853966.46 -12853966.37 -12853966.26 0.0484 0.0421
 Jupiter -39905-05-28 00:28 J -12853730.65 -12853730.48 -12853730.31 0.0485 0.0287
 Jupiter -39899-04-06 02:52 J -12851591.52 -12851591.38 -12851591.24 0.0543 0.0380
 Saturn -39899-10-14 19:26 J -12851399.89 -12851399.69 -12851399.49 0.0275 0.0082
 Saturn -39898-06-01 05:16 J -12851170.47 -12851170.28 -12851170.08 0.0275 0.0114
 Mars -39894-10-05 18:28 J -12849582.89 -12849582.73 -12849582.58 0.1660 0.0632
 Jupiter -39893-02-01 03:35 J -12849464.55 -12849464.35 -12849464.15 0.0484 0.0088
 Uranus -39892-10-26 11:45 J -12848831.04 -12848831.01 -12848830.98 0.0146 0.0145
 Uranus -39891-06-09 22:47 J -12848604.61 -12848604.55 -12848604.46 0.0147 0.0136
 Mars -39891-07-11 21:06 J -12848572.69 -12848572.62 -12848572.55 0.1856 0.1688
 Uranus -39890-01-22 10:33 J -12848378.15 -12848378.06 -12848377.94 0.0147 0.0126
 Uranus -39890-09-05 22:47 J -12848151.68 -12848151.55 -12848151.42 0.0147 0.0115
 Uranus -39889-04-19 10:18 J -12847925.21 -12847925.07 -12847924.91 0.0147 0.0105
 Uranus -39889-12-01 22:18 J -12847698.72 -12847698.57 -12847698.39 0.0147 0.0094
 Uranus -39888-07-16 11:02 J -12847472.22 -12847472.04 -12847471.86 0.0147 0.0082
 Jupiter -39888-12-09 15:35 J -12847326.05 -12847325.85 -12847325.66 0.0544 0.0102
 Uranus -39887-02-27 23:16 J -12847245.71 -12847245.53 -12847245.33 0.0147 0.0071
 Uranus -39887-10-12 11:59 J -12847019.19 -12847019.00 -12847018.80 0.0147 0.0059
 Uranus -39886-05-27 00:42 J -12846792.67 -12846792.47 -12846792.26 0.0147 0.0047
 Uranus -39885-01-08 13:40 J -12846566.14 -12846565.93 -12846565.72 0.0147 0.0035
 Uranus -39885-08-22 02:38 J -12846339.60 -12846339.39 -12846339.17 0.0147 0.0022
 Saturn -39884-03-23 06:14 J -12846126.37 -12846126.24 -12846126.09 0.0283 0.0203
 Uranus -39884-04-05 15:50 J -12846113.06 -12846112.84 -12846112.62 0.0147 0.0010

Saturn	-39884-11-07 19:11 J	-12845896.91	-12845896.70	-12845896.49	0.0283	0.0008
Uranus	-39884-11-18 05:02 J	-12845886.51	-12845886.29	-12845886.08	0.0147	0.0003
Saturn	-39883-06-25 09:06 J	-12845667.25	-12845667.12	-12845666.99	0.0283	0.0219
Uranus	-39883-07-02 18:14 J	-12845659.96	-12845659.74	-12845659.52	0.0146	0.0015
Uranus	-39882-02-14 07:40 J	-12845433.40	-12845433.18	-12845432.97	0.0146	0.0027
Uranus	-39882-09-28 20:52 J	-12845206.83	-12845206.63	-12845206.41	0.0146	0.0040
Jupiter	-39882-10-07 07:54 J	-12845198.37	-12845198.17	-12845197.97	0.0484	0.0109
Uranus	-39881-05-12 10:18 J	-12844980.27	-12844980.07	-12844979.86	0.0146	0.0052
Uranus	-39881-12-24 23:45 J	-12844753.71	-12844753.51	-12844753.31	0.0146	0.0064
Uranus	-39880-08-08 12:57 J	-12844527.14	-12844526.96	-12844526.76	0.0146	0.0076
Uranus	-39879-03-23 02:38 J	-12844300.56	-12844300.39	-12844300.21	0.0145	0.0087
Uranus	-39879-11-04 16:04 J	-12844073.99	-12844073.83	-12844073.67	0.0145	0.0099
Uranus	-39878-06-19 05:02 J	-12843847.41	-12843847.29	-12843847.13	0.0145	0.0110
Uranus	-39877-01-31 18:14 J	-12843620.84	-12843620.74	-12843620.60	0.0145	0.0121
Uranus	-39877-09-14 07:40 J	-12843394.26	-12843394.18	-12843394.08	0.0144	0.0131
Uranus	-39876-04-28 20:52 J	-12843167.66	-12843167.63	-12843167.57	0.0144	0.0140
Jupiter	-39876-08-14 00:42 J	-12843060.65	-12843060.47	-12843060.28	0.0545	0.0188
Jupiter	-39870-06-12 12:57 J	-12840932.12	-12840931.96	-12840931.80	0.0484	0.0303
Saturn	-39870-09-09 17:16 J	-12840842.87	-12840842.78	-12840842.67	0.0276	0.0243
Jupiter	-39869-02-03 11:02 J	-12840696.15	-12840696.04	-12840695.93	0.0485	0.0408
Saturn	-39869-04-26 04:18 J	-12840613.53	-12840613.32	-12840613.11	0.0275	0.0046
Saturn	-39869-12-11 13:54 J	-12840384.10	-12840383.92	-12840383.74	0.0275	0.0149
Jupiter	-39864-04-18 12:57 J	-12838795.06	-12838794.96	-12838794.86	0.0545	0.0467
Jupiter	-39864-12-12 17:30 J	-12838556.80	-12838556.77	-12838556.73	0.0543	0.0532
Mars	-39862-10-04 13:40 J	-12837896.07	-12837895.93	-12837895.79	0.1668	0.0915
Jupiter	-39858-10-09 13:40 J	-12836430.11	-12836429.93	-12836429.74	0.0484	0.0208
Mars	-39857-05-08 03:06 J	-12836218.46	-12836218.37	-12836218.28	0.1870	0.1581
Saturn	-39855-10-03 08:52 J	-12835340.28	-12835340.13	-12835339.95	0.0283	0.0176
Saturn	-39854-05-20 21:50 J	-12835110.80	-12835110.59	-12835110.38	0.0283	0.0034
Saturn	-39853-01-05 11:30 J	-12834881.12	-12834881.02	-12834880.91	0.0284	0.0245

Jupiter -39852-08-17 08:52 J -12834291.30 -12834291.13 -12834290.95 0.0544 0.0264
 Uranus -39850-05-11 22:18 J -12833658.63 -12833658.57 -12833658.50 0.0132 0.0126
 Uranus -39850-12-24 04:18 J -12833432.42 -12833432.32 -12833432.22 0.0132 0.0118
 Uranus -39849-08-06 09:35 J -12833206.20 -12833206.10 -12833205.96 0.0132 0.0110
 Uranus -39848-03-20 15:06 J -12832979.99 -12832979.87 -12832979.71 0.0132 0.0102
 Uranus -39848-11-01 20:52 J -12832753.78 -12832753.63 -12832753.47 0.0132 0.0093
 Uranus -39847-06-16 02:09 J -12832527.57 -12832527.41 -12832527.23 0.0132 0.0085
 Uranus -39846-01-28 07:11 J -12832301.36 -12832301.20 -12832301.01 0.0132 0.0077
 Jupiter -39846-06-14 17:59 J -12832163.96 -12832163.75 -12832163.55 0.0484 0.0014
 Uranus -39846-09-11 12:28 J -12832075.16 -12832074.98 -12832074.78 0.0132 0.0068
 Uranus -39845-04-24 17:45 J -12831848.95 -12831848.76 -12831848.56 0.0132 0.0059
 Uranus -39845-12-06 22:18 J -12831622.76 -12831622.57 -12831622.35 0.0132 0.0051
 Uranus -39844-07-21 03:21 J -12831396.56 -12831396.36 -12831396.14 0.0132 0.0042
 Uranus -39843-03-04 08:23 J -12831170.36 -12831170.15 -12831169.94 0.0132 0.0033
 Uranus -39843-10-16 13:11 J -12830944.16 -12830943.95 -12830943.73 0.0132 0.0024
 Uranus -39842-05-30 17:45 J -12830717.97 -12830717.76 -12830717.54 0.0132 0.0015
 Uranus -39841-01-11 22:33 J -12830491.78 -12830491.56 -12830491.34 0.0132 0.0006
 Moon -39841-04-15 03:06 J -12830397.38 -12830397.37 -12830397.36 0.2661 0.2647
 Uranus -39841-08-25 03:21 J -12830265.58 -12830265.36 -12830265.15 0.0132 0.0004
 Saturn -39840-03-21 17:16 J -12830056.90 -12830056.78 -12830056.65 0.0275 0.0224
 Uranus -39840-04-08 07:54 J -12830039.39 -12830039.17 -12830038.96 0.0132 0.0013
 Jupiter -39840-04-21 22:47 J -12830025.75 -12830025.55 -12830025.35 0.0544 0.0012
 Saturn -39840-11-06 04:04 J -12829827.54 -12829827.33 -12829827.12 0.0275 0.0027
 Uranus -39840-11-20 12:14 J -12829813.20 -12829812.99 -12829812.77 0.0132 0.0022
 Saturn -39839-06-23 13:40 J -12829598.10 -12829597.93 -12829597.76 0.0275 0.0168
 Uranus -39839-07-04 16:47 J -12829587.01 -12829586.80 -12829586.59 0.0132 0.0030
 Pluto -39839-09-29 09:50 J -12829500.25 -12829500.09 -12829499.89 0.0066 0.0037
 Uranus -39838-02-15 21:06 J -12829360.82 -12829360.62 -12829360.41 0.0133 0.0040
 Pluto -39838-05-12 14:38 J -12829275.11 -12829274.89 -12829274.67 0.0066 0.0006
 Uranus -39838-09-30 01:40 J -12829134.62 -12829134.43 -12829134.22 0.0133 0.0048

Pluto -39838-12-23 18:42 J -12829049.85 -12829049.72 -12829049.56 0.0066 0.0050
 Uranus -39837-05-13 05:59 J -12828908.44 -12828908.25 -12828908.05 0.0133 0.0057
 Uranus -39837-12-25 10:18 J -12828682.25 -12828682.07 -12828681.87 0.0133 0.0066
 Uranus -39836-08-08 14:52 J -12828456.06 -12828455.88 -12828455.70 0.0133 0.0074
 Uranus -39835-03-22 19:26 J -12828229.86 -12828229.69 -12828229.53 0.0133 0.0083
 Neptune -39835-11-01 01:54 J -12828006.49 -12828006.42 -12828006.34 0.0089 0.0082
 Uranus -39835-11-03 23:30 J -12828003.66 -12828003.52 -12828003.35 0.0134 0.0092
 Jupiter -39834-02-17 21:35 J -12827897.78 -12827897.60 -12827897.40 0.0484 0.0188
 Neptune -39834-06-14 14:23 J -12827781.02 -12827780.90 -12827780.76 0.0089 0.0070
 Uranus -39834-06-18 03:50 J -12827777.47 -12827777.34 -12827777.18 0.0134 0.0100
 Neptune -39833-01-26 02:52 J -12827555.53 -12827555.38 -12827555.20 0.0089 0.0059
 Uranus -39833-01-30 08:09 J -12827551.27 -12827551.16 -12827551.01 0.0134 0.0108
 Moon -39833-04-12 21:50 J -12827477.73 -12827477.59 -12827477.45 0.2668 0.0979
 Earth -39833-04-13 01:54 J -12827477.57 -12827477.42 -12827477.26 0.2663 0.0470 *
 Neptune -39833-09-07 15:35 J -12827330.02 -12827329.85 -12827329.65 0.0089 0.0046
 Uranus -39833-09-12 12:57 J -12827325.05 -12827324.96 -12827324.84 0.0134 0.0116
 Neptune -39832-04-21 04:18 J -12827104.51 -12827104.32 -12827104.11 0.0089 0.0034
 Uranus -39832-04-26 17:30 J -12827098.84 -12827098.77 -12827098.67 0.0135 0.0123
 Neptune -39832-12-02 16:47 J -12826879.00 -12826878.80 -12826878.58 0.0089 0.0022
 Uranus -39832-12-08 22:04 J -12826872.61 -12826872.58 -12826872.52 0.0135 0.0131
 Neptune -39831-07-16 05:30 J -12826653.48 -12826653.27 -12826653.05 0.0089 0.0010
 Neptune -39830-02-26 18:14 J -12826427.96 -12826427.74 -12826427.52 0.0089 0.0003
 Neptune -39830-10-10 06:42 J -12826202.43 -12826202.22 -12826202.00 0.0089 0.0015
 Neptune -39829-05-22 19:11 J -12825976.90 -12825976.70 -12825976.48 0.0089 0.0027
 Jupiter -39829-12-25 10:33 J -12825760.23 -12825760.06 -12825759.89 0.0544 0.0294
 Neptune -39828-01-03 07:40 J -12825751.36 -12825751.18 -12825750.98 0.0089 0.0039
 Mars -39828-08-02 05:59 J -12825540.40 -12825540.25 -12825540.10 0.1658 0.0816
 Neptune -39828-08-16 20:09 J -12825525.82 -12825525.66 -12825525.47 0.0089 0.0052
 Neptune -39827-03-30 08:38 J -12825300.28 -12825300.14 -12825299.98 0.0089 0.0064
 Neptune -39827-11-10 21:21 J -12825074.72 -12825074.61 -12825074.49 0.0089 0.0076

Neptune -39826-06-24 09:35 J -12824849.12 -12824849.10 -12824849.05 0.0089 0.0088
 Saturn -39825-04-14 12:28 J -12824554.14 -12824553.98 -12824553.79 0.0283 0.0151
 Mars -39825-05-08 00:14 J -12824530.62 -12824530.49 -12824530.35 0.1859 0.1187
 Saturn -39825-11-30 01:40 J -12824324.63 -12824324.43 -12824324.22 0.0283 0.0060
 Saturn -39824-07-17 15:35 J -12824094.90 -12824094.85 -12824094.78 0.0283 0.0272
 Jupiter -39823-10-24 02:52 J -12823631.50 -12823631.38 -12823631.25 0.0484 0.0380
 Jupiter -39822-06-17 00:28 J -12823395.63 -12823395.48 -12823395.33 0.0485 0.0328
 Jupiter -39816-04-24 23:59 J -12821256.62 -12821256.50 -12821256.37 0.0543 0.0418
 Saturn -39811-10-02 02:09 J -12819270.56 -12819270.41 -12819270.25 0.0276 0.0186
 Jupiter -39810-02-20 04:18 J -12819129.52 -12819129.32 -12819129.12 0.0484 0.0131
 Saturn -39810-05-19 12:42 J -12819041.18 -12819040.97 -12819040.75 0.0276 0.0011
 Saturn -39809-01-03 22:18 J -12818811.71 -12818811.57 -12818811.43 0.0275 0.0204
 Uranus -39808-06-25 19:26 J -12818272.70 -12818272.69 -12818272.66 0.0146 0.0146
 Uranus -39807-02-07 06:42 J -12818046.28 -12818046.22 -12818046.13 0.0146 0.0136
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 Uranus -39802-01-24 07:26 J -12816234.38 -12816234.19 -12816233.97 0.0147 0.0049
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 Uranus -39801-04-21 09:21 J -12815781.32 -12815781.11 -12815780.89 0.0147 0.0024
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 Jupiter -39799-10-26 07:54 J -12814863.37 -12814863.17 -12814862.96 0.0484 0.0069

Uranus	-39798-05-29 03:21 J	-12814648.57	-12814648.36	-12814648.15	0.0146	0.0037
Uranus	-39797-01-10 16:47 J	-12814422.01	-12814421.80	-12814421.60	0.0146	0.0049
Uranus	-39797-08-24 06:14 J	-12814195.44	-12814195.24	-12814195.05	0.0146	0.0061
Uranus	-39796-04-07 19:11 J	-12813968.87	-12813968.70	-12813968.49	0.0146	0.0074
Mars	-39796-08-01 00:57 J	-12813853.62	-12813853.46	-12813853.31	0.1665	0.0714
Saturn	-39796-10-25 15:50 J	-12813768.03	-12813767.84	-12813767.65	0.0283	0.0121
Uranus	-39796-11-20 08:52 J	-12813742.30	-12813742.13	-12813741.95	0.0145	0.0085
Saturn	-39795-06-12 04:33 J	-12813538.50	-12813538.31	-12813538.10	0.0283	0.0089
Uranus	-39795-07-04 22:04 J	-12813515.73	-12813515.58	-12813515.40	0.0145	0.0096
Uranus	-39794-02-16 11:30 J	-12813289.16	-12813289.02	-12813288.86	0.0145	0.0107
Uranus	-39794-10-01 00:42 J	-12813062.58	-12813062.47	-12813062.33	0.0145	0.0118
Uranus	-39793-05-14 14:09 J	-12812836.01	-12812835.91	-12812835.80	0.0145	0.0128
Jupiter	-39793-09-02 03:50 J	-12812725.53	-12812725.34	-12812725.14	0.0545	0.0132
Uranus	-39793-12-27 03:21 J	-12812609.42	-12812609.36	-12812609.30	0.0144	0.0138
Jupiter	-39787-07-01 12:28 J	-12810597.15	-12810596.98	-12810596.80	0.0484	0.0264
Jupiter	-39786-02-22 10:47 J	-12810361.13	-12810361.05	-12810360.97	0.0485	0.0446
Saturn	-39781-04-13 01:40 J	-12808484.59	-12808484.43	-12808484.26	0.0275	0.0168
Jupiter	-39781-05-07 17:02 J	-12808459.92	-12808459.79	-12808459.66	0.0545	0.0408
Saturn	-39781-11-28 12:14 J	-12808255.20	-12808254.99	-12808254.78	0.0275	0.0028
Saturn	-39780-07-15 21:35 J	-12808025.72	-12808025.60	-12808025.47	0.0275	0.0221
Jupiter	-39775-03-06 17:02 J	-12806330.85	-12806330.79	-12806330.72	0.0484	0.0456
Jupiter	-39775-10-28 13:40 J	-12806095.10	-12806094.93	-12806094.74	0.0485	0.0248
Jupiter	-39769-09-05 10:33 J	-12803956.22	-12803956.06	-12803955.90	0.0543	0.0314
Uranus	-39766-01-09 09:50 J	-12803100.14	-12803100.09	-12803100.01	0.0132	0.0126
Saturn	-39766-05-07 18:28 J	-12802981.92	-12802981.73	-12802981.53	0.0283	0.0097
Uranus	-39766-08-23 16:04 J	-12802873.93	-12802873.83	-12802873.73	0.0132	0.0118
Saturn	-39766-12-23 07:40 J	-12802752.37	-12802752.18	-12802751.98	0.0283	0.0113
Uranus	-39765-04-05 21:50 J	-12802647.71	-12802647.59	-12802647.47	0.0132	0.0110
Uranus	-39765-11-18 03:21 J	-12802421.49	-12802421.36	-12802421.21	0.0132	0.0102
Uranus	-39764-07-02 08:52 J	-12802195.28	-12802195.13	-12802194.97	0.0132	0.0093

Uranus -39763-02-13 14:09 J -12801969.06 -12801968.91 -12801968.73 0.0132 0.0085
 Jupiter -39763-07-03 17:59 J -12801828.95 -12801828.75 -12801828.54 0.0484 0.0053
 Uranus -39763-09-27 19:26 J -12801742.85 -12801742.69 -12801742.50 0.0132 0.0077
 Uranus -39762-05-12 00:42 J -12801516.65 -12801516.47 -12801516.27 0.0132 0.0068
 Mars -39762-05-30 17:45 J -12801497.89 -12801497.76 -12801497.62 0.1655 0.0996
 Uranus -39762-12-24 05:59 J -12801290.44 -12801290.25 -12801290.05 0.0132 0.0059
 Uranus -39761-08-06 11:02 J -12801064.24 -12801064.04 -12801063.83 0.0132 0.0051
 Uranus -39760-03-20 16:04 J -12800838.04 -12800837.83 -12800837.62 0.0132 0.0042
 Uranus -39760-11-01 20:52 J -12800611.84 -12800611.63 -12800611.41 0.0132 0.0033
 Mars -39759-03-05 04:18 J -12800488.48 -12800488.32 -12800488.16 0.1863 0.0709
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 Uranus -39758-01-28 06:28 J -12800159.44 -12800159.23 -12800159.01 0.0132 0.0015
 Uranus -39758-09-11 11:16 J -12799933.24 -12799933.03 -12799932.81 0.0132 0.0007
 Uranus -39757-04-24 16:04 J -12799707.05 -12799706.83 -12799706.61 0.0132 0.0003
 Jupiter -39757-05-10 20:09 J -12799690.86 -12799690.66 -12799690.46 0.0544 0.0029
 Uranus -39757-12-06 20:38 J -12799480.86 -12799480.64 -12799480.42 0.0132 0.0012
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 Uranus -39755-03-04 05:45 J -12799028.47 -12799028.26 -12799028.05 0.0132 0.0030
 Uranus -39755-10-16 10:04 J -12798802.28 -12798802.08 -12798801.87 0.0132 0.0039
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 Uranus -39753-01-11 18:57 J -12798349.91 -12798349.71 -12798349.51 0.0133 0.0056
 Neptune -39753-05-02 10:18 J -12798238.09 -12798238.07 -12798238.04 0.0088 0.0088
 Uranus -39753-08-24 23:16 J -12798123.71 -12798123.53 -12798123.34 0.0133 0.0065
 Neptune -39753-12-13 23:30 J -12798012.63 -12798012.52 -12798012.40 0.0088 0.0076
 Uranus -39752-04-08 03:35 J -12797897.52 -12797897.35 -12797897.16 0.0133 0.0073
 Neptune -39752-07-27 12:57 J -12797787.11 -12797786.96 -12797786.81 0.0088 0.0064
 Pluto -39752-10-21 17:30 J -12797700.98 -12797700.77 -12797700.56 0.0078 0.0025
 Saturn -39752-10-24 10:04 J -12797698.26 -12797698.08 -12797697.89 0.0276 0.0131
 Uranus -39752-11-20 08:09 J -12797671.33 -12797671.16 -12797670.99 0.0133 0.0082
 Jupiter -39751-03-08 23:02 J -12797562.74 -12797562.54 -12797562.34 0.0484 0.0144

Neptune -39751-03-10 02:23 J -12797561.58 -12797561.40 -12797561.22 0.0088 0.0052
 Pluto -39751-06-04 03:06 J -12797475.53 -12797475.37 -12797475.18 0.0078 0.0048
 Saturn -39751-06-10 20:23 J -12797468.85 -12797468.65 -12797468.44 0.0276 0.0065
 Uranus -39751-07-04 11:59 J -12797445.14 -12797445.00 -12797444.82 0.0133 0.0091
 Neptune -39751-10-21 15:50 J -12797336.04 -12797335.84 -12797335.64 0.0088 0.0040
 Saturn -39750-01-26 05:45 J -12797239.33 -12797239.26 -12797239.18 0.0275 0.0257
 Uranus -39750-02-15 16:33 J -12797218.94 -12797218.81 -12797218.65 0.0134 0.0099
 Neptune -39750-06-04 05:02 J -12797110.50 -12797110.29 -12797110.07 0.0088 0.0028
 Uranus -39750-09-29 21:21 J -12796992.73 -12796992.61 -12796992.48 0.0134 0.0106
 Neptune -39749-01-15 18:28 J -12796884.95 -12796884.73 -12796884.51 0.0088 0.0015
 Uranus -39749-05-13 01:40 J -12796766.53 -12796766.43 -12796766.31 0.0134 0.0114
 Neptune -39749-08-28 07:54 J -12796659.40 -12796659.17 -12796658.95 0.0088 0.0003
 Uranus -39749-12-25 05:59 J -12796540.32 -12796540.25 -12796540.14 0.0134 0.0123
 Neptune -39748-04-10 21:21 J -12796433.83 -12796433.61 -12796433.39 0.0088 0.0009
 Uranus -39748-08-08 10:47 J -12796314.09 -12796314.05 -12796313.98 0.0135 0.0130
 Neptune -39748-11-22 10:33 J -12796208.27 -12796208.06 -12796207.83 0.0088 0.0021
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 Neptune -39746-02-16 13:26 J -12795757.12 -12795756.94 -12795756.74 0.0088 0.0046
 Neptune -39746-09-30 02:52 J -12795531.54 -12795531.38 -12795531.20 0.0088 0.0058
 Jupiter -39745-01-14 08:09 J -12795425.33 -12795425.16 -12795424.98 0.0545 0.0253
 Neptune -39745-05-12 16:33 J -12795305.94 -12795305.81 -12795305.67 0.0088 0.0070
 Neptune -39745-12-24 05:16 J -12795080.33 -12795080.28 -12795080.17 0.0088 0.0083
 Jupiter -39740-11-12 03:06 J -12793296.51 -12793296.37 -12793296.22 0.0484 0.0339
 Jupiter -39739-07-06 00:28 J -12793060.62 -12793060.48 -12793060.35 0.0485 0.0366
 Saturn -39737-04-01 10:33 J -12792425.11 -12792425.06 -12792425.00 0.0283 0.0272
 Saturn -39737-11-16 22:18 J -12792195.77 -12792195.57 -12792195.36 0.0283 0.0067
 Saturn -39736-07-04 11:16 J -12791966.20 -12791966.03 -12791965.84 0.0283 0.0142
 Jupiter -39734-09-18 21:21 J -12791159.65 -12791159.61 -12791159.56 0.0545 0.0529
 Jupiter -39733-05-14 03:06 J -12790921.46 -12790921.37 -12790921.27 0.0544 0.0470
 Mars -39730-05-29 12:57 J -12789811.12 -12789810.96 -12789810.80 0.1663 0.0535

Jupiter -39727-03-11 04:18 J -12788794.52 -12788794.32 -12788794.13 0.0484 0.0169
 Uranus -39724-02-23 04:33 J -12787714.31 -12787714.31 -12787714.28 0.0146 0.0146
 Uranus -39724-10-07 15:50 J -12787487.91 -12787487.84 -12787487.76 0.0146 0.0137
 Uranus -39723-05-22 02:52 J -12787261.47 -12787261.38 -12787261.26 0.0146 0.0128
 Uranus -39722-01-03 14:52 J -12787035.00 -12787034.88 -12787034.75 0.0147 0.0117
 Saturn -39722-05-06 09:50 J -12786912.28 -12786912.09 -12786911.89 0.0275 0.0113
 Uranus -39722-08-18 02:23 J -12786808.54 -12786808.40 -12786808.24 0.0147 0.0107
 Saturn -39722-12-21 20:09 J -12786682.86 -12786682.66 -12786682.46 0.0275 0.0082
 Jupiter -39721-01-17 17:45 J -12786655.95 -12786655.76 -12786655.57 0.0544 0.0201
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 Uranus -39718-05-08 04:18 J -12785449.52 -12785449.32 -12785449.10 0.0147 0.0039
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Jupiter -39710-09-22 06:14 J -12782390.43 -12782390.24 -12782390.04 0.0544 0.0078
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 Jupiter -39704-07-20 12:57 J -12780262.15 -12780261.96 -12780261.78 0.0484 0.0221
 Moon -39704-10-15 22:47 J -12780174.70 -12780174.55 -12780174.41 0.2676 0.0781
 Earth -39704-10-15 23:16 J -12780174.68 -12780174.53 -12780174.38 0.2668 0.1003 *
 Jupiter -39698-05-27 14:38 J -12778125.04 -12778124.89 -12778124.75 0.0544 0.0369
 Mars -39696-03-27 05:45 J -12777455.38 -12777455.26 -12777455.13 0.1653 0.1169
 Mars -39694-12-31 07:11 J -12776446.38 -12776446.20 -12776446.03 0.1866 0.0199
 Saturn -39693-03-31 06:28 J -12776355.26 -12776355.23 -12776355.19 0.0276 0.0273
 Saturn -39693-11-15 17:59 J -12776125.95 -12776125.75 -12776125.54 0.0276 0.0076
 Jupiter -39692-03-25 18:14 J -12775995.84 -12775995.74 -12775995.63 0.0484 0.0413
 Saturn -39692-07-03 04:18 J -12775896.51 -12775896.32 -12775896.13 0.0276 0.0119
 Jupiter -39692-11-16 15:06 J -12775760.03 -12775759.87 -12775759.70 0.0485 0.0291
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 Uranus -39683-09-08 21:21 J -12772541.66 -12772541.61 -12772541.52 0.0132 0.0126
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 Saturn -39678-12-10 05:16 J -12770623.49 -12770623.28 -12770623.07 0.0283 0.0013

Uranus -39677-04-05 23:30 J -12770505.72 -12770505.52 -12770505.31 0.0132 0.0051
 Saturn -39677-07-26 18:14 J -12770393.88 -12770393.74 -12770393.58 0.0283 0.0196
 Uranus -39677-11-18 04:33 J -12770279.52 -12770279.31 -12770279.10 0.0132 0.0042
 Uranus -39676-07-02 09:21 J -12770053.32 -12770053.11 -12770052.89 0.0132 0.0034
 Uranus -39675-02-13 14:23 J -12769827.11 -12769826.90 -12769826.68 0.0132 0.0024
 Uranus -39675-09-27 19:11 J -12769600.91 -12769600.70 -12769600.48 0.0132 0.0016
 Uranus -39674-05-11 23:59 J -12769374.72 -12769374.50 -12769374.28 0.0132 0.0007
 Jupiter -39674-05-30 22:47 J -12769355.75 -12769355.55 -12769355.35 0.0545 0.0080
 Uranus -39674-12-24 04:47 J -12769148.52 -12769148.30 -12769148.09 0.0132 0.0003
 Uranus -39673-08-06 09:21 J -12768922.33 -12768922.11 -12768921.89 0.0132 0.0011
 Uranus -39672-03-20 13:54 J -12768696.13 -12768695.92 -12768695.70 0.0132 0.0020
 Uranus -39672-11-01 18:14 J -12768469.95 -12768469.74 -12768469.52 0.0132 0.0029
 Uranus -39671-06-15 22:47 J -12768243.76 -12768243.55 -12768243.34 0.0132 0.0038
 Uranus -39670-01-28 03:06 J -12768017.57 -12768017.37 -12768017.16 0.0133 0.0047
 Neptune -39670-02-02 09:35 J -12768012.10 -12768012.10 -12768012.08 0.0089 0.0089
 Uranus -39670-09-11 07:40 J -12767791.37 -12767791.18 -12767790.98 0.0133 0.0055
 Neptune -39670-09-15 22:04 J -12767786.67 -12767786.58 -12767786.45 0.0089 0.0077
 Uranus -39669-04-24 11:45 J -12767565.19 -12767565.01 -12767564.81 0.0133 0.0064
 Neptune -39669-04-28 10:47 J -12767561.18 -12767561.05 -12767560.88 0.0089 0.0065
 Uranus -39669-12-06 16:04 J -12767339.00 -12767338.83 -12767338.64 0.0133 0.0073
 Neptune -39669-12-09 23:30 J -12767335.68 -12767335.52 -12767335.33 0.0089 0.0053
 Jupiter -39668-03-27 22:47 J -12767227.75 -12767227.55 -12767227.35 0.0484 0.0105
 Uranus -39668-07-20 20:38 J -12767112.81 -12767112.64 -12767112.47 0.0133 0.0081
 Neptune -39668-07-23 11:59 J -12767110.18 -12767110.00 -12767109.79 0.0089 0.0041
 Uranus -39667-03-04 00:57 J -12766886.61 -12766886.46 -12766886.29 0.0133 0.0089
 Neptune -39667-03-06 00:42 J -12766884.66 -12766884.47 -12766884.25 0.0089 0.0029
 Uranus -39667-10-16 05:30 J -12766660.41 -12766660.27 -12766660.12 0.0134 0.0097
 Neptune -39667-10-17 13:26 J -12766659.14 -12766658.94 -12766658.72 0.0089 0.0017
 Uranus -39666-05-30 09:50 J -12766434.21 -12766434.09 -12766433.95 0.0134 0.0105
 Neptune -39666-05-31 02:09 J -12766433.62 -12766433.41 -12766433.19 0.0089 0.0005

Neptune -39665-01-11 14:38 J -12766208.10 -12766207.89 -12766207.67 0.0089 0.0008
 Uranus -39665-01-11 14:09 J -12766208.01 -12766207.91 -12766207.78 0.0134 0.0113 *
 Neptune -39665-08-24 03:06 J -12765982.57 -12765982.37 -12765982.15 0.0089 0.0020
 Uranus -39665-08-24 18:57 J -12765981.79 -12765981.71 -12765981.61 0.0134 0.0121
 Mars -39664-03-26 00:42 J -12765768.64 -12765768.47 -12765768.31 0.1660 0.0346
 Neptune -39664-04-06 15:35 J -12765757.04 -12765756.85 -12765756.64 0.0089 0.0032
 Uranus -39664-04-07 23:16 J -12765755.57 -12765755.53 -12765755.45 0.0134 0.0129
 Saturn -39664-10-11 06:28 J -12765569.30 -12765569.23 -12765569.14 0.0276 0.0253
 Neptune -39664-11-18 04:04 J -12765531.51 -12765531.33 -12765531.13 0.0089 0.0044
 Saturn -39663-05-28 17:59 J -12765339.96 -12765339.75 -12765339.54 0.0275 0.0058
 Neptune -39663-07-01 16:18 J -12765305.96 -12765305.82 -12765305.63 0.0089 0.0057
 Saturn -39662-01-13 04:04 J -12765110.51 -12765110.33 -12765110.14 0.0275 0.0136
 Jupiter -39662-02-02 12:28 J -12765090.17 -12765089.98 -12765089.79 0.0545 0.0194
 Neptune -39662-02-12 04:47 J -12765080.41 -12765080.30 -12765080.14 0.0089 0.0068
 Neptune -39662-09-25 17:59 J -12764854.84 -12764854.75 -12764854.66 0.0089 0.0080
 Jupiter -39657-12-01 02:52 J -12762961.54 -12762961.38 -12762961.22 0.0484 0.0299
 Jupiter -39656-07-25 00:28 J -12762725.59 -12762725.48 -12762725.36 0.0485 0.0406
 Jupiter -39651-10-08 00:14 J -12760824.58 -12760824.49 -12760824.39 0.0544 0.0472
 Jupiter -39650-06-03 05:16 J -12760586.33 -12760586.28 -12760586.22 0.0543 0.0520
 Saturn -39649-11-03 17:59 J -12760066.89 -12760066.75 -12760066.60 0.0283 0.0197
 Saturn -39648-06-21 06:28 J -12759837.44 -12759837.23 -12759837.02 0.0283 0.0009
 Saturn -39647-02-05 20:09 J -12759607.79 -12759607.66 -12759607.53 0.0283 0.0218
 Jupiter -39644-03-30 04:47 J -12758459.48 -12758459.30 -12758459.11 0.0484 0.0211
 Uranus -39640-06-06 23:45 J -12756929.57 -12756929.51 -12756929.43 0.0146 0.0137
 Uranus -39639-01-19 10:47 J -12756703.13 -12756703.05 -12756702.93 0.0146 0.0129
 Uranus -39639-09-02 22:18 J -12756476.68 -12756476.57 -12756476.43 0.0146 0.0119
 Jupiter -39638-02-05 15:06 J -12756321.05 -12756320.87 -12756320.69 0.0544 0.0238
 Uranus -39638-04-17 09:50 J -12756250.22 -12756250.09 -12756249.93 0.0147 0.0109
 Uranus -39638-11-29 21:35 J -12756023.75 -12756023.60 -12756023.43 0.0147 0.0098
 Uranus -39637-07-13 09:35 J -12755797.26 -12755797.10 -12755796.92 0.0147 0.0087

Uranus	-39636-02-24 21:50 J	-12755570.76	-12755570.59	-12755570.40	0.0147	0.0076
Uranus	-39636-10-09 10:18 J	-12755344.26	-12755344.07	-12755343.87	0.0147	0.0064
Uranus	-39635-05-23 22:33 J	-12755117.75	-12755117.56	-12755117.35	0.0147	0.0053
Uranus	-39634-01-05 11:16 J	-12754891.23	-12754891.03	-12754890.81	0.0147	0.0041
Saturn	-39634-04-23 14:23 J	-12754783.03	-12754782.90	-12754782.77	0.0277	0.0218
Uranus	-39634-08-19 23:59 J	-12754664.70	-12754664.50	-12754664.28	0.0147	0.0029
Saturn	-39634-12-09 01:54 J	-12754553.64	-12754553.42	-12754553.21	0.0276	0.0022
Uranus	-39633-04-02 12:57 J	-12754438.17	-12754437.96	-12754437.74	0.0147	0.0017
Saturn	-39633-07-25 11:59 J	-12754324.16	-12754324.00	-12754323.83	0.0276	0.0173
Uranus	-39633-11-15 01:54 J	-12754211.63	-12754211.42	-12754211.20	0.0147	0.0005
Jupiter	-39633-12-03 09:06 J	-12754193.33	-12754193.12	-12754192.91	0.0484	0.0015
Uranus	-39632-06-29 15:06 J	-12753985.09	-12753984.87	-12753984.66	0.0147	0.0008
Uranus	-39631-02-11 04:18 J	-12753758.54	-12753758.32	-12753758.11	0.0146	0.0020
Uranus	-39631-09-25 17:30 J	-12753531.98	-12753531.77	-12753531.56	0.0146	0.0032
Mars	-39630-01-22 17:30 J	-12753412.86	-12753412.77	-12753412.67	0.1651	0.1347
Uranus	-39630-05-10 06:42 J	-12753305.43	-12753305.22	-12753305.01	0.0146	0.0044
Uranus	-39630-12-22 19:40 J	-12753078.87	-12753078.68	-12753078.47	0.0146	0.0057
Uranus	-39629-08-05 08:52 J	-12752852.31	-12752852.13	-12752851.93	0.0146	0.0068
Uranus	-39628-03-19 22:18 J	-12752625.74	-12752625.57	-12752625.38	0.0146	0.0080
Mars	-39628-10-27 10:47 J	-12752404.23	-12752404.05	-12752403.88	0.1870	0.0302
Uranus	-39628-11-01 11:45 J	-12752399.18	-12752399.01	-12752398.83	0.0146	0.0091
Uranus	-39627-06-16 00:57 J	-12752172.61	-12752172.46	-12752172.30	0.0145	0.0102
Jupiter	-39627-10-11 03:35 J	-12752055.55	-12752055.35	-12752055.15	0.0544	0.0041
Uranus	-39626-01-28 14:09 J	-12751946.04	-12751945.91	-12751945.76	0.0145	0.0112
Uranus	-39626-09-12 03:06 J	-12751719.47	-12751719.37	-12751719.23	0.0145	0.0123
Uranus	-39625-04-25 16:33 J	-12751492.88	-12751492.81	-12751492.71	0.0145	0.0133
Uranus	-39625-12-08 05:30 J	-12751266.28	-12751266.27	-12751266.21	0.0144	0.0143
Jupiter	-39621-08-08 12:42 J	-12749927.16	-12749926.97	-12749926.78	0.0484	0.0183
Saturn	-39619-05-17 00:42 J	-12749280.64	-12749280.47	-12749280.30	0.0283	0.0163
Saturn	-39618-01-01 12:57 J	-12749051.17	-12749050.96	-12749050.75	0.0283	0.0043

Saturn -39618-08-19 02:09 J -12748821.50 -12748821.41 -12748821.31 0.0283 0.0250
 Jupiter -39615-06-15 16:33 J -12747789.97 -12747789.81 -12747789.65 0.0545 0.0317
 Jupiter -39609-04-13 17:59 J -12745660.88 -12745660.75 -12745660.62 0.0484 0.0374
 Jupiter -39609-12-05 14:38 J -12745425.04 -12745424.89 -12745424.74 0.0484 0.0327
 Saturn -39605-11-02 15:21 J -12743997.01 -12743996.86 -12743996.71 0.0276 0.0197
 Saturn -39604-06-20 02:38 J -12743767.61 -12743767.39 -12743767.18 0.0276 0.0006
 Saturn -39603-02-04 12:28 J -12743538.13 -12743537.98 -12743537.82 0.0275 0.0191
 Jupiter -39603-10-14 11:59 J -12743286.13 -12743286.00 -12743285.87 0.0544 0.0407
 Uranus -39599-05-09 08:23 J -12741983.20 -12741983.15 -12741983.07 0.0133 0.0126
 Uranus -39599-12-21 14:38 J -12741756.98 -12741756.89 -12741756.78 0.0132 0.0118
 Mars -39598-01-21 12:42 J -12741726.14 -12741725.97 -12741725.80 0.1658 0.0169
 Uranus -39598-08-04 20:23 J -12741530.75 -12741530.65 -12741530.50 0.0132 0.0111
 Uranus -39597-03-18 02:23 J -12741304.52 -12741304.40 -12741304.24 0.0132 0.0102
 Jupiter -39597-08-10 17:45 J -12741158.96 -12741158.76 -12741158.56 0.0484 0.0130
 Uranus -39597-10-30 08:09 J -12741078.30 -12741078.16 -12741077.99 0.0132 0.0094
 Uranus -39596-06-13 13:54 J -12740852.08 -12740851.92 -12740851.75 0.0132 0.0085
 Uranus -39595-01-25 19:26 J -12740625.86 -12740625.69 -12740625.50 0.0132 0.0077
 Uranus -39595-09-09 00:42 J -12740399.64 -12740399.47 -12740399.27 0.0132 0.0069
 Uranus -39594-04-23 06:14 J -12740173.43 -12740173.24 -12740173.04 0.0132 0.0060
 Uranus -39594-12-05 11:30 J -12739947.22 -12739947.02 -12739946.82 0.0132 0.0051
 Uranus -39593-07-18 16:33 J -12739721.01 -12739720.81 -12739720.60 0.0132 0.0043
 Uranus -39592-03-01 21:35 J -12739494.80 -12739494.60 -12739494.38 0.0132 0.0034
 Pluto -39592-06-09 02:23 J -12739395.48 -12739395.40 -12739395.29 0.0066 0.0059
 Uranus -39592-10-14 02:38 J -12739268.60 -12739268.39 -12739268.17 0.0132 0.0025
 Pluto -39591-01-20 06:57 J -12739170.41 -12739170.21 -12739169.98 0.0066 0.0017
 Uranus -39591-05-28 07:26 J -12739042.40 -12739042.19 -12739041.97 0.0132 0.0016
 Jupiter -39591-06-19 01:11 J -12739020.64 -12739020.45 -12739020.26 0.0544 0.0133
 Pluto -39591-09-02 11:30 J -12738945.21 -12738945.02 -12738944.81 0.0066 0.0026
 Uranus -39590-01-09 12:14 J -12738816.20 -12738815.99 -12738815.77 0.0132 0.0008
 Earth -39590-04-14 05:16 J -12738721.43 -12738721.28 -12738721.12 0.2664 0.0231

Moon -39590-04-14 10:18 J -12738721.22 -12738721.07 -12738720.92 0.2663 0.0588 *
 Uranus -39590-08-23 17:16 J -12738590.00 -12738589.78 -12738589.57 0.0132 0.0003
 Saturn -39590-11-27 01:11 J -12738494.63 -12738494.45 -12738494.27 0.0283 0.0142
 Uranus -39589-04-05 21:50 J -12738363.81 -12738363.59 -12738363.37 0.0132 0.0011
 Saturn -39589-07-13 13:40 J -12738265.13 -12738264.93 -12738264.73 0.0283 0.0064
 Uranus -39589-11-18 02:23 J -12738137.62 -12738137.40 -12738137.19 0.0132 0.0020
 Saturn -39588-02-28 03:21 J -12738035.41 -12738035.36 -12738035.30 0.0283 0.0272
 Neptune -39588-03-17 07:40 J -12738018.25 -12738018.18 -12738018.09 0.0088 0.0081
 Uranus -39588-07-02 06:42 J -12737911.43 -12737911.22 -12737911.00 0.0132 0.0028
 Neptune -39588-10-28 21:06 J -12737792.75 -12737792.62 -12737792.48 0.0088 0.0070
 Uranus -39587-02-13 11:16 J -12737685.24 -12737685.03 -12737684.82 0.0132 0.0037
 Neptune -39587-06-11 10:18 J -12737567.23 -12737567.07 -12737566.90 0.0088 0.0058
 Uranus -39587-09-27 15:35 J -12737459.04 -12737458.85 -12737458.64 0.0133 0.0046
 Neptune -39586-01-22 23:45 J -12737341.70 -12737341.51 -12737341.32 0.0088 0.0046
 Uranus -39586-05-11 20:09 J -12737232.86 -12737232.66 -12737232.46 0.0133 0.0054
 Neptune -39586-09-05 13:11 J -12737116.16 -12737115.95 -12737115.75 0.0088 0.0034
 Uranus -39586-12-24 00:14 J -12737006.67 -12737006.49 -12737006.29 0.0133 0.0063
 Jupiter -39585-04-15 22:47 J -12736892.76 -12736892.55 -12736892.34 0.0484 0.0064
 Neptune -39585-04-18 02:38 J -12736890.61 -12736890.39 -12736890.17 0.0088 0.0022
 Uranus -39585-08-06 04:33 J -12736780.48 -12736780.31 -12736780.12 0.0133 0.0071
 Neptune -39585-11-29 15:50 J -12736665.06 -12736664.84 -12736664.61 0.0088 0.0010
 Uranus -39584-03-20 09:06 J -12736554.29 -12736554.12 -12736553.94 0.0133 0.0079
 Neptune -39584-07-13 05:16 J -12736439.50 -12736439.28 -12736439.05 0.0088 0.0003
 Uranus -39584-11-01 13:26 J -12736328.09 -12736327.94 -12736327.77 0.0133 0.0088
 Neptune -39583-02-23 18:57 J -12736213.93 -12736213.71 -12736213.49 0.0088 0.0015
 Uranus -39583-06-15 17:45 J -12736101.90 -12736101.76 -12736101.60 0.0133 0.0096
 Neptune -39583-10-07 08:23 J -12735988.37 -12735988.15 -12735987.94 0.0088 0.0027
 Uranus -39582-01-27 22:04 J -12735875.70 -12735875.58 -12735875.43 0.0134 0.0104
 Neptune -39582-05-20 21:21 J -12735762.79 -12735762.61 -12735762.39 0.0088 0.0039
 Uranus -39582-09-11 03:06 J -12735649.49 -12735649.37 -12735649.25 0.0134 0.0111

Neptune -39581-01-01 10:47 J -12735537.21 -12735537.05 -12735536.85 0.0088 0.0051
 Uranus -39581-04-24 07:11 J -12735423.28 -12735423.20 -12735423.09 0.0134 0.0119
 Neptune -39581-08-14 00:14 J -12735311.63 -12735311.49 -12735311.31 0.0088 0.0063
 Uranus -39581-12-06 11:59 J -12735197.06 -12735197.00 -12735196.92 0.0134 0.0127
 Neptune -39580-03-27 13:40 J -12735086.02 -12735085.93 -12735085.79 0.0088 0.0075
 Uranus -39580-07-20 16:33 J -12734970.82 -12734970.81 -12734970.78 0.0135 0.0134
 Neptune -39580-11-08 03:50 J -12734860.38 -12734860.34 -12734860.30 0.0088 0.0087
 Jupiter -39579-02-21 09:50 J -12734755.28 -12734755.09 -12734754.89 0.0544 0.0157
 Saturn -39575-05-15 22:33 J -12733210.73 -12733210.56 -12733210.38 0.0277 0.0162
 Saturn -39575-12-31 10:04 J -12732981.29 -12732981.08 -12732980.87 0.0276 0.0034
 Saturn -39574-08-17 20:09 J -12732751.77 -12732751.66 -12732751.53 0.0276 0.0227
 Jupiter -39574-12-21 03:35 J -12732626.53 -12732626.35 -12732626.18 0.0484 0.0258
 Jupiter -39573-08-13 01:26 J -12732390.52 -12732390.44 -12732390.36 0.0485 0.0447
 Jupiter -39568-10-26 21:06 J -12730489.74 -12730489.62 -12730489.50 0.0544 0.0436
 Mars -39565-11-19 05:45 J -12729370.32 -12729370.26 -12729370.19 0.1649 0.1511
 Mars -39562-08-24 13:40 J -12728362.08 -12728361.93 -12728361.77 0.1873 0.0813
 Jupiter -39562-08-26 07:40 J -12728360.24 -12728360.18 -12728360.10 0.0484 0.0451
 Jupiter -39561-04-18 04:04 J -12728124.51 -12728124.33 -12728124.15 0.0484 0.0247
 Saturn -39560-06-08 09:06 J -12727708.31 -12727708.12 -12727707.92 0.0282 0.0105
 Saturn -39559-01-23 21:35 J -12727478.79 -12727478.60 -12727478.40 0.0283 0.0100
 Uranus -39556-02-04 08:09 J -12726371.21 -12726371.16 -12726371.08 0.0146 0.0138
 Uranus -39556-09-18 19:11 J -12726144.78 -12726144.70 -12726144.59 0.0146 0.0129
 Jupiter -39555-02-24 16:18 J -12725985.98 -12725985.82 -12725985.64 0.0544 0.0286
 Uranus -39555-05-03 06:28 J -12725918.34 -12725918.23 -12725918.09 0.0146 0.0120
 Uranus -39555-12-15 17:59 J -12725691.88 -12725691.75 -12725691.59 0.0146 0.0109
 Uranus -39554-07-30 05:45 J -12725465.41 -12725465.26 -12725465.09 0.0147 0.0099
 Uranus -39553-03-12 17:45 J -12725238.92 -12725238.76 -12725238.58 0.0147 0.0088
 Uranus -39553-10-25 05:45 J -12725012.43 -12725012.26 -12725012.07 0.0147 0.0077
 Uranus -39552-06-08 17:59 J -12724785.93 -12724785.75 -12724785.55 0.0147 0.0066
 Uranus -39551-01-21 06:42 J -12724559.42 -12724559.22 -12724559.02 0.0147 0.0054

Uranus -39551-09-04 19:11 J -12724332.91 -12724332.70 -12724332.49 0.0147 0.0042
 Uranus -39550-04-19 07:40 J -12724106.38 -12724106.18 -12724105.96 0.0147 0.0031
 Uranus -39550-12-01 20:23 J -12723879.86 -12723879.65 -12723879.43 0.0147 0.0019
 Jupiter -39550-12-23 07:54 J -12723858.37 -12723858.17 -12723857.96 0.0484 0.0051
 Uranus -39549-07-15 09:21 J -12723653.32 -12723653.11 -12723652.89 0.0147 0.0007
 Uranus -39548-02-26 22:33 J -12723426.78 -12723426.56 -12723426.34 0.0147 0.0006
 Uranus -39548-10-11 11:30 J -12723200.23 -12723200.02 -12723199.80 0.0147 0.0018
 Uranus -39547-05-26 00:42 J -12722973.68 -12722973.47 -12722973.26 0.0146 0.0030
 Uranus -39546-01-07 13:40 J -12722747.13 -12722746.93 -12722746.71 0.0146 0.0043
 Uranus -39546-08-22 02:52 J -12722520.57 -12722520.38 -12722520.17 0.0146 0.0054
 Saturn -39546-11-26 00:28 J -12722424.66 -12722424.48 -12722424.29 0.0276 0.0140
 Uranus -39545-04-04 16:04 J -12722294.01 -12722293.83 -12722293.62 0.0146 0.0066
 Saturn -39545-07-12 11:30 J -12722195.22 -12722195.02 -12722194.81 0.0276 0.0055
 Uranus -39545-11-17 05:30 J -12722067.45 -12722067.27 -12722067.08 0.0146 0.0077
 Saturn -39544-02-26 21:35 J -12721965.69 -12721965.60 -12721965.51 0.0275 0.0246
 Uranus -39544-07-01 18:28 J -12721840.89 -12721840.73 -12721840.54 0.0146 0.0089
 Jupiter -39544-10-30 06:42 J -12721720.42 -12721720.22 -12721720.02 0.0545 0.0015
 Uranus -39543-02-13 07:54 J -12721614.32 -12721614.17 -12721614.00 0.0145 0.0100
 Uranus -39543-09-27 21:06 J -12721387.75 -12721387.62 -12721387.46 0.0145 0.0110
 Uranus -39542-05-12 10:33 J -12721161.17 -12721161.06 -12721160.93 0.0145 0.0120
 Uranus -39542-12-24 23:45 J -12720934.60 -12720934.51 -12720934.41 0.0145 0.0130
 Uranus -39541-08-07 12:57 J -12720708.01 -12720707.96 -12720707.90 0.0144 0.0140
 Jupiter -39538-08-28 11:45 J -12719592.20 -12719592.01 -12719591.81 0.0484 0.0145
 Mars -39533-11-18 00:28 J -12717683.65 -12717683.48 -12717683.30 0.1656 0.0037
 Jupiter -39532-07-04 18:57 J -12717454.89 -12717454.71 -12717454.54 0.0545 0.0263
 Saturn -39531-12-19 09:50 J -12716922.29 -12716922.09 -12716921.89 0.0283 0.0084
 Saturn -39530-08-05 22:18 J -12716692.76 -12716692.57 -12716692.38 0.0283 0.0122
 Jupiter -39526-05-03 17:16 J -12715325.93 -12715325.78 -12715325.63 0.0484 0.0335
 Jupiter -39526-12-25 14:23 J -12715090.03 -12715089.90 -12715089.77 0.0485 0.0366
 Jupiter -39520-11-02 08:52 J -12712951.24 -12712951.13 -12712951.01 0.0543 0.0440

Saturn -39516-06-07 07:26 J -12711638.38 -12711638.19 -12711637.99 0.0277 0.0106
 Uranus -39515-01-06 19:26 J -12711424.75 -12711424.69 -12711424.61 0.0133 0.0126
 Saturn -39515-01-22 18:42 J -12711408.92 -12711408.72 -12711408.51 0.0277 0.0090
 Uranus -39515-08-21 01:54 J -12711198.51 -12711198.42 -12711198.31 0.0132 0.0118
 Uranus -39514-04-04 07:40 J -12710972.28 -12710972.18 -12710972.04 0.0132 0.0110
 Jupiter -39514-08-30 17:59 J -12710823.94 -12710823.75 -12710823.55 0.0484 0.0169
 Uranus -39514-11-16 13:40 J -12710746.05 -12710745.93 -12710745.78 0.0132 0.0102
 Uranus -39513-06-29 19:26 J -12710519.82 -12710519.69 -12710519.51 0.0132 0.0094
 Uranus -39512-02-11 01:40 J -12710293.60 -12710293.43 -12710293.26 0.0132 0.0085
 Uranus -39512-09-25 07:11 J -12710067.37 -12710067.20 -12710067.02 0.0132 0.0077
 Uranus -39511-05-09 12:28 J -12709841.16 -12709840.98 -12709840.78 0.0132 0.0069
 Uranus -39511-12-21 17:59 J -12709614.94 -12709614.75 -12709614.55 0.0132 0.0060
 Uranus -39510-08-04 23:16 J -12709388.72 -12709388.53 -12709388.32 0.0132 0.0052
 Uranus -39509-03-18 04:33 J -12709162.51 -12709162.31 -12709162.09 0.0132 0.0043
 Uranus -39509-10-30 09:50 J -12708936.30 -12708936.09 -12708935.88 0.0132 0.0034
 Uranus -39508-06-13 14:52 J -12708710.10 -12708709.88 -12708709.67 0.0132 0.0025
 Jupiter -39508-07-07 21:06 J -12708685.81 -12708685.62 -12708685.42 0.0544 0.0166
 Uranus -39507-01-25 19:40 J -12708483.90 -12708483.68 -12708483.46 0.0132 0.0016
 Uranus -39507-09-09 00:42 J -12708257.69 -12708257.47 -12708257.25 0.0132 0.0008
 Uranus -39506-04-23 05:16 J -12708031.49 -12708031.28 -12708031.06 0.0132 0.0003
 Uranus -39506-12-05 10:04 J -12707805.30 -12707805.08 -12707804.86 0.0132 0.0010
 Neptune -39506-12-18 06:42 J -12707792.28 -12707792.22 -12707792.13 0.0089 0.0083
 Pluto -39505-07-01 03:06 J -12707596.40 -12707596.37 -12707596.28 0.0079 0.0076
 Uranus -39505-07-18 14:23 J -12707579.11 -12707578.90 -12707578.68 0.0132 0.0020
 Neptune -39505-07-30 19:26 J -12707566.81 -12707566.69 -12707566.55 0.0089 0.0071
 Pluto -39504-02-11 13:54 J -12707371.15 -12707370.92 -12707370.70 0.0078 0.0001
 Uranus -39504-03-01 19:11 J -12707352.91 -12707352.70 -12707352.49 0.0132 0.0028
 Neptune -39504-03-13 08:09 J -12707341.31 -12707341.16 -12707340.99 0.0089 0.0059
 Pluto -39504-09-24 23:30 J -12707145.60 -12707145.52 -12707145.43 0.0078 0.0071
 Uranus -39504-10-13 23:30 J -12707126.72 -12707126.52 -12707126.30 0.0132 0.0037

Neptune -39504-10-24 20:52 J -12707115.80 -12707115.63 -12707115.43 0.0089 0.0047
 Uranus -39503-05-28 04:04 J -12706900.53 -12706900.33 -12706900.12 0.0132 0.0045
 Neptune -39503-06-07 09:35 J -12706890.29 -12706890.10 -12706889.89 0.0089 0.0035
 Uranus -39502-01-09 08:09 J -12706674.34 -12706674.16 -12706673.95 0.0133 0.0054
 Neptune -39502-01-18 22:04 J -12706664.78 -12706664.58 -12706664.36 0.0089 0.0024
 Jupiter -39502-05-05 21:21 J -12706557.82 -12706557.61 -12706557.40 0.0484 0.0029
 Uranus -39502-08-23 12:42 J -12706448.15 -12706447.97 -12706447.77 0.0133 0.0062
 Neptune -39502-09-01 10:47 J -12706439.26 -12706439.05 -12706438.83 0.0089 0.0011
 Saturn -39502-11-14 07:26 J -12706365.28 -12706365.19 -12706365.08 0.0282 0.0248
 Uranus -39501-04-05 17:16 J -12706221.96 -12706221.78 -12706221.59 0.0133 0.0070
 Neptune -39501-04-13 23:30 J -12706213.74 -12706213.52 -12706213.30 0.0089 0.0001
 Saturn -39501-06-30 18:57 J -12706135.92 -12706135.71 -12706135.50 0.0282 0.0046
 Mars -39501-11-16 19:40 J -12705996.75 -12705996.68 -12705996.61 0.1664 0.1504
 Uranus -39501-11-17 21:35 J -12705995.77 -12705995.60 -12705995.42 0.0133 0.0078
 Neptune -39501-11-25 11:45 J -12705988.21 -12705988.01 -12705987.79 0.0089 0.0013
 Saturn -39500-02-15 07:26 J -12705906.36 -12705906.19 -12705906.01 0.0283 0.0159
 Uranus -39500-07-02 01:54 J -12705769.58 -12705769.42 -12705769.25 0.0133 0.0086
 Neptune -39500-07-09 00:14 J -12705762.69 -12705762.49 -12705762.27 0.0089 0.0025
 Uranus -39499-02-13 06:14 J -12705543.38 -12705543.24 -12705543.08 0.0133 0.0095
 Neptune -39499-02-19 12:57 J -12705537.16 -12705536.96 -12705536.76 0.0089 0.0037
 Uranus -39499-09-27 10:47 J -12705317.17 -12705317.05 -12705316.90 0.0134 0.0103
 Neptune -39499-10-03 01:26 J -12705311.61 -12705311.44 -12705311.25 0.0089 0.0049
 Uranus -39498-05-11 15:21 J -12705090.97 -12705090.86 -12705090.73 0.0134 0.0110
 Neptune -39498-05-16 13:54 J -12705086.07 -12705085.92 -12705085.75 0.0089 0.0060
 Uranus -39498-12-23 19:40 J -12704864.76 -12704864.68 -12704864.56 0.0134 0.0118
 Neptune -39498-12-28 02:09 J -12704860.52 -12704860.41 -12704860.27 0.0089 0.0072
 Uranus -39497-08-06 00:14 J -12704638.55 -12704638.49 -12704638.40 0.0134 0.0126
 Neptune -39497-08-09 14:23 J -12704634.94 -12704634.90 -12704634.81 0.0089 0.0085
 Jupiter -39496-03-12 10:04 J -12704420.27 -12704420.08 -12704419.88 0.0545 0.0111
 Uranus -39496-03-20 05:02 J -12704412.31 -12704412.29 -12704412.24 0.0134 0.0133

Mars -39496-06-20 16:33 J -12704319.93 -12704319.81 -12704319.69 0.1876 0.1336
 Jupiter -39490-01-09 01:54 J -12702291.60 -12702291.42 -12702291.24 0.0484 0.0223
 Jupiter -39490-09-01 23:30 J -12702055.55 -12702055.52 -12702055.48 0.0485 0.0478
 Saturn -39487-12-18 10:33 J -12700852.26 -12700852.06 -12700851.85 0.0276 0.0082
 Saturn -39486-08-04 21:50 J -12700622.79 -12700622.59 -12700622.40 0.0276 0.0112
 Jupiter -39485-11-14 23:16 J -12700154.67 -12700154.53 -12700154.39 0.0545 0.0384
 Jupiter -39479-09-14 06:14 J -12698025.34 -12698025.24 -12698025.13 0.0484 0.0415
 Jupiter -39478-05-08 02:38 J -12697789.56 -12697789.39 -12697789.22 0.0484 0.0282
 Uranus -39473-10-04 15:50 J -12695812.89 -12695812.84 -12695812.76 0.0146 0.0139
 Jupiter -39472-03-15 17:59 J -12695650.90 -12695650.75 -12695650.59 0.0544 0.0334
 Uranus -39472-05-19 03:06 J -12695586.46 -12695586.37 -12695586.27 0.0146 0.0129
 Saturn -39472-05-26 08:09 J -12695579.27 -12695579.16 -12695579.02 0.0282 0.0227
 Uranus -39472-12-31 14:09 J -12695360.02 -12695359.91 -12695359.78 0.0146 0.0120
 Saturn -39471-01-10 19:54 J -12695349.88 -12695349.67 -12695349.46 0.0283 0.0024
 Uranus -39471-08-15 01:26 J -12695133.57 -12695133.44 -12695133.29 0.0146 0.0110
 Saturn -39471-08-28 08:38 J -12695120.30 -12695120.14 -12695119.98 0.0283 0.0181
 Uranus -39470-03-29 13:11 J -12694907.10 -12694906.95 -12694906.79 0.0146 0.0100
 Uranus -39470-11-11 00:42 J -12694680.63 -12694680.47 -12694680.29 0.0146 0.0090
 Uranus -39469-06-24 12:42 J -12694454.14 -12694453.97 -12694453.78 0.0147 0.0079
 Uranus -39468-02-06 00:57 J -12694227.64 -12694227.46 -12694227.26 0.0147 0.0067
 Uranus -39468-09-20 13:26 J -12694001.14 -12694000.94 -12694000.74 0.0147 0.0056
 Uranus -39467-05-05 01:40 J -12693774.63 -12693774.43 -12693774.22 0.0147 0.0044
 Mars -39467-09-15 12:42 J -12693641.14 -12693640.97 -12693640.80 0.1654 0.0194
 Uranus -39467-12-17 14:09 J -12693548.11 -12693547.91 -12693547.69 0.0147 0.0033
 Jupiter -39466-01-11 06:57 J -12693523.41 -12693523.21 -12693523.01 0.0484 0.0088
 Uranus -39466-08-01 02:52 J -12693321.59 -12693321.38 -12693321.16 0.0147 0.0021
 Uranus -39465-03-14 15:50 J -12693095.06 -12693094.84 -12693094.62 0.0147 0.0008
 Uranus -39465-10-27 04:47 J -12692868.52 -12692868.30 -12692868.09 0.0147 0.0005
 Uranus -39464-06-10 17:30 J -12692641.98 -12692641.77 -12692641.55 0.0147 0.0016
 Mars -39464-06-20 14:52 J -12692631.99 -12692631.88 -12692631.77 0.1865 0.1458

Uranus	-39463-01-23 06:42 J	-12692415.44	-12692415.22	-12692415.01	0.0146	0.0028
Uranus	-39463-09-06 19:26 J	-12692188.89	-12692188.69	-12692188.47	0.0146	0.0041
Uranus	-39462-04-21 08:52 J	-12691962.33	-12691962.13	-12691961.92	0.0146	0.0052
Uranus	-39462-12-03 21:50 J	-12691735.78	-12691735.59	-12691735.38	0.0146	0.0063
Uranus	-39461-07-17 11:02 J	-12691509.22	-12691509.04	-12691508.84	0.0146	0.0075
Earth	-39461-10-15 22:04 J	-12691418.73	-12691418.58	-12691418.43	0.2668	0.1037
Moon	-39461-10-16 00:57 J	-12691418.62	-12691418.46	-12691418.30	0.2661	0.0761 *
Jupiter	-39461-11-18 03:50 J	-12691385.54	-12691385.34	-12691385.14	0.0544	0.0050
Uranus	-39460-03-01 00:28 J	-12691282.65	-12691282.48	-12691282.30	0.0146	0.0086
Uranus	-39460-10-13 13:40 J	-12691056.08	-12691055.93	-12691055.76	0.0146	0.0097
Uranus	-39459-05-28 02:52 J	-12690829.52	-12690829.38	-12690829.22	0.0145	0.0107
Uranus	-39458-01-09 16:18 J	-12690602.95	-12690602.82	-12690602.69	0.0145	0.0118
Uranus	-39458-08-24 05:02 J	-12690376.37	-12690376.29	-12690376.17	0.0145	0.0128
Saturn	-39458-11-13 04:33 J	-12690295.40	-12690295.31	-12690295.20	0.0277	0.0245
Uranus	-39457-04-06 18:28 J	-12690149.78	-12690149.73	-12690149.64	0.0145	0.0138
Saturn	-39457-06-29 17:02 J	-12690066.00	-12690065.79	-12690065.57	0.0277	0.0049
Saturn	-39456-02-14 04:18 J	-12689836.50	-12689836.32	-12689836.14	0.0277	0.0146
Jupiter	-39455-09-16 11:02 J	-12689257.24	-12689257.04	-12689256.83	0.0484	0.0109
Jupiter	-39449-07-23 14:38 J	-12687120.07	-12687119.89	-12687119.70	0.0544	0.0232
Jupiter	-39443-05-22 14:52 J	-12684991.03	-12684990.88	-12684990.71	0.0484	0.0303
Saturn	-39443-12-06 18:42 J	-12684792.87	-12684792.72	-12684792.56	0.0282	0.0187
Jupiter	-39442-01-13 11:59 J	-12684755.11	-12684755.00	-12684754.88	0.0485	0.0396
Saturn	-39442-07-24 06:14 J	-12684563.45	-12684563.24	-12684563.03	0.0282	0.0015
Saturn	-39441-03-09 18:57 J	-12684333.84	-12684333.71	-12684333.58	0.0283	0.0220
Jupiter	-39437-03-28 02:09 J	-12682854.48	-12682854.41	-12682854.34	0.0544	0.0508
Jupiter	-39437-11-21 08:23 J	-12682616.24	-12682616.15	-12682616.06	0.0544	0.0481
Mars	-39435-09-14 07:26 J	-12681954.29	-12681954.19	-12681954.08	0.1661	0.1317
Uranus	-39432-09-06 05:30 J	-12680866.32	-12680866.27	-12680866.18	0.0133	0.0126
Uranus	-39431-04-20 12:14 J	-12680640.08	-12680639.99	-12680639.89	0.0133	0.0118
Jupiter	-39431-09-18 15:35 J	-12680489.03	-12680488.85	-12680488.66	0.0484	0.0201

Uranus -39431-12-02 17:59 J -12680413.85 -12680413.75 -12680413.60 0.0132 0.0111
 Mars -39430-04-17 19:54 J -12680277.70 -12680277.67 -12680277.64 0.1879 0.1839
 Uranus -39430-07-17 00:28 J -12680187.61 -12680187.48 -12680187.33 0.0132 0.0102
 Uranus -39429-02-28 06:28 J -12679961.37 -12679961.23 -12679961.06 0.0132 0.0094
 Uranus -39429-10-11 12:14 J -12679735.14 -12679734.99 -12679734.81 0.0132 0.0086
 Saturn -39428-05-25 09:21 J -12679509.24 -12679509.11 -12679508.97 0.0276 0.0218
 Uranus -39428-05-25 18:14 J -12679508.92 -12679508.74 -12679508.56 0.0132 0.0077
 Uranus -39427-01-06 23:30 J -12679282.69 -12679282.52 -12679282.32 0.0132 0.0069
 Saturn -39427-01-09 21:35 J -12679279.82 -12679279.60 -12679279.39 0.0276 0.0023
 Uranus -39427-08-21 05:30 J -12679056.47 -12679056.27 -12679056.08 0.0132 0.0060
 Saturn -39427-08-27 08:23 J -12679050.31 -12679050.15 -12679049.98 0.0276 0.0170
 Uranus -39426-04-04 10:33 J -12678830.25 -12678830.06 -12678829.84 0.0132 0.0052
 Uranus -39426-11-16 16:04 J -12678604.04 -12678603.83 -12678603.62 0.0132 0.0043
 Uranus -39425-06-29 21:06 J -12678377.82 -12678377.62 -12678377.40 0.0132 0.0035
 Jupiter -39425-07-26 22:33 J -12678350.74 -12678350.56 -12678350.37 0.0544 0.0215
 Uranus -39424-02-11 02:23 J -12678151.61 -12678151.40 -12678151.18 0.0132 0.0026
 Neptune -39424-06-18 16:04 J -12678023.84 -12678023.83 -12678023.77 0.0088 0.0087
 Uranus -39424-09-25 07:26 J -12677925.41 -12677925.19 -12677924.97 0.0132 0.0017
 Neptune -39423-01-30 05:16 J -12677798.37 -12677798.28 -12677798.14 0.0088 0.0076
 Uranus -39423-05-09 12:14 J -12677699.20 -12677698.99 -12677698.77 0.0132 0.0008
 Neptune -39423-09-12 18:42 J -12677572.86 -12677572.72 -12677572.55 0.0088 0.0064
 Uranus -39423-12-21 17:02 J -12677473.01 -12677472.79 -12677472.57 0.0132 0.0002
 Neptune -39422-04-26 08:09 J -12677347.33 -12677347.16 -12677346.97 0.0088 0.0052
 Uranus -39422-08-04 21:50 J -12677246.81 -12677246.59 -12677246.37 0.0132 0.0010
 Neptune -39422-12-07 21:35 J -12677121.80 -12677121.60 -12677121.40 0.0088 0.0040
 Uranus -39421-03-18 02:23 J -12677020.61 -12677020.40 -12677020.18 0.0132 0.0018
 Neptune -39421-07-20 11:02 J -12676896.25 -12676896.04 -12676895.83 0.0088 0.0028
 Uranus -39421-10-30 06:57 J -12676794.42 -12676794.21 -12676793.99 0.0132 0.0027
 Neptune -39420-03-03 00:14 J -12676670.70 -12676670.49 -12676670.26 0.0088 0.0016
 Uranus -39420-06-13 11:30 J -12676568.23 -12676568.02 -12676567.81 0.0132 0.0035

Neptune -39420-10-14 13:54 J -12676445.15 -12676444.92 -12676444.70 0.0088 0.0004
 Uranus -39419-01-25 15:50 J -12676342.04 -12676341.84 -12676341.63 0.0132 0.0044
 Jupiter -39419-05-24 19:11 J -12676222.90 -12676222.70 -12676222.49 0.0484 0.0008
 Neptune -39419-05-28 03:06 J -12676219.59 -12676219.37 -12676219.14 0.0088 0.0008
 Uranus -39419-09-08 20:23 J -12676115.84 -12676115.65 -12676115.44 0.0133 0.0053
 Neptune -39418-01-08 16:18 J -12675994.03 -12675993.82 -12675993.59 0.0088 0.0021
 Uranus -39418-04-23 00:57 J -12675889.65 -12675889.46 -12675889.27 0.0133 0.0061
 Neptune -39418-08-22 05:45 J -12675768.46 -12675768.26 -12675768.04 0.0088 0.0032
 Uranus -39418-12-05 05:16 J -12675663.46 -12675663.28 -12675663.09 0.0133 0.0069
 Neptune -39417-04-03 19:11 J -12675542.87 -12675542.70 -12675542.49 0.0088 0.0045
 Uranus -39417-07-18 09:50 J -12675437.27 -12675437.09 -12675436.92 0.0133 0.0077
 Neptune -39417-11-15 08:38 J -12675317.29 -12675317.14 -12675316.95 0.0088 0.0057
 Uranus -39416-03-01 14:09 J -12675211.07 -12675210.91 -12675210.74 0.0133 0.0085
 Neptune -39416-06-28 22:04 J -12675091.70 -12675091.58 -12675091.42 0.0088 0.0068
 Uranus -39416-10-13 18:42 J -12674984.87 -12674984.72 -12674984.56 0.0133 0.0094
 Neptune -39415-02-09 11:30 J -12674866.09 -12674866.02 -12674865.90 0.0088 0.0080
 Uranus -39415-05-27 23:02 J -12674758.67 -12674758.54 -12674758.39 0.0133 0.0102
 Uranus -39414-01-09 03:35 J -12674532.46 -12674532.35 -12674532.22 0.0134 0.0109
 Uranus -39414-08-23 07:54 J -12674306.25 -12674306.17 -12674306.05 0.0134 0.0117
 Jupiter -39413-03-31 11:30 J -12674085.22 -12674085.02 -12674084.82 0.0544 0.0061
 Uranus -39413-04-05 12:42 J -12674080.04 -12674079.97 -12674079.88 0.0134 0.0124
 Saturn -39413-06-17 19:40 J -12674006.85 -12674006.68 -12674006.51 0.0282 0.0164
 Uranus -39413-11-17 17:16 J -12673853.81 -12673853.78 -12673853.72 0.0134 0.0132
 Saturn -39412-02-02 07:26 J -12673777.40 -12673777.19 -12673776.98 0.0283 0.0038
 Saturn -39412-09-19 20:09 J -12673547.77 -12673547.66 -12673547.55 0.0283 0.0242
 Jupiter -39407-01-27 23:59 J -12671956.69 -12671956.50 -12671956.31 0.0484 0.0188
 Jupiter -39402-12-04 20:52 J -12669819.79 -12669819.63 -12669819.48 0.0544 0.0346
 Mars -39401-07-13 00:14 J -12669598.65 -12669598.49 -12669598.32 0.1652 0.0374
 Saturn -39399-12-05 15:21 J -12668723.01 -12668722.86 -12668722.69 0.0277 0.0186
 Mars -39398-04-17 17:45 J -12668589.91 -12668589.76 -12668589.61 0.1869 0.0950

Saturn -39398-07-23 03:50 J -12668493.55 -12668493.34 -12668493.13 0.0277 0.0010
 Saturn -39397-03-08 14:38 J -12668264.02 -12668263.89 -12668263.74 0.0277 0.0204
 Jupiter -39396-10-03 04:33 J -12667690.43 -12667690.31 -12667690.18 0.0484 0.0381
 Jupiter -39395-05-27 01:11 J -12667454.60 -12667454.45 -12667454.29 0.0485 0.0317
 Jupiter -39389-04-03 13:11 J -12665316.09 -12665315.95 -12665315.80 0.0543 0.0362
 Uranus -39389-06-04 00:14 J -12665254.54 -12665254.49 -12665254.42 0.0146 0.0139
 Uranus -39388-01-16 11:16 J -12665028.12 -12665028.03 -12665027.93 0.0146 0.0130
 Uranus -39388-08-30 22:04 J -12664801.68 -12664801.58 -12664801.45 0.0146 0.0121
 Uranus -39387-04-14 09:21 J -12664575.23 -12664575.11 -12664574.96 0.0146 0.0111
 Uranus -39387-11-26 20:38 J -12664348.78 -12664348.64 -12664348.47 0.0146 0.0102
 Uranus -39386-07-11 08:23 J -12664122.30 -12664122.15 -12664121.97 0.0146 0.0091
 Uranus -39385-02-22 20:23 J -12663895.82 -12663895.65 -12663895.46 0.0146 0.0080
 Uranus -39385-10-06 08:23 J -12663669.33 -12663669.15 -12663668.95 0.0147 0.0069
 Uranus -39384-05-20 20:23 J -12663442.83 -12663442.65 -12663442.44 0.0147 0.0058
 Saturn -39384-12-29 06:42 J -12663220.40 -12663220.22 -12663220.03 0.0282 0.0125
 Uranus -39383-01-02 08:52 J -12663216.33 -12663216.13 -12663215.92 0.0147 0.0046
 Jupiter -39383-01-30 04:04 J -12663188.53 -12663188.33 -12663188.13 0.0484 0.0118
 Saturn -39383-08-15 18:28 J -12662990.93 -12662990.73 -12662990.52 0.0282 0.0078
 Uranus -39383-08-16 21:21 J -12662989.81 -12662989.61 -12662989.39 0.0147 0.0034
 Uranus -39382-03-31 10:04 J -12662763.30 -12662763.08 -12662762.87 0.0147 0.0022
 Saturn -39382-04-02 07:26 J -12662761.20 -12662761.19 -12662761.18 0.0283 0.0282
 Uranus -39382-11-12 22:33 J -12662536.77 -12662536.56 -12662536.34 0.0147 0.0011
 Uranus -39381-06-26 11:30 J -12662310.24 -12662310.02 -12662309.81 0.0147 0.0003
 Uranus -39380-02-08 00:28 J -12662083.70 -12662083.48 -12662083.27 0.0147 0.0014
 Uranus -39380-09-22 13:26 J -12661857.16 -12661856.94 -12661856.73 0.0146 0.0026
 Uranus -39379-05-07 02:23 J -12661630.61 -12661630.40 -12661630.19 0.0146 0.0038
 Uranus -39379-12-19 15:21 J -12661404.07 -12661403.86 -12661403.66 0.0146 0.0049
 Uranus -39378-08-03 04:18 J -12661177.51 -12661177.32 -12661177.12 0.0146 0.0061
 Jupiter -39378-12-08 01:54 J -12661050.62 -12661050.42 -12661050.23 0.0544 0.0089
 Uranus -39377-03-16 17:45 J -12660950.95 -12660950.76 -12660950.57 0.0146 0.0072

Uranus	-39377-10-29 06:42 J	-12660724.39	-12660724.22	-12660724.03	0.0146	0.0084
Uranus	-39376-06-12 19:54 J	-12660497.82	-12660497.67	-12660497.49	0.0146	0.0095
Uranus	-39375-01-25 09:06 J	-12660271.26	-12660271.12	-12660270.95	0.0145	0.0106
Uranus	-39375-09-08 22:33 J	-12660044.68	-12660044.56	-12660044.42	0.0145	0.0116
Uranus	-39374-04-23 11:45 J	-12659818.10	-12659818.01	-12659817.89	0.0145	0.0126
Uranus	-39374-12-06 01:26 J	-12659591.52	-12659591.44	-12659591.37	0.0145	0.0135
Uranus	-39373-07-19 14:38 J	-12659364.89	-12659364.89	-12659364.89	0.0144	0.0144
Jupiter	-39372-10-05 08:23 J	-12658922.35	-12658922.15	-12658921.94	0.0484	0.0076
Saturn	-39369-06-16 21:06 J	-12657936.79	-12657936.62	-12657936.43	0.0277	0.0158
Mars	-39369-07-11 18:57 J	-12657911.84	-12657911.71	-12657911.59	0.1659	0.1123
Saturn	-39368-02-01 09:06 J	-12657707.33	-12657707.12	-12657706.91	0.0276	0.0037
Saturn	-39368-09-18 19:40 J	-12657477.79	-12657477.68	-12657477.55	0.0276	0.0229
Jupiter	-39366-08-12 15:06 J	-12656785.06	-12656784.87	-12656784.68	0.0545	0.0184
Jupiter	-39360-06-10 12:14 J	-12654656.15	-12654655.99	-12654655.81	0.0484	0.0270
Jupiter	-39359-02-01 09:21 J	-12654420.20	-12654420.11	-12654420.01	0.0485	0.0428
Jupiter	-39354-04-17 03:21 J	-12652519.47	-12652519.36	-12652519.25	0.0544	0.0458
Saturn	-39354-07-11 08:09 J	-12652434.35	-12652434.16	-12652433.96	0.0282	0.0101
Jupiter	-39354-12-11 08:52 J	-12652281.17	-12652281.13	-12652281.08	0.0543	0.0525
Saturn	-39353-02-25 20:09 J	-12652204.85	-12652204.66	-12652204.46	0.0283	0.0102
Jupiter	-39348-02-13 17:30 J	-12650389.83	-12650389.77	-12650389.70	0.0484	0.0458
Uranus	-39348-05-06 16:04 J	-12650307.88	-12650307.83	-12650307.75	0.0133	0.0126
Jupiter	-39348-10-07 13:26 J	-12650154.12	-12650153.94	-12650153.76	0.0484	0.0234
Uranus	-39348-12-18 22:47 J	-12650081.64	-12650081.55	-12650081.45	0.0133	0.0118
Moon	-39347-04-14 04:33 J	-12649965.46	-12649965.31	-12649965.16	0.2662	0.0697
Earth	-39347-04-14 09:06 J	-12649965.28	-12649965.12	-12649964.97	0.2665	0.0070 *
Uranus	-39347-08-02 05:02 J	-12649855.40	-12649855.29	-12649855.15	0.0133	0.0110
Uranus	-39346-03-16 11:16 J	-12649629.16	-12649629.03	-12649628.88	0.0132	0.0102
Uranus	-39346-10-28 17:16 J	-12649402.92	-12649402.78	-12649402.61	0.0132	0.0094
Uranus	-39345-06-10 23:16 J	-12649176.69	-12649176.53	-12649176.35	0.0132	0.0086
Pluto	-39345-09-29 20:38 J	-12649065.76	-12649065.64	-12649065.48	0.0066	0.0050

Uranus -39344-01-23 05:30 J -12648950.45 -12648950.27 -12648950.10 0.0132 0.0078
 Pluto -39344-05-13 01:26 J -12648840.66 -12648840.44 -12648840.22 0.0066 0.0007
 Uranus -39344-09-06 11:02 J -12648724.22 -12648724.04 -12648723.84 0.0132 0.0069
 Pluto -39344-12-24 05:45 J -12648615.44 -12648615.26 -12648615.07 0.0066 0.0036
 Uranus -39343-04-20 16:33 J -12648498.00 -12648497.81 -12648497.60 0.0132 0.0061
 Uranus -39343-12-02 22:04 J -12648271.77 -12648271.58 -12648271.37 0.0132 0.0052
 Uranus -39342-07-17 03:35 J -12648045.55 -12648045.35 -12648045.14 0.0132 0.0043
 Jupiter -39342-08-15 19:40 J -12648015.86 -12648015.68 -12648015.50 0.0544 0.0248
 Uranus -39341-02-28 08:38 J -12647819.34 -12647819.14 -12647818.92 0.0132 0.0035
 Neptune -39341-03-20 15:21 J -12647797.86 -12647797.86 -12647797.83 0.0089 0.0089
 Uranus -39341-10-11 13:54 J -12647593.13 -12647592.92 -12647592.70 0.0132 0.0026
 Neptune -39341-11-01 04:04 J -12647572.42 -12647572.33 -12647572.20 0.0089 0.0077
 Uranus -39340-05-25 18:57 J -12647366.92 -12647366.71 -12647366.49 0.0132 0.0017
 Neptune -39340-06-14 17:02 J -12647346.93 -12647346.79 -12647346.63 0.0089 0.0065
 Saturn -39340-12-28 02:38 J -12647150.57 -12647150.39 -12647150.19 0.0277 0.0127
 Uranus -39339-01-06 23:59 J -12647140.72 -12647140.50 -12647140.28 0.0132 0.0008
 Neptune -39339-01-26 05:45 J -12647121.42 -12647121.26 -12647121.08 0.0089 0.0053
 Saturn -39339-08-14 14:52 J -12646921.08 -12646920.88 -12646920.67 0.0277 0.0069
 Uranus -39339-08-21 04:47 J -12646914.51 -12646914.30 -12646914.08 0.0132 0.0003
 Neptune -39339-09-08 18:28 J -12646895.91 -12646895.73 -12646895.53 0.0089 0.0042
 Saturn -39338-04-01 01:26 J -12646691.49 -12646691.44 -12646691.36 0.0277 0.0261
 Uranus -39338-04-04 09:35 J -12646688.32 -12646688.10 -12646687.88 0.0132 0.0009
 Neptune -39338-04-22 07:11 J -12646670.40 -12646670.20 -12646669.99 0.0089 0.0030
 Uranus -39338-11-16 14:09 J -12646462.12 -12646461.91 -12646461.69 0.0132 0.0018
 Neptune -39338-12-03 19:54 J -12646444.88 -12646444.67 -12646444.46 0.0089 0.0018
 Uranus -39337-06-29 18:42 J -12646235.93 -12646235.72 -12646235.50 0.0132 0.0026
 Neptune -39337-07-16 08:23 J -12646219.36 -12646219.15 -12646218.93 0.0089 0.0006
 Uranus -39336-02-10 23:16 J -12646009.73 -12646009.53 -12646009.31 0.0132 0.0035
 Neptune -39336-02-26 21:06 J -12645993.84 -12645993.62 -12645993.41 0.0089 0.0006
 Jupiter -39336-06-12 17:02 J -12645888.00 -12645887.79 -12645887.58 0.0484 0.0037

Uranus -39336-09-25 03:50 J -12645783.54 -12645783.34 -12645783.12 0.0132 0.0044
 Neptune -39336-10-10 09:35 J -12645768.30 -12645768.10 -12645767.88 0.0089 0.0018
 Uranus -39335-05-09 08:23 J -12645557.34 -12645557.15 -12645556.94 0.0132 0.0052
 Mars -39335-05-10 12:28 J -12645556.14 -12645555.98 -12645555.82 0.1650 0.0545
 Neptune -39335-05-23 22:04 J -12645542.77 -12645542.58 -12645542.37 0.0089 0.0030
 Uranus -39335-12-21 12:42 J -12645331.15 -12645330.97 -12645330.77 0.0133 0.0060
 Neptune -39334-01-04 10:18 J -12645317.24 -12645317.07 -12645316.86 0.0089 0.0042
 Uranus -39334-08-04 17:16 J -12645104.96 -12645104.78 -12645104.59 0.0133 0.0069
 Neptune -39334-08-17 23:16 J -12645091.70 -12645091.53 -12645091.36 0.0089 0.0054
 Uranus -39333-03-17 21:35 J -12644878.76 -12644878.60 -12644878.41 0.0133 0.0077
 Neptune -39333-03-30 11:30 J -12644866.16 -12644866.02 -12644865.86 0.0089 0.0065
 Uranus -39333-10-30 02:09 J -12644652.56 -12644652.41 -12644652.23 0.0133 0.0085
 Neptune -39333-11-10 23:59 J -12644640.59 -12644640.50 -12644640.38 0.0089 0.0077
 Mars -39332-02-11 21:35 J -12644547.77 -12644547.60 -12644547.43 0.1872 0.0464
 Uranus -39332-06-13 06:28 J -12644426.36 -12644426.23 -12644426.06 0.0133 0.0093
 Neptune -39332-06-24 12:28 J -12644414.98 -12644414.98 -12644414.95 0.0089 0.0089
 Uranus -39331-01-25 11:16 J -12644200.16 -12644200.03 -12644199.88 0.0133 0.0101
 Uranus -39331-09-08 15:35 J -12643973.95 -12643973.85 -12643973.71 0.0133 0.0109
 Jupiter -39330-04-20 06:57 J -12643750.41 -12643750.21 -12643750.01 0.0544 0.0031
 Uranus -39330-04-22 20:23 J -12643747.74 -12643747.65 -12643747.53 0.0134 0.0116
 Uranus -39330-12-05 00:57 J -12643521.53 -12643521.46 -12643521.37 0.0134 0.0123
 Uranus -39329-07-18 05:30 J -12643295.30 -12643295.27 -12643295.21 0.0134 0.0130
 Saturn -39325-06-05 08:38 J -12641877.22 -12641877.14 -12641877.06 0.0282 0.0260
 Saturn -39324-01-20 19:40 J -12641647.89 -12641647.68 -12641647.48 0.0282 0.0061
 Jupiter -39324-02-15 20:38 J -12641621.83 -12641621.64 -12641621.44 0.0484 0.0157
 Saturn -39324-09-07 07:26 J -12641418.36 -12641418.19 -12641418.00 0.0282 0.0141
 Jupiter -39319-12-23 17:45 J -12639484.93 -12639484.76 -12639484.60 0.0544 0.0310
 Jupiter -39313-10-22 01:26 J -12637355.57 -12637355.44 -12637355.29 0.0484 0.0348
 Jupiter -39312-06-14 21:50 J -12637119.73 -12637119.59 -12637119.44 0.0484 0.0345
 Saturn -39310-07-10 10:04 J -12636364.28 -12636364.08 -12636363.87 0.0277 0.0096

Saturn -39309-02-24 21:35 J -12636134.79 -12636134.60 -12636134.40 0.0276 0.0098
 Jupiter -39306-04-23 12:57 J -12634981.09 -12634980.96 -12634980.83 0.0544 0.0406
 Uranus -39305-02-02 08:23 J -12634696.20 -12634696.15 -12634696.08 0.0146 0.0140
 Uranus -39305-09-15 19:11 J -12634469.78 -12634469.70 -12634469.60 0.0146 0.0131
 Uranus -39304-04-30 05:45 J -12634243.36 -12634243.26 -12634243.12 0.0146 0.0122
 Uranus -39304-12-12 17:02 J -12634016.91 -12634016.79 -12634016.64 0.0146 0.0112
 Mars -39303-05-09 07:11 J -12633869.34 -12633869.20 -12633869.06 0.1657 0.0949
 Uranus -39303-07-27 04:18 J -12633790.46 -12633790.32 -12633790.15 0.0146 0.0102
 Uranus -39302-03-10 16:04 J -12633563.99 -12633563.83 -12633563.66 0.0146 0.0092
 Uranus -39302-10-23 03:21 J -12633337.52 -12633337.36 -12633337.16 0.0146 0.0082
 Uranus -39301-06-05 15:21 J -12633111.04 -12633110.86 -12633110.66 0.0146 0.0070
 Uranus -39300-01-18 03:35 J -12632884.54 -12632884.35 -12632884.15 0.0147 0.0059
 Jupiter -39300-02-18 00:57 J -12632853.65 -12632853.46 -12632853.26 0.0484 0.0150
 Uranus -39300-09-01 15:35 J -12632658.04 -12632657.85 -12632657.63 0.0147 0.0048
 Uranus -39299-04-16 04:04 J -12632431.54 -12632431.33 -12632431.12 0.0147 0.0036
 Uranus -39299-11-28 16:18 J -12632205.03 -12632204.82 -12632204.60 0.0147 0.0024
 Uranus -39298-07-13 05:02 J -12631978.51 -12631978.29 -12631978.08 0.0147 0.0012
 Uranus -39297-02-24 17:45 J -12631751.98 -12631751.76 -12631751.54 0.0147 0.0000
 Uranus -39297-10-08 06:28 J -12631525.45 -12631525.23 -12631525.01 0.0147 0.0012
 Uranus -39296-05-22 19:11 J -12631298.91 -12631298.70 -12631298.48 0.0146 0.0024
 Saturn -39296-12-16 10:33 J -12631091.17 -12631091.06 -12631090.95 0.0282 0.0236
 Uranus -39295-01-04 07:54 J -12631072.37 -12631072.17 -12631071.95 0.0146 0.0036
 Saturn -39295-08-02 21:21 J -12630861.82 -12630861.61 -12630861.40 0.0282 0.0037
 Uranus -39295-08-18 20:52 J -12630845.83 -12630845.63 -12630845.41 0.0146 0.0047
 Jupiter -39295-12-27 02:23 J -12630715.59 -12630715.40 -12630715.20 0.0544 0.0136
 Saturn -39294-03-20 09:21 J -12630632.28 -12630632.11 -12630631.94 0.0283 0.0165
 Uranus -39294-04-02 10:18 J -12630619.27 -12630619.07 -12630618.87 0.0146 0.0058
 Uranus -39294-11-14 23:02 J -12630392.72 -12630392.54 -12630392.34 0.0146 0.0070
 Uranus -39293-06-28 12:14 J -12630166.16 -12630165.99 -12630165.80 0.0146 0.0081
 Uranus -39292-02-10 01:40 J -12629939.60 -12629939.43 -12629939.26 0.0146 0.0092

Uranus	-39292-09-24 14:52 J	-12629713.03	-12629712.88	-12629712.72	0.0145	0.0103
Uranus	-39291-05-09 03:50 J	-12629486.46	-12629486.34	-12629486.19	0.0145	0.0114
Uranus	-39291-12-21 17:16 J	-12629259.89	-12629259.78	-12629259.66	0.0145	0.0123
Uranus	-39290-08-05 06:28 J	-12629033.30	-12629033.23	-12629033.13	0.0145	0.0133
Uranus	-39289-03-18 19:40 J	-12628806.70	-12628806.68	-12628806.63	0.0144	0.0143
Jupiter	-39289-10-24 05:30 J	-12628587.47	-12628587.27	-12628587.06	0.0484	0.0044
Jupiter	-39283-08-31 12:57 J	-12626450.15	-12626449.96	-12626449.77	0.0544	0.0146
Saturn	-39281-06-04 01:40 J	-12625807.48	-12625807.43	-12625807.35	0.0277	0.0263
Saturn	-39280-01-19 14:38 J	-12625578.09	-12625577.89	-12625577.68	0.0277	0.0067
Saturn	-39280-09-06 02:23 J	-12625348.58	-12625348.40	-12625348.20	0.0277	0.0128
Jupiter	-39277-06-29 09:21 J	-12624321.29	-12624321.11	-12624320.93	0.0484	0.0238
Jupiter	-39276-02-20 06:57 J	-12624085.26	-12624085.21	-12624085.14	0.0485	0.0460
Jupiter	-39271-05-05 23:02 J	-12622184.66	-12622184.54	-12622184.41	0.0544	0.0425
Mars	-39269-03-07 00:28 J	-12621513.64	-12621513.48	-12621513.33	0.1648	0.0716
Mars	-39267-12-09 23:59 J	-12620505.67	-12620505.50	-12620505.32	0.1875	0.0065
Saturn	-39266-06-28 21:21 J	-12620304.75	-12620304.61	-12620304.46	0.0282	0.0198
Saturn	-39265-02-13 08:38 J	-12620075.35	-12620075.14	-12620074.93	0.0282	0.0006
Jupiter	-39265-03-04 13:40 J	-12620055.02	-12620054.93	-12620054.83	0.0484	0.0428
Saturn	-39265-09-29 20:52 J	-12619845.77	-12619845.63	-12619845.48	0.0282	0.0205
Jupiter	-39265-10-26 09:50 J	-12619819.27	-12619819.09	-12619818.92	0.0484	0.0263
Uranus	-39264-01-04 01:40 J	-12619749.49	-12619749.43	-12619749.35	0.0133	0.0126
Uranus	-39264-08-18 08:09 J	-12619523.24	-12619523.16	-12619523.04	0.0133	0.0119
Uranus	-39263-04-01 14:52 J	-12619296.99	-12619296.88	-12619296.75	0.0133	0.0111
Uranus	-39263-11-13 21:06 J	-12619070.74	-12619070.62	-12619070.47	0.0133	0.0103
Uranus	-39262-06-28 03:35 J	-12618844.50	-12618844.35	-12618844.19	0.0132	0.0095
Uranus	-39261-02-09 09:35 J	-12618618.26	-12618618.10	-12618617.92	0.0132	0.0087
Uranus	-39261-09-22 15:21 J	-12618392.02	-12618391.86	-12618391.66	0.0132	0.0079
Uranus	-39260-05-06 21:35 J	-12618165.79	-12618165.60	-12618165.41	0.0132	0.0070
Uranus	-39260-12-19 03:06 J	-12617939.56	-12617939.37	-12617939.17	0.0132	0.0061
Neptune	-39259-05-03 14:38 J	-12617803.96	-12617803.89	-12617803.78	0.0088	0.0081

Uranus -39259-08-02 08:38 J -12617713.33 -12617713.14 -12617712.92 0.0132 0.0053
 Jupiter -39259-09-03 16:18 J -12617680.99 -12617680.82 -12617680.65 0.0544 0.0283
 Neptune -39259-12-15 04:04 J -12617578.46 -12617578.33 -12617578.18 0.0088 0.0069
 Uranus -39258-03-16 14:09 J -12617487.11 -12617486.91 -12617486.69 0.0132 0.0044
 Neptune -39258-07-28 17:30 J -12617352.94 -12617352.77 -12617352.60 0.0088 0.0057
 Pluto -39258-10-22 20:23 J -12617266.75 -12617266.65 -12617266.50 0.0079 0.0065
 Uranus -39258-10-28 19:40 J -12617260.89 -12617260.68 -12617260.47 0.0132 0.0035
 Neptune -39257-03-10 06:28 J -12617127.40 -12617127.23 -12617127.02 0.0088 0.0046
 Pluto -39257-06-04 06:57 J -12617041.43 -12617041.21 -12617040.98 0.0078 0.0010
 Uranus -39257-06-11 00:42 J -12617034.68 -12617034.47 -12617034.25 0.0132 0.0027
 Neptune -39257-10-21 19:54 J -12616901.86 -12616901.67 -12616901.45 0.0088 0.0034
 Uranus -39256-01-23 05:45 J -12616808.47 -12616808.26 -12616808.04 0.0132 0.0018
 Neptune -39256-06-04 09:21 J -12616676.32 -12616676.11 -12616675.89 0.0088 0.0022
 Uranus -39256-09-06 11:02 J -12616582.26 -12616582.04 -12616581.82 0.0132 0.0009
 Neptune -39255-01-15 22:47 J -12616450.77 -12616450.55 -12616450.33 0.0088 0.0010
 Uranus -39255-04-20 15:50 J -12616356.06 -12616355.84 -12616355.62 0.0132 0.0001
 Neptune -39255-08-29 12:14 J -12616225.21 -12616224.99 -12616224.77 0.0088 0.0002
 Uranus -39255-12-02 20:38 J -12616129.86 -12616129.64 -12616129.42 0.0132 0.0008
 Neptune -39254-04-12 01:40 J -12615999.65 -12615999.43 -12615999.21 0.0088 0.0014
 Uranus -39254-07-17 01:11 J -12615903.66 -12615903.45 -12615903.23 0.0132 0.0018
 Neptune -39254-11-23 14:52 J -12615774.08 -12615773.88 -12615773.65 0.0088 0.0027
 Uranus -39253-02-28 05:59 J -12615677.46 -12615677.25 -12615677.03 0.0132 0.0026
 Jupiter -39253-07-01 13:40 J -12615553.13 -12615552.93 -12615552.72 0.0484 0.0069
 Neptune -39253-07-06 04:18 J -12615548.51 -12615548.32 -12615548.10 0.0088 0.0038
 Uranus -39253-10-11 10:33 J -12615451.26 -12615451.06 -12615450.84 0.0132 0.0035
 Neptune -39252-02-16 17:30 J -12615322.93 -12615322.77 -12615322.56 0.0088 0.0051
 Uranus -39252-05-25 15:21 J -12615225.07 -12615224.86 -12615224.65 0.0132 0.0042
 Neptune -39252-09-30 07:26 J -12615097.34 -12615097.19 -12615097.02 0.0088 0.0062
 Saturn -39252-12-15 10:33 J -12615021.18 -12615021.06 -12615020.94 0.0277 0.0228
 Uranus -39251-01-06 19:54 J -12614998.87 -12614998.67 -12614998.47 0.0132 0.0051

Neptune -39251-05-13 20:52 J -12614871.74 -12614871.63 -12614871.50 0.0088 0.0073
 Saturn -39251-08-01 23:02 J -12614791.75 -12614791.54 -12614791.33 0.0276 0.0034
 Uranus -39251-08-21 00:14 J -12614772.67 -12614772.49 -12614772.29 0.0133 0.0060
 Neptune -39251-12-25 10:04 J -12614646.11 -12614646.08 -12614646.00 0.0088 0.0086
 Saturn -39250-03-19 10:04 J -12614562.25 -12614562.08 -12614561.90 0.0276 0.0158
 Uranus -39250-04-04 04:47 J -12614546.48 -12614546.30 -12614546.10 0.0133 0.0068
 Uranus -39250-11-16 09:21 J -12614320.28 -12614320.11 -12614319.93 0.0133 0.0076
 Uranus -39249-06-29 13:40 J -12614094.08 -12614093.93 -12614093.75 0.0133 0.0084
 Uranus -39248-02-10 18:14 J -12613867.88 -12613867.74 -12613867.57 0.0133 0.0092
 Uranus -39248-09-24 23:02 J -12613641.67 -12613641.54 -12613641.39 0.0133 0.0100
 Uranus -39247-05-09 03:21 J -12613415.47 -12613415.36 -12613415.22 0.0133 0.0108
 Jupiter -39247-05-09 05:30 J -12613415.47 -12613415.27 -12613415.07 0.0545 0.0014 *
 Uranus -39247-12-21 07:54 J -12613189.26 -12613189.17 -12613189.05 0.0134 0.0115
 Uranus -39246-08-04 12:42 J -12612963.05 -12612962.97 -12612962.88 0.0134 0.0122
 Uranus -39245-03-17 17:16 J -12612736.82 -12612736.78 -12612736.71 0.0134 0.0129
 Jupiter -39241-03-06 17:30 J -12611286.97 -12611286.77 -12611286.57 0.0484 0.0126
 Mars -39237-03-05 18:42 J -12609826.87 -12609826.72 -12609826.57 0.1654 0.0762
 Saturn -39236-01-07 23:30 J -12609518.68 -12609518.52 -12609518.35 0.0282 0.0173
 Saturn -39236-08-25 10:47 J -12609289.26 -12609289.05 -12609288.84 0.0282 0.0027
 Jupiter -39235-01-11 18:14 J -12609149.91 -12609149.74 -12609149.56 0.0544 0.0262
 Saturn -39235-04-11 22:47 J -12609059.67 -12609059.55 -12609059.42 0.0283 0.0229
 Jupiter -39230-11-10 22:18 J -12607020.72 -12607020.57 -12607020.41 0.0484 0.0316
 Jupiter -39229-07-03 18:57 J -12606784.83 -12606784.71 -12606784.58 0.0485 0.0376
 Moon -39226-10-19 02:09 J -12605582.42 -12605582.41 -12605582.40 0.2668 0.2662
 Jupiter -39224-09-16 04:33 J -12604884.32 -12604884.31 -12604884.28 0.0544 0.0539
 Jupiter -39223-05-12 10:47 J -12604646.16 -12604646.05 -12604645.93 0.0543 0.0440
 Saturn -39222-06-27 14:38 J -12604235.04 -12604234.89 -12604234.74 0.0277 0.0201
 Uranus -39222-10-02 16:33 J -12604137.85 -12604137.81 -12604137.74 0.0145 0.0140
 Saturn -39221-02-12 03:06 J -12604005.58 -12604005.37 -12604005.15 0.0277 0.0007
 Uranus -39221-05-16 03:06 J -12603911.44 -12603911.37 -12603911.27 0.0146 0.0132

Saturn	-39221-09-28 14:38 J	-12603776.05	-12603775.89	-12603775.74	0.0277	0.0186
Uranus	-39221-12-28 13:54 J	-12603685.02	-12603684.92	-12603684.79	0.0146	0.0123
Uranus	-39220-08-12 00:57 J	-12603458.58	-12603458.46	-12603458.31	0.0146	0.0113
Uranus	-39219-03-26 12:14 J	-12603232.13	-12603231.99	-12603231.83	0.0146	0.0103
Uranus	-39219-11-07 23:30 J	-12603005.67	-12603005.52	-12603005.35	0.0146	0.0093
Uranus	-39218-06-22 11:02 J	-12602779.21	-12602779.04	-12602778.85	0.0146	0.0082
Moon	-39218-10-16 16:18 J	-12602662.93	-12602662.82	-12602662.70	0.2672	0.1773
Earth	-39218-10-16 20:52 J	-12602662.78	-12602662.63	-12602662.48	0.2667	0.1078 *
Uranus	-39217-02-03 23:02 J	-12602552.72	-12602552.54	-12602552.35	0.0146	0.0071
Jupiter	-39217-03-08 22:04 J	-12602518.77	-12602518.58	-12602518.38	0.0484	0.0182
Uranus	-39217-09-17 10:47 J	-12602326.24	-12602326.05	-12602325.85	0.0146	0.0061
Uranus	-39216-05-01 22:47 J	-12602099.75	-12602099.55	-12602099.34	0.0147	0.0049
Uranus	-39216-12-14 11:02 J	-12601873.25	-12601873.04	-12601872.83	0.0147	0.0038
Uranus	-39215-07-28 23:16 J	-12601646.74	-12601646.53	-12601646.32	0.0147	0.0026
Uranus	-39214-03-12 11:45 J	-12601420.22	-12601420.01	-12601419.79	0.0147	0.0014
Uranus	-39214-10-25 00:14 J	-12601193.70	-12601193.49	-12601193.27	0.0147	0.0004
Uranus	-39213-06-07 12:57 J	-12600967.18	-12600966.96	-12600966.74	0.0147	0.0009
Uranus	-39212-01-20 01:40 J	-12600740.64	-12600740.43	-12600740.21	0.0147	0.0021
Uranus	-39212-09-03 14:23 J	-12600514.11	-12600513.90	-12600513.68	0.0146	0.0033
Jupiter	-39211-01-14 22:18 J	-12600380.76	-12600380.57	-12600380.38	0.0544	0.0167
Uranus	-39211-04-18 03:21 J	-12600287.56	-12600287.36	-12600287.15	0.0146	0.0045
Uranus	-39211-11-30 16:18 J	-12600061.02	-12600060.82	-12600060.61	0.0146	0.0056
Uranus	-39210-07-15 05:30 J	-12599834.47	-12599834.27	-12599834.08	0.0146	0.0068
Uranus	-39209-02-26 18:28 J	-12599607.90	-12599607.73	-12599607.53	0.0146	0.0079
Uranus	-39209-10-10 07:40 J	-12599381.34	-12599381.18	-12599381.00	0.0146	0.0090
Uranus	-39208-05-24 20:52 J	-12599154.77	-12599154.63	-12599154.46	0.0146	0.0101
Uranus	-39207-01-06 10:04 J	-12598928.21	-12598928.08	-12598927.93	0.0145	0.0111
Saturn	-39207-07-21 09:50 J	-12598732.28	-12598732.09	-12598731.91	0.0282	0.0136
Uranus	-39207-08-20 23:16 J	-12598701.63	-12598701.53	-12598701.39	0.0145	0.0121
Saturn	-39206-03-07 21:21 J	-12598502.82	-12598502.61	-12598502.41	0.0282	0.0064

Uranus -39206-04-04 12:42 J -12598475.05 -12598474.97 -12598474.86 0.0145 0.0131
 Saturn -39206-10-23 09:50 J -12598273.16 -12598273.09 -12598273.02 0.0282 0.0266
 Jupiter -39206-11-13 01:40 J -12598252.63 -12598252.43 -12598252.22 0.0484 0.0017
 Uranus -39206-11-17 02:23 J -12598248.45 -12598248.40 -12598248.35 0.0145 0.0140
 Mars -39203-01-02 12:14 J -12597471.13 -12597470.99 -12597470.84 0.1646 0.0889
 Mars -39201-10-06 03:35 J -12596463.52 -12596463.35 -12596463.19 0.1878 0.0565
 Jupiter -39200-09-19 08:38 J -12596115.34 -12596115.14 -12596114.94 0.0544 0.0112
 Jupiter -39194-07-19 06:28 J -12593986.41 -12593986.23 -12593986.04 0.0484 0.0204
 Saturn -39192-01-06 23:45 J -12593448.67 -12593448.51 -12593448.33 0.0277 0.0166
 Saturn -39192-08-24 11:59 J -12593219.21 -12593219.00 -12593218.78 0.0276 0.0027
 Saturn -39191-04-10 22:47 J -12592989.67 -12592989.55 -12592989.41 0.0276 0.0217
 Jupiter -39188-05-24 20:38 J -12591849.77 -12591849.64 -12591849.49 0.0545 0.0386
 Jupiter -39182-03-24 11:02 J -12589720.16 -12589720.04 -12589719.92 0.0484 0.0395
 Jupiter -39182-11-15 06:42 J -12589484.38 -12589484.22 -12589484.05 0.0484 0.0293
 Uranus -39181-09-03 11:45 J -12589191.07 -12589191.01 -12589190.93 0.0133 0.0126
 Uranus -39180-04-17 18:14 J -12588964.82 -12588964.74 -12588964.62 0.0133 0.0119
 Uranus -39180-11-30 00:57 J -12588738.57 -12588738.46 -12588738.33 0.0133 0.0111
 Uranus -39179-07-14 07:40 J -12588512.31 -12588512.18 -12588512.04 0.0133 0.0103
 Uranus -39178-02-25 14:09 J -12588286.06 -12588285.91 -12588285.76 0.0133 0.0095
 Uranus -39178-10-09 20:09 J -12588059.82 -12588059.66 -12588059.49 0.0132 0.0087
 Saturn -39177-01-31 11:59 J -12587946.19 -12587946.00 -12587945.80 0.0282 0.0111
 Uranus -39177-05-23 02:09 J -12587833.58 -12587833.41 -12587833.23 0.0132 0.0078
 Saturn -39177-09-16 23:30 J -12587716.72 -12587716.52 -12587716.32 0.0282 0.0090
 Uranus -39176-01-04 07:54 J -12587607.35 -12587607.17 -12587606.97 0.0132 0.0070
 Neptune -39176-02-02 13:40 J -12587578.00 -12587577.93 -12587577.83 0.0089 0.0082
 Uranus -39176-08-18 14:09 J -12587381.11 -12587380.91 -12587380.72 0.0132 0.0062
 Neptune -39176-09-16 02:52 J -12587352.51 -12587352.38 -12587352.25 0.0089 0.0070
 Jupiter -39176-09-22 16:47 J -12587345.95 -12587345.80 -12587345.64 0.0544 0.0328
 Uranus -39175-04-01 19:26 J -12587154.88 -12587154.69 -12587154.48 0.0132 0.0053
 Neptune -39175-04-29 15:06 J -12587127.01 -12587126.87 -12587126.68 0.0089 0.0059

Uranus -39175-11-14 01:11 J -12586928.66 -12586928.45 -12586928.25 0.0132 0.0044
 Neptune -39175-12-11 04:04 J -12586901.50 -12586901.33 -12586901.14 0.0089 0.0047
 Uranus -39174-06-28 06:14 J -12586702.44 -12586702.24 -12586702.02 0.0132 0.0036
 Neptune -39174-07-24 16:47 J -12586675.99 -12586675.80 -12586675.59 0.0089 0.0035
 Uranus -39173-02-09 11:45 J -12586476.23 -12586476.01 -12586475.80 0.0132 0.0027
 Neptune -39173-03-06 05:30 J -12586450.47 -12586450.27 -12586450.05 0.0089 0.0024
 Uranus -39173-09-22 17:02 J -12586250.01 -12586249.79 -12586249.58 0.0132 0.0018
 Neptune -39173-10-17 18:28 J -12586224.95 -12586224.73 -12586224.52 0.0089 0.0012
 Uranus -39172-05-06 21:50 J -12586023.80 -12586023.59 -12586023.37 0.0132 0.0010
 Neptune -39172-05-31 06:57 J -12585999.42 -12585999.21 -12585998.99 0.0089 0.0001
 Uranus -39172-12-19 02:52 J -12585797.60 -12585797.38 -12585797.16 0.0132 0.0001
 Mars -39171-01-01 06:57 J -12585784.37 -12585784.21 -12585784.05 0.1652 0.0590
 Neptune -39171-01-11 19:26 J -12585773.90 -12585773.69 -12585773.47 0.0089 0.0012
 Uranus -39171-08-02 07:40 J -12585571.39 -12585571.18 -12585570.96 0.0132 0.0008
 Neptune -39171-08-25 07:54 J -12585548.37 -12585548.17 -12585547.95 0.0089 0.0024
 Uranus -39170-03-16 12:28 J -12585345.19 -12585344.98 -12585344.76 0.0132 0.0016
 Neptune -39170-04-07 20:38 J -12585322.84 -12585322.64 -12585322.44 0.0089 0.0036
 Jupiter -39170-07-21 10:47 J -12585218.25 -12585218.05 -12585217.85 0.0484 0.0100
 Uranus -39170-10-28 17:16 J -12585118.99 -12585118.78 -12585118.57 0.0132 0.0025
 Neptune -39170-11-19 08:52 J -12585097.30 -12585097.13 -12585096.94 0.0089 0.0047
 Uranus -39169-06-10 21:50 J -12584892.80 -12584892.59 -12584892.38 0.0132 0.0033
 Neptune -39169-07-01 21:06 J -12584871.76 -12584871.62 -12584871.44 0.0089 0.0059
 Uranus -39168-01-23 02:38 J -12584666.60 -12584666.39 -12584666.19 0.0132 0.0042
 Neptune -39168-02-12 09:50 J -12584646.21 -12584646.09 -12584645.95 0.0089 0.0071
 Uranus -39168-09-06 06:57 J -12584440.40 -12584440.21 -12584439.99 0.0132 0.0051
 Neptune -39168-09-25 22:04 J -12584420.64 -12584420.58 -12584420.48 0.0089 0.0083
 Uranus -39167-04-20 11:45 J -12584214.20 -12584214.01 -12584213.81 0.0132 0.0058
 Uranus -39167-12-02 16:04 J -12583988.00 -12583987.83 -12583987.63 0.0133 0.0067
 Uranus -39166-07-16 20:38 J -12583761.81 -12583761.64 -12583761.45 0.0133 0.0075
 Uranus -39165-02-28 01:11 J -12583535.60 -12583535.45 -12583535.27 0.0133 0.0083

Uranus -39165-10-11 05:59 J -12583309.40 -12583309.25 -12583309.08 0.0133 0.0091
 Uranus -39164-05-25 10:47 J -12583083.19 -12583083.05 -12583082.91 0.0133 0.0098
 Jupiter -39164-05-28 04:33 J -12583080.50 -12583080.31 -12583080.11 0.0544 0.0055
 Uranus -39163-01-06 14:52 J -12582856.99 -12582856.88 -12582856.73 0.0133 0.0107
 Saturn -39163-07-20 03:06 J -12582662.55 -12582662.37 -12582662.19 0.0277 0.0141
 Uranus -39163-08-20 19:40 J -12582630.78 -12582630.68 -12582630.56 0.0134 0.0114
 Saturn -39162-03-06 15:06 J -12582433.07 -12582432.87 -12582432.65 0.0277 0.0053
 Uranus -39162-04-04 00:14 J -12582404.57 -12582404.49 -12582404.39 0.0134 0.0121
 Saturn -39162-10-22 01:54 J -12582203.51 -12582203.42 -12582203.31 0.0276 0.0244
 Uranus -39162-11-16 05:02 J -12582178.34 -12582178.29 -12582178.22 0.0134 0.0128
 Jupiter -39158-03-26 14:23 J -12580952.10 -12580951.90 -12580951.69 0.0484 0.0095
 Jupiter -39152-01-30 15:06 J -12578815.05 -12578814.87 -12578814.68 0.0544 0.0225
 Saturn -39149-12-26 10:33 J -12577389.10 -12577389.06 -12577389.00 0.0282 0.0273
 Saturn -39148-08-12 21:21 J -12577159.81 -12577159.61 -12577159.41 0.0282 0.0076
 Saturn -39147-03-30 08:52 J -12576930.31 -12576930.13 -12576929.93 0.0282 0.0126
 Jupiter -39147-11-29 18:42 J -12576685.88 -12576685.72 -12576685.55 0.0484 0.0285
 Jupiter -39146-07-23 15:35 J -12576449.96 -12576449.85 -12576449.74 0.0485 0.0406
 Jupiter -39141-10-04 23:59 J -12574549.57 -12574549.50 -12574549.43 0.0544 0.0505
 Jupiter -39140-05-31 06:42 J -12574311.32 -12574311.22 -12574311.12 0.0544 0.0473
 Uranus -39138-06-02 00:42 J -12573579.49 -12573579.47 -12573579.40 0.0145 0.0142
 Mars -39138-10-31 00:28 J -12573428.61 -12573428.48 -12573428.34 0.1644 0.1049
 Uranus -39137-01-14 11:30 J -12573353.09 -12573353.02 -12573352.92 0.0145 0.0133
 Uranus -39137-08-27 22:04 J -12573126.67 -12573126.58 -12573126.45 0.0146 0.0124
 Uranus -39136-04-11 09:06 J -12572900.24 -12572900.12 -12572899.98 0.0146 0.0114
 Uranus -39136-11-23 20:09 J -12572673.81 -12572673.66 -12572673.51 0.0146 0.0104
 Uranus -39135-07-08 07:11 J -12572447.35 -12572447.20 -12572447.03 0.0146 0.0094
 Mars -39135-08-03 05:59 J -12572421.39 -12572421.25 -12572421.10 0.1881 0.1087
 Jupiter -39135-08-05 00:14 J -12572419.53 -12572419.49 -12572419.44 0.0484 0.0471
 Uranus -39134-02-19 18:28 J -12572220.89 -12572220.73 -12572220.54 0.0146 0.0084
 Jupiter -39134-03-28 19:40 J -12572183.87 -12572183.68 -12572183.50 0.0484 0.0214

Uranus -39134-10-04 06:14 J -12571994.42 -12571994.24 -12571994.05 0.0146 0.0073
 Saturn -39133-01-30 12:42 J -12571876.16 -12571875.97 -12571875.77 0.0277 0.0105
 Uranus -39133-05-17 17:45 J -12571767.94 -12571767.76 -12571767.55 0.0146 0.0063
 Saturn -39133-09-16 00:28 J -12571646.68 -12571646.48 -12571646.27 0.0276 0.0087
 Uranus -39133-12-30 05:59 J -12571541.45 -12571541.25 -12571541.05 0.0146 0.0051
 Saturn -39132-05-03 11:02 J -12571417.05 -12571417.04 -12571417.02 0.0276 0.0275
 Uranus -39132-08-13 17:45 J -12571314.96 -12571314.76 -12571314.55 0.0147 0.0040
 Uranus -39131-03-28 05:59 J -12571088.46 -12571088.25 -12571088.04 0.0147 0.0028
 Uranus -39131-11-09 18:14 J -12570861.95 -12570861.74 -12570861.52 0.0147 0.0016
 Uranus -39130-06-24 06:28 J -12570635.44 -12570635.23 -12570635.01 0.0147 0.0006
 Uranus -39129-02-05 19:11 J -12570408.91 -12570408.70 -12570408.48 0.0147 0.0007
 Uranus -39129-09-19 07:54 J -12570182.39 -12570182.17 -12570181.96 0.0146 0.0019
 Jupiter -39128-02-02 20:09 J -12570045.84 -12570045.66 -12570045.47 0.0545 0.0207
 Uranus -39128-05-03 20:23 J -12569955.86 -12569955.65 -12569955.43 0.0146 0.0031
 Uranus -39128-12-16 09:06 J -12569729.32 -12569729.12 -12569728.91 0.0146 0.0042
 Uranus -39127-07-30 22:04 J -12569502.78 -12569502.58 -12569502.37 0.0146 0.0053
 Uranus -39126-03-14 11:02 J -12569276.22 -12569276.04 -12569275.83 0.0146 0.0065
 Uranus -39126-10-27 00:14 J -12569049.67 -12569049.49 -12569049.30 0.0146 0.0076
 Uranus -39125-06-09 13:26 J -12568823.11 -12568822.94 -12568822.76 0.0146 0.0087
 Uranus -39124-01-22 02:23 J -12568596.55 -12568596.40 -12568596.23 0.0146 0.0098
 Uranus -39124-09-05 15:35 J -12568369.98 -12568369.85 -12568369.69 0.0145 0.0108
 Uranus -39123-04-20 05:02 J -12568143.41 -12568143.29 -12568143.16 0.0145 0.0118
 Jupiter -39123-12-01 23:16 J -12567917.74 -12567917.53 -12567917.33 0.0484 0.0021
 Uranus -39123-12-02 18:14 J -12567916.83 -12567916.74 -12567916.63 0.0145 0.0128
 Uranus -39122-07-17 07:11 J -12567690.25 -12567690.20 -12567690.12 0.0145 0.0138
 Saturn -39119-07-08 12:42 J -12566603.05 -12566602.97 -12566602.86 0.0282 0.0248
 Saturn -39118-02-22 23:45 J -12566373.72 -12566373.51 -12566373.31 0.0282 0.0050
 Saturn -39118-10-10 11:30 J -12566144.20 -12566144.02 -12566143.85 0.0283 0.0150
 Jupiter -39117-10-08 09:35 J -12565780.30 -12565780.10 -12565779.90 0.0545 0.0065
 Jupiter -39111-08-07 03:50 J -12563651.53 -12563651.34 -12563651.15 0.0484 0.0171

Mars	-39106-10-29 18:57 J	-12561741.88	-12561741.71	-12561741.54	0.1650	0.0415
Jupiter	-39105-06-12 21:06 J	-12561514.77	-12561514.62	-12561514.46	0.0544	0.0338
Saturn	-39105-12-25 01:54 J	-12561319.43	-12561319.42	-12561319.39	0.0277	0.0275
Earth	-39104-04-14 12:28 J	-12561209.13	-12561208.98	-12561208.82	0.2665	0.0322
Moon	-39104-04-14 15:21 J	-12561209.01	-12561208.86	-12561208.72	0.2671	0.0654 *
Saturn	-39104-08-11 15:06 J	-12561090.07	-12561089.87	-12561089.66	0.0277	0.0082
Saturn	-39103-03-29 02:52 J	-12560860.57	-12560860.38	-12560860.18	0.0276	0.0110
Mars	-39103-08-03 04:04 J	-12560733.41	-12560733.33	-12560733.26	0.1871	0.1682
Jupiter	-39099-04-12 07:54 J	-12559385.30	-12559385.17	-12559385.03	0.0484	0.0363
Jupiter	-39099-12-04 04:18 J	-12559149.47	-12559149.32	-12559149.17	0.0485	0.0326
Pluto	-39097-01-21 13:54 J	-12558736.06	-12558735.92	-12558735.74	0.0066	0.0044
Uranus	-39097-05-03 20:23 J	-12558632.70	-12558632.65	-12558632.57	0.0133	0.0127
Pluto	-39097-09-02 18:42 J	-12558510.94	-12558510.72	-12558510.50	0.0066	0.0001
Uranus	-39097-12-16 03:35 J	-12558406.44	-12558406.35	-12558406.25	0.0133	0.0119
Pluto	-39096-04-15 22:47 J	-12558285.71	-12558285.55	-12558285.37	0.0066	0.0042
Uranus	-39096-07-30 10:04 J	-12558180.18	-12558180.08	-12558179.94	0.0133	0.0112
Uranus	-39095-03-13 16:47 J	-12557953.92	-12557953.80	-12557953.65	0.0133	0.0104
Neptune	-39095-08-05 00:42 J	-12557809.53	-12557809.47	-12557809.41	0.0088	0.0085
Uranus	-39095-10-25 23:16 J	-12557727.67	-12557727.53	-12557727.37	0.0133	0.0096
Neptune	-39094-03-18 13:40 J	-12557584.03	-12557583.93	-12557583.79	0.0088	0.0074
Uranus	-39094-06-09 05:30 J	-12557501.42	-12557501.27	-12557501.09	0.0133	0.0088
Neptune	-39094-10-30 03:06 J	-12557358.52	-12557358.37	-12557358.20	0.0088	0.0062
Uranus	-39093-01-21 11:45 J	-12557275.18	-12557275.01	-12557274.82	0.0132	0.0079
Neptune	-39093-06-11 16:04 J	-12557132.99	-12557132.83	-12557132.63	0.0088	0.0051
Uranus	-39093-09-03 17:59 J	-12557048.93	-12557048.75	-12557048.56	0.0132	0.0071
Jupiter	-39093-10-11 14:23 J	-12557011.04	-12557010.90	-12557010.75	0.0544	0.0364
Neptune	-39092-01-23 05:30 J	-12556907.46	-12556907.27	-12556907.06	0.0088	0.0039
Uranus	-39092-04-17 23:45 J	-12556822.70	-12556822.51	-12556822.31	0.0132	0.0062
Neptune	-39092-09-05 18:57 J	-12556681.92	-12556681.71	-12556681.50	0.0088	0.0027
Uranus	-39092-11-30 05:16 J	-12556596.47	-12556596.28	-12556596.07	0.0132	0.0054

Neptune -39091-04-19 08:09 J -12556456.37 -12556456.16 -12556455.93 0.0088 0.0015
 Uranus -39091-07-14 11:02 J -12556370.24 -12556370.04 -12556369.83 0.0132 0.0045
 Neptune -39091-11-30 21:35 J -12556230.82 -12556230.60 -12556230.37 0.0088 0.0004
 Uranus -39090-02-25 16:18 J -12556144.02 -12556143.82 -12556143.60 0.0132 0.0037
 Neptune -39090-07-14 11:02 J -12556005.26 -12556005.04 -12556004.82 0.0088 0.0008
 Uranus -39090-10-09 21:50 J -12555917.80 -12555917.59 -12555917.37 0.0132 0.0028
 Saturn -39089-01-18 20:38 J -12555816.76 -12555816.64 -12555816.50 0.0282 0.0216
 Neptune -39089-02-25 00:14 J -12555779.70 -12555779.49 -12555779.26 0.0088 0.0021
 Uranus -39089-05-23 03:06 J -12555691.59 -12555691.37 -12555691.15 0.0132 0.0019
 Saturn -39089-09-04 07:40 J -12555587.38 -12555587.18 -12555586.97 0.0282 0.0019
 Neptune -39089-10-07 13:40 J -12555554.13 -12555553.93 -12555553.71 0.0088 0.0032
 Uranus -39088-01-04 08:09 J -12555465.38 -12555465.16 -12555464.94 0.0132 0.0011
 Saturn -39088-04-21 19:54 J -12555357.83 -12555357.67 -12555357.51 0.0282 0.0183
 Neptune -39088-05-21 02:52 J -12555328.55 -12555328.38 -12555328.16 0.0088 0.0045
 Uranus -39088-08-18 13:11 J -12555239.17 -12555238.95 -12555238.73 0.0132 0.0003
 Neptune -39087-01-01 16:33 J -12555102.97 -12555102.81 -12555102.63 0.0088 0.0056
 Uranus -39087-04-01 18:14 J -12555012.96 -12555012.74 -12555012.52 0.0132 0.0006
 Jupiter -39087-08-09 07:54 J -12554883.37 -12554883.17 -12554882.97 0.0484 0.0134
 Neptune -39087-08-15 05:59 J -12554877.38 -12554877.25 -12554877.09 0.0088 0.0067
 Uranus -39087-11-13 23:02 J -12554786.76 -12554786.54 -12554786.32 0.0132 0.0015
 Neptune -39086-03-28 19:26 J -12554651.76 -12554651.69 -12554651.57 0.0088 0.0079
 Uranus -39086-06-28 03:50 J -12554560.56 -12554560.34 -12554560.13 0.0132 0.0023
 Uranus -39085-02-09 08:23 J -12554334.35 -12554334.15 -12554333.93 0.0132 0.0032
 Uranus -39085-09-22 13:11 J -12554108.15 -12554107.95 -12554107.73 0.0132 0.0041
 Uranus -39084-05-06 17:59 J -12553881.95 -12553881.75 -12553881.55 0.0132 0.0049
 Uranus -39084-12-18 22:18 J -12553655.75 -12553655.57 -12553655.36 0.0132 0.0058
 Uranus -39083-08-02 03:06 J -12553429.55 -12553429.37 -12553429.17 0.0133 0.0065
 Uranus -39082-03-16 07:40 J -12553203.35 -12553203.18 -12553202.99 0.0133 0.0074
 Uranus -39082-10-28 12:14 J -12552977.15 -12552976.99 -12552976.81 0.0133 0.0082
 Uranus -39081-06-10 16:47 J -12552750.94 -12552750.80 -12552750.63 0.0133 0.0090

Jupiter -39081-06-16 00:14 J -12552745.69 -12552745.49 -12552745.29 0.0544 0.0087
 Uranus -39080-01-22 21:35 J -12552524.74 -12552524.60 -12552524.45 0.0133 0.0097
 Uranus -39080-09-06 01:54 J -12552298.53 -12552298.42 -12552298.27 0.0133 0.0106
 Uranus -39079-04-20 06:42 J -12552072.32 -12552072.22 -12552072.10 0.0133 0.0112
 Uranus -39079-12-02 11:02 J -12551846.11 -12551846.04 -12551845.93 0.0134 0.0120
 Uranus -39078-07-16 15:35 J -12551619.90 -12551619.85 -12551619.76 0.0134 0.0127
 Uranus -39077-02-27 20:38 J -12551393.65 -12551393.64 -12551393.62 0.0134 0.0134
 Jupiter -39075-04-14 12:42 J -12550617.17 -12550616.97 -12550616.76 0.0484 0.0058
 Saturn -39075-07-07 12:28 J -12550533.09 -12550532.98 -12550532.87 0.0277 0.0237
 Saturn -39074-02-22 00:57 J -12550303.67 -12550303.46 -12550303.25 0.0276 0.0045
 Saturn -39074-10-09 12:14 J -12550074.17 -12550073.99 -12550073.81 0.0276 0.0145
 Mars -39072-08-27 12:28 J -12549386.09 -12549385.98 -12549385.86 0.1642 0.1219
 Jupiter -39069-02-19 12:28 J -12548480.17 -12548479.98 -12548479.79 0.0545 0.0186
 Mars -39069-05-30 08:23 J -12548379.23 -12548379.15 -12548379.06 0.1884 0.1624
 Jupiter -39064-12-18 17:02 J -12546350.97 -12546350.79 -12546350.61 0.0484 0.0249
 Jupiter -39063-08-11 13:26 J -12546115.02 -12546114.94 -12546114.85 0.0484 0.0438
 Saturn -39060-07-30 23:02 J -12545030.68 -12545030.54 -12545030.38 0.0282 0.0190
 Saturn -39059-03-17 10:04 J -12544801.29 -12544801.08 -12544800.87 0.0282 0.0009
 Saturn -39059-11-01 21:50 J -12544571.72 -12544571.59 -12544571.44 0.0283 0.0209
 Jupiter -39058-10-25 01:11 J -12544214.55 -12544214.45 -12544214.33 0.0544 0.0456
 Jupiter -39057-06-19 08:09 J -12543976.21 -12543976.16 -12543976.10 0.0544 0.0520
 Uranus -39054-01-30 08:52 J -12543021.15 -12543021.13 -12543021.07 0.0145 0.0142
 Uranus -39054-09-13 19:11 J -12542794.77 -12542794.70 -12542794.60 0.0145 0.0134
 Uranus -39053-04-27 05:45 J -12542568.35 -12542568.26 -12542568.14 0.0145 0.0125
 Uranus -39053-12-09 16:47 J -12542341.93 -12542341.80 -12542341.67 0.0146 0.0115
 Uranus -39052-07-24 03:21 J -12542115.49 -12542115.36 -12542115.20 0.0146 0.0106
 Jupiter -39052-08-23 22:04 J -12542084.66 -12542084.58 -12542084.48 0.0484 0.0437
 Uranus -39051-03-07 14:23 J -12541889.05 -12541888.90 -12541888.73 0.0146 0.0096
 Jupiter -39051-04-16 17:30 J -12541848.95 -12541848.77 -12541848.59 0.0484 0.0247
 Uranus -39051-10-20 01:40 J -12541662.59 -12541662.43 -12541662.25 0.0146 0.0085

Uranus	-39050-06-03 13:11 J	-12541436.13	-12541435.95	-12541435.76	0.0146	0.0075
Uranus	-39049-01-16 00:57 J	-12541209.65	-12541209.46	-12541209.27	0.0146	0.0064
Uranus	-39049-08-29 12:42 J	-12540983.17	-12540982.97	-12540982.77	0.0146	0.0053
Uranus	-39048-04-13 00:28 J	-12540756.68	-12540756.48	-12540756.27	0.0146	0.0041
Uranus	-39048-11-25 12:28 J	-12540530.19	-12540529.98	-12540529.77	0.0147	0.0030
Uranus	-39047-07-10 00:28 J	-12540303.69	-12540303.48	-12540303.26	0.0147	0.0019
Uranus	-39046-02-21 12:57 J	-12540077.17	-12540076.96	-12540076.74	0.0147	0.0008
Uranus	-39046-10-06 01:26 J	-12539850.65	-12539850.44	-12539850.22	0.0147	0.0005
Saturn	-39045-01-17 13:26 J	-12539747.06	-12539746.94	-12539746.80	0.0277	0.0217
Jupiter	-39045-02-22 21:06 J	-12539710.80	-12539710.62	-12539710.44	0.0544	0.0253
Uranus	-39045-05-19 13:54 J	-12539624.13	-12539623.92	-12539623.70	0.0146	0.0016
Saturn	-39045-09-03 02:23 J	-12539517.62	-12539517.40	-12539517.19	0.0276	0.0024
Uranus	-39044-01-01 02:23 J	-12539397.61	-12539397.40	-12539397.18	0.0146	0.0028
Saturn	-39044-04-20 13:40 J	-12539288.10	-12539287.93	-12539287.76	0.0276	0.0166
Uranus	-39044-08-15 15:21 J	-12539171.07	-12539170.86	-12539170.65	0.0146	0.0039
Uranus	-39043-03-30 04:04 J	-12538944.52	-12538944.33	-12538944.12	0.0146	0.0051
Uranus	-39043-11-11 17:16 J	-12538717.98	-12538717.78	-12538717.58	0.0146	0.0062
Uranus	-39042-06-26 05:59 J	-12538491.43	-12538491.25	-12538491.05	0.0146	0.0074
Uranus	-39041-02-07 19:11 J	-12538264.87	-12538264.70	-12538264.51	0.0146	0.0085
Uranus	-39041-09-21 08:09 J	-12538038.31	-12538038.16	-12538037.98	0.0146	0.0096
Uranus	-39040-05-05 21:50 J	-12537811.74	-12537811.59	-12537811.44	0.0145	0.0106
Mars	-39040-08-26 06:57 J	-12537699.38	-12537699.21	-12537699.04	0.1648	0.0240
Uranus	-39040-12-18 10:33 J	-12537585.17	-12537585.06	-12537584.91	0.0145	0.0117
Jupiter	-39040-12-20 20:52 J	-12537582.83	-12537582.63	-12537582.42	0.0484	0.0055
Uranus	-39039-08-01 23:45 J	-12537358.60	-12537358.51	-12537358.39	0.0145	0.0126
Uranus	-39038-03-16 12:57 J	-12537132.01	-12537131.96	-12537131.86	0.0145	0.0136
Uranus	-39038-10-29 02:38 J	-12536905.39	-12536905.39	-12536905.38	0.0145	0.0144
Mars	-39037-05-30 07:26 J	-12536691.33	-12536691.19	-12536691.05	0.1874	0.1185
Jupiter	-39034-10-28 08:38 J	-12535445.34	-12535445.14	-12535444.94	0.0544	0.0021
Saturn	-39030-02-10 05:30 J	-12534244.44	-12534244.27	-12534244.10	0.0282	0.0160

Saturn -39030-09-27 16:47 J -12534015.01 -12534014.80 -12534014.59 0.0282 0.0038
 Saturn -39029-05-14 05:02 J -12533785.40 -12533785.29 -12533785.17 0.0283 0.0238
 Jupiter -39028-08-26 01:40 J -12533316.63 -12533316.43 -12533316.23 0.0484 0.0136
 Jupiter -39022-07-02 16:47 J -12531179.96 -12531179.80 -12531179.63 0.0544 0.0304
 Jupiter -39016-05-01 07:11 J -12529050.35 -12529050.20 -12529050.04 0.0484 0.0323
 Saturn -39016-07-29 23:45 J -12528960.67 -12528960.51 -12528960.34 0.0277 0.0179
 Jupiter -39016-12-23 03:06 J -12528814.50 -12528814.37 -12528814.23 0.0484 0.0362
 Saturn -39015-03-16 11:59 J -12528731.21 -12528731.00 -12528730.78 0.0276 0.0014
 Saturn -39015-10-31 22:47 J -12528501.68 -12528501.55 -12528501.39 0.0276 0.0202
 Uranus -39013-01-02 05:30 J -12528074.32 -12528074.27 -12528074.19 0.0133 0.0128
 Uranus -39013-08-15 12:28 J -12527848.05 -12527847.98 -12527847.86 0.0133 0.0121
 Uranus -39012-03-29 19:40 J -12527621.79 -12527621.68 -12527621.55 0.0133 0.0112
 Neptune -39012-05-06 23:45 J -12527583.54 -12527583.51 -12527583.45 0.0089 0.0087
 Uranus -39012-11-11 02:23 J -12527395.53 -12527395.40 -12527395.26 0.0133 0.0104
 Neptune -39012-12-18 12:42 J -12527358.08 -12527357.97 -12527357.85 0.0089 0.0075
 Uranus -39011-06-25 09:06 J -12527169.27 -12527169.12 -12527168.97 0.0133 0.0096
 Neptune -39011-08-01 01:11 J -12527132.58 -12527132.45 -12527132.28 0.0089 0.0064
 Uranus -39010-02-06 15:35 J -12526943.02 -12526942.85 -12526942.69 0.0133 0.0088
 Pluto -39010-02-12 11:45 J -12526937.13 -12526937.01 -12526936.87 0.0079 0.0064
 Neptune -39010-03-14 14:09 J -12526907.07 -12526906.91 -12526906.72 0.0089 0.0052
 Uranus -39010-09-20 21:35 J -12526716.77 -12526716.60 -12526716.41 0.0132 0.0080
 Pluto -39010-09-25 22:04 J -12526711.80 -12526711.58 -12526711.36 0.0078 0.0010
 Neptune -39010-10-26 03:06 J -12526681.55 -12526681.37 -12526681.17 0.0089 0.0040
 Jupiter -39010-10-31 12:14 J -12526676.12 -12526675.99 -12526675.85 0.0544 0.0403
 Uranus -39009-05-04 03:35 J -12526490.52 -12526490.35 -12526490.15 0.0132 0.0072
 Neptune -39009-06-07 15:35 J -12526456.04 -12526455.85 -12526455.63 0.0089 0.0029
 Uranus -39009-12-16 09:21 J -12526264.29 -12526264.11 -12526263.90 0.0132 0.0064
 Neptune -39008-01-19 04:33 J -12526230.52 -12526230.31 -12526230.09 0.0089 0.0017
 Uranus -39008-07-30 15:35 J -12526038.05 -12526037.85 -12526037.65 0.0132 0.0054
 Neptune -39008-09-01 17:30 J -12526004.99 -12526004.77 -12526004.56 0.0089 0.0005

Uranus	-39007-03-13 21:06 J	-12525811.82	-12525811.62	-12525811.41	0.0132	0.0046
Neptune	-39007-04-15 05:59 J	-12525779.46	-12525779.25	-12525779.03	0.0089	0.0007
Uranus	-39007-10-26 02:38 J	-12525585.60	-12525585.39	-12525585.17	0.0132	0.0037
Neptune	-39007-11-26 18:28 J	-12525553.94	-12525553.73	-12525553.51	0.0089	0.0018
Uranus	-39006-06-09 07:54 J	-12525359.38	-12525359.17	-12525358.95	0.0132	0.0029
Mars	-39006-06-25 00:28 J	-12525343.57	-12525343.48	-12525343.38	0.1640	0.1381
Neptune	-39006-07-10 06:57 J	-12525328.40	-12525328.21	-12525328.00	0.0089	0.0030
Uranus	-39005-01-21 13:26 J	-12525133.16	-12525132.94	-12525132.72	0.0132	0.0020
Neptune	-39005-02-20 19:40 J	-12525102.87	-12525102.68	-12525102.49	0.0089	0.0041
Uranus	-39005-09-03 18:42 J	-12524906.94	-12524906.72	-12524906.50	0.0132	0.0012
Neptune	-39005-10-03 07:54 J	-12524877.32	-12524877.17	-12524876.98	0.0089	0.0054
Uranus	-39004-04-17 23:45 J	-12524680.73	-12524680.51	-12524680.29	0.0132	0.0003
Neptune	-39004-05-16 20:52 J	-12524651.78	-12524651.63	-12524651.48	0.0089	0.0065
Jupiter	-39004-08-28 06:28 J	-12524548.42	-12524548.23	-12524548.03	0.0484	0.0168
Uranus	-39004-11-30 04:33 J	-12524454.52	-12524454.31	-12524454.08	0.0132	0.0007
Neptune	-39004-12-28 08:52 J	-12524426.22	-12524426.13	-12524426.00	0.0089	0.0076
Uranus	-39003-07-14 09:35 J	-12524228.32	-12524228.10	-12524227.88	0.0132	0.0014
Neptune	-39003-08-10 21:21 J	-12524200.63	-12524200.61	-12524200.56	0.0089	0.0088
Uranus	-39002-02-25 14:23 J	-12524002.11	-12524001.90	-12524001.68	0.0132	0.0023
Uranus	-39002-10-09 19:26 J	-12523775.90	-12523775.69	-12523775.48	0.0132	0.0031
Uranus	-39001-05-23 00:14 J	-12523549.70	-12523549.49	-12523549.28	0.0132	0.0040
Saturn	-39001-08-22 08:09 J	-12523458.34	-12523458.16	-12523457.98	0.0282	0.0134

39TH MILLENNIUM BCE

This is a list of transits of Venus in the 39th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Uranus	-39000-01-04 04:33 J	-12523323.50	-12523323.31	-12523323.09	0.0132	0.0049		
Saturn	-39000-04-08 19:11 J	-12523228.90	-12523228.70	-12523228.50	0.0282	0.0064		
Uranus	-39000-08-18 09:21 J	-12523097.29	-12523097.11	-12523096.90	0.0132	0.0057		
Saturn	-39000-11-24 07:11 J	-12522999.26	-12522999.20	-12522999.12	0.0283	0.0264		
Uranus	-38999-04-01 14:09 J	-12522871.09	-12522870.91	-12522870.71	0.0132	0.0065		
Uranus	-38999-11-13 18:42 J	-12522644.89	-12522644.72	-12522644.53	0.0133	0.0073		
Uranus	-38998-06-27 23:16 J	-12522418.69	-12522418.53	-12522418.35	0.0133	0.0081		
Jupiter	-38998-07-06 02:09 J	-12522410.60	-12522410.41	-12522410.21	0.0545	0.0138		
Uranus	-38997-02-09 04:04 J	-12522192.49	-12522192.33	-12522192.17	0.0133	0.0088		
Uranus	-38997-09-22 08:38 J	-12521966.28	-12521966.14	-12521965.98	0.0133	0.0096		
Uranus	-38996-05-06 13:26 J	-12521740.07	-12521739.94	-12521739.81	0.0133	0.0104		
Uranus	-38996-12-18 17:30 J	-12521513.87	-12521513.77	-12521513.63	0.0133	0.0112		
Uranus	-38995-08-01 22:04 J	-12521287.66	-12521287.58	-12521287.47	0.0134	0.0119		
Uranus	-38994-03-16 02:38 J	-12521061.44	-12521061.39	-12521061.30	0.0134	0.0126		
Uranus	-38994-10-28 07:40 J	-12520835.21	-12520835.18	-12520835.15	0.0134	0.0132		
Jupiter	-38992-05-03 11:16 J	-12520282.24	-12520282.03	-12520281.82	0.0484	0.0022		
Saturn	-38986-02-09 00:14 J	-12518174.66	-12518174.49	-12518174.31	0.0277	0.0159		
Jupiter	-38986-03-10 14:52 J	-12518145.07	-12518144.88	-12518144.68	0.0544	0.0133		
Saturn	-38986-09-26 12:42 J	-12517945.18	-12517944.97	-12517944.76	0.0276	0.0032		
Saturn	-38985-05-12 23:30 J	-12517715.64	-12517715.52	-12517715.38	0.0276	0.0221		
Jupiter	-38980-01-06 15:21 J	-12516016.05	-12516015.86	-12516015.68	0.0484	0.0213		
Jupiter	-38980-08-30 11:59 J	-12515780.03	-12515780.00	-12515779.95	0.0485	0.0474		
Earth	-38975-10-16 19:11 J	-12513906.84	-12513906.70	-12513906.55	0.2666	0.1141		
Moon	-38975-10-17 00:57 J	-12513906.62	-12513906.46	-12513906.29	0.2664	0.0155 *		
Jupiter	-38975-11-13 01:40 J	-12513879.56	-12513879.43	-12513879.29	0.0544	0.0407		
Mars	-38974-06-23 18:42 J	-12513656.89	-12513656.72	-12513656.54	0.1646	0.0073		
Saturn	-38971-03-04 12:57 J	-12512672.15	-12512671.96	-12512671.76	0.0282	0.0107		

Mars	-38971-03-27 10:04 J	-12512649.24	-12512649.08	-12512648.91	0.1877	0.0669
Uranus	-38971-09-29 17:02 J	-12512462.82	-12512462.79	-12512462.75	0.0145	0.0142
Saturn	-38971-10-20 00:28 J	-12512442.68	-12512442.48	-12512442.28	0.0282	0.0091
Uranus	-38970-05-14 02:52 J	-12512236.44	-12512236.38	-12512236.29	0.0145	0.0134
Uranus	-38970-12-26 13:26 J	-12512010.04	-12512009.94	-12512009.82	0.0145	0.0125
Uranus	-38969-08-08 23:45 J	-12511783.62	-12511783.51	-12511783.36	0.0145	0.0117
Jupiter	-38969-09-11 20:38 J	-12511749.75	-12511749.64	-12511749.52	0.0484	0.0399
Uranus	-38968-03-23 10:33 J	-12511557.19	-12511557.06	-12511556.90	0.0146	0.0107
Jupiter	-38968-05-05 16:18 J	-12511513.99	-12511513.82	-12511513.65	0.0484	0.0284
Uranus	-38968-11-04 21:35 J	-12511330.75	-12511330.60	-12511330.43	0.0146	0.0097
Uranus	-38967-06-19 08:38 J	-12511104.30	-12511104.14	-12511103.96	0.0146	0.0087
Uranus	-38966-01-31 20:09 J	-12510877.84	-12510877.66	-12510877.47	0.0146	0.0076
Uranus	-38966-09-15 07:40 J	-12510651.37	-12510651.18	-12510650.99	0.0146	0.0066
Uranus	-38965-04-28 19:11 J	-12510424.90	-12510424.70	-12510424.50	0.0146	0.0055
Uranus	-38965-12-11 06:42 J	-12510198.42	-12510198.22	-12510198.01	0.0146	0.0044
Uranus	-38964-07-25 18:42 J	-12509971.93	-12509971.72	-12509971.51	0.0146	0.0032
Uranus	-38963-03-09 06:57 J	-12509745.43	-12509745.21	-12509745.00	0.0146	0.0021
Uranus	-38963-10-21 18:57 J	-12509518.92	-12509518.71	-12509518.49	0.0146	0.0010
Jupiter	-38962-03-13 17:30 J	-12509375.94	-12509375.77	-12509375.60	0.0544	0.0288
Uranus	-38962-06-05 07:26 J	-12509292.41	-12509292.19	-12509291.98	0.0146	0.0003
Uranus	-38961-01-17 19:40 J	-12509065.89	-12509065.68	-12509065.46	0.0146	0.0014
Uranus	-38961-08-31 08:23 J	-12508839.36	-12508839.15	-12508838.94	0.0146	0.0025
Uranus	-38960-04-14 20:52 J	-12508612.83	-12508612.63	-12508612.41	0.0146	0.0037
Uranus	-38960-11-27 09:50 J	-12508386.29	-12508386.09	-12508385.88	0.0146	0.0048
Uranus	-38959-07-11 22:33 J	-12508159.75	-12508159.56	-12508159.35	0.0146	0.0060
Uranus	-38958-02-23 11:45 J	-12507933.20	-12507933.01	-12507932.81	0.0146	0.0071
Uranus	-38958-10-08 00:42 J	-12507706.64	-12507706.47	-12507706.28	0.0146	0.0082
Uranus	-38957-05-21 13:40 J	-12507480.08	-12507479.93	-12507479.75	0.0146	0.0093
Saturn	-38957-08-21 10:04 J	-12507388.27	-12507388.08	-12507387.89	0.0277	0.0122
Uranus	-38956-01-03 02:38 J	-12507253.52	-12507253.39	-12507253.22	0.0146	0.0104

Jupiter -38956-01-08 20:52 J -12507247.83 -12507247.63 -12507247.42 0.0484 0.0094
 Saturn -38956-04-07 22:04 J -12507158.79 -12507158.58 -12507158.38 0.0276 0.0069
 Uranus -38956-08-17 16:04 J -12507026.96 -12507026.83 -12507026.69 0.0145 0.0113
 Saturn -38956-11-23 08:38 J -12506929.21 -12506929.14 -12506929.06 0.0276 0.0255
 Uranus -38955-04-01 05:16 J -12506800.38 -12506800.28 -12506800.16 0.0145 0.0124
 Uranus -38955-11-13 18:14 J -12506573.81 -12506573.74 -12506573.63 0.0145 0.0133
 Uranus -38954-06-28 07:40 J -12506347.21 -12506347.18 -12506347.13 0.0145 0.0142
 Jupiter -38951-11-16 06:14 J -12505110.44 -12505110.24 -12505110.04 0.0545 0.0021
 Jupiter -38945-09-14 01:11 J -12502981.65 -12502981.45 -12502981.25 0.0484 0.0098
 Saturn -38942-01-28 05:45 J -12502115.30 -12502115.26 -12502115.21 0.0282 0.0274
 Mars -38942-06-22 12:57 J -12501970.02 -12501969.96 -12501969.89 0.1653 0.1526
 Saturn -38942-09-14 16:04 J -12501886.03 -12501885.83 -12501885.63 0.0282 0.0080
 Saturn -38941-05-01 03:21 J -12501656.55 -12501656.36 -12501656.17 0.0282 0.0118
 Mars -38940-04-21 12:42 J -12501301.02 -12501300.97 -12501300.91 0.1638 0.1543
 Jupiter -38939-07-21 19:11 J -12500844.88 -12500844.70 -12500844.52 0.0545 0.0251
 Jupiter -38933-05-20 06:28 J -12498715.40 -12498715.23 -12498715.07 0.0484 0.0286
 Jupiter -38932-01-11 02:09 J -12498479.52 -12498479.41 -12498479.29 0.0484 0.0397
 Neptune -38930-06-20 00:14 J -12497589.59 -12497589.49 -12497589.38 0.0088 0.0078
 Uranus -38930-09-01 13:40 J -12497515.97 -12497515.93 -12497515.85 0.0133 0.0129
 Neptune -38929-01-31 13:11 J -12497364.08 -12497363.95 -12497363.79 0.0088 0.0066
 Uranus -38929-04-14 21:06 J -12497289.70 -12497289.62 -12497289.52 0.0133 0.0120
 Neptune -38929-09-13 02:38 J -12497138.56 -12497138.39 -12497138.21 0.0088 0.0055
 Uranus -38929-11-27 03:50 J -12497063.44 -12497063.34 -12497063.21 0.0133 0.0113
 Neptune -38928-04-26 15:50 J -12496913.02 -12496912.84 -12496912.63 0.0088 0.0043
 Uranus -38928-07-11 10:47 J -12496837.17 -12496837.05 -12496836.90 0.0133 0.0105
 Neptune -38928-12-08 05:16 J -12496687.48 -12496687.28 -12496687.07 0.0088 0.0032
 Uranus -38927-02-22 17:30 J -12496610.91 -12496610.77 -12496610.60 0.0133 0.0097
 Saturn -38927-03-03 10:04 J -12496602.28 -12496602.08 -12496601.88 0.0276 0.0103
 Jupiter -38927-03-26 07:40 J -12496579.24 -12496579.18 -12496579.12 0.0544 0.0518
 Neptune -38927-07-21 18:28 J -12496461.94 -12496461.73 -12496461.51 0.0088 0.0020

Uranus -38927-10-06 23:59 J -12496384.65 -12496384.50 -12496384.32 0.0133 0.0089
 Saturn -38927-10-18 21:50 J -12496372.79 -12496372.59 -12496372.38 0.0276 0.0087
 Jupiter -38927-11-19 15:06 J -12496340.98 -12496340.87 -12496340.76 0.0544 0.0454
 Neptune -38926-03-04 07:54 J -12496236.39 -12496236.17 -12496235.94 0.0088 0.0008
 Uranus -38926-05-21 06:14 J -12496158.40 -12496158.24 -12496158.05 0.0133 0.0081
 Saturn -38926-06-05 08:38 J -12496143.16 -12496143.14 -12496143.11 0.0276 0.0273
 Neptune -38926-10-15 21:21 J -12496010.84 -12496010.61 -12496010.39 0.0088 0.0003
 Uranus -38925-01-02 12:28 J -12495932.15 -12495931.98 -12495931.78 0.0132 0.0073
 Neptune -38925-05-28 10:18 J -12495785.28 -12495785.07 -12495784.84 0.0088 0.0016
 Uranus -38925-08-15 18:57 J -12495705.90 -12495705.71 -12495705.52 0.0132 0.0064
 Neptune -38924-01-08 23:45 J -12495559.72 -12495559.51 -12495559.29 0.0088 0.0027
 Uranus -38924-03-30 00:28 J -12495479.67 -12495479.48 -12495479.27 0.0132 0.0056
 Neptune -38924-08-22 12:57 J -12495334.15 -12495333.96 -12495333.74 0.0088 0.0039
 Uranus -38924-11-11 06:14 J -12495253.44 -12495253.24 -12495253.03 0.0132 0.0047
 Neptune -38923-04-05 02:23 J -12495108.56 -12495108.40 -12495108.20 0.0088 0.0050
 Uranus -38923-06-25 11:59 J -12495027.21 -12495027.00 -12495026.79 0.0132 0.0038
 Neptune -38923-11-16 16:04 J -12494882.98 -12494882.83 -12494882.66 0.0088 0.0062
 Uranus -38922-02-06 17:16 J -12494800.98 -12494800.78 -12494800.55 0.0132 0.0030
 Neptune -38922-06-30 05:16 J -12494657.38 -12494657.28 -12494657.13 0.0088 0.0073
 Uranus -38922-09-20 22:47 J -12494574.76 -12494574.55 -12494574.32 0.0132 0.0022
 Jupiter -38921-01-24 11:02 J -12494449.08 -12494449.04 -12494449.00 0.0484 0.0473
 Neptune -38921-02-10 19:11 J -12494431.76 -12494431.70 -12494431.64 0.0088 0.0085
 Uranus -38921-05-04 04:04 J -12494348.54 -12494348.33 -12494348.10 0.0132 0.0013
 Jupiter -38921-09-16 05:45 J -12494213.45 -12494213.26 -12494213.07 0.0484 0.0206
 Uranus -38921-12-16 09:21 J -12494122.33 -12494122.11 -12494121.89 0.0132 0.0004
 Uranus -38920-07-30 14:38 J -12493896.11 -12493895.89 -12493895.67 0.0132 0.0005
 Uranus -38919-03-13 19:40 J -12493669.90 -12493669.68 -12493669.46 0.0132 0.0013
 Uranus -38919-10-26 00:28 J -12493443.69 -12493443.48 -12493443.26 0.0132 0.0022
 Uranus -38918-06-09 05:16 J -12493217.49 -12493217.28 -12493217.06 0.0132 0.0030
 Uranus -38917-01-21 10:18 J -12492991.28 -12492991.07 -12492990.86 0.0132 0.0038

Uranus	-38917-09-03 14:52 J	-12492765.07	-12492764.88	-12492764.66	0.0132	0.0048
Uranus	-38916-04-17 19:40 J	-12492538.86	-12492538.68	-12492538.47	0.0132	0.0056
Uranus	-38916-11-30 00:28 J	-12492312.66	-12492312.48	-12492312.28	0.0132	0.0063
Uranus	-38915-07-14 05:02 J	-12492086.46	-12492086.29	-12492086.09	0.0133	0.0072
Jupiter	-38915-07-25 03:06 J	-12492075.55	-12492075.37	-12492075.18	0.0544	0.0186
Uranus	-38914-02-25 09:50 J	-12491860.25	-12491860.09	-12491859.91	0.0133	0.0080
Uranus	-38914-10-09 14:52 J	-12491634.04	-12491633.88	-12491633.72	0.0133	0.0087
Uranus	-38913-05-22 19:11 J	-12491407.84	-12491407.70	-12491407.54	0.0133	0.0095
Saturn	-38913-08-09 08:23 J	-12491329.23	-12491329.15	-12491329.04	0.0282	0.0251
Uranus	-38912-01-03 23:45 J	-12491181.64	-12491181.51	-12491181.36	0.0133	0.0103
Saturn	-38912-03-26 19:11 J	-12491099.90	-12491099.70	-12491099.49	0.0282	0.0056
Uranus	-38912-08-18 04:04 J	-12490955.43	-12490955.33	-12490955.19	0.0133	0.0111
Saturn	-38912-11-11 06:57 J	-12490870.39	-12490870.21	-12490870.03	0.0282	0.0143
Uranus	-38911-04-01 08:38 J	-12490729.22	-12490729.14	-12490729.02	0.0134	0.0118
Uranus	-38911-11-13 13:40 J	-12490503.01	-12490502.93	-12490502.85	0.0134	0.0124
Uranus	-38910-06-27 17:59 J	-12490276.78	-12490276.75	-12490276.70	0.0134	0.0131
Jupiter	-38909-05-22 10:33 J	-12489947.26	-12489947.06	-12489946.85	0.0484	0.0021
Mars	-38908-04-20 06:57 J	-12489614.38	-12489614.21	-12489614.04	0.1645	0.0106
Mars	-38905-01-22 13:26 J	-12488607.12	-12488606.94	-12488606.76	0.1880	0.0171
Jupiter	-38903-03-29 11:45 J	-12487810.21	-12487810.01	-12487809.81	0.0544	0.0096
Saturn	-38898-01-27 05:59 J	-12486045.32	-12486045.25	-12486045.16	0.0277	0.0258
Saturn	-38898-09-13 19:11 J	-12485815.90	-12485815.70	-12485815.49	0.0277	0.0067
Jupiter	-38897-01-26 16:04 J	-12485681.02	-12485680.83	-12485680.64	0.0484	0.0171
Saturn	-38897-04-30 06:57 J	-12485586.39	-12485586.21	-12485586.01	0.0276	0.0123
Jupiter	-38892-12-01 23:02 J	-12483544.68	-12483544.54	-12483544.39	0.0544	0.0369
Uranus	-38887-05-30 00:14 J	-12481904.51	-12481904.49	-12481904.45	0.0145	0.0143
Uranus	-38886-01-11 10:18 J	-12481678.13	-12481678.07	-12481677.98	0.0145	0.0135
Uranus	-38886-08-25 20:38 J	-12481451.73	-12481451.64	-12481451.53	0.0145	0.0126
Jupiter	-38886-10-01 20:52 J	-12481414.76	-12481414.63	-12481414.49	0.0484	0.0359
Uranus	-38885-04-08 06:57 J	-12481225.32	-12481225.21	-12481225.07	0.0145	0.0117

Jupiter -38885-05-24 15:50 J -12481178.98 -12481178.84 -12481178.68 0.0484 0.0321
 Uranus -38885-11-20 17:30 J -12480998.90 -12480998.77 -12480998.62 0.0146 0.0108
 Uranus -38884-07-05 04:18 J -12480772.47 -12480772.32 -12480772.16 0.0146 0.0098
 Uranus -38883-02-16 15:21 J -12480546.02 -12480545.86 -12480545.68 0.0146 0.0088
 Saturn -38883-02-19 12:28 J -12480543.10 -12480542.98 -12480542.85 0.0282 0.0222
 Uranus -38883-10-01 02:23 J -12480319.57 -12480319.40 -12480319.21 0.0146 0.0078
 Saturn -38883-10-06 23:02 J -12480313.75 -12480313.54 -12480313.33 0.0282 0.0028
 Uranus -38882-05-15 13:40 J -12480093.11 -12480092.93 -12480092.73 0.0146 0.0067
 Saturn -38882-05-24 10:33 J -12480084.23 -12480084.06 -12480083.90 0.0282 0.0170
 Uranus -38882-12-28 01:11 J -12479866.64 -12479866.45 -12479866.25 0.0146 0.0056
 Uranus -38881-08-10 12:42 J -12479640.16 -12479639.97 -12479639.76 0.0146 0.0046
 Uranus -38880-03-25 00:28 J -12479413.68 -12479413.48 -12479413.26 0.0146 0.0035
 Uranus -38880-11-06 12:42 J -12479187.19 -12479186.97 -12479186.76 0.0146 0.0023
 Jupiter -38879-04-01 20:23 J -12479040.80 -12479040.65 -12479040.49 0.0545 0.0340
 Uranus -38879-06-21 00:42 J -12478960.69 -12478960.47 -12478960.26 0.0146 0.0011
 Uranus -38878-02-02 12:57 J -12478734.17 -12478733.96 -12478733.74 0.0146 0.0003
 Uranus -38878-09-17 01:26 J -12478507.66 -12478507.44 -12478507.22 0.0146 0.0012
 Uranus -38877-04-30 13:54 J -12478281.13 -12478280.92 -12478280.71 0.0146 0.0023
 Uranus -38877-12-13 02:23 J -12478054.61 -12478054.40 -12478054.18 0.0146 0.0035
 Mars -38876-04-19 01:11 J -12477927.54 -12477927.45 -12477927.35 0.1651 0.1353
 Uranus -38876-07-27 15:06 J -12477828.07 -12477827.87 -12477827.66 0.0146 0.0046
 Uranus -38875-03-11 04:18 J -12477601.52 -12477601.32 -12477601.12 0.0146 0.0058
 Uranus -38875-10-23 17:02 J -12477374.97 -12477374.79 -12477374.59 0.0146 0.0069
 Uranus -38874-06-07 05:59 J -12477148.42 -12477148.25 -12477148.06 0.0146 0.0080
 Uranus -38873-01-19 18:57 J -12476921.87 -12476921.71 -12476921.53 0.0146 0.0091
 Jupiter -38873-01-28 20:23 J -12476912.84 -12476912.65 -12476912.45 0.0484 0.0131
 Uranus -38873-09-02 08:23 J -12476695.31 -12476695.15 -12476694.99 0.0146 0.0101
 Uranus -38872-04-16 21:21 J -12476468.74 -12476468.61 -12476468.46 0.0145 0.0112
 Uranus -38872-11-29 10:18 J -12476242.17 -12476242.07 -12476241.93 0.0145 0.0122
 Uranus -38871-07-13 23:30 J -12476015.60 -12476015.52 -12476015.41 0.0145 0.0131

Uranus -38870-02-25 12:42 J -12475789.01 -12475788.97 -12475788.90 0.0145 0.0140
 Saturn -38869-08-08 05:45 J -12475259.36 -12475259.26 -12475259.15 0.0277 0.0240
 Saturn -38868-03-25 18:42 J -12475029.93 -12475029.72 -12475029.50 0.0276 0.0050
 Saturn -38868-11-10 06:28 J -12474800.41 -12474800.23 -12474800.04 0.0276 0.0139
 Jupiter -38868-12-05 09:50 J -12474775.28 -12474775.09 -12474774.89 0.0545 0.0076
 Jupiter -38862-10-04 00:42 J -12472646.67 -12472646.47 -12472646.27 0.0484 0.0059
 Moon -38861-04-14 16:04 J -12472452.98 -12472452.83 -12472452.67 0.2659 0.0780
 Earth -38861-04-14 16:33 J -12472452.96 -12472452.81 -12472452.66 0.2666 0.0614 *
 Jupiter -38856-08-09 21:21 J -12470509.79 -12470509.61 -12470509.42 0.0544 0.0199
 Saturn -38854-09-01 14:23 J -12469757.04 -12469756.90 -12469756.75 0.0282 0.0200
 Earth -38853-04-12 10:33 J -12469533.07 -12469533.06 -12469533.06 0.2667 0.2659
 Saturn -38853-04-18 01:11 J -12469527.66 -12469527.45 -12469527.24 0.0282 0.0005
 Saturn -38853-12-03 12:57 J -12469298.11 -12469297.96 -12469297.80 0.0282 0.0193
 Pluto -38850-05-14 04:33 J -12468406.44 -12468406.31 -12468406.14 0.0066 0.0048
 Jupiter -38850-06-09 06:14 J -12468380.42 -12468380.24 -12468380.06 0.0484 0.0246
 Pluto -38850-12-25 09:06 J -12468181.33 -12468181.12 -12468180.89 0.0066 0.0006
 Jupiter -38849-01-31 02:23 J -12468144.49 -12468144.40 -12468144.31 0.0484 0.0436
 Pluto -38849-08-06 13:26 J -12467956.11 -12467955.94 -12467955.75 0.0066 0.0037
 Neptune -38847-03-21 23:02 J -12467363.61 -12467363.54 -12467363.42 0.0089 0.0080
 Neptune -38847-11-02 12:14 J -12467138.12 -12467137.99 -12467137.84 0.0089 0.0068
 Uranus -38846-05-01 22:18 J -12466957.61 -12466957.57 -12466957.49 0.0134 0.0129
 Neptune -38846-06-16 00:42 J -12466912.62 -12466912.47 -12466912.28 0.0089 0.0057
 Uranus -38846-12-14 05:59 J -12466731.34 -12466731.25 -12466731.16 0.0133 0.0121
 Neptune -38845-01-27 13:40 J -12466687.11 -12466686.93 -12466686.73 0.0089 0.0045
 Uranus -38845-07-27 12:57 J -12466505.06 -12466504.96 -12466504.83 0.0133 0.0113
 Neptune -38845-09-09 02:23 J -12466461.59 -12466461.40 -12466461.19 0.0089 0.0034
 Uranus -38844-03-10 19:54 J -12466278.79 -12466278.67 -12466278.52 0.0133 0.0105
 Jupiter -38844-04-14 05:02 J -12466244.38 -12466244.29 -12466244.20 0.0544 0.0480
 Neptune -38844-04-22 15:06 J -12466236.07 -12466235.87 -12466235.65 0.0089 0.0023
 Uranus -38844-10-23 02:52 J -12466052.53 -12466052.38 -12466052.23 0.0133 0.0097

Neptune -38844-12-04 04:04 J -12466010.55 -12466010.33 -12466010.11 0.0089 0.0010
 Jupiter -38844-12-08 12:14 J -12466006.07 -12466005.99 -12466005.90 0.0544 0.0489
 Uranus -38843-06-06 09:21 J -12465826.27 -12465826.11 -12465825.94 0.0133 0.0089
 Neptune -38843-07-17 16:47 J -12465785.02 -12465784.80 -12465784.59 0.0089 0.0002
 Uranus -38842-01-18 15:50 J -12465600.01 -12465599.84 -12465599.66 0.0133 0.0081
 Mars -38842-02-15 18:57 J -12465571.88 -12465571.71 -12465571.54 0.1643 0.0278
 Neptune -38842-02-28 05:16 J -12465559.49 -12465559.28 -12465559.06 0.0089 0.0013
 Uranus -38842-09-01 22:04 J -12465373.76 -12465373.58 -12465373.39 0.0133 0.0073
 Neptune -38842-10-11 18:14 J -12465333.95 -12465333.74 -12465333.53 0.0089 0.0024
 Uranus -38841-04-15 04:04 J -12465147.52 -12465147.33 -12465147.13 0.0132 0.0064
 Neptune -38841-05-24 06:28 J -12465108.42 -12465108.23 -12465108.02 0.0089 0.0036
 Uranus -38841-11-27 10:04 J -12464921.28 -12464921.08 -12464920.88 0.0132 0.0056
 Neptune -38840-01-04 19:11 J -12464882.88 -12464882.70 -12464882.51 0.0089 0.0048
 Uranus -38840-07-11 15:50 J -12464695.04 -12464694.84 -12464694.63 0.0132 0.0047
 Neptune -38840-08-18 07:26 J -12464657.34 -12464657.19 -12464657.01 0.0089 0.0059
 Mars -38840-11-18 15:50 J -12464565.01 -12464564.84 -12464564.67 0.1883 0.0359
 Saturn -38839-02-18 14:23 J -12464473.04 -12464472.90 -12464472.75 0.0277 0.0204
 Uranus -38839-02-22 21:35 J -12464468.81 -12464468.60 -12464468.38 0.0132 0.0039
 Neptune -38839-03-31 20:09 J -12464431.78 -12464431.66 -12464431.52 0.0089 0.0070
 Saturn -38839-10-06 03:35 J -12464243.57 -12464243.35 -12464243.14 0.0277 0.0014
 Uranus -38839-10-07 03:06 J -12464242.58 -12464242.37 -12464242.15 0.0132 0.0030
 Neptune -38839-11-12 08:23 J -12464206.21 -12464206.15 -12464206.05 0.0089 0.0082
 Jupiter -38838-02-12 11:59 J -12464114.08 -12464114.00 -12464113.90 0.0484 0.0431
 Uranus -38838-05-21 08:38 J -12464016.35 -12464016.14 -12464015.92 0.0132 0.0022
 Saturn -38838-05-23 14:52 J -12464014.03 -12464013.88 -12464013.70 0.0277 0.0176
 Jupiter -38838-10-06 06:57 J -12463878.39 -12463878.21 -12463878.03 0.0484 0.0248
 Uranus -38837-01-02 13:54 J -12463790.13 -12463789.92 -12463789.70 0.0132 0.0014
 Uranus -38837-08-15 19:26 J -12463563.91 -12463563.69 -12463563.47 0.0132 0.0005
 Uranus -38836-03-30 00:42 J -12463337.69 -12463337.47 -12463337.25 0.0132 0.0005
 Uranus -38836-11-11 05:45 J -12463111.48 -12463111.26 -12463111.04 0.0132 0.0013

Uranus	-38835-06-25 10:33 J	-12462885.27	-12462885.06	-12462884.84	0.0132	0.0021
Uranus	-38834-02-06 15:35 J	-12462659.06	-12462658.85	-12462658.63	0.0132	0.0030
Uranus	-38834-09-20 20:38 J	-12462432.84	-12462432.64	-12462432.42	0.0132	0.0038
Uranus	-38833-05-04 01:26 J	-12462206.64	-12462206.44	-12462206.23	0.0132	0.0046
Uranus	-38833-12-16 06:14 J	-12461980.43	-12461980.24	-12461980.03	0.0132	0.0055
Uranus	-38832-07-30 11:02 J	-12461754.22	-12461754.04	-12461753.84	0.0132	0.0063
Jupiter	-38832-08-13 00:57 J	-12461740.64	-12461740.46	-12461740.28	0.0545	0.0223
Uranus	-38831-03-13 15:50 J	-12461528.02	-12461527.84	-12461527.65	0.0133	0.0071
Uranus	-38831-10-25 20:38 J	-12461301.81	-12461301.64	-12461301.46	0.0133	0.0079
Uranus	-38830-06-09 00:57 J	-12461075.60	-12461075.46	-12461075.28	0.0133	0.0087
Uranus	-38829-01-21 05:45 J	-12460849.40	-12460849.26	-12460849.10	0.0133	0.0094
Uranus	-38829-09-03 10:18 J	-12460623.19	-12460623.07	-12460622.92	0.0133	0.0102
Uranus	-38828-04-17 14:52 J	-12460396.99	-12460396.88	-12460396.74	0.0133	0.0109
Uranus	-38828-11-29 19:26 J	-12460170.78	-12460170.69	-12460170.57	0.0133	0.0116
Uranus	-38827-07-13 23:45 J	-12459944.57	-12459944.51	-12459944.41	0.0134	0.0124
Uranus	-38826-02-25 04:33 J	-12459718.35	-12459718.31	-12459718.25	0.0134	0.0130
Jupiter	-38826-06-11 10:47 J	-12459612.25	-12459612.05	-12459611.84	0.0484	0.0057
Saturn	-38824-03-13 18:42 J	-12458970.88	-12458970.72	-12458970.55	0.0282	0.0171
Saturn	-38824-10-29 05:16 J	-12458741.49	-12458741.28	-12458741.07	0.0282	0.0024
Saturn	-38823-06-15 17:02 J	-12458511.92	-12458511.79	-12458511.66	0.0282	0.0221
Jupiter	-38820-04-17 14:38 J	-12457475.09	-12457474.89	-12457474.69	0.0545	0.0045
Jupiter	-38814-02-14 16:04 J	-12455346.03	-12455345.83	-12455345.64	0.0484	0.0133
Mars	-38810-02-14 12:57 J	-12453885.08	-12453884.96	-12453884.84	0.1649	0.1171
Saturn	-38810-08-31 14:23 J	-12453687.05	-12453686.90	-12453686.73	0.0277	0.0186
Saturn	-38809-04-17 03:21 J	-12453457.58	-12453457.36	-12453457.15	0.0276	0.0006
Saturn	-38809-12-02 14:38 J	-12453228.04	-12453227.89	-12453227.73	0.0276	0.0192
Jupiter	-38809-12-21 03:21 J	-12453209.52	-12453209.36	-12453209.19	0.0544	0.0311
Uranus	-38803-01-27 07:54 J	-12451346.17	-12451346.17	-12451346.13	0.0145	0.0144
Uranus	-38803-09-10 17:45 J	-12451119.81	-12451119.76	-12451119.67	0.0145	0.0136
Jupiter	-38803-10-20 20:38 J	-12451079.79	-12451079.64	-12451079.49	0.0484	0.0320

Uranus -38802-04-25 04:04 J -12450893.42 -12450893.33 -12450893.22 0.0145 0.0127
 Jupiter -38802-06-13 15:50 J -12450843.97 -12450843.84 -12450843.69 0.0484 0.0359
 Uranus -38802-12-07 14:09 J -12450667.02 -12450666.91 -12450666.77 0.0145 0.0118
 Uranus -38801-07-21 00:57 J -12450440.60 -12450440.46 -12450440.32 0.0145 0.0109
 Uranus -38800-03-04 11:16 J -12450214.17 -12450214.03 -12450213.86 0.0146 0.0099
 Uranus -38800-10-16 21:50 J -12449987.74 -12449987.59 -12449987.40 0.0146 0.0090
 Uranus -38799-05-31 09:06 J -12449761.29 -12449761.12 -12449760.94 0.0146 0.0079
 Uranus -38798-01-12 20:09 J -12449534.83 -12449534.66 -12449534.46 0.0146 0.0069
 Uranus -38798-08-27 07:40 J -12449308.37 -12449308.18 -12449307.98 0.0146 0.0058
 Uranus -38797-04-09 19:11 J -12449081.90 -12449081.70 -12449081.50 0.0146 0.0047
 Uranus -38797-11-22 06:42 J -12448855.42 -12448855.22 -12448855.01 0.0146 0.0036
 Jupiter -38796-04-20 22:47 J -12448705.69 -12448705.55 -12448705.41 0.0544 0.0390
 Uranus -38796-07-06 18:28 J -12448628.94 -12448628.73 -12448628.51 0.0146 0.0025
 Uranus -38795-02-18 06:42 J -12448402.43 -12448402.22 -12448402.00 0.0146 0.0014
 Saturn -38795-09-23 19:54 J -12448184.84 -12448184.67 -12448184.49 0.0282 0.0150
 Uranus -38795-10-02 18:57 J -12448175.93 -12448175.71 -12448175.50 0.0146 0.0003
 Saturn -38794-05-11 06:42 J -12447955.42 -12447955.22 -12447955.01 0.0282 0.0045
 Uranus -38794-05-17 07:11 J -12447949.42 -12447949.20 -12447948.99 0.0146 0.0010
 Saturn -38794-12-26 18:42 J -12447725.82 -12447725.72 -12447725.61 0.0283 0.0242
 Uranus -38794-12-29 19:26 J -12447722.90 -12447722.69 -12447722.47 0.0146 0.0021
 Uranus -38793-08-12 07:54 J -12447496.38 -12447496.17 -12447495.95 0.0146 0.0033
 Uranus -38792-03-26 20:38 J -12447269.84 -12447269.64 -12447269.43 0.0146 0.0044
 Uranus -38792-11-08 09:21 J -12447043.30 -12447043.11 -12447042.90 0.0146 0.0055
 Uranus -38791-06-22 22:18 J -12446816.76 -12446816.57 -12446816.37 0.0146 0.0066
 Uranus -38790-02-04 11:02 J -12446590.21 -12446590.04 -12446589.84 0.0146 0.0078
 Jupiter -38790-02-16 20:52 J -12446577.82 -12446577.63 -12446577.44 0.0484 0.0172
 Uranus -38790-09-19 00:28 J -12446363.66 -12446363.48 -12446363.31 0.0146 0.0088
 Uranus -38789-05-02 13:11 J -12446137.10 -12446136.95 -12446136.78 0.0146 0.0099
 Uranus -38789-12-15 01:54 J -12445910.54 -12445910.42 -12445910.26 0.0145 0.0110
 Uranus -38788-07-29 15:06 J -12445683.98 -12445683.87 -12445683.73 0.0145 0.0119

Uranus -38787-03-13 04:33 J -12445457.40 -12445457.31 -12445457.21 0.0145 0.0129
 Uranus -38787-10-25 17:16 J -12445230.82 -12445230.78 -12445230.69 0.0145 0.0138
 Jupiter -38785-12-24 07:26 J -12444440.39 -12444440.19 -12444439.99 0.0544 0.0111
 Saturn -38780-03-12 22:18 J -12442900.75 -12442900.57 -12442900.39 0.0278 0.0151
 Saturn -38780-10-28 11:02 J -12442671.25 -12442671.04 -12442670.82 0.0277 0.0040
 Saturn -38779-06-14 22:33 J -12442441.67 -12442441.56 -12442441.43 0.0277 0.0227
 Jupiter -38779-10-23 02:09 J -12442311.62 -12442311.41 -12442311.21 0.0484 0.0018
 Mars -38777-12-13 06:57 J -12441529.38 -12441529.21 -12441529.05 0.1641 0.0446
 Mars -38774-09-15 18:42 J -12440522.87 -12440522.72 -12440522.56 0.1886 0.0871
 Jupiter -38773-08-28 18:57 J -12440174.90 -12440174.71 -12440174.51 0.0544 0.0161
 Jupiter -38767-06-28 06:28 J -12438045.41 -12438045.23 -12438045.04 0.0484 0.0207
 Jupiter -38766-02-19 02:38 J -12437809.43 -12437809.39 -12437809.35 0.0484 0.0473
 Neptune -38766-09-21 10:33 J -12437595.13 -12437595.06 -12437594.97 0.0088 0.0082
 Saturn -38765-04-05 01:26 J -12437398.63 -12437398.44 -12437398.25 0.0281 0.0119
 Neptune -38765-05-03 23:45 J -12437369.63 -12437369.51 -12437369.37 0.0088 0.0071
 Saturn -38765-11-20 11:59 J -12437169.20 -12437169.00 -12437168.80 0.0282 0.0076
 Neptune -38765-12-15 12:42 J -12437144.11 -12437143.97 -12437143.78 0.0088 0.0060
 Saturn -38764-07-07 23:45 J -12436939.56 -12436939.51 -12436939.45 0.0282 0.0272
 Neptune -38764-07-29 02:23 J -12436918.58 -12436918.40 -12436918.21 0.0088 0.0048
 Neptune -38763-03-11 15:35 J -12436693.04 -12436692.85 -12436692.63 0.0088 0.0036
 Pluto -38763-06-04 23:45 J -12436607.56 -12436607.51 -12436607.41 0.0079 0.0074
 Neptune -38763-10-23 05:02 J -12436467.50 -12436467.29 -12436467.07 0.0088 0.0025
 Uranus -38763-12-30 06:14 J -12436399.28 -12436399.24 -12436399.17 0.0134 0.0129
 Pluto -38762-01-16 10:18 J -12436382.29 -12436382.07 -12436381.84 0.0078 0.0001
 Neptune -38762-06-05 18:14 J -12436241.95 -12436241.74 -12436241.51 0.0088 0.0014
 Uranus -38762-08-13 13:40 J -12436173.01 -12436172.93 -12436172.83 0.0134 0.0122
 Pluto -38762-08-29 19:40 J -12436156.72 -12436156.68 -12436156.58 0.0078 0.0074
 Neptune -38761-01-17 07:40 J -12436016.40 -12436016.18 -12436015.95 0.0088 0.0002
 Uranus -38761-03-26 21:06 J -12435946.73 -12435946.62 -12435946.51 0.0133 0.0114
 Jupiter -38761-05-03 07:26 J -12435909.31 -12435909.19 -12435909.07 0.0544 0.0429

Neptune -38761-08-29 20:52 J -12435790.84 -12435790.63 -12435790.40 0.0088 0.0010
 Uranus -38761-11-08 03:50 J -12435720.46 -12435720.34 -12435720.20 0.0133 0.0106
 Jupiter -38761-12-27 14:52 J -12435670.90 -12435670.88 -12435670.85 0.0544 0.0539
 Neptune -38760-04-12 10:33 J -12435565.28 -12435565.06 -12435564.84 0.0088 0.0021
 Uranus -38760-06-22 10:47 J -12435494.19 -12435494.05 -12435493.89 0.0133 0.0098
 Neptune -38760-11-23 23:30 J -12435339.71 -12435339.52 -12435339.30 0.0088 0.0034
 Uranus -38759-02-03 17:30 J -12435267.92 -12435267.77 -12435267.60 0.0133 0.0090
 Neptune -38759-07-07 13:11 J -12435114.14 -12435113.95 -12435113.75 0.0088 0.0045
 Uranus -38759-09-17 23:59 J -12435041.67 -12435041.50 -12435041.32 0.0133 0.0082
 Neptune -38758-02-18 02:23 J -12434888.56 -12434888.40 -12434888.22 0.0088 0.0056
 Uranus -38758-05-02 06:14 J -12434815.41 -12434815.24 -12434815.04 0.0133 0.0074
 Neptune -38758-10-01 16:04 J -12434662.97 -12434662.83 -12434662.68 0.0088 0.0068
 Uranus -38758-12-14 12:42 J -12434589.16 -12434588.97 -12434588.78 0.0133 0.0065
 Neptune -38757-05-14 05:16 J -12434437.36 -12434437.28 -12434437.17 0.0088 0.0079
 Uranus -38757-07-27 18:42 J -12434362.92 -12434362.72 -12434362.52 0.0132 0.0057
 Uranus -38756-03-11 00:28 J -12434136.68 -12434136.48 -12434136.26 0.0132 0.0049
 Uranus -38756-10-23 06:28 J -12433910.44 -12433910.23 -12433910.02 0.0132 0.0040
 Jupiter -38755-03-03 12:14 J -12433779.11 -12433778.99 -12433778.87 0.0484 0.0391
 Uranus -38755-06-06 11:59 J -12433684.21 -12433684.00 -12433683.78 0.0132 0.0031
 Jupiter -38755-10-25 06:42 J -12433543.38 -12433543.22 -12433543.05 0.0484 0.0284
 Uranus -38754-01-18 17:30 J -12433457.98 -12433457.77 -12433457.55 0.0132 0.0023
 Uranus -38754-09-01 23:16 J -12433231.75 -12433231.53 -12433231.31 0.0132 0.0014
 Uranus -38753-04-15 04:33 J -12433005.53 -12433005.31 -12433005.09 0.0132 0.0006
 Uranus -38753-11-27 09:50 J -12432779.31 -12432779.09 -12432778.87 0.0132 0.0003
 Uranus -38752-07-11 15:06 J -12432553.09 -12432552.87 -12432552.65 0.0132 0.0011
 Uranus -38751-02-22 20:09 J -12432326.87 -12432326.66 -12432326.44 0.0132 0.0020
 Saturn -38751-09-22 22:33 J -12432114.74 -12432114.56 -12432114.37 0.0277 0.0132
 Uranus -38751-10-07 01:26 J -12432100.65 -12432100.44 -12432100.23 0.0132 0.0028
 Saturn -38750-05-10 11:16 J -12431885.24 -12431885.03 -12431884.82 0.0276 0.0057
 Uranus -38750-05-21 06:14 J -12431874.44 -12431874.24 -12431874.02 0.0132 0.0037

Saturn -38750-12-25 22:33 J -12431655.65 -12431655.56 -12431655.46 0.0276 0.0243
 Uranus -38749-01-02 11:16 J -12431648.23 -12431648.03 -12431647.82 0.0132 0.0045
 Uranus -38749-08-15 16:18 J -12431422.02 -12431421.82 -12431421.62 0.0132 0.0053
 Jupiter -38749-09-01 05:16 J -12431405.45 -12431405.28 -12431405.11 0.0545 0.0280
 Uranus -38748-03-29 21:06 J -12431195.81 -12431195.62 -12431195.42 0.0132 0.0062
 Uranus -38748-11-11 01:40 J -12430969.60 -12430969.43 -12430969.23 0.0132 0.0070
 Uranus -38747-06-25 06:28 J -12430743.40 -12430743.23 -12430743.05 0.0133 0.0078
 Uranus -38746-02-06 11:02 J -12430517.19 -12430517.04 -12430516.86 0.0133 0.0086
 Uranus -38746-09-20 15:50 J -12430290.98 -12430290.84 -12430290.68 0.0133 0.0093
 Uranus -38745-05-03 20:09 J -12430064.78 -12430064.66 -12430064.50 0.0133 0.0101
 Mars -38745-12-12 01:11 J -12429842.59 -12429842.45 -12429842.32 0.1647 0.1002
 Uranus -38745-12-16 00:42 J -12429838.57 -12429838.47 -12429838.32 0.0133 0.0109
 Uranus -38744-07-30 05:16 J -12429612.37 -12429612.28 -12429612.15 0.0133 0.0116
 Uranus -38743-03-13 10:18 J -12429386.15 -12429386.07 -12429385.98 0.0134 0.0122
 Jupiter -38743-06-30 10:47 J -12429277.25 -12429277.05 -12429276.85 0.0484 0.0094
 Uranus -38743-10-25 14:52 J -12429159.93 -12429159.88 -12429159.82 0.0134 0.0129
 Moon -38740-10-19 02:52 J -12428070.45 -12428070.38 -12428070.31 0.2661 0.2412
 Jupiter -38737-05-06 17:30 J -12427139.97 -12427139.77 -12427139.57 0.0545 0.0010
 Saturn -38736-10-16 01:40 J -12426612.62 -12426612.43 -12426612.23 0.0282 0.0099
 Saturn -38735-06-02 12:28 J -12426383.17 -12426382.98 -12426382.78 0.0282 0.0096
 Moon -38732-10-16 12:14 J -12425151.09 -12425150.99 -12425150.89 0.2664 0.2074
 Earth -38732-10-16 17:59 J -12425150.90 -12425150.75 -12425150.61 0.2665 0.1170 *
 Jupiter -38731-03-05 16:04 J -12425011.03 -12425010.83 -12425010.62 0.0484 0.0093
 Jupiter -38725-01-10 01:26 J -12422874.61 -12422874.44 -12422874.27 0.0544 0.0272
 Saturn -38721-04-04 06:14 J -12421328.44 -12421328.24 -12421328.04 0.0278 0.0098
 Saturn -38721-11-19 18:57 J -12421098.91 -12421098.71 -12421098.51 0.0277 0.0092
 Uranus -38720-09-26 15:35 J -12420787.85 -12420787.85 -12420787.82 0.0144 0.0144
 Jupiter -38720-11-08 21:35 J -12420744.76 -12420744.60 -12420744.43 0.0484 0.0279
 Uranus -38719-05-11 01:26 J -12420561.50 -12420561.44 -12420561.36 0.0145 0.0136
 Jupiter -38719-07-02 17:30 J -12420508.89 -12420508.77 -12420508.66 0.0484 0.0399

Uranus	-38719-12-23 11:16 J	-12420335.11	-12420335.03	-12420334.92	0.0145	0.0128
Uranus	-38718-08-06 21:21 J	-12420108.72	-12420108.61	-12420108.48	0.0145	0.0119
Uranus	-38717-03-20 07:26 J	-12419882.31	-12419882.19	-12419882.03	0.0145	0.0111
Uranus	-38717-11-01 17:59 J	-12419655.89	-12419655.75	-12419655.59	0.0145	0.0101
Uranus	-38716-06-16 04:33 J	-12419429.46	-12419429.31	-12419429.13	0.0146	0.0091
Uranus	-38715-01-28 15:35 J	-12419203.02	-12419202.85	-12419202.66	0.0146	0.0081
Uranus	-38715-09-12 02:52 J	-12418976.57	-12418976.38	-12418976.19	0.0146	0.0070
Uranus	-38714-04-26 13:40 J	-12418750.11	-12418749.93	-12418749.72	0.0146	0.0060
Jupiter	-38714-09-14 11:59 J	-12418609.01	-12418609.00	-12418608.99	0.0544	0.0542
Uranus	-38714-12-09 01:11 J	-12418523.65	-12418523.45	-12418523.24	0.0146	0.0049
Jupiter	-38713-05-09 20:09 J	-12418370.79	-12418370.66	-12418370.54	0.0544	0.0424
Uranus	-38713-07-22 12:42 J	-12418297.17	-12418296.97	-12418296.76	0.0146	0.0038
Uranus	-38712-03-06 00:28 J	-12418070.68	-12418070.48	-12418070.26	0.0146	0.0027
Uranus	-38712-10-18 12:28 J	-12417844.19	-12417843.98	-12417843.76	0.0146	0.0016
Uranus	-38711-06-02 00:28 J	-12417617.69	-12417617.48	-12417617.26	0.0146	0.0005
Mars	-38711-10-10 19:11 J	-12417486.86	-12417486.70	-12417486.54	0.1639	0.0600
Uranus	-38710-01-14 12:42 J	-12417391.18	-12417390.97	-12417390.75	0.0146	0.0008
Uranus	-38710-08-29 01:11 J	-12417164.67	-12417164.45	-12417164.24	0.0146	0.0019
Uranus	-38709-04-11 13:40 J	-12416938.14	-12416937.93	-12416937.72	0.0146	0.0030
Uranus	-38709-11-24 01:54 J	-12416711.62	-12416711.42	-12416711.20	0.0146	0.0043
Uranus	-38708-07-08 14:38 J	-12416485.08	-12416484.89	-12416484.68	0.0146	0.0053
Mars	-38708-07-12 21:06 J	-12416480.73	-12416480.62	-12416480.50	0.1888	0.1400
Jupiter	-38708-07-15 02:38 J	-12416478.44	-12416478.39	-12416478.33	0.0485	0.0464
Uranus	-38707-02-20 03:50 J	-12416258.54	-12416258.34	-12416258.15	0.0146	0.0064
Jupiter	-38707-03-07 20:52 J	-12416242.81	-12416242.63	-12416242.44	0.0484	0.0209
Saturn	-38707-09-10 22:33 J	-12416055.63	-12416055.56	-12416055.47	0.0281	0.0257
Uranus	-38707-10-04 16:33 J	-12416031.99	-12416031.81	-12416031.62	0.0146	0.0075
Saturn	-38706-04-28 08:23 J	-12415826.36	-12415826.15	-12415825.95	0.0281	0.0067
Uranus	-38706-05-19 05:30 J	-12415805.44	-12415805.27	-12415805.09	0.0146	0.0086
Saturn	-38706-12-13 18:57 J	-12415596.89	-12415596.71	-12415596.52	0.0282	0.0128

Uranus -38706-12-31 18:14 J -12415578.89 -12415578.74 -12415578.57 0.0146 0.0097
 Uranus -38705-08-14 07:26 J -12415352.34 -12415352.19 -12415352.04 0.0146 0.0107
 Uranus -38704-03-28 20:09 J -12415125.77 -12415125.66 -12415125.51 0.0145 0.0117
 Uranus -38704-11-10 09:35 J -12414899.20 -12414899.10 -12414898.99 0.0145 0.0127
 Uranus -38703-06-24 22:04 J -12414672.63 -12414672.58 -12414672.48 0.0145 0.0136
 Uranus -38702-02-06 11:30 J -12414446.02 -12414446.02 -12414446.01 0.0145 0.0145
 Jupiter -38701-01-13 09:35 J -12414105.29 -12414105.10 -12414104.91 0.0545 0.0161
 Jupiter -38696-11-11 01:40 J -12411976.63 -12411976.43 -12411976.22 0.0484 0.0023
 Saturn -38692-02-27 17:16 J -12410771.82 -12410771.78 -12410771.72 0.0277 0.0269
 Saturn -38692-10-15 06:57 J -12410542.41 -12410542.21 -12410542.00 0.0277 0.0079
 Saturn -38691-06-01 19:26 J -12410312.88 -12410312.69 -12410312.49 0.0276 0.0110
 Jupiter -38690-09-17 23:02 J -12409839.74 -12409839.54 -12409839.34 0.0545 0.0104
 Jupiter -38684-07-17 05:59 J -12407710.44 -12407710.25 -12407710.05 0.0484 0.0168
 Neptune -38683-06-23 10:33 J -12407369.11 -12407369.06 -12407368.96 0.0089 0.0084
 Neptune -38682-02-03 23:45 J -12407143.63 -12407143.51 -12407143.38 0.0089 0.0072
 Neptune -38682-09-17 12:14 J -12406918.13 -12406917.99 -12406917.81 0.0089 0.0061
 Neptune -38681-04-30 01:26 J -12406692.62 -12406692.44 -12406692.26 0.0089 0.0049
 Neptune -38681-12-11 13:54 J -12406467.11 -12406466.92 -12406466.71 0.0089 0.0038
 Neptune -38680-07-25 02:52 J -12406241.59 -12406241.38 -12406241.18 0.0089 0.0026
 Neptune -38679-03-07 15:21 J -12406016.07 -12406015.86 -12406015.64 0.0089 0.0015
 Uranus -38679-08-29 14:09 J -12405840.94 -12405840.91 -12405840.83 0.0134 0.0130
 Mars -38679-10-09 13:11 J -12405800.09 -12405799.95 -12405799.80 0.1645 0.0833
 Neptune -38679-10-19 04:18 J -12405790.54 -12405790.32 -12405790.10 0.0089 0.0003
 Uranus -38678-04-12 22:04 J -12405614.66 -12405614.58 -12405614.49 0.0134 0.0122
 Jupiter -38678-05-23 10:33 J -12405574.20 -12405574.06 -12405573.91 0.0544 0.0373
 Neptune -38678-06-01 17:02 J -12405565.01 -12405564.79 -12405564.57 0.0089 0.0008
 Uranus -38678-11-25 05:02 J -12405388.39 -12405388.29 -12405388.16 0.0133 0.0115
 Neptune -38677-01-13 05:16 J -12405339.48 -12405339.28 -12405339.05 0.0089 0.0020
 Saturn -38677-03-22 22:33 J -12405269.67 -12405269.56 -12405269.45 0.0281 0.0237
 Uranus -38677-07-08 12:28 J -12405162.10 -12405161.98 -12405161.84 0.0133 0.0107

Neptune -38677-08-25 17:59 J -12405113.94 -12405113.75 -12405113.53 0.0089 0.0031
 Saturn -38677-11-07 08:23 J -12405040.36 -12405040.15 -12405039.94 0.0282 0.0047
 Uranus -38676-02-19 19:26 J -12404935.83 -12404935.69 -12404935.54 0.0133 0.0099
 Neptune -38676-04-08 06:42 J -12404888.40 -12404888.22 -12404888.02 0.0089 0.0043
 Saturn -38676-06-24 19:11 J -12404810.87 -12404810.70 -12404810.51 0.0282 0.0148
 Mars -38676-07-12 19:40 J -12404792.80 -12404792.68 -12404792.56 0.1879 0.1378
 Uranus -38676-10-04 02:09 J -12404709.57 -12404709.41 -12404709.24 0.0133 0.0091
 Neptune -38676-11-19 19:11 J -12404662.86 -12404662.70 -12404662.51 0.0089 0.0054
 Uranus -38675-05-18 08:52 J -12404483.31 -12404483.13 -12404482.96 0.0133 0.0082
 Neptune -38675-07-03 07:40 J -12404437.31 -12404437.18 -12404437.02 0.0089 0.0066
 Uranus -38675-12-30 15:06 J -12404257.05 -12404256.87 -12404256.68 0.0133 0.0074
 Neptune -38674-02-13 20:23 J -12404211.75 -12404211.65 -12404211.53 0.0089 0.0077
 Uranus -38674-08-13 21:21 J -12404030.79 -12404030.61 -12404030.41 0.0133 0.0066
 Neptune -38674-09-27 08:23 J -12403986.15 -12403986.15 -12403986.08 0.0089 0.0089
 Uranus -38673-03-27 03:21 J -12403804.54 -12403804.36 -12403804.15 0.0133 0.0058
 Uranus -38673-11-08 09:21 J -12403578.30 -12403578.11 -12403577.89 0.0132 0.0050
 Jupiter -38672-03-22 11:59 J -12403444.14 -12403444.00 -12403443.86 0.0484 0.0352
 Uranus -38672-06-22 15:21 J -12403352.06 -12403351.86 -12403351.64 0.0132 0.0041
 Jupiter -38672-11-13 07:11 J -12403208.35 -12403208.20 -12403208.05 0.0484 0.0323
 Uranus -38671-02-03 21:06 J -12403125.83 -12403125.62 -12403125.40 0.0132 0.0032
 Uranus -38671-09-18 03:06 J -12402899.59 -12402899.37 -12402899.15 0.0132 0.0023
 Uranus -38670-05-02 08:38 J -12402673.36 -12402673.14 -12402672.92 0.0132 0.0015
 Uranus -38670-12-14 13:54 J -12402447.13 -12402446.92 -12402446.69 0.0132 0.0007
 Uranus -38669-07-27 19:26 J -12402220.91 -12402220.69 -12402220.47 0.0132 0.0003
 Uranus -38668-03-11 00:42 J -12401994.69 -12401994.47 -12401994.25 0.0132 0.0011
 Uranus -38668-10-23 05:59 J -12401768.47 -12401768.25 -12401768.03 0.0132 0.0019
 Uranus -38667-06-06 11:02 J -12401542.25 -12401542.04 -12401541.82 0.0132 0.0028
 Uranus -38666-01-18 16:04 J -12401316.03 -12401315.83 -12401315.61 0.0132 0.0036
 Uranus -38666-09-01 21:21 J -12401089.81 -12401089.61 -12401089.40 0.0132 0.0044
 Jupiter -38666-09-21 02:52 J -12401070.54 -12401070.38 -12401070.21 0.0544 0.0315

Uranus	-38665-04-15 02:09 J	-12400863.60	-12400863.41	-12400863.20	0.0132	0.0053
Uranus	-38665-11-27 06:57 J	-12400637.40	-12400637.21	-12400637.01	0.0132	0.0061
Uranus	-38664-07-11 11:45 J	-12400411.19	-12400411.01	-12400410.82	0.0132	0.0069
Uranus	-38663-02-22 16:33 J	-12400184.98	-12400184.81	-12400184.63	0.0133	0.0077
Saturn	-38663-09-09 23:59 J	-12399985.60	-12399985.50	-12399985.38	0.0278	0.0236
Uranus	-38663-10-06 21:06 J	-12399958.77	-12399958.62	-12399958.44	0.0133	0.0085
Saturn	-38662-04-27 14:09 J	-12399756.12	-12399755.91	-12399755.70	0.0278	0.0045
Uranus	-38662-05-21 02:09 J	-12399732.57	-12399732.41	-12399732.26	0.0133	0.0092
Saturn	-38662-12-13 02:38 J	-12399526.57	-12399526.39	-12399526.20	0.0277	0.0144
Uranus	-38661-01-02 06:14 J	-12399506.36	-12399506.24	-12399506.08	0.0133	0.0100
Uranus	-38661-08-15 11:02 J	-12399280.15	-12399280.04	-12399279.90	0.0133	0.0107
Uranus	-38660-03-29 15:35 J	-12399053.94	-12399053.85	-12399053.73	0.0133	0.0114
Jupiter	-38660-07-19 11:30 J	-12398942.21	-12398942.02	-12398941.82	0.0484	0.0135
Uranus	-38660-11-10 20:09 J	-12398827.73	-12398827.66	-12398827.55	0.0133	0.0121
Uranus	-38659-06-25 00:57 J	-12398601.51	-12398601.46	-12398601.39	0.0134	0.0128
Jupiter	-38654-05-26 14:23 J	-12396805.10	-12396804.90	-12396804.70	0.0544	0.0046
Jupiter	-38648-03-24 15:50 J	-12394676.04	-12394675.84	-12394675.63	0.0484	0.0056
Saturn	-38648-10-03 06:28 J	-12394483.37	-12394483.23	-12394483.09	0.0281	0.0203
Saturn	-38647-05-20 16:04 J	-12394254.04	-12394253.83	-12394253.62	0.0281	0.0013
Saturn	-38646-01-05 02:52 J	-12394024.53	-12394024.38	-12394024.21	0.0282	0.0181
Mars	-38645-08-07 06:57 J	-12393444.36	-12393444.21	-12393444.05	0.1637	0.0770
Jupiter	-38642-01-29 02:38 J	-12392539.57	-12392539.39	-12392539.21	0.0545	0.0224
Jupiter	-38637-11-27 21:06 J	-12390409.80	-12390409.62	-12390409.44	0.0484	0.0242
Jupiter	-38636-07-21 16:33 J	-12390173.90	-12390173.81	-12390173.72	0.0484	0.0433
Uranus	-38635-01-08 09:21 J	-12390003.17	-12390003.11	-12390003.04	0.0144	0.0137
Uranus	-38635-08-22 18:57 J	-12389776.79	-12389776.71	-12389776.60	0.0145	0.0129
Uranus	-38634-04-06 05:02 J	-12389550.40	-12389550.29	-12389550.17	0.0145	0.0120
Uranus	-38634-11-18 14:52 J	-12389324.00	-12389323.88	-12389323.73	0.0145	0.0112
Saturn	-38633-03-22 02:38 J	-12389199.53	-12389199.39	-12389199.26	0.0278	0.0214
Uranus	-38633-07-02 01:26 J	-12389097.59	-12389097.44	-12389097.29	0.0145	0.0102

Saturn -38633-11-06 16:04 J -12388970.04 -12388969.83 -12388969.61 0.0277 0.0024
 Uranus -38632-02-13 11:45 J -12388871.16 -12388871.01 -12388870.83 0.0146 0.0093
 Saturn -38632-06-24 04:18 J -12388740.48 -12388740.32 -12388740.14 0.0277 0.0164
 Uranus -38632-09-27 22:18 J -12388644.73 -12388644.57 -12388644.38 0.0146 0.0083
 Uranus -38631-05-12 09:35 J -12388418.28 -12388418.10 -12388417.91 0.0146 0.0072
 Jupiter -38631-10-03 15:21 J -12388273.95 -12388273.86 -12388273.77 0.0544 0.0487
 Uranus -38631-12-24 20:23 J -12388191.83 -12388191.65 -12388191.44 0.0146 0.0062
 Jupiter -38630-05-29 23:30 J -12388035.61 -12388035.52 -12388035.42 0.0544 0.0477
 Uranus -38630-08-08 07:40 J -12387965.37 -12387965.18 -12387964.97 0.0146 0.0051
 Uranus -38629-03-21 19:11 J -12387738.90 -12387738.70 -12387738.49 0.0146 0.0040
 Uranus -38629-11-03 06:42 J -12387512.42 -12387512.22 -12387512.00 0.0146 0.0029
 Uranus -38628-06-17 18:42 J -12387285.93 -12387285.72 -12387285.51 0.0146 0.0018
 Uranus -38627-01-30 06:42 J -12387059.43 -12387059.22 -12387059.00 0.0146 0.0006
 Uranus -38627-09-13 18:57 J -12386832.93 -12386832.71 -12386832.50 0.0146 0.0005
 Uranus -38626-04-28 06:57 J -12386606.42 -12386606.21 -12386605.99 0.0146 0.0017
 Uranus -38626-12-10 19:11 J -12386379.90 -12386379.70 -12386379.48 0.0146 0.0028
 Uranus -38625-07-24 07:40 J -12386153.38 -12386153.18 -12386152.96 0.0146 0.0040
 Jupiter -38625-08-03 01:40 J -12386143.52 -12386143.43 -12386143.33 0.0484 0.0427
 Uranus -38624-03-07 20:38 J -12385926.84 -12385926.64 -12385926.44 0.0146 0.0051
 Jupiter -38624-03-26 20:23 J -12385907.83 -12385907.65 -12385907.47 0.0484 0.0245
 Uranus -38624-10-20 09:06 J -12385700.31 -12385700.12 -12385699.92 0.0146 0.0062
 Uranus -38623-06-03 21:50 J -12385473.77 -12385473.59 -12385473.39 0.0146 0.0073
 Uranus -38622-01-16 10:33 J -12385247.23 -12385247.06 -12385246.87 0.0146 0.0084
 Uranus -38622-08-30 23:45 J -12385020.68 -12385020.51 -12385020.35 0.0146 0.0094
 Uranus -38621-04-13 12:28 J -12384794.12 -12384793.98 -12384793.82 0.0146 0.0105
 Uranus -38621-11-26 01:11 J -12384567.57 -12384567.45 -12384567.30 0.0145 0.0115
 Uranus -38620-07-10 14:09 J -12384341.01 -12384340.91 -12384340.78 0.0145 0.0124
 Uranus -38619-02-22 03:21 J -12384114.44 -12384114.36 -12384114.27 0.0145 0.0134
 Uranus -38619-10-06 16:33 J -12383887.85 -12383887.81 -12383887.78 0.0145 0.0142
 Jupiter -38618-02-01 12:14 J -12383770.17 -12383769.99 -12383769.80 0.0544 0.0213

Saturn -38618-04-15 06:14 J -12383697.39 -12383697.24 -12383697.08 0.0281 0.0184
 Moon -38618-04-15 18:28 J -12383696.88 -12383696.73 -12383696.59 0.2673 0.0366
 Earth -38618-04-15 20:23 J -12383696.80 -12383696.65 -12383696.51 0.2667 0.0895 *
 Saturn -38618-11-30 16:04 J -12383468.04 -12383467.83 -12383467.62 0.0282 0.0008
 Saturn -38617-07-17 02:52 J -12383238.51 -12383238.38 -12383238.22 0.0282 0.0201
 Mars -38613-08-06 01:11 J -12381757.61 -12381757.45 -12381757.29 0.1643 0.0659
 Jupiter -38613-11-30 01:26 J -12381641.65 -12381641.44 -12381641.24 0.0484 0.0059
 Earth -38610-04-13 14:23 J -12380776.97 -12380776.90 -12380776.82 0.2668 0.2351
 Moon -38610-04-13 16:18 J -12380776.91 -12380776.82 -12380776.73 0.2675 0.2076 *
 Mars -38610-05-09 22:47 J -12380750.71 -12380750.55 -12380750.39 0.1882 0.0874
 Jupiter -38607-10-06 21:06 J -12379504.82 -12379504.62 -12379504.42 0.0544 0.0067
 Saturn -38604-10-02 08:38 J -12378413.29 -12378413.14 -12378412.97 0.0278 0.0183
 Saturn -38603-05-19 22:47 J -12378183.77 -12378183.55 -12378183.34 0.0278 0.0010
 Pluto -38603-09-03 18:14 J -12378076.85 -12378076.74 -12378076.62 0.0066 0.0056
 Saturn -38602-01-04 11:16 J -12377954.18 -12377954.03 -12377953.88 0.0277 0.0197
 Pluto -38602-04-16 22:33 J -12377851.77 -12377851.56 -12377851.35 0.0066 0.0014
 Pluto -38602-11-28 02:52 J -12377626.58 -12377626.38 -12377626.18 0.0066 0.0028
 Neptune -38602-12-23 21:21 J -12377600.64 -12377600.61 -12377600.54 0.0088 0.0086
 Jupiter -38601-08-05 06:14 J -12377375.44 -12377375.24 -12377375.04 0.0484 0.0130
 Neptune -38601-08-05 10:33 J -12377375.16 -12377375.06 -12377374.92 0.0088 0.0075 *
 Neptune -38600-03-18 23:59 J -12377149.64 -12377149.50 -12377149.33 0.0088 0.0063
 Neptune -38600-10-30 13:40 J -12376924.11 -12376923.93 -12376923.75 0.0088 0.0052
 Neptune -38599-06-13 02:38 J -12376698.58 -12376698.39 -12376698.18 0.0088 0.0041
 Neptune -38598-01-24 15:50 J -12376473.04 -12376472.84 -12376472.62 0.0088 0.0029
 Neptune -38598-09-07 05:16 J -12376247.49 -12376247.28 -12376247.06 0.0088 0.0018
 Neptune -38597-04-19 18:42 J -12376021.94 -12376021.72 -12376021.49 0.0088 0.0006
 Neptune -38597-12-01 08:09 J -12375796.38 -12375796.16 -12375795.94 0.0088 0.0005
 Neptune -38596-07-14 21:21 J -12375570.83 -12375570.61 -12375570.39 0.0088 0.0017
 Neptune -38595-02-25 10:33 J -12375345.26 -12375345.06 -12375344.84 0.0088 0.0028
 Uranus -38595-04-28 21:50 J -12375282.63 -12375282.59 -12375282.54 0.0134 0.0130

Jupiter -38595-06-11 07:26 J -12375239.35 -12375239.19 -12375239.03 0.0544 0.0338
 Neptune -38595-10-08 23:59 J -12375119.69 -12375119.50 -12375119.29 0.0088 0.0040
 Uranus -38595-12-11 05:16 J -12375056.35 -12375056.28 -12375056.18 0.0134 0.0123
 Neptune -38594-05-22 13:11 J -12374894.12 -12374893.95 -12374893.75 0.0088 0.0051
 Uranus -38594-07-25 12:28 J -12374830.07 -12374829.98 -12374829.85 0.0134 0.0116
 Neptune -38593-01-03 02:38 J -12374668.54 -12374668.39 -12374668.22 0.0088 0.0063
 Uranus -38593-03-07 19:54 J -12374603.79 -12374603.67 -12374603.53 0.0133 0.0108
 Neptune -38593-08-15 16:18 J -12374442.94 -12374442.82 -12374442.70 0.0088 0.0074
 Uranus -38593-10-20 02:52 J -12374377.52 -12374377.38 -12374377.22 0.0133 0.0100
 Neptune -38592-03-29 05:16 J -12374217.31 -12374217.28 -12374217.20 0.0088 0.0086
 Uranus -38592-06-03 09:50 J -12374151.24 -12374151.09 -12374150.92 0.0133 0.0092
 Uranus -38591-01-15 16:33 J -12373924.98 -12373924.81 -12373924.63 0.0133 0.0083
 Uranus -38591-08-29 23:02 J -12373698.71 -12373698.54 -12373698.35 0.0133 0.0075
 Uranus -38590-04-13 05:16 J -12373472.46 -12373472.28 -12373472.08 0.0133 0.0067
 Uranus -38590-11-25 11:30 J -12373246.21 -12373246.02 -12373245.81 0.0133 0.0059
 Jupiter -38589-04-10 10:47 J -12373109.20 -12373109.05 -12373108.89 0.0484 0.0317
 Uranus -38589-07-08 17:45 J -12373019.96 -12373019.76 -12373019.55 0.0133 0.0050
 Saturn -38589-10-25 15:06 J -12372911.04 -12372910.87 -12372910.69 0.0281 0.0148
 Jupiter -38589-12-02 05:45 J -12372873.39 -12372873.26 -12372873.11 0.0484 0.0357
 Uranus -38588-02-19 23:45 J -12372793.71 -12372793.51 -12372793.29 0.0132 0.0042
 Saturn -38588-06-12 00:57 J -12372681.66 -12372681.46 -12372681.25 0.0281 0.0043
 Uranus -38588-10-04 05:30 J -12372567.47 -12372567.27 -12372567.04 0.0132 0.0034
 Saturn -38587-01-27 11:59 J -12372452.10 -12372452.00 -12372451.88 0.0282 0.0236
 Uranus -38587-05-18 11:30 J -12372341.24 -12372341.02 -12372340.80 0.0132 0.0025
 Uranus -38587-12-30 17:02 J -12372115.00 -12372114.79 -12372114.57 0.0132 0.0016
 Uranus -38586-08-13 22:47 J -12371888.77 -12371888.55 -12371888.33 0.0132 0.0008
 Uranus -38585-03-27 04:18 J -12371662.54 -12371662.32 -12371662.10 0.0132 0.0001
 Uranus -38585-11-08 09:35 J -12371436.32 -12371436.10 -12371435.88 0.0132 0.0010
 Uranus -38584-06-22 14:52 J -12371210.10 -12371209.88 -12371209.66 0.0132 0.0018
 Uranus -38583-02-03 20:09 J -12370983.87 -12370983.66 -12370983.44 0.0132 0.0026

Uranus -38583-09-18 01:11 J -12370757.65 -12370757.45 -12370757.23 0.0132 0.0035
 Jupiter -38583-10-10 03:21 J -12370735.50 -12370735.36 -12370735.20 0.0545 0.0359
 Uranus -38582-05-02 06:14 J -12370531.44 -12370531.24 -12370531.02 0.0132 0.0044
 Uranus -38582-12-14 11:16 J -12370305.22 -12370305.03 -12370304.82 0.0132 0.0052
 Uranus -38581-07-27 16:18 J -12370079.01 -12370078.82 -12370078.62 0.0132 0.0060
 Uranus -38580-03-10 21:06 J -12369852.80 -12369852.62 -12369852.43 0.0132 0.0068
 Uranus -38580-10-23 01:54 J -12369626.59 -12369626.42 -12369626.24 0.0133 0.0076
 Mars -38579-06-04 19:26 J -12369401.83 -12369401.69 -12369401.55 0.1636 0.0924
 Uranus -38579-06-06 06:28 J -12369400.39 -12369400.23 -12369400.05 0.0133 0.0084
 Uranus -38578-01-18 11:16 J -12369174.18 -12369174.03 -12369173.87 0.0133 0.0091
 Uranus -38578-09-01 16:04 J -12368947.97 -12368947.83 -12368947.68 0.0133 0.0098
 Uranus -38577-04-14 20:23 J -12368721.76 -12368721.65 -12368721.50 0.0133 0.0106
 Jupiter -38577-08-07 10:18 J -12368607.26 -12368607.07 -12368606.88 0.0484 0.0169
 Uranus -38577-11-27 01:26 J -12368495.56 -12368495.44 -12368495.33 0.0133 0.0113
 Uranus -38576-07-11 05:45 J -12368269.34 -12368269.26 -12368269.16 0.0133 0.0120
 Uranus -38575-02-22 10:18 J -12368043.12 -12368043.07 -12368042.99 0.0134 0.0127
 Uranus -38575-10-06 15:06 J -12367816.88 -12367816.87 -12367816.84 0.0134 0.0133
 Saturn -38574-04-14 12:14 J -12367627.16 -12367626.99 -12367626.81 0.0278 0.0158
 Saturn -38574-11-30 01:54 J -12367397.63 -12367397.42 -12367397.21 0.0277 0.0031
 Saturn -38573-07-16 13:54 J -12367168.04 -12367167.92 -12367167.78 0.0277 0.0218
 Jupiter -38571-06-14 17:02 J -12366469.99 -12366469.79 -12366469.59 0.0545 0.0097
 Jupiter -38565-04-12 14:38 J -12364341.10 -12364340.89 -12364340.69 0.0484 0.0021
 Jupiter -38559-02-17 05:02 J -12362204.48 -12362204.29 -12362204.10 0.0544 0.0171
 Saturn -38559-05-07 15:21 J -12362125.04 -12362124.86 -12362124.67 0.0281 0.0128
 Saturn -38559-12-23 01:26 J -12361895.64 -12361895.44 -12361895.24 0.0282 0.0063
 Saturn -38558-08-09 12:14 J -12361666.06 -12361665.99 -12361665.89 0.0282 0.0256
 Jupiter -38554-12-17 19:54 J -12360074.86 -12360074.67 -12360074.49 0.0484 0.0205
 Jupiter -38553-08-09 15:35 J -12359838.89 -12359838.85 -12359838.79 0.0484 0.0470
 Uranus -38552-09-07 16:47 J -12359444.86 -12359444.80 -12359444.74 0.0144 0.0138
 Uranus -38551-04-22 02:09 J -12359218.49 -12359218.41 -12359218.31 0.0145 0.0130

Uranus	-38551-12-04 12:14 J	-12358992.10	-12358991.99	-12358991.88	0.0145	0.0121
Uranus	-38550-07-18 22:04 J	-12358765.71	-12358765.58	-12358765.44	0.0145	0.0112
Uranus	-38549-03-01 08:09 J	-12358539.30	-12358539.16	-12358539.00	0.0145	0.0103
Uranus	-38549-10-13 18:28 J	-12358312.88	-12358312.73	-12358312.56	0.0145	0.0094
Uranus	-38548-05-28 05:16 J	-12358086.45	-12358086.28	-12358086.11	0.0146	0.0084
Jupiter	-38548-10-22 13:40 J	-12357939.04	-12357938.93	-12357938.82	0.0543	0.0448
Uranus	-38547-01-09 15:50 J	-12357860.01	-12357859.84	-12357859.64	0.0146	0.0074
Mars	-38547-06-03 13:11 J	-12357715.11	-12357714.95	-12357714.78	0.1641	0.0495
Jupiter	-38547-06-17 20:52 J	-12357700.70	-12357700.63	-12357700.56	0.0544	0.0509
Uranus	-38547-08-24 03:06 J	-12357633.56	-12357633.37	-12357633.18	0.0146	0.0063
Uranus	-38546-04-07 13:54 J	-12357407.11	-12357406.92	-12357406.71	0.0146	0.0053
Uranus	-38546-11-20 01:11 J	-12357180.64	-12357180.45	-12357180.23	0.0146	0.0043
Uranus	-38545-07-03 12:57 J	-12356954.17	-12356953.96	-12356953.75	0.0146	0.0031
Saturn	-38545-10-24 18:14 J	-12356840.93	-12356840.74	-12356840.55	0.0278	0.0127
Uranus	-38544-02-15 00:42 J	-12356727.68	-12356727.47	-12356727.25	0.0146	0.0020
Mars	-38544-03-06 01:26 J	-12356708.62	-12356708.44	-12356708.27	0.1885	0.0354
Saturn	-38544-06-11 07:54 J	-12356611.37	-12356611.17	-12356610.96	0.0278	0.0064
Uranus	-38544-09-29 12:42 J	-12356501.19	-12356500.97	-12356500.76	0.0146	0.0009
Saturn	-38543-01-26 20:38 J	-12356381.73	-12356381.64	-12356381.55	0.0278	0.0250
Uranus	-38543-05-14 00:42 J	-12356274.69	-12356274.47	-12356274.26	0.0146	0.0003
Uranus	-38543-12-26 12:42 J	-12356048.18	-12356047.97	-12356047.75	0.0146	0.0014
Uranus	-38542-08-10 00:57 J	-12355821.67	-12355821.46	-12355821.24	0.0146	0.0026
Jupiter	-38542-08-23 00:42 J	-12355808.58	-12355808.47	-12355808.35	0.0485	0.0392
Uranus	-38541-03-23 13:26 J	-12355595.15	-12355594.94	-12355594.73	0.0146	0.0037
Jupiter	-38541-04-14 19:54 J	-12355572.84	-12355572.67	-12355572.50	0.0484	0.0281
Uranus	-38541-11-05 01:54 J	-12355368.62	-12355368.42	-12355368.21	0.0146	0.0048
Uranus	-38540-06-19 14:23 J	-12355142.09	-12355141.90	-12355141.70	0.0146	0.0060
Uranus	-38539-02-01 02:52 J	-12354915.56	-12354915.38	-12354915.18	0.0146	0.0071
Uranus	-38539-09-15 15:50 J	-12354689.02	-12354688.84	-12354688.66	0.0146	0.0081
Uranus	-38538-04-30 04:33 J	-12354462.47	-12354462.31	-12354462.14	0.0146	0.0092

Uranus -38538-12-12 17:02 J -12354235.93 -12354235.79 -12354235.62 0.0146 0.0103
 Uranus -38537-07-26 05:59 J -12354009.37 -12354009.25 -12354009.10 0.0146 0.0113
 Uranus -38536-03-09 18:57 J -12353782.81 -12353782.71 -12353782.58 0.0145 0.0122
 Uranus -38536-10-22 07:54 J -12353556.25 -12353556.17 -12353556.06 0.0145 0.0132
 Jupiter -38535-02-20 08:09 J -12353435.33 -12353435.16 -12353434.98 0.0544 0.0243
 Uranus -38535-06-05 20:52 J -12353329.67 -12353329.63 -12353329.56 0.0145 0.0140
 Saturn -38530-04-02 16:04 J -12351567.84 -12351567.83 -12351567.79 0.0280 0.0278
 Saturn -38530-11-18 01:11 J -12351338.65 -12351338.45 -12351338.25 0.0281 0.0092
 Jupiter -38530-12-19 23:30 J -12351306.72 -12351306.52 -12351306.32 0.0484 0.0091
 Saturn -38529-07-04 11:02 J -12351109.23 -12351109.04 -12351108.84 0.0281 0.0100
 Jupiter -38524-10-25 20:09 J -12349169.86 -12349169.66 -12349169.46 0.0545 0.0025
 Neptune -38519-09-24 22:33 J -12347374.58 -12347374.56 -12347374.51 0.0089 0.0087
 Neptune -38518-05-08 11:16 J -12347149.13 -12347149.03 -12347148.90 0.0089 0.0076
 Jupiter -38518-08-25 04:18 J -12347040.52 -12347040.32 -12347040.11 0.0484 0.0096
 Neptune -38518-12-19 23:45 J -12346923.63 -12346923.51 -12346923.34 0.0089 0.0065
 Neptune -38517-08-01 12:57 J -12346698.13 -12346697.96 -12346697.78 0.0089 0.0053
 Neptune -38516-03-15 01:26 J -12346472.62 -12346472.44 -12346472.23 0.0089 0.0042
 Neptune -38516-10-26 14:23 J -12346247.09 -12346246.90 -12346246.69 0.0089 0.0031
 Saturn -38515-05-06 23:16 J -12346054.73 -12346054.53 -12346054.33 0.0278 0.0101
 Pluto -38515-05-08 19:26 J -12346052.89 -12346052.69 -12346052.46 0.0078 0.0023
 Neptune -38515-06-09 03:06 J -12346021.58 -12346021.37 -12346021.15 0.0089 0.0019
 Pluto -38515-12-20 05:30 J -12345827.43 -12345827.27 -12345827.09 0.0078 0.0051
 Saturn -38515-12-22 12:28 J -12345825.18 -12345824.98 -12345824.77 0.0277 0.0088
 Neptune -38514-01-20 15:50 J -12345796.05 -12345795.84 -12345795.62 0.0089 0.0008
 Saturn -38514-08-09 00:42 J -12345595.50 -12345595.47 -12345595.43 0.0277 0.0273
 Neptune -38514-09-03 04:33 J -12345570.52 -12345570.31 -12345570.09 0.0089 0.0004
 Mars -38513-04-01 07:26 J -12345359.31 -12345359.19 -12345359.06 0.1634 0.1084
 Neptune -38513-04-15 17:16 J -12345344.99 -12345344.78 -12345344.56 0.0089 0.0015
 Neptune -38513-11-27 05:45 J -12345119.46 -12345119.26 -12345119.04 0.0089 0.0027
 Jupiter -38512-06-30 08:38 J -12344904.31 -12344904.14 -12344903.97 0.0544 0.0289

Neptune -38512-07-10 18:14 J -12344893.92 -12344893.74 -12344893.53 0.0089 0.0038
 Uranus -38512-12-27 05:16 J -12344724.31 -12344724.28 -12344724.22 0.0134 0.0131
 Neptune -38511-02-21 06:57 J -12344668.38 -12344668.21 -12344668.02 0.0089 0.0049
 Uranus -38511-08-10 12:57 J -12344498.03 -12344497.96 -12344497.86 0.0134 0.0124
 Neptune -38511-10-04 19:40 J -12344442.83 -12344442.68 -12344442.51 0.0089 0.0060
 Uranus -38510-03-24 20:38 J -12344271.74 -12344271.64 -12344271.53 0.0134 0.0116
 Neptune -38510-05-18 08:23 J -12344217.27 -12344217.15 -12344217.02 0.0089 0.0071
 Uranus -38510-11-06 03:35 J -12344045.46 -12344045.35 -12344045.20 0.0134 0.0109
 Neptune -38510-12-29 21:06 J -12343991.70 -12343991.62 -12343991.54 0.0089 0.0083
 Uranus -38509-06-19 10:47 J -12343819.18 -12343819.05 -12343818.89 0.0133 0.0101
 Uranus -38508-01-31 17:59 J -12343592.90 -12343592.75 -12343592.59 0.0133 0.0092
 Uranus -38508-09-15 00:42 J -12343366.63 -12343366.47 -12343366.29 0.0133 0.0084
 Uranus -38507-04-29 07:11 J -12343140.37 -12343140.20 -12343140.01 0.0133 0.0076
 Uranus -38507-12-11 13:40 J -12342914.11 -12342913.93 -12342913.73 0.0133 0.0068
 Jupiter -38506-04-30 09:06 J -12342774.29 -12342774.12 -12342773.96 0.0484 0.0283
 Uranus -38506-07-25 20:09 J -12342687.85 -12342687.66 -12342687.45 0.0133 0.0060
 Jupiter -38506-12-22 04:04 J -12342538.45 -12342538.33 -12342538.21 0.0484 0.0389
 Uranus -38505-03-08 02:38 J -12342461.60 -12342461.39 -12342461.19 0.0133 0.0051
 Uranus -38505-10-20 08:23 J -12342235.35 -12342235.15 -12342234.93 0.0132 0.0043
 Uranus -38504-06-03 14:23 J -12342009.11 -12342008.90 -12342008.68 0.0132 0.0034
 Uranus -38503-01-15 20:23 J -12341782.87 -12341782.65 -12341782.43 0.0132 0.0026
 Uranus -38503-08-30 02:09 J -12341556.62 -12341556.41 -12341556.18 0.0132 0.0017
 Uranus -38502-04-13 07:54 J -12341330.39 -12341330.17 -12341329.95 0.0132 0.0008
 Uranus -38502-11-25 13:26 J -12341104.16 -12341103.94 -12341103.72 0.0132 0.0000
 Uranus -38501-07-08 18:57 J -12340877.93 -12340877.71 -12340877.49 0.0132 0.0009
 Saturn -38501-10-12 17:02 J -12340781.87 -12340781.79 -12340781.71 0.0281 0.0257
 Uranus -38500-02-20 00:14 J -12340651.70 -12340651.49 -12340651.27 0.0132 0.0017
 Saturn -38500-05-30 01:54 J -12340552.62 -12340552.42 -12340552.22 0.0281 0.0070
 Uranus -38500-10-04 05:45 J -12340425.48 -12340425.26 -12340425.05 0.0132 0.0026
 Jupiter -38500-10-29 05:02 J -12340400.42 -12340400.29 -12340400.15 0.0544 0.0406

Saturn	-38499-01-14 11:59 J	-12340323.18	-12340323.00	-12340322.81	0.0282	0.0121
Uranus	-38499-05-18 10:33 J	-12340199.26	-12340199.06	-12340198.84	0.0132	0.0035
Uranus	-38499-12-30 15:50 J	-12339973.04	-12339972.84	-12339972.63	0.0132	0.0042
Uranus	-38498-08-13 20:52 J	-12339746.83	-12339746.63	-12339746.42	0.0132	0.0051
Uranus	-38497-03-27 01:40 J	-12339520.62	-12339520.43	-12339520.22	0.0132	0.0059
Uranus	-38497-11-08 06:28 J	-12339294.41	-12339294.23	-12339294.03	0.0132	0.0067
Uranus	-38496-06-22 11:16 J	-12339068.20	-12339068.03	-12339067.84	0.0133	0.0075
Uranus	-38495-02-03 15:50 J	-12338841.99	-12338841.84	-12338841.65	0.0133	0.0083
Uranus	-38495-09-17 20:52 J	-12338615.78	-12338615.63	-12338615.46	0.0133	0.0090
Jupiter	-38494-01-03 14:23 J	-12338507.95	-12338507.90	-12338507.84	0.0485	0.0466
Uranus	-38494-05-02 01:26 J	-12338389.58	-12338389.44	-12338389.28	0.0133	0.0097
Jupiter	-38494-08-27 08:38 J	-12338272.32	-12338272.14	-12338271.95	0.0484	0.0203
Uranus	-38494-12-14 06:14 J	-12338163.37	-12338163.24	-12338163.11	0.0133	0.0104
Uranus	-38493-07-27 10:47 J	-12337937.16	-12337937.05	-12337936.93	0.0133	0.0112
Uranus	-38492-03-10 15:21 J	-12337710.95	-12337710.86	-12337710.75	0.0133	0.0119
Uranus	-38492-10-22 19:54 J	-12337484.72	-12337484.67	-12337484.58	0.0133	0.0126
Uranus	-38491-06-06 00:42 J	-12337258.49	-12337258.47	-12337258.43	0.0134	0.0132
Earth	-38489-10-16 16:18 J	-12336394.97	-12336394.82	-12336394.68	0.2664	0.1232
Moon	-38489-10-16 20:38 J	-12336394.79	-12336394.64	-12336394.50	0.2669	0.0803 *
Jupiter	-38488-07-03 14:38 J	-12336135.08	-12336134.89	-12336134.70	0.0544	0.0132
Saturn	-38486-04-01 13:40 J	-12335497.98	-12335497.93	-12335497.84	0.0279	0.0263
Saturn	-38486-11-17 04:47 J	-12335268.51	-12335268.30	-12335268.09	0.0278	0.0071
Saturn	-38485-07-03 18:14 J	-12335038.92	-12335038.74	-12335038.54	0.0278	0.0119
Jupiter	-38482-05-02 12:57 J	-12334006.16	-12334005.96	-12334005.75	0.0484	0.0017
Mars	-38481-03-31 01:26 J	-12333672.61	-12333672.44	-12333672.27	0.1640	0.0326
Mars	-38478-01-01 04:18 J	-12332666.49	-12332666.32	-12332666.14	0.1888	0.0156
Jupiter	-38476-03-08 01:11 J	-12331869.65	-12331869.45	-12331869.26	0.0544	0.0140
Saturn	-38471-04-25 03:21 J	-12329995.48	-12329995.36	-12329995.23	0.0280	0.0221
Saturn	-38471-12-10 12:28 J	-12329766.19	-12329765.98	-12329765.77	0.0281	0.0033
Jupiter	-38470-01-05 17:16 J	-12329739.97	-12329739.78	-12329739.59	0.0484	0.0174

Saturn	-38470-07-27 22:47 J	-12329536.72	-12329536.55	-12329536.38	0.0281	0.0157
Uranus	-38468-05-07 23:30 J	-12328886.56	-12328886.52	-12328886.45	0.0144	0.0139
Uranus	-38468-12-20 09:21 J	-12328660.19	-12328660.11	-12328660.02	0.0144	0.0131
Uranus	-38467-08-03 18:42 J	-12328433.81	-12328433.72	-12328433.59	0.0145	0.0123
Uranus	-38466-03-18 04:33 J	-12328207.42	-12328207.31	-12328207.16	0.0145	0.0114
Uranus	-38466-10-30 14:38 J	-12327981.02	-12327980.89	-12327980.73	0.0145	0.0105
Uranus	-38465-06-13 00:57 J	-12327754.61	-12327754.46	-12327754.29	0.0145	0.0096
Jupiter	-38465-11-10 11:16 J	-12327604.16	-12327604.03	-12327603.89	0.0544	0.0409
Uranus	-38464-01-25 11:45 J	-12327528.17	-12327528.01	-12327527.83	0.0145	0.0086
Uranus	-38464-09-08 22:18 J	-12327301.74	-12327301.57	-12327301.38	0.0146	0.0076
Uranus	-38463-04-23 09:06 J	-12327075.30	-12327075.12	-12327074.92	0.0146	0.0066
Uranus	-38463-12-05 20:09 J	-12326848.85	-12326848.66	-12326848.45	0.0146	0.0055
Uranus	-38462-07-20 07:26 J	-12326622.38	-12326622.19	-12326621.98	0.0146	0.0044
Uranus	-38461-03-02 19:11 J	-12326395.91	-12326395.70	-12326395.49	0.0146	0.0033
Uranus	-38461-10-15 06:42 J	-12326169.43	-12326169.22	-12326169.00	0.0146	0.0022
Uranus	-38460-05-29 18:28 J	-12325942.94	-12325942.73	-12325942.51	0.0146	0.0011
Uranus	-38459-01-11 06:28 J	-12325716.44	-12325716.23	-12325716.01	0.0146	0.0001
Uranus	-38459-08-25 18:28 J	-12325489.94	-12325489.73	-12325489.51	0.0146	0.0012
Jupiter	-38459-09-10 22:47 J	-12325473.69	-12325473.55	-12325473.42	0.0485	0.0358
Uranus	-38458-04-09 06:42 J	-12325263.43	-12325263.22	-12325263.01	0.0146	0.0023
Jupiter	-38458-05-04 17:16 J	-12325237.94	-12325237.78	-12325237.62	0.0484	0.0311
Uranus	-38458-11-21 18:57 J	-12325036.92	-12325036.71	-12325036.50	0.0146	0.0035
Uranus	-38457-07-05 07:11 J	-12324810.40	-12324810.20	-12324809.99	0.0146	0.0046
Saturn	-38457-10-11 20:23 J	-12324711.76	-12324711.65	-12324711.52	0.0278	0.0233
Uranus	-38456-02-16 19:54 J	-12324583.87	-12324583.67	-12324583.47	0.0146	0.0057
Saturn	-38456-05-29 11:02 J	-12324482.25	-12324482.04	-12324481.83	0.0278	0.0043
Uranus	-38456-10-01 08:23 J	-12324357.34	-12324357.15	-12324356.95	0.0146	0.0068
Saturn	-38455-01-13 23:59 J	-12324252.67	-12324252.50	-12324252.31	0.0277	0.0145
Uranus	-38455-05-15 20:52 J	-12324130.80	-12324130.63	-12324130.44	0.0146	0.0079
Uranus	-38455-12-28 09:21 J	-12323904.26	-12323904.11	-12323903.92	0.0146	0.0090

Uranus -38454-08-11 22:18 J -12323677.72 -12323677.57 -12323677.40 0.0146 0.0100
 Uranus -38453-03-25 11:16 J -12323451.17 -12323451.03 -12323450.88 0.0146 0.0110
 Uranus -38453-11-06 23:59 J -12323224.61 -12323224.50 -12323224.37 0.0146 0.0120
 Jupiter -38452-03-11 08:52 J -12323100.30 -12323100.13 -12323099.96 0.0545 0.0289
 Uranus -38452-06-21 12:57 J -12322998.05 -12322997.96 -12322997.86 0.0145 0.0129
 Uranus -38451-02-03 01:26 J -12322771.49 -12322771.44 -12322771.35 0.0145 0.0138
 Mars -38447-01-27 19:40 J -12321316.79 -12321316.68 -12321316.57 0.1633 0.1240
 Jupiter -38446-01-07 21:06 J -12320971.82 -12320971.62 -12320971.42 0.0484 0.0123
 Saturn -38442-11-05 04:33 J -12319209.45 -12319209.31 -12319209.16 0.0281 0.0198
 Saturn -38441-06-21 13:40 J -12318980.14 -12318979.93 -12318979.72 0.0281 0.0011
 Jupiter -38441-11-13 21:35 J -12318834.81 -12318834.60 -12318834.40 0.0544 0.0026
 Saturn -38440-02-05 23:59 J -12318750.65 -12318750.50 -12318750.33 0.0282 0.0180
 Neptune -38437-11-06 21:50 J -12317380.67 -12317380.59 -12317380.46 0.0088 0.0079
 Neptune -38436-06-20 11:30 J -12317155.16 -12317155.02 -12317154.87 0.0088 0.0067
 Neptune -38435-02-01 00:42 J -12316929.64 -12316929.47 -12316929.29 0.0088 0.0056
 Jupiter -38435-09-13 02:09 J -12316705.62 -12316705.41 -12316705.21 0.0484 0.0064
 Neptune -38435-09-14 13:54 J -12316704.10 -12316703.92 -12316703.72 0.0088 0.0044
 Neptune -38434-04-28 03:06 J -12316478.56 -12316478.37 -12316478.15 0.0088 0.0034
 Neptune -38434-12-09 16:47 J -12316253.02 -12316252.80 -12316252.59 0.0088 0.0022
 Neptune -38433-07-22 05:59 J -12316027.47 -12316027.25 -12316027.03 0.0088 0.0010
 Neptune -38432-03-04 19:26 J -12315801.91 -12315801.69 -12315801.46 0.0088 0.0002
 Neptune -38432-10-16 08:52 J -12315576.35 -12315576.13 -12315575.91 0.0088 0.0012
 Neptune -38431-05-29 22:04 J -12315350.79 -12315350.58 -12315350.36 0.0088 0.0024
 Neptune -38430-01-10 11:16 J -12315125.22 -12315125.03 -12315124.81 0.0088 0.0035
 Neptune -38430-08-24 00:28 J -12314899.65 -12314899.48 -12314899.27 0.0088 0.0047
 Neptune -38429-04-05 14:09 J -12314674.07 -12314673.91 -12314673.73 0.0088 0.0058
 Jupiter -38429-07-19 06:57 J -12314569.39 -12314569.21 -12314569.03 0.0543 0.0251
 Neptune -38429-11-17 03:21 J -12314448.48 -12314448.36 -12314448.20 0.0088 0.0069
 Neptune -38428-06-30 16:47 J -12314222.87 -12314222.80 -12314222.69 0.0088 0.0080
 Uranus -38428-08-26 11:59 J -12314166.02 -12314166.00 -12314165.94 0.0134 0.0132

Uranus -38427-04-09 20:09 J -12313939.74 -12313939.66 -12313939.58 0.0134 0.0124
 Saturn -38427-04-24 01:40 J -12313925.57 -12313925.43 -12313925.28 0.0279 0.0205
 Uranus -38427-11-22 03:21 J -12313713.45 -12313713.36 -12313713.24 0.0134 0.0117
 Saturn -38427-12-09 16:18 J -12313696.04 -12313695.82 -12313695.61 0.0278 0.0014
 Uranus -38426-07-06 11:16 J -12313487.16 -12313487.03 -12313486.91 0.0134 0.0109
 Saturn -38426-07-27 05:30 J -12313466.43 -12313466.27 -12313466.10 0.0278 0.0175
 Uranus -38425-02-17 17:59 J -12313260.88 -12313260.75 -12313260.59 0.0133 0.0102
 Uranus -38425-10-01 01:11 J -12313034.60 -12313034.45 -12313034.28 0.0133 0.0093
 Uranus -38424-05-15 07:54 J -12312808.33 -12312808.17 -12312807.99 0.0133 0.0085
 Uranus -38424-12-27 14:38 J -12312582.06 -12312581.89 -12312581.70 0.0133 0.0077
 Jupiter -38423-05-19 06:28 J -12312439.40 -12312439.23 -12312439.05 0.0485 0.0251
 Uranus -38423-08-10 21:21 J -12312355.79 -12312355.61 -12312355.41 0.0133 0.0069
 Jupiter -38422-01-10 02:09 J -12312203.51 -12312203.41 -12312203.31 0.0484 0.0421
 Uranus -38422-03-25 03:50 J -12312129.53 -12312129.34 -12312129.13 0.0133 0.0061
 Uranus -38422-11-06 10:18 J -12311903.27 -12311903.07 -12311902.86 0.0133 0.0052
 Uranus -38421-06-19 16:18 J -12311677.02 -12311676.82 -12311676.60 0.0133 0.0044
 Uranus -38420-01-31 22:33 J -12311450.77 -12311450.56 -12311450.34 0.0132 0.0035
 Uranus -38420-09-15 04:47 J -12311224.52 -12311224.30 -12311224.09 0.0132 0.0027
 Uranus -38419-04-29 10:33 J -12310998.28 -12310998.06 -12310997.84 0.0132 0.0018
 Uranus -38419-12-11 16:18 J -12310772.04 -12310771.82 -12310771.60 0.0132 0.0010
 Uranus -38418-07-25 22:04 J -12310545.80 -12310545.58 -12310545.36 0.0132 0.0002
 Uranus -38417-03-08 03:35 J -12310319.57 -12310319.35 -12310319.13 0.0132 0.0008
 Jupiter -38417-03-23 16:33 J -12310303.86 -12310303.81 -12310303.75 0.0543 0.0519
 Uranus -38417-10-20 08:52 J -12310093.34 -12310093.13 -12310092.91 0.0132 0.0016
 Jupiter -38417-11-17 00:28 J -12310065.60 -12310065.48 -12310065.36 0.0544 0.0433
 Uranus -38416-06-03 14:23 J -12309867.12 -12309866.90 -12309866.69 0.0132 0.0025
 Uranus -38415-01-15 19:26 J -12309640.90 -12309640.69 -12309640.47 0.0132 0.0033
 Mars -38415-01-26 13:26 J -12309630.11 -12309629.94 -12309629.76 0.1638 0.0166
 Uranus -38415-08-30 00:42 J -12309414.67 -12309414.47 -12309414.26 0.0132 0.0041
 Uranus -38414-04-13 05:45 J -12309188.46 -12309188.26 -12309188.05 0.0132 0.0049

Uranus -38414-11-25 10:33 J -12308962.25 -12308962.06 -12308961.86 0.0132 0.0057
 Uranus -38413-07-08 15:21 J -12308736.04 -12308735.86 -12308735.66 0.0132 0.0066
 Mars -38413-10-28 06:57 J -12308624.38 -12308624.21 -12308624.05 0.1890 0.0683
 Uranus -38412-02-19 20:09 J -12308509.83 -12308509.66 -12308509.47 0.0133 0.0073
 Saturn -38412-05-17 15:06 J -12308423.03 -12308422.87 -12308422.69 0.0280 0.0162
 Uranus -38412-10-04 01:11 J -12308283.61 -12308283.45 -12308283.27 0.0133 0.0081
 Saturn -38411-01-02 00:42 J -12308193.68 -12308193.47 -12308193.26 0.0281 0.0026
 Jupiter -38411-01-22 11:02 J -12308173.12 -12308173.04 -12308172.94 0.0485 0.0435
 Uranus -38411-05-18 05:45 J -12308057.41 -12308057.26 -12308057.09 0.0133 0.0089
 Saturn -38411-08-19 11:02 J -12307964.17 -12307964.04 -12307963.90 0.0281 0.0217
 Jupiter -38411-09-15 05:30 J -12307937.45 -12307937.27 -12307937.09 0.0484 0.0232
 Uranus -38411-12-30 10:33 J -12307831.20 -12307831.06 -12307830.90 0.0133 0.0096
 Uranus -38410-08-13 15:06 J -12307604.99 -12307604.87 -12307604.72 0.0133 0.0103
 Uranus -38409-03-26 19:54 J -12307378.78 -12307378.67 -12307378.54 0.0133 0.0110
 Uranus -38409-11-08 00:28 J -12307152.56 -12307152.48 -12307152.36 0.0133 0.0118
 Uranus -38408-06-22 05:02 J -12306926.35 -12306926.29 -12306926.19 0.0133 0.0124
 Uranus -38407-02-03 09:50 J -12306700.12 -12306700.09 -12306700.03 0.0134 0.0131
 Jupiter -38405-07-22 11:45 J -12305800.20 -12305800.01 -12305799.82 0.0545 0.0168
 Jupiter -38399-05-21 10:18 J -12303671.28 -12303671.07 -12303670.87 0.0484 0.0046
 Saturn -38398-11-04 09:35 J -12303139.26 -12303139.10 -12303138.93 0.0278 0.0173
 Saturn -38397-06-20 23:45 J -12302909.72 -12302909.51 -12302909.29 0.0278 0.0017
 Saturn -38396-02-05 12:42 J -12302680.11 -12302679.97 -12302679.82 0.0277 0.0202
 Jupiter -38393-03-27 00:14 J -12301534.69 -12301534.49 -12301534.29 0.0545 0.0097
 Jupiter -38387-01-24 14:23 J -12299405.09 -12299404.90 -12299404.70 0.0484 0.0142
 Uranus -38384-01-05 06:42 J -12298328.26 -12298328.22 -12298328.16 0.0144 0.0140
 Uranus -38384-08-19 16:04 J -12298101.91 -12298101.83 -12298101.74 0.0144 0.0132
 Mars -38383-01-25 07:11 J -12297943.24 -12297943.20 -12297943.15 0.1644 0.1577
 Uranus -38383-04-03 01:26 J -12297875.54 -12297875.44 -12297875.32 0.0145 0.0124
 Uranus -38383-11-15 11:16 J -12297649.15 -12297649.03 -12297648.90 0.0145 0.0115
 Saturn -38383-11-27 17:02 J -12297636.97 -12297636.79 -12297636.61 0.0281 0.0139

Uranus	-38382-06-29 21:06 J	-12297422.75	-12297422.62	-12297422.47	0.0145	0.0106
Saturn	-38382-07-15 02:23 J	-12297407.61	-12297407.40	-12297407.19	0.0281	0.0050
Mars	-38382-11-25 08:09 J	-12297274.25	-12297274.16	-12297274.08	0.1631	0.1394
Jupiter	-38382-11-30 12:14 J	-12297269.14	-12297268.99	-12297268.84	0.0544	0.0362
Uranus	-38381-02-11 07:11 J	-12297196.34	-12297196.20	-12297196.03	0.0145	0.0097
Saturn	-38381-02-29 12:57 J	-12297178.06	-12297177.96	-12297177.85	0.0282	0.0240
Uranus	-38381-09-24 17:45 J	-12296969.92	-12296969.76	-12296969.58	0.0145	0.0087
Uranus	-38380-05-09 04:18 J	-12296743.49	-12296743.32	-12296743.13	0.0145	0.0077
Uranus	-38380-12-21 15:06 J	-12296517.05	-12296516.87	-12296516.67	0.0146	0.0067
Uranus	-38379-08-05 02:09 J	-12296290.60	-12296290.41	-12296290.21	0.0146	0.0057
Uranus	-38378-03-19 13:11 J	-12296064.14	-12296063.95	-12296063.74	0.0146	0.0046
Uranus	-38378-11-01 00:42 J	-12295837.68	-12295837.47	-12295837.26	0.0146	0.0035
Uranus	-38377-06-14 12:14 J	-12295611.20	-12295610.99	-12295610.78	0.0146	0.0024
Uranus	-38376-01-26 23:59 J	-12295384.71	-12295384.50	-12295384.28	0.0146	0.0013
Uranus	-38376-09-10 11:45 J	-12295158.22	-12295158.01	-12295157.79	0.0146	0.0003
Jupiter	-38376-09-29 19:54 J	-12295138.82	-12295138.67	-12295138.52	0.0485	0.0326
Earth	-38375-04-16 00:14 J	-12294940.62	-12294940.49	-12294940.35	0.2667	0.1182
Moon	-38375-04-16 04:18 J	-12294940.43	-12294940.32	-12294940.20	0.2662	0.1810 *
Uranus	-38375-04-24 23:45 J	-12294931.72	-12294931.51	-12294931.29	0.0146	0.0010
Jupiter	-38375-05-23 14:23 J	-12294903.04	-12294902.90	-12294902.75	0.0484	0.0343
Uranus	-38375-12-07 11:45 J	-12294705.22	-12294705.01	-12294704.80	0.0146	0.0021
Uranus	-38374-07-21 23:59 J	-12294478.71	-12294478.50	-12294478.29	0.0146	0.0032
Uranus	-38373-03-04 12:14 J	-12294252.19	-12294251.99	-12294251.78	0.0146	0.0044
Uranus	-38373-10-17 00:28 J	-12294025.67	-12294025.48	-12294025.27	0.0146	0.0056
Uranus	-38372-05-31 12:57 J	-12293799.14	-12293798.96	-12293798.75	0.0146	0.0066
Uranus	-38371-01-13 01:26 J	-12293572.61	-12293572.44	-12293572.24	0.0146	0.0077
Uranus	-38371-08-27 14:23 J	-12293346.07	-12293345.90	-12293345.73	0.0146	0.0087
Uranus	-38370-04-11 02:52 J	-12293119.53	-12293119.38	-12293119.21	0.0146	0.0098
Uranus	-38370-11-23 15:35 J	-12292892.98	-12292892.85	-12292892.69	0.0146	0.0108
Jupiter	-38369-03-30 06:28 J	-12292765.38	-12292765.23	-12292765.06	0.0544	0.0324

Uranus -38369-07-07 04:18 J -12292666.43 -12292666.32 -12292666.18 0.0146 0.0118
 Uranus -38368-02-18 17:30 J -12292439.87 -12292439.77 -12292439.66 0.0145 0.0127
 Saturn -38368-05-16 13:54 J -12292353.10 -12292352.92 -12292352.73 0.0279 0.0147
 Uranus -38368-10-03 06:28 J -12292213.31 -12292213.23 -12292213.16 0.0145 0.0136
 Saturn -38367-01-01 04:18 J -12292123.53 -12292123.32 -12292123.11 0.0278 0.0044
 Earth -38367-04-13 18:28 J -12292020.83 -12292020.73 -12292020.64 0.2669 0.2061
 Moon -38367-04-13 18:42 J -12292020.80 -12292020.72 -12292020.64 0.2662 0.2306 *
 Uranus -38367-05-17 19:11 J -12291986.71 -12291986.70 -12291986.68 0.0145 0.0144
 Saturn -38367-08-18 17:30 J -12291893.89 -12291893.77 -12291893.65 0.0278 0.0230
 Jupiter -38363-01-26 18:14 J -12290636.93 -12290636.74 -12290636.54 0.0484 0.0153
 Jupiter -38358-12-03 17:16 J -12288499.98 -12288499.78 -12288499.58 0.0544 0.0055
 Pluto -38355-08-07 08:52 J -12287522.31 -12287522.13 -12287521.93 0.0066 0.0033
 Pluto -38354-03-20 13:11 J -12287297.16 -12287296.95 -12287296.73 0.0066 0.0010
 Neptune -38354-08-09 23:45 J -12287154.60 -12287154.51 -12287154.41 0.0089 0.0079
 Pluto -38354-10-31 17:16 J -12287071.89 -12287071.78 -12287071.63 0.0066 0.0053
 Neptune -38353-03-22 12:28 J -12286929.11 -12286928.98 -12286928.84 0.0089 0.0068
 Saturn -38353-06-09 03:35 J -12286850.54 -12286850.35 -12286850.15 0.0280 0.0103
 Neptune -38353-11-03 01:11 J -12286703.61 -12286703.45 -12286703.27 0.0089 0.0057
 Saturn -38352-01-24 13:26 J -12286621.14 -12286620.94 -12286620.74 0.0281 0.0086
 Neptune -38352-06-16 13:40 J -12286478.10 -12286477.93 -12286477.72 0.0089 0.0046
 Saturn -38352-09-10 23:59 J -12286391.53 -12286391.50 -12286391.45 0.0281 0.0276
 Jupiter -38352-10-01 22:18 J -12286370.77 -12286370.57 -12286370.36 0.0484 0.0035
 Neptune -38351-01-28 02:23 J -12286252.58 -12286252.40 -12286252.18 0.0089 0.0035
 Neptune -38351-09-10 15:35 J -12286027.06 -12286026.85 -12286026.64 0.0089 0.0023
 Neptune -38350-04-24 04:04 J -12285801.54 -12285801.33 -12285801.11 0.0089 0.0012
 Mars -38350-11-24 01:40 J -12285587.61 -12285587.43 -12285587.26 0.1636 0.0023
 Neptune -38350-12-05 16:47 J -12285576.02 -12285575.80 -12285575.58 0.0089 0.0001
 Neptune -38349-07-18 05:30 J -12285350.49 -12285350.27 -12285350.06 0.0089 0.0011
 Neptune -38348-02-28 17:45 J -12285124.96 -12285124.76 -12285124.53 0.0089 0.0022
 Neptune -38348-10-12 06:42 J -12284899.42 -12284899.22 -12284899.01 0.0089 0.0033

Neptune -38347-05-25 19:11 J -12284673.88 -12284673.70 -12284673.50 0.0089 0.0044
 Mars -38347-08-25 09:35 J -12284582.23 -12284582.10 -12284581.96 0.1893 0.1193
 Neptune -38346-01-06 07:54 J -12284448.33 -12284448.17 -12284448.00 0.0089 0.0055
 Jupiter -38346-08-08 02:52 J -12284234.56 -12284234.38 -12284234.19 0.0544 0.0216
 Neptune -38346-08-19 20:23 J -12284222.78 -12284222.65 -12284222.50 0.0089 0.0067
 Neptune -38345-04-01 08:38 J -12283997.22 -12283997.14 -12283997.01 0.0089 0.0078
 Neptune -38345-11-12 21:35 J -12283771.60 -12283771.60 -12283771.57 0.0089 0.0089
 Uranus -38344-04-25 19:26 J -12283607.72 -12283607.69 -12283607.65 0.0134 0.0133
 Uranus -38344-12-08 03:06 J -12283381.43 -12283381.37 -12283381.28 0.0134 0.0125
 Uranus -38343-07-22 10:47 J -12283155.14 -12283155.05 -12283154.93 0.0134 0.0118
 Uranus -38342-03-05 18:28 J -12282928.85 -12282928.73 -12282928.60 0.0134 0.0110
 Uranus -38342-10-18 01:54 J -12282702.56 -12282702.42 -12282702.28 0.0134 0.0102
 Uranus -38341-05-31 08:38 J -12282476.28 -12282476.14 -12282475.97 0.0133 0.0094
 Uranus -38340-01-12 15:35 J -12282250.00 -12282249.85 -12282249.66 0.0133 0.0087
 Jupiter -38340-06-07 03:35 J -12282104.53 -12282104.35 -12282104.16 0.0484 0.0218
 Uranus -38340-08-26 22:33 J -12282023.72 -12282023.56 -12282023.36 0.0133 0.0078
 Jupiter -38339-01-28 22:47 J -12281868.62 -12281868.55 -12281868.47 0.0484 0.0449
 Uranus -38339-04-10 05:16 J -12281797.46 -12281797.28 -12281797.08 0.0133 0.0070
 Uranus -38339-11-22 11:45 J -12281571.19 -12281571.01 -12281570.80 0.0133 0.0062
 Saturn -38339-11-26 23:02 J -12281566.73 -12281566.54 -12281566.34 0.0278 0.0113
 Uranus -38338-07-06 18:28 J -12281344.93 -12281344.73 -12281344.52 0.0133 0.0053
 Saturn -38338-07-14 12:57 J -12281337.16 -12281336.96 -12281336.75 0.0278 0.0076
 Uranus -38337-02-18 00:42 J -12281118.67 -12281118.47 -12281118.25 0.0133 0.0045
 Saturn -38337-02-29 01:26 J -12281107.50 -12281107.44 -12281107.36 0.0277 0.0260
 Uranus -38337-10-01 07:11 J -12280892.41 -12280892.20 -12280891.99 0.0132 0.0036
 Uranus -38336-05-15 13:11 J -12280666.17 -12280665.95 -12280665.73 0.0132 0.0027
 Uranus -38336-12-27 18:57 J -12280439.92 -12280439.71 -12280439.48 0.0132 0.0019
 Uranus -38335-08-11 01:11 J -12280213.67 -12280213.45 -12280213.23 0.0132 0.0011
 Uranus -38334-03-25 06:42 J -12279987.44 -12279987.22 -12279987.00 0.0132 0.0003
 Jupiter -38334-04-12 14:23 J -12279968.99 -12279968.90 -12279968.80 0.0544 0.0480

Uranus -38334-11-06 12:14 J -12279761.20 -12279760.99 -12279760.76 0.0132 0.0007
 Jupiter -38334-12-06 23:16 J -12279730.63 -12279730.53 -12279730.44 0.0544 0.0473
 Uranus -38333-06-19 17:45 J -12279534.98 -12279534.76 -12279534.54 0.0132 0.0015
 Uranus -38332-01-31 23:16 J -12279308.75 -12279308.53 -12279308.31 0.0132 0.0024
 Uranus -38332-09-15 04:33 J -12279082.52 -12279082.31 -12279082.09 0.0132 0.0032
 Uranus -38331-04-29 09:35 J -12278856.30 -12278856.10 -12278855.88 0.0132 0.0041
 Uranus -38331-12-11 14:38 J -12278630.08 -12278629.89 -12278629.68 0.0132 0.0049
 Uranus -38330-07-25 19:40 J -12278403.87 -12278403.68 -12278403.47 0.0132 0.0057
 Uranus -38329-03-08 00:42 J -12278177.66 -12278177.47 -12278177.28 0.0132 0.0065
 Uranus -38329-10-20 05:30 J -12277951.44 -12277951.27 -12277951.08 0.0132 0.0073
 Jupiter -38328-02-10 08:23 J -12277838.26 -12277838.15 -12277838.04 0.0485 0.0402
 Uranus -38328-06-03 10:33 J -12277725.23 -12277725.06 -12277724.89 0.0133 0.0080
 Jupiter -38328-10-04 02:23 J -12277602.57 -12277602.40 -12277602.22 0.0484 0.0262
 Uranus -38327-01-15 15:06 J -12277499.03 -12277498.87 -12277498.70 0.0133 0.0088
 Uranus -38327-08-29 19:54 J -12277272.81 -12277272.67 -12277272.51 0.0133 0.0095
 Uranus -38326-04-13 00:42 J -12277046.60 -12277046.47 -12277046.33 0.0133 0.0102
 Uranus -38326-11-25 05:16 J -12276820.39 -12276820.28 -12276820.15 0.0133 0.0109
 Uranus -38325-07-08 09:50 J -12276594.18 -12276594.09 -12276593.97 0.0133 0.0117
 Uranus -38324-02-19 14:23 J -12276367.96 -12276367.90 -12276367.80 0.0133 0.0124
 Saturn -38324-05-04 21:06 J -12276293.68 -12276293.62 -12276293.54 0.0280 0.0264
 Uranus -38324-10-03 19:26 J -12276141.72 -12276141.69 -12276141.63 0.0133 0.0130
 Saturn -38324-12-20 05:45 J -12276064.46 -12276064.26 -12276064.06 0.0281 0.0079
 Saturn -38323-08-06 15:06 J -12275835.05 -12275834.87 -12275834.67 0.0281 0.0111
 Jupiter -38322-08-11 12:14 J -12275465.17 -12275464.99 -12275464.80 0.0545 0.0213
 Mars -38318-11-22 19:40 J -12273900.77 -12273900.68 -12273900.60 0.1642 0.1414
 Jupiter -38316-06-09 07:11 J -12273336.41 -12273336.20 -12273336.00 0.0484 0.0076
 Mars -38316-09-21 20:23 J -12273231.70 -12273231.65 -12273231.60 0.1630 0.1547
 Mars -38315-08-25 08:23 J -12272894.24 -12272894.15 -12272894.06 0.1884 0.1576
 Jupiter -38310-04-15 23:02 J -12271199.74 -12271199.54 -12271199.34 0.0544 0.0056
 Saturn -38310-10-22 11:30 J -12271010.02 -12271010.02 -12271009.99 0.0279 0.0278

Saturn -38309-06-08 03:06 J -12270780.58 -12270780.37 -12270780.17 0.0278 0.0087
 Saturn -38308-01-23 17:02 J -12270550.99 -12270550.79 -12270550.59 0.0278 0.0101
 Jupiter -38304-02-12 11:02 J -12269070.24 -12269070.04 -12269069.84 0.0484 0.0112
 Uranus -38301-09-04 13:40 J -12267769.97 -12267769.93 -12267769.89 0.0144 0.0140
 Uranus -38300-04-18 22:18 J -12267543.63 -12267543.57 -12267543.47 0.0144 0.0134
 Uranus -38300-12-01 08:09 J -12267317.26 -12267317.16 -12267317.05 0.0144 0.0125
 Uranus -38299-07-15 17:30 J -12267090.88 -12267090.77 -12267090.63 0.0145 0.0117
 Jupiter -38299-12-19 08:52 J -12266934.29 -12266934.13 -12266933.97 0.0543 0.0326
 Uranus -38298-02-27 03:50 J -12266864.48 -12266864.34 -12266864.20 0.0145 0.0107
 Uranus -38298-10-11 13:40 J -12266638.08 -12266637.93 -12266637.77 0.0145 0.0098
 Uranus -38297-05-24 23:59 J -12266411.66 -12266411.50 -12266411.33 0.0145 0.0089
 Uranus -38296-01-06 10:33 J -12266185.23 -12266185.06 -12266184.88 0.0145 0.0079
 Uranus -38296-08-20 21:06 J -12265958.80 -12265958.62 -12265958.42 0.0145 0.0069
 Uranus -38295-04-04 07:54 J -12265732.36 -12265732.17 -12265731.96 0.0146 0.0059
 Saturn -38295-11-15 06:57 J -12265507.32 -12265507.21 -12265507.09 0.0280 0.0229
 Uranus -38295-11-16 18:57 J -12265505.90 -12265505.71 -12265505.50 0.0146 0.0048
 Uranus -38294-07-01 06:14 J -12265279.44 -12265279.24 -12265279.03 0.0146 0.0037
 Saturn -38294-07-02 15:50 J -12265278.05 -12265277.84 -12265277.63 0.0281 0.0044
 Uranus -38293-02-12 17:45 J -12265052.96 -12265052.76 -12265052.54 0.0146 0.0026
 Saturn -38293-02-17 01:40 J -12265048.60 -12265048.43 -12265048.24 0.0281 0.0145
 Uranus -38293-09-26 05:30 J -12264826.48 -12264826.27 -12264826.06 0.0146 0.0015
 Jupiter -38293-10-18 15:50 J -12264804.00 -12264803.84 -12264803.67 0.0485 0.0296
 Uranus -38292-05-10 17:02 J -12264600.00 -12264599.79 -12264599.57 0.0146 0.0005
 Jupiter -38292-06-11 10:47 J -12264568.18 -12264568.05 -12264567.92 0.0484 0.0370
 Uranus -38292-12-23 05:02 J -12264373.51 -12264373.29 -12264373.08 0.0146 0.0008
 Uranus -38291-08-06 16:47 J -12264147.01 -12264146.80 -12264146.58 0.0146 0.0019
 Uranus -38290-03-21 05:02 J -12263920.50 -12263920.29 -12263920.08 0.0146 0.0030
 Uranus -38290-11-02 17:16 J -12263693.99 -12263693.78 -12263693.57 0.0146 0.0042
 Uranus -38289-06-16 05:30 J -12263467.47 -12263467.27 -12263467.07 0.0146 0.0053
 Uranus -38288-01-28 17:59 J -12263240.95 -12263240.75 -12263240.56 0.0146 0.0064

Uranus -38288-09-12 06:28 J -12263014.42 -12263014.23 -12263014.04 0.0146 0.0074
 Uranus -38287-04-26 18:42 J -12262787.88 -12262787.72 -12262787.53 0.0146 0.0085
 Uranus -38287-12-09 07:40 J -12262561.35 -12262561.18 -12262561.02 0.0146 0.0095
 Jupiter -38286-04-19 02:23 J -12262430.55 -12262430.40 -12262430.25 0.0544 0.0356
 Uranus -38286-07-23 19:54 J -12262334.80 -12262334.67 -12262334.51 0.0146 0.0106
 Uranus -38285-03-06 09:06 J -12262108.25 -12262108.12 -12262107.98 0.0146 0.0115
 Uranus -38285-10-18 21:50 J -12261881.69 -12261881.59 -12261881.47 0.0145 0.0125
 Uranus -38284-06-02 10:47 J -12261655.13 -12261655.05 -12261654.96 0.0145 0.0134
 Mars -38284-09-20 14:09 J -12261545.09 -12261544.91 -12261544.74 0.1635 0.0157
 Uranus -38283-01-14 23:30 J -12261428.55 -12261428.52 -12261428.47 0.0145 0.0142
 Mars -38281-06-21 11:59 J -12260540.07 -12260540.00 -12260539.93 0.1895 0.1723
 Jupiter -38281-06-23 21:35 J -12260537.63 -12260537.60 -12260537.56 0.0485 0.0477
 Jupiter -38280-02-14 15:21 J -12260302.05 -12260301.86 -12260301.67 0.0484 0.0185
 Saturn -38280-05-03 21:50 J -12260223.68 -12260223.59 -12260223.47 0.0278 0.0241
 Saturn -38280-12-19 12:42 J -12259994.18 -12259993.97 -12259993.76 0.0278 0.0053
 Saturn -38279-08-06 02:09 J -12259764.59 -12259764.41 -12259764.21 0.0278 0.0135
 Jupiter -38275-12-22 14:52 J -12258165.08 -12258164.88 -12258164.68 0.0545 0.0094
 Neptune -38272-02-08 09:35 J -12257386.17 -12257386.10 -12257386.00 0.0088 0.0082
 Neptune -38272-09-21 22:47 J -12257160.67 -12257160.55 -12257160.40 0.0088 0.0071
 Neptune -38271-05-05 11:59 J -12256935.15 -12256935.00 -12256934.82 0.0088 0.0060
 Neptune -38271-12-17 01:11 J -12256709.62 -12256709.45 -12256709.25 0.0088 0.0048
 Neptune -38270-07-30 14:23 J -12256484.09 -12256483.90 -12256483.68 0.0088 0.0037
 Neptune -38269-03-12 04:04 J -12256258.54 -12256258.33 -12256258.11 0.0088 0.0026
 Jupiter -38269-10-20 19:26 J -12256035.89 -12256035.69 -12256035.48 0.0484 0.0007
 Neptune -38269-10-23 17:30 J -12256032.99 -12256032.77 -12256032.55 0.0088 0.0015
 Neptune -38268-06-06 06:42 J -12255807.44 -12255807.22 -12255806.99 0.0088 0.0004
 Pluto -38268-08-29 02:09 J -12255723.54 -12255723.41 -12255723.23 0.0079 0.0057
 Neptune -38267-01-17 19:54 J -12255581.89 -12255581.67 -12255581.44 0.0088 0.0008
 Pluto -38267-04-11 12:42 J -12255498.19 -12255497.97 -12255497.75 0.0078 0.0018
 Neptune -38267-08-31 09:06 J -12255356.32 -12255356.12 -12255355.89 0.0088 0.0020

Neptune -38266-04-13 22:47 J -12255130.75 -12255130.55 -12255130.33 0.0088 0.0030
 Neptune -38266-11-25 12:14 J -12254905.18 -12254904.99 -12254904.79 0.0088 0.0042
 Saturn -38265-05-27 09:35 J -12254721.24 -12254721.10 -12254720.96 0.0280 0.0205
 Neptune -38265-07-08 01:11 J -12254679.61 -12254679.45 -12254679.25 0.0088 0.0053
 Saturn -38264-01-11 18:28 J -12254491.94 -12254491.73 -12254491.52 0.0281 0.0019
 Neptune -38264-02-18 14:38 J -12254454.02 -12254453.89 -12254453.72 0.0088 0.0064
 Saturn -38264-08-29 04:18 J -12254262.48 -12254262.32 -12254262.15 0.0281 0.0170
 Neptune -38264-10-02 04:04 J -12254228.43 -12254228.33 -12254228.20 0.0088 0.0076
 Neptune -38263-05-15 17:30 J -12254002.79 -12254002.77 -12254002.71 0.0088 0.0087
 Jupiter -38263-08-27 03:21 J -12253899.55 -12253899.36 -12253899.16 0.0544 0.0171
 Uranus -38261-12-24 01:40 J -12253049.44 -12253049.43 -12253049.38 0.0134 0.0134
 Uranus -38260-08-07 09:35 J -12252823.15 -12252823.10 -12252823.00 0.0134 0.0127
 Uranus -38259-03-21 17:45 J -12252596.86 -12252596.76 -12252596.65 0.0134 0.0118
 Uranus -38259-11-03 00:57 J -12252370.56 -12252370.46 -12252370.32 0.0134 0.0111
 Uranus -38258-06-17 08:38 J -12252144.27 -12252144.14 -12252143.99 0.0134 0.0103
 Uranus -38257-01-29 16:04 J -12251917.98 -12251917.83 -12251917.67 0.0133 0.0095
 Jupiter -38257-06-26 00:28 J -12251769.67 -12251769.48 -12251769.29 0.0484 0.0187
 Uranus -38257-09-11 23:16 J -12251691.70 -12251691.53 -12251691.36 0.0133 0.0087
 Jupiter -38256-02-16 19:54 J -12251533.70 -12251533.67 -12251533.64 0.0484 0.0478
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 Uranus -38256-12-08 12:57 J -12251239.15 -12251238.96 -12251238.77 0.0133 0.0070
 Uranus -38255-07-22 19:40 J -12251012.87 -12251012.68 -12251012.48 0.0133 0.0062
 Uranus -38254-03-06 02:09 J -12250786.61 -12250786.41 -12250786.20 0.0133 0.0054
 Uranus -38254-10-18 08:23 J -12250560.35 -12250560.15 -12250559.93 0.0133 0.0046
 Uranus -38253-05-31 14:52 J -12250334.09 -12250333.88 -12250333.66 0.0133 0.0037
 Uranus -38252-01-12 21:06 J -12250107.84 -12250107.62 -12250107.40 0.0132 0.0028
 Uranus -38252-08-27 03:21 J -12249881.58 -12249881.36 -12249881.14 0.0132 0.0020
 Mars -38252-09-19 07:54 J -12249858.28 -12249858.17 -12249858.06 0.1640 0.1248
 Uranus -38251-04-10 09:06 J -12249655.34 -12249655.12 -12249654.90 0.0132 0.0011
 Jupiter -38251-05-01 14:09 J -12249634.02 -12249633.91 -12249633.79 0.0543 0.0436

Saturn -38251-11-14 00:42 J -12249437.59 -12249437.47 -12249437.32 0.0279 0.0219
 Uranus -38251-11-22 14:52 J -12249429.10 -12249428.88 -12249428.66 0.0132 0.0004
 Jupiter -38251-12-25 21:50 J -12249395.65 -12249395.59 -12249395.52 0.0544 0.0510
 Saturn -38250-07-01 15:50 J -12249208.05 -12249207.84 -12249207.62 0.0278 0.0029
 Uranus -38250-07-06 20:38 J -12249202.86 -12249202.64 -12249202.42 0.0132 0.0006
 Saturn -38249-02-16 05:16 J -12248978.44 -12248978.28 -12248978.09 0.0278 0.0159
 Uranus -38249-02-18 02:09 J -12248976.63 -12248976.41 -12248976.19 0.0132 0.0015
 Mars -38249-06-21 11:02 J -12248852.19 -12248852.04 -12248851.90 0.1887 0.1059
 Uranus -38249-10-01 07:40 J -12248750.39 -12248750.18 -12248749.96 0.0132 0.0023
 Uranus -38248-05-15 12:57 J -12248524.17 -12248523.96 -12248523.74 0.0132 0.0031
 Uranus -38248-12-27 18:14 J -12248297.95 -12248297.74 -12248297.53 0.0132 0.0039
 Uranus -38247-08-10 23:16 J -12248071.73 -12248071.53 -12248071.32 0.0132 0.0048
 Uranus -38246-03-25 04:18 J -12247845.51 -12247845.32 -12247845.11 0.0132 0.0056
 Moon -38246-10-17 12:28 J -12247639.14 -12247638.98 -12247638.83 0.2657 0.1258
 Earth -38246-10-17 14:38 J -12247639.03 -12247638.89 -12247638.75 0.2664 0.1294 *
 Uranus -38246-11-06 09:21 J -12247619.30 -12247619.11 -12247618.91 0.0132 0.0064
 Jupiter -38245-03-01 04:47 J -12247503.43 -12247503.30 -12247503.17 0.0485 0.0372
 Uranus -38245-06-19 14:09 J -12247393.08 -12247392.91 -12247392.72 0.0132 0.0071
 Jupiter -38245-10-22 23:16 J -12247267.69 -12247267.53 -12247267.36 0.0484 0.0292
 Uranus -38244-01-31 19:11 J -12247166.87 -12247166.70 -12247166.52 0.0132 0.0079
 Uranus -38244-09-14 23:59 J -12246940.65 -12246940.50 -12246940.33 0.0133 0.0087
 Uranus -38243-04-29 04:47 J -12246714.44 -12246714.30 -12246714.14 0.0133 0.0094
 Uranus -38243-12-11 09:35 J -12246488.23 -12246488.10 -12246487.95 0.0133 0.0101
 Uranus -38242-07-25 14:23 J -12246262.02 -12246261.90 -12246261.77 0.0133 0.0108
 Uranus -38241-03-07 19:11 J -12246035.80 -12246035.70 -12246035.59 0.0133 0.0115
 Uranus -38241-10-19 23:45 J -12245809.57 -12245809.51 -12245809.41 0.0133 0.0123
 Uranus -38240-06-03 04:47 J -12245583.35 -12245583.30 -12245583.24 0.0133 0.0129
 Jupiter -38239-08-30 09:06 J -12245130.30 -12245130.12 -12245129.94 0.0544 0.0247
 Saturn -38236-12-07 18:14 J -12243934.90 -12243934.74 -12243934.57 0.0280 0.0172
 Saturn -38235-07-25 03:21 J -12243705.57 -12243705.36 -12243705.15 0.0281 0.0015

Saturn -38234-03-11 13:40 J -12243476.07 -12243475.93 -12243475.78 0.0281 0.0202
 Jupiter -38233-06-28 03:21 J -12243001.56 -12243001.36 -12243001.15 0.0484 0.0107
 Jupiter -38227-05-04 18:14 J -12240864.94 -12240864.74 -12240864.54 0.0544 0.0025
 Jupiter -38221-03-03 08:52 J -12238735.34 -12238735.13 -12238734.93 0.0484 0.0078
 Saturn -38221-05-26 11:59 J -12238651.16 -12238651.00 -12238650.84 0.0278 0.0180
 Saturn -38220-01-11 02:23 J -12238421.62 -12238421.40 -12238421.19 0.0278 0.0008
 Saturn -38220-08-28 15:35 J -12238192.00 -12238191.85 -12238191.70 0.0277 0.0192
 Mars -38218-07-19 01:54 J -12237502.59 -12237502.42 -12237502.25 0.1633 0.0319
 Uranus -38217-05-04 20:23 J -12237211.68 -12237211.65 -12237211.61 0.0144 0.0141
 Uranus -38217-12-17 05:45 J -12236985.34 -12236985.26 -12236985.18 0.0144 0.0133
 Uranus -38216-07-31 14:52 J -12236758.97 -12236758.88 -12236758.77 0.0144 0.0126
 Jupiter -38215-01-07 05:45 J -12236599.43 -12236599.26 -12236599.09 0.0544 0.0289
 Uranus -38215-03-15 00:14 J -12236532.60 -12236532.49 -12236532.36 0.0144 0.0117
 Uranus -38215-10-27 09:50 J -12236306.21 -12236306.09 -12236305.94 0.0145 0.0109
 Uranus -38214-06-10 20:09 J -12236079.81 -12236079.66 -12236079.51 0.0145 0.0099
 Uranus -38213-01-23 06:14 J -12235853.40 -12235853.24 -12235853.06 0.0145 0.0090
 Uranus -38213-09-05 16:33 J -12235626.97 -12235626.81 -12235626.62 0.0145 0.0081
 Uranus -38212-04-20 03:06 J -12235400.54 -12235400.37 -12235400.17 0.0145 0.0071
 Uranus -38212-12-02 14:09 J -12235174.11 -12235173.91 -12235173.72 0.0146 0.0060
 Uranus -38211-07-17 00:42 J -12234947.66 -12234947.47 -12234947.26 0.0146 0.0050
 Uranus -38210-02-28 11:59 J -12234721.20 -12234721.00 -12234720.78 0.0146 0.0039
 Uranus -38210-10-12 23:16 J -12234494.73 -12234494.53 -12234494.31 0.0146 0.0028
 Jupiter -38210-11-07 13:26 J -12234469.11 -12234468.94 -12234468.77 0.0484 0.0263
 Uranus -38209-05-26 10:47 J -12234268.26 -12234268.05 -12234267.83 0.0146 0.0017
 Jupiter -38209-06-30 07:54 J -12234233.28 -12234233.17 -12234233.05 0.0484 0.0400
 Uranus -38208-01-07 22:33 J -12234041.78 -12234041.56 -12234041.35 0.0146 0.0005
 Uranus -38208-08-22 10:18 J -12233815.29 -12233815.07 -12233814.86 0.0146 0.0006
 Uranus -38207-04-05 22:04 J -12233588.79 -12233588.58 -12233588.37 0.0146 0.0017
 Uranus -38207-11-18 09:50 J -12233362.29 -12233362.09 -12233361.87 0.0146 0.0029
 Saturn -38206-06-19 20:52 J -12233148.80 -12233148.63 -12233148.45 0.0281 0.0148

Uranus -38206-07-02 22:04 J -12233135.79 -12233135.58 -12233135.37 0.0146 0.0039
 Saturn -38205-02-04 06:14 J -12232919.45 -12232919.24 -12232919.03 0.0281 0.0039
 Uranus -38205-02-14 10:18 J -12232909.27 -12232909.07 -12232908.86 0.0146 0.0051
 Saturn -38205-09-20 16:18 J -12232689.93 -12232689.82 -12232689.69 0.0281 0.0228
 Uranus -38205-09-27 22:33 J -12232682.75 -12232682.56 -12232682.36 0.0146 0.0062
 Uranus -38204-05-12 10:47 J -12232456.23 -12232456.05 -12232455.85 0.0146 0.0073
 Uranus -38204-12-24 23:16 J -12232229.70 -12232229.53 -12232229.34 0.0146 0.0083
 Jupiter -38203-05-08 03:06 J -12232095.50 -12232095.37 -12232095.23 0.0545 0.0400
 Uranus -38203-08-08 11:45 J -12232003.17 -12232003.01 -12232002.83 0.0146 0.0093
 Uranus -38202-03-23 00:42 J -12231776.62 -12231776.47 -12231776.31 0.0146 0.0103
 Uranus -38202-11-04 13:26 J -12231550.07 -12231549.94 -12231549.80 0.0146 0.0113
 Uranus -38201-06-18 01:54 J -12231323.52 -12231323.42 -12231323.29 0.0146 0.0123
 Uranus -38200-01-30 15:06 J -12231096.96 -12231096.87 -12231096.78 0.0145 0.0132
 Uranus -38200-09-14 04:04 J -12230870.38 -12230870.33 -12230870.28 0.0145 0.0141
 Jupiter -38198-07-13 18:42 J -12230202.80 -12230202.72 -12230202.64 0.0485 0.0444
 Jupiter -38197-03-05 12:28 J -12229967.16 -12229966.98 -12229966.79 0.0484 0.0215
 Saturn -38192-12-06 13:54 J -12227865.09 -12227864.92 -12227864.74 0.0278 0.0159
 Jupiter -38191-01-10 15:06 J -12227830.07 -12227829.87 -12227829.68 0.0544 0.0137
 Saturn -38191-07-24 04:33 J -12227635.52 -12227635.31 -12227635.09 0.0278 0.0029
 Saturn -38190-03-10 17:30 J -12227405.89 -12227405.77 -12227405.62 0.0277 0.0215
 Neptune -38190-11-11 11:30 J -12227160.08 -12227160.02 -12227159.92 0.0089 0.0083
 Neptune -38189-06-24 00:14 J -12226934.60 -12226934.49 -12226934.34 0.0089 0.0072
 Neptune -38188-02-04 12:57 J -12226709.09 -12226708.96 -12226708.78 0.0089 0.0061
 Neptune -38188-09-18 02:23 J -12226483.58 -12226483.40 -12226483.22 0.0089 0.0049
 Neptune -38187-05-01 15:06 J -12226258.06 -12226257.87 -12226257.67 0.0089 0.0038
 Neptune -38187-12-13 03:35 J -12226032.55 -12226032.35 -12226032.13 0.0089 0.0027
 Mars -38186-07-17 19:54 J -12225815.80 -12225815.67 -12225815.54 0.1639 0.1082
 Neptune -38186-07-26 16:18 J -12225807.03 -12225806.82 -12225806.60 0.0089 0.0016
 Jupiter -38186-11-09 16:18 J -12225701.02 -12225700.82 -12225700.61 0.0484 0.0030
 Neptune -38185-03-08 05:16 J -12225581.50 -12225581.28 -12225581.06 0.0089 0.0005

Neptune -38185-10-19 17:59 J -12225355.97 -12225355.75 -12225355.53 0.0089 0.0006
 Neptune -38184-06-02 06:42 J -12225130.44 -12225130.22 -12225130.01 0.0089 0.0018
 Neptune -38183-01-13 18:57 J -12224904.90 -12224904.71 -12224904.49 0.0089 0.0029
 Mars -38183-04-18 13:54 J -12224810.09 -12224809.92 -12224809.75 0.1889 0.0554
 Neptune -38183-08-27 07:26 J -12224679.37 -12224679.19 -12224678.98 0.0089 0.0040
 Neptune -38182-04-09 20:09 J -12224453.82 -12224453.66 -12224453.47 0.0089 0.0051
 Neptune -38182-11-21 08:38 J -12224228.27 -12224228.14 -12224227.96 0.0089 0.0062
 Neptune -38181-07-03 21:06 J -12224002.72 -12224002.62 -12224002.47 0.0089 0.0074
 Neptune -38180-02-14 09:35 J -12223777.14 -12223777.10 -12223777.00 0.0089 0.0085
 Jupiter -38180-09-15 01:26 J -12223564.63 -12223564.44 -12223564.24 0.0544 0.0131
 Uranus -38177-08-23 08:52 J -12222491.14 -12222491.13 -12222491.10 0.0135 0.0134
 Saturn -38177-12-30 04:47 J -12222362.49 -12222362.30 -12222362.11 0.0281 0.0117
 Uranus -38176-04-06 16:47 J -12222264.86 -12222264.80 -12222264.71 0.0134 0.0127
 Saturn -38176-08-16 14:09 J -12222133.11 -12222132.91 -12222132.71 0.0281 0.0070
 Uranus -38176-11-19 00:42 J -12222038.56 -12222038.47 -12222038.36 0.0134 0.0119
 Saturn -38175-04-03 00:28 J -12221903.55 -12221903.48 -12221903.39 0.0281 0.0259
 Uranus -38175-07-03 08:38 J -12221812.26 -12221812.14 -12221812.01 0.0134 0.0111
 Uranus -38174-02-14 16:04 J -12221585.96 -12221585.83 -12221585.68 0.0134 0.0104
 Jupiter -38174-07-15 21:06 J -12221434.81 -12221434.62 -12221434.42 0.0484 0.0155
 Uranus -38174-09-28 23:30 J -12221359.67 -12221359.52 -12221359.36 0.0134 0.0096
 Uranus -38173-05-12 06:42 J -12221133.38 -12221133.22 -12221133.05 0.0133 0.0088
 Uranus -38173-12-24 13:40 J -12220907.10 -12220906.93 -12220906.74 0.0133 0.0080
 Uranus -38172-08-07 20:52 J -12220680.81 -12220680.63 -12220680.44 0.0133 0.0071
 Uranus -38171-03-22 03:35 J -12220454.54 -12220454.35 -12220454.15 0.0133 0.0063
 Uranus -38171-11-03 10:04 J -12220228.27 -12220228.08 -12220227.87 0.0133 0.0055
 Uranus -38170-06-17 16:47 J -12220002.01 -12220001.80 -12220001.59 0.0133 0.0046
 Uranus -38169-01-29 23:02 J -12219775.74 -12219775.54 -12219775.32 0.0133 0.0038
 Uranus -38169-09-12 05:30 J -12219549.48 -12219549.27 -12219549.05 0.0132 0.0029
 Uranus -38168-04-26 11:45 J -12219323.23 -12219323.01 -12219322.79 0.0132 0.0021
 Jupiter -38168-05-20 09:21 J -12219299.25 -12219299.11 -12219298.98 0.0543 0.0404

Uranus	-38168-12-08 17:30 J	-12219096.98	-12219096.77	-12219096.54	0.0132	0.0012
Jupiter	-38167-01-13 17:30 J	-12219060.79	-12219060.77	-12219060.75	0.0544	0.0540
Uranus	-38167-07-22 23:30 J	-12218870.74	-12218870.52	-12218870.30	0.0132	0.0004
Uranus	-38166-03-06 05:16 J	-12218644.50	-12218644.28	-12218644.06	0.0132	0.0005
Uranus	-38166-10-18 10:47 J	-12218418.26	-12218418.05	-12218417.82	0.0132	0.0014
Uranus	-38165-05-31 16:18 J	-12218192.03	-12218191.82	-12218191.60	0.0132	0.0022
Uranus	-38164-01-12 21:35 J	-12217965.81	-12217965.60	-12217965.38	0.0132	0.0031
Uranus	-38164-08-27 03:06 J	-12217739.58	-12217739.37	-12217739.16	0.0132	0.0039
Uranus	-38163-04-10 08:23 J	-12217513.36	-12217513.15	-12217512.95	0.0132	0.0047
Uranus	-38163-11-22 13:26 J	-12217287.14	-12217286.94	-12217286.74	0.0132	0.0055
Jupiter	-38162-03-21 03:06 J	-12217168.51	-12217168.37	-12217168.22	0.0485	0.0336
Saturn	-38162-06-19 00:57 J	-12217078.65	-12217078.46	-12217078.26	0.0278	0.0121
Uranus	-38162-07-06 18:14 J	-12217060.93	-12217060.74	-12217060.54	0.0132	0.0063
Jupiter	-38162-11-11 21:21 J	-12216932.76	-12216932.61	-12216932.45	0.0484	0.0325
Saturn	-38161-02-03 15:06 J	-12216849.08	-12216848.87	-12216848.66	0.0278	0.0066
Uranus	-38161-02-17 23:16 J	-12216834.71	-12216834.53	-12216834.34	0.0132	0.0071
Saturn	-38161-09-20 03:50 J	-12216619.43	-12216619.34	-12216619.24	0.0277	0.0249
Uranus	-38161-10-01 04:04 J	-12216608.49	-12216608.33	-12216608.14	0.0132	0.0079
Uranus	-38160-05-15 09:06 J	-12216382.28	-12216382.12	-12216381.94	0.0133	0.0086
Uranus	-38160-12-27 13:40 J	-12216156.06	-12216155.93	-12216155.76	0.0133	0.0094
Uranus	-38159-08-10 18:42 J	-12215929.85	-12215929.72	-12215929.57	0.0133	0.0101
Uranus	-38158-03-24 23:30 J	-12215703.63	-12215703.52	-12215703.38	0.0133	0.0108
Uranus	-38158-11-06 04:18 J	-12215477.41	-12215477.32	-12215477.19	0.0133	0.0115
Uranus	-38157-06-19 09:21 J	-12215251.19	-12215251.11	-12215251.02	0.0133	0.0121
Uranus	-38156-01-31 13:54 J	-12215024.96	-12215024.92	-12215024.85	0.0133	0.0128
Jupiter	-38156-09-18 06:14 J	-12214795.41	-12214795.24	-12214795.07	0.0545	0.0283
Mars	-38152-05-15 14:38 J	-12213460.06	-12213459.89	-12213459.73	0.1632	0.0467
Jupiter	-38150-07-18 01:26 J	-12212666.64	-12212666.44	-12212666.25	0.0484	0.0139
Saturn	-38148-11-24 23:16 J	-12211805.57	-12211805.53	-12211805.49	0.0280	0.0274
Saturn	-38147-07-12 07:26 J	-12211576.39	-12211576.19	-12211575.99	0.0281	0.0091

Saturn -38146-02-26 16:47 J -12211346.99 -12211346.80 -12211346.60 0.0281 0.0095
 Jupiter -38144-05-23 19:26 J -12210529.89 -12210529.69 -12210529.49 0.0545 0.0025
 Jupiter -38138-03-23 06:28 J -12208400.44 -12208400.23 -12208400.03 0.0484 0.0046
 Uranus -38133-01-03 03:50 J -12206653.36 -12206653.34 -12206653.31 0.0144 0.0142
 Uranus -38133-08-16 12:28 J -12206427.03 -12206426.98 -12206426.89 0.0144 0.0135
 Saturn -38133-12-29 02:23 J -12206292.59 -12206292.40 -12206292.19 0.0278 0.0101
 Jupiter -38132-01-26 06:57 J -12206264.39 -12206264.21 -12206264.03 0.0544 0.0240
 Uranus -38132-03-30 21:35 J -12206200.68 -12206200.60 -12206200.48 0.0144 0.0127
 Moon -38132-04-15 23:16 J -12206184.67 -12206184.53 -12206184.38 0.2671 0.0958
 Earth -38132-04-16 04:18 J -12206184.45 -12206184.32 -12206184.19 0.2668 0.1471 *
 Saturn -38132-08-15 16:47 J -12206063.01 -12206062.80 -12206062.60 0.0278 0.0086
 Uranus -38132-11-12 07:11 J -12205974.31 -12205974.20 -12205974.07 0.0144 0.0119
 Saturn -38131-04-02 05:30 J -12205833.32 -12205833.27 -12205833.22 0.0277 0.0268
 Uranus -38131-06-26 16:47 J -12205747.93 -12205747.80 -12205747.65 0.0145 0.0110
 Uranus -38130-02-08 02:38 J -12205521.53 -12205521.39 -12205521.22 0.0145 0.0101
 Uranus -38130-09-22 12:42 J -12205295.12 -12205294.97 -12205294.79 0.0145 0.0092
 Uranus -38129-05-05 23:02 J -12205068.70 -12205068.54 -12205068.35 0.0145 0.0082
 Uranus -38129-12-18 09:50 J -12204842.28 -12204842.09 -12204841.91 0.0145 0.0072
 Uranus -38128-08-01 20:09 J -12204615.84 -12204615.66 -12204615.46 0.0145 0.0062
 Uranus -38127-03-16 07:11 J -12204389.40 -12204389.20 -12204389.00 0.0146 0.0051
 Uranus -38127-10-28 17:59 J -12204162.95 -12204162.75 -12204162.54 0.0146 0.0041
 Jupiter -38127-11-26 10:33 J -12204134.24 -12204134.06 -12204133.88 0.0485 0.0230
 Uranus -38126-06-12 05:16 J -12203936.49 -12203936.28 -12203936.07 0.0146 0.0030
 Jupiter -38126-07-20 05:45 J -12203898.35 -12203898.26 -12203898.17 0.0484 0.0431
 Uranus -38125-01-24 16:33 J -12203710.01 -12203709.81 -12203709.59 0.0146 0.0019
 Uranus -38125-09-07 04:04 J -12203483.54 -12203483.33 -12203483.11 0.0146 0.0008
 Moon -38124-04-13 20:09 J -12203264.77 -12203264.66 -12203264.55 0.2676 0.1696
 Earth -38124-04-13 22:33 J -12203264.68 -12203264.56 -12203264.45 0.2669 0.1761 *
 Uranus -38124-04-21 15:50 J -12203257.06 -12203256.84 -12203256.63 0.0146 0.0004
 Uranus -38124-12-04 03:21 J -12203030.57 -12203030.36 -12203030.14 0.0146 0.0015

Uranus -38123-07-18 15:06 J -12202804.08 -12202803.87 -12202803.65 0.0146 0.0026
 Uranus -38122-03-02 03:21 J -12202577.57 -12202577.36 -12202577.15 0.0146 0.0037
 Uranus -38122-10-14 15:21 J -12202351.06 -12202350.86 -12202350.65 0.0146 0.0049
 Uranus -38121-05-28 03:35 J -12202124.54 -12202124.35 -12202124.15 0.0146 0.0059
 Jupiter -38121-09-30 17:02 J -12201998.86 -12201998.79 -12201998.71 0.0543 0.0505
 Uranus -38120-01-09 15:50 J -12201898.02 -12201897.84 -12201897.64 0.0146 0.0070
 Mars -38120-05-14 08:23 J -12201773.29 -12201773.15 -12201773.01 0.1637 0.0923
 Jupiter -38120-05-27 01:40 J -12201760.54 -12201760.43 -12201760.31 0.0544 0.0438
 Uranus -38120-08-24 04:04 J -12201671.50 -12201671.33 -12201671.14 0.0146 0.0081
 Uranus -38119-04-07 16:47 J -12201444.96 -12201444.80 -12201444.62 0.0146 0.0091
 Uranus -38119-11-20 05:30 J -12201218.42 -12201218.27 -12201218.11 0.0146 0.0101
 Saturn -38118-06-07 04:33 J -12201019.39 -12201019.31 -12201019.20 0.0280 0.0247
 Uranus -38118-07-04 18:14 J -12200991.88 -12200991.74 -12200991.60 0.0146 0.0111
 Saturn -38117-01-22 13:40 J -12200790.13 -12200789.93 -12200789.73 0.0281 0.0064
 Mars -38117-02-13 16:33 J -12200767.99 -12200767.81 -12200767.63 0.1892 0.0037
 Uranus -38117-02-16 06:57 J -12200765.32 -12200765.21 -12200765.08 0.0146 0.0121
 Saturn -38117-09-07 23:16 J -12200560.71 -12200560.53 -12200560.34 0.0281 0.0124
 Uranus -38117-09-29 19:26 J -12200538.77 -12200538.69 -12200538.57 0.0145 0.0131
 Uranus -38116-05-14 08:23 J -12200312.20 -12200312.15 -12200312.07 0.0145 0.0139
 Jupiter -38115-08-01 16:04 J -12199867.94 -12199867.83 -12199867.73 0.0485 0.0411
 Jupiter -38114-03-25 10:04 J -12199632.26 -12199632.08 -12199631.90 0.0484 0.0249
 Jupiter -38108-01-29 10:33 J -12197495.25 -12197495.06 -12197494.87 0.0544 0.0170
 Neptune -38108-05-12 21:35 J -12197391.64 -12197391.60 -12197391.52 0.0088 0.0085
 Pluto -38108-11-27 17:45 J -12197192.84 -12197192.76 -12197192.63 0.0065 0.0057
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 Pluto -38107-07-10 22:18 J -12196967.77 -12196967.57 -12196967.35 0.0066 0.0015
 Neptune -38107-08-06 23:59 J -12196940.65 -12196940.50 -12196940.34 0.0088 0.0063
 Pluto -38106-02-21 02:38 J -12196742.57 -12196742.39 -12196742.18 0.0066 0.0028
 Neptune -38106-03-20 13:26 J -12196715.11 -12196714.94 -12196714.76 0.0088 0.0052
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Neptune -38105-06-13 15:50 J -12196264.04 -12196263.84 -12196263.63 0.0088 0.0030
 Neptune -38104-01-25 05:02 J -12196038.50 -12196038.29 -12196038.07 0.0088 0.0019
 Neptune -38104-09-07 18:28 J -12195812.95 -12195812.73 -12195812.51 0.0088 0.0007
 Saturn -38104-11-23 21:50 J -12195735.67 -12195735.59 -12195735.48 0.0279 0.0251
 Neptune -38103-04-21 07:54 J -12195587.39 -12195587.17 -12195586.95 0.0088 0.0004
 Saturn -38103-07-11 13:11 J -12195506.16 -12195505.95 -12195505.74 0.0278 0.0063
 Jupiter -38103-11-28 15:21 J -12195366.07 -12195365.86 -12195365.66 0.0484 0.0065
 Neptune -38103-12-02 21:06 J -12195361.83 -12195361.62 -12195361.39 0.0088 0.0015
 Saturn -38102-02-26 02:52 J -12195276.57 -12195276.38 -12195276.19 0.0278 0.0122
 Neptune -38102-07-16 10:18 J -12195136.27 -12195136.07 -12195135.85 0.0088 0.0026
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 Neptune -38101-10-09 12:57 J -12194685.13 -12194684.96 -12194684.75 0.0088 0.0049
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 Neptune -38099-08-17 05:16 J -12194008.35 -12194008.28 -12194008.18 0.0088 0.0082
 Jupiter -38097-10-03 22:18 J -12193229.77 -12193229.57 -12193229.37 0.0544 0.0095
 Uranus -38093-12-04 23:30 J -12191706.58 -12191706.52 -12191706.44 0.0135 0.0128
 Uranus -38092-07-19 07:26 J -12191480.27 -12191480.19 -12191480.08 0.0134 0.0120
 Uranus -38091-03-02 15:21 J -12191253.97 -12191253.86 -12191253.73 0.0134 0.0113
 Jupiter -38091-08-03 19:54 J -12191099.87 -12191099.67 -12191099.47 0.0484 0.0120
 Uranus -38091-10-14 22:47 J -12191027.67 -12191027.55 -12191027.40 0.0134 0.0105
 Uranus -38090-05-29 06:28 J -12190801.38 -12190801.23 -12190801.07 0.0134 0.0097
 Uranus -38089-01-10 13:54 J -12190575.08 -12190574.92 -12190574.75 0.0134 0.0089
 Uranus -38089-08-23 21:06 J -12190348.79 -12190348.62 -12190348.44 0.0133 0.0081
 Saturn -38089-12-17 08:09 J -12190233.28 -12190233.16 -12190233.03 0.0280 0.0221
 Uranus -38088-04-07 04:04 J -12190122.51 -12190122.33 -12190122.14 0.0133 0.0072
 Saturn -38088-08-03 16:47 J -12190004.01 -12190003.80 -12190003.60 0.0281 0.0038
 Uranus -38088-11-19 10:47 J -12189896.23 -12189896.05 -12189895.84 0.0133 0.0064
 Saturn -38087-03-21 02:09 J -12189774.58 -12189774.41 -12189774.22 0.0281 0.0150
 Uranus -38087-07-03 17:30 J -12189669.95 -12189669.77 -12189669.55 0.0133 0.0056

Uranus -38086-02-15 00:28 J -12189443.68 -12189443.48 -12189443.27 0.0133 0.0047
 Mars -38086-03-13 02:38 J -12189417.55 -12189417.39 -12189417.22 0.1630 0.0625
 Uranus -38086-09-29 06:57 J -12189217.42 -12189217.21 -12189216.99 0.0133 0.0039
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 Jupiter -38085-06-08 10:33 J -12188964.21 -12188964.06 -12188963.91 0.0544 0.0355
 Uranus -38085-12-24 19:26 J -12188764.91 -12188764.69 -12188764.47 0.0132 0.0022
 Uranus -38084-08-08 01:40 J -12188538.65 -12188538.43 -12188538.21 0.0132 0.0013
 Uranus -38083-03-22 07:26 J -12188312.41 -12188312.19 -12188311.96 0.0132 0.0006
 Uranus -38083-11-03 13:11 J -12188086.17 -12188085.95 -12188085.73 0.0132 0.0005
 Uranus -38082-06-17 18:57 J -12187859.93 -12187859.71 -12187859.49 0.0132 0.0013
 Uranus -38081-01-30 00:14 J -12187633.70 -12187633.49 -12187633.26 0.0132 0.0022
 Uranus -38081-09-12 05:59 J -12187407.46 -12187407.25 -12187407.03 0.0132 0.0029
 Uranus -38080-04-26 11:16 J -12187181.24 -12187181.03 -12187180.82 0.0132 0.0038
 Uranus -38080-12-08 16:33 J -12186955.02 -12186954.81 -12186954.61 0.0132 0.0046
 Jupiter -38079-04-09 01:26 J -12186833.60 -12186833.44 -12186833.28 0.0485 0.0302
 Uranus -38079-07-22 21:35 J -12186728.79 -12186728.60 -12186728.39 0.0132 0.0054
 Jupiter -38079-11-30 19:40 J -12186597.82 -12186597.68 -12186597.54 0.0484 0.0357
 Uranus -38078-03-06 02:52 J -12186502.57 -12186502.38 -12186502.19 0.0132 0.0062
 Uranus -38078-10-18 07:40 J -12186276.35 -12186276.18 -12186275.98 0.0132 0.0070
 Uranus -38077-05-31 12:42 J -12186050.14 -12186049.97 -12186049.78 0.0132 0.0077
 Uranus -38076-01-12 17:45 J -12185823.92 -12185823.76 -12185823.59 0.0132 0.0085
 Uranus -38076-08-26 22:33 J -12185597.70 -12185597.56 -12185597.39 0.0133 0.0093
 Uranus -38075-04-10 03:21 J -12185371.48 -12185371.36 -12185371.20 0.0133 0.0100
 Uranus -38075-11-22 08:23 J -12185145.27 -12185145.15 -12185145.01 0.0133 0.0107
 Saturn -38074-06-05 22:47 J -12184949.66 -12184949.55 -12184949.42 0.0278 0.0231
 Uranus -38074-07-06 12:57 J -12184919.05 -12184918.96 -12184918.83 0.0133 0.0114
 Saturn -38073-01-21 13:54 J -12184720.13 -12184719.92 -12184719.71 0.0278 0.0044
 Uranus -38073-02-17 18:14 J -12184692.82 -12184692.74 -12184692.65 0.0133 0.0120
 Saturn -38073-09-07 03:50 J -12184490.53 -12184490.34 -12184490.16 0.0277 0.0141
 Uranus -38073-09-30 23:02 J -12184466.59 -12184466.54 -12184466.47 0.0133 0.0127

Jupiter -38073-10-07 08:23 J -12184460.31 -12184460.15 -12184460.00 0.0544 0.0332
 Jupiter -38068-12-13 05:45 J -12182567.27 -12182567.26 -12182567.24 0.0486 0.0483
 Jupiter -38067-08-05 23:16 J -12182331.72 -12182331.53 -12182331.34 0.0484 0.0173
 Jupiter -38061-06-11 19:26 J -12180194.89 -12180194.69 -12180194.49 0.0544 0.0069
 Saturn -38059-06-29 12:14 J -12179447.14 -12179446.99 -12179446.84 0.0280 0.0196
 Saturn -38058-02-13 21:21 J -12179217.82 -12179217.61 -12179217.40 0.0281 0.0013
 Saturn -38058-10-01 07:11 J -12178988.36 -12178988.20 -12178988.03 0.0281 0.0175
 Jupiter -38055-04-11 04:33 J -12178065.51 -12178065.31 -12178065.10 0.0484 0.0010
 Mars -38054-03-11 20:23 J -12177730.80 -12177730.65 -12177730.50 0.1635 0.0761
 Mars -38052-12-10 19:26 J -12176725.86 -12176725.69 -12176725.51 0.1894 0.0469
 Uranus -38050-09-02 11:02 J -12176095.04 -12176095.04 -12176095.02 0.0143 0.0143
 Jupiter -38049-02-15 02:52 J -12175929.57 -12175929.38 -12175929.19 0.0544 0.0207
 Uranus -38049-04-15 19:54 J -12175868.73 -12175868.67 -12175868.59 0.0144 0.0136
 Uranus -38049-11-28 05:02 J -12175642.37 -12175642.29 -12175642.18 0.0144 0.0128
 Uranus -38048-07-12 14:38 J -12175416.01 -12175415.89 -12175415.77 0.0144 0.0120
 Uranus -38047-02-23 23:45 J -12175189.63 -12175189.51 -12175189.36 0.0144 0.0112
 Uranus -38047-10-08 09:35 J -12174963.24 -12174963.10 -12174962.94 0.0145 0.0103
 Uranus -38046-05-22 19:40 J -12174736.83 -12174736.68 -12174736.51 0.0145 0.0093
 Uranus -38045-01-04 05:59 J -12174510.42 -12174510.25 -12174510.07 0.0145 0.0083
 Uranus -38045-08-17 16:18 J -12174284.00 -12174283.82 -12174283.63 0.0145 0.0073
 Saturn -38045-12-16 09:21 J -12174163.26 -12174163.11 -12174162.95 0.0279 0.0194
 Uranus -38044-04-01 02:38 J -12174057.57 -12174057.39 -12174057.19 0.0145 0.0064
 Saturn -38044-08-03 00:14 J -12173933.70 -12173933.49 -12173933.27 0.0278 0.0007
 Uranus -38044-11-13 13:26 J -12173831.13 -12173830.94 -12173830.74 0.0146 0.0053
 Jupiter -38044-12-15 10:18 J -12173799.26 -12173799.07 -12173798.88 0.0484 0.0191
 Saturn -38043-03-20 13:40 J -12173704.09 -12173703.93 -12173703.76 0.0278 0.0177
 Uranus -38043-06-28 00:14 J -12173604.69 -12173604.49 -12173604.28 0.0146 0.0042
 Jupiter -38043-08-08 05:02 J -12173563.33 -12173563.29 -12173563.23 0.0484 0.0468
 Uranus -38042-02-09 11:30 J -12173378.23 -12173378.02 -12173377.81 0.0146 0.0031
 Uranus -38042-09-23 22:33 J -12173151.76 -12173151.56 -12173151.34 0.0146 0.0021

Uranus	-38041-05-07 10:04 J	-12172925.30	-12172925.08	-12172924.87	0.0146	0.0010
Uranus	-38041-12-19 21:21 J	-12172698.82	-12172698.61	-12172698.39	0.0146	0.0003
Uranus	-38040-08-03 08:52 J	-12172472.34	-12172472.13	-12172471.91	0.0146	0.0013
Uranus	-38039-03-17 20:38 J	-12172245.84	-12172245.64	-12172245.42	0.0146	0.0025
Uranus	-38039-10-30 08:38 J	-12172019.35	-12172019.14	-12172018.93	0.0146	0.0035
Uranus	-38038-06-13 20:23 J	-12171792.84	-12171792.65	-12171792.43	0.0146	0.0047
Jupiter	-38038-10-20 13:40 J	-12171664.02	-12171663.93	-12171663.82	0.0543	0.0469
Uranus	-38037-01-26 08:38 J	-12171566.33	-12171566.14	-12171565.93	0.0146	0.0057
Jupiter	-38037-06-14 23:02 J	-12171425.63	-12171425.54	-12171425.44	0.0545	0.0474
Uranus	-38037-09-08 20:52 J	-12171339.81	-12171339.63	-12171339.43	0.0146	0.0068
Uranus	-38036-04-23 09:21 J	-12171113.29	-12171113.11	-12171112.93	0.0146	0.0079
Uranus	-38036-12-05 21:35 J	-12170886.76	-12170886.60	-12170886.42	0.0146	0.0089
Uranus	-38035-07-20 10:04 J	-12170660.23	-12170660.08	-12170659.91	0.0146	0.0099
Uranus	-38034-03-03 23:02 J	-12170433.68	-12170433.54	-12170433.39	0.0146	0.0109
Uranus	-38034-10-16 11:45 J	-12170207.13	-12170207.01	-12170206.88	0.0146	0.0119
Uranus	-38033-05-30 00:14 J	-12169980.57	-12169980.49	-12169980.37	0.0145	0.0129
Uranus	-38032-01-11 12:57 J	-12169754.01	-12169753.96	-12169753.87	0.0145	0.0138
Jupiter	-38032-08-20 15:21 J	-12169532.98	-12169532.86	-12169532.72	0.0485	0.0374
Jupiter	-38031-04-13 09:06 J	-12169297.28	-12169297.12	-12169296.95	0.0484	0.0283
Saturn	-38029-01-09 15:50 J	-12168661.00	-12168660.84	-12168660.67	0.0280	0.0169
Saturn	-38029-08-26 00:42 J	-12168431.68	-12168431.47	-12168431.26	0.0281	0.0015
Saturn	-38028-04-12 10:18 J	-12168202.21	-12168202.07	-12168201.92	0.0281	0.0201
Neptune	-38025-02-12 23:45 J	-12167165.55	-12167165.51	-12167165.45	0.0089	0.0086
Jupiter	-38025-02-18 12:28 J	-12167160.16	-12167159.98	-12167159.79	0.0545	0.0218
Neptune	-38025-09-25 12:42 J	-12166940.07	-12166939.97	-12166939.84	0.0089	0.0075
Neptune	-38024-05-09 01:40 J	-12166714.57	-12166714.43	-12166714.27	0.0089	0.0064
Neptune	-38024-12-20 14:23 J	-12166489.06	-12166488.90	-12166488.72	0.0089	0.0053
Neptune	-38023-08-03 03:06 J	-12166263.55	-12166263.37	-12166263.17	0.0089	0.0042
Neptune	-38022-03-16 16:04 J	-12166038.03	-12166037.83	-12166037.62	0.0089	0.0031
Neptune	-38022-10-28 04:47 J	-12165812.50	-12165812.30	-12165812.08	0.0089	0.0020

Neptune -38021-06-09 17:30 J -12165586.98 -12165586.77 -12165586.54 0.0089 0.0009
 Mars -38020-01-07 15:06 J -12165375.02 -12165374.87 -12165374.72 0.1629 0.0773
 Neptune -38020-01-21 06:14 J -12165361.45 -12165361.24 -12165361.02 0.0089 0.0003
 Pluto -38020-08-01 15:21 J -12165169.04 -12165168.86 -12165168.64 0.0078 0.0033
 Neptune -38020-09-03 18:57 J -12165135.92 -12165135.71 -12165135.49 0.0089 0.0013
 Jupiter -38020-12-17 14:09 J -12165031.11 -12165030.91 -12165030.71 0.0484 0.0100
 Pluto -38019-03-15 01:40 J -12164943.61 -12164943.43 -12164943.23 0.0078 0.0042
 Neptune -38019-04-17 07:40 J -12164910.39 -12164910.18 -12164909.97 0.0089 0.0024
 Neptune -38019-11-28 20:09 J -12164684.85 -12164684.66 -12164684.46 0.0089 0.0035
 Neptune -38018-07-12 08:38 J -12164459.32 -12164459.14 -12164458.95 0.0089 0.0046
 Neptune -38017-02-22 21:06 J -12164233.77 -12164233.62 -12164233.44 0.0089 0.0058
 Neptune -38017-10-05 09:50 J -12164008.22 -12164008.09 -12164007.94 0.0089 0.0068
 Neptune -38016-05-18 22:18 J -12163782.65 -12163782.57 -12163782.46 0.0089 0.0079
 Saturn -38015-06-28 09:50 J -12163377.25 -12163377.09 -12163376.92 0.0278 0.0175
 Saturn -38014-02-13 00:28 J -12163147.69 -12163147.48 -12163147.26 0.0278 0.0011
 Saturn -38014-09-30 13:54 J -12162918.07 -12162917.92 -12162917.77 0.0277 0.0194
 Jupiter -38014-10-24 01:26 J -12162894.64 -12162894.44 -12162894.24 0.0544 0.0041
 Moon -38011-10-19 19:54 J -12161802.75 -12161802.67 -12161802.58 0.2668 0.2247
 Uranus -38009-08-04 06:28 J -12161148.28 -12161148.23 -12161148.15 0.0135 0.0129
 Uranus -38008-03-18 14:23 J -12160921.98 -12160921.90 -12160921.79 0.0134 0.0122
 Jupiter -38008-08-22 18:28 J -12160764.94 -12160764.73 -12160764.53 0.0484 0.0085
 Uranus -38008-10-30 22:33 J -12160695.67 -12160695.56 -12160695.44 0.0134 0.0114
 Uranus -38007-06-14 06:14 J -12160469.36 -12160469.24 -12160469.09 0.0134 0.0106
 Uranus -38006-01-26 13:54 J -12160243.06 -12160242.92 -12160242.76 0.0134 0.0098
 Uranus -38006-09-09 21:21 J -12160016.76 -12160016.61 -12160016.43 0.0134 0.0090
 Uranus -38005-04-23 04:33 J -12159790.47 -12159790.31 -12159790.12 0.0133 0.0082
 Uranus -38005-12-05 11:45 J -12159564.19 -12159564.01 -12159563.81 0.0133 0.0073
 Uranus -38004-07-19 18:42 J -12159337.90 -12159337.72 -12159337.51 0.0133 0.0066
 Uranus -38003-03-03 01:54 J -12159111.62 -12159111.42 -12159111.22 0.0133 0.0056
 Uranus -38003-10-15 08:23 J -12158885.35 -12158885.15 -12158884.93 0.0133 0.0048

Moon	-38003-10-17 12:28 J	-12158883.10	-12158882.98	-12158882.87	0.2669	0.1778
Earth	-38003-10-17 12:57 J	-12158883.10	-12158882.96	-12158882.82	0.2663	0.1349 *
Uranus	-38002-05-29 14:52 J	-12158659.08	-12158658.88	-12158658.66	0.0133	0.0040
Jupiter	-38002-06-28 11:59 J	-12158629.17	-12158629.00	-12158628.83	0.0543	0.0305
Uranus	-38001-01-10 21:35 J	-12158432.82	-12158432.60	-12158432.39	0.0133	0.0031
Uranus	-38001-08-24 03:50 J	-12158206.56	-12158206.34	-12158206.12	0.0133	0.0022

38TH MILLENNIUM BCE

This is a list of transits of Venus in the 38th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-38000-04-07 09:50 J	-12157980.30	-12157980.09	-12157979.86	0.0132	0.0014		
Saturn	-38000-07-21 18:28 J	-12157874.90	-12157874.73	-12157874.55	0.0281	0.0147		
Uranus	-38000-11-19 15:50 J	-12157754.06	-12157753.84	-12157753.62	0.0132	0.0005		
Saturn	-37999-03-08 03:35 J	-12157645.55	-12157645.35	-12157645.14	0.0281	0.0038		
Uranus	-37999-07-03 21:35 J	-12157527.82	-12157527.60	-12157527.37	0.0132	0.0004		
Saturn	-37999-10-23 13:54 J	-12157416.04	-12157415.92	-12157415.79	0.0281	0.0224		
Uranus	-37998-02-15 03:21 J	-12157301.58	-12157301.36	-12157301.14	0.0132	0.0012		
Uranus	-37998-09-29 08:52 J	-12157075.34	-12157075.13	-12157074.90	0.0132	0.0021		
Uranus	-37997-05-12 14:23 J	-12156849.11	-12156848.90	-12156848.68	0.0132	0.0029		
Uranus	-37997-12-24 19:54 J	-12156622.88	-12156622.67	-12156622.46	0.0132	0.0037		
Jupiter	-37996-04-27 23:59 J	-12156498.66	-12156498.50	-12156498.32	0.0485	0.0265		
Uranus	-37996-08-08 01:11 J	-12156396.65	-12156396.45	-12156396.24	0.0132	0.0045		
Jupiter	-37996-12-19 18:28 J	-12156262.84	-12156262.73	-12156262.60	0.0484	0.0394		

Uranus	-37995-03-22 06:28 J	-12156170.43	-12156170.23	-12156170.03	0.0132	0.0053
Uranus	-37995-11-03 11:30 J	-12155944.21	-12155944.02	-12155943.82	0.0132	0.0061
Uranus	-37994-06-17 16:33 J	-12155717.99	-12155717.81	-12155717.62	0.0132	0.0069
Uranus	-37993-01-29 21:21 J	-12155491.77	-12155491.61	-12155491.41	0.0132	0.0077
Uranus	-37993-09-12 02:52 J	-12155265.55	-12155265.38	-12155265.21	0.0132	0.0084
Uranus	-37992-04-26 07:26 J	-12155039.33	-12155039.19	-12155039.01	0.0133	0.0092
Uranus	-37992-12-08 12:28 J	-12154813.11	-12154812.98	-12154812.82	0.0133	0.0099
Uranus	-37991-07-22 17:30 J	-12154586.89	-12154586.77	-12154586.63	0.0133	0.0106
Uranus	-37990-03-05 22:18 J	-12154360.67	-12154360.57	-12154360.44	0.0133	0.0113
Uranus	-37990-10-18 03:06 J	-12154134.44	-12154134.37	-12154134.26	0.0133	0.0120
Jupiter	-37990-10-27 04:47 J	-12154125.45	-12154125.30	-12154125.15	0.0544	0.0365
Uranus	-37989-05-31 08:09 J	-12153908.21	-12153908.16	-12153908.08	0.0133	0.0126
Mars	-37988-01-06 08:52 J	-12153688.29	-12153688.13	-12153687.97	0.1634	0.0606
Uranus	-37988-01-12 13:11 J	-12153681.96	-12153681.95	-12153681.93	0.0133	0.0133
Mars	-37986-10-07 22:04 J	-12152683.73	-12152683.58	-12152683.43	0.1896	0.0994
Saturn	-37985-01-08 19:26 J	-12152590.87	-12152590.69	-12152590.50	0.0279	0.0139
Saturn	-37985-08-25 10:04 J	-12152361.29	-12152361.08	-12152360.87	0.0278	0.0047
Jupiter	-37984-01-01 06:14 J	-12152232.31	-12152232.24	-12152232.15	0.0485	0.0444
Saturn	-37984-04-11 23:16 J	-12152131.64	-12152131.53	-12152131.41	0.0278	0.0229
Jupiter	-37984-08-24 23:45 J	-12151996.69	-12151996.51	-12151996.32	0.0484	0.0212
Jupiter	-37978-07-01 16:33 J	-12149860.01	-12149859.81	-12149859.61	0.0545	0.0104
Jupiter	-37972-04-30 04:33 J	-12147730.52	-12147730.31	-12147730.11	0.0484	0.0029
Saturn	-37970-01-31 22:47 J	-12147088.74	-12147088.55	-12147088.36	0.0280	0.0119
Saturn	-37970-09-18 07:40 J	-12146859.38	-12146859.18	-12146858.98	0.0281	0.0065
Saturn	-37969-05-04 17:30 J	-12146629.86	-12146629.77	-12146629.67	0.0281	0.0250
Jupiter	-37966-03-06 05:02 J	-12145594.48	-12145594.29	-12145594.09	0.0544	0.0157
Uranus	-37966-12-15 03:06 J	-12145310.42	-12145310.37	-12145310.30	0.0144	0.0137
Uranus	-37965-07-28 12:14 J	-12145084.07	-12145083.99	-12145083.89	0.0144	0.0129
Uranus	-37964-03-11 21:21 J	-12144857.71	-12144857.61	-12144857.49	0.0144	0.0121
Uranus	-37964-10-24 06:57 J	-12144631.34	-12144631.21	-12144631.08	0.0144	0.0113

Uranus	-37963-06-07 16:33 J	-12144404.95	-12144404.81	-12144404.66	0.0145	0.0104
Uranus	-37962-01-20 02:23 J	-12144178.55	-12144178.40	-12144178.23	0.0145	0.0095
Uranus	-37962-09-03 12:28 J	-12143952.14	-12143951.98	-12143951.80	0.0145	0.0085
Uranus	-37961-04-16 22:47 J	-12143725.73	-12143725.55	-12143725.36	0.0145	0.0075
Uranus	-37961-11-29 09:06 J	-12143499.30	-12143499.12	-12143498.92	0.0145	0.0065
Jupiter	-37960-01-03 09:50 J	-12143464.28	-12143464.09	-12143463.89	0.0484	0.0155
Uranus	-37960-07-13 19:40 J	-12143272.87	-12143272.68	-12143272.48	0.0146	0.0055
Uranus	-37959-02-25 06:42 J	-12143046.42	-12143046.22	-12143046.02	0.0146	0.0044
Uranus	-37959-10-09 17:30 J	-12142819.98	-12142819.77	-12142819.56	0.0146	0.0033
Uranus	-37958-05-24 04:33 J	-12142593.52	-12142593.31	-12142593.10	0.0146	0.0023
Uranus	-37957-01-05 15:50 J	-12142367.05	-12142366.84	-12142366.62	0.0146	0.0012
Uranus	-37957-08-19 03:06 J	-12142140.58	-12142140.37	-12142140.15	0.0146	0.0003
Uranus	-37956-04-02 14:38 J	-12141914.10	-12141913.89	-12141913.67	0.0146	0.0011
Saturn	-37956-07-20 19:26 J	-12141804.87	-12141804.69	-12141804.49	0.0278	0.0121
Uranus	-37956-11-15 02:09 J	-12141687.62	-12141687.41	-12141687.19	0.0146	0.0022
Saturn	-37955-03-07 10:04 J	-12141575.29	-12141575.08	-12141574.87	0.0278	0.0064
Uranus	-37955-06-29 13:54 J	-12141461.12	-12141460.92	-12141460.70	0.0146	0.0033
Saturn	-37955-10-22 23:16 J	-12141345.63	-12141345.53	-12141345.44	0.0277	0.0246
Mars	-37955-11-05 03:35 J	-12141332.49	-12141332.35	-12141332.20	0.1628	0.0921
Jupiter	-37955-11-08 17:30 J	-12141328.90	-12141328.77	-12141328.64	0.0543	0.0413
Uranus	-37954-02-11 01:54 J	-12141234.61	-12141234.42	-12141234.20	0.0146	0.0044
Jupiter	-37954-07-05 02:38 J	-12141090.44	-12141090.39	-12141090.34	0.0544	0.0525
Uranus	-37954-09-25 13:54 J	-12141008.11	-12141007.92	-12141007.71	0.0146	0.0055
Mars	-37954-10-07 20:52 J	-12140995.69	-12140995.63	-12140995.57	0.1889	0.1762
Uranus	-37953-05-09 02:23 J	-12140781.59	-12140781.40	-12140781.21	0.0146	0.0066
Uranus	-37953-12-21 14:23 J	-12140555.08	-12140554.90	-12140554.71	0.0146	0.0076
Uranus	-37952-08-05 02:38 J	-12140328.55	-12140328.39	-12140328.20	0.0146	0.0087
Uranus	-37951-03-19 15:21 J	-12140102.01	-12140101.86	-12140101.69	0.0146	0.0097
Uranus	-37951-11-01 04:04 J	-12139875.47	-12139875.33	-12139875.18	0.0146	0.0107
Uranus	-37950-06-15 16:33 J	-12139648.92	-12139648.81	-12139648.67	0.0146	0.0117

Uranus -37949-01-28 05:16 J -12139422.37 -12139422.28 -12139422.16 0.0146 0.0127
 Jupiter -37949-09-08 14:23 J -12139198.04 -12139197.90 -12139197.74 0.0485 0.0337
 Uranus -37949-09-10 17:59 J -12139195.81 -12139195.75 -12139195.65 0.0145 0.0136
 Uranus -37948-04-25 06:57 J -12138969.22 -12138969.21 -12138969.17 0.0145 0.0144
 Jupiter -37948-05-02 08:38 J -12138962.30 -12138962.14 -12138961.99 0.0484 0.0319
 Neptune -37944-08-14 09:35 J -12137397.11 -12137397.10 -12137397.06 0.0088 0.0088
 Neptune -37943-03-27 22:33 J -12137171.64 -12137171.56 -12137171.43 0.0088 0.0078
 Neptune -37943-11-08 11:45 J -12136946.13 -12136946.01 -12136945.84 0.0088 0.0067
 Jupiter -37942-03-09 14:23 J -12136825.07 -12136824.90 -12136824.72 0.0544 0.0267
 Neptune -37942-06-22 00:57 J -12136720.62 -12136720.46 -12136720.27 0.0088 0.0056
 Saturn -37942-12-27 16:04 J -12136531.85 -12136531.83 -12136531.80 0.0280 0.0277
 Neptune -37941-02-02 14:09 J -12136495.09 -12136494.91 -12136494.71 0.0088 0.0045
 Saturn -37941-08-13 00:14 J -12136302.68 -12136302.49 -12136302.29 0.0280 0.0098
 Neptune -37941-09-15 03:21 J -12136269.55 -12136269.36 -12136269.14 0.0088 0.0034
 Saturn -37940-03-30 09:21 J -12136073.31 -12136073.11 -12136072.91 0.0281 0.0086
 Neptune -37940-04-28 16:47 J -12136044.01 -12136043.80 -12136043.58 0.0088 0.0023
 Saturn -37940-11-14 19:40 J -12135843.72 -12135843.68 -12135843.62 0.0281 0.0271
 Neptune -37940-12-10 05:59 J -12135818.46 -12135818.25 -12135818.02 0.0088 0.0012
 Neptune -37939-07-23 19:26 J -12135592.91 -12135592.69 -12135592.47 0.0088 0.0001
 Neptune -37938-03-06 08:52 J -12135367.35 -12135367.13 -12135366.91 0.0088 0.0011
 Neptune -37938-10-17 22:04 J -12135141.79 -12135141.58 -12135141.36 0.0088 0.0022
 Neptune -37937-05-30 11:30 J -12134916.23 -12134916.02 -12134915.81 0.0088 0.0033
 Jupiter -37936-01-05 13:40 J -12134696.13 -12134695.93 -12134695.73 0.0484 0.0138
 Neptune -37936-01-11 00:42 J -12134690.66 -12134690.47 -12134690.27 0.0088 0.0044
 Neptune -37936-08-24 14:09 J -12134465.08 -12134464.91 -12134464.73 0.0088 0.0055
 Neptune -37935-04-07 03:35 J -12134239.49 -12134239.35 -12134239.19 0.0088 0.0066
 Neptune -37935-11-18 17:02 J -12134013.89 -12134013.79 -12134013.67 0.0088 0.0077
 Neptune -37934-07-02 06:28 J -12133788.24 -12133788.23 -12133788.19 0.0088 0.0088
 Jupiter -37931-11-11 22:33 J -12132559.77 -12132559.56 -12132559.36 0.0544 0.0012
 Saturn -37927-06-15 12:42 J -12131248.01 -12131247.97 -12131247.92 0.0279 0.0272

Saturn -37926-01-31 04:33 J -12131018.52 -12131018.31 -12131018.11 0.0279 0.0085
 Saturn -37926-09-17 18:57 J -12130788.91 -12130788.71 -12130788.51 0.0278 0.0100
 Uranus -37925-04-03 12:57 J -12130590.00 -12130589.96 -12130589.88 0.0135 0.0130
 Jupiter -37925-09-10 19:26 J -12130429.89 -12130429.69 -12130429.48 0.0484 0.0044
 Uranus -37925-11-15 21:06 J -12130363.69 -12130363.62 -12130363.51 0.0134 0.0123
 Uranus -37924-06-30 05:30 J -12130137.38 -12130137.27 -12130137.15 0.0134 0.0114
 Uranus -37923-02-11 13:11 J -12129911.07 -12129910.95 -12129910.80 0.0134 0.0107
 Uranus -37923-09-25 20:52 J -12129684.76 -12129684.63 -12129684.47 0.0134 0.0099
 Mars -37923-11-03 21:06 J -12129645.79 -12129645.62 -12129645.45 0.1632 0.0449
 Uranus -37922-05-10 04:33 J -12129458.47 -12129458.31 -12129458.14 0.0134 0.0091
 Uranus -37922-12-22 11:59 J -12129232.17 -12129232.00 -12129231.82 0.0133 0.0083
 Uranus -37921-08-04 19:11 J -12129005.87 -12129005.70 -12129005.50 0.0133 0.0075
 Uranus -37920-03-19 02:23 J -12128779.59 -12128779.40 -12128779.20 0.0133 0.0066
 Mars -37920-08-04 00:57 J -12128641.57 -12128641.46 -12128641.36 0.1898 0.1502
 Uranus -37920-10-31 09:06 J -12128553.31 -12128553.12 -12128552.91 0.0133 0.0058
 Uranus -37919-06-14 16:04 J -12128327.03 -12128326.83 -12128326.62 0.0133 0.0049
 Jupiter -37919-07-17 09:06 J -12128294.29 -12128294.12 -12128293.94 0.0544 0.0270
 Uranus -37918-01-26 22:33 J -12128100.76 -12128100.56 -12128100.33 0.0133 0.0041
 Uranus -37918-09-10 05:16 J -12127874.49 -12127874.28 -12127874.06 0.0133 0.0032
 Uranus -37917-04-23 11:30 J -12127648.23 -12127648.02 -12127647.79 0.0133 0.0024
 Uranus -37917-12-05 17:45 J -12127421.98 -12127421.76 -12127421.54 0.0133 0.0015
 Uranus -37916-07-19 23:59 J -12127195.73 -12127195.50 -12127195.28 0.0132 0.0007
 Uranus -37915-03-03 05:45 J -12126969.48 -12126969.26 -12126969.04 0.0132 0.0002
 Uranus -37915-10-15 11:30 J -12126743.24 -12126743.02 -12126742.80 0.0132 0.0011
 Uranus -37914-05-29 17:02 J -12126517.01 -12126516.79 -12126516.57 0.0132 0.0019
 Uranus -37913-01-10 22:33 J -12126290.77 -12126290.56 -12126290.34 0.0132 0.0027
 Jupiter -37913-05-17 00:28 J -12126163.65 -12126163.48 -12126163.29 0.0484 0.0227
 Uranus -37913-08-24 04:04 J -12126064.54 -12126064.33 -12126064.11 0.0132 0.0036
 Jupiter -37912-01-07 18:42 J -12125927.81 -12125927.72 -12125927.62 0.0484 0.0429
 Uranus -37912-04-07 09:35 J -12125838.31 -12125838.10 -12125837.89 0.0132 0.0044

Saturn -37912-07-08 20:52 J -12125745.71 -12125745.63 -12125745.53 0.0280 0.0249
 Uranus -37912-11-19 14:52 J -12125612.08 -12125611.88 -12125611.68 0.0132 0.0052
 Saturn -37911-02-23 05:02 J -12125516.49 -12125516.29 -12125516.09 0.0280 0.0069
 Uranus -37911-07-03 19:54 J -12125385.86 -12125385.67 -12125385.47 0.0132 0.0060
 Saturn -37911-10-10 13:54 J -12125287.11 -12125286.92 -12125286.73 0.0281 0.0114
 Uranus -37910-02-15 00:57 J -12125159.64 -12125159.46 -12125159.26 0.0132 0.0068
 Uranus -37910-09-29 06:14 J -12124933.41 -12124933.24 -12124933.05 0.0132 0.0075
 Uranus -37909-05-12 11:30 J -12124707.19 -12124707.02 -12124706.85 0.0132 0.0083
 Uranus -37909-12-24 16:04 J -12124480.97 -12124480.83 -12124480.66 0.0132 0.0091
 Uranus -37908-08-07 21:06 J -12124254.75 -12124254.62 -12124254.46 0.0133 0.0098
 Jupiter -37907-03-21 20:52 J -12124028.66 -12124028.63 -12124028.57 0.0543 0.0527
 Uranus -37907-03-22 02:09 J -12124028.53 -12124028.41 -12124028.27 0.0133 0.0105
 Uranus -37907-11-03 07:11 J -12123802.31 -12123802.20 -12123802.08 0.0133 0.0112
 Jupiter -37907-11-15 07:26 J -12123790.32 -12123790.19 -12123790.06 0.0545 0.0414
 Uranus -37906-06-17 11:59 J -12123576.08 -12123576.00 -12123575.89 0.0133 0.0119
 Uranus -37905-01-29 17:02 J -12123349.86 -12123349.79 -12123349.72 0.0133 0.0125
 Uranus -37905-09-11 21:35 J -12123123.61 -12123123.60 -12123123.55 0.0133 0.0132
 Jupiter -37901-01-21 06:14 J -12121897.34 -12121897.24 -12121897.12 0.0485 0.0406
 Jupiter -37901-09-12 23:30 J -12121661.69 -12121661.52 -12121661.34 0.0484 0.0247
 Saturn -37898-12-26 12:57 J -12120462.04 -12120461.96 -12120461.86 0.0279 0.0254
 Saturn -37897-08-12 04:47 J -12120232.51 -12120232.30 -12120232.09 0.0278 0.0068
 Saturn -37896-03-29 18:57 J -12120002.90 -12120002.71 -12120002.51 0.0278 0.0116
 Jupiter -37895-07-20 20:38 J -12119524.83 -12119524.64 -12119524.45 0.0545 0.0159
 Earth -37889-04-16 08:09 J -12117428.27 -12117428.16 -12117428.04 0.2669 0.1755
 Moon -37889-04-16 13:26 J -12117428.04 -12117427.94 -12117427.84 0.2670 0.2022 *
 Jupiter -37889-05-19 04:04 J -12117395.54 -12117395.33 -12117395.13 0.0484 0.0065
 Mars -37889-09-01 16:04 J -12117289.96 -12117289.83 -12117289.70 0.1627 0.1070
 Mars -37888-08-03 23:59 J -12116953.63 -12116953.50 -12116953.37 0.1891 0.1267
 Jupiter -37883-03-25 08:09 J -12115259.36 -12115259.16 -12115258.96 0.0544 0.0103
 Saturn -37882-01-18 21:21 J -12114959.72 -12114959.61 -12114959.48 0.0280 0.0230

Uranus -37882-08-14 09:50 J -12114752.13 -12114752.09 -12114752.02 0.0143 0.0138
 Saturn -37882-09-05 05:30 J -12114730.47 -12114730.27 -12114730.06 0.0280 0.0050
 Uranus -37881-03-27 18:42 J -12114525.79 -12114525.72 -12114525.61 0.0144 0.0131
 Earth -37881-04-14 02:23 J -12114508.52 -12114508.40 -12114508.27 0.2670 0.1474
 Moon -37881-04-14 06:42 J -12114508.36 -12114508.22 -12114508.08 0.2666 0.1162 *
 Saturn -37881-04-21 14:52 J -12114501.06 -12114500.88 -12114500.70 0.0281 0.0134
 Uranus -37881-11-09 04:18 J -12114299.43 -12114299.32 -12114299.21 0.0144 0.0122
 Uranus -37880-06-23 13:26 J -12114073.06 -12114072.94 -12114072.80 0.0144 0.0114
 Uranus -37879-02-04 23:02 J -12113846.67 -12113846.54 -12113846.38 0.0144 0.0106
 Uranus -37879-09-19 09:06 J -12113620.28 -12113620.12 -12113619.96 0.0145 0.0096
 Uranus -37878-05-03 18:42 J -12113393.87 -12113393.72 -12113393.54 0.0145 0.0087
 Uranus -37878-12-16 05:02 J -12113167.46 -12113167.29 -12113167.10 0.0145 0.0077
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 Uranus -37872-07-15 07:40 J -12111129.39 -12111129.18 -12111128.97 0.0146 0.0020
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 Uranus -37754-12-03 10:04 J -12067889.24 -12067889.08 -12067888.88 0.0133 0.0077
 Uranus -37753-07-16 17:45 J -12067662.95 -12067662.76 -12067662.56 0.0133 0.0068
 Jupiter -37753-08-24 11:59 J -12067624.19 -12067624.00 -12067623.80 0.0543 0.0175
 Uranus -37752-02-28 00:42 J -12067436.66 -12067436.47 -12067436.26 0.0133 0.0059
 Uranus -37752-10-12 07:26 J -12067210.38 -12067210.19 -12067209.97 0.0133 0.0051
 Uranus -37751-05-26 14:23 J -12066984.11 -12066983.90 -12066983.68 0.0133 0.0042
 Uranus -37750-01-07 20:52 J -12066757.84 -12066757.63 -12066757.41 0.0133 0.0034
 Uranus -37750-08-22 03:35 J -12066531.57 -12066531.35 -12066531.13 0.0133 0.0025

Saturn -37750-08-22 12:42 J -12066531.16 -12066530.97 -12066530.77 0.0280 0.0118 *
 Uranus -37749-04-04 09:50 J -12066305.31 -12066305.09 -12066304.87 0.0133 0.0017
 Saturn -37749-04-08 04:33 J -12066301.52 -12066301.31 -12066301.11 0.0279 0.0069
 Uranus -37749-11-16 15:50 J -12066079.06 -12066078.84 -12066078.61 0.0132 0.0008
 Saturn -37749-11-23 18:28 J -12066071.81 -12066071.73 -12066071.63 0.0279 0.0250
 Uranus -37748-06-30 22:04 J -12065852.81 -12065852.58 -12065852.36 0.0132 0.0002
 Uranus -37747-02-12 03:50 J -12065626.56 -12065626.34 -12065626.12 0.0132 0.0009
 Jupiter -37747-06-25 00:57 J -12065493.65 -12065493.46 -12065493.26 0.0485 0.0150
 Uranus -37747-09-26 09:50 J -12065400.31 -12065400.09 -12065399.87 0.0132 0.0017
 Uranus -37746-05-10 15:21 J -12065174.07 -12065173.86 -12065173.64 0.0132 0.0026
 Uranus -37746-12-22 20:52 J -12064947.84 -12064947.63 -12064947.41 0.0132 0.0034
 Uranus -37745-08-05 02:23 J -12064721.60 -12064721.40 -12064721.18 0.0132 0.0042
 Uranus -37744-03-19 07:54 J -12064495.37 -12064495.17 -12064494.96 0.0132 0.0050
 Uranus -37744-10-31 13:11 J -12064269.14 -12064268.95 -12064268.74 0.0132 0.0058
 Uranus -37743-06-14 18:28 J -12064042.91 -12064042.73 -12064042.53 0.0132 0.0066
 Uranus -37742-01-26 23:59 J -12063816.69 -12063816.50 -12063816.32 0.0132 0.0074
 Uranus -37742-09-10 05:02 J -12063590.45 -12063590.29 -12063590.11 0.0132 0.0081
 Uranus -37741-04-23 10:18 J -12063364.23 -12063364.07 -12063363.91 0.0132 0.0089
 Jupiter -37741-04-28 22:18 J -12063358.69 -12063358.57 -12063358.45 0.0543 0.0436
 Uranus -37741-12-05 14:52 J -12063138.01 -12063137.88 -12063137.71 0.0132 0.0097
 Jupiter -37741-12-23 07:26 J -12063120.27 -12063120.19 -12063120.11 0.0544 0.0495
 Uranus -37740-07-19 19:54 J -12062911.79 -12062911.67 -12062911.52 0.0132 0.0104
 Uranus -37739-03-03 00:57 J -12062685.56 -12062685.46 -12062685.33 0.0133 0.0111
 Uranus -37739-10-15 05:59 J -12062459.33 -12062459.25 -12062459.13 0.0133 0.0118
 Uranus -37738-05-29 11:02 J -12062233.11 -12062233.04 -12062232.96 0.0133 0.0124
 Uranus -37737-01-10 15:50 J -12062006.87 -12062006.84 -12062006.79 0.0133 0.0130
 Saturn -37735-01-28 09:35 J -12061258.12 -12061258.10 -12061258.06 0.0279 0.0276
 Jupiter -37735-02-28 06:14 J -12061227.39 -12061227.24 -12061227.09 0.0485 0.0330
 Saturn -37735-09-14 16:47 J -12061029.00 -12061028.80 -12061028.61 0.0279 0.0101
 Jupiter -37735-10-21 23:45 J -12060991.66 -12060991.51 -12060991.35 0.0484 0.0321

Saturn -37734-05-02 00:42 J -12060799.67 -12060799.47 -12060799.26 0.0280 0.0079
 Saturn -37734-12-17 09:50 J -12060570.15 -12060570.09 -12060570.00 0.0281 0.0261
 Jupiter -37729-08-27 19:54 J -12058854.84 -12058854.67 -12058854.48 0.0545 0.0242
 Mars -37725-04-25 10:18 J -12057518.24 -12057518.07 -12057517.90 0.1628 0.0011
 Jupiter -37723-06-27 04:47 J -12056725.49 -12056725.30 -12056725.10 0.0484 0.0140
 Saturn -37720-03-03 15:21 J -12055745.06 -12055744.86 -12055744.65 0.0279 0.0096
 Saturn -37720-10-19 06:42 J -12055515.43 -12055515.22 -12055515.02 0.0278 0.0088
 Saturn -37719-06-05 20:23 J -12055285.69 -12055285.65 -12055285.59 0.0278 0.0269
 Jupiter -37717-05-02 09:06 J -12054589.32 -12054589.12 -12054588.92 0.0544 0.0015
 Uranus -37715-12-11 23:45 J -12053635.53 -12053635.51 -12053635.45 0.0143 0.0140
 Uranus -37714-07-26 08:38 J -12053409.21 -12053409.14 -12053409.05 0.0143 0.0133
 Uranus -37713-03-08 17:30 J -12053182.86 -12053182.77 -12053182.65 0.0144 0.0125
 Uranus -37713-10-21 02:38 J -12052956.50 -12052956.39 -12052956.25 0.0144 0.0117
 Uranus -37712-06-04 11:59 J -12052730.13 -12052730.00 -12052729.85 0.0144 0.0108
 Uranus -37711-01-16 21:35 J -12052503.74 -12052503.60 -12052503.43 0.0144 0.0099
 Jupiter -37711-03-02 09:35 J -12052459.31 -12052459.10 -12052458.90 0.0484 0.0042
 Uranus -37711-08-31 07:26 J -12052277.35 -12052277.19 -12052277.02 0.0145 0.0090
 Uranus -37710-04-14 17:16 J -12052050.95 -12052050.78 -12052050.60 0.0145 0.0080
 Uranus -37710-11-27 03:21 J -12051824.54 -12051824.36 -12051824.17 0.0145 0.0070
 Uranus -37709-07-10 13:26 J -12051598.12 -12051597.94 -12051597.74 0.0145 0.0060
 Uranus -37708-02-21 23:59 J -12051371.69 -12051371.50 -12051371.29 0.0145 0.0050
 Uranus -37708-10-06 10:33 J -12051145.26 -12051145.06 -12051144.85 0.0146 0.0039
 Uranus -37707-05-20 21:21 J -12050918.82 -12050918.61 -12050918.40 0.0146 0.0029
 Uranus -37706-01-02 08:23 J -12050692.36 -12050692.15 -12050691.94 0.0146 0.0018
 Saturn -37706-08-10 09:21 J -12050472.19 -12050472.11 -12050472.03 0.0279 0.0257
 Uranus -37706-08-16 19:26 J -12050465.90 -12050465.69 -12050465.48 0.0146 0.0007
 Jupiter -37705-01-05 20:38 J -12050323.82 -12050323.64 -12050323.47 0.0543 0.0274
 Saturn -37705-03-26 16:18 J -12050243.02 -12050242.82 -12050242.62 0.0280 0.0082
 Uranus -37705-03-30 06:42 J -12050239.44 -12050239.22 -12050239.01 0.0146 0.0004
 Saturn -37705-11-11 00:28 J -12050013.67 -12050013.48 -12050013.28 0.0280 0.0098

Uranus -37705-11-11 17:59 J -12050012.96 -12050012.75 -12050012.53 0.0146 0.0016
 Uranus -37704-06-26 05:30 J -12049786.48 -12049786.27 -12049786.05 0.0146 0.0027
 Saturn -37704-06-28 10:04 J -12049784.10 -12049784.08 -12049784.06 0.0281 0.0279
 Uranus -37703-02-07 17:30 J -12049559.98 -12049559.77 -12049559.56 0.0146 0.0037
 Uranus -37703-09-22 05:16 J -12049333.48 -12049333.28 -12049333.07 0.0146 0.0049
 Uranus -37702-05-06 17:16 J -12049106.97 -12049106.78 -12049106.58 0.0146 0.0060
 Uranus -37702-12-19 05:16 J -12048880.46 -12048880.28 -12048880.08 0.0146 0.0071
 Uranus -37701-08-01 17:30 J -12048653.94 -12048653.77 -12048653.58 0.0146 0.0081
 Uranus -37700-03-16 06:14 J -12048427.40 -12048427.24 -12048427.07 0.0146 0.0091
 Uranus -37700-10-28 18:42 J -12048200.87 -12048200.72 -12048200.56 0.0146 0.0101
 Jupiter -37700-11-05 15:21 J -12048193.04 -12048192.86 -12048192.68 0.0485 0.0221
 Uranus -37699-06-12 07:26 J -12047974.33 -12047974.19 -12047974.05 0.0146 0.0111
 Jupiter -37699-06-29 09:35 J -12047957.19 -12047957.10 -12047957.01 0.0484 0.0429
 Uranus -37698-01-24 19:54 J -12047747.78 -12047747.67 -12047747.54 0.0146 0.0121
 Uranus -37698-09-08 08:23 J -12047521.23 -12047521.15 -12047521.04 0.0146 0.0131
 Uranus -37697-04-21 21:06 J -12047294.66 -12047294.62 -12047294.54 0.0146 0.0140
 Neptune -37696-03-31 12:28 J -12046951.04 -12046950.98 -12046950.88 0.0089 0.0082
 Neptune -37696-11-12 01:26 J -12046725.55 -12046725.44 -12046725.29 0.0089 0.0071
 Neptune -37695-06-25 14:23 J -12046500.05 -12046499.90 -12046499.73 0.0089 0.0060
 Neptune -37694-02-06 03:21 J -12046274.53 -12046274.36 -12046274.17 0.0089 0.0049
 Jupiter -37694-09-10 04:33 J -12046058.32 -12046058.31 -12046058.29 0.0542 0.0539
 Neptune -37694-09-19 16:33 J -12046049.01 -12046048.81 -12046048.61 0.0089 0.0038
 Mars -37693-04-24 03:50 J -12045831.43 -12045831.34 -12045831.24 0.1633 0.1358
 Neptune -37693-05-02 05:02 J -12045823.48 -12045823.29 -12045823.07 0.0089 0.0028
 Jupiter -37693-05-05 14:09 J -12045820.04 -12045819.91 -12045819.77 0.0544 0.0390
 Neptune -37693-12-13 17:59 J -12045597.96 -12045597.75 -12045597.53 0.0089 0.0017
 Neptune -37692-07-27 06:57 J -12045372.43 -12045372.21 -12045371.99 0.0089 0.0006
 Saturn -37691-01-27 04:18 J -12045188.41 -12045188.32 -12045188.23 0.0280 0.0254
 Mars -37691-02-22 05:16 J -12045162.34 -12045162.28 -12045162.22 0.1623 0.1508
 Neptune -37691-03-09 19:40 J -12045146.90 -12045146.68 -12045146.46 0.0089 0.0005

Saturn -37691-09-13 21:06 J -12044958.83 -12044958.62 -12044958.41 0.0280 0.0066
 Neptune -37691-10-21 08:23 J -12044921.36 -12044921.15 -12044920.93 0.0089 0.0016
 Mars -37690-01-23 07:54 J -12044827.35 -12044827.17 -12044827.00 0.1897 0.0277
 Saturn -37690-05-01 12:28 J -12044729.17 -12044728.98 -12044728.78 0.0279 0.0120
 Neptune -37690-06-03 20:52 J -12044695.82 -12044695.63 -12044695.41 0.0089 0.0027
 Neptune -37689-01-15 09:21 J -12044470.29 -12044470.11 -12044469.89 0.0089 0.0038
 Neptune -37689-08-27 22:18 J -12044244.75 -12044244.57 -12044244.38 0.0089 0.0048
 Neptune -37688-04-10 10:47 J -12044019.20 -12044019.05 -12044018.88 0.0089 0.0059
 Jupiter -37688-07-11 20:38 J -12043926.75 -12043926.64 -12043926.53 0.0486 0.0401
 Neptune -37688-11-21 23:16 J -12043793.64 -12043793.53 -12043793.38 0.0089 0.0070
 Jupiter -37687-03-04 14:23 J -12043691.08 -12043690.90 -12043690.72 0.0484 0.0249
 Neptune -37687-07-05 11:59 J -12043568.08 -12043568.00 -12043567.90 0.0089 0.0081
 Jupiter -37681-01-09 01:11 J -12041554.65 -12041554.45 -12041554.26 0.0544 0.0130
 Saturn -37676-02-19 17:45 J -12039685.87 -12039685.76 -12039685.63 0.0279 0.0225
 Saturn -37676-10-07 00:57 J -12039456.66 -12039456.46 -12039456.25 0.0279 0.0049
 Jupiter -37676-11-07 18:57 J -12039424.92 -12039424.71 -12039424.51 0.0484 0.0067
 Saturn -37675-05-24 09:06 J -12039227.30 -12039227.12 -12039226.93 0.0280 0.0131
 Uranus -37674-04-01 09:50 J -12038915.12 -12038915.09 -12038915.04 0.0135 0.0132
 Uranus -37674-11-13 18:14 J -12038688.81 -12038688.74 -12038688.64 0.0135 0.0125
 Uranus -37673-06-27 02:38 J -12038462.48 -12038462.39 -12038462.26 0.0135 0.0118
 Uranus -37672-02-08 11:02 J -12038236.16 -12038236.04 -12038235.90 0.0134 0.0110
 Uranus -37672-09-22 19:11 J -12038009.84 -12038009.70 -12038009.55 0.0134 0.0101
 Uranus -37671-05-07 03:06 J -12037783.53 -12037783.37 -12037783.21 0.0134 0.0093
 Uranus -37671-12-19 10:47 J -12037557.22 -12037557.05 -12037556.88 0.0134 0.0085
 Uranus -37670-08-02 18:14 J -12037330.92 -12037330.74 -12037330.55 0.0134 0.0077
 Jupiter -37670-09-13 12:28 J -12037289.18 -12037288.98 -12037288.79 0.0544 0.0130
 Uranus -37669-03-16 01:26 J -12037104.62 -12037104.44 -12037104.24 0.0133 0.0069
 Uranus -37669-10-28 08:23 J -12036878.33 -12036878.15 -12036877.94 0.0133 0.0061
 Uranus -37668-06-11 15:50 J -12036652.05 -12036651.84 -12036651.64 0.0133 0.0052
 Uranus -37667-01-23 22:18 J -12036425.77 -12036425.57 -12036425.35 0.0133 0.0043

Uranus	-37667-09-07 05:02 J	-12036199.49	-12036199.29	-12036199.06	0.0133	0.0035
Uranus	-37666-04-21 11:45 J	-12035973.23	-12035973.01	-12035972.79	0.0133	0.0026
Uranus	-37666-12-03 17:59 J	-12035746.97	-12035746.75	-12035746.53	0.0133	0.0017
Uranus	-37665-07-17 00:14 J	-12035520.71	-12035520.49	-12035520.26	0.0133	0.0009
Uranus	-37664-02-28 06:28 J	-12035294.45	-12035294.23	-12035294.01	0.0132	0.0001
Jupiter	-37664-07-14 00:14 J	-12035158.69	-12035158.49	-12035158.29	0.0484	0.0113
Uranus	-37664-10-12 12:28 J	-12035068.20	-12035067.98	-12035067.76	0.0132	0.0008
Uranus	-37663-05-26 18:14 J	-12034841.96	-12034841.74	-12034841.52	0.0132	0.0017
Uranus	-37662-01-07 23:59 J	-12034615.71	-12034615.50	-12034615.28	0.0132	0.0025
Saturn	-37662-08-09 08:23 J	-12034402.27	-12034402.15	-12034402.03	0.0280	0.0229
Uranus	-37662-08-22 05:45 J	-12034389.47	-12034389.26	-12034389.04	0.0132	0.0033
Saturn	-37661-03-26 00:57 J	-12034172.68	-12034172.46	-12034172.25	0.0279	0.0043
Uranus	-37661-04-04 11:16 J	-12034163.23	-12034163.03	-12034162.81	0.0132	0.0042
Saturn	-37661-11-10 15:50 J	-12033943.02	-12033942.84	-12033942.65	0.0278	0.0141
Uranus	-37661-11-16 16:47 J	-12033937.00	-12033936.80	-12033936.59	0.0132	0.0050
Uranus	-37660-06-30 22:18 J	-12033710.77	-12033710.57	-12033710.37	0.0132	0.0057
Uranus	-37659-02-12 03:35 J	-12033484.53	-12033484.35	-12033484.15	0.0132	0.0065
Mars	-37659-02-20 22:33 J	-12033475.74	-12033475.56	-12033475.39	0.1627	0.0165
Uranus	-37659-09-26 08:52 J	-12033258.30	-12033258.13	-12033257.93	0.0132	0.0074
Uranus	-37658-05-10 14:09 J	-12033032.07	-12033031.91	-12033031.73	0.0132	0.0081
Jupiter	-37658-05-19 00:28 J	-12033023.62	-12033023.48	-12033023.33	0.0543	0.0385
Uranus	-37658-12-22 19:26 J	-12032805.85	-12032805.69	-12032805.52	0.0132	0.0088
Jupiter	-37657-01-12 10:04 J	-12032785.08	-12032785.08	-12032785.07	0.0545	0.0544
Uranus	-37657-08-05 00:42 J	-12032579.62	-12032579.47	-12032579.32	0.0132	0.0096
Uranus	-37656-03-19 05:16 J	-12032353.40	-12032353.28	-12032353.12	0.0132	0.0104
Uranus	-37656-10-31 10:18 J	-12032127.17	-12032127.07	-12032126.93	0.0133	0.0111
Uranus	-37655-06-14 15:21 J	-12031900.95	-12031900.86	-12031900.75	0.0133	0.0117
Uranus	-37654-01-26 20:09 J	-12031674.72	-12031674.66	-12031674.57	0.0133	0.0124
Uranus	-37654-09-10 01:11 J	-12031448.48	-12031448.45	-12031448.40	0.0133	0.0130
Jupiter	-37652-03-19 05:16 J	-12030892.44	-12030892.28	-12030892.12	0.0485	0.0294

Jupiter -37652-11-09 22:47 J -12030656.69 -12030656.55 -12030656.41 0.0484 0.0354
 Saturn -37647-09-01 17:30 J -12028899.90 -12028899.77 -12028899.62 0.0279 0.0206
 Moon -37646-04-17 08:23 J -12028672.26 -12028672.15 -12028672.04 0.2666 0.1933
 Earth -37646-04-17 12:28 J -12028672.08 -12028671.98 -12028671.88 0.2669 0.2044 *
 Saturn -37646-04-19 00:42 J -12028670.67 -12028670.47 -12028670.26 0.0280 0.0031
 Jupiter -37646-09-16 22:47 J -12028519.72 -12028519.55 -12028519.38 0.0544 0.0291
 Saturn -37646-12-04 08:52 J -12028441.30 -12028441.13 -12028440.94 0.0280 0.0150
 Jupiter -37641-11-22 10:47 J -12026626.09 -12026626.05 -12026625.99 0.0486 0.0471
 Jupiter -37640-07-16 04:04 J -12026390.53 -12026390.33 -12026390.14 0.0484 0.0175
 Moon -37638-04-15 01:54 J -12025752.54 -12025752.42 -12025752.31 0.2672 0.1789
 Earth -37638-04-15 06:42 J -12025752.36 -12025752.22 -12025752.08 0.2671 0.1161 *
 Jupiter -37634-05-22 07:40 J -12024254.38 -12024254.18 -12024253.98 0.0544 0.0024
 Saturn -37632-02-18 13:40 J -12023616.07 -12023615.93 -12023615.78 0.0280 0.0201
 Saturn -37632-10-06 06:28 J -12023386.45 -12023386.23 -12023386.01 0.0280 0.0014
 Saturn -37631-05-23 21:50 J -12023156.76 -12023156.59 -12023156.42 0.0279 0.0171
 Uranus -37631-08-11 07:26 J -12023077.21 -12023077.19 -12023077.16 0.0143 0.0141
 Uranus -37630-03-25 15:35 J -12022850.90 -12022850.85 -12022850.75 0.0143 0.0135
 Uranus -37630-11-07 00:28 J -12022624.56 -12022624.48 -12022624.36 0.0143 0.0127
 Uranus -37629-06-20 09:35 J -12022398.20 -12022398.10 -12022397.97 0.0144 0.0118
 Uranus -37628-02-01 19:11 J -12022171.83 -12022171.70 -12022171.56 0.0144 0.0109
 Jupiter -37628-03-21 08:52 J -12022124.33 -12022124.13 -12022123.92 0.0485 0.0009
 Uranus -37628-09-16 04:18 J -12021945.46 -12021945.32 -12021945.16 0.0144 0.0101
 Mars -37627-02-19 16:04 J -12021788.95 -12021788.83 -12021788.72 0.1632 0.1200
 Uranus -37627-04-30 13:54 J -12021719.07 -12021718.92 -12021718.75 0.0145 0.0091
 Uranus -37627-12-12 23:45 J -12021492.68 -12021492.51 -12021492.33 0.0145 0.0082
 Uranus -37626-07-27 09:35 J -12021266.28 -12021266.10 -12021265.91 0.0145 0.0072
 Uranus -37625-03-09 19:40 J -12021039.86 -12021039.68 -12021039.48 0.0145 0.0062
 Uranus -37625-10-22 05:59 J -12020813.44 -12020813.25 -12020813.05 0.0145 0.0052
 Mars -37625-11-19 11:02 J -12020785.20 -12020785.04 -12020784.88 0.1899 0.0776
 Uranus -37624-06-05 16:33 J -12020587.01 -12020586.81 -12020586.60 0.0146 0.0041

Uranus	-37623-01-18 03:06 J	-12020360.57	-12020360.37	-12020360.15	0.0146	0.0031
Uranus	-37623-09-01 14:09 J	-12020134.12	-12020133.91	-12020133.70	0.0146	0.0020
Jupiter	-37622-01-24 17:30 J	-12019988.95	-12019988.77	-12019988.59	0.0543	0.0239
Uranus	-37622-04-16 01:11 J	-12019907.67	-12019907.45	-12019907.24	0.0146	0.0009
Uranus	-37622-11-28 12:14 J	-12019681.21	-12019680.99	-12019680.78	0.0146	0.0002
Uranus	-37621-07-11 23:30 J	-12019454.73	-12019454.52	-12019454.31	0.0146	0.0013
Uranus	-37620-02-23 11:16 J	-12019228.24	-12019228.03	-12019227.82	0.0146	0.0024
Uranus	-37620-10-07 22:47 J	-12019001.75	-12019001.55	-12019001.34	0.0146	0.0036
Uranus	-37619-05-22 10:33 J	-12018775.26	-12018775.06	-12018774.85	0.0146	0.0047
Uranus	-37618-01-03 22:33 J	-12018548.75	-12018548.56	-12018548.36	0.0146	0.0058
Uranus	-37618-08-18 10:33 J	-12018322.24	-12018322.06	-12018321.86	0.0146	0.0069
Saturn	-37617-03-14 02:52 J	-12018113.54	-12018113.38	-12018113.21	0.0279	0.0173
Uranus	-37617-03-31 22:47 J	-12018095.72	-12018095.55	-12018095.36	0.0146	0.0079
Saturn	-37617-10-29 10:18 J	-12017884.28	-12017884.07	-12017883.86	0.0279	0.0005
Uranus	-37617-11-13 11:16 J	-12017869.19	-12017869.03	-12017868.85	0.0146	0.0090
Jupiter	-37617-11-24 13:40 J	-12017858.11	-12017857.93	-12017857.74	0.0485	0.0188
Saturn	-37616-06-15 18:42 J	-12017654.88	-12017654.72	-12017654.56	0.0280	0.0183
Uranus	-37616-06-27 23:30 J	-12017642.66	-12017642.52	-12017642.35	0.0146	0.0100
Jupiter	-37616-07-18 07:54 J	-12017622.22	-12017622.17	-12017622.10	0.0484	0.0461
Uranus	-37615-02-09 11:59 J	-12017416.12	-12017416.00	-12017415.84	0.0146	0.0110
Uranus	-37615-09-24 00:28 J	-12017189.58	-12017189.48	-12017189.34	0.0146	0.0120
Neptune	-37615-09-30 22:18 J	-12017182.62	-12017182.57	-12017182.48	0.0088	0.0084
Uranus	-37614-05-08 13:11 J	-12016963.03	-12016962.95	-12016962.83	0.0146	0.0129
Neptune	-37614-05-14 11:45 J	-12016957.13	-12016957.01	-12016956.88	0.0088	0.0073
Uranus	-37614-12-21 01:54 J	-12016736.47	-12016736.42	-12016736.34	0.0146	0.0138
Neptune	-37614-12-26 00:28 J	-12016731.61	-12016731.48	-12016731.30	0.0088	0.0063
Neptune	-37613-08-07 13:54 J	-12016506.09	-12016505.92	-12016505.73	0.0088	0.0052
Neptune	-37612-03-21 03:21 J	-12016280.55	-12016280.36	-12016280.16	0.0088	0.0041
Pluto	-37612-10-03 14:52 J	-12016084.02	-12016083.88	-12016083.69	0.0065	0.0043
Neptune	-37612-11-01 16:18 J	-12016055.02	-12016054.82	-12016054.60	0.0088	0.0030

Pluto -37611-05-16 19:40 J -12015858.90 -12015858.68 -12015858.46 0.0066 0.0000
 Neptune -37611-06-15 05:30 J -12015829.48 -12015829.27 -12015829.04 0.0088 0.0020
 Jupiter -37611-09-29 03:35 J -12015723.43 -12015723.35 -12015723.27 0.0542 0.0498
 Pluto -37611-12-27 23:30 J -12015633.67 -12015633.52 -12015633.34 0.0066 0.0042
 Neptune -37610-01-26 18:57 J -12015603.93 -12015603.71 -12015603.49 0.0088 0.0009
 Jupiter -37610-05-25 13:40 J -12015485.05 -12015484.93 -12015484.80 0.0545 0.0430
 Neptune -37610-09-09 08:09 J -12015378.38 -12015378.16 -12015377.94 0.0088 0.0002
 Neptune -37609-04-21 21:21 J -12015152.83 -12015152.61 -12015152.39 0.0088 0.0013
 Neptune -37609-12-03 10:18 J -12014927.27 -12014927.07 -12014926.84 0.0088 0.0025
 Neptune -37608-07-16 23:45 J -12014701.71 -12014701.51 -12014701.30 0.0088 0.0035
 Neptune -37607-02-27 12:57 J -12014476.14 -12014475.96 -12014475.75 0.0088 0.0046
 Neptune -37607-10-11 02:09 J -12014250.56 -12014250.41 -12014250.22 0.0088 0.0057
 Neptune -37606-05-24 15:35 J -12014024.97 -12014024.85 -12014024.69 0.0088 0.0067
 Neptune -37605-01-05 05:16 J -12013799.38 -12013799.28 -12013799.17 0.0088 0.0078
 Jupiter -37605-07-30 19:11 J -12013591.82 -12013591.70 -12013591.56 0.0486 0.0366
 Jupiter -37604-03-23 12:42 J -12013356.13 -12013355.97 -12013355.80 0.0484 0.0282
 Saturn -37603-08-31 18:57 J -12012829.87 -12012829.71 -12012829.53 0.0280 0.0175
 Saturn -37602-04-18 11:30 J -12012600.24 -12012600.02 -12012599.81 0.0279 0.0013
 Saturn -37602-12-04 02:09 J -12012370.56 -12012370.41 -12012370.25 0.0279 0.0194
 Jupiter -37598-01-28 02:38 J -12011219.58 -12011219.39 -12011219.20 0.0545 0.0178
 Mars -37594-12-19 11:02 J -12009433.21 -12009433.04 -12009432.87 0.1626 0.0307
 Jupiter -37593-11-26 17:16 J -12009089.99 -12009089.78 -12009089.58 0.0484 0.0100
 Uranus -37591-11-29 16:47 J -12008356.82 -12008356.80 -12008356.76 0.0135 0.0133
 Uranus -37590-07-14 01:26 J -12008130.50 -12008130.44 -12008130.35 0.0135 0.0126
 Uranus -37589-02-25 10:18 J -12007904.18 -12007904.07 -12007903.97 0.0135 0.0118
 Uranus -37589-10-08 17:59 J -12007677.86 -12007677.75 -12007677.61 0.0135 0.0111
 Uranus -37588-05-23 02:23 J -12007451.54 -12007451.40 -12007451.25 0.0134 0.0103
 Saturn -37588-09-24 03:35 J -12007327.52 -12007327.35 -12007327.18 0.0279 0.0152
 Uranus -37587-01-04 10:18 J -12007225.22 -12007225.07 -12007224.90 0.0134 0.0094
 Saturn -37587-05-11 10:47 J -12007098.26 -12007098.05 -12007097.84 0.0280 0.0024

Uranus	-37587-08-18 18:14 J	-12006998.91	-12006998.74	-12006998.57	0.0134	0.0086
Jupiter	-37587-10-02 14:38 J	-12006954.08	-12006953.89	-12006953.68	0.0544	0.0081
Saturn	-37587-12-26 19:11 J	-12006868.84	-12006868.70	-12006868.55	0.0280	0.0204
Uranus	-37586-04-02 01:40 J	-12006772.60	-12006772.43	-12006772.24	0.0134	0.0078
Uranus	-37586-11-14 08:52 J	-12006546.31	-12006546.13	-12006545.93	0.0134	0.0070
Uranus	-37585-06-27 16:04 J	-12006320.01	-12006319.83	-12006319.61	0.0133	0.0062
Uranus	-37584-02-08 23:30 J	-12006093.72	-12006093.52	-12006093.31	0.0133	0.0052
Uranus	-37584-09-23 06:14 J	-12005867.44	-12005867.24	-12005867.02	0.0133	0.0044
Uranus	-37583-05-07 12:57 J	-12005641.17	-12005640.96	-12005640.74	0.0133	0.0035
Uranus	-37583-12-19 19:26 J	-12005414.90	-12005414.69	-12005414.46	0.0133	0.0027
Uranus	-37582-08-03 02:09 J	-12005188.63	-12005188.41	-12005188.19	0.0133	0.0018
Uranus	-37581-03-16 08:23 J	-12004962.37	-12004962.15	-12004961.93	0.0133	0.0010
Jupiter	-37581-08-01 22:33 J	-12004823.76	-12004823.56	-12004823.36	0.0485	0.0080
Uranus	-37581-10-28 14:38 J	-12004736.11	-12004735.89	-12004735.67	0.0132	0.0002
Uranus	-37580-06-11 20:38 J	-12004509.86	-12004509.64	-12004509.42	0.0132	0.0007
Uranus	-37579-01-24 02:38 J	-12004283.61	-12004283.39	-12004283.17	0.0132	0.0016
Uranus	-37579-09-07 08:23 J	-12004057.36	-12004057.15	-12004056.93	0.0132	0.0024
Uranus	-37578-04-21 14:09 J	-12003831.12	-12003830.91	-12003830.69	0.0132	0.0033
Uranus	-37578-12-03 19:54 J	-12003604.88	-12003604.67	-12003604.46	0.0132	0.0041
Uranus	-37577-07-17 01:11 J	-12003378.64	-12003378.45	-12003378.23	0.0132	0.0050
Uranus	-37576-02-28 06:42 J	-12003152.40	-12003152.22	-12003152.00	0.0132	0.0058
Uranus	-37576-10-12 12:14 J	-12002926.17	-12002925.99	-12002925.78	0.0132	0.0065
Uranus	-37575-05-26 17:59 J	-12002699.94	-12002699.75	-12002699.57	0.0132	0.0073
Jupiter	-37575-06-06 23:30 J	-12002688.67	-12002688.52	-12002688.36	0.0542	0.0344
Uranus	-37574-01-07 23:02 J	-12002473.71	-12002473.54	-12002473.36	0.0132	0.0080
Uranus	-37574-08-22 04:04 J	-12002247.48	-12002247.33	-12002247.15	0.0132	0.0088
Saturn	-37573-03-12 23:59 J	-12002043.68	-12002043.50	-12002043.31	0.0280	0.0147
Uranus	-37573-04-04 09:21 J	-12002021.25	-12002021.11	-12002020.95	0.0132	0.0095
Saturn	-37573-10-28 16:33 J	-12001814.03	-12001813.81	-12001813.60	0.0280	0.0039
Uranus	-37573-11-16 14:23 J	-12001795.03	-12001794.90	-12001794.75	0.0132	0.0103

Saturn -37572-06-15 07:26 J -12001584.31 -12001584.19 -12001584.05 0.0279 0.0222
 Uranus -37572-06-30 19:11 J -12001568.80 -12001568.70 -12001568.56 0.0132 0.0110
 Uranus -37571-02-11 23:59 J -12001342.58 -12001342.50 -12001342.38 0.0133 0.0117
 Uranus -37571-09-26 05:16 J -12001116.35 -12001116.28 -12001116.19 0.0133 0.0123
 Uranus -37570-05-10 09:50 J -12000890.11 -12000890.09 -12000890.02 0.0133 0.0130
 Jupiter -37569-04-07 03:21 J -12000557.53 -12000557.36 -12000557.19 0.0486 0.0261
 Jupiter -37569-11-28 21:35 J -12000321.72 -12000321.60 -12000321.47 0.0484 0.0387
 Jupiter -37563-10-05 18:57 J -11998184.87 -11998184.71 -11998184.55 0.0544 0.0320
 Mars -37562-12-18 04:33 J -11997746.45 -11997746.31 -11997746.18 0.1630 0.1048
 Mars -37559-09-16 13:11 J -11996743.07 -11996742.95 -11996742.82 0.1901 0.1300
 Saturn -37558-04-06 13:11 J -11996541.13 -11996540.95 -11996540.76 0.0279 0.0119
 Saturn -37558-11-21 20:38 J -11996311.84 -11996311.64 -11996311.43 0.0279 0.0058
 Jupiter -37558-12-12 08:23 J -11996291.23 -11996291.15 -11996291.06 0.0486 0.0439
 Saturn -37557-07-08 05:02 J -11996082.39 -11996082.29 -11996082.17 0.0280 0.0237
 Jupiter -37557-08-04 01:40 J -11996055.62 -11996055.43 -11996055.25 0.0484 0.0207
 Jupiter -37551-06-10 05:45 J -11993919.46 -11993919.26 -11993919.06 0.0544 0.0062
 Uranus -37547-04-10 14:52 J -11992518.88 -11992518.88 -11992518.85 0.0143 0.0143
 Uranus -37547-11-22 23:30 J -11992292.57 -11992292.52 -11992292.44 0.0143 0.0135
 Uranus -37546-07-07 08:09 J -11992066.24 -11992066.16 -11992066.05 0.0143 0.0128
 Uranus -37545-02-18 17:30 J -11991839.89 -11991839.77 -11991839.66 0.0144 0.0119
 Jupiter -37545-04-09 06:57 J -11991789.42 -11991789.21 -11991789.00 0.0484 0.0027
 Uranus -37545-10-02 02:09 J -11991613.53 -11991613.41 -11991613.26 0.0144 0.0111
 Uranus -37544-05-16 11:30 J -11991387.16 -11991387.02 -11991386.86 0.0144 0.0102
 Saturn -37544-09-23 07:11 J -11991257.40 -11991257.20 -11991257.01 0.0280 0.0118
 Uranus -37544-12-28 21:06 J -11991160.77 -11991160.62 -11991160.45 0.0144 0.0093
 Saturn -37543-05-10 23:02 J -11991027.75 -11991027.54 -11991027.33 0.0279 0.0067
 Uranus -37543-08-12 06:28 J -11990934.38 -11990934.23 -11990934.04 0.0145 0.0084
 Saturn -37543-12-26 13:40 J -11990798.02 -11990797.93 -11990797.83 0.0279 0.0248
 Uranus -37542-03-26 16:18 J -11990707.99 -11990707.82 -11990707.62 0.0145 0.0074
 Uranus -37542-11-08 02:38 J -11990481.58 -11990481.39 -11990481.20 0.0145 0.0064

Uranus	-37541-06-21 12:28 J	-11990255.17	-11990254.98	-11990254.77	0.0145	0.0054
Uranus	-37540-02-02 23:16 J	-11990028.73	-11990028.53	-11990028.33	0.0146	0.0043
Uranus	-37540-09-17 09:35 J	-11989802.30	-11989802.10	-11989801.88	0.0146	0.0033
Jupiter	-37539-02-12 17:30 J	-11989653.95	-11989653.77	-11989653.58	0.0544	0.0195
Uranus	-37539-05-01 20:23 J	-11989575.86	-11989575.65	-11989575.44	0.0146	0.0022
Uranus	-37539-12-14 07:11 J	-11989349.41	-11989349.20	-11989348.98	0.0146	0.0011
Uranus	-37538-07-28 18:28 J	-11989122.95	-11989122.73	-11989122.52	0.0146	0.0002
Uranus	-37537-03-11 05:45 J	-11988896.47	-11988896.26	-11988896.05	0.0146	0.0011
Uranus	-37537-10-23 17:16 J	-11988670.00	-11988669.78	-11988669.57	0.0146	0.0023
Uranus	-37536-06-07 04:47 J	-11988443.51	-11988443.30	-11988443.09	0.0146	0.0034
Uranus	-37535-01-19 16:33 J	-11988217.01	-11988216.81	-11988216.60	0.0146	0.0045
Uranus	-37535-09-03 04:33 J	-11987990.51	-11987990.31	-11987990.11	0.0146	0.0056
Uranus	-37534-04-17 16:33 J	-11987764.00	-11987763.81	-11987763.62	0.0146	0.0067
Uranus	-37534-11-30 04:33 J	-11987537.49	-11987537.31	-11987537.12	0.0146	0.0077
Jupiter	-37534-12-14 11:30 J	-11987523.21	-11987523.02	-11987522.82	0.0485	0.0155
Uranus	-37533-07-13 16:33 J	-11987310.97	-11987310.81	-11987310.62	0.0146	0.0088
Uranus	-37532-02-25 05:16 J	-11987084.43	-11987084.28	-11987084.11	0.0146	0.0098
Neptune	-37532-07-03 00:28 J	-11986956.52	-11986956.48	-11986956.40	0.0089	0.0085
Uranus	-37532-10-09 17:45 J	-11986857.90	-11986857.76	-11986857.61	0.0146	0.0108
Neptune	-37531-02-13 13:40 J	-11986731.04	-11986730.93	-11986730.81	0.0089	0.0074
Uranus	-37531-05-24 05:59 J	-11986631.36	-11986631.25	-11986631.11	0.0146	0.0118
Neptune	-37531-09-27 02:23 J	-11986505.54	-11986505.40	-11986505.23	0.0089	0.0064
Uranus	-37530-01-05 18:57 J	-11986404.82	-11986404.71	-11986404.61	0.0146	0.0127
Neptune	-37530-05-10 15:21 J	-11986280.02	-11986279.86	-11986279.67	0.0089	0.0053
Uranus	-37530-08-20 07:11 J	-11986178.26	-11986178.20	-11986178.11	0.0146	0.0137
Neptune	-37530-12-22 04:18 J	-11986054.51	-11986054.32	-11986054.12	0.0089	0.0042
Saturn	-37529-03-01 07:40 J	-11985984.21	-11985984.18	-11985984.12	0.0279	0.0271
Uranus	-37529-04-02 19:54 J	-11985951.67	-11985951.67	-11985951.64	0.0146	0.0146
Neptune	-37529-08-03 16:47 J	-11985828.99	-11985828.80	-11985828.58	0.0089	0.0032
Saturn	-37529-10-16 14:23 J	-11985755.10	-11985754.90	-11985754.71	0.0279	0.0097

Neptune -37528-03-17 05:45 J -11985603.46 -11985603.26 -11985603.04 0.0089 0.0021
 Saturn -37528-06-02 21:50 J -11985525.79 -11985525.59 -11985525.39 0.0280 0.0080
 Mars -37528-10-15 23:30 J -11985390.68 -11985390.52 -11985390.35 0.1625 0.0450
 Jupiter -37528-10-18 05:16 J -11985388.39 -11985388.28 -11985388.16 0.0543 0.0449
 Neptune -37528-10-28 18:57 J -11985377.93 -11985377.71 -11985377.49 0.0089 0.0010
 Saturn -37527-01-18 06:14 J -11985296.31 -11985296.24 -11985296.15 0.0280 0.0259
 Neptune -37527-06-11 07:40 J -11985152.39 -11985152.18 -11985151.96 0.0089 0.0002
 Jupiter -37527-06-13 15:06 J -11985149.96 -11985149.87 -11985149.76 0.0544 0.0476
 Mars -37527-09-16 12:14 J -11985055.10 -11985054.99 -11985054.88 0.1895 0.1446
 Neptune -37526-01-22 20:23 J -11984926.86 -11984926.65 -11984926.43 0.0089 0.0012
 Neptune -37526-09-05 09:21 J -11984701.32 -11984701.11 -11984700.90 0.0089 0.0022
 Neptune -37525-04-17 21:50 J -11984475.79 -11984475.59 -11984475.38 0.0089 0.0033
 Moon -37525-10-19 14:52 J -11984291.01 -11984290.88 -11984290.75 0.2662 0.1521
 Earth -37525-10-19 21:06 J -11984290.65 -11984290.62 -11984290.58 0.2663 0.2582
 Neptune -37525-11-29 10:18 J -11984250.24 -11984250.07 -11984249.87 0.0089 0.0044
 Pluto -37524-06-07 10:33 J -11984060.28 -11984060.06 -11984059.84 0.0078 0.0017
 Neptune -37524-07-12 23:16 J -11984024.70 -11984024.53 -11984024.36 0.0089 0.0054
 Pluto -37523-01-18 20:09 J -11983834.79 -11983834.66 -11983834.49 0.0078 0.0057
 Neptune -37523-02-23 11:30 J -11983799.15 -11983799.02 -11983798.86 0.0089 0.0065
 Neptune -37523-10-06 23:59 J -11983573.59 -11983573.50 -11983573.36 0.0089 0.0076
 Neptune -37522-05-20 12:42 J -11983348.00 -11983347.97 -11983347.90 0.0089 0.0086
 Jupiter -37522-08-19 17:02 J -11983256.93 -11983256.79 -11983256.64 0.0486 0.0333
 Jupiter -37521-04-11 10:47 J -11983021.21 -11983021.05 -11983020.90 0.0484 0.0313
 Moon -37517-10-17 04:18 J -11981371.42 -11981371.32 -11981371.22 0.2666 0.2004
 Earth -37517-10-17 08:52 J -11981371.26 -11981371.13 -11981370.99 0.2661 0.1503 *
 Jupiter -37515-02-16 00:57 J -11980884.64 -11980884.46 -11980884.27 0.0544 0.0214
 Saturn -37515-08-18 17:59 J -11980700.76 -11980700.75 -11980700.72 0.0281 0.0279
 Saturn -37514-04-05 11:30 J -11980471.22 -11980471.02 -11980470.81 0.0280 0.0092
 Saturn -37514-11-21 03:50 J -11980241.54 -11980241.34 -11980241.14 0.0280 0.0093
 Saturn -37513-07-07 18:42 J -11980011.75 -11980011.72 -11980011.68 0.0279 0.0275

Jupiter -37510-12-16 14:52 J -11978755.08 -11978754.88 -11978754.68 0.0485 0.0131
 Uranus -37507-07-29 23:59 J -11977798.50 -11977798.50 -11977798.46 0.0135 0.0135
 Uranus -37506-03-13 08:38 J -11977572.19 -11977572.14 -11977572.05 0.0135 0.0128
 Uranus -37506-10-25 17:02 J -11977345.87 -11977345.79 -11977345.66 0.0135 0.0120
 Uranus -37505-06-08 01:40 J -11977119.54 -11977119.43 -11977119.29 0.0135 0.0112
 Uranus -37504-01-20 10:04 J -11976893.21 -11976893.08 -11976892.93 0.0134 0.0104
 Uranus -37504-09-03 18:14 J -11976666.89 -11976666.74 -11976666.58 0.0134 0.0095
 Jupiter -37504-10-21 11:02 J -11976619.24 -11976619.04 -11976618.83 0.0543 0.0049
 Uranus -37503-04-18 01:54 J -11976440.58 -11976440.42 -11976440.24 0.0134 0.0087
 Uranus -37503-11-30 09:35 J -11976214.27 -11976214.10 -11976213.91 0.0134 0.0079
 Uranus -37502-07-14 17:02 J -11975987.97 -11975987.79 -11975987.59 0.0134 0.0071
 Uranus -37501-02-26 00:28 J -11975761.67 -11975761.48 -11975761.28 0.0133 0.0062
 Uranus -37501-10-09 07:26 J -11975535.39 -11975535.19 -11975534.98 0.0133 0.0054
 Uranus -37500-05-23 14:23 J -11975309.10 -11975308.90 -11975308.68 0.0133 0.0045
 Saturn -37500-09-11 17:45 J -11975197.86 -11975197.76 -11975197.64 0.0278 0.0237
 Uranus -37499-01-04 21:21 J -11975082.83 -11975082.61 -11975082.40 0.0133 0.0036
 Saturn -37499-04-29 00:28 J -11974968.68 -11974968.48 -11974968.27 0.0279 0.0064
 Uranus -37499-08-19 03:50 J -11974856.55 -11974856.34 -11974856.11 0.0133 0.0028
 Saturn -37499-12-14 08:09 J -11974739.35 -11974739.16 -11974738.97 0.0279 0.0114
 Uranus -37498-04-02 10:33 J -11974630.28 -11974630.06 -11974629.84 0.0133 0.0019
 Jupiter -37498-08-21 19:26 J -11974488.89 -11974488.69 -11974488.49 0.0485 0.0049
 Uranus -37498-11-14 16:47 J -11974404.02 -11974403.80 -11974403.57 0.0133 0.0011
 Uranus -37497-06-27 23:16 J -11974177.75 -11974177.53 -11974177.31 0.0133 0.0003
 Uranus -37496-02-09 05:16 J -11973951.50 -11973951.28 -11973951.05 0.0132 0.0007
 Uranus -37496-09-23 11:30 J -11973725.24 -11973725.02 -11973724.80 0.0132 0.0015
 Mars -37496-10-14 16:47 J -11973703.94 -11973703.80 -11973703.65 0.1629 0.0897
 Uranus -37495-05-07 17:16 J -11973498.99 -11973498.78 -11973498.56 0.0132 0.0024
 Uranus -37495-12-19 23:16 J -11973272.75 -11973272.53 -11973272.32 0.0132 0.0032
 Uranus -37494-08-03 04:47 J -11973046.50 -11973046.30 -11973046.08 0.0132 0.0040
 Uranus -37493-03-16 10:33 J -11972820.26 -11972820.06 -11972819.85 0.0132 0.0048

Mars	-37493-07-13 16:04 J	-11972700.88	-11972700.83	-11972700.78	0.1903	0.1804
Uranus	-37493-10-28 16:04 J	-11972594.02	-11972593.83	-11972593.62	0.0132	0.0056
Uranus	-37492-06-11 21:35 J	-11972367.79	-11972367.60	-11972367.40	0.0132	0.0064
Jupiter	-37492-06-25 20:09 J	-11972353.82	-11972353.66	-11972353.49	0.0543	0.0309
Uranus	-37491-01-24 02:52 J	-11972141.55	-11972141.38	-11972141.18	0.0132	0.0072
Uranus	-37491-09-07 08:38 J	-11971915.32	-11971915.14	-11971914.97	0.0132	0.0080
Uranus	-37490-04-21 13:26 J	-11971689.09	-11971688.94	-11971688.76	0.0132	0.0088
Uranus	-37490-12-03 18:42 J	-11971462.86	-11971462.72	-11971462.56	0.0132	0.0095
Uranus	-37489-07-16 23:30 J	-11971236.64	-11971236.52	-11971236.36	0.0132	0.0102
Uranus	-37488-02-28 05:02 J	-11971010.42	-11971010.29	-11971010.17	0.0132	0.0109
Uranus	-37488-10-12 09:50 J	-11970784.19	-11970784.09	-11970783.98	0.0133	0.0116
Uranus	-37487-05-26 14:23 J	-11970557.96	-11970557.90	-11970557.80	0.0133	0.0123
Uranus	-37486-01-07 19:26 J	-11970331.73	-11970331.69	-11970331.63	0.0133	0.0129
Jupiter	-37486-04-27 01:11 J	-11970222.63	-11970222.45	-11970222.27	0.0485	0.0227
Jupiter	-37486-12-18 18:57 J	-11969986.81	-11969986.71	-11969986.61	0.0484	0.0417
Saturn	-37485-02-29 02:52 J	-11969914.47	-11969914.38	-11969914.27	0.0280	0.0246
Saturn	-37485-10-15 19:54 J	-11969684.88	-11969684.67	-11969684.46	0.0280	0.0061
Saturn	-37484-06-02 11:30 J	-11969455.20	-11969455.02	-11969454.82	0.0279	0.0123
Jupiter	-37480-10-24 18:28 J	-11967849.88	-11967849.73	-11967849.58	0.0545	0.0362
Jupiter	-37475-12-31 05:59 J	-11965956.36	-11965956.25	-11965956.14	0.0486	0.0407
Jupiter	-37474-08-23 23:02 J	-11965720.72	-11965720.54	-11965720.36	0.0484	0.0236
Saturn	-37470-03-24 19:26 J	-11964411.82	-11964411.69	-11964411.55	0.0279	0.0215
Saturn	-37470-11-09 02:09 J	-11964182.62	-11964182.41	-11964182.21	0.0279	0.0041
Saturn	-37469-06-25 09:50 J	-11963953.27	-11963953.09	-11963952.91	0.0280	0.0136
Jupiter	-37468-06-29 06:42 J	-11963584.41	-11963584.22	-11963584.02	0.0544	0.0108
Uranus	-37463-07-23 07:40 J	-11961734.23	-11961734.18	-11961734.11	0.0143	0.0136
Uranus	-37462-03-06 16:18 J	-11961507.91	-11961507.82	-11961507.73	0.0143	0.0129
Jupiter	-37462-04-29 04:04 J	-11961454.53	-11961454.33	-11961454.12	0.0484	0.0058
Mars	-37462-08-13 11:45 J	-11961348.17	-11961348.01	-11961347.84	0.1624	0.0600
Uranus	-37462-10-19 00:57 J	-11961281.57	-11961281.46	-11961281.34	0.0144	0.0121

Uranus	-37461-06-01 10:04 J	-11961055.21	-11961055.08	-11961054.95	0.0144	0.0112
Mars	-37461-07-13 15:21 J	-11961013.01	-11961012.86	-11961012.71	0.1896	0.0950
Uranus	-37460-01-13 19:11 J	-11960828.84	-11960828.70	-11960828.55	0.0144	0.0104
Uranus	-37460-08-28 04:33 J	-11960602.46	-11960602.31	-11960602.15	0.0144	0.0094
Uranus	-37459-04-11 14:09 J	-11960376.08	-11960375.91	-11960375.74	0.0145	0.0085
Uranus	-37459-11-23 23:45 J	-11960149.69	-11960149.51	-11960149.33	0.0145	0.0075
Uranus	-37458-07-08 09:35 J	-11959923.29	-11959923.10	-11959922.91	0.0145	0.0065
Uranus	-37457-02-19 19:40 J	-11959696.87	-11959696.68	-11959696.48	0.0145	0.0055
Uranus	-37457-10-03 05:59 J	-11959470.45	-11959470.25	-11959470.05	0.0145	0.0045
Jupiter	-37456-03-03 16:33 J	-11959319.00	-11959318.81	-11959318.61	0.0543	0.0154
Uranus	-37456-05-17 16:18 J	-11959244.02	-11959243.82	-11959243.61	0.0146	0.0034
Saturn	-37456-09-10 06:57 J	-11959128.34	-11959128.21	-11959128.08	0.0280	0.0222
Uranus	-37456-12-30 03:06 J	-11959017.58	-11959017.37	-11959017.16	0.0146	0.0023
Saturn	-37455-04-28 00:14 J	-11958898.71	-11958898.49	-11958898.28	0.0280	0.0036
Uranus	-37455-08-13 13:54 J	-11958791.13	-11958790.92	-11958790.71	0.0146	0.0013
Saturn	-37455-12-13 16:04 J	-11958669.01	-11958668.83	-11958668.65	0.0279	0.0149
Uranus	-37454-03-28 00:57 J	-11958564.67	-11958564.46	-11958564.25	0.0146	0.0002
Uranus	-37454-11-09 11:59 J	-11958338.21	-11958338.00	-11958337.78	0.0146	0.0010
Uranus	-37453-06-22 23:30 J	-11958111.73	-11958111.52	-11958111.31	0.0146	0.0021
Uranus	-37452-02-04 11:02 J	-11957885.24	-11957885.04	-11957884.83	0.0146	0.0032
Uranus	-37452-09-18 22:47 J	-11957658.75	-11957658.55	-11957658.34	0.0146	0.0043
Uranus	-37451-05-03 10:33 J	-11957432.26	-11957432.06	-11957431.86	0.0146	0.0054
Uranus	-37451-12-15 22:18 J	-11957205.75	-11957205.57	-11957205.37	0.0146	0.0065
Jupiter	-37450-01-02 08:23 J	-11957188.35	-11957188.15	-11957187.95	0.0485	0.0125
Neptune	-37450-01-02 09:50 J	-11957188.12	-11957188.09	-11957188.04	0.0088	0.0087 *
Uranus	-37450-07-30 10:18 J	-11956979.24	-11956979.07	-11956978.88	0.0146	0.0076
Neptune	-37450-08-15 22:47 J	-11956962.64	-11956962.55	-11956962.42	0.0088	0.0077
Uranus	-37449-03-12 22:33 J	-11956752.72	-11956752.56	-11956752.37	0.0146	0.0086
Neptune	-37449-03-28 12:14 J	-11956737.12	-11956736.99	-11956736.83	0.0088	0.0066
Uranus	-37449-10-25 11:02 J	-11956526.20	-11956526.04	-11956525.87	0.0146	0.0096

Neptune -37449-11-09 01:11 J -11956511.60 -11956511.45 -11956511.26 0.0088 0.0056
 Uranus -37448-06-08 23:16 J -11956299.67 -11956299.53 -11956299.37 0.0146 0.0107
 Neptune -37448-06-22 14:38 J -11956286.07 -11956285.89 -11956285.69 0.0088 0.0045
 Uranus -37447-01-21 11:45 J -11956073.13 -11956073.01 -11956072.87 0.0146 0.0116
 Neptune -37447-02-03 03:35 J -11956060.54 -11956060.35 -11956060.13 0.0088 0.0034
 Uranus -37447-09-04 23:59 J -11955846.59 -11955846.50 -11955846.37 0.0146 0.0126
 Neptune -37447-09-16 16:47 J -11955835.00 -11955834.80 -11955834.58 0.0088 0.0024
 Uranus -37446-04-19 12:42 J -11955620.04 -11955619.97 -11955619.88 0.0146 0.0135
 Neptune -37446-04-30 06:14 J -11955609.46 -11955609.24 -11955609.02 0.0088 0.0013
 Uranus -37446-12-02 01:11 J -11955393.46 -11955393.45 -11955393.40 0.0146 0.0144
 Neptune -37446-12-11 19:26 J -11955383.91 -11955383.69 -11955383.47 0.0088 0.0002
 Neptune -37445-07-24 08:38 J -11955158.36 -11955158.14 -11955157.92 0.0088 0.0009
 Jupiter -37445-11-06 02:09 J -11955053.54 -11955053.41 -11955053.28 0.0542 0.0413
 Neptune -37444-03-06 21:50 J -11954932.80 -11954932.59 -11954932.37 0.0088 0.0019
 Jupiter -37444-07-02 11:02 J -11954815.11 -11954815.04 -11954814.96 0.0544 0.0503
 Neptune -37444-10-18 10:47 J -11954707.24 -11954707.05 -11954706.82 0.0088 0.0031
 Neptune -37443-06-01 00:14 J -11954481.68 -11954481.49 -11954481.28 0.0088 0.0041
 Neptune -37442-01-12 13:26 J -11954256.11 -11954255.94 -11954255.75 0.0088 0.0051
 Neptune -37442-08-26 02:23 J -11954030.53 -11954030.40 -11954030.22 0.0088 0.0063
 Neptune -37441-04-07 16:18 J -11953804.94 -11953804.82 -11953804.69 0.0088 0.0073
 Saturn -37441-10-04 05:02 J -11953625.43 -11953625.29 -11953625.12 0.0279 0.0183
 Neptune -37441-11-19 05:16 J -11953579.33 -11953579.28 -11953579.18 0.0088 0.0084
 Saturn -37440-05-21 12:14 J -11953396.20 -11953395.99 -11953395.78 0.0279 0.0008
 Saturn -37439-01-05 20:09 J -11953166.82 -11953166.66 -11953166.49 0.0280 0.0169
 Jupiter -37439-09-07 13:26 J -11952922.10 -11952921.94 -11952921.78 0.0486 0.0303
 Jupiter -37438-05-01 07:11 J -11952686.35 -11952686.20 -11952686.06 0.0484 0.0341
 Jupiter -37432-03-06 21:06 J -11950549.80 -11950549.62 -11950549.44 0.0544 0.0247
 Mars -37430-08-12 05:16 J -11949661.44 -11949661.28 -11949661.13 0.1628 0.0747
 Jupiter -37427-05-13 19:11 J -11948655.73 -11948655.70 -11948655.66 0.0487 0.0479
 Jupiter -37426-01-04 11:59 J -11948420.19 -11948420.00 -11948419.80 0.0484 0.0163

Saturn -37426-03-23 17:02 J -11948341.94 -11948341.79 -11948341.62 0.0280 0.0187
 Saturn -37426-11-08 09:50 J -11948112.31 -11948112.09 -11948111.88 0.0280 0.0003
 Saturn -37425-06-25 01:11 J -11947882.61 -11947882.45 -11947882.29 0.0279 0.0180
 Uranus -37423-11-10 16:04 J -11947013.88 -11947013.83 -11947013.74 0.0135 0.0129
 Uranus -37422-06-25 00:42 J -11946787.54 -11946787.47 -11946787.35 0.0135 0.0121
 Uranus -37421-02-06 09:21 J -11946561.21 -11946561.11 -11946560.97 0.0135 0.0113
 Uranus -37421-09-19 17:45 J -11946334.89 -11946334.76 -11946334.61 0.0135 0.0105
 Jupiter -37421-11-09 09:06 J -11946284.32 -11946284.12 -11946283.92 0.0544 0.0010
 Uranus -37420-05-04 01:54 J -11946108.57 -11946108.42 -11946108.26 0.0134 0.0097
 Uranus -37420-12-16 09:35 J -11945882.25 -11945882.10 -11945881.92 0.0134 0.0089
 Uranus -37419-07-30 17:30 J -11945655.94 -11945655.77 -11945655.58 0.0134 0.0080
 Uranus -37418-03-14 00:57 J -11945429.64 -11945429.46 -11945429.26 0.0134 0.0072
 Uranus -37418-10-26 08:23 J -11945203.34 -11945203.15 -11945202.95 0.0134 0.0063
 Uranus -37417-06-08 15:35 J -11944977.05 -11944976.85 -11944976.64 0.0133 0.0054
 Uranus -37416-01-20 22:33 J -11944750.76 -11944750.56 -11944750.34 0.0133 0.0046
 Uranus -37416-09-04 05:30 J -11944524.48 -11944524.27 -11944524.05 0.0133 0.0037
 Uranus -37415-04-18 12:14 J -11944298.20 -11944297.99 -11944297.77 0.0133 0.0029
 Jupiter -37415-09-09 16:33 J -11944154.01 -11944153.81 -11944153.60 0.0484 0.0020
 Uranus -37415-11-30 18:57 J -11944071.93 -11944071.71 -11944071.49 0.0133 0.0020
 Uranus -37414-07-15 01:26 J -11943845.66 -11943845.44 -11943845.22 0.0133 0.0012
 Uranus -37413-02-26 07:54 J -11943619.40 -11943619.17 -11943618.95 0.0133 0.0004
 Uranus -37413-10-09 13:54 J -11943393.14 -11943392.92 -11943392.69 0.0132 0.0006
 Uranus -37412-05-23 19:54 J -11943166.88 -11943166.67 -11943166.44 0.0132 0.0015
 Uranus -37411-01-05 02:09 J -11942940.63 -11942940.41 -11942940.19 0.0132 0.0022
 Saturn -37411-04-16 07:26 J -11942839.36 -11942839.19 -11942839.02 0.0279 0.0159
 Uranus -37411-08-19 07:54 J -11942714.38 -11942714.17 -11942713.95 0.0132 0.0031
 Saturn -37411-12-01 14:23 J -11942610.11 -11942609.90 -11942609.69 0.0279 0.0016
 Uranus -37410-04-02 13:40 J -11942488.13 -11942487.93 -11942487.71 0.0132 0.0039
 Saturn -37410-07-18 22:04 J -11942380.72 -11942380.58 -11942380.42 0.0280 0.0193
 Uranus -37410-11-14 19:26 J -11942261.89 -11942261.69 -11942261.48 0.0132 0.0047

Uranus	-37409-06-28 00:57 J	-11942035.65	-11942035.46	-11942035.25	0.0132	0.0056
Jupiter	-37409-07-14 20:52 J	-11942018.80	-11942018.63	-11942018.45	0.0543	0.0263
Uranus	-37408-02-09 06:28 J	-11941809.41	-11941809.23	-11941809.03	0.0132	0.0064
Uranus	-37408-09-23 11:59 J	-11941583.17	-11941583.00	-11941582.81	0.0132	0.0072
Uranus	-37407-05-07 17:16 J	-11941356.94	-11941356.78	-11941356.59	0.0132	0.0079
Uranus	-37407-12-19 22:33 J	-11941130.72	-11941130.56	-11941130.39	0.0132	0.0087
Uranus	-37406-08-03 03:35 J	-11940904.49	-11940904.35	-11940904.19	0.0132	0.0094
Uranus	-37405-03-16 08:38 J	-11940678.27	-11940678.14	-11940677.99	0.0132	0.0102
Uranus	-37405-10-28 13:40 J	-11940452.04	-11940451.93	-11940451.79	0.0132	0.0109
Uranus	-37404-06-11 18:28 J	-11940225.82	-11940225.73	-11940225.61	0.0133	0.0116
Uranus	-37403-01-23 23:30 J	-11939999.59	-11939999.52	-11939999.43	0.0133	0.0122
Earth	-37403-04-17 16:33 J	-11939915.88	-11939915.81	-11939915.74	0.2670	0.2338
Moon	-37403-04-17 17:59 J	-11939915.81	-11939915.75	-11939915.68	0.2676	0.2383 *
Jupiter	-37403-05-15 22:04 J	-11939887.77	-11939887.58	-11939887.40	0.0485	0.0197
Uranus	-37403-09-07 04:18 J	-11939773.35	-11939773.32	-11939773.25	0.0133	0.0129
Jupiter	-37402-01-06 15:50 J	-11939651.91	-11939651.84	-11939651.76	0.0484	0.0445
Jupiter	-37397-03-19 07:11 J	-11937753.25	-11937753.20	-11937753.14	0.0541	0.0517
Saturn	-37397-10-02 20:38 J	-11937555.81	-11937555.64	-11937555.46	0.0280	0.0163
Jupiter	-37397-11-12 17:02 J	-11937514.92	-11937514.79	-11937514.65	0.0544	0.0399
Saturn	-37396-05-20 13:26 J	-11937326.15	-11937325.94	-11937325.72	0.0280	0.0022
Mars	-37396-06-10 00:14 J	-11937305.64	-11937305.49	-11937305.33	0.1623	0.0742
Saturn	-37395-01-05 04:47 J	-11937096.44	-11937096.30	-11937096.15	0.0279	0.0204
Earth	-37395-04-15 10:47 J	-11936996.20	-11936996.05	-11936995.90	0.2672	0.0881
Moon	-37395-04-15 15:06 J	-11936996.02	-11936995.87	-11936995.72	0.2674	0.0128 *
Mars	-37395-05-10 17:16 J	-11936970.95	-11936970.78	-11936970.60	0.1898	0.0424
Jupiter	-37391-01-19 02:09 J	-11935621.54	-11935621.41	-11935621.28	0.0486	0.0377
Jupiter	-37391-09-11 19:40 J	-11935385.85	-11935385.68	-11935385.51	0.0484	0.0265
Jupiter	-37385-07-18 03:21 J	-11933249.56	-11933249.36	-11933249.17	0.0543	0.0141
Saturn	-37382-10-27 16:47 J	-11932052.99	-11932052.80	-11932052.62	0.0279	0.0127
Saturn	-37381-06-12 23:59 J	-11931823.71	-11931823.50	-11931823.29	0.0279	0.0048

Saturn -37380-01-28 08:23 J -11931594.27 -11931594.15 -11931594.02 0.0280 0.0225
 Uranus -37379-03-22 14:52 J -11931175.91 -11931175.88 -11931175.81 0.0143 0.0138
 Jupiter -37379-05-18 00:14 J -11931119.69 -11931119.49 -11931119.29 0.0484 0.0087
 Uranus -37379-11-03 23:30 J -11930949.59 -11930949.52 -11930949.42 0.0143 0.0130
 Uranus -37378-06-18 08:09 J -11930723.25 -11930723.16 -11930723.04 0.0143 0.0122
 Uranus -37377-01-30 17:16 J -11930496.90 -11930496.78 -11930496.64 0.0144 0.0114
 Uranus -37377-09-13 02:23 J -11930270.54 -11930270.40 -11930270.25 0.0144 0.0105
 Uranus -37376-04-27 11:30 J -11930044.17 -11930044.02 -11930043.85 0.0144 0.0096
 Uranus -37376-12-09 21:06 J -11929817.79 -11929817.62 -11929817.45 0.0144 0.0087
 Uranus -37375-07-24 06:42 J -11929591.40 -11929591.22 -11929591.04 0.0145 0.0077
 Uranus -37374-03-07 16:33 J -11929365.00 -11929364.81 -11929364.62 0.0145 0.0067
 Uranus -37374-10-20 02:23 J -11929138.59 -11929138.40 -11929138.20 0.0145 0.0057
 Jupiter -37373-03-22 11:45 J -11928984.20 -11928984.01 -11928983.81 0.0543 0.0123
 Uranus -37373-06-02 12:42 J -11928912.17 -11928911.97 -11928911.77 0.0145 0.0047
 Uranus -37372-01-14 23:02 J -11928685.74 -11928685.54 -11928685.33 0.0146 0.0037
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 Uranus -37371-04-12 20:38 J -11928232.86 -11928232.64 -11928232.43 0.0146 0.0015
 Uranus -37371-11-25 07:26 J -11928006.40 -11928006.19 -11928005.98 0.0146 0.0004
 Uranus -37370-07-09 18:28 J -11927779.94 -11927779.73 -11927779.51 0.0146 0.0008
 Uranus -37369-02-21 05:59 J -11927553.46 -11927553.25 -11927553.03 0.0146 0.0019
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 Uranus -37368-05-19 05:02 J -11927100.49 -11927100.29 -11927100.08 0.0146 0.0041
 Neptune -37368-10-04 12:28 J -11926962.00 -11926961.98 -11926961.96 0.0089 0.0088
 Uranus -37368-12-31 16:33 J -11926874.00 -11926873.81 -11926873.60 0.0146 0.0053
 Jupiter -37367-01-21 05:45 J -11926853.46 -11926853.26 -11926853.06 0.0485 0.0092
 Saturn -37367-04-15 07:26 J -11926769.38 -11926769.19 -11926768.99 0.0280 0.0127
 Neptune -37367-05-18 00:57 J -11926736.55 -11926736.46 -11926736.34 0.0089 0.0078
 Uranus -37367-08-15 04:47 J -11926647.49 -11926647.30 -11926647.11 0.0146 0.0063
 Saturn -37367-11-30 23:59 J -11926539.71 -11926539.50 -11926539.29 0.0279 0.0057
 Neptune -37367-12-29 14:09 J -11926511.05 -11926510.91 -11926510.77 0.0089 0.0067

Uranus -37366-03-29 16:47 J -11926420.98 -11926420.80 -11926420.61 0.0146 0.0074
 Saturn -37366-07-18 14:52 J -11926309.98 -11926309.88 -11926309.76 0.0279 0.0237
 Neptune -37366-08-12 02:38 J -11926285.54 -11926285.39 -11926285.20 0.0089 0.0057
 Uranus -37366-11-11 04:33 J -11926194.47 -11926194.31 -11926194.12 0.0146 0.0085
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 Neptune -37365-11-05 04:47 J -11925834.50 -11925834.30 -11925834.10 0.0089 0.0035
 Uranus -37364-02-06 05:02 J -11925741.42 -11925741.29 -11925741.12 0.0146 0.0106
 Mars -37364-06-08 17:30 J -11925618.94 -11925618.77 -11925618.61 0.1626 0.0594
 Neptune -37364-06-18 17:30 J -11925608.97 -11925608.77 -11925608.55 0.0089 0.0025
 Pluto -37364-09-05 23:16 J -11925529.67 -11925529.53 -11925529.34 0.0065 0.0043
 Uranus -37364-09-20 17:30 J -11925514.89 -11925514.77 -11925514.62 0.0146 0.0115
 Neptune -37363-01-30 06:14 J -11925383.45 -11925383.24 -11925383.02 0.0089 0.0014
 Pluto -37363-04-19 03:50 J -11925304.56 -11925304.34 -11925304.12 0.0066 0.0002
 Uranus -37363-05-05 05:59 J -11925288.35 -11925288.25 -11925288.13 0.0146 0.0125
 Neptune -37363-09-12 19:11 J -11925157.91 -11925157.70 -11925157.48 0.0089 0.0004
 Pluto -37363-11-30 07:40 J -11925079.33 -11925079.18 -11925078.99 0.0066 0.0041
 Uranus -37363-12-17 18:42 J -11925061.80 -11925061.72 -11925061.63 0.0146 0.0133
 Neptune -37362-04-26 08:09 J -11924932.38 -11924932.16 -11924931.95 0.0089 0.0007
 Uranus -37362-08-01 07:11 J -11924835.24 -11924835.20 -11924835.15 0.0146 0.0142
 Jupiter -37362-11-25 22:47 J -11924718.69 -11924718.55 -11924718.40 0.0543 0.0377
 Neptune -37362-12-07 20:38 J -11924706.84 -11924706.64 -11924706.42 0.0089 0.0018
 Neptune -37361-07-20 09:21 J -11924481.31 -11924481.11 -11924480.89 0.0089 0.0029
 Jupiter -37361-07-21 08:38 J -11924480.16 -11924480.14 -11924480.11 0.0545 0.0540
 Neptune -37360-03-02 22:04 J -11924255.76 -11924255.58 -11924255.37 0.0089 0.0039
 Neptune -37360-10-14 10:47 J -11924030.21 -11924030.05 -11924029.85 0.0089 0.0050
 Neptune -37359-05-27 23:30 J -11923804.66 -11923804.52 -11923804.35 0.0089 0.0061
 Neptune -37358-01-08 11:59 J -11923579.11 -11923579.00 -11923578.85 0.0089 0.0071
 Neptune -37358-08-22 00:42 J -11923353.54 -11923353.47 -11923353.37 0.0089 0.0081
 Jupiter -37356-09-26 10:33 J -11922587.22 -11922587.06 -11922586.88 0.0485 0.0272

Jupiter -37355-05-20 04:04 J -11922351.46 -11922351.33 -11922351.20 0.0484 0.0369
 Saturn -37353-09-21 13:11 J -11921495.97 -11921495.95 -11921495.91 0.0278 0.0274
 Saturn -37352-05-08 19:26 J -11921266.88 -11921266.69 -11921266.50 0.0279 0.0103
 Saturn -37352-12-24 02:23 J -11921037.59 -11921037.40 -11921037.19 0.0279 0.0073
 Saturn -37351-08-10 10:47 J -11920808.14 -11920808.05 -11920807.95 0.0280 0.0248
 Jupiter -37349-03-25 21:35 J -11920214.77 -11920214.60 -11920214.43 0.0544 0.0290
 Jupiter -37344-06-01 16:04 J -11918320.90 -11918320.83 -11918320.75 0.0486 0.0448
 Jupiter -37343-01-23 08:52 J -11918085.32 -11918085.13 -11918084.94 0.0484 0.0191
 Uranus -37339-07-10 23:59 J -11916455.55 -11916455.50 -11916455.43 0.0135 0.0129
 Uranus -37338-02-22 08:23 J -11916229.22 -11916229.15 -11916229.03 0.0135 0.0122
 Uranus -37338-10-06 17:02 J -11916002.89 -11916002.79 -11916002.66 0.0135 0.0114
 Saturn -37338-10-26 10:33 J -11915983.26 -11915983.06 -11915982.86 0.0280 0.0105
 Jupiter -37338-11-29 08:38 J -11915949.34 -11915949.14 -11915948.94 0.0543 0.0035
 Uranus -37337-05-20 01:26 J -11915776.56 -11915776.44 -11915776.29 0.0135 0.0106
 Saturn -37337-06-12 02:52 J -11915753.58 -11915753.38 -11915753.17 0.0279 0.0080
 Uranus -37336-01-01 09:50 J -11915550.24 -11915550.09 -11915549.93 0.0134 0.0098
 Saturn -37336-01-27 17:59 J -11915523.82 -11915523.75 -11915523.66 0.0279 0.0259
 Uranus -37336-08-15 17:45 J -11915323.92 -11915323.76 -11915323.58 0.0134 0.0089
 Uranus -37335-03-30 01:26 J -11915097.61 -11915097.44 -11915097.25 0.0134 0.0081
 Uranus -37335-11-11 08:52 J -11914871.30 -11914871.13 -11914870.93 0.0134 0.0073
 Uranus -37334-06-25 16:47 J -11914645.00 -11914644.80 -11914644.61 0.0134 0.0064
 Uranus -37333-02-06 23:45 J -11914418.70 -11914418.51 -11914418.29 0.0133 0.0056
 Uranus -37333-09-20 06:57 J -11914192.41 -11914192.21 -11914191.99 0.0133 0.0047
 Uranus -37332-05-04 13:54 J -11913966.13 -11913965.92 -11913965.70 0.0133 0.0038
 Jupiter -37332-09-28 12:57 J -11913819.17 -11913818.96 -11913818.76 0.0485 0.0011
 Uranus -37332-12-16 20:38 J -11913739.85 -11913739.64 -11913739.41 0.0133 0.0030
 Uranus -37331-07-31 03:35 J -11913513.57 -11913513.35 -11913513.13 0.0133 0.0021
 Uranus -37330-03-14 10:18 J -11913287.29 -11913287.07 -11913286.85 0.0133 0.0012
 Mars -37330-04-07 12:42 J -11913263.12 -11913262.97 -11913262.83 0.1622 0.0890
 Uranus -37330-10-26 16:33 J -11913061.03 -11913060.81 -11913060.58 0.0133 0.0004

Mars -37329-03-06 20:23 J -11912928.82 -11912928.65 -11912928.47 0.1900 0.0083
 Uranus -37329-06-08 22:47 J -11912834.77 -11912834.55 -11912834.32 0.0132 0.0006
 Uranus -37328-01-21 05:02 J -11912608.51 -11912608.29 -11912608.06 0.0132 0.0014
 Uranus -37328-09-04 11:16 J -11912382.24 -11912382.03 -11912381.81 0.0132 0.0022
 Uranus -37327-04-18 17:16 J -11912155.99 -11912155.78 -11912155.56 0.0132 0.0030
 Uranus -37327-11-30 23:02 J -11911929.75 -11911929.54 -11911929.32 0.0132 0.0039
 Uranus -37326-07-15 04:47 J -11911703.50 -11911703.30 -11911703.09 0.0132 0.0047
 Jupiter -37326-08-03 18:28 J -11911683.92 -11911683.73 -11911683.55 0.0542 0.0226
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 Uranus -37325-10-09 16:04 J -11911251.02 -11911250.83 -11911250.63 0.0132 0.0063
 Uranus -37324-05-23 21:21 J -11911024.78 -11911024.61 -11911024.41 0.0132 0.0071
 Uranus -37323-01-05 02:52 J -11910798.55 -11910798.38 -11910798.20 0.0132 0.0079
 Saturn -37323-04-03 21:06 J -11910709.71 -11910709.62 -11910709.52 0.0279 0.0245
 Uranus -37323-08-19 07:54 J -11910572.32 -11910572.17 -11910571.99 0.0132 0.0087
 Saturn -37323-11-19 03:35 J -11910480.54 -11910480.35 -11910480.14 0.0279 0.0073
 Uranus -37322-04-02 13:11 J -11910346.09 -11910345.95 -11910345.79 0.0132 0.0094
 Saturn -37322-07-06 11:16 J -11910251.22 -11910251.03 -11910250.83 0.0279 0.0103
 Uranus -37322-11-14 18:28 J -11910119.87 -11910119.73 -11910119.59 0.0132 0.0101
 Saturn -37321-02-20 19:54 J -11910021.67 -11910021.67 -11910021.64 0.0280 0.0279
 Uranus -37321-06-27 23:30 J -11909893.65 -11909893.52 -11909893.40 0.0132 0.0108
 Uranus -37320-02-09 04:18 J -11909667.42 -11909667.32 -11909667.21 0.0132 0.0115
 Jupiter -37320-06-03 17:59 J -11909552.94 -11909552.75 -11909552.56 0.0485 0.0167
 Uranus -37320-09-23 09:06 J -11909441.19 -11909441.12 -11909441.02 0.0133 0.0122
 Jupiter -37319-01-25 11:59 J -11909317.03 -11909317.00 -11909316.95 0.0484 0.0473
 Uranus -37319-05-07 14:09 J -11909214.96 -11909214.91 -11909214.85 0.0133 0.0128
 Jupiter -37314-04-08 01:54 J -11907418.51 -11907418.42 -11907418.33 0.0542 0.0487
 Jupiter -37314-12-02 11:59 J -11907180.11 -11907180.00 -11907179.87 0.0544 0.0429
 Saturn -37309-09-20 04:47 J -11905426.39 -11905426.30 -11905426.20 0.0280 0.0251
 Jupiter -37308-02-06 23:59 J -11905286.64 -11905286.50 -11905286.36 0.0486 0.0343
 Saturn -37308-05-07 22:04 J -11905196.79 -11905196.58 -11905196.37 0.0280 0.0067

Jupiter -37308-09-30 17:02 J -11905050.95 -11905050.79 -11905050.62 0.0484 0.0297
 Saturn -37308-12-23 13:54 J -11904967.11 -11904966.92 -11904966.72 0.0279 0.0116
 Jupiter -37302-08-06 23:59 J -11902914.69 -11902914.50 -11902914.31 0.0544 0.0176
 Mars -37298-04-06 05:59 J -11901576.42 -11901576.25 -11901576.08 0.1626 0.0448
 Jupiter -37296-06-05 21:35 J -11900784.80 -11900784.60 -11900784.40 0.0484 0.0116
 Uranus -37296-11-19 22:47 J -11900617.59 -11900617.55 -11900617.50 0.0143 0.0139
 Uranus -37295-07-04 06:57 J -11900391.27 -11900391.21 -11900391.11 0.0143 0.0132
 Uranus -37294-02-15 15:35 J -11900164.94 -11900164.85 -11900164.73 0.0143 0.0124
 Uranus -37294-09-30 00:14 J -11899938.60 -11899938.49 -11899938.35 0.0144 0.0116
 Saturn -37294-10-15 00:28 J -11899923.60 -11899923.48 -11899923.35 0.0279 0.0220
 Uranus -37293-05-13 09:21 J -11899712.24 -11899712.11 -11899711.96 0.0144 0.0107
 Saturn -37293-05-31 06:57 J -11899694.42 -11899694.21 -11899694.01 0.0279 0.0048
 Uranus -37293-12-25 18:28 J -11899485.87 -11899485.73 -11899485.56 0.0144 0.0098
 Saturn -37292-01-15 14:23 J -11899465.08 -11899464.90 -11899464.71 0.0280 0.0127
 Uranus -37292-08-09 03:50 J -11899259.49 -11899259.34 -11899259.16 0.0144 0.0089
 Uranus -37291-03-23 13:26 J -11899033.11 -11899032.94 -11899032.76 0.0145 0.0079
 Uranus -37291-11-04 23:16 J -11898806.72 -11898806.53 -11898806.35 0.0145 0.0069
 Jupiter -37290-04-11 12:14 J -11898649.19 -11898648.99 -11898648.79 0.0544 0.0079
 Uranus -37290-06-19 09:06 J -11898580.31 -11898580.12 -11898579.93 0.0145 0.0059
 Uranus -37289-01-31 19:11 J -11898353.89 -11898353.70 -11898353.49 0.0145 0.0049
 Uranus -37289-09-14 05:30 J -11898127.47 -11898127.27 -11898127.06 0.0145 0.0039
 Uranus -37288-04-28 16:04 J -11897901.03 -11897900.83 -11897900.61 0.0146 0.0028
 Uranus -37288-12-11 02:52 J -11897674.59 -11897674.38 -11897674.17 0.0146 0.0017
 Uranus -37287-07-25 13:40 J -11897448.14 -11897447.93 -11897447.71 0.0146 0.0007
 Uranus -37286-03-09 00:57 J -11897221.67 -11897221.46 -11897221.25 0.0146 0.0005
 Uranus -37286-10-21 12:14 J -11896995.20 -11896994.99 -11896994.78 0.0146 0.0017
 Neptune -37286-11-17 10:04 J -11896968.16 -11896968.08 -11896967.97 0.0088 0.0080
 Uranus -37285-06-03 23:30 J -11896768.73 -11896768.52 -11896768.31 0.0146 0.0028
 Neptune -37285-06-29 23:02 J -11896742.66 -11896742.54 -11896742.38 0.0088 0.0070
 Uranus -37284-01-16 11:02 J -11896542.24 -11896542.04 -11896541.83 0.0146 0.0039

Jupiter -37284-02-09 02:52 J -11896518.59 -11896518.38 -11896518.18 0.0485 0.0062
 Neptune -37284-02-10 12:42 J -11896517.14 -11896516.97 -11896516.81 0.0088 0.0059
 Uranus -37284-08-30 22:33 J -11896315.75 -11896315.56 -11896315.34 0.0146 0.0051
 Neptune -37284-09-24 01:26 J -11896291.61 -11896291.44 -11896291.24 0.0088 0.0049
 Uranus -37283-04-14 10:18 J -11896089.25 -11896089.07 -11896088.86 0.0146 0.0062
 Neptune -37283-05-07 14:38 J -11896066.08 -11896065.89 -11896065.68 0.0088 0.0038
 Uranus -37283-11-26 22:33 J -11895862.75 -11895862.56 -11895862.37 0.0146 0.0072
 Neptune -37283-12-19 03:50 J -11895840.54 -11895840.34 -11895840.12 0.0088 0.0028
 Uranus -37282-07-11 10:18 J -11895636.24 -11895636.07 -11895635.88 0.0146 0.0083
 Neptune -37282-08-01 17:02 J -11895615.00 -11895614.79 -11895614.56 0.0088 0.0017
 Earth -37282-10-20 18:57 J -11895534.76 -11895534.71 -11895534.65 0.2662 0.2477
 Uranus -37281-02-22 22:33 J -11895409.71 -11895409.56 -11895409.38 0.0146 0.0093
 Neptune -37281-03-14 06:28 J -11895389.45 -11895389.23 -11895389.00 0.0088 0.0007
 Uranus -37281-10-06 10:47 J -11895183.19 -11895183.05 -11895182.88 0.0146 0.0104
 Neptune -37281-10-25 19:54 J -11895163.90 -11895163.67 -11895163.45 0.0088 0.0004
 Uranus -37280-05-20 23:02 J -11894956.66 -11894956.54 -11894956.39 0.0146 0.0114
 Neptune -37280-06-08 08:52 J -11894938.34 -11894938.13 -11894937.90 0.0088 0.0015
 Uranus -37279-01-02 11:45 J -11894730.13 -11894730.01 -11894729.89 0.0146 0.0123
 Neptune -37279-01-19 22:04 J -11894712.79 -11894712.58 -11894712.36 0.0088 0.0025
 Saturn -37279-04-02 07:11 J -11894640.32 -11894640.20 -11894640.08 0.0280 0.0231
 Uranus -37279-08-16 23:45 J -11894503.58 -11894503.51 -11894503.40 0.0146 0.0133
 Neptune -37279-09-02 11:02 J -11894487.23 -11894487.04 -11894486.82 0.0088 0.0036
 Saturn -37279-11-18 00:14 J -11894410.70 -11894410.49 -11894410.27 0.0280 0.0047
 Jupiter -37279-12-14 23:30 J -11894383.68 -11894383.52 -11894383.36 0.0542 0.0331
 Uranus -37278-03-31 12:28 J -11894277.02 -11894276.98 -11894276.91 0.0146 0.0141
 Neptune -37278-04-16 00:28 J -11894261.65 -11894261.48 -11894261.28 0.0088 0.0047
 Saturn -37278-07-05 16:18 J -11894181.00 -11894180.82 -11894180.63 0.0279 0.0136
 Neptune -37278-11-27 13:40 J -11894036.08 -11894035.93 -11894035.74 0.0088 0.0057
 Neptune -37277-07-10 03:06 J -11893810.50 -11893810.37 -11893810.22 0.0088 0.0068
 Neptune -37276-02-20 16:04 J -11893584.91 -11893584.83 -11893584.70 0.0088 0.0079

Pluto	-37276-05-10 17:16 J	-11893505.99	-11893505.78	-11893505.55	0.0079	0.0021
Pluto	-37276-12-22 03:21 J	-11893280.52	-11893280.36	-11893280.19	0.0078	0.0054
Earth	-37274-10-18 06:42 J	-11892615.35	-11892615.22	-11892615.09	0.2660	0.1597
Moon	-37274-10-18 12:57 J	-11892615.11	-11892614.96	-11892614.81	0.2658	0.1238 *
Jupiter	-37273-10-15 06:57 J	-11892252.38	-11892252.21	-11892252.03	0.0486	0.0241
Jupiter	-37272-06-08 00:42 J	-11892016.58	-11892016.47	-11892016.35	0.0484	0.0398
Jupiter	-37266-04-14 19:26 J	-11889879.85	-11889879.69	-11889879.53	0.0544	0.0326
Mars	-37264-02-02 00:57 J	-11889220.59	-11889220.46	-11889220.33	0.1621	0.1032
Saturn	-37264-04-26 07:11 J	-11889137.34	-11889137.20	-11889137.05	0.0279	0.0192
Saturn	-37264-12-11 14:09 J	-11888908.12	-11888907.91	-11888907.71	0.0279	0.0020
Mars	-37263-01-01 22:33 J	-11888886.72	-11888886.56	-11888886.39	0.1902	0.0601
Saturn	-37263-07-28 21:50 J	-11888678.76	-11888678.59	-11888678.41	0.0280	0.0156
Jupiter	-37261-06-20 12:28 J	-11887986.08	-11887985.98	-11887985.88	0.0487	0.0417
Jupiter	-37260-02-11 05:16 J	-11887750.45	-11887750.28	-11887750.09	0.0484	0.0223
Uranus	-37255-03-10 07:26 J	-11885897.23	-11885897.19	-11885897.12	0.0135	0.0131
Uranus	-37255-10-22 16:04 J	-11885670.90	-11885670.83	-11885670.72	0.0135	0.0123
Jupiter	-37255-12-18 03:35 J	-11885614.55	-11885614.35	-11885614.15	0.0544	0.0064
Uranus	-37254-06-06 00:57 J	-11885444.56	-11885444.46	-11885444.33	0.0135	0.0115
Uranus	-37253-01-18 09:21 J	-11885218.23	-11885218.11	-11885217.96	0.0135	0.0107
Uranus	-37253-08-31 17:45 J	-11884991.90	-11884991.76	-11884991.60	0.0135	0.0099
Uranus	-37252-04-15 01:40 J	-11884765.59	-11884765.43	-11884765.26	0.0134	0.0090
Uranus	-37252-11-27 09:21 J	-11884539.27	-11884539.11	-11884538.92	0.0134	0.0082
Uranus	-37251-07-11 17:02 J	-11884312.96	-11884312.79	-11884312.58	0.0134	0.0074
Uranus	-37250-02-23 00:57 J	-11884086.65	-11884086.46	-11884086.26	0.0134	0.0065
Uranus	-37250-10-07 08:09 J	-11883860.36	-11883860.16	-11883859.95	0.0133	0.0057
Saturn	-37250-10-13 18:57 J	-11883853.86	-11883853.71	-11883853.55	0.0280	0.0192
Uranus	-37249-05-20 15:06 J	-11883634.06	-11883633.87	-11883633.65	0.0133	0.0049
Saturn	-37249-05-30 11:59 J	-11883624.22	-11883624.00	-11883623.79	0.0280	0.0009
Jupiter	-37249-10-17 11:02 J	-11883484.24	-11883484.04	-11883483.83	0.0484	0.0045
Uranus	-37248-01-01 22:18 J	-11883407.78	-11883407.57	-11883407.35	0.0133	0.0040

Saturn	-37248-01-15 03:35 J	-11883394.52	-11883394.35	-11883394.18	0.0279	0.0172
Uranus	-37248-08-16 05:16 J	-11883181.49	-11883181.28	-11883181.05	0.0133	0.0031
Uranus	-37247-03-30 12:14 J	-11882955.21	-11882954.99	-11882954.77	0.0133	0.0022
Uranus	-37247-11-11 18:42 J	-11882728.93	-11882728.72	-11882728.49	0.0133	0.0014
Uranus	-37246-06-26 01:26 J	-11882502.66	-11882502.44	-11882502.22	0.0133	0.0005
Uranus	-37245-02-07 07:54 J	-11882276.39	-11882276.17	-11882275.95	0.0132	0.0004
Uranus	-37245-09-20 14:09 J	-11882050.13	-11882049.91	-11882049.69	0.0132	0.0013
Uranus	-37244-05-04 20:09 J	-11881823.87	-11881823.66	-11881823.43	0.0132	0.0021
Uranus	-37244-12-17 02:23 J	-11881597.62	-11881597.40	-11881597.19	0.0132	0.0029
Uranus	-37243-07-31 08:09 J	-11881371.36	-11881371.16	-11881370.94	0.0132	0.0038
Jupiter	-37243-08-22 14:38 J	-11881349.08	-11881348.89	-11881348.70	0.0543	0.0192
Uranus	-37242-03-14 13:54 J	-11881145.12	-11881144.92	-11881144.70	0.0132	0.0046
Uranus	-37242-10-26 19:40 J	-11880918.87	-11880918.68	-11880918.47	0.0132	0.0054
Uranus	-37241-06-09 01:11 J	-11880692.64	-11880692.45	-11880692.25	0.0132	0.0062
Uranus	-37240-01-21 06:42 J	-11880466.40	-11880466.22	-11880466.03	0.0132	0.0070
Uranus	-37240-09-04 11:59 J	-11880240.16	-11880240.00	-11880239.81	0.0132	0.0078
Uranus	-37239-04-18 17:30 J	-11880013.94	-11880013.77	-11880013.60	0.0132	0.0085
Uranus	-37239-11-30 22:18 J	-11879787.71	-11879787.57	-11879787.40	0.0132	0.0093
Uranus	-37238-07-15 03:21 J	-11879561.49	-11879561.36	-11879561.20	0.0132	0.0101
Uranus	-37237-02-26 08:23 J	-11879335.26	-11879335.15	-11879335.01	0.0132	0.0108
Jupiter	-37237-06-22 16:04 J	-11879218.03	-11879217.83	-11879217.63	0.0485	0.0135
Uranus	-37237-10-09 13:26 J	-11879109.03	-11879108.94	-11879108.81	0.0132	0.0115
Uranus	-37236-05-23 18:42 J	-11878882.80	-11878882.72	-11878882.63	0.0132	0.0121
Uranus	-37235-01-04 23:16 J	-11878656.57	-11878656.53	-11878656.46	0.0133	0.0128
Saturn	-37235-11-06 10:33 J	-11878351.22	-11878351.06	-11878350.89	0.0279	0.0167
Saturn	-37234-06-23 17:16 J	-11878121.99	-11878121.78	-11878121.57	0.0279	0.0006
Saturn	-37233-02-08 01:11 J	-11877892.61	-11877892.45	-11877892.29	0.0280	0.0181
Mars	-37232-01-31 18:14 J	-11877533.92	-11877533.74	-11877533.57	0.1624	0.0299
Jupiter	-37231-04-27 02:23 J	-11877083.51	-11877083.40	-11877083.28	0.0542	0.0443
Jupiter	-37231-12-21 12:57 J	-11876845.06	-11876844.96	-11876844.86	0.0545	0.0471

Jupiter -37225-02-26 21:35 J -11874951.75 -11874951.60 -11874951.44 0.0486 0.0311
 Jupiter -37225-10-19 14:38 J -11874716.04 -11874715.89 -11874715.74 0.0484 0.0326
 Saturn -37220-04-24 20:52 J -11873067.80 -11873067.63 -11873067.46 0.0280 0.0172
 Saturn -37220-12-10 13:40 J -11872838.14 -11872837.93 -11872837.71 0.0279 0.0012
 Saturn -37219-07-28 05:30 J -11872608.43 -11872608.27 -11872608.12 0.0279 0.0191
 Jupiter -37219-08-26 00:57 J -11872579.64 -11872579.46 -11872579.27 0.0544 0.0222
 Jupiter -37213-06-24 18:28 J -11870449.92 -11870449.73 -11870449.53 0.0484 0.0147
 Uranus -37212-07-20 05:59 J -11870059.27 -11870059.25 -11870059.20 0.0142 0.0140
 Uranus -37211-03-03 14:09 J -11869832.97 -11869832.91 -11869832.82 0.0143 0.0133
 Uranus -37211-10-15 22:33 J -11869606.64 -11869606.56 -11869606.44 0.0143 0.0126
 Uranus -37210-05-30 07:40 J -11869380.30 -11869380.18 -11869380.06 0.0143 0.0117
 Uranus -37209-01-11 16:18 J -11869153.94 -11869153.82 -11869153.67 0.0144 0.0109
 Uranus -37209-08-25 01:40 J -11868927.58 -11868927.43 -11868927.28 0.0144 0.0099
 Uranus -37208-04-08 10:47 J -11868701.21 -11868701.05 -11868700.88 0.0144 0.0090
 Uranus -37208-11-20 20:09 J -11868474.83 -11868474.66 -11868474.48 0.0144 0.0081
 Jupiter -37207-04-30 11:30 J -11868314.23 -11868314.02 -11868313.82 0.0543 0.0038
 Uranus -37207-07-05 05:45 J -11868248.44 -11868248.26 -11868248.07 0.0145 0.0071
 Uranus -37206-02-16 15:35 J -11868022.03 -11868021.85 -11868021.65 0.0145 0.0061
 Uranus -37206-10-01 01:40 J -11867795.62 -11867795.43 -11867795.22 0.0145 0.0051
 Uranus -37205-05-14 11:59 J -11867569.20 -11867569.00 -11867568.79 0.0145 0.0040
 Saturn -37205-05-18 15:50 J -11867565.01 -11867564.84 -11867564.65 0.0279 0.0142
 Uranus -37205-12-26 22:33 J -11867342.77 -11867342.56 -11867342.35 0.0145 0.0030
 Saturn -37204-01-02 23:16 J -11867335.74 -11867335.53 -11867335.32 0.0279 0.0032
 Uranus -37204-08-10 09:21 J -11867116.32 -11867116.11 -11867115.90 0.0146 0.0019
 Saturn -37204-08-20 07:26 J -11867106.33 -11867106.19 -11867106.05 0.0280 0.0207
 Uranus -37203-03-24 20:09 J -11866889.88 -11866889.66 -11866889.45 0.0146 0.0008
 Neptune -37203-08-19 12:42 J -11866742.06 -11866741.97 -11866741.88 0.0089 0.0081
 Uranus -37203-11-06 06:57 J -11866663.42 -11866663.21 -11866662.99 0.0146 0.0004
 Neptune -37202-04-02 01:11 J -11866516.56 -11866516.45 -11866516.30 0.0089 0.0071
 Uranus -37202-06-20 18:14 J -11866436.95 -11866436.74 -11866436.53 0.0146 0.0014

Neptune -37202-11-13 14:38 J -11866291.05 -11866290.89 -11866290.73 0.0089 0.0060
 Uranus -37201-02-02 05:30 J -11866210.47 -11866210.27 -11866210.05 0.0146 0.0026
 Jupiter -37201-02-28 23:45 J -11866183.71 -11866183.51 -11866183.30 0.0485 0.0031
 Neptune -37201-06-26 03:06 J -11866065.54 -11866065.37 -11866065.18 0.0089 0.0050
 Uranus -37201-09-15 17:02 J -11865983.99 -11865983.79 -11865983.58 0.0146 0.0037
 Neptune -37200-02-06 16:04 J -11865840.02 -11865839.83 -11865839.63 0.0089 0.0039
 Uranus -37200-04-30 04:33 J -11865757.50 -11865757.31 -11865757.10 0.0146 0.0048
 Neptune -37200-09-20 04:47 J -11865614.50 -11865614.30 -11865614.08 0.0089 0.0029
 Uranus -37200-12-12 16:04 J -11865531.01 -11865530.83 -11865530.62 0.0146 0.0060
 Neptune -37199-05-03 17:45 J -11865388.97 -11865388.76 -11865388.54 0.0089 0.0018
 Uranus -37199-07-27 04:18 J -11865304.51 -11865304.32 -11865304.13 0.0146 0.0070
 Mars -37199-11-30 13:11 J -11865178.07 -11865177.95 -11865177.83 0.1620 0.1179
 Neptune -37199-12-15 06:28 J -11865163.44 -11865163.23 -11865163.01 0.0089 0.0008
 Uranus -37198-03-10 16:18 J -11865077.99 -11865077.82 -11865077.64 0.0146 0.0081
 Neptune -37198-07-28 19:11 J -11864937.91 -11864937.70 -11864937.48 0.0089 0.0003
 Uranus -37198-10-23 04:18 J -11864851.48 -11864851.32 -11864851.14 0.0146 0.0091
 Mars -37198-10-30 01:54 J -11864844.56 -11864844.42 -11864844.28 0.1903 0.1096
 Neptune -37197-03-10 08:09 J -11864712.38 -11864712.16 -11864711.95 0.0089 0.0013
 Uranus -37197-06-05 16:33 J -11864624.96 -11864624.81 -11864624.65 0.0146 0.0101
 Neptune -37197-10-21 20:38 J -11864486.84 -11864486.64 -11864486.42 0.0089 0.0024
 Uranus -37196-01-18 04:47 J -11864398.43 -11864398.30 -11864398.15 0.0146 0.0112
 Neptune -37196-06-04 09:35 J -11864261.30 -11864261.10 -11864260.90 0.0089 0.0034
 Uranus -37196-09-01 17:02 J -11864171.90 -11864171.79 -11864171.66 0.0146 0.0121
 Jupiter -37195-01-02 18:28 J -11864048.90 -11864048.73 -11864048.56 0.0542 0.0301
 Neptune -37195-01-15 22:04 J -11864035.76 -11864035.58 -11864035.38 0.0089 0.0045
 Uranus -37195-04-16 05:45 J -11863945.35 -11863945.26 -11863945.16 0.0146 0.0131
 Neptune -37195-08-29 10:47 J -11863810.21 -11863810.05 -11863809.87 0.0089 0.0055
 Uranus -37195-11-28 18:14 J -11863718.80 -11863718.74 -11863718.67 0.0146 0.0140
 Neptune -37194-04-11 23:16 J -11863584.65 -11863584.53 -11863584.36 0.0089 0.0066
 Neptune -37194-11-23 12:14 J -11863359.09 -11863358.99 -11863358.87 0.0089 0.0076

Neptune -37193-07-06 00:57 J -11863133.50 -11863133.46 -11863133.40 0.0089 0.0086
 Saturn -37191-11-05 08:09 J -11862281.35 -11862281.16 -11862280.97 0.0280 0.0134
 Saturn -37190-06-23 00:42 J -11862051.68 -11862051.47 -11862051.25 0.0280 0.0048
 Jupiter -37190-11-04 05:59 J -11861917.44 -11861917.25 -11861917.07 0.0486 0.0205
 Saturn -37189-02-07 16:04 J -11861821.95 -11861821.83 -11861821.70 0.0279 0.0227
 Jupiter -37189-06-26 23:30 J -11861681.61 -11861681.52 -11861681.43 0.0484 0.0431
 Jupiter -37183-05-03 16:04 J -11859544.98 -11859544.83 -11859544.68 0.0544 0.0359
 Jupiter -37178-07-10 11:02 J -11857651.16 -11857651.04 -11857650.91 0.0486 0.0382
 Jupiter -37177-03-02 03:50 J -11857415.51 -11857415.34 -11857415.16 0.0484 0.0254
 Saturn -37176-11-28 19:40 J -11856778.86 -11856778.68 -11856778.48 0.0279 0.0116
 Saturn -37175-07-16 02:38 J -11856549.59 -11856549.39 -11856549.18 0.0279 0.0058
 Saturn -37174-03-02 11:02 J -11856320.16 -11856320.04 -11856319.93 0.0280 0.0232
 Uranus -37172-11-07 15:06 J -11855338.90 -11855338.87 -11855338.79 0.0136 0.0132
 Jupiter -37171-01-06 04:33 J -11855279.50 -11855279.31 -11855279.11 0.0544 0.0110
 Uranus -37171-06-22 00:28 J -11855112.56 -11855112.48 -11855112.38 0.0135 0.0124
 Uranus -37170-02-03 08:52 J -11854886.22 -11854886.13 -11854886.00 0.0135 0.0116
 Uranus -37170-09-17 17:30 J -11854659.89 -11854659.77 -11854659.62 0.0135 0.0108
 Uranus -37169-05-01 01:40 J -11854433.56 -11854433.43 -11854433.27 0.0135 0.0100
 Uranus -37169-12-13 09:50 J -11854207.24 -11854207.09 -11854206.91 0.0134 0.0092
 Uranus -37168-07-27 17:45 J -11853980.92 -11853980.76 -11853980.57 0.0134 0.0084
 Uranus -37167-03-11 01:54 J -11853754.61 -11853754.42 -11853754.23 0.0134 0.0074
 Uranus -37167-10-23 09:21 J -11853528.30 -11853528.11 -11853527.91 0.0134 0.0066
 Mars -37167-11-29 06:42 J -11853491.40 -11853491.22 -11853491.05 0.1624 0.0154
 Uranus -37166-06-06 16:33 J -11853302.00 -11853301.81 -11853301.59 0.0134 0.0058
 Mars -37166-10-30 00:57 J -11853156.55 -11853156.46 -11853156.38 0.1898 0.1632
 Jupiter -37166-11-06 09:06 J -11853149.32 -11853149.12 -11853148.91 0.0484 0.0077
 Uranus -37165-01-19 00:14 J -11853075.70 -11853075.49 -11853075.28 0.0133 0.0049
 Uranus -37165-09-01 07:11 J -11852849.40 -11852849.20 -11852848.97 0.0133 0.0041
 Uranus -37164-04-15 14:23 J -11852623.11 -11852622.90 -11852622.68 0.0133 0.0031
 Uranus -37164-11-27 21:06 J -11852396.83 -11852396.62 -11852396.39 0.0133 0.0023

Uranus	-37163-07-12 04:04 J	-11852170.55	-11852170.33	-11852170.11	0.0133	0.0014
Uranus	-37162-02-23 10:47 J	-11851944.27	-11851944.05	-11851943.83	0.0133	0.0005
Uranus	-37162-10-07 17:16 J	-11851718.00	-11851717.78	-11851717.56	0.0132	0.0003
Saturn	-37161-05-17 09:06 J	-11851495.31	-11851495.12	-11851494.91	0.0280	0.0116
Uranus	-37161-05-20 23:30 J	-11851491.74	-11851491.52	-11851491.30	0.0132	0.0012
Saturn	-37160-01-02 01:54 J	-11851265.63	-11851265.42	-11851265.21	0.0279	0.0067
Uranus	-37160-01-02 05:45 J	-11851265.48	-11851265.26	-11851265.04	0.0132	0.0020 *
Earth	-37160-04-17 20:38 J	-11851159.66	-11851159.64	-11851159.61	0.2671	0.2631
Moon	-37160-04-17 21:50 J	-11851159.62	-11851159.59	-11851159.55	0.2665	0.2584 *
Uranus	-37160-08-16 11:45 J	-11851039.22	-11851039.01	-11851038.78	0.0132	0.0030
Saturn	-37160-08-19 17:02 J	-11851035.88	-11851035.79	-11851035.68	0.0279	0.0245
Jupiter	-37160-09-10 16:47 J	-11851014.00	-11851013.80	-11851013.61	0.0543	0.0142
Uranus	-37159-03-30 17:59 J	-11850812.96	-11850812.75	-11850812.54	0.0132	0.0037
Uranus	-37159-11-11 23:45 J	-11850586.72	-11850586.51	-11850586.30	0.0132	0.0046
Uranus	-37158-06-26 05:16 J	-11850360.47	-11850360.28	-11850360.07	0.0132	0.0054
Uranus	-37157-02-07 10:47 J	-11850134.23	-11850134.05	-11850133.84	0.0132	0.0062
Uranus	-37157-09-20 16:18 J	-11849907.99	-11849907.82	-11849907.62	0.0132	0.0070
Uranus	-37156-05-04 22:04 J	-11849681.76	-11849681.58	-11849681.40	0.0132	0.0078
Uranus	-37156-12-17 03:06 J	-11849455.53	-11849455.37	-11849455.20	0.0132	0.0085
Uranus	-37155-07-31 08:09 J	-11849229.30	-11849229.16	-11849228.99	0.0132	0.0093
Uranus	-37154-03-14 13:11 J	-11849003.07	-11849002.95	-11849002.79	0.0132	0.0101
Jupiter	-37154-07-12 13:26 J	-11848883.14	-11848882.94	-11848882.74	0.0485	0.0102
Uranus	-37154-10-26 18:28 J	-11848776.84	-11848776.73	-11848776.59	0.0132	0.0107
Uranus	-37153-06-08 23:16 J	-11848550.62	-11848550.53	-11848550.40	0.0132	0.0115
Uranus	-37152-01-21 04:33 J	-11848324.39	-11848324.31	-11848324.21	0.0132	0.0121
Moon	-37152-04-15 12:28 J	-11848240.13	-11848239.98	-11848239.84	0.2667	0.1071
Earth	-37152-04-15 15:06 J	-11848240.02	-11848239.87	-11848239.72	0.2672	0.0557 *
Uranus	-37152-09-04 09:21 J	-11848098.15	-11848098.11	-11848098.03	0.0132	0.0127
Jupiter	-37148-05-16 02:38 J	-11846748.52	-11846748.39	-11846748.24	0.0542	0.0397
Jupiter	-37147-01-09 12:42 J	-11846510.04	-11846509.97	-11846509.90	0.0544	0.0510

Saturn	-37147-10-24 17:02 J	-11846221.84	-11846221.79	-11846221.71	0.0278	0.0262
Saturn	-37146-06-10 23:30 J	-11845992.71	-11845992.52	-11845992.32	0.0279	0.0092
Saturn	-37145-01-26 07:11 J	-11845763.40	-11845763.20	-11845763.00	0.0279	0.0082
Saturn	-37145-09-11 15:21 J	-11845533.93	-11845533.86	-11845533.77	0.0280	0.0256
Jupiter	-37142-03-17 19:11 J	-11844616.87	-11844616.70	-11844616.53	0.0486	0.0277
Jupiter	-37142-11-08 12:28 J	-11844381.11	-11844380.98	-11844380.84	0.0484	0.0359
Jupiter	-37136-09-13 20:38 J	-11842244.81	-11842244.64	-11842244.45	0.0544	0.0252
Mars	-37135-11-27 23:59 J	-11841804.57	-11841804.50	-11841804.43	0.1627	0.1480
Mars	-37133-09-27 01:54 J	-11841135.52	-11841135.42	-11841135.32	0.1620	0.1314
Saturn	-37132-04-12 02:23 J	-11840938.47	-11840938.40	-11840938.31	0.0281	0.0261
Mars	-37132-08-26 03:50 J	-11840802.43	-11840802.34	-11840802.25	0.1904	0.1621
Saturn	-37132-11-27 20:09 J	-11840708.86	-11840708.66	-11840708.45	0.0280	0.0078
Saturn	-37131-07-15 12:42 J	-11840479.17	-11840478.97	-11840478.77	0.0280	0.0104
Jupiter	-37131-11-21 01:26 J	-11840350.51	-11840350.44	-11840350.36	0.0487	0.0451
Jupiter	-37130-07-14 17:59 J	-11840114.94	-11840114.75	-11840114.56	0.0484	0.0184
Uranus	-37128-03-19 13:54 J	-11839500.93	-11839500.92	-11839500.89	0.0142	0.0142
Uranus	-37128-10-31 22:18 J	-11839274.64	-11839274.57	-11839274.50	0.0143	0.0134
Uranus	-37127-06-15 06:42 J	-11839048.32	-11839048.22	-11839048.12	0.0143	0.0126
Uranus	-37126-01-27 15:06 J	-11838821.98	-11838821.87	-11838821.74	0.0143	0.0118
Uranus	-37126-09-10 23:59 J	-11838595.63	-11838595.50	-11838595.36	0.0144	0.0110
Uranus	-37125-04-24 08:52 J	-11838369.28	-11838369.13	-11838368.98	0.0144	0.0101
Uranus	-37125-12-06 17:45 J	-11838142.91	-11838142.76	-11838142.58	0.0144	0.0092
Jupiter	-37124-05-19 07:54 J	-11837979.37	-11837979.17	-11837978.97	0.0544	0.0005
Uranus	-37124-07-21 03:21 J	-11837916.53	-11837916.36	-11837916.18	0.0144	0.0083
Uranus	-37123-03-04 12:57 J	-11837690.14	-11837689.96	-11837689.78	0.0145	0.0073
Uranus	-37123-10-16 22:33 J	-11837463.74	-11837463.56	-11837463.36	0.0145	0.0063
Uranus	-37122-05-31 08:23 J	-11837237.33	-11837237.15	-11837236.94	0.0145	0.0053
Uranus	-37121-01-12 18:57 J	-11837010.91	-11837010.71	-11837010.50	0.0145	0.0042
Neptune	-37121-02-18 20:23 J	-11836973.70	-11836973.65	-11836973.56	0.0088	0.0084
Uranus	-37121-08-26 05:16 J	-11836784.48	-11836784.28	-11836784.07	0.0145	0.0032

Neptune -37121-10-01 09:21 J -11836748.21 -11836748.11 -11836747.96 0.0088 0.0074
 Uranus -37120-04-09 15:50 J -11836558.05 -11836557.84 -11836557.63 0.0146 0.0021
 Neptune -37120-05-14 23:02 J -11836522.69 -11836522.54 -11836522.39 0.0088 0.0063
 Uranus -37120-11-22 02:38 J -11836331.61 -11836331.39 -11836331.18 0.0146 0.0010
 Neptune -37120-12-26 11:45 J -11836297.17 -11836297.01 -11836296.82 0.0088 0.0053
 Uranus -37119-07-06 13:26 J -11836105.15 -11836104.94 -11836104.73 0.0146 0.0001
 Neptune -37119-08-09 00:42 J -11836071.64 -11836071.47 -11836071.26 0.0088 0.0043
 Uranus -37118-02-18 00:28 J -11835878.69 -11835878.48 -11835878.26 0.0146 0.0013
 Jupiter -37118-03-19 23:02 J -11835848.74 -11835848.54 -11835848.33 0.0485 0.0011
 Neptune -37118-03-22 14:23 J -11835846.10 -11835845.90 -11835845.69 0.0088 0.0032
 Uranus -37118-10-02 11:45 J -11835652.22 -11835652.01 -11835651.79 0.0146 0.0024
 Neptune -37118-11-03 03:35 J -11835620.56 -11835620.35 -11835620.13 0.0088 0.0021
 Saturn -37117-05-05 21:35 J -11835435.70 -11835435.60 -11835435.48 0.0278 0.0235
 Uranus -37117-05-15 23:02 J -11835425.74 -11835425.54 -11835425.33 0.0146 0.0035
 Neptune -37117-06-15 16:47 J -11835395.02 -11835394.80 -11835394.58 0.0088 0.0011
 Saturn -37117-12-21 03:50 J -11835206.54 -11835206.34 -11835206.14 0.0279 0.0065
 Uranus -37117-12-28 10:33 J -11835199.26 -11835199.06 -11835198.85 0.0146 0.0046
 Neptune -37116-01-27 05:59 J -11835169.47 -11835169.25 -11835169.03 0.0088 0.0001
 Saturn -37116-08-07 10:47 J -11834977.24 -11834977.05 -11834976.85 0.0279 0.0108
 Pluto -37116-08-09 06:14 J -11834975.36 -11834975.24 -11834975.06 0.0065 0.0049
 Uranus -37116-08-11 22:04 J -11834972.77 -11834972.58 -11834972.37 0.0146 0.0058
 Neptune -37116-09-09 19:11 J -11834943.92 -11834943.70 -11834943.48 0.0088 0.0010
 Pluto -37115-03-22 11:02 J -11834750.25 -11834750.04 -11834749.82 0.0066 0.0007
 Uranus -37115-03-26 09:50 J -11834746.27 -11834746.09 -11834745.89 0.0146 0.0069
 Neptune -37115-04-23 08:38 J -11834718.36 -11834718.14 -11834717.92 0.0088 0.0020
 Pluto -37115-11-02 14:52 J -11834525.04 -11834524.88 -11834524.68 0.0066 0.0036
 Uranus -37115-11-07 21:35 J -11834519.76 -11834519.60 -11834519.40 0.0146 0.0080
 Neptune -37115-12-04 21:35 J -11834492.80 -11834492.60 -11834492.38 0.0088 0.0031
 Uranus -37114-06-22 09:50 J -11834293.25 -11834293.09 -11834292.91 0.0146 0.0090
 Neptune -37114-07-18 10:47 J -11834267.23 -11834267.05 -11834266.84 0.0088 0.0042

Uranus -37113-02-03 22:18 J -11834066.73 -11834066.57 -11834066.42 0.0146 0.0100
 Neptune -37113-02-28 23:59 J -11834041.66 -11834041.50 -11834041.30 0.0088 0.0052
 Uranus -37113-09-17 10:04 J -11833840.21 -11833840.08 -11833839.92 0.0146 0.0110
 Neptune -37113-10-11 13:26 J -11833816.08 -11833815.94 -11833815.77 0.0088 0.0062
 Jupiter -37112-01-21 19:40 J -11833713.85 -11833713.68 -11833713.50 0.0543 0.0254
 Uranus -37112-05-01 22:33 J -11833613.68 -11833613.56 -11833613.43 0.0146 0.0120
 Neptune -37112-05-25 02:52 J -11833590.50 -11833590.38 -11833590.25 0.0088 0.0073
 Uranus -37112-12-14 10:47 J -11833387.14 -11833387.05 -11833386.94 0.0146 0.0129
 Neptune -37111-01-05 15:50 J -11833364.89 -11833364.84 -11833364.75 0.0088 0.0083
 Uranus -37111-07-28 23:16 J -11833160.58 -11833160.53 -11833160.45 0.0146 0.0138
 Jupiter -37107-11-23 04:47 J -11831582.49 -11831582.30 -11831582.11 0.0485 0.0171
 Jupiter -37106-07-16 22:04 J -11831346.64 -11831346.58 -11831346.52 0.0484 0.0462
 Saturn -37103-10-23 03:21 J -11830152.47 -11830152.36 -11830152.26 0.0280 0.0243
 Saturn -37102-06-09 20:38 J -11829922.85 -11829922.64 -11829922.42 0.0280 0.0061
 Saturn -37101-01-25 12:57 J -11829693.15 -11829692.96 -11829692.76 0.0279 0.0120
 Mars -37101-09-25 19:11 J -11829448.88 -11829448.70 -11829448.53 0.1622 0.0015
 Jupiter -37101-09-26 07:54 J -11829448.25 -11829448.17 -11829448.10 0.0542 0.0500
 Jupiter -37100-05-22 18:42 J -11829209.85 -11829209.72 -11829209.58 0.0544 0.0408
 Mars -37100-08-26 02:52 J -11829114.52 -11829114.38 -11829114.24 0.1900 0.1105
 Jupiter -37095-07-29 09:06 J -11827316.26 -11827316.12 -11827315.97 0.0486 0.0348
 Jupiter -37094-03-22 02:09 J -11827080.57 -11827080.41 -11827080.24 0.0484 0.0287
 Jupiter -37088-01-25 05:45 J -11824944.45 -11824944.26 -11824944.07 0.0544 0.0156
 Uranus -37088-07-07 23:16 J -11824780.56 -11824780.53 -11824780.47 0.0136 0.0133
 Saturn -37088-11-15 23:45 J -11824649.63 -11824649.51 -11824649.37 0.0278 0.0214
 Uranus -37087-02-19 08:23 J -11824554.23 -11824554.15 -11824554.06 0.0136 0.0125
 Saturn -37087-07-03 06:14 J -11824420.44 -11824420.24 -11824420.03 0.0279 0.0044
 Uranus -37087-10-03 16:47 J -11824327.89 -11824327.80 -11824327.67 0.0135 0.0118
 Saturn -37086-02-17 13:54 J -11824191.10 -11824190.92 -11824190.73 0.0280 0.0130
 Uranus -37086-05-18 01:26 J -11824101.55 -11824101.44 -11824101.29 0.0135 0.0109
 Uranus -37086-12-30 09:50 J -11823875.22 -11823875.09 -11823874.93 0.0135 0.0101

Uranus	-37085-08-12 18:14 J	-11823648.89	-11823648.74	-11823648.57	0.0135	0.0093
Uranus	-37084-03-27 02:09 J	-11823422.57	-11823422.41	-11823422.22	0.0134	0.0084
Uranus	-37084-11-08 10:18 J	-11823196.26	-11823196.07	-11823195.89	0.0134	0.0075
Uranus	-37083-06-22 17:45 J	-11822969.94	-11822969.76	-11822969.55	0.0134	0.0067
Jupiter	-37083-11-25 07:40 J	-11822814.38	-11822814.18	-11822813.98	0.0484	0.0112
Uranus	-37082-02-04 01:26 J	-11822743.63	-11822743.44	-11822743.23	0.0134	0.0058
Uranus	-37082-09-18 08:52 J	-11822517.33	-11822517.13	-11822516.92	0.0133	0.0050
Uranus	-37081-05-01 16:04 J	-11822291.03	-11822290.83	-11822290.61	0.0133	0.0041
Uranus	-37081-12-13 23:16 J	-11822064.74	-11822064.53	-11822064.31	0.0133	0.0032
Uranus	-37080-07-28 06:28 J	-11821838.45	-11821838.23	-11821838.01	0.0133	0.0023
Uranus	-37079-03-11 13:11 J	-11821612.17	-11821611.95	-11821611.73	0.0133	0.0015
Uranus	-37079-10-23 19:54 J	-11821385.89	-11821385.67	-11821385.45	0.0133	0.0006
Uranus	-37078-06-07 02:23 J	-11821159.62	-11821159.40	-11821159.18	0.0133	0.0003
Uranus	-37077-01-19 08:52 J	-11820933.35	-11820933.13	-11820932.91	0.0132	0.0011
Uranus	-37077-09-01 15:06 J	-11820707.08	-11820706.87	-11820706.64	0.0132	0.0020
Jupiter	-37077-09-29 12:57 J	-11820679.15	-11820678.96	-11820678.76	0.0543	0.0110
Uranus	-37076-04-15 21:21 J	-11820480.82	-11820480.61	-11820480.39	0.0132	0.0028
Uranus	-37076-11-28 03:06 J	-11820254.57	-11820254.37	-11820254.15	0.0132	0.0037
Uranus	-37075-07-12 09:06 J	-11820028.32	-11820028.12	-11820027.90	0.0132	0.0045
Uranus	-37074-02-23 14:52 J	-11819802.07	-11819801.88	-11819801.67	0.0132	0.0054
Uranus	-37074-10-07 20:38 J	-11819575.83	-11819575.64	-11819575.44	0.0132	0.0062
Saturn	-37073-05-04 12:57 J	-11819366.10	-11819365.96	-11819365.81	0.0281	0.0207
Uranus	-37073-05-21 02:09 J	-11819349.59	-11819349.41	-11819349.22	0.0132	0.0069
Saturn	-37073-12-20 06:42 J	-11819136.44	-11819136.22	-11819136.01	0.0280	0.0024
Uranus	-37072-01-02 07:26 J	-11819123.36	-11819123.19	-11819123.00	0.0132	0.0077
Saturn	-37072-08-06 22:47 J	-11818906.72	-11818906.55	-11818906.36	0.0280	0.0157
Uranus	-37072-08-16 12:42 J	-11818897.12	-11818896.97	-11818896.79	0.0132	0.0085
Uranus	-37071-03-30 17:59 J	-11818670.89	-11818670.75	-11818670.58	0.0132	0.0092
Jupiter	-37071-07-31 13:40 J	-11818548.13	-11818547.93	-11818547.73	0.0485	0.0064
Uranus	-37071-11-11 23:16 J	-11818444.67	-11818444.53	-11818444.38	0.0132	0.0099

Uranus -37070-06-26 04:18 J -11818218.44 -11818218.32 -11818218.19 0.0132 0.0107
 Uranus -37069-02-07 09:21 J -11817992.21 -11817992.11 -11817991.99 0.0132 0.0114
 Uranus -37069-09-20 14:23 J -11817765.98 -11817765.90 -11817765.80 0.0132 0.0120
 Mars -37069-09-24 12:14 J -11817762.08 -11817761.99 -11817761.89 0.1626 0.1329
 Uranus -37068-05-04 19:26 J -11817539.74 -11817539.69 -11817539.62 0.0132 0.0127
 Mars -37067-07-25 13:54 J -11817092.99 -11817092.92 -11817092.84 0.1619 0.1460
 Jupiter -37065-06-03 23:16 J -11816413.67 -11816413.53 -11816413.37 0.0542 0.0363
 Jupiter -37064-01-28 09:35 J -11816175.10 -11816175.10 -11816175.08 0.0545 0.0543
 Jupiter -37059-04-05 19:11 J -11814281.88 -11814281.70 -11814281.52 0.0486 0.0241
 Jupiter -37059-11-27 12:14 J -11814046.11 -11814045.99 -11814045.87 0.0484 0.0392
 Saturn -37058-05-29 04:18 J -11813863.46 -11813863.32 -11813863.16 0.0278 0.0187
 Saturn -37057-01-13 10:47 J -11813634.26 -11813634.05 -11813633.84 0.0279 0.0017
 Saturn -37057-08-29 17:59 J -11813404.92 -11813404.75 -11813404.57 0.0279 0.0156
 Jupiter -37053-10-02 22:47 J -11811909.72 -11811909.55 -11811909.38 0.0545 0.0298
 Jupiter -37048-12-10 00:57 J -11810015.56 -11810015.46 -11810015.35 0.0487 0.0414
 Jupiter -37047-08-02 17:16 J -11809779.96 -11809779.78 -11809779.59 0.0484 0.0217
 Uranus -37044-07-01 05:59 J -11808716.30 -11808716.25 -11808716.17 0.0143 0.0136
 Saturn -37044-11-14 13:40 J -11808580.08 -11808579.93 -11808579.76 0.0280 0.0189
 Uranus -37043-02-12 14:23 J -11808489.98 -11808489.90 -11808489.80 0.0143 0.0128
 Saturn -37043-07-02 07:11 J -11808350.41 -11808350.20 -11808349.98 0.0280 0.0009
 Uranus -37043-09-26 22:33 J -11808263.65 -11808263.56 -11808263.43 0.0143 0.0120
 Saturn -37042-02-16 23:16 J -11808120.69 -11808120.53 -11808120.36 0.0279 0.0172
 Uranus -37042-05-11 07:26 J -11808037.31 -11808037.19 -11808037.05 0.0143 0.0112
 Uranus -37042-12-23 16:18 J -11807810.95 -11807810.82 -11807810.66 0.0144 0.0103
 Jupiter -37041-06-07 11:30 J -11807644.22 -11807644.02 -11807643.82 0.0544 0.0051
 Uranus -37041-08-06 01:26 J -11807584.59 -11807584.44 -11807584.27 0.0144 0.0094
 Uranus -37040-03-20 10:33 J -11807358.22 -11807358.06 -11807357.88 0.0144 0.0085
 Uranus -37040-11-01 20:09 J -11807131.84 -11807131.66 -11807131.47 0.0144 0.0075
 Uranus -37039-06-16 05:45 J -11806905.44 -11806905.26 -11806905.06 0.0145 0.0065
 Moon -37039-10-20 13:26 J -11806779.05 -11806778.94 -11806778.82 0.2656 0.1933

Earth -37039-10-20 17:16 J -11806778.85 -11806778.78 -11806778.72 0.2661 0.2432 *
 Neptune -37039-11-20 23:02 J -11806747.58 -11806747.54 -11806747.46 0.0089 0.0085
 Uranus -37038-01-28 15:50 J -11806679.03 -11806678.84 -11806678.64 0.0145 0.0055
 Neptune -37038-07-04 11:45 J -11806522.10 -11806522.01 -11806521.87 0.0089 0.0075
 Uranus -37038-09-12 01:54 J -11806452.61 -11806452.42 -11806452.21 0.0145 0.0044
 Neptune -37037-02-15 01:11 J -11806296.60 -11806296.45 -11806296.30 0.0089 0.0064
 Uranus -37037-04-25 12:14 J -11806226.19 -11806225.99 -11806225.78 0.0145 0.0034
 Neptune -37037-09-27 13:54 J -11806071.08 -11806070.92 -11806070.73 0.0089 0.0054
 Uranus -37037-12-07 22:47 J -11805999.76 -11805999.55 -11805999.34 0.0146 0.0023
 Neptune -37036-05-11 02:38 J -11805845.56 -11805845.39 -11805845.18 0.0089 0.0044
 Uranus -37036-07-22 09:21 J -11805773.32 -11805773.11 -11805772.90 0.0146 0.0012
 Neptune -37036-12-22 15:50 J -11805620.04 -11805619.84 -11805619.63 0.0089 0.0033
 Uranus -37035-03-05 20:09 J -11805546.87 -11805546.66 -11805546.44 0.0146 0.0003
 Jupiter -37035-04-07 21:50 J -11805513.79 -11805513.59 -11805513.38 0.0485 0.0042
 Mars -37035-07-24 07:26 J -11805406.37 -11805406.19 -11805406.02 0.1622 0.0147
 Neptune -37035-08-05 04:33 J -11805394.51 -11805394.31 -11805394.09 0.0089 0.0023
 Uranus -37035-10-18 07:11 J -11805320.41 -11805320.20 -11805319.99 0.0146 0.0011
 Neptune -37034-03-18 17:30 J -11805168.98 -11805168.77 -11805168.55 0.0089 0.0012
 Uranus -37034-06-01 18:14 J -11805093.95 -11805093.74 -11805093.52 0.0146 0.0022
 Mars -37034-06-23 05:45 J -11805072.42 -11805072.26 -11805072.09 0.1901 0.0606
 Neptune -37034-10-30 06:28 J -11804943.45 -11804943.23 -11804943.01 0.0089 0.0002
 Uranus -37033-01-14 05:30 J -11804867.47 -11804867.27 -11804867.05 0.0146 0.0034
 Neptune -37033-06-11 19:11 J -11804717.92 -11804717.70 -11804717.48 0.0089 0.0009
 Uranus -37033-08-27 17:02 J -11804640.99 -11804640.79 -11804640.58 0.0146 0.0044
 Neptune -37032-01-23 07:54 J -11804492.38 -11804492.17 -11804491.96 0.0089 0.0019
 Uranus -37032-04-11 04:33 J -11804414.50 -11804414.31 -11804414.11 0.0146 0.0055
 Neptune -37032-09-05 20:23 J -11804266.84 -11804266.65 -11804266.43 0.0089 0.0030
 Uranus -37032-11-23 16:04 J -11804188.01 -11804187.83 -11804187.63 0.0146 0.0067
 Neptune -37031-04-19 09:06 J -11804041.30 -11804041.12 -11804040.91 0.0089 0.0040
 Uranus -37031-07-08 03:50 J -11803961.51 -11803961.34 -11803961.15 0.0147 0.0078

Moon -37031-10-17 22:33 J -11803859.67 -11803859.56 -11803859.44 0.2659 0.1941
 Earth -37031-10-18 04:47 J -11803859.42 -11803859.30 -11803859.17 0.2659 0.1657
 Neptune -37031-11-30 22:04 J -11803815.76 -11803815.58 -11803815.40 0.0089 0.0050
 Uranus -37030-02-19 16:04 J -11803734.99 -11803734.83 -11803734.65 0.0147 0.0088
 Neptune -37030-07-14 10:18 J -11803590.21 -11803590.07 -11803589.89 0.0089 0.0061
 Uranus -37030-10-04 04:04 J -11803508.48 -11803508.33 -11803508.16 0.0147 0.0098
 Jupiter -37029-02-10 22:04 J -11803378.76 -11803378.58 -11803378.39 0.0543 0.0204
 Neptune -37029-02-24 23:02 J -11803364.65 -11803364.54 -11803364.39 0.0089 0.0071
 Uranus -37029-05-17 16:04 J -11803281.96 -11803281.83 -11803281.67 0.0146 0.0109
 Neptune -37029-10-07 11:45 J -11803139.07 -11803139.01 -11803138.90 0.0089 0.0082
 Saturn -37029-12-08 05:16 J -11803077.44 -11803077.28 -11803077.11 0.0278 0.0168
 Uranus -37029-12-30 04:18 J -11803055.43 -11803055.32 -11803055.18 0.0146 0.0119
 Pluto -37028-04-12 20:52 J -11802951.82 -11802951.63 -11802951.43 0.0079 0.0038
 Saturn -37028-07-25 11:59 J -11802848.21 -11802848.00 -11802847.79 0.0279 0.0004
 Uranus -37028-08-13 17:02 J -11802828.89 -11802828.79 -11802828.68 0.0146 0.0128
 Pluto -37028-11-24 06:57 J -11802726.40 -11802726.21 -11802726.00 0.0078 0.0037
 Saturn -37027-03-11 19:26 J -11802618.84 -11802618.69 -11802618.52 0.0280 0.0176
 Uranus -37027-03-28 05:16 J -11802602.33 -11802602.28 -11802602.19 0.0146 0.0137
 Uranus -37027-11-09 17:59 J -11802375.75 -11802375.75 -11802375.72 0.0146 0.0146
 Jupiter -37024-12-12 03:50 J -11801247.54 -11801247.34 -11801247.15 0.0485 0.0135
 Jupiter -37018-10-16 05:16 J -11799113.38 -11799113.28 -11799113.18 0.0541 0.0464
 Jupiter -37017-06-10 15:35 J -11798874.96 -11798874.85 -11798874.73 0.0544 0.0441
 Saturn -37014-05-27 22:33 J -11797793.74 -11797793.56 -11797793.38 0.0281 0.0155
 Saturn -37013-01-12 16:04 J -11797564.04 -11797563.83 -11797563.61 0.0280 0.0028
 Saturn -37013-08-29 08:09 J -11797334.30 -11797334.16 -11797334.01 0.0280 0.0207
 Jupiter -37012-08-17 09:50 J -11796981.24 -11796981.09 -11796980.93 0.0486 0.0310
 Jupiter -37011-04-10 03:06 J -11796745.52 -11796745.37 -11796745.22 0.0484 0.0324
 Jupiter -37005-02-14 02:52 J -11794609.57 -11794609.38 -11794609.19 0.0544 0.0189
 Uranus -37004-03-07 07:26 J -11794222.21 -11794222.19 -11794222.14 0.0136 0.0134
 Uranus -37004-10-19 16:33 J -11793995.88 -11793995.81 -11793995.72 0.0136 0.0126

Uranus -37003-06-03 01:40 J -11793769.54 -11793769.43 -11793769.32 0.0136 0.0118
 Mars -37003-07-23 00:28 J -11793719.59 -11793719.48 -11793719.36 0.1625 0.1181
 Uranus -37002-01-15 09:50 J -11793543.20 -11793543.09 -11793542.94 0.0135 0.0111
 Uranus -37002-08-29 18:28 J -11793316.86 -11793316.73 -11793316.57 0.0135 0.0102
 Uranus -37001-04-12 02:38 J -11793090.53 -11793090.39 -11793090.21 0.0135 0.0094
 Mars -37001-05-22 02:38 J -11793050.42 -11793050.39 -11793050.37 0.1618 0.1597
 Uranus -37001-11-24 11:16 J -11792864.21 -11792864.03 -11792863.86 0.0134 0.0085

37TH MILLENNIUM BCE

This is a list of transits of Venus in the 37th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-37000-04-22 15:35 J	-11792714.87	-11792714.85	-11792714.82	0.0487	0.0483		
Uranus	-37000-07-08 19:11 J	-11792637.88	-11792637.70	-11792637.51	0.0134	0.0076		
Jupiter	-37000-12-14 07:54 J	-11792479.36	-11792479.17	-11792478.97	0.0484	0.0148		
Uranus	-36999-02-20 02:52 J	-11792411.56	-11792411.38	-11792411.18	0.0134	0.0068		
Saturn	-36999-06-20 10:33 J	-11792291.23	-11792291.06	-11792290.87	0.0278	0.0140		
Uranus	-36999-10-04 10:33 J	-11792185.25	-11792185.06	-11792184.85	0.0134	0.0059		
Saturn	-36998-02-04 17:02 J	-11792061.99	-11792061.79	-11792061.58	0.0279	0.0031		
Uranus	-36998-05-18 17:59 J	-11791958.95	-11791958.75	-11791958.54	0.0134	0.0051		
Saturn	-36998-09-22 00:28 J	-11791832.62	-11791832.48	-11791832.33	0.0279	0.0202		
Uranus	-36998-12-31 01:26 J	-11791732.65	-11791732.44	-11791732.22	0.0133	0.0042		
Uranus	-36997-08-13 08:38 J	-11791506.35	-11791506.14	-11791505.91	0.0133	0.0033		
Uranus	-36996-03-27 15:50 J	-11791280.06	-11791279.84	-11791279.62	0.0133	0.0024		

Uranus	-36996-11-08 22:33 J	-11791053.77	-11791053.56	-11791053.33	0.0133	0.0016
Uranus	-36995-06-23 05:30 J	-11790827.49	-11790827.27	-11790827.04	0.0133	0.0007
Uranus	-36994-02-04 12:14 J	-11790601.21	-11790600.99	-11790600.77	0.0133	0.0002
Uranus	-36994-09-18 18:42 J	-11790374.94	-11790374.72	-11790374.49	0.0133	0.0011
Jupiter	-36994-10-19 15:06 J	-11790344.07	-11790343.87	-11790343.67	0.0544	0.0061
Uranus	-36993-05-02 00:57 J	-11790148.67	-11790148.46	-11790148.23	0.0132	0.0020
Uranus	-36993-12-14 07:11 J	-11789922.41	-11789922.20	-11789921.98	0.0132	0.0028
Uranus	-36992-07-28 13:26 J	-11789696.15	-11789695.94	-11789695.73	0.0132	0.0036
Uranus	-36991-03-11 19:11 J	-11789469.90	-11789469.70	-11789469.49	0.0132	0.0045
Uranus	-36991-10-24 00:57 J	-11789243.66	-11789243.46	-11789243.25	0.0132	0.0053
Uranus	-36990-06-07 06:28 J	-11789017.42	-11789017.23	-11789017.02	0.0132	0.0061
Uranus	-36989-01-19 11:59 J	-11788791.18	-11788791.00	-11788790.80	0.0132	0.0069
Uranus	-36989-09-01 17:30 J	-11788564.93	-11788564.77	-11788564.58	0.0132	0.0077
Uranus	-36988-04-15 23:16 J	-11788338.70	-11788338.53	-11788338.36	0.0132	0.0084
Jupiter	-36988-08-19 13:26 J	-11788213.14	-11788212.94	-11788212.73	0.0485	0.0029
Uranus	-36988-11-28 04:04 J	-11788112.47	-11788112.33	-11788112.16	0.0132	0.0092
Uranus	-36987-07-12 09:21 J	-11787886.24	-11787886.11	-11787885.95	0.0132	0.0100
Uranus	-36986-02-23 14:38 J	-11787660.01	-11787659.89	-11787659.75	0.0132	0.0106
Uranus	-36986-10-07 19:54 J	-11787433.77	-11787433.67	-11787433.55	0.0132	0.0113
Uranus	-36985-05-21 00:42 J	-11787207.54	-11787207.47	-11787207.36	0.0132	0.0121
Saturn	-36985-12-06 23:16 J	-11787007.72	-11787007.53	-11787007.34	0.0280	0.0137
Uranus	-36984-01-02 05:59 J	-11786981.30	-11786981.25	-11786981.18	0.0132	0.0127
Saturn	-36984-07-24 16:33 J	-11786778.02	-11786777.81	-11786777.59	0.0280	0.0045
Saturn	-36983-03-11 08:38 J	-11786548.27	-11786548.14	-11786548.01	0.0279	0.0222
Jupiter	-36982-06-24 03:21 J	-11786078.52	-11786078.36	-11786078.19	0.0542	0.0308
Jupiter	-36976-04-24 18:28 J	-11783946.92	-11783946.73	-11783946.55	0.0486	0.0204
Jupiter	-36976-12-16 11:30 J	-11783711.11	-11783711.02	-11783710.92	0.0484	0.0427
Jupiter	-36970-10-23 01:40 J	-11781574.58	-11781574.43	-11781574.28	0.0544	0.0347
Saturn	-36970-12-31 10:33 J	-11781505.24	-11781505.06	-11781504.87	0.0278	0.0121
Mars	-36969-05-20 19:54 J	-11781363.84	-11781363.67	-11781363.50	0.1621	0.0283

Saturn -36969-08-16 17:16 J -11781275.99 -11781275.78 -11781275.58 0.0279 0.0049
 Saturn -36968-04-03 00:42 J -11781046.59 -11781046.47 -11781046.34 0.0280 0.0221
 Mars -36968-04-19 07:40 J -11781030.35 -11781030.18 -11781030.00 0.1902 0.0081
 Jupiter -36965-12-29 00:14 J -11779680.61 -11779680.49 -11779680.36 0.0487 0.0378
 Jupiter -36964-08-21 17:02 J -11779444.96 -11779444.79 -11779444.61 0.0484 0.0254
 Uranus -36960-02-28 15:21 J -11778157.91 -11778157.86 -11778157.80 0.0142 0.0137
 Uranus -36960-10-12 23:02 J -11777931.61 -11777931.54 -11777931.43 0.0143 0.0130
 Uranus -36959-05-27 07:40 J -11777705.28 -11777705.18 -11777705.06 0.0143 0.0121
 Uranus -36958-01-08 16:18 J -11777478.94 -11777478.82 -11777478.68 0.0143 0.0113
 Jupiter -36958-06-27 09:06 J -11777309.32 -11777309.12 -11777308.92 0.0543 0.0086
 Uranus -36958-08-23 00:57 J -11777252.59 -11777252.46 -11777252.30 0.0144 0.0105
 Uranus -36957-04-05 09:50 J -11777026.23 -11777026.09 -11777025.92 0.0144 0.0096
 Neptune -36957-05-22 06:42 J -11776979.23 -11776979.22 -11776979.16 0.0088 0.0088
 Uranus -36957-11-17 18:57 J -11776799.86 -11776799.71 -11776799.53 0.0144 0.0087
 Neptune -36956-01-02 19:40 J -11776753.76 -11776753.68 -11776753.55 0.0088 0.0078
 Uranus -36956-07-02 04:33 J -11776573.48 -11776573.31 -11776573.13 0.0144 0.0076
 Neptune -36956-08-16 09:06 J -11776528.26 -11776528.12 -11776527.97 0.0088 0.0067
 Uranus -36955-02-13 14:09 J -11776347.09 -11776346.91 -11776346.71 0.0145 0.0067
 Neptune -36955-03-29 22:18 J -11776302.73 -11776302.57 -11776302.40 0.0088 0.0057
 Saturn -36955-06-19 07:11 J -11776221.40 -11776221.20 -11776221.00 0.0281 0.0104
 Uranus -36955-09-27 23:59 J -11776120.69 -11776120.50 -11776120.30 0.0145 0.0056
 Neptune -36955-11-10 11:16 J -11776077.21 -11776077.03 -11776076.83 0.0088 0.0047
 Saturn -36954-02-04 00:28 J -11775991.68 -11775991.48 -11775991.27 0.0280 0.0079
 Uranus -36954-05-12 09:50 J -11775894.28 -11775894.09 -11775893.88 0.0145 0.0046
 Neptune -36954-06-24 00:14 J -11775851.68 -11775851.49 -11775851.27 0.0088 0.0037
 Saturn -36954-09-21 16:33 J -11775761.89 -11775761.81 -11775761.72 0.0280 0.0256
 Uranus -36954-12-24 20:09 J -11775667.86 -11775667.66 -11775667.45 0.0145 0.0035
 Neptune -36953-02-04 13:26 J -11775626.14 -11775625.94 -11775625.72 0.0088 0.0026
 Uranus -36953-08-07 06:28 J -11775441.43 -11775441.23 -11775441.01 0.0145 0.0025
 Neptune -36953-09-17 02:52 J -11775400.60 -11775400.38 -11775400.16 0.0088 0.0016

Uranus -36952-03-21 17:02 J -11775215.00 -11775214.79 -11775214.58 0.0146 0.0013
 Jupiter -36952-04-26 23:02 J -11775178.74 -11775178.54 -11775178.34 0.0485 0.0079
 Neptune -36952-04-30 16:04 J -11775175.05 -11775174.83 -11775174.61 0.0088 0.0005
 Uranus -36952-11-03 03:35 J -11774988.56 -11774988.35 -11774988.13 0.0146 0.0004
 Neptune -36952-12-12 05:16 J -11774949.50 -11774949.28 -11774949.06 0.0088 0.0005
 Uranus -36951-06-17 14:38 J -11774762.11 -11774761.89 -11774761.68 0.0146 0.0009
 Neptune -36951-07-25 18:28 J -11774723.95 -11774723.73 -11774723.51 0.0088 0.0015
 Uranus -36950-01-30 01:40 J -11774535.64 -11774535.43 -11774535.22 0.0146 0.0020
 Neptune -36950-03-08 07:26 J -11774498.39 -11774498.19 -11774497.96 0.0088 0.0027
 Uranus -36950-09-13 12:42 J -11774309.17 -11774308.97 -11774308.75 0.0146 0.0032
 Neptune -36950-10-19 20:52 J -11774272.82 -11774272.63 -11774272.42 0.0088 0.0036
 Uranus -36949-04-26 23:59 J -11774082.70 -11774082.50 -11774082.29 0.0146 0.0043
 Neptune -36949-06-01 10:04 J -11774047.26 -11774047.08 -11774046.88 0.0088 0.0047
 Uranus -36949-12-09 11:30 J -11773856.22 -11773856.02 -11773855.82 0.0146 0.0054
 Neptune -36948-01-12 23:30 J -11773821.69 -11773821.52 -11773821.35 0.0088 0.0057
 Uranus -36948-07-23 23:02 J -11773629.73 -11773629.54 -11773629.35 0.0147 0.0065
 Neptune -36948-08-26 12:14 J -11773596.11 -11773595.99 -11773595.82 0.0088 0.0068
 Uranus -36947-03-07 10:47 J -11773403.23 -11773403.05 -11773402.86 0.0147 0.0076
 Neptune -36947-04-09 01:54 J -11773370.51 -11773370.42 -11773370.30 0.0088 0.0078
 Uranus -36947-10-19 22:33 J -11773176.72 -11773176.56 -11773176.37 0.0147 0.0087
 Neptune -36947-11-20 15:21 J -11773144.87 -11773144.86 -11773144.82 0.0088 0.0088
 Jupiter -36946-03-01 19:26 J -11773043.88 -11773043.69 -11773043.49 0.0543 0.0170
 Uranus -36946-06-03 10:33 J -11772950.21 -11772950.06 -11772949.89 0.0147 0.0097
 Uranus -36945-01-15 22:47 J -11772723.69 -11772723.55 -11772723.40 0.0147 0.0107
 Uranus -36945-08-29 11:02 J -11772497.16 -11772497.04 -11772496.91 0.0146 0.0117
 Uranus -36944-04-12 23:16 J -11772270.62 -11772270.53 -11772270.41 0.0146 0.0127
 Uranus -36944-11-25 11:59 J -11772044.08 -11772044.00 -11772043.92 0.0146 0.0136
 Uranus -36943-07-10 00:42 J -11771817.50 -11771817.47 -11771817.45 0.0146 0.0145
 Saturn -36941-11-25 11:02 J -11770948.11 -11770948.04 -11770947.96 0.0277 0.0259
 Jupiter -36941-12-31 04:18 J -11770912.52 -11770912.32 -11770912.12 0.0485 0.0097

Saturn	-36940-07-12 16:18 J	-11770719.01	-11770718.82	-11770718.62	0.0278	0.0093
Saturn	-36939-02-26 22:47 J	-11770489.75	-11770489.55	-11770489.35	0.0279	0.0077
Saturn	-36939-10-14 06:14 J	-11770260.33	-11770260.24	-11770260.14	0.0279	0.0248
Mars	-36937-05-19 12:57 J	-11769677.09	-11769676.96	-11769676.83	0.1624	0.1029
Jupiter	-36935-11-04 06:57 J	-11768778.34	-11768778.21	-11768778.08	0.0542	0.0417
Jupiter	-36934-06-30 17:59 J	-11768539.83	-11768539.75	-11768539.66	0.0545	0.0487
Jupiter	-36929-09-05 10:18 J	-11766646.24	-11766646.07	-11766645.90	0.0486	0.0271
Jupiter	-36928-04-29 03:06 J	-11766410.51	-11766410.37	-11766410.23	0.0484	0.0359
Saturn	-36926-05-14 13:40 J	-11765664.99	-11765664.93	-11765664.86	0.0281	0.0267
Saturn	-36926-12-30 08:09 J	-11765435.36	-11765435.16	-11765434.95	0.0280	0.0086
Saturn	-36925-08-16 01:26 J	-11765205.64	-11765205.44	-11765205.23	0.0280	0.0095
Saturn	-36924-04-02 17:02 J	-11764975.83	-11764975.79	-11764975.73	0.0279	0.0271
Jupiter	-36922-03-05 06:57 J	-11764274.38	-11764274.21	-11764274.02	0.0544	0.0243
Uranus	-36921-11-04 15:35 J	-11763663.86	-11763663.85	-11763663.81	0.0136	0.0135
Uranus	-36920-06-19 01:11 J	-11763437.53	-11763437.45	-11763437.37	0.0136	0.0127
Uranus	-36919-01-31 09:35 J	-11763211.18	-11763211.10	-11763210.97	0.0136	0.0120
Uranus	-36919-09-14 18:28 J	-11762984.84	-11762984.73	-11762984.59	0.0135	0.0112
Uranus	-36918-04-29 03:06 J	-11762758.50	-11762758.37	-11762758.22	0.0135	0.0103
Uranus	-36918-12-11 11:30 J	-11762532.17	-11762532.02	-11762531.85	0.0135	0.0095
Jupiter	-36917-05-11 15:21 J	-11762379.94	-11762379.86	-11762379.78	0.0487	0.0445
Uranus	-36917-07-24 19:40 J	-11762305.83	-11762305.68	-11762305.49	0.0135	0.0087
Jupiter	-36916-01-02 07:26 J	-11762144.37	-11762144.19	-11762143.99	0.0484	0.0184
Uranus	-36916-03-08 04:04 J	-11762079.51	-11762079.33	-11762079.14	0.0134	0.0078
Uranus	-36916-10-20 11:45 J	-11761853.19	-11761853.01	-11761852.81	0.0134	0.0069
Uranus	-36915-06-03 19:54 J	-11761626.87	-11761626.67	-11761626.47	0.0134	0.0060
Uranus	-36914-01-16 03:21 J	-11761400.56	-11761400.36	-11761400.15	0.0134	0.0052
Uranus	-36914-08-30 10:47 J	-11761174.25	-11761174.05	-11761173.83	0.0133	0.0043
Uranus	-36913-04-12 17:59 J	-11760947.96	-11760947.75	-11760947.52	0.0133	0.0034
Uranus	-36913-11-25 01:11 J	-11760721.66	-11760721.45	-11760721.22	0.0133	0.0025
Uranus	-36912-07-09 08:23 J	-11760495.37	-11760495.15	-11760494.93	0.0133	0.0016

Uranus	-36911-02-20 15:21 J	-11760269.08	-11760268.86	-11760268.64	0.0133	0.0008
Saturn	-36911-06-07 10:04 J	-11760162.17	-11760162.08	-11760161.97	0.0278	0.0242
Uranus	-36911-10-04 22:04 J	-11760042.81	-11760042.58	-11760042.36	0.0133	0.0003
Jupiter	-36911-11-07 18:42 J	-11760008.92	-11760008.72	-11760008.52	0.0543	0.0011
Saturn	-36910-01-22 15:50 J	-11759933.04	-11759932.84	-11759932.64	0.0278	0.0076
Uranus	-36910-05-19 04:18 J	-11759816.54	-11759816.32	-11759816.09	0.0133	0.0011
Saturn	-36910-09-08 22:18 J	-11759703.76	-11759703.57	-11759703.37	0.0279	0.0095
Uranus	-36910-12-31 10:47 J	-11759590.27	-11759590.05	-11759589.83	0.0132	0.0019
Earth	-36909-04-15 19:26 J	-11759483.85	-11759483.69	-11759483.54	0.2673	0.0274
Moon	-36909-04-15 19:40 J	-11759483.83	-11759483.68	-11759483.53	0.2680	0.0256 *
Saturn	-36909-04-25 05:59 J	-11759474.30	-11759474.25	-11759474.18	0.0280	0.0266
Uranus	-36909-08-13 17:02 J	-11759364.00	-11759363.79	-11759363.57	0.0132	0.0027
Uranus	-36908-03-27 23:16 J	-11759137.75	-11759137.53	-11759137.32	0.0132	0.0036
Uranus	-36908-11-09 05:02 J	-11758911.50	-11758911.29	-11758911.08	0.0132	0.0044
Uranus	-36907-06-23 10:47 J	-11758685.25	-11758685.05	-11758684.84	0.0132	0.0052
Uranus	-36906-02-04 16:33 J	-11758459.00	-11758458.81	-11758458.61	0.0132	0.0060
Uranus	-36906-09-18 22:18 J	-11758232.76	-11758232.57	-11758232.38	0.0132	0.0068
Uranus	-36905-05-02 03:35 J	-11758006.52	-11758006.35	-11758006.16	0.0132	0.0076
Jupiter	-36905-09-07 13:26 J	-11757878.14	-11757877.94	-11757877.73	0.0485	0.0010
Uranus	-36905-12-14 08:52 J	-11757780.29	-11757780.13	-11757779.95	0.0132	0.0084
Uranus	-36904-07-28 14:23 J	-11757554.05	-11757553.90	-11757553.74	0.0132	0.0091
Uranus	-36903-03-11 19:26 J	-11757327.82	-11757327.69	-11757327.53	0.0132	0.0099
Mars	-36903-03-18 08:09 J	-11757321.33	-11757321.16	-11757321.00	0.1620	0.0432
Uranus	-36903-10-24 00:42 J	-11757101.58	-11757101.47	-11757101.33	0.0132	0.0106
Mars	-36902-02-14 10:47 J	-11756988.22	-11756988.05	-11756987.88	0.1904	0.0421
Uranus	-36902-06-07 05:45 J	-11756875.35	-11756875.26	-11756875.13	0.0132	0.0113
Uranus	-36901-01-19 10:47 J	-11756649.12	-11756649.05	-11756648.94	0.0132	0.0120
Uranus	-36901-09-01 16:04 J	-11756422.88	-11756422.83	-11756422.75	0.0132	0.0127
Jupiter	-36899-07-13 01:54 J	-11755743.59	-11755743.42	-11755743.24	0.0542	0.0271
Saturn	-36897-11-23 20:23 J	-11754878.76	-11754878.65	-11754878.53	0.0282	0.0237

Saturn -36896-07-11 15:06 J -11754649.08 -11754648.87 -11754648.65 0.0281 0.0054
 Saturn -36895-02-26 08:23 J -11754419.33 -11754419.15 -11754418.95 0.0280 0.0127
 Jupiter -36893-05-13 19:26 J -11753611.88 -11753611.69 -11753611.50 0.0486 0.0166
 Jupiter -36892-01-04 12:57 J -11753376.01 -11753375.96 -11753375.90 0.0484 0.0464
 Jupiter -36887-03-17 11:59 J -11751478.05 -11751478.00 -11751477.94 0.0541 0.0519
 Jupiter -36887-11-10 23:02 J -11751239.68 -11751239.54 -11751239.40 0.0544 0.0380
 Saturn -36882-12-18 17:02 J -11749375.92 -11749375.79 -11749375.66 0.0277 0.0213
 Jupiter -36881-01-18 00:57 J -11749345.60 -11749345.46 -11749345.32 0.0487 0.0340
 Saturn -36881-08-03 22:18 J -11749146.78 -11749146.57 -11749146.37 0.0278 0.0047
 Jupiter -36881-09-09 17:30 J -11749109.93 -11749109.77 -11749109.60 0.0484 0.0290
 Saturn -36880-03-21 04:47 J -11748917.49 -11748917.30 -11748917.11 0.0278 0.0123
 Uranus -36877-10-28 23:45 J -11747599.55 -11747599.51 -11747599.46 0.0142 0.0138
 Uranus -36876-06-12 07:54 J -11747373.25 -11747373.17 -11747373.09 0.0142 0.0131
 Uranus -36875-01-24 16:04 J -11747146.92 -11747146.83 -11747146.71 0.0143 0.0123
 Jupiter -36875-07-16 11:02 J -11746974.24 -11746974.04 -11746973.85 0.0544 0.0132
 Uranus -36875-09-08 00:28 J -11746920.59 -11746920.48 -11746920.34 0.0143 0.0115
 Neptune -36874-02-22 09:21 J -11746753.11 -11746753.11 -11746753.10 0.0089 0.0089
 Uranus -36874-04-22 09:06 J -11746694.24 -11746694.12 -11746693.96 0.0143 0.0107
 Neptune -36874-10-05 22:04 J -11746527.66 -11746527.58 -11746527.46 0.0089 0.0079
 Uranus -36874-12-04 18:28 J -11746467.89 -11746467.73 -11746467.58 0.0144 0.0097
 Neptune -36873-05-18 11:30 J -11746302.16 -11746302.02 -11746301.88 0.0089 0.0068
 Uranus -36873-07-18 03:21 J -11746241.52 -11746241.36 -11746241.19 0.0144 0.0088
 Neptune -36873-12-30 00:14 J -11746076.65 -11746076.49 -11746076.32 0.0089 0.0058
 Uranus -36872-03-01 12:42 J -11746015.14 -11746014.97 -11746014.79 0.0144 0.0078
 Neptune -36872-08-12 12:57 J -11745851.13 -11745850.96 -11745850.76 0.0089 0.0048
 Uranus -36872-10-13 22:04 J -11745788.76 -11745788.58 -11745788.38 0.0144 0.0069
 Mars -36871-03-17 01:11 J -11745634.59 -11745634.45 -11745634.30 0.1623 0.0886
 Neptune -36871-03-26 02:09 J -11745625.60 -11745625.41 -11745625.21 0.0089 0.0037
 Uranus -36871-05-28 07:54 J -11745562.36 -11745562.17 -11745561.97 0.0145 0.0058
 Neptune -36871-11-06 15:06 J -11745400.07 -11745399.87 -11745399.66 0.0089 0.0027

Uranus -36870-01-09 17:45 J -11745335.95 -11745335.76 -11745335.55 0.0145 0.0048
 Neptune -36870-06-20 03:50 J -11745174.55 -11745174.34 -11745174.12 0.0089 0.0017
 Uranus -36870-08-24 04:04 J -11745109.53 -11745109.33 -11745109.12 0.0145 0.0037
 Neptune -36869-01-31 16:47 J -11744949.02 -11744948.80 -11744948.58 0.0089 0.0006
 Uranus -36869-04-06 14:09 J -11744883.11 -11744882.91 -11744882.70 0.0145 0.0027
 Jupiter -36869-05-15 23:02 J -11744843.73 -11744843.54 -11744843.33 0.0484 0.0117
 Neptune -36869-09-13 05:30 J -11744723.49 -11744723.27 -11744723.05 0.0089 0.0004
 Uranus -36869-11-19 00:28 J -11744656.69 -11744656.48 -11744656.26 0.0146 0.0016
 Neptune -36868-04-26 18:14 J -11744497.95 -11744497.74 -11744497.52 0.0089 0.0014
 Uranus -36868-07-03 11:16 J -11744430.25 -11744430.03 -11744429.82 0.0146 0.0005
 Pluto -36868-07-12 12:42 J -11744421.05 -11744420.97 -11744420.83 0.0065 0.0056
 Neptune -36868-12-08 06:42 J -11744272.42 -11744272.22 -11744272.00 0.0089 0.0025
 Uranus -36867-02-14 22:04 J -11744203.79 -11744203.58 -11744203.37 0.0146 0.0007
 Pluto -36867-02-22 17:30 J -11744195.98 -11744195.77 -11744195.55 0.0065 0.0015
 Saturn -36867-06-05 22:18 J -11744092.70 -11744092.57 -11744092.43 0.0281 0.0217
 Neptune -36867-07-21 19:26 J -11744046.88 -11744046.69 -11744046.48 0.0089 0.0035
 Uranus -36867-09-29 08:52 J -11743977.34 -11743977.13 -11743976.91 0.0146 0.0019
 Pluto -36867-10-05 21:35 J -11743970.79 -11743970.60 -11743970.39 0.0066 0.0027
 Saturn -36866-01-21 16:47 J -11743863.01 -11743862.80 -11743862.58 0.0280 0.0035
 Neptune -36866-03-04 08:09 J -11743821.33 -11743821.16 -11743820.96 0.0089 0.0045
 Uranus -36866-05-13 19:54 J -11743750.87 -11743750.67 -11743750.46 0.0146 0.0030
 Saturn -36866-09-08 10:04 J -11743633.27 -11743633.08 -11743632.90 0.0280 0.0145
 Neptune -36866-10-15 21:06 J -11743595.78 -11743595.62 -11743595.44 0.0089 0.0055
 Uranus -36866-12-26 07:11 J -11743524.40 -11743524.20 -11743523.99 0.0146 0.0041
 Neptune -36865-05-28 09:50 J -11743370.23 -11743370.09 -11743369.94 0.0089 0.0065
 Uranus -36865-08-08 18:28 J -11743297.92 -11743297.73 -11743297.52 0.0146 0.0052
 Neptune -36864-01-08 22:33 J -11743144.67 -11743144.56 -11743144.45 0.0089 0.0076
 Uranus -36864-03-23 05:59 J -11743071.43 -11743071.25 -11743071.05 0.0147 0.0063
 Neptune -36864-08-22 10:33 J -11742919.09 -11742919.06 -11742918.98 0.0089 0.0086
 Uranus -36864-11-04 17:45 J -11742844.94 -11742844.76 -11742844.57 0.0147 0.0074

Jupiter -36863-03-20 23:30 J -11742708.72 -11742708.52 -11742708.32 0.0543 0.0115
 Uranus -36863-06-19 05:16 J -11742618.44 -11742618.28 -11742618.09 0.0147 0.0085
 Uranus -36862-01-31 17:30 J -11742391.92 -11742391.77 -11742391.60 0.0147 0.0095
 Uranus -36862-09-15 05:30 J -11742165.41 -11742165.27 -11742165.11 0.0147 0.0105
 Uranus -36861-04-28 17:30 J -11741938.88 -11741938.77 -11741938.62 0.0147 0.0116
 Uranus -36861-12-11 06:14 J -11741712.35 -11741712.24 -11741712.13 0.0147 0.0125
 Uranus -36860-07-25 18:28 J -11741485.80 -11741485.73 -11741485.63 0.0146 0.0135
 Uranus -36859-03-09 07:11 J -11741259.23 -11741259.20 -11741259.15 0.0146 0.0144
 Jupiter -36857-01-20 04:04 J -11740577.54 -11740577.33 -11740577.13 0.0485 0.0061
 Saturn -36852-06-29 15:50 J -11738589.98 -11738589.84 -11738589.69 0.0278 0.0196
 Jupiter -36852-11-23 10:47 J -11738443.20 -11738443.05 -11738442.90 0.0542 0.0363
 Saturn -36851-02-13 21:35 J -11738360.81 -11738360.60 -11738360.40 0.0278 0.0030
 Jupiter -36851-07-19 21:21 J -11738204.64 -11738204.61 -11738204.57 0.0544 0.0535
 Saturn -36851-10-01 04:04 J -11738131.51 -11738131.33 -11738131.15 0.0279 0.0140
 Jupiter -36846-09-25 10:04 J -11736311.26 -11736311.08 -11736310.90 0.0486 0.0234
 Jupiter -36845-05-18 03:06 J -11736075.48 -11736075.37 -11736075.25 0.0484 0.0395
 Jupiter -36839-03-24 05:45 J -11733939.43 -11733939.26 -11733939.09 0.0544 0.0278
 Saturn -36838-12-17 04:18 J -11733306.47 -11733306.32 -11733306.15 0.0282 0.0188
 Mars -36837-01-13 20:23 J -11733278.81 -11733278.65 -11733278.48 0.1619 0.0571
 Saturn -36837-08-02 23:16 J -11733076.75 -11733076.53 -11733076.32 0.0281 0.0005
 Mars -36837-12-11 12:57 J -11732946.11 -11732945.96 -11732945.81 0.1905 0.0936
 Uranus -36836-02-16 09:21 J -11732879.16 -11732879.11 -11732879.02 0.0136 0.0129
 Saturn -36836-03-20 16:18 J -11732846.98 -11732846.82 -11732846.65 0.0281 0.0176
 Uranus -36836-09-30 18:28 J -11732652.81 -11732652.73 -11732652.61 0.0136 0.0121
 Uranus -36835-05-15 03:21 J -11732426.47 -11732426.36 -11732426.22 0.0135 0.0113
 Uranus -36835-12-27 12:14 J -11732200.12 -11732199.99 -11732199.84 0.0135 0.0104
 Jupiter -36834-05-31 15:50 J -11732044.95 -11732044.84 -11732044.73 0.0488 0.0409
 Uranus -36834-08-10 20:38 J -11731973.78 -11731973.64 -11731973.47 0.0135 0.0096
 Jupiter -36833-01-22 08:38 J -11731809.33 -11731809.14 -11731808.96 0.0485 0.0221
 Uranus -36833-03-24 05:02 J -11731747.45 -11731747.29 -11731747.11 0.0135 0.0088

Uranus	-36833-11-05 13:26 J	-11731521.12	-11731520.94	-11731520.76	0.0134	0.0079
Uranus	-36832-06-19 21:21 J	-11731294.79	-11731294.61	-11731294.41	0.0134	0.0070
Uranus	-36831-02-01 05:16 J	-11731068.47	-11731068.28	-11731068.07	0.0134	0.0061
Uranus	-36831-09-15 12:57 J	-11730842.15	-11730841.96	-11730841.74	0.0134	0.0053
Uranus	-36830-04-29 20:38 J	-11730615.85	-11730615.64	-11730615.43	0.0134	0.0044
Uranus	-36830-12-12 04:04 J	-11730389.55	-11730389.33	-11730389.11	0.0133	0.0035
Uranus	-36829-07-25 11:16 J	-11730163.24	-11730163.03	-11730162.80	0.0133	0.0026
Uranus	-36828-03-08 18:28 J	-11729936.95	-11729936.73	-11729936.51	0.0133	0.0017
Uranus	-36828-10-21 01:26 J	-11729710.67	-11729710.44	-11729710.22	0.0133	0.0008
Jupiter	-36828-11-26 16:04 J	-11729674.03	-11729673.83	-11729673.62	0.0543	0.0028
Uranus	-36827-06-04 08:09 J	-11729484.39	-11729484.16	-11729483.94	0.0133	0.0002
Uranus	-36826-01-16 14:38 J	-11729258.11	-11729257.89	-11729257.67	0.0133	0.0010
Uranus	-36826-08-30 21:06 J	-11729031.84	-11729031.62	-11729031.40	0.0133	0.0018
Uranus	-36825-04-13 03:21 J	-11728805.57	-11728805.36	-11728805.14	0.0132	0.0027
Uranus	-36825-11-25 09:21 J	-11728579.32	-11728579.11	-11728578.89	0.0132	0.0035
Uranus	-36824-07-09 15:21 J	-11728353.06	-11728352.86	-11728352.64	0.0132	0.0044
Uranus	-36823-02-20 21:06 J	-11728126.81	-11728126.62	-11728126.40	0.0132	0.0052
Uranus	-36823-10-05 03:06 J	-11727900.56	-11727900.37	-11727900.17	0.0132	0.0060
Saturn	-36822-01-09 23:16 J	-11727803.69	-11727803.53	-11727803.36	0.0277	0.0166
Uranus	-36822-05-19 08:38 J	-11727674.32	-11727674.14	-11727673.94	0.0132	0.0068
Saturn	-36822-08-27 04:47 J	-11727574.51	-11727574.30	-11727574.09	0.0278	0.0000
Jupiter	-36822-09-27 13:40 J	-11727543.14	-11727542.93	-11727542.73	0.0485	0.0046
Uranus	-36822-12-31 14:09 J	-11727448.08	-11727447.91	-11727447.72	0.0132	0.0076
Saturn	-36821-04-12 11:02 J	-11727345.19	-11727345.04	-11727344.86	0.0278	0.0170
Uranus	-36821-08-13 19:26 J	-11727221.84	-11727221.69	-11727221.50	0.0132	0.0084
Uranus	-36820-03-28 00:57 J	-11726995.60	-11726995.46	-11726995.29	0.0132	0.0091
Uranus	-36820-11-09 05:59 J	-11726769.37	-11726769.25	-11726769.08	0.0132	0.0099
Uranus	-36819-06-23 11:16 J	-11726543.14	-11726543.03	-11726542.88	0.0132	0.0106
Uranus	-36818-02-04 16:33 J	-11726316.91	-11726316.81	-11726316.68	0.0132	0.0113
Uranus	-36818-09-18 22:18 J	-11726090.66	-11726090.57	-11726090.48	0.0132	0.0120

Uranus -36817-05-02 02:52 J -11725864.42 -11725864.38 -11725864.30 0.0132 0.0127
 Jupiter -36816-08-01 03:06 J -11725408.55 -11725408.37 -11725408.19 0.0542 0.0224
 Jupiter -36810-06-02 19:26 J -11723276.88 -11723276.69 -11723276.49 0.0486 0.0129
 Saturn -36808-06-28 07:26 J -11722520.36 -11722520.19 -11722520.01 0.0281 0.0166
 Saturn -36807-02-13 01:54 J -11722290.64 -11722290.42 -11722290.21 0.0281 0.0017
 Saturn -36807-09-30 18:42 J -11722060.87 -11722060.72 -11722060.56 0.0280 0.0195
 Mars -36805-01-12 13:26 J -11721592.09 -11721591.94 -11721591.78 0.1622 0.0738
 Mars -36805-12-11 12:28 J -11721258.03 -11721257.98 -11721257.92 0.1901 0.1795
 Jupiter -36804-04-05 15:21 J -11721142.96 -11721142.86 -11721142.76 0.0541 0.0468
 Jupiter -36804-11-30 02:38 J -11720904.51 -11720904.39 -11720904.27 0.0545 0.0431
 Jupiter -36798-02-06 00:28 J -11719010.63 -11719010.48 -11719010.32 0.0486 0.0303
 Jupiter -36798-09-29 17:02 J -11718774.93 -11718774.79 -11718774.63 0.0484 0.0324
 Earth -36796-10-20 15:06 J -11718022.95 -11718022.87 -11718022.80 0.2660 0.2343
 Moon -36796-10-20 15:50 J -11718022.92 -11718022.84 -11718022.76 0.2666 0.2233 *
 Uranus -36793-06-28 08:38 J -11717041.16 -11717041.14 -11717041.09 0.0142 0.0140
 Saturn -36793-07-21 22:18 J -11717017.74 -11717017.57 -11717017.39 0.0278 0.0149
 Uranus -36792-02-09 16:47 J -11716814.87 -11716814.80 -11716814.72 0.0142 0.0132
 Saturn -36792-03-08 04:04 J -11716788.54 -11716788.33 -11716788.12 0.0278 0.0018
 Neptune -36792-04-06 05:30 J -11716759.33 -11716759.27 -11716759.16 0.0088 0.0081
 Jupiter -36792-08-04 14:23 J -11716639.08 -11716638.90 -11716638.70 0.0544 0.0184
 Uranus -36792-09-24 00:57 J -11716588.55 -11716588.46 -11716588.35 0.0143 0.0125
 Saturn -36792-10-23 10:33 J -11716559.21 -11716559.06 -11716558.90 0.0279 0.0187
 Neptune -36792-11-17 18:28 J -11716533.84 -11716533.73 -11716533.58 0.0088 0.0072
 Uranus -36791-05-08 09:35 J -11716362.22 -11716362.10 -11716361.98 0.0143 0.0116
 Neptune -36791-07-01 07:26 J -11716308.32 -11716308.19 -11716308.01 0.0088 0.0062
 Uranus -36791-12-20 17:59 J -11716135.87 -11716135.75 -11716135.60 0.0143 0.0108
 Neptune -36790-02-11 20:52 J -11716082.80 -11716082.63 -11716082.44 0.0088 0.0051
 Uranus -36790-08-04 03:06 J -11715909.52 -11715909.37 -11715909.22 0.0143 0.0099
 Neptune -36790-09-25 09:50 J -11715857.28 -11715857.09 -11715856.88 0.0088 0.0041
 Uranus -36789-03-17 11:45 J -11715683.16 -11715683.01 -11715682.83 0.0144 0.0090

Neptune -36789-05-07 23:02 J -11715631.74 -11715631.54 -11715631.33 0.0088 0.0031
 Uranus -36789-10-29 21:06 J -11715456.79 -11715456.62 -11715456.44 0.0144 0.0080
 Neptune -36789-12-19 11:59 J -11715406.20 -11715406.00 -11715405.77 0.0088 0.0021
 Uranus -36788-06-13 06:28 J -11715230.40 -11715230.23 -11715230.03 0.0144 0.0070
 Neptune -36788-08-02 01:11 J -11715180.66 -11715180.45 -11715180.22 0.0088 0.0011
 Earth -36788-10-18 02:38 J -11715103.51 -11715103.39 -11715103.27 0.2658 0.1742
 Moon -36788-10-18 07:40 J -11715103.31 -11715103.18 -11715103.05 0.2662 0.1448 *
 Uranus -36787-01-25 16:33 J -11715004.01 -11715003.81 -11715003.62 0.0145 0.0060
 Neptune -36787-03-15 14:38 J -11714955.11 -11714954.89 -11714954.67 0.0088 0.0001
 Uranus -36787-09-09 02:09 J -11714777.60 -11714777.41 -11714777.21 0.0145 0.0050
 Jupiter -36787-10-12 06:28 J -11714744.27 -11714744.23 -11714744.18 0.0488 0.0475
 Neptune -36787-10-27 03:50 J -11714729.56 -11714729.34 -11714729.12 0.0088 0.0010
 Uranus -36786-04-23 11:59 J -11714551.20 -11714551.00 -11714550.79 0.0145 0.0039
 Jupiter -36786-06-04 22:47 J -11714508.74 -11714508.55 -11714508.35 0.0485 0.0152
 Neptune -36786-06-09 17:02 J -11714504.00 -11714503.79 -11714503.57 0.0088 0.0021
 Uranus -36786-12-05 22:04 J -11714324.78 -11714324.58 -11714324.36 0.0145 0.0029
 Neptune -36785-01-21 05:59 J -11714278.45 -11714278.25 -11714278.03 0.0088 0.0031
 Uranus -36785-07-19 08:23 J -11714098.35 -11714098.15 -11714097.93 0.0146 0.0018
 Neptune -36785-09-02 19:11 J -11714052.88 -11714052.70 -11714052.49 0.0088 0.0041
 Uranus -36784-03-02 19:11 J -11713871.92 -11713871.70 -11713871.49 0.0146 0.0006
 Neptune -36784-04-16 08:38 J -11713827.30 -11713827.14 -11713826.94 0.0088 0.0052
 Uranus -36784-10-15 05:45 J -11713645.47 -11713645.26 -11713645.05 0.0146 0.0005
 Neptune -36784-11-27 22:04 J -11713601.73 -11713601.58 -11713601.41 0.0088 0.0062
 Uranus -36783-05-29 16:33 J -11713419.02 -11713418.81 -11713418.60 0.0146 0.0016
 Neptune -36783-07-11 11:30 J -11713376.14 -11713376.02 -11713375.89 0.0088 0.0072
 Uranus -36782-01-11 03:35 J -11713192.56 -11713192.35 -11713192.14 0.0146 0.0028
 Neptune -36782-02-22 00:57 J -11713150.54 -11713150.46 -11713150.38 0.0088 0.0082
 Uranus -36782-08-25 14:38 J -11712966.09 -11712965.89 -11712965.68 0.0146 0.0039
 Uranus -36781-04-08 01:54 J -11712739.62 -11712739.42 -11712739.21 0.0146 0.0050
 Uranus -36781-11-20 13:26 J -11712513.13 -11712512.94 -11712512.75 0.0147 0.0061

Pluto -36780-03-16 00:14 J -11712397.63 -11712397.49 -11712397.31 0.0079 0.0055
 Jupiter -36780-04-08 22:47 J -11712373.75 -11712373.55 -11712373.35 0.0542 0.0076
 Uranus -36780-07-05 00:57 J -11712286.64 -11712286.46 -11712286.27 0.0147 0.0072
 Pluto -36780-10-27 10:47 J -11712172.26 -11712172.05 -11712171.83 0.0078 0.0020
 Uranus -36779-02-16 12:42 J -11712060.14 -11712059.97 -11712059.78 0.0147 0.0083
 Uranus -36779-10-01 00:28 J -11711833.63 -11711833.48 -11711833.30 0.0147 0.0094
 Saturn -36778-01-08 12:28 J -11711734.16 -11711733.98 -11711733.78 0.0282 0.0139
 Uranus -36778-05-15 12:42 J -11711607.11 -11711606.97 -11711606.81 0.0147 0.0104
 Saturn -36778-08-26 07:26 J -11711504.41 -11711504.19 -11711503.98 0.0281 0.0045
 Uranus -36778-12-28 00:57 J -11711380.59 -11711380.46 -11711380.32 0.0147 0.0114
 Saturn -36777-04-12 00:14 J -11711274.61 -11711274.49 -11711274.35 0.0281 0.0224
 Uranus -36777-08-10 13:11 J -11711154.06 -11711153.95 -11711153.83 0.0147 0.0124
 Uranus -36776-03-25 01:26 J -11710927.51 -11710927.44 -11710927.33 0.0147 0.0134
 Uranus -36776-11-06 14:09 J -11710700.94 -11710700.91 -11710700.85 0.0146 0.0143
 Jupiter -36774-02-08 04:18 J -11710242.53 -11710242.32 -11710242.12 0.0486 0.0025
 Mars -36772-11-10 08:38 J -11709236.29 -11709236.14 -11709235.98 0.1619 0.0716
 Mars -36771-10-08 16:04 J -11708903.94 -11708903.83 -11708903.72 0.1906 0.1429
 Jupiter -36769-12-12 08:38 J -11708108.30 -11708108.14 -11708107.98 0.0541 0.0328
 Saturn -36763-02-01 06:42 J -11706231.41 -11706231.22 -11706231.03 0.0277 0.0118
 Saturn -36763-09-18 12:14 J -11706002.19 -11706001.99 -11706001.78 0.0278 0.0048
 Jupiter -36763-10-14 09:35 J -11705976.28 -11705976.10 -11705975.91 0.0486 0.0199
 Saturn -36762-05-05 18:42 J -11705772.84 -11705772.72 -11705772.58 0.0278 0.0216
 Jupiter -36762-06-07 02:38 J -11705740.48 -11705740.39 -11705740.29 0.0484 0.0428
 Jupiter -36756-04-12 06:14 J -11703604.40 -11703604.24 -11703604.07 0.0544 0.0321
 Uranus -36753-10-16 17:59 J -11702320.79 -11702320.75 -11702320.67 0.0136 0.0130
 Uranus -36752-05-31 03:21 J -11702094.44 -11702094.36 -11702094.25 0.0136 0.0122
 Uranus -36751-01-12 12:28 J -11701868.09 -11701867.98 -11701867.85 0.0136 0.0114
 Jupiter -36751-06-19 15:35 J -11701709.98 -11701709.85 -11701709.72 0.0487 0.0371
 Uranus -36751-08-26 21:06 J -11701641.74 -11701641.62 -11701641.47 0.0135 0.0106
 Jupiter -36750-02-10 07:54 J -11701474.34 -11701474.17 -11701473.99 0.0484 0.0256

Uranus	-36750-04-10 05:45 J	-11701415.40	-11701415.26	-11701415.09	0.0135	0.0097
Uranus	-36750-11-22 14:09 J	-11701189.06	-11701188.91	-11701188.73	0.0135	0.0089
Uranus	-36749-07-05 22:47 J	-11700962.72	-11700962.55	-11700962.36	0.0135	0.0080
Saturn	-36749-07-20 17:02 J	-11700947.98	-11700947.79	-11700947.59	0.0281	0.0115
Uranus	-36748-02-17 06:42 J	-11700736.39	-11700736.22	-11700736.02	0.0134	0.0072
Saturn	-36748-03-07 11:16 J	-11700718.24	-11700718.03	-11700717.82	0.0281	0.0067
Uranus	-36748-10-01 14:52 J	-11700510.07	-11700509.88	-11700509.68	0.0134	0.0062
Saturn	-36748-10-23 04:04 J	-11700488.43	-11700488.33	-11700488.22	0.0280	0.0244
Uranus	-36747-05-15 22:33 J	-11700283.76	-11700283.56	-11700283.35	0.0134	0.0054
Uranus	-36747-12-28 06:14 J	-11700057.44	-11700057.24	-11700057.02	0.0134	0.0045
Uranus	-36746-08-11 13:54 J	-11699831.13	-11699830.92	-11699830.70	0.0133	0.0036
Uranus	-36745-03-24 21:06 J	-11699604.83	-11699604.62	-11699604.39	0.0133	0.0027
Uranus	-36745-11-06 04:18 J	-11699378.54	-11699378.32	-11699378.10	0.0133	0.0018
Jupiter	-36745-12-15 18:42 J	-11699338.92	-11699338.72	-11699338.51	0.0544	0.0077
Uranus	-36744-06-20 11:16 J	-11699152.25	-11699152.03	-11699151.80	0.0133	0.0009
Uranus	-36743-02-01 18:14 J	-11698925.96	-11698925.74	-11698925.52	0.0133	0.0001
Uranus	-36743-09-16 00:57 J	-11698699.69	-11698699.46	-11698699.24	0.0133	0.0009
Uranus	-36742-04-30 07:11 J	-11698473.42	-11698473.20	-11698472.98	0.0133	0.0018
Uranus	-36742-12-12 13:26 J	-11698247.15	-11698246.94	-11698246.72	0.0132	0.0026
Uranus	-36741-07-25 19:54 J	-11698020.89	-11698020.67	-11698020.46	0.0132	0.0035
Uranus	-36740-03-09 01:40 J	-11697794.63	-11697794.43	-11697794.21	0.0132	0.0043
Uranus	-36740-10-21 07:40 J	-11697568.38	-11697568.18	-11697567.97	0.0132	0.0051
Mars	-36740-11-09 02:09 J	-11697549.57	-11697549.41	-11697549.25	0.1621	0.0596
Uranus	-36739-06-04 13:26 J	-11697342.13	-11697341.94	-11697341.74	0.0132	0.0060
Mars	-36739-10-08 15:06 J	-11697216.00	-11697215.87	-11697215.74	0.1902	0.1276
Jupiter	-36739-10-16 12:57 J	-11697208.16	-11697207.96	-11697207.76	0.0485	0.0080
Uranus	-36738-01-16 19:11 J	-11697115.89	-11697115.70	-11697115.51	0.0132	0.0068
Uranus	-36738-08-31 00:57 J	-11696889.64	-11696889.46	-11696889.28	0.0132	0.0075
Uranus	-36737-04-13 06:14 J	-11696663.40	-11696663.24	-11696663.06	0.0132	0.0083
Uranus	-36737-11-25 11:30 J	-11696437.17	-11696437.02	-11696436.85	0.0132	0.0091

Uranus -36736-07-09 17:02 J -11696210.93 -11696210.79 -11696210.64 0.0132 0.0098
 Uranus -36735-02-20 22:18 J -11695984.69 -11695984.57 -11695984.43 0.0132 0.0105
 Uranus -36735-10-05 03:50 J -11695758.45 -11695758.34 -11695758.23 0.0132 0.0112
 Saturn -36735-12-28 01:26 J -11695674.49 -11695674.44 -11695674.36 0.0277 0.0263
 Uranus -36734-05-19 08:38 J -11695532.22 -11695532.14 -11695532.04 0.0132 0.0119
 Saturn -36734-08-14 06:14 J -11695445.43 -11695445.24 -11695445.05 0.0277 0.0100
 Uranus -36734-12-31 13:40 J -11695305.98 -11695305.93 -11695305.85 0.0132 0.0126
 Saturn -36733-03-30 11:45 J -11695216.21 -11695216.01 -11695215.81 0.0278 0.0067
 Jupiter -36733-08-20 06:28 J -11695073.42 -11695073.23 -11695073.04 0.0543 0.0173
 Saturn -36733-11-14 18:14 J -11694986.84 -11694986.74 -11694986.62 0.0279 0.0235
 Jupiter -36727-06-21 18:42 J -11692941.92 -11692941.72 -11692941.52 0.0486 0.0094
 Jupiter -36721-04-24 15:06 J -11690807.99 -11690807.87 -11690807.74 0.0541 0.0426
 Jupiter -36721-12-19 01:11 J -11690569.55 -11690569.45 -11690569.34 0.0544 0.0465
 Saturn -36720-06-15 02:09 J -11690391.46 -11690391.41 -11690391.35 0.0282 0.0272
 Saturn -36719-01-30 22:04 J -11690161.79 -11690161.58 -11690161.38 0.0282 0.0088
 Saturn -36719-09-17 16:18 J -11689932.02 -11689931.82 -11689931.61 0.0281 0.0095
 Saturn -36718-05-05 09:21 J -11689702.15 -11689702.11 -11689702.05 0.0281 0.0272
 Jupiter -36715-02-24 23:45 J -11688675.68 -11688675.51 -11688675.34 0.0487 0.0269
 Jupiter -36715-10-18 17:02 J -11688439.93 -11688439.79 -11688439.65 0.0485 0.0358
 Neptune -36709-01-07 07:26 J -11686533.24 -11686533.19 -11686533.09 0.0089 0.0083
 Uranus -36709-02-26 17:16 J -11686482.79 -11686482.78 -11686482.77 0.0142 0.0141
 Neptune -36709-08-19 20:38 J -11686307.74 -11686307.64 -11686307.49 0.0089 0.0073
 Jupiter -36709-08-23 11:45 J -11686304.20 -11686304.01 -11686303.83 0.0543 0.0216
 Uranus -36709-10-10 00:42 J -11686256.52 -11686256.47 -11686256.38 0.0142 0.0134
 Neptune -36708-04-02 10:04 J -11686082.23 -11686082.08 -11686081.92 0.0089 0.0062
 Uranus -36708-05-24 08:52 J -11686030.21 -11686030.13 -11686030.02 0.0142 0.0127
 Neptune -36708-11-13 23:02 J -11685856.71 -11685856.54 -11685856.35 0.0089 0.0052
 Uranus -36707-01-05 17:30 J -11685803.88 -11685803.77 -11685803.64 0.0143 0.0118
 Neptune -36707-06-27 11:45 J -11685631.19 -11685631.01 -11685630.80 0.0089 0.0042
 Uranus -36707-08-20 02:23 J -11685577.54 -11685577.40 -11685577.27 0.0143 0.0109

Neptune -36706-02-08 00:42 J -11685405.66 -11685405.47 -11685405.25 0.0089 0.0032
 Uranus -36706-04-03 10:47 J -11685351.19 -11685351.05 -11685350.89 0.0143 0.0101
 Mars -36706-09-07 21:21 J -11685193.76 -11685193.61 -11685193.46 0.1618 0.0851
 Neptune -36706-09-21 13:40 J -11685180.13 -11685179.93 -11685179.70 0.0089 0.0022
 Uranus -36706-11-15 19:40 J -11685124.83 -11685124.68 -11685124.51 0.0144 0.0092
 Neptune -36705-05-04 02:52 J -11684954.60 -11684954.38 -11684954.16 0.0089 0.0011
 Uranus -36705-06-29 04:47 J -11684898.46 -11684898.30 -11684898.12 0.0144 0.0082
 Saturn -36705-07-09 10:04 J -11684888.18 -11684888.08 -11684887.95 0.0276 0.0233
 Neptune -36705-12-15 15:35 J -11684729.07 -11684728.85 -11684728.63 0.0089 0.0001
 Uranus -36704-02-10 14:09 J -11684672.08 -11684671.91 -11684671.72 0.0144 0.0072
 Saturn -36704-02-23 15:06 J -11684659.07 -11684658.87 -11684658.67 0.0277 0.0069
 Neptune -36704-07-29 04:18 J -11684503.53 -11684503.32 -11684503.10 0.0089 0.0009
 Uranus -36704-09-24 23:30 J -11684445.70 -11684445.52 -11684445.31 0.0144 0.0063
 Saturn -36704-10-10 20:38 J -11684429.83 -11684429.64 -11684429.44 0.0278 0.0098
 Jupiter -36704-10-31 05:02 J -11684409.37 -11684409.29 -11684409.20 0.0488 0.0442
 Neptune -36703-03-11 17:02 J -11684278.00 -11684277.79 -11684277.57 0.0089 0.0020
 Uranus -36703-05-09 09:21 J -11684219.30 -11684219.11 -11684218.90 0.0145 0.0052
 Saturn -36703-05-28 03:21 J -11684200.41 -11684200.36 -11684200.29 0.0278 0.0265
 Jupiter -36703-06-23 21:35 J -11684173.78 -11684173.60 -11684173.40 0.0485 0.0185
 Neptune -36703-10-23 05:45 J -11684052.45 -11684052.26 -11684052.04 0.0089 0.0030
 Uranus -36703-12-21 19:11 J -11683992.89 -11683992.70 -11683992.49 0.0145 0.0041
 Neptune -36702-06-05 18:28 J -11683826.91 -11683826.73 -11683826.52 0.0089 0.0040
 Uranus -36702-08-05 05:16 J -11683766.48 -11683766.28 -11683766.06 0.0145 0.0031
 Neptune -36701-01-17 06:57 J -11683601.37 -11683601.21 -11683601.01 0.0089 0.0050
 Uranus -36701-03-18 15:35 J -11683540.06 -11683539.85 -11683539.64 0.0145 0.0019
 Neptune -36701-08-29 19:40 J -11683375.82 -11683375.68 -11683375.50 0.0089 0.0060
 Uranus -36701-10-31 01:54 J -11683313.63 -11683313.42 -11683313.20 0.0146 0.0009
 Neptune -36700-04-12 08:23 J -11683150.27 -11683150.15 -11683150.00 0.0089 0.0070
 Uranus -36700-06-14 12:28 J -11683087.19 -11683086.98 -11683086.76 0.0146 0.0004
 Neptune -36700-11-23 21:06 J -11682924.70 -11682924.62 -11682924.51 0.0089 0.0080

Uranus	-36699-01-26 23:30 J	-11682860.73	-11682860.52	-11682860.31	0.0146	0.0014
Uranus	-36699-09-10 10:18 J	-11682634.28	-11682634.07	-11682633.86	0.0146	0.0026
Uranus	-36698-04-24 21:21 J	-11682407.81	-11682407.61	-11682407.40	0.0146	0.0037
Uranus	-36698-12-07 08:38 J	-11682181.34	-11682181.14	-11682180.94	0.0146	0.0048
Jupiter	-36697-04-27 22:04 J	-11682038.78	-11682038.58	-11682038.37	0.0543	0.0037
Uranus	-36697-07-20 19:54 J	-11681954.86	-11681954.67	-11681954.47	0.0147	0.0059
Uranus	-36696-03-04 07:40 J	-11681728.36	-11681728.18	-11681727.99	0.0147	0.0070
Uranus	-36696-10-16 19:26 J	-11681501.86	-11681501.69	-11681501.51	0.0147	0.0081
Uranus	-36695-05-31 07:11 J	-11681275.36	-11681275.20	-11681275.02	0.0147	0.0092
Uranus	-36694-01-12 19:26 J	-11681048.84	-11681048.69	-11681048.54	0.0147	0.0102
Uranus	-36694-08-27 07:40 J	-11680822.32	-11680822.18	-11680822.04	0.0147	0.0112
Uranus	-36693-04-09 19:40 J	-11680595.78	-11680595.68	-11680595.55	0.0147	0.0123
Uranus	-36693-11-22 08:09 J	-11680369.24	-11680369.16	-11680369.05	0.0147	0.0132
Uranus	-36692-07-06 20:38 J	-11680142.68	-11680142.64	-11680142.57	0.0147	0.0141
Jupiter	-36691-02-27 03:21 J	-11679907.56	-11679907.36	-11679907.15	0.0485	0.0011
Saturn	-36691-12-26 08:09 J	-11679605.26	-11679605.16	-11679605.05	0.0282	0.0244
Saturn	-36690-08-13 03:35 J	-11679375.56	-11679375.35	-11679375.14	0.0281	0.0062
Saturn	-36689-03-29 21:35 J	-11679145.79	-11679145.60	-11679145.40	0.0281	0.0118
Jupiter	-36685-01-01 09:50 J	-11677773.26	-11677773.09	-11677772.91	0.0542	0.0281
Jupiter	-36680-11-02 08:23 J	-11675641.34	-11675641.15	-11675640.96	0.0486	0.0165
Jupiter	-36679-06-26 01:26 J	-11675405.50	-11675405.44	-11675405.38	0.0484	0.0458
Saturn	-36675-01-19 10:33 J	-11674102.18	-11674102.06	-11674101.92	0.0277	0.0213
Saturn	-36675-09-05 15:21 J	-11673873.06	-11673872.86	-11673872.65	0.0277	0.0050
Saturn	-36674-04-22 20:52 J	-11673643.81	-11673643.63	-11673643.44	0.0278	0.0117
Jupiter	-36674-09-05 21:35 J	-11673507.65	-11673507.60	-11673507.55	0.0540	0.0523
Mars	-36674-09-06 14:38 J	-11673507.06	-11673506.89	-11673506.73	0.1620	0.0452
Jupiter	-36673-05-01 08:52 J	-11673269.27	-11673269.13	-11673268.98	0.0544	0.0368
Mars	-36673-08-04 17:02 J	-11673173.95	-11673173.79	-11673173.63	0.1903	0.0753
Uranus	-36669-06-16 03:06 J	-11671762.41	-11671762.37	-11671762.29	0.0136	0.0132
Uranus	-36668-01-28 12:28 J	-11671536.06	-11671535.98	-11671535.87	0.0136	0.0123

Jupiter -36668-07-08 13:54 J -11671375.06 -11671374.92 -11671374.77 0.0487 0.0338
 Uranus -36668-09-11 21:35 J -11671309.70 -11671309.60 -11671309.47 0.0136 0.0115
 Jupiter -36667-03-01 06:42 J -11671139.38 -11671139.22 -11671139.05 0.0484 0.0288
 Uranus -36667-04-26 06:28 J -11671083.35 -11671083.23 -11671083.08 0.0135 0.0107
 Uranus -36667-12-08 15:06 J -11670857.00 -11670856.87 -11670856.70 0.0135 0.0099
 Earth -36666-04-16 23:45 J -11670727.66 -11670727.51 -11670727.35 0.2674 0.0076
 Moon -36666-04-17 01:54 J -11670727.58 -11670727.42 -11670727.26 0.2667 0.0531 *
 Uranus -36666-07-23 00:14 J -11670630.66 -11670630.49 -11670630.32 0.0135 0.0089
 Uranus -36665-03-05 08:23 J -11670404.32 -11670404.15 -11670403.96 0.0135 0.0081
 Uranus -36665-10-17 16:33 J -11670177.99 -11670177.81 -11670177.61 0.0134 0.0072
 Uranus -36664-06-01 00:42 J -11669951.66 -11669951.47 -11669951.26 0.0134 0.0063
 Uranus -36663-01-13 08:38 J -11669725.34 -11669725.14 -11669724.93 0.0134 0.0054
 Uranus -36663-08-27 16:33 J -11669499.02 -11669498.81 -11669498.60 0.0134 0.0045
 Uranus -36662-04-10 23:59 J -11669272.71 -11669272.50 -11669272.28 0.0133 0.0036
 Uranus -36662-11-23 07:26 J -11669046.41 -11669046.19 -11669045.97 0.0133 0.0027
 Jupiter -36661-01-04 17:59 J -11669003.95 -11669003.75 -11669003.55 0.0543 0.0114
 Uranus -36661-07-06 14:38 J -11668820.11 -11668819.89 -11668819.66 0.0133 0.0018
 Saturn -36661-07-07 12:14 J -11668819.11 -11668818.99 -11668818.84 0.0282 0.0221
 Uranus -36660-02-17 21:50 J -11668593.82 -11668593.59 -11668593.37 0.0133 0.0009
 Saturn -36660-02-22 08:09 J -11668589.37 -11668589.16 -11668588.95 0.0282 0.0037
 Uranus -36660-10-02 04:33 J -11668367.53 -11668367.31 -11668367.08 0.0133 0.0001
 Saturn -36660-10-10 02:09 J -11668359.58 -11668359.41 -11668359.21 0.0281 0.0146
 Uranus -36659-05-16 11:16 J -11668141.25 -11668141.03 -11668140.81 0.0133 0.0009
 Uranus -36659-12-28 17:30 J -11667914.98 -11667914.77 -11667914.54 0.0133 0.0018
 Uranus -36658-08-12 00:14 J -11667688.71 -11667688.49 -11667688.27 0.0132 0.0026
 Uranus -36657-03-25 06:14 J -11667462.45 -11667462.24 -11667462.02 0.0132 0.0035
 Uranus -36657-11-06 12:14 J -11667236.19 -11667235.99 -11667235.77 0.0132 0.0043
 Uranus -36656-06-20 18:14 J -11667009.94 -11667009.74 -11667009.53 0.0132 0.0051
 Jupiter -36656-11-04 11:30 J -11666873.22 -11666873.02 -11666872.82 0.0485 0.0113
 Uranus -36655-02-02 00:14 J -11666783.68 -11666783.49 -11666783.29 0.0132 0.0059

Uranus	-36655-09-16 06:14 J	-11666557.43	-11666557.24	-11666557.05	0.0132	0.0067
Uranus	-36654-04-30 11:45 J	-11666331.19	-11666331.01	-11666330.83	0.0132	0.0075
Uranus	-36654-12-12 17:02 J	-11666104.95	-11666104.79	-11666104.60	0.0132	0.0083
Uranus	-36653-07-25 22:33 J	-11665878.70	-11665878.56	-11665878.39	0.0132	0.0091
Uranus	-36652-03-09 04:04 J	-11665652.46	-11665652.33	-11665652.17	0.0132	0.0098
Uranus	-36652-10-21 09:21 J	-11665426.22	-11665426.11	-11665425.96	0.0132	0.0106
Uranus	-36651-06-04 14:38 J	-11665199.99	-11665199.89	-11665199.76	0.0132	0.0113
Uranus	-36650-01-16 20:09 J	-11664973.75	-11664973.66	-11664973.57	0.0132	0.0119
Uranus	-36650-08-31 01:11 J	-11664747.50	-11664747.45	-11664747.38	0.0132	0.0126
Jupiter	-36650-09-09 03:50 J	-11664738.54	-11664738.34	-11664738.14	0.0542	0.0138
Saturn	-36646-08-01 19:40 J	-11663315.83	-11663315.68	-11663315.52	0.0277	0.0182
Saturn	-36645-03-18 00:42 J	-11663086.68	-11663086.47	-11663086.27	0.0277	0.0019
Saturn	-36645-11-02 06:14 J	-11662857.41	-11662857.24	-11662857.05	0.0278	0.0148
Jupiter	-36644-07-10 16:33 J	-11662607.02	-11662606.81	-11662606.61	0.0486	0.0062
Mars	-36640-07-05 09:21 J	-11661151.25	-11661151.11	-11661150.97	0.1617	0.0996
Jupiter	-36638-05-14 12:57 J	-11660473.09	-11660472.96	-11660472.81	0.0541	0.0388
Jupiter	-36637-01-07 23:45 J	-11660234.58	-11660234.51	-11660234.43	0.0544	0.0501
Jupiter	-36632-03-15 22:18 J	-11658340.75	-11658340.57	-11658340.39	0.0487	0.0234
Jupiter	-36632-11-06 15:06 J	-11658104.98	-11658104.87	-11658104.74	0.0484	0.0389
Saturn	-36631-01-17 20:09 J	-11658032.81	-11658032.66	-11658032.49	0.0282	0.0190
Saturn	-36631-09-04 15:35 J	-11657803.07	-11657802.85	-11657802.64	0.0281	0.0009
Saturn	-36630-04-22 09:06 J	-11657573.28	-11657573.12	-11657572.94	0.0281	0.0172
Neptune	-36628-07-08 14:52 J	-11656764.91	-11656764.88	-11656764.80	0.0088	0.0086
Neptune	-36627-02-19 03:50 J	-11656539.43	-11656539.34	-11656539.20	0.0088	0.0076
Neptune	-36627-10-02 16:47 J	-11656313.92	-11656313.80	-11656313.63	0.0088	0.0066
Neptune	-36626-05-16 05:59 J	-11656088.41	-11656088.25	-11656088.06	0.0088	0.0056
Jupiter	-36626-09-12 12:14 J	-11655969.17	-11655968.99	-11655968.81	0.0544	0.0260
Neptune	-36626-12-27 18:57 J	-11655862.89	-11655862.71	-11655862.51	0.0088	0.0046
Uranus	-36625-06-09 10:18 J	-11655698.13	-11655698.07	-11655698.01	0.0142	0.0135
Neptune	-36625-08-09 07:54 J	-11655637.36	-11655637.17	-11655636.95	0.0088	0.0036

Uranus -36624-01-21 18:14 J -11655471.82 -11655471.74 -11655471.64 0.0142 0.0128
 Neptune -36624-03-22 21:06 J -11655411.82 -11655411.62 -11655411.40 0.0088 0.0026
 Uranus -36624-09-05 02:23 J -11655245.50 -11655245.40 -11655245.27 0.0142 0.0120
 Neptune -36624-11-03 10:18 J -11655186.28 -11655186.07 -11655185.84 0.0088 0.0015
 Uranus -36623-04-19 11:02 J -11655019.17 -11655019.04 -11655018.91 0.0143 0.0111
 Neptune -36623-06-16 23:30 J -11654960.74 -11654960.52 -11654960.30 0.0088 0.0005
 Uranus -36623-12-01 19:26 J -11654792.82 -11654792.69 -11654792.53 0.0143 0.0103
 Neptune -36622-01-28 12:28 J -11654735.20 -11654734.98 -11654734.75 0.0088 0.0006
 Uranus -36622-07-16 04:18 J -11654566.47 -11654566.32 -11654566.15 0.0143 0.0093
 Neptune -36622-09-11 01:40 J -11654509.64 -11654509.43 -11654509.21 0.0088 0.0015
 Uranus -36621-02-27 13:11 J -11654340.11 -11654339.95 -11654339.76 0.0144 0.0084
 Neptune -36621-04-23 14:52 J -11654284.08 -11654283.88 -11654283.66 0.0088 0.0026
 Uranus -36621-10-10 22:18 J -11654113.73 -11654113.57 -11654113.37 0.0144 0.0074
 Jupiter -36621-11-19 03:21 J -11654074.47 -11654074.36 -11654074.25 0.0488 0.0408
 Neptune -36621-12-05 04:04 J -11654058.52 -11654058.33 -11654058.12 0.0088 0.0036
 Uranus -36620-05-25 07:54 J -11653887.35 -11653887.17 -11653886.97 0.0144 0.0064
 Jupiter -36620-07-12 19:40 J -11653838.86 -11653838.68 -11653838.49 0.0484 0.0215
 Neptune -36620-07-18 17:16 J -11653832.96 -11653832.78 -11653832.58 0.0088 0.0046
 Uranus -36619-01-06 17:30 J -11653660.96 -11653660.77 -11653660.56 0.0145 0.0054
 Pluto -36619-01-25 22:47 J -11653641.75 -11653641.55 -11653641.35 0.0065 0.0027
 Neptune -36619-03-01 06:42 J -11653607.39 -11653607.22 -11653607.04 0.0088 0.0056
 Uranus -36619-08-21 03:21 J -11653434.56 -11653434.36 -11653434.15 0.0145 0.0043
 Pluto -36619-09-08 02:52 J -11653416.59 -11653416.38 -11653416.16 0.0066 0.0015
 Neptune -36619-10-12 19:54 J -11653381.81 -11653381.67 -11653381.51 0.0088 0.0066
 Uranus -36618-04-04 13:11 J -11653208.15 -11653207.95 -11653207.74 0.0145 0.0032
 Pluto -36618-04-21 06:42 J -11653191.31 -11653191.22 -11653191.09 0.0066 0.0057
 Neptune -36618-05-26 09:21 J -11653156.22 -11653156.11 -11653155.99 0.0088 0.0076
 Uranus -36618-11-16 23:16 J -11652981.74 -11652981.53 -11652981.32 0.0145 0.0021
 Neptune -36617-01-06 22:33 J -11652930.60 -11652930.56 -11652930.50 0.0088 0.0086
 Uranus -36617-06-30 09:35 J -11652755.31 -11652755.10 -11652754.89 0.0146 0.0010

Saturn -36616-02-10 20:52 J -11652529.80 -11652529.63 -11652529.46 0.0277 0.0162
 Uranus -36616-02-11 20:09 J -11652528.87 -11652528.66 -11652528.45 0.0146 0.0002
 Uranus -36616-09-26 06:42 J -11652302.43 -11652302.22 -11652302.00 0.0146 0.0013
 Saturn -36616-09-28 01:40 J -11652300.64 -11652300.43 -11652300.22 0.0278 0.0002
 Uranus -36615-05-10 17:30 J -11652075.98 -11652075.77 -11652075.56 0.0146 0.0024
 Saturn -36615-05-15 07:26 J -11652071.35 -11652071.19 -11652071.02 0.0278 0.0168
 Uranus -36615-12-23 04:18 J -11651849.52 -11651849.32 -11651849.10 0.0146 0.0036
 Jupiter -36614-05-18 00:14 J -11651703.69 -11651703.49 -11651703.29 0.0543 0.0014
 Uranus -36614-08-06 15:35 J -11651623.05 -11651622.85 -11651622.64 0.0146 0.0046
 Uranus -36613-03-20 02:52 J -11651396.57 -11651396.38 -11651396.17 0.0146 0.0058
 Uranus -36613-11-01 14:23 J -11651170.08 -11651169.90 -11651169.70 0.0147 0.0069
 Uranus -36612-06-16 01:54 J -11650943.58 -11650943.42 -11650943.22 0.0147 0.0080
 Uranus -36611-01-28 14:09 J -11650717.07 -11650716.91 -11650716.74 0.0147 0.0090
 Uranus -36611-09-12 01:54 J -11650490.56 -11650490.42 -11650490.25 0.0147 0.0101
 Uranus -36610-04-26 14:09 J -11650264.04 -11650263.91 -11650263.76 0.0147 0.0111
 Uranus -36610-12-09 02:38 J -11650037.51 -11650037.39 -11650037.27 0.0147 0.0121
 Uranus -36609-07-22 14:52 J -11649810.97 -11649810.88 -11649810.78 0.0147 0.0131
 Uranus -36608-03-06 03:21 J -11649584.40 -11649584.36 -11649584.28 0.0147 0.0141
 Jupiter -36608-03-18 01:11 J -11649572.65 -11649572.45 -11649572.24 0.0485 0.0044
 Mars -36608-07-04 02:38 J -11649464.56 -11649464.39 -11649464.22 0.1620 0.0307
 Mars -36607-06-01 19:54 J -11649131.84 -11649131.67 -11649131.50 0.1904 0.0253
 Jupiter -36602-01-20 09:35 J -11647438.28 -11647438.10 -11647437.92 0.0541 0.0239
 Saturn -36602-07-31 00:14 J -11647246.67 -11647246.49 -11647246.32 0.0282 0.0167
 Saturn -36601-03-16 19:26 J -11647016.91 -11647016.69 -11647016.47 0.0282 0.0016
 Saturn -36601-11-01 13:11 J -11646787.09 -11646786.95 -11646786.79 0.0281 0.0196
 Jupiter -36597-11-21 05:45 J -11645306.46 -11645306.26 -11645306.06 0.0486 0.0134
 Jupiter -36591-09-24 18:57 J -11643172.79 -11643172.71 -11643172.62 0.0540 0.0486
 Jupiter -36590-05-21 05:30 J -11642934.41 -11642934.27 -11642934.14 0.0543 0.0398
 Saturn -36587-08-24 06:14 J -11641743.41 -11641743.24 -11641743.05 0.0277 0.0131
 Saturn -36586-04-10 11:16 J -11641514.23 -11641514.03 -11641513.82 0.0277 0.0034

Saturn -36586-11-25 17:30 J -11641284.92 -11641284.77 -11641284.63 0.0278 0.0199
 Uranus -36585-02-14 11:59 J -11641204.03 -11641204.00 -11641203.93 0.0137 0.0133
 Jupiter -36585-07-27 10:47 J -11641040.20 -11641040.05 -11641039.89 0.0487 0.0306
 Uranus -36585-09-27 21:35 J -11640977.68 -11640977.60 -11640977.50 0.0136 0.0124
 Jupiter -36584-03-20 03:50 J -11640804.49 -11640804.34 -11640804.18 0.0485 0.0317
 Uranus -36584-05-12 06:42 J -11640751.32 -11640751.22 -11640751.09 0.0136 0.0116
 Uranus -36584-12-24 15:50 J -11640524.96 -11640524.84 -11640524.69 0.0136 0.0108
 Uranus -36583-08-08 00:42 J -11640298.61 -11640298.47 -11640298.31 0.0135 0.0099
 Uranus -36582-03-22 09:35 J -11640072.26 -11640072.10 -11640071.93 0.0135 0.0090
 Uranus -36582-11-03 17:59 J -11639845.92 -11639845.75 -11639845.56 0.0135 0.0082
 Uranus -36581-06-17 02:23 J -11639619.58 -11639619.40 -11639619.20 0.0135 0.0073
 Uranus -36580-01-29 10:33 J -11639393.24 -11639393.06 -11639392.85 0.0134 0.0064
 Uranus -36580-09-12 18:42 J -11639166.92 -11639166.72 -11639166.51 0.0134 0.0055
 Uranus -36579-04-27 02:23 J -11638940.60 -11638940.40 -11638940.18 0.0134 0.0046
 Uranus -36579-12-09 10:04 J -11638714.29 -11638714.08 -11638713.86 0.0134 0.0037
 Jupiter -36578-01-23 15:06 J -11638669.06 -11638668.87 -11638668.68 0.0543 0.0149
 Uranus -36578-07-23 17:45 J -11638487.98 -11638487.76 -11638487.54 0.0133 0.0028
 Uranus -36577-03-06 00:57 J -11638261.68 -11638261.46 -11638261.24 0.0133 0.0019
 Uranus -36577-10-18 07:54 J -11638035.39 -11638035.17 -11638034.94 0.0133 0.0010
 Uranus -36576-06-01 14:52 J -11637809.10 -11637808.88 -11637808.66 0.0133 0.0001
 Mars -36576-07-02 19:54 J -11637777.69 -11637777.67 -11637777.65 0.1622 0.1606
 Uranus -36575-01-13 21:35 J -11637582.82 -11637582.60 -11637582.37 0.0133 0.0008
 Uranus -36575-08-28 04:18 J -11637356.54 -11637356.32 -11637356.10 0.0133 0.0017
 Uranus -36574-04-11 10:33 J -11637130.27 -11637130.06 -11637129.83 0.0132 0.0026
 Mars -36574-05-02 22:04 J -11637108.71 -11637108.58 -11637108.46 0.1617 0.1132
 Uranus -36574-11-23 17:02 J -11636904.01 -11636903.79 -11636903.58 0.0132 0.0034
 Jupiter -36573-04-01 17:02 J -11636773.83 -11636773.79 -11636773.75 0.0488 0.0477
 Uranus -36573-07-06 23:02 J -11636677.74 -11636677.54 -11636677.32 0.0132 0.0043
 Jupiter -36573-11-23 09:21 J -11636538.31 -11636538.11 -11636537.91 0.0485 0.0145
 Saturn -36572-02-09 09:21 J -11636460.30 -11636460.11 -11636459.91 0.0282 0.0134

Uranus	-36572-02-18 05:02 J	-11636451.48	-11636451.29	-11636451.07	0.0132	0.0051
Saturn	-36572-09-27 04:18 J	-11636230.53	-11636230.32	-11636230.11	0.0281	0.0047
Uranus	-36572-10-02 11:02 J	-11636225.23	-11636225.04	-11636224.83	0.0132	0.0059
Saturn	-36571-05-14 21:35 J	-11636000.72	-11636000.60	-11636000.47	0.0281	0.0225
Uranus	-36571-05-16 16:47 J	-11635998.98	-11635998.80	-11635998.60	0.0132	0.0067
Uranus	-36571-12-28 22:33 J	-11635772.73	-11635772.56	-11635772.37	0.0132	0.0075
Uranus	-36570-08-12 04:18 J	-11635546.48	-11635546.32	-11635546.14	0.0132	0.0083
Uranus	-36569-03-25 09:35 J	-11635320.24	-11635320.10	-11635319.92	0.0132	0.0091
Uranus	-36569-11-06 15:21 J	-11635094.00	-11635093.86	-11635093.71	0.0132	0.0098
Uranus	-36568-06-20 20:52 J	-11634867.76	-11634867.63	-11634867.50	0.0132	0.0105
Uranus	-36567-02-02 01:40 J	-11634641.52	-11634641.43	-11634641.29	0.0132	0.0113
Uranus	-36567-09-16 07:26 J	-11634415.27	-11634415.19	-11634415.09	0.0132	0.0119
Jupiter	-36567-09-28 02:38 J	-11634403.59	-11634403.39	-11634403.19	0.0543	0.0098
Uranus	-36566-04-30 12:28 J	-11634189.03	-11634188.98	-11634188.91	0.0132	0.0126
Jupiter	-36561-07-29 14:09 J	-11632272.12	-11632271.91	-11632271.71	0.0485	0.0031
Saturn	-36558-07-20 03:35 J	-11631186.38	-11631186.35	-11631186.30	0.0276	0.0270
Saturn	-36557-03-05 07:40 J	-11630957.36	-11630957.18	-11630956.98	0.0277	0.0110
Saturn	-36557-10-20 12:57 J	-11630728.17	-11630727.96	-11630727.76	0.0278	0.0055
Saturn	-36556-06-06 18:57 J	-11630498.83	-11630498.71	-11630498.58	0.0278	0.0221
Jupiter	-36555-06-02 14:09 J	-11630138.06	-11630137.91	-11630137.75	0.0541	0.0342
Jupiter	-36554-01-27 01:11 J	-11629899.46	-11629899.45	-11629899.45	0.0544	0.0544
Earth	-36553-10-20 12:57 J	-11629267.04	-11629266.96	-11629266.87	0.2659	0.2267
Jupiter	-36549-04-03 19:40 J	-11628005.86	-11628005.68	-11628005.49	0.0486	0.0203
Jupiter	-36549-11-25 12:42 J	-11627770.07	-11627769.97	-11627769.86	0.0484	0.0417
Neptune	-36545-04-09 16:18 J	-11626538.84	-11626538.82	-11626538.76	0.0089	0.0087
Moon	-36545-10-17 21:35 J	-11626347.70	-11626347.60	-11626347.50	0.2652	0.2152
Earth	-36545-10-18 00:28 J	-11626347.59	-11626347.48	-11626347.36	0.2657	0.1810 *
Neptune	-36545-11-21 05:30 J	-11626313.36	-11626313.27	-11626313.15	0.0089	0.0077
Neptune	-36544-07-04 18:28 J	-11626087.86	-11626087.73	-11626087.57	0.0089	0.0067
Neptune	-36543-02-15 07:26 J	-11625862.34	-11625862.19	-11625862.00	0.0089	0.0057

Saturn -36543-08-22 13:11 J -11625674.15 -11625673.95 -11625673.75 0.0282 0.0111
 Neptune -36543-09-28 20:38 J -11625636.81 -11625636.64 -11625636.44 0.0089 0.0047
 Jupiter -36543-10-01 11:16 J -11625634.20 -11625634.03 -11625633.86 0.0543 0.0297
 Saturn -36542-04-09 08:09 J -11625444.37 -11625444.16 -11625443.95 0.0281 0.0071
 Mars -36542-05-01 15:21 J -11625422.03 -11625421.86 -11625421.69 0.1619 0.0166
 Neptune -36542-05-12 09:35 J -11625411.28 -11625411.10 -11625410.88 0.0089 0.0037
 Saturn -36542-11-25 01:40 J -11625214.52 -11625214.43 -11625214.32 0.0281 0.0248
 Neptune -36542-12-23 23:02 J -11625185.75 -11625185.54 -11625185.34 0.0089 0.0026
 Uranus -36541-02-07 18:42 J -11625139.76 -11625139.72 -11625139.65 0.0142 0.0137
 Mars -36541-03-28 22:04 J -11625089.76 -11625089.58 -11625089.41 0.1905 0.0272
 Neptune -36541-08-05 11:45 J -11624960.22 -11624960.01 -11624959.79 0.0089 0.0016
 Uranus -36541-09-21 02:38 J -11624913.46 -11624913.39 -11624913.29 0.0142 0.0129
 Neptune -36540-03-19 00:42 J -11624734.69 -11624734.47 -11624734.25 0.0089 0.0006
 Uranus -36540-05-05 10:47 J -11624687.14 -11624687.05 -11624686.93 0.0142 0.0121
 Neptune -36540-10-30 13:40 J -11624509.15 -11624508.93 -11624508.71 0.0089 0.0004
 Uranus -36540-12-17 19:11 J -11624460.81 -11624460.70 -11624460.56 0.0143 0.0113
 Neptune -36539-06-13 02:23 J -11624283.61 -11624283.40 -11624283.18 0.0089 0.0014
 Uranus -36539-08-01 03:50 J -11624234.47 -11624234.34 -11624234.19 0.0143 0.0104
 Neptune -36538-01-24 15:06 J -11624058.07 -11624057.87 -11624057.65 0.0089 0.0024
 Uranus -36538-03-15 12:28 J -11624008.13 -11624007.98 -11624007.81 0.0143 0.0095
 Neptune -36538-09-07 04:04 J -11623832.53 -11623832.33 -11623832.13 0.0089 0.0034
 Uranus -36538-10-27 21:06 J -11623781.77 -11623781.62 -11623781.43 0.0144 0.0086
 Jupiter -36538-12-08 23:45 J -11623739.64 -11623739.51 -11623739.38 0.0488 0.0378
 Neptune -36537-04-19 16:47 J -11623606.99 -11623606.80 -11623606.61 0.0089 0.0044
 Uranus -36537-06-10 06:14 J -11623555.41 -11623555.24 -11623555.05 0.0144 0.0076
 Jupiter -36537-07-31 16:33 J -11623503.98 -11623503.81 -11623503.62 0.0485 0.0245
 Neptune -36537-12-01 05:30 J -11623381.44 -11623381.27 -11623381.10 0.0089 0.0054
 Uranus -36536-01-22 15:50 J -11623329.02 -11623328.84 -11623328.65 0.0144 0.0065
 Neptune -36536-07-14 17:59 J -11623155.89 -11623155.75 -11623155.59 0.0089 0.0064
 Uranus -36536-09-06 01:11 J -11623102.64 -11623102.45 -11623102.25 0.0144 0.0055

Neptune -36535-02-25 06:28 J -11622930.33 -11622930.23 -11622930.09 0.0089 0.0075
 Uranus -36535-04-20 10:47 J -11622876.25 -11622876.05 -11622875.84 0.0145 0.0045
 Neptune -36535-10-08 19:11 J -11622704.75 -11622704.70 -11622704.61 0.0089 0.0084
 Uranus -36535-12-02 20:38 J -11622649.85 -11622649.64 -11622649.43 0.0145 0.0034
 Uranus -36534-07-17 06:28 J -11622423.43 -11622423.23 -11622423.01 0.0145 0.0023
 Uranus -36533-02-28 16:47 J -11622197.01 -11622196.80 -11622196.59 0.0145 0.0012
 Uranus -36533-10-12 03:06 J -11621970.58 -11621970.37 -11621970.15 0.0146 0.0002
 Uranus -36532-05-26 13:40 J -11621744.14 -11621743.93 -11621743.72 0.0146 0.0010
 Pluto -36532-09-29 11:45 J -11621618.23 -11621618.01 -11621617.78 0.0079 0.0009
 Uranus -36531-01-08 00:28 J -11621517.69 -11621517.48 -11621517.27 0.0146 0.0022
 Pluto -36531-05-12 21:21 J -11621392.71 -11621392.61 -11621392.46 0.0078 0.0066
 Jupiter -36531-06-05 21:06 J -11621368.82 -11621368.62 -11621368.42 0.0542 0.0047
 Uranus -36531-08-22 11:16 J -11621291.23 -11621291.03 -11621290.82 0.0146 0.0033
 Uranus -36530-04-05 22:18 J -11621064.77 -11621064.57 -11621064.36 0.0146 0.0044
 Uranus -36530-11-18 09:35 J -11620838.29 -11620838.10 -11620837.90 0.0146 0.0055
 Uranus -36529-07-01 21:06 J -11620611.81 -11620611.62 -11620611.42 0.0147 0.0066
 Saturn -36528-01-29 12:42 J -11620400.06 -11620399.97 -11620399.86 0.0276 0.0241
 Uranus -36528-02-13 08:52 J -11620385.30 -11620385.13 -11620384.94 0.0147 0.0077
 Saturn -36528-09-15 17:16 J -11620170.97 -11620170.78 -11620170.58 0.0277 0.0079
 Uranus -36528-09-27 20:38 J -11620158.80 -11620158.64 -11620158.46 0.0147 0.0088
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 Saturn -36527-12-18 04:47 J -11619712.38 -11619712.30 -11619712.20 0.0278 0.0251
 Uranus -36527-12-24 20:23 J -11619705.77 -11619705.65 -11619705.49 0.0147 0.0110
 Uranus -36526-08-08 08:38 J -11619479.24 -11619479.14 -11619479.00 0.0147 0.0120
 Uranus -36525-03-21 21:06 J -11619252.70 -11619252.62 -11619252.50 0.0147 0.0130
 Jupiter -36525-04-05 21:35 J -11619237.80 -11619237.60 -11619237.39 0.0485 0.0073
 Uranus -36525-11-03 09:50 J -11619026.15 -11619026.09 -11619026.01 0.0147 0.0139
 Jupiter -36519-02-08 05:16 J -11617103.46 -11617103.28 -11617103.09 0.0542 0.0206
 Saturn -36514-07-18 04:04 J -11615117.41 -11615117.33 -11615117.24 0.0282 0.0258

Jupiter -36514-12-11 03:21 J -11614971.56 -11614971.36 -11614971.16 0.0486 0.0101
 Saturn -36513-03-03 23:30 J -11614887.72 -11614887.52 -11614887.30 0.0282 0.0077
 Saturn -36513-10-19 17:59 J -11614657.95 -11614657.75 -11614657.55 0.0281 0.0104
 Saturn -36512-06-06 11:02 J -11614428.05 -11614428.04 -11614428.01 0.0281 0.0279
 Mars -36510-04-30 08:23 J -11613735.22 -11613735.15 -11613735.08 0.1622 0.1459
 Mars -36508-02-27 10:18 J -11613066.18 -11613066.07 -11613065.97 0.1617 0.1272
 Jupiter -36508-10-13 16:18 J -11612837.93 -11612837.82 -11612837.71 0.0540 0.0449
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 Jupiter -36502-08-16 08:23 J -11610705.32 -11610705.15 -11610704.98 0.0487 0.0275
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 Jupiter -36501-04-08 00:57 J -11610469.59 -11610469.46 -11610469.31 0.0484 0.0345
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 Uranus -36500-01-09 16:18 J -11610192.92 -11610192.82 -11610192.69 0.0136 0.0117
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 Saturn -36498-11-13 00:57 J -11609155.65 -11609155.46 -11609155.27 0.0278 0.0108
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 Saturn -36497-06-29 07:11 J -11608926.23 -11608926.20 -11608926.16 0.0278 0.0274
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 Uranus -36496-05-13 05:02 J -11608608.49 -11608608.29 -11608608.08 0.0134 0.0056
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 Jupiter -36495-02-11 15:50 J -11608334.03 -11608333.84 -11608333.65 0.0544 0.0192
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 Uranus -36493-06-17 18:42 J -11607476.94 -11607476.72 -11607476.50 0.0133 0.0010

Uranus	-36492-01-30 01:40 J	-11607250.65	-11607250.43	-11607250.20	0.0133	0.0002
Uranus	-36492-09-13 08:38 J	-11607024.36	-11607024.14	-11607023.92	0.0133	0.0008
Uranus	-36491-04-27 15:06 J	-11606798.09	-11606797.87	-11606797.64	0.0133	0.0017
Uranus	-36491-12-09 21:35 J	-11606571.81	-11606571.60	-11606571.38	0.0133	0.0025
Jupiter	-36490-04-21 13:54 J	-11606439.00	-11606438.92	-11606438.84	0.0488	0.0446
Uranus	-36490-07-24 04:04 J	-11606345.54	-11606345.33	-11606345.11	0.0132	0.0034
Jupiter	-36490-12-13 06:14 J	-11606203.43	-11606203.24	-11606203.05	0.0485	0.0173
Uranus	-36489-03-06 10:18 J	-11606119.27	-11606119.07	-11606118.85	0.0132	0.0042
Uranus	-36489-10-18 16:33 J	-11605893.01	-11605892.81	-11605892.60	0.0132	0.0051
Uranus	-36488-06-01 22:18 J	-11605666.76	-11605666.57	-11605666.36	0.0132	0.0059
Uranus	-36487-01-14 04:18 J	-11605440.50	-11605440.32	-11605440.12	0.0132	0.0067
Uranus	-36487-08-28 10:18 J	-11605214.25	-11605214.07	-11605213.88	0.0132	0.0075
Uranus	-36486-04-11 15:50 J	-11604988.00	-11604987.84	-11604987.66	0.0132	0.0083
Uranus	-36486-11-23 21:21 J	-11604761.76	-11604761.61	-11604761.44	0.0132	0.0091
Uranus	-36485-07-07 03:06 J	-11604535.51	-11604535.37	-11604535.22	0.0132	0.0098
Saturn	-36484-01-27 07:11 J	-11604331.31	-11604331.20	-11604331.08	0.0282	0.0236
Uranus	-36484-02-18 08:23 J	-11604309.27	-11604309.15	-11604309.01	0.0132	0.0106
Saturn	-36484-09-14 02:52 J	-11604101.59	-11604101.38	-11604101.16	0.0282	0.0055
Uranus	-36484-10-02 13:54 J	-11604083.02	-11604082.92	-11604082.80	0.0132	0.0113
Jupiter	-36484-10-17 02:23 J	-11604068.60	-11604068.40	-11604068.20	0.0542	0.0056
Saturn	-36483-05-01 21:35 J	-11603871.79	-11603871.60	-11603871.41	0.0281	0.0125
Uranus	-36483-05-16 18:57 J	-11603856.78	-11603856.71	-11603856.60	0.0132	0.0120
Uranus	-36483-12-28 23:59 J	-11603630.53	-11603630.50	-11603630.42	0.0132	0.0127
Jupiter	-36478-08-18 10:18 J	-11601937.28	-11601937.07	-11601936.87	0.0486	0.0005
Mars	-36476-02-26 03:35 J	-11601379.53	-11601379.35	-11601379.18	0.1619	0.0034
Mars	-36475-01-24 00:57 J	-11601047.62	-11601047.46	-11601047.30	0.1906	0.0756
Jupiter	-36472-06-21 11:45 J	-11599803.18	-11599803.01	-11599802.85	0.0541	0.0305
Saturn	-36469-02-21 23:45 J	-11598827.66	-11598827.51	-11598827.35	0.0277	0.0189
Saturn	-36469-10-08 04:33 J	-11598598.52	-11598598.31	-11598598.10	0.0277	0.0027
Saturn	-36468-05-25 10:18 J	-11598369.25	-11598369.07	-11598368.89	0.0278	0.0138

Jupiter -36466-04-23 15:35 J -11597671.04 -11597670.85 -11597670.66 0.0487 0.0174
 Jupiter -36466-12-15 08:38 J -11597435.21 -11597435.14 -11597435.05 0.0484 0.0446
 Neptune -36463-05-23 12:57 J -11596545.04 -11596544.96 -11596544.85 0.0088 0.0079
 Neptune -36462-01-04 01:54 J -11596319.54 -11596319.42 -11596319.27 0.0088 0.0070
 Neptune -36462-08-17 15:06 J -11596094.03 -11596093.87 -11596093.71 0.0088 0.0060
 Neptune -36461-03-30 04:18 J -11595868.50 -11595868.32 -11595868.14 0.0088 0.0050
 Neptune -36461-11-10 16:47 J -11595642.98 -11595642.80 -11595642.58 0.0088 0.0041
 Neptune -36460-06-24 05:59 J -11595417.45 -11595417.25 -11595417.03 0.0088 0.0030
 Jupiter -36460-10-20 06:42 J -11595299.38 -11595299.22 -11595299.06 0.0544 0.0327
 Neptune -36459-02-04 18:57 J -11595191.91 -11595191.71 -11595191.48 0.0088 0.0021
 Neptune -36459-09-18 08:09 J -11594966.37 -11594966.16 -11594965.93 0.0088 0.0010
 Neptune -36458-05-01 21:21 J -11594740.83 -11594740.61 -11594740.38 0.0088 0.0001
 Uranus -36458-10-08 05:30 J -11594581.31 -11594581.27 -11594581.22 0.0141 0.0138
 Neptune -36458-12-13 10:33 J -11594515.28 -11594515.06 -11594514.84 0.0088 0.0010
 Uranus -36457-05-21 13:26 J -11594355.02 -11594354.94 -11594354.86 0.0142 0.0130
 Neptune -36457-07-25 23:16 J -11594289.73 -11594289.53 -11594289.30 0.0088 0.0021
 Uranus -36456-01-02 21:21 J -11594128.71 -11594128.61 -11594128.50 0.0142 0.0122
 Neptune -36456-03-08 12:28 J -11594064.17 -11594063.98 -11594063.76 0.0088 0.0030
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 Neptune -36456-10-20 02:09 J -11593838.61 -11593838.41 -11593838.22 0.0088 0.0040
 Uranus -36455-03-31 13:54 J -11593676.06 -11593675.92 -11593675.77 0.0143 0.0105
 Neptune -36455-06-02 15:06 J -11593613.05 -11593612.87 -11593612.68 0.0088 0.0050
 Saturn -36455-08-09 19:11 J -11593544.85 -11593544.70 -11593544.54 0.0282 0.0199
 Uranus -36455-11-12 22:18 J -11593449.72 -11593449.57 -11593449.41 0.0143 0.0096
 Jupiter -36455-12-27 21:21 J -11593404.75 -11593404.61 -11593404.46 0.0488 0.0345
 Neptune -36454-01-14 04:18 J -11593387.48 -11593387.32 -11593387.15 0.0088 0.0060
 Saturn -36454-03-27 14:38 J -11593315.11 -11593314.89 -11593314.67 0.0282 0.0018
 Uranus -36454-06-27 07:11 J -11593223.37 -11593223.20 -11593223.03 0.0143 0.0087
 Jupiter -36454-08-20 13:54 J -11593169.08 -11593168.92 -11593168.75 0.0485 0.0275
 Neptune -36454-08-27 17:30 J -11593161.90 -11593161.77 -11593161.63 0.0088 0.0070

Saturn -36454-11-12 08:38 J -11593085.31 -11593085.14 -11593084.96 0.0281 0.0160
 Uranus -36453-02-08 16:04 J -11592997.00 -11592996.83 -11592996.65 0.0144 0.0077
 Neptune -36453-04-09 06:57 J -11592936.29 -11592936.21 -11592936.11 0.0088 0.0079
 Uranus -36453-09-22 00:57 J -11592770.63 -11592770.46 -11592770.26 0.0144 0.0067
 Uranus -36452-05-06 10:33 J -11592544.26 -11592544.06 -11592543.87 0.0144 0.0057
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 Uranus -36448-01-23 22:18 J -11591185.78 -11591185.57 -11591185.36 0.0146 0.0009
 Jupiter -36448-06-24 17:59 J -11591033.95 -11591033.75 -11591033.55 0.0543 0.0082
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 Uranus -36444-05-28 04:33 J -11589600.48 -11589600.31 -11589600.13 0.0147 0.0087
 Uranus -36443-01-09 16:18 J -11589373.97 -11589373.82 -11589373.65 0.0147 0.0098
 Uranus -36443-08-24 04:33 J -11589147.45 -11589147.31 -11589147.16 0.0147 0.0108
 Mars -36443-12-25 22:33 J -11589023.64 -11589023.56 -11589023.47 0.1616 0.1410
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 Jupiter -36442-04-25 18:57 J -11588902.91 -11588902.71 -11588902.51 0.0485 0.0101
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 Uranus -36441-07-03 17:16 J -11588467.84 -11588467.78 -11588467.70 0.0147 0.0138
 Saturn -36440-09-03 02:52 J -11588041.54 -11588041.38 -11588041.21 0.0277 0.0165
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 Saturn -36439-12-05 12:42 J -11587583.13 -11587582.97 -11587582.79 0.0278 0.0162

Jupiter -36436-02-27 05:30 J -11586768.46 -11586768.27 -11586768.07 0.0542 0.0164
 Jupiter -36431-12-30 00:14 J -11584636.70 -11584636.49 -11584636.29 0.0486 0.0072
 Saturn -36425-02-19 22:04 J -11582758.74 -11582758.58 -11582758.41 0.0282 0.0178
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 Moon -36423-04-17 00:14 J -11581971.63 -11581971.49 -11581971.34 0.2680 0.0371
 Earth -36423-04-17 04:04 J -11581971.48 -11581971.33 -11581971.17 0.2674 0.0364 *
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 Uranus -36417-09-09 01:54 J -11579634.52 -11579634.42 -11579634.30 0.0136 0.0119
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 Uranus -36412-01-10 15:06 J -11578050.06 -11578049.87 -11578049.66 0.0134 0.0057
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 Saturn -36410-03-16 10:18 J -11577255.24 -11577255.07 -11577254.88 0.0277 0.0137
 Uranus -36410-07-04 22:04 J -11577144.80 -11577144.58 -11577144.36 0.0134 0.0020
 Saturn -36410-10-31 15:21 J -11577026.06 -11577025.86 -11577025.65 0.0277 0.0027
 Mars -36410-11-21 03:21 J -11577005.49 -11577005.36 -11577005.23 0.1907 0.1259

Uranus -36409-02-16 05:16 J -11576918.50 -11576918.28 -11576918.05 0.0133 0.0011
 Saturn -36409-06-16 21:21 J -11576796.75 -11576796.61 -11576796.45 0.0278 0.0190
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 Uranus -36408-05-13 19:11 J -11576465.92 -11576465.70 -11576465.47 0.0133 0.0007
 Uranus -36408-12-26 01:54 J -11576239.64 -11576239.42 -11576239.19 0.0133 0.0016
 Jupiter -36407-05-10 09:21 J -11576104.21 -11576104.11 -11576104.00 0.0488 0.0417
 Uranus -36407-08-09 08:38 J -11576013.35 -11576013.14 -11576012.92 0.0133 0.0025
 Jupiter -36406-01-01 02:09 J -11575868.60 -11575868.41 -11575868.22 0.0485 0.0202
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 Uranus -36404-01-30 09:50 J -11575108.29 -11575108.09 -11575107.89 0.0132 0.0059
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 Jupiter -36401-11-04 20:52 J -11573733.83 -11573733.63 -11573733.42 0.0542 0.0029
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 Uranus -36399-01-14 06:42 J -11573298.29 -11573298.22 -11573298.11 0.0132 0.0120
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 Saturn -36395-04-19 05:30 J -11571742.48 -11571742.27 -11571742.05 0.0281 0.0040
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 Jupiter -36383-05-12 12:57 J -11567336.15 -11567335.96 -11567335.76 0.0486 0.0143
 Jupiter -36382-01-03 05:45 J -11567100.29 -11567100.26 -11567100.21 0.0484 0.0472
 Saturn -36381-02-09 09:50 J -11566698.12 -11566698.09 -11566698.05 0.0276 0.0272

Saturn -36381-09-25 13:54 J -11566469.11 -11566468.92 -11566468.73 0.0277 0.0113
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 Saturn -36351-04-07 20:09 J -11555682.85 -11555682.66 -11555682.46 0.0277 0.0087
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 Mars -36313-10-19 21:50 J -11541607.72 -11541607.59 -11541607.46 0.1620 0.1037
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 Earth -36302-10-18 22:18 J -11537591.68 -11537591.57 -11537591.46 0.2656 0.1899 *
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 Pluto -36283-04-14 23:02 J -11530838.71 -11530838.54 -11530838.33 0.0078 0.0041
 Uranus -36283-07-14 09:35 J -11530748.30 -11530748.10 -11530747.89 0.0145 0.0029
 Uranus -36282-02-25 19:40 J -11530521.89 -11530521.68 -11530521.47 0.0145 0.0017
 Jupiter -36282-08-02 12:57 J -11530364.15 -11530363.96 -11530363.76 0.0543 0.0152
 Uranus -36282-10-10 05:45 J -11530295.48 -11530295.26 -11530295.05 0.0145 0.0007
 Uranus -36281-05-23 15:50 J -11530069.05 -11530068.84 -11530068.62 0.0146 0.0005
 Uranus -36280-01-05 02:23 J -11529842.61 -11529842.40 -11529842.19 0.0146 0.0016
 Uranus -36280-08-19 12:57 J -11529616.16 -11529615.96 -11529615.75 0.0146 0.0028

Uranus -36279-04-02 23:45 J -11529389.71 -11529389.51 -11529389.30 0.0146 0.0039
 Mars -36279-08-18 17:02 J -11529251.96 -11529251.79 -11529251.62 0.1617 0.0390
 Uranus -36279-11-15 10:47 J -11529163.24 -11529163.05 -11529162.84 0.0146 0.0051
 Saturn -36278-03-01 20:09 J -11529056.81 -11529056.66 -11529056.51 0.0282 0.0203
 Uranus -36278-06-29 22:04 J -11528936.77 -11528936.58 -11528936.38 0.0146 0.0062
 Saturn -36278-10-17 15:35 J -11528827.06 -11528826.85 -11528826.63 0.0282 0.0024
 Uranus -36277-02-11 09:50 J -11528710.28 -11528710.09 -11528709.91 0.0147 0.0073
 Saturn -36277-06-03 09:50 J -11528597.26 -11528597.09 -11528596.90 0.0281 0.0154
 Uranus -36277-09-24 21:21 J -11528483.79 -11528483.61 -11528483.44 0.0147 0.0084
 Jupiter -36277-10-09 21:06 J -11528468.69 -11528468.62 -11528468.54 0.0489 0.0454
 Uranus -36276-05-09 08:52 J -11528257.29 -11528257.13 -11528256.96 0.0147 0.0095
 Jupiter -36276-06-02 13:40 J -11528233.13 -11528232.93 -11528232.74 0.0485 0.0163
 Uranus -36276-12-21 20:23 J -11528030.78 -11528030.65 -11528030.49 0.0147 0.0106
 Uranus -36275-08-05 08:38 J -11527804.26 -11527804.14 -11527804.00 0.0147 0.0116
 Uranus -36274-03-19 20:52 J -11527577.73 -11527577.63 -11527577.52 0.0147 0.0126
 Uranus -36274-11-01 09:06 J -11527351.19 -11527351.12 -11527351.03 0.0147 0.0136
 Uranus -36273-06-14 21:06 J -11527124.63 -11527124.62 -11527124.57 0.0147 0.0146
 Jupiter -36270-04-06 23:30 J -11526098.72 -11526098.52 -11526098.32 0.0542 0.0094
 Jupiter -36264-02-05 18:42 J -11523966.92 -11523966.72 -11523966.51 0.0486 0.0010
 Saturn -36263-03-26 05:02 J -11523553.45 -11523553.29 -11523553.13 0.0277 0.0172
 Saturn -36263-11-10 09:21 J -11523324.32 -11523324.11 -11523323.90 0.0277 0.0012
 Saturn -36262-06-27 14:38 J -11523095.06 -11523094.89 -11523094.71 0.0278 0.0151
 Jupiter -36259-12-10 11:16 J -11521833.19 -11521833.03 -11521832.87 0.0541 0.0334
 Jupiter -36258-08-05 22:33 J -11521594.58 -11521594.56 -11521594.54 0.0544 0.0541
 Jupiter -36253-10-12 00:28 J -11519700.67 -11519700.48 -11519700.29 0.0487 0.0181
 Jupiter -36252-06-04 17:02 J -11519464.88 -11519464.79 -11519464.70 0.0484 0.0431
 Uranus -36250-05-26 11:45 J -11518744.06 -11518744.01 -11518743.93 0.0137 0.0130
 Uranus -36249-01-07 21:21 J -11518517.69 -11518517.61 -11518517.49 0.0137 0.0122
 Uranus -36249-08-21 07:11 J -11518291.32 -11518291.20 -11518291.07 0.0136 0.0113
 Saturn -36249-09-10 21:50 J -11518270.75 -11518270.59 -11518270.42 0.0282 0.0184

Uranus -36248-04-04 16:18 J -11518064.95 -11518064.82 -11518064.66 0.0136 0.0104
 Saturn -36248-04-28 17:30 J -11518040.99 -11518040.77 -11518040.56 0.0281 0.0007
 Uranus -36248-11-17 01:40 J -11517838.58 -11517838.43 -11517838.26 0.0136 0.0095
 Saturn -36248-12-14 11:30 J -11517811.18 -11517811.02 -11517810.84 0.0281 0.0172
 Uranus -36247-07-01 10:47 J -11517612.22 -11517612.05 -11517611.87 0.0135 0.0086
 Mars -36247-08-17 10:18 J -11517565.22 -11517565.07 -11517564.93 0.1619 0.0896
 Uranus -36246-02-12 19:26 J -11517385.86 -11517385.69 -11517385.50 0.0135 0.0077
 Jupiter -36246-04-10 10:47 J -11517329.21 -11517329.05 -11517328.88 0.0543 0.0304
 Mars -36246-07-15 07:40 J -11517233.35 -11517233.18 -11517233.01 0.1906 0.0421
 Uranus -36246-09-27 03:50 J -11517159.52 -11517159.34 -11517159.13 0.0135 0.0068
 Uranus -36245-05-10 12:14 J -11516933.18 -11516932.99 -11516932.78 0.0135 0.0059
 Uranus -36245-12-22 20:23 J -11516706.85 -11516706.65 -11516706.43 0.0134 0.0049
 Uranus -36244-08-06 04:33 J -11516480.52 -11516480.31 -11516480.09 0.0134 0.0040
 Uranus -36243-03-20 12:14 J -11516254.20 -11516253.99 -11516253.77 0.0134 0.0031
 Uranus -36243-11-01 19:40 J -11516027.89 -11516027.68 -11516027.45 0.0134 0.0022
 Uranus -36242-06-16 03:21 J -11515801.58 -11515801.36 -11515801.14 0.0134 0.0012
 Uranus -36241-01-28 10:33 J -11515575.28 -11515575.06 -11515574.83 0.0133 0.0004
 Jupiter -36241-06-17 04:33 J -11515434.44 -11515434.31 -11515434.17 0.0488 0.0354
 Uranus -36241-09-10 17:45 J -11515348.98 -11515348.76 -11515348.54 0.0133 0.0006
 Jupiter -36240-02-07 21:06 J -11515198.79 -11515198.62 -11515198.45 0.0485 0.0261
 Uranus -36240-04-25 00:42 J -11515122.69 -11515122.47 -11515122.25 0.0133 0.0015
 Uranus -36240-12-07 07:26 J -11514896.41 -11514896.19 -11514895.97 0.0133 0.0024
 Uranus -36239-07-21 14:09 J -11514670.12 -11514669.91 -11514669.69 0.0133 0.0033
 Uranus -36238-03-04 20:38 J -11514443.84 -11514443.64 -11514443.42 0.0132 0.0041
 Uranus -36238-10-17 02:52 J -11514217.57 -11514217.38 -11514217.16 0.0132 0.0050
 Uranus -36237-05-30 09:06 J -11513991.31 -11513991.12 -11513990.91 0.0132 0.0059
 Uranus -36236-01-11 15:35 J -11513765.04 -11513764.85 -11513764.66 0.0132 0.0067
 Uranus -36236-08-25 21:21 J -11513538.78 -11513538.61 -11513538.41 0.0132 0.0075
 Uranus -36235-04-09 03:21 J -11513312.52 -11513312.36 -11513312.18 0.0132 0.0083
 Uranus -36235-11-21 08:52 J -11513086.27 -11513086.13 -11513085.95 0.0132 0.0091

Jupiter -36235-12-13 21:06 J -11513063.82 -11513063.62 -11513063.42 0.0542 0.0059
 Uranus -36234-07-05 14:52 J -11512860.02 -11512859.88 -11512859.73 0.0132 0.0098
 Saturn -36234-10-06 08:09 J -11512767.33 -11512767.16 -11512766.99 0.0277 0.0150
 Uranus -36233-02-16 20:09 J -11512633.77 -11512633.66 -11512633.51 0.0132 0.0106
 Saturn -36233-05-22 12:57 J -11512538.17 -11512537.96 -11512537.75 0.0277 0.0011
 Uranus -36233-09-30 01:54 J -11512407.52 -11512407.42 -11512407.30 0.0132 0.0113
 Saturn -36232-01-06 18:42 J -11512308.88 -11512308.72 -11512308.56 0.0278 0.0173
 Uranus -36232-05-14 07:11 J -11512181.28 -11512181.20 -11512181.10 0.0132 0.0120
 Uranus -36232-12-26 12:14 J -11511955.03 -11511954.99 -11511954.92 0.0132 0.0127
 Jupiter -36229-10-14 02:38 J -11510932.59 -11510932.39 -11510932.19 0.0486 0.0092
 Jupiter -36223-08-18 04:04 J -11508798.52 -11508798.33 -11508798.14 0.0541 0.0196
 Saturn -36219-03-24 09:06 J -11507484.30 -11507484.12 -11507483.93 0.0282 0.0147
 Saturn -36219-11-09 04:33 J -11507254.52 -11507254.31 -11507254.09 0.0282 0.0032
 Saturn -36218-06-26 22:33 J -11507024.70 -11507024.56 -11507024.41 0.0281 0.0208
 Jupiter -36217-06-19 08:52 J -11506666.33 -11506666.13 -11506665.93 0.0486 0.0079
 Neptune -36216-05-26 21:50 J -11506324.63 -11506324.59 -11506324.53 0.0089 0.0086
 Neptune -36215-01-07 11:02 J -11506099.15 -11506099.04 -11506098.93 0.0089 0.0076
 Neptune -36215-08-20 23:30 J -11505873.64 -11505873.52 -11505873.35 0.0089 0.0067
 Neptune -36214-04-03 12:42 J -11505648.12 -11505647.97 -11505647.78 0.0089 0.0057
 Neptune -36214-11-15 01:54 J -11505422.59 -11505422.42 -11505422.22 0.0089 0.0047
 Mars -36213-06-15 05:02 J -11505209.45 -11505209.29 -11505209.12 0.1617 0.0532
 Neptune -36213-06-27 14:52 J -11505197.07 -11505196.88 -11505196.67 0.0089 0.0037
 Neptune -36212-02-08 03:50 J -11504971.54 -11504971.34 -11504971.12 0.0089 0.0027
 Neptune -36212-09-21 17:02 J -11504746.00 -11504745.79 -11504745.57 0.0089 0.0017
 Jupiter -36211-04-22 14:23 J -11504533.02 -11504532.90 -11504532.78 0.0540 0.0438
 Neptune -36211-05-05 06:14 J -11504520.46 -11504520.24 -11504520.02 0.0089 0.0007
 Neptune -36211-12-16 19:11 J -11504294.92 -11504294.70 -11504294.49 0.0089 0.0003
 Jupiter -36211-12-17 01:40 J -11504294.55 -11504294.43 -11504294.31 0.0544 0.0435 *
 Neptune -36210-07-30 07:54 J -11504069.38 -11504069.17 -11504068.95 0.0089 0.0013
 Neptune -36209-03-11 20:38 J -11503843.84 -11503843.64 -11503843.42 0.0089 0.0023

Neptune -36209-10-23 09:35 J -11503618.29 -11503618.10 -11503617.88 0.0089 0.0033
 Neptune -36208-06-05 22:18 J -11503392.74 -11503392.57 -11503392.36 0.0089 0.0043
 Neptune -36207-01-17 11:16 J -11503167.20 -11503167.03 -11503166.85 0.0089 0.0052
 Neptune -36207-08-30 23:59 J -11502941.64 -11502941.50 -11502941.33 0.0089 0.0062
 Neptune -36206-04-13 12:28 J -11502716.08 -11502715.98 -11502715.83 0.0089 0.0072
 Uranus -36206-05-19 19:54 J -11502679.73 -11502679.67 -11502679.61 0.0141 0.0134
 Neptune -36206-11-25 01:40 J -11502490.51 -11502490.43 -11502490.34 0.0089 0.0082
 Uranus -36205-01-01 03:35 J -11502453.43 -11502453.35 -11502453.25 0.0141 0.0127
 Jupiter -36205-02-23 14:23 J -11502400.08 -11502399.90 -11502399.73 0.0487 0.0249
 Uranus -36205-08-14 11:30 J -11502227.13 -11502227.02 -11502226.90 0.0142 0.0118
 Jupiter -36205-10-16 06:42 J -11502164.35 -11502164.22 -11502164.08 0.0484 0.0363
 Uranus -36204-03-28 18:57 J -11502000.82 -11502000.71 -11502000.55 0.0142 0.0111
 Saturn -36204-04-17 12:42 J -11501981.15 -11501980.97 -11501980.78 0.0277 0.0125
 Uranus -36204-11-10 03:21 J -11501774.50 -11501774.36 -11501774.20 0.0143 0.0101
 Saturn -36204-12-02 17:16 J -11501751.98 -11501751.78 -11501751.57 0.0277 0.0037
 Uranus -36203-06-24 11:30 J -11501548.16 -11501548.02 -11501547.84 0.0143 0.0092
 Saturn -36203-07-19 22:33 J -11501522.69 -11501522.56 -11501522.40 0.0278 0.0199
 Uranus -36202-02-05 20:09 J -11501321.82 -11501321.66 -11501321.47 0.0143 0.0083
 Uranus -36202-09-20 05:16 J -11501095.46 -11501095.28 -11501095.10 0.0144 0.0072
 Uranus -36201-05-03 13:54 J -11500869.10 -11500868.92 -11500868.72 0.0144 0.0062
 Uranus -36201-12-15 23:16 J -11500642.72 -11500642.53 -11500642.33 0.0144 0.0051
 Uranus -36200-07-30 08:38 J -11500416.34 -11500416.14 -11500415.94 0.0144 0.0041
 Uranus -36199-03-13 18:14 J -11500189.95 -11500189.74 -11500189.54 0.0145 0.0030
 Jupiter -36199-08-21 13:54 J -11500029.11 -11500028.92 -11500028.73 0.0543 0.0196
 Uranus -36199-10-26 03:50 J -11499963.55 -11499963.34 -11499963.13 0.0145 0.0019
 Uranus -36198-06-09 13:54 J -11499737.13 -11499736.92 -11499736.71 0.0145 0.0008
 Uranus -36197-01-22 00:14 J -11499510.70 -11499510.49 -11499510.28 0.0145 0.0003
 Uranus -36197-09-04 10:33 J -11499284.27 -11499284.06 -11499283.85 0.0146 0.0014
 Uranus -36196-04-18 21:06 J -11499057.83 -11499057.62 -11499057.41 0.0146 0.0026
 Uranus -36196-12-01 07:40 J -11498831.38 -11498831.18 -11498830.97 0.0146 0.0038

Uranus	-36195-07-15 18:42 J	-11498604.92	-11498604.72	-11498604.51	0.0146	0.0049
Uranus	-36194-02-27 05:59 J	-11498378.44	-11498378.25	-11498378.05	0.0146	0.0060
Uranus	-36194-10-11 17:16 J	-11498151.96	-11498151.78	-11498151.59	0.0146	0.0071
Jupiter	-36194-10-29 20:09 J	-11498133.76	-11498133.66	-11498133.56	0.0489	0.0419
Uranus	-36193-05-25 04:33 J	-11497925.47	-11497925.31	-11497925.12	0.0147	0.0083
Jupiter	-36193-06-21 11:59 J	-11497898.18	-11497898.00	-11497897.81	0.0485	0.0194
Uranus	-36192-01-06 16:18 J	-11497698.97	-11497698.82	-11497698.64	0.0147	0.0094
Uranus	-36192-08-21 04:18 J	-11497472.47	-11497472.32	-11497472.17	0.0147	0.0104
Uranus	-36191-04-04 16:04 J	-11497245.95	-11497245.83	-11497245.69	0.0147	0.0115
Uranus	-36191-11-17 04:04 J	-11497019.43	-11497019.33	-11497019.21	0.0147	0.0125
Uranus	-36190-07-01 16:04 J	-11496792.89	-11496792.83	-11496792.73	0.0147	0.0135
Saturn	-36190-10-04 10:18 J	-11496698.25	-11496698.07	-11496697.87	0.0282	0.0129
Uranus	-36189-02-13 04:47 J	-11496566.33	-11496566.30	-11496566.26	0.0147	0.0144
Saturn	-36189-05-21 05:45 J	-11496468.47	-11496468.26	-11496468.05	0.0281	0.0050
Saturn	-36188-01-05 23:30 J	-11496238.64	-11496238.52	-11496238.38	0.0281	0.0224
Jupiter	-36187-04-26 02:09 J	-11495763.61	-11495763.41	-11495763.20	0.0542	0.0044
Jupiter	-36181-02-25 16:33 J	-11493632.01	-11493631.81	-11493631.61	0.0486	0.0022
Mars	-36181-06-13 22:33 J	-11493522.71	-11493522.56	-11493522.40	0.1618	0.0756
Earth	-36180-04-17 08:38 J	-11493215.29	-11493215.14	-11493214.99	0.2675	0.0669
Moon	-36180-04-17 13:40 J	-11493215.07	-11493214.93	-11493214.80	0.2673	0.1354 *
Mars	-36180-05-11 10:33 J	-11493191.24	-11493191.06	-11493190.89	0.1906	0.0075
Jupiter	-36176-12-29 12:28 J	-11491498.15	-11491497.98	-11491497.80	0.0541	0.0287
Saturn	-36175-03-13 10:47 J	-11491424.11	-11491424.05	-11491423.98	0.0276	0.0261
Saturn	-36175-10-28 14:38 J	-11491195.08	-11491194.89	-11491194.69	0.0277	0.0104
Saturn	-36174-06-14 19:26 J	-11490965.89	-11490965.69	-11490965.48	0.0278	0.0058
Saturn	-36173-01-30 01:26 J	-11490736.56	-11490736.44	-11490736.31	0.0278	0.0219
Earth	-36172-04-15 02:52 J	-11490295.43	-11490295.38	-11490295.33	0.2677	0.2517
Moon	-36172-04-15 05:45 J	-11490295.31	-11490295.26	-11490295.22	0.2670	0.2555
Jupiter	-36170-10-31 22:18 J	-11489365.76	-11489365.57	-11489365.37	0.0487	0.0148
Jupiter	-36169-06-23 15:06 J	-11489129.92	-11489129.87	-11489129.80	0.0484	0.0464

Uranus	-36166-01-23 21:35 J	-11488185.64	-11488185.60	-11488185.52	0.0137	0.0131
Uranus	-36166-09-07 07:40 J	-11487959.27	-11487959.18	-11487959.07	0.0137	0.0122
Uranus	-36165-04-20 17:16 J	-11487732.89	-11487732.78	-11487732.65	0.0137	0.0114
Uranus	-36165-12-03 02:23 J	-11487506.52	-11487506.40	-11487506.24	0.0136	0.0106
Uranus	-36164-07-17 11:59 J	-11487280.15	-11487280.00	-11487279.83	0.0136	0.0096
Jupiter	-36164-09-02 19:26 J	-11487232.71	-11487232.69	-11487232.67	0.0539	0.0535
Uranus	-36163-02-28 21:06 J	-11487053.78	-11487053.62	-11487053.44	0.0136	0.0087
Jupiter	-36163-04-29 06:57 J	-11486994.37	-11486994.21	-11486994.05	0.0543	0.0333
Uranus	-36163-10-13 05:59 J	-11486827.43	-11486827.25	-11486827.06	0.0135	0.0078
Uranus	-36162-05-27 14:38 J	-11486601.08	-11486600.89	-11486600.69	0.0135	0.0068
Uranus	-36161-01-08 23:02 J	-11486374.74	-11486374.54	-11486374.33	0.0135	0.0059
Uranus	-36161-08-22 07:26 J	-11486148.40	-11486148.19	-11486147.98	0.0135	0.0050
Saturn	-36161-08-29 00:14 J	-11486141.54	-11486141.49	-11486141.43	0.0283	0.0272
Uranus	-36160-04-05 15:21 J	-11485922.07	-11485921.86	-11485921.64	0.0134	0.0040
Saturn	-36160-04-15 20:38 J	-11485911.84	-11485911.64	-11485911.43	0.0282	0.0093
Uranus	-36160-11-17 23:16 J	-11485695.75	-11485695.53	-11485695.31	0.0134	0.0031
Saturn	-36160-12-01 15:50 J	-11485682.04	-11485681.84	-11485681.63	0.0282	0.0086
Uranus	-36159-07-02 06:57 J	-11485469.43	-11485469.21	-11485468.99	0.0134	0.0022
Saturn	-36159-07-19 10:04 J	-11485452.16	-11485452.08	-11485452.00	0.0281	0.0260
Uranus	-36158-02-13 14:38 J	-11485243.11	-11485242.89	-11485242.67	0.0134	0.0013
Jupiter	-36158-07-07 04:33 J	-11485099.47	-11485099.31	-11485099.16	0.0488	0.0318
Uranus	-36158-09-27 21:50 J	-11485016.81	-11485016.59	-11485016.36	0.0133	0.0004
Jupiter	-36157-02-27 21:06 J	-11484863.78	-11484863.62	-11484863.46	0.0485	0.0296
Uranus	-36157-05-11 05:02 J	-11484790.51	-11484790.29	-11484790.06	0.0133	0.0006
Uranus	-36157-12-23 11:59 J	-11484564.22	-11484564.00	-11484563.77	0.0133	0.0015
Uranus	-36156-08-06 18:57 J	-11484337.92	-11484337.71	-11484337.48	0.0133	0.0024
Uranus	-36155-03-21 01:40 J	-11484111.64	-11484111.43	-11484111.20	0.0133	0.0033
Uranus	-36155-11-02 08:09 J	-11483885.36	-11483885.16	-11483884.93	0.0133	0.0042
Uranus	-36154-06-16 14:52 J	-11483659.08	-11483658.88	-11483658.67	0.0132	0.0050
Uranus	-36153-01-28 21:06 J	-11483432.81	-11483432.62	-11483432.41	0.0132	0.0059

Uranus -36153-09-11 03:21 J -11483206.54 -11483206.36 -11483206.15 0.0132 0.0067
 Uranus -36152-04-25 09:35 J -11482980.27 -11482980.10 -11482979.91 0.0132 0.0075
 Uranus -36152-12-07 15:21 J -11482754.02 -11482753.86 -11482753.67 0.0132 0.0083
 Jupiter -36151-01-01 17:30 J -11482728.97 -11482728.77 -11482728.57 0.0543 0.0089
 Uranus -36151-07-21 21:21 J -11482527.76 -11482527.61 -11482527.44 0.0132 0.0091
 Uranus -36150-03-05 02:52 J -11482301.51 -11482301.38 -11482301.22 0.0132 0.0099
 Uranus -36150-10-17 08:52 J -11482075.26 -11482075.13 -11482075.00 0.0132 0.0106
 Uranus -36149-05-30 13:54 J -11481849.01 -11481848.92 -11481848.79 0.0132 0.0114
 Uranus -36148-01-11 19:11 J -11481622.76 -11481622.70 -11481622.59 0.0132 0.0121
 Uranus -36148-08-26 00:28 J -11481396.51 -11481396.48 -11481396.40 0.0132 0.0128
 Mars -36147-04-12 17:45 J -11481166.92 -11481166.76 -11481166.60 0.1616 0.0663
 Jupiter -36146-03-12 10:04 J -11480833.09 -11480833.08 -11480833.05 0.0489 0.0487
 Saturn -36146-09-23 15:50 J -11480637.94 -11480637.84 -11480637.72 0.0276 0.0235
 Jupiter -36146-11-03 02:23 J -11480597.60 -11480597.40 -11480597.20 0.0485 0.0126
 Saturn -36145-05-09 19:40 J -11480408.88 -11480408.68 -11480408.48 0.0276 0.0078
 Saturn -36145-12-25 00:14 J -11480179.68 -11480179.49 -11480179.29 0.0277 0.0083
 Saturn -36144-08-11 05:59 J -11479950.34 -11479950.25 -11479950.15 0.0278 0.0244
 Jupiter -36140-09-06 05:16 J -11478463.47 -11478463.28 -11478463.08 0.0542 0.0151
 Neptune -36135-11-26 06:14 J -11476556.26 -11476556.24 -11476556.22 0.0088 0.0088
 Jupiter -36134-07-09 08:09 J -11476331.37 -11476331.16 -11476330.96 0.0486 0.0044
 Neptune -36134-07-09 18:42 J -11476330.81 -11476330.72 -11476330.61 0.0088 0.0079
 Neptune -36133-02-20 07:54 J -11476105.30 -11476105.17 -11476105.03 0.0088 0.0069
 Neptune -36133-10-02 20:23 J -11475879.79 -11475879.65 -11475879.47 0.0088 0.0060
 Neptune -36132-05-16 09:35 J -11475654.27 -11475654.10 -11475653.91 0.0088 0.0050
 Neptune -36132-12-27 22:18 J -11475428.75 -11475428.57 -11475428.35 0.0088 0.0041
 Saturn -36131-03-11 01:26 J -11475355.52 -11475355.44 -11475355.34 0.0283 0.0254
 Neptune -36131-08-10 11:30 J -11475203.22 -11475203.02 -11475202.80 0.0088 0.0031
 Saturn -36131-10-26 21:50 J -11475125.80 -11475125.59 -11475125.38 0.0282 0.0075
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 Saturn -36130-06-13 16:47 J -11474896.00 -11474895.80 -11474895.59 0.0281 0.0103

Neptune -36130-11-04 13:40 J -11474752.14 -11474751.93 -11474751.70 0.0088 0.0012
 Saturn -36129-01-29 10:33 J -11474666.09 -11474666.06 -11474666.01 0.0281 0.0275
 Neptune -36129-06-17 02:52 J -11474526.60 -11474526.38 -11474526.16 0.0088 0.0001
 Neptune -36128-01-28 15:50 J -11474301.06 -11474300.84 -11474300.62 0.0088 0.0009
 Jupiter -36128-05-11 17:30 J -11474197.91 -11474197.77 -11474197.63 0.0540 0.0387
 Neptune -36128-09-11 04:47 J -11474075.51 -11474075.30 -11474075.08 0.0088 0.0018
 Jupiter -36127-01-05 05:02 J -11473959.38 -11473959.29 -11473959.20 0.0544 0.0483
 Neptune -36127-04-24 17:45 J -11473849.96 -11473849.76 -11473849.54 0.0088 0.0029
 Neptune -36127-12-06 07:11 J -11473624.40 -11473624.20 -11473624.00 0.0088 0.0038
 Neptune -36126-07-19 20:09 J -11473398.84 -11473398.66 -11473398.47 0.0088 0.0047
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 Neptune -36125-10-12 22:04 J -11472947.70 -11472947.58 -11472947.42 0.0088 0.0067
 Neptune -36124-05-26 11:30 J -11472722.12 -11472722.02 -11472721.90 0.0088 0.0077
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 Neptune -36123-01-07 00:28 J -11472496.50 -11472496.48 -11472496.41 0.0088 0.0087
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 Uranus -36122-01-17 06:28 J -11472121.27 -11472121.23 -11472121.16 0.0141 0.0136
 Pluto -36122-02-24 15:21 J -11472083.05 -11472082.86 -11472082.64 0.0066 0.0025
 Jupiter -36122-03-14 12:42 J -11472065.15 -11472064.97 -11472064.78 0.0487 0.0216
 Uranus -36122-08-31 13:54 J -11471894.99 -11471894.92 -11471894.82 0.0141 0.0128
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 Uranus -36117-08-15 08:52 J -11470084.32 -11470084.13 -11470083.93 0.0144 0.0053
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Saturn -36116-04-04 16:18 J -11469851.94 -11469851.82 -11469851.68 0.0276 0.0216
 Jupiter -36116-09-09 16:04 J -11469694.01 -11469693.83 -11469693.65 0.0543 0.0243
 Uranus -36116-11-11 03:35 J -11469631.56 -11469631.35 -11469631.14 0.0144 0.0032
 Saturn -36116-11-19 20:23 J -11469622.85 -11469622.65 -11469622.44 0.0277 0.0059
 Mars -36115-04-11 11:16 J -11469480.20 -11469480.03 -11469479.87 0.1618 0.0619
 Uranus -36115-06-25 13:11 J -11469405.16 -11469404.95 -11469404.74 0.0145 0.0021
 Saturn -36115-07-07 01:26 J -11469393.64 -11469393.44 -11469393.25 0.0277 0.0102
 Uranus -36114-02-06 23:16 J -11469178.74 -11469178.53 -11469178.32 0.0145 0.0010
 Saturn -36114-02-21 07:26 J -11469164.25 -11469164.19 -11469164.12 0.0278 0.0263
 Mars -36114-03-08 12:57 J -11469149.13 -11469148.96 -11469148.80 0.1907 0.0580
 Uranus -36114-09-21 09:21 J -11468952.32 -11468952.11 -11468951.90 0.0145 0.0002
 Uranus -36113-05-04 19:40 J -11468725.89 -11468725.68 -11468725.47 0.0145 0.0013
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 Uranus -36111-03-15 03:35 J -11468046.55 -11468046.35 -11468046.14 0.0146 0.0047
 Uranus -36111-10-27 14:38 J -11467820.08 -11467819.89 -11467819.69 0.0146 0.0059
 Jupiter -36111-11-17 18:28 J -11467798.85 -11467798.73 -11467798.60 0.0489 0.0385
 Uranus -36110-06-11 01:54 J -11467593.60 -11467593.42 -11467593.23 0.0146 0.0070
 Jupiter -36110-07-11 10:47 J -11467563.22 -11467563.05 -11467562.86 0.0485 0.0228
 Uranus -36109-01-23 13:11 J -11467367.11 -11467366.95 -11467366.76 0.0147 0.0082
 Uranus -36109-09-06 00:57 J -11467140.62 -11467140.46 -11467140.29 0.0147 0.0092
 Uranus -36108-04-20 12:28 J -11466914.12 -11466913.98 -11466913.82 0.0147 0.0103
 Uranus -36108-12-03 00:14 J -11466687.61 -11466687.49 -11466687.34 0.0147 0.0114
 Uranus -36107-07-17 12:14 J -11466461.09 -11466460.99 -11466460.87 0.0147 0.0124
 Uranus -36106-03-01 00:28 J -11466234.55 -11466234.48 -11466234.38 0.0147 0.0134
 Uranus -36106-10-13 12:57 J -11466008.00 -11466007.96 -11466007.92 0.0147 0.0143
 Jupiter -36104-05-14 23:16 J -11465428.73 -11465428.53 -11465428.32 0.0542 0.0013
 Saturn -36102-09-21 10:04 J -11464569.20 -11464569.08 -11464568.94 0.0283 0.0221
 Saturn -36101-05-08 06:42 J -11464339.44 -11464339.22 -11464339.01 0.0283 0.0041
 Saturn -36101-12-24 01:54 J -11464109.61 -11464109.42 -11464109.23 0.0282 0.0136

Jupiter -36098-03-16 17:02 J -11463296.99 -11463296.79 -11463296.58 0.0486 0.0060
 Jupiter -36092-01-17 09:21 J -11461163.28 -11461163.11 -11461162.93 0.0541 0.0255
 Saturn -36087-10-15 22:04 J -11459065.72 -11459065.58 -11459065.43 0.0276 0.0190
 Jupiter -36087-11-19 22:47 J -11459030.75 -11459030.55 -11459030.35 0.0487 0.0112
 Saturn -36086-06-02 01:54 J -11458836.62 -11458836.42 -11458836.21 0.0276 0.0033
 Saturn -36085-01-17 06:28 J -11458607.40 -11458607.23 -11458607.03 0.0277 0.0128
 Uranus -36083-09-23 07:26 J -11457627.23 -11457627.19 -11457627.12 0.0137 0.0132
 Uranus -36082-05-07 17:16 J -11457400.86 -11457400.78 -11457400.67 0.0137 0.0124
 Uranus -36082-12-20 03:21 J -11457174.47 -11457174.36 -11457174.23 0.0137 0.0115
 Mars -36081-02-08 05:59 J -11457124.40 -11457124.25 -11457124.10 0.1616 0.0802
 Uranus -36081-08-02 12:42 J -11456948.09 -11456947.97 -11456947.81 0.0136 0.0106
 Jupiter -36081-09-21 20:38 J -11456897.72 -11456897.64 -11456897.55 0.0539 0.0491
 Uranus -36080-03-16 22:04 J -11456721.72 -11456721.58 -11456721.41 0.0136 0.0097
 Jupiter -36080-05-18 08:38 J -11456659.28 -11456659.14 -11456658.99 0.0544 0.0378
 Uranus -36080-10-29 07:11 J -11456495.36 -11456495.20 -11456495.02 0.0136 0.0088
 Uranus -36079-06-12 16:18 J -11456268.99 -11456268.82 -11456268.63 0.0136 0.0079
 Uranus -36078-01-25 00:57 J -11456042.64 -11456042.46 -11456042.26 0.0135 0.0070
 Uranus -36078-09-08 09:35 J -11455816.29 -11455816.10 -11455815.89 0.0135 0.0060
 Uranus -36077-04-21 17:45 J -11455589.96 -11455589.76 -11455589.54 0.0135 0.0051
 Uranus -36077-12-04 01:54 J -11455363.62 -11455363.42 -11455363.20 0.0134 0.0042
 Uranus -36076-07-18 10:04 J -11455137.29 -11455137.08 -11455136.86 0.0134 0.0032
 Uranus -36075-03-01 17:59 J -11454910.97 -11454910.75 -11454910.53 0.0134 0.0023
 Jupiter -36075-07-26 04:33 J -11454764.48 -11454764.31 -11454764.14 0.0488 0.0280
 Uranus -36075-10-14 01:26 J -11454684.66 -11454684.44 -11454684.21 0.0134 0.0014
 Jupiter -36074-03-18 20:52 J -11454528.78 -11454528.63 -11454528.48 0.0484 0.0330
 Uranus -36074-05-28 09:06 J -11454458.35 -11454458.12 -11454457.90 0.0134 0.0004
 Uranus -36073-01-09 16:18 J -11454232.04 -11454231.82 -11454231.59 0.0133 0.0005
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 Saturn -36072-04-02 11:30 J -11453783.16 -11453783.02 -11453782.86 0.0283 0.0203
 Uranus -36072-04-06 06:42 J -11453779.44 -11453779.22 -11453779.00 0.0133 0.0023

Saturn -36072-11-18 07:54 J -11453553.39 -11453553.17 -11453552.96 0.0282 0.0024
 Uranus -36072-11-18 13:26 J -11453553.16 -11453552.94 -11453552.72 0.0133 0.0032 *
 Uranus -36071-07-02 20:09 J -11453326.87 -11453326.66 -11453326.44 0.0133 0.0041
 Saturn -36071-07-06 02:52 J -11453323.56 -11453323.38 -11453323.20 0.0281 0.0153
 Uranus -36070-02-14 02:52 J -11453100.59 -11453100.38 -11453100.17 0.0132 0.0050
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 Uranus -36069-05-11 15:21 J -11452648.04 -11452647.86 -11452647.66 0.0132 0.0067
 Uranus -36069-12-23 21:35 J -11452421.78 -11452421.60 -11452421.41 0.0132 0.0075
 Jupiter -36068-01-20 21:21 J -11452393.80 -11452393.61 -11452393.41 0.0543 0.0141
 Uranus -36068-08-07 03:35 J -11452195.51 -11452195.35 -11452195.17 0.0132 0.0083
 Uranus -36067-03-21 09:35 J -11451969.25 -11451969.10 -11451968.93 0.0132 0.0091
 Earth -36067-10-21 08:23 J -11451755.25 -11451755.15 -11451755.05 0.2657 0.2096
 Uranus -36067-11-02 15:06 J -11451743.00 -11451742.87 -11451742.71 0.0132 0.0099
 Uranus -36066-06-16 20:38 J -11451516.75 -11451516.64 -11451516.49 0.0132 0.0107
 Uranus -36065-01-29 02:09 J -11451290.50 -11451290.41 -11451290.28 0.0132 0.0114
 Uranus -36065-09-11 07:40 J -11451064.25 -11451064.18 -11451064.08 0.0132 0.0121
 Uranus -36064-04-25 12:57 J -11450837.99 -11450837.96 -11450837.89 0.0132 0.0128
 Jupiter -36063-03-31 09:21 J -11450498.18 -11450498.11 -11450498.03 0.0489 0.0451
 Jupiter -36063-11-22 01:26 J -11450262.63 -11450262.44 -11450262.24 0.0485 0.0160
 Earth -36059-10-18 19:54 J -11448835.78 -11448835.67 -11448835.56 0.2656 0.1978
 Moon -36059-10-18 23:02 J -11448835.65 -11448835.54 -11448835.42 0.2650 0.1968 *
 Saturn -36057-04-26 21:35 J -11448279.75 -11448279.60 -11448279.43 0.0276 0.0173
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 Neptune -36051-11-22 06:57 J -11445879.32 -11445879.21 -11445879.06 0.0089 0.0072
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 Mars -36049-02-06 23:16 J -11445437.69 -11445437.53 -11445437.36 0.1618 0.0479

Neptune -36049-02-16 09:06 J -11445428.28 -11445428.12 -11445427.93 0.0089 0.0052
 Neptune -36049-09-28 22:33 J -11445202.75 -11445202.56 -11445202.37 0.0089 0.0042
 Mars -36048-01-02 16:04 J -11445106.98 -11445106.83 -11445106.69 0.1907 0.1058
 Neptune -36048-05-12 11:30 J -11444977.22 -11444977.02 -11444976.81 0.0089 0.0032
 Neptune -36048-12-24 00:14 J -11444751.69 -11444751.49 -11444751.27 0.0089 0.0023
 Neptune -36047-08-06 13:11 J -11444526.16 -11444525.95 -11444525.72 0.0089 0.0013
 Neptune -36046-03-20 02:23 J -11444300.62 -11444300.40 -11444300.18 0.0089 0.0003
 Neptune -36046-10-31 15:21 J -11444075.07 -11444074.86 -11444074.64 0.0089 0.0007
 Jupiter -36045-05-30 15:50 J -11443863.00 -11443862.84 -11443862.69 0.0540 0.0351
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 Neptune -36043-12-02 07:26 J -11442947.34 -11442947.19 -11442947.00 0.0089 0.0056
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 Uranus -36039-09-16 16:33 J -11441562.85 -11441562.81 -11441562.76 0.0141 0.0137
 Jupiter -36039-11-24 06:28 J -11441494.32 -11441494.23 -11441494.14 0.0485 0.0431
 Uranus -36038-04-30 23:45 J -11441336.58 -11441336.51 -11441336.42 0.0141 0.0129
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 Uranus -36036-03-09 23:16 J -11440657.68 -11440657.53 -11440657.39 0.0142 0.0104
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Pluto -36035-03-17 22:04 J -11440284.81 -11440284.58 -11440284.36 0.0079 0.0002
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 Jupiter -36033-09-28 13:26 J -11439359.11 -11439358.94 -11439358.76 0.0543 0.0274
 Uranus -36033-11-27 02:38 J -11439299.59 -11439299.39 -11439299.19 0.0144 0.0044
 Uranus -36032-07-11 11:59 J -11439073.21 -11439073.00 -11439072.79 0.0144 0.0034
 Uranus -36031-02-22 21:35 J -11438846.81 -11438846.60 -11438846.39 0.0145 0.0023
 Uranus -36031-10-07 07:26 J -11438620.41 -11438620.19 -11438619.98 0.0145 0.0012
 Uranus -36030-05-21 17:16 J -11438393.99 -11438393.78 -11438393.57 0.0145 0.0001
 Uranus -36029-01-03 03:35 J -11438167.56 -11438167.35 -11438167.14 0.0145 0.0011
 Uranus -36029-08-16 13:54 J -11437941.13 -11437940.92 -11437940.71 0.0146 0.0022
 Uranus -36028-03-31 00:28 J -11437714.69 -11437714.48 -11437714.27 0.0146 0.0034
 Saturn -36028-11-07 03:35 J -11437493.52 -11437493.35 -11437493.17 0.0276 0.0146
 Uranus -36028-11-12 11:16 J -11437488.24 -11437488.03 -11437487.83 0.0146 0.0045
 Jupiter -36028-12-06 19:11 J -11437463.84 -11437463.70 -11437463.56 0.0489 0.0347
 Saturn -36027-06-24 07:26 J -11437264.39 -11437264.19 -11437263.98 0.0276 0.0014
 Uranus -36027-06-26 21:50 J -11437261.77 -11437261.59 -11437261.38 0.0146 0.0057
 Jupiter -36027-07-30 11:30 J -11437228.19 -11437228.02 -11437227.85 0.0485 0.0263
 Uranus -36026-02-08 09:06 J -11437035.30 -11437035.12 -11437034.92 0.0146 0.0069
 Saturn -36026-02-08 12:28 J -11437035.14 -11437034.98 -11437034.82 0.0277 0.0171 *
 Uranus -36026-09-22 20:23 J -11436808.82 -11436808.65 -11436808.46 0.0146 0.0080
 Uranus -36025-05-06 07:40 J -11436582.33 -11436582.18 -11436582.00 0.0147 0.0091
 Uranus -36025-12-18 19:11 J -11436355.84 -11436355.70 -11436355.53 0.0147 0.0102
 Uranus -36024-08-02 07:11 J -11436129.33 -11436129.20 -11436129.06 0.0147 0.0112
 Uranus -36023-03-16 18:57 J -11435902.81 -11435902.71 -11435902.58 0.0147 0.0123
 Uranus -36023-10-29 06:57 J -11435676.29 -11435676.21 -11435676.11 0.0147 0.0133
 Uranus -36022-06-12 19:11 J -11435449.74 -11435449.70 -11435449.64 0.0147 0.0142

Jupiter -36021-06-03 00:57 J -11435093.66 -11435093.46 -11435093.25 0.0543 0.0037

Mars -36016-01-02 15:06 J -11433418.96 -11433418.87 -11433418.77 0.1905 0.1609

Mars -36016-12-05 18:28 J -11433081.87 -11433081.73 -11433081.59 0.1616 0.0938

Jupiter -36015-04-04 17:16 J -11432961.97 -11432961.78 -11432961.57 0.0486 0.0096

Saturn -36013-04-24 20:38 J -11432210.82 -11432210.64 -11432210.45 0.0283 0.0153

Saturn -36013-12-10 16:47 J -11431981.01 -11431980.80 -11431980.58 0.0282 0.0027

Saturn -36012-07-28 11:45 J -11431751.15 -11431751.01 -11431750.85 0.0281 0.0201

Jupiter -36009-02-06 13:11 J -11430828.13 -11430827.95 -11430827.76 0.0541 0.0203

Jupiter -36004-12-08 22:18 J -11428695.77 -11428695.57 -11428695.37 0.0487 0.0076

36TH MILLENNIUM BCE

This is a list of transits of Venus in the 36th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-35999-05-23	17:02 J	-11427068.83	-11427068.79	-11427068.72	0.0138	0.0134	
Uranus	-35998-01-05	03:21 J	-11426842.44	-11426842.36	-11426842.26	0.0137	0.0125	
Saturn	-35998-05-20	03:06 J	-11426707.56	-11426707.37	-11426707.19	0.0276	0.0129	
Uranus	-35998-08-19	12:57 J	-11426616.06	-11426615.96	-11426615.83	0.0137	0.0116	
Jupiter	-35998-10-12	00:28 J	-11426562.59	-11426562.48	-11426562.36	0.0539	0.0439	
Saturn	-35997-01-04	06:57 J	-11426478.42	-11426478.21	-11426478.00	0.0277	0.0029	
Uranus	-35997-04-01	22:47 J	-11426389.68	-11426389.55	-11426389.40	0.0137	0.0107	
Jupiter	-35997-06-06	12:14 J	-11426324.11	-11426323.99	-11426323.86	0.0544	0.0426	
Saturn	-35997-08-20	11:45 J	-11426249.16	-11426249.01	-11426248.85	0.0277	0.0189	
Uranus	-35997-11-14	07:54 J	-11426163.30	-11426163.17	-11426162.99	0.0136	0.0099	

Uranus	-35996-06-28 17:16 J	-11425936.93	-11425936.78	-11425936.59	0.0136	0.0090
Uranus	-35995-02-10 02:23 J	-11425710.56	-11425710.40	-11425710.20	0.0136	0.0080
Uranus	-35995-09-24 11:16 J	-11425484.21	-11425484.03	-11425483.83	0.0136	0.0071
Uranus	-35994-05-08 20:09 J	-11425257.86	-11425257.66	-11425257.46	0.0135	0.0061
Uranus	-35994-12-21 04:33 J	-11425031.51	-11425031.31	-11425031.10	0.0135	0.0051
Uranus	-35993-08-03 12:57 J	-11424805.17	-11424804.96	-11424804.74	0.0135	0.0042
Uranus	-35992-03-17 20:52 J	-11424578.84	-11424578.63	-11424578.40	0.0134	0.0033
Jupiter	-35992-08-14 04:04 J	-11424429.50	-11424429.33	-11424429.15	0.0488	0.0245
Uranus	-35992-10-30 04:47 J	-11424352.51	-11424352.30	-11424352.07	0.0134	0.0024
Jupiter	-35991-04-06 20:52 J	-11424193.76	-11424193.63	-11424193.50	0.0485	0.0364
Uranus	-35991-06-13 12:42 J	-11424126.19	-11424125.97	-11424125.74	0.0134	0.0014
Uranus	-35990-01-25 20:23 J	-11423899.87	-11423899.65	-11423899.43	0.0134	0.0004
Uranus	-35990-09-09 03:50 J	-11423673.56	-11423673.34	-11423673.11	0.0133	0.0005
Uranus	-35989-04-22 11:02 J	-11423447.26	-11423447.04	-11423446.81	0.0133	0.0014
Uranus	-35989-12-04 18:14 J	-11423220.96	-11423220.74	-11423220.52	0.0133	0.0023
Uranus	-35988-07-19 01:26 J	-11422994.66	-11422994.44	-11422994.23	0.0133	0.0032
Uranus	-35987-03-02 08:09 J	-11422768.37	-11422768.16	-11422767.95	0.0133	0.0041
Uranus	-35987-10-14 14:52 J	-11422542.09	-11422541.88	-11422541.67	0.0133	0.0050
Uranus	-35986-05-28 21:06 J	-11422315.81	-11422315.62	-11422315.41	0.0132	0.0059
Uranus	-35985-01-10 03:21 J	-11422089.53	-11422089.36	-11422089.15	0.0132	0.0068
Jupiter	-35985-02-09 19:54 J	-11422058.86	-11422058.67	-11422058.48	0.0542	0.0177
Uranus	-35985-08-23 10:04 J	-11421863.26	-11421863.08	-11421862.90	0.0132	0.0075
Uranus	-35984-04-06 16:18 J	-11421637.00	-11421636.82	-11421636.65	0.0132	0.0084
Saturn	-35984-11-05 03:06 J	-11421424.56	-11421424.37	-11421424.17	0.0283	0.0124
Uranus	-35984-11-18 21:35 J	-11421410.74	-11421410.60	-11421410.42	0.0132	0.0092
Mars	-35984-12-04 11:59 J	-11421395.17	-11421395.00	-11421394.83	0.1617	0.0344
Saturn	-35983-06-22 23:45 J	-11421194.73	-11421194.51	-11421194.30	0.0283	0.0056
Uranus	-35983-07-03 03:50 J	-11421184.48	-11421184.34	-11421184.19	0.0132	0.0099
Mars	-35983-10-30 18:57 J	-11421064.81	-11421064.71	-11421064.61	0.1908	0.1546
Saturn	-35982-02-07 18:42 J	-11420964.84	-11420964.72	-11420964.59	0.0282	0.0232

Uranus -35982-02-14 09:21 J -11420958.23 -11420958.11 -11420957.97 0.0132 0.0107
 Uranus -35982-09-28 14:38 J -11420731.97 -11420731.89 -11420731.76 0.0132 0.0115
 Uranus -35981-05-11 20:09 J -11420505.72 -11420505.66 -11420505.56 0.0132 0.0122
 Uranus -35981-12-24 01:54 J -11420279.47 -11420279.42 -11420279.37 0.0132 0.0128
 Jupiter -35980-04-19 09:50 J -11420163.19 -11420163.09 -11420162.98 0.0490 0.0414
 Jupiter -35980-12-11 02:38 J -11419927.58 -11419927.39 -11419927.20 0.0486 0.0197
 Jupiter -35974-10-15 06:14 J -11417793.44 -11417793.24 -11417793.04 0.0541 0.0067
 Neptune -35970-10-11 02:52 J -11416336.45 -11416336.38 -11416336.30 0.0088 0.0083
 Saturn -35969-04-14 06:14 J -11416150.30 -11416150.24 -11416150.15 0.0275 0.0255
 Neptune -35969-05-23 15:35 J -11416110.96 -11416110.85 -11416110.72 0.0088 0.0073
 Saturn -35969-11-29 09:21 J -11415921.30 -11415921.11 -11415920.92 0.0276 0.0102
 Neptune -35968-01-04 04:04 J -11415885.45 -11415885.33 -11415885.15 0.0088 0.0065
 Saturn -35968-07-16 13:11 J -11415692.15 -11415691.95 -11415691.75 0.0276 0.0055
 Jupiter -35968-08-16 07:54 J -11415661.37 -11415661.17 -11415660.96 0.0486 0.0028
 Neptune -35968-08-17 17:16 J -11415659.94 -11415659.78 -11415659.59 0.0088 0.0055
 Saturn -35967-03-02 17:59 J -11415462.87 -11415462.75 -11415462.61 0.0277 0.0214
 Neptune -35967-03-31 06:14 J -11415434.41 -11415434.24 -11415434.03 0.0088 0.0046
 Neptune -35967-11-11 19:26 J -11415208.88 -11415208.69 -11415208.47 0.0088 0.0036
 Neptune -35966-06-25 08:23 J -11414983.35 -11414983.15 -11414982.92 0.0088 0.0026
 Neptune -35965-02-05 21:35 J -11414757.81 -11414757.60 -11414757.38 0.0088 0.0016
 Neptune -35965-09-18 10:47 J -11414532.27 -11414532.05 -11414531.83 0.0088 0.0007
 Neptune -35964-05-01 23:45 J -11414306.73 -11414306.51 -11414306.29 0.0088 0.0003
 Neptune -35964-12-13 12:42 J -11414081.18 -11414080.97 -11414080.74 0.0088 0.0013
 Neptune -35963-07-27 01:40 J -11413855.63 -11413855.43 -11413855.21 0.0088 0.0023
 Neptune -35962-03-09 14:38 J -11413630.08 -11413629.89 -11413629.67 0.0088 0.0033
 Jupiter -35962-06-19 17:02 J -11413527.96 -11413527.79 -11413527.62 0.0540 0.0305
 Neptune -35962-10-21 04:04 J -11413404.52 -11413404.33 -11413404.13 0.0088 0.0042
 Neptune -35961-06-02 16:47 J -11413178.96 -11413178.80 -11413178.60 0.0088 0.0052
 Neptune -35960-01-14 05:45 J -11412953.40 -11412953.26 -11412953.08 0.0088 0.0061
 Neptune -35960-08-27 18:57 J -11412727.82 -11412727.71 -11412727.56 0.0088 0.0071

Neptune -35959-04-10 08:09 J -11412502.23 -11412502.16 -11412502.04 0.0088 0.0080
 Jupiter -35956-04-21 13:54 J -11411395.11 -11411394.92 -11411394.72 0.0487 0.0141
 Jupiter -35956-12-13 06:28 J -11411159.28 -11411159.23 -11411159.17 0.0484 0.0464
 Uranus -35955-05-17 03:35 J -11411004.37 -11411004.35 -11411004.30 0.0140 0.0139
 Saturn -35955-09-30 08:09 J -11410868.17 -11410868.16 -11410868.13 0.0283 0.0282
 Uranus -35955-12-29 10:47 J -11410778.10 -11410778.05 -11410777.95 0.0141 0.0131
 Saturn -35954-05-18 05:30 J -11410638.47 -11410638.27 -11410638.06 0.0283 0.0103
 Uranus -35954-08-12 18:28 J -11410551.82 -11410551.73 -11410551.62 0.0141 0.0123
 Saturn -35953-01-03 01:40 J -11410408.64 -11410408.43 -11410408.22 0.0282 0.0075
 Uranus -35953-03-26 02:09 J -11410325.53 -11410325.41 -11410325.28 0.0142 0.0114
 Saturn -35953-08-19 20:38 J -11410178.74 -11410178.64 -11410178.54 0.0281 0.0249
 Uranus -35953-11-07 09:50 J -11410099.23 -11410099.09 -11410098.95 0.0142 0.0105
 Uranus -35952-06-21 17:30 J -11409872.91 -11409872.77 -11409872.60 0.0142 0.0096
 Mars -35952-12-03 05:02 J -11409708.30 -11409708.29 -11409708.28 0.1619 0.1613
 Uranus -35951-02-03 01:54 J -11409646.58 -11409646.42 -11409646.25 0.0143 0.0087
 Uranus -35951-09-17 10:18 J -11409420.24 -11409420.07 -11409419.89 0.0143 0.0077
 Mars -35951-10-30 18:14 J -11409376.87 -11409376.74 -11409376.59 0.1906 0.1122
 Jupiter -35950-02-22 05:02 J -11409262.30 -11409262.29 -11409262.27 0.0539 0.0537
 Uranus -35950-05-01 18:42 J -11409193.90 -11409193.72 -11409193.52 0.0143 0.0067
 Mars -35950-10-03 07:11 J -11409039.33 -11409039.20 -11409039.07 0.1616 0.1069
 Jupiter -35950-10-18 17:30 J -11409023.93 -11409023.77 -11409023.61 0.0544 0.0326
 Uranus -35950-12-14 03:35 J -11408967.54 -11408967.35 -11408967.15 0.0144 0.0057
 Uranus -35949-07-27 12:42 J -11408741.17 -11408740.97 -11408740.77 0.0144 0.0046
 Uranus -35948-03-10 21:50 J -11408514.79 -11408514.59 -11408514.38 0.0144 0.0035
 Uranus -35948-10-23 07:11 J -11408288.40 -11408288.20 -11408287.98 0.0144 0.0025
 Uranus -35947-06-06 17:02 J -11408062.00 -11408061.79 -11408061.58 0.0145 0.0013
 Uranus -35946-01-19 03:06 J -11407835.58 -11407835.37 -11407835.16 0.0145 0.0002
 Uranus -35946-09-02 12:57 J -11407609.17 -11407608.96 -11407608.74 0.0145 0.0010
 Uranus -35945-04-15 23:16 J -11407382.74 -11407382.53 -11407382.32 0.0145 0.0021
 Uranus -35945-11-28 09:35 J -11407156.30 -11407156.10 -11407155.89 0.0146 0.0032

Jupiter -35945-12-25 18:57 J -11407128.86 -11407128.71 -11407128.55 0.0488 0.0311
 Uranus -35944-07-12 20:09 J -11406929.86 -11406929.66 -11406929.45 0.0146 0.0044
 Jupiter -35944-08-18 11:16 J -11406893.19 -11406893.03 -11406892.87 0.0485 0.0297
 Uranus -35943-02-24 07:11 J -11406703.39 -11406703.20 -11406703.00 0.0146 0.0055
 Uranus -35943-10-08 17:59 J -11406476.93 -11406476.75 -11406476.55 0.0146 0.0067
 Uranus -35942-05-23 05:02 J -11406250.46 -11406250.29 -11406250.10 0.0146 0.0079
 Uranus -35941-01-04 16:18 J -11406023.97 -11406023.82 -11406023.64 0.0147 0.0090
 Uranus -35941-08-18 03:50 J -11405797.48 -11405797.34 -11405797.17 0.0147 0.0101
 Uranus -35940-04-01 15:35 J -11405570.98 -11405570.85 -11405570.70 0.0147 0.0111
 Saturn -35940-10-25 05:16 J -11405364.38 -11405364.28 -11405364.18 0.0275 0.0239
 Uranus -35940-11-14 03:06 J -11405344.47 -11405344.37 -11405344.23 0.0147 0.0122
 Saturn -35939-06-11 08:09 J -11405135.35 -11405135.16 -11405134.96 0.0276 0.0085
 Uranus -35939-06-28 15:06 J -11405117.95 -11405117.87 -11405117.76 0.0147 0.0132
 Saturn -35938-01-26 12:14 J -11404906.19 -11404905.99 -11404905.79 0.0277 0.0073
 Uranus -35938-02-10 03:06 J -11404891.40 -11404891.37 -11404891.30 0.0147 0.0142
 Jupiter -35938-06-23 05:02 J -11404758.49 -11404758.29 -11404758.09 0.0542 0.0086
 Saturn -35938-09-12 17:02 J -11404676.89 -11404676.79 -11404676.67 0.0277 0.0231
 Moon -35937-04-17 07:54 J -11404459.33 -11404459.17 -11404459.02 0.2675 0.0517
 Earth -35937-04-17 12:57 J -11404459.11 -11404458.96 -11404458.82 0.2676 0.0970 *
 Jupiter -35933-08-31 00:42 J -11402862.50 -11402862.47 -11402862.42 0.0490 0.0478
 Jupiter -35932-04-23 17:16 J -11402626.98 -11402626.78 -11402626.58 0.0486 0.0130
 Moon -35929-04-15 03:21 J -11401539.43 -11401539.36 -11401539.29 0.2682 0.2338
 Earth -35929-04-15 07:26 J -11401539.27 -11401539.19 -11401539.10 0.2677 0.2199
 Jupiter -35926-02-25 12:57 J -11400493.16 -11400492.96 -11400492.77 0.0541 0.0163
 Saturn -35925-04-11 13:11 J -11400082.03 -11400081.95 -11400081.84 0.0284 0.0256
 Saturn -35925-11-27 10:47 J -11399852.25 -11399852.05 -11399851.83 0.0283 0.0077
 Saturn -35924-07-15 07:26 J -11399622.39 -11399622.19 -11399621.99 0.0283 0.0103
 Saturn -35923-03-02 02:23 J -11399392.43 -11399392.40 -11399392.36 0.0282 0.0277
 Jupiter -35921-12-27 22:47 J -11398360.75 -11398360.55 -11398360.35 0.0487 0.0039
 Mars -35918-10-02 00:28 J -11397352.66 -11397352.48 -11397352.31 0.1617 0.0206

Uranus	-35915-01-21 02:52 J	-11396510.41	-11396510.38	-11396510.33	0.0138	0.0135
Uranus	-35915-09-04 12:42 J	-11396284.04	-11396283.97	-11396283.87	0.0138	0.0127
Jupiter	-35915-10-30 22:47 J	-11396227.68	-11396227.55	-11396227.41	0.0539	0.0402
Uranus	-35914-04-18 23:02 J	-11396057.65	-11396057.54	-11396057.42	0.0137	0.0118
Jupiter	-35914-06-26 09:50 J	-11395989.19	-11395989.09	-11395988.98	0.0543	0.0457
Uranus	-35914-12-01 08:23 J	-11395831.27	-11395831.15	-11395831.00	0.0137	0.0109
Uranus	-35913-07-14 17:59 J	-11395604.88	-11395604.75	-11395604.58	0.0137	0.0100
Uranus	-35912-02-26 03:21 J	-11395378.51	-11395378.36	-11395378.17	0.0136	0.0091
Uranus	-35912-10-10 12:28 J	-11395152.14	-11395151.98	-11395151.78	0.0136	0.0081
Uranus	-35911-05-24 21:35 J	-11394925.78	-11394925.60	-11394925.40	0.0136	0.0072
Uranus	-35910-01-06 06:42 J	-11394699.42	-11394699.22	-11394699.02	0.0135	0.0062
Saturn	-35910-05-07 12:28 J	-11394578.11	-11394577.98	-11394577.85	0.0275	0.0211
Uranus	-35910-08-20 15:06 J	-11394473.07	-11394472.87	-11394472.66	0.0135	0.0052
Saturn	-35910-12-22 15:21 J	-11394349.06	-11394348.86	-11394348.65	0.0275	0.0058
Uranus	-35909-04-02 23:30 J	-11394246.73	-11394246.52	-11394246.30	0.0135	0.0043
Saturn	-35909-08-07 19:11 J	-11394119.89	-11394119.70	-11394119.50	0.0276	0.0100
Jupiter	-35909-09-02 04:18 J	-11394094.50	-11394094.32	-11394094.13	0.0488	0.0208
Uranus	-35909-11-15 07:40 J	-11394020.39	-11394020.18	-11394019.96	0.0135	0.0034
Saturn	-35908-03-24 23:59 J	-11393890.56	-11393890.50	-11393890.41	0.0277	0.0258
Jupiter	-35908-04-25 21:06 J	-11393858.73	-11393858.62	-11393858.50	0.0485	0.0398
Uranus	-35908-06-29 15:50 J	-11393794.05	-11393793.84	-11393793.61	0.0134	0.0024
Uranus	-35907-02-10 23:59 J	-11393567.73	-11393567.50	-11393567.28	0.0134	0.0015
Uranus	-35907-09-25 07:40 J	-11393341.41	-11393341.18	-11393340.96	0.0134	0.0005
Uranus	-35906-05-09 15:06 J	-11393115.09	-11393114.87	-11393114.65	0.0134	0.0004
Uranus	-35906-12-21 22:33 J	-11392888.78	-11392888.56	-11392888.34	0.0133	0.0014
Uranus	-35905-08-04 05:45 J	-11392662.47	-11392662.26	-11392662.03	0.0133	0.0023
Uranus	-35904-03-18 12:57 J	-11392436.17	-11392435.96	-11392435.74	0.0133	0.0032
Uranus	-35904-10-30 19:40 J	-11392209.88	-11392209.68	-11392209.46	0.0133	0.0041
Uranus	-35903-06-14 02:23 J	-11391983.60	-11391983.40	-11391983.18	0.0133	0.0050
Uranus	-35902-01-26 09:06 J	-11391757.31	-11391757.12	-11391756.91	0.0133	0.0059

Jupiter -35902-02-28 21:06 J -11391723.80 -11391723.62 -11391723.43 0.0543 0.0221
 Uranus -35902-09-09 15:35 J -11391531.03 -11391530.85 -11391530.65 0.0132 0.0067
 Uranus -35901-04-22 22:04 J -11391304.76 -11391304.58 -11391304.40 0.0132 0.0076
 Uranus -35901-12-05 03:50 J -11391078.49 -11391078.34 -11391078.15 0.0132 0.0084
 Uranus -35900-07-19 09:50 J -11390852.23 -11390852.09 -11390851.91 0.0132 0.0093
 Uranus -35899-03-02 15:50 J -11390625.97 -11390625.84 -11390625.68 0.0132 0.0100
 Uranus -35899-10-14 21:50 J -11390399.71 -11390399.59 -11390399.46 0.0132 0.0107
 Uranus -35898-05-29 03:06 J -11390173.46 -11390173.37 -11390173.25 0.0132 0.0115
 Uranus -35897-01-10 08:38 J -11389947.21 -11389947.14 -11389947.04 0.0132 0.0122
 Jupiter -35897-05-08 10:33 J -11389828.19 -11389828.06 -11389827.93 0.0489 0.0375
 Uranus -35897-08-23 14:09 J -11389720.94 -11389720.91 -11389720.85 0.0132 0.0129
 Jupiter -35897-12-30 02:38 J -11389592.56 -11389592.39 -11389592.21 0.0485 0.0232
 Saturn -35896-10-22 16:47 J -11389295.91 -11389295.80 -11389295.67 0.0284 0.0234
 Saturn -35895-06-09 14:09 J -11389066.12 -11389065.91 -11389065.70 0.0283 0.0054
 Saturn -35894-01-25 10:04 J -11388836.27 -11388836.08 -11388835.88 0.0282 0.0123
 Jupiter -35891-11-03 09:35 J -11387458.30 -11387458.10 -11387457.89 0.0542 0.0017
 Neptune -35887-07-13 01:11 J -11386110.49 -11386110.45 -11386110.39 0.0089 0.0086
 Neptune -35886-02-23 13:54 J -11385885.00 -11385884.92 -11385884.78 0.0089 0.0077
 Mars -35886-09-30 17:45 J -11385665.83 -11385665.76 -11385665.69 0.1618 0.1479
 Neptune -35886-10-07 03:21 J -11385659.49 -11385659.36 -11385659.20 0.0089 0.0067
 Neptune -35885-05-19 16:33 J -11385433.97 -11385433.81 -11385433.63 0.0089 0.0057
 Mars -35885-08-26 20:38 J -11385334.81 -11385334.64 -11385334.48 0.1906 0.0615
 Jupiter -35885-09-04 07:40 J -11385326.38 -11385326.18 -11385325.98 0.0486 0.0063
 Neptune -35885-12-31 05:16 J -11385208.45 -11385208.28 -11385208.08 0.0089 0.0048
 Mars -35884-07-30 19:11 J -11384996.81 -11384996.70 -11384996.58 0.1616 0.1206
 Neptune -35884-08-13 18:28 J -11384982.92 -11384982.73 -11384982.52 0.0089 0.0038
 Neptune -35883-03-27 07:40 J -11384757.38 -11384757.18 -11384756.97 0.0089 0.0028
 Neptune -35883-11-07 20:52 J -11384531.85 -11384531.63 -11384531.42 0.0089 0.0018
 Neptune -35882-06-21 09:35 J -11384306.31 -11384306.10 -11384305.88 0.0089 0.0009
 Neptune -35881-02-01 22:33 J -11384080.78 -11384080.56 -11384080.34 0.0089 0.0002

Neptune -35881-09-14 11:30 J -11383855.23 -11383855.02 -11383854.80 0.0089 0.0011
 Saturn -35881-11-16 11:16 J -11383792.17 -11383792.03 -11383791.88 0.0275 0.0195
 Neptune -35880-04-28 00:28 J -11383629.69 -11383629.48 -11383629.26 0.0089 0.0020
 Saturn -35880-07-03 14:09 J -11383563.11 -11383562.91 -11383562.70 0.0276 0.0041
 Neptune -35880-12-09 13:11 J -11383404.15 -11383403.95 -11383403.73 0.0089 0.0030
 Saturn -35879-02-17 18:14 J -11383333.92 -11383333.74 -11383333.55 0.0277 0.0117
 Jupiter -35879-07-08 21:06 J -11383192.80 -11383192.62 -11383192.44 0.0540 0.0254
 Neptune -35879-07-23 01:54 J -11383178.60 -11383178.42 -11383178.21 0.0089 0.0040
 Saturn -35879-10-04 23:02 J -11383104.55 -11383104.54 -11383104.50 0.0277 0.0274
 Neptune -35878-03-05 15:06 J -11382953.05 -11382952.87 -11382952.69 0.0089 0.0049
 Neptune -35878-10-17 03:50 J -11382727.49 -11382727.34 -11382727.16 0.0089 0.0059
 Neptune -35877-05-29 16:47 J -11382501.93 -11382501.80 -11382501.65 0.0089 0.0069
 Neptune -35876-01-10 05:16 J -11382276.36 -11382276.28 -11382276.16 0.0089 0.0078
 Neptune -35876-08-23 18:14 J -11382050.77 -11382050.74 -11382050.69 0.0089 0.0087
 Pluto -35875-06-16 14:38 J -11381754.06 -11381753.89 -11381753.70 0.0065 0.0036
 Pluto -35874-01-27 18:57 J -11381528.92 -11381528.71 -11381528.49 0.0065 0.0005
 Pluto -35874-09-09 22:47 J -11381303.68 -11381303.55 -11381303.38 0.0066 0.0047
 Jupiter -35873-05-10 13:40 J -11381060.13 -11381059.93 -11381059.73 0.0487 0.0105
 Uranus -35871-01-14 15:06 J -11380445.88 -11380445.87 -11380445.84 0.0140 0.0139
 Uranus -35871-08-28 22:04 J -11380219.64 -11380219.58 -11380219.50 0.0141 0.0132
 Uranus -35870-04-12 05:16 J -11379993.37 -11379993.28 -11379993.17 0.0141 0.0124
 Uranus -35870-11-24 12:42 J -11379767.08 -11379766.97 -11379766.84 0.0141 0.0115
 Uranus -35869-07-07 20:23 J -11379540.78 -11379540.65 -11379540.50 0.0142 0.0107
 Uranus -35868-02-19 04:18 J -11379314.47 -11379314.32 -11379314.16 0.0142 0.0097
 Uranus -35868-10-03 11:59 J -11379088.15 -11379088.00 -11379087.82 0.0142 0.0089
 Jupiter -35867-03-13 05:30 J -11378927.34 -11378927.27 -11378927.18 0.0538 0.0494
 Uranus -35867-05-17 20:09 J -11378861.82 -11378861.66 -11378861.47 0.0143 0.0079
 Jupiter -35867-11-06 16:47 J -11378688.94 -11378688.80 -11378688.65 0.0543 0.0362
 Uranus -35867-12-30 05:02 J -11378635.47 -11378635.29 -11378635.10 0.0143 0.0068
 Saturn -35866-05-04 21:35 J -11378509.74 -11378509.60 -11378509.45 0.0284 0.0208

Uranus	-35866-08-13 13:26 J	-11378409.12	-11378408.94	-11378408.73	0.0143	0.0059
Saturn	-35866-12-20 19:11 J	-11378279.92	-11378279.70	-11378279.49	0.0283	0.0029
Uranus	-35865-03-26 22:18 J	-11378182.76	-11378182.57	-11378182.36	0.0144	0.0048
Saturn	-35865-08-06 15:21 J	-11378050.04	-11378049.86	-11378049.67	0.0283	0.0150
Uranus	-35865-11-08 07:26 J	-11377956.39	-11377956.19	-11377955.98	0.0144	0.0037
Uranus	-35864-06-22 16:47 J	-11377730.01	-11377729.80	-11377729.59	0.0144	0.0026
Uranus	-35863-02-04 02:23 J	-11377503.61	-11377503.40	-11377503.18	0.0144	0.0015
Uranus	-35863-09-18 12:14 J	-11377277.20	-11377276.99	-11377276.78	0.0145	0.0004
Uranus	-35862-05-02 22:04 J	-11377050.79	-11377050.58	-11377050.37	0.0145	0.0008
Uranus	-35862-12-15 08:09 J	-11376824.37	-11376824.16	-11376823.95	0.0145	0.0019
Jupiter	-35861-01-14 18:42 J	-11376793.88	-11376793.72	-11376793.55	0.0489	0.0276
Uranus	-35861-07-28 18:28 J	-11376597.94	-11376597.73	-11376597.53	0.0145	0.0031
Jupiter	-35861-09-06 11:45 J	-11376558.16	-11376558.01	-11376557.86	0.0485	0.0332
Uranus	-35860-03-12 04:47 J	-11376371.50	-11376371.30	-11376371.09	0.0146	0.0042
Uranus	-35860-10-24 15:21 J	-11376145.05	-11376144.86	-11376144.66	0.0146	0.0054
Uranus	-35859-06-08 02:09 J	-11375918.59	-11375918.41	-11375918.21	0.0146	0.0065
Uranus	-35858-01-20 13:26 J	-11375692.12	-11375691.94	-11375691.76	0.0146	0.0077
Uranus	-35858-09-04 00:28 J	-11375465.65	-11375465.48	-11375465.31	0.0146	0.0088
Uranus	-35857-04-17 11:45 J	-11375239.16	-11375239.01	-11375238.85	0.0147	0.0099
Uranus	-35857-11-29 23:02 J	-11375012.67	-11375012.54	-11375012.39	0.0147	0.0110
Uranus	-35856-07-14 10:47 J	-11374786.16	-11374786.05	-11374785.92	0.0147	0.0120
Uranus	-35855-02-25 23:02 J	-11374559.64	-11374559.54	-11374559.45	0.0147	0.0130
Jupiter	-35855-07-12 02:52 J	-11374423.58	-11374423.38	-11374423.18	0.0542	0.0120
Uranus	-35855-10-10 10:47 J	-11374333.11	-11374333.05	-11374332.99	0.0147	0.0140
Mars	-35852-07-29 12:42 J	-11373310.14	-11373309.97	-11373309.79	0.1617	0.0078
Saturn	-35851-05-29 18:57 J	-11373005.87	-11373005.71	-11373005.54	0.0275	0.0167
Saturn	-35850-01-13 22:04 J	-11372776.79	-11372776.58	-11372776.37	0.0275	0.0013
Saturn	-35850-08-31 01:54 J	-11372547.59	-11372547.42	-11372547.24	0.0276	0.0144
Jupiter	-35850-09-20 00:28 J	-11372527.56	-11372527.48	-11372527.40	0.0490	0.0443
Jupiter	-35849-05-12 17:02 J	-11372291.98	-11372291.79	-11372291.60	0.0486	0.0165

Jupiter -35843-03-16 13:11 J -11370158.15 -11370157.95 -11370157.75 0.0541 0.0120
 Jupiter -35837-01-16 22:47 J -11368025.75 -11368025.55 -11368025.34 0.0487 0.0006
 Saturn -35837-11-14 02:23 J -11367723.56 -11367723.40 -11367723.23 0.0284 0.0184
 Saturn -35836-07-01 23:30 J -11367493.73 -11367493.52 -11367493.30 0.0283 0.0007
 Saturn -35835-02-16 19:26 J -11367263.86 -11367263.69 -11367263.51 0.0282 0.0171
 Uranus -35832-09-20 11:30 J -11365952.02 -11365952.02 -11365951.97 0.0138 0.0138
 Jupiter -35832-11-19 01:11 J -11365892.60 -11365892.45 -11365892.30 0.0540 0.0354
 Uranus -35831-05-04 22:04 J -11365725.65 -11365725.58 -11365725.49 0.0138 0.0128
 Jupiter -35831-07-15 12:42 J -11365654.04 -11365653.97 -11365653.89 0.0544 0.0505
 Uranus -35831-12-17 07:54 J -11365499.26 -11365499.17 -11365499.04 0.0138 0.0120
 Uranus -35830-07-31 17:59 J -11365272.86 -11365272.75 -11365272.60 0.0137 0.0111
 Uranus -35829-03-14 03:50 J -11365046.48 -11365046.34 -11365046.18 0.0137 0.0101
 Uranus -35829-10-26 13:11 J -11364820.10 -11364819.95 -11364819.77 0.0137 0.0092
 Uranus -35828-06-09 22:33 J -11364593.72 -11364593.56 -11364593.37 0.0136 0.0082
 Uranus -35827-01-22 07:40 J -11364367.36 -11364367.18 -11364366.98 0.0136 0.0073
 Uranus -35827-09-05 16:47 J -11364140.99 -11364140.80 -11364140.60 0.0136 0.0063
 Uranus -35826-04-20 01:26 J -11363914.64 -11363914.44 -11363914.23 0.0135 0.0053
 Jupiter -35826-09-22 04:04 J -11363759.52 -11363759.33 -11363759.14 0.0488 0.0173
 Uranus -35826-12-02 09:50 J -11363688.29 -11363688.09 -11363687.87 0.0135 0.0044
 Jupiter -35825-05-14 20:23 J -11363523.73 -11363523.65 -11363523.55 0.0485 0.0431
 Uranus -35825-07-15 18:42 J -11363461.94 -11363461.72 -11363461.51 0.0135 0.0034
 Uranus -35824-02-27 02:52 J -11363235.60 -11363235.38 -11363235.16 0.0135 0.0025
 Uranus -35824-10-11 10:47 J -11363009.27 -11363009.05 -11363008.82 0.0134 0.0015
 Moon -35824-10-20 23:45 J -11362999.64 -11362999.51 -11362999.38 0.2655 0.1606
 Earth -35824-10-21 06:14 J -11362999.35 -11362999.24 -11362999.13 0.2656 0.2007
 Uranus -35823-05-25 18:42 J -11362782.94 -11362782.72 -11362782.50 0.0134 0.0006
 Uranus -35822-01-07 02:23 J -11362556.62 -11362556.40 -11362556.18 0.0134 0.0004
 Uranus -35822-08-21 10:04 J -11362330.30 -11362330.08 -11362329.86 0.0134 0.0013
 Saturn -35822-12-09 17:59 J -11362219.91 -11362219.75 -11362219.56 0.0275 0.0151
 Uranus -35821-04-03 17:16 J -11362103.99 -11362103.78 -11362103.55 0.0133 0.0023

Saturn -35821-07-25 21:21 J -11361990.82 -11361990.61 -11361990.40 0.0276 0.0005
 Uranus -35821-11-16 00:28 J -11361877.69 -11361877.48 -11361877.26 0.0133 0.0032
 Saturn -35820-03-12 01:26 J -11361761.61 -11361761.44 -11361761.27 0.0277 0.0162
 Uranus -35820-06-30 07:26 J -11361651.39 -11361651.19 -11361650.97 0.0133 0.0041
 Mars -35820-07-28 05:59 J -11361623.34 -11361623.25 -11361623.15 0.1618 0.1340
 Uranus -35819-02-11 14:23 J -11361425.10 -11361424.90 -11361424.69 0.0133 0.0050
 Jupiter -35819-03-20 00:42 J -11361388.64 -11361388.47 -11361388.29 0.0543 0.0270
 Mars -35819-06-23 23:02 J -11361292.71 -11361292.54 -11361292.36 0.1907 0.0116
 Uranus -35819-09-25 21:06 J -11361198.81 -11361198.62 -11361198.41 0.0133 0.0059
 Uranus -35818-05-10 03:35 J -11360972.53 -11360972.35 -11360972.15 0.0133 0.0068
 Mars -35818-05-28 07:54 J -11360954.27 -11360954.17 -11360954.08 0.1615 0.1336
 Uranus -35818-12-22 10:04 J -11360746.26 -11360746.08 -11360745.89 0.0132 0.0076
 Uranus -35817-08-04 16:04 J -11360519.98 -11360519.83 -11360519.64 0.0132 0.0085
 Uranus -35816-03-18 22:18 J -11360293.72 -11360293.57 -11360293.40 0.0132 0.0092
 Moon -35816-10-18 12:42 J -11360080.03 -11360079.97 -11360079.90 0.2659 0.2419
 Earth -35816-10-18 17:45 J -11360079.86 -11360079.76 -11360079.66 0.2655 0.2066
 Uranus -35816-10-31 04:04 J -11360067.46 -11360067.33 -11360067.17 0.0132 0.0100
 Uranus -35815-06-14 09:50 J -11359841.20 -11359841.09 -11359840.95 0.0132 0.0108
 Uranus -35814-01-26 15:35 J -11359614.94 -11359614.85 -11359614.73 0.0132 0.0115
 Jupiter -35814-05-28 09:35 J -11359493.24 -11359493.10 -11359492.95 0.0489 0.0341
 Uranus -35814-09-09 21:21 J -11359388.68 -11359388.61 -11359388.52 0.0132 0.0122
 Jupiter -35813-01-19 02:09 J -11359257.58 -11359257.41 -11359257.24 0.0485 0.0265
 Uranus -35813-04-23 02:52 J -11359162.41 -11359162.38 -11359162.33 0.0132 0.0129
 Jupiter -35808-11-22 09:35 J -11357123.30 -11357123.10 -11357122.89 0.0541 0.0026
 Saturn -35807-05-27 06:28 J -11356937.41 -11356937.23 -11356937.05 0.0284 0.0160
 Saturn -35806-01-12 03:50 J -11356707.56 -11356707.34 -11356707.13 0.0283 0.0020
 Saturn -35806-08-29 23:45 J -11356477.65 -11356477.51 -11356477.34 0.0283 0.0197
 Neptune -35805-01-12 10:33 J -11356342.06 -11356342.06 -11356342.00 0.0088 0.0088
 Neptune -35805-08-24 23:30 J -11356116.60 -11356116.52 -11356116.40 0.0088 0.0078
 Neptune -35804-04-07 12:42 J -11355891.09 -11355890.97 -11355890.82 0.0088 0.0069

Neptune -35804-11-19 01:26 J -11355665.58 -11355665.44 -11355665.26 0.0088 0.0060
 Neptune -35803-07-02 14:23 J -11355440.06 -11355439.90 -11355439.70 0.0088 0.0050
 Neptune -35802-02-13 03:21 J -11355214.54 -11355214.36 -11355214.15 0.0088 0.0041
 Jupiter -35802-09-24 07:11 J -11354991.40 -11354991.20 -11354991.00 0.0486 0.0097
 Neptune -35802-09-26 16:18 J -11354989.01 -11354988.82 -11354988.60 0.0088 0.0031
 Neptune -35801-05-09 05:30 J -11354763.48 -11354763.27 -11354763.05 0.0088 0.0022
 Neptune -35801-12-20 18:28 J -11354537.94 -11354537.73 -11354537.50 0.0088 0.0012
 Neptune -35800-08-03 07:40 J -11354312.40 -11354312.18 -11354311.96 0.0088 0.0002
 Neptune -35799-03-16 20:38 J -11354086.86 -11354086.64 -11354086.41 0.0088 0.0007
 Neptune -35799-10-28 09:50 J -11353861.31 -11353861.09 -11353860.87 0.0088 0.0017
 Neptune -35798-06-10 22:33 J -11353635.76 -11353635.56 -11353635.34 0.0088 0.0027
 Neptune -35797-01-22 11:45 J -11353410.21 -11353410.01 -11353409.80 0.0088 0.0036
 Neptune -35797-09-04 00:28 J -11353184.65 -11353184.48 -11353184.27 0.0088 0.0046
 Neptune -35796-04-17 14:09 J -11352959.08 -11352958.91 -11352958.74 0.0088 0.0055
 Jupiter -35796-07-27 19:26 J -11352857.88 -11352857.69 -11352857.51 0.0540 0.0217
 Neptune -35796-11-29 02:52 J -11352733.52 -11352733.38 -11352733.21 0.0088 0.0064
 Neptune -35795-07-12 16:04 J -11352507.94 -11352507.83 -11352507.70 0.0088 0.0074
 Neptune -35794-02-23 04:47 J -11352282.35 -11352282.30 -11352282.20 0.0088 0.0083
 Saturn -35793-11-03 23:45 J -11351662.52 -11351662.51 -11351662.47 0.0275 0.0273
 Saturn -35792-06-21 02:23 J -11351433.58 -11351433.40 -11351433.21 0.0275 0.0122
 Saturn -35791-02-05 05:45 J -11351204.47 -11351204.26 -11351204.05 0.0275 0.0033
 Saturn -35791-09-22 09:35 J -11350975.24 -11350975.10 -11350974.94 0.0276 0.0190
 Jupiter -35790-05-30 12:42 J -11350725.17 -11350724.97 -11350724.77 0.0487 0.0072
 Pluto -35787-02-17 20:38 J -11349730.83 -11349730.64 -11349730.42 0.0079 0.0035
 Uranus -35787-04-28 10:04 J -11349661.13 -11349661.08 -11349661.00 0.0140 0.0133
 Pluto -35787-10-01 07:11 J -11349505.39 -11349505.20 -11349505.00 0.0078 0.0040
 Uranus -35787-12-10 17:30 J -11349434.86 -11349434.77 -11349434.67 0.0141 0.0125
 Mars -35786-05-27 01:11 J -11349267.62 -11349267.45 -11349267.27 0.1616 0.0065
 Uranus -35786-07-25 00:28 J -11349208.58 -11349208.48 -11349208.34 0.0141 0.0118
 Uranus -35785-03-07 07:54 J -11348982.28 -11348982.17 -11348982.01 0.0141 0.0109

Uranus -35785-10-19 15:50 J -11348755.98 -11348755.84 -11348755.68 0.0142 0.0099
 Jupiter -35784-04-01 04:47 J -11348592.40 -11348592.30 -11348592.18 0.0538 0.0454
 Uranus -35784-06-02 23:45 J -11348529.66 -11348529.51 -11348529.34 0.0142 0.0090
 Jupiter -35784-11-25 16:18 J -11348353.94 -11348353.82 -11348353.67 0.0543 0.0402
 Uranus -35783-01-15 07:54 J -11348303.33 -11348303.17 -11348302.98 0.0142 0.0081
 Uranus -35783-08-29 16:33 J -11348076.99 -11348076.81 -11348076.62 0.0143 0.0070
 Uranus -35782-04-13 00:57 J -11347850.64 -11347850.46 -11347850.26 0.0143 0.0060
 Uranus -35782-11-25 09:35 J -11347624.29 -11347624.10 -11347623.89 0.0143 0.0050
 Uranus -35781-07-08 18:42 J -11347397.92 -11347397.72 -11347397.51 0.0144 0.0039
 Uranus -35780-02-20 04:04 J -11347171.54 -11347171.33 -11347171.12 0.0144 0.0027
 Uranus -35780-10-04 13:26 J -11346945.15 -11346944.94 -11346944.73 0.0144 0.0016
 Uranus -35779-05-18 23:02 J -11346718.75 -11346718.54 -11346718.33 0.0145 0.0005
 Uranus -35779-12-31 08:52 J -11346492.34 -11346492.13 -11346491.92 0.0145 0.0006
 Jupiter -35778-02-02 18:28 J -11346458.90 -11346458.73 -11346458.55 0.0488 0.0239
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 Jupiter -35778-09-26 11:02 J -11346223.17 -11346223.04 -11346222.90 0.0485 0.0365
 Saturn -35778-12-07 12:42 J -11346151.16 -11346150.97 -11346150.77 0.0284 0.0133
 Uranus -35777-03-28 04:47 J -11346039.50 -11346039.30 -11346039.09 0.0145 0.0029
 Saturn -35777-07-24 09:50 J -11345921.30 -11345921.09 -11345920.87 0.0283 0.0046
 Uranus -35777-11-09 15:06 J -11345813.07 -11345812.87 -11345812.66 0.0146 0.0041
 Saturn -35776-03-11 05:30 J -11345691.40 -11345691.27 -11345691.13 0.0282 0.0220
 Uranus -35776-06-24 01:26 J -11345586.63 -11345586.44 -11345586.23 0.0146 0.0053
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 Uranus -35775-09-19 23:16 J -11345133.71 -11345133.53 -11345133.35 0.0146 0.0075
 Uranus -35774-05-04 10:04 J -11344907.24 -11344907.08 -11344906.90 0.0146 0.0087
 Uranus -35774-12-16 21:21 J -11344680.76 -11344680.61 -11344680.45 0.0147 0.0098
 Uranus -35773-07-30 08:23 J -11344454.27 -11344454.15 -11344453.99 0.0147 0.0109
 Uranus -35772-03-13 20:23 J -11344227.77 -11344227.65 -11344227.52 0.0147 0.0119
 Jupiter -35772-07-31 04:33 J -11344088.50 -11344088.31 -11344088.12 0.0543 0.0166
 Uranus -35772-10-26 07:40 J -11344001.26 -11344001.18 -11344001.06 0.0147 0.0130

Uranus -35771-06-09 19:54 J -11343774.73 -11343774.67 -11343774.60 0.0147 0.0139
 Jupiter -35767-10-08 23:45 J -11342192.62 -11342192.51 -11342192.40 0.0490 0.0407
 Jupiter -35766-06-01 15:50 J -11341957.02 -11341956.84 -11341956.65 0.0486 0.0198
 Saturn -35763-05-16 23:59 J -11340876.57 -11340876.50 -11340876.42 0.0275 0.0255
 Saturn -35762-01-01 02:23 J -11340647.59 -11340647.40 -11340647.21 0.0275 0.0103
 Saturn -35762-08-18 05:30 J -11340418.47 -11340418.27 -11340418.06 0.0276 0.0052
 Saturn -35761-04-03 09:35 J -11340189.23 -11340189.10 -11340188.96 0.0277 0.0208
 Jupiter -35760-04-04 16:18 J -11339823.02 -11339822.82 -11339822.61 0.0541 0.0071
 Jupiter -35754-02-04 21:35 J -11337690.80 -11337690.60 -11337690.39 0.0487 0.0032
 Mars -35754-05-25 18:42 J -11337580.83 -11337580.72 -11337580.60 0.1618 0.1203
 Mars -35753-04-20 01:54 J -11337250.59 -11337250.42 -11337250.25 0.1907 0.0371
 Mars -35752-03-24 19:54 J -11336911.73 -11336911.67 -11336911.60 0.1616 0.1474
 Jupiter -35749-12-08 01:40 J -11335557.59 -11335557.43 -11335557.26 0.0539 0.0311
 Saturn -35748-06-18 16:18 J -11335365.01 -11335364.82 -11335364.61 0.0284 0.0111
 Jupiter -35748-08-03 12:14 J -11335319.01 -11335318.99 -11335318.97 0.0543 0.0539
 Uranus -35747-01-02 07:54 J -11335167.23 -11335167.17 -11335167.09 0.0138 0.0130
 Saturn -35747-02-03 13:54 J -11335135.13 -11335134.92 -11335134.71 0.0283 0.0069
 Uranus -35747-08-16 18:14 J -11334940.84 -11334940.74 -11334940.63 0.0138 0.0121
 Saturn -35747-09-21 09:50 J -11334905.19 -11334905.09 -11334904.98 0.0283 0.0244
 Uranus -35746-03-31 04:04 J -11334714.45 -11334714.33 -11334714.19 0.0137 0.0112
 Uranus -35746-11-12 13:54 J -11334488.06 -11334487.92 -11334487.77 0.0137 0.0103
 Uranus -35745-06-25 23:30 J -11334261.67 -11334261.52 -11334261.35 0.0137 0.0093
 Uranus -35744-02-07 08:52 J -11334035.29 -11334035.13 -11334034.94 0.0136 0.0084
 Uranus -35744-09-21 17:59 J -11333808.92 -11333808.75 -11333808.55 0.0136 0.0074
 Uranus -35743-05-06 03:06 J -11333582.56 -11333582.37 -11333582.16 0.0136 0.0065
 Jupiter -35743-10-11 02:23 J -11333424.60 -11333424.40 -11333424.21 0.0488 0.0140
 Uranus -35743-12-18 11:59 J -11333356.20 -11333356.00 -11333355.79 0.0136 0.0055
 Jupiter -35742-06-03 19:26 J -11333188.74 -11333188.69 -11333188.62 0.0485 0.0462
 Uranus -35742-08-01 20:52 J -11333129.84 -11333129.63 -11333129.41 0.0135 0.0045
 Uranus -35741-03-15 05:30 J -11332903.49 -11332903.27 -11332903.05 0.0135 0.0035

Uranus	-35741-10-27 13:40 J	-11332677.15	-11332676.93	-11332676.71	0.0135	0.0026
Uranus	-35740-06-10 21:50 J	-11332450.81	-11332450.59	-11332450.36	0.0134	0.0016
Uranus	-35739-01-23 05:59 J	-11332224.47	-11332224.25	-11332224.03	0.0134	0.0006
Uranus	-35739-09-06 13:54 J	-11331998.14	-11331997.92	-11331997.70	0.0134	0.0003
Uranus	-35738-04-20 21:35 J	-11331771.83	-11331771.60	-11331771.38	0.0134	0.0013
Uranus	-35738-12-03 04:47 J	-11331545.51	-11331545.30	-11331545.07	0.0134	0.0022
Uranus	-35737-07-16 12:14 J	-11331319.20	-11331318.99	-11331318.77	0.0133	0.0032
Uranus	-35736-02-27 19:26 J	-11331092.90	-11331092.69	-11331092.47	0.0133	0.0041
Jupiter	-35736-04-07 22:18 J	-11331053.74	-11331053.57	-11331053.40	0.0542	0.0302
Uranus	-35736-10-12 02:09 J	-11330866.60	-11330866.41	-11330866.19	0.0133	0.0050
Uranus	-35735-05-26 08:52 J	-11330640.32	-11330640.13	-11330639.92	0.0133	0.0059
Uranus	-35734-01-07 15:21 J	-11330414.03	-11330413.86	-11330413.65	0.0133	0.0068
Uranus	-35734-08-21 22:04 J	-11330187.75	-11330187.58	-11330187.39	0.0133	0.0076
Saturn	-35734-11-27 08:09 J	-11330090.27	-11330090.16	-11330090.04	0.0275	0.0227
Uranus	-35733-04-04 04:18 J	-11329961.48	-11329961.32	-11329961.14	0.0132	0.0084
Saturn	-35733-07-13 10:47 J	-11329861.24	-11329861.05	-11329860.85	0.0275	0.0075
Uranus	-35733-11-16 10:18 J	-11329735.21	-11329735.07	-11329734.90	0.0132	0.0093
Saturn	-35732-02-27 14:23 J	-11329632.10	-11329631.90	-11329631.70	0.0276	0.0080
Uranus	-35732-06-30 16:18 J	-11329508.95	-11329508.82	-11329508.66	0.0132	0.0100
Saturn	-35732-10-14 18:28 J	-11329402.83	-11329402.73	-11329402.61	0.0276	0.0236
Uranus	-35731-02-11 22:04 J	-11329282.69	-11329282.58	-11329282.44	0.0132	0.0108
Jupiter	-35731-06-16 07:40 J	-11329158.34	-11329158.18	-11329158.02	0.0489	0.0308
Uranus	-35731-09-26 04:18 J	-11329056.42	-11329056.32	-11329056.21	0.0132	0.0115
Jupiter	-35730-02-07 00:28 J	-11328922.64	-11328922.48	-11328922.32	0.0485	0.0297
Uranus	-35730-05-10 09:35 J	-11328830.16	-11328830.10	-11328830.01	0.0132	0.0123
Uranus	-35730-12-22 15:06 J	-11328603.89	-11328603.87	-11328603.82	0.0132	0.0130
Jupiter	-35725-12-11 07:54 J	-11326788.37	-11326788.17	-11326787.97	0.0542	0.0062
Neptune	-35722-05-27 20:52 J	-11325890.69	-11325890.63	-11325890.52	0.0089	0.0082
Neptune	-35721-01-08 10:04 J	-11325665.19	-11325665.08	-11325664.94	0.0089	0.0072
Neptune	-35721-08-20 23:02 J	-11325439.67	-11325439.54	-11325439.36	0.0089	0.0063

Mars -35720-03-23 13:40 J -11325225.11 -11325224.93 -11325224.76 0.1616 0.0199
 Neptune -35720-04-03 12:14 J -11325214.15 -11325213.99 -11325213.80 0.0089 0.0053
 Neptune -35720-11-15 01:40 J -11324988.62 -11324988.43 -11324988.24 0.0089 0.0043
 Jupiter -35719-02-19 13:26 J -11324891.98 -11324891.94 -11324891.88 0.0491 0.0474
 Saturn -35719-05-14 02:38 J -11324808.47 -11324808.39 -11324808.30 0.0284 0.0259
 Neptune -35719-06-28 14:23 J -11324763.09 -11324762.90 -11324762.68 0.0089 0.0034
 Jupiter -35719-10-13 06:14 J -11324656.44 -11324656.24 -11324656.05 0.0486 0.0131
 Saturn -35719-12-30 00:28 J -11324578.68 -11324578.48 -11324578.27 0.0284 0.0081
 Neptune -35718-02-09 03:35 J -11324537.56 -11324537.35 -11324537.14 0.0089 0.0024
 Saturn -35718-08-16 21:21 J -11324348.81 -11324348.61 -11324348.40 0.0283 0.0097
 Neptune -35718-09-22 16:33 J -11324312.02 -11324311.81 -11324311.59 0.0089 0.0015
 Saturn -35717-04-02 16:33 J -11324118.85 -11324118.81 -11324118.73 0.0282 0.0271
 Neptune -35717-05-05 05:45 J -11324086.48 -11324086.26 -11324086.04 0.0089 0.0005
 Neptune -35717-12-16 18:28 J -11323860.94 -11323860.73 -11323860.51 0.0089 0.0005
 Neptune -35716-07-30 07:26 J -11323635.40 -11323635.19 -11323634.97 0.0089 0.0014
 Neptune -35715-03-12 20:09 J -11323409.86 -11323409.66 -11323409.44 0.0089 0.0024
 Neptune -35715-10-24 09:21 J -11323184.31 -11323184.11 -11323183.90 0.0089 0.0033
 Neptune -35714-06-06 22:04 J -11322958.76 -11322958.58 -11322958.38 0.0089 0.0043
 Neptune -35713-01-18 11:02 J -11322733.21 -11322733.04 -11322732.86 0.0089 0.0052
 Jupiter -35713-08-15 19:26 J -11322522.88 -11322522.69 -11322522.50 0.0541 0.0174
 Neptune -35713-08-30 23:30 J -11322507.65 -11322507.52 -11322507.34 0.0089 0.0062
 Neptune -35712-04-13 12:42 J -11322282.09 -11322281.97 -11322281.83 0.0089 0.0071
 Neptune -35712-11-25 01:11 J -11322056.51 -11322056.45 -11322056.33 0.0089 0.0081
 Jupiter -35707-06-18 11:16 J -11320390.24 -11320390.03 -11320389.83 0.0487 0.0040
 Saturn -35704-06-08 08:52 J -11319304.25 -11319304.13 -11319303.99 0.0275 0.0208
 Uranus -35704-12-26 21:21 J -11319102.65 -11319102.61 -11319102.54 0.0140 0.0135
 Saturn -35703-01-23 11:45 J -11319075.21 -11319075.01 -11319074.81 0.0275 0.0055
 Uranus -35703-08-10 04:33 J -11318876.39 -11318876.31 -11318876.21 0.0140 0.0127
 Saturn -35703-09-09 14:52 J -11318846.07 -11318845.88 -11318845.68 0.0276 0.0100
 Uranus -35702-03-24 11:59 J -11318650.11 -11318650.00 -11318649.89 0.0141 0.0118

Saturn -35702-04-26 19:11 J -11318616.78 -11318616.70 -11318616.62 0.0277 0.0255
 Uranus -35702-11-05 19:26 J -11318423.82 -11318423.69 -11318423.56 0.0141 0.0110
 Jupiter -35701-04-20 07:11 J -11318257.33 -11318257.20 -11318257.07 0.0539 0.0406
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 Jupiter -35701-12-14 18:42 J -11318018.83 -11318018.72 -11318018.60 0.0543 0.0445
 Uranus -35700-01-31 10:47 J -11317971.21 -11317971.05 -11317970.89 0.0142 0.0091
 Uranus -35700-09-14 18:57 J -11317744.89 -11317744.71 -11317744.54 0.0142 0.0082
 Uranus -35699-04-29 02:52 J -11317518.55 -11317518.38 -11317518.19 0.0142 0.0072
 Uranus -35699-12-11 11:16 J -11317292.21 -11317292.03 -11317291.83 0.0143 0.0062
 Uranus -35698-07-25 19:54 J -11317065.85 -11317065.67 -11317065.46 0.0143 0.0052
 Uranus -35697-03-08 04:47 J -11316839.49 -11316839.30 -11316839.09 0.0143 0.0041
 Uranus -35697-10-20 14:09 J -11316613.12 -11316612.91 -11316612.71 0.0144 0.0029
 Uranus -35696-06-03 23:16 J -11316386.74 -11316386.53 -11316386.32 0.0144 0.0018
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 Jupiter -35695-02-21 16:47 J -11316123.98 -11316123.80 -11316123.62 0.0488 0.0206
 Uranus -35695-08-30 18:28 J -11315933.94 -11315933.73 -11315933.52 0.0145 0.0005
 Jupiter -35695-10-15 09:21 J -11315888.22 -11315888.11 -11315887.99 0.0485 0.0394
 Uranus -35694-04-14 04:18 J -11315707.54 -11315707.32 -11315707.11 0.0145 0.0016
 Earth -35694-04-18 17:16 J -11315702.92 -11315702.78 -11315702.65 0.2677 0.1276
 Moon -35694-04-18 21:06 J -11315702.75 -11315702.62 -11315702.50 0.2681 0.1381 *
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 Uranus -35690-08-16 05:45 J -11314122.41 -11314122.26 -11314122.09 0.0146 0.0096
 Saturn -35690-11-24 05:45 J -11314022.37 -11314022.26 -11314022.14 0.0284 0.0238
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 Saturn -35689-07-11 04:04 J -11313792.54 -11313792.33 -11313792.12 0.0284 0.0059

Jupiter -35689-08-19 04:19 J -11313753.50 -11313753.32 -11313753.13 0.0542 0.0206
 Uranus -35689-11-11 04:33 J -11313669.43 -11313669.31 -11313669.18 0.0147 0.0118
 Saturn -35688-02-26 00:57 J -11313562.65 -11313562.46 -11313562.26 0.0283 0.0119
 Mars -35688-03-22 07:11 J -11313538.33 -11313538.20 -11313538.07 0.1617 0.1067
 Uranus -35688-06-25 16:04 J -11313442.92 -11313442.83 -11313442.72 0.0147 0.0128
 Uranus -35687-02-07 04:04 J -11313216.40 -11313216.33 -11313216.26 0.0147 0.0138
 Mars -35687-02-15 04:33 J -11313208.47 -11313208.31 -11313208.16 0.1907 0.0866
 Mars -35686-01-20 08:23 J -11312869.17 -11312869.15 -11312869.14 0.1616 0.1605
 Earth -35686-04-16 11:45 J -11312783.12 -11312783.01 -11312782.90 0.2678 0.1904
 Moon -35686-04-16 16:47 J -11312782.93 -11312782.80 -11312782.67 0.2677 0.1442 *
 Jupiter -35684-10-27 20:52 J -11311857.76 -11311857.63 -11311857.50 0.0490 0.0377
 Jupiter -35683-06-20 13:55 J -11311622.10 -11311621.92 -11311621.74 0.0486 0.0227
 Jupiter -35677-04-23 14:09 J -11309488.12 -11309487.91 -11309487.71 0.0541 0.0036
 Saturn -35675-12-19 17:31 J -11308517.92 -11308517.77 -11308517.60 0.0275 0.0180
 Saturn -35674-08-05 20:23 J -11308288.85 -11308288.65 -11308288.44 0.0275 0.0028
 Saturn -35673-03-21 23:59 J -11308059.68 -11308059.50 -11308059.31 0.0276 0.0128
 Jupiter -35671-02-23 18:57 J -11307355.91 -11307355.71 -11307355.51 0.0487 0.0061
 Jupiter -35666-12-27 22:33 J -11305222.73 -11305222.56 -11305222.38 0.0539 0.0276
 Uranus -35664-09-01 17:02 J -11304608.85 -11304608.79 -11304608.72 0.0138 0.0132
 Uranus -35663-04-16 02:52 J -11304382.46 -11304382.38 -11304382.26 0.0138 0.0123
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 Uranus -35662-07-12 23:02 J -11303929.67 -11303929.54 -11303929.38 0.0137 0.0105
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 Uranus -35661-10-07 18:43 J -11303476.90 -11303476.72 -11303476.55 0.0137 0.0085
 Uranus -35660-05-22 03:50 J -11303250.52 -11303250.34 -11303250.14 0.0136 0.0076
 Saturn -35660-06-05 15:50 J -11303235.98 -11303235.84 -11303235.68 0.0284 0.0205
 Jupiter -35660-10-30 00:43 J -11303089.66 -11303089.47 -11303089.27 0.0488 0.0107
 Uranus -35659-01-03 12:57 J -11303024.14 -11303023.96 -11303023.75 0.0136 0.0066
 Saturn -35659-01-21 13:40 J -11303006.15 -11303005.93 -11303005.72 0.0284 0.0027
 Uranus -35659-08-17 22:19 J -11302797.77 -11302797.57 -11302797.36 0.0136 0.0056

Saturn -35659-09-08 10:04 J -11302776.26 -11302776.08 -11302775.89 0.0283 0.0150
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 Uranus -35658-11-13 15:50 J -11302345.06 -11302344.84 -11302344.62 0.0135 0.0036
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 Mars -35655-02-15 04:19 J -11301520.37 -11301520.32 -11301520.26 0.1906 0.1797
 Uranus -35655-05-07 00:43 J -11301439.69 -11301439.47 -11301439.24 0.0134 0.0003
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 Mars -35654-01-19 01:55 J -11301182.59 -11301182.42 -11301182.25 0.1616 0.0335
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 Jupiter -35654-09-01 09:50 J -11300957.16 -11300957.09 -11300957.02 0.0538 0.0506
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 Uranus -35649-07-16 22:19 J -11299176.71 -11299176.57 -11299176.40 0.0132 0.0093
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 Saturn -35645-06-30 19:11 J -11297731.87 -11297731.70 -11297731.53 0.0275 0.0159
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Saturn -35644-10-02 01:26 J -11297273.61 -11297273.44 -11297273.26 0.0276 0.0148
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 Neptune -35630-05-27 12:57 J -11292288.04 -11292287.96 -11292287.83 0.0088 0.0077
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 Saturn -35629-03-20 13:40 J -11291990.10 -11291989.93 -11291989.76 0.0283 0.0171
 Pluto -35627-05-19 15:35 J -11291199.88 -11291199.85 -11291199.75 0.0065 0.0062
 Pluto -35627-12-30 20:09 J -11290974.86 -11290974.66 -11290974.44 0.0065 0.0021
 Pluto -35626-08-13 00:14 J -11290749.69 -11290749.49 -11290749.27 0.0065 0.0020

Pluto -35625-03-25 04:33 J -11290524.37 -11290524.31 -11290524.23 0.0066 0.0062
 Jupiter -35624-07-07 07:55 J -11290055.38 -11290055.17 -11290054.97 0.0487 0.0012
 Mars -35622-01-17 19:26 J -11289495.83 -11289495.69 -11289495.55 0.1617 0.0928
 Mars -35622-12-13 07:40 J -11289166.30 -11289166.18 -11289166.06 0.1907 0.1333
 Uranus -35620-08-26 09:07 J -11288544.16 -11288544.12 -11288544.07 0.0140 0.0136
 Uranus -35619-04-09 15:50 J -11288317.91 -11288317.84 -11288317.75 0.0140 0.0129
 Uranus -35619-11-21 23:16 J -11288091.64 -11288091.53 -11288091.42 0.0141 0.0120
 Jupiter -35618-05-10 05:16 J -11287922.43 -11287922.28 -11287922.14 0.0538 0.0368
 Uranus -35618-07-06 06:28 J -11287865.35 -11287865.23 -11287865.10 0.0141 0.0111
 Jupiter -35617-01-03 15:35 J -11287683.94 -11287683.85 -11287683.75 0.0543 0.0475
 Uranus -35617-02-17 13:55 J -11287639.06 -11287638.92 -11287638.77 0.0141 0.0102
 Uranus -35617-09-30 21:50 J -11287412.75 -11287412.59 -11287412.43 0.0142 0.0093
 Uranus -35616-05-15 05:45 J -11287186.43 -11287186.26 -11287186.09 0.0142 0.0083
 Uranus -35616-12-27 13:55 J -11286960.10 -11286959.92 -11286959.73 0.0142 0.0073
 Saturn -35615-01-11 03:50 J -11286945.52 -11286945.34 -11286945.16 0.0275 0.0131
 Uranus -35615-08-10 22:04 J -11286733.76 -11286733.58 -11286733.38 0.0143 0.0064
 Saturn -35615-08-28 06:57 J -11286716.42 -11286716.21 -11286716.01 0.0275 0.0022
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 Saturn -35614-04-14 10:33 J -11286487.21 -11286487.06 -11286486.90 0.0276 0.0177
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 Uranus -35613-06-20 00:28 J -11286054.69 -11286054.48 -11286054.27 0.0144 0.0031
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 Jupiter -35612-03-12 12:57 J -11285789.14 -11285788.96 -11285788.77 0.0489 0.0177
 Uranus -35612-09-15 18:57 J -11285601.92 -11285601.71 -11285601.50 0.0144 0.0009
 Jupiter -35612-11-03 05:59 J -11285553.34 -11285553.25 -11285553.15 0.0485 0.0422
 Uranus -35611-04-30 04:33 J -11285375.53 -11285375.31 -11285375.10 0.0144 0.0004
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 Uranus -35609-03-09 10:04 J -11284696.28 -11284696.08 -11284695.87 0.0145 0.0038
 Uranus -35609-10-21 20:09 J -11284469.85 -11284469.66 -11284469.45 0.0146 0.0050

Uranus	-35608-06-05 06:43 J	-11284243.41	-11284243.22	-11284243.03	0.0146	0.0061
Uranus	-35607-01-17 17:31 J	-11284016.96	-11284016.77	-11284016.59	0.0146	0.0072
Uranus	-35607-09-01 03:50 J	-11283790.50	-11283790.34	-11283790.15	0.0146	0.0085
Uranus	-35606-04-15 14:52 J	-11283564.03	-11283563.88	-11283563.70	0.0146	0.0095
Jupiter	-35606-09-08 00:43 J	-11283418.66	-11283418.47	-11283418.29	0.0542	0.0237
Uranus	-35606-11-28 02:09 J	-11283337.55	-11283337.41	-11283337.26	0.0146	0.0106
Uranus	-35605-07-11 13:26 J	-11283111.06	-11283110.94	-11283110.80	0.0147	0.0117
Uranus	-35604-02-23 01:26 J	-11282884.54	-11282884.44	-11282884.34	0.0147	0.0127
Uranus	-35604-10-07 13:11 J	-11282658.02	-11282657.95	-11282657.88	0.0147	0.0137
Saturn	-35601-06-28 06:28 J	-11281663.41	-11281663.23	-11281663.04	0.0284	0.0149
Jupiter	-35601-11-15 18:57 J	-11281522.85	-11281522.71	-11281522.57	0.0490	0.0344
Saturn	-35600-02-13 03:50 J	-11281433.55	-11281433.34	-11281433.12	0.0283	0.0029
Jupiter	-35600-07-09 11:31 J	-11281287.19	-11281287.02	-11281286.84	0.0486	0.0258
Saturn	-35600-09-30 23:59 J	-11281203.64	-11281203.50	-11281203.35	0.0283	0.0204
Jupiter	-35594-05-13 11:45 J	-11279153.21	-11279153.01	-11279152.81	0.0541	0.0004
Mars	-35590-12-13 06:28 J	-11277478.35	-11277478.23	-11277478.10	0.1906	0.1290
Mars	-35589-11-15 14:23 J	-11277140.07	-11277139.90	-11277139.74	0.1616	0.0470
Jupiter	-35588-03-14 16:33 J	-11277021.01	-11277020.81	-11277020.61	0.0486	0.0090
Saturn	-35587-12-07 04:04 J	-11276388.39	-11276388.33	-11276388.26	0.0275	0.0259
Saturn	-35586-07-24 06:14 J	-11276159.43	-11276159.24	-11276159.05	0.0275	0.0109
Saturn	-35585-03-09 09:07 J	-11275930.32	-11275930.12	-11275929.91	0.0276	0.0044
Saturn	-35585-10-24 12:57 J	-11275701.10	-11275700.96	-11275700.82	0.0276	0.0198
Jupiter	-35582-01-15 23:16 J	-11274887.71	-11274887.53	-11274887.34	0.0540	0.0233
Earth	-35581-10-21 03:50 J	-11274243.45	-11274243.34	-11274243.23	0.2655	0.1920
Moon	-35581-10-21 09:21 J	-11274243.20	-11274243.11	-11274243.01	0.2659	0.2131
Uranus	-35580-05-02 02:09 J	-11274050.45	-11274050.41	-11274050.34	0.0139	0.0134
Uranus	-35580-12-14 12:57 J	-11273824.05	-11273823.96	-11273823.87	0.0138	0.0125
Uranus	-35579-07-28 23:02 J	-11273597.65	-11273597.54	-11273597.41	0.0138	0.0115
Uranus	-35578-03-12 09:07 J	-11273371.26	-11273371.12	-11273370.98	0.0137	0.0106
Uranus	-35578-10-24 18:43 J	-11273144.87	-11273144.72	-11273144.55	0.0137	0.0097

Uranus -35577-06-07 04:33 J -11272918.47 -11272918.31 -11272918.13 0.0137 0.0087
 Jupiter -35577-11-17 22:04 J -11272754.79 -11272754.58 -11272754.38 0.0488 0.0078
 Uranus -35576-01-19 14:09 J -11272692.09 -11272691.91 -11272691.72 0.0136 0.0077
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 Uranus -35575-04-17 08:38 J -11272239.34 -11272239.14 -11272238.93 0.0136 0.0057
 Uranus -35575-11-29 17:31 J -11272012.97 -11272012.77 -11272012.55 0.0136 0.0047
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 Uranus -35573-10-08 19:26 J -11271333.91 -11271333.69 -11271333.46 0.0135 0.0018
 Earth -35573-10-18 15:07 J -11271323.96 -11271323.87 -11271323.77 0.2654 0.2158
 Moon -35573-10-18 21:35 J -11271323.75 -11271323.60 -11271323.46 0.2652 0.1363
 Uranus -35572-05-23 03:35 J -11271107.57 -11271107.35 -11271107.12 0.0134 0.0009
 Uranus -35571-01-04 11:45 J -11270881.23 -11270881.01 -11270880.78 0.0134 0.0002
 Saturn -35571-01-08 09:35 J -11270877.29 -11270877.10 -11270876.90 0.0284 0.0128
 Uranus -35571-08-18 19:40 J -11270654.90 -11270654.68 -11270654.45 0.0134 0.0012
 Saturn -35571-08-26 07:11 J -11270647.41 -11270647.20 -11270646.99 0.0283 0.0050
 Jupiter -35571-09-20 10:04 J -11270622.17 -11270622.08 -11270621.97 0.0537 0.0463
 Uranus -35570-04-02 03:21 J -11270428.58 -11270428.36 -11270428.14 0.0134 0.0021
 Saturn -35570-04-13 03:21 J -11270417.48 -11270417.36 -11270417.22 0.0283 0.0224
 Jupiter -35570-05-16 21:07 J -11270383.76 -11270383.62 -11270383.47 0.0542 0.0380
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Jupiter -35564-03-16 18:43 J -11268252.86 -11268252.72 -11268252.58 0.0486 0.0353
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 Uranus -35563-09-07 10:19 J -11267713.14 -11267713.07 -11267712.99 0.0132 0.0123
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 Jupiter -35558-01-19 06:57 J -11266118.41 -11266118.21 -11266118.02 0.0541 0.0141
 Neptune -35558-08-29 04:19 J -11265896.37 -11265896.32 -11265896.27 0.0089 0.0086
 Neptune -35557-04-10 17:16 J -11265670.88 -11265670.78 -11265670.66 0.0089 0.0077
 Saturn -35557-06-18 11:16 J -11265602.12 -11265602.03 -11265601.91 0.0275 0.0233
 Mars -35557-11-14 07:55 J -11265453.32 -11265453.17 -11265453.01 0.1617 0.0798
 Neptune -35557-11-22 06:14 J -11265445.36 -11265445.24 -11265445.08 0.0089 0.0068
 Saturn -35556-02-02 14:09 J -11265373.10 -11265372.91 -11265372.71 0.0275 0.0082
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 Saturn -35556-09-19 17:31 J -11265143.97 -11265143.77 -11265143.57 0.0276 0.0072
 Mars -35556-10-09 10:33 J -11265124.11 -11265124.06 -11265124.00 0.1907 0.1809
 Neptune -35555-02-16 08:23 J -11264994.31 -11264994.15 -11264993.94 0.0089 0.0049
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 Neptune -35554-12-24 23:59 J -11264317.71 -11264317.50 -11264317.29 0.0089 0.0020
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 Neptune -35552-03-20 01:55 J -11263866.64 -11263866.42 -11263866.20 0.0089 0.0001
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 Neptune -35550-01-25 16:33 J -11263190.01 -11263189.81 -11263189.60 0.0089 0.0027
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 Neptune -35549-04-20 18:14 J -11262738.92 -11262738.74 -11262738.54 0.0089 0.0046
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Neptune -35548-07-15 19:40 J -11262287.81 -11262287.68 -11262287.51 0.0089 0.0065
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 Saturn -35541-03-07 19:11 J -11259860.90 -11259860.70 -11259860.49 0.0283 0.0086
 Jupiter -35541-07-26 05:31 J -11259720.48 -11259720.27 -11259720.07 0.0487 0.0023
 Saturn -35541-10-23 14:52 J -11259630.95 -11259630.88 -11259630.78 0.0283 0.0259
 Pluto -35539-09-03 02:23 J -11258951.61 -11258951.40 -11258951.17 0.0079 0.0013
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 Uranus -35400-09-04 12:43 J -11208180.14 -11208179.97 -11208179.76 0.0133 0.0068
 Uranus -35399-04-18 19:55 J -11207953.85 -11207953.67 -11207953.49 0.0133 0.0075
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 Jupiter -35398-04-24 13:11 J -11207583.05 -11207582.95 -11207582.84 0.0485 0.0408
 Uranus -35398-07-15 08:52 J -11207501.28 -11207501.13 -11207500.96 0.0133 0.0093
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 Saturn -35394-03-18 07:55 J -11206159.38 -11206159.17 -11206158.95 0.0283 0.0044
 Saturn -35394-11-03 04:04 J -11205929.46 -11205929.33 -11205929.19 0.0283 0.0216
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Neptune -35387-09-15 11:31 J -11203421.24 -11203421.02 -11203420.80 0.0089 0.0012
 Jupiter -35387-12-28 17:02 J -11203316.96 -11203316.79 -11203316.61 0.0486 0.0244
 Neptune -35386-04-29 00:28 J -11203195.69 -11203195.48 -11203195.27 0.0089 0.0021
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 Saturn -35380-01-08 13:55 J -11201114.01 -11201113.92 -11201113.80 0.0275 0.0237
 Saturn -35380-08-25 16:47 J -11200885.00 -11200884.80 -11200884.61 0.0275 0.0088
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 Saturn -35379-11-26 23:45 J -11200426.63 -11200426.51 -11200426.38 0.0276 0.0217
 Pluto -35379-12-02 21:07 J -11200420.75 -11200420.62 -11200420.46 0.0065 0.0048
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 Saturn -35365-02-10 23:02 J -11195602.74 -11195602.54 -11195602.33 0.0284 0.0094
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Saturn -35364-05-15 16:19 J -11195142.90 -11195142.82 -11195142.71 0.0283 0.0254
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 Uranus -35357-06-02 07:55 J -11192568.36 -11192568.17 -11192567.97 0.0145 0.0056
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 Uranus -35352-05-18 23:16 J -11190756.56 -11190756.53 -11190756.48 0.0146 0.0144
 Jupiter -35351-01-12 10:04 J -11190518.26 -11190518.08 -11190517.91 0.0489 0.0253
 Saturn -35351-07-21 19:11 J -11190327.83 -11190327.70 -11190327.57 0.0274 0.0212
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 Saturn -35350-03-07 21:35 J -11190098.80 -11190098.60 -11190098.40 0.0275 0.0063
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Saturn -35349-06-08 04:04 J -11189640.42 -11189640.33 -11189640.22 0.0276 0.0241
 Jupiter -35345-07-09 06:14 J -11188148.44 -11188148.24 -11188148.04 0.0542 0.0110
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 Moon -35338-10-21 21:07 J -11185487.75 -11185487.62 -11185487.48 0.2649 0.1659
 Earth -35338-10-22 01:26 J -11185487.56 -11185487.44 -11185487.32 0.2654 0.1830 *
 Saturn -35336-01-05 02:52 J -11185046.47 -11185046.38 -11185046.27 0.0284 0.0251
 Saturn -35336-08-23 01:11 J -11184816.66 -11184816.45 -11184816.24 0.0284 0.0075
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 Jupiter -35333-03-13 17:59 J -11183882.95 -11183882.75 -11183882.55 0.0540 0.0120
 Earth -35330-10-19 12:57 J -11182568.05 -11182567.96 -11182567.87 0.2653 0.2221
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 Jupiter -35327-01-14 11:59 J -11181750.20 -11181750.00 -11181749.80 0.0487 0.0011
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 Uranus -35327-10-21 20:23 J -11181469.78 -11181469.65 -11181469.48 0.0138 0.0103
 Mars -35326-03-30 17:31 J -11181309.94 -11181309.77 -11181309.61 0.1907 0.0662
 Uranus -35326-06-05 06:43 J -11181243.37 -11181243.22 -11181243.04 0.0138 0.0093
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 Mars -35325-03-04 15:21 J -11180970.00 -11180969.86 -11180969.73 0.1616 0.1012
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 Jupiter -35322-11-17 04:19 J -11179617.47 -11179617.32 -11179617.16 0.0538 0.0351
 Saturn -35321-01-31 22:04 J -11179541.72 -11179541.58 -11179541.43 0.0275 0.0191
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Jupiter -35321-07-12 15:35 J -11179378.94 -11179378.85 -11179378.76 0.0543 0.0483
 Saturn -35321-09-17 00:43 J -11179312.67 -11179312.47 -11179312.26 0.0275 0.0041
 Uranus -35320-01-01 17:45 J -11179205.98 -11179205.76 -11179205.53 0.0135 0.0003
 Saturn -35320-05-04 03:50 J -11179083.52 -11179083.34 -11179083.14 0.0276 0.0111
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 Saturn -35320-12-19 08:09 J -11178854.22 -11178854.16 -11178854.10 0.0276 0.0263
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 Uranus -35317-02-07 08:52 J -11178074.33 -11178074.13 -11178073.92 0.0134 0.0048
 Uranus -35317-09-20 16:04 J -11177848.02 -11177847.83 -11177847.62 0.0134 0.0057
 Uranus -35316-05-04 23:02 J -11177621.72 -11177621.54 -11177621.33 0.0133 0.0067
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 Uranus -35312-09-04 21:07 J -11176037.68 -11176037.62 -11176037.54 0.0132 0.0124
 Neptune -35311-01-12 14:09 J -11175907.97 -11175907.91 -11175907.80 0.0088 0.0082
 Uranus -35311-04-19 03:07 J -11175811.37 -11175811.37 -11175811.34 0.0132 0.0132
 Neptune -35311-08-26 02:52 J -11175682.48 -11175682.38 -11175682.23 0.0088 0.0073
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 Neptune -35310-11-20 04:47 J -11175231.45 -11175231.30 -11175231.11 0.0088 0.0055
 Jupiter -35309-03-16 22:47 J -11175113.73 -11175113.55 -11175113.37 0.0542 0.0242
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 Neptune -35307-12-21 21:35 J -11174103.82 -11174103.60 -11174103.38 0.0088 0.0008
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 Neptune -35305-03-16 23:31 J -11173652.74 -11173652.52 -11173652.30 0.0088 0.0010
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 Jupiter -35304-05-25 23:31 J -11173217.67 -11173217.52 -11173217.37 0.0490 0.0320
 Neptune -35304-06-11 01:26 J -11173201.64 -11173201.44 -11173201.22 0.0088 0.0028
 Jupiter -35303-01-16 16:19 J -11172981.99 -11172981.82 -11172981.66 0.0486 0.0275
 Neptune -35303-01-22 14:23 J -11172976.09 -11172975.90 -11172975.69 0.0088 0.0038
 Neptune -35303-09-05 03:35 J -11172750.53 -11172750.35 -11172750.16 0.0088 0.0047
 Neptune -35302-04-18 17:02 J -11172524.96 -11172524.79 -11172524.62 0.0088 0.0056
 Neptune -35302-11-30 05:31 J -11172299.39 -11172299.27 -11172299.09 0.0088 0.0066
 Neptune -35301-07-12 18:43 J -11172073.82 -11172073.72 -11172073.58 0.0088 0.0074
 Neptune -35300-02-23 07:55 J -11171848.22 -11171848.17 -11171848.08 0.0088 0.0083
 Jupiter -35298-11-20 09:07 J -11170848.32 -11170848.12 -11170847.91 0.0541 0.0013
 Mars -35293-03-03 09:07 J -11169283.29 -11169283.12 -11169282.95 0.1616 0.0251
 Jupiter -35292-01-29 05:02 J -11168951.32 -11168951.29 -11168951.26 0.0492 0.0484
 Saturn -35292-08-13 03:21 J -11168755.52 -11168755.36 -11168755.19 0.0274 0.0165
 Jupiter -35292-09-21 21:35 J -11168715.80 -11168715.60 -11168715.40 0.0487 0.0111
 Saturn -35291-03-30 05:45 J -11168526.47 -11168526.26 -11168526.05 0.0275 0.0016
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 Saturn -35291-11-14 08:38 J -11168297.31 -11168297.14 -11168296.95 0.0276 0.0135
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 Jupiter -35286-07-25 20:38 J -11166582.83 -11166582.64 -11166582.46 0.0539 0.0224
 Uranus -35285-12-05 12:57 J -11166083.99 -11166083.96 -11166083.90 0.0139 0.0136
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 Uranus -35283-03-03 02:23 J -11165631.49 -11165631.40 -11165631.27 0.0140 0.0119

Uranus	-35283-10-15 09:50 J	-11165405.22	-11165405.09	-11165404.95	0.0140	0.0110
Uranus	-35282-05-29 16:47 J	-11165178.93	-11165178.80	-11165178.64	0.0141	0.0101
Uranus	-35281-01-11 00:28 J	-11164952.63	-11164952.48	-11164952.31	0.0141	0.0091
Uranus	-35281-08-24 07:55 J	-11164726.33	-11164726.17	-11164725.98	0.0141	0.0082
Uranus	-35280-04-07 15:50 J	-11164500.01	-11164499.84	-11164499.65	0.0142	0.0071
Jupiter	-35280-05-28 03:21 J	-11164449.57	-11164449.36	-11164449.16	0.0488	0.0055
Uranus	-35280-11-19 23:45 J	-11164273.69	-11164273.51	-11164273.31	0.0142	0.0060
Uranus	-35279-07-04 07:55 J	-11164047.36	-11164047.17	-11164046.97	0.0142	0.0050
Uranus	-35278-02-15 16:04 J	-11163821.02	-11163820.83	-11163820.62	0.0143	0.0039
Uranus	-35278-09-30 00:43 J	-11163594.68	-11163594.47	-11163594.26	0.0143	0.0027
Saturn	-35277-01-28 16:33 J	-11163473.96	-11163473.81	-11163473.65	0.0284	0.0196
Uranus	-35277-05-13 09:21 J	-11163368.32	-11163368.11	-11163367.90	0.0143	0.0016
Saturn	-35277-09-14 14:52 J	-11163244.10	-11163243.88	-11163243.67	0.0284	0.0021
Uranus	-35277-12-25 18:14 J	-11163141.95	-11163141.74	-11163141.52	0.0144	0.0005
Saturn	-35276-05-02 11:45 J	-11163014.19	-11163014.01	-11163013.83	0.0283	0.0153
Uranus	-35276-08-09 03:21 J	-11162915.57	-11162915.36	-11162915.15	0.0144	0.0007
Uranus	-35275-03-23 12:28 J	-11162689.19	-11162688.98	-11162688.77	0.0144	0.0019
Uranus	-35275-11-04 21:50 J	-11162462.79	-11162462.59	-11162462.38	0.0145	0.0030
Jupiter	-35274-03-30 08:52 J	-11162317.24	-11162317.13	-11162317.02	0.0537	0.0446
Uranus	-35274-06-19 07:26 J	-11162236.38	-11162236.19	-11162235.98	0.0145	0.0042
Jupiter	-35274-11-23 20:38 J	-11162078.78	-11162078.64	-11162078.49	0.0543	0.0387
Uranus	-35273-01-31 17:45 J	-11162009.96	-11162009.76	-11162009.57	0.0145	0.0053
Uranus	-35273-09-14 03:35 J	-11161783.53	-11161783.35	-11161783.15	0.0145	0.0065
Uranus	-35272-04-28 13:55 J	-11161557.10	-11161556.92	-11161556.74	0.0145	0.0077
Uranus	-35272-12-11 00:28 J	-11161330.65	-11161330.48	-11161330.31	0.0146	0.0088
Uranus	-35271-07-25 10:47 J	-11161104.19	-11161104.05	-11161103.88	0.0146	0.0100
Uranus	-35270-03-08 21:50 J	-11160877.71	-11160877.59	-11160877.44	0.0146	0.0111
Uranus	-35270-10-21 09:21 J	-11160651.23	-11160651.11	-11160650.99	0.0146	0.0122
Uranus	-35269-06-03 20:09 J	-11160424.73	-11160424.66	-11160424.55	0.0146	0.0133
Uranus	-35268-01-16 07:55 J	-11160198.21	-11160198.17	-11160198.12	0.0146	0.0143

Jupiter -35268-01-31 07:26 J -11160183.37 -11160183.19 -11160183.01 0.0489 0.0222
 Jupiter -35268-09-23 23:45 J -11159947.63 -11159947.51 -11159947.37 0.0485 0.0371
 Saturn -35262-02-23 04:47 J -11157969.47 -11157969.30 -11157969.12 0.0275 0.0146
 Jupiter -35262-07-29 07:11 J -11157813.39 -11157813.20 -11157813.00 0.0541 0.0153
 Saturn -35262-10-10 07:26 J -11157740.39 -11157740.19 -11157739.98 0.0275 0.0005
 Mars -35261-03-02 02:38 J -11157596.45 -11157596.39 -11157596.32 0.1617 0.1501
 Saturn -35261-05-26 10:47 J -11157511.22 -11157511.05 -11157510.88 0.0276 0.0155
 Mars -35260-01-24 19:55 J -11157267.81 -11157267.67 -11157267.53 0.1906 0.1144
 Mars -35260-12-31 03:35 J -11156927.47 -11156927.35 -11156927.23 0.1617 0.1142
 Jupiter -35257-10-06 12:43 J -11155917.08 -11155916.97 -11155916.84 0.0491 0.0387
 Jupiter -35256-05-30 05:31 J -11155681.45 -11155681.27 -11155681.08 0.0486 0.0208
 Jupiter -35250-04-02 14:09 J -11153548.11 -11153547.91 -11153547.70 0.0540 0.0091
 Saturn -35248-08-10 02:52 J -11152687.55 -11152687.38 -11152687.19 0.0285 0.0162
 Saturn -35247-03-28 01:11 J -11152457.67 -11152457.45 -11152457.23 0.0284 0.0015
 Saturn -35247-11-12 22:04 J -11152227.74 -11152227.58 -11152227.41 0.0283 0.0188
 Uranus -35245-08-10 21:21 J -11151590.65 -11151590.61 -11151590.53 0.0139 0.0134
 Jupiter -35244-02-02 11:45 J -11151415.22 -11151415.01 -11151414.81 0.0488 0.0045
 Uranus -35244-03-25 08:09 J -11151364.24 -11151364.16 -11151364.05 0.0139 0.0125
 Uranus -35244-11-06 18:57 J -11151137.83 -11151137.71 -11151137.58 0.0138 0.0115
 Uranus -35243-06-21 05:16 J -11150911.41 -11150911.28 -11150911.12 0.0138 0.0105
 Uranus -35242-02-02 15:50 J -11150685.00 -11150684.84 -11150684.67 0.0138 0.0095
 Uranus -35242-09-17 01:55 J -11150458.59 -11150458.42 -11150458.24 0.0137 0.0085
 Uranus -35241-04-30 11:31 J -11150232.19 -11150232.02 -11150231.82 0.0137 0.0075
 Uranus -35241-12-12 21:21 J -11150005.80 -11150005.61 -11150005.40 0.0137 0.0065
 Uranus -35240-07-27 06:57 J -11149779.41 -11149779.21 -11149778.99 0.0136 0.0054
 Uranus -35239-03-10 16:19 J -11149553.03 -11149552.82 -11149552.60 0.0136 0.0044
 Uranus -35239-10-23 01:26 J -11149326.65 -11149326.44 -11149326.22 0.0136 0.0033
 Jupiter -35239-12-06 00:14 J -11149282.65 -11149282.49 -11149282.32 0.0538 0.0322
 Uranus -35238-06-06 10:33 J -11149100.28 -11149100.06 -11149099.84 0.0136 0.0023
 Jupiter -35238-08-01 11:45 J -11149044.08 -11149044.01 -11149043.94 0.0543 0.0510

Uranus -35237-01-18 19:11 J -11148873.92 -11148873.70 -11148873.48 0.0135 0.0013
 Uranus -35237-09-01 03:50 J -11148647.57 -11148647.34 -11148647.12 0.0135 0.0003
 Uranus -35236-04-15 11:59 J -11148421.22 -11148421.00 -11148420.78 0.0135 0.0008
 Uranus -35236-11-27 19:55 J -11148194.89 -11148194.67 -11148194.44 0.0135 0.0018
 Uranus -35235-07-12 04:04 J -11147968.55 -11147968.33 -11147968.11 0.0134 0.0028
 Uranus -35234-02-23 11:45 J -11147742.22 -11147742.01 -11147741.79 0.0134 0.0037
 Uranus -35234-10-07 19:11 J -11147515.90 -11147515.70 -11147515.49 0.0134 0.0047
 Saturn -35233-01-19 08:23 J -11147412.18 -11147412.15 -11147412.09 0.0274 0.0267
 Uranus -35233-05-21 02:23 J -11147289.59 -11147289.40 -11147289.19 0.0134 0.0057
 Saturn -35233-09-04 10:19 J -11147183.25 -11147183.07 -11147182.88 0.0274 0.0121
 Jupiter -35233-10-08 17:16 J -11147148.97 -11147148.78 -11147148.58 0.0489 0.0121
 Uranus -35232-01-02 09:35 J -11147063.28 -11147063.10 -11147062.89 0.0133 0.0066
 Saturn -35232-04-21 12:43 J -11146954.18 -11146953.97 -11146953.76 0.0275 0.0028
 Jupiter -35232-06-01 09:50 J -11146913.14 -11146913.09 -11146913.04 0.0485 0.0467
 Uranus -35232-08-16 17:02 J -11146836.97 -11146836.79 -11146836.60 0.0133 0.0075
 Saturn -35232-12-06 15:35 J -11146724.99 -11146724.85 -11146724.68 0.0276 0.0180
 Uranus -35231-03-30 23:45 J -11146610.67 -11146610.51 -11146610.33 0.0133 0.0084
 Uranus -35231-11-12 06:28 J -11146384.38 -11146384.23 -11146384.06 0.0133 0.0092
 Uranus -35230-06-26 12:57 J -11146158.09 -11146157.96 -11146157.80 0.0133 0.0101
 Uranus -35229-02-07 19:40 J -11145931.80 -11145931.68 -11145931.54 0.0133 0.0109
 Uranus -35229-09-21 02:09 J -11145705.50 -11145705.41 -11145705.30 0.0132 0.0117
 Neptune -35229-10-14 07:55 J -11145682.20 -11145682.17 -11145682.10 0.0089 0.0086
 Mars -35228-01-24 19:26 J -11145579.80 -11145579.69 -11145579.58 0.1906 0.1468
 Uranus -35228-05-05 08:23 J -11145479.21 -11145479.15 -11145479.07 0.0132 0.0125
 Neptune -35228-05-27 21:07 J -11145456.71 -11145456.62 -11145456.49 0.0089 0.0077
 Uranus -35228-12-17 14:23 J -11145252.90 -11145252.90 -11145252.87 0.0132 0.0132
 Mars -35228-12-29 21:21 J -11145240.79 -11145240.61 -11145240.44 0.1616 0.0115
 Neptune -35227-01-08 10:04 J -11145231.20 -11145231.08 -11145230.91 0.0089 0.0068
 Neptune -35227-08-21 23:45 J -11145005.67 -11145005.51 -11145005.34 0.0089 0.0058
 Neptune -35226-04-04 12:57 J -11144780.14 -11144779.96 -11144779.77 0.0089 0.0049

Jupiter -35226-04-05 23:45 J -11144778.68 -11144778.51 -11144778.34 0.0542 0.0283
 Neptune -35226-11-16 01:55 J -11144554.60 -11144554.42 -11144554.21 0.0089 0.0040
 Neptune -35225-06-28 15:07 J -11144329.07 -11144328.87 -11144328.65 0.0089 0.0031
 Neptune -35224-02-09 04:19 J -11144103.53 -11144103.32 -11144103.10 0.0089 0.0021
 Neptune -35224-09-22 17:31 J -11143877.99 -11143877.77 -11143877.55 0.0089 0.0012
 Neptune -35223-05-06 06:28 J -11143652.45 -11143652.23 -11143652.01 0.0089 0.0003
 Neptune -35223-12-17 19:26 J -11143426.91 -11143426.69 -11143426.47 0.0089 0.0007
 Neptune -35222-07-31 08:09 J -11143201.37 -11143201.16 -11143200.93 0.0089 0.0016
 Neptune -35221-03-12 21:07 J -11142975.82 -11142975.62 -11142975.40 0.0089 0.0025
 Jupiter -35221-06-13 23:02 J -11142882.70 -11142882.54 -11142882.38 0.0490 0.0285
 Neptune -35221-10-24 10:19 J -11142750.27 -11142750.07 -11142749.87 0.0089 0.0034
 Jupiter -35220-02-04 15:07 J -11142647.02 -11142646.87 -11142646.70 0.0486 0.0307
 Neptune -35220-06-06 23:02 J -11142524.72 -11142524.54 -11142524.34 0.0089 0.0044
 Neptune -35219-01-18 11:31 J -11142299.17 -11142299.02 -11142298.82 0.0089 0.0053
 Neptune -35219-09-01 00:14 J -11142073.62 -11142073.49 -11142073.31 0.0089 0.0063
 Saturn -35218-02-20 04:47 J -11141901.48 -11141901.30 -11141901.11 0.0284 0.0143
 Neptune -35218-04-14 13:11 J -11141848.06 -11141847.95 -11141847.80 0.0089 0.0071
 Saturn -35218-10-08 02:52 J -11141671.60 -11141671.38 -11141671.17 0.0284 0.0033
 Neptune -35218-11-26 02:09 J -11141622.48 -11141622.41 -11141622.30 0.0089 0.0080
 Saturn -35217-05-24 23:16 J -11141441.66 -11141441.53 -11141441.37 0.0283 0.0205
 Neptune -35217-07-08 15:07 J -11141396.87 -11141396.87 -11141396.85 0.0089 0.0089
 Jupiter -35215-12-09 11:59 J -11140513.20 -11140513.00 -11140512.80 0.0541 0.0055
 Jupiter -35209-02-18 03:07 J -11138616.44 -11138616.37 -11138616.28 0.0492 0.0452
 Jupiter -35209-10-10 19:55 J -11138380.87 -11138380.67 -11138380.48 0.0487 0.0142
 Moon -35208-04-19 01:11 J -11138190.56 -11138190.45 -11138190.35 0.2685 0.1757
 Earth -35208-04-19 02:09 J -11138190.51 -11138190.41 -11138190.30 0.2678 0.1897 *
 Saturn -35204-07-31 08:38 J -11136626.22 -11136626.14 -11136626.05 0.0274 0.0249
 Saturn -35203-03-17 10:33 J -11136397.25 -11136397.06 -11136396.86 0.0275 0.0103
 Jupiter -35203-08-13 22:47 J -11136247.74 -11136247.55 -11136247.36 0.0539 0.0176
 Saturn -35203-11-01 13:11 J -11136168.15 -11136167.95 -11136167.74 0.0275 0.0047

Saturn -35202-06-18 16:33 J -11135938.95 -11135938.81 -11135938.66 0.0276 0.0198
 Uranus -35201-08-05 00:57 J -11135525.48 -11135525.46 -11135525.43 0.0139 0.0137
 Uranus -35200-03-19 07:26 J -11135299.25 -11135299.19 -11135299.10 0.0139 0.0129
 Earth -35200-04-16 20:38 J -11135270.77 -11135270.64 -11135270.50 0.2680 0.1281
 Moon -35200-04-16 23:16 J -11135270.67 -11135270.53 -11135270.39 0.2685 0.0722 *
 Uranus -35200-10-31 14:09 J -11135073.00 -11135072.91 -11135072.79 0.0140 0.0121
 Uranus -35199-06-14 21:07 J -11134846.73 -11134846.62 -11134846.48 0.0140 0.0112
 Uranus -35198-01-27 04:33 J -11134620.45 -11134620.31 -11134620.16 0.0140 0.0103
 Uranus -35198-09-10 11:45 J -11134394.16 -11134394.01 -11134393.84 0.0141 0.0093
 Uranus -35197-04-23 19:11 J -11134167.86 -11134167.70 -11134167.52 0.0141 0.0083
 Jupiter -35197-06-16 01:40 J -11134114.64 -11134114.43 -11134114.23 0.0488 0.0024
 Uranus -35197-12-06 02:52 J -11133941.55 -11133941.38 -11133941.19 0.0141 0.0073
 Uranus -35196-07-20 10:47 J -11133715.24 -11133715.05 -11133714.86 0.0142 0.0062
 Mars -35196-12-28 14:52 J -11133553.97 -11133553.88 -11133553.79 0.1617 0.1363
 Uranus -35195-03-03 18:43 J -11133488.91 -11133488.72 -11133488.52 0.0142 0.0052
 Uranus -35195-10-16 02:52 J -11133262.58 -11133262.38 -11133262.18 0.0142 0.0041
 Mars -35195-11-21 23:16 J -11133225.62 -11133225.53 -11133225.43 0.1906 0.1599
 Uranus -35194-05-30 11:02 J -11133036.24 -11133036.04 -11133035.82 0.0143 0.0030
 Mars -35194-10-28 15:35 J -11132884.95 -11132884.85 -11132884.74 0.1617 0.1280
 Uranus -35193-01-11 19:55 J -11132809.88 -11132809.67 -11132809.46 0.0143 0.0018
 Uranus -35193-08-25 04:33 J -11132583.52 -11132583.31 -11132583.10 0.0143 0.0007
 Uranus -35192-04-08 13:26 J -11132357.15 -11132356.94 -11132356.73 0.0144 0.0005
 Uranus -35192-11-20 22:33 J -11132130.77 -11132130.56 -11132130.35 0.0144 0.0017
 Jupiter -35191-04-18 06:14 J -11131982.37 -11131982.24 -11131982.11 0.0537 0.0413
 Uranus -35191-07-05 07:40 J -11131904.38 -11131904.18 -11131903.97 0.0144 0.0028
 Jupiter -35191-12-12 17:16 J -11131743.90 -11131743.78 -11131743.64 0.0542 0.0416
 Uranus -35190-02-16 17:16 J -11131677.98 -11131677.78 -11131677.57 0.0145 0.0040
 Uranus -35190-10-01 02:52 J -11131451.57 -11131451.38 -11131451.17 0.0145 0.0052
 Uranus -35189-05-14 12:57 J -11131225.15 -11131224.96 -11131224.76 0.0145 0.0063
 Saturn -35189-09-01 13:40 J -11131115.12 -11131114.93 -11131114.72 0.0285 0.0111

Uranus -35189-12-26 23:16 J -11130998.71 -11130998.53 -11130998.35 0.0145 0.0075
 Saturn -35188-04-19 11:45 J -11130885.22 -11130885.01 -11130884.79 0.0284 0.0066
 Uranus -35188-08-10 09:21 J -11130772.27 -11130772.11 -11130771.93 0.0145 0.0087
 Saturn -35188-12-05 08:38 J -11130655.25 -11130655.14 -11130655.02 0.0284 0.0238
 Uranus -35187-03-24 19:55 J -11130545.81 -11130545.67 -11130545.50 0.0146 0.0098
 Uranus -35187-11-06 06:43 J -11130319.35 -11130319.22 -11130319.07 0.0146 0.0109
 Uranus -35186-06-20 17:31 J -11130092.87 -11130092.77 -11130092.63 0.0146 0.0120
 Uranus -35185-02-02 04:47 J -11129866.38 -11129866.30 -11129866.19 0.0146 0.0131
 Jupiter -35185-02-20 07:40 J -11129848.37 -11129848.18 -11129848.00 0.0490 0.0187
 Uranus -35185-09-15 16:04 J -11129639.87 -11129639.83 -11129639.76 0.0146 0.0142
 Jupiter -35185-10-13 00:14 J -11129612.60 -11129612.49 -11129612.37 0.0486 0.0404
 Jupiter -35179-08-17 03:50 J -11127478.53 -11127478.34 -11127478.15 0.0541 0.0183
 Saturn -35174-02-10 14:38 J -11125840.00 -11125839.89 -11125839.77 0.0274 0.0224
 Saturn -35174-09-27 16:19 J -11125611.01 -11125610.82 -11125610.62 0.0274 0.0078
 Jupiter -35174-10-26 13:11 J -11125582.09 -11125581.95 -11125581.81 0.0491 0.0351
 Saturn -35173-05-13 18:43 J -11125381.92 -11125381.72 -11125381.52 0.0275 0.0072
 Jupiter -35173-06-18 05:45 J -11125346.44 -11125346.26 -11125346.08 0.0486 0.0242
 Saturn -35173-12-28 21:50 J -11125152.70 -11125152.59 -11125152.46 0.0275 0.0222
 Jupiter -35167-04-21 15:21 J -11123213.07 -11123212.86 -11123212.66 0.0540 0.0048
 Mars -35163-11-21 21:35 J -11121537.74 -11121537.60 -11121537.45 0.1906 0.0972
 Mars -35162-10-27 09:35 J -11121198.27 -11121198.10 -11121197.92 0.1617 0.0045
 Jupiter -35161-02-22 11:31 J -11121080.22 -11121080.02 -11121079.82 0.0487 0.0079
 Uranus -35161-04-10 04:19 J -11121032.33 -11121032.32 -11121032.26 0.0139 0.0138
 Uranus -35161-11-22 15:50 J -11120805.93 -11120805.84 -11120805.76 0.0139 0.0127
 Uranus -35160-07-07 02:23 J -11120579.51 -11120579.40 -11120579.27 0.0139 0.0118
 Saturn -35160-07-27 16:33 J -11120558.87 -11120558.81 -11120558.72 0.0285 0.0267
 Uranus -35159-02-18 13:11 J -11120353.09 -11120352.95 -11120352.81 0.0138 0.0108
 Saturn -35159-03-14 15:35 J -11120329.05 -11120328.85 -11120328.64 0.0284 0.0092
 Uranus -35159-10-02 23:02 J -11120126.68 -11120126.54 -11120126.36 0.0138 0.0098
 Saturn -35159-10-30 13:26 J -11120099.14 -11120098.94 -11120098.73 0.0284 0.0083

Uranus -35158-05-17 09:21 J -11119900.27 -11119900.11 -11119899.92 0.0138 0.0088
 Saturn -35158-06-17 10:04 J -11119869.17 -11119869.08 -11119868.98 0.0283 0.0254
 Uranus -35158-12-29 19:26 J -11119673.86 -11119673.69 -11119673.49 0.0137 0.0078
 Uranus -35157-08-12 05:16 J -11119447.46 -11119447.28 -11119447.07 0.0137 0.0067
 Uranus -35156-03-26 14:52 J -11119221.07 -11119220.88 -11119220.66 0.0137 0.0057
 Uranus -35156-11-08 00:28 J -11118994.68 -11118994.48 -11118994.26 0.0136 0.0046
 Jupiter -35156-12-25 03:35 J -11118947.53 -11118947.35 -11118947.18 0.0539 0.0273
 Uranus -35155-06-22 10:04 J -11118768.30 -11118768.08 -11118767.87 0.0136 0.0035
 Uranus -35154-02-03 18:57 J -11118541.93 -11118541.71 -11118541.49 0.0136 0.0025
 Uranus -35154-09-18 03:50 J -11118315.56 -11118315.34 -11118315.12 0.0136 0.0014
 Uranus -35153-05-01 12:28 J -11118089.21 -11118088.98 -11118088.76 0.0135 0.0005
 Uranus -35153-12-13 20:52 J -11117862.86 -11117862.63 -11117862.41 0.0135 0.0006
 Uranus -35152-07-28 05:02 J -11117636.51 -11117636.29 -11117636.06 0.0135 0.0016
 Uranus -35151-03-11 12:57 J -11117410.17 -11117409.96 -11117409.73 0.0134 0.0027
 Uranus -35151-10-23 20:52 J -11117183.84 -11117183.63 -11117183.41 0.0134 0.0036
 Uranus -35150-06-07 04:19 J -11116957.52 -11116957.32 -11116957.10 0.0134 0.0046
 Jupiter -35150-10-28 16:19 J -11116814.02 -11116813.82 -11116813.62 0.0488 0.0087
 Uranus -35149-01-19 12:14 J -11116731.20 -11116730.99 -11116730.79 0.0134 0.0055
 Uranus -35149-09-01 19:26 J -11116504.88 -11116504.69 -11116504.49 0.0134 0.0065
 Uranus -35148-04-16 02:38 J -11116278.57 -11116278.39 -11116278.20 0.0133 0.0074
 Uranus -35148-11-28 09:50 J -11116052.26 -11116052.09 -11116051.91 0.0133 0.0083
 Neptune -35147-04-15 23:45 J -11115913.56 -11115913.51 -11115913.44 0.0088 0.0085
 Uranus -35147-07-12 16:47 J -11115825.96 -11115825.80 -11115825.64 0.0133 0.0091
 Neptune -35147-11-27 12:43 J -11115688.08 -11115687.97 -11115687.86 0.0088 0.0076
 Uranus -35146-02-23 23:31 J -11115599.66 -11115599.52 -11115599.37 0.0133 0.0100
 Neptune -35146-07-11 00:57 J -11115462.58 -11115462.46 -11115462.30 0.0088 0.0068
 Uranus -35146-10-08 05:59 J -11115373.36 -11115373.25 -11115373.11 0.0133 0.0109
 Neptune -35145-02-21 13:55 J -11115237.07 -11115236.92 -11115236.74 0.0088 0.0058
 Uranus -35145-05-21 12:28 J -11115147.07 -11115146.98 -11115146.86 0.0133 0.0117
 Saturn -35145-08-22 13:55 J -11115054.05 -11115053.92 -11115053.78 0.0274 0.0207

Neptune -35145-10-04 02:38 J -11115011.55 -11115011.39 -11115011.19 0.0088 0.0050
 Uranus -35144-01-02 18:43 J -11114920.77 -11114920.72 -11114920.63 0.0132 0.0125
 Saturn -35144-04-08 15:50 J -11114825.04 -11114824.84 -11114824.64 0.0275 0.0060
 Neptune -35144-05-17 15:35 J -11114786.03 -11114785.85 -11114785.64 0.0088 0.0041
 Uranus -35144-08-17 01:11 J -11114694.45 -11114694.45 -11114694.42 0.0132 0.0132
 Jupiter -35144-08-29 14:52 J -11114681.95 -11114681.88 -11114681.80 0.0536 0.0496
 Saturn -35144-11-23 18:14 J -11114595.93 -11114595.74 -11114595.54 0.0275 0.0089
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 Jupiter -35143-04-25 02:38 J -11114443.55 -11114443.39 -11114443.23 0.0542 0.0330
 Saturn -35143-07-10 21:35 J -11114366.69 -11114366.60 -11114366.49 0.0276 0.0239
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 Neptune -35140-01-29 21:21 J -11113432.83 -11113432.61 -11113432.39 0.0088 0.0014
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 Jupiter -35138-07-03 21:50 J -11112547.76 -11112547.59 -11112547.41 0.0490 0.0252
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 Jupiter -35137-02-24 14:23 J -11112312.04 -11112311.90 -11112311.75 0.0486 0.0339
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 Neptune -35137-10-14 03:35 J -11112079.47 -11112079.35 -11112079.19 0.0088 0.0069
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 Jupiter -35132-12-28 10:04 J -11110178.28 -11110178.08 -11110177.88 0.0541 0.0089
 Saturn -35130-02-07 00:14 J -11109772.61 -11109772.49 -11109772.37 0.0285 0.0238
 Pluto -35130-06-18 00:28 J -11109641.64 -11109641.48 -11109641.31 0.0065 0.0042
 Saturn -35130-09-24 23:16 J -11109542.74 -11109542.53 -11109542.32 0.0285 0.0061
 Mars -35130-10-26 03:35 J -11109511.46 -11109511.35 -11109511.24 0.1617 0.1234

Pluto -35129-01-29 04:33 J -11109416.52 -11109416.31 -11109416.09 0.0065 0.0002
 Saturn -35129-05-11 21:07 J -11109312.81 -11109312.62 -11109312.41 0.0284 0.0114
 Pluto -35129-09-10 08:23 J -11109191.31 -11109191.15 -11109190.96 0.0065 0.0040
 Mars -35128-08-25 03:50 J -11108842.42 -11108842.34 -11108842.25 0.1617 0.1412
 Jupiter -35126-03-09 03:35 J -11108281.46 -11108281.35 -11108281.25 0.0492 0.0417
 Jupiter -35126-10-30 20:38 J -11108045.83 -11108045.64 -11108045.45 0.0487 0.0177
 Jupiter -35120-09-01 20:23 J -11105912.85 -11105912.65 -11105912.46 0.0539 0.0144
 Uranus -35117-11-16 18:28 J -11104740.78 -11104740.73 -11104740.65 0.0139 0.0132
 Uranus -35116-07-01 01:26 J -11104514.53 -11104514.44 -11104514.34 0.0139 0.0123
 Uranus -35115-02-12 08:09 J -11104288.27 -11104288.16 -11104288.03 0.0140 0.0114
 Saturn -35115-03-04 20:09 J -11104267.81 -11104267.66 -11104267.50 0.0274 0.0182
 Uranus -35115-09-26 15:21 J -11104062.00 -11104061.86 -11104061.72 0.0140 0.0105
 Saturn -35115-10-19 21:50 J -11104038.79 -11104038.59 -11104038.38 0.0274 0.0035
 Uranus -35114-05-10 22:04 J -11103835.71 -11103835.58 -11103835.40 0.0141 0.0096
 Saturn -35114-06-06 00:14 J -11103809.68 -11103809.49 -11103809.30 0.0275 0.0113
 Jupiter -35114-07-06 02:09 J -11103779.61 -11103779.41 -11103779.21 0.0488 0.0014
 Uranus -35114-12-23 05:59 J -11103609.42 -11103609.25 -11103609.08 0.0141 0.0085
 Saturn -35113-01-21 03:35 J -11103580.41 -11103580.35 -11103580.29 0.0275 0.0262
 Uranus -35113-08-05 13:11 J -11103383.11 -11103382.95 -11103382.76 0.0141 0.0076
 Uranus -35112-03-19 20:52 J -11103156.81 -11103156.63 -11103156.43 0.0142 0.0065
 Uranus -35112-11-01 04:47 J -11102930.49 -11102930.30 -11102930.10 0.0142 0.0054
 Uranus -35111-06-15 12:43 J -11102704.16 -11102703.97 -11102703.76 0.0142 0.0044
 Uranus -35110-01-27 21:21 J -11102477.82 -11102477.61 -11102477.40 0.0143 0.0032
 Uranus -35110-09-11 05:45 J -11102251.47 -11102251.26 -11102251.05 0.0143 0.0021
 Uranus -35109-04-24 14:23 J -11102025.11 -11102024.90 -11102024.69 0.0143 0.0009
 Uranus -35109-12-06 23:02 J -11101798.75 -11101798.54 -11101798.32 0.0144 0.0004
 Jupiter -35108-05-07 07:11 J -11101647.34 -11101647.20 -11101647.05 0.0538 0.0370
 Uranus -35108-07-21 08:09 J -11101572.37 -11101572.16 -11101571.95 0.0144 0.0014
 Jupiter -35108-12-31 18:57 J -11101408.81 -11101408.71 -11101408.60 0.0543 0.0457
 Uranus -35107-03-04 17:16 J -11101345.98 -11101345.78 -11101345.57 0.0144 0.0026

Uranus	-35107-10-17 02:52 J	-11101119.59	-11101119.38	-11101119.18	0.0144	0.0038
Uranus	-35106-05-31 12:14 J	-11100893.18	-11100892.99	-11100892.78	0.0145	0.0050
Uranus	-35105-01-12 22:19 J	-11100666.76	-11100666.57	-11100666.37	0.0145	0.0061
Uranus	-35105-08-26 08:23 J	-11100440.33	-11100440.15	-11100439.96	0.0145	0.0073
Uranus	-35104-04-09 18:43 J	-11100213.89	-11100213.72	-11100213.55	0.0145	0.0085
Uranus	-35104-11-22 04:47 J	-11099987.44	-11099987.30	-11099987.12	0.0146	0.0097
Uranus	-35103-07-06 15:35 J	-11099760.98	-11099760.85	-11099760.70	0.0146	0.0108
Uranus	-35102-02-18 02:23 J	-11099534.50	-11099534.40	-11099534.26	0.0146	0.0119
Jupiter	-35102-03-11 08:09 J	-11099513.35	-11099513.16	-11099512.97	0.0489	0.0150
Uranus	-35102-10-02 13:40 J	-11099308.02	-11099307.93	-11099307.82	0.0146	0.0130
Jupiter	-35102-11-02 00:28 J	-11099277.56	-11099277.48	-11099277.39	0.0485	0.0436
Uranus	-35101-05-16 00:43 J	-11099081.52	-11099081.47	-11099081.40	0.0146	0.0140
Saturn	-35101-08-19 02:09 J	-11098986.54	-11098986.41	-11098986.26	0.0285	0.0218
Saturn	-35100-04-06 01:11 J	-11098756.66	-11098756.45	-11098756.24	0.0284	0.0042
Saturn	-35100-11-21 22:47 J	-11098526.73	-11098526.55	-11098526.35	0.0284	0.0132
Mars	-35097-09-18 00:43 J	-11097495.64	-11097495.47	-11097495.30	0.1906	0.0500
Mars	-35096-08-23 22:04 J	-11097155.76	-11097155.58	-11097155.41	0.1617	0.0157
Jupiter	-35096-09-05 07:40 J	-11097143.36	-11097143.18	-11097143.00	0.0542	0.0233
Earth	-35095-10-21 23:16 J	-11096731.66	-11096731.53	-11096731.41	0.2653	0.1758
Moon	-35095-10-22 00:43 J	-11096731.57	-11096731.47	-11096731.36	0.2660	0.1929 *
Jupiter	-35091-11-14 12:57 J	-11095247.12	-11095246.96	-11095246.81	0.0491	0.0316
Jupiter	-35090-07-08 05:16 J	-11095011.45	-11095011.28	-11095011.11	0.0486	0.0274
Earth	-35087-10-19 10:33 J	-11093812.14	-11093812.06	-11093811.98	0.2652	0.2313
Moon	-35087-10-19 16:04 J	-11093811.97	-11093811.83	-11093811.69	0.2655	0.1362
Saturn	-35086-09-14 18:57 J	-11093481.86	-11093481.71	-11093481.54	0.0274	0.0166
Saturn	-35085-04-30 20:52 J	-11093252.84	-11093252.63	-11093252.42	0.0275	0.0019
Saturn	-35085-12-15 23:16 J	-11093023.71	-11093023.53	-11093023.35	0.0275	0.0130
Jupiter	-35084-05-10 18:57 J	-11092877.91	-11092877.71	-11092877.50	0.0540	0.0012
Jupiter	-35079-07-20 18:14 J	-11090980.78	-11090980.74	-11090980.70	0.0492	0.0479
Jupiter	-35078-03-13 11:16 J	-11090745.23	-11090745.03	-11090744.83	0.0487	0.0113

Uranus	-35077-07-22 23:45 J	-11090247.57	-11090247.51	-11090247.42	0.0139	0.0130
Uranus	-35076-03-06 10:47 J	-11090021.16	-11090021.05	-11090020.94	0.0139	0.0120
Uranus	-35076-10-18 21:07 J	-11089794.74	-11089794.62	-11089794.47	0.0138	0.0111
Uranus	-35075-06-02 07:40 J	-11089568.32	-11089568.18	-11089568.01	0.0138	0.0101
Uranus	-35074-01-14 18:14 J	-11089341.90	-11089341.74	-11089341.56	0.0138	0.0090
Uranus	-35074-08-29 04:19 J	-11089115.49	-11089115.32	-11089115.13	0.0137	0.0079
Uranus	-35073-04-11 14:09 J	-11088889.09	-11088888.91	-11088888.71	0.0137	0.0069
Uranus	-35073-11-23 23:45 J	-11088662.70	-11088662.51	-11088662.29	0.0137	0.0059
Jupiter	-35072-01-13 02:52 J	-11088612.56	-11088612.38	-11088612.19	0.0538	0.0235
Uranus	-35072-07-08 09:35 J	-11088436.30	-11088436.10	-11088435.88	0.0136	0.0048
Uranus	-35071-02-19 18:57 J	-11088209.92	-11088209.71	-11088209.49	0.0136	0.0037
Saturn	-35071-03-01 08:23 J	-11088200.30	-11088200.15	-11088199.98	0.0285	0.0191
Uranus	-35071-10-04 04:04 J	-11087983.55	-11087983.33	-11087983.11	0.0136	0.0027
Saturn	-35071-10-17 07:40 J	-11087970.40	-11087970.18	-11087969.96	0.0285	0.0015
Uranus	-35070-05-18 12:57 J	-11087757.18	-11087756.96	-11087756.74	0.0136	0.0016
Saturn	-35070-06-04 05:31 J	-11087740.44	-11087740.27	-11087740.08	0.0284	0.0161
Uranus	-35070-12-30 21:35 J	-11087530.82	-11087530.60	-11087530.37	0.0135	0.0006
Uranus	-35069-08-13 06:14 J	-11087304.46	-11087304.24	-11087304.02	0.0135	0.0005
Uranus	-35068-03-27 14:23 J	-11087078.12	-11087077.90	-11087077.67	0.0135	0.0015
Uranus	-35068-11-08 22:33 J	-11086851.78	-11086851.56	-11086851.34	0.0135	0.0025
Uranus	-35067-06-23 06:43 J	-11086625.44	-11086625.22	-11086625.01	0.0134	0.0035
Jupiter	-35067-11-16 16:47 J	-11086479.00	-11086478.80	-11086478.59	0.0489	0.0053
Uranus	-35066-02-04 14:23 J	-11086399.11	-11086398.90	-11086398.68	0.0134	0.0045
Uranus	-35066-09-18 22:04 J	-11086172.78	-11086172.58	-11086172.37	0.0134	0.0054
Uranus	-35065-05-02 05:31 J	-11085946.46	-11085946.27	-11085946.07	0.0134	0.0064
Uranus	-35065-12-14 12:57 J	-11085720.15	-11085719.96	-11085719.77	0.0133	0.0073
Uranus	-35064-07-28 19:55 J	-11085493.83	-11085493.67	-11085493.48	0.0133	0.0082
Mars	-35064-08-22 15:35 J	-11085468.98	-11085468.85	-11085468.72	0.1617	0.1094
Neptune	-35064-08-29 05:31 J	-11085462.34	-11085462.27	-11085462.16	0.0089	0.0081
Uranus	-35063-03-12 02:52 J	-11085267.52	-11085267.38	-11085267.20	0.0133	0.0092

Neptune -35063-04-11 18:43 J -11085236.83 -11085236.72 -11085236.57 0.0089 0.0072
 Uranus -35063-10-24 09:50 J -11085041.22 -11085041.09 -11085040.93 0.0133 0.0100
 Neptune -35063-11-23 07:55 J -11085011.31 -11085011.17 -11085011.00 0.0089 0.0063
 Uranus -35062-06-07 16:47 J -11084814.92 -11084814.80 -11084814.67 0.0133 0.0108
 Mars -35062-06-22 15:50 J -11084799.88 -11084799.84 -11084799.79 0.1617 0.1550
 Neptune -35062-07-06 20:52 J -11084785.78 -11084785.63 -11084785.43 0.0089 0.0054
 Uranus -35061-01-19 23:02 J -11084588.63 -11084588.54 -11084588.42 0.0133 0.0117
 Neptune -35061-02-17 10:33 J -11084560.25 -11084560.06 -11084559.87 0.0089 0.0044
 Uranus -35061-09-02 05:45 J -11084362.32 -11084362.26 -11084362.17 0.0133 0.0125
 Jupiter -35061-09-17 13:11 J -11084347.05 -11084346.95 -11084346.84 0.0536 0.0461
 Neptune -35061-09-29 23:45 J -11084334.71 -11084334.51 -11084334.30 0.0089 0.0035
 Uranus -35060-04-16 11:59 J -11084136.00 -11084136.00 -11084135.97 0.0132 0.0132
 Neptune -35060-05-13 12:43 J -11084109.17 -11084108.97 -11084108.75 0.0089 0.0026
 Jupiter -35060-05-14 00:28 J -11084108.63 -11084108.48 -11084108.33 0.0542 0.0360
 Neptune -35060-12-25 01:55 J -11083883.63 -11083883.42 -11083883.20 0.0089 0.0017
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 Neptune -35058-03-21 04:04 J -11083432.54 -11083432.33 -11083432.11 0.0089 0.0002
 Neptune -35058-11-01 17:16 J -11083206.99 -11083206.78 -11083206.56 0.0089 0.0011
 Neptune -35057-06-14 06:14 J -11082981.45 -11082981.24 -11082981.02 0.0089 0.0020
 Neptune -35056-01-25 18:57 J -11082755.91 -11082755.71 -11082755.49 0.0089 0.0029
 Saturn -35056-03-27 01:11 J -11082695.61 -11082695.45 -11082695.26 0.0274 0.0141
 Neptune -35056-09-08 07:55 J -11082530.36 -11082530.17 -11082529.96 0.0089 0.0038
 Saturn -35056-11-11 03:07 J -11082466.58 -11082466.37 -11082466.16 0.0274 0.0006
 Neptune -35055-04-21 20:52 J -11082304.81 -11082304.63 -11082304.44 0.0089 0.0047
 Saturn -35055-06-28 05:16 J -11082237.44 -11082237.28 -11082237.10 0.0275 0.0155
 Jupiter -35055-07-22 22:19 J -11082212.75 -11082212.57 -11082212.38 0.0490 0.0215
 Neptune -35055-12-03 09:35 J -11082079.25 -11082079.10 -11082078.92 0.0089 0.0057
 Jupiter -35054-03-15 15:21 J -11081976.99 -11081976.86 -11081976.73 0.0486 0.0373
 Neptune -35054-07-16 22:19 J -11081853.70 -11081853.57 -11081853.40 0.0089 0.0066
 Neptune -35053-02-27 11:16 J -11081628.14 -11081628.03 -11081627.90 0.0089 0.0074

Neptune -35053-10-09 23:59 J -11081402.56 -11081402.50 -11081402.40 0.0089 0.0083
 Jupiter -35048-01-16 11:31 J -11079843.22 -11079843.02 -11079842.83 0.0541 0.0132
 Jupiter -35043-03-28 04:19 J -11077946.44 -11077946.32 -11077946.19 0.0492 0.0378
 Jupiter -35043-11-18 21:07 J -11077710.80 -11077710.62 -11077710.44 0.0487 0.0212
 Pluto -35042-02-18 23:16 J -11077618.67 -11077618.53 -11077618.38 0.0079 0.0059
 Saturn -35042-09-11 11:16 J -11077414.19 -11077414.03 -11077413.85 0.0285 0.0170
 Pluto -35042-10-02 09:50 J -11077393.31 -11077393.09 -11077392.87 0.0079 0.0016
 Saturn -35041-04-28 10:19 J -11077184.29 -11077184.07 -11077183.85 0.0284 0.0006
 Saturn -35041-12-14 07:55 J -11076954.33 -11076954.17 -11076954.00 0.0284 0.0179
 Jupiter -35037-09-20 23:45 J -11075577.71 -11075577.51 -11075577.31 0.0540 0.0094
 Uranus -35033-07-17 05:16 J -11074182.32 -11074182.28 -11074182.21 0.0139 0.0134
 Uranus -35032-02-28 11:45 J -11073956.08 -11073956.01 -11073955.90 0.0139 0.0126
 Uranus -35032-10-12 18:28 J -11073729.83 -11073729.73 -11073729.60 0.0140 0.0117
 Uranus -35031-05-27 01:40 J -11073503.56 -11073503.43 -11073503.29 0.0140 0.0107
 Mars -35031-07-16 03:21 J -11073453.54 -11073453.36 -11073453.19 0.1906 0.0041
 Jupiter -35031-07-25 01:55 J -11073444.62 -11073444.42 -11073444.21 0.0488 0.0049
 Uranus -35030-01-08 08:52 J -11073277.27 -11073277.13 -11073276.97 0.0140 0.0098
 Mars -35030-06-21 10:04 J -11073113.26 -11073113.08 -11073112.91 0.1617 0.0291
 Uranus -35030-08-22 16:04 J -11073050.99 -11073050.83 -11073050.66 0.0141 0.0088
 Uranus -35029-04-04 23:31 J -11072824.69 -11072824.52 -11072824.34 0.0141 0.0077
 Uranus -35029-11-17 06:43 J -11072598.39 -11072598.22 -11072598.02 0.0141 0.0068
 Uranus -35028-07-01 14:38 J -11072372.08 -11072371.89 -11072371.69 0.0142 0.0056
 Uranus -35027-02-12 22:47 J -11072145.75 -11072145.55 -11072145.35 0.0142 0.0045
 Saturn -35027-02-19 23:02 J -11072138.57 -11072138.54 -11072138.49 0.0274 0.0268
 Uranus -35027-09-27 06:43 J -11071919.42 -11071919.22 -11071919.01 0.0142 0.0034
 Saturn -35027-10-07 00:14 J -11071909.67 -11071909.49 -11071909.30 0.0274 0.0124
 Uranus -35026-05-11 15:07 J -11071693.08 -11071692.87 -11071692.66 0.0143 0.0023
 Saturn -35026-05-24 01:55 J -11071680.62 -11071680.42 -11071680.21 0.0274 0.0023
 Uranus -35026-12-23 23:31 J -11071466.72 -11071466.52 -11071466.30 0.0143 0.0012
 Saturn -35025-01-08 04:19 J -11071451.48 -11071451.32 -11071451.15 0.0275 0.0171

Jupiter -35025-05-26 11:31 J -11071312.19 -11071312.02 -11071311.86 0.0538 0.0320
 Uranus -35025-08-06 08:23 J -11071240.36 -11071240.15 -11071239.94 0.0143 0.0001
 Jupiter -35024-01-19 23:02 J -11071073.61 -11071073.54 -11071073.46 0.0543 0.0504
 Uranus -35024-03-20 17:16 J -11071013.99 -11071013.78 -11071013.57 0.0144 0.0012
 Uranus -35024-11-02 02:09 J -11070787.61 -11070787.41 -11070787.19 0.0144 0.0024
 Uranus -35023-06-16 11:31 J -11070561.22 -11070561.02 -11070560.81 0.0144 0.0035
 Uranus -35022-01-28 21:07 J -11070334.81 -11070334.62 -11070334.41 0.0144 0.0047
 Uranus -35022-09-12 06:57 J -11070108.40 -11070108.21 -11070108.01 0.0145 0.0059
 Uranus -35021-04-25 16:47 J -11069881.98 -11069881.80 -11069881.61 0.0145 0.0071
 Uranus -35021-12-08 02:52 J -11069655.54 -11069655.38 -11069655.20 0.0145 0.0083
 Uranus -35020-07-22 13:11 J -11069429.10 -11069428.95 -11069428.78 0.0145 0.0094
 Uranus -35019-03-05 23:45 J -11069202.64 -11069202.51 -11069202.35 0.0146 0.0106
 Jupiter -35019-03-30 07:55 J -11069178.37 -11069178.17 -11069177.97 0.0489 0.0115
 Uranus -35019-10-18 10:33 J -11068976.18 -11068976.06 -11068975.92 0.0146 0.0117
 Jupiter -35019-11-21 00:28 J -11068942.53 -11068942.48 -11068942.42 0.0485 0.0468
 Uranus -35018-06-01 21:21 J -11068749.70 -11068749.61 -11068749.50 0.0146 0.0128
 Uranus -35017-01-14 08:38 J -11068523.20 -11068523.14 -11068523.07 0.0146 0.0138
 Jupiter -35013-09-24 07:11 J -11066808.37 -11066808.20 -11066808.02 0.0541 0.0269
 Saturn -35012-03-23 16:04 J -11066628.01 -11066627.83 -11066627.64 0.0285 0.0146
 Saturn -35012-11-08 15:21 J -11066398.08 -11066397.86 -11066397.65 0.0285 0.0031
 Saturn -35011-06-26 13:11 J -11066168.09 -11066167.95 -11066167.79 0.0284 0.0206
 Jupiter -35008-12-03 12:57 J -11064912.13 -11064911.96 -11064911.79 0.0491 0.0280
 Jupiter -35007-07-27 05:59 J -11064676.40 -11064676.25 -11064676.09 0.0486 0.0309
 Jupiter -35001-05-29 17:16 J -11062542.98 -11062542.78 -11062542.57 0.0540 0.0039

35TH MILLENNIUM BCE

This is a list of transits of Venus in the 35th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-34998-06-20 03:50 J	-11061426.48	-11061426.34	-11061426.20	0.1617	0.0962		
Saturn	-34998-09-02 05:59 J	-11061352.33	-11061352.25	-11061352.15	0.0273	0.0242		
Saturn	-34997-04-18 07:11 J	-11061123.39	-11061123.20	-11061123.01	0.0273	0.0099		
Saturn	-34997-12-03 08:52 J	-11060894.34	-11060894.13	-11060893.93	0.0274	0.0048		
Saturn	-34996-07-20 11:02 J	-11060665.18	-11060665.04	-11060664.89	0.0275	0.0195		
Jupiter	-34996-08-08 18:14 J	-11060645.82	-11060645.74	-11060645.65	0.0493	0.0443		
Jupiter	-34995-04-01 11:31 J	-11060410.21	-11060410.02	-11060409.82	0.0487	0.0149		
Uranus	-34993-03-22 06:14 J	-11059689.28	-11059689.24	-11059689.16	0.0139	0.0134		
Uranus	-34993-11-03 17:16 J	-11059462.87	-11059462.78	-11059462.66	0.0139	0.0123		
Uranus	-34992-06-18 04:33 J	-11059236.44	-11059236.31	-11059236.18	0.0139	0.0113		
Uranus	-34991-01-30 14:38 J	-11059010.02	-11059009.89	-11059009.72	0.0138	0.0104		
Uranus	-34991-09-14 01:11 J	-11058783.60	-11058783.45	-11058783.27	0.0138	0.0093		
Uranus	-34990-04-28 11:31 J	-11058557.19	-11058557.02	-11058556.83	0.0138	0.0082		
Uranus	-34990-12-10 21:35 J	-11058330.79	-11058330.60	-11058330.40	0.0137	0.0072		
Jupiter	-34989-02-02 03:50 J	-11058277.53	-11058277.34	-11058277.15	0.0539	0.0191		
Uranus	-34989-07-24 07:26 J	-11058104.38	-11058104.19	-11058103.98	0.0137	0.0061		
Uranus	-34988-03-07 17:02 J	-11057877.99	-11057877.79	-11057877.57	0.0137	0.0050		
Uranus	-34988-10-20 02:23 J	-11057651.61	-11057651.40	-11057651.18	0.0136	0.0040		
Uranus	-34987-06-03 11:45 J	-11057425.23	-11057425.01	-11057424.79	0.0136	0.0029		
Uranus	-34986-01-15 20:38 J	-11057198.85	-11057198.64	-11057198.41	0.0136	0.0019		
Uranus	-34986-08-30 05:31 J	-11056972.49	-11056972.27	-11056972.04	0.0136	0.0009		
Uranus	-34985-04-12 14:09 J	-11056746.13	-11056745.91	-11056745.68	0.0135	0.0004		
Uranus	-34985-11-24 22:33 J	-11056519.78	-11056519.56	-11056519.33	0.0135	0.0013		
Uranus	-34984-07-09 06:57 J	-11056293.43	-11056293.21	-11056292.98	0.0135	0.0023		
Jupiter	-34984-12-05 17:31 J	-11056143.97	-11056143.77	-11056143.57	0.0488	0.0014		

Uranus -34983-02-20 15:07 J -11056067.08 -11056066.87 -11056066.65 0.0134 0.0033
 Neptune -34983-07-18 09:07 J -11055919.12 -11055919.12 -11055919.09 0.0088 0.0088
 Saturn -34983-10-03 20:09 J -11055841.85 -11055841.66 -11055841.46 0.0285 0.0123
 Uranus -34983-10-04 23:02 J -11055840.75 -11055840.54 -11055840.32 0.0134 0.0043
 Neptune -34982-02-28 21:50 J -11055693.66 -11055693.59 -11055693.47 0.0088 0.0080
 Uranus -34982-05-19 06:43 J -11055614.42 -11055614.22 -11055614.01 0.0134 0.0053
 Saturn -34982-05-21 18:57 J -11055611.92 -11055611.71 -11055611.50 0.0285 0.0053
 Neptune -34982-10-12 10:47 J -11055468.16 -11055468.05 -11055467.90 0.0088 0.0071
 Uranus -34982-12-31 14:09 J -11055388.09 -11055387.91 -11055387.70 0.0134 0.0063
 Saturn -34981-01-06 16:33 J -11055381.93 -11055381.81 -11055381.67 0.0284 0.0225
 Neptune -34981-05-24 23:59 J -11055242.66 -11055242.50 -11055242.34 0.0088 0.0062
 Uranus -34981-08-13 21:50 J -11055161.77 -11055161.59 -11055161.39 0.0134 0.0072
 Neptune -34980-01-05 12:14 J -11055017.14 -11055016.99 -11055016.79 0.0088 0.0054
 Uranus -34980-03-28 05:02 J -11054935.45 -11054935.29 -11054935.10 0.0133 0.0081
 Neptune -34980-08-19 01:11 J -11054791.62 -11054791.45 -11054791.24 0.0088 0.0045
 Uranus -34980-11-09 12:14 J -11054709.14 -11054708.99 -11054708.82 0.0133 0.0090
 Neptune -34979-04-01 14:23 J -11054566.09 -11054565.90 -11054565.69 0.0088 0.0035
 Uranus -34979-06-23 19:11 J -11054482.83 -11054482.70 -11054482.54 0.0133 0.0099
 Neptune -34979-11-13 03:21 J -11054340.56 -11054340.36 -11054340.14 0.0088 0.0026
 Uranus -34978-02-05 01:55 J -11054256.53 -11054256.42 -11054256.27 0.0133 0.0108
 Neptune -34978-06-26 16:19 J -11054115.04 -11054114.82 -11054114.60 0.0088 0.0018
 Uranus -34978-09-19 08:52 J -11054030.22 -11054030.13 -11054030.01 0.0133 0.0116
 Jupiter -34978-10-07 16:04 J -11054011.96 -11054011.83 -11054011.70 0.0537 0.0413
 Neptune -34977-02-07 05:02 J -11053889.50 -11053889.29 -11053889.07 0.0088 0.0009
 Uranus -34977-05-02 15:35 J -11053803.92 -11053803.85 -11053803.77 0.0133 0.0124
 Jupiter -34977-06-02 03:50 J -11053773.47 -11053773.34 -11053773.21 0.0543 0.0408
 Neptune -34977-09-19 17:59 J -11053663.97 -11053663.75 -11053663.53 0.0088 0.0001
 Uranus -34977-12-14 22:04 J -11053577.59 -11053577.58 -11053577.56 0.0132 0.0132
 Neptune -34976-05-03 06:57 J -11053438.42 -11053438.21 -11053437.99 0.0088 0.0010
 Neptune -34976-12-14 19:55 J -11053212.88 -11053212.67 -11053212.45 0.0088 0.0018

Neptune -34975-07-28 08:38 J -11052987.34 -11052987.14 -11052986.92 0.0088 0.0028
 Neptune -34974-03-10 21:50 J -11052761.78 -11052761.59 -11052761.38 0.0088 0.0036
 Neptune -34974-10-22 10:47 J -11052536.23 -11052536.05 -11052535.85 0.0088 0.0045
 Neptune -34973-06-03 23:45 J -11052310.67 -11052310.51 -11052310.32 0.0088 0.0054
 Neptune -34972-01-15 12:43 J -11052085.10 -11052084.97 -11052084.80 0.0088 0.0063
 Jupiter -34972-08-10 22:19 J -11051877.75 -11051877.57 -11051877.38 0.0490 0.0180
 Neptune -34972-08-29 01:40 J -11051859.53 -11051859.43 -11051859.28 0.0088 0.0073
 Jupiter -34971-04-03 15:07 J -11051641.98 -11051641.87 -11051641.76 0.0486 0.0405
 Neptune -34971-04-11 15:35 J -11051633.94 -11051633.85 -11051633.76 0.0088 0.0081
 Saturn -34968-03-14 04:47 J -11050566.41 -11050566.30 -11050566.18 0.0273 0.0227
 Saturn -34968-10-29 05:45 J -11050337.45 -11050337.26 -11050337.06 0.0274 0.0083
 Saturn -34967-06-15 07:26 J -11050108.39 -11050108.19 -11050107.99 0.0274 0.0064
 Saturn -34966-01-30 09:50 J -11049879.21 -11049879.09 -11049878.95 0.0275 0.0212
 Jupiter -34965-02-05 15:35 J -11049508.04 -11049507.85 -11049507.66 0.0541 0.0182
 Earth -34965-04-19 06:43 J -11049434.31 -11049434.22 -11049434.13 0.2679 0.2201
 Moon -34965-04-19 10:19 J -11049434.14 -11049434.07 -11049433.99 0.2674 0.2318 *
 Mars -34965-05-12 05:31 J -11049411.43 -11049411.27 -11049411.10 0.1906 0.0480
 Mars -34964-04-17 22:19 J -11049070.74 -11049070.57 -11049070.40 0.1617 0.0423
 Jupiter -34960-04-16 04:04 J -11047611.47 -11047611.33 -11047611.18 0.0491 0.0342
 Jupiter -34960-12-07 20:52 J -11047375.80 -11047375.63 -11047375.45 0.0487 0.0246
 Moon -34957-04-17 01:11 J -11046514.60 -11046514.45 -11046514.31 0.2674 0.1121
 Earth -34957-04-17 01:11 J -11046514.59 -11046514.45 -11046514.30 0.2681 0.0956 *
 Saturn -34954-08-28 23:59 J -11045285.54 -11045285.50 -11045285.43 0.0286 0.0276
 Jupiter -34954-10-11 00:28 J -11045242.69 -11045242.48 -11045242.28 0.0539 0.0054
 Saturn -34953-04-15 00:14 J -11045055.69 -11045055.49 -11045055.29 0.0286 0.0099
 Saturn -34953-11-30 23:16 J -11044825.73 -11044825.53 -11044825.32 0.0285 0.0077
 Saturn -34952-07-18 21:21 J -11044595.70 -11044595.61 -11044595.50 0.0285 0.0250
 Uranus -34949-03-16 15:21 J -11043623.88 -11043623.86 -11043623.81 0.0139 0.0136
 Uranus -34949-10-28 22:04 J -11043397.66 -11043397.58 -11043397.49 0.0139 0.0127
 Uranus -34948-06-12 04:33 J -11043171.41 -11043171.31 -11043171.19 0.0139 0.0119

Jupiter -34948-08-13 01:55 J -11043109.62 -11043109.42 -11043109.22 0.0488 0.0083
 Uranus -34947-01-24 11:16 J -11042945.14 -11042945.03 -11042944.88 0.0140 0.0110
 Uranus -34947-09-07 18:14 J -11042718.87 -11042718.74 -11042718.58 0.0140 0.0100
 Uranus -34946-04-22 01:11 J -11042492.59 -11042492.45 -11042492.27 0.0140 0.0091
 Uranus -34946-12-04 08:52 J -11042266.30 -11042266.13 -11042265.95 0.0141 0.0080
 Uranus -34945-07-17 16:19 J -11042040.00 -11042039.82 -11042039.63 0.0141 0.0069
 Uranus -34944-02-28 23:59 J -11041813.69 -11041813.50 -11041813.31 0.0142 0.0059
 Uranus -34944-10-13 07:40 J -11041587.38 -11041587.18 -11041586.98 0.0142 0.0048
 Uranus -34943-05-27 15:35 J -11041361.05 -11041360.85 -11041360.64 0.0142 0.0037
 Uranus -34942-01-08 23:59 J -11041134.71 -11041134.50 -11041134.29 0.0142 0.0026
 Jupiter -34942-06-15 10:19 J -11040977.24 -11040977.07 -11040976.89 0.0537 0.0282
 Uranus -34942-08-23 08:23 J -11040908.36 -11040908.15 -11040907.94 0.0143 0.0014
 Jupiter -34941-02-08 21:07 J -11040738.65 -11040738.62 -11040738.59 0.0542 0.0534
 Uranus -34941-04-05 17:02 J -11040682.01 -11040681.79 -11040681.58 0.0143 0.0004
 Uranus -34941-11-18 01:40 J -11040455.64 -11040455.43 -11040455.22 0.0143 0.0009
 Uranus -34940-07-02 10:47 J -11040229.26 -11040229.05 -11040228.84 0.0144 0.0021
 Uranus -34939-02-13 19:55 J -11040002.87 -11040002.67 -11040002.46 0.0144 0.0033
 Saturn -34939-09-24 11:59 J -11039780.13 -11039780.00 -11039779.85 0.0273 0.0201
 Uranus -34939-09-28 05:31 J -11039776.47 -11039776.27 -11039776.07 0.0144 0.0045
 Saturn -34938-05-11 13:11 J -11039551.15 -11039550.95 -11039550.74 0.0273 0.0057
 Uranus -34938-05-12 14:52 J -11039550.07 -11039549.88 -11039549.68 0.0144 0.0057
 Uranus -34938-12-25 00:43 J -11039323.65 -11039323.47 -11039323.27 0.0145 0.0069
 Saturn -34938-12-26 14:52 J -11039322.07 -11039321.88 -11039321.68 0.0274 0.0090
 Uranus -34937-08-07 10:47 J -11039097.22 -11039097.05 -11039096.87 0.0145 0.0080
 Saturn -34937-08-11 17:16 J -11039092.87 -11039092.78 -11039092.67 0.0274 0.0237
 Uranus -34936-03-21 20:52 J -11038870.78 -11038870.63 -11038870.45 0.0145 0.0092
 Jupiter -34936-04-18 07:40 J -11038843.38 -11038843.18 -11038842.98 0.0489 0.0079
 Uranus -34936-11-03 07:26 J -11038644.33 -11038644.19 -11038644.04 0.0145 0.0104
 Uranus -34935-06-17 17:59 J -11038417.88 -11038417.75 -11038417.62 0.0146 0.0115
 Uranus -34934-01-30 04:47 J -11038191.40 -11038191.30 -11038191.19 0.0146 0.0126

Uranus -34934-09-13 15:35 J -11037964.91 -11037964.85 -11037964.77 0.0146 0.0137
 Mars -34932-04-16 16:04 J -11037383.98 -11037383.83 -11037383.68 0.1617 0.0824
 Jupiter -34930-02-17 20:23 J -11036711.72 -11036711.65 -11036711.59 0.0535 0.0505
 Jupiter -34930-10-14 07:40 J -11036473.34 -11036473.18 -11036473.01 0.0542 0.0310
 Jupiter -34925-12-22 13:26 J -11034577.11 -11034576.94 -11034576.76 0.0491 0.0242
 Saturn -34924-03-10 05:31 J -11034499.36 -11034499.27 -11034499.16 0.0286 0.0251
 Jupiter -34924-08-15 06:14 J -11034341.39 -11034341.24 -11034341.10 0.0486 0.0343
 Saturn -34924-10-26 05:16 J -11034269.49 -11034269.28 -11034269.07 0.0285 0.0075
 Saturn -34923-06-13 03:50 J -11034039.54 -11034039.34 -11034039.13 0.0285 0.0100
 Saturn -34922-01-29 01:40 J -11033809.49 -11033809.43 -11033809.37 0.0284 0.0270
 Jupiter -34918-06-18 19:55 J -11032207.87 -11032207.67 -11032207.47 0.0541 0.0084
 Jupiter -34913-08-27 18:28 J -11030310.84 -11030310.73 -11030310.62 0.0492 0.0407
 Jupiter -34912-04-20 11:16 J -11030075.22 -11030075.03 -11030074.84 0.0487 0.0181
 Uranus -34910-11-20 13:55 J -11029130.96 -11029130.92 -11029130.87 0.0140 0.0136
 Saturn -34909-04-05 11:16 J -11028994.17 -11028994.03 -11028993.87 0.0273 0.0185
 Uranus -34909-07-04 00:43 J -11028904.54 -11028904.47 -11028904.36 0.0139 0.0127
 Saturn -34909-11-20 12:28 J -11028765.18 -11028764.98 -11028764.77 0.0274 0.0040
 Uranus -34908-02-15 11:45 J -11028678.12 -11028678.01 -11028677.88 0.0139 0.0116
 Saturn -34908-07-07 14:09 J -11028536.10 -11028535.91 -11028535.72 0.0274 0.0107
 Uranus -34908-09-29 22:19 J -11028451.70 -11028451.57 -11028451.41 0.0139 0.0106
 Saturn -34907-02-21 16:47 J -11028306.88 -11028306.80 -11028306.72 0.0275 0.0253
 Uranus -34907-05-14 08:52 J -11028225.28 -11028225.13 -11028224.96 0.0138 0.0095
 Uranus -34907-12-26 19:11 J -11027998.86 -11027998.70 -11027998.51 0.0138 0.0085
 Jupiter -34906-02-21 07:40 J -11027942.38 -11027942.18 -11027941.98 0.0539 0.0142
 Uranus -34906-08-10 05:31 J -11027772.45 -11027772.27 -11027772.08 0.0138 0.0074
 Uranus -34905-03-23 15:21 J -11027546.05 -11027545.86 -11027545.66 0.0137 0.0063
 Uranus -34905-11-05 00:57 J -11027319.66 -11027319.46 -11027319.24 0.0137 0.0053
 Uranus -34904-06-19 10:33 J -11027093.26 -11027093.06 -11027092.84 0.0137 0.0042
 Uranus -34903-01-31 19:55 J -11026866.88 -11026866.67 -11026866.44 0.0136 0.0031
 Uranus -34903-09-15 05:02 J -11026640.51 -11026640.29 -11026640.06 0.0136 0.0021

Uranus -34902-04-29 13:55 J -11026414.14 -11026413.92 -11026413.69 0.0136 0.0010
 Uranus -34902-12-11 22:47 J -11026187.77 -11026187.55 -11026187.33 0.0135 0.0001
 Uranus -34901-07-25 07:26 J -11025961.41 -11025961.19 -11025960.96 0.0135 0.0011
 Jupiter -34901-12-24 17:02 J -11025809.00 -11025808.79 -11025808.59 0.0488 0.0020
 Uranus -34900-03-08 15:50 J -11025735.06 -11025734.84 -11025734.62 0.0135 0.0022
 Uranus -34900-10-20 23:59 J -11025508.71 -11025508.50 -11025508.28 0.0135 0.0032
 Neptune -34900-11-30 14:52 J -11025467.94 -11025467.88 -11025467.81 0.0089 0.0084
 Mars -34899-03-09 08:52 J -11025369.28 -11025369.13 -11025368.98 0.1905 0.0937
 Uranus -34899-06-04 08:09 J -11025282.37 -11025282.16 -11025281.95 0.0134 0.0042
 Neptune -34899-07-14 04:04 J -11025242.44 -11025242.33 -11025242.21 0.0089 0.0075
 Uranus -34898-01-16 16:04 J -11025056.04 -11025055.83 -11025055.62 0.0134 0.0052
 Mars -34898-02-13 10:04 J -11025028.24 -11025028.08 -11025027.91 0.1618 0.0564
 Neptune -34898-02-24 16:33 J -11025016.93 -11025016.81 -11025016.64 0.0089 0.0067
 Uranus -34898-08-30 23:31 J -11024829.70 -11024829.52 -11024829.30 0.0134 0.0062
 Neptune -34898-10-08 05:59 J -11024791.40 -11024791.25 -11024791.06 0.0089 0.0058
 Uranus -34897-04-13 07:26 J -11024603.38 -11024603.19 -11024603.00 0.0134 0.0071
 Neptune -34897-05-20 19:11 J -11024565.87 -11024565.70 -11024565.50 0.0089 0.0049
 Uranus -34897-11-25 14:38 J -11024377.06 -11024376.89 -11024376.70 0.0134 0.0081
 Neptune -34896-01-01 08:38 J -11024340.33 -11024340.14 -11024339.94 0.0089 0.0039
 Uranus -34896-07-09 22:04 J -11024150.74 -11024150.58 -11024150.41 0.0133 0.0090
 Neptune -34896-08-14 21:50 J -11024114.80 -11024114.59 -11024114.38 0.0089 0.0030
 Uranus -34895-02-21 05:16 J -11023924.42 -11023924.28 -11023924.13 0.0133 0.0098
 Neptune -34895-03-28 10:47 J -11023889.26 -11023889.05 -11023888.83 0.0089 0.0021
 Saturn -34895-09-20 08:38 J -11023713.26 -11023713.14 -11023713.00 0.0286 0.0230
 Uranus -34895-10-05 12:14 J -11023698.11 -11023697.99 -11023697.85 0.0133 0.0107
 Jupiter -34895-10-26 17:16 J -11023676.92 -11023676.78 -11023676.63 0.0536 0.0369
 Neptune -34895-11-09 00:14 J -11023663.71 -11023663.49 -11023663.27 0.0089 0.0012
 Saturn -34894-05-08 08:38 J -11023483.35 -11023483.14 -11023482.92 0.0286 0.0053
 Uranus -34894-05-19 18:43 J -11023471.81 -11023471.72 -11023471.59 0.0133 0.0116
 Jupiter -34894-06-22 04:04 J -11023438.44 -11023438.33 -11023438.22 0.0542 0.0445

Neptune -34894-06-22 13:11 J -11023438.17 -11023437.95 -11023437.73 0.0089 0.0003
 Saturn -34894-12-24 07:40 J -11023253.37 -11023253.18 -11023252.98 0.0285 0.0122
 Uranus -34893-01-01 01:26 J -11023245.50 -11023245.44 -11023245.35 0.0133 0.0124
 Neptune -34893-02-03 02:09 J -11023212.62 -11023212.41 -11023212.19 0.0089 0.0006
 Uranus -34893-08-14 08:09 J -11023019.17 -11023019.16 -11023019.13 0.0133 0.0132
 Neptune -34893-09-15 15:21 J -11022987.08 -11022986.86 -11022986.64 0.0089 0.0015
 Neptune -34892-04-29 04:19 J -11022761.53 -11022761.32 -11022761.11 0.0089 0.0024
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 Neptune -34890-03-06 18:57 J -11022084.88 -11022084.71 -11022084.52 0.0089 0.0051
 Neptune -34890-10-18 07:55 J -11021859.32 -11021859.17 -11021859.00 0.0089 0.0060
 Neptune -34889-05-30 20:38 J -11021633.76 -11021633.64 -11021633.48 0.0089 0.0069
 Jupiter -34889-08-29 21:35 J -11021542.80 -11021542.60 -11021542.41 0.0490 0.0146
 Neptune -34888-01-11 09:50 J -11021408.19 -11021408.09 -11021407.98 0.0089 0.0078
 Jupiter -34888-04-22 14:52 J -11021306.96 -11021306.88 -11021306.79 0.0486 0.0437
 Neptune -34888-08-24 22:19 J -11021182.61 -11021182.57 -11021182.51 0.0089 0.0086
 Jupiter -34882-02-24 13:55 J -11019173.10 -11019172.92 -11019172.73 0.0540 0.0216
 Pluto -34881-01-01 03:07 J -11018862.54 -11018862.37 -11018862.19 0.0065 0.0037
 Pluto -34881-08-13 07:11 J -11018637.42 -11018637.20 -11018636.98 0.0065 0.0003
 Pluto -34880-03-26 11:02 J -11018412.18 -11018412.04 -11018411.87 0.0065 0.0045
 Saturn -34880-10-16 18:57 J -11018207.87 -11018207.71 -11018207.53 0.0273 0.0158
 Saturn -34879-06-02 20:09 J -11017978.86 -11017978.66 -11017978.45 0.0273 0.0015
 Saturn -34878-01-17 21:50 J -11017749.76 -11017749.59 -11017749.40 0.0274 0.0133
 Jupiter -34877-05-05 02:52 J -11017276.53 -11017276.38 -11017276.22 0.0492 0.0308
 Jupiter -34877-12-26 20:09 J -11017040.83 -11017040.66 -11017040.50 0.0487 0.0279
 Jupiter -34871-10-29 23:59 J -11014907.71 -11014907.50 -11014907.30 0.0539 0.0018
 Mars -34867-03-09 07:11 J -11013681.29 -11013681.20 -11013681.11 0.1905 0.1612
 Mars -34866-02-12 04:04 J -11013341.49 -11013341.33 -11013341.17 0.1617 0.0689
 Uranus -34866-11-15 01:55 J -11013065.42 -11013065.42 -11013065.41 0.0139 0.0138
 Jupiter -34865-01-09 08:38 J -11013010.20 -11013010.14 -11013010.08 0.0493 0.0470

Saturn	-34865-04-01 15:50 J	-11012926.98	-11012926.84	-11012926.68	0.0286	0.0202
Uranus	-34865-06-28 08:09 J	-11012839.22	-11012839.16	-11012839.08	0.0139	0.0130
Jupiter	-34865-09-01 01:55 J	-11012774.62	-11012774.42	-11012774.22	0.0488	0.0118
Saturn	-34865-11-17 15:35 J	-11012697.07	-11012696.85	-11012696.64	0.0285	0.0027
Uranus	-34864-02-09 14:38 J	-11012612.98	-11012612.89	-11012612.78	0.0139	0.0121
Saturn	-34864-07-05 14:09 J	-11012467.09	-11012466.91	-11012466.72	0.0285	0.0148
Uranus	-34864-09-23 21:21 J	-11012386.73	-11012386.61	-11012386.48	0.0140	0.0112
Uranus	-34863-05-08 04:19 J	-11012160.46	-11012160.32	-11012160.17	0.0140	0.0102
Uranus	-34863-12-20 11:16 J	-11011934.18	-11011934.03	-11011933.86	0.0140	0.0093
Uranus	-34862-08-03 18:14 J	-11011707.90	-11011707.74	-11011707.55	0.0141	0.0083
Uranus	-34861-03-17 01:40 J	-11011481.61	-11011481.43	-11011481.24	0.0141	0.0072
Uranus	-34861-10-29 09:07 J	-11011255.30	-11011255.12	-11011254.92	0.0141	0.0062
Uranus	-34860-06-12 16:47 J	-11011028.99	-11011028.80	-11011028.60	0.0142	0.0051
Uranus	-34859-01-25 00:43 J	-11010802.66	-11010802.47	-11010802.26	0.0142	0.0040
Jupiter	-34859-07-04 11:31 J	-11010642.20	-11010642.02	-11010641.84	0.0538	0.0238
Uranus	-34859-09-08 08:52 J	-11010576.33	-11010576.13	-11010575.92	0.0142	0.0028
Uranus	-34858-04-22 17:16 J	-11010349.99	-11010349.78	-11010349.57	0.0143	0.0017
Uranus	-34858-12-05 01:40 J	-11010123.64	-11010123.43	-11010123.22	0.0143	0.0005
Uranus	-34857-07-18 10:19 J	-11009897.28	-11009897.07	-11009896.86	0.0143	0.0006
Uranus	-34856-03-01 19:11 J	-11009670.91	-11009670.70	-11009670.49	0.0143	0.0018
Uranus	-34856-10-14 04:19 J	-11009444.53	-11009444.32	-11009444.11	0.0144	0.0030
Uranus	-34855-05-28 13:40 J	-11009218.13	-11009217.93	-11009217.73	0.0144	0.0042
Uranus	-34854-01-09 23:02 J	-11008991.73	-11008991.54	-11008991.34	0.0144	0.0054
Uranus	-34854-08-24 08:38 J	-11008765.32	-11008765.14	-11008764.94	0.0145	0.0066
Uranus	-34853-04-06 18:28 J	-11008538.90	-11008538.73	-11008538.54	0.0145	0.0078
Jupiter	-34853-05-07 06:57 J	-11008508.41	-11008508.21	-11008508.00	0.0489	0.0047
Uranus	-34853-11-19 04:19 J	-11008312.47	-11008312.32	-11008312.14	0.0145	0.0090
Uranus	-34852-07-03 14:38 J	-11008086.03	-11008085.89	-11008085.73	0.0145	0.0102
Earth	-34852-10-21 20:52 J	-11007975.76	-11007975.63	-11007975.51	0.2653	0.1672
Moon	-34852-10-21 22:04 J	-11007975.72	-11007975.58	-11007975.43	0.2646	0.1545 *

Uranus -34851-02-15 01:26 J -11007859.57 -11007859.44 -11007859.30 0.0145 0.0113
 Uranus -34851-09-29 11:59 J -11007633.11 -11007633.00 -11007632.89 0.0146 0.0124
 Saturn -34850-04-28 18:57 J -11007421.88 -11007421.71 -11007421.53 0.0273 0.0141
 Uranus -34850-05-13 22:33 J -11007406.63 -11007406.56 -11007406.47 0.0146 0.0135
 Saturn -34850-12-13 20:09 J -11007192.87 -11007192.66 -11007192.45 0.0274 0.0004
 Uranus -34850-12-26 09:21 J -11007180.11 -11007180.11 -11007180.09 0.0146 0.0146
 Saturn -34849-07-29 21:35 J -11006963.76 -11006963.60 -11006963.41 0.0274 0.0151
 Jupiter -34847-03-08 23:31 J -11006376.62 -11006376.52 -11006376.41 0.0536 0.0457
 Jupiter -34847-11-02 11:02 J -11006138.18 -11006138.04 -11006137.88 0.0542 0.0356
 Earth -34844-10-19 08:23 J -11005056.23 -11005056.15 -11005056.08 0.2651 0.2367
 Jupiter -34841-01-11 12:28 J -11004242.16 -11004241.98 -11004241.79 0.0490 0.0209
 Jupiter -34841-09-03 05:02 J -11004006.41 -11004006.29 -11004006.15 0.0486 0.0374
 Saturn -34836-10-12 18:28 J -11002140.89 -11002140.73 -11002140.55 0.0286 0.0182
 Saturn -34835-05-30 18:28 J -11001910.95 -11001910.73 -11001910.52 0.0285 0.0007
 Jupiter -34835-07-07 20:38 J -11001872.84 -11001872.64 -11001872.44 0.0540 0.0125
 Saturn -34834-01-15 17:16 J -11001680.95 -11001680.78 -11001680.60 0.0285 0.0169
 Mars -34833-01-04 11:31 J -11001327.14 -11001327.02 -11001326.91 0.1904 0.1407
 Mars -34833-12-10 22:33 J -11000985.72 -11000985.56 -11000985.41 0.1618 0.0695
 Jupiter -34830-09-16 16:19 J -10999975.94 -10999975.82 -10999975.68 0.0493 0.0375
 Jupiter -34829-05-09 09:50 J -10999740.27 -10999740.09 -10999739.90 0.0488 0.0214
 Uranus -34826-07-20 19:40 J -10998572.68 -10998572.68 -10998572.65 0.0140 0.0140
 Uranus -34825-03-03 06:43 J -10998346.29 -10998346.22 -10998346.13 0.0139 0.0130
 Uranus -34825-10-15 17:45 J -10998119.86 -10998119.76 -10998119.64 0.0139 0.0119
 Uranus -34824-05-30 04:33 J -10997893.43 -10997893.31 -10997893.16 0.0139 0.0109
 Uranus -34823-01-11 15:07 J -10997667.01 -10997666.87 -10997666.70 0.0138 0.0099
 Jupiter -34823-03-12 06:28 J -10997607.43 -10997607.23 -10997607.03 0.0538 0.0105
 Uranus -34823-08-26 01:55 J -10997440.59 -10997440.42 -10997440.25 0.0138 0.0088
 Uranus -34822-04-09 11:45 J -10997214.19 -10997214.01 -10997213.81 0.0138 0.0077
 Uranus -34822-11-21 21:35 J -10996987.78 -10996987.60 -10996987.39 0.0138 0.0067
 Saturn -34821-03-24 02:09 J -10996864.47 -10996864.41 -10996864.34 0.0273 0.0256

Uranus -34821-07-05 07:40 J -10996761.38 -10996761.18 -10996760.97 0.0137 0.0056
 Saturn -34821-11-08 02:52 J -10996635.56 -10996635.38 -10996635.19 0.0273 0.0115
 Uranus -34820-02-16 17:16 J -10996534.98 -10996534.78 -10996534.56 0.0137 0.0045
 Saturn -34820-06-25 04:19 J -10996406.53 -10996406.32 -10996406.11 0.0274 0.0030
 Uranus -34820-10-01 02:52 J -10996308.60 -10996308.38 -10996308.16 0.0137 0.0034
 Saturn -34819-02-09 06:14 J -10996177.39 -10996177.24 -10996177.07 0.0274 0.0176
 Uranus -34819-05-15 11:59 J -10996082.22 -10996082.00 -10996081.78 0.0136 0.0023
 Uranus -34819-12-27 21:07 J -10995855.84 -10995855.62 -10995855.39 0.0136 0.0012
 Neptune -34818-06-02 07:55 J -10995699.23 -10995699.17 -10995699.08 0.0088 0.0083
 Uranus -34818-08-11 06:14 J -10995629.47 -10995629.24 -10995629.02 0.0136 0.0003
 Jupiter -34817-01-13 15:07 J -10995474.07 -10995473.87 -10995473.67 0.0489 0.0052
 Neptune -34817-01-13 20:52 J -10995473.74 -10995473.63 -10995473.51 0.0088 0.0074 *
 Uranus -34817-03-24 14:52 J -10995403.11 -10995402.88 -10995402.66 0.0135 0.0009
 Neptune -34817-08-26 09:21 J -10995248.24 -10995248.11 -10995247.94 0.0088 0.0066
 Uranus -34817-11-05 23:16 J -10995176.75 -10995176.53 -10995176.30 0.0135 0.0020
 Neptune -34816-04-08 22:33 J -10995022.72 -10995022.56 -10995022.38 0.0088 0.0057
 Uranus -34816-06-20 07:40 J -10994950.39 -10994950.18 -10994949.96 0.0135 0.0030
 Neptune -34816-11-20 11:31 J -10994797.20 -10994797.02 -10994796.83 0.0088 0.0048
 Uranus -34815-02-01 16:04 J -10994724.04 -10994723.83 -10994723.62 0.0135 0.0040
 Neptune -34815-07-04 00:14 J -10994571.67 -10994571.49 -10994571.28 0.0088 0.0039
 Uranus -34815-09-15 23:59 J -10994497.70 -10994497.50 -10994497.29 0.0134 0.0050
 Neptune -34814-02-14 13:11 J -10994346.15 -10994345.95 -10994345.73 0.0088 0.0030
 Uranus -34814-04-30 07:40 J -10994271.37 -10994271.18 -10994270.97 0.0134 0.0061
 Neptune -34814-09-28 02:09 J -10994120.62 -10994120.41 -10994120.19 0.0088 0.0022
 Uranus -34814-12-12 15:21 J -10994045.03 -10994044.86 -10994044.65 0.0134 0.0070
 Neptune -34813-05-10 15:21 J -10993895.08 -10993894.86 -10993894.64 0.0088 0.0013
 Uranus -34813-07-25 23:02 J -10993818.70 -10993818.54 -10993818.34 0.0134 0.0080
 Neptune -34813-12-22 04:04 J -10993669.55 -10993669.33 -10993669.10 0.0088 0.0004
 Uranus -34812-03-09 06:28 J -10993592.38 -10993592.23 -10993592.05 0.0134 0.0089
 Neptune -34812-08-04 17:02 J -10993444.01 -10993443.79 -10993443.57 0.0088 0.0005

Uranus -34812-10-21 13:55 J -10993366.06 -10993365.92 -10993365.76 0.0133 0.0098
 Jupiter -34812-11-14 15:35 J -10993342.01 -10993341.85 -10993341.69 0.0537 0.0331
 Neptune -34811-03-18 05:59 J -10993218.46 -10993218.25 -10993218.03 0.0088 0.0014
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 Jupiter -34811-07-11 02:38 J -10993103.48 -10993103.39 -10993103.30 0.0542 0.0480
 Neptune -34811-10-29 18:43 J -10992992.92 -10992992.72 -10992992.49 0.0088 0.0024
 Uranus -34810-01-17 03:35 J -10992913.44 -10992913.35 -10992913.22 0.0133 0.0115
 Neptune -34810-06-12 07:55 J -10992767.37 -10992767.17 -10992766.96 0.0088 0.0032
 Uranus -34810-08-31 10:19 J -10992687.13 -10992687.07 -10992686.97 0.0133 0.0124
 Neptune -34809-01-23 20:52 J -10992541.82 -10992541.63 -10992541.43 0.0088 0.0041
 Uranus -34809-04-13 17:02 J -10992460.80 -10992460.79 -10992460.75 0.0133 0.0132
 Neptune -34809-09-05 09:35 J -10992316.26 -10992316.10 -10992315.90 0.0088 0.0050
 Neptune -34808-04-18 22:47 J -10992090.70 -10992090.55 -10992090.36 0.0088 0.0059
 Neptune -34808-11-30 11:45 J -10991865.13 -10991865.01 -10991864.84 0.0088 0.0068
 Neptune -34807-07-14 01:11 J -10991639.55 -10991639.45 -10991639.33 0.0088 0.0076
 Neptune -34806-02-24 14:09 J -10991413.96 -10991413.91 -10991413.83 0.0088 0.0085
 Saturn -34806-04-25 03:07 J -10991354.54 -10991354.37 -10991354.18 0.0286 0.0152
 Jupiter -34806-09-18 21:07 J -10991207.82 -10991207.62 -10991207.42 0.0490 0.0110
 Saturn -34806-12-11 02:38 J -10991124.60 -10991124.39 -10991124.17 0.0285 0.0024
 Jupiter -34805-05-11 13:55 J -10990971.97 -10990971.92 -10990971.86 0.0486 0.0469
 Saturn -34805-07-28 01:11 J -10990894.60 -10990894.45 -10990894.29 0.0285 0.0197
 Mars -34801-01-04 10:19 J -10989639.21 -10989639.07 -10989638.93 0.1905 0.1147
 Mars -34801-12-09 16:19 J -10989298.98 -10989298.82 -10989298.65 0.1617 0.0553
 Jupiter -34799-03-15 14:23 J -10988838.08 -10988837.90 -10988837.72 0.0541 0.0257
 Jupiter -34794-05-25 02:09 J -10986941.58 -10986941.41 -10986941.24 0.0491 0.0274
 Pluto -34794-09-04 00:57 J -10986839.61 -10986839.46 -10986839.28 0.0079 0.0053
 Jupiter -34793-01-15 18:43 J -10986705.87 -10986705.72 -10986705.56 0.0486 0.0309
 Pluto -34793-04-16 11:45 J -10986614.23 -10986614.01 -10986613.80 0.0079 0.0022
 Saturn -34792-10-04 02:52 J -10986078.47 -10986078.38 -10986078.27 0.0273 0.0238
 Saturn -34791-05-21 03:35 J -10985849.54 -10985849.35 -10985849.15 0.0273 0.0096

Saturn -34790-01-05 05:02 J -10985620.50 -10985620.29 -10985620.09 0.0274 0.0049
 Saturn -34790-08-22 06:43 J -10985391.36 -10985391.22 -10985391.07 0.0274 0.0195
 Jupiter -34788-11-18 02:23 J -10984572.60 -10984572.40 -10984572.20 0.0540 0.0033
 Jupiter -34782-01-28 07:11 J -10982675.29 -10982675.20 -10982675.10 0.0493 0.0437
 Jupiter -34782-09-21 00:28 J -10982439.68 -10982439.48 -10982439.29 0.0488 0.0149
 Uranus -34781-02-26 18:14 J -10982280.78 -10982280.74 -10982280.66 0.0139 0.0133
 Uranus -34781-10-10 00:28 J -10982054.55 -10982054.48 -10982054.36 0.0139 0.0124
 Uranus -34780-05-24 07:26 J -10981828.30 -10981828.19 -10981828.06 0.0139 0.0114
 Uranus -34779-01-05 14:09 J -10981602.04 -10981601.91 -10981601.76 0.0140 0.0105
 Uranus -34779-08-19 21:07 J -10981375.77 -10981375.62 -10981375.46 0.0140 0.0095
 Uranus -34778-04-03 03:50 J -10981149.49 -10981149.34 -10981149.16 0.0140 0.0086
 Uranus -34778-11-15 11:16 J -10980923.20 -10980923.03 -10980922.85 0.0141 0.0075
 Uranus -34777-06-28 18:43 J -10980696.91 -10980696.72 -10980696.53 0.0141 0.0064
 Saturn -34777-11-04 05:59 J -10980568.43 -10980568.25 -10980568.05 0.0286 0.0132
 Uranus -34776-02-10 02:09 J -10980470.60 -10980470.41 -10980470.21 0.0141 0.0054
 Saturn -34776-06-22 05:45 J -10980338.47 -10980338.26 -10980338.04 0.0285 0.0044
 Jupiter -34776-07-23 12:28 J -10980307.17 -10980306.98 -10980306.79 0.0537 0.0194
 Uranus -34776-09-24 09:50 J -10980244.28 -10980244.09 -10980243.88 0.0142 0.0043
 Saturn -34775-02-07 04:19 J -10980108.45 -10980108.32 -10980108.17 0.0285 0.0217
 Uranus -34775-05-08 17:59 J -10980017.96 -10980017.75 -10980017.54 0.0142 0.0031
 Uranus -34775-12-21 02:09 J -10979791.62 -10979791.41 -10979791.20 0.0142 0.0020
 Uranus -34774-08-04 10:33 J -10979565.27 -10979565.06 -10979564.85 0.0143 0.0008
 Uranus -34773-03-17 19:11 J -10979338.92 -10979338.70 -10979338.49 0.0143 0.0005
 Uranus -34773-10-30 03:50 J -10979112.55 -10979112.34 -10979112.13 0.0143 0.0016
 Uranus -34772-06-13 12:43 J -10978886.17 -10978885.97 -10978885.76 0.0144 0.0028
 Uranus -34771-01-25 22:04 J -10978659.78 -10978659.58 -10978659.38 0.0144 0.0040
 Uranus -34771-09-09 07:11 J -10978433.39 -10978433.20 -10978432.99 0.0144 0.0052
 Uranus -34770-04-23 16:47 J -10978206.99 -10978206.80 -10978206.61 0.0144 0.0064
 Jupiter -34770-05-27 04:33 J -10978173.52 -10978173.31 -10978173.11 0.0489 0.0016
 Uranus -34770-12-06 02:23 J -10977980.57 -10977980.40 -10977980.21 0.0145 0.0076

Uranus -34769-07-19 11:59 J -10977754.15 -10977754.00 -10977753.81 0.0145 0.0088
 Uranus -34768-03-02 22:19 J -10977527.71 -10977527.57 -10977527.40 0.0145 0.0100
 Uranus -34768-10-15 08:52 J -10977301.27 -10977301.13 -10977301.00 0.0145 0.0111
 Mars -34768-10-31 15:21 J -10977284.90 -10977284.86 -10977284.82 0.1903 0.1845
 Uranus -34767-05-29 18:43 J -10977074.81 -10977074.72 -10977074.58 0.0146 0.0123
 Mars -34767-10-08 10:33 J -10976943.21 -10976943.06 -10976942.91 0.1618 0.0831
 Uranus -34766-01-11 05:16 J -10976848.34 -10976848.28 -10976848.17 0.0146 0.0134
 Uranus -34766-08-25 16:19 J -10976621.84 -10976621.82 -10976621.78 0.0146 0.0144
 Jupiter -34764-03-27 22:33 J -10976041.69 -10976041.56 -10976041.43 0.0535 0.0417
 Jupiter -34764-11-21 09:07 J -10975803.26 -10975803.12 -10975802.98 0.0541 0.0388
 Saturn -34762-04-16 10:47 J -10975292.18 -10975292.05 -10975291.92 0.0273 0.0212
 Saturn -34762-12-01 11:45 J -10975063.21 -10975063.01 -10975062.81 0.0273 0.0070
 Saturn -34761-07-17 13:11 J -10974834.15 -10974833.95 -10974833.75 0.0274 0.0075
 Saturn -34760-03-03 15:35 J -10974604.98 -10974604.85 -10974604.73 0.0274 0.0221
 Jupiter -34758-01-30 09:35 J -10973907.29 -10973907.10 -10973906.91 0.0491 0.0178
 Jupiter -34758-09-23 02:38 J -10973671.49 -10973671.39 -10973671.27 0.0486 0.0404
 Jupiter -34752-07-26 17:45 J -10971537.95 -10971537.76 -10971537.56 0.0540 0.0160
 Saturn -34748-09-29 16:19 J -10970011.87 -10970011.82 -10970011.74 0.0286 0.0273
 Saturn -34747-05-17 16:19 J -10969782.02 -10969781.82 -10969781.61 0.0286 0.0099
 Jupiter -34747-10-05 15:21 J -10969641.00 -10969640.86 -10969640.71 0.0492 0.0340
 Saturn -34746-01-02 15:35 J -10969552.06 -10969551.85 -10969551.64 0.0285 0.0076
 Jupiter -34746-05-29 08:23 J -10969405.32 -10969405.15 -10969404.97 0.0487 0.0245
 Saturn -34746-08-20 13:55 J -10969322.02 -10969321.92 -10969321.81 0.0285 0.0247
 Uranus -34742-11-01 13:11 J -10967788.00 -10967787.95 -10967787.87 0.0140 0.0133
 Uranus -34741-06-15 00:28 J -10967561.58 -10967561.48 -10967561.37 0.0139 0.0123
 Uranus -34740-01-27 11:16 J -10967335.15 -10967335.03 -10967334.89 0.0139 0.0112
 Jupiter -34740-03-31 05:02 J -10967272.49 -10967272.29 -10967272.08 0.0539 0.0067
 Uranus -34740-09-10 21:50 J -10967108.73 -10967108.59 -10967108.42 0.0139 0.0102
 Uranus -34739-04-25 08:38 J -10966882.31 -10966882.14 -10966881.97 0.0138 0.0091
 Uranus -34739-12-07 18:43 J -10966655.89 -10966655.72 -10966655.53 0.0138 0.0080

Uranus -34738-07-22 05:02 J -10966429.48 -10966429.29 -10966429.09 0.0138 0.0069
 Uranus -34737-03-04 14:38 J -10966203.08 -10966202.89 -10966202.67 0.0137 0.0059
 Uranus -34737-10-17 00:28 J -10965976.68 -10965976.48 -10965976.26 0.0137 0.0047
 Uranus -34736-05-31 10:19 J -10965750.29 -10965750.07 -10965749.86 0.0137 0.0036
 Mars -34736-10-31 12:57 J -10965597.12 -10965596.96 -10965596.79 0.1905 0.0665
 Uranus -34735-01-12 19:26 J -10965523.90 -10965523.69 -10965523.46 0.0136 0.0026
 Neptune -34735-03-04 00:43 J -10965473.50 -10965473.47 -10965473.42 0.0089 0.0087
 Uranus -34735-08-27 04:47 J -10965297.52 -10965297.30 -10965297.07 0.0136 0.0015
 Mars -34735-10-07 04:47 J -10965256.47 -10965256.30 -10965256.13 0.1618 0.0422
 Neptune -34735-10-15 13:40 J -10965248.01 -10965247.93 -10965247.81 0.0089 0.0079
 Jupiter -34734-02-01 13:26 J -10965139.14 -10965138.94 -10965138.73 0.0488 0.0083
 Uranus -34734-04-10 13:55 J -10965071.15 -10965070.92 -10965070.70 0.0136 0.0004
 Neptune -34734-05-29 02:52 J -10965022.50 -10965022.38 -10965022.22 0.0089 0.0070
 Uranus -34734-11-22 22:33 J -10964844.78 -10964844.56 -10964844.33 0.0136 0.0008
 Neptune -34733-01-09 16:04 J -10964796.97 -10964796.83 -10964796.65 0.0089 0.0061
 Uranus -34733-07-06 07:26 J -10964618.41 -10964618.19 -10964617.96 0.0135 0.0018
 Neptune -34733-08-22 05:16 J -10964571.44 -10964571.28 -10964571.09 0.0089 0.0052
 Saturn -34733-10-26 12:28 J -10964506.12 -10964505.98 -10964505.83 0.0273 0.0193
 Uranus -34732-02-17 16:04 J -10964392.05 -10964391.83 -10964391.61 0.0135 0.0028
 Neptune -34732-04-04 18:28 J -10964345.91 -10964345.73 -10964345.53 0.0089 0.0043
 Saturn -34732-06-12 13:26 J -10964277.15 -10964276.94 -10964276.74 0.0273 0.0050
 Uranus -34732-10-02 00:14 J -10964165.70 -10964165.49 -10964165.27 0.0135 0.0039
 Neptune -34732-11-16 07:40 J -10964120.37 -10964120.18 -10964119.97 0.0089 0.0034
 Saturn -34731-01-27 14:52 J -10964048.07 -10964047.88 -10964047.69 0.0274 0.0095
 Uranus -34731-05-16 08:23 J -10963939.35 -10963939.15 -10963938.93 0.0135 0.0049
 Neptune -34731-06-29 20:52 J -10963894.84 -10963894.63 -10963894.41 0.0089 0.0025
 Saturn -34731-09-13 16:47 J -10963818.89 -10963818.80 -10963818.70 0.0274 0.0240
 Uranus -34731-12-28 16:33 J -10963713.01 -10963712.81 -10963712.61 0.0134 0.0059
 Neptune -34730-02-10 10:04 J -10963669.30 -10963669.08 -10963668.86 0.0089 0.0016
 Uranus -34730-08-12 00:28 J -10963486.67 -10963486.48 -10963486.28 0.0134 0.0068

Neptune -34730-09-23 23:16 J -10963443.75 -10963443.53 -10963443.31 0.0089 0.0007
 Uranus -34729-03-25 08:09 J -10963260.34 -10963260.16 -10963259.98 0.0134 0.0078
 Neptune -34729-05-06 12:14 J -10963218.21 -10963217.99 -10963217.77 0.0089 0.0002
 Uranus -34729-11-06 15:21 J -10963034.01 -10963033.86 -10963033.68 0.0134 0.0088
 Jupiter -34729-12-03 17:02 J -10963006.96 -10963006.79 -10963006.62 0.0537 0.0288
 Neptune -34729-12-18 01:11 J -10962992.66 -10962992.45 -10962992.23 0.0089 0.0011
 Uranus -34728-06-20 22:47 J -10962807.69 -10962807.55 -10962807.39 0.0133 0.0097
 Jupiter -34728-07-30 04:19 J -10962768.37 -10962768.32 -10962768.26 0.0542 0.0521
 Neptune -34728-07-31 13:55 J -10962767.12 -10962766.92 -10962766.69 0.0089 0.0020
 Uranus -34727-02-02 06:14 J -10962581.37 -10962581.24 -10962581.11 0.0133 0.0106
 Neptune -34727-03-14 03:21 J -10962541.57 -10962541.36 -10962541.15 0.0089 0.0028
 Uranus -34727-09-16 13:11 J -10962355.06 -10962354.95 -10962354.83 0.0133 0.0115
 Neptune -34727-10-25 16:19 J -10962316.01 -10962315.82 -10962315.62 0.0089 0.0037
 Uranus -34726-04-30 19:40 J -10962128.74 -10962128.68 -10962128.58 0.0133 0.0123
 Neptune -34726-06-08 05:16 J -10962090.46 -10962090.28 -10962090.09 0.0089 0.0046
 Uranus -34726-12-13 02:38 J -10961902.42 -10961902.39 -10961902.35 0.0133 0.0131
 Neptune -34725-01-19 17:59 J -10961864.91 -10961864.75 -10961864.57 0.0089 0.0055
 Neptune -34725-09-01 06:43 J -10961639.35 -10961639.22 -10961639.05 0.0089 0.0064
 Neptune -34724-04-14 19:55 J -10961413.79 -10961413.67 -10961413.54 0.0089 0.0073
 Neptune -34724-11-26 08:38 J -10961188.21 -10961188.14 -10961188.04 0.0089 0.0081
 Jupiter -34723-10-07 18:57 J -10960872.91 -10960872.71 -10960872.51 0.0490 0.0080
 Moon -34722-04-20 06:28 J -10960678.30 -10960678.23 -10960678.17 0.2683 0.2378
 Earth -34722-04-20 11:16 J -10960678.08 -10960678.03 -10960677.98 0.2680 0.2522
 Saturn -34718-04-11 18:57 J -10959225.79 -10959225.71 -10959225.60 0.0286 0.0254
 Saturn -34718-11-27 19:11 J -10958995.91 -10958995.70 -10958995.49 0.0285 0.0079
 Saturn -34717-07-14 18:28 J -10958765.93 -10958765.73 -10958765.52 0.0285 0.0096
 Jupiter -34717-08-08 04:04 J -10958741.39 -10958741.33 -10958741.26 0.0534 0.0504
 Saturn -34716-03-01 16:47 J -10958535.86 -10958535.80 -10958535.72 0.0285 0.0266
 Jupiter -34716-04-03 14:38 J -10958503.05 -10958502.89 -10958502.72 0.0541 0.0297
 Moon -34714-04-18 03:35 J -10957758.48 -10957758.35 -10957758.21 0.2688 0.0978

Earth -34714-04-18 05:45 J -10957758.41 -10957758.26 -10957758.11 0.2681 0.0647 *
 Jupiter -34711-06-12 22:19 J -10956606.74 -10956606.57 -10956606.39 0.0492 0.0246
 Jupiter -34710-02-03 15:35 J -10956370.99 -10956370.85 -10956370.70 0.0487 0.0337
 Jupiter -34705-12-07 00:28 J -10954237.68 -10954237.48 -10954237.28 0.0539 0.0069
 Saturn -34703-05-08 19:55 J -10953719.83 -10953719.67 -10953719.50 0.0273 0.0167
 Saturn -34703-12-23 21:07 J -10953490.82 -10953490.62 -10953490.41 0.0274 0.0024
 Saturn -34702-08-09 22:47 J -10953261.73 -10953261.55 -10953261.36 0.0274 0.0122
 Saturn -34701-03-26 01:11 J -10953032.49 -10953032.45 -10953032.39 0.0274 0.0266
 Mars -34701-08-04 22:33 J -10952900.70 -10952900.56 -10952900.42 0.1619 0.0964
 Jupiter -34699-02-16 03:07 J -10952340.47 -10952340.37 -10952340.25 0.0493 0.0408
 Jupiter -34699-10-09 20:52 J -10952104.82 -10952104.63 -10952104.44 0.0488 0.0178
 Uranus -34698-10-27 04:47 J -10951722.32 -10951722.30 -10951722.24 0.0139 0.0136
 Uranus -34697-06-09 11:31 J -10951496.10 -10951496.02 -10951495.93 0.0139 0.0126
 Uranus -34696-01-21 17:45 J -10951269.85 -10951269.76 -10951269.63 0.0139 0.0118
 Uranus -34696-09-05 00:28 J -10951043.60 -10951043.48 -10951043.33 0.0140 0.0108
 Uranus -34695-04-19 07:26 J -10950817.34 -10950817.19 -10950817.04 0.0140 0.0098
 Uranus -34695-12-01 14:09 J -10950591.06 -10950590.91 -10950590.73 0.0140 0.0088
 Uranus -34694-07-15 21:21 J -10950364.78 -10950364.61 -10950364.42 0.0141 0.0078
 Uranus -34693-02-27 04:47 J -10950138.48 -10950138.30 -10950138.11 0.0141 0.0067
 Jupiter -34693-08-11 08:38 J -10949972.33 -10949972.14 -10949971.95 0.0538 0.0162
 Uranus -34693-10-10 12:14 J -10949912.18 -10949911.99 -10949911.79 0.0141 0.0056
 Uranus -34692-05-24 19:40 J -10949685.87 -10949685.68 -10949685.47 0.0141 0.0046
 Uranus -34691-01-06 03:50 J -10949459.54 -10949459.34 -10949459.13 0.0142 0.0034
 Uranus -34691-08-20 11:59 J -10949233.21 -10949233.00 -10949232.79 0.0142 0.0022
 Uranus -34690-04-03 20:09 J -10949006.87 -10949006.66 -10949006.45 0.0142 0.0011
 Uranus -34690-11-16 04:33 J -10948780.52 -10948780.31 -10948780.10 0.0143 0.0001
 Uranus -34689-06-29 13:11 J -10948554.16 -10948553.95 -10948553.74 0.0143 0.0013
 Saturn -34689-10-22 07:11 J -10948439.34 -10948439.20 -10948439.06 0.0286 0.0218
 Uranus -34688-02-10 22:04 J -10948327.78 -10948327.58 -10948327.37 0.0143 0.0025
 Saturn -34688-06-09 06:57 J -10948209.43 -10948209.21 -10948209.00 0.0286 0.0044

Uranus	-34688-09-25 07:11 J	-10948101.41	-10948101.20	-10948101.00	0.0144	0.0037
Saturn	-34687-01-25 05:45 J	-10947979.45	-10947979.26	-10947979.06	0.0285	0.0130
Uranus	-34687-05-09 16:19 J	-10947875.02	-10947874.82	-10947874.62	0.0144	0.0049
Jupiter	-34687-06-15 02:38 J	-10947838.59	-10947838.39	-10947838.18	0.0489	0.0018
Uranus	-34687-12-22 01:26 J	-10947648.62	-10947648.44	-10947648.24	0.0144	0.0062
Uranus	-34686-08-05 11:02 J	-10947422.22	-10947422.04	-10947421.85	0.0144	0.0073
Uranus	-34685-03-18 20:38 J	-10947195.80	-10947195.64	-10947195.46	0.0145	0.0086
Uranus	-34685-10-31 06:43 J	-10946969.37	-10946969.22	-10946969.06	0.0145	0.0097
Uranus	-34684-06-14 16:47 J	-10946742.94	-10946742.80	-10946742.66	0.0145	0.0109
Uranus	-34683-01-27 02:52 J	-10946516.48	-10946516.38	-10946516.25	0.0145	0.0120
Uranus	-34683-09-10 13:11 J	-10946290.02	-10946289.95	-10946289.84	0.0146	0.0132
Uranus	-34682-04-24 23:59 J	-10946063.53	-10946063.50	-10946063.45	0.0146	0.0142
Jupiter	-34681-04-15 19:40 J	-10945706.82	-10945706.68	-10945706.54	0.0536	0.0383
Jupiter	-34681-12-10 06:43 J	-10945468.34	-10945468.22	-10945468.09	0.0542	0.0423
Jupiter	-34675-02-18 07:40 J	-10943572.37	-10943572.18	-10943571.98	0.0490	0.0147
Jupiter	-34675-10-12 00:28 J	-10943336.57	-10943336.48	-10943336.39	0.0486	0.0430
Saturn	-34674-11-18 22:33 J	-10942933.73	-10942933.56	-10942933.38	0.0273	0.0146
Saturn	-34673-07-04 23:45 J	-10942704.72	-10942704.51	-10942704.30	0.0274	0.0003
Saturn	-34672-02-19 01:26 J	-10942475.62	-10942475.44	-10942475.26	0.0274	0.0142
Mars	-34670-08-28 16:04 J	-10941555.00	-10941554.83	-10941554.65	0.1905	0.0211
Mars	-34669-08-03 16:47 J	-10941213.97	-10941213.80	-10941213.63	0.1618	0.0286
Jupiter	-34669-08-14 18:43 J	-10941202.91	-10941202.72	-10941202.53	0.0541	0.0200
Jupiter	-34664-10-24 12:57 J	-10939306.12	-10939305.96	-10939305.80	0.0492	0.0309
Jupiter	-34663-06-17 05:45 J	-10939070.42	-10939070.26	-10939070.09	0.0487	0.0272
Saturn	-34659-05-04 10:04 J	-10937653.23	-10937653.08	-10937652.92	0.0286	0.0198
Saturn	-34659-12-20 09:50 J	-10937423.30	-10937423.09	-10937422.87	0.0285	0.0024
Uranus	-34658-07-01 18:43 J	-10937229.74	-10937229.72	-10937229.65	0.0140	0.0137
Saturn	-34658-08-07 08:52 J	-10937193.31	-10937193.13	-10937192.94	0.0285	0.0149
Uranus	-34657-02-13 05:59 J	-10937003.33	-10937003.25	-10937003.14	0.0139	0.0126
Jupiter	-34657-04-19 05:45 J	-10936937.47	-10936937.26	-10936937.06	0.0538	0.0024

Uranus -34657-09-26 16:47 J -10936776.91 -10936776.80 -10936776.66 0.0139 0.0116
 Uranus -34656-05-11 03:50 J -10936550.48 -10936550.34 -10936550.19 0.0139 0.0105
 Uranus -34656-12-23 14:09 J -10936324.06 -10936323.91 -10936323.73 0.0139 0.0095
 Uranus -34655-08-07 00:43 J -10936097.64 -10936097.47 -10936097.28 0.0138 0.0084
 Uranus -34654-03-21 11:02 J -10935871.23 -10935871.04 -10935870.85 0.0138 0.0072
 Neptune -34654-09-03 18:14 J -10935704.77 -10935704.74 -10935704.67 0.0089 0.0086
 Uranus -34654-11-02 20:52 J -10935644.82 -10935644.63 -10935644.42 0.0138 0.0062
 Neptune -34653-04-16 07:26 J -10935479.29 -10935479.19 -10935479.08 0.0089 0.0077
 Uranus -34653-06-16 06:57 J -10935418.41 -10935418.21 -10935418.00 0.0137 0.0050
 Neptune -34653-11-27 19:55 J -10935253.79 -10935253.67 -10935253.51 0.0088 0.0069
 Uranus -34652-01-28 16:47 J -10935192.02 -10935191.80 -10935191.59 0.0137 0.0039
 Jupiter -34652-06-29 15:35 J -10935039.90 -10935039.85 -10935039.79 0.0494 0.0475
 Neptune -34652-07-11 09:07 J -10935028.28 -10935028.12 -10935027.95 0.0088 0.0060
 Uranus -34652-09-12 02:09 J -10934965.63 -10934965.41 -10934965.19 0.0137 0.0028
 Jupiter -34651-02-20 09:35 J -10934804.30 -10934804.10 -10934803.90 0.0489 0.0110
 Neptune -34651-02-21 21:35 J -10934802.76 -10934802.60 -10934802.40 0.0088 0.0052
 Uranus -34651-04-26 11:31 J -10934739.24 -10934739.02 -10934738.80 0.0136 0.0017
 Neptune -34651-10-05 10:47 J -10934577.24 -10934577.05 -10934576.85 0.0088 0.0043
 Uranus -34651-12-08 20:38 J -10934512.86 -10934512.64 -10934512.41 0.0136 0.0007
 Neptune -34650-05-18 23:45 J -10934351.71 -10934351.51 -10934351.30 0.0088 0.0034
 Uranus -34650-07-23 05:45 J -10934286.48 -10934286.26 -10934286.03 0.0136 0.0005
 Neptune -34650-12-30 12:28 J -10934126.18 -10934125.98 -10934125.76 0.0088 0.0025
 Uranus -34649-03-05 14:38 J -10934060.11 -10934059.89 -10934059.67 0.0135 0.0015
 Neptune -34649-08-12 01:26 J -10933900.65 -10933900.44 -10933900.22 0.0088 0.0017
 Uranus -34649-10-17 23:02 J -10933833.75 -10933833.54 -10933833.31 0.0135 0.0026
 Neptune -34648-03-25 14:38 J -10933675.11 -10933674.89 -10933674.67 0.0088 0.0008
 Uranus -34648-06-01 07:40 J -10933607.39 -10933607.18 -10933606.96 0.0135 0.0036
 Neptune -34648-11-06 03:35 J -10933449.57 -10933449.35 -10933449.13 0.0088 0.0001
 Uranus -34647-01-13 15:50 J -10933381.04 -10933380.84 -10933380.62 0.0135 0.0047
 Neptune -34647-06-19 16:33 J -10933224.03 -10933223.81 -10933223.59 0.0088 0.0010

Uranus -34647-08-28 00:14 J -10933154.69 -10933154.49 -10933154.28 0.0134 0.0057
 Neptune -34646-01-31 05:16 J -10932998.49 -10932998.28 -10932998.06 0.0088 0.0019
 Uranus -34646-04-11 07:55 J -10932928.35 -10932928.17 -10932927.96 0.0134 0.0067
 Neptune -34646-09-13 18:14 J -10932772.95 -10932772.74 -10932772.52 0.0088 0.0027
 Uranus -34646-11-23 16:04 J -10932702.01 -10932701.83 -10932701.65 0.0134 0.0076
 Jupiter -34646-12-23 15:21 J -10932672.04 -10932671.86 -10932671.68 0.0536 0.0249
 Neptune -34645-04-26 07:11 J -10932547.39 -10932547.20 -10932546.99 0.0088 0.0036
 Uranus -34645-07-06 23:31 J -10932475.68 -10932475.52 -10932475.34 0.0134 0.0086
 Saturn -34645-10-14 04:33 J -10932376.36 -10932376.31 -10932376.24 0.0273 0.0262
 Neptune -34645-12-07 20:23 J -10932321.84 -10932321.65 -10932321.46 0.0088 0.0045
 Uranus -34644-02-18 06:57 J -10932249.35 -10932249.21 -10932249.05 0.0134 0.0096
 Saturn -34644-05-31 05:31 J -10932147.45 -10932147.27 -10932147.08 0.0274 0.0121
 Neptune -34644-07-21 09:07 J -10932096.28 -10932096.12 -10932095.93 0.0088 0.0054
 Uranus -34644-10-02 14:23 J -10932023.03 -10932022.90 -10932022.76 0.0133 0.0105
 Saturn -34643-01-15 07:11 J -10931918.40 -10931918.20 -10931917.99 0.0274 0.0024
 Neptune -34643-03-03 22:04 J -10931870.72 -10931870.58 -10931870.41 0.0088 0.0062
 Uranus -34643-05-16 21:21 J -10931796.72 -10931796.61 -10931796.49 0.0133 0.0114
 Saturn -34643-09-01 09:07 J -10931689.28 -10931689.12 -10931688.95 0.0274 0.0168
 Neptune -34643-10-15 11:31 J -10931645.15 -10931645.02 -10931644.89 0.0088 0.0071
 Uranus -34643-12-29 04:04 J -10931570.40 -10931570.33 -10931570.23 0.0133 0.0122
 Neptune -34642-05-29 00:14 J -10931419.56 -10931419.49 -10931419.37 0.0088 0.0080
 Uranus -34642-08-12 11:16 J -10931344.07 -10931344.03 -10931343.99 0.0133 0.0130
 Neptune -34641-01-09 13:26 J -10931193.94 -10931193.94 -10931193.91 0.0088 0.0088
 Jupiter -34640-10-26 14:38 J -10930538.09 -10930537.89 -10930537.69 0.0490 0.0052
 Mars -34637-08-02 10:33 J -10929527.11 -10929527.06 -10929527.00 0.1617 0.1520
 Mars -34635-06-02 10:33 J -10928858.19 -10928858.06 -10928857.93 0.1619 0.1100
 Jupiter -34634-08-27 23:16 J -10928406.62 -10928406.53 -10928406.43 0.0534 0.0474
 Jupiter -34633-04-22 10:04 J -10928168.24 -10928168.08 -10928167.92 0.0541 0.0325
 Pluto -34633-07-16 04:04 J -10928083.50 -10928083.33 -10928083.15 0.0065 0.0039
 Pluto -34632-02-26 08:23 J -10927858.37 -10927858.15 -10927857.94 0.0065 0.0002

Pluto	-34632-10-09 11:45 J	-10927633.15	-10927633.01	-10927632.82	0.0065	0.0043
Saturn	-34630-11-14 23:02 J	-10926866.72	-10926866.54	-10926866.36	0.0286	0.0162
Saturn	-34629-07-01 22:33 J	-10926636.78	-10926636.56	-10926636.34	0.0285	0.0013
Saturn	-34628-02-16 21:07 J	-10926406.78	-10926406.62	-10926406.45	0.0285	0.0184
Jupiter	-34628-07-01 20:23 J	-10926271.83	-10926271.65	-10926271.47	0.0491	0.0213
Jupiter	-34627-02-22 13:26 J	-10926036.07	-10926035.94	-10926035.80	0.0487	0.0366
Jupiter	-34622-12-26 20:52 J	-10923902.83	-10923902.63	-10923902.43	0.0540	0.0100
Jupiter	-34616-03-07 01:26 J	-10922005.57	-10922005.44	-10922005.31	0.0493	0.0376
Jupiter	-34616-10-28 18:28 J	-10921769.91	-10921769.73	-10921769.54	0.0488	0.0206
Saturn	-34615-04-26 08:38 J	-10921590.24	-10921590.14	-10921590.04	0.0273	0.0239
Saturn	-34615-12-11 09:21 J	-10921361.30	-10921361.11	-10921360.92	0.0273	0.0098
Uranus	-34614-06-26 15:07 J	-10921163.87	-10921163.87	-10921163.84	0.0138	0.0138
Saturn	-34614-07-28 10:33 J	-10921132.26	-10921132.06	-10921131.86	0.0274	0.0045
Uranus	-34613-02-07 21:35 J	-10920937.67	-10920937.60	-10920937.52	0.0139	0.0129
Saturn	-34613-03-13 12:14 J	-10920903.13	-10920902.99	-10920902.83	0.0274	0.0190
Uranus	-34613-09-21 03:50 J	-10920711.43	-10920711.34	-10920711.22	0.0139	0.0120
Uranus	-34612-05-05 10:33 J	-10920485.18	-10920485.06	-10920484.93	0.0139	0.0111
Uranus	-34612-12-17 17:16 J	-10920258.91	-10920258.78	-10920258.62	0.0140	0.0101
Uranus	-34611-07-31 23:59 J	-10920032.64	-10920032.50	-10920032.32	0.0140	0.0091
Uranus	-34610-03-15 07:11 J	-10919806.37	-10919806.20	-10919806.02	0.0140	0.0081
Jupiter	-34610-08-31 08:38 J	-10919637.34	-10919637.14	-10919636.94	0.0538	0.0122
Uranus	-34610-10-27 14:23 J	-10919580.08	-10919579.90	-10919579.71	0.0141	0.0070
Uranus	-34609-06-09 21:50 J	-10919353.78	-10919353.59	-10919353.39	0.0141	0.0059
Moon	-34609-10-21 14:38 J	-10919220.01	-10919219.89	-10919219.76	0.2656	0.1552
Earth	-34609-10-21 18:43 J	-10919219.85	-10919219.72	-10919219.59	0.2651	0.1608 *
Uranus	-34608-01-22 05:31 J	-10919127.46	-10919127.27	-10919127.06	0.0141	0.0048
Uranus	-34608-09-05 13:26 J	-10918901.14	-10918900.94	-10918900.73	0.0142	0.0037
Uranus	-34607-04-19 21:21 J	-10918674.82	-10918674.61	-10918674.40	0.0142	0.0025
Uranus	-34607-12-02 05:31 J	-10918448.48	-10918448.27	-10918448.06	0.0142	0.0013
Uranus	-34606-07-16 13:55 J	-10918222.13	-10918221.92	-10918221.71	0.0143	0.0002

Uranus	-34605-02-27 22:19 J	-10917995.77	-10917995.57	-10917995.35	0.0143	0.0011
Uranus	-34605-10-11 07:11 J	-10917769.41	-10917769.20	-10917768.99	0.0143	0.0022
Uranus	-34604-05-25 15:50 J	-10917543.04	-10917542.84	-10917542.63	0.0143	0.0035
Mars	-34604-06-24 19:11 J	-10917512.88	-10917512.70	-10917512.53	0.1904	0.0268
Jupiter	-34604-07-03 23:45 J	-10917503.71	-10917503.51	-10917503.31	0.0489	0.0045
Uranus	-34603-01-07 00:57 J	-10917316.65	-10917316.46	-10917316.25	0.0144	0.0047
Mars	-34603-06-01 05:02 J	-10917171.47	-10917171.29	-10917171.12	0.1618	0.0155
Uranus	-34603-08-21 10:04 J	-10917090.26	-10917090.08	-10917089.87	0.0144	0.0059
Uranus	-34602-04-04 19:26 J	-10916863.86	-10916863.69	-10916863.49	0.0144	0.0071
Uranus	-34602-11-17 05:16 J	-10916637.45	-10916637.28	-10916637.11	0.0145	0.0083
Uranus	-34601-06-30 14:52 J	-10916411.03	-10916410.88	-10916410.71	0.0145	0.0095
Earth	-34601-10-19 05:59 J	-10916300.31	-10916300.25	-10916300.19	0.2650	0.2444
Moon	-34601-10-19 06:57 J	-10916300.27	-10916300.21	-10916300.16	0.2656	0.2463 *
Uranus	-34600-02-12 01:11 J	-10916184.60	-10916184.45	-10916184.31	0.0145	0.0106
Saturn	-34600-05-27 01:55 J	-10916080.60	-10916080.42	-10916080.22	0.0285	0.0142
Uranus	-34600-09-26 10:47 J	-10915958.15	-10915958.05	-10915957.91	0.0145	0.0119
Saturn	-34599-01-12 01:26 J	-10915850.65	-10915850.44	-10915850.22	0.0285	0.0032
Uranus	-34599-05-10 21:07 J	-10915731.70	-10915731.62	-10915731.51	0.0145	0.0130
Saturn	-34599-08-30 00:14 J	-10915620.64	-10915620.49	-10915620.33	0.0285	0.0203
Uranus	-34599-12-23 07:26 J	-10915505.22	-10915505.19	-10915505.12	0.0146	0.0141
Jupiter	-34598-05-05 20:09 J	-10915371.81	-10915371.66	-10915371.50	0.0536	0.0340
Jupiter	-34598-12-30 06:57 J	-10915133.31	-10915133.21	-10915133.10	0.0541	0.0461
Jupiter	-34592-03-09 03:07 J	-10913237.56	-10913237.37	-10913237.17	0.0491	0.0120
Jupiter	-34592-10-30 20:23 J	-10913001.72	-10913001.65	-10913001.58	0.0486	0.0456
Jupiter	-34586-09-03 16:47 J	-10910867.98	-10910867.80	-10910867.62	0.0540	0.0236
Saturn	-34586-11-06 14:09 J	-10910804.02	-10910803.91	-10910803.77	0.0274	0.0216
Saturn	-34585-06-22 15:35 J	-10910575.05	-10910574.85	-10910574.65	0.0274	0.0073
Saturn	-34584-02-06 17:16 J	-10910345.98	-10910345.78	-10910345.58	0.0274	0.0071
Saturn	-34584-09-23 19:26 J	-10910116.81	-10910116.69	-10910116.56	0.0274	0.0215
Jupiter	-34581-11-12 07:55 J	-10908971.33	-10908971.17	-10908971.00	0.0492	0.0282

Jupiter -34580-07-06 01:26 J -10908735.60 -10908735.44 -10908735.28 0.0487 0.0298
 Jupiter -34574-05-09 00:14 J -10906602.69 -10906602.49 -10906602.28 0.0539 0.0005
 Uranus -34574-10-13 12:28 J -10906445.05 -10906444.98 -10906444.89 0.0140 0.0130
 Uranus -34573-05-26 23:31 J -10906218.62 -10906218.52 -10906218.39 0.0139 0.0119
 Uranus -34572-01-08 10:33 J -10905992.19 -10905992.06 -10905991.92 0.0139 0.0108
 Uranus -34572-08-22 20:52 J -10905765.77 -10905765.63 -10905765.46 0.0139 0.0098
 Uranus -34571-04-06 07:26 J -10905539.35 -10905539.19 -10905539.01 0.0138 0.0087
 Saturn -34571-04-21 15:35 J -10905523.90 -10905523.85 -10905523.79 0.0286 0.0276
 Mars -34571-05-30 23:02 J -10905484.62 -10905484.54 -10905484.45 0.1618 0.1392
 Uranus -34571-11-18 17:31 J -10905312.94 -10905312.77 -10905312.57 0.0138 0.0076
 Saturn -34571-12-07 15:35 J -10905294.05 -10905293.85 -10905293.65 0.0286 0.0104
 Neptune -34570-01-17 00:14 J -10905253.57 -10905253.49 -10905253.39 0.0089 0.0081
 Uranus -34570-07-03 03:50 J -10905086.52 -10905086.34 -10905086.13 0.0138 0.0065
 Saturn -34570-07-25 15:07 J -10905064.08 -10905063.87 -10905063.66 0.0285 0.0070
 Neptune -34570-08-30 13:11 J -10905028.06 -10905027.95 -10905027.80 0.0089 0.0073
 Uranus -34569-02-14 13:55 J -10904860.12 -10904859.92 -10904859.70 0.0137 0.0054
 Saturn -34569-03-11 13:11 J -10904834.05 -10904833.95 -10904833.82 0.0285 0.0240
 Mars -34569-03-29 22:33 J -10904815.67 -10904815.56 -10904815.45 0.1620 0.1235
 Neptune -34569-04-12 02:23 J -10904802.53 -10904802.40 -10904802.23 0.0089 0.0064
 Jupiter -34569-07-18 13:26 J -10904705.02 -10904704.94 -10904704.85 0.0494 0.0443
 Uranus -34569-09-27 23:45 J -10904633.72 -10904633.51 -10904633.29 0.0137 0.0042
 Neptune -34569-11-23 15:50 J -10904577.00 -10904576.84 -10904576.66 0.0089 0.0055
 Jupiter -34568-03-11 07:11 J -10904469.39 -10904469.20 -10904469.00 0.0488 0.0140
 Uranus -34568-05-12 09:35 J -10904407.32 -10904407.10 -10904406.89 0.0137 0.0031
 Neptune -34568-07-07 05:02 J -10904351.47 -10904351.29 -10904351.10 0.0089 0.0046
 Uranus -34568-12-24 18:43 J -10904180.93 -10904180.72 -10904180.49 0.0136 0.0021
 Neptune -34567-02-17 17:59 J -10904125.94 -10904125.75 -10904125.54 0.0089 0.0038
 Uranus -34567-08-08 04:19 J -10903954.54 -10903954.32 -10903954.10 0.0136 0.0009
 Neptune -34567-10-01 07:11 J -10903900.40 -10903900.20 -10903899.98 0.0089 0.0029
 Uranus -34566-03-22 13:26 J -10903728.16 -10903727.94 -10903727.72 0.0136 0.0002

Neptune -34566-05-14 20:23 J -10903674.86 -10903674.65 -10903674.43 0.0089 0.0020
 Uranus -34566-11-03 22:19 J -10903501.79 -10903501.57 -10903501.35 0.0136 0.0013
 Neptune -34566-12-26 09:35 J -10903449.32 -10903449.10 -10903448.88 0.0089 0.0011
 Uranus -34565-06-17 07:11 J -10903275.42 -10903275.20 -10903274.98 0.0135 0.0024
 Neptune -34565-08-07 22:33 J -10903223.78 -10903223.56 -10903223.34 0.0089 0.0003
 Uranus -34564-01-29 15:50 J -10903049.06 -10903048.84 -10903048.62 0.0135 0.0034
 Neptune -34564-03-21 11:31 J -10902998.23 -10902998.02 -10902997.79 0.0089 0.0007
 Uranus -34564-09-13 00:14 J -10902822.70 -10902822.49 -10902822.28 0.0135 0.0045
 Neptune -34564-11-02 00:43 J -10902772.68 -10902772.47 -10902772.25 0.0089 0.0016
 Uranus -34563-04-27 08:09 J -10902596.35 -10902596.16 -10902595.94 0.0135 0.0056
 Neptune -34563-06-15 13:55 J -10902547.13 -10902546.92 -10902546.71 0.0089 0.0024
 Uranus -34563-12-09 16:19 J -10902370.00 -10902369.82 -10902369.61 0.0134 0.0066
 Jupiter -34562-01-11 10:33 J -10902337.24 -10902337.06 -10902336.87 0.0537 0.0221
 Neptune -34562-01-27 02:38 J -10902321.58 -10902321.39 -10902321.18 0.0089 0.0033
 Uranus -34562-07-24 00:28 J -10902143.66 -10902143.48 -10902143.29 0.0134 0.0075
 Neptune -34562-09-09 15:35 J -10902096.03 -10902095.85 -10902095.64 0.0089 0.0042
 Uranus -34561-03-06 07:55 J -10901917.33 -10901917.17 -10901916.98 0.0134 0.0085
 Neptune -34561-04-22 04:19 J -10901870.47 -10901870.32 -10901870.12 0.0089 0.0051
 Uranus -34561-10-18 15:21 J -10901691.00 -10901690.86 -10901690.69 0.0134 0.0095
 Neptune -34561-12-03 17:45 J -10901644.91 -10901644.76 -10901644.59 0.0089 0.0059
 Uranus -34560-06-01 22:47 J -10901464.68 -10901464.55 -10901464.40 0.0134 0.0104
 Neptune -34560-07-17 06:28 J -10901419.35 -10901419.23 -10901419.07 0.0089 0.0068
 Uranus -34559-01-14 05:59 J -10901238.36 -10901238.25 -10901238.12 0.0133 0.0113
 Neptune -34559-02-27 19:40 J -10901193.79 -10901193.68 -10901193.57 0.0089 0.0076
 Uranus -34559-08-28 13:11 J -10901012.03 -10901011.95 -10901011.85 0.0133 0.0121
 Neptune -34559-10-11 08:09 J -10900968.20 -10900968.16 -10900968.07 0.0089 0.0085
 Uranus -34558-04-11 19:40 J -10900785.70 -10900785.68 -10900785.61 0.0133 0.0130
 Jupiter -34557-11-14 12:28 J -10900203.18 -10900202.98 -10900202.78 0.0489 0.0022
 Saturn -34556-05-18 18:57 J -10900017.85 -10900017.71 -10900017.56 0.0273 0.0192
 Saturn -34555-01-02 19:55 J -10899788.87 -10899788.67 -10899788.47 0.0273 0.0050

Saturn -34555-08-19 21:21 J -10899559.81 -10899559.61 -10899559.42 0.0274 0.0093
 Saturn -34554-04-05 23:02 J -10899330.63 -10899330.54 -10899330.43 0.0274 0.0237
 Jupiter -34551-09-15 22:19 J -10898071.68 -10898071.57 -10898071.45 0.0535 0.0437
 Jupiter -34550-05-12 09:50 J -10897833.24 -10897833.09 -10897832.94 0.0541 0.0362
 Pluto -34545-03-18 22:19 J -10896060.68 -10896060.57 -10896060.42 0.0079 0.0065
 Jupiter -34545-07-20 17:31 J -10895936.96 -10895936.77 -10895936.58 0.0491 0.0184
 Pluto -34545-10-30 09:07 J -10895835.34 -10895835.12 -10895834.89 0.0079 0.0011
 Jupiter -34544-03-13 10:19 J -10895701.19 -10895701.07 -10895700.95 0.0486 0.0392
 Saturn -34542-11-01 18:43 J -10894737.81 -10894737.72 -10894737.62 0.0286 0.0257
 Saturn -34541-06-18 18:43 J -10894507.93 -10894507.72 -10894507.51 0.0285 0.0084
 Saturn -34540-02-03 17:59 J -10894277.96 -10894277.75 -10894277.54 0.0285 0.0088
 Saturn -34540-09-21 16:19 J -10894047.91 -10894047.82 -10894047.73 0.0284 0.0257
 Jupiter -34538-01-14 21:21 J -10893567.81 -10893567.61 -10893567.42 0.0540 0.0142
 Mars -34538-04-21 21:35 J -10893470.76 -10893470.60 -10893470.44 0.1903 0.0735
 Mars -34537-03-28 17:16 J -10893128.96 -10893128.78 -10893128.61 0.1619 0.0023
 Jupiter -34533-03-25 20:38 J -10891670.78 -10891670.64 -10891670.49 0.0493 0.0349
 Jupiter -34533-11-16 14:09 J -10891435.09 -10891434.91 -10891434.73 0.0488 0.0232
 Uranus -34530-10-08 07:26 J -10890379.25 -10890379.19 -10890379.13 0.0138 0.0132
 Uranus -34529-05-21 13:26 J -10890153.02 -10890152.94 -10890152.83 0.0139 0.0123
 Uranus -34528-01-02 20:23 J -10889926.77 -10889926.65 -10889926.53 0.0139 0.0113
 Uranus -34528-08-17 02:52 J -10889700.51 -10889700.38 -10889700.23 0.0139 0.0104
 Uranus -34527-03-31 09:35 J -10889474.25 -10889474.10 -10889473.94 0.0140 0.0094
 Jupiter -34527-09-19 07:11 J -10889302.40 -10889302.20 -10889301.99 0.0538 0.0085
 Uranus -34527-11-12 16:47 J -10889247.97 -10889247.80 -10889247.63 0.0140 0.0083
 Saturn -34527-11-28 23:59 J -10889231.66 -10889231.50 -10889231.34 0.0274 0.0169
 Uranus -34526-06-26 23:31 J -10889021.68 -10889021.52 -10889021.32 0.0140 0.0074
 Saturn -34526-07-16 01:11 J -10889002.66 -10889002.45 -10889002.24 0.0274 0.0027
 Uranus -34525-02-08 07:11 J -10888795.38 -10888795.20 -10888795.00 0.0141 0.0062
 Saturn -34525-03-01 02:52 J -10888773.56 -10888773.38 -10888773.19 0.0274 0.0118
 Uranus -34525-09-21 14:38 J -10888569.08 -10888568.89 -10888568.68 0.0141 0.0051

Saturn	-34525-10-16 05:16 J	-10888544.33	-10888544.28	-10888544.21	0.0275	0.0261
Uranus	-34524-05-05 22:33 J	-10888342.76	-10888342.56	-10888342.36	0.0141	0.0040
Uranus	-34524-12-18 06:28 J	-10888116.43	-10888116.23	-10888116.02	0.0142	0.0028
Uranus	-34523-08-01 14:38 J	-10887890.10	-10887889.89	-10887889.68	0.0142	0.0016
Uranus	-34522-03-15 22:47 J	-10887663.76	-10887663.55	-10887663.34	0.0142	0.0005
Uranus	-34522-10-28 07:11 J	-10887437.41	-10887437.20	-10887436.99	0.0143	0.0008
Uranus	-34521-06-10 15:35 J	-10887211.05	-10887210.85	-10887210.63	0.0143	0.0020
Jupiter	-34521-07-22 19:11 J	-10887168.91	-10887168.70	-10887168.50	0.0489	0.0072
Uranus	-34520-01-23 00:43 J	-10886984.68	-10886984.47	-10886984.26	0.0143	0.0032
Uranus	-34520-09-06 09:35 J	-10886758.30	-10886758.10	-10886757.90	0.0144	0.0044
Uranus	-34519-04-20 18:43 J	-10886531.92	-10886531.72	-10886531.53	0.0144	0.0056
Uranus	-34519-12-03 03:50 J	-10886305.52	-10886305.34	-10886305.15	0.0144	0.0068
Uranus	-34518-07-17 13:11 J	-10886079.12	-10886078.95	-10886078.77	0.0144	0.0081
Uranus	-34517-02-28 22:47 J	-10885852.70	-10885852.55	-10885852.37	0.0145	0.0093
Uranus	-34517-10-12 08:52 J	-10885626.27	-10885626.13	-10885625.98	0.0145	0.0104
Uranus	-34516-05-26 18:28 J	-10885399.83	-10885399.73	-10885399.58	0.0145	0.0117
Uranus	-34515-01-08 04:47 J	-10885173.38	-10885173.30	-10885173.18	0.0145	0.0128
Jupiter	-34515-05-24 14:23 J	-10885037.06	-10885036.90	-10885036.73	0.0536	0.0314
Uranus	-34515-08-22 15:07 J	-10884946.91	-10884946.87	-10884946.79	0.0145	0.0139
Jupiter	-34514-01-18 01:11 J	-10884798.53	-10884798.45	-10884798.36	0.0542	0.0485
Saturn	-34512-05-14 08:09 J	-10883951.30	-10883951.16	-10883951.02	0.0286	0.0219
Saturn	-34512-12-30 07:55 J	-10883721.38	-10883721.17	-10883720.95	0.0286	0.0046
Saturn	-34511-08-17 06:57 J	-10883491.40	-10883491.21	-10883491.01	0.0285	0.0127
Jupiter	-34509-03-28 00:57 J	-10882902.65	-10882902.46	-10882902.26	0.0490	0.0090
Jupiter	-34509-11-18 17:59 J	-10882666.76	-10882666.75	-10882666.72	0.0486	0.0483
Mars	-34506-04-21 19:55 J	-10881782.73	-10881782.67	-10881782.61	0.1904	0.1782
Mars	-34505-03-27 11:02 J	-10881442.15	-10881442.04	-10881441.93	0.1618	0.1255
Mars	-34503-01-25 10:33 J	-10880773.16	-10880773.06	-10880772.97	0.1621	0.1373
Jupiter	-34503-01-27 00:57 J	-10880771.48	-10880771.46	-10880771.43	0.0534	0.0529
Jupiter	-34503-09-22 11:59 J	-10880533.18	-10880533.00	-10880532.82	0.0540	0.0262

Jupiter -34498-12-02 05:59 J -10878636.42 -10878636.25 -10878636.07 0.0492 0.0251
 Saturn -34497-06-10 04:47 J -10878445.46 -10878445.30 -10878445.11 0.0273 0.0146
 Jupiter -34497-07-24 23:02 J -10878400.69 -10878400.54 -10878400.39 0.0487 0.0326
 Saturn -34496-01-25 06:14 J -10878216.45 -10878216.24 -10878216.03 0.0273 0.0004
 Saturn -34496-09-11 07:26 J -10877987.36 -10877987.19 -10877987.00 0.0274 0.0141
 Jupiter -34491-05-27 23:31 J -10876267.72 -10876267.52 -10876267.32 0.0539 0.0041
 Uranus -34490-06-12 18:28 J -10875886.79 -10875886.73 -10875886.66 0.0140 0.0133
 Neptune -34490-12-06 05:45 J -10875710.27 -10875710.26 -10875710.23 0.0089 0.0088
 Uranus -34489-01-25 05:16 J -10875660.37 -10875660.28 -10875660.16 0.0139 0.0123
 Neptune -34489-07-18 18:14 J -10875484.82 -10875484.74 -10875484.63 0.0089 0.0080
 Uranus -34489-09-07 16:04 J -10875433.95 -10875433.83 -10875433.68 0.0139 0.0112
 Neptune -34488-03-01 06:57 J -10875259.32 -10875259.21 -10875259.06 0.0089 0.0072
 Uranus -34488-04-22 02:52 J -10875207.52 -10875207.38 -10875207.22 0.0139 0.0101
 Neptune -34488-10-12 19:55 J -10875033.81 -10875033.67 -10875033.50 0.0088 0.0063
 Uranus -34488-12-04 13:40 J -10874981.10 -10874980.93 -10874980.76 0.0139 0.0090
 Neptune -34487-05-26 08:38 J -10874808.29 -10874808.14 -10874807.95 0.0088 0.0055
 Uranus -34487-07-18 23:45 J -10874754.68 -10874754.51 -10874754.31 0.0138 0.0079
 Neptune -34486-01-06 21:35 J -10874582.78 -10874582.60 -10874582.40 0.0088 0.0046
 Uranus -34486-03-02 10:04 J -10874528.27 -10874528.08 -10874527.88 0.0138 0.0068
 Jupiter -34486-08-07 11:02 J -10874370.15 -10874370.04 -10874369.93 0.0494 0.0412
 Neptune -34486-08-20 10:19 J -10874357.25 -10874357.07 -10874356.85 0.0088 0.0038
 Uranus -34486-10-14 20:09 J -10874301.86 -10874301.66 -10874301.45 0.0138 0.0057
 Jupiter -34485-03-30 04:33 J -10874134.50 -10874134.31 -10874134.12 0.0488 0.0168
 Neptune -34485-04-01 23:31 J -10874131.72 -10874131.52 -10874131.30 0.0088 0.0029
 Uranus -34485-05-28 05:59 J -10874075.45 -10874075.25 -10874075.03 0.0137 0.0046
 Neptune -34485-11-13 12:43 J -10873906.18 -10873905.97 -10873905.75 0.0088 0.0020
 Uranus -34484-01-09 15:50 J -10873849.05 -10873848.84 -10873848.62 0.0137 0.0034
 Neptune -34484-06-27 01:26 J -10873680.65 -10873680.44 -10873680.21 0.0088 0.0012
 Uranus -34484-08-24 01:26 J -10873622.66 -10873622.44 -10873622.21 0.0137 0.0023
 Neptune -34483-02-07 14:23 J -10873455.11 -10873454.90 -10873454.67 0.0088 0.0003

Uranus -34483-04-07 10:47 J -10873396.27 -10873396.05 -10873395.82 0.0136 0.0012
 Neptune -34483-09-21 03:21 J -10873229.57 -10873229.36 -10873229.13 0.0088 0.0006
 Uranus -34483-11-19 20:09 J -10873169.89 -10873169.66 -10873169.44 0.0136 0.0001
 Saturn -34483-11-24 11:02 J -10873165.19 -10873165.04 -10873164.88 0.0286 0.0200
 Neptune -34482-05-04 16:33 J -10873004.03 -10873003.81 -10873003.59 0.0088 0.0015
 Uranus -34482-07-04 05:16 J -10872943.50 -10872943.28 -10872943.06 0.0136 0.0010
 Saturn -34482-07-12 11:02 J -10872935.25 -10872935.04 -10872934.82 0.0285 0.0027
 Neptune -34482-12-16 05:16 J -10872778.48 -10872778.28 -10872778.06 0.0088 0.0024
 Uranus -34481-02-15 14:09 J -10872717.13 -10872716.91 -10872716.69 0.0135 0.0021
 Saturn -34481-02-27 10:04 J -10872705.26 -10872705.08 -10872704.89 0.0285 0.0145
 Neptune -34481-07-28 18:14 J -10872552.93 -10872552.74 -10872552.52 0.0088 0.0032
 Uranus -34481-09-28 22:47 J -10872490.76 -10872490.55 -10872490.33 0.0135 0.0032
 Neptune -34480-03-11 07:26 J -10872327.38 -10872327.19 -10872326.99 0.0088 0.0041
 Uranus -34480-05-13 07:11 J -10872264.41 -10872264.20 -10872263.98 0.0135 0.0043
 Neptune -34480-10-22 20:09 J -10872101.83 -10872101.66 -10872101.46 0.0088 0.0050
 Uranus -34480-12-25 15:35 J -10872038.05 -10872037.85 -10872037.64 0.0135 0.0053
 Jupiter -34479-01-30 11:31 J -10872002.22 -10872002.02 -10872001.83 0.0537 0.0178
 Neptune -34479-06-05 09:21 J -10871876.27 -10871876.11 -10871875.93 0.0088 0.0058
 Uranus -34479-08-08 23:45 J -10871811.70 -10871811.51 -10871811.30 0.0134 0.0064
 Neptune -34478-01-16 22:04 J -10871650.70 -10871650.58 -10871650.41 0.0088 0.0067
 Uranus -34478-03-23 07:40 J -10871585.35 -10871585.18 -10871584.98 0.0134 0.0074
 Neptune -34478-08-30 11:31 J -10871425.13 -10871425.02 -10871424.90 0.0088 0.0075
 Uranus -34478-11-04 15:35 J -10871359.02 -10871358.85 -10871358.67 0.0134 0.0083
 Neptune -34477-04-12 00:14 J -10871199.54 -10871199.49 -10871199.39 0.0088 0.0084
 Uranus -34477-06-17 23:02 J -10871132.69 -10871132.54 -10871132.37 0.0134 0.0093
 Uranus -34476-01-30 06:14 J -10870906.36 -10870906.24 -10870906.08 0.0134 0.0103
 Uranus -34476-09-13 13:40 J -10870680.03 -10870679.93 -10870679.79 0.0134 0.0112
 Uranus -34475-04-27 20:52 J -10870453.71 -10870453.63 -10870453.53 0.0133 0.0120
 Uranus -34475-12-10 03:35 J -10870227.39 -10870227.35 -10870227.28 0.0133 0.0129
 Jupiter -34474-12-04 08:09 J -10869868.37 -10869868.16 -10869867.96 0.0490 0.0006

Mars	-34472-02-16 01:11 J	-10869428.58	-10869428.45	-10869428.31	0.1902	0.1175
Mars	-34471-01-24 05:02 J	-10869086.47	-10869086.29	-10869086.12	0.1619	0.0119
Earth	-34471-04-18 10:19 J	-10869002.22	-10869002.07	-10869001.92	0.2682	0.0342
Moon	-34471-04-18 14:23 J	-10869002.06	-10869001.90	-10869001.74	0.2678	0.0398 *
Saturn	-34468-05-06 07:55 J	-10867888.22	-10867888.17	-10867888.11	0.0274	0.0263
Jupiter	-34468-10-04 21:50 J	-10867736.72	-10867736.59	-10867736.45	0.0535	0.0397
Saturn	-34468-12-21 08:52 J	-10867659.31	-10867659.13	-10867658.94	0.0274	0.0123
Jupiter	-34467-05-31 08:38 J	-10867498.27	-10867498.14	-10867498.00	0.0541	0.0398
Saturn	-34467-08-07 10:19 J	-10867430.28	-10867430.07	-10867429.87	0.0274	0.0020
Saturn	-34466-03-24 11:59 J	-10867201.16	-10867201.00	-10867200.83	0.0274	0.0163
Jupiter	-34462-08-09 12:57 J	-10865602.15	-10865601.96	-10865601.77	0.0491	0.0157
Jupiter	-34461-04-01 06:14 J	-10865366.34	-10865366.24	-10865366.13	0.0487	0.0417
Jupiter	-34455-02-02 15:35 J	-10863233.04	-10863232.85	-10863232.65	0.0540	0.0168
Saturn	-34453-06-06 00:14 J	-10862378.67	-10862378.49	-10862378.31	0.0286	0.0162
Saturn	-34452-01-21 23:59 J	-10862148.72	-10862148.50	-10862148.29	0.0286	0.0011
Saturn	-34452-09-08 22:47 J	-10861918.71	-10861918.55	-10861918.38	0.0285	0.0182
Jupiter	-34450-04-14 18:43 J	-10861335.87	-10861335.72	-10861335.56	0.0493	0.0318
Jupiter	-34450-12-06 12:14 J	-10861100.16	-10861099.99	-10861099.82	0.0488	0.0261
Uranus	-34446-06-07 16:04 J	-10859820.86	-10859820.83	-10859820.77	0.0138	0.0135
Uranus	-34445-01-19 22:33 J	-10859594.63	-10859594.56	-10859594.46	0.0139	0.0126
Uranus	-34445-09-02 04:47 J	-10859368.39	-10859368.30	-10859368.17	0.0139	0.0117
Uranus	-34444-04-16 11:31 J	-10859142.14	-10859142.02	-10859141.87	0.0139	0.0107
Jupiter	-34444-10-08 02:09 J	-10858967.61	-10858967.41	-10858967.21	0.0538	0.0058
Uranus	-34444-11-28 18:28 J	-10858915.87	-10858915.73	-10858915.57	0.0140	0.0097
Uranus	-34443-07-13 01:11 J	-10858689.60	-10858689.45	-10858689.27	0.0140	0.0087
Uranus	-34442-02-24 08:23 J	-10858463.32	-10858463.15	-10858462.96	0.0140	0.0076
Uranus	-34442-10-08 15:35 J	-10858237.02	-10858236.85	-10858236.65	0.0141	0.0066
Uranus	-34441-05-21 23:16 J	-10858010.72	-10858010.53	-10858010.33	0.0141	0.0054
Uranus	-34440-01-03 06:57 J	-10857784.40	-10857784.21	-10857784.00	0.0141	0.0043
Mars	-34440-02-15 22:47 J	-10857740.67	-10857740.55	-10857740.42	0.1904	0.1314

Uranus -34440-08-17 14:52 J -10857558.08 -10857557.88 -10857557.67 0.0142 0.0031
 Mars -34439-01-22 23:16 J -10857399.66 -10857399.53 -10857399.41 0.1618 0.1123
 Uranus -34439-03-31 22:47 J -10857331.76 -10857331.55 -10857331.34 0.0142 0.0019
 Uranus -34439-11-13 06:57 J -10857105.42 -10857105.21 -10857105.00 0.0142 0.0008
 Saturn -34439-11-16 13:26 J -10857102.03 -10857101.94 -10857101.83 0.0273 0.0238
 Jupiter -34439-12-18 23:45 J -10857069.56 -10857069.51 -10857069.46 0.0495 0.0478
 Uranus -34438-06-27 15:07 J -10856879.08 -10856878.87 -10856878.66 0.0142 0.0005
 Saturn -34438-07-03 14:09 J -10856873.10 -10856872.91 -10856872.71 0.0273 0.0099
 Jupiter -34438-08-11 17:16 J -10856833.97 -10856833.78 -10856833.58 0.0489 0.0103
 Mars -34438-11-22 22:19 J -10856730.63 -10856730.57 -10856730.51 0.1621 0.1509
 Uranus -34437-02-08 23:45 J -10856652.72 -10856652.51 -10856652.30 0.0143 0.0017
 Saturn -34437-02-17 15:35 J -10856644.06 -10856643.85 -10856643.65 0.0273 0.0044
 Uranus -34437-09-22 08:09 J -10856426.36 -10856426.16 -10856425.94 0.0143 0.0029
 Saturn -34437-10-03 17:02 J -10856414.93 -10856414.79 -10856414.63 0.0274 0.0186
 Uranus -34436-05-06 17:02 J -10856199.99 -10856199.79 -10856199.58 0.0143 0.0041
 Uranus -34436-12-19 01:55 J -10855973.61 -10855973.42 -10855973.21 0.0144 0.0054
 Uranus -34435-08-02 11:02 J -10855747.22 -10855747.04 -10855746.84 0.0144 0.0066
 Uranus -34434-03-16 20:23 J -10855520.82 -10855520.65 -10855520.46 0.0144 0.0078
 Uranus -34434-10-29 05:59 J -10855294.41 -10855294.25 -10855294.08 0.0144 0.0090
 Uranus -34433-06-11 15:35 J -10855067.99 -10855067.85 -10855067.69 0.0145 0.0102
 Uranus -34432-01-24 01:55 J -10854841.55 -10854841.42 -10854841.29 0.0145 0.0113
 Jupiter -34432-06-12 13:26 J -10854702.11 -10854701.94 -10854701.76 0.0536 0.0276
 Uranus -34432-09-07 11:31 J -10854615.11 -10854615.02 -10854614.89 0.0145 0.0125
 Jupiter -34431-02-06 00:57 J -10854463.51 -10854463.46 -10854463.40 0.0542 0.0521
 Uranus -34431-04-21 21:50 J -10854388.65 -10854388.59 -10854388.50 0.0145 0.0136
 Jupiter -34426-04-16 22:47 J -10852567.75 -10852567.55 -10852567.34 0.0490 0.0060
 Saturn -34424-12-17 02:38 J -10851592.57 -10851592.39 -10851592.20 0.0286 0.0143
 Saturn -34423-08-04 02:23 J -10851362.61 -10851362.40 -10851362.18 0.0285 0.0030
 Saturn -34422-03-22 01:26 J -10851132.60 -10851132.44 -10851132.29 0.0285 0.0199
 Jupiter -34420-02-15 01:55 J -10850436.50 -10850436.42 -10850436.34 0.0534 0.0487

Jupiter -34420-10-11 13:11 J -10850198.12 -10850197.95 -10850197.78 0.0541 0.0305
 Jupiter -34415-12-21 02:23 J -10848301.58 -10848301.40 -10848301.22 0.0492 0.0222
 Jupiter -34414-08-13 19:26 J -10848065.83 -10848065.69 -10848065.55 0.0487 0.0352
 Saturn -34409-05-28 16:04 J -10846315.95 -10846315.83 -10846315.70 0.0273 0.0218
 Saturn -34408-01-12 17:02 J -10846086.98 -10846086.79 -10846086.59 0.0274 0.0078
 Jupiter -34408-06-15 23:31 J -10845932.72 -10845932.52 -10845932.32 0.0539 0.0081
 Saturn -34408-08-29 18:28 J -10845857.93 -10845857.73 -10845857.53 0.0274 0.0065
 Saturn -34407-04-15 20:09 J -10845628.78 -10845628.66 -10845628.51 0.0274 0.0208
 Mars -34407-12-14 04:04 J -10845386.41 -10845386.33 -10845386.24 0.1901 0.1627
 Uranus -34406-02-09 23:59 J -10845328.53 -10845328.50 -10845328.44 0.0140 0.0137
 Neptune -34406-04-20 11:02 J -10845259.09 -10845259.04 -10845258.95 0.0089 0.0084
 Uranus -34406-09-24 11:31 J -10845102.11 -10845102.02 -10845101.93 0.0140 0.0126
 Mars -34406-11-21 17:16 J -10845043.95 -10845043.78 -10845043.60 0.1620 0.0247
 Neptune -34406-12-02 00:28 J -10845033.59 -10845033.48 -10845033.35 0.0089 0.0075
 Uranus -34405-05-07 22:04 J -10844875.69 -10844875.58 -10844875.44 0.0139 0.0116
 Neptune -34405-07-14 13:26 J -10844808.07 -10844807.94 -10844807.78 0.0089 0.0067
 Uranus -34405-12-20 09:07 J -10844649.26 -10844649.12 -10844648.97 0.0139 0.0105
 Neptune -34404-02-25 02:38 J -10844582.54 -10844582.39 -10844582.21 0.0089 0.0058
 Uranus -34404-08-03 19:26 J -10844422.83 -10844422.69 -10844422.51 0.0139 0.0094
 Neptune -34404-10-08 16:19 J -10844357.00 -10844356.82 -10844356.64 0.0089 0.0049
 Uranus -34403-03-18 05:59 J -10844196.41 -10844196.25 -10844196.06 0.0138 0.0083
 Neptune -34403-05-22 05:02 J -10844131.47 -10844131.29 -10844131.08 0.0089 0.0041
 Jupiter -34403-08-26 07:11 J -10844035.32 -10844035.20 -10844035.07 0.0494 0.0384
 Uranus -34403-10-30 16:19 J -10843970.00 -10843969.82 -10843969.61 0.0138 0.0072
 Neptune -34402-01-02 18:14 J -10843905.93 -10843905.74 -10843905.52 0.0089 0.0032
 Jupiter -34402-04-19 00:43 J -10843799.65 -10843799.47 -10843799.28 0.0488 0.0196
 Uranus -34402-06-14 02:38 J -10843743.58 -10843743.39 -10843743.18 0.0138 0.0060
 Neptune -34402-08-16 07:26 J -10843680.40 -10843680.19 -10843679.97 0.0089 0.0023
 Uranus -34401-01-26 12:43 J -10843517.17 -10843516.97 -10843516.75 0.0137 0.0049
 Neptune -34401-03-28 20:23 J -10843454.86 -10843454.65 -10843454.42 0.0089 0.0015

Uranus -34401-09-08 22:47 J -10843290.76 -10843290.55 -10843290.33 0.0137 0.0037
 Neptune -34401-11-09 09:50 J -10843229.31 -10843229.09 -10843228.87 0.0089 0.0006
 Uranus -34400-04-23 08:23 J -10843064.37 -10843064.15 -10843063.93 0.0137 0.0026
 Neptune -34400-06-22 22:47 J -10843003.77 -10843003.55 -10843003.33 0.0089 0.0003
 Uranus -34400-12-05 17:59 J -10842837.97 -10842837.75 -10842837.53 0.0136 0.0014
 Neptune -34399-02-03 11:45 J -10842778.23 -10842778.01 -10842777.79 0.0089 0.0012
 Uranus -34399-07-20 03:21 J -10842611.58 -10842611.36 -10842611.13 0.0136 0.0004
 Neptune -34399-09-17 00:43 J -10842552.68 -10842552.47 -10842552.25 0.0089 0.0020
 Uranus -34398-03-03 12:28 J -10842385.20 -10842384.98 -10842384.75 0.0136 0.0008
 Neptune -34398-04-30 13:40 J -10842327.13 -10842326.93 -10842326.71 0.0089 0.0029
 Uranus -34398-10-15 21:35 J -10842158.82 -10842158.60 -10842158.38 0.0136 0.0019
 Neptune -34398-12-12 02:23 J -10842101.58 -10842101.40 -10842101.18 0.0089 0.0038
 Uranus -34397-05-29 06:14 J -10841932.46 -10841932.24 -10841932.02 0.0135 0.0030
 Neptune -34397-07-24 15:35 J -10841876.03 -10841875.85 -10841875.65 0.0089 0.0046
 Uranus -34396-01-10 14:38 J -10841706.09 -10841705.89 -10841705.66 0.0135 0.0041
 Jupiter -34396-02-18 06:28 J -10841667.42 -10841667.23 -10841667.03 0.0537 0.0151
 Neptune -34396-03-07 04:19 J -10841650.47 -10841650.32 -10841650.13 0.0089 0.0055
 Uranus -34396-08-24 23:31 J -10841479.73 -10841479.52 -10841479.32 0.0135 0.0051
 Neptune -34396-10-18 17:45 J -10841424.91 -10841424.76 -10841424.60 0.0089 0.0063
 Uranus -34395-04-08 07:26 J -10841253.38 -10841253.19 -10841252.98 0.0135 0.0062
 Neptune -34395-06-01 06:14 J -10841199.34 -10841199.24 -10841199.09 0.0089 0.0073
 Saturn -34395-11-11 14:09 J -10841035.95 -10841035.91 -10841035.86 0.0286 0.0280
 Uranus -34395-11-20 15:35 J -10841027.04 -10841026.85 -10841026.66 0.0134 0.0072
 Neptune -34394-01-12 19:26 J -10840973.77 -10840973.69 -10840973.59 0.0089 0.0080
 Saturn -34394-06-29 14:52 J -10840806.09 -10840805.88 -10840805.68 0.0286 0.0108
 Uranus -34394-07-04 23:16 J -10840800.69 -10840800.53 -10840800.34 0.0134 0.0082
 Neptune -34394-08-26 08:09 J -10840748.16 -10840748.16 -10840748.13 0.0089 0.0089
 Saturn -34393-02-14 14:23 J -10840576.11 -10840575.90 -10840575.68 0.0286 0.0066
 Uranus -34393-02-16 06:57 J -10840574.36 -10840574.21 -10840574.03 0.0134 0.0092
 Uranus -34393-09-29 14:52 J -10840348.03 -10840347.88 -10840347.74 0.0134 0.0101

Saturn	-34393-10-01 13:11 J	-10840346.06	-10840345.95	-10840345.82	0.0285	0.0235
Uranus	-34392-05-13 21:50 J	-10840121.70	-10840121.59	-10840121.46	0.0134	0.0111
Uranus	-34392-12-26 05:02 J	-10839895.38	-10839895.29	-10839895.18	0.0133	0.0120
Uranus	-34391-08-09 11:59 J	-10839669.04	-10839669.00	-10839668.92	0.0133	0.0128
Jupiter	-34391-12-23 06:43 J	-10839533.42	-10839533.22	-10839533.02	0.0490	0.0036
Jupiter	-34385-10-23 17:02 J	-10837401.93	-10837401.79	-10837401.64	0.0535	0.0369
Pluto	-34384-01-29 05:45 J	-10837304.43	-10837304.26	-10837304.08	0.0065	0.0038
Jupiter	-34384-06-19 04:04 J	-10837163.46	-10837163.33	-10837163.21	0.0541	0.0424
Pluto	-34384-09-11 09:50 J	-10837079.31	-10837079.09	-10837078.87	0.0065	0.0002
Pluto	-34383-04-24 13:11 J	-10836854.09	-10836853.95	-10836853.76	0.0065	0.0044
Saturn	-34380-12-08 21:50 J	-10835529.73	-10835529.59	-10835529.44	0.0273	0.0194
Saturn	-34379-07-25 22:33 J	-10835300.76	-10835300.56	-10835300.35	0.0273	0.0054
Jupiter	-34379-08-28 11:59 J	-10835267.19	-10835267.00	-10835266.80	0.0491	0.0125
Saturn	-34378-03-11 23:45 J	-10835071.70	-10835071.51	-10835071.31	0.0273	0.0088
Jupiter	-34378-04-21 05:02 J	-10835031.37	-10835031.29	-10835031.21	0.0486	0.0446
Saturn	-34378-10-27 01:26 J	-10834842.54	-10834842.44	-10834842.32	0.0274	0.0230
Mars	-34375-12-14 02:23 J	-10833698.56	-10833698.40	-10833698.25	0.1903	0.0867
Mars	-34374-11-20 11:31 J	-10833357.16	-10833357.02	-10833356.88	0.1619	0.0990
Jupiter	-34372-02-21 15:35 J	-10832898.04	-10832897.85	-10832897.66	0.0540	0.0205
Jupiter	-34367-05-03 17:31 J	-10831000.93	-10831000.77	-10831000.60	0.0493	0.0285
Jupiter	-34367-12-25 10:33 J	-10830765.22	-10830765.06	-10830764.90	0.0487	0.0290
Earth	-34366-10-22 16:04 J	-10830463.97	-10830463.83	-10830463.70	0.2651	0.1507
Moon	-34366-10-22 21:50 J	-10830463.70	-10830463.59	-10830463.48	0.2649	0.1969 *
Saturn	-34365-05-23 16:47 J	-10830249.87	-10830249.80	-10830249.70	0.0286	0.0260
Saturn	-34364-01-08 17:16 J	-10830019.98	-10830019.78	-10830019.57	0.0286	0.0088
Saturn	-34364-08-26 17:02 J	-10829790.00	-10829789.79	-10829789.58	0.0285	0.0084
Saturn	-34363-04-13 15:35 J	-10829559.94	-10829559.85	-10829559.75	0.0285	0.0252
Uranus	-34362-02-05 01:11 J	-10829262.45	-10829262.45	-10829262.43	0.0138	0.0138
Uranus	-34362-09-19 07:11 J	-10829036.26	-10829036.20	-10829036.11	0.0138	0.0129
Uranus	-34361-05-02 13:40 J	-10828810.02	-10828809.93	-10828809.81	0.0139	0.0120

Jupiter -34361-10-27 03:50 J -10828632.54 -10828632.34 -10828632.13 0.0538 0.0016
 Uranus -34361-12-14 20:23 J -10828583.77 -10828583.65 -10828583.51 0.0139 0.0110
 Uranus -34360-07-29 02:52 J -10828357.51 -10828357.38 -10828357.21 0.0139 0.0101
 Uranus -34359-03-12 09:50 J -10828131.24 -10828131.09 -10828130.92 0.0140 0.0090
 Uranus -34359-10-24 17:02 J -10827904.96 -10827904.79 -10827904.61 0.0140 0.0079
 Uranus -34358-06-08 00:14 J -10827678.67 -10827678.49 -10827678.30 0.0140 0.0069
 Earth -34358-10-20 03:35 J -10827544.40 -10827544.35 -10827544.30 0.2649 0.2514
 Moon -34358-10-20 05:45 J -10827544.38 -10827544.26 -10827544.14 0.2643 0.1947 *
 Uranus -34357-01-20 07:40 J -10827452.37 -10827452.18 -10827451.98 0.0141 0.0058
 Uranus -34357-09-02 15:07 J -10827226.06 -10827225.87 -10827225.66 0.0141 0.0046
 Uranus -34356-04-16 23:02 J -10826999.75 -10826999.54 -10826999.34 0.0141 0.0035
 Uranus -34356-11-29 06:43 J -10826773.43 -10826773.22 -10826773.01 0.0142 0.0023
 Jupiter -34355-01-06 21:07 J -10826734.71 -10826734.62 -10826734.54 0.0494 0.0448
 Uranus -34355-07-13 14:52 J -10826547.09 -10826546.88 -10826546.67 0.0142 0.0011
 Jupiter -34355-08-30 14:23 J -10826499.09 -10826498.90 -10826498.70 0.0489 0.0131
 Uranus -34354-02-24 23:02 J -10826320.75 -10826320.54 -10826320.33 0.0142 0.0002
 Uranus -34354-10-09 07:11 J -10826094.41 -10826094.20 -10826093.98 0.0143 0.0014
 Uranus -34353-05-22 15:50 J -10825868.05 -10825867.84 -10825867.63 0.0143 0.0026
 Uranus -34352-01-04 00:28 J -10825641.68 -10825641.48 -10825641.27 0.0143 0.0038
 Uranus -34352-08-18 09:21 J -10825415.30 -10825415.11 -10825414.91 0.0144 0.0050
 Uranus -34351-04-01 18:14 J -10825188.92 -10825188.74 -10825188.54 0.0144 0.0063
 Uranus -34351-11-14 03:21 J -10824962.53 -10824962.36 -10824962.17 0.0144 0.0075
 Saturn -34350-06-20 23:16 J -10824743.68 -10824743.53 -10824743.37 0.0273 0.0175
 Uranus -34350-06-28 12:43 J -10824736.13 -10824735.97 -10824735.79 0.0144 0.0087
 Saturn -34349-02-05 00:14 J -10824514.69 -10824514.49 -10824514.28 0.0274 0.0035
 Uranus -34349-02-09 22:47 J -10824509.70 -10824509.55 -10824509.40 0.0145 0.0099
 Jupiter -34349-07-01 14:38 J -10824367.07 -10824366.89 -10824366.70 0.0536 0.0233
 Saturn -34349-09-21 01:26 J -10824285.62 -10824285.44 -10824285.24 0.0274 0.0108
 Uranus -34349-09-23 08:09 J -10824283.28 -10824283.16 -10824283.01 0.0145 0.0111
 Uranus -34348-05-07 18:14 J -10824056.84 -10824056.74 -10824056.62 0.0145 0.0122

Saturn -34348-05-08 03:21 J -10824056.43 -10824056.36 -10824056.26 0.0274 0.0250
 Uranus -34348-12-20 04:33 J -10823830.39 -10823830.31 -10823830.23 0.0145 0.0134
 Uranus -34347-08-03 14:52 J -10823603.89 -10823603.88 -10823603.86 0.0145 0.0145
 Jupiter -34343-05-05 19:55 J -10822232.87 -10822232.67 -10822232.46 0.0490 0.0030
 Mars -34340-09-18 05:16 J -10821001.45 -10821001.28 -10821001.11 0.1620 0.0385
 Jupiter -34337-03-05 22:19 J -10820101.67 -10820101.57 -10820101.46 0.0534 0.0457
 Jupiter -34337-10-30 09:07 J -10819863.28 -10819863.12 -10819862.96 0.0540 0.0331
 Saturn -34336-12-04 03:07 J -10819463.50 -10819463.37 -10819463.23 0.0286 0.0227
 Saturn -34335-07-22 03:35 J -10819233.56 -10819233.35 -10819233.13 0.0286 0.0055
 Saturn -34334-03-09 03:21 J -10819003.55 -10819003.36 -10819003.16 0.0286 0.0118
 Jupiter -34331-01-09 01:40 J -10817966.62 -10817966.43 -10817966.25 0.0492 0.0190
 Jupiter -34331-09-01 18:43 J -10817730.84 -10817730.72 -10817730.59 0.0487 0.0383
 Jupiter -34325-07-04 19:11 J -10815597.90 -10815597.70 -10815597.50 0.0539 0.0109
 Neptune -34325-10-20 05:59 J -10815490.32 -10815490.25 -10815490.16 0.0089 0.0082
 Neptune -34324-06-02 18:28 J -10815264.83 -10815264.73 -10815264.59 0.0089 0.0074
 Neptune -34323-01-14 07:11 J -10815039.33 -10815039.20 -10815039.04 0.0089 0.0066
 Neptune -34323-08-27 20:23 J -10814813.82 -10814813.65 -10814813.49 0.0089 0.0057
 Neptune -34322-04-10 09:07 J -10814588.30 -10814588.12 -10814587.93 0.0089 0.0049
 Uranus -34322-05-24 16:19 J -10814543.88 -10814543.82 -10814543.72 0.0140 0.0130
 Neptune -34322-11-21 21:50 J -10814362.77 -10814362.59 -10814362.38 0.0088 0.0040
 Uranus -34321-01-06 03:50 J -10814317.45 -10814317.34 -10814317.23 0.0140 0.0119
 Neptune -34321-07-04 10:47 J -10814137.25 -10814137.05 -10814136.84 0.0088 0.0032
 Uranus -34321-08-19 14:23 J -10814091.03 -10814090.90 -10814090.75 0.0139 0.0108
 Saturn -34321-12-31 05:31 J -10813957.44 -10813957.27 -10813957.10 0.0273 0.0150
 Neptune -34320-02-14 23:31 J -10813911.72 -10813911.52 -10813911.30 0.0088 0.0024
 Uranus -34320-04-03 01:11 J -10813864.60 -10813864.45 -10813864.28 0.0139 0.0097
 Saturn -34320-08-17 05:59 J -10813728.45 -10813728.25 -10813728.04 0.0273 0.0012
 Jupiter -34320-09-14 06:57 J -10813700.35 -10813700.21 -10813700.07 0.0494 0.0350
 Neptune -34320-09-28 12:43 J -10813686.19 -10813685.97 -10813685.75 0.0088 0.0015
 Uranus -34320-11-15 11:45 J -10813638.18 -10813638.01 -10813637.83 0.0139 0.0086

Saturn -34319-04-03 07:11 J -10813499.38 -10813499.20 -10813499.02 0.0273 0.0131
 Jupiter -34319-05-08 00:28 J -10813464.66 -10813464.48 -10813464.30 0.0488 0.0227
 Neptune -34319-05-12 01:40 J -10813460.65 -10813460.43 -10813460.21 0.0088 0.0006
 Uranus -34319-06-29 22:19 J -10813411.75 -10813411.57 -10813411.38 0.0138 0.0074
 Saturn -34319-11-18 08:52 J -10813270.14 -10813270.13 -10813270.10 0.0274 0.0272
 Neptune -34319-12-23 14:38 J -10813235.11 -10813234.89 -10813234.67 0.0088 0.0003
 Uranus -34318-02-11 08:38 J -10813185.33 -10813185.14 -10813184.94 0.0138 0.0063
 Neptune -34318-08-06 03:35 J -10813009.57 -10813009.35 -10813009.13 0.0088 0.0011
 Uranus -34318-09-25 18:43 J -10812958.92 -10812958.72 -10812958.51 0.0138 0.0052
 Neptune -34317-03-18 16:33 J -10812784.02 -10812783.81 -10812783.59 0.0088 0.0020
 Uranus -34317-05-09 04:33 J -10812732.52 -10812732.31 -10812732.09 0.0137 0.0040
 Neptune -34317-10-30 05:31 J -10812558.47 -10812558.27 -10812558.05 0.0088 0.0028
 Uranus -34317-12-21 14:23 J -10812506.11 -10812505.90 -10812505.67 0.0137 0.0029
 Neptune -34316-06-12 18:28 J -10812332.92 -10812332.73 -10812332.52 0.0088 0.0037
 Uranus -34316-08-05 00:14 J -10812279.71 -10812279.49 -10812279.27 0.0137 0.0017
 Neptune -34315-01-24 07:11 J -10812107.37 -10812107.20 -10812106.99 0.0088 0.0046
 Uranus -34315-03-19 09:35 J -10812053.32 -10812053.10 -10812052.87 0.0136 0.0006
 Neptune -34315-09-06 20:23 J -10811881.81 -10811881.65 -10811881.46 0.0088 0.0054
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 Neptune -34314-04-20 09:21 J -10811656.24 -10811656.11 -10811655.93 0.0088 0.0063
 Uranus -34314-06-15 03:50 J -10811600.55 -10811600.34 -10811600.11 0.0136 0.0017
 Neptune -34314-12-01 22:33 J -10811430.67 -10811430.56 -10811430.41 0.0088 0.0071
 Uranus -34313-01-27 12:43 J -10811374.18 -10811373.97 -10811373.74 0.0136 0.0028
 Jupiter -34313-03-09 06:28 J -10811332.43 -10811332.23 -10811332.03 0.0537 0.0111
 Neptune -34313-07-14 11:59 J -10811205.09 -10811205.00 -10811204.90 0.0088 0.0079
 Uranus -34313-09-09 21:35 J -10811147.81 -10811147.60 -10811147.38 0.0135 0.0038
 Neptune -34312-02-25 00:28 J -10810979.49 -10810979.48 -10810979.42 0.0088 0.0088
 Uranus -34312-04-24 05:59 J -10810921.45 -10810921.25 -10810921.04 0.0135 0.0049
 Uranus -34312-12-06 14:09 J -10810695.10 -10810694.91 -10810694.70 0.0135 0.0060
 Uranus -34311-07-20 22:19 J -10810468.75 -10810468.57 -10810468.36 0.0135 0.0071

Uranus -34310-03-04 06:14 J -10810242.40 -10810242.24 -10810242.04 0.0134 0.0081
 Uranus -34310-10-16 14:09 J -10810016.07 -10810015.91 -10810015.74 0.0134 0.0090
 Uranus -34309-05-29 21:35 J -10809789.73 -10809789.60 -10809789.44 0.0134 0.0100
 Mars -34309-10-10 05:16 J -10809656.44 -10809656.28 -10809656.11 0.1903 0.0407
 Uranus -34308-01-11 05:16 J -10809563.40 -10809563.28 -10809563.15 0.0134 0.0109
 Uranus -34308-08-25 12:14 J -10809337.07 -10809336.99 -10809336.87 0.0134 0.0119
 Mars -34308-09-16 23:45 J -10809314.66 -10809314.51 -10809314.36 0.1619 0.0858
 Jupiter -34307-01-11 05:59 J -10809198.45 -10809198.25 -10809198.05 0.0489 0.0069
 Uranus -34307-04-08 19:26 J -10809110.74 -10809110.69 -10809110.61 0.0133 0.0127
 Saturn -34306-06-16 05:31 J -10808677.41 -10808677.27 -10808677.11 0.0286 0.0208
 Saturn -34305-02-01 05:59 J -10808447.46 -10808447.25 -10808447.03 0.0286 0.0036
 Saturn -34305-09-18 05:31 J -10808217.46 -10808217.27 -10808217.07 0.0285 0.0135
 Jupiter -34302-11-12 19:11 J -10807066.86 -10807066.70 -10807066.54 0.0535 0.0324
 Jupiter -34301-07-08 06:28 J -10806828.32 -10806828.23 -10806828.12 0.0542 0.0468
 Pluto -34297-10-01 22:19 J -10805281.67 -10805281.57 -10805281.45 0.0079 0.0069
 Pluto -34296-05-15 08:52 J -10805056.36 -10805056.13 -10805055.91 0.0079 0.0007
 Jupiter -34296-09-16 10:19 J -10804932.27 -10804932.07 -10804931.88 0.0491 0.0094
 Jupiter -34295-05-10 02:52 J -10804696.41 -10804696.38 -10804696.33 0.0486 0.0474
 Saturn -34292-11-26 05:16 J -10803400.31 -10803400.28 -10803400.25 0.0273 0.0270
 Saturn -34291-07-13 05:31 J -10803171.45 -10803171.27 -10803171.09 0.0273 0.0133
 Saturn -34290-02-27 06:28 J -10802942.44 -10802942.23 -10802942.02 0.0274 0.0008
 Saturn -34290-10-14 07:40 J -10802713.35 -10802713.18 -10802713.00 0.0274 0.0149
 Jupiter -34289-03-12 17:31 J -10802562.95 -10802562.77 -10802562.59 0.0540 0.0248
 Jupiter -34284-05-22 15:21 J -10800666.03 -10800665.86 -10800665.68 0.0493 0.0254
 Jupiter -34283-01-13 08:23 J -10800430.30 -10800430.15 -10800429.99 0.0487 0.0320
 Uranus -34278-05-19 16:04 J -10798477.87 -10798477.83 -10798477.76 0.0138 0.0132
 Jupiter -34278-11-16 00:57 J -10798297.66 -10798297.46 -10798297.25 0.0538 0.0021
 Uranus -34278-12-31 22:47 J -10798251.64 -10798251.55 -10798251.45 0.0139 0.0123
 Uranus -34277-08-14 05:16 J -10798025.40 -10798025.28 -10798025.16 0.0139 0.0113
 Saturn -34277-12-26 14:38 J -10797891.06 -10797890.89 -10797890.72 0.0287 0.0177

Uranus -34276-03-28 11:45 J -10797799.14 -10797799.01 -10797798.86 0.0139 0.0103
 Saturn -34276-08-13 15:21 J -10797661.08 -10797660.86 -10797660.65 0.0286 0.0007
 Uranus -34276-11-09 18:14 J -10797572.88 -10797572.74 -10797572.56 0.0139 0.0094
 Saturn -34275-03-31 14:38 J -10797431.05 -10797430.89 -10797430.70 0.0286 0.0168
 Uranus -34275-06-24 01:26 J -10797346.60 -10797346.44 -10797346.26 0.0140 0.0083
 Uranus -34274-02-05 08:23 J -10797120.32 -10797120.15 -10797119.95 0.0140 0.0072
 Mars -34274-07-16 17:16 J -10796958.95 -10796958.78 -10796958.62 0.1621 0.0518
 Uranus -34274-09-19 15:50 J -10796894.02 -10796893.84 -10796893.64 0.0140 0.0061
 Uranus -34273-05-02 23:02 J -10796667.72 -10796667.54 -10796667.33 0.0141 0.0050
 Uranus -34273-12-15 06:43 J -10796441.41 -10796441.22 -10796441.01 0.0141 0.0038
 Jupiter -34272-01-25 20:23 J -10796399.75 -10796399.65 -10796399.54 0.0495 0.0415
 Uranus -34272-07-29 14:38 J -10796215.10 -10796214.89 -10796214.68 0.0141 0.0026
 Jupiter -34272-09-18 14:23 J -10796164.09 -10796163.90 -10796163.70 0.0489 0.0163
 Uranus -34271-03-12 22:33 J -10795988.77 -10795988.56 -10795988.35 0.0142 0.0014
 Uranus -34271-10-25 06:28 J -10795762.44 -10795762.23 -10795762.02 0.0142 0.0002
 Uranus -34270-06-08 14:38 J -10795536.10 -10795535.89 -10795535.68 0.0142 0.0010
 Uranus -34269-01-20 23:02 J -10795309.74 -10795309.54 -10795309.32 0.0143 0.0023
 Uranus -34269-09-03 07:40 J -10795083.38 -10795083.18 -10795082.97 0.0143 0.0035
 Uranus -34268-04-17 16:19 J -10794857.02 -10794856.82 -10794856.62 0.0143 0.0047
 Uranus -34268-11-30 00:57 J -10794630.64 -10794630.46 -10794630.26 0.0144 0.0060
 Uranus -34267-07-14 10:04 J -10794404.25 -10794404.08 -10794403.89 0.0144 0.0072
 Uranus -34266-02-25 19:26 J -10794177.85 -10794177.69 -10794177.50 0.0144 0.0084
 Jupiter -34266-07-21 11:16 J -10794032.22 -10794032.03 -10794031.84 0.0536 0.0203
 Uranus -34266-10-10 04:47 J -10793951.44 -10793951.30 -10793951.12 0.0144 0.0097
 Uranus -34265-05-23 14:52 J -10793725.02 -10793724.88 -10793724.74 0.0145 0.0108
 Uranus -34264-01-05 00:28 J -10793498.58 -10793498.48 -10793498.35 0.0145 0.0120
 Uranus -34264-08-19 10:33 J -10793272.13 -10793272.06 -10793271.96 0.0145 0.0131
 Uranus -34263-04-02 21:07 J -10793045.65 -10793045.62 -10793045.58 0.0145 0.0143
 Saturn -34262-06-08 11:31 J -10792614.11 -10792614.02 -10792613.93 0.0272 0.0245
 Saturn -34261-01-23 11:45 J -10792385.20 -10792385.01 -10792384.82 0.0272 0.0108

Saturn -34261-09-08 12:28 J -10792156.19 -10792155.98 -10792155.78 0.0273 0.0032
 Saturn -34260-04-25 13:26 J -10791927.10 -10791926.94 -10791926.78 0.0273 0.0172
 Jupiter -34260-05-24 20:09 J -10791897.86 -10791897.66 -10791897.46 0.0490 0.0006
 Jupiter -34254-03-25 22:33 J -10789766.69 -10789766.56 -10789766.43 0.0534 0.0416
 Jupiter -34254-11-19 09:50 J -10789528.24 -10789528.09 -10789527.94 0.0541 0.0371
 Jupiter -34248-01-28 01:40 J -10787631.62 -10787631.43 -10787631.24 0.0492 0.0155
 Jupiter -34248-09-20 18:28 J -10787395.83 -10787395.73 -10787395.62 0.0487 0.0414
 Saturn -34247-07-08 17:02 J -10787104.97 -10787104.79 -10787104.61 0.0286 0.0158
 Saturn -34246-02-23 17:16 J -10786874.99 -10786874.78 -10786874.56 0.0286 0.0015
 Saturn -34246-10-11 16:47 J -10786644.96 -10786644.80 -10786644.63 0.0285 0.0185
 Mars -34243-08-07 08:52 J -10785614.30 -10785614.13 -10785613.96 0.1902 0.0042
 Mars -34242-07-15 11:45 J -10785272.17 -10785272.01 -10785271.85 0.1619 0.0724
 Neptune -34242-07-22 22:04 J -10785264.62 -10785264.58 -10785264.51 0.0089 0.0086
 Jupiter -34242-07-24 22:04 J -10785262.77 -10785262.58 -10785262.38 0.0540 0.0155
 Neptune -34241-03-04 11:02 J -10785039.12 -10785039.04 -10785038.90 0.0089 0.0078
 Neptune -34241-10-16 00:57 J -10784813.59 -10784813.46 -10784813.31 0.0089 0.0069
 Neptune -34240-05-29 13:55 J -10784588.06 -10784587.92 -10784587.74 0.0089 0.0061
 Neptune -34239-01-10 03:21 J -10784362.53 -10784362.36 -10784362.17 0.0089 0.0052
 Neptune -34239-08-23 16:47 J -10784136.99 -10784136.80 -10784136.61 0.0089 0.0043
 Uranus -34238-01-21 21:35 J -10783985.65 -10783985.60 -10783985.52 0.0140 0.0134
 Neptune -34238-04-06 05:45 J -10783911.45 -10783911.26 -10783911.05 0.0089 0.0035
 Uranus -34238-09-05 08:52 J -10783759.23 -10783759.13 -10783759.02 0.0140 0.0123
 Neptune -34238-11-17 19:11 J -10783685.91 -10783685.70 -10783685.49 0.0089 0.0026
 Uranus -34237-04-18 19:40 J -10783532.80 -10783532.68 -10783532.54 0.0139 0.0112
 Neptune -34237-06-30 08:09 J -10783460.37 -10783460.16 -10783459.94 0.0089 0.0018
 Jupiter -34237-10-03 05:59 J -10783365.40 -10783365.25 -10783365.09 0.0493 0.0316
 Uranus -34237-12-01 06:28 J -10783306.37 -10783306.23 -10783306.06 0.0139 0.0101
 Neptune -34236-02-10 21:21 J -10783234.83 -10783234.61 -10783234.39 0.0089 0.0009
 Moon -34236-04-20 15:35 J -10783165.86 -10783165.85 -10783165.83 0.2678 0.2656
 Jupiter -34236-05-26 23:16 J -10783129.71 -10783129.53 -10783129.36 0.0488 0.0257

Uranus -34236-07-15 17:16 J -10783079.93 -10783079.78 -10783079.60 0.0139 0.0090
 Neptune -34236-09-24 10:33 J -10783009.28 -10783009.06 -10783008.84 0.0089 0.0002
 Uranus -34235-02-27 03:50 J -10782853.51 -10782853.34 -10782853.14 0.0138 0.0079
 Neptune -34235-05-07 23:31 J -10782783.74 -10782783.52 -10782783.30 0.0089 0.0008
 Uranus -34235-10-11 14:09 J -10782627.09 -10782626.91 -10782626.70 0.0138 0.0067
 Neptune -34235-12-19 12:14 J -10782558.19 -10782557.99 -10782557.76 0.0089 0.0017
 Uranus -34234-05-26 00:43 J -10782400.67 -10782400.47 -10782400.26 0.0138 0.0055
 Neptune -34234-08-02 01:26 J -10782332.65 -10782332.44 -10782332.23 0.0089 0.0025
 Uranus -34233-01-07 10:47 J -10782174.26 -10782174.05 -10782173.83 0.0137 0.0044
 Neptune -34233-03-14 14:09 J -10782107.10 -10782106.91 -10782106.69 0.0089 0.0034
 Uranus -34233-08-20 20:38 J -10781947.85 -10781947.64 -10781947.41 0.0137 0.0032
 Neptune -34233-10-26 03:21 J -10781881.54 -10781881.36 -10781881.16 0.0089 0.0042
 Saturn -34233-12-18 10:47 J -10781828.15 -10781828.05 -10781827.93 0.0273 0.0230
 Uranus -34232-04-04 06:28 J -10781721.45 -10781721.23 -10781721.01 0.0137 0.0021
 Neptune -34232-06-08 16:04 J -10781655.99 -10781655.83 -10781655.63 0.0089 0.0051
 Saturn -34232-08-04 11:02 J -10781599.23 -10781599.04 -10781598.84 0.0273 0.0092
 Uranus -34232-11-16 16:04 J -10781495.05 -10781494.83 -10781494.61 0.0137 0.0009
 Neptune -34231-01-20 05:16 J -10781430.44 -10781430.28 -10781430.11 0.0089 0.0059
 Saturn -34231-03-21 11:45 J -10781370.21 -10781370.01 -10781369.80 0.0273 0.0049
 Uranus -34231-07-01 01:40 J -10781268.66 -10781268.43 -10781268.21 0.0136 0.0004
 Neptune -34231-09-02 17:45 J -10781204.88 -10781204.76 -10781204.59 0.0089 0.0068
 Saturn -34231-11-05 12:57 J -10781141.10 -10781140.96 -10781140.80 0.0274 0.0190
 Uranus -34230-02-12 10:47 J -10781042.27 -10781042.05 -10781041.83 0.0136 0.0014
 Jupiter -34230-03-29 09:35 J -10780997.30 -10780997.10 -10780996.90 0.0538 0.0065
 Neptune -34230-04-16 06:57 J -10780979.31 -10780979.21 -10780979.08 0.0089 0.0076
 Uranus -34230-09-26 19:40 J -10780815.90 -10780815.68 -10780815.46 0.0136 0.0025
 Neptune -34230-11-27 20:09 J -10780753.72 -10780753.66 -10780753.58 0.0089 0.0084
 Uranus -34229-05-10 04:19 J -10780589.53 -10780589.32 -10780589.10 0.0135 0.0036
 Uranus -34229-12-22 12:43 J -10780363.17 -10780362.97 -10780362.75 0.0135 0.0048
 Moon -34228-04-18 09:35 J -10780246.24 -10780246.10 -10780245.95 0.2685 0.0866

Earth	-34228-04-18 14:38 J	-10780246.04	-10780245.89	-10780245.73	0.2683	0.0048	*
Uranus	-34228-08-05 21:21 J	-10780136.80	-10780136.61	-10780136.40	0.0135	0.0058	
Uranus	-34227-03-20 05:45 J	-10779910.45	-10779910.26	-10779910.07	0.0135	0.0068	
Uranus	-34227-11-01 13:26 J	-10779684.11	-10779683.94	-10779683.74	0.0135	0.0079	
Uranus	-34226-06-15 21:21 J	-10779457.77	-10779457.61	-10779457.43	0.0134	0.0089	
Uranus	-34225-01-28 05:02 J	-10779231.43	-10779231.29	-10779231.13	0.0134	0.0099	
Jupiter	-34225-06-08 10:47 J	-10779099.10	-10779099.05	-10779098.99	0.0495	0.0476	
Uranus	-34225-09-10 12:43 J	-10779005.09	-10779004.97	-10779004.83	0.0134	0.0108	
Jupiter	-34224-01-30 04:47 J	-10778863.50	-10778863.30	-10778863.10	0.0489	0.0100	
Uranus	-34224-04-24 20:09 J	-10778778.76	-10778778.66	-10778778.54	0.0134	0.0117	
Uranus	-34224-12-07 03:35 J	-10778552.42	-10778552.35	-10778552.28	0.0134	0.0126	
Jupiter	-34219-12-01 17:45 J	-10776731.93	-10776731.76	-10776731.59	0.0535	0.0289	
Jupiter	-34218-07-28 04:19 J	-10776493.39	-10776493.32	-10776493.24	0.0541	0.0497	
Saturn	-34217-01-19 00:14 J	-10776318.68	-10776318.49	-10776318.30	0.0287	0.0130	
Saturn	-34217-09-05 00:43 J	-10776088.68	-10776088.47	-10776088.25	0.0286	0.0044	
Saturn	-34216-04-23 00:28 J	-10775858.62	-10775858.48	-10775858.33	0.0286	0.0214	
Jupiter	-34213-10-05 10:19 J	-10774597.27	-10774597.07	-10774596.87	0.0491	0.0060	
Mars	-34208-05-13 05:16 J	-10772916.44	-10772916.28	-10772916.12	0.1622	0.0652	
Jupiter	-34207-08-06 04:33 J	-10772466.38	-10772466.31	-10772466.25	0.0533	0.0501	
Jupiter	-34206-04-01 14:38 J	-10772228.06	-10772227.89	-10772227.71	0.0540	0.0278	
Saturn	-34203-06-30 17:02 J	-10771041.92	-10771041.79	-10771041.65	0.0272	0.0205	
Saturn	-34202-02-14 17:31 J	-10770812.97	-10770812.77	-10770812.57	0.0272	0.0068	
Saturn	-34202-10-01 17:59 J	-10770583.95	-10770583.75	-10770583.55	0.0273	0.0072	
Saturn	-34201-05-17 18:43 J	-10770354.84	-10770354.72	-10770354.58	0.0273	0.0212	
Jupiter	-34201-06-10 15:50 J	-10770331.02	-10770330.84	-10770330.66	0.0493	0.0218	
Jupiter	-34200-02-01 09:07 J	-10770095.26	-10770095.12	-10770094.98	0.0487	0.0352	
Jupiter	-34195-12-05 01:55 J	-10767962.63	-10767962.42	-10767962.22	0.0539	0.0059	
Uranus	-34194-01-17 01:55 J	-10767919.46	-10767919.42	-10767919.38	0.0138	0.0135	
Uranus	-34194-08-31 07:40 J	-10767693.25	-10767693.18	-10767693.08	0.0138	0.0127	
Uranus	-34193-04-13 14:09 J	-10767467.01	-10767466.91	-10767466.78	0.0139	0.0117	

Uranus	-34193-11-25 20:52 J	-10767240.75	-10767240.63	-10767240.49	0.0139	0.0107
Uranus	-34192-07-10 03:35 J	-10767014.49	-10767014.35	-10767014.19	0.0139	0.0097
Uranus	-34191-02-21 10:33 J	-10766788.22	-10766788.06	-10766787.89	0.0140	0.0086
Uranus	-34191-10-05 17:31 J	-10766561.95	-10766561.77	-10766561.59	0.0140	0.0075
Uranus	-34190-05-20 00:28 J	-10766335.66	-10766335.48	-10766335.28	0.0140	0.0064
Uranus	-34189-01-01 07:55 J	-10766109.36	-10766109.17	-10766108.96	0.0141	0.0053
Jupiter	-34189-02-14 21:21 J	-10766064.74	-10766064.61	-10766064.48	0.0494	0.0377
Uranus	-34189-08-14 15:21 J	-10765883.05	-10765882.86	-10765882.65	0.0141	0.0041
Jupiter	-34189-10-07 14:52 J	-10765829.06	-10765828.88	-10765828.69	0.0488	0.0197
Saturn	-34189-12-13 02:09 J	-10765762.45	-10765762.41	-10765762.36	0.0287	0.0281
Uranus	-34188-03-28 23:02 J	-10765656.75	-10765656.54	-10765656.33	0.0141	0.0029
Saturn	-34188-07-31 03:07 J	-10765532.57	-10765532.37	-10765532.17	0.0286	0.0110
Uranus	-34188-11-10 06:43 J	-10765430.43	-10765430.22	-10765430.01	0.0142	0.0017
Saturn	-34187-03-18 03:21 J	-10765302.57	-10765302.36	-10765302.15	0.0286	0.0063
Uranus	-34187-06-24 14:38 J	-10765204.10	-10765203.89	-10765203.68	0.0142	0.0005
Saturn	-34187-11-03 02:38 J	-10765072.51	-10765072.39	-10765072.26	0.0285	0.0232
Uranus	-34186-02-05 22:47 J	-10764977.76	-10764977.55	-10764977.34	0.0142	0.0007
Uranus	-34186-09-20 06:57 J	-10764751.42	-10764751.21	-10764751.00	0.0143	0.0019
Uranus	-34185-05-03 15:21 J	-10764525.06	-10764524.86	-10764524.65	0.0143	0.0032
Uranus	-34185-12-15 23:45 J	-10764298.70	-10764298.51	-10764298.30	0.0143	0.0045
Uranus	-34184-07-30 08:38 J	-10764072.33	-10764072.14	-10764071.94	0.0143	0.0057
Uranus	-34183-03-13 17:45 J	-10763845.94	-10763845.76	-10763845.57	0.0144	0.0069
Jupiter	-34183-08-09 14:23 J	-10763697.10	-10763696.90	-10763696.71	0.0537	0.0156
Uranus	-34183-10-26 02:52 J	-10763619.55	-10763619.38	-10763619.20	0.0144	0.0081
Uranus	-34182-06-09 11:59 J	-10763393.15	-10763393.00	-10763392.83	0.0144	0.0094
Uranus	-34181-01-21 21:35 J	-10763166.73	-10763166.60	-10763166.44	0.0144	0.0106
Uranus	-34181-09-04 07:40 J	-10762940.30	-10762940.18	-10762940.05	0.0145	0.0117
Uranus	-34180-04-18 17:16 J	-10762713.86	-10762713.78	-10762713.67	0.0145	0.0129
Uranus	-34180-12-01 03:35 J	-10762487.39	-10762487.35	-10762487.29	0.0145	0.0140
Mars	-34177-06-03 11:59 J	-10761572.17	-10761572.00	-10761571.83	0.1901	0.0494

Jupiter -34177-06-12 19:40 J -10761562.88 -10761562.68 -10761562.48 0.0490 0.0038
 Mars -34176-05-11 23:59 J -10761229.66 -10761229.50 -10761229.33 0.1620 0.0592
 Saturn -34173-01-10 16:04 J -10760255.97 -10760255.83 -10760255.68 0.0273 0.0190
 Saturn -34173-08-26 16:19 J -10760027.02 -10760026.82 -10760026.62 0.0273 0.0052
 Saturn -34172-04-12 16:47 J -10759798.00 -10759797.80 -10759797.60 0.0273 0.0088
 Saturn -34172-11-27 17:59 J -10759568.86 -10759568.75 -10759568.64 0.0274 0.0228
 Jupiter -34171-04-14 02:23 J -10759431.55 -10759431.40 -10759431.25 0.0535 0.0369
 Jupiter -34171-12-08 13:26 J -10759193.07 -10759192.94 -10759192.81 0.0541 0.0416
 Jupiter -34165-02-17 01:11 J -10757296.65 -10757296.45 -10757296.26 0.0491 0.0121
 Jupiter -34165-10-09 17:59 J -10757060.82 -10757060.75 -10757060.66 0.0487 0.0445
 Neptune -34160-01-21 17:59 J -10755495.80 -10755495.75 -10755495.67 0.0089 0.0084
 Neptune -34160-09-04 06:43 J -10755270.32 -10755270.22 -10755270.10 0.0089 0.0076
 Neptune -34159-04-17 19:26 J -10755044.81 -10755044.69 -10755044.53 0.0089 0.0068
 Saturn -34159-06-25 07:26 J -10754976.28 -10754976.19 -10754976.09 0.0287 0.0257
 Jupiter -34159-08-12 21:21 J -10754927.80 -10754927.61 -10754927.42 0.0539 0.0190
 Neptune -34159-11-29 08:09 J -10754819.30 -10754819.16 -10754818.98 0.0089 0.0060
 Saturn -34158-02-10 08:38 J -10754746.34 -10754746.14 -10754745.92 0.0287 0.0085
 Neptune -34158-07-12 20:52 J -10754593.79 -10754593.63 -10754593.43 0.0089 0.0052
 Saturn -34158-09-28 09:21 J -10754516.31 -10754516.11 -10754515.90 0.0286 0.0089
 Neptune -34157-02-23 09:50 J -10754368.27 -10754368.09 -10754367.89 0.0089 0.0043
 Saturn -34157-05-15 09:07 J -10754286.21 -10754286.12 -10754286.03 0.0286 0.0258
 Neptune -34157-10-05 22:33 J -10754142.75 -10754142.56 -10754142.35 0.0088 0.0035
 Neptune -34156-05-19 11:31 J -10753917.22 -10753917.02 -10753916.80 0.0088 0.0026
 Neptune -34156-12-31 00:28 J -10753691.69 -10753691.48 -10753691.26 0.0088 0.0018
 Neptune -34155-08-13 13:11 J -10753466.16 -10753465.95 -10753465.72 0.0088 0.0010
 Uranus -34155-09-21 02:23 J -10753427.42 -10753427.40 -10753427.36 0.0140 0.0138
 Neptune -34154-03-27 02:23 J -10753240.62 -10753240.40 -10753240.18 0.0088 0.0001
 Uranus -34154-05-05 13:55 J -10753201.01 -10753200.92 -10753200.83 0.0140 0.0127
 Jupiter -34154-10-23 05:59 J -10753030.41 -10753030.25 -10753030.08 0.0494 0.0282
 Neptune -34154-11-07 15:21 J -10753015.08 -10753014.86 -10753014.64 0.0088 0.0007

Uranus -34154-12-18 00:28 J -10752974.58 -10752974.48 -10752974.34 0.0140 0.0117
 Jupiter -34153-06-14 23:45 J -10752794.67 -10752794.51 -10752794.34 0.0488 0.0291
 Neptune -34153-06-20 04:19 J -10752789.54 -10752789.32 -10752789.10 0.0088 0.0016
 Uranus -34153-07-31 11:31 J -10752748.15 -10752748.02 -10752747.85 0.0139 0.0106
 Neptune -34152-01-31 17:02 J -10752563.99 -10752563.79 -10752563.57 0.0088 0.0025
 Uranus -34152-03-14 22:19 J -10752521.72 -10752521.57 -10752521.39 0.0139 0.0094
 Neptune -34152-09-14 06:14 J -10752338.44 -10752338.24 -10752338.03 0.0088 0.0033
 Uranus -34152-10-27 09:07 J -10752295.29 -10752295.12 -10752294.93 0.0139 0.0082
 Neptune -34151-04-27 18:57 J -10752112.89 -10752112.71 -10752112.50 0.0088 0.0042
 Uranus -34151-06-10 19:55 J -10752068.86 -10752068.67 -10752068.47 0.0138 0.0071
 Neptune -34151-12-09 08:09 J -10751887.33 -10751887.16 -10751886.96 0.0088 0.0050
 Uranus -34150-01-23 06:14 J -10751842.44 -10751842.24 -10751842.03 0.0138 0.0059
 Neptune -34150-07-22 21:21 J -10751661.77 -10751661.61 -10751661.44 0.0088 0.0058
 Uranus -34150-09-06 16:33 J -10751616.02 -10751615.81 -10751615.60 0.0138 0.0047
 Neptune -34149-03-04 10:04 J -10751436.21 -10751436.08 -10751435.92 0.0088 0.0066
 Uranus -34149-04-20 02:23 J -10751389.61 -10751389.40 -10751389.18 0.0137 0.0036
 Neptune -34149-10-15 23:16 J -10751210.63 -10751210.53 -10751210.40 0.0088 0.0075
 Uranus -34149-12-02 12:14 J -10751163.21 -10751162.99 -10751162.77 0.0137 0.0024
 Neptune -34148-05-29 12:28 J -10750985.04 -10750984.98 -10750984.89 0.0088 0.0083
 Uranus -34148-07-16 22:04 J -10750936.80 -10750936.58 -10750936.36 0.0137 0.0012
 Uranus -34147-02-28 07:26 J -10750710.41 -10750710.19 -10750709.96 0.0136 0.0003
 Jupiter -34147-04-17 07:55 J -10750662.38 -10750662.17 -10750661.97 0.0537 0.0031
 Uranus -34147-10-12 16:47 J -10750484.02 -10750483.80 -10750483.58 0.0136 0.0011
 Uranus -34146-05-27 01:40 J -10750257.65 -10750257.43 -10750257.20 0.0136 0.0022
 Uranus -34145-01-08 10:33 J -10750031.27 -10750031.06 -10750030.84 0.0136 0.0034
 Uranus -34145-08-21 19:11 J -10749804.90 -10749804.70 -10749804.48 0.0135 0.0045
 Uranus -34144-04-05 03:50 J -10749578.54 -10749578.34 -10749578.13 0.0135 0.0055
 Saturn -34144-07-22 22:19 J -10749469.73 -10749469.57 -10749469.40 0.0272 0.0166
 Uranus -34144-11-17 11:59 J -10749352.19 -10749352.00 -10749351.80 0.0135 0.0066
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Uranus -34143-07-01 20:09 J -10749125.83 -10749125.66 -10749125.47 0.0135 0.0077
 Saturn -34143-10-23 23:02 J -10749011.73 -10749011.54 -10749011.35 0.0273 0.0111
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 Mars -34142-03-10 17:02 J -10748873.94 -10748873.79 -10748873.63 0.1623 0.0789
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 Jupiter -34136-12-20 18:28 J -10746396.91 -10746396.73 -10746396.54 0.0535 0.0248
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 Pluto -34135-11-07 14:23 J -10746075.05 -10746074.90 -10746074.71 0.0065 0.0041
 Jupiter -34130-10-25 11:16 J -10744262.23 -10744262.03 -10744261.82 0.0491 0.0023
 Saturn -34129-01-05 11:02 J -10744190.15 -10744190.04 -10744189.91 0.0287 0.0235
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 Saturn -34128-04-09 12:14 J -10743730.18 -10743729.99 -10743729.78 0.0286 0.0109
 Saturn -34128-11-25 11:31 J -10743500.06 -10743500.02 -10743499.96 0.0285 0.0277
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 Moon -34123-10-22 07:40 J -10741708.34 -10741708.18 -10741708.02 0.2649 0.0701
 Earth -34123-10-22 13:55 J -10741708.06 -10741707.92 -10741707.78 0.2650 0.1456 *
 Jupiter -34118-06-30 16:04 J -10739996.02 -10739995.83 -10739995.64 0.0492 0.0183
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Saturn -34113-05-04 21:35 J -10738225.78 -10738225.60 -10738225.41 0.0273 0.0127
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 Jupiter -34106-03-05 21:07 J -10735729.76 -10735729.62 -10735729.47 0.0494 0.0342
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 Uranus -34103-10-06 07:11 J -10734419.41 -10734419.20 -10734418.99 0.0142 0.0004
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 Saturn -34100-07-17 15:07 J -10733404.00 -10733403.87 -10733403.71 0.0287 0.0213
 Jupiter -34100-08-28 14:52 J -10733362.07 -10733361.88 -10733361.67 0.0536 0.0116
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 Jupiter -34094-07-02 19:55 J -10731227.87 -10731227.67 -10731227.47 0.0490 0.0073
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 Jupiter -34088-12-27 11:45 J -10728858.12 -10728858.01 -10728857.90 0.0540 0.0447
 Saturn -34086-12-29 03:50 J -10728126.39 -10728126.34 -10728126.28 0.0272 0.0262
 Saturn -34085-08-14 03:35 J -10727897.53 -10727897.35 -10727897.16 0.0272 0.0127
 Saturn -34084-03-31 03:35 J -10727668.55 -10727668.35 -10727668.14 0.0272 0.0013
 Saturn -34084-11-15 03:50 J -10727439.50 -10727439.34 -10727439.16 0.0272 0.0151
 Jupiter -34082-03-08 01:26 J -10726961.64 -10726961.44 -10726961.24 0.0492 0.0086
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 Mars -34079-03-31 12:28 J -10725842.08 -10725841.98 -10725841.87 0.1902 0.1509
 Neptune -34078-10-24 09:35 J -10725270.11 -10725270.10 -10725270.06 0.0089 0.0088
 Neptune -34077-06-05 22:47 J -10725044.63 -10725044.55 -10725044.44 0.0089 0.0080
 Mars -34076-01-05 05:02 J -10724831.43 -10724831.29 -10724831.15 0.1623 0.0923
 Neptune -34076-01-17 12:28 J -10724819.11 -10724818.98 -10724818.85 0.0089 0.0071
 Neptune -34076-08-31 01:26 J -10724593.58 -10724593.44 -10724593.27 0.0089 0.0063
 Jupiter -34076-08-31 22:33 J -10724592.75 -10724592.56 -10724592.38 0.0539 0.0231
 Neptune -34075-04-13 14:38 J -10724368.04 -10724367.89 -10724367.70 0.0089 0.0055
 Neptune -34075-11-25 04:04 J -10724142.51 -10724142.33 -10724142.13 0.0089 0.0046
 Neptune -34074-07-08 17:16 J -10723916.97 -10723916.78 -10723916.57 0.0089 0.0038
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 Neptune -34073-10-01 19:40 J -10723465.88 -10723465.68 -10723465.45 0.0089 0.0021
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 Neptune -34072-12-26 22:04 J -10723014.80 -10723014.58 -10723014.36 0.0089 0.0004
 Neptune -34071-08-09 11:02 J -10722789.26 -10722789.04 -10722788.82 0.0089 0.0005
 Jupiter -34071-11-11 07:11 J -10722695.37 -10722695.20 -10722695.02 0.0493 0.0244

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 Saturn -34070-01-27 19:55 J -10722617.83 -10722617.67 -10722617.50 0.0287 0.0189
 Neptune -34070-03-23 00:14 J -10722563.71 -10722563.49 -10722563.27 0.0089 0.0013
 Jupiter -34070-07-05 00:43 J -10722459.62 -10722459.47 -10722459.32 0.0488 0.0325
 Uranus -34070-08-17 05:59 J -10722416.34 -10722416.25 -10722416.12 0.0140 0.0121
 Saturn -34070-09-14 20:52 J -10722387.84 -10722387.63 -10722387.41 0.0287 0.0017
 Neptune -34070-11-03 13:11 J -10722338.16 -10722337.95 -10722337.73 0.0089 0.0022
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 Saturn -34069-05-01 21:07 J -10722157.80 -10722157.62 -10722157.44 0.0286 0.0154
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 Neptune -34068-01-27 14:52 J -10721887.06 -10721886.88 -10721886.67 0.0089 0.0039
 Uranus -34068-06-26 15:07 J -10721737.04 -10721736.87 -10721736.69 0.0139 0.0086
 Neptune -34068-09-10 03:50 J -10721661.51 -10721661.34 -10721661.14 0.0089 0.0047
 Uranus -34067-02-08 01:40 J -10721510.61 -10721510.43 -10721510.23 0.0138 0.0075
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 Neptune -34067-12-05 05:45 J -10721210.39 -10721210.26 -10721210.09 0.0089 0.0064
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 Jupiter -34059-07-17 11:45 J -10718429.12 -10718429.01 -10718428.90 0.0495 0.0403
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 Uranus -34057-08-22 10:47 J -10717662.16 -10717662.05 -10717661.93 0.0134 0.0114
 Uranus -34056-04-05 17:59 J -10717435.81 -10717435.75 -10717435.65 0.0134 0.0124
 Saturn -34056-07-10 02:23 J -10717340.48 -10717340.40 -10717340.31 0.0272 0.0247
 Uranus -34056-11-18 01:26 J -10717209.45 -10717209.44 -10717209.40 0.0134 0.0133
 Saturn -34055-02-24 02:09 J -10717111.59 -10717111.41 -10717111.22 0.0272 0.0112
 Saturn -34055-10-11 02:09 J -10716882.61 -10716882.41 -10716882.20 0.0273 0.0028
 Saturn -34054-05-28 02:38 J -10716653.55 -10716653.39 -10716653.22 0.0273 0.0166
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 Mars -34045-01-26 18:57 J -10713487.83 -10713487.71 -10713487.60 0.1898 0.1367
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 Jupiter -34034-03-12 09:21 J -10709425.21 -10709425.11 -10709425.00 0.0488 0.0417
 Jupiter -34028-01-12 05:02 J -10707292.48 -10707292.29 -10707292.09 0.0538 0.0143

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 Saturn -34025-04-22 09:07 J -10706096.32 -10706096.12 -10706095.91 0.0272 0.0051
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 Uranus -34023-02-02 11:16 J -10705445.19 -10705445.03 -10705444.84 0.0140 0.0083
 Jupiter -34023-03-24 20:52 J -10705394.79 -10705394.63 -10705394.47 0.0495 0.0307
 Uranus -34023-09-16 18:28 J -10705218.91 -10705218.73 -10705218.54 0.0140 0.0071
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 Uranus -34020-03-09 23:45 J -10704313.71 -10704313.51 -10704313.30 0.0141 0.0024
 Uranus -34020-10-22 07:26 J -10704087.40 -10704087.19 -10704086.97 0.0142 0.0013
 Uranus -34019-06-05 15:21 J -10703861.07 -10703860.86 -10703860.64 0.0142 0.0003
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 Uranus -34016-07-11 09:35 J -10702729.29 -10702729.10 -10702728.91 0.0143 0.0063
 Uranus -34015-02-22 18:43 J -10702502.90 -10702502.72 -10702502.54 0.0144 0.0075
 Uranus -34015-10-07 03:35 J -10702276.50 -10702276.35 -10702276.17 0.0144 0.0088
 Uranus -34014-05-21 12:57 J -10702050.10 -10702049.96 -10702049.79 0.0144 0.0100
 Uranus -34013-01-02 22:33 J -10701823.68 -10701823.56 -10701823.41 0.0144 0.0112
 Mars -34013-01-26 15:35 J -10701799.99 -10701799.85 -10701799.71 0.1901 0.1057

Uranus -34013-08-16 08:23 J -10701597.24 -10701597.15 -10701597.03 0.0145 0.0124
 Mars -34012-01-02 18:28 J -10701457.77 -10701457.73 -10701457.68 0.1620 0.1554
 Uranus -34012-03-30 18:14 J -10701370.79 -10701370.74 -10701370.65 0.0145 0.0136
 Jupiter -34012-11-28 02:09 J -10701128.48 -10701128.41 -10701128.34 0.0496 0.0464
 Saturn -34011-02-19 04:47 J -10701045.48 -10701045.30 -10701045.11 0.0287 0.0143
 Jupiter -34011-07-21 20:38 J -10700892.84 -10700892.64 -10700892.44 0.0490 0.0109
 Saturn -34011-10-07 05:45 J -10700815.48 -10700815.26 -10700815.04 0.0287 0.0029
 Mars -34011-11-02 17:02 J -10700788.92 -10700788.79 -10700788.66 0.1624 0.1057
 Saturn -34010-05-25 05:45 J -10700585.41 -10700585.26 -10700585.10 0.0286 0.0199
 Jupiter -34005-05-22 03:35 J -10698761.53 -10698761.35 -10698761.18 0.0535 0.0287
 Jupiter -34004-01-15 14:23 J -10698522.97 -10698522.90 -10698522.81 0.0541 0.0491

34TH MILLENNIUM BCE

This is a list of transits of Venus in the 34th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-33999-03-27 01:40 J	-10696626.63	-10696626.43	-10696626.23	0.0491	0.0051		
Saturn	-33997-08-01 08:23 J	-10695768.27	-10695768.15	-10695768.01	0.0272	0.0208		
Saturn	-33996-03-18 08:09 J	-10695539.36	-10695539.16	-10695538.96	0.0272	0.0071		
Neptune	-33996-04-25 06:14 J	-10695501.28	-10695501.24	-10695501.18	0.0089	0.0086		
Saturn	-33996-11-02 08:09 J	-10695310.36	-10695310.16	-10695309.96	0.0272	0.0067		
Neptune	-33996-12-06 18:57 J	-10695275.80	-10695275.71	-10695275.60	0.0089	0.0078		
Saturn	-33995-06-19 08:23 J	-10695081.28	-10695081.15	-10695081.01	0.0273	0.0205		
Neptune	-33995-07-20 07:40 J	-10695050.30	-10695050.18	-10695050.04	0.0089	0.0070		

Neptune -33994-03-02 20:23 J -10694824.80 -10694824.65 -10694824.48 0.0089 0.0062
 Neptune -33994-10-14 09:07 J -10694599.28 -10694599.12 -10694598.93 0.0089 0.0054
 Jupiter -33993-01-25 15:50 J -10694495.91 -10694495.84 -10694495.76 0.0532 0.0493
 Neptune -33993-05-26 21:50 J -10694373.76 -10694373.59 -10694373.39 0.0089 0.0046
 Jupiter -33993-09-20 02:38 J -10694257.56 -10694257.39 -10694257.22 0.0540 0.0278
 Neptune -33992-01-07 10:33 J -10694148.25 -10694148.06 -10694147.85 0.0089 0.0038
 Neptune -33992-08-20 23:45 J -10693922.72 -10693922.51 -10693922.31 0.0088 0.0029
 Neptune -33991-04-03 12:28 J -10693697.19 -10693696.98 -10693696.76 0.0088 0.0021
 Neptune -33991-11-15 01:26 J -10693471.66 -10693471.44 -10693471.22 0.0088 0.0012
 Neptune -33990-06-28 14:09 J -10693246.12 -10693245.91 -10693245.68 0.0088 0.0005
 Neptune -33989-02-09 03:07 J -10693020.59 -10693020.37 -10693020.15 0.0088 0.0004
 Neptune -33989-09-21 16:04 J -10692795.05 -10692794.83 -10692794.61 0.0088 0.0012
 Neptune -33988-05-05 05:16 J -10692569.50 -10692569.28 -10692569.07 0.0088 0.0021
 Jupiter -33988-11-30 06:57 J -10692360.39 -10692360.21 -10692360.03 0.0493 0.0209
 Neptune -33988-12-16 17:59 J -10692343.95 -10692343.75 -10692343.53 0.0088 0.0029
 Jupiter -33987-07-24 00:14 J -10692124.62 -10692124.49 -10692124.35 0.0488 0.0357
 Neptune -33987-07-30 06:57 J -10692118.40 -10692118.21 -10692118.00 0.0088 0.0038
 Uranus -33987-09-02 00:14 J -10692084.52 -10692084.49 -10692084.41 0.0140 0.0137
 Neptune -33986-03-12 20:09 J -10691892.84 -10691892.66 -10691892.47 0.0088 0.0046
 Uranus -33986-04-16 11:31 J -10691858.10 -10691858.02 -10691857.90 0.0140 0.0125
 Neptune -33986-10-24 08:52 J -10691667.29 -10691667.13 -10691666.94 0.0088 0.0054
 Uranus -33986-11-28 22:47 J -10691631.66 -10691631.55 -10691631.41 0.0140 0.0114
 Earth -33985-04-18 19:11 J -10691489.85 -10691489.70 -10691489.55 0.2684 0.0271
 Moon -33985-04-18 23:59 J -10691489.64 -10691489.50 -10691489.35 0.2685 0.0868 *
 Neptune -33985-06-05 21:50 J -10691441.72 -10691441.59 -10691441.41 0.0088 0.0063
 Uranus -33985-07-12 09:50 J -10691405.23 -10691405.09 -10691404.92 0.0139 0.0102
 Neptune -33984-01-17 11:02 J -10691216.15 -10691216.04 -10691215.89 0.0088 0.0071
 Uranus -33984-02-23 20:52 J -10691178.79 -10691178.63 -10691178.46 0.0139 0.0090
 Neptune -33984-08-31 00:14 J -10690990.58 -10690990.49 -10690990.38 0.0088 0.0079
 Uranus -33984-10-08 07:11 J -10690952.37 -10690952.20 -10690952.00 0.0139 0.0079

Neptune -33983-04-13 13:26 J -10690764.97 -10690764.94 -10690764.89 0.0088 0.0087
 Uranus -33983-05-22 17:59 J -10690725.94 -10690725.75 -10690725.55 0.0138 0.0067
 Uranus -33982-01-04 04:19 J -10690499.52 -10690499.32 -10690499.11 0.0138 0.0055
 Uranus -33982-08-18 14:23 J -10690273.10 -10690272.90 -10690272.68 0.0138 0.0043
 Saturn -33982-09-01 07:26 J -10690259.38 -10690259.19 -10690258.99 0.0287 0.0124
 Uranus -33981-04-01 00:28 J -10690046.69 -10690046.48 -10690046.26 0.0137 0.0031
 Saturn -33981-04-18 08:38 J -10690029.35 -10690029.14 -10690028.92 0.0287 0.0049
 Jupiter -33981-05-25 12:14 J -10689992.19 -10689991.99 -10689991.79 0.0537 0.0058
 Uranus -33981-11-13 10:19 J -10689820.29 -10689820.07 -10689819.85 0.0137 0.0019
 Saturn -33981-12-04 09:07 J -10689799.25 -10689799.12 -10689798.98 0.0287 0.0220
 Uranus -33980-06-27 19:55 J -10689593.89 -10689593.67 -10689593.44 0.0137 0.0008
 Mars -33980-11-22 22:19 J -10689445.62 -10689445.57 -10689445.52 0.1897 0.1796
 Uranus -33979-02-09 05:31 J -10689367.50 -10689367.27 -10689367.05 0.0136 0.0005
 Uranus -33979-09-23 14:38 J -10689141.11 -10689140.89 -10689140.67 0.0136 0.0016
 Mars -33979-11-01 12:14 J -10689102.16 -10689101.99 -10689101.81 0.1622 0.0199
 Uranus -33978-05-07 23:31 J -10688914.74 -10688914.52 -10688914.30 0.0136 0.0028
 Uranus -33978-12-20 08:09 J -10688688.36 -10688688.16 -10688687.93 0.0136 0.0040
 Uranus -33977-08-02 17:02 J -10688461.99 -10688461.79 -10688461.57 0.0135 0.0051
 Uranus -33976-03-17 01:40 J -10688235.63 -10688235.43 -10688235.23 0.0135 0.0061
 Jupiter -33976-08-05 10:19 J -10688094.20 -10688094.07 -10688093.93 0.0496 0.0371
 Uranus -33976-10-29 09:50 J -10688009.27 -10688009.09 -10688008.89 0.0135 0.0072
 Jupiter -33975-03-29 05:02 J -10687858.47 -10687858.29 -10687858.10 0.0489 0.0201
 Uranus -33975-06-12 17:59 J -10687782.92 -10687782.75 -10687782.56 0.0135 0.0083
 Uranus -33974-01-25 02:09 J -10687556.56 -10687556.41 -10687556.24 0.0134 0.0093
 Uranus -33974-09-08 10:19 J -10687330.21 -10687330.07 -10687329.93 0.0134 0.0103
 Uranus -33973-04-21 17:59 J -10687103.87 -10687103.75 -10687103.63 0.0134 0.0112
 Uranus -33973-12-04 01:11 J -10686877.52 -10686877.45 -10686877.35 0.0134 0.0122
 Uranus -33972-07-18 08:38 J -10686651.16 -10686651.14 -10686651.08 0.0134 0.0132
 Jupiter -33969-01-28 22:33 J -10685726.76 -10685726.56 -10685726.37 0.0535 0.0159
 Saturn -33967-02-11 15:07 J -10684982.01 -10684981.87 -10684981.70 0.0272 0.0184

Saturn -33967-09-28 15:21 J -10684753.07 -10684752.86 -10684752.66 0.0272 0.0047
 Saturn -33966-05-15 15:21 J -10684524.06 -10684523.86 -10684523.67 0.0272 0.0091
 Saturn -33966-12-30 15:35 J -10684294.95 -10684294.85 -10684294.73 0.0272 0.0229
 Jupiter -33964-12-02 10:19 J -10683592.27 -10683592.07 -10683591.87 0.0491 0.0046
 Jupiter -33958-10-03 08:23 J -10681461.29 -10681461.15 -10681461.00 0.0533 0.0373
 Jupiter -33957-05-28 18:43 J -10681222.85 -10681222.72 -10681222.58 0.0540 0.0399
 Saturn -33953-07-26 13:26 J -10679703.01 -10679702.94 -10679702.86 0.0287 0.0267
 Saturn -33952-03-13 14:52 J -10679473.09 -10679472.88 -10679472.68 0.0287 0.0096
 Jupiter -33952-08-07 16:04 J -10679326.03 -10679325.83 -10679325.64 0.0492 0.0112
 Saturn -33952-10-29 15:35 J -10679243.06 -10679242.85 -10679242.64 0.0287 0.0076
 Jupiter -33951-03-31 09:21 J -10679090.18 -10679090.11 -10679090.02 0.0487 0.0449
 Saturn -33951-06-16 15:35 J -10679012.95 -10679012.85 -10679012.73 0.0286 0.0245
 Mars -33948-11-22 19:40 J -10677757.85 -10677757.68 -10677757.52 0.1900 0.0629
 Mars -33947-10-31 06:43 J -10677415.30 -10677415.22 -10677415.14 0.1620 0.1425
 Jupiter -33945-02-01 06:43 J -10676957.41 -10676957.22 -10676957.03 0.0539 0.0186
 Mars -33945-08-30 05:02 J -10676746.41 -10676746.29 -10676746.17 0.1625 0.1190
 Uranus -33943-08-28 11:02 J -10676018.05 -10676018.04 -10676018.00 0.0138 0.0137
 Uranus -33942-04-11 17:16 J -10675791.85 -10675791.78 -10675791.69 0.0138 0.0127
 Uranus -33942-11-23 23:45 J -10675565.61 -10675565.51 -10675565.39 0.0138 0.0117
 Uranus -33941-07-07 06:28 J -10675339.36 -10675339.23 -10675339.09 0.0139 0.0107
 Uranus -33940-02-18 12:57 J -10675113.10 -10675112.96 -10675112.80 0.0139 0.0097
 Jupiter -33940-04-12 20:52 J -10675059.79 -10675059.63 -10675059.46 0.0494 0.0271
 Uranus -33940-10-02 19:40 J -10674886.84 -10674886.68 -10674886.51 0.0139 0.0086
 Jupiter -33940-12-04 14:23 J -10674824.05 -10674823.90 -10674823.73 0.0488 0.0296
 Uranus -33939-05-17 02:23 J -10674660.56 -10674660.40 -10674660.21 0.0140 0.0075
 Uranus -33939-12-29 09:50 J -10674434.28 -10674434.09 -10674433.90 0.0140 0.0063
 Uranus -33938-08-12 17:02 J -10674207.99 -10674207.79 -10674207.59 0.0140 0.0052
 Saturn -33938-08-24 15:21 J -10674196.02 -10674195.86 -10674195.69 0.0272 0.0167
 Uranus -33937-03-26 00:14 J -10673981.69 -10673981.49 -10673981.28 0.0141 0.0040
 Saturn -33937-04-09 14:52 J -10673967.08 -10673966.88 -10673966.67 0.0272 0.0031

Uranus -33937-11-07 07:40 J -10673755.39 -10673755.18 -10673754.97 0.0141 0.0028
 Saturn -33937-11-24 14:52 J -10673738.07 -10673737.88 -10673737.69 0.0272 0.0108
 Uranus -33936-06-21 15:21 J -10673529.07 -10673528.86 -10673528.65 0.0141 0.0016
 Saturn -33936-07-11 15:07 J -10673508.94 -10673508.87 -10673508.77 0.0273 0.0245
 Uranus -33935-02-02 23:16 J -10673302.74 -10673302.53 -10673302.32 0.0142 0.0003
 Uranus -33935-09-17 07:11 J -10673076.41 -10673076.20 -10673075.99 0.0142 0.0009
 Uranus -33934-05-01 15:21 J -10672850.07 -10672849.86 -10672849.65 0.0142 0.0022
 Jupiter -33934-10-06 18:57 J -10672691.92 -10672691.71 -10672691.51 0.0537 0.0030
 Uranus -33934-12-13 23:31 J -10672623.72 -10672623.52 -10672623.30 0.0143 0.0035
 Uranus -33933-07-27 08:09 J -10672397.35 -10672397.16 -10672396.95 0.0143 0.0047
 Uranus -33932-03-10 17:02 J -10672170.98 -10672170.79 -10672170.60 0.0143 0.0059
 Uranus -33932-10-23 01:40 J -10671944.60 -10671944.43 -10671944.23 0.0143 0.0073
 Uranus -33931-06-06 10:47 J -10671718.21 -10671718.05 -10671717.86 0.0144 0.0085
 Uranus -33930-01-18 20:23 J -10671491.80 -10671491.65 -10671491.49 0.0144 0.0097
 Uranus -33930-09-02 05:45 J -10671265.38 -10671265.26 -10671265.11 0.0144 0.0110
 Uranus -33929-04-15 15:21 J -10671038.96 -10671038.86 -10671038.73 0.0144 0.0122
 Uranus -33929-11-28 01:40 J -10670812.51 -10670812.43 -10670812.35 0.0145 0.0133
 Jupiter -33929-12-17 01:26 J -10670793.53 -10670793.44 -10670793.33 0.0496 0.0430
 Uranus -33928-07-12 11:31 J -10670586.02 -10670586.02 -10670586.01 0.0145 0.0145
 Jupiter -33928-08-09 19:55 J -10670557.86 -10670557.67 -10670557.47 0.0490 0.0141
 Saturn -33923-02-05 15:21 J -10668916.96 -10668916.86 -10668916.75 0.0287 0.0249
 Saturn -33923-09-23 16:47 J -10668687.01 -10668686.80 -10668686.59 0.0287 0.0078
 Saturn -33922-05-11 17:45 J -10668456.96 -10668456.76 -10668456.55 0.0287 0.0095
 Jupiter -33922-06-11 05:31 J -10668426.46 -10668426.27 -10668426.09 0.0534 0.0242
 Saturn -33922-12-27 18:14 J -10668226.81 -10668226.74 -10668226.65 0.0287 0.0264
 Jupiter -33921-02-04 15:21 J -10668187.89 -10668187.86 -10668187.81 0.0540 0.0529
 Jupiter -33916-04-14 23:59 J -10666291.70 -10666291.50 -10666291.30 0.0492 0.0019
 Mars -33913-08-28 23:59 J -10665059.67 -10665059.50 -10665059.32 0.1623 0.0065
 Neptune -33913-09-07 10:19 J -10665050.13 -10665050.07 -10665049.96 0.0089 0.0082
 Neptune -33912-04-20 23:45 J -10664824.61 -10664824.51 -10664824.37 0.0089 0.0074

Neptune -33912-12-02 13:26 J -10664599.08 -10664598.94 -10664598.79 0.0089 0.0065
 Neptune -33911-07-16 02:23 J -10664373.55 -10664373.40 -10664373.21 0.0089 0.0057
 Jupiter -33910-02-13 16:04 J -10664160.94 -10664160.83 -10664160.73 0.0532 0.0451
 Neptune -33910-02-26 15:35 J -10664148.02 -10664147.85 -10664147.65 0.0089 0.0049
 Jupiter -33910-10-10 01:26 J -10663922.60 -10663922.44 -10663922.27 0.0539 0.0313
 Neptune -33910-10-10 05:16 J -10663922.47 -10663922.28 -10663922.08 0.0089 0.0040 *
 Neptune -33909-05-22 18:28 J -10663696.93 -10663696.73 -10663696.52 0.0089 0.0032
 Neptune -33908-01-03 07:26 J -10663471.39 -10663471.19 -10663470.96 0.0089 0.0024
 Saturn -33908-03-05 22:33 J -10663409.74 -10663409.56 -10663409.39 0.0272 0.0142
 Neptune -33908-08-16 20:52 J -10663245.84 -10663245.63 -10663245.41 0.0089 0.0015
 Saturn -33908-10-20 22:19 J -10663180.78 -10663180.57 -10663180.36 0.0272 0.0006
 Neptune -33907-03-30 10:04 J -10663020.30 -10663020.08 -10663019.86 0.0089 0.0007
 Saturn -33907-06-06 22:33 J -10662951.74 -10662951.56 -10662951.38 0.0272 0.0132
 Neptune -33907-11-10 23:16 J -10662794.75 -10662794.53 -10662794.30 0.0089 0.0003
 Saturn -33906-01-21 23:02 J -10662722.56 -10662722.54 -10662722.49 0.0273 0.0269
 Neptune -33906-06-24 12:28 J -10662569.20 -10662568.98 -10662568.76 0.0089 0.0010
 Neptune -33905-02-05 01:26 J -10662343.66 -10662343.44 -10662343.22 0.0089 0.0018
 Neptune -33905-09-17 14:09 J -10662118.11 -10662117.91 -10662117.69 0.0089 0.0027
 Jupiter -33905-12-19 04:47 J -10662025.48 -10662025.30 -10662025.11 0.0493 0.0177
 Neptune -33904-05-01 03:21 J -10661892.56 -10661892.36 -10661892.15 0.0089 0.0035
 Jupiter -33904-08-11 22:47 J -10661789.67 -10661789.55 -10661789.43 0.0488 0.0388
 Neptune -33904-12-12 16:19 J -10661667.00 -10661666.82 -10661666.62 0.0089 0.0043
 Uranus -33903-05-02 05:59 J -10661526.25 -10661526.25 -10661526.22 0.0140 0.0140
 Neptune -33903-07-26 04:47 J -10661441.45 -10661441.30 -10661441.10 0.0089 0.0052
 Uranus -33903-12-14 17:16 J -10661299.85 -10661299.78 -10661299.68 0.0140 0.0129
 Neptune -33902-03-08 17:45 J -10661215.90 -10661215.76 -10661215.58 0.0089 0.0060
 Uranus -33902-07-29 04:33 J -10661073.41 -10661073.31 -10661073.18 0.0140 0.0118
 Neptune -33902-10-20 06:57 J -10660990.33 -10660990.21 -10660990.05 0.0089 0.0068
 Uranus -33901-03-11 15:50 J -10660846.98 -10660846.84 -10660846.69 0.0139 0.0106
 Neptune -33901-06-01 19:40 J -10660764.77 -10660764.68 -10660764.55 0.0089 0.0077

Uranus -33901-10-24 02:38 J -10660620.55 -10660620.39 -10660620.22 0.0139 0.0094
 Neptune -33900-01-13 08:38 J -10660539.19 -10660539.14 -10660539.05 0.0089 0.0084
 Uranus -33900-06-07 13:40 J -10660394.11 -10660393.93 -10660393.75 0.0139 0.0082
 Uranus -33899-01-19 23:59 J -10660167.68 -10660167.50 -10660167.30 0.0138 0.0071
 Uranus -33899-09-03 10:33 J -10659941.26 -10659941.06 -10659940.85 0.0138 0.0058
 Uranus -33898-04-17 20:23 J -10659714.85 -10659714.65 -10659714.42 0.0138 0.0047
 Jupiter -33898-06-14 10:47 J -10659657.25 -10659657.05 -10659656.84 0.0538 0.0096
 Uranus -33898-11-30 06:43 J -10659488.43 -10659488.22 -10659488.00 0.0137 0.0034
 Uranus -33897-07-13 16:33 J -10659262.02 -10659261.81 -10659261.58 0.0137 0.0023
 Uranus -33896-02-25 02:23 J -10659035.62 -10659035.40 -10659035.18 0.0137 0.0010
 Uranus -33896-10-09 11:45 J -10658809.23 -10658809.01 -10658808.78 0.0137 0.0002
 Uranus -33895-05-23 21:07 J -10658582.85 -10658582.62 -10658582.40 0.0136 0.0013
 Uranus -33894-01-05 05:59 J -10658356.46 -10658356.25 -10658356.02 0.0136 0.0025
 Saturn -33894-08-19 00:28 J -10658130.61 -10658130.48 -10658130.33 0.0287 0.0219
 Uranus -33894-08-19 14:52 J -10658130.08 -10658129.88 -10658129.65 0.0136 0.0037
 Uranus -33893-04-01 23:45 J -10657903.71 -10657903.51 -10657903.29 0.0136 0.0048
 Saturn -33893-04-05 01:40 J -10657900.64 -10657900.43 -10657900.21 0.0287 0.0048
 Jupiter -33893-08-24 10:19 J -10657759.21 -10657759.07 -10657758.92 0.0495 0.0334
 Uranus -33893-11-14 08:23 J -10657677.35 -10657677.15 -10657676.94 0.0135 0.0059
 Saturn -33893-11-21 02:23 J -10657670.59 -10657670.40 -10657670.20 0.0287 0.0124
 Jupiter -33892-04-17 04:33 J -10657523.48 -10657523.31 -10657523.12 0.0489 0.0236
 Uranus -33892-06-28 16:47 J -10657450.98 -10657450.80 -10657450.60 0.0135 0.0070
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 Uranus -33891-09-24 09:21 J -10656998.27 -10656998.11 -10656997.94 0.0134 0.0091
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 Uranus -33890-12-21 00:57 J -10656545.57 -10656545.46 -10656545.32 0.0134 0.0111
 Uranus -33889-08-03 08:38 J -10656319.21 -10656319.14 -10656319.02 0.0134 0.0121
 Uranus -33888-03-17 16:33 J -10656092.85 -10656092.81 -10656092.75 0.0134 0.0130
 Pluto -33887-02-27 09:35 J -10655746.28 -10655746.10 -10655745.92 0.0065 0.0036
 Pluto -33887-10-10 13:26 J -10655521.15 -10655520.94 -10655520.72 0.0065 0.0004

Jupiter -33886-02-16 22:33 J -10655391.76 -10655391.56 -10655391.36 0.0536 0.0119
 Pluto -33886-05-23 16:47 J -10655295.93 -10655295.80 -10655295.62 0.0065 0.0045
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 Moon -33880-10-22 16:33 J -10652951.89 -10652951.81 -10652951.73 0.2653 0.2268 *
 Saturn -33879-01-29 23:45 J -10652852.57 -10652852.51 -10652852.45 0.0272 0.0259
 Mars -33879-06-27 16:33 J -10652703.91 -10652703.81 -10652703.71 0.1626 0.1331
 Saturn -33879-09-15 23:16 J -10652623.71 -10652623.53 -10652623.34 0.0272 0.0125
 Saturn -33878-05-02 23:02 J -10652394.75 -10652394.54 -10652394.34 0.0272 0.0012
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 Jupiter -33875-10-22 10:47 J -10651126.20 -10651126.05 -10651125.88 0.0534 0.0328
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 Jupiter -33869-08-26 14:52 J -10648991.08 -10648990.88 -10648990.68 0.0492 0.0080
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 Jupiter -33863-06-26 22:33 J -10646860.56 -10646860.56 -10646860.55 0.0531 0.0530
 Jupiter -33862-02-20 07:55 J -10646622.35 -10646622.17 -10646621.99 0.0538 0.0227
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 Uranus -33858-07-24 07:55 J -10645007.26 -10645007.17 -10645007.06 0.0138 0.0121
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 Jupiter -33857-05-01 17:59 J -10644724.92 -10644724.75 -10644724.57 0.0494 0.0241
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 Jupiter -33851-10-25 17:59 J -10642356.95 -10642356.75 -10642356.54 0.0536 0.0014
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 Uranus -33847-09-18 02:52 J -10640933.53 -10640933.38 -10640933.21 0.0144 0.0094
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 Uranus -33846-12-14 21:50 J -10640480.70 -10640480.59 -10640480.46 0.0144 0.0119
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 Saturn -33835-09-10 13:11 J -10636558.12 -10636557.95 -10636557.77 0.0287 0.0168
 Saturn -33834-04-28 14:23 J -10636328.12 -10636327.90 -10636327.69 0.0287 0.0006

Saturn -33834-12-14 14:52 J -10636098.05 -10636097.88 -10636097.71 0.0287 0.0173
 Jupiter -33833-05-03 23:02 J -10635956.74 -10635956.54 -10635956.33 0.0491 0.0019
 Neptune -33832-07-27 18:28 J -10635506.74 -10635506.73 -10635506.68 0.0089 0.0088
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 Neptune -33829-01-15 21:35 J -10634604.76 -10634604.60 -10634604.42 0.0089 0.0056
 Neptune -33829-08-28 10:19 J -10634379.25 -10634379.07 -10634378.88 0.0089 0.0048
 Neptune -33828-04-10 23:16 J -10634153.72 -10634153.53 -10634153.33 0.0089 0.0040
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 Jupiter -33827-10-29 00:43 J -10633587.62 -10633587.47 -10633587.31 0.0540 0.0349
 Neptune -33826-02-16 13:26 J -10633477.15 -10633476.94 -10633476.71 0.0088 0.0016
 Neptune -33826-09-30 02:23 J -10633251.62 -10633251.40 -10633251.18 0.0088 0.0007
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 Neptune -33825-12-24 04:04 J -10632800.54 -10632800.33 -10632800.10 0.0088 0.0010
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 Neptune -33823-10-31 18:57 J -10632123.91 -10632123.71 -10632123.50 0.0088 0.0034
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 Jupiter -33821-01-08 03:50 J -10631690.53 -10631690.34 -10631690.14 0.0493 0.0144
 Neptune -33821-01-25 20:38 J -10631672.80 -10631672.64 -10631672.44 0.0088 0.0050
 Jupiter -33821-08-30 21:21 J -10631454.71 -10631454.61 -10631454.50 0.0488 0.0416
 Neptune -33821-09-07 09:35 J -10631447.24 -10631447.10 -10631446.91 0.0088 0.0059
 Saturn -33820-02-21 08:38 J -10631280.26 -10631280.14 -10631280.01 0.0272 0.0216
 Neptune -33820-04-20 22:47 J -10631221.67 -10631221.55 -10631221.38 0.0088 0.0067
 Saturn -33820-10-08 08:23 J -10631051.35 -10631051.15 -10631050.95 0.0272 0.0081
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 Uranus -33819-08-13 22:47 J -10630741.60 -10630741.55 -10630741.46 0.0140 0.0133
 Saturn -33818-01-09 08:23 J -10630593.29 -10630593.15 -10630593.00 0.0272 0.0193
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Saturn -33805-03-22 15:35 J -10625772.03 -10625771.85 -10625771.66 0.0287 0.0150
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 Jupiter -33797-01-10 06:14 J -10622922.44 -10622922.24 -10622922.04 0.0491 0.0106
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 Saturn -33776-02-15 02:23 J -10615215.42 -10615215.40 -10615215.36 0.0287 0.0285
 Saturn -33776-10-03 03:50 J -10614985.54 -10614985.34 -10614985.14 0.0287 0.0115
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 Jupiter -33774-05-21 16:33 J -10614389.99 -10614389.81 -10614389.62 0.0494 0.0208
 Uranus -33774-11-04 22:04 J -10614222.69 -10614222.58 -10614222.46 0.0138 0.0115
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 Uranus -33769-10-19 05:45 J -10612412.47 -10612412.26 -10612412.05 0.0141 0.0023
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 Uranus -33761-11-08 23:16 J -10609469.56 -10609469.53 -10609469.46 0.0145 0.0140
 Saturn -33760-06-16 17:59 J -10609249.94 -10609249.75 -10609249.55 0.0272 0.0101
 Saturn -33759-01-31 18:28 J -10609020.83 -10609020.73 -10609020.62 0.0273 0.0237
 Jupiter -33756-07-19 03:21 J -10607756.55 -10607756.36 -10607756.16 0.0535 0.0167
 Mars -33750-05-14 05:45 J -10605631.42 -10605631.26 -10605631.10 0.1896 0.0685

Jupiter -33750-05-23 20:52 J -10605621.84 -10605621.63 -10605621.43 0.0491 0.0045
 Mars -33749-04-21 18:57 J -10605287.85 -10605287.71 -10605287.58 0.1622 0.1027
 Neptune -33749-12-09 22:04 J -10605055.63 -10605055.58 -10605055.49 0.0089 0.0084
 Neptune -33748-07-23 11:16 J -10604830.12 -10604830.03 -10604829.89 0.0089 0.0076
 Mars -33747-02-19 15:50 J -10604618.86 -10604618.84 -10604618.82 0.1628 0.1608
 Neptune -33747-03-06 00:28 J -10604604.60 -10604604.48 -10604604.31 0.0089 0.0068
 Saturn -33747-08-28 05:02 J -10604429.36 -10604429.29 -10604429.20 0.0287 0.0266
 Neptune -33747-10-17 14:23 J -10604379.06 -10604378.90 -10604378.73 0.0089 0.0059
 Saturn -33746-04-15 06:14 J -10604199.44 -10604199.24 -10604199.03 0.0287 0.0097
 Neptune -33746-05-31 03:21 J -10604153.53 -10604153.36 -10604153.16 0.0089 0.0051
 Saturn -33746-12-01 07:26 J -10603969.40 -10603969.19 -10603968.98 0.0287 0.0074
 Neptune -33745-01-11 16:33 J -10603927.99 -10603927.81 -10603927.60 0.0089 0.0043
 Saturn -33745-07-18 07:40 J -10603739.28 -10603739.18 -10603739.05 0.0286 0.0242
 Neptune -33745-08-24 05:45 J -10603702.45 -10603702.26 -10603702.04 0.0089 0.0035
 Jupiter -33744-03-23 15:35 J -10603491.00 -10603490.85 -10603490.71 0.0532 0.0372
 Neptune -33744-04-06 19:26 J -10603476.90 -10603476.69 -10603476.48 0.0089 0.0026
 Jupiter -33744-11-17 01:11 J -10603252.58 -10603252.45 -10603252.30 0.0539 0.0390
 Neptune -33744-11-18 08:38 J -10603251.35 -10603251.14 -10603250.92 0.0089 0.0018
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 Moon -33742-04-19 19:40 J -10602733.84 -10602733.68 -10602733.52 0.2681 0.0323
 Earth -33742-04-19 23:31 J -10602733.67 -10602733.52 -10602733.37 0.2685 0.0563 *
 Neptune -33742-09-26 00:14 J -10602574.71 -10602574.49 -10602574.27 0.0089 0.0007
 Neptune -33741-05-08 13:26 J -10602349.16 -10602348.94 -10602348.72 0.0089 0.0015
 Neptune -33741-12-20 02:23 J -10602123.61 -10602123.40 -10602123.18 0.0089 0.0023
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 Neptune -33739-03-16 04:04 J -10601672.51 -10601672.33 -10601672.12 0.0089 0.0040
 Neptune -33739-10-27 17:16 J -10601446.95 -10601446.78 -10601446.58 0.0089 0.0048
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 Neptune -33738-06-10 06:14 J -10601221.40 -10601221.24 -10601221.06 0.0089 0.0056

Jupiter -33738-09-19 17:31 J -10601119.85 -10601119.77 -10601119.68 0.0488 0.0441
 Neptune -33737-01-21 19:11 J -10600995.84 -10600995.70 -10600995.54 0.0089 0.0064
 Neptune -33737-09-03 07:55 J -10600770.28 -10600770.17 -10600770.02 0.0089 0.0072
 Neptune -33736-04-16 20:52 J -10600544.71 -10600544.63 -10600544.52 0.0089 0.0080
 Neptune -33736-11-28 09:50 J -10600319.10 -10600319.09 -10600319.04 0.0089 0.0088
 Uranus -33735-04-13 04:04 J -10600183.36 -10600183.33 -10600183.28 0.0140 0.0138
 Uranus -33735-11-25 15:21 J -10599956.94 -10599956.86 -10599956.76 0.0140 0.0126
 Earth -33734-04-17 17:59 J -10599813.78 -10599813.75 -10599813.72 0.2686 0.2608
 Uranus -33734-07-10 02:23 J -10599730.51 -10599730.40 -10599730.25 0.0140 0.0115
 Uranus -33733-02-21 13:40 J -10599504.07 -10599503.93 -10599503.77 0.0139 0.0103
 Uranus -33733-10-05 00:28 J -10599277.64 -10599277.48 -10599277.30 0.0139 0.0091
 Uranus -33732-05-19 11:16 J -10599051.21 -10599051.03 -10599050.84 0.0139 0.0078
 Jupiter -33732-07-22 11:02 J -10598987.23 -10598987.04 -10598986.84 0.0537 0.0174
 Saturn -33732-09-26 00:43 J -10598921.64 -10598921.47 -10598921.29 0.0272 0.0147
 Uranus -33732-12-31 21:35 J -10598824.78 -10598824.60 -10598824.39 0.0139 0.0067
 Saturn -33731-05-13 00:57 J -10598692.67 -10598692.46 -10598692.26 0.0272 0.0013
 Uranus -33731-08-15 07:55 J -10598598.36 -10598598.17 -10598597.95 0.0138 0.0055
 Saturn -33731-12-28 00:57 J -10598463.64 -10598463.46 -10598463.27 0.0273 0.0126
 Uranus -33730-03-29 18:14 J -10598371.95 -10598371.74 -10598371.52 0.0138 0.0042
 Saturn -33730-08-14 01:40 J -10598234.48 -10598234.43 -10598234.36 0.0273 0.0261
 Uranus -33730-11-11 04:04 J -10598145.54 -10598145.33 -10598145.10 0.0138 0.0030
 Uranus -33729-06-24 14:09 J -10597919.13 -10597918.91 -10597918.68 0.0137 0.0017
 Uranus -33728-02-05 23:45 J -10597692.73 -10597692.51 -10597692.28 0.0137 0.0006
 Uranus -33728-09-20 09:21 J -10597466.33 -10597466.11 -10597465.89 0.0137 0.0007
 Uranus -33727-05-04 18:28 J -10597239.95 -10597239.73 -10597239.50 0.0136 0.0019
 Jupiter -33727-10-02 04:04 J -10597089.49 -10597089.33 -10597089.16 0.0495 0.0274
 Uranus -33727-12-17 03:35 J -10597013.56 -10597013.35 -10597013.13 0.0136 0.0031
 Jupiter -33726-05-25 22:33 J -10596853.72 -10596853.56 -10596853.40 0.0489 0.0290
 Uranus -33726-07-31 12:43 J -10596787.18 -10596786.97 -10596786.75 0.0136 0.0042
 Uranus -33725-03-13 21:21 J -10596560.80 -10596560.61 -10596560.39 0.0136 0.0054

Uranus	-33725-10-26 06:14 J	-10596334.43	-10596334.24	-10596334.04	0.0135	0.0065
Uranus	-33724-06-09 14:23 J	-10596108.07	-10596107.90	-10596107.70	0.0135	0.0076
Uranus	-33723-01-21 22:47 J	-10595881.70	-10595881.55	-10595881.36	0.0135	0.0087
Uranus	-33723-09-05 06:57 J	-10595655.34	-10595655.21	-10595655.04	0.0135	0.0098
Uranus	-33722-04-19 15:07 J	-10595428.99	-10595428.87	-10595428.72	0.0134	0.0108
Uranus	-33722-12-01 23:02 J	-10595202.63	-10595202.54	-10595202.42	0.0134	0.0118
Uranus	-33721-07-15 06:57 J	-10594976.27	-10594976.21	-10594976.13	0.0134	0.0127
Jupiter	-33720-03-26 19:11 J	-10594721.90	-10594721.70	-10594721.49	0.0536	0.0047
Mars	-33718-05-14 01:55 J	-10593943.50	-10593943.42	-10593943.35	0.1900	0.1697
Saturn	-33717-03-09 17:59 J	-10593642.87	-10593642.75	-10593642.61	0.0287	0.0230
Saturn	-33717-10-25 19:26 J	-10593412.90	-10593412.69	-10593412.48	0.0287	0.0060
Saturn	-33716-06-12 20:09 J	-10593182.86	-10593182.66	-10593182.45	0.0287	0.0110
Saturn	-33715-01-28 20:23 J	-10592952.70	-10592952.65	-10592952.59	0.0287	0.0277
Mars	-33715-02-18 11:31 J	-10592932.20	-10592932.02	-10592931.85	0.1625	0.0348
Jupiter	-33715-06-07 09:07 J	-10592823.21	-10592823.12	-10592823.02	0.0497	0.0432
Jupiter	-33714-01-29 04:19 J	-10592587.52	-10592587.32	-10592587.13	0.0491	0.0136
Jupiter	-33709-11-29 05:59 J	-10590456.42	-10590456.25	-10590456.06	0.0534	0.0259
Jupiter	-33708-07-25 16:19 J	-10590217.88	-10590217.82	-10590217.74	0.0540	0.0505
Saturn	-33703-08-22 05:02 J	-10588364.34	-10588364.29	-10588364.22	0.0272	0.0259
Jupiter	-33703-10-04 09:21 J	-10588321.32	-10588321.11	-10588320.91	0.0492	0.0022
Saturn	-33702-04-08 04:33 J	-10588135.48	-10588135.31	-10588135.12	0.0272	0.0126
Saturn	-33702-11-23 04:33 J	-10587906.52	-10587906.31	-10587906.10	0.0272	0.0010
Saturn	-33701-07-09 04:33 J	-10587677.48	-10587677.31	-10587677.13	0.0272	0.0146
Jupiter	-33697-08-03 18:14 J	-10586190.84	-10586190.74	-10586190.64	0.0531	0.0461
Jupiter	-33696-03-30 04:19 J	-10585952.49	-10585952.32	-10585952.15	0.0539	0.0295
Jupiter	-33691-06-09 14:09 J	-10584055.10	-10584054.91	-10584054.72	0.0494	0.0178
Uranus	-33691-11-20 23:45 J	-10583890.56	-10583890.51	-10583890.42	0.0138	0.0129
Jupiter	-33690-01-31 07:40 J	-10583819.30	-10583819.18	-10583819.05	0.0488	0.0380
Uranus	-33690-07-05 06:28 J	-10583664.34	-10583664.23	-10583664.12	0.0138	0.0119
Uranus	-33689-02-16 12:14 J	-10583438.10	-10583437.99	-10583437.84	0.0139	0.0109

Uranus -33689-09-29 19:11 J -10583211.85 -10583211.70 -10583211.55 0.0139 0.0097
 Uranus -33688-05-14 01:40 J -10582985.59 -10582985.43 -10582985.26 0.0139 0.0086
 Saturn -33688-09-19 21:35 J -10582856.75 -10582856.60 -10582856.45 0.0287 0.0210
 Uranus -33688-12-26 08:38 J -10582759.32 -10582759.14 -10582758.96 0.0140 0.0075
 Saturn -33687-05-07 22:33 J -10582626.77 -10582626.56 -10582626.34 0.0287 0.0042
 Uranus -33687-08-09 15:21 J -10582533.04 -10582532.86 -10582532.66 0.0140 0.0064
 Saturn -33687-12-23 23:31 J -10582396.71 -10582396.52 -10582396.33 0.0287 0.0129
 Uranus -33686-03-23 22:33 J -10582306.76 -10582306.56 -10582306.36 0.0140 0.0052
 Uranus -33686-11-05 05:31 J -10582080.47 -10582080.27 -10582080.06 0.0141 0.0040
 Uranus -33685-06-18 12:57 J -10581854.16 -10581853.96 -10581853.75 0.0141 0.0028
 Jupiter -33685-12-02 16:04 J -10581687.03 -10581686.83 -10581686.63 0.0537 0.0085
 Uranus -33684-01-30 20:38 J -10581627.85 -10581627.64 -10581627.42 0.0141 0.0015
 Mars -33684-03-10 09:21 J -10581589.25 -10581589.11 -10581588.97 0.1895 0.1115
 Uranus -33684-09-14 04:33 J -10581401.53 -10581401.31 -10581401.10 0.0142 0.0003
 Mars -33683-02-17 06:43 J -10581245.36 -10581245.22 -10581245.07 0.1623 0.0895
 Uranus -33683-04-28 12:14 J -10581175.20 -10581174.99 -10581174.77 0.0142 0.0011
 Uranus -33683-12-10 20:23 J -10580948.86 -10580948.65 -10580948.44 0.0142 0.0023
 Uranus -33682-07-25 04:47 J -10580722.51 -10580722.30 -10580722.10 0.0142 0.0036
 Uranus -33681-03-07 13:11 J -10580496.15 -10580495.95 -10580495.75 0.0143 0.0049
 Uranus -33681-10-19 21:50 J -10580269.78 -10580269.59 -10580269.39 0.0143 0.0061
 Uranus -33680-06-03 06:28 J -10580043.40 -10580043.23 -10580043.04 0.0143 0.0075
 Uranus -33679-01-15 15:35 J -10579817.01 -10579816.85 -10579816.67 0.0144 0.0087
 Jupiter -33679-02-12 16:33 J -10579788.96 -10579788.81 -10579788.66 0.0496 0.0339
 Uranus -33679-08-30 00:43 J -10579590.61 -10579590.47 -10579590.30 0.0144 0.0100
 Jupiter -33679-10-06 11:02 J -10579553.22 -10579553.04 -10579552.86 0.0490 0.0226
 Uranus -33678-04-13 10:04 J -10579364.20 -10579364.08 -10579363.94 0.0144 0.0113
 Uranus -33678-11-25 19:40 J -10579137.78 -10579137.68 -10579137.57 0.0144 0.0125
 Uranus -33677-07-09 05:16 J -10578911.34 -10578911.28 -10578911.21 0.0145 0.0137
 Saturn -33673-03-03 10:19 J -10577578.16 -10577578.07 -10577577.96 0.0273 0.0236
 Jupiter -33673-08-07 02:09 J -10577421.61 -10577421.41 -10577421.21 0.0535 0.0129

Saturn -33673-10-18 10:19 J -10577349.26 -10577349.07 -10577348.87 0.0272 0.0102
 Saturn -33672-06-04 10:33 J -10577120.26 -10577120.06 -10577119.85 0.0273 0.0034
 Saturn -33671-01-19 10:47 J -10576891.20 -10576891.05 -10576890.87 0.0273 0.0171
 Jupiter -33668-10-18 20:23 J -10575522.65 -10575522.65 -10575522.64 0.0498 0.0498
 Jupiter -33667-06-11 15:50 J -10575287.04 -10575286.84 -10575286.64 0.0491 0.0070
 Neptune -33667-06-11 19:26 J -10575286.75 -10575286.69 -10575286.59 0.0089 0.0082 *
 Neptune -33666-01-23 08:23 J -10575061.26 -10575061.15 -10575061.02 0.0089 0.0074
 Neptune -33666-09-05 21:07 J -10574835.75 -10574835.62 -10574835.46 0.0089 0.0066
 Neptune -33665-04-18 10:19 J -10574610.24 -10574610.07 -10574609.91 0.0089 0.0058
 Neptune -33665-11-29 22:33 J -10574384.72 -10574384.56 -10574384.36 0.0089 0.0051
 Neptune -33664-07-13 11:16 J -10574159.20 -10574159.03 -10574158.82 0.0089 0.0043
 Neptune -33663-02-24 00:14 J -10573933.68 -10573933.49 -10573933.27 0.0089 0.0034
 Neptune -33663-10-07 12:57 J -10573708.15 -10573707.96 -10573707.73 0.0088 0.0027
 Neptune -33662-05-21 01:55 J -10573482.62 -10573482.42 -10573482.19 0.0088 0.0019
 Neptune -33661-01-01 14:52 J -10573257.09 -10573256.88 -10573256.66 0.0088 0.0010
 Jupiter -33661-04-11 10:19 J -10573156.23 -10573156.07 -10573155.92 0.0532 0.0345
 Neptune -33661-08-14 03:50 J -10573031.56 -10573031.34 -10573031.12 0.0088 0.0002
 Jupiter -33661-12-05 19:55 J -10572917.79 -10572917.67 -10572917.54 0.0539 0.0413
 Neptune -33660-03-27 16:33 J -10572806.02 -10572805.81 -10572805.58 0.0088 0.0007
 Neptune -33660-11-08 05:31 J -10572580.48 -10572580.27 -10572580.05 0.0088 0.0014
 Neptune -33659-06-21 18:14 J -10572354.94 -10572354.74 -10572354.52 0.0088 0.0022
 Neptune -33658-02-02 06:57 J -10572129.40 -10572129.21 -10572128.99 0.0088 0.0031
 Saturn -33658-04-02 11:02 J -10572070.21 -10572070.04 -10572069.87 0.0287 0.0174
 Neptune -33658-09-15 19:55 J -10571903.86 -10571903.67 -10571903.46 0.0088 0.0039
 Saturn -33658-11-18 12:14 J -10571840.21 -10571839.99 -10571839.78 0.0287 0.0007
 Neptune -33657-04-28 09:07 J -10571678.30 -10571678.12 -10571677.92 0.0088 0.0046
 Saturn -33657-07-05 12:43 J -10571610.14 -10571609.97 -10571609.79 0.0287 0.0166
 Neptune -33657-12-09 22:04 J -10571452.74 -10571452.58 -10571452.39 0.0088 0.0054
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 Jupiter -33655-02-14 21:35 J -10571020.80 -10571020.60 -10571020.41 0.0493 0.0087

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 Jupiter -33655-10-08 15:07 J -10570784.92 -10570784.87 -10570784.81 0.0488 0.0468
 Neptune -33655-10-17 12:57 J -10570776.04 -10570775.96 -10570775.84 0.0088 0.0079
 Neptune -33654-05-31 02:09 J -10570550.43 -10570550.41 -10570550.34 0.0088 0.0086
 Mars -33652-03-10 05:45 J -10569901.38 -10569901.26 -10569901.13 0.1899 0.1268
 Uranus -33651-07-25 20:38 J -10569398.72 -10569398.64 -10569398.56 0.0140 0.0131
 Uranus -33650-03-09 07:26 J -10569172.29 -10569172.19 -10569172.06 0.0140 0.0119
 Uranus -33650-10-21 18:43 J -10568945.86 -10568945.72 -10568945.57 0.0140 0.0107
 Mars -33650-12-16 23:16 J -10568889.70 -10568889.53 -10568889.36 0.1626 0.0484
 Uranus -33649-06-04 05:59 J -10568719.42 -10568719.25 -10568719.09 0.0139 0.0095
 Jupiter -33649-08-10 06:28 J -10568652.42 -10568652.23 -10568652.04 0.0538 0.0200
 Uranus -33648-01-16 16:19 J -10568492.98 -10568492.82 -10568492.63 0.0139 0.0083
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 Uranus -33647-04-14 13:11 J -10568040.14 -10568039.95 -10568039.73 0.0138 0.0059
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 Uranus -33645-10-06 05:31 J -10567134.49 -10567134.27 -10567134.04 0.0137 0.0009
 Uranus -33644-05-20 15:07 J -10566908.10 -10566907.87 -10566907.65 0.0137 0.0004
 Saturn -33644-09-13 15:35 J -10566791.98 -10566791.85 -10566791.72 0.0272 0.0213
 Jupiter -33644-10-21 02:23 J -10566754.58 -10566754.40 -10566754.23 0.0495 0.0244
 Uranus -33643-01-02 00:28 J -10566681.70 -10566681.48 -10566681.26 0.0137 0.0016
 Saturn -33643-04-30 15:21 J -10566563.06 -10566562.86 -10566562.66 0.0272 0.0079
 Jupiter -33643-06-13 20:09 J -10566518.81 -10566518.66 -10566518.50 0.0489 0.0317
 Uranus -33643-08-16 09:50 J -10566455.31 -10566455.09 -10566454.87 0.0136 0.0027
 Saturn -33643-12-15 15:21 J -10566334.07 -10566333.86 -10566333.66 0.0272 0.0057
 Uranus -33642-03-30 18:43 J -10566228.93 -10566228.72 -10566228.50 0.0136 0.0039
 Saturn -33642-08-01 15:21 J -10566105.00 -10566104.86 -10566104.71 0.0272 0.0192
 Uranus -33642-11-12 03:35 J -10566002.55 -10566002.35 -10566002.13 0.0136 0.0051
 Uranus -33641-06-25 12:28 J -10565776.17 -10565775.98 -10565775.77 0.0135 0.0062

Uranus -33640-02-06 21:07 J -10565549.80 -10565549.62 -10565549.42 0.0135 0.0074
 Uranus -33640-09-21 05:45 J -10565323.43 -10565323.26 -10565323.08 0.0135 0.0084
 Uranus -33639-05-05 13:55 J -10565097.07 -10565096.92 -10565096.75 0.0135 0.0095
 Pluto -33639-09-12 11:59 J -10564967.18 -10564967.00 -10564966.81 0.0065 0.0033
 Uranus -33639-12-17 21:50 J -10564870.71 -10564870.59 -10564870.44 0.0134 0.0106
 Pluto -33638-04-25 15:50 J -10564742.05 -10564741.84 -10564741.62 0.0065 0.0007
 Uranus -33638-08-01 06:14 J -10564644.35 -10564644.24 -10564644.12 0.0134 0.0116
 Pluto -33638-12-06 19:40 J -10564516.82 -10564516.68 -10564516.53 0.0065 0.0048
 Uranus -33637-03-14 13:40 J -10564417.98 -10564417.93 -10564417.83 0.0134 0.0126
 Jupiter -33637-04-14 18:28 J -10564386.94 -10564386.73 -10564386.53 0.0536 0.0015
 Moon -33637-10-22 05:02 J -10564196.46 -10564196.29 -10564196.12 0.2642 0.0500
 Earth -33637-10-22 09:07 J -10564196.26 -10564196.12 -10564195.98 0.2648 0.1308 *
 Jupiter -33632-06-26 06:43 J -10562488.33 -10562488.22 -10562488.10 0.0497 0.0401
 Jupiter -33631-02-17 01:26 J -10562252.63 -10562252.44 -10562252.25 0.0490 0.0163
 Saturn -33629-10-12 14:23 J -10561284.08 -10561283.90 -10561283.72 0.0287 0.0154
 Saturn -33628-05-30 15:21 J -10561054.07 -10561053.86 -10561053.64 0.0287 0.0017
 Saturn -33627-01-15 16:04 J -10560823.99 -10560823.83 -10560823.66 0.0286 0.0184
 Jupiter -33626-12-19 06:28 J -10560121.41 -10560121.23 -10560121.04 0.0534 0.0217
 Jupiter -33620-10-23 04:33 J -10557986.51 -10557986.31 -10557986.11 0.0492 0.0005
 Mars -33618-01-05 13:11 J -10557547.05 -10557546.95 -10557546.85 0.1893 0.1524
 Mars -33618-12-15 18:28 J -10557202.88 -10557202.73 -10557202.57 0.1624 0.0759
 Saturn -33614-03-26 19:55 J -10556005.81 -10556005.67 -10556005.52 0.0273 0.0191
 Jupiter -33614-08-23 17:31 J -10555855.89 -10555855.77 -10555855.65 0.0531 0.0422
 Saturn -33614-11-10 19:55 J -10555776.87 -10555776.67 -10555776.46 0.0273 0.0057
 Jupiter -33613-04-18 02:52 J -10555617.53 -10555617.38 -10555617.21 0.0538 0.0330
 Saturn -33613-06-26 20:09 J -10555547.85 -10555547.66 -10555547.46 0.0273 0.0079
 Saturn -33612-02-10 20:52 J -10555318.75 -10555318.63 -10555318.50 0.0273 0.0215
 Jupiter -33608-06-28 08:52 J -10553720.32 -10553720.13 -10553719.93 0.0494 0.0153
 Jupiter -33607-02-19 02:52 J -10553484.49 -10553484.38 -10553484.26 0.0488 0.0405
 Uranus -33607-07-21 08:23 J -10553332.18 -10553332.15 -10553332.08 0.0138 0.0133

Uranus	-33606-03-04 14:52 J	-10553105.97	-10553105.88	-10553105.78	0.0138	0.0123
Uranus	-33606-10-16 20:52 J	-10552879.74	-10552879.63	-10552879.49	0.0138	0.0113
Uranus	-33605-05-30 03:21 J	-10552653.49	-10552653.36	-10552653.21	0.0139	0.0102
Uranus	-33604-01-11 10:19 J	-10552427.23	-10552427.07	-10552426.91	0.0139	0.0090
Uranus	-33604-08-25 16:33 J	-10552200.97	-10552200.81	-10552200.62	0.0139	0.0080
Uranus	-33603-04-08 23:31 J	-10551974.70	-10551974.52	-10551974.33	0.0140	0.0068
Uranus	-33603-11-21 06:28 J	-10551748.42	-10551748.23	-10551748.03	0.0140	0.0056
Uranus	-33602-07-05 13:55 J	-10551522.13	-10551521.92	-10551521.72	0.0140	0.0044
Jupiter	-33602-12-22 10:19 J	-10551352.27	-10551352.07	-10551351.87	0.0537	0.0109
Uranus	-33601-02-16 21:07 J	-10551295.82	-10551295.62	-10551295.41	0.0141	0.0031
Uranus	-33601-09-30 04:33 J	-10551069.52	-10551069.31	-10551069.10	0.0141	0.0019
Uranus	-33600-05-14 12:14 J	-10550843.20	-10550842.99	-10550842.78	0.0141	0.0007
Saturn	-33600-09-07 02:38 J	-10550727.41	-10550727.39	-10550727.35	0.0287	0.0284
Uranus	-33600-12-26 20:09 J	-10550616.87	-10550616.66	-10550616.45	0.0142	0.0007
Saturn	-33599-04-25 04:04 J	-10550497.53	-10550497.33	-10550497.13	0.0287	0.0117
Uranus	-33599-08-10 04:19 J	-10550390.53	-10550390.32	-10550390.11	0.0142	0.0019
Saturn	-33599-12-11 05:16 J	-10550267.50	-10550267.28	-10550267.07	0.0287	0.0054
Uranus	-33598-03-24 12:14 J	-10550164.19	-10550163.99	-10550163.78	0.0142	0.0032
Saturn	-33598-07-29 05:45 J	-10550037.39	-10550037.26	-10550037.12	0.0287	0.0221
Uranus	-33598-11-05 20:38 J	-10549937.84	-10549937.64	-10549937.43	0.0143	0.0045
Uranus	-33597-06-19 05:02 J	-10549711.47	-10549711.29	-10549711.09	0.0143	0.0058
Uranus	-33596-01-31 13:55 J	-10549485.09	-10549484.92	-10549484.73	0.0143	0.0071
Jupiter	-33596-03-03 14:09 J	-10549454.06	-10549453.91	-10549453.75	0.0496	0.0310
Uranus	-33596-09-14 23:02 J	-10549258.71	-10549258.54	-10549258.37	0.0143	0.0084
Jupiter	-33596-10-25 08:52 J	-10549218.30	-10549218.13	-10549217.96	0.0490	0.0253
Uranus	-33595-04-29 07:40 J	-10549032.32	-10549032.18	-10549032.01	0.0144	0.0097
Uranus	-33595-12-11 17:02 J	-10548805.92	-10548805.79	-10548805.65	0.0144	0.0109
Uranus	-33594-07-26 02:38 J	-10548579.50	-10548579.39	-10548579.28	0.0144	0.0122
Uranus	-33593-03-08 11:45 J	-10548353.07	-10548353.01	-10548352.91	0.0144	0.0135
Jupiter	-33590-08-26 20:52 J	-10547086.83	-10547086.63	-10547086.43	0.0535	0.0103

Mars -33586-01-05 09:07 J -10545859.28 -10545859.12 -10545858.97 0.1897 0.0829
 Saturn -33585-10-06 01:26 J -10545219.59 -10545219.44 -10545219.27 0.0272 0.0168
 Jupiter -33585-11-06 18:43 J -10545187.78 -10545187.72 -10545187.65 0.0498 0.0466
 Neptune -33584-03-13 09:50 J -10545061.12 -10545061.09 -10545061.01 0.0089 0.0086
 Saturn -33584-05-23 01:26 J -10544990.65 -10544990.44 -10544990.24 0.0272 0.0033
 Jupiter -33584-06-30 13:55 J -10544952.12 -10544951.92 -10544951.72 0.0491 0.0099
 Mars -33584-10-13 11:02 J -10544847.20 -10544847.04 -10544846.87 0.1627 0.0619
 Neptune -33584-10-24 23:16 J -10544835.61 -10544835.53 -10544835.40 0.0089 0.0078
 Saturn -33583-01-07 01:26 J -10544761.63 -10544761.44 -10544761.25 0.0272 0.0102
 Neptune -33583-06-07 12:28 J -10544610.09 -10544609.98 -10544609.82 0.0089 0.0070
 Saturn -33583-08-24 01:40 J -10544532.52 -10544532.43 -10544532.32 0.0272 0.0237
 Neptune -33582-01-19 01:40 J -10544384.56 -10544384.43 -10544384.24 0.0089 0.0062
 Neptune -33582-09-01 15:35 J -10544159.03 -10544158.85 -10544158.67 0.0089 0.0053
 Neptune -33581-04-14 04:47 J -10543933.49 -10543933.30 -10543933.11 0.0089 0.0045
 Neptune -33581-11-25 17:59 J -10543707.94 -10543707.75 -10543707.54 0.0089 0.0037
 Neptune -33580-07-09 07:11 J -10543482.40 -10543482.20 -10543481.99 0.0089 0.0029
 Neptune -33579-02-19 20:23 J -10543256.86 -10543256.65 -10543256.43 0.0089 0.0021
 Neptune -33579-10-03 09:35 J -10543031.31 -10543031.10 -10543030.87 0.0089 0.0013
 Jupiter -33578-05-01 08:38 J -10542821.30 -10542821.14 -10542820.97 0.0533 0.0310
 Neptune -33578-05-16 22:47 J -10542805.76 -10542805.55 -10542805.32 0.0089 0.0005
 Jupiter -33578-12-25 19:11 J -10542582.81 -10542582.70 -10542582.59 0.0540 0.0447
 Neptune -33578-12-28 11:59 J -10542580.22 -10542580.00 -10542579.78 0.0089 0.0004
 Neptune -33577-08-10 00:57 J -10542354.67 -10542354.46 -10542354.23 0.0089 0.0012
 Neptune -33576-03-23 14:09 J -10542129.12 -10542128.91 -10542128.69 0.0089 0.0020
 Neptune -33576-11-04 03:21 J -10541903.56 -10541903.36 -10541903.14 0.0089 0.0028
 Neptune -33575-06-17 16:19 J -10541678.01 -10541677.82 -10541677.61 0.0089 0.0036
 Neptune -33574-01-29 05:16 J -10541452.46 -10541452.28 -10541452.08 0.0089 0.0044
 Neptune -33574-09-11 18:28 J -10541226.90 -10541226.73 -10541226.55 0.0089 0.0052
 Neptune -33573-04-24 07:26 J -10541001.34 -10541001.19 -10541001.02 0.0089 0.0060
 Neptune -33573-12-05 20:23 J -10540775.78 -10540775.65 -10540775.50 0.0089 0.0068

Jupiter -33572-03-05 18:57 J -10540685.91 -10540685.71 -10540685.51 0.0493 0.0057
 Neptune -33572-07-19 09:07 J -10540550.22 -10540550.12 -10540549.99 0.0089 0.0076
 Neptune -33571-03-01 21:50 J -10540324.64 -10540324.59 -10540324.50 0.0089 0.0084
 Saturn -33570-03-20 05:59 J -10539941.31 -10539941.25 -10539941.15 0.0287 0.0265
 Saturn -33570-11-05 07:26 J -10539711.39 -10539711.19 -10539710.98 0.0287 0.0097
 Saturn -33569-06-22 08:23 J -10539481.35 -10539481.15 -10539480.93 0.0287 0.0073
 Saturn -33568-02-07 09:07 J -10539251.24 -10539251.12 -10539251.00 0.0286 0.0239
 Uranus -33567-03-25 01:11 J -10538840.49 -10538840.45 -10538840.38 0.0141 0.0136
 Uranus -33567-11-06 12:28 J -10538614.07 -10538613.98 -10538613.86 0.0140 0.0124
 Jupiter -33566-01-03 21:35 J -10538555.66 -10538555.60 -10538555.54 0.0530 0.0507
 Uranus -33566-06-20 23:45 J -10538387.63 -10538387.51 -10538387.36 0.0140 0.0112
 Jupiter -33566-08-30 06:57 J -10538317.38 -10538317.21 -10538317.02 0.0538 0.0242
 Uranus -33565-02-02 10:47 J -10538161.19 -10538161.05 -10538160.88 0.0140 0.0100
 Uranus -33565-09-15 21:35 J -10537934.76 -10537934.60 -10537934.41 0.0139 0.0088
 Uranus -33564-04-30 08:09 J -10537708.33 -10537708.16 -10537707.96 0.0139 0.0075
 Uranus -33564-12-12 18:43 J -10537481.91 -10537481.72 -10537481.51 0.0139 0.0063
 Uranus -33563-07-27 05:02 J -10537255.48 -10537255.29 -10537255.07 0.0138 0.0051
 Uranus -33562-03-10 15:35 J -10537029.07 -10537028.85 -10537028.64 0.0138 0.0037
 Uranus -33562-10-23 01:26 J -10536802.66 -10536802.44 -10536802.22 0.0138 0.0025
 Uranus -33561-06-05 11:16 J -10536576.25 -10536576.03 -10536575.80 0.0137 0.0013
 Jupiter -33561-11-08 21:50 J -10536419.77 -10536419.59 -10536419.41 0.0495 0.0217
 Uranus -33560-01-17 21:07 J -10536349.84 -10536349.62 -10536349.40 0.0137 0.0000
 Jupiter -33560-07-02 15:50 J -10536183.98 -10536183.84 -10536183.69 0.0489 0.0341
 Uranus -33560-09-01 06:43 J -10536123.44 -10536123.22 -10536123.00 0.0137 0.0012
 Uranus -33559-04-15 15:50 J -10535897.05 -10535896.84 -10535896.61 0.0136 0.0024
 Uranus -33559-11-28 00:57 J -10535670.66 -10535670.46 -10535670.23 0.0136 0.0037
 Uranus -33558-07-12 10:19 J -10535444.27 -10535444.07 -10535443.86 0.0136 0.0048
 Uranus -33557-02-23 18:57 J -10535217.89 -10535217.71 -10535217.49 0.0136 0.0060
 Uranus -33557-10-07 04:04 J -10534991.52 -10534991.33 -10534991.14 0.0135 0.0071
 Uranus -33556-05-21 12:14 J -10534765.15 -10534764.99 -10534764.80 0.0135 0.0082

Uranus -33555-01-02 20:38 J -10534538.79 -10534538.64 -10534538.46 0.0135 0.0093
 Saturn -33555-04-18 05:02 J -10534433.46 -10534433.29 -10534433.12 0.0273 0.0147
 Uranus -33555-08-17 05:02 J -10534312.42 -10534312.29 -10534312.13 0.0135 0.0104
 Saturn -33555-12-03 05:02 J -10534204.49 -10534204.29 -10534204.08 0.0273 0.0012
 Uranus -33554-03-31 13:26 J -10534086.06 -10534085.94 -10534085.82 0.0134 0.0114
 Jupiter -33554-05-04 17:45 J -10534051.97 -10534051.76 -10534051.56 0.0536 0.0029
 Saturn -33554-07-20 05:16 J -10533975.46 -10533975.28 -10533975.09 0.0273 0.0124
 Uranus -33554-11-12 20:52 J -10533859.69 -10533859.63 -10533859.53 0.0134 0.0124
 Saturn -33553-03-05 06:14 J -10533746.30 -10533746.24 -10533746.18 0.0273 0.0258
 Uranus -33553-06-26 04:47 J -10533633.30 -10533633.30 -10533633.28 0.0134 0.0134
 Mars -33552-10-12 06:43 J -10533160.38 -10533160.22 -10533160.06 0.1625 0.0630
 Pluto -33551-05-15 21:50 J -10532944.64 -10532944.59 -10532944.51 0.0079 0.0076
 Pluto -33551-12-27 08:38 J -10532719.37 -10532719.14 -10532718.92 0.0079 0.0001
 Pluto -33550-08-09 18:14 J -10532493.77 -10532493.74 -10532493.65 0.0079 0.0076
 Jupiter -33549-07-15 01:40 J -10532153.55 -10532153.43 -10532153.29 0.0497 0.0376
 Jupiter -33548-03-07 20:52 J -10531917.82 -10531917.63 -10531917.45 0.0490 0.0189
 Jupiter -33542-01-07 01:11 J -10529786.64 -10529786.45 -10529786.26 0.0534 0.0191
 Saturn -33541-09-29 19:11 J -10529154.82 -10529154.70 -10529154.56 0.0287 0.0229
 Saturn -33540-05-17 20:38 J -10528924.85 -10528924.64 -10528924.43 0.0287 0.0060
 Saturn -33539-01-02 21:35 J -10528694.80 -10528694.60 -10528694.40 0.0287 0.0109
 Saturn -33539-08-20 22:04 J -10528464.63 -10528464.58 -10528464.52 0.0287 0.0275
 Jupiter -33537-11-11 02:23 J -10527651.60 -10527651.40 -10527651.20 0.0492 0.0034
 Jupiter -33531-09-11 11:59 J -10525521.13 -10525521.00 -10525520.86 0.0531 0.0397
 Jupiter -33530-05-07 21:35 J -10525282.75 -10525282.60 -10525282.44 0.0539 0.0354
 Saturn -33526-03-14 11:02 J -10523876.10 -10523876.04 -10523875.96 0.0272 0.0255
 Saturn -33526-10-29 10:47 J -10523647.23 -10523647.05 -10523646.86 0.0272 0.0123
 Saturn -33525-06-14 10:47 J -10523418.26 -10523418.05 -10523417.84 0.0272 0.0012
 Jupiter -33525-07-17 07:26 J -10523385.39 -10523385.19 -10523384.99 0.0494 0.0122
 Saturn -33524-01-29 11:02 J -10523189.21 -10523189.04 -10523188.87 0.0272 0.0146
 Jupiter -33524-03-10 00:57 J -10523149.54 -10523149.46 -10523149.36 0.0488 0.0431

Uranus -33523-03-20 17:31 J -10522773.78 -10522773.77 -10522773.74 0.0138 0.0137
 Uranus -33523-11-01 23:31 J -10522547.59 -10522547.52 -10522547.42 0.0138 0.0127
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 Uranus -33521-01-28 12:14 J -10522095.11 -10522094.99 -10522094.84 0.0139 0.0106
 Uranus -33521-09-10 18:43 J -10521868.86 -10521868.72 -10521868.55 0.0139 0.0095
 Mars -33521-11-01 13:26 J -10521817.11 -10521816.94 -10521816.77 0.1896 0.0415
 Uranus -33520-04-25 01:26 J -10521642.60 -10521642.44 -10521642.26 0.0139 0.0083
 Uranus -33520-12-07 08:09 J -10521416.33 -10521416.16 -10521415.97 0.0140 0.0072
 Uranus -33519-07-21 15:07 J -10521190.05 -10521189.87 -10521189.67 0.0140 0.0060
 Jupiter -33518-01-10 09:07 J -10521017.32 -10521017.12 -10521016.92 0.0537 0.0144
 Uranus -33518-03-04 22:04 J -10520963.77 -10520963.58 -10520963.37 0.0140 0.0048
 Mars -33518-08-10 22:47 J -10520804.71 -10520804.55 -10520804.39 0.1628 0.0755
 Uranus -33518-10-17 05:31 J -10520737.47 -10520737.27 -10520737.06 0.0140 0.0036
 Uranus -33517-05-30 12:57 J -10520511.17 -10520510.96 -10520510.75 0.0141 0.0023
 Uranus -33516-01-11 20:52 J -10520284.84 -10520284.63 -10520284.42 0.0141 0.0011
 Uranus -33516-08-26 04:33 J -10520058.52 -10520058.31 -10520058.10 0.0141 0.0002
 Uranus -33515-04-09 12:28 J -10519832.19 -10519831.98 -10519831.77 0.0142 0.0015
 Uranus -33515-11-21 20:23 J -10519605.85 -10519605.65 -10519605.44 0.0142 0.0028
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 Uranus -33513-02-17 13:11 J -10519153.14 -10519152.95 -10519152.75 0.0143 0.0055
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 Uranus -33513-09-30 21:50 J -10518926.77 -10518926.59 -10518926.40 0.0143 0.0067
 Jupiter -33513-11-13 06:28 J -10518883.40 -10518883.23 -10518883.06 0.0489 0.0280
 Uranus -33512-05-15 06:28 J -10518700.40 -10518700.23 -10518700.05 0.0143 0.0081
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 Saturn -33511-04-11 22:33 J -10518368.70 -10518368.56 -10518368.41 0.0287 0.0209
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 Saturn -33511-11-27 23:59 J -10518138.72 -10518138.50 -10518138.29 0.0287 0.0041
 Uranus -33510-03-25 09:35 J -10518021.20 -10518021.10 -10518020.97 0.0144 0.0119
 Saturn -33510-07-16 00:57 J -10517908.66 -10517908.46 -10517908.27 0.0287 0.0128

Uranus -33510-11-06 18:57 J -10517794.78 -10517794.71 -10517794.61 0.0144 0.0132
 Uranus -33509-06-20 04:33 J -10517568.32 -10517568.31 -10517568.27 0.0145 0.0144
 Jupiter -33507-09-14 21:35 J -10516751.80 -10516751.60 -10516751.39 0.0535 0.0062
 Neptune -33503-09-13 07:40 J -10515292.23 -10515292.18 -10515292.09 0.0089 0.0084
 Neptune -33502-04-26 20:38 J -10515066.74 -10515066.64 -10515066.52 0.0089 0.0076
 Jupiter -33502-11-26 14:52 J -10514852.97 -10514852.88 -10514852.79 0.0498 0.0438
 Neptune -33502-12-08 09:35 J -10514841.24 -10514841.10 -10514840.96 0.0089 0.0068
 Jupiter -33501-07-19 09:50 J -10514617.28 -10514617.09 -10514616.89 0.0491 0.0125
 Neptune -33501-07-20 21:50 J -10514615.73 -10514615.59 -10514615.41 0.0089 0.0061
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 Neptune -33500-10-14 23:31 J -10514164.69 -10514164.52 -10514164.31 0.0089 0.0045
 Earth -33499-04-20 03:50 J -10513977.48 -10513977.34 -10513977.19 0.2685 0.0876
 Moon -33499-04-20 05:16 J -10513977.42 -10513977.28 -10513977.14 0.2691 0.0714 *
 Neptune -33499-05-28 12:28 J -10513939.17 -10513938.98 -10513938.77 0.0089 0.0037
 Neptune -33498-01-09 01:26 J -10513713.65 -10513713.44 -10513713.23 0.0088 0.0029
 Neptune -33498-08-22 14:09 J -10513488.12 -10513487.91 -10513487.69 0.0088 0.0021
 Neptune -33497-04-04 02:52 J -10513262.58 -10513262.38 -10513262.15 0.0088 0.0014
 Saturn -33497-09-23 13:11 J -10513090.04 -10513089.95 -10513089.83 0.0273 0.0237
 Neptune -33497-11-15 15:50 J -10513037.05 -10513036.84 -10513036.61 0.0088 0.0006
 Saturn -33496-05-10 13:26 J -10512861.13 -10512860.94 -10512860.75 0.0272 0.0103
 Neptune -33496-06-29 04:47 J -10512811.52 -10512811.30 -10512811.08 0.0088 0.0003
 Saturn -33496-12-25 13:26 J -10512632.15 -10512631.94 -10512631.73 0.0273 0.0032
 Neptune -33495-02-09 17:31 J -10512585.98 -10512585.77 -10512585.55 0.0088 0.0011
 Jupiter -33495-05-20 08:38 J -10512486.31 -10512486.14 -10512485.96 0.0533 0.0270
 Saturn -33495-08-11 13:40 J -10512403.09 -10512402.93 -10512402.76 0.0273 0.0167
 Neptune -33495-09-23 06:28 J -10512360.45 -10512360.23 -10512360.01 0.0088 0.0019
 Jupiter -33494-01-13 18:43 J -10512247.80 -10512247.72 -10512247.63 0.0540 0.0483
 Neptune -33494-05-06 19:26 J -10512134.90 -10512134.69 -10512134.48 0.0088 0.0027
 Neptune -33494-12-18 08:09 J -10511909.35 -10511909.16 -10511908.95 0.0088 0.0035
 Neptune -33493-07-30 21:07 J -10511683.81 -10511683.62 -10511683.42 0.0088 0.0043

Neptune -33492-03-13 09:50 J -10511458.25 -10511458.09 -10511457.89 0.0088 0.0051
 Neptune -33492-10-24 22:47 J -10511232.70 -10511232.55 -10511232.37 0.0088 0.0059
 Earth -33491-04-17 22:19 J -10511057.65 -10511057.57 -10511057.50 0.2687 0.2323
 Moon -33491-04-18 02:38 J -10511057.50 -10511057.39 -10511057.29 0.2690 0.1837 *
 Neptune -33491-06-07 11:45 J -10511007.13 -10511007.01 -10511006.84 0.0088 0.0067
 Neptune -33490-01-19 00:43 J -10510781.57 -10510781.47 -10510781.33 0.0088 0.0074
 Neptune -33490-09-01 14:09 J -10510555.98 -10510555.91 -10510555.82 0.0088 0.0082
 Jupiter -33489-03-24 14:52 J -10510351.09 -10510350.88 -10510350.68 0.0493 0.0032
 Mars -33486-08-09 18:14 J -10509117.91 -10509117.74 -10509117.57 0.1626 0.0490
 Uranus -33484-11-22 06:57 J -10508282.21 -10508282.21 -10508282.20 0.0141 0.0140
 Jupiter -33483-01-22 17:02 J -10508220.88 -10508220.79 -10508220.71 0.0530 0.0479
 Uranus -33483-07-06 18:14 J -10508055.82 -10508055.74 -10508055.64 0.0140 0.0129
 Jupiter -33483-09-18 01:55 J -10507982.59 -10507982.42 -10507982.23 0.0538 0.0265
 Uranus -33482-02-18 05:31 J -10507829.39 -10507829.27 -10507829.14 0.0140 0.0117
 Uranus -33482-10-02 16:04 J -10507602.95 -10507602.83 -10507602.66 0.0140 0.0105
 Saturn -33482-10-23 10:47 J -10507582.22 -10507582.05 -10507581.88 0.0287 0.0175
 Uranus -33481-05-16 03:21 J -10507376.52 -10507376.36 -10507376.19 0.0139 0.0092
 Saturn -33481-06-09 12:14 J -10507352.21 -10507351.99 -10507351.78 0.0287 0.0008
 Uranus -33481-12-28 14:09 J -10507150.09 -10507149.91 -10507149.72 0.0139 0.0079
 Saturn -33480-01-25 13:11 J -10507122.13 -10507121.95 -10507121.77 0.0287 0.0163
 Uranus -33480-08-12 00:28 J -10506923.66 -10506923.48 -10506923.27 0.0139 0.0067
 Uranus -33479-03-26 10:47 J -10506697.24 -10506697.05 -10506696.83 0.0138 0.0055
 Uranus -33479-11-07 21:21 J -10506470.82 -10506470.61 -10506470.40 0.0138 0.0042
 Uranus -33478-06-22 07:26 J -10506244.40 -10506244.19 -10506243.96 0.0138 0.0029
 Jupiter -33478-11-28 19:55 J -10506084.85 -10506084.67 -10506084.48 0.0495 0.0188
 Uranus -33477-02-03 17:31 J -10506017.99 -10506017.77 -10506017.54 0.0137 0.0017
 Jupiter -33477-07-21 14:09 J -10505849.04 -10505848.91 -10505848.77 0.0489 0.0369
 Uranus -33477-09-17 03:21 J -10505791.58 -10505791.36 -10505791.14 0.0137 0.0004
 Uranus -33476-05-01 12:57 J -10505565.18 -10505564.96 -10505564.74 0.0137 0.0008
 Uranus -33476-12-13 22:19 J -10505338.79 -10505338.57 -10505338.34 0.0137 0.0021

Uranus	-33475-07-28 07:55 J	-10505112.39	-10505112.17	-10505111.95	0.0136	0.0033
Uranus	-33474-03-11 16:47 J	-10504886.00	-10504885.80	-10504885.58	0.0136	0.0045
Uranus	-33474-10-24 01:40 J	-10504659.62	-10504659.43	-10504659.21	0.0136	0.0057
Uranus	-33473-06-06 10:47 J	-10504433.24	-10504433.05	-10504432.86	0.0135	0.0068
Uranus	-33472-01-18 19:11 J	-10504206.87	-10504206.70	-10504206.51	0.0135	0.0080
Uranus	-33472-09-02 04:04 J	-10503980.50	-10503980.33	-10503980.16	0.0135	0.0090
Uranus	-33471-04-16 11:59 J	-10503754.13	-10503754.00	-10503753.84	0.0135	0.0102
Jupiter	-33471-05-23 12:28 J	-10503717.18	-10503716.98	-10503716.78	0.0536	0.0052
Uranus	-33471-11-28 20:23 J	-10503527.77	-10503527.65	-10503527.52	0.0134	0.0112
Uranus	-33470-07-13 04:04 J	-10503301.40	-10503301.33	-10503301.22	0.0134	0.0123
Uranus	-33469-02-24 11:59 J	-10503075.02	-10503075.00	-10503074.95	0.0134	0.0132
Saturn	-33467-04-05 19:40 J	-10502303.80	-10502303.68	-10502303.55	0.0272	0.0212
Saturn	-33467-11-20 19:26 J	-10502074.89	-10502074.69	-10502074.49	0.0272	0.0079
Saturn	-33466-07-07 19:11 J	-10501845.90	-10501845.70	-10501845.50	0.0272	0.0055
Jupiter	-33466-08-04 00:43 J	-10501818.61	-10501818.47	-10501818.32	0.0497	0.0343
Saturn	-33465-02-21 19:26 J	-10501616.84	-10501616.69	-10501616.54	0.0272	0.0189
Jupiter	-33465-03-26 19:26 J	-10501582.86	-10501582.69	-10501582.50	0.0490	0.0218
Jupiter	-33459-01-25 23:59 J	-10499451.70	-10499451.50	-10499451.31	0.0534	0.0156
Mars	-33455-08-29 16:33 J	-10497774.98	-10497774.81	-10497774.63	0.1895	0.0034
Jupiter	-33454-04-09 05:16 J	-10497552.28	-10497552.28	-10497552.28	0.0499	0.0499
Jupiter	-33454-12-01 00:57 J	-10497316.67	-10497316.46	-10497316.26	0.0492	0.0065
Saturn	-33452-05-04 13:40 J	-10496796.10	-10496795.93	-10496795.74	0.0287	0.0155
Mars	-33452-06-07 10:19 J	-10496762.22	-10496762.07	-10496761.93	0.1630	0.0896
Saturn	-33452-12-20 15:07 J	-10496566.08	-10496565.87	-10496565.65	0.0287	0.0015
Saturn	-33451-08-07 16:04 J	-10496335.99	-10496335.83	-10496335.66	0.0287	0.0181
Jupiter	-33448-09-30 12:57 J	-10495186.11	-10495185.96	-10495185.81	0.0532	0.0356
Jupiter	-33447-05-26 23:02 J	-10494947.67	-10494947.54	-10494947.40	0.0539	0.0394
Jupiter	-33442-08-06 04:19 J	-10493050.52	-10493050.32	-10493050.12	0.0493	0.0094
Jupiter	-33441-03-28 22:04 J	-10492814.65	-10492814.58	-10492814.51	0.0488	0.0456
Uranus	-33439-07-02 07:55 J	-10491989.22	-10491989.17	-10491989.09	0.0138	0.0131

Uranus	-33438-02-13 14:23 J	-10491763.00	-10491762.90	-10491762.79	0.0138	0.0120
Uranus	-33438-09-27 20:38 J	-10491536.76	-10491536.64	-10491536.50	0.0138	0.0110
Saturn	-33438-10-16 20:52 J	-10491517.77	-10491517.63	-10491517.48	0.0272	0.0194
Uranus	-33437-05-11 03:07 J	-10491310.51	-10491310.37	-10491310.21	0.0139	0.0099
Saturn	-33437-06-01 20:52 J	-10491288.83	-10491288.63	-10491288.43	0.0272	0.0061
Uranus	-33437-12-23 09:50 J	-10491084.25	-10491084.09	-10491083.92	0.0139	0.0087
Saturn	-33436-01-16 20:52 J	-10491059.83	-10491059.63	-10491059.43	0.0272	0.0074
Uranus	-33436-08-06 16:47 J	-10490857.98	-10490857.80	-10490857.62	0.0139	0.0076
Saturn	-33436-09-02 20:52 J	-10490830.75	-10490830.63	-10490830.49	0.0273	0.0209
Jupiter	-33435-01-29 09:50 J	-10490682.28	-10490682.09	-10490681.89	0.0537	0.0184
Uranus	-33435-03-20 23:31 J	-10490631.70	-10490631.52	-10490631.33	0.0140	0.0064
Uranus	-33435-11-02 06:28 J	-10490405.42	-10490405.23	-10490405.03	0.0140	0.0052
Uranus	-33434-06-16 13:55 J	-10490179.13	-10490178.92	-10490178.72	0.0140	0.0040
Uranus	-33433-01-28 21:21 J	-10489952.82	-10489952.61	-10489952.40	0.0141	0.0027
Uranus	-33433-09-11 04:47 J	-10489726.50	-10489726.30	-10489726.08	0.0141	0.0015
Uranus	-33432-04-25 12:43 J	-10489500.18	-10489499.97	-10489499.76	0.0141	0.0002
Uranus	-33432-12-07 20:38 J	-10489273.85	-10489273.64	-10489273.43	0.0142	0.0012
Uranus	-33431-07-22 04:33 J	-10489047.52	-10489047.31	-10489047.10	0.0142	0.0024
Uranus	-33430-03-05 12:43 J	-10488821.17	-10488820.97	-10488820.76	0.0142	0.0038
Jupiter	-33430-04-11 08:52 J	-10488784.30	-10488784.13	-10488783.96	0.0495	0.0251
Uranus	-33430-10-17 21:07 J	-10488594.82	-10488594.62	-10488594.42	0.0143	0.0051
Jupiter	-33430-12-03 03:07 J	-10488548.52	-10488548.37	-10488548.21	0.0489	0.0307
Uranus	-33429-05-31 05:31 J	-10488368.45	-10488368.27	-10488368.07	0.0143	0.0064
Uranus	-33428-01-12 14:09 J	-10488142.07	-10488141.91	-10488141.72	0.0143	0.0078
Uranus	-33428-08-26 23:02 J	-10487915.69	-10487915.54	-10487915.36	0.0143	0.0090
Uranus	-33427-04-10 08:09 J	-10487689.30	-10487689.16	-10487689.01	0.0144	0.0103
Uranus	-33427-11-22 17:02 J	-10487462.90	-10487462.79	-10487462.65	0.0144	0.0116
Uranus	-33426-07-07 02:23 J	-10487236.48	-10487236.40	-10487236.29	0.0144	0.0129
Uranus	-33425-02-18 12:14 J	-10487010.03	-10487009.99	-10487009.94	0.0145	0.0141
Jupiter	-33424-10-03 17:45 J	-10486416.97	-10486416.76	-10486416.56	0.0535	0.0035

Saturn -33423-11-15 00:14 J -10486009.68 -10486009.49 -10486009.29 0.0287 0.0123
 Saturn -33422-07-03 01:55 J -10485779.63 -10485779.42 -10485779.21 0.0287 0.0047
 Saturn -33421-02-18 02:52 J -10485549.52 -10485549.38 -10485549.23 0.0287 0.0215
 Mars -33420-06-06 05:59 J -10485075.42 -10485075.25 -10485075.07 0.1627 0.0359
 Neptune -33420-06-14 21:50 J -10485066.62 -10485066.59 -10485066.54 0.0089 0.0087
 Neptune -33419-01-26 11:16 J -10484841.12 -10484841.03 -10484840.93 0.0089 0.0079
 Neptune -33419-09-09 00:14 J -10484615.60 -10484615.49 -10484615.34 0.0089 0.0072
 Jupiter -33419-12-15 13:11 J -10484518.06 -10484517.95 -10484517.83 0.0498 0.0408
 Neptune -33418-04-22 13:26 J -10484390.07 -10484389.94 -10484389.76 0.0089 0.0064
 Jupiter -33418-08-08 08:38 J -10484282.33 -10484282.14 -10484281.94 0.0491 0.0156
 Neptune -33418-12-04 02:52 J -10484164.53 -10484164.38 -10484164.19 0.0089 0.0056
 Neptune -33417-07-16 16:04 J -10483939.00 -10483938.83 -10483938.63 0.0089 0.0048
 Neptune -33416-02-27 05:16 J -10483713.46 -10483713.28 -10483713.06 0.0089 0.0040
 Neptune -33416-10-10 18:43 J -10483487.91 -10483487.72 -10483487.50 0.0089 0.0032
 Neptune -33415-05-24 07:55 J -10483262.37 -10483262.17 -10483261.94 0.0089 0.0024
 Neptune -33414-01-04 21:07 J -10483036.82 -10483036.62 -10483036.39 0.0089 0.0016
 Neptune -33414-08-18 10:33 J -10482811.28 -10482811.06 -10482810.84 0.0089 0.0008
 Neptune -33413-03-30 23:45 J -10482585.73 -10482585.51 -10482585.29 0.0089 0.0001
 Neptune -33413-11-11 12:57 J -10482360.17 -10482359.96 -10482359.74 0.0089 0.0009
 Jupiter -33412-06-08 04:19 J -10482151.50 -10482151.32 -10482151.14 0.0533 0.0243
 Neptune -33412-06-25 01:55 J -10482134.62 -10482134.42 -10482134.19 0.0089 0.0017
 Jupiter -33411-02-01 14:09 J -10481912.97 -10481912.91 -10481912.84 0.0540 0.0506
 Neptune -33411-02-05 15:07 J -10481909.07 -10481908.87 -10481908.65 0.0089 0.0025
 Neptune -33411-09-19 04:04 J -10481683.52 -10481683.33 -10481683.11 0.0089 0.0033
 Neptune -33410-05-02 17:16 J -10481457.96 -10481457.78 -10481457.57 0.0089 0.0041
 Neptune -33410-12-14 06:43 J -10481232.40 -10481232.22 -10481232.04 0.0089 0.0048
 Neptune -33409-07-26 19:26 J -10481006.85 -10481006.69 -10481006.51 0.0089 0.0056
 Neptune -33408-03-09 08:23 J -10480781.29 -10480781.15 -10480780.99 0.0089 0.0064
 Saturn -33408-04-28 03:21 J -10480731.51 -10480731.36 -10480731.19 0.0271 0.0170
 Neptune -33408-10-20 21:21 J -10480555.72 -10480555.61 -10480555.47 0.0089 0.0072

Saturn -33408-12-13 02:52 J -10480502.58 -10480502.38 -10480502.17 0.0272 0.0038
 Neptune -33407-06-03 10:04 J -10480330.15 -10480330.08 -10480329.96 0.0089 0.0080
 Saturn -33407-07-30 02:38 J -10480273.58 -10480273.39 -10480273.19 0.0272 0.0097
 Neptune -33406-01-14 23:16 J -10480104.56 -10480104.53 -10480104.48 0.0089 0.0087
 Saturn -33406-03-16 02:38 J -10480044.49 -10480044.39 -10480044.27 0.0272 0.0230
 Jupiter -33406-04-13 14:09 J -10480016.11 -10480015.91 -10480015.70 0.0493 0.0006
 Jupiter -33400-02-10 15:50 J -10477885.95 -10477885.84 -10477885.72 0.0531 0.0444
 Jupiter -33400-10-07 01:40 J -10477647.60 -10477647.43 -10477647.26 0.0538 0.0300
 Uranus -33399-03-05 23:59 J -10477497.55 -10477497.50 -10477497.42 0.0141 0.0133
 Uranus -33399-10-18 11:16 J -10477271.13 -10477271.03 -10477270.91 0.0140 0.0121
 Uranus -33398-06-01 22:19 J -10477044.69 -10477044.57 -10477044.41 0.0140 0.0109
 Uranus -33397-01-14 09:21 J -10476818.26 -10476818.11 -10476817.94 0.0140 0.0097
 Uranus -33397-08-27 20:23 J -10476591.83 -10476591.65 -10476591.47 0.0139 0.0084
 Uranus -33396-04-11 06:43 J -10476365.40 -10476365.22 -10476365.02 0.0139 0.0071
 Uranus -33396-11-23 17:16 J -10476138.98 -10476138.78 -10476138.57 0.0139 0.0058
 Uranus -33395-07-08 03:50 J -10475912.55 -10475912.34 -10475912.13 0.0138 0.0046
 Jupiter -33395-12-17 19:11 J -10475749.89 -10475749.70 -10475749.50 0.0494 0.0154
 Uranus -33394-02-19 13:55 J -10475686.13 -10475685.92 -10475685.70 0.0138 0.0033
 Jupiter -33394-08-10 12:57 J -10475514.07 -10475513.96 -10475513.84 0.0489 0.0398
 Uranus -33394-10-03 23:59 J -10475459.72 -10475459.50 -10475459.28 0.0138 0.0020
 Saturn -33394-10-10 02:09 J -10475453.48 -10475453.41 -10475453.34 0.0287 0.0269
 Earth -33394-10-23 06:43 J -10475440.37 -10475440.22 -10475440.07 0.2647 0.1226
 Moon -33394-10-23 08:23 J -10475440.27 -10475440.15 -10475440.02 0.2653 0.1639 *
 Uranus -33393-05-17 09:50 J -10475233.31 -10475233.09 -10475232.86 0.0137 0.0008
 Saturn -33393-05-27 03:35 J -10475223.55 -10475223.35 -10475223.15 0.0287 0.0103
 Uranus -33393-12-29 19:40 J -10475006.90 -10475006.68 -10475006.46 0.0137 0.0005
 Saturn -33392-01-12 05:02 J -10474993.51 -10474993.29 -10474993.08 0.0287 0.0066
 Uranus -33392-08-13 05:16 J -10474780.50 -10474780.28 -10474780.06 0.0137 0.0017
 Saturn -33392-08-30 05:45 J -10474763.38 -10474763.26 -10474763.13 0.0287 0.0233
 Uranus -33391-03-27 14:38 J -10474554.11 -10474553.89 -10474553.67 0.0136 0.0029

Pluto -33391-08-15 11:59 J -10474413.02 -10474413.00 -10474412.92 0.0065 0.0063
 Uranus -33391-11-08 23:59 J -10474327.72 -10474327.50 -10474327.29 0.0136 0.0041
 Pluto -33390-03-28 16:19 J -10474188.01 -10474187.82 -10474187.61 0.0065 0.0023
 Uranus -33390-06-23 08:52 J -10474101.33 -10474101.13 -10474100.92 0.0136 0.0054
 Pluto -33390-11-08 20:23 J -10473962.86 -10473962.65 -10473962.44 0.0065 0.0017
 Uranus -33389-02-04 17:45 J -10473874.94 -10473874.76 -10473874.55 0.0136 0.0066
 Pluto -33389-06-20 23:45 J -10473737.58 -10473737.51 -10473737.39 0.0065 0.0059
 Mars -33389-06-25 20:52 J -10473732.80 -10473732.63 -10473732.46 0.1893 0.0427
 Uranus -33389-09-18 02:52 J -10473648.57 -10473648.38 -10473648.20 0.0135 0.0077
 Uranus -33388-05-02 11:02 J -10473422.20 -10473422.04 -10473421.86 0.0135 0.0088
 Mars -33388-06-05 01:11 J -10473388.48 -10473388.45 -10473388.41 0.1624 0.1582
 Jupiter -33388-06-11 14:09 J -10473382.11 -10473381.91 -10473381.70 0.0537 0.0096
 Uranus -33388-12-14 19:26 J -10473195.83 -10473195.69 -10473195.53 0.0135 0.0099
 Uranus -33387-07-29 03:50 J -10472969.46 -10472969.34 -10472969.20 0.0135 0.0110
 Uranus -33386-03-12 11:45 J -10472743.09 -10472743.01 -10472742.90 0.0134 0.0121
 Mars -33386-04-04 22:04 J -10472719.71 -10472719.58 -10472719.44 0.1631 0.1029
 Moon -33386-10-21 00:14 J -10472520.54 -10472520.49 -10472520.45 0.2649 0.2524
 Uranus -33386-10-24 19:40 J -10472516.72 -10472516.68 -10472516.62 0.0134 0.0131
 Jupiter -33383-08-22 22:33 J -10471483.71 -10471483.56 -10471483.40 0.0496 0.0313
 Jupiter -33382-04-15 17:16 J -10471247.95 -10471247.78 -10471247.60 0.0490 0.0245
 Saturn -33379-11-08 03:21 J -10469945.52 -10469945.36 -10469945.18 0.0272 0.0153
 Saturn -33378-06-25 03:07 J -10469716.57 -10469716.37 -10469716.16 0.0272 0.0020
 Saturn -33377-02-09 03:07 J -10469487.55 -10469487.37 -10469487.18 0.0272 0.0115
 Saturn -33377-09-25 03:21 J -10469258.44 -10469258.36 -10469258.27 0.0273 0.0248
 Jupiter -33376-02-14 01:40 J -10469116.63 -10469116.43 -10469116.23 0.0534 0.0113
 Jupiter -33371-04-28 02:52 J -10467217.44 -10467217.38 -10467217.31 0.0499 0.0469
 Jupiter -33371-12-19 22:19 J -10466981.77 -10466981.57 -10466981.37 0.0492 0.0093
 Jupiter -33365-10-19 10:19 J -10464851.22 -10464851.07 -10464850.90 0.0531 0.0325
 Saturn -33364-04-21 10:19 J -10464667.18 -10464667.07 -10464666.94 0.0288 0.0242
 Jupiter -33364-06-14 19:55 J -10464612.79 -10464612.67 -10464612.54 0.0539 0.0421

Saturn -33364-12-07 12:14 J -10464437.19 -10464436.99 -10464436.77 0.0288 0.0074
 Saturn -33363-07-25 14:09 J -10464207.11 -10464206.91 -10464206.71 0.0288 0.0096
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 Jupiter -33359-08-25 03:35 J -10462715.55 -10462715.35 -10462715.15 0.0494 0.0063
 Jupiter -33358-04-17 21:35 J -10462479.61 -10462479.60 -10462479.57 0.0488 0.0485
 Uranus -33355-03-01 16:33 J -10461430.84 -10461430.81 -10461430.76 0.0138 0.0135
 Uranus -33355-10-13 22:33 J -10461204.63 -10461204.56 -10461204.46 0.0138 0.0125
 Mars -33354-04-03 17:45 J -10461032.93 -10461032.76 -10461032.58 0.1628 0.0219
 Uranus -33354-05-28 04:47 J -10460978.40 -10460978.30 -10460978.17 0.0138 0.0114
 Uranus -33353-01-09 11:45 J -10460752.15 -10460752.01 -10460751.87 0.0139 0.0103
 Jupiter -33353-06-23 21:35 J -10460585.62 -10460585.60 -10460585.57 0.0529 0.0523
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 Saturn -33348-01-04 09:35 J -10458930.31 -10458930.10 -10458929.89 0.0271 0.0004
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 Saturn -33348-08-21 09:07 J -10458701.29 -10458701.12 -10458700.94 0.0272 0.0137
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 Saturn -33347-04-07 09:07 J -10458472.14 -10458472.12 -10458472.09 0.0272 0.0269
 Jupiter -33347-04-30 08:38 J -10458449.32 -10458449.14 -10458448.95 0.0496 0.0217
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 Jupiter -33341-10-22 17:31 J -10456081.97 -10456081.77 -10456081.56 0.0535 0.0009
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 Neptune -33336-06-04 23:02 J -10454395.70 -10454395.54 -10454395.36 0.0089 0.0055
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 Jupiter -33335-08-27 08:38 J -10453947.33 -10453947.14 -10453946.96 0.0491 0.0187
 Neptune -33335-08-30 00:28 J -10453944.66 -10453944.48 -10453944.27 0.0089 0.0040
 Saturn -33335-11-01 13:26 J -10453881.07 -10453880.94 -10453880.79 0.0287 0.0222
 Neptune -33334-04-12 13:26 J -10453719.13 -10453718.94 -10453718.72 0.0088 0.0032
 Saturn -33334-06-19 15:21 J -10453651.07 -10453650.86 -10453650.65 0.0287 0.0053
 Neptune -33334-11-24 02:23 J -10453493.60 -10453493.40 -10453493.18 0.0088 0.0024
 Saturn -33333-02-04 16:47 J -10453421.00 -10453420.80 -10453420.60 0.0287 0.0115
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 Neptune -33332-09-30 17:02 J -10452817.01 -10452816.79 -10452816.57 0.0088 0.0001
 Neptune -33331-05-14 05:45 J -10452591.47 -10452591.26 -10452591.04 0.0088 0.0008
 Neptune -33331-12-25 18:43 J -10452365.94 -10452365.72 -10452365.50 0.0088 0.0015
 Neptune -33330-08-08 07:26 J -10452140.40 -10452140.19 -10452139.97 0.0088 0.0023

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 Neptune -33328-06-14 22:04 J -10451463.76 -10451463.58 -10451463.38 0.0088 0.0047
 Neptune -33327-01-26 10:47 J -10451238.21 -10451238.05 -10451237.86 0.0088 0.0055
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 Neptune -33326-04-22 13:11 J -10450787.08 -10450786.95 -10450786.81 0.0088 0.0070
 Neptune -33326-12-04 01:55 J -10450561.51 -10450561.42 -10450561.30 0.0088 0.0078
 Neptune -33325-07-16 14:38 J -10450335.92 -10450335.89 -10450335.81 0.0088 0.0086
 Mars -33323-04-22 23:59 J -10449690.65 -10449690.50 -10449690.34 0.1891 0.0856
 Jupiter -33323-05-02 12:57 J -10449681.16 -10449680.96 -10449680.76 0.0492 0.0033
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 Saturn -33320-04-15 10:04 J -10448602.16 -10448602.08 -10448601.98 0.0272 0.0245
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 Saturn -33318-03-03 08:38 J -10447915.30 -10447915.14 -10447914.96 0.0272 0.0154
 Jupiter -33317-03-01 18:28 J -10447550.86 -10447550.73 -10447550.59 0.0531 0.0400
 Jupiter -33317-10-26 04:33 J -10447312.47 -10447312.31 -10447312.15 0.0538 0.0343
 Uranus -33316-11-03 05:59 J -10446939.28 -10446939.25 -10446939.20 0.0141 0.0138
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 Uranus -33314-09-13 15:21 J -10446260.00 -10446259.86 -10446259.69 0.0140 0.0101
 Uranus -33313-04-27 02:09 J -10446033.57 -10446033.41 -10446033.22 0.0139 0.0089
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 Jupiter -33311-01-05 17:45 J -10445414.96 -10445414.76 -10445414.57 0.0494 0.0123
 Uranus -33311-03-07 10:19 J -10445354.28 -10445354.07 -10445353.87 0.0138 0.0050
 Jupiter -33311-08-29 11:31 J -10445179.11 -10445179.02 -10445178.92 0.0489 0.0426
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 Uranus -33308-04-12 11:59 J -10444222.22 -10444222.00 -10444221.77 0.0137 0.0014
 Uranus -33308-11-24 21:21 J -10443995.82 -10443995.61 -10443995.38 0.0136 0.0027
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 Uranus -33306-10-05 00:57 J -10443316.65 -10443316.46 -10443316.25 0.0136 0.0063
 Saturn -33305-05-13 20:23 J -10443094.80 -10443094.65 -10443094.49 0.0288 0.0196
 Uranus -33305-05-18 09:35 J -10443090.27 -10443090.10 -10443089.90 0.0135 0.0074
 Jupiter -33305-06-30 12:28 J -10443047.17 -10443046.98 -10443046.78 0.0536 0.0128
 Saturn -33305-12-29 22:33 J -10442864.78 -10442864.56 -10442864.35 0.0288 0.0027
 Uranus -33305-12-30 18:28 J -10442863.90 -10442863.73 -10442863.56 0.0135 0.0086
 Uranus -33304-08-14 02:38 J -10442637.53 -10442637.39 -10442637.22 0.0135 0.0097
 Saturn -33304-08-17 00:28 J -10442634.67 -10442634.48 -10442634.29 0.0288 0.0143
 Uranus -33303-03-28 11:02 J -10442411.16 -10442411.04 -10442410.90 0.0135 0.0108
 Uranus -33303-11-09 18:57 J -10442184.80 -10442184.71 -10442184.59 0.0134 0.0119
 Pluto -33303-11-29 01:55 J -10442165.55 -10442165.42 -10442165.25 0.0079 0.0059
 Uranus -33302-06-24 03:07 J -10441958.43 -10441958.37 -10441958.31 0.0134 0.0129
 Pluto -33302-07-12 12:43 J -10441940.18 -10441939.97 -10441939.74 0.0079 0.0017
 Jupiter -33300-09-10 22:04 J -10441148.74 -10441148.58 -10441148.41 0.0497 0.0280
 Jupiter -33299-05-04 17:16 J -10440912.94 -10440912.78 -10440912.61 0.0490 0.0277
 Jupiter -33293-03-04 23:16 J -10438781.74 -10438781.53 -10438781.33 0.0534 0.0082
 Mars -33291-04-22 19:11 J -10438002.81 -10438002.70 -10438002.59 0.1895 0.1454
 Saturn -33291-10-26 16:19 J -10437815.92 -10437815.82 -10437815.69 0.0271 0.0222
 Saturn -33290-06-12 15:50 J -10437587.03 -10437586.84 -10437586.64 0.0271 0.0090
 Saturn -33289-01-27 15:21 J -10437358.06 -10437357.86 -10437357.65 0.0271 0.0043
 Saturn -33289-09-12 14:38 J -10437129.03 -10437128.89 -10437128.72 0.0271 0.0176
 Mars -33288-01-29 05:02 J -10436990.46 -10436990.29 -10436990.11 0.1629 0.0087
 Jupiter -33288-05-17 02:52 J -10436882.48 -10436882.38 -10436882.28 0.0499 0.0434

Jupiter -33287-01-07 22:33 J -10436646.75 -10436646.56 -10436646.36 0.0492 0.0127
 Jupiter -33282-11-08 10:33 J -10434516.23 -10434516.06 -10434515.89 0.0532 0.0285
 Jupiter -33281-07-03 20:38 J -10434277.75 -10434277.64 -10434277.54 0.0539 0.0459
 Jupiter -33276-09-13 04:04 J -10432380.53 -10432380.33 -10432380.12 0.0493 0.0028
 Saturn -33276-11-24 00:14 J -10432308.66 -10432308.49 -10432308.32 0.0288 0.0174
 Saturn -33275-07-12 01:55 J -10432078.63 -10432078.42 -10432078.20 0.0288 0.0009
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 Uranus -33271-06-13 06:28 J -10430646.29 -10430646.23 -10430646.15 0.0138 0.0129
 Uranus -33270-01-25 12:43 J -10430420.07 -10430419.97 -10430419.85 0.0138 0.0118
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 Uranus -33268-07-18 15:21 J -10429515.04 -10429514.86 -10429514.68 0.0139 0.0073
 Uranus -33267-03-01 22:04 J -10429288.76 -10429288.58 -10429288.38 0.0140 0.0061
 Uranus -33267-10-14 05:16 J -10429062.47 -10429062.28 -10429062.08 0.0140 0.0048
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 Jupiter -33263-01-10 02:23 J -10427878.53 -10427878.40 -10427878.27 0.0489 0.0367
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 Saturn -33261-05-07 15:21 J -10427029.98 -10427029.86 -10427029.71 0.0272 0.0207
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 Saturn -33259-03-25 13:55 J -10426343.07 -10426342.92 -10426342.78 0.0272 0.0191
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 Jupiter -33258-11-11 21:07 J -10425746.82 -10425746.62 -10425746.41 0.0536 0.0049
 Mars -33257-02-18 04:04 J -10425648.46 -10425648.33 -10425648.21 0.1890 0.1264
 Mars -33256-01-28 00:57 J -10425303.56 -10425303.46 -10425303.36 0.1626 0.1313
 Earth -33256-04-20 08:23 J -10425221.29 -10425221.15 -10425221.02 0.2686 0.1163
 Moon -33256-04-20 09:35 J -10425221.23 -10425221.10 -10425220.96 0.2680 0.1481 *
 Neptune -33255-04-29 22:33 J -10424846.63 -10424846.56 -10424846.46 0.0089 0.0081
 Mars -33255-11-27 20:38 J -10424634.74 -10424634.64 -10424634.54 0.1633 0.1317
 Neptune -33255-12-11 11:31 J -10424621.12 -10424621.02 -10424620.87 0.0089 0.0074
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 Neptune -33253-03-06 14:23 J -10424170.05 -10424169.90 -10424169.72 0.0089 0.0058
 Neptune -33253-10-18 03:50 J -10423944.51 -10423944.34 -10423944.15 0.0089 0.0050
 Jupiter -33252-01-22 12:43 J -10423848.11 -10423847.97 -10423847.82 0.0497 0.0340
 Neptune -33252-05-31 17:16 J -10423718.97 -10423718.78 -10423718.58 0.0089 0.0042
 Jupiter -33252-09-15 07:40 J -10423612.35 -10423612.18 -10423611.99 0.0491 0.0218
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 Moon -33248-04-18 00:14 J -10422301.55 -10422301.49 -10422301.44 0.2682 0.2526
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 Saturn -33113-08-18 07:55 J -10372870.38 -10372870.17 -10372869.96 0.0271 0.0024
 Saturn -33112-04-04 06:43 J -10372641.38 -10372641.22 -10372641.04 0.0271 0.0156
 Jupiter -33110-10-22 03:50 J -10371710.54 -10371710.34 -10371710.14 0.0494 0.0042
 Jupiter -33104-08-21 01:11 J -10369580.58 -10369580.45 -10369580.31 0.0529 0.0400
 Jupiter -33103-04-16 10:04 J -10369342.24 -10369342.08 -10369341.92 0.0538 0.0330
 Uranus -33103-05-25 05:31 J -10369303.35 -10369303.27 -10369303.19 0.0138 0.0127
 Uranus -33102-01-06 11:45 J -10369077.12 -10369077.01 -10369076.89 0.0138 0.0116
 Uranus -33102-08-20 17:59 J -10368850.88 -10368850.75 -10368850.60 0.0138 0.0105
 Uranus -33101-04-03 00:28 J -10368624.63 -10368624.48 -10368624.31 0.0139 0.0094
 Uranus -33101-11-15 07:11 J -10368398.36 -10368398.20 -10368398.02 0.0139 0.0082
 Uranus -33100-06-29 14:09 J -10368172.09 -10368171.91 -10368171.73 0.0139 0.0070
 Uranus -33099-02-10 20:52 J -10367945.81 -10367945.63 -10367945.43 0.0140 0.0058
 Saturn -33099-06-15 00:28 J -10367821.62 -10367821.48 -10367821.33 0.0288 0.0208
 Uranus -33099-09-25 04:04 J -10367719.53 -10367719.33 -10367719.13 0.0140 0.0045
 Saturn -33098-01-31 02:38 J -10367591.60 -10367591.39 -10367591.17 0.0288 0.0040
 Uranus -33098-05-09 11:16 J -10367493.23 -10367493.03 -10367492.82 0.0140 0.0032
 Jupiter -33098-06-27 09:21 J -10367444.31 -10367444.11 -10367443.91 0.0495 0.0112
 Saturn -33098-09-18 04:33 J -10367361.50 -10367361.31 -10367361.11 0.0288 0.0129
 Uranus -33098-12-21 18:43 J -10367266.93 -10367266.72 -10367266.51 0.0141 0.0019
 Jupiter -33097-02-18 03:35 J -10367208.44 -10367208.35 -10367208.25 0.0489 0.0433

Uranus -33097-08-04 02:09 J -10367040.62 -10367040.41 -10367040.20 0.0141 0.0006
 Uranus -33096-03-18 09:35 J -10366814.31 -10366814.10 -10366813.88 0.0141 0.0009
 Uranus -33096-10-30 17:31 J -10366587.98 -10366587.77 -10366587.56 0.0142 0.0021
 Uranus -33095-06-14 01:26 J -10366361.65 -10366361.44 -10366361.24 0.0142 0.0034
 Uranus -33094-01-26 09:21 J -10366135.30 -10366135.11 -10366134.90 0.0142 0.0049
 Uranus -33094-09-09 17:45 J -10365908.94 -10365908.76 -10365908.56 0.0143 0.0062
 Mars -33094-10-12 07:26 J -10365876.36 -10365876.19 -10365876.02 0.1891 0.0221
 Uranus -33093-04-23 02:09 J -10365682.58 -10365682.41 -10365682.22 0.0143 0.0075
 Uranus -33093-12-05 10:33 J -10365456.21 -10365456.06 -10365455.88 0.0143 0.0089
 Uranus -33092-07-19 19:26 J -10365229.83 -10365229.69 -10365229.53 0.0143 0.0102
 Jupiter -33092-12-19 22:19 J -10365076.77 -10365076.57 -10365076.37 0.0536 0.0127
 Uranus -33091-03-03 04:33 J -10365003.43 -10365003.31 -10365003.17 0.0144 0.0115
 Mars -33091-07-21 15:50 J -10364863.01 -10364862.84 -10364862.67 0.1632 0.0337
 Neptune -33091-08-01 09:21 J -10364852.17 -10364852.11 -10364852.02 0.0089 0.0083
 Uranus -33091-10-15 13:40 J -10364777.01 -10364776.93 -10364776.82 0.0144 0.0128
 Neptune -33090-03-14 22:33 J -10364626.65 -10364626.56 -10364626.42 0.0089 0.0076
 Uranus -33090-05-29 23:02 J -10364550.57 -10364550.54 -10364550.48 0.0144 0.0141
 Neptune -33090-10-26 12:14 J -10364401.11 -10364400.99 -10364400.83 0.0089 0.0068
 Neptune -33089-06-08 01:55 J -10364175.58 -10364175.42 -10364175.25 0.0089 0.0060
 Neptune -33088-01-19 15:21 J -10363950.04 -10363949.86 -10363949.68 0.0089 0.0052
 Neptune -33088-09-02 04:19 J -10363724.50 -10363724.32 -10363724.12 0.0089 0.0045
 Neptune -33087-04-15 17:45 J -10363498.95 -10363498.76 -10363498.55 0.0089 0.0037
 Neptune -33087-11-27 06:57 J -10363273.41 -10363273.21 -10363272.99 0.0089 0.0029
 Jupiter -33086-03-02 13:40 J -10363178.09 -10363177.93 -10363177.75 0.0497 0.0267
 Neptune -33086-07-10 20:23 J -10363047.87 -10363047.65 -10363047.44 0.0089 0.0021
 Jupiter -33086-10-24 08:38 J -10362942.30 -10362942.14 -10362941.97 0.0490 0.0284
 Neptune -33085-02-21 09:21 J -10362822.32 -10362822.11 -10362821.88 0.0089 0.0014
 Neptune -33085-10-03 22:47 J -10362596.77 -10362596.55 -10362596.33 0.0089 0.0006
 Saturn -33085-11-27 08:52 J -10362542.24 -10362542.13 -10362542.00 0.0271 0.0222
 Neptune -33084-05-17 11:59 J -10362371.22 -10362371.00 -10362370.78 0.0089 0.0002

Saturn -33084-07-14 07:55 J -10362313.36 -10362313.17 -10362312.97 0.0271 0.0092
 Neptune -33084-12-29 00:57 J -10362145.68 -10362145.46 -10362145.24 0.0089 0.0010
 Saturn -33083-02-28 06:57 J -10362084.41 -10362084.21 -10362084.00 0.0271 0.0040
 Neptune -33083-08-11 13:55 J -10361920.13 -10361919.92 -10361919.70 0.0089 0.0018
 Saturn -33083-10-15 05:45 J -10361855.41 -10361855.26 -10361855.09 0.0271 0.0172
 Neptune -33082-03-25 03:07 J -10361694.58 -10361694.37 -10361694.15 0.0089 0.0025
 Neptune -33082-11-05 16:19 J -10361469.02 -10361468.82 -10361468.61 0.0089 0.0033
 Neptune -33081-06-18 05:16 J -10361243.46 -10361243.28 -10361243.07 0.0089 0.0041
 Neptune -33080-01-29 17:59 J -10361017.91 -10361017.75 -10361017.54 0.0089 0.0049
 Jupiter -33080-08-24 11:02 J -10360811.25 -10360811.04 -10360810.84 0.0534 0.0075
 Neptune -33080-09-12 07:26 J -10360792.35 -10360792.19 -10360792.01 0.0089 0.0056
 Neptune -33079-04-25 20:09 J -10360566.79 -10360566.66 -10360566.49 0.0089 0.0064
 Neptune -33079-12-07 09:35 J -10360341.22 -10360341.10 -10360340.96 0.0089 0.0071
 Neptune -33078-07-20 22:19 J -10360115.65 -10360115.57 -10360115.45 0.0089 0.0079
 Neptune -33077-03-02 11:31 J -10359890.06 -10359890.02 -10359889.96 0.0089 0.0086
 Jupiter -33075-11-05 17:59 J -10358911.85 -10358911.75 -10358911.64 0.0499 0.0422
 Jupiter -33074-06-29 13:55 J -10358676.11 -10358675.92 -10358675.72 0.0492 0.0134
 Saturn -33070-12-26 01:55 J -10357035.57 -10357035.42 -10357035.25 0.0288 0.0191
 Saturn -33069-08-12 04:33 J -10356805.52 -10356805.31 -10356805.09 0.0288 0.0023
 Saturn -33068-03-30 06:43 J -10356575.40 -10356575.22 -10356575.03 0.0288 0.0147
 Jupiter -33068-04-28 22:04 J -10356545.75 -10356545.58 -10356545.40 0.0531 0.0276
 Jupiter -33068-12-23 06:57 J -10356307.31 -10356307.21 -10356307.10 0.0538 0.0455
 Uranus -33064-06-14 10:33 J -10355038.06 -10355038.06 -10355038.04 0.0141 0.0141
 Uranus -33063-01-26 22:04 J -10354811.67 -10354811.58 -10354811.49 0.0141 0.0128
 Uranus -33063-09-10 09:07 J -10354585.23 -10354585.12 -10354584.99 0.0140 0.0116
 Jupiter -33062-03-04 17:45 J -10354409.96 -10354409.76 -10354409.56 0.0494 0.0020
 Uranus -33062-04-24 19:55 J -10354358.80 -10354358.67 -10354358.50 0.0140 0.0104
 Uranus -33062-12-07 07:11 J -10354132.36 -10354132.20 -10354132.02 0.0140 0.0090
 Uranus -33061-07-20 18:14 J -10353905.92 -10353905.74 -10353905.54 0.0139 0.0077
 Uranus -33060-03-04 05:02 J -10353679.48 -10353679.29 -10353679.09 0.0139 0.0063

Uranus -33060-10-16 15:35 J -10353453.05 -10353452.85 -10353452.64 0.0139 0.0050
 Uranus -33059-05-31 02:09 J -10353226.62 -10353226.41 -10353226.19 0.0138 0.0037
 Mars -33059-07-20 11:45 J -10353176.16 -10353176.01 -10353175.86 0.1629 0.0904
 Uranus -33058-01-12 12:28 J -10353000.20 -10352999.98 -10352999.76 0.0138 0.0024
 Uranus -33058-08-26 22:33 J -10352773.78 -10352773.56 -10352773.33 0.0138 0.0011
 Uranus -33057-04-09 08:38 J -10352547.37 -10352547.14 -10352546.92 0.0137 0.0003
 Uranus -33057-11-21 18:14 J -10352320.96 -10352320.74 -10352320.51 0.0137 0.0016
 Jupiter -33056-01-01 09:35 J -10352280.18 -10352280.10 -10352280.00 0.0528 0.0471
 Uranus -33056-07-06 03:50 J -10352094.55 -10352094.34 -10352094.11 0.0137 0.0029
 Jupiter -33056-08-27 17:31 J -10352041.95 -10352041.77 -10352041.59 0.0536 0.0250
 Uranus -33055-02-17 13:11 J -10351868.15 -10351867.95 -10351867.73 0.0137 0.0042
 Saturn -33055-06-09 15:07 J -10351756.00 -10351755.87 -10351755.72 0.0271 0.0199
 Uranus -33055-10-01 22:33 J -10351641.76 -10351641.56 -10351641.35 0.0136 0.0054
 Saturn -33054-01-24 14:38 J -10351527.09 -10351526.89 -10351526.69 0.0271 0.0069
 Uranus -33054-05-16 07:26 J -10351415.38 -10351415.19 -10351414.99 0.0136 0.0066
 Pluto -33054-06-14 05:59 J -10351386.41 -10351386.25 -10351386.04 0.0079 0.0044
 Saturn -33054-09-10 13:40 J -10351298.13 -10351297.93 -10351297.73 0.0271 0.0062
 Uranus -33054-12-28 16:19 J -10351189.00 -10351188.82 -10351188.63 0.0136 0.0078
 Pluto -33053-01-25 16:47 J -10351161.00 -10351160.80 -10351160.59 0.0079 0.0032
 Saturn -33053-04-26 12:43 J -10351069.11 -10351068.97 -10351068.82 0.0271 0.0193
 Uranus -33053-08-11 00:57 J -10350962.62 -10350962.46 -10350962.28 0.0135 0.0090
 Uranus -33052-03-25 09:21 J -10350736.25 -10350736.11 -10350735.95 0.0135 0.0101
 Uranus -33052-11-06 17:45 J -10350509.88 -10350509.76 -10350509.63 0.0135 0.0112
 Uranus -33051-06-21 01:55 J -10350283.50 -10350283.42 -10350283.33 0.0135 0.0123
 Jupiter -33051-11-07 22:33 J -10350143.75 -10350143.56 -10350143.37 0.0496 0.0174
 Uranus -33050-02-02 09:50 J -10350057.10 -10350057.09 -10350057.06 0.0134 0.0134
 Jupiter -33050-07-01 17:31 J -10349907.90 -10349907.77 -10349907.64 0.0490 0.0374
 Jupiter -33044-05-02 03:21 J -10347776.56 -10347776.36 -10347776.15 0.0534 0.0044
 Saturn -33040-07-07 09:50 J -10346249.27 -10346249.09 -10346248.91 0.0288 0.0163
 Saturn -33039-02-22 11:59 J -10346019.22 -10346019.00 -10346018.78 0.0288 0.0005

Jupiter -33039-07-14 03:21 J -10345877.51 -10345877.36 -10345877.20 0.0498 0.0327
 Saturn -33039-10-10 13:40 J -10345789.09 -10345788.93 -10345788.75 0.0288 0.0173
 Jupiter -33038-03-06 23:16 J -10345641.71 -10345641.53 -10345641.35 0.0491 0.0227
 Jupiter -33032-01-04 15:35 J -10343511.05 -10343510.85 -10343510.65 0.0532 0.0159
 Mars -33028-08-08 11:02 J -10341834.22 -10341834.04 -10341833.87 0.1889 0.0201
 Jupiter -33027-03-19 07:40 J -10341611.23 -10341611.18 -10341611.13 0.0500 0.0481
 Jupiter -33027-11-10 04:19 J -10341375.52 -10341375.32 -10341375.12 0.0493 0.0075
 Saturn -33026-12-20 15:21 J -10340970.00 -10340969.86 -10340969.70 0.0271 0.0183
 Mars -33025-05-18 03:21 J -10340820.53 -10340820.36 -10340820.20 0.1634 0.0480
 Saturn -33025-08-05 14:23 J -10340741.10 -10340740.90 -10340740.69 0.0271 0.0053
 Saturn -33024-03-22 13:11 J -10340512.14 -10340511.95 -10340511.75 0.0271 0.0079
 Saturn -33024-11-06 11:59 J -10340283.11 -10340283.00 -10340282.85 0.0271 0.0210
 Jupiter -33021-09-09 04:47 J -10339245.45 -10339245.30 -10339245.15 0.0530 0.0354
 Jupiter -33020-05-05 13:55 J -10339007.06 -10339006.92 -10339006.77 0.0538 0.0374
 Uranus -33019-01-22 14:52 J -10338744.93 -10338744.88 -10338744.81 0.0137 0.0132
 Uranus -33019-09-05 20:52 J -10338518.71 -10338518.63 -10338518.51 0.0138 0.0121
 Uranus -33018-04-20 03:35 J -10338292.48 -10338292.35 -10338292.22 0.0138 0.0109
 Uranus -33018-12-02 10:04 J -10338066.22 -10338066.08 -10338065.93 0.0138 0.0098
 Uranus -33017-07-15 16:33 J -10337839.97 -10337839.81 -10337839.64 0.0139 0.0086
 Uranus -33016-02-26 23:02 J -10337613.70 -10337613.54 -10337613.35 0.0139 0.0075
 Uranus -33016-10-11 05:59 J -10337387.43 -10337387.25 -10337387.05 0.0139 0.0062
 Uranus -33015-05-25 12:57 J -10337161.15 -10337160.96 -10337160.75 0.0140 0.0049
 Jupiter -33015-07-16 09:07 J -10337109.32 -10337109.12 -10337108.92 0.0495 0.0079
 Uranus -33014-01-06 20:09 J -10336934.86 -10336934.66 -10336934.45 0.0140 0.0036
 Jupiter -33014-03-09 03:21 J -10336873.42 -10336873.36 -10336873.30 0.0489 0.0462
 Uranus -33014-08-21 03:21 J -10336708.56 -10336708.36 -10336708.14 0.0140 0.0024
 Uranus -33013-04-03 10:47 J -10336482.26 -10336482.05 -10336481.84 0.0141 0.0010
 Moon -33013-04-20 09:07 J -10336465.25 -10336465.12 -10336464.98 0.2692 0.1187
 Earth -33013-04-20 12:43 J -10336465.09 -10336464.97 -10336464.84 0.2687 0.1475 *
 Uranus -33013-11-15 18:14 J -10336255.95 -10336255.74 -10336255.53 0.0141 0.0004

Uranus -33012-06-30 01:55 J -10336029.63 -10336029.42 -10336029.21 0.0141 0.0017
 Uranus -33011-02-11 09:50 J -10335803.30 -10335803.09 -10335802.88 0.0142 0.0030
 Uranus -33011-09-25 17:45 J -10335576.96 -10335576.76 -10335576.56 0.0142 0.0044
 Saturn -33010-01-17 11:16 J -10335463.21 -10335463.03 -10335462.84 0.0288 0.0146
 Uranus -33010-05-10 01:55 J -10335350.61 -10335350.42 -10335350.22 0.0142 0.0057
 Neptune -33010-06-20 20:23 J -10335308.65 -10335308.65 -10335308.65 0.0089 0.0089
 Saturn -33010-09-04 13:40 J -10335233.14 -10335232.93 -10335232.71 0.0288 0.0022
 Uranus -33010-12-22 10:19 J -10335124.25 -10335124.07 -10335123.89 0.0143 0.0071
 Neptune -33009-02-01 08:23 J -10335083.21 -10335083.15 -10335083.05 0.0089 0.0082
 Saturn -33009-04-21 15:50 J -10335003.00 -10335002.84 -10335002.67 0.0288 0.0190
 Uranus -33009-08-04 18:28 J -10334897.89 -10334897.73 -10334897.55 0.0143 0.0085
 Neptune -33009-09-13 21:21 J -10334857.72 -10334857.61 -10334857.49 0.0089 0.0074
 Jupiter -33008-01-08 00:28 J -10334741.67 -10334741.48 -10334741.29 0.0535 0.0170
 Uranus -33008-03-19 03:07 J -10334671.51 -10334671.37 -10334671.20 0.0143 0.0099
 Neptune -33008-04-27 09:50 J -10334632.22 -10334632.09 -10334631.93 0.0089 0.0067
 Uranus -33008-10-31 11:59 J -10334445.11 -10334445.00 -10334444.85 0.0144 0.0112
 Neptune -33008-12-08 22:19 J -10334406.71 -10334406.57 -10334406.39 0.0089 0.0060
 Uranus -33007-06-14 21:35 J -10334218.71 -10334218.60 -10334218.50 0.0144 0.0124
 Neptune -33007-07-22 11:16 J -10334181.20 -10334181.03 -10334180.85 0.0089 0.0052
 Uranus -33006-01-27 06:43 J -10333992.27 -10333992.22 -10333992.15 0.0144 0.0137
 Neptune -33006-03-04 23:45 J -10333955.68 -10333955.51 -10333955.31 0.0089 0.0045
 Neptune -33006-10-16 12:43 J -10333730.17 -10333729.97 -10333729.77 0.0089 0.0037
 Moon -33005-04-18 07:11 J -10333545.33 -10333545.20 -10333545.08 0.2695 0.1448
 Earth -33005-04-18 07:11 J -10333545.32 -10333545.20 -10333545.09 0.2688 0.1724 *
 Neptune -33005-05-29 01:11 J -10333504.64 -10333504.45 -10333504.23 0.0089 0.0030
 Neptune -33004-01-09 14:09 J -10333279.12 -10333278.91 -10333278.69 0.0089 0.0022
 Neptune -33004-08-23 02:52 J -10333053.59 -10333053.38 -10333053.16 0.0088 0.0014
 Jupiter -33003-03-21 11:45 J -10332843.18 -10332843.01 -10332842.83 0.0497 0.0235
 Neptune -33003-04-05 15:50 J -10332828.05 -10332827.84 -10332827.62 0.0088 0.0007
 Jupiter -33003-11-12 07:26 J -10332607.34 -10332607.19 -10332607.04 0.0491 0.0315

Neptune -33003-11-17 04:47 J -10332602.52 -10332602.30 -10332602.08 0.0088 0.0001

Neptune -33002-06-30 17:31 J -10332376.98 -10332376.77 -10332376.55 0.0088 0.0009

Neptune -33001-02-11 06:14 J -10332151.45 -10332151.24 -10332151.02 0.0088 0.0016

Neptune -33001-09-23 19:11 J -10331925.91 -10331925.70 -10331925.48 0.0088 0.0024

33RD MILLENNIUM BCE

This is a list of transits of Venus in the 33rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Neptune	-33000-05-07 08:09 J	-10331700.36	-10331700.16	-10331699.95	0.0088	0.0032		
Neptune	-33000-12-18 20:52 J	-10331474.81	-10331474.63	-10331474.42	0.0088	0.0039		
Neptune	-32999-08-01 09:50 J	-10331249.26	-10331249.09	-10331248.89	0.0088	0.0047		
Neptune	-32998-03-14 22:33 J	-10331023.71	-10331023.56	-10331023.36	0.0088	0.0055		
Neptune	-32998-10-26 11:45 J	-10330798.16	-10330798.01	-10330797.84	0.0088	0.0062		
Neptune	-32997-06-08 00:28 J	-10330572.59	-10330572.48	-10330572.32	0.0088	0.0070		
Jupiter	-32997-09-12 11:16 J	-10330476.24	-10330476.03	-10330475.83	0.0533	0.0035		
Neptune	-32996-01-19 13:40 J	-10330347.03	-10330346.93	-10330346.81	0.0088	0.0077		
Saturn	-32996-07-01 21:35 J	-10330183.76	-10330183.60	-10330183.43	0.0271	0.0160		
Neptune	-32996-09-02 02:52 J	-10330121.44	-10330121.38	-10330121.31	0.0088	0.0084		
Saturn	-32995-02-15 20:52 J	-10329954.83	-10329954.63	-10329954.42	0.0271	0.0030		
Saturn	-32995-10-02 20:09 J	-10329725.85	-10329725.66	-10329725.47	0.0271	0.0101		
Saturn	-32994-05-19 19:11 J	-10329496.80	-10329496.70	-10329496.59	0.0271	0.0231		
Mars	-32993-05-16 23:31 J	-10329133.67	-10329133.52	-10329133.36	0.1630	0.0771		
Jupiter	-32992-11-24 15:35 J	-10328576.96	-10328576.85	-10328576.72	0.0500	0.0390		

Jupiter -32991-07-18 12:14 J -10328341.17 -10328340.99 -10328340.79 0.0493 0.0167
 Jupiter -32985-05-17 20:52 J -10326210.81 -10326210.63 -10326210.44 0.0531 0.0240
 Jupiter -32984-01-11 05:59 J -10325972.33 -10325972.25 -10325972.16 0.0538 0.0489
 Saturn -32982-12-12 18:28 J -10324906.77 -10324906.73 -10324906.68 0.0288 0.0281
 Saturn -32981-07-29 20:38 J -10324676.84 -10324676.64 -10324676.44 0.0288 0.0116
 Saturn -32980-03-16 22:33 J -10324446.77 -10324446.56 -10324446.34 0.0288 0.0052
 Uranus -32980-09-26 03:35 J -10324253.40 -10324253.35 -10324253.27 0.0141 0.0134
 Saturn -32980-11-02 00:28 J -10324216.62 -10324216.48 -10324216.34 0.0288 0.0219
 Jupiter -32979-03-23 17:59 J -10324074.95 -10324074.75 -10324074.55 0.0494 0.0015
 Uranus -32979-05-10 15:07 J -10324026.97 -10324026.87 -10324026.75 0.0141 0.0121
 Uranus -32979-12-23 02:38 J -10323800.53 -10323800.39 -10323800.25 0.0140 0.0108
 Uranus -32978-08-06 13:26 J -10323574.09 -10323573.94 -10323573.76 0.0140 0.0095
 Uranus -32977-03-20 00:28 J -10323347.65 -10323347.48 -10323347.29 0.0140 0.0082
 Uranus -32977-11-01 11:16 J -10323121.21 -10323121.03 -10323120.82 0.0139 0.0068
 Uranus -32976-06-15 22:04 J -10322894.77 -10322894.58 -10322894.36 0.0139 0.0055
 Uranus -32975-01-28 08:52 J -10322668.34 -10322668.13 -10322667.91 0.0139 0.0041
 Uranus -32975-09-11 19:11 J -10322441.91 -10322441.70 -10322441.48 0.0138 0.0028
 Uranus -32974-04-26 05:16 J -10322215.49 -10322215.28 -10322215.05 0.0138 0.0015
 Uranus -32974-12-08 15:35 J -10321989.08 -10321988.85 -10321988.63 0.0138 0.0003
 Jupiter -32973-01-21 09:21 J -10321945.22 -10321945.11 -10321944.99 0.0529 0.0433
 Uranus -32973-07-22 01:26 J -10321762.66 -10321762.44 -10321762.22 0.0137 0.0012
 Jupiter -32973-09-15 17:45 J -10321706.93 -10321706.76 -10321706.58 0.0537 0.0288
 Uranus -32972-03-05 11:02 J -10321536.26 -10321536.04 -10321535.82 0.0137 0.0025
 Uranus -32972-10-17 20:23 J -10321309.86 -10321309.65 -10321309.43 0.0137 0.0038
 Uranus -32971-06-01 05:31 J -10321083.47 -10321083.27 -10321083.05 0.0136 0.0051
 Uranus -32970-01-13 14:38 J -10320857.08 -10320856.89 -10320856.68 0.0136 0.0063
 Uranus -32970-08-27 23:45 J -10320630.69 -10320630.51 -10320630.32 0.0136 0.0075
 Uranus -32969-04-10 08:23 J -10320404.31 -10320404.15 -10320403.97 0.0136 0.0087
 Uranus -32969-11-22 16:47 J -10320177.94 -10320177.80 -10320177.63 0.0135 0.0099
 Uranus -32968-07-07 01:11 J -10319951.56 -10319951.45 -10319951.30 0.0135 0.0110

Jupiter -32968-11-26 22:33 J -10319808.75 -10319808.56 -10319808.36 0.0496 0.0139
 Uranus -32967-02-18 09:35 J -10319725.18 -10319725.10 -10319724.99 0.0135 0.0121
 Jupiter -32967-07-20 17:02 J -10319572.90 -10319572.79 -10319572.67 0.0490 0.0404
 Uranus -32967-10-02 17:45 J -10319498.79 -10319498.76 -10319498.71 0.0135 0.0132
 Saturn -32966-01-11 22:33 J -10319397.73 -10319397.56 -10319397.38 0.0271 0.0143
 Saturn -32966-08-28 21:35 J -10319168.80 -10319168.60 -10319168.39 0.0271 0.0014
 Saturn -32965-04-13 20:38 J -10318939.83 -10318939.64 -10318939.46 0.0271 0.0118
 Saturn -32965-11-28 19:40 J -10318710.76 -10318710.68 -10318710.60 0.0271 0.0247
 Mars -32962-06-05 15:21 J -10317792.02 -10317791.86 -10317791.69 0.1887 0.0590
 Jupiter -32961-05-21 06:14 J -10317441.44 -10317441.24 -10317441.03 0.0535 0.0087
 Mars -32959-03-15 14:52 J -10316778.05 -10316777.88 -10316777.72 0.1635 0.0616
 Jupiter -32956-08-02 02:52 J -10315542.54 -10315542.38 -10315542.22 0.0498 0.0293
 Jupiter -32955-03-25 22:19 J -10315306.73 -10315306.57 -10315306.39 0.0491 0.0257
 Saturn -32952-06-23 19:55 J -10314120.74 -10314120.67 -10314120.57 0.0288 0.0265
 Saturn -32951-02-08 22:19 J -10313890.78 -10313890.57 -10313890.37 0.0288 0.0099
 Saturn -32951-09-27 00:28 J -10313660.69 -10313660.48 -10313660.27 0.0288 0.0069
 Saturn -32950-05-15 02:23 J -10313430.52 -10313430.40 -10313430.27 0.0288 0.0235
 Jupiter -32949-01-24 17:45 J -10313175.95 -10313175.76 -10313175.55 0.0532 0.0114
 Jupiter -32944-04-07 04:33 J -10311276.39 -10311276.31 -10311276.22 0.0501 0.0451
 Jupiter -32944-11-29 01:40 J -10311040.63 -10311040.43 -10311040.23 0.0493 0.0105
 Jupiter -32938-09-29 05:16 J -10308910.45 -10308910.28 -10308910.12 0.0529 0.0313
 Saturn -32938-12-08 05:31 J -10308840.35 -10308840.27 -10308840.19 0.0272 0.0249
 Jupiter -32937-05-24 13:26 J -10308672.07 -10308671.94 -10308671.81 0.0537 0.0409
 Saturn -32937-07-24 04:47 J -10308611.48 -10308611.30 -10308611.11 0.0271 0.0120
 Saturn -32936-03-10 04:04 J -10308382.53 -10308382.33 -10308382.12 0.0271 0.0011
 Uranus -32936-09-22 00:28 J -10308186.51 -10308186.48 -10308186.45 0.0137 0.0136
 Saturn -32936-10-25 03:07 J -10308153.54 -10308153.37 -10308153.19 0.0271 0.0142
 Uranus -32935-05-06 06:28 J -10307960.31 -10307960.23 -10307960.14 0.0138 0.0125
 Saturn -32935-06-11 02:38 J -10307924.40 -10307924.39 -10307924.37 0.0271 0.0270
 Uranus -32935-12-18 12:43 J -10307734.07 -10307733.97 -10307733.84 0.0138 0.0114

Uranus -32934-08-01 19:11 J -10307507.83 -10307507.70 -10307507.55 0.0138 0.0102
 Uranus -32933-03-15 01:40 J -10307281.58 -10307281.43 -10307281.26 0.0139 0.0091
 Uranus -32933-10-27 08:09 J -10307055.32 -10307055.16 -10307054.97 0.0139 0.0079
 Uranus -32932-06-10 15:07 J -10306829.05 -10306828.87 -10306828.68 0.0139 0.0066
 Jupiter -32932-08-04 06:14 J -10306774.44 -10306774.24 -10306774.04 0.0495 0.0048
 Uranus -32931-01-22 22:04 J -10306602.77 -10306602.58 -10306602.38 0.0140 0.0054
 Uranus -32931-09-06 05:02 J -10306376.48 -10306376.29 -10306376.08 0.0140 0.0041
 Uranus -32930-04-20 12:14 J -10306150.19 -10306149.99 -10306149.78 0.0140 0.0028
 Mars -32930-06-05 09:50 J -10306104.17 -10306104.09 -10306104.01 0.1892 0.1667
 Uranus -32930-12-02 19:26 J -10305923.89 -10305923.69 -10305923.47 0.0141 0.0015
 Uranus -32929-07-16 03:07 J -10305697.58 -10305697.37 -10305697.16 0.0141 0.0002
 Uranus -32928-02-27 10:33 J -10305471.27 -10305471.06 -10305470.84 0.0141 0.0013
 Uranus -32928-10-11 18:14 J -10305244.94 -10305244.74 -10305244.52 0.0142 0.0027
 Mars -32927-03-14 10:47 J -10305091.21 -10305091.05 -10305090.88 0.1631 0.0631
 Uranus -32927-05-26 02:09 J -10305018.61 -10305018.41 -10305018.20 0.0142 0.0040
 Neptune -32927-11-02 19:55 J -10304857.72 -10304857.67 -10304857.59 0.0089 0.0085
 Uranus -32926-01-07 10:33 J -10304792.26 -10304792.06 -10304791.87 0.0142 0.0054
 Jupiter -32926-06-03 14:52 J -10304644.92 -10304644.88 -10304644.82 0.0527 0.0509
 Neptune -32926-06-16 09:07 J -10304632.20 -10304632.12 -10304631.99 0.0089 0.0078
 Uranus -32926-08-21 18:28 J -10304565.90 -10304565.73 -10304565.53 0.0143 0.0068
 Jupiter -32925-01-27 22:19 J -10304406.76 -10304406.57 -10304406.38 0.0536 0.0203
 Neptune -32925-01-27 22:47 J -10304406.67 -10304406.55 -10304406.40 0.0089 0.0070 *
 Uranus -32925-04-04 02:52 J -10304339.54 -10304339.38 -10304339.19 0.0143 0.0081
 Neptune -32925-09-09 11:59 J -10304181.14 -10304181.00 -10304180.82 0.0089 0.0063
 Uranus -32925-11-16 11:31 J -10304113.17 -10304113.02 -10304112.85 0.0143 0.0095
 Neptune -32924-04-23 01:26 J -10303955.59 -10303955.44 -10303955.25 0.0089 0.0055
 Uranus -32924-06-30 20:23 J -10303886.78 -10303886.65 -10303886.50 0.0143 0.0108
 Neptune -32924-12-04 15:07 J -10303730.05 -10303729.87 -10303729.68 0.0089 0.0047
 Uranus -32923-02-12 05:45 J -10303660.37 -10303660.26 -10303660.14 0.0144 0.0121
 Neptune -32923-07-18 04:04 J -10303504.51 -10303504.33 -10303504.11 0.0089 0.0040

Uranus -32923-09-26 14:52 J -10303433.95 -10303433.88 -10303433.80 0.0144 0.0134
 Saturn -32922-01-04 06:43 J -10303334.35 -10303334.22 -10303334.09 0.0288 0.0233
 Neptune -32922-02-28 17:31 J -10303278.96 -10303278.77 -10303278.55 0.0089 0.0032
 Saturn -32922-08-22 08:38 J -10303104.35 -10303104.14 -10303103.92 0.0288 0.0068
 Neptune -32922-10-12 07:11 J -10303053.41 -10303053.20 -10303052.99 0.0089 0.0024
 Saturn -32921-04-08 10:47 J -10302874.25 -10302874.05 -10302873.85 0.0288 0.0100
 Neptune -32921-05-24 20:09 J -10302827.87 -10302827.66 -10302827.43 0.0089 0.0017
 Saturn -32921-11-24 12:43 J -10302644.05 -10302643.97 -10302643.89 0.0288 0.0266
 Neptune -32920-01-05 09:35 J -10302602.32 -10302602.10 -10302601.88 0.0089 0.0009
 Jupiter -32920-04-09 11:16 J -10302508.21 -10302508.03 -10302507.84 0.0497 0.0201
 Neptune -32920-08-18 22:47 J -10302376.77 -10302376.55 -10302376.33 0.0089 0.0002
 Jupiter -32920-12-01 06:43 J -10302272.36 -10302272.22 -10302272.07 0.0491 0.0346
 Neptune -32919-04-01 11:45 J -10302151.23 -10302151.01 -10302150.79 0.0089 0.0007
 Neptune -32919-11-13 01:11 J -10301925.67 -10301925.45 -10301925.24 0.0089 0.0014
 Neptune -32918-06-26 13:55 J -10301700.12 -10301699.92 -10301699.69 0.0089 0.0022
 Neptune -32917-02-07 02:52 J -10301474.57 -10301474.38 -10301474.16 0.0089 0.0030
 Neptune -32917-09-19 16:04 J -10301249.02 -10301248.83 -10301248.62 0.0089 0.0037
 Neptune -32916-05-03 05:02 J -10301023.46 -10301023.29 -10301023.08 0.0089 0.0045
 Neptune -32916-12-14 18:28 J -10300797.90 -10300797.73 -10300797.55 0.0089 0.0052
 Neptune -32915-07-28 07:11 J -10300572.34 -10300572.20 -10300572.02 0.0089 0.0060
 Neptune -32914-03-10 20:23 J -10300346.78 -10300346.65 -10300346.50 0.0089 0.0067
 Jupiter -32914-10-02 10:04 J -10300141.29 -10300141.08 -10300140.87 0.0534 0.0001
 Neptune -32914-10-22 09:07 J -10300121.21 -10300121.12 -10300120.97 0.0089 0.0075
 Neptune -32913-06-03 22:19 J -10299895.63 -10299895.57 -10299895.47 0.0089 0.0082
 Jupiter -32909-12-13 15:35 J -10298241.99 -10298241.85 -10298241.71 0.0499 0.0355
 Saturn -32908-06-19 07:40 J -10298054.28 -10298054.18 -10298054.07 0.0271 0.0231
 Jupiter -32908-08-06 11:31 J -10298006.20 -10298006.02 -10298005.83 0.0492 0.0197
 Moon -32908-10-22 23:31 J -10297928.67 -10297928.52 -10297928.36 0.2651 0.0564
 Earth -32908-10-23 02:23 J -10297928.55 -10297928.40 -10297928.25 0.2645 0.1140 *
 Saturn -32907-02-03 06:57 J -10297825.40 -10297825.21 -10297825.01 0.0271 0.0101

Saturn -32907-09-20 05:59 J -10297596.46 -10297596.25 -10297596.04 0.0271 0.0029
 Saturn -32906-05-07 04:47 J -10297367.46 -10297367.30 -10297367.13 0.0271 0.0159
 Jupiter -32902-06-06 22:33 J -10295875.75 -10295875.56 -10295875.36 0.0531 0.0198
 Jupiter -32901-01-31 08:09 J -10295637.19 -10295637.16 -10295637.12 0.0539 0.0528
 Mars -32896-04-01 19:11 J -10293749.85 -10293749.70 -10293749.56 0.1885 0.0995
 Jupiter -32896-04-11 16:33 J -10293740.01 -10293739.81 -10293739.60 0.0494 0.0047
 Uranus -32896-05-26 10:47 J -10293695.08 -10293695.05 -10293695.00 0.0141 0.0138
 Uranus -32895-01-07 22:04 J -10293468.66 -10293468.58 -10293468.47 0.0141 0.0126
 Uranus -32895-08-22 09:21 J -10293242.23 -10293242.11 -10293241.96 0.0140 0.0113
 Uranus -32894-04-05 20:38 J -10293015.79 -10293015.64 -10293015.47 0.0140 0.0099
 Pluto -32894-09-13 22:33 J -10292854.72 -10292854.56 -10292854.37 0.0065 0.0038
 Uranus -32894-11-18 07:40 J -10292789.35 -10292789.18 -10292789.00 0.0140 0.0086
 Mars -32893-01-11 01:40 J -10292735.58 -10292735.43 -10292735.27 0.1636 0.0764
 Pluto -32893-04-26 02:52 J -10292629.60 -10292629.38 -10292629.17 0.0065 0.0002
 Uranus -32893-07-01 18:43 J -10292562.90 -10292562.72 -10292562.52 0.0139 0.0073
 Saturn -32893-07-16 08:52 J -10292548.27 -10292548.13 -10292547.98 0.0288 0.0216
 Pluto -32893-12-07 06:28 J -10292404.39 -10292404.23 -10292404.06 0.0065 0.0043
 Uranus -32892-02-13 05:31 J -10292336.46 -10292336.27 -10292336.06 0.0139 0.0059
 Saturn -32892-03-03 11:02 J -10292318.25 -10292318.04 -10292317.82 0.0288 0.0050
 Uranus -32892-09-27 16:04 J -10292110.03 -10292109.83 -10292109.61 0.0139 0.0046
 Saturn -32892-10-19 12:57 J -10292088.15 -10292087.96 -10292087.75 0.0288 0.0118
 Uranus -32891-05-12 02:38 J -10291883.60 -10291883.39 -10291883.17 0.0138 0.0032
 Saturn -32891-06-06 14:52 J -10291857.91 -10291857.88 -10291857.83 0.0288 0.0282
 Uranus -32891-12-24 12:57 J -10291657.18 -10291656.96 -10291656.74 0.0138 0.0019
 Jupiter -32890-02-09 11:16 J -10291610.16 -10291610.03 -10291609.89 0.0529 0.0389
 Uranus -32890-08-07 23:02 J -10291430.76 -10291430.54 -10291430.31 0.0138 0.0006
 Jupiter -32890-10-05 19:26 J -10291371.85 -10291371.69 -10291371.53 0.0536 0.0329
 Uranus -32889-03-21 08:52 J -10291204.35 -10291204.13 -10291203.90 0.0137 0.0009
 Uranus -32889-11-02 18:43 J -10290977.94 -10290977.72 -10290977.50 0.0137 0.0021
 Uranus -32888-06-17 04:19 J -10290751.54 -10290751.32 -10290751.10 0.0137 0.0034

Uranus	-32887-01-29 13:26 J	-10290525.14	-10290524.94	-10290524.72	0.0137	0.0047
Uranus	-32887-09-12 22:33 J	-10290298.75	-10290298.56	-10290298.35	0.0136	0.0060
Uranus	-32886-04-27 07:40 J	-10290072.36	-10290072.18	-10290071.99	0.0136	0.0072
Uranus	-32886-12-09 16:33 J	-10289845.98	-10289845.81	-10289845.63	0.0136	0.0084
Uranus	-32885-07-23 00:57 J	-10289619.60	-10289619.46	-10289619.28	0.0135	0.0097
Jupiter	-32885-12-15 18:57 J	-10289473.91	-10289473.71	-10289473.51	0.0496	0.0110
Uranus	-32884-03-06 09:50 J	-10289393.22	-10289393.09	-10289392.95	0.0135	0.0107
Jupiter	-32884-08-08 14:09 J	-10289238.01	-10289237.91	-10289237.82	0.0490	0.0431
Uranus	-32884-10-18 17:45 J	-10289166.84	-10289166.76	-10289166.63	0.0135	0.0119
Uranus	-32883-06-02 02:09 J	-10288940.46	-10288940.41	-10288940.34	0.0135	0.0130
Saturn	-32879-12-30 13:26 J	-10287268.07	-10287267.94	-10287267.80	0.0272	0.0208
Jupiter	-32878-06-10 05:45 J	-10287106.45	-10287106.26	-10287106.06	0.0534	0.0125
Saturn	-32878-08-16 12:57 J	-10287039.16	-10287038.96	-10287038.76	0.0271	0.0078
Saturn	-32877-04-01 12:14 J	-10286810.20	-10286809.99	-10286809.79	0.0271	0.0053
Saturn	-32877-11-16 11:16 J	-10286581.18	-10286581.03	-10286580.87	0.0271	0.0182
Jupiter	-32873-08-20 22:47 J	-10285207.72	-10285207.55	-10285207.38	0.0498	0.0265
Jupiter	-32872-04-13 18:57 J	-10284971.87	-10284971.71	-10284971.54	0.0492	0.0285
Jupiter	-32866-02-12 14:38 J	-10282841.09	-10282840.89	-10282840.69	0.0532	0.0083
Mars	-32864-04-01 13:11 J	-10282062.08	-10282061.95	-10282061.82	0.1890	0.1239
Saturn	-32863-01-26 20:38 J	-10281761.80	-10281761.64	-10281761.46	0.0288	0.0182
Saturn	-32863-09-13 22:47 J	-10281531.77	-10281531.55	-10281531.33	0.0288	0.0016
Saturn	-32862-05-02 00:43 J	-10281301.65	-10281301.47	-10281301.28	0.0288	0.0151
Mars	-32861-01-09 22:19 J	-10281048.74	-10281048.57	-10281048.40	0.1633	0.0491
Jupiter	-32861-04-26 03:21 J	-10280941.46	-10280941.36	-10280941.24	0.0501	0.0418
Jupiter	-32861-12-18 00:28 J	-10280705.68	-10280705.48	-10280705.29	0.0493	0.0136
Jupiter	-32855-10-18 02:23 J	-10278575.57	-10278575.40	-10278575.22	0.0530	0.0281
Jupiter	-32854-06-13 11:16 J	-10278337.15	-10278337.03	-10278336.92	0.0538	0.0441
Uranus	-32851-01-03 16:04 J	-10277401.88	-10277401.83	-10277401.74	0.0137	0.0130
Uranus	-32851-08-17 22:33 J	-10277175.66	-10277175.56	-10277175.45	0.0138	0.0118
Uranus	-32850-04-01 04:33 J	-10276949.43	-10276949.31	-10276949.16	0.0138	0.0107

Uranus -32850-11-13 11:16 J -10276723.18 -10276723.03 -10276722.87 0.0138 0.0095
 Uranus -32849-06-26 17:45 J -10276496.92 -10276496.76 -10276496.58 0.0139 0.0083
 Saturn -32849-07-11 16:33 J -10276481.95 -10276481.81 -10276481.65 0.0271 0.0189
 Jupiter -32849-08-23 05:02 J -10276439.49 -10276439.29 -10276439.09 0.0495 0.0017
 Uranus -32848-02-08 00:28 J -10276270.65 -10276270.48 -10276270.29 0.0139 0.0070
 Saturn -32848-02-25 16:04 J -10276253.03 -10276252.83 -10276252.63 0.0271 0.0059
 Uranus -32848-09-22 07:26 J -10276044.38 -10276044.19 -10276044.00 0.0139 0.0058
 Saturn -32848-10-12 15:07 J -10276024.07 -10276023.87 -10276023.67 0.0271 0.0072
 Uranus -32847-05-06 14:09 J -10275818.10 -10275817.91 -10275817.70 0.0140 0.0045
 Saturn -32847-05-29 13:55 J -10275795.05 -10275794.92 -10275794.77 0.0271 0.0201
 Uranus -32847-12-18 21:21 J -10275591.81 -10275591.61 -10275591.40 0.0140 0.0032
 Uranus -32846-08-02 04:33 J -10275365.51 -10275365.31 -10275365.09 0.0140 0.0019
 Uranus -32845-03-15 11:59 J -10275139.21 -10275139.00 -10275138.79 0.0141 0.0005
 Neptune -32845-05-04 19:26 J -10275088.73 -10275088.69 -10275088.59 0.0089 0.0084
 Uranus -32845-10-27 19:26 J -10274912.90 -10274912.69 -10274912.48 0.0141 0.0009
 Neptune -32845-12-16 08:38 J -10274863.25 -10274863.14 -10274863.03 0.0089 0.0076
 Uranus -32844-06-11 03:07 J -10274686.58 -10274686.37 -10274686.16 0.0141 0.0022
 Neptune -32844-07-29 21:07 J -10274637.75 -10274637.62 -10274637.48 0.0089 0.0069
 Uranus -32843-01-23 11:16 J -10274460.24 -10274460.03 -10274459.83 0.0142 0.0036
 Neptune -32843-03-12 09:35 J -10274412.24 -10274412.10 -10274411.93 0.0089 0.0062
 Jupiter -32843-06-22 15:07 J -10274309.95 -10274309.87 -10274309.77 0.0528 0.0471
 Uranus -32843-09-06 18:57 J -10274233.90 -10274233.71 -10274233.50 0.0142 0.0050
 Neptune -32843-10-23 22:04 J -10274186.73 -10274186.58 -10274186.38 0.0089 0.0055
 Jupiter -32842-02-15 23:16 J -10274071.71 -10274071.53 -10274071.35 0.0536 0.0242
 Uranus -32842-04-21 03:07 J -10274007.55 -10274007.37 -10274007.17 0.0142 0.0064
 Neptune -32842-06-06 11:02 J -10273961.22 -10273961.04 -10273960.85 0.0089 0.0047
 Uranus -32842-12-03 11:45 J -10273781.19 -10273781.01 -10273780.83 0.0143 0.0077
 Neptune -32841-01-17 23:31 J -10273735.70 -10273735.52 -10273735.31 0.0089 0.0040
 Uranus -32841-07-16 20:09 J -10273554.81 -10273554.66 -10273554.49 0.0143 0.0091
 Neptune -32841-08-30 12:14 J -10273510.18 -10273509.99 -10273509.77 0.0089 0.0033

Uranus -32840-02-28 05:02 J -10273328.42 -10273328.29 -10273328.14 0.0143 0.0105
 Neptune -32840-04-13 01:11 J -10273284.65 -10273284.45 -10273284.23 0.0089 0.0025
 Uranus -32840-10-12 14:09 J -10273102.02 -10273101.91 -10273101.79 0.0144 0.0118
 Neptune -32840-11-24 13:55 J -10273059.12 -10273058.92 -10273058.69 0.0088 0.0018
 Uranus -32839-05-26 23:16 J -10272875.61 -10272875.53 -10272875.44 0.0144 0.0131
 Neptune -32839-07-08 02:52 J -10272833.60 -10272833.38 -10272833.16 0.0088 0.0010
 Uranus -32838-01-08 08:52 J -10272649.13 -10272649.13 -10272649.13 0.0144 0.0144
 Neptune -32838-02-18 15:35 J -10272608.07 -10272607.85 -10272607.63 0.0088 0.0002
 Neptune -32838-10-02 04:19 J -10272382.53 -10272382.32 -10272382.09 0.0088 0.0006
 Jupiter -32837-04-28 09:35 J -10272173.29 -10272173.10 -10272172.91 0.0497 0.0169
 Neptune -32837-05-14 17:16 J -10272156.99 -10272156.78 -10272156.56 0.0088 0.0013
 Jupiter -32837-12-20 04:33 J -10271937.44 -10271937.31 -10271937.18 0.0490 0.0373
 Neptune -32837-12-26 05:59 J -10271931.45 -10271931.25 -10271931.02 0.0088 0.0021
 Neptune -32836-08-08 18:57 J -10271705.91 -10271705.71 -10271705.49 0.0088 0.0028
 Neptune -32835-03-22 07:40 J -10271480.36 -10271480.18 -10271479.96 0.0088 0.0036
 Neptune -32835-11-02 20:52 J -10271254.81 -10271254.63 -10271254.43 0.0088 0.0043
 Neptune -32834-06-16 10:04 J -10271029.26 -10271029.08 -10271028.90 0.0088 0.0050
 Saturn -32834-08-08 23:02 J -10270975.71 -10270975.54 -10270975.35 0.0288 0.0165
 Neptune -32833-01-27 22:33 J -10270803.71 -10270803.56 -10270803.38 0.0088 0.0058
 Saturn -32833-03-26 01:26 J -10270745.66 -10270745.44 -10270745.23 0.0288 0.0005
 Neptune -32833-09-09 11:45 J -10270578.15 -10270578.01 -10270577.86 0.0088 0.0065
 Saturn -32833-11-11 03:21 J -10270515.54 -10270515.36 -10270515.19 0.0288 0.0168
 Neptune -32832-04-23 00:28 J -10270352.58 -10270352.48 -10270352.33 0.0088 0.0072
 Neptune -32832-12-04 13:26 J -10270127.01 -10270126.94 -10270126.82 0.0088 0.0080
 Neptune -32831-07-18 02:38 J -10269901.42 -10269901.39 -10269901.34 0.0088 0.0087
 Jupiter -32831-10-21 11:31 J -10269806.23 -10269806.02 -10269805.82 0.0534 0.0044
 Mars -32830-01-27 23:16 J -10269707.64 -10269707.53 -10269707.41 0.1883 0.1383
 Mars -32828-11-07 13:11 J -10268693.10 -10268692.95 -10268692.80 0.1638 0.0901
 Jupiter -32825-01-02 11:02 J -10267907.18 -10267907.04 -10267906.88 0.0499 0.0328
 Jupiter -32825-08-25 07:26 J -10267671.37 -10267671.19 -10267671.01 0.0492 0.0223

Saturn -32819-01-21 22:19 J -10265695.73 -10265695.57 -10265695.40 0.0272 0.0165
 Jupiter -32819-06-25 22:04 J -10265540.77 -10265540.58 -10265540.38 0.0531 0.0159
 Saturn -32819-09-07 21:50 J -10265466.80 -10265466.59 -10265466.39 0.0272 0.0035
 Saturn -32818-04-24 21:07 J -10265237.82 -10265237.62 -10265237.43 0.0271 0.0095
 Saturn -32818-12-09 20:23 J -10265008.76 -10265008.65 -10265008.53 0.0271 0.0224
 Jupiter -32814-09-07 14:23 J -10263640.95 -10263640.90 -10263640.85 0.0502 0.0482
 Jupiter -32813-04-30 11:59 J -10263405.20 -10263405.00 -10263404.80 0.0494 0.0073
 Uranus -32812-09-07 05:02 J -10262910.35 -10262910.29 -10262910.19 0.0141 0.0131
 Uranus -32811-04-21 16:33 J -10262683.91 -10262683.81 -10262683.67 0.0141 0.0118
 Uranus -32811-12-04 03:50 J -10262457.47 -10262457.34 -10262457.18 0.0140 0.0104
 Uranus -32810-07-18 15:07 J -10262231.03 -10262230.87 -10262230.69 0.0140 0.0091
 Uranus -32809-03-01 01:55 J -10262004.59 -10262004.42 -10262004.22 0.0140 0.0078
 Uranus -32809-10-13 13:11 J -10261778.15 -10261777.95 -10261777.75 0.0139 0.0064
 Uranus -32808-05-27 23:45 J -10261551.71 -10261551.51 -10261551.30 0.0139 0.0050
 Uranus -32807-01-09 10:19 J -10261325.28 -10261325.07 -10261324.85 0.0139 0.0036
 Jupiter -32807-02-28 06:57 J -10261275.35 -10261275.21 -10261275.05 0.0529 0.0361
 Uranus -32807-08-23 20:38 J -10261098.86 -10261098.64 -10261098.42 0.0138 0.0023
 Jupiter -32807-10-24 15:07 J -10261037.02 -10261036.87 -10261036.71 0.0537 0.0356
 Uranus -32806-04-07 06:43 J -10260872.44 -10260872.22 -10260871.99 0.0138 0.0009
 Uranus -32806-11-19 16:47 J -10260646.03 -10260645.80 -10260645.58 0.0138 0.0005
 Pluto -32806-12-28 13:11 J -10260607.16 -10260606.95 -10260606.72 0.0079 0.0016
 Uranus -32805-07-03 02:38 J -10260419.61 -10260419.39 -10260419.17 0.0137 0.0018
 Pluto -32805-08-09 23:31 J -10260381.65 -10260381.52 -10260381.36 0.0079 0.0059
 Uranus -32804-02-14 12:14 J -10260193.21 -10260192.99 -10260192.77 0.0137 0.0031
 Saturn -32804-02-18 12:14 J -10260189.18 -10260188.99 -10260188.79 0.0288 0.0129
 Uranus -32804-09-28 21:35 J -10259966.81 -10259966.60 -10259966.39 0.0137 0.0044
 Saturn -32804-10-06 14:23 J -10259959.12 -10259958.90 -10259958.68 0.0288 0.0038
 Uranus -32803-05-13 06:43 J -10259740.42 -10259740.22 -10259740.01 0.0136 0.0057
 Saturn -32803-05-24 16:04 J -10259728.97 -10259728.83 -10259728.67 0.0288 0.0204
 Uranus -32803-12-25 15:35 J -10259514.03 -10259513.85 -10259513.64 0.0136 0.0069

Uranus	-32802-08-09 00:28 J	-10259287.64	-10259287.48	-10259287.28	0.0136	0.0082
Jupiter	-32801-01-04 17:02 J	-10259138.98	-10259138.79	-10259138.59	0.0496	0.0080
Uranus	-32801-03-22 09:21 J	-10259061.26	-10259061.11	-10259060.93	0.0135	0.0094
Jupiter	-32801-08-27 11:59 J	-10258903.06	-10258903.00	-10258902.93	0.0490	0.0458
Uranus	-32801-11-03 17:45 J	-10258834.88	-10258834.76	-10258834.60	0.0135	0.0106
Uranus	-32800-06-18 02:38 J	-10258608.50	-10258608.39	-10258608.28	0.0135	0.0116
Uranus	-32799-01-30 10:33 J	-10258382.11	-10258382.06	-10258381.97	0.0135	0.0128
Mars	-32798-01-27 17:31 J	-10258019.92	-10258019.77	-10258019.61	0.1888	0.0847
Mars	-32796-11-06 09:50 J	-10257006.26	-10257006.09	-10257005.92	0.1634	0.0355
Jupiter	-32795-06-29 02:09 J	-10256771.61	-10256771.41	-10256771.21	0.0535	0.0154
Saturn	-32790-08-04 02:38 J	-10254909.57	-10254909.39	-10254909.22	0.0271	0.0144
Jupiter	-32790-09-09 21:35 J	-10254872.78	-10254872.60	-10254872.42	0.0498	0.0233
Saturn	-32789-03-20 01:40 J	-10254680.63	-10254680.43	-10254680.22	0.0271	0.0015
Jupiter	-32789-05-02 17:16 J	-10254636.94	-10254636.78	-10254636.63	0.0491	0.0313
Saturn	-32789-11-04 00:43 J	-10254451.65	-10254451.47	-10254451.28	0.0271	0.0115
Saturn	-32788-06-20 23:59 J	-10254222.59	-10254222.50	-10254222.41	0.0271	0.0243
Jupiter	-32783-03-03 14:09 J	-10252506.11	-10252505.91	-10252505.70	0.0533	0.0046
Jupiter	-32778-05-16 01:26 J	-10250606.56	-10250606.44	-10250606.31	0.0500	0.0386
Jupiter	-32777-01-06 21:50 J	-10250370.78	-10250370.59	-10250370.40	0.0493	0.0164
Saturn	-32775-01-13 13:26 J	-10249632.99	-10249632.94	-10249632.86	0.0287	0.0274
Saturn	-32775-08-31 15:35 J	-10249403.05	-10249402.85	-10249402.65	0.0288	0.0110
Saturn	-32774-04-18 17:31 J	-10249172.98	-10249172.77	-10249172.56	0.0288	0.0056
Saturn	-32774-12-04 19:26 J	-10248942.83	-10248942.69	-10248942.55	0.0288	0.0221
Jupiter	-32772-11-06 03:07 J	-10248240.55	-10248240.37	-10248240.18	0.0530	0.0239
Jupiter	-32771-07-02 11:45 J	-10248002.09	-10248002.01	-10248001.91	0.0538	0.0480
Earth	-32770-04-21 17:02 J	-10247708.90	-10247708.79	-10247708.67	0.2688	0.1762
Moon	-32770-04-21 22:04 J	-10247708.68	-10247708.58	-10247708.47	0.2686	0.1967 *
Uranus	-32768-09-03 01:11 J	-10246843.49	-10246843.45	-10246843.40	0.0137	0.0134
Uranus	-32767-04-17 07:11 J	-10246617.28	-10246617.20	-10246617.10	0.0138	0.0123
Uranus	-32767-11-29 13:26 J	-10246391.05	-10246390.94	-10246390.80	0.0138	0.0111

Uranus -32766-07-13 19:55 J -10246164.81 -10246164.67 -10246164.51 0.0138 0.0099
 Jupiter -32766-09-12 00:28 J -10246104.68 -10246104.48 -10246104.28 0.0495 0.0012
 Uranus -32765-02-25 02:09 J -10245938.56 -10245938.41 -10245938.23 0.0139 0.0088
 Uranus -32765-10-08 08:52 J -10245712.30 -10245712.13 -10245711.94 0.0139 0.0075
 Mars -32765-11-24 04:04 J -10245665.39 -10245665.33 -10245665.27 0.1880 0.1753
 Uranus -32764-05-22 15:35 J -10245486.03 -10245485.85 -10245485.65 0.0139 0.0062
 Mars -32764-11-05 05:59 J -10245319.28 -10245319.25 -10245319.21 0.1630 0.1584
 Uranus -32763-01-03 22:33 J -10245259.75 -10245259.56 -10245259.35 0.0140 0.0050
 Uranus -32763-08-18 05:45 J -10245033.46 -10245033.26 -10245033.05 0.0140 0.0036
 Neptune -32762-02-04 05:59 J -10244863.27 -10244863.25 -10244863.19 0.0089 0.0087
 Uranus -32762-04-01 12:43 J -10244807.17 -10244806.97 -10244806.75 0.0140 0.0023
 Earth -32762-04-19 11:16 J -10244789.16 -10244789.03 -10244788.90 0.2689 0.1428
 Moon -32762-04-19 13:55 J -10244789.07 -10244788.92 -10244788.78 0.2683 0.1248 *
 Mars -32762-09-05 00:14 J -10244650.62 -10244650.49 -10244650.35 0.1639 0.1048
 Neptune -32762-09-17 19:26 J -10244637.77 -10244637.69 -10244637.57 0.0089 0.0080
 Uranus -32762-11-13 20:09 J -10244580.87 -10244580.66 -10244580.45 0.0141 0.0010
 Neptune -32761-04-30 09:07 J -10244412.24 -10244412.12 -10244411.98 0.0089 0.0072
 Uranus -32761-06-27 03:35 J -10244354.56 -10244354.35 -10244354.14 0.0141 0.0004
 Saturn -32761-06-29 07:40 J -10244352.25 -10244352.18 -10244352.10 0.0272 0.0251
 Neptune -32761-12-11 22:19 J -10244186.70 -10244186.57 -10244186.40 0.0089 0.0065
 Uranus -32760-02-08 11:16 J -10244128.24 -10244128.03 -10244127.82 0.0141 0.0018
 Saturn -32760-02-13 07:40 J -10244123.36 -10244123.18 -10244123.00 0.0272 0.0122
 Jupiter -32760-07-11 14:38 J -10243975.00 -10243974.89 -10243974.77 0.0527 0.0432
 Neptune -32760-07-25 11:59 J -10243961.17 -10243961.00 -10243960.83 0.0089 0.0057
 Uranus -32760-09-22 18:57 J -10243901.91 -10243901.71 -10243901.50 0.0142 0.0032
 Saturn -32760-09-30 07:11 J -10243894.41 -10243894.20 -10243894.00 0.0272 0.0010
 Jupiter -32759-03-06 22:04 J -10243736.75 -10243736.58 -10243736.40 0.0536 0.0277
 Neptune -32759-03-08 01:11 J -10243735.62 -10243735.45 -10243735.26 0.0089 0.0050
 Uranus -32759-05-07 03:07 J -10243675.57 -10243675.37 -10243675.17 0.0142 0.0045
 Saturn -32759-05-17 06:28 J -10243665.41 -10243665.23 -10243665.05 0.0272 0.0138

Neptune -32759-10-19 14:52 J -10243510.07 -10243509.88 -10243509.68 0.0089 0.0042
 Uranus -32759-12-19 11:02 J -10243449.22 -10243449.04 -10243448.84 0.0142 0.0059
 Saturn -32758-01-01 05:59 J -10243436.29 -10243436.25 -10243436.21 0.0272 0.0266
 Neptune -32758-06-02 04:04 J -10243284.52 -10243284.33 -10243284.12 0.0089 0.0035
 Uranus -32758-08-02 19:40 J -10243222.86 -10243222.68 -10243222.50 0.0143 0.0073
 Neptune -32757-01-13 17:31 J -10243058.98 -10243058.77 -10243058.56 0.0089 0.0027
 Uranus -32757-03-16 03:50 J -10242996.49 -10242996.34 -10242996.16 0.0143 0.0087
 Neptune -32757-08-26 06:43 J -10242833.43 -10242833.22 -10242833.00 0.0089 0.0020
 Uranus -32757-10-28 12:43 J -10242770.11 -10242769.97 -10242769.81 0.0143 0.0101
 Neptune -32756-04-08 20:09 J -10242607.88 -10242607.66 -10242607.44 0.0089 0.0012
 Uranus -32756-06-11 21:21 J -10242543.72 -10242543.61 -10242543.46 0.0143 0.0115
 Neptune -32756-11-20 09:21 J -10242382.33 -10242382.11 -10242381.89 0.0089 0.0005
 Uranus -32755-01-24 06:43 J -10242317.30 -10242317.22 -10242317.11 0.0144 0.0128
 Neptune -32755-07-03 22:33 J -10242156.78 -10242156.56 -10242156.34 0.0089 0.0003
 Uranus -32755-09-07 16:04 J -10242090.86 -10242090.83 -10242090.78 0.0144 0.0141
 Neptune -32754-02-14 11:31 J -10241931.23 -10241931.02 -10241930.79 0.0089 0.0011
 Jupiter -32754-05-18 04:19 J -10241838.51 -10241838.32 -10241838.12 0.0497 0.0144
 Neptune -32754-09-28 00:43 J -10241705.68 -10241705.47 -10241705.25 0.0089 0.0018
 Jupiter -32753-01-08 23:45 J -10241602.63 -10241602.51 -10241602.39 0.0491 0.0397
 Neptune -32753-05-10 13:40 J -10241480.13 -10241479.93 -10241479.71 0.0089 0.0026
 Neptune -32753-12-22 02:52 J -10241254.58 -10241254.38 -10241254.17 0.0089 0.0033
 Neptune -32752-08-04 15:35 J -10241029.03 -10241028.85 -10241028.63 0.0089 0.0041
 Neptune -32751-03-18 04:47 J -10240803.47 -10240803.30 -10240803.10 0.0089 0.0048
 Neptune -32751-10-29 18:14 J -10240577.91 -10240577.74 -10240577.57 0.0089 0.0055
 Neptune -32750-06-12 06:43 J -10240352.35 -10240352.22 -10240352.04 0.0089 0.0063
 Neptune -32749-01-23 19:55 J -10240126.79 -10240126.67 -10240126.52 0.0089 0.0070
 Neptune -32749-09-05 09:07 J -10239901.22 -10239901.12 -10239901.01 0.0089 0.0077
 Neptune -32748-04-18 21:35 J -10239675.64 -10239675.60 -10239675.51 0.0089 0.0085
 Jupiter -32748-11-09 06:14 J -10239471.44 -10239471.24 -10239471.03 0.0533 0.0069
 Saturn -32746-07-27 03:07 J -10238846.49 -10238846.37 -10238846.25 0.0288 0.0238

Saturn	-32745-03-13 04:47 J	-10238616.50	-10238616.30	-10238616.08	0.0288	0.0074
Saturn	-32745-10-29 06:57 J	-10238386.42	-10238386.21	-10238386.01	0.0288	0.0093
Saturn	-32744-06-16 08:38 J	-10238156.23	-10238156.14	-10238156.04	0.0288	0.0257
Jupiter	-32742-01-21 08:52 J	-10237572.29	-10237572.13	-10237571.96	0.0499	0.0298
Jupiter	-32742-09-14 05:16 J	-10237336.45	-10237336.28	-10237336.11	0.0492	0.0251
Jupiter	-32736-07-14 17:16 J	-10235205.98	-10235205.78	-10235205.58	0.0531	0.0132
Mars	-32733-11-23 21:50 J	-10233977.76	-10233977.59	-10233977.43	0.1886	0.0448
Saturn	-32731-01-09 13:11 J	-10233566.04	-10233565.95	-10233565.83	0.0271	0.0229
Saturn	-32731-08-26 12:57 J	-10233337.15	-10233336.96	-10233336.77	0.0271	0.0100
Jupiter	-32731-09-26 12:57 J	-10233306.04	-10233305.96	-10233305.87	0.0501	0.0450
Saturn	-32730-04-12 11:59 J	-10233108.20	-10233108.00	-10233107.79	0.0271	0.0030
Jupiter	-32730-05-20 10:04 J	-10233070.27	-10233070.08	-10233069.88	0.0494	0.0102
Mars	-32730-09-03 21:21 J	-10232963.79	-10232963.61	-10232963.44	0.1635	0.0218
Saturn	-32730-11-27 11:02 J	-10232879.20	-10232879.04	-10232878.87	0.0271	0.0159
Uranus	-32728-05-07 12:43 J	-10232352.01	-10232351.97	-10232351.89	0.0141	0.0136
Uranus	-32728-12-20 00:28 J	-10232125.58	-10232125.48	-10232125.37	0.0141	0.0122
Uranus	-32727-08-03 11:45 J	-10231899.14	-10231899.01	-10231898.86	0.0140	0.0109
Uranus	-32726-03-17 22:47 J	-10231672.70	-10231672.55	-10231672.38	0.0140	0.0095
Uranus	-32726-10-30 09:50 J	-10231446.26	-10231446.09	-10231445.90	0.0140	0.0082
Uranus	-32725-06-12 21:07 J	-10231219.81	-10231219.62	-10231219.43	0.0139	0.0068
Uranus	-32724-01-25 07:40 J	-10230993.38	-10230993.18	-10230992.97	0.0139	0.0054
Jupiter	-32724-03-19 05:45 J	-10230940.42	-10230940.26	-10230940.10	0.0529	0.0325
Uranus	-32724-09-08 18:14 J	-10230766.95	-10230766.74	-10230766.52	0.0139	0.0040
Jupiter	-32724-11-12 14:23 J	-10230702.04	-10230701.90	-10230701.76	0.0537	0.0390
Uranus	-32723-04-23 04:33 J	-10230540.52	-10230540.31	-10230540.09	0.0138	0.0027
Uranus	-32723-12-05 14:52 J	-10230314.10	-10230313.88	-10230313.66	0.0138	0.0013
Uranus	-32722-07-20 00:57 J	-10230087.68	-10230087.46	-10230087.23	0.0138	0.0001
Uranus	-32721-03-02 10:47 J	-10229861.27	-10229861.05	-10229860.83	0.0137	0.0014
Uranus	-32721-10-14 20:23 J	-10229634.87	-10229634.65	-10229634.43	0.0137	0.0028
Uranus	-32720-05-29 05:45 J	-10229408.47	-10229408.26	-10229408.04	0.0137	0.0041

Uranus	-32719-01-10 15:07 J	-10229182.07	-10229181.87	-10229181.66	0.0137	0.0054
Uranus	-32719-08-25 00:14 J	-10228955.68	-10228955.49	-10228955.28	0.0136	0.0067
Jupiter	-32718-01-23 14:38 J	-10228804.09	-10228803.89	-10228803.69	0.0496	0.0051
Uranus	-32718-04-08 09:07 J	-10228729.29	-10228729.12	-10228728.92	0.0136	0.0079
Jupiter	-32718-09-16 09:21 J	-10228568.15	-10228568.11	-10228568.08	0.0490	0.0482
Uranus	-32718-11-20 17:59 J	-10228502.90	-10228502.75	-10228502.57	0.0136	0.0091
Uranus	-32717-07-04 02:52 J	-10228276.52	-10228276.38	-10228276.23	0.0135	0.0103
Saturn	-32716-02-05 06:28 J	-10228060.36	-10228060.23	-10228060.08	0.0287	0.0219
Uranus	-32716-02-15 11:31 J	-10228050.13	-10228050.02	-10228049.90	0.0135	0.0114
Saturn	-32716-09-23 08:23 J	-10227830.36	-10227830.15	-10227829.93	0.0288	0.0055
Uranus	-32716-09-29 19:40 J	-10227823.74	-10227823.68	-10227823.59	0.0135	0.0126
Saturn	-32715-05-11 10:19 J	-10227600.26	-10227600.07	-10227599.86	0.0288	0.0112
Saturn	-32715-12-27 12:14 J	-10227370.05	-10227369.99	-10227369.92	0.0288	0.0275
Jupiter	-32713-11-21 19:26 J	-10226674.74	-10226674.69	-10226674.64	0.0526	0.0510
Jupiter	-32712-07-18 02:38 J	-10226436.58	-10226436.39	-10226436.20	0.0535	0.0193
Jupiter	-32707-09-28 16:47 J	-10224537.98	-10224537.80	-10224537.62	0.0498	0.0207
Jupiter	-32706-05-22 12:14 J	-10224302.13	-10224301.99	-10224301.84	0.0491	0.0336
Saturn	-32702-07-22 17:16 J	-10222779.90	-10222779.78	-10222779.64	0.0272	0.0208
Saturn	-32701-03-07 17:02 J	-10222550.98	-10222550.79	-10222550.59	0.0272	0.0078
Saturn	-32701-10-22 16:33 J	-10222322.01	-10222321.81	-10222321.61	0.0272	0.0052
Jupiter	-32700-03-22 13:26 J	-10222171.15	-10222170.94	-10222170.73	0.0533	0.0009
Saturn	-32700-06-08 15:50 J	-10222092.99	-10222092.84	-10222092.68	0.0272	0.0181
Mars	-32698-09-02 17:45 J	-10221276.83	-10221276.76	-10221276.68	0.1632	0.1454
Mars	-32696-07-02 11:16 J	-10220608.15	-10220608.03	-10220607.91	0.1641	0.1194
Jupiter	-32695-06-03 19:55 J	-10220271.80	-10220271.67	-10220271.53	0.0500	0.0362
Jupiter	-32694-01-25 16:47 J	-10220035.99	-10220035.80	-10220035.61	0.0493	0.0187
Jupiter	-32689-11-24 21:50 J	-10217905.78	-10217905.59	-10217905.40	0.0530	0.0214
Jupiter	-32688-07-21 06:14 J	-10217667.31	-10217667.24	-10217667.17	0.0538	0.0501
Saturn	-32687-08-18 20:23 J	-10217273.82	-10217273.65	-10217273.48	0.0288	0.0183
Saturn	-32686-04-05 22:19 J	-10217043.79	-10217043.57	-10217043.35	0.0288	0.0018

Saturn -32686-11-22 00:14 J -10216813.67 -10216813.49 -10216813.30 0.0288 0.0148
 Uranus -32684-12-15 16:47 J -10216058.88 -10216058.80 -10216058.72 0.0137 0.0127
 Uranus -32683-07-29 22:33 J -10215832.66 -10215832.56 -10215832.43 0.0138 0.0116
 Jupiter -32683-09-30 22:04 J -10215769.78 -10215769.58 -10215769.38 0.0495 0.0038
 Uranus -32682-03-13 04:47 J -10215606.42 -10215606.30 -10215606.14 0.0138 0.0104
 Uranus -32682-10-25 11:31 J -10215380.18 -10215380.02 -10215379.86 0.0138 0.0092
 Uranus -32681-06-07 17:45 J -10215153.92 -10215153.76 -10215153.57 0.0139 0.0080
 Neptune -32681-08-06 06:14 J -10215094.27 -10215094.24 -10215094.16 0.0089 0.0086
 Uranus -32680-01-20 00:28 J -10214927.65 -10214927.48 -10214927.28 0.0139 0.0067
 Neptune -32680-03-19 19:40 J -10214868.78 -10214868.68 -10214868.58 0.0089 0.0078
 Uranus -32680-09-03 07:26 J -10214701.38 -10214701.19 -10214700.99 0.0139 0.0054
 Neptune -32680-10-31 08:09 J -10214643.29 -10214643.16 -10214643.03 0.0089 0.0071
 Uranus -32679-04-17 14:09 J -10214475.10 -10214474.91 -10214474.70 0.0140 0.0041
 Neptune -32679-06-13 20:38 J -10214417.78 -10214417.64 -10214417.49 0.0089 0.0064
 Uranus -32679-11-29 21:21 J -10214248.81 -10214248.61 -10214248.40 0.0140 0.0028
 Neptune -32678-01-25 09:07 J -10214192.28 -10214192.12 -10214191.95 0.0089 0.0057
 Uranus -32678-07-14 04:33 J -10214022.52 -10214022.31 -10214022.09 0.0140 0.0014
 Neptune -32678-09-07 21:35 J -10213966.77 -10213966.60 -10213966.41 0.0089 0.0050
 Uranus -32677-02-25 11:59 J -10213796.21 -10213796.00 -10213795.79 0.0141 0.0001
 Neptune -32677-04-20 10:19 J -10213741.25 -10213741.07 -10213740.86 0.0089 0.0043
 Jupiter -32677-07-30 09:07 J -10213640.24 -10213640.12 -10213639.98 0.0527 0.0407
 Uranus -32677-10-08 19:26 J -10213569.90 -10213569.69 -10213569.47 0.0141 0.0014
 Neptune -32677-12-01 23:02 J -10213515.73 -10213515.54 -10213515.33 0.0089 0.0035
 Jupiter -32676-03-25 16:47 J -10213401.97 -10213401.80 -10213401.63 0.0536 0.0300
 Uranus -32676-05-23 03:07 J -10213343.57 -10213343.37 -10213343.15 0.0141 0.0028
 Neptune -32676-07-15 11:59 J -10213290.21 -10213290.00 -10213289.79 0.0089 0.0028
 Uranus -32675-01-04 11:16 J -10213117.23 -10213117.03 -10213116.83 0.0142 0.0041
 Neptune -32675-02-26 00:28 J -10213064.69 -10213064.48 -10213064.26 0.0089 0.0021
 Uranus -32675-08-18 19:11 J -10212890.89 -10212890.70 -10212890.50 0.0142 0.0055
 Neptune -32675-10-09 13:11 J -10212839.16 -10212838.95 -10212838.73 0.0088 0.0013

Uranus -32674-04-02 03:21 J -10212664.53 -10212664.36 -10212664.16 0.0142 0.0069
 Neptune -32674-05-23 02:09 J -10212613.63 -10212613.41 -10212613.19 0.0088 0.0006
 Uranus -32674-11-14 11:59 J -10212438.17 -10212438.00 -10212437.83 0.0143 0.0083
 Neptune -32673-01-03 14:52 J -10212388.10 -10212387.88 -10212387.66 0.0088 0.0002
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 Neptune -32673-08-16 03:35 J -10212162.57 -10212162.35 -10212162.13 0.0088 0.0009
 Saturn -32672-01-31 23:45 J -10211993.66 -10211993.51 -10211993.36 0.0271 0.0184
 Uranus -32672-02-09 05:31 J -10211985.39 -10211985.27 -10211985.13 0.0143 0.0111
 Neptune -32672-03-29 16:19 J -10211937.03 -10211936.82 -10211936.59 0.0088 0.0017
 Saturn -32672-09-17 23:02 J -10211764.74 -10211764.54 -10211764.33 0.0271 0.0055
 Uranus -32672-09-23 14:09 J -10211758.99 -10211758.91 -10211758.78 0.0144 0.0125
 Neptune -32672-11-10 05:16 J -10211711.49 -10211711.28 -10211711.06 0.0088 0.0024
 Saturn -32671-05-04 22:19 J -10211535.77 -10211535.57 -10211535.37 0.0271 0.0074
 Uranus -32671-05-07 23:31 J -10211532.56 -10211532.52 -10211532.45 0.0144 0.0138
 Jupiter -32671-06-06 02:38 J -10211503.58 -10211503.39 -10211503.19 0.0497 0.0114
 Neptune -32671-06-23 17:59 J -10211485.95 -10211485.75 -10211485.53 0.0088 0.0031
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 Neptune -32670-02-04 06:43 J -10211260.40 -10211260.22 -10211260.01 0.0088 0.0039
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 Neptune -32669-12-11 21:35 J -10210583.74 -10210583.60 -10210583.42 0.0088 0.0061
 Neptune -32668-07-25 10:47 J -10210358.18 -10210358.05 -10210357.90 0.0088 0.0068
 Neptune -32667-03-07 23:45 J -10210132.62 -10210132.51 -10210132.38 0.0088 0.0075
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 Neptune -32667-10-19 12:57 J -10209907.04 -10209906.96 -10209906.88 0.0088 0.0082
 Earth -32665-10-23 00:14 J -10209172.64 -10209172.49 -10209172.34 0.2644 0.1087
 Moon -32665-10-23 05:16 J -10209172.39 -10209172.28 -10209172.16 0.2641 0.1948 *
 Jupiter -32665-11-28 04:33 J -10209136.51 -10209136.31 -10209136.10 0.0534 0.0103
 Mars -32664-07-01 08:38 J -10208921.32 -10208921.14 -10208920.96 0.1637 0.0075

Jupiter -32659-02-09 06:43 J -10207237.38 -10207237.22 -10207237.05 0.0499 0.0267
 Jupiter -32659-10-03 02:38 J -10207001.56 -10207001.39 -10207001.22 0.0492 0.0277
 Saturn -32657-02-28 23:45 J -10206487.68 -10206487.51 -10206487.32 0.0288 0.0164
 Saturn -32657-10-16 01:55 J -10206257.64 -10206257.42 -10206257.21 0.0288 0.0004
 Saturn -32656-06-03 03:35 J -10206027.52 -10206027.35 -10206027.17 0.0288 0.0167
 Jupiter -32653-08-02 17:31 J -10204870.98 -10204870.77 -10204870.57 0.0532 0.0093
 Jupiter -32648-10-15 08:23 J -10202971.25 -10202971.15 -10202971.04 0.0501 0.0424
 Jupiter -32647-06-08 05:31 J -10202735.47 -10202735.27 -10202735.08 0.0494 0.0125
 Pluto -32646-08-16 23:59 J -10202300.52 -10202300.50 -10202300.42 0.0065 0.0063
 Pluto -32645-03-29 04:33 J -10202075.51 -10202075.31 -10202075.10 0.0065 0.0023
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 Saturn -32643-08-14 03:07 J -10201207.53 -10201207.37 -10201207.21 0.0272 0.0163
 Uranus -32643-11-15 05:59 J -10201114.39 -10201114.25 -10201114.08 0.0140 0.0101
 Saturn -32642-03-31 02:38 J -10200978.60 -10200978.39 -10200978.19 0.0272 0.0034
 Uranus -32642-06-29 17:31 J -10200887.94 -10200887.77 -10200887.59 0.0140 0.0086
 Saturn -32642-11-15 01:55 J -10200749.61 -10200749.42 -10200749.23 0.0272 0.0096
 Uranus -32641-02-11 04:19 J -10200661.50 -10200661.32 -10200661.11 0.0140 0.0073
 Jupiter -32641-04-07 05:16 J -10200605.46 -10200605.28 -10200605.11 0.0529 0.0288
 Saturn -32641-07-01 01:26 J -10200520.56 -10200520.44 -10200520.33 0.0272 0.0224
 Uranus -32641-09-24 15:21 J -10200435.06 -10200434.86 -10200434.66 0.0139 0.0058
 Jupiter -32641-12-01 13:26 J -10200367.06 -10200366.94 -10200366.81 0.0537 0.0423
 Uranus -32640-05-09 01:40 J -10200208.63 -10200208.43 -10200208.21 0.0139 0.0045
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 Uranus -32639-08-04 22:47 J -10199755.77 -10199755.55 -10199755.33 0.0138 0.0017
 Uranus -32638-03-19 08:52 J -10199529.36 -10199529.13 -10199528.91 0.0138 0.0003
 Uranus -32638-10-31 18:43 J -10199302.94 -10199302.72 -10199302.50 0.0138 0.0011

Uranus -32637-06-14 04:19 J -10199076.53 -10199076.32 -10199076.09 0.0137 0.0025
 Uranus -32636-01-26 14:09 J -10198850.13 -10198849.91 -10198849.70 0.0137 0.0037
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 Jupiter -32635-02-11 09:35 J -10198469.30 -10198469.10 -10198468.90 0.0496 0.0027
 Uranus -32635-04-24 08:38 J -10198397.33 -10198397.14 -10198396.94 0.0136 0.0063
 Uranus -32635-12-06 17:31 J -10198170.94 -10198170.77 -10198170.57 0.0136 0.0076
 Uranus -32634-07-21 02:52 J -10197944.54 -10197944.38 -10197944.21 0.0136 0.0088
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 Uranus -32632-05-30 04:19 J -10197265.38 -10197265.32 -10197265.21 0.0135 0.0124
 Mars -32632-06-30 05:02 J -10197234.39 -10197234.29 -10197234.18 0.1633 0.1312
 Mars -32630-04-29 22:33 J -10196565.66 -10196565.56 -10196565.46 0.1642 0.1338
 Jupiter -32630-12-11 14:09 J -10196339.98 -10196339.91 -10196339.83 0.0526 0.0484
 Jupiter -32629-08-05 20:52 J -10196101.81 -10196101.63 -10196101.44 0.0535 0.0216
 Saturn -32628-09-10 12:57 J -10195701.15 -10195700.96 -10195700.76 0.0288 0.0128
 Saturn -32627-04-28 15:07 J -10195471.09 -10195470.87 -10195470.65 0.0288 0.0037
 Saturn -32627-12-14 17:02 J -10195240.94 -10195240.79 -10195240.63 0.0288 0.0203
 Jupiter -32624-10-17 14:23 J -10194203.09 -10194202.90 -10194202.71 0.0498 0.0179
 Jupiter -32623-06-10 10:04 J -10193967.22 -10193967.08 -10193966.94 0.0491 0.0362
 Jupiter -32617-04-10 07:55 J -10191836.38 -10191836.17 -10191835.97 0.0533 0.0017
 Saturn -32614-07-10 09:35 J -10190650.12 -10190650.10 -10190650.05 0.0272 0.0268
 Saturn -32613-02-24 09:35 J -10190421.28 -10190421.10 -10190420.92 0.0271 0.0140
 Saturn -32613-10-10 08:52 J -10190192.34 -10190192.13 -10190191.92 0.0271 0.0011
 Saturn -32612-05-27 07:55 J -10189963.35 -10189963.17 -10189962.98 0.0271 0.0118
 Jupiter -32612-06-22 18:28 J -10189936.87 -10189936.73 -10189936.58 0.0500 0.0332
 Saturn -32611-01-11 06:57 J -10189734.28 -10189734.21 -10189734.11 0.0271 0.0245
 Jupiter -32611-02-13 14:52 J -10189701.05 -10189700.88 -10189700.69 0.0493 0.0216
 Jupiter -32606-12-14 19:40 J -10187570.87 -10187570.68 -10187570.48 0.0531 0.0181
 Jupiter -32605-08-09 04:47 J -10187332.32 -10187332.30 -10187332.27 0.0538 0.0532
 Mars -32601-07-18 06:43 J -10185893.39 -10185893.22 -10185893.05 0.1882 0.0327

Jupiter -32600-02-25 22:19 J -10185670.62 -10185670.57 -10185670.52 0.0502 0.0483
 Uranus -32600-08-15 01:26 J -10185500.49 -10185500.44 -10185500.37 0.0137 0.0131
 Jupiter -32600-10-19 19:55 J -10185434.87 -10185434.67 -10185434.47 0.0494 0.0066
 Uranus -32599-03-29 07:11 J -10185274.28 -10185274.20 -10185274.08 0.0137 0.0121
 Saturn -32599-08-05 15:21 J -10185144.93 -10185144.86 -10185144.79 0.0287 0.0270
 Uranus -32599-11-10 13:26 J -10185048.06 -10185047.94 -10185047.80 0.0138 0.0109
 Saturn -32598-03-23 17:02 J -10184914.99 -10184914.79 -10184914.59 0.0288 0.0108
 Mars -32598-04-28 19:55 J -10184878.85 -10184878.67 -10184878.49 0.1638 0.0068
 Uranus -32598-06-24 19:55 J -10184821.82 -10184821.67 -10184821.51 0.0138 0.0096
 Saturn -32598-11-08 18:57 J -10184684.92 -10184684.71 -10184684.49 0.0288 0.0057
 Neptune -32598-12-20 04:47 J -10184643.36 -10184643.30 -10184643.19 0.0089 0.0082
 Uranus -32597-02-06 02:23 J -10184595.57 -10184595.40 -10184595.23 0.0138 0.0084
 Saturn -32597-06-25 21:07 J -10184454.76 -10184454.62 -10184454.49 0.0288 0.0221
 Neptune -32597-08-01 18:14 J -10184417.84 -10184417.74 -10184417.60 0.0089 0.0075
 Uranus -32597-09-19 08:38 J -10184369.31 -10184369.14 -10184368.94 0.0139 0.0072
 Neptune -32596-03-15 07:55 J -10184192.30 -10184192.17 -10184192.02 0.0089 0.0067
 Uranus -32596-05-03 15:35 J -10184143.04 -10184142.85 -10184142.66 0.0139 0.0059
 Neptune -32596-10-26 21:21 J -10183966.76 -10183966.61 -10183966.43 0.0089 0.0060
 Uranus -32596-12-15 22:19 J -10183916.76 -10183916.57 -10183916.36 0.0140 0.0046
 Neptune -32595-06-09 10:33 J -10183741.22 -10183741.06 -10183740.86 0.0089 0.0053
 Uranus -32595-07-30 05:31 J -10183690.48 -10183690.27 -10183690.07 0.0140 0.0032
 Neptune -32594-01-21 00:14 J -10183515.67 -10183515.49 -10183515.29 0.0089 0.0045
 Uranus -32594-03-13 12:28 J -10183464.19 -10183463.98 -10183463.77 0.0140 0.0019
 Jupiter -32594-08-19 09:07 J -10183305.26 -10183305.12 -10183304.97 0.0528 0.0369
 Neptune -32594-09-03 13:26 J -10183290.13 -10183289.94 -10183289.73 0.0089 0.0038
 Uranus -32594-10-25 19:40 J -10183237.89 -10183237.68 -10183237.46 0.0141 0.0006
 Jupiter -32593-04-13 17:31 J -10183066.93 -10183066.77 -10183066.62 0.0536 0.0339
 Neptune -32593-04-16 03:07 J -10183064.58 -10183064.37 -10183064.16 0.0089 0.0030
 Uranus -32593-06-08 03:07 J -10183011.58 -10183011.37 -10183011.15 0.0141 0.0009
 Neptune -32593-11-27 16:19 J -10182839.02 -10182838.82 -10182838.59 0.0089 0.0023

Uranus -32592-01-20 11:02 J -10182785.25 -10182785.04 -10182784.83 0.0141 0.0023
 Neptune -32592-07-11 05:45 J -10182613.47 -10182613.26 -10182613.04 0.0089 0.0015
 Uranus -32592-09-03 18:43 J -10182558.92 -10182558.72 -10182558.51 0.0141 0.0037
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 Uranus -32591-04-18 02:38 J -10182332.58 -10182332.39 -10182332.19 0.0142 0.0051
 Neptune -32591-10-05 08:23 J -10182162.37 -10182162.15 -10182161.93 0.0089 0.0001
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 Neptune -32590-05-18 21:35 J -10181936.82 -10181936.60 -10181936.37 0.0089 0.0007
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 Uranus -32587-01-05 06:28 J -10180974.29 -10180974.23 -10180974.15 0.0144 0.0134
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 Neptune -32585-12-07 19:11 J -10179906.80 -10179906.70 -10179906.56 0.0089 0.0073
 Saturn -32584-01-19 12:14 J -10179864.07 -10179863.99 -10179863.90 0.0272 0.0249
 Neptune -32584-07-21 08:09 J -10179681.23 -10179681.16 -10179681.05 0.0089 0.0080
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 Saturn -32583-04-22 11:16 J -10179406.24 -10179406.03 -10179405.82 0.0272 0.0009
 Saturn -32583-12-07 10:19 J -10179177.24 -10179177.07 -10179176.88 0.0272 0.0139

Saturn -32582-07-24 09:35 J -10178948.12 -10178948.10 -10178948.04 0.0272 0.0266
 Jupiter -32582-12-18 04:33 J -10178801.51 -10178801.31 -10178801.11 0.0534 0.0139
 Jupiter -32576-02-28 02:23 J -10176902.58 -10176902.40 -10176902.23 0.0499 0.0242
 Jupiter -32576-10-21 22:19 J -10176666.73 -10176666.57 -10176666.41 0.0492 0.0300
 Jupiter -32570-08-22 12:43 J -10174536.18 -10174535.97 -10174535.77 0.0531 0.0068
 Saturn -32569-02-16 02:52 J -10174358.49 -10174358.38 -10174358.25 0.0288 0.0238
 Mars -32569-07-18 00:14 J -10174205.50 -10174205.49 -10174205.47 0.1889 0.1878
 Saturn -32569-10-03 04:47 J -10174128.50 -10174128.30 -10174128.08 0.0288 0.0075
 Saturn -32568-05-21 06:57 J -10173898.41 -10173898.21 -10173898.00 0.0288 0.0092
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 Jupiter -32565-11-03 05:59 J -10172636.36 -10172636.25 -10172636.12 0.0501 0.0396
 Mars -32564-02-24 09:21 J -10172523.18 -10172523.11 -10172523.04 0.1644 0.1489
 Jupiter -32564-06-27 03:35 J -10172400.55 -10172400.35 -10172400.16 0.0494 0.0153
 Uranus -32560-04-18 14:38 J -10171008.95 -10171008.89 -10171008.80 0.0141 0.0132
 Uranus -32560-12-01 01:55 J -10170782.52 -10170782.42 -10170782.28 0.0141 0.0119
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 Pluto -32558-11-30 09:35 J -10170053.22 -10170053.10 -10170052.96 0.0079 0.0065
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 Uranus -32557-05-24 23:02 J -10169876.74 -10169876.54 -10169876.34 0.0140 0.0063
 Pluto -32557-07-12 20:23 J -10169827.87 -10169827.65 -10169827.43 0.0079 0.0011
 Uranus -32556-01-06 09:21 J -10169650.30 -10169650.11 -10169649.89 0.0139 0.0050
 Uranus -32556-08-20 20:09 J -10169423.87 -10169423.66 -10169423.44 0.0139 0.0035
 Uranus -32555-04-04 06:28 J -10169197.45 -10169197.23 -10169197.01 0.0139 0.0021
 Saturn -32555-08-01 19:11 J -10169077.81 -10169077.70 -10169077.58 0.0271 0.0224
 Uranus -32555-11-16 16:47 J -10168971.03 -10168970.80 -10168970.58 0.0138 0.0007
 Saturn -32554-03-18 18:43 J -10168848.91 -10168848.72 -10168848.53 0.0271 0.0096

Uranus -32554-07-01 02:52 J -10168744.60 -10168744.38 -10168744.16 0.0138 0.0007
 Saturn -32554-11-02 17:45 J -10168619.96 -10168619.76 -10168619.55 0.0271 0.0032
 Uranus -32553-02-12 12:43 J -10168518.19 -10168517.97 -10168517.75 0.0138 0.0021
 Saturn -32553-06-18 16:47 J -10168390.96 -10168390.80 -10168390.63 0.0271 0.0160
 Uranus -32553-09-25 22:19 J -10168291.78 -10168291.57 -10168291.35 0.0137 0.0034
 Jupiter -32552-03-02 08:23 J -10168134.35 -10168134.15 -10168133.95 0.0496 0.0004
 Uranus -32552-05-10 07:55 J -10168065.38 -10168065.17 -10168064.96 0.0137 0.0047
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 Uranus -32550-11-01 20:23 J -10167159.79 -10167159.65 -10167159.49 0.0136 0.0098
 Uranus -32549-06-15 04:47 J -10166933.40 -10166933.30 -10166933.15 0.0135 0.0111
 Uranus -32548-01-27 13:55 J -10166707.01 -10166706.92 -10166706.82 0.0135 0.0122
 Uranus -32548-09-10 22:19 J -10166480.60 -10166480.57 -10166480.53 0.0135 0.0133
 Jupiter -32547-12-30 11:59 J -10166005.10 -10166005.00 -10166004.89 0.0527 0.0452
 Jupiter -32546-08-25 19:26 J -10165766.87 -10165766.69 -10165766.50 0.0535 0.0249
 Jupiter -32541-11-05 12:57 J -10163868.15 -10163867.96 -10163867.77 0.0497 0.0148
 Jupiter -32540-06-29 08:09 J -10163632.28 -10163632.16 -10163632.03 0.0491 0.0388
 Saturn -32540-08-28 06:43 J -10163572.35 -10163572.22 -10163572.07 0.0288 0.0218
 Saturn -32539-04-15 08:38 J -10163342.35 -10163342.14 -10163341.92 0.0288 0.0054
 Saturn -32539-12-01 10:33 J -10163112.25 -10163112.06 -10163111.85 0.0288 0.0111
 Saturn -32538-07-19 12:28 J -10162882.03 -10162881.98 -10162881.90 0.0288 0.0274
 Mars -32535-05-15 11:16 J -10161851.19 -10161851.03 -10161850.87 0.1880 0.0701
 Jupiter -32534-04-30 08:23 J -10161501.35 -10161501.15 -10161500.94 0.0533 0.0055
 Mars -32532-02-23 07:11 J -10160836.37 -10160836.20 -10160836.02 0.1640 0.0206
 Jupiter -32529-07-11 15:21 J -10159602.02 -10159601.86 -10159601.70 0.0500 0.0303
 Jupiter -32528-03-04 11:31 J -10159366.19 -10159366.02 -10159365.84 0.0492 0.0241
 Moon -32527-04-21 16:04 J -10158952.94 -10158952.83 -10158952.72 0.2688 0.1866
 Earth -32527-04-21 21:21 J -10158952.70 -10158952.61 -10158952.51 0.2689 0.2062
 Saturn -32525-02-11 20:23 J -10158291.77 -10158291.65 -10158291.51 0.0272 0.0207

Saturn -32525-09-27 19:55 J -10158062.86 -10158062.67 -10158062.47 0.0272 0.0079
 Saturn -32524-05-14 19:11 J -10157833.90 -10157833.70 -10157833.49 0.0271 0.0051
 Saturn -32524-12-29 18:14 J -10157604.88 -10157604.74 -10157604.58 0.0271 0.0179
 Jupiter -32522-01-02 20:23 J -10157235.85 -10157235.65 -10157235.46 0.0531 0.0143
 Moon -32519-04-19 11:31 J -10156033.13 -10156033.02 -10156032.90 0.2695 0.1729
 Earth -32519-04-19 15:35 J -10156032.99 -10156032.85 -10156032.71 0.2690 0.1135 *
 Jupiter -32517-03-16 18:43 J -10155335.80 -10155335.72 -10155335.64 0.0502 0.0457
 Jupiter -32517-11-07 16:19 J -10155100.02 -10155099.82 -10155099.62 0.0494 0.0092
 Neptune -32517-11-07 17:16 J -10155099.81 -10155099.78 -10155099.74 0.0089 0.0087 *
 Uranus -32516-04-14 11:31 J -10154942.03 -10154942.02 -10154941.98 0.0137 0.0136
 Neptune -32516-06-21 05:16 J -10154874.35 -10154874.28 -10154874.17 0.0089 0.0081
 Uranus -32516-11-26 17:31 J -10154715.84 -10154715.77 -10154715.67 0.0137 0.0125
 Neptune -32515-02-01 17:45 J -10154648.85 -10154648.76 -10154648.61 0.0089 0.0074
 Uranus -32515-07-10 23:31 J -10154489.62 -10154489.52 -10154489.38 0.0138 0.0113
 Neptune -32515-09-15 06:28 J -10154423.35 -10154423.23 -10154423.06 0.0089 0.0067
 Uranus -32514-02-22 05:45 J -10154263.39 -10154263.26 -10154263.10 0.0138 0.0101
 Neptune -32514-04-28 19:11 J -10154197.84 -10154197.70 -10154197.51 0.0089 0.0060
 Uranus -32514-10-06 11:59 J -10154037.15 -10154037.00 -10154036.82 0.0138 0.0089
 Neptune -32514-12-10 07:55 J -10153972.33 -10153972.17 -10153971.97 0.0089 0.0053
 Uranus -32513-05-19 18:28 J -10153810.90 -10153810.73 -10153810.54 0.0139 0.0076
 Neptune -32513-07-22 21:07 J -10153746.81 -10153746.62 -10153746.44 0.0089 0.0045
 Uranus -32512-01-01 01:11 J -10153584.63 -10153584.45 -10153584.25 0.0139 0.0063
 Neptune -32512-03-05 09:35 J -10153521.29 -10153521.10 -10153520.90 0.0089 0.0038
 Uranus -32512-08-15 07:55 J -10153358.36 -10153358.17 -10153357.96 0.0139 0.0050
 Neptune -32512-10-16 22:04 J -10153295.77 -10153295.58 -10153295.36 0.0089 0.0031
 Uranus -32511-03-29 14:52 J -10153132.08 -10153131.88 -10153131.67 0.0140 0.0037
 Neptune -32511-05-30 10:47 J -10153070.25 -10153070.05 -10153069.83 0.0088 0.0024
 Jupiter -32511-09-07 05:31 J -10152970.42 -10152970.27 -10152970.11 0.0528 0.0341
 Uranus -32511-11-10 21:50 J -10152905.80 -10152905.59 -10152905.38 0.0140 0.0023
 Neptune -32510-01-10 23:31 J -10152844.73 -10152844.52 -10152844.30 0.0088 0.0016

Saturn -32510-03-10 17:02 J -10152785.95 -10152785.79 -10152785.62 0.0288 0.0188
 Jupiter -32510-05-03 13:11 J -10152732.10 -10152731.95 -10152731.80 0.0536 0.0363
 Uranus -32510-06-25 05:02 J -10152679.50 -10152679.29 -10152679.07 0.0140 0.0010
 Neptune -32510-08-24 12:14 J -10152619.21 -10152618.99 -10152618.77 0.0088 0.0009
 Saturn -32510-10-26 19:26 J -10152555.91 -10152555.69 -10152555.48 0.0288 0.0023
 Uranus -32509-02-06 12:28 J -10152453.19 -10152452.98 -10152452.76 0.0141 0.0006
 Neptune -32509-04-06 01:11 J -10152393.67 -10152393.45 -10152393.23 0.0088 0.0002
 Saturn -32509-06-12 21:35 J -10152325.78 -10152325.60 -10152325.41 0.0288 0.0143
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 Uranus -32508-05-04 03:50 J -10152000.55 -10152000.34 -10152000.13 0.0141 0.0032
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 Uranus -32507-07-30 19:40 J -10151547.86 -10151547.68 -10151547.48 0.0142 0.0061
 Neptune -32507-09-25 04:04 J -10151491.54 -10151491.33 -10151491.12 0.0088 0.0027
 Uranus -32506-03-14 04:04 J -10151321.51 -10151321.33 -10151321.15 0.0142 0.0075
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 Jupiter -32505-07-13 20:52 J -10150833.83 -10150833.63 -10150833.43 0.0497 0.0059
 Neptune -32505-08-01 18:43 J -10150814.90 -10150814.72 -10150814.53 0.0088 0.0049
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 Jupiter -32504-03-06 16:04 J -10150597.88 -10150597.83 -10150597.77 0.0490 0.0472
 Neptune -32504-03-15 07:40 J -10150589.34 -10150589.18 -10150589.00 0.0088 0.0056
 Uranus -32504-09-04 14:38 J -10150415.96 -10150415.89 -10150415.79 0.0144 0.0131
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 Mars -32503-05-15 04:33 J -10150163.41 -10150163.31 -10150163.20 0.1886 0.1480
 Neptune -32503-06-09 09:07 J -10150138.23 -10150138.12 -10150137.96 0.0088 0.0071

Neptune -32502-01-20 22:04 J -10149912.66 -10149912.58 -10149912.45 0.0088 0.0078
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 Mars -32500-02-22 03:50 J -10149149.47 -10149149.34 -10149149.20 0.1635 0.1038
 Mars -32499-12-22 20:23 J -10148480.67 -10148480.65 -10148480.64 0.1646 0.1636
 Jupiter -32498-01-05 23:45 J -10148466.71 -10148466.51 -10148466.31 0.0534 0.0163
 Saturn -32496-08-24 03:21 J -10147505.50 -10147505.36 -10147505.20 0.0271 0.0183
 Saturn -32495-04-10 02:52 J -10147276.59 -10147276.38 -10147276.18 0.0271 0.0055
 Saturn -32495-11-25 01:40 J -10147047.63 -10147047.43 -10147047.23 0.0271 0.0073
 Saturn -32494-07-12 00:43 J -10146818.61 -10146818.47 -10146818.33 0.0271 0.0200
 Jupiter -32493-03-19 01:26 J -10146567.62 -10146567.44 -10146567.26 0.0499 0.0210
 Jupiter -32493-11-09 21:21 J -10146331.75 -10146331.61 -10146331.46 0.0492 0.0329
 Jupiter -32487-09-10 11:16 J -10144201.23 -10144201.03 -10144200.82 0.0532 0.0035
 Jupiter -32482-11-23 05:31 J -10142301.40 -10142301.27 -10142301.13 0.0501 0.0362
 Jupiter -32481-07-16 02:23 J -10142065.58 -10142065.40 -10142065.21 0.0493 0.0184
 Saturn -32481-09-19 20:52 J -10141999.79 -10141999.63 -10141999.44 0.0288 0.0167
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 Uranus -32477-12-16 21:35 J -10140450.64 -10140450.60 -10140450.55 0.0141 0.0138
 Uranus -32476-07-31 08:52 J -10140224.22 -10140224.13 -10140224.01 0.0141 0.0125
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 Jupiter -32475-05-16 00:43 J -10139935.66 -10139935.47 -10139935.28 0.0530 0.0224
 Uranus -32475-10-27 07:40 J -10139771.33 -10139771.18 -10139771.01 0.0140 0.0097
 Jupiter -32474-01-09 09:21 J -10139697.19 -10139697.11 -10139697.01 0.0538 0.0484
 Uranus -32474-06-10 18:57 J -10139544.88 -10139544.71 -10139544.52 0.0140 0.0082
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 Uranus -32473-09-05 16:47 J -10139092.00 -10139091.80 -10139091.59 0.0139 0.0054
 Uranus -32472-04-20 03:35 J -10138865.57 -10138865.35 -10138865.14 0.0139 0.0039
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Uranus -32470-10-12 20:23 J -10137959.86 -10137959.65 -10137959.42 0.0138 0.0017
 Mars -32469-03-11 15:35 J -10137808.99 -10137808.85 -10137808.71 0.1878 0.1085
 Jupiter -32469-03-21 05:59 J -10137799.45 -10137799.25 -10137799.04 0.0495 0.0033
 Uranus -32469-05-26 06:14 J -10137733.45 -10137733.24 -10137733.01 0.0137 0.0030
 Uranus -32468-01-07 16:04 J -10137507.04 -10137506.83 -10137506.62 0.0137 0.0044
 Uranus -32468-08-22 01:26 J -10137280.63 -10137280.44 -10137280.23 0.0137 0.0057
 Uranus -32467-04-05 11:02 J -10137054.23 -10137054.04 -10137053.85 0.0136 0.0070
 Uranus -32467-11-17 20:09 J -10136827.83 -10136827.66 -10136827.48 0.0136 0.0083
 Mars -32467-12-21 18:14 J -10136793.92 -10136793.74 -10136793.57 0.1641 0.0356
 Saturn -32466-03-06 03:35 J -10136719.50 -10136719.35 -10136719.18 0.0272 0.0167
 Uranus -32466-07-02 05:16 J -10136601.43 -10136601.28 -10136601.12 0.0136 0.0095
 Saturn -32466-10-21 03:07 J -10136490.57 -10136490.37 -10136490.17 0.0271 0.0038
 Uranus -32465-02-13 13:55 J -10136375.04 -10136374.92 -10136374.77 0.0136 0.0108
 Saturn -32465-06-06 02:09 J -10136261.60 -10136261.41 -10136261.21 0.0271 0.0091
 Uranus -32465-09-26 22:47 J -10136148.64 -10136148.55 -10136148.44 0.0135 0.0120
 Saturn -32464-01-21 01:11 J -10136032.56 -10136032.45 -10136032.32 0.0271 0.0218
 Uranus -32464-05-11 07:11 J -10135922.24 -10135922.20 -10135922.14 0.0135 0.0131
 Jupiter -32463-01-18 13:26 J -10135670.06 -10135669.94 -10135669.81 0.0527 0.0412
 Jupiter -32463-09-13 21:07 J -10135431.79 -10135431.62 -10135431.44 0.0535 0.0287
 Jupiter -32458-11-25 10:04 J -10133533.27 -10133533.08 -10133532.88 0.0497 0.0121
 Jupiter -32457-07-18 05:31 J -10133297.38 -10133297.27 -10133297.16 0.0491 0.0413
 Saturn -32451-04-02 05:16 J -10131213.46 -10131213.28 -10131213.09 0.0288 0.0140
 Jupiter -32451-05-19 05:45 J -10131166.47 -10131166.26 -10131166.06 0.0533 0.0083
 Saturn -32451-11-18 07:40 J -10130983.39 -10130983.18 -10130982.96 0.0288 0.0026
 Saturn -32450-07-06 10:04 J -10130753.23 -10130753.08 -10130752.90 0.0289 0.0192
 Jupiter -32446-07-31 13:55 J -10129267.09 -10129266.92 -10129266.75 0.0500 0.0273
 Jupiter -32445-03-23 10:47 J -10129031.22 -10129031.05 -10129030.88 0.0493 0.0270
 Jupiter -32439-01-21 16:47 J -10126901.00 -10126900.80 -10126900.60 0.0530 0.0114
 Saturn -32437-01-30 11:16 J -10126162.05 -10126162.03 -10126162.01 0.0271 0.0270
 Mars -32437-03-11 08:38 J -10126121.28 -10126121.14 -10126121.00 0.1884 0.1075

Saturn -32437-09-15 10:47 J -10125933.23 -10125933.05 -10125932.88 0.0271 0.0143
 Saturn -32436-05-02 09:50 J -10125704.30 -10125704.09 -10125703.89 0.0271 0.0016
 Saturn -32436-12-17 08:23 J -10125475.33 -10125475.15 -10125474.95 0.0270 0.0113
 Saturn -32435-08-03 07:11 J -10125246.28 -10125246.20 -10125246.09 0.0270 0.0239
 Mars -32435-12-20 15:21 J -10125107.01 -10125106.86 -10125106.72 0.1637 0.0900
 Jupiter -32434-04-05 17:59 J -10125000.85 -10125000.75 -10125000.64 0.0502 0.0424
 Jupiter -32434-11-27 15:50 J -10124765.03 -10124764.84 -10124764.64 0.0495 0.0124
 Neptune -32433-03-22 14:09 J -10124648.96 -10124648.91 -10124648.83 0.0089 0.0084
 Neptune -32433-11-03 03:35 J -10124423.44 -10124423.35 -10124423.22 0.0089 0.0077
 Neptune -32432-06-16 17:02 J -10124197.91 -10124197.79 -10124197.64 0.0089 0.0070
 Uranus -32432-07-27 04:04 J -10124157.40 -10124157.33 -10124157.26 0.0137 0.0129
 Neptune -32431-01-28 06:14 J -10123972.38 -10123972.24 -10123972.06 0.0089 0.0063
 Uranus -32431-03-10 09:35 J -10123931.19 -10123931.10 -10123930.97 0.0137 0.0117
 Neptune -32431-09-10 20:09 J -10123746.83 -10123746.66 -10123746.49 0.0089 0.0055
 Uranus -32431-10-22 15:50 J -10123704.97 -10123704.84 -10123704.69 0.0138 0.0105
 Neptune -32430-04-24 09:21 J -10123521.29 -10123521.11 -10123520.92 0.0089 0.0048
 Uranus -32430-06-05 21:50 J -10123478.73 -10123478.59 -10123478.41 0.0138 0.0093
 Neptune -32430-12-05 22:33 J -10123295.74 -10123295.56 -10123295.35 0.0089 0.0041
 Uranus -32429-01-18 04:33 J -10123252.47 -10123252.31 -10123252.13 0.0138 0.0080
 Neptune -32429-07-18 12:14 J -10123070.20 -10123069.99 -10123069.79 0.0089 0.0033
 Uranus -32429-08-31 11:02 J -10123026.22 -10123026.04 -10123025.85 0.0139 0.0068
 Neptune -32428-03-01 01:26 J -10122844.65 -10122844.44 -10122844.22 0.0089 0.0026
 Uranus -32428-04-14 17:45 J -10122799.95 -10122799.76 -10122799.56 0.0139 0.0054
 Jupiter -32428-09-26 04:47 J -10122635.47 -10122635.30 -10122635.13 0.0528 0.0305
 Neptune -32428-10-12 14:52 J -10122619.09 -10122618.88 -10122618.66 0.0089 0.0019
 Uranus -32428-11-27 00:28 J -10122573.68 -10122573.48 -10122573.27 0.0139 0.0041
 Jupiter -32427-05-22 12:43 J -10122397.10 -10122396.97 -10122396.83 0.0536 0.0397
 Neptune -32427-05-26 04:19 J -10122393.54 -10122393.32 -10122393.10 0.0089 0.0011
 Uranus -32427-07-11 07:26 J -10122347.39 -10122347.19 -10122346.98 0.0140 0.0028
 Neptune -32426-01-06 17:31 J -10122167.99 -10122167.77 -10122167.55 0.0089 0.0004

Uranus -32426-02-22 14:38 J -10122121.10 -10122120.89 -10122120.67 0.0140 0.0014
 Neptune -32426-08-20 06:43 J -10121942.44 -10121942.22 -10121942.00 0.0089 0.0004
 Uranus -32426-10-06 22:04 J -10121894.80 -10121894.58 -10121894.37 0.0140 0.0002
 Neptune -32425-04-01 19:55 J -10121716.88 -10121716.67 -10121716.44 0.0089 0.0011
 Uranus -32425-05-20 05:31 J -10121668.48 -10121668.27 -10121668.06 0.0141 0.0014
 Neptune -32425-11-13 09:21 J -10121491.32 -10121491.11 -10121490.89 0.0089 0.0018
 Uranus -32424-01-01 13:11 J -10121442.16 -10121441.95 -10121441.74 0.0141 0.0028
 Neptune -32424-06-26 22:33 J -10121265.77 -10121265.56 -10121265.35 0.0089 0.0025
 Uranus -32424-08-15 20:52 J -10121215.83 -10121215.63 -10121215.42 0.0141 0.0042
 Neptune -32423-02-07 11:16 J -10121040.22 -10121040.03 -10121039.81 0.0089 0.0033
 Uranus -32423-03-30 04:47 J -10120989.49 -10120989.30 -10120989.10 0.0142 0.0057
 Neptune -32423-09-21 00:28 J -10120814.66 -10120814.48 -10120814.27 0.0089 0.0040
 Uranus -32423-11-11 12:43 J -10120763.14 -10120762.97 -10120762.77 0.0142 0.0071
 Saturn -32422-02-25 07:26 J -10120657.22 -10120657.19 -10120657.13 0.0288 0.0280
 Neptune -32422-05-04 13:40 J -10120589.11 -10120588.93 -10120588.73 0.0089 0.0047
 Uranus -32422-06-25 21:21 J -10120536.78 -10120536.61 -10120536.44 0.0142 0.0085
 Jupiter -32422-08-02 20:38 J -10120498.84 -10120498.64 -10120498.43 0.0496 0.0029
 Saturn -32422-10-13 09:21 J -10120427.30 -10120427.11 -10120426.91 0.0288 0.0118
 Moon -32422-10-23 16:19 J -10120416.98 -10120416.82 -10120416.66 0.2643 0.0277
 Earth -32422-10-23 22:19 J -10120416.72 -10120416.57 -10120416.42 0.2643 0.1057 *
 Neptune -32422-12-16 02:52 J -10120363.55 -10120363.38 -10120363.20 0.0089 0.0054
 Uranus -32421-02-07 05:45 J -10120310.40 -10120310.26 -10120310.10 0.0143 0.0099
 Saturn -32421-05-30 11:31 J -10120197.23 -10120197.02 -10120196.80 0.0288 0.0047
 Neptune -32421-07-28 15:50 J -10120137.99 -10120137.84 -10120137.67 0.0089 0.0061
 Uranus -32421-09-20 14:23 J -10120084.02 -10120083.90 -10120083.76 0.0143 0.0113
 Saturn -32420-01-15 13:55 J -10119967.07 -10119966.92 -10119966.77 0.0288 0.0211
 Neptune -32420-03-11 05:02 J -10119912.43 -10119912.29 -10119912.15 0.0089 0.0068
 Uranus -32420-05-04 22:47 J -10119857.62 -10119857.55 -10119857.43 0.0143 0.0128
 Neptune -32420-10-22 17:59 J -10119686.86 -10119686.75 -10119686.63 0.0089 0.0075
 Uranus -32420-12-17 07:55 J -10119631.19 -10119631.17 -10119631.11 0.0144 0.0141

Neptune -32419-06-05 06:57 J -10119461.28 -10119461.21 -10119461.12 0.0089 0.0082
 Jupiter -32416-05-31 18:28 J -10118369.80 -10118369.73 -10118369.65 0.0526 0.0487
 Jupiter -32415-01-25 01:26 J -10118131.63 -10118131.44 -10118131.25 0.0535 0.0204
 Jupiter -32410-04-08 00:14 J -10116232.67 -10116232.49 -10116232.30 0.0498 0.0179
 Jupiter -32410-11-29 19:55 J -10115996.81 -10115996.67 -10115996.53 0.0491 0.0356
 Saturn -32408-08-11 10:47 J -10115376.11 -10115376.05 -10115375.97 0.0272 0.0255
 Saturn -32407-03-28 10:19 J -10115147.25 -10115147.07 -10115146.89 0.0271 0.0127
 Saturn -32407-11-12 09:21 J -10114918.32 -10114918.11 -10114917.91 0.0271 0.0004
 Saturn -32406-06-29 07:55 J -10114689.34 -10114689.17 -10114688.98 0.0271 0.0129
 Saturn -32405-02-13 06:57 J -10114460.27 -10114460.21 -10114460.13 0.0271 0.0255
 Jupiter -32404-09-29 13:55 J -10113866.13 -10113865.92 -10113865.72 0.0532 0.0009
 Mars -32403-01-06 20:23 J -10113766.76 -10113766.65 -10113766.55 0.1876 0.1450
 Mars -32401-10-18 05:31 J -10112751.44 -10112751.27 -10112751.10 0.1643 0.0490
 Jupiter -32399-12-12 03:50 J -10111966.49 -10111966.34 -10111966.19 0.0501 0.0331
 Jupiter -32398-08-05 00:43 J -10111730.65 -10111730.47 -10111730.29 0.0493 0.0211
 Pluto -32397-03-01 08:09 J -10111521.30 -10111521.16 -10111520.96 0.0065 0.0041
 Pluto -32397-10-12 12:43 J -10111296.19 -10111295.97 -10111295.75 0.0065 0.0001
 Pluto -32396-05-25 15:50 J -10111070.98 -10111070.84 -10111070.64 0.0065 0.0041
 Saturn -32393-09-06 13:40 J -10109871.02 -10109870.93 -10109870.83 0.0288 0.0256
 Uranus -32392-03-30 16:19 J -10109665.89 -10109665.82 -10109665.71 0.0141 0.0130
 Saturn -32392-04-24 16:04 J -10109641.04 -10109640.83 -10109640.63 0.0288 0.0094
 Jupiter -32392-06-03 23:31 J -10109600.71 -10109600.52 -10109600.32 0.0529 0.0190
 Uranus -32392-11-12 04:04 J -10109439.45 -10109439.33 -10109439.19 0.0141 0.0115
 Saturn -32392-12-10 18:28 J -10109410.93 -10109410.73 -10109410.51 0.0289 0.0073
 Jupiter -32391-01-28 07:40 J -10109362.24 -10109362.18 -10109362.12 0.0537 0.0511
 Uranus -32391-06-26 15:50 J -10109212.99 -10109212.84 -10109212.69 0.0141 0.0101
 Saturn -32391-07-28 21:21 J -10109180.73 -10109180.61 -10109180.48 0.0289 0.0237
 Uranus -32390-02-08 02:38 J -10108986.55 -10108986.39 -10108986.20 0.0140 0.0088
 Uranus -32390-09-22 13:40 J -10108760.10 -10108759.93 -10108759.72 0.0140 0.0073
 Uranus -32389-05-06 00:43 J -10108533.66 -10108533.47 -10108533.26 0.0140 0.0059

Uranus	-32389-12-18 11:31 J	-10108307.23	-10108307.02	-10108306.80	0.0139	0.0044
Uranus	-32388-08-01 22:04 J	-10108080.79	-10108080.58	-10108080.35	0.0139	0.0030
Uranus	-32387-03-16 08:38 J	-10107854.36	-10107854.14	-10107853.91	0.0139	0.0016
Jupiter	-32387-08-17 06:28 J	-10107700.28	-10107700.23	-10107700.18	0.0504	0.0485
Uranus	-32387-10-28 18:57 J	-10107627.93	-10107627.71	-10107627.49	0.0138	0.0001
Jupiter	-32386-04-10 05:16 J	-10107464.48	-10107464.28	-10107464.07	0.0496	0.0064
Uranus	-32386-06-12 05:02 J	-10107401.51	-10107401.29	-10107401.06	0.0138	0.0013
Uranus	-32385-01-24 15:07 J	-10107175.09	-10107174.87	-10107174.65	0.0138	0.0027
Uranus	-32385-09-07 00:57 J	-10106948.67	-10106948.46	-10106948.25	0.0137	0.0040
Uranus	-32384-04-21 10:19 J	-10106722.26	-10106722.07	-10106721.85	0.0137	0.0054
Uranus	-32384-12-03 19:55 J	-10106495.86	-10106495.67	-10106495.47	0.0137	0.0067
Uranus	-32383-07-18 05:16 J	-10106269.45	-10106269.28	-10106269.09	0.0136	0.0080
Uranus	-32382-03-01 14:23 J	-10106043.05	-10106042.90	-10106042.72	0.0136	0.0093
Uranus	-32382-10-13 23:31 J	-10105816.65	-10105816.52	-10105816.37	0.0136	0.0105
Uranus	-32381-05-27 07:55 J	-10105590.26	-10105590.17	-10105590.04	0.0135	0.0118
Uranus	-32380-01-08 16:33 J	-10105363.85	-10105363.81	-10105363.73	0.0135	0.0130
Jupiter	-32380-02-06 11:31 J	-10105335.16	-10105335.02	-10105334.88	0.0526	0.0379
Jupiter	-32380-10-02 18:28 J	-10105096.90	-10105096.73	-10105096.57	0.0535	0.0315
Saturn	-32378-02-21 17:31 J	-10104589.87	-10104589.77	-10104589.66	0.0271	0.0231
Saturn	-32378-10-08 16:47 J	-10104360.99	-10104360.80	-10104360.61	0.0271	0.0105
Saturn	-32377-05-24 15:35 J	-10104132.05	-10104131.85	-10104131.64	0.0270	0.0024
Saturn	-32376-01-08 14:23 J	-10103903.07	-10103902.90	-10103902.72	0.0270	0.0150
Jupiter	-32375-12-14 10:04 J	-10103198.28	-10103198.08	-10103197.88	0.0498	0.0086
Jupiter	-32374-08-07 05:45 J	-10102962.35	-10102962.26	-10102962.18	0.0491	0.0444
Mars	-32371-01-06 13:26 J	-10102079.10	-10102078.94	-10102078.78	0.1882	0.0703
Mars	-32369-10-17 02:52 J	-10101064.54	-10101064.38	-10101064.23	0.1638	0.0764
Jupiter	-32368-06-07 05:31 J	-10100831.47	-10100831.27	-10100831.07	0.0533	0.0120
Saturn	-32363-03-19 18:14 J	-10099084.87	-10099084.74	-10099084.62	0.0288	0.0234
Jupiter	-32363-08-19 14:38 J	-10098932.07	-10098931.89	-10098931.71	0.0500	0.0237
Saturn	-32363-11-04 19:55 J	-10098854.87	-10098854.67	-10098854.45	0.0288	0.0073

Jupiter -32362-04-12 11:16 J -10098696.19 -10098696.03 -10098695.87 0.0492 0.0302
 Saturn -32362-06-22 22:19 J -10098624.77 -10098624.57 -10098624.36 0.0289 0.0094
 Saturn -32361-02-08 00:43 J -10098394.56 -10098394.47 -10098394.36 0.0289 0.0257
 Jupiter -32356-02-09 18:43 J -10096565.93 -10096565.72 -10096565.52 0.0531 0.0073
 Neptune -32352-09-22 14:52 J -10094879.93 -10094879.88 -10094879.78 0.0089 0.0083
 Jupiter -32351-04-24 17:59 J -10094665.87 -10094665.75 -10094665.63 0.0502 0.0389
 Neptune -32351-05-06 03:35 J -10094654.44 -10094654.35 -10094654.22 0.0089 0.0076
 Jupiter -32351-12-16 15:21 J -10094430.05 -10094429.86 -10094429.67 0.0494 0.0154
 Neptune -32351-12-17 16:19 J -10094428.94 -10094428.82 -10094428.67 0.0089 0.0069
 Neptune -32350-07-31 05:02 J -10094203.43 -10094203.29 -10094203.12 0.0089 0.0062
 Neptune -32349-03-12 17:45 J -10093977.92 -10093977.76 -10093977.58 0.0089 0.0055
 Saturn -32349-09-02 16:33 J -10093803.92 -10093803.81 -10093803.68 0.0271 0.0217
 Neptune -32349-10-24 06:28 J -10093752.41 -10093752.23 -10093752.04 0.0089 0.0048
 Uranus -32348-03-26 14:52 J -10093598.92 -10093598.88 -10093598.82 0.0137 0.0133
 Saturn -32348-04-19 15:50 J -10093575.03 -10093574.84 -10093574.64 0.0271 0.0090
 Neptune -32348-06-06 19:11 J -10093526.89 -10093526.70 -10093526.50 0.0088 0.0041
 Uranus -32348-11-07 20:52 J -10093372.72 -10093372.63 -10093372.52 0.0137 0.0121
 Saturn -32348-12-04 14:38 J -10093346.09 -10093345.89 -10093345.68 0.0271 0.0038
 Neptune -32347-01-18 07:40 J -10093301.37 -10093301.18 -10093300.97 0.0088 0.0034
 Uranus -32347-06-22 02:52 J -10093146.50 -10093146.38 -10093146.24 0.0138 0.0109
 Saturn -32347-07-21 13:26 J -10093117.11 -10093116.94 -10093116.78 0.0271 0.0165
 Neptune -32347-08-31 20:23 J -10093075.85 -10093075.65 -10093075.44 0.0088 0.0027
 Uranus -32346-02-03 09:07 J -10092920.26 -10092920.12 -10092919.96 0.0138 0.0097
 Neptune -32346-04-14 09:21 J -10092850.32 -10092850.11 -10092849.90 0.0088 0.0020
 Uranus -32346-09-17 15:35 J -10092694.01 -10092693.85 -10092693.68 0.0138 0.0084
 Neptune -32346-11-25 22:04 J -10092624.80 -10092624.58 -10092624.37 0.0088 0.0013
 Uranus -32345-04-30 21:50 J -10092467.76 -10092467.59 -10092467.40 0.0138 0.0072
 Neptune -32345-07-08 10:33 J -10092399.27 -10092399.06 -10092398.84 0.0088 0.0006
 Jupiter -32345-10-15 07:55 J -10092300.35 -10092300.17 -10092299.99 0.0529 0.0262
 Uranus -32345-12-13 04:33 J -10092241.49 -10092241.31 -10092241.11 0.0139 0.0059

Neptune -32344-02-18 23:16 J -10092173.75 -10092173.53 -10092173.31 0.0088 0.0002
 Jupiter -32344-06-10 16:04 J -10092061.94 -10092061.83 -10092061.71 0.0537 0.0438
 Uranus -32344-07-27 11:31 J -10092015.22 -10092015.02 -10092014.82 0.0139 0.0045
 Neptune -32344-10-02 11:59 J -10091948.22 -10091948.00 -10091947.78 0.0088 0.0009
 Uranus -32343-03-10 18:28 J -10091788.94 -10091788.73 -10091788.52 0.0139 0.0032
 Neptune -32343-05-16 00:57 J -10091722.68 -10091722.46 -10091722.25 0.0088 0.0016
 Uranus -32343-10-23 01:26 J -10091562.65 -10091562.44 -10091562.23 0.0140 0.0018
 Neptune -32343-12-27 13:40 J -10091497.14 -10091496.93 -10091496.72 0.0088 0.0023
 Uranus -32342-06-06 08:38 J -10091336.35 -10091336.14 -10091335.92 0.0140 0.0005
 Neptune -32342-08-10 02:09 J -10091271.61 -10091271.41 -10091271.19 0.0088 0.0030
 Uranus -32341-01-18 16:19 J -10091110.03 -10091109.82 -10091109.61 0.0141 0.0010
 Neptune -32341-03-22 14:52 J -10091046.06 -10091045.88 -10091045.66 0.0088 0.0038
 Uranus -32341-08-31 23:45 J -10090883.71 -10090883.51 -10090883.30 0.0141 0.0024
 Neptune -32341-11-03 03:50 J -10090820.52 -10090820.34 -10090820.14 0.0088 0.0044
 Uranus -32340-04-15 07:26 J -10090657.39 -10090657.19 -10090656.98 0.0141 0.0039
 Neptune -32340-06-16 16:33 J -10090594.97 -10090594.81 -10090594.61 0.0088 0.0052
 Uranus -32340-11-27 15:21 J -10090431.05 -10090430.86 -10090430.66 0.0142 0.0053
 Neptune -32339-01-28 05:31 J -10090369.42 -10090369.27 -10090369.09 0.0088 0.0058
 Uranus -32339-07-11 23:16 J -10090204.71 -10090204.53 -10090204.34 0.0142 0.0067
 Jupiter -32339-08-21 19:55 J -10090163.87 -10090163.67 -10090163.47 0.0496 0.0008
 Neptune -32339-09-10 18:14 J -10090143.86 -10090143.74 -10090143.57 0.0088 0.0066
 Uranus -32338-02-23 07:40 J -10089978.35 -10089978.18 -10089978.00 0.0142 0.0081
 Neptune -32338-04-24 07:26 J -10089918.29 -10089918.19 -10089918.04 0.0088 0.0073
 Uranus -32338-10-07 15:50 J -10089751.98 -10089751.84 -10089751.67 0.0143 0.0096
 Mars -32338-11-04 01:26 J -10089724.48 -10089724.44 -10089724.39 0.1873 0.1800
 Neptune -32338-12-05 20:23 J -10089692.72 -10089692.65 -10089692.53 0.0088 0.0079
 Uranus -32337-05-21 00:14 J -10089525.61 -10089525.49 -10089525.34 0.0143 0.0110
 Neptune -32337-07-18 09:21 J -10089467.13 -10089467.11 -10089467.04 0.0088 0.0086
 Uranus -32336-01-02 08:52 J -10089299.21 -10089299.13 -10089299.01 0.0143 0.0125
 Uranus -32336-08-16 17:59 J -10089072.80 -10089072.75 -10089072.69 0.0144 0.0138

Mars -32335-08-15 16:19 J -10088708.98 -10088708.82 -10088708.65 0.1644 0.0639
 Saturn -32334-09-29 22:19 J -10088298.71 -10088298.57 -10088298.42 0.0288 0.0214
 Saturn -32333-05-17 00:43 J -10088068.68 -10088068.47 -10088068.25 0.0289 0.0051
 Jupiter -32333-06-19 19:11 J -10088034.81 -10088034.70 -10088034.60 0.0525 0.0448
 Saturn -32332-01-02 03:35 J -10087838.55 -10087838.35 -10087838.15 0.0289 0.0116
 Jupiter -32332-02-13 01:11 J -10087796.63 -10087796.45 -10087796.26 0.0534 0.0238
 Saturn -32332-08-20 06:28 J -10087608.28 -10087608.23 -10087608.17 0.0289 0.0279
 Jupiter -32327-04-26 23:31 J -10085897.71 -10085897.52 -10085897.33 0.0499 0.0146
 Jupiter -32327-12-18 19:55 J -10085661.79 -10085661.67 -10085661.55 0.0492 0.0387
 Jupiter -32321-10-18 12:28 J -10083531.19 -10083530.98 -10083530.78 0.0532 0.0042
 Saturn -32319-03-15 23:02 J -10083017.68 -10083017.54 -10083017.39 0.0271 0.0194
 Saturn -32319-10-30 22:04 J -10082788.77 -10082788.58 -10082788.37 0.0271 0.0068
 Saturn -32318-06-16 20:52 J -10082559.83 -10082559.63 -10082559.42 0.0270 0.0060
 Saturn -32317-01-31 19:26 J -10082330.83 -10082330.69 -10082330.53 0.0270 0.0186
 Jupiter -32316-12-31 03:35 J -10081631.51 -10081631.35 -10081631.18 0.0501 0.0297
 Jupiter -32315-08-24 00:57 J -10081395.63 -10081395.46 -10081395.28 0.0494 0.0245
 Pluto -32309-06-14 19:11 J -10079273.90 -10079273.70 -10079273.48 0.0079 0.0025
 Jupiter -32309-06-22 23:45 J -10079265.71 -10079265.51 -10079265.31 0.0530 0.0152
 Uranus -32309-11-28 00:28 J -10079107.53 -10079107.48 -10079107.39 0.0142 0.0135
 Pluto -32308-01-26 05:45 J -10079048.42 -10079048.26 -10079048.08 0.0079 0.0050
 Uranus -32308-07-12 12:14 J -10078881.09 -10078880.99 -10078880.86 0.0141 0.0121
 Uranus -32307-02-23 23:45 J -10078654.65 -10078654.51 -10078654.36 0.0141 0.0106
 Uranus -32307-10-08 11:02 J -10078428.20 -10078428.04 -10078427.87 0.0141 0.0092
 Uranus -32306-05-22 22:04 J -10078201.75 -10078201.58 -10078201.38 0.0140 0.0078
 Mars -32306-11-03 17:59 J -10078036.92 -10078036.75 -10078036.58 0.1880 0.0325
 Uranus -32305-01-04 09:07 J -10077975.31 -10077975.12 -10077974.91 0.0140 0.0063
 Uranus -32305-08-17 19:55 J -10077748.87 -10077748.67 -10077748.45 0.0139 0.0049
 Uranus -32304-04-01 06:43 J -10077522.43 -10077522.22 -10077522.00 0.0139 0.0034
 Saturn -32304-04-11 03:07 J -10077512.52 -10077512.37 -10077512.20 0.0288 0.0191
 Jupiter -32304-09-05 07:40 J -10077365.26 -10077365.18 -10077365.08 0.0503 0.0448

Uranus	-32304-11-13 17:16 J	-10077296.00	-10077295.78	-10077295.56	0.0139	0.0020
Saturn	-32304-11-27 05:31 J	-10077282.49	-10077282.27	-10077282.05	0.0289	0.0027
Jupiter	-32303-04-29 06:28 J	-10077129.43	-10077129.23	-10077129.04	0.0495	0.0099
Uranus	-32303-06-28 03:50 J	-10077069.56	-10077069.34	-10077069.12	0.0138	0.0005
Saturn	-32303-07-15 08:09 J	-10077052.35	-10077052.16	-10077051.97	0.0289	0.0138
Mars	-32303-08-14 13:55 J	-10077022.08	-10077021.92	-10077021.76	0.1640	0.0623
Uranus	-32302-02-09 13:55 J	-10076843.14	-10076842.92	-10076842.69	0.0138	0.0010
Uranus	-32302-09-23 23:59 J	-10076616.72	-10076616.50	-10076616.27	0.0138	0.0023
Uranus	-32301-05-07 09:50 J	-10076390.30	-10076390.09	-10076389.87	0.0137	0.0037
Uranus	-32301-12-19 19:40 J	-10076163.89	-10076163.68	-10076163.47	0.0137	0.0050
Uranus	-32300-08-03 05:16 J	-10075937.47	-10075937.28	-10075937.07	0.0137	0.0064
Uranus	-32299-03-17 14:23 J	-10075711.06	-10075710.90	-10075710.70	0.0136	0.0078
Uranus	-32299-10-29 23:45 J	-10075484.66	-10075484.51	-10075484.33	0.0136	0.0090
Uranus	-32298-06-13 08:52 J	-10075258.26	-10075258.13	-10075257.97	0.0136	0.0103
Uranus	-32297-01-25 17:59 J	-10075031.86	-10075031.75	-10075031.63	0.0136	0.0115
Jupiter	-32297-02-26 13:11 J	-10075000.11	-10074999.95	-10074999.79	0.0527	0.0338
Uranus	-32297-09-08 02:23 J	-10074805.45	-10074805.40	-10074805.31	0.0135	0.0128
Jupiter	-32297-10-21 20:52 J	-10074761.78	-10074761.63	-10074761.47	0.0536	0.0357
Jupiter	-32291-01-02 10:19 J	-10072863.27	-10072863.07	-10072862.87	0.0497	0.0053
Jupiter	-32291-08-26 05:31 J	-10072627.32	-10072627.27	-10072627.22	0.0491	0.0473
Saturn	-32290-09-25 22:04 J	-10072231.73	-10072231.58	-10072231.43	0.0271	0.0180
Saturn	-32289-05-11 20:52 J	-10072002.83	-10072002.63	-10072002.42	0.0271	0.0053
Saturn	-32289-12-26 19:40 J	-10071773.88	-10071773.68	-10071773.48	0.0271	0.0074
Saturn	-32288-08-12 17:59 J	-10071544.88	-10071544.75	-10071544.60	0.0270	0.0200
Jupiter	-32286-11-01 03:21 J	-10070734.39	-10070734.36	-10070734.33	0.0525	0.0517
Jupiter	-32285-06-26 09:35 J	-10070496.30	-10070496.10	-10070495.91	0.0534	0.0164
Earth	-32284-04-22 01:26 J	-10070196.51	-10070196.44	-10070196.36	0.2689	0.2330
Moon	-32284-04-22 05:59 J	-10070196.28	-10070196.25	-10070196.22	0.2693	0.2624
Jupiter	-32280-09-07 14:38 J	-10068597.08	-10068596.89	-10068596.71	0.0499	0.0203
Jupiter	-32279-05-01 11:02 J	-10068361.19	-10068361.04	-10068360.90	0.0492	0.0332

Earth -32276-04-19 19:40 J -10067276.82 -10067276.68 -10067276.53 0.2691 0.0868
 Moon -32276-04-20 00:57 J -10067276.62 -10067276.46 -10067276.31 0.2689 0.0040 *
 Saturn -32275-10-22 06:14 J -10066726.41 -10066726.24 -10066726.07 0.0288 0.0173
 Saturn -32274-06-09 08:52 J -10066496.35 -10066496.13 -10066495.91 0.0289 0.0009
 Saturn -32273-01-25 11:45 J -10066266.19 -10066266.01 -10066265.83 0.0289 0.0157
 Jupiter -32273-02-29 19:55 J -10066230.88 -10066230.67 -10066230.47 0.0531 0.0033
 Mars -32269-06-12 03:21 J -10064666.51 -10064666.36 -10064666.20 0.1646 0.0783
 Neptune -32269-06-23 22:47 J -10064654.60 -10064654.55 -10064654.49 0.0089 0.0086
 Neptune -32268-02-04 12:14 J -10064429.08 -10064428.99 -10064428.89 0.0089 0.0079
 Jupiter -32268-05-13 17:02 J -10064330.93 -10064330.79 -10064330.65 0.0502 0.0356
 Neptune -32268-09-18 01:40 J -10064203.55 -10064203.43 -10064203.29 0.0089 0.0072
 Jupiter -32267-01-04 15:07 J -10064095.06 -10064094.87 -10064094.69 0.0495 0.0187
 Neptune -32267-05-01 15:07 J -10063978.01 -10063977.87 -10063977.71 0.0089 0.0065
 Neptune -32267-12-13 04:19 J -10063752.47 -10063752.32 -10063752.14 0.0089 0.0058
 Neptune -32266-07-26 17:45 J -10063526.93 -10063526.76 -10063526.57 0.0089 0.0051
 Neptune -32265-03-08 06:57 J -10063301.39 -10063301.21 -10063301.00 0.0089 0.0044
 Neptune -32265-10-19 20:23 J -10063075.83 -10063075.65 -10063075.43 0.0089 0.0037
 Neptune -32264-06-02 09:50 J -10062850.28 -10062850.09 -10062849.87 0.0089 0.0030
 Uranus -32264-07-08 07:11 J -10062814.28 -10062814.20 -10062814.11 0.0137 0.0125
 Neptune -32263-01-13 23:16 J -10062624.74 -10062624.53 -10062624.31 0.0089 0.0022
 Uranus -32263-02-19 12:57 J -10062588.06 -10062587.96 -10062587.83 0.0137 0.0114
 Neptune -32263-08-27 12:43 J -10062399.19 -10062398.97 -10062398.75 0.0089 0.0015
 Uranus -32263-10-03 19:26 J -10062361.83 -10062361.69 -10062361.55 0.0138 0.0101
 Neptune -32262-04-10 02:09 J -10062173.63 -10062173.41 -10062173.19 0.0089 0.0008
 Uranus -32262-05-18 01:26 J -10062135.59 -10062135.44 -10062135.27 0.0138 0.0089
 Jupiter -32262-11-04 07:40 J -10061965.36 -10061965.18 -10061964.99 0.0528 0.0224
 Neptune -32262-11-21 15:35 J -10061948.07 -10061947.85 -10061947.63 0.0089 0.0001
 Uranus -32262-12-30 07:55 J -10061909.33 -10061909.17 -10061908.98 0.0138 0.0076
 Jupiter -32261-06-29 15:07 J -10061726.97 -10061726.87 -10061726.77 0.0536 0.0469
 Neptune -32261-07-04 04:47 J -10061722.52 -10061722.30 -10061722.08 0.0089 0.0007

Uranus -32261-08-12 14:38 J -10061683.07 -10061682.89 -10061682.70 0.0139 0.0063
 Neptune -32260-02-14 17:59 J -10061496.97 -10061496.75 -10061496.53 0.0089 0.0014
 Uranus -32260-03-26 21:07 J -10061456.81 -10061456.62 -10061456.41 0.0139 0.0050
 Saturn -32260-04-07 04:04 J -10061445.49 -10061445.33 -10061445.15 0.0271 0.0158
 Neptune -32260-09-28 07:11 J -10061271.41 -10061271.20 -10061270.98 0.0089 0.0021
 Uranus -32260-11-08 04:04 J -10061230.53 -10061230.33 -10061230.12 0.0139 0.0036
 Saturn -32260-11-22 03:07 J -10061216.57 -10061216.37 -10061216.16 0.0270 0.0031
 Neptune -32259-05-11 20:38 J -10061045.85 -10061045.64 -10061045.43 0.0089 0.0028
 Uranus -32259-06-22 11:02 J -10061004.24 -10061004.04 -10061003.82 0.0140 0.0023
 Saturn -32259-07-09 01:40 J -10060987.62 -10060987.43 -10060987.23 0.0270 0.0096
 Neptune -32259-12-23 09:21 J -10060820.29 -10060820.11 -10060819.89 0.0089 0.0036
 Uranus -32258-02-03 18:28 J -10060777.94 -10060777.73 -10060777.51 0.0140 0.0009
 Saturn -32258-02-23 00:14 J -10060758.60 -10060758.49 -10060758.36 0.0270 0.0221
 Neptune -32258-08-05 22:33 J -10060594.74 -10060594.56 -10060594.35 0.0089 0.0043
 Uranus -32258-09-18 01:55 J -10060551.63 -10060551.42 -10060551.21 0.0140 0.0006
 Neptune -32257-03-18 11:31 J -10060369.18 -10060369.02 -10060368.82 0.0089 0.0050
 Uranus -32257-05-01 09:21 J -10060325.32 -10060325.11 -10060324.90 0.0141 0.0020
 Neptune -32257-10-30 00:43 J -10060143.62 -10060143.47 -10060143.28 0.0089 0.0057
 Uranus -32257-12-13 17:02 J -10060099.00 -10060098.79 -10060098.59 0.0141 0.0034
 Neptune -32256-06-12 13:55 J -10059918.06 -10059917.92 -10059917.75 0.0089 0.0064
 Uranus -32256-07-28 00:43 J -10059872.67 -10059872.47 -10059872.27 0.0141 0.0049
 Jupiter -32256-09-09 19:55 J -10059828.87 -10059828.67 -10059828.47 0.0496 0.0040
 Neptune -32255-01-24 02:38 J -10059692.50 -10059692.39 -10059692.23 0.0089 0.0071
 Uranus -32255-03-11 08:23 J -10059646.33 -10059646.15 -10059645.95 0.0142 0.0064
 Neptune -32255-09-06 15:35 J -10059466.93 -10059466.85 -10059466.72 0.0089 0.0078
 Uranus -32255-10-23 16:33 J -10059419.98 -10059419.81 -10059419.62 0.0142 0.0078
 Neptune -32254-04-20 05:02 J -10059241.35 -10059241.29 -10059241.21 0.0089 0.0085
 Uranus -32254-06-07 00:43 J -10059193.62 -10059193.47 -10059193.29 0.0142 0.0093
 Uranus -32253-01-19 09:07 J -10058967.24 -10058967.12 -10058966.96 0.0143 0.0107
 Uranus -32253-09-01 18:14 J -10058740.85 -10058740.74 -10058740.63 0.0143 0.0120

Uranus -32252-04-16 02:38 J -10058514.45 -10058514.39 -10058514.31 0.0143 0.0135
 Jupiter -32250-07-09 19:11 J -10057699.82 -10057699.70 -10057699.56 0.0526 0.0411
 Jupiter -32249-03-04 01:55 J -10057461.60 -10057461.42 -10057461.25 0.0534 0.0276
 Saturn -32245-05-03 11:31 J -10055940.20 -10055940.02 -10055939.83 0.0288 0.0148
 Saturn -32245-12-19 13:55 J -10055710.14 -10055709.92 -10055709.70 0.0289 0.0016
 Jupiter -32244-05-16 00:57 J -10055562.65 -10055562.46 -10055562.26 0.0498 0.0109
 Saturn -32244-08-06 16:33 J -10055479.97 -10055479.81 -10055479.63 0.0289 0.0181
 Jupiter -32243-01-06 20:38 J -10055326.73 -10055326.64 -10055326.52 0.0492 0.0421
 Mars -32240-08-30 23:02 J -10053994.71 -10053994.54 -10053994.37 0.1878 0.0041
 Jupiter -32238-11-07 14:38 J -10053196.09 -10053195.89 -10053195.68 0.0532 0.0084
 Mars -32237-06-11 01:26 J -10052979.61 -10052979.44 -10052979.28 0.1641 0.0487
 Jupiter -32232-01-19 04:47 J -10051296.47 -10051296.30 -10051296.13 0.0500 0.0260
 Jupiter -32232-09-12 01:26 J -10051060.60 -10051060.44 -10051060.27 0.0493 0.0276
 Saturn -32231-03-03 03:50 J -10050888.35 -10050888.34 -10050888.30 0.0271 0.0270
 Saturn -32231-10-18 03:21 J -10050659.53 -10050659.36 -10050659.18 0.0271 0.0143
 Saturn -32230-06-04 02:09 J -10050430.62 -10050430.41 -10050430.20 0.0270 0.0016
 Saturn -32229-01-19 00:43 J -10050201.66 -10050201.47 -10050201.28 0.0270 0.0110
 Saturn -32229-09-03 22:47 J -10049972.64 -10049972.55 -10049972.44 0.0270 0.0236
 Jupiter -32226-07-13 03:50 J -10048930.55 -10048930.34 -10048930.14 0.0530 0.0107
 Uranus -32225-07-28 09:07 J -10048549.14 -10048549.12 -10048549.06 0.0142 0.0139
 Uranus -32224-03-11 20:52 J -10048322.72 -10048322.63 -10048322.52 0.0141 0.0125
 Uranus -32224-10-24 08:09 J -10048096.28 -10048096.16 -10048096.01 0.0141 0.0111
 Uranus -32223-06-07 19:55 J -10047869.83 -10047869.67 -10047869.50 0.0141 0.0096
 Uranus -32222-01-20 07:11 J -10047643.38 -10047643.20 -10047643.02 0.0140 0.0082
 Uranus -32222-09-03 17:59 J -10047416.93 -10047416.75 -10047416.54 0.0140 0.0067
 Uranus -32221-04-17 05:02 J -10047190.49 -10047190.29 -10047190.08 0.0140 0.0053
 Jupiter -32221-09-24 08:23 J -10047030.26 -10047030.15 -10047030.03 0.0503 0.0411
 Uranus -32221-11-29 15:35 J -10046964.05 -10046963.85 -10046963.62 0.0139 0.0039
 Jupiter -32220-05-18 06:28 J -10046794.42 -10046794.23 -10046794.03 0.0495 0.0131
 Uranus -32220-07-14 02:38 J -10046737.61 -10046737.39 -10046737.17 0.0139 0.0023

Uranus	-32219-02-25 13:11 J	-10046511.17	-10046510.95	-10046510.73	0.0139	0.0009
Uranus	-32219-10-09 23:31 J	-10046284.74	-10046284.52	-10046284.30	0.0138	0.0005
Uranus	-32218-05-24 09:35 J	-10046058.32	-10046058.10	-10046057.88	0.0138	0.0020
Uranus	-32217-01-05 19:26 J	-10045831.90	-10045831.69	-10045831.46	0.0138	0.0034
Uranus	-32217-08-19 05:31 J	-10045605.48	-10045605.27	-10045605.06	0.0137	0.0047
Uranus	-32216-04-02 15:07 J	-10045379.06	-10045378.87	-10045378.66	0.0137	0.0061
Saturn	-32216-11-13 13:26 J	-10045154.13	-10045153.94	-10045153.74	0.0288	0.0132
Uranus	-32216-11-15 00:28 J	-10045152.66	-10045152.48	-10045152.28	0.0137	0.0075
Uranus	-32215-06-29 10:04 J	-10044926.25	-10044926.08	-10044925.91	0.0136	0.0088
Saturn	-32215-07-01 16:19 J	-10044924.04	-10044923.82	-10044923.60	0.0289	0.0033
Uranus	-32214-02-10 19:11 J	-10044699.84	-10044699.70	-10044699.54	0.0136	0.0101
Saturn	-32214-02-16 19:26 J	-10044693.85	-10044693.69	-10044693.53	0.0289	0.0198
Jupiter	-32214-03-17 15:50 J	-10044665.01	-10044664.84	-10044664.67	0.0527	0.0294
Uranus	-32214-09-25 04:04 J	-10044473.44	-10044473.33	-10044473.20	0.0136	0.0113
Jupiter	-32214-11-10 22:33 J	-10044426.69	-10044426.56	-10044426.42	0.0535	0.0395
Uranus	-32213-05-08 12:43 J	-10044247.04	-10044246.97	-10044246.87	0.0135	0.0126
Jupiter	-32208-01-21 09:50 J	-10042528.30	-10042528.09	-10042527.89	0.0498	0.0022
Mars	-32203-04-09 14:38 J	-10040624.04	-10040623.89	-10040623.75	0.1648	0.0929
Jupiter	-32203-11-20 04:19 J	-10040399.40	-10040399.32	-10040399.23	0.0524	0.0476
Jupiter	-32202-07-16 09:35 J	-10040161.29	-10040161.10	-10040160.91	0.0533	0.0200
Saturn	-32202-09-13 10:04 J	-10040102.16	-10040102.08	-10040101.99	0.0271	0.0247
Saturn	-32201-04-29 09:21 J	-10039873.29	-10039873.11	-10039872.92	0.0271	0.0121
Saturn	-32201-12-14 08:09 J	-10039644.37	-10039644.16	-10039643.95	0.0270	0.0005
Saturn	-32200-07-31 06:43 J	-10039415.40	-10039415.22	-10039415.04	0.0270	0.0131
Saturn	-32199-03-17 05:16 J	-10039186.34	-10039186.28	-10039186.22	0.0270	0.0255
Jupiter	-32197-09-26 13:55 J	-10038262.10	-10038261.92	-10038261.72	0.0500	0.0169
Jupiter	-32196-05-20 10:47 J	-10038026.18	-10038026.05	-10038025.91	0.0493	0.0365
Jupiter	-32190-03-20 20:09 J	-10035895.86	-10035895.66	-10035895.45	0.0531	0.0011
Neptune	-32188-12-25 00:43 J	-10034885.51	-10034885.47	-10034885.39	0.0089	0.0085
Neptune	-32187-08-07 13:26 J	-10034660.03	-10034659.94	-10034659.83	0.0089	0.0078

Saturn -32187-10-08 17:45 J -10034597.82 -10034597.76 -10034597.67 0.0288 0.0268
 Neptune -32186-03-21 02:23 J -10034434.53 -10034434.40 -10034434.27 0.0089 0.0071
 Saturn -32186-05-26 19:55 J -10034367.87 -10034367.67 -10034367.46 0.0289 0.0106
 Neptune -32186-11-01 14:23 J -10034209.03 -10034208.90 -10034208.73 0.0089 0.0065
 Saturn -32185-01-11 22:33 J -10034137.77 -10034137.56 -10034137.35 0.0289 0.0059
 Jupiter -32185-06-01 18:28 J -10033995.88 -10033995.73 -10033995.57 0.0502 0.0318
 Neptune -32185-06-14 03:07 J -10033983.52 -10033983.37 -10033983.19 0.0089 0.0058
 Saturn -32185-08-29 01:11 J -10033907.58 -10033907.45 -10033907.30 0.0289 0.0223
 Jupiter -32184-01-23 16:19 J -10033760.00 -10033759.82 -10033759.64 0.0494 0.0221
 Neptune -32184-01-25 15:50 J -10033758.01 -10033757.84 -10033757.66 0.0088 0.0051
 Neptune -32184-09-08 04:33 J -10033532.50 -10033532.31 -10033532.12 0.0088 0.0044
 Neptune -32183-04-21 17:16 J -10033306.97 -10033306.78 -10033306.58 0.0088 0.0037
 Neptune -32183-12-03 05:45 J -10033081.45 -10033081.26 -10033081.04 0.0088 0.0030
 Neptune -32182-07-16 18:28 J -10032855.93 -10032855.73 -10032855.51 0.0088 0.0023
 Neptune -32181-02-27 07:11 J -10032630.41 -10032630.20 -10032629.98 0.0088 0.0016
 Neptune -32181-10-09 19:55 J -10032404.89 -10032404.67 -10032404.45 0.0088 0.0009
 Uranus -32180-03-07 17:45 J -10032255.81 -10032255.76 -10032255.67 0.0137 0.0130
 Neptune -32180-05-23 08:38 J -10032179.36 -10032179.14 -10032178.92 0.0088 0.0003
 Uranus -32180-10-19 23:45 J -10032029.60 -10032029.51 -10032029.39 0.0137 0.0118
 Neptune -32179-01-03 21:21 J -10031953.83 -10031953.61 -10031953.39 0.0088 0.0005
 Uranus -32179-06-03 05:59 J -10031803.37 -10031803.25 -10031803.10 0.0137 0.0106
 Neptune -32179-08-17 10:04 J -10031728.30 -10031728.08 -10031727.86 0.0088 0.0012
 Earth -32179-10-23 20:09 J -10031660.81 -10031660.66 -10031660.51 0.2642 0.1020
 Moon -32179-10-24 01:40 J -10031660.56 -10031660.43 -10031660.29 0.2645 0.1420 *
 Jupiter -32179-11-23 09:21 J -10031630.30 -10031630.11 -10031629.92 0.0529 0.0183
 Uranus -32178-01-15 12:28 J -10031577.13 -10031576.98 -10031576.82 0.0138 0.0093
 Neptune -32178-03-30 22:47 J -10031502.76 -10031502.55 -10031502.33 0.0088 0.0019
 Jupiter -32178-07-19 17:31 J -10031391.83 -10031391.77 -10031391.71 0.0537 0.0509
 Uranus -32178-08-29 18:43 J -10031350.88 -10031350.72 -10031350.54 0.0138 0.0080
 Neptune -32178-11-11 11:31 J -10031277.23 -10031277.02 -10031276.81 0.0088 0.0026

Uranus -32177-04-12 01:11 J -10031124.63 -10031124.45 -10031124.26 0.0138 0.0067
 Neptune -32177-06-24 00:14 J -10031051.69 -10031051.49 -10031051.28 0.0088 0.0033
 Uranus -32177-11-24 07:55 J -10030898.36 -10030898.17 -10030897.97 0.0139 0.0054
 Neptune -32176-02-04 12:57 J -10030826.15 -10030825.96 -10030825.76 0.0088 0.0040
 Uranus -32176-07-08 14:52 J -10030672.09 -10030671.88 -10030671.68 0.0139 0.0040
 Neptune -32176-09-18 01:40 J -10030600.61 -10030600.43 -10030600.24 0.0088 0.0047
 Uranus -32175-02-19 21:50 J -10030445.80 -10030445.59 -10030445.38 0.0139 0.0026
 Neptune -32175-05-01 14:38 J -10030375.06 -10030374.89 -10030374.71 0.0088 0.0053
 Uranus -32175-10-04 04:47 J -10030219.51 -10030219.30 -10030219.08 0.0140 0.0013
 Neptune -32175-12-13 03:21 J -10030149.50 -10030149.36 -10030149.19 0.0088 0.0061
 Uranus -32174-05-18 11:59 J -10029993.21 -10029993.00 -10029992.78 0.0140 0.0004
 Mars -32174-06-28 03:50 J -10029952.51 -10029952.34 -10029952.17 0.1875 0.0408
 Neptune -32174-07-26 16:04 J -10029923.95 -10029923.83 -10029923.67 0.0088 0.0068
 Uranus -32174-12-30 19:26 J -10029766.89 -10029766.69 -10029766.47 0.0140 0.0017
 Jupiter -32173-02-05 22:04 J -10029729.65 -10029729.58 -10029729.51 0.0504 0.0468
 Neptune -32173-03-08 04:47 J -10029698.39 -10029698.30 -10029698.15 0.0088 0.0075
 Uranus -32173-08-13 02:52 J -10029540.58 -10029540.38 -10029540.16 0.0141 0.0031
 Jupiter -32173-09-28 20:52 J -10029493.83 -10029493.63 -10029493.43 0.0496 0.0074
 Neptune -32173-10-19 17:45 J -10029472.82 -10029472.76 -10029472.65 0.0088 0.0081
 Saturn -32172-03-25 09:50 J -10029316.19 -10029316.09 -10029315.99 0.0271 0.0232
 Uranus -32172-03-27 10:33 J -10029314.25 -10029314.06 -10029313.85 0.0141 0.0045
 Neptune -32172-06-02 07:11 J -10029247.21 -10029247.20 -10029247.16 0.0088 0.0088
 Uranus -32172-11-08 18:14 J -10029087.92 -10029087.74 -10029087.54 0.0142 0.0060
 Saturn -32172-11-09 08:38 J -10029087.32 -10029087.14 -10029086.94 0.0271 0.0107
 Mars -32171-04-08 12:28 J -10028937.15 -10028936.98 -10028936.81 0.1643 0.0344
 Uranus -32171-06-23 02:23 J -10028861.58 -10028861.40 -10028861.21 0.0142 0.0074
 Saturn -32171-06-26 07:26 J -10028858.39 -10028858.19 -10028857.98 0.0270 0.0020
 Moon -32171-10-21 13:40 J -10028740.96 -10028740.93 -10028740.90 0.2639 0.2571
 Uranus -32170-02-04 10:33 J -10028635.21 -10028635.06 -10028634.88 0.0142 0.0089
 Saturn -32170-02-10 05:59 J -10028629.42 -10028629.25 -10028629.07 0.0270 0.0146

Uranus	-32170-09-18 18:57 J	-10028408.85	-10028408.71	-10028408.56	0.0143	0.0103
Saturn	-32170-09-27 04:04 J	-10028400.33	-10028400.33	-10028400.31	0.0270	0.0270
Uranus	-32169-05-02 03:21 J	-10028182.47	-10028182.36	-10028182.23	0.0143	0.0117
Uranus	-32169-12-14 11:45 J	-10027956.07	-10027956.01	-10027955.91	0.0143	0.0132
Jupiter	-32167-07-28 23:02 J	-10027364.68	-10027364.54	-10027364.39	0.0526	0.0366
Jupiter	-32166-03-24 05:59 J	-10027126.41	-10027126.25	-10027126.08	0.0535	0.0320
Jupiter	-32161-06-04 01:26 J	-10025227.64	-10025227.44	-10025227.24	0.0498	0.0075
Jupiter	-32160-01-25 20:52 J	-10024991.70	-10024991.63	-10024991.54	0.0491	0.0450
Saturn	-32157-04-19 18:57 J	-10023811.82	-10023811.71	-10023811.61	0.0288	0.0251
Saturn	-32157-12-05 20:52 J	-10023581.83	-10023581.63	-10023581.42	0.0288	0.0090
Saturn	-32156-07-23 23:59 J	-10023351.71	-10023351.50	-10023351.29	0.0289	0.0075
Saturn	-32155-03-11 02:52 J	-10023121.49	-10023121.38	-10023121.25	0.0289	0.0239
Jupiter	-32155-11-26 17:16 J	-10022860.98	-10022860.78	-10022860.58	0.0532	0.0127
Pluto	-32149-02-02 12:28 J	-10020967.06	-10020966.98	-10020966.86	0.0065	0.0057
Jupiter	-32149-02-08 03:21 J	-10020961.53	-10020961.36	-10020961.18	0.0501	0.0228
Pluto	-32149-09-14 16:19 J	-10020742.01	-10020741.82	-10020741.60	0.0065	0.0018
Jupiter	-32149-10-01 00:43 J	-10020725.62	-10020725.47	-10020725.31	0.0494	0.0308
Pluto	-32148-04-27 20:38 J	-10020516.85	-10020516.64	-10020516.44	0.0065	0.0022
Pluto	-32148-12-08 23:45 J	-10020291.53	-10020291.51	-10020291.43	0.0065	0.0064
Jupiter	-32143-08-01 04:33 J	-10018595.51	-10018595.31	-10018595.10	0.0529	0.0067
Saturn	-32143-10-05 15:35 J	-10018529.97	-10018529.85	-10018529.71	0.0271	0.0211
Saturn	-32142-05-22 14:52 J	-10018301.08	-10018300.88	-10018300.68	0.0271	0.0084
Mars	-32142-06-27 20:23 J	-10018264.71	-10018264.65	-10018264.58	0.1882	0.1721
Saturn	-32141-01-06 13:40 J	-10018072.13	-10018071.93	-10018071.72	0.0270	0.0042
Saturn	-32141-08-22 12:14 J	-10017843.15	-10017842.99	-10017842.83	0.0270	0.0167
Uranus	-32141-11-09 05:16 J	-10017764.36	-10017764.28	-10017764.18	0.0142	0.0130
Uranus	-32140-06-23 17:02 J	-10017537.91	-10017537.79	-10017537.66	0.0141	0.0116
Uranus	-32139-02-05 04:19 J	-10017311.46	-10017311.32	-10017311.15	0.0141	0.0101
Mars	-32139-04-07 09:50 J	-10017250.13	-10017250.09	-10017250.05	0.1639	0.1587
Uranus	-32139-09-19 15:35 J	-10017085.01	-10017084.85	-10017084.66	0.0141	0.0087

Uranus -32138-05-04 02:38 J -10016858.57 -10016858.39 -10016858.18 0.0140 0.0072
 Jupiter -32138-10-14 06:57 J -10016695.34 -10016695.21 -10016695.08 0.0503 0.0378
 Uranus -32138-12-16 13:55 J -10016632.12 -10016631.92 -10016631.71 0.0140 0.0057
 Mars -32137-02-05 00:57 J -10016581.59 -10016581.46 -10016581.32 0.1650 0.1082
 Jupiter -32137-06-06 05:45 J -10016459.45 -10016459.26 -10016459.07 0.0495 0.0164
 Uranus -32137-07-30 00:43 J -10016405.67 -10016405.47 -10016405.25 0.0140 0.0043
 Uranus -32136-03-13 11:31 J -10016179.23 -10016179.02 -10016178.79 0.0139 0.0028
 Uranus -32136-10-25 22:19 J -10015952.80 -10015952.57 -10015952.35 0.0139 0.0013
 Uranus -32135-06-09 08:38 J -10015726.36 -10015726.14 -10015725.91 0.0138 0.0004
 Uranus -32134-01-21 18:57 J -10015499.93 -10015499.71 -10015499.48 0.0138 0.0016
 Uranus -32134-09-05 05:16 J -10015273.50 -10015273.28 -10015273.06 0.0138 0.0030
 Uranus -32133-04-18 14:52 J -10015047.08 -10015046.88 -10015046.66 0.0137 0.0045
 Uranus -32133-12-01 00:43 J -10014820.67 -10014820.47 -10014820.26 0.0137 0.0058
 Uranus -32132-07-15 10:19 J -10014594.25 -10014594.07 -10014593.87 0.0137 0.0072
 Uranus -32131-02-26 19:55 J -10014367.84 -10014367.67 -10014367.49 0.0137 0.0085
 Jupiter -32131-04-05 15:35 J -10014330.03 -10014329.85 -10014329.67 0.0527 0.0257
 Uranus -32131-10-11 04:47 J -10014141.44 -10014141.30 -10014141.13 0.0136 0.0099
 Jupiter -32131-11-29 22:33 J -10014091.67 -10014091.56 -10014091.43 0.0535 0.0430
 Uranus -32130-05-25 13:55 J -10013915.04 -10013914.92 -10013914.78 0.0136 0.0111
 Uranus -32129-01-06 22:33 J -10013688.63 -10013688.56 -10013688.45 0.0136 0.0124
 Uranus -32129-08-20 07:40 J -10013462.18 -10013462.18 -10013462.17 0.0135 0.0135
 Saturn -32128-10-31 02:23 J -10013025.53 -10013025.40 -10013025.26 0.0288 0.0225
 Saturn -32127-06-18 04:33 J -10012795.51 -10012795.31 -10012795.09 0.0289 0.0063
 Saturn -32126-02-03 07:26 J -10012565.39 -10012565.19 -10012564.99 0.0289 0.0102
 Saturn -32126-09-21 10:04 J -10012335.15 -10012335.08 -10012334.99 0.0289 0.0266
 Jupiter -32125-02-10 10:47 J -10012193.25 -10012193.05 -10012192.85 0.0497 0.0018
 Jupiter -32120-12-09 05:02 J -10010064.40 -10010064.29 -10010064.18 0.0525 0.0438
 Jupiter -32119-08-04 10:47 J -10009826.23 -10009826.05 -10009825.86 0.0534 0.0240
 Jupiter -32114-10-16 15:07 J -10007927.06 -10007926.87 -10007926.67 0.0499 0.0132
 Saturn -32113-04-16 15:50 J -10007743.97 -10007743.84 -10007743.69 0.0271 0.0195

Jupiter -32113-06-08 11:16 J -10007691.15 -10007691.03 -10007690.91 0.0492 0.0395
 Saturn -32113-12-01 14:52 J -10007515.07 -10007514.88 -10007514.67 0.0270 0.0069
 Saturn -32112-07-18 13:26 J -10007286.14 -10007285.94 -10007285.73 0.0270 0.0058
 Saturn -32111-03-04 11:45 J -10007057.15 -10007057.01 -10007056.85 0.0270 0.0183
 Mars -32108-04-24 08:52 J -10005910.29 -10005910.13 -10005909.97 0.1873 0.0763
 Jupiter -32107-04-08 23:59 J -10005560.71 -10005560.50 -10005560.30 0.0531 0.0050
 Mars -32105-02-03 23:31 J -10004894.69 -10004894.52 -10004894.34 0.1645 0.0204
 Neptune -32105-09-25 06:14 J -10004660.24 -10004660.24 -10004660.21 0.0089 0.0089
 Neptune -32104-05-08 19:40 J -10004434.75 -10004434.68 -10004434.58 0.0089 0.0082
 Neptune -32104-12-20 09:07 J -10004209.22 -10004209.12 -10004208.98 0.0089 0.0075
 Neptune -32103-08-02 22:33 J -10003983.69 -10003983.56 -10003983.40 0.0089 0.0068
 Neptune -32102-03-16 11:59 J -10003758.14 -10003758.00 -10003757.82 0.0089 0.0061
 Jupiter -32102-06-21 18:57 J -10003660.87 -10003660.71 -10003660.54 0.0501 0.0283
 Neptune -32102-10-28 01:40 J -10003532.60 -10003532.43 -10003532.25 0.0089 0.0054
 Jupiter -32101-02-12 16:19 J -10003424.99 -10003424.82 -10003424.65 0.0494 0.0253
 Neptune -32101-06-09 14:52 J -10003307.05 -10003306.88 -10003306.68 0.0089 0.0047
 Neptune -32100-01-21 04:19 J -10003081.51 -10003081.32 -10003081.11 0.0089 0.0040
 Neptune -32100-09-03 17:45 J -10002855.96 -10002855.76 -10002855.55 0.0089 0.0033
 Neptune -32099-04-17 06:57 J -10002630.41 -10002630.21 -10002629.98 0.0089 0.0026
 Neptune -32099-11-28 20:23 J -10002404.86 -10002404.65 -10002404.42 0.0089 0.0019
 Saturn -32098-05-13 03:35 J -10002239.49 -10002239.35 -10002239.20 0.0288 0.0209
 Neptune -32098-07-12 09:50 J -10002179.31 -10002179.09 -10002178.87 0.0089 0.0012
 Saturn -32098-12-29 05:59 J -10002009.47 -10002009.25 -10002009.04 0.0289 0.0047
 Neptune -32097-02-22 23:02 J -10001953.75 -10001953.54 -10001953.31 0.0089 0.0005
 Saturn -32097-08-15 08:52 J -10001779.33 -10001779.13 -10001778.93 0.0289 0.0118
 Neptune -32097-10-05 12:28 J -10001728.20 -10001727.98 -10001727.75 0.0089 0.0003
 Uranus -32097-11-05 04:04 J -10001697.36 -10001697.33 -10001697.28 0.0137 0.0134
 Saturn -32096-04-02 11:59 J -10001549.05 -10001549.00 -10001548.95 0.0289 0.0280
 Neptune -32096-05-19 01:55 J -10001502.64 -10001502.42 -10001502.20 0.0089 0.0010
 Uranus -32096-06-19 09:50 J -10001471.17 -10001471.09 -10001470.98 0.0137 0.0122

Jupiter -32096-12-12 12:14 J -10001295.19 -10001294.99 -10001294.79 0.0528 0.0138
 Neptune -32096-12-30 15:07 J -10001277.09 -10001276.87 -10001276.65 0.0089 0.0017
 Uranus -32095-01-31 15:50 J -10001244.95 -10001244.84 -10001244.70 0.0137 0.0110
 Neptune -32095-08-13 04:19 J -10001051.53 -10001051.32 -10001051.11 0.0089 0.0024
 Uranus -32095-09-14 21:50 J -10001018.72 -10001018.59 -10001018.42 0.0137 0.0098
 Neptune -32094-03-26 17:31 J -10000825.97 -10000825.77 -10000825.56 0.0089 0.0031
 Uranus -32094-04-29 04:04 J -10000792.48 -10000792.33 -10000792.14 0.0138 0.0085
 Neptune -32094-11-07 06:43 J -10000600.41 -10000600.22 -10000600.01 0.0089 0.0038
 Uranus -32094-12-11 10:47 J -10000566.22 -10000566.05 -10000565.86 0.0138 0.0072
 Neptune -32093-06-19 19:55 J -10000374.85 -10000374.67 -10000374.47 0.0089 0.0045
 Uranus -32093-07-24 17:16 J -10000339.96 -10000339.78 -10000339.58 0.0138 0.0059
 Neptune -32092-01-31 09:07 J -10000149.29 -10000149.12 -10000148.93 0.0089 0.0052
 Uranus -32092-03-07 23:59 J -10000113.69 -10000113.50 -10000113.29 0.0139 0.0045
 Neptune -32092-09-13 22:04 J -9999923.73 -9999923.58 -9999923.40 0.0089 0.0059
 Uranus -32092-10-20 06:43 J -9999887.42 -9999887.22 -9999887.00 0.0139 0.0032
 Neptune -32091-04-27 11:02 J -9999698.16 -9999698.04 -9999697.87 0.0089 0.0066
 Uranus -32091-06-03 13:55 J -9999661.13 -9999660.92 -9999660.71 0.0140 0.0017
 Neptune -32091-12-09 00:14 J -9999472.59 -9999472.49 -9999472.34 0.0089 0.0073
 Uranus -32090-01-15 21:07 J -9999434.83 -9999434.62 -9999434.40 0.0140 0.0004
 Jupiter -32090-02-24 19:55 J -9999394.77 -9999394.67 -9999394.57 0.0504 0.0436
 Neptune -32090-07-22 13:40 J -9999247.02 -9999246.93 -9999246.83 0.0089 0.0080
 Uranus -32090-08-30 04:19 J -9999208.53 -9999208.32 -9999208.10 0.0140 0.0012
 Jupiter -32090-10-18 19:11 J -9999158.89 -9999158.70 -9999158.50 0.0496 0.0106
 Neptune -32089-03-04 02:23 J -9999021.44 -9999021.40 -9999021.33 0.0089 0.0086
 Uranus -32089-04-12 11:45 J -9998982.22 -9998982.01 -9998981.80 0.0141 0.0026
 Uranus -32089-11-24 19:11 J -9998755.90 -9998755.70 -9998755.49 0.0141 0.0041
 Uranus -32088-07-09 02:52 J -9998529.57 -9998529.38 -9998529.18 0.0141 0.0055
 Uranus -32087-02-20 10:47 J -9998303.23 -9998303.05 -9998302.86 0.0142 0.0070
 Uranus -32087-10-04 18:57 J -9998076.88 -9998076.71 -9998076.54 0.0142 0.0084
 Uranus -32086-05-19 03:07 J -9997850.52 -9997850.37 -9997850.22 0.0142 0.0099

Uranus	-32086-12-31 11:31 J	-9997624.14	-9997624.02	-9997623.89	0.0143	0.0113
Uranus	-32085-08-13 19:55 J	-9997397.75	-9997397.67	-9997397.56	0.0143	0.0127
Uranus	-32084-03-28 04:33 J	-9997171.33	-9997171.31	-9997171.26	0.0143	0.0142
Jupiter	-32084-08-17 00:28 J	-9997029.64	-9997029.48	-9997029.31	0.0526	0.0323
Saturn	-32084-10-27 21:50 J	-9996957.75	-9996957.59	-9996957.44	0.0271	0.0173
Jupiter	-32083-04-12 06:28 J	-9996791.38	-9996791.23	-9996791.08	0.0534	0.0357
Saturn	-32083-06-13 20:52 J	-9996728.83	-9996728.63	-9996728.43	0.0271	0.0046
Saturn	-32082-01-28 19:40 J	-9996499.88	-9996499.68	-9996499.48	0.0270	0.0080
Saturn	-32082-09-14 17:59 J	-9996270.87	-9996270.75	-9996270.61	0.0270	0.0204
Jupiter	-32078-06-23 23:31 J	-9994892.72	-9994892.52	-9994892.32	0.0498	0.0043
Jupiter	-32077-02-14 19:40 J	-9994656.72	-9994656.68	-9994656.64	0.0492	0.0480
Mars	-32076-04-24 00:57 J	-9994222.58	-9994222.46	-9994222.34	0.1880	0.1341
Mars	-32073-02-02 20:52 J	-9993207.71	-9993207.63	-9993207.55	0.1640	0.1444
Jupiter	-32072-04-21 11:45 J	-9992764.05	-9992764.01	-9992763.96	0.0523	0.0506
Mars	-32072-12-02 11:59 J	-9992539.12	-9992539.00	-9992538.89	0.1652	0.1231
Jupiter	-32072-12-15 16:19 J	-9992526.01	-9992525.82	-9992525.62	0.0532	0.0162
Saturn	-32069-11-22 12:14 J	-9991453.15	-9991452.99	-9991452.81	0.0288	0.0181
Saturn	-32068-07-10 14:38 J	-9991223.10	-9991222.89	-9991222.67	0.0289	0.0019
Saturn	-32067-02-25 17:16 J	-9990992.96	-9990992.78	-9990992.58	0.0289	0.0147
Jupiter	-32066-02-27 04:04 J	-9990626.51	-9990626.33	-9990626.14	0.0501	0.0191
Jupiter	-32066-10-21 01:11 J	-9990390.59	-9990390.45	-9990390.30	0.0493	0.0341
Pluto	-32061-05-17 19:26 J	-9988719.84	-9988719.69	-9988719.53	0.0079	0.0058
Pluto	-32061-12-29 05:59 J	-9988494.46	-9988494.25	-9988494.02	0.0079	0.0018
Jupiter	-32060-08-20 04:47 J	-9988260.51	-9988260.30	-9988260.10	0.0530	0.0029
Uranus	-32057-07-09 13:11 J	-9987206.00	-9987205.95	-9987205.87	0.0142	0.0135
Uranus	-32056-02-21 00:57 J	-9986979.56	-9986979.46	-9986979.33	0.0142	0.0121
Uranus	-32056-10-05 12:28 J	-9986753.11	-9986752.98	-9986752.82	0.0141	0.0106
Uranus	-32055-05-19 23:59 J	-9986526.66	-9986526.50	-9986526.32	0.0141	0.0091
Jupiter	-32055-11-02 07:55 J	-9986360.31	-9986360.17	-9986360.02	0.0503	0.0342
Uranus	-32054-01-01 11:16 J	-9986300.20	-9986300.03	-9986299.83	0.0141	0.0077

Saturn	-32054-05-09 23:02 J	-9986171.70	-9986171.54	-9986171.37	0.0271	0.0156
Jupiter	-32054-06-26 05:59 J	-9986124.43	-9986124.25	-9986124.06	0.0495	0.0196
Uranus	-32054-08-15 22:33 J	-9986073.75	-9986073.56	-9986073.35	0.0140	0.0062
Saturn	-32054-12-24 22:04 J	-9985942.78	-9985942.58	-9985942.37	0.0270	0.0030
Uranus	-32053-03-29 09:35 J	-9985847.30	-9985847.10	-9985846.88	0.0140	0.0047
Saturn	-32053-08-09 20:38 J	-9985713.83	-9985713.64	-9985713.45	0.0270	0.0096
Uranus	-32053-11-10 20:38 J	-9985620.86	-9985620.64	-9985620.42	0.0139	0.0032
Saturn	-32052-03-26 18:57 J	-9985484.83	-9985484.71	-9985484.59	0.0270	0.0220
Uranus	-32052-06-25 07:26 J	-9985394.41	-9985394.19	-9985393.97	0.0139	0.0017
Uranus	-32051-02-06 17:59 J	-9985167.97	-9985167.75	-9985167.52	0.0139	0.0003
Uranus	-32051-09-21 04:33 J	-9984941.54	-9984941.31	-9984941.09	0.0138	0.0013
Uranus	-32050-05-05 14:38 J	-9984715.11	-9984714.89	-9984714.67	0.0138	0.0027
Uranus	-32050-12-18 00:43 J	-9984488.68	-9984488.47	-9984488.26	0.0138	0.0041
Uranus	-32049-07-31 10:33 J	-9984262.26	-9984262.06	-9984261.85	0.0137	0.0055
Uranus	-32048-03-14 20:09 J	-9984035.84	-9984035.66	-9984035.46	0.0137	0.0069
Jupiter	-32048-04-24 18:14 J	-9983994.93	-9983994.74	-9983994.55	0.0528	0.0214
Uranus	-32048-10-27 05:31 J	-9983809.43	-9983809.27	-9983809.08	0.0137	0.0083
Jupiter	-32048-12-19 01:40 J	-9983756.52	-9983756.43	-9983756.33	0.0536	0.0471
Uranus	-32047-06-10 15:07 J	-9983583.03	-9983582.87	-9983582.71	0.0136	0.0096
Uranus	-32046-01-22 23:45 J	-9983356.62	-9983356.51	-9983356.35	0.0136	0.0110
Uranus	-32046-09-06 08:52 J	-9983130.21	-9983130.13	-9983130.02	0.0136	0.0122
Uranus	-32045-04-19 17:45 J	-9982903.78	-9982903.76	-9982903.72	0.0136	0.0134
Jupiter	-32043-07-08 11:02 J	-9982094.08	-9982094.04	-9982094.00	0.0505	0.0491
Mars	-32042-02-19 13:26 J	-9981868.07	-9981867.94	-9981867.80	0.1870	0.1126
Jupiter	-32042-03-01 10:33 J	-9981858.26	-9981858.06	-9981857.86	0.0497	0.0050
Moon	-32041-04-22 03:07 J	-9981440.46	-9981440.37	-9981440.29	0.2685	0.2244
Earth	-32041-04-22 05:45 J	-9981440.29	-9981440.26	-9981440.23	0.2690	0.2631 *
Mars	-32040-12-01 10:19 J	-9980852.24	-9980852.07	-9980851.89	0.1646	0.0059
Saturn	-32039-06-04 13:40 J	-9980667.11	-9980666.93	-9980666.75	0.0288	0.0164
Saturn	-32038-01-20 16:04 J	-9980437.05	-9980436.83	-9980436.61	0.0289	0.0002

Saturn	-32038-09-07 18:57 J	-9980206.89	-9980206.71	-9980206.53	0.0289	0.0162
Jupiter	-32037-12-28 07:40 J	-9979729.31	-9979729.18	-9979729.04	0.0525	0.0393
Jupiter	-32036-08-23 13:26 J	-9979491.12	-9979490.94	-9979490.77	0.0533	0.0282
Moon	-32033-04-19 18:43 J	-9978520.85	-9978520.72	-9978520.58	0.2691	0.1386
Earth	-32033-04-19 23:59 J	-9978520.65	-9978520.50	-9978520.35	0.2692	0.0584 *
Jupiter	-32031-11-04 12:28 J	-9977592.18	-9977591.98	-9977591.78	0.0499	0.0102
Jupiter	-32030-06-28 09:07 J	-9977356.22	-9977356.12	-9977356.01	0.0493	0.0424
Saturn	-32025-04-04 05:02 J	-9975614.35	-9975614.29	-9975614.23	0.0272	0.0259
Saturn	-32025-11-19 04:33 J	-9975385.48	-9975385.31	-9975385.13	0.0271	0.0134
Jupiter	-32024-04-28 00:43 J	-9975225.68	-9975225.47	-9975225.27	0.0531	0.0090
Saturn	-32024-07-06 03:50 J	-9975156.55	-9975156.34	-9975156.14	0.0271	0.0008
Saturn	-32023-02-20 02:38 J	-9974927.57	-9974927.39	-9974927.20	0.0270	0.0118
Neptune	-32023-03-28 10:04 J	-9974891.11	-9974891.08	-9974891.02	0.0089	0.0087
Saturn	-32023-10-07 01:11 J	-9974698.54	-9974698.45	-9974698.36	0.0270	0.0241
Neptune	-32023-11-08 22:47 J	-9974665.64	-9974665.55	-9974665.46	0.0089	0.0080
Neptune	-32022-06-22 10:47 J	-9974440.15	-9974440.05	-9974439.91	0.0089	0.0074
Neptune	-32021-02-02 23:31 J	-9974214.65	-9974214.52	-9974214.37	0.0089	0.0067
Neptune	-32021-09-15 11:45 J	-9973989.15	-9973989.01	-9973988.83	0.0089	0.0061
Neptune	-32020-04-29 00:43 J	-9973763.63	-9973763.47	-9973763.29	0.0088	0.0054
Neptune	-32020-12-10 13:26 J	-9973538.12	-9973537.94	-9973537.75	0.0088	0.0047
Jupiter	-32019-07-10 15:50 J	-9973326.01	-9973325.84	-9973325.67	0.0502	0.0252
Neptune	-32019-07-24 02:09 J	-9973312.60	-9973312.41	-9973312.21	0.0088	0.0040
Jupiter	-32018-03-03 13:55 J	-9973090.09	-9973089.92	-9973089.76	0.0494	0.0283
Neptune	-32018-03-06 14:23 J	-9973087.08	-9973086.90	-9973086.68	0.0088	0.0034
Neptune	-32018-10-18 03:21 J	-9972861.56	-9972861.36	-9972861.15	0.0088	0.0026
Neptune	-32017-05-30 16:04 J	-9972636.04	-9972635.83	-9972635.61	0.0088	0.0020
Neptune	-32016-01-11 04:47 J	-9972410.52	-9972410.30	-9972410.08	0.0088	0.0013
Neptune	-32016-08-24 17:31 J	-9972184.99	-9972184.77	-9972184.55	0.0088	0.0006
Neptune	-32015-04-07 06:14 J	-9971959.46	-9971959.24	-9971959.02	0.0088	0.0002
Neptune	-32015-11-18 18:57 J	-9971733.92	-9971733.71	-9971733.49	0.0088	0.0008

Neptune	-32014-07-02 07:40 J	-9971508.39	-9971508.18	-9971507.96	0.0088	0.0015
Neptune	-32013-02-12 20:23 J	-9971282.86	-9971282.65	-9971282.44	0.0088	0.0022
Neptune	-32013-09-25 08:52 J	-9971057.33	-9971057.13	-9971056.91	0.0088	0.0029
Jupiter	-32013-12-31 10:33 J	-9970960.27	-9970960.06	-9970959.86	0.0529	0.0105
Uranus	-32012-02-16 20:52 J	-9970912.69	-9970912.63	-9970912.53	0.0137	0.0127
Neptune	-32012-05-08 21:50 J	-9970831.78	-9970831.59	-9970831.38	0.0088	0.0035
Uranus	-32012-10-01 02:52 J	-9970686.48	-9970686.38	-9970686.25	0.0137	0.0114
Neptune	-32012-12-20 10:19 J	-9970606.24	-9970606.07	-9970605.86	0.0088	0.0043
Uranus	-32011-05-15 09:07 J	-9970460.26	-9970460.12	-9970459.97	0.0137	0.0102
Neptune	-32011-08-02 23:31 J	-9970380.70	-9970380.52	-9970380.33	0.0088	0.0049
Uranus	-32011-12-27 15:21 J	-9970234.01	-9970233.86	-9970233.69	0.0138	0.0089
Mars	-32010-02-19 05:16 J	-9970180.43	-9970180.28	-9970180.13	0.1877	0.0958
Neptune	-32010-03-16 12:14 J	-9970155.16	-9970154.99	-9970154.82	0.0088	0.0056
Uranus	-32010-08-10 21:35 J	-9970007.77	-9970007.60	-9970007.41	0.0138	0.0076
Neptune	-32010-10-28 00:43 J	-9969929.61	-9969929.47	-9969929.30	0.0088	0.0063
Saturn	-32010-12-15 23:59 J	-9969880.68	-9969880.50	-9969880.30	0.0288	0.0134
Uranus	-32009-03-24 04:04 J	-9969781.51	-9969781.33	-9969781.13	0.0138	0.0063
Neptune	-32009-06-09 13:40 J	-9969704.05	-9969703.93	-9969703.78	0.0088	0.0069
Saturn	-32009-08-02 02:38 J	-9969650.61	-9969650.39	-9969650.17	0.0289	0.0030
Uranus	-32009-11-05 10:47 J	-9969555.25	-9969555.05	-9969554.85	0.0139	0.0049
Neptune	-32008-01-21 02:52 J	-9969478.49	-9969478.38	-9969478.27	0.0088	0.0076
Saturn	-32008-03-20 05:16 J	-9969420.43	-9969420.28	-9969420.11	0.0289	0.0194
Uranus	-32008-06-19 17:31 J	-9969328.98	-9969328.77	-9969328.57	0.0139	0.0035
Neptune	-32008-09-03 15:35 J	-9969252.92	-9969252.85	-9969252.76	0.0088	0.0082
Mars	-32008-11-30 08:09 J	-9969165.27	-9969165.16	-9969165.06	0.1642	0.1306
Uranus	-32007-02-01 00:28 J	-9969102.69	-9969102.48	-9969102.27	0.0139	0.0021
Jupiter	-32007-03-15 19:55 J	-9969059.79	-9969059.67	-9969059.55	0.0504	0.0402
Uranus	-32007-09-15 07:26 J	-9968876.40	-9968876.19	-9968875.98	0.0140	0.0007
Jupiter	-32007-11-06 19:11 J	-9968823.90	-9968823.70	-9968823.51	0.0496	0.0138
Uranus	-32006-04-29 14:23 J	-9968650.11	-9968649.90	-9968649.68	0.0140	0.0008

Mars	-32006-09-29 22:47 J	-9968496.65	-9968496.55	-9968496.46	0.1654	0.1382
Uranus	-32006-12-11 21:35 J	-9968423.80	-9968423.60	-9968423.38	0.0140	0.0022
Uranus	-32005-07-25 05:02 J	-9968197.49	-9968197.29	-9968197.08	0.0141	0.0036
Uranus	-32004-03-08 12:28 J	-9967971.17	-9967970.98	-9967970.77	0.0141	0.0052
Uranus	-32004-10-20 20:23 J	-9967744.84	-9967744.65	-9967744.46	0.0141	0.0066
Uranus	-32003-06-04 04:19 J	-9967518.49	-9967518.32	-9967518.14	0.0142	0.0080
Uranus	-32002-01-16 12:14 J	-9967292.13	-9967291.99	-9967291.82	0.0142	0.0095
Uranus	-32002-08-30 20:23 J	-9967065.77	-9967065.65	-9967065.50	0.0143	0.0110
Uranus	-32001-04-13 04:47 J	-9966839.39	-9966839.30	-9966839.18	0.0143	0.0124
Jupiter	-32001-09-04 23:16 J	-9966694.70	-9966694.53	-9966694.36	0.0526	0.0289
Uranus	-32001-11-25 13:26 J	-9966612.98	-9966612.94	-9966612.87	0.0143	0.0138

32ND MILLENNIUM BCE

This is a list of transits of Venus in the 32nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-32000-05-01 05:45 J	-9966456.40	-9966456.26	-9966456.12	0.0535	0.0390		
Saturn	-31996-10-15 07:11 J	-9964828.28	-9964828.20	-9964828.09	0.0271	0.0242		
Saturn	-31995-06-01 06:57 J	-9964599.39	-9964599.21	-9964599.02	0.0271	0.0116		
Jupiter	-31995-07-12 23:31 J	-9964557.72	-9964557.52	-9964557.32	0.0498	0.0010		
Saturn	-31994-01-16 05:59 J	-9964370.45	-9964370.25	-9964370.04	0.0270	0.0011		
Saturn	-31994-09-02 04:19 J	-9964141.49	-9964141.32	-9964141.13	0.0270	0.0136		
Saturn	-31993-04-18 02:52 J	-9963912.44	-9963912.38	-9963912.32	0.0270	0.0258		
Jupiter	-31989-05-10 12:57 J	-9962429.04	-9962428.96	-9962428.86	0.0524	0.0467		

Jupiter	-31988-01-03 18:14 J	-9962190.92	-9962190.74	-9962190.54	0.0533	0.0202
Jupiter	-31983-03-18 03:35 J	-9960291.54	-9960291.35	-9960291.16	0.0500	0.0159
Jupiter	-31983-11-09 00:14 J	-9960055.62	-9960055.49	-9960055.35	0.0493	0.0369
Saturn	-31981-11-08 23:59 J	-9959324.55	-9959324.50	-9959324.43	0.0287	0.0276
Saturn	-31980-06-27 01:55 J	-9959094.62	-9959094.42	-9959094.22	0.0288	0.0117
Saturn	-31979-02-12 04:19 J	-9958864.53	-9958864.32	-9958864.10	0.0289	0.0046
Saturn	-31979-09-30 07:11 J	-9958634.35	-9958634.20	-9958634.05	0.0289	0.0209
Jupiter	-31977-09-08 06:57 J	-9957925.41	-9957925.21	-9957925.00	0.0530	0.0020
Mars	-31977-12-16 18:43 J	-9957825.82	-9957825.72	-9957825.62	0.1868	0.1470
Mars	-31974-09-28 21:35 J	-9956809.78	-9956809.60	-9956809.42	0.1648	0.0085
Uranus	-31973-03-08 21:07 J	-9956647.65	-9956647.62	-9956647.59	0.0142	0.0141
Uranus	-31973-10-21 08:38 J	-9956421.23	-9956421.14	-9956421.03	0.0142	0.0126
Uranus	-31972-06-04 20:23 J	-9956194.77	-9956194.65	-9956194.50	0.0142	0.0112
Jupiter	-31972-11-21 04:19 J	-9956025.47	-9956025.32	-9956025.16	0.0503	0.0312
Uranus	-31971-01-17 08:09 J	-9955968.31	-9955968.16	-9955967.99	0.0141	0.0097
Jupiter	-31971-07-15 02:38 J	-9955789.56	-9955789.39	-9955789.20	0.0495	0.0225
Uranus	-31971-08-31 19:26 J	-9955741.86	-9955741.69	-9955741.50	0.0141	0.0082
Uranus	-31970-04-15 06:43 J	-9955515.41	-9955515.22	-9955515.01	0.0140	0.0067
Uranus	-31970-11-27 17:59 J	-9955288.95	-9955288.75	-9955288.54	0.0140	0.0052
Uranus	-31969-07-11 05:02 J	-9955062.50	-9955062.29	-9955062.07	0.0140	0.0037
Uranus	-31968-02-22 16:04 J	-9954836.05	-9954835.83	-9954835.61	0.0139	0.0021
Uranus	-31968-10-07 02:52 J	-9954609.61	-9954609.38	-9954609.16	0.0139	0.0007
Uranus	-31967-05-21 13:11 J	-9954383.17	-9954382.95	-9954382.72	0.0139	0.0009
Uranus	-31966-01-02 23:31 J	-9954156.73	-9954156.52	-9954156.29	0.0138	0.0023
Saturn	-31966-04-27 12:43 J	-9954042.09	-9954041.97	-9954041.85	0.0272	0.0219
Uranus	-31966-08-17 09:35 J	-9953930.30	-9953930.10	-9953929.87	0.0138	0.0038
Saturn	-31966-12-12 12:28 J	-9953813.17	-9953812.98	-9953812.79	0.0271	0.0093
Uranus	-31965-03-30 19:40 J	-9953703.88	-9953703.68	-9953703.47	0.0138	0.0052
Jupiter	-31965-05-13 18:57 J	-9953659.91	-9953659.71	-9953659.52	0.0527	0.0174
Saturn	-31965-07-28 11:31 J	-9953584.22	-9953584.02	-9953583.81	0.0271	0.0033

Uranus	-31965-11-12 05:31 J	-9953477.46	-9953477.27	-9953477.07	0.0137	0.0066
Jupiter	-31964-01-07 01:26 J	-9953421.50	-9953421.44	-9953421.37	0.0535	0.0505
Saturn	-31964-03-14 10:19 J	-9953355.23	-9953355.07	-9953354.90	0.0271	0.0158
Uranus	-31964-06-26 14:52 J	-9953251.04	-9953250.88	-9953250.68	0.0137	0.0080
Uranus	-31963-02-08 00:43 J	-9953024.63	-9953024.47	-9953024.30	0.0137	0.0093
Uranus	-31963-09-22 09:35 J	-9952798.22	-9952798.10	-9952797.95	0.0136	0.0107
Uranus	-31962-05-06 18:43 J	-9952571.82	-9952571.72	-9952571.60	0.0136	0.0119
Uranus	-31962-12-19 03:21 J	-9952345.39	-9952345.36	-9952345.29	0.0136	0.0132
Jupiter	-31960-07-27 06:43 J	-9951759.30	-9951759.22	-9951759.14	0.0505	0.0463
Jupiter	-31959-03-20 06:57 J	-9951523.41	-9951523.21	-9951523.01	0.0497	0.0078
Jupiter	-31953-01-17 05:02 J	-9949394.44	-9949394.29	-9949394.14	0.0525	0.0361
Jupiter	-31953-09-11 10:33 J	-9949156.22	-9949156.06	-9949155.89	0.0533	0.0311
Saturn	-31951-05-22 11:31 J	-9948538.12	-9948538.02	-9948537.89	0.0288	0.0244
Saturn	-31950-01-07 13:40 J	-9948308.14	-9948307.93	-9948307.73	0.0288	0.0084
Saturn	-31950-08-25 15:50 J	-9948078.04	-9948077.84	-9948077.62	0.0289	0.0080
Saturn	-31949-04-11 18:28 J	-9947847.83	-9947847.73	-9947847.60	0.0289	0.0242
Jupiter	-31948-11-23 11:31 J	-9947257.22	-9947257.02	-9947256.82	0.0499	0.0071
Jupiter	-31947-07-17 08:09 J	-9947021.23	-9947021.16	-9947021.08	0.0492	0.0452
Mars	-31945-12-16 10:33 J	-9946138.22	-9946138.06	-9946137.89	0.1875	0.0605
Mars	-31942-09-27 19:26 J	-9945122.81	-9945122.69	-9945122.57	0.1643	0.1167
Jupiter	-31941-05-16 22:19 J	-9944890.77	-9944890.57	-9944890.37	0.0531	0.0121
Mars	-31940-07-27 09:21 J	-9944454.17	-9944454.11	-9944454.04	0.1655	0.1530
Neptune	-31940-08-10 03:07 J	-9944440.44	-9944440.37	-9944440.30	0.0089	0.0084
Neptune	-31939-03-23 16:04 J	-9944214.91	-9944214.83	-9944214.70	0.0089	0.0078
Neptune	-31939-11-04 05:59 J	-9943989.37	-9943989.25	-9943989.10	0.0089	0.0071
Neptune	-31938-06-17 19:26 J	-9943763.83	-9943763.69	-9943763.52	0.0089	0.0064
Neptune	-31937-01-29 08:52 J	-9943538.28	-9943538.13	-9943537.95	0.0089	0.0057
Neptune	-31937-09-10 22:33 J	-9943312.74	-9943312.56	-9943312.37	0.0089	0.0050
Saturn	-31937-11-06 16:19 J	-9943255.95	-9943255.82	-9943255.68	0.0271	0.0200
Neptune	-31936-04-24 11:59 J	-9943087.19	-9943087.00	-9943086.80	0.0089	0.0043

Saturn	-31936-06-23 15:50 J	-9943027.04	-9943026.84	-9943026.64	0.0271	0.0074
Jupiter	-31936-07-29 15:21 J	-9942991.04	-9942990.86	-9942990.68	0.0501	0.0219
Moon	-31936-10-23 13:55 J	-9942905.08	-9942904.92	-9942904.75	0.2636	0.0897
Earth	-31936-10-23 18:14 J	-9942904.89	-9942904.74	-9942904.59	0.2641	0.0984 *
Neptune	-31936-12-06 01:26 J	-9942861.64	-9942861.44	-9942861.23	0.0089	0.0036
Saturn	-31935-02-07 14:52 J	-9942798.08	-9942797.88	-9942797.68	0.0270	0.0052
Jupiter	-31935-03-22 12:57 J	-9942755.11	-9942754.96	-9942754.80	0.0494	0.0311
Neptune	-31935-07-19 14:52 J	-9942636.09	-9942635.88	-9942635.67	0.0089	0.0029
Saturn	-31935-09-24 13:26 J	-9942569.10	-9942568.94	-9942568.78	0.0270	0.0176
Neptune	-31934-03-02 04:04 J	-9942410.54	-9942410.33	-9942410.11	0.0089	0.0022
Neptune	-31934-10-13 17:31 J	-9942184.99	-9942184.77	-9942184.55	0.0089	0.0015
Neptune	-31933-05-26 06:43 J	-9941959.44	-9941959.22	-9941958.99	0.0089	0.0009
Neptune	-31932-01-06 20:09 J	-9941733.88	-9941733.66	-9941733.44	0.0089	0.0002
Neptune	-31932-08-20 09:21 J	-9941508.33	-9941508.11	-9941507.89	0.0089	0.0006
Neptune	-31931-04-02 22:33 J	-9941282.78	-9941282.56	-9941282.34	0.0089	0.0013
Neptune	-31931-11-14 11:45 J	-9941057.21	-9941057.01	-9941056.78	0.0089	0.0020
Neptune	-31930-06-28 00:57 J	-9940831.66	-9940831.46	-9940831.24	0.0089	0.0027
Jupiter	-31929-01-20 11:02 J	-9940625.24	-9940625.04	-9940624.83	0.0529	0.0066
Neptune	-31929-02-08 14:09 J	-9940606.10	-9940605.91	-9940605.69	0.0089	0.0034
Neptune	-31929-09-21 03:35 J	-9940380.54	-9940380.35	-9940380.15	0.0089	0.0040
Uranus	-31929-10-17 08:09 J	-9940354.20	-9940354.16	-9940354.08	0.0136	0.0131
Neptune	-31928-05-04 16:47 J	-9940154.98	-9940154.80	-9940154.61	0.0089	0.0047
Uranus	-31928-05-31 13:55 J	-9940128.00	-9940127.92	-9940127.79	0.0137	0.0119
Neptune	-31928-12-16 05:59 J	-9939929.42	-9939929.25	-9939929.07	0.0089	0.0054
Uranus	-31927-01-12 20:09 J	-9939901.78	-9939901.66	-9939901.51	0.0137	0.0106
Neptune	-31927-07-29 18:57 J	-9939703.86	-9939703.71	-9939703.54	0.0089	0.0061
Uranus	-31927-08-27 02:09 J	-9939675.55	-9939675.41	-9939675.24	0.0137	0.0094
Neptune	-31926-03-12 07:55 J	-9939478.29	-9939478.17	-9939478.01	0.0089	0.0068
Uranus	-31926-04-10 08:38 J	-9939449.31	-9939449.14	-9939448.96	0.0138	0.0080
Neptune	-31926-10-23 21:21 J	-9939252.72	-9939252.61	-9939252.48	0.0089	0.0074

Uranus	-31926-11-22 14:52 J	-9939223.06	-9939222.88	-9939222.68	0.0138	0.0067
Neptune	-31925-06-05 10:19 J	-9939027.14	-9939027.07	-9939026.97	0.0089	0.0081
Uranus	-31925-07-05 21:21 J	-9938996.80	-9938996.61	-9938996.41	0.0138	0.0053
Neptune	-31924-01-16 23:02 J	-9938801.55	-9938801.54	-9938801.48	0.0089	0.0088
Uranus	-31924-02-17 03:50 J	-9938770.53	-9938770.34	-9938770.12	0.0139	0.0040
Jupiter	-31924-04-03 18:43 J	-9938724.85	-9938724.72	-9938724.58	0.0504	0.0369
Uranus	-31924-10-01 10:47 J	-9938544.26	-9938544.05	-9938543.84	0.0139	0.0025
Jupiter	-31924-11-25 17:31 J	-9938488.96	-9938488.77	-9938488.58	0.0496	0.0167
Uranus	-31923-05-15 17:31 J	-9938317.98	-9938317.77	-9938317.56	0.0139	0.0011
Uranus	-31923-12-28 00:43 J	-9938091.69	-9938091.47	-9938091.26	0.0140	0.0004
Uranus	-31922-08-11 07:40 J	-9937865.39	-9937865.18	-9937864.97	0.0140	0.0018
Saturn	-31922-12-02 14:09 J	-9937752.04	-9937751.91	-9937751.77	0.0288	0.0226
Uranus	-31921-03-24 14:52 J	-9937639.08	-9937638.88	-9937638.67	0.0141	0.0032
Saturn	-31921-07-19 16:04 J	-9937522.04	-9937521.83	-9937521.61	0.0288	0.0066
Uranus	-31921-11-05 22:19 J	-9937412.77	-9937412.57	-9937412.37	0.0141	0.0047
Saturn	-31920-03-06 18:43 J	-9937291.93	-9937291.72	-9937291.52	0.0289	0.0097
Uranus	-31920-06-20 05:59 J	-9937186.44	-9937186.25	-9937186.06	0.0141	0.0062
Saturn	-31920-10-22 21:21 J	-9937061.70	-9937061.61	-9937061.51	0.0289	0.0258
Uranus	-31919-02-01 13:26 J	-9936960.10	-9936959.94	-9936959.75	0.0142	0.0077
Uranus	-31919-09-15 21:35 J	-9936733.76	-9936733.60	-9936733.43	0.0142	0.0091
Uranus	-31918-04-30 05:31 J	-9936507.40	-9936507.27	-9936507.12	0.0142	0.0106
Jupiter	-31918-09-25 00:43 J	-9936359.65	-9936359.47	-9936359.28	0.0526	0.0248
Uranus	-31918-12-12 13:55 J	-9936281.03	-9936280.92	-9936280.80	0.0143	0.0120
Jupiter	-31917-05-20 07:11 J	-9936121.31	-9936121.20	-9936121.07	0.0535	0.0430
Uranus	-31917-07-25 22:19 J	-9936054.63	-9936054.57	-9936054.49	0.0143	0.0134
Jupiter	-31912-07-31 19:11 J	-9934222.90	-9934222.70	-9934222.50	0.0498	0.0019
Mars	-31911-10-14 00:14 J	-9933783.53	-9933783.49	-9933783.45	0.1865	0.1803
Mars	-31908-07-26 08:09 J	-9932767.33	-9932767.16	-9932766.98	0.1650	0.0236
Saturn	-31907-05-19 21:07 J	-9932469.76	-9932469.62	-9932469.45	0.0272	0.0178
Saturn	-31906-01-03 21:07 J	-9932240.82	-9932240.62	-9932240.42	0.0271	0.0051

Jupiter	-31906-05-30 13:26 J	-9932094.06	-9932093.94	-9932093.82	0.0524	0.0427
Saturn	-31906-08-20 20:09 J	-9932011.86	-9932011.66	-9932011.46	0.0271	0.0075
Jupiter	-31905-01-23 18:14 J	-9931855.93	-9931855.74	-9931855.56	0.0532	0.0239
Saturn	-31905-04-05 18:43 J	-9931782.85	-9931782.72	-9931782.57	0.0271	0.0199
Pluto	-31901-08-17 23:02 J	-9930187.73	-9930187.54	-9930187.34	0.0065	0.0026
Pluto	-31900-03-31 02:52 J	-9929962.58	-9929962.38	-9929962.16	0.0065	0.0014
Jupiter	-31900-04-05 22:47 J	-9929956.75	-9929956.55	-9929956.36	0.0500	0.0132
Pluto	-31900-11-11 06:43 J	-9929737.32	-9929737.22	-9929737.08	0.0065	0.0054
Jupiter	-31900-11-27 19:55 J	-9929720.79	-9929720.67	-9929720.55	0.0493	0.0394
Jupiter	-31894-09-28 03:07 J	-9927590.57	-9927590.37	-9927590.16	0.0530	0.0043
Saturn	-31892-06-14 03:07 J	-9926965.53	-9926965.37	-9926965.21	0.0288	0.0192
Saturn	-31891-01-30 05:02 J	-9926735.51	-9926735.29	-9926735.08	0.0289	0.0031
Saturn	-31891-09-17 07:11 J	-9926505.38	-9926505.20	-9926505.00	0.0289	0.0132
Uranus	-31889-06-20 16:19 J	-9925862.90	-9925862.82	-9925862.73	0.0142	0.0132
Jupiter	-31889-12-10 02:38 J	-9925690.55	-9925690.39	-9925690.22	0.0503	0.0282
Uranus	-31888-02-02 04:04 J	-9925636.45	-9925636.33	-9925636.20	0.0142	0.0117
Jupiter	-31888-08-03 00:57 J	-9925454.63	-9925454.46	-9925454.28	0.0495	0.0253
Uranus	-31888-09-16 15:50 J	-9925409.99	-9925409.84	-9925409.68	0.0141	0.0102
Uranus	-31887-05-01 03:07 J	-9925183.53	-9925183.37	-9925183.18	0.0141	0.0087
Uranus	-31887-12-13 14:38 J	-9924957.07	-9924956.89	-9924956.68	0.0141	0.0072
Uranus	-31886-07-28 02:09 J	-9924730.60	-9924730.41	-9924730.20	0.0140	0.0057
Uranus	-31885-03-10 13:26 J	-9924504.15	-9924503.94	-9924503.72	0.0140	0.0041
Uranus	-31885-10-23 00:28 J	-9924277.70	-9924277.48	-9924277.26	0.0140	0.0026
Uranus	-31884-06-06 11:16 J	-9924051.25	-9924051.03	-9924050.80	0.0139	0.0011
Uranus	-31883-01-18 22:04 J	-9923824.80	-9923824.58	-9923824.36	0.0139	0.0004
Uranus	-31883-09-02 08:23 J	-9923598.36	-9923598.15	-9923597.92	0.0139	0.0020
Uranus	-31882-04-16 18:43 J	-9923371.93	-9923371.72	-9923371.50	0.0138	0.0034
Jupiter	-31882-06-02 15:07 J	-9923325.07	-9923324.87	-9923324.67	0.0528	0.0146
Uranus	-31882-11-29 04:47 J	-9923145.50	-9923145.30	-9923145.08	0.0138	0.0049
Jupiter	-31881-01-26 22:04 J	-9923086.60	-9923086.58	-9923086.55	0.0536	0.0532

Uranus	-31881-07-12 14:52 J	-9922919.07	-9922918.88	-9922918.67	0.0138	0.0063
Uranus	-31880-02-24 00:28 J	-9922692.65	-9922692.48	-9922692.28	0.0137	0.0077
Uranus	-31880-10-08 09:50 J	-9922466.24	-9922466.09	-9922465.90	0.0137	0.0091
Uranus	-31879-05-22 19:26 J	-9922239.83	-9922239.69	-9922239.54	0.0137	0.0104
Mars	-31879-10-13 15:35 J	-9922096.02	-9922095.85	-9922095.68	0.1872	0.0243
Uranus	-31878-01-04 04:19 J	-9922013.42	-9922013.32	-9922013.19	0.0136	0.0117
Uranus	-31878-08-18 13:11 J	-9921786.99	-9921786.95	-9921786.86	0.0136	0.0130
Saturn	-31878-11-30 01:55 J	-9921683.58	-9921683.42	-9921683.25	0.0271	0.0157
Saturn	-31877-07-16 01:26 J	-9921454.65	-9921454.44	-9921454.24	0.0271	0.0032
Jupiter	-31877-08-15 05:45 J	-9921424.35	-9921424.26	-9921424.15	0.0505	0.0431
Saturn	-31876-03-02 00:14 J	-9921225.68	-9921225.49	-9921225.29	0.0270	0.0094
Jupiter	-31876-04-08 05:45 J	-9921188.46	-9921188.26	-9921188.07	0.0497	0.0108
Mars	-31876-07-25 06:14 J	-9921080.38	-9921080.24	-9921080.10	0.1645	0.1024
Saturn	-31876-10-16 22:47 J	-9920996.66	-9920996.55	-9920996.42	0.0270	0.0218
Jupiter	-31870-02-05 04:04 J	-9919059.49	-9919059.33	-9919059.16	0.0525	0.0326
Jupiter	-31870-10-01 10:33 J	-9918821.22	-9918821.06	-9918820.91	0.0534	0.0346
Jupiter	-31865-12-12 09:35 J	-9916922.30	-9916922.10	-9916921.90	0.0499	0.0040
Jupiter	-31864-08-05 05:45 J	-9916686.30	-9916686.26	-9916686.21	0.0492	0.0477
Saturn	-31863-12-25 05:59 J	-9916179.42	-9916179.25	-9916179.08	0.0288	0.0174
Saturn	-31862-08-12 07:55 J	-9915949.38	-9915949.17	-9915948.95	0.0288	0.0014
Saturn	-31861-03-29 10:33 J	-9915719.25	-9915719.06	-9915718.88	0.0289	0.0149
Jupiter	-31859-10-10 18:57 J	-9914793.77	-9914793.71	-9914793.65	0.0522	0.0498
Neptune	-31858-02-10 07:26 J	-9914671.25	-9914671.19	-9914671.09	0.0089	0.0083
Jupiter	-31858-06-05 23:16 J	-9914555.73	-9914555.53	-9914555.34	0.0531	0.0161
Neptune	-31858-09-23 20:09 J	-9914445.76	-9914445.66	-9914445.54	0.0089	0.0076
Neptune	-31857-05-06 08:23 J	-9914220.26	-9914220.15	-9914220.00	0.0089	0.0070
Neptune	-31857-12-17 21:07 J	-9913994.76	-9913994.62	-9913994.46	0.0089	0.0063
Neptune	-31856-07-31 09:21 J	-9913769.26	-9913769.11	-9913768.92	0.0089	0.0057
Neptune	-31855-03-13 22:04 J	-9913543.75	-9913543.58	-9913543.39	0.0088	0.0050
Neptune	-31855-10-25 10:33 J	-9913318.24	-9913318.06	-9913317.86	0.0088	0.0043

Neptune	-31854-06-07 23:16 J	-9913092.72	-9913092.53	-9913092.32	0.0088	0.0036
Neptune	-31853-01-19 11:59 J	-9912867.21	-9912867.00	-9912866.79	0.0088	0.0030
Jupiter	-31853-08-17 10:47 J	-9912656.24	-9912656.05	-9912655.87	0.0501	0.0193
Neptune	-31853-09-01 00:14 J	-9912641.69	-9912641.49	-9912641.26	0.0088	0.0024
Jupiter	-31852-04-10 08:23 J	-9912420.30	-9912420.15	-9912420.00	0.0494	0.0335
Neptune	-31852-04-14 13:11 J	-9912416.16	-9912415.95	-9912415.73	0.0088	0.0017
Neptune	-31852-11-26 02:09 J	-9912190.63	-9912190.41	-9912190.19	0.0088	0.0010
Neptune	-31851-07-09 14:38 J	-9911965.10	-9911964.89	-9911964.67	0.0088	0.0003
Neptune	-31850-02-20 03:21 J	-9911739.58	-9911739.36	-9911739.14	0.0088	0.0004
Neptune	-31850-10-03 16:04 J	-9911514.05	-9911513.83	-9911513.61	0.0088	0.0011
Neptune	-31849-05-16 04:47 J	-9911288.51	-9911288.30	-9911288.08	0.0088	0.0017
Saturn	-31849-10-25 06:14 J	-9911126.29	-9911126.24	-9911126.18	0.0273	0.0261
Neptune	-31849-12-27 17:16 J	-9911062.98	-9911062.78	-9911062.55	0.0088	0.0025
Saturn	-31848-06-11 06:28 J	-9910897.41	-9910897.23	-9910897.05	0.0272	0.0135
Neptune	-31848-08-10 05:59 J	-9910837.44	-9910837.25	-9910837.03	0.0088	0.0031
Saturn	-31847-01-26 06:14 J	-9910668.45	-9910668.24	-9910668.04	0.0271	0.0009
Neptune	-31847-03-23 18:57 J	-9910611.90	-9910611.71	-9910611.50	0.0088	0.0038
Saturn	-31847-09-12 05:02 J	-9910439.47	-9910439.29	-9910439.09	0.0271	0.0117
Neptune	-31847-11-04 07:26 J	-9910386.36	-9910386.19	-9910385.98	0.0088	0.0045
Jupiter	-31846-02-08 10:47 J	-9910290.26	-9910290.05	-9910289.85	0.0529	0.0031
Saturn	-31846-04-29 03:50 J	-9910210.42	-9910210.34	-9910210.24	0.0271	0.0240
Neptune	-31846-06-17 20:09 J	-9910160.82	-9910160.66	-9910160.46	0.0088	0.0051
Neptune	-31845-01-29 09:07 J	-9909935.27	-9909935.12	-9909934.94	0.0088	0.0058
Uranus	-31845-06-16 21:07 J	-9909795.64	-9909795.62	-9909795.58	0.0136	0.0134
Neptune	-31845-09-10 21:50 J	-9909709.73	-9909709.59	-9909709.43	0.0088	0.0064
Uranus	-31844-01-29 02:38 J	-9909569.46	-9909569.39	-9909569.28	0.0136	0.0123
Neptune	-31844-04-24 11:02 J	-9909484.16	-9909484.04	-9909483.90	0.0088	0.0071
Uranus	-31844-09-12 08:52 J	-9909343.25	-9909343.13	-9909343.00	0.0137	0.0110
Neptune	-31844-12-05 23:31 J	-9909258.60	-9909258.52	-9909258.39	0.0088	0.0078
Uranus	-31843-04-26 14:52 J	-9909117.02	-9909116.88	-9909116.72	0.0137	0.0097

Neptune	-31843-07-19 12:57 J	-9909033.03	-9909032.96	-9909032.90	0.0088	0.0084
Uranus	-31843-12-08 20:52 J	-9908890.78	-9908890.63	-9908890.45	0.0137	0.0085
Mars	-31842-05-23 18:57 J	-9908724.88	-9908724.71	-9908724.54	0.1652	0.0383
Uranus	-31842-07-23 03:21 J	-9908664.54	-9908664.36	-9908664.17	0.0138	0.0071
Uranus	-31841-03-05 09:35 J	-9908438.29	-9908438.10	-9908437.90	0.0138	0.0057
Jupiter	-31841-04-22 13:11 J	-9908390.09	-9908389.95	-9908389.80	0.0504	0.0344
Uranus	-31841-10-17 16:04 J	-9908212.03	-9908211.83	-9908211.62	0.0138	0.0044
Jupiter	-31841-12-14 12:14 J	-9908154.17	-9908153.99	-9908153.80	0.0496	0.0192
Uranus	-31840-05-31 22:47 J	-9907985.76	-9907985.55	-9907985.34	0.0139	0.0029
Uranus	-31839-01-13 05:45 J	-9907759.47	-9907759.26	-9907759.05	0.0139	0.0015
Uranus	-31839-08-27 12:28 J	-9907533.19	-9907532.98	-9907532.76	0.0140	0.0002
Uranus	-31838-04-10 19:26 J	-9907306.90	-9907306.69	-9907306.48	0.0140	0.0014
Uranus	-31838-11-23 02:38 J	-9907080.60	-9907080.39	-9907080.18	0.0140	0.0029
Uranus	-31837-07-06 09:50 J	-9906854.29	-9906854.09	-9906853.88	0.0141	0.0043
Uranus	-31836-02-17 17:16 J	-9906627.96	-9906627.78	-9906627.58	0.0141	0.0058
Uranus	-31836-10-02 01:11 J	-9906401.63	-9906401.45	-9906401.27	0.0141	0.0073
Uranus	-31835-05-16 08:38 J	-9906175.29	-9906175.14	-9906174.96	0.0142	0.0088
Jupiter	-31835-10-13 20:09 J	-9906024.85	-9906024.66	-9906024.47	0.0526	0.0221
Uranus	-31835-12-28 16:47 J	-9905948.93	-9905948.80	-9905948.64	0.0142	0.0102
Jupiter	-31834-06-09 02:23 J	-9905786.50	-9905786.40	-9905786.29	0.0535	0.0452
Uranus	-31834-08-12 01:11 J	-9905722.57	-9905722.45	-9905722.33	0.0142	0.0117
Uranus	-31833-03-25 09:35 J	-9905496.18	-9905496.10	-9905496.02	0.0143	0.0131
Saturn	-31833-07-06 19:26 J	-9905392.88	-9905392.69	-9905392.50	0.0288	0.0139
Saturn	-31832-02-21 21:35 J	-9905162.82	-9905162.60	-9905162.38	0.0289	0.0023
Saturn	-31832-10-09 23:59 J	-9904932.66	-9904932.50	-9904932.33	0.0289	0.0185
Jupiter	-31830-12-27 16:19 J	-9904123.86	-9904123.82	-9904123.78	0.0506	0.0494
Jupiter	-31829-08-19 17:02 J	-9903887.99	-9903887.79	-9903887.59	0.0498	0.0046
Jupiter	-31823-06-18 08:23 J	-9901759.28	-9901759.15	-9901759.01	0.0524	0.0401
Jupiter	-31822-02-11 13:26 J	-9901521.12	-9901520.94	-9901520.76	0.0533	0.0263
Saturn	-31819-05-07 11:59 J	-9900340.09	-9900340.00	-9900339.89	0.0272	0.0239

Saturn	-31819-12-22 12:14 J	-9900111.18	-9900110.99	-9900110.80	0.0271	0.0113
Saturn	-31818-08-08 11:31 J	-9899882.23	-9899882.02	-9899881.82	0.0271	0.0013
Saturn	-31817-03-24 10:04 J	-9899653.25	-9899653.08	-9899652.89	0.0270	0.0137
Jupiter	-31817-04-24 21:07 J	-9899621.81	-9899621.62	-9899621.42	0.0500	0.0102
Saturn	-31817-11-08 08:38 J	-9899424.18	-9899424.14	-9899424.07	0.0270	0.0259
Jupiter	-31817-12-16 17:59 J	-9899385.85	-9899385.75	-9899385.64	0.0493	0.0419
Pluto	-31813-04-19 22:04 J	-9898165.59	-9898165.58	-9898165.53	0.0080	0.0079
Mars	-31813-08-09 20:52 J	-9898053.80	-9898053.63	-9898053.46	0.1870	0.0103
Pluto	-31813-12-01 09:07 J	-9897940.34	-9897940.12	-9897939.89	0.0079	0.0002
Pluto	-31812-07-14 19:11 J	-9897714.76	-9897714.70	-9897714.60	0.0079	0.0073
Jupiter	-31811-10-17 01:55 J	-9897255.63	-9897255.42	-9897255.22	0.0531	0.0077
Mars	-31810-05-22 17:31 J	-9897037.92	-9897037.77	-9897037.62	0.1646	0.0885
Jupiter	-31806-12-30 00:28 J	-9895355.65	-9895355.48	-9895355.30	0.0502	0.0251
Uranus	-31805-02-19 00:28 J	-9895304.52	-9895304.48	-9895304.41	0.0142	0.0137
Jupiter	-31805-08-21 22:33 J	-9895119.73	-9895119.56	-9895119.40	0.0495	0.0279
Uranus	-31805-10-02 12:43 J	-9895078.08	-9895077.97	-9895077.86	0.0142	0.0122
Uranus	-31804-05-17 00:14 J	-9894851.62	-9894851.49	-9894851.33	0.0142	0.0108
Saturn	-31804-05-31 21:50 J	-9894836.64	-9894836.59	-9894836.53	0.0287	0.0276
Uranus	-31804-12-29 11:59 J	-9894625.16	-9894625.00	-9894624.82	0.0141	0.0092
Saturn	-31803-01-16 23:02 J	-9894606.73	-9894606.54	-9894606.34	0.0288	0.0120
Uranus	-31803-08-12 23:31 J	-9894398.69	-9894398.52	-9894398.32	0.0141	0.0077
Saturn	-31803-09-04 01:11 J	-9894376.66	-9894376.45	-9894376.23	0.0288	0.0042
Uranus	-31802-03-27 10:47 J	-9894172.23	-9894172.05	-9894171.83	0.0141	0.0062
Saturn	-31802-04-22 03:50 J	-9894146.49	-9894146.34	-9894146.19	0.0289	0.0203
Uranus	-31802-11-08 22:04 J	-9893945.78	-9893945.58	-9893945.36	0.0140	0.0047
Uranus	-31801-06-22 09:35 J	-9893719.31	-9893719.10	-9893718.88	0.0140	0.0030
Uranus	-31800-02-03 20:38 J	-9893492.86	-9893492.64	-9893492.42	0.0139	0.0015
Uranus	-31800-09-18 07:26 J	-9893266.42	-9893266.19	-9893265.97	0.0139	0.0002
Uranus	-31799-05-02 17:45 J	-9893039.98	-9893039.76	-9893039.53	0.0139	0.0015
Jupiter	-31799-06-21 15:21 J	-9892990.07	-9892989.86	-9892989.66	0.0528	0.0107

Uranus	-31799-12-15 04:04 J	-9892813.54	-9892813.33	-9892813.10	0.0138	0.0030
Uranus	-31798-07-29 14:23 J	-9892587.10	-9892586.90	-9892586.68	0.0138	0.0045
Uranus	-31797-03-12 00:14 J	-9892360.68	-9892360.49	-9892360.27	0.0138	0.0060
Uranus	-31797-10-24 10:04 J	-9892134.26	-9892134.08	-9892133.88	0.0137	0.0074
Uranus	-31796-06-07 19:55 J	-9891907.84	-9891907.67	-9891907.50	0.0137	0.0088
Uranus	-31795-01-20 05:16 J	-9891681.42	-9891681.28	-9891681.12	0.0137	0.0101
Uranus	-31795-09-03 14:23 J	-9891455.00	-9891454.90	-9891454.76	0.0137	0.0115
Uranus	-31794-04-17 23:31 J	-9891228.58	-9891228.52	-9891228.43	0.0136	0.0128
Jupiter	-31794-09-04 00:57 J	-9891089.57	-9891089.46	-9891089.33	0.0505	0.0406
Jupiter	-31793-04-27 00:43 J	-9890853.66	-9890853.47	-9890853.28	0.0497	0.0131
Earth	-31790-04-21 04:04 J	-9889764.49	-9889764.33	-9889764.18	0.2692	0.0316
Moon	-31790-04-21 07:40 J	-9889764.33	-9889764.18	-9889764.03	0.2697	0.0083 *
Saturn	-31790-11-17 15:35 J	-9889553.96	-9889553.85	-9889553.72	0.0273	0.0219
Saturn	-31789-07-03 15:50 J	-9889325.03	-9889324.84	-9889324.65	0.0272	0.0093
Saturn	-31788-02-17 15:21 J	-9889096.06	-9889095.86	-9889095.65	0.0271	0.0034
Saturn	-31788-10-04 14:23 J	-9888867.06	-9888866.90	-9888866.73	0.0271	0.0159
Jupiter	-31787-02-24 03:35 J	-9888724.52	-9888724.35	-9888724.17	0.0525	0.0290
Jupiter	-31787-10-20 09:35 J	-9888486.24	-9888486.10	-9888485.95	0.0534	0.0379
Jupiter	-31781-01-01 04:04 J	-9886587.53	-9886587.33	-9886587.13	0.0499	0.0017
Mars	-31776-03-20 05:45 J	-9884682.43	-9884682.26	-9884682.09	0.1654	0.0532
Jupiter	-31776-10-29 13:55 J	-9884459.00	-9884458.92	-9884458.83	0.0522	0.0472
Neptune	-31776-11-11 09:07 J	-9884446.14	-9884446.12	-9884446.06	0.0089	0.0087
Jupiter	-31775-06-24 17:45 J	-9884220.95	-9884220.76	-9884220.56	0.0531	0.0184
Neptune	-31775-06-24 23:02 J	-9884220.63	-9884220.54	-9884220.44	0.0089	0.0080 *
Saturn	-31775-12-12 11:16 J	-9884050.15	-9884050.03	-9884049.92	0.0287	0.0243
Neptune	-31774-02-05 11:59 J	-9883995.10	-9883995.00	-9883994.85	0.0089	0.0074
Saturn	-31774-07-30 12:43 J	-9883820.17	-9883819.97	-9883819.76	0.0288	0.0085
Neptune	-31774-09-19 01:55 J	-9883769.55	-9883769.42	-9883769.26	0.0089	0.0067
Saturn	-31773-03-16 14:52 J	-9883590.08	-9883589.88	-9883589.67	0.0289	0.0077
Neptune	-31773-05-01 15:35 J	-9883544.00	-9883543.85	-9883543.68	0.0089	0.0060

Saturn	-31773-11-01 17:31 J	-9883359.89	-9883359.77	-9883359.65	0.0289	0.0238
Neptune	-31773-12-13 05:16 J	-9883318.46	-9883318.28	-9883318.10	0.0089	0.0053
Neptune	-31772-07-26 18:14 J	-9883092.91	-9883092.74	-9883092.53	0.0089	0.0047
Neptune	-31771-03-09 07:55 J	-9882867.36	-9882867.17	-9882866.96	0.0089	0.0040
Neptune	-31771-10-20 21:21 J	-9882641.80	-9882641.61	-9882641.39	0.0089	0.0033
Neptune	-31770-06-03 10:47 J	-9882416.25	-9882416.05	-9882415.83	0.0089	0.0026
Jupiter	-31770-09-06 07:55 J	-9882321.35	-9882321.17	-9882320.97	0.0501	0.0167
Neptune	-31769-01-15 00:14 J	-9882190.70	-9882190.49	-9882190.27	0.0089	0.0019
Jupiter	-31769-04-29 05:59 J	-9882085.39	-9882085.25	-9882085.12	0.0494	0.0360
Neptune	-31769-08-27 13:40 J	-9881965.15	-9881964.93	-9881964.71	0.0089	0.0012
Neptune	-31768-04-10 02:52 J	-9881739.60	-9881739.38	-9881739.16	0.0089	0.0006
Neptune	-31768-11-21 16:19 J	-9881514.04	-9881513.82	-9881513.60	0.0089	0.0002
Neptune	-31767-07-05 05:31 J	-9881288.49	-9881288.27	-9881288.05	0.0089	0.0008
Neptune	-31766-02-15 18:43 J	-9881062.93	-9881062.72	-9881062.50	0.0089	0.0015
Neptune	-31766-09-29 07:55 J	-9880837.37	-9880837.17	-9880836.95	0.0089	0.0022
Neptune	-31765-05-11 21:07 J	-9880611.82	-9880611.62	-9880611.40	0.0089	0.0029
Neptune	-31765-12-23 10:19 J	-9880386.26	-9880386.07	-9880385.85	0.0089	0.0036
Neptune	-31764-08-05 23:45 J	-9880160.70	-9880160.51	-9880160.31	0.0089	0.0042
Jupiter	-31763-02-27 05:16 J	-9879955.49	-9879955.28	-9879955.08	0.0529	0.0013
Neptune	-31763-03-19 12:57 J	-9879935.14	-9879934.96	-9879934.77	0.0089	0.0049
Neptune	-31763-10-31 01:55 J	-9879709.57	-9879709.42	-9879709.23	0.0089	0.0056
Neptune	-31762-06-13 15:35 J	-9879484.00	-9879483.85	-9879483.69	0.0089	0.0062
Neptune	-31761-01-25 04:19 J	-9879258.44	-9879258.32	-9879258.16	0.0089	0.0069
Neptune	-31761-09-06 17:16 J	-9879032.87	-9879032.78	-9879032.64	0.0089	0.0076
Uranus	-31761-09-28 14:52 J	-9879010.94	-9879010.88	-9879010.79	0.0136	0.0126
Neptune	-31760-04-20 06:43 J	-9878807.29	-9878807.22	-9878807.13	0.0089	0.0082
Uranus	-31760-05-12 20:52 J	-9878784.74	-9878784.63	-9878784.50	0.0137	0.0114
Saturn	-31760-05-29 22:19 J	-9878767.70	-9878767.57	-9878767.42	0.0272	0.0196
Neptune	-31760-12-01 19:55 J	-9878581.67	-9878581.67	-9878581.64	0.0089	0.0089
Uranus	-31760-12-25 02:52 J	-9878558.51	-9878558.38	-9878558.22	0.0137	0.0101

Saturn	-31759-01-13 22:19 J	-9878538.77	-9878538.57	-9878538.37	0.0271	0.0070
Uranus	-31759-08-08 08:52 J	-9878332.28	-9878332.13	-9878331.95	0.0137	0.0088
Saturn	-31759-08-30 21:35 J	-9878309.81	-9878309.60	-9878309.40	0.0271	0.0056
Uranus	-31758-03-22 15:07 J	-9878106.04	-9878105.87	-9878105.68	0.0138	0.0075
Saturn	-31758-04-16 20:09 J	-9878080.81	-9878080.66	-9878080.50	0.0270	0.0179
Jupiter	-31758-05-12 11:45 J	-9878055.17	-9878055.01	-9878054.86	0.0504	0.0314
Uranus	-31758-11-03 21:21 J	-9877879.79	-9877879.61	-9877879.41	0.0138	0.0061
Jupiter	-31757-01-03 10:33 J	-9877819.25	-9877819.06	-9877818.88	0.0496	0.0219
Uranus	-31757-06-17 03:50 J	-9877653.54	-9877653.34	-9877653.14	0.0138	0.0047
Uranus	-31756-01-29 10:19 J	-9877427.27	-9877427.07	-9877426.86	0.0139	0.0034
Uranus	-31756-09-12 17:02 J	-9877201.00	-9877200.79	-9877200.58	0.0139	0.0019
Uranus	-31755-04-26 23:45 J	-9876974.72	-9876974.51	-9876974.29	0.0139	0.0005
Uranus	-31755-12-09 06:43 J	-9876748.43	-9876748.22	-9876748.01	0.0140	0.0010
Uranus	-31754-07-23 13:40 J	-9876522.13	-9876521.93	-9876521.72	0.0140	0.0025
Uranus	-31753-03-05 20:52 J	-9876295.83	-9876295.63	-9876295.42	0.0140	0.0040
Uranus	-31753-10-18 04:04 J	-9876069.51	-9876069.33	-9876069.12	0.0141	0.0055
Uranus	-31752-06-01 11:45 J	-9875843.18	-9875843.01	-9875842.82	0.0141	0.0069
Jupiter	-31752-11-01 17:45 J	-9875689.95	-9875689.76	-9875689.56	0.0527	0.0189
Uranus	-31751-01-13 19:55 J	-9875616.84	-9875616.67	-9875616.50	0.0141	0.0084
Jupiter	-31751-06-28 00:43 J	-9875451.55	-9875451.47	-9875451.38	0.0535	0.0483
Uranus	-31751-08-28 03:35 J	-9875390.49	-9875390.35	-9875390.19	0.0142	0.0099
Uranus	-31750-04-11 11:45 J	-9875164.13	-9875164.01	-9875163.88	0.0142	0.0113
Uranus	-31750-11-23 19:55 J	-9874937.75	-9874937.67	-9874937.57	0.0142	0.0128
Uranus	-31749-07-07 04:33 J	-9874711.32	-9874711.31	-9874711.29	0.0143	0.0142
Mars	-31747-06-07 01:55 J	-9874011.58	-9874011.42	-9874011.25	0.1867	0.0456
Jupiter	-31746-01-15 14:23 J	-9873788.97	-9873788.90	-9873788.82	0.0506	0.0463
Jupiter	-31746-09-08 14:38 J	-9873553.09	-9873552.89	-9873552.69	0.0498	0.0073
Saturn	-31745-06-23 15:21 J	-9873264.00	-9873263.86	-9873263.73	0.0287	0.0223
Saturn	-31744-02-08 16:47 J	-9873034.01	-9873033.80	-9873033.59	0.0288	0.0065
Mars	-31744-03-19 04:19 J	-9872995.48	-9872995.32	-9872995.16	0.1648	0.0740

Saturn	-31744-09-26 18:57 J	-9872803.91	-9872803.71	-9872803.51	0.0288	0.0097
Saturn	-31743-05-14 21:21 J	-9872573.70	-9872573.61	-9872573.51	0.0289	0.0257
Jupiter	-31740-07-07 07:55 J	-9871424.31	-9871424.17	-9871424.02	0.0524	0.0365
Jupiter	-31739-03-02 13:26 J	-9871186.10	-9871185.94	-9871185.76	0.0533	0.0300
Jupiter	-31734-05-14 16:33 J	-9869287.01	-9869286.81	-9869286.62	0.0500	0.0078
Jupiter	-31733-01-05 12:57 J	-9869051.04	-9869050.96	-9869050.86	0.0493	0.0441
Saturn	-31731-12-10 01:40 J	-9867981.59	-9867981.43	-9867981.28	0.0272	0.0176
Saturn	-31730-07-27 01:26 J	-9867752.64	-9867752.44	-9867752.24	0.0272	0.0049
Saturn	-31729-03-12 00:43 J	-9867523.66	-9867523.47	-9867523.27	0.0271	0.0077
Saturn	-31729-10-26 23:45 J	-9867294.65	-9867294.51	-9867294.37	0.0271	0.0200
Jupiter	-31728-11-05 01:11 J	-9866920.65	-9866920.45	-9866920.25	0.0530	0.0111
Jupiter	-31722-01-17 19:11 J	-9865020.88	-9865020.70	-9865020.52	0.0502	0.0228
Jupiter	-31722-09-10 17:16 J	-9864784.94	-9864784.78	-9864784.62	0.0495	0.0300
Uranus	-31722-10-19 09:07 J	-9864746.12	-9864746.12	-9864746.11	0.0143	0.0142
Uranus	-31721-06-01 21:07 J	-9864519.70	-9864519.62	-9864519.51	0.0142	0.0128
Uranus	-31720-01-14 09:21 J	-9864293.24	-9864293.11	-9864292.97	0.0142	0.0112
Uranus	-31720-08-28 21:07 J	-9864066.78	-9864066.62	-9864066.46	0.0141	0.0097
Uranus	-31719-04-12 08:38 J	-9863840.32	-9863840.14	-9863839.95	0.0141	0.0081
Uranus	-31719-11-24 20:09 J	-9863613.85	-9863613.66	-9863613.46	0.0141	0.0066
Uranus	-31718-07-09 07:26 J	-9863387.39	-9863387.19	-9863386.97	0.0140	0.0051
Uranus	-31717-02-20 18:43 J	-9863160.93	-9863160.72	-9863160.50	0.0140	0.0035
Uranus	-31717-10-04 05:45 J	-9862934.47	-9862934.26	-9862934.03	0.0140	0.0020
Uranus	-31716-05-18 16:47 J	-9862708.02	-9862707.80	-9862707.58	0.0139	0.0004
Jupiter	-31716-07-10 10:04 J	-9862655.28	-9862655.08	-9862654.88	0.0528	0.0083
Uranus	-31716-12-31 03:21 J	-9862481.58	-9862481.36	-9862481.13	0.0139	0.0012
Saturn	-31715-01-04 03:50 J	-9862477.49	-9862477.34	-9862477.17	0.0288	0.0191
Mars	-31715-06-06 17:16 J	-9862323.86	-9862323.78	-9862323.69	0.1875	0.1598
Uranus	-31715-08-14 13:55 J	-9862255.14	-9862254.92	-9862254.70	0.0139	0.0027
Saturn	-31715-08-22 05:59 J	-9862247.47	-9862247.25	-9862247.04	0.0288	0.0031
Uranus	-31714-03-29 00:14 J	-9862028.70	-9862028.49	-9862028.28	0.0138	0.0042

Saturn	-31714-04-09 08:09 J	-9862017.35	-9862017.16	-9862016.96	0.0289	0.0132
Uranus	-31714-11-10 10:19 J	-9861802.27	-9861802.07	-9861801.87	0.0138	0.0056
Uranus	-31713-06-23 20:09 J	-9861575.84	-9861575.66	-9861575.46	0.0138	0.0071
Uranus	-31712-02-05 05:45 J	-9861349.42	-9861349.26	-9861349.07	0.0137	0.0085
Uranus	-31712-09-19 15:21 J	-9861123.00	-9861122.86	-9861122.69	0.0137	0.0099
Uranus	-31711-05-04 00:57 J	-9860896.58	-9860896.46	-9860896.33	0.0137	0.0112
Jupiter	-31711-09-22 22:19 J	-9860754.70	-9860754.57	-9860754.44	0.0505	0.0378
Uranus	-31711-12-16 09:50 J	-9860670.16	-9860670.09	-9860669.99	0.0136	0.0126
Mars	-31710-01-15 16:04 J	-9860639.99	-9860639.83	-9860639.67	0.1656	0.0688
Jupiter	-31710-05-16 22:04 J	-9860518.77	-9860518.58	-9860518.39	0.0497	0.0157
Jupiter	-31704-03-14 22:04 J	-9858389.76	-9858389.58	-9858389.40	0.0525	0.0266
Jupiter	-31704-11-08 03:50 J	-9858151.47	-9858151.34	-9858151.20	0.0534	0.0400
Saturn	-31701-06-21 08:23 J	-9857195.31	-9857195.15	-9857194.97	0.0271	0.0152
Saturn	-31700-02-05 08:23 J	-9856966.36	-9856966.15	-9856965.95	0.0271	0.0027
Saturn	-31700-09-22 07:11 J	-9856737.39	-9856737.20	-9856737.00	0.0270	0.0098
Saturn	-31699-05-09 05:59 J	-9856508.37	-9856508.25	-9856508.13	0.0270	0.0220
Jupiter	-31698-01-20 02:23 J	-9856252.60	-9856252.40	-9856252.20	0.0499	0.0013
Neptune	-31694-05-14 16:19 J	-9854676.86	-9854676.82	-9854676.74	0.0089	0.0085
Neptune	-31694-12-26 05:16 J	-9854451.38	-9854451.28	-9854451.18	0.0089	0.0078
Neptune	-31693-08-07 17:16 J	-9854225.89	-9854225.78	-9854225.64	0.0089	0.0072
Earth	-31693-10-23 16:19 J	-9854148.97	-9854148.82	-9854148.66	0.2640	0.0986
Moon	-31693-10-23 18:14 J	-9854148.89	-9854148.74	-9854148.60	0.2647	0.0836 *
Jupiter	-31693-11-17 11:02 J	-9854124.14	-9854124.04	-9854123.93	0.0523	0.0442
Neptune	-31692-03-21 05:45 J	-9854000.39	-9854000.26	-9854000.10	0.0089	0.0066
Jupiter	-31692-07-13 15:35 J	-9853886.04	-9853885.85	-9853885.66	0.0532	0.0215
Neptune	-31692-11-01 18:43 J	-9853774.88	-9853774.72	-9853774.56	0.0089	0.0059
Neptune	-31691-06-15 06:43 J	-9853549.38	-9853549.22	-9853549.03	0.0088	0.0053
Neptune	-31690-01-26 19:11 J	-9853323.87	-9853323.70	-9853323.50	0.0088	0.0046
Neptune	-31690-09-09 07:55 J	-9853098.36	-9853098.17	-9853097.97	0.0088	0.0040
Neptune	-31689-04-21 20:23 J	-9852872.84	-9852872.65	-9852872.43	0.0088	0.0034

Neptune	-31689-12-03 09:07 J	-9852647.32	-9852647.12	-9852646.90	0.0088	0.0027
Neptune	-31688-07-16 21:35 J	-9852421.80	-9852421.60	-9852421.37	0.0088	0.0021
Neptune	-31687-02-27 10:19 J	-9852196.28	-9852196.07	-9852195.84	0.0088	0.0014
Jupiter	-31687-09-25 06:14 J	-9851986.43	-9851986.24	-9851986.05	0.0501	0.0136
Neptune	-31687-10-10 23:16 J	-9851970.75	-9851970.53	-9851970.31	0.0088	0.0007
Jupiter	-31686-05-19 03:21 J	-9851750.48	-9851750.36	-9851750.23	0.0493	0.0386
Neptune	-31686-05-24 11:59 J	-9851745.22	-9851745.00	-9851744.78	0.0088	0.0001
Saturn	-31686-07-17 08:23 J	-9851691.32	-9851691.15	-9851690.97	0.0288	0.0170
Neptune	-31685-01-05 00:43 J	-9851519.69	-9851519.47	-9851519.25	0.0088	0.0007
Saturn	-31685-03-03 10:19 J	-9851461.29	-9851461.07	-9851460.85	0.0288	0.0010
Neptune	-31685-08-17 13:11 J	-9851294.16	-9851293.95	-9851293.73	0.0088	0.0013
Saturn	-31685-10-19 12:28 J	-9851231.16	-9851230.98	-9851230.79	0.0289	0.0151
Moon	-31685-10-21 09:50 J	-9851229.19	-9851229.09	-9851229.00	0.2642	0.2091
Neptune	-31684-03-31 01:55 J	-9851068.63	-9851068.42	-9851068.20	0.0088	0.0020
Neptune	-31684-11-11 14:38 J	-9850843.09	-9850842.89	-9850842.67	0.0088	0.0027
Neptune	-31683-06-25 03:21 J	-9850617.55	-9850617.36	-9850617.15	0.0088	0.0033
Neptune	-31682-02-05 16:04 J	-9850392.02	-9850391.83	-9850391.63	0.0088	0.0040
Neptune	-31682-09-19 04:33 J	-9850166.48	-9850166.31	-9850166.10	0.0088	0.0047
Mars	-31681-04-03 07:26 J	-9849969.35	-9849969.19	-9849969.04	0.1865	0.0797
Neptune	-31681-05-01 17:59 J	-9849940.93	-9849940.75	-9849940.58	0.0088	0.0053
Neptune	-31681-12-13 06:14 J	-9849715.38	-9849715.24	-9849715.06	0.0088	0.0060
Jupiter	-31680-03-18 05:02 J	-9849620.50	-9849620.29	-9849620.08	0.0530	0.0031
Neptune	-31680-07-26 19:26 J	-9849489.83	-9849489.69	-9849489.54	0.0088	0.0066
Neptune	-31679-03-09 07:40 J	-9849264.28	-9849264.18	-9849264.03	0.0088	0.0073
Neptune	-31679-10-20 20:52 J	-9849038.72	-9849038.63	-9849038.52	0.0088	0.0079
Mars	-31678-01-14 15:21 J	-9848953.03	-9848952.86	-9848952.70	0.1650	0.0599
Neptune	-31678-06-03 09:21 J	-9848813.14	-9848813.11	-9848813.03	0.0088	0.0086
Uranus	-31677-05-29 03:35 J	-9848452.40	-9848452.35	-9848452.28	0.0136	0.0130
Uranus	-31676-01-10 09:21 J	-9848226.20	-9848226.11	-9848225.99	0.0136	0.0118
Uranus	-31676-08-24 15:35 J	-9847999.99	-9847999.85	-9847999.72	0.0137	0.0105

Uranus	-31675-04-07 21:21 J	-9847773.76	-9847773.61	-9847773.45	0.0137	0.0092
Jupiter	-31675-05-31 07:40 J	-9847720.34	-9847720.18	-9847720.02	0.0503	0.0288
Uranus	-31675-11-20 03:35 J	-9847547.53	-9847547.35	-9847547.18	0.0137	0.0079
Jupiter	-31674-01-22 05:59 J	-9847484.42	-9847484.25	-9847484.07	0.0495	0.0241
Uranus	-31674-07-04 09:21 J	-9847321.28	-9847321.11	-9847320.91	0.0138	0.0066
Uranus	-31673-02-15 15:50 J	-9847095.03	-9847094.84	-9847094.63	0.0138	0.0051
Uranus	-31673-09-28 22:19 J	-9846868.77	-9846868.57	-9846868.36	0.0138	0.0037
Uranus	-31672-05-13 04:47 J	-9846642.50	-9846642.30	-9846642.08	0.0139	0.0023
Saturn	-31672-05-17 10:19 J	-9846638.12	-9846638.07	-9846638.00	0.0273	0.0259
Uranus	-31672-12-25 11:45 J	-9846416.22	-9846416.01	-9846415.80	0.0139	0.0008
Saturn	-31671-01-01 10:47 J	-9846409.22	-9846409.05	-9846408.86	0.0272	0.0133
Uranus	-31671-08-08 18:28 J	-9846189.94	-9846189.73	-9846189.51	0.0139	0.0006
Saturn	-31671-08-18 10:33 J	-9846180.27	-9846180.06	-9846179.85	0.0271	0.0007
Uranus	-31670-03-23 01:26 J	-9845963.65	-9845963.44	-9845963.23	0.0140	0.0021
Saturn	-31670-04-04 09:35 J	-9845951.28	-9845951.10	-9845950.91	0.0271	0.0118
Uranus	-31670-11-04 08:38 J	-9845737.35	-9845737.14	-9845736.94	0.0140	0.0036
Saturn	-31670-11-19 08:23 J	-9845722.24	-9845722.15	-9845722.05	0.0271	0.0241
Uranus	-31669-06-17 15:50 J	-9845511.03	-9845510.84	-9845510.64	0.0141	0.0051
Jupiter	-31669-11-20 17:31 J	-9845354.97	-9845354.77	-9845354.57	0.0527	0.0154
Uranus	-31668-01-29 23:16 J	-9845284.70	-9845284.53	-9845284.33	0.0141	0.0066
Jupiter	-31668-07-17 00:14 J	-9845116.53	-9845116.49	-9845116.43	0.0535	0.0516
Uranus	-31668-09-13 06:57 J	-9845058.37	-9845058.21	-9845058.02	0.0141	0.0081
Uranus	-31667-04-27 15:07 J	-9844832.03	-9844831.87	-9844831.71	0.0142	0.0095
Uranus	-31667-12-09 22:47 J	-9844605.67	-9844605.55	-9844605.40	0.0142	0.0110
Uranus	-31666-07-24 07:11 J	-9844379.29	-9844379.20	-9844379.09	0.0142	0.0125
Uranus	-31665-03-06 15:35 J	-9844152.88	-9844152.85	-9844152.79	0.0143	0.0139
Jupiter	-31663-02-03 09:35 J	-9843454.19	-9843454.10	-9843454.00	0.0506	0.0439
Jupiter	-31663-09-27 09:50 J	-9843218.29	-9843218.09	-9843217.89	0.0497	0.0096
Jupiter	-31657-07-26 03:35 J	-9841089.51	-9841089.35	-9841089.19	0.0524	0.0339
Saturn	-31656-01-26 19:55 J	-9840904.85	-9840904.67	-9840904.47	0.0288	0.0139

Jupiter	-31656-03-21 08:23 J	-9840851.31	-9840851.15	-9840850.98	0.0533	0.0322
Saturn	-31656-09-13 22:04 J	-9840674.79	-9840674.58	-9840674.36	0.0289	0.0023
Saturn	-31655-05-02 00:43 J	-9840444.64	-9840444.47	-9840444.30	0.0289	0.0184
Pluto	-31653-07-21 05:59 J	-9839633.42	-9839633.25	-9839633.04	0.0065	0.0032
Pluto	-31652-03-03 10:19 J	-9839408.28	-9839408.07	-9839407.85	0.0065	0.0008
Pluto	-31652-10-14 13:55 J	-9839183.05	-9839182.92	-9839182.76	0.0065	0.0048
Jupiter	-31651-06-02 13:55 J	-9838952.12	-9838951.92	-9838951.72	0.0500	0.0050
Jupiter	-31650-01-24 10:47 J	-9838716.11	-9838716.05	-9838715.98	0.0493	0.0465
Mars	-31649-04-02 22:19 J	-9838281.70	-9838281.57	-9838281.44	0.1872	0.1232
Jupiter	-31645-03-30 16:33 J	-9836823.84	-9836823.81	-9836823.77	0.0521	0.0512
Mars	-31645-11-12 02:52 J	-9836597.54	-9836597.38	-9836597.23	0.1658	0.0839
Jupiter	-31645-11-23 19:40 J	-9836585.88	-9836585.68	-9836585.48	0.0530	0.0134
Saturn	-31643-11-27 17:59 J	-9835851.84	-9835851.75	-9835851.64	0.0272	0.0235
Saturn	-31642-07-14 18:14 J	-9835622.93	-9835622.74	-9835622.55	0.0271	0.0110
Saturn	-31641-02-28 17:45 J	-9835393.97	-9835393.76	-9835393.56	0.0271	0.0016
Saturn	-31641-10-14 16:33 J	-9835164.99	-9835164.81	-9835164.63	0.0270	0.0139
Saturn	-31640-05-31 14:52 J	-9834935.92	-9834935.88	-9834935.82	0.0270	0.0261
Jupiter	-31639-02-05 17:45 J	-9834685.95	-9834685.76	-9834685.58	0.0502	0.0198
Jupiter	-31639-09-29 15:35 J	-9834449.99	-9834449.85	-9834449.69	0.0495	0.0328
Uranus	-31637-01-31 06:43 J	-9833961.29	-9833961.22	-9833961.13	0.0142	0.0133
Uranus	-31637-09-13 18:43 J	-9833734.84	-9833734.72	-9833734.59	0.0142	0.0117
Uranus	-31636-04-28 06:28 J	-9833508.38	-9833508.23	-9833508.07	0.0142	0.0102
Uranus	-31636-12-10 18:14 J	-9833281.91	-9833281.74	-9833281.56	0.0141	0.0086
Uranus	-31635-07-25 05:45 J	-9833055.44	-9833055.26	-9833055.06	0.0141	0.0071
Uranus	-31634-03-08 17:16 J	-9832828.98	-9832828.78	-9832828.57	0.0141	0.0055
Uranus	-31634-10-21 04:33 J	-9832602.52	-9832602.31	-9832602.09	0.0140	0.0039
Uranus	-31633-06-03 15:35 J	-9832376.06	-9832375.85	-9832375.62	0.0140	0.0024
Jupiter	-31633-07-29 07:40 J	-9832320.39	-9832320.18	-9832319.98	0.0528	0.0052
Uranus	-31632-01-16 02:38 J	-9832149.61	-9832149.39	-9832149.16	0.0140	0.0008
Uranus	-31632-08-30 13:26 J	-9831923.16	-9831922.94	-9831922.72	0.0139	0.0008

Uranus	-31631-04-13 23:45 J	-9831696.72	-9831696.51	-9831696.28	0.0139	0.0023
Uranus	-31631-11-26 10:19 J	-9831470.29	-9831470.07	-9831469.86	0.0139	0.0038
Uranus	-31630-07-10 20:23 J	-9831243.85	-9831243.65	-9831243.44	0.0138	0.0053
Uranus	-31629-02-22 06:14 J	-9831017.42	-9831017.24	-9831017.03	0.0138	0.0068
Uranus	-31629-10-05 16:19 J	-9830791.00	-9830790.82	-9830790.64	0.0138	0.0082
Uranus	-31628-05-20 01:40 J	-9830564.58	-9830564.43	-9830564.26	0.0137	0.0096
Jupiter	-31628-10-11 20:52 J	-9830419.76	-9830419.63	-9830419.48	0.0504	0.0347
Saturn	-31628-12-21 23:16 J	-9830348.58	-9830348.53	-9830348.46	0.0287	0.0273
Uranus	-31627-01-01 11:02 J	-9830338.15	-9830338.04	-9830337.89	0.0137	0.0110
Jupiter	-31627-06-04 20:23 J	-9830183.84	-9830183.65	-9830183.46	0.0496	0.0186
Saturn	-31627-08-09 00:43 J	-9830118.67	-9830118.47	-9830118.27	0.0288	0.0117
Uranus	-31627-08-15 20:38 J	-9830111.72	-9830111.64	-9830111.53	0.0137	0.0123
Saturn	-31626-03-27 02:38 J	-9829888.61	-9829888.39	-9829888.18	0.0288	0.0043
Uranus	-31626-03-30 05:45 J	-9829885.26	-9829885.26	-9829885.23	0.0136	0.0136
Saturn	-31626-11-12 05:02 J	-9829658.44	-9829658.29	-9829658.13	0.0289	0.0204
Jupiter	-31621-04-02 21:35 J	-9828054.78	-9828054.60	-9828054.41	0.0526	0.0231
Jupiter	-31621-11-27 04:04 J	-9827816.44	-9827816.33	-9827816.20	0.0534	0.0437
Jupiter	-31616-06-16 22:04 J	-9826153.61	-9826153.58	-9826153.54	0.0507	0.0498
Mars	-31615-01-29 12:14 J	-9825927.12	-9825926.99	-9825926.85	0.1862	0.1140
Jupiter	-31615-02-07 22:47 J	-9825917.75	-9825917.55	-9825917.34	0.0498	0.0039
Saturn	-31613-06-08 19:26 J	-9825065.81	-9825065.69	-9825065.56	0.0272	0.0217
Mars	-31613-11-11 01:55 J	-9824910.59	-9824910.42	-9824910.25	0.1652	0.0449
Saturn	-31612-01-23 19:40 J	-9824836.87	-9824836.68	-9824836.48	0.0272	0.0092
Saturn	-31612-09-09 18:57 J	-9824607.91	-9824607.71	-9824607.50	0.0271	0.0034
Saturn	-31611-04-26 17:45 J	-9824378.92	-9824378.76	-9824378.59	0.0271	0.0158
Neptune	-31611-09-26 05:16 J	-9824226.35	-9824226.28	-9824226.20	0.0089	0.0083
Neptune	-31610-05-09 18:28 J	-9824000.82	-9824000.73	-9824000.59	0.0089	0.0077
Jupiter	-31610-12-07 11:16 J	-9823789.16	-9823789.03	-9823788.90	0.0523	0.0406
Neptune	-31610-12-21 08:09 J	-9823775.28	-9823775.16	-9823775.01	0.0089	0.0070
Jupiter	-31609-08-01 15:50 J	-9823551.02	-9823550.84	-9823550.65	0.0532	0.0250

Neptune	-31609-08-02 22:04 J	-9823549.73	-9823549.58	-9823549.42	0.0089	0.0063
Neptune	-31608-03-16 11:16 J	-9823324.19	-9823324.03	-9823323.84	0.0089	0.0057
Neptune	-31608-10-28 00:57 J	-9823098.63	-9823098.46	-9823098.26	0.0089	0.0050
Neptune	-31607-06-10 14:38 J	-9822873.08	-9822872.89	-9822872.69	0.0089	0.0043
Neptune	-31606-01-22 03:50 J	-9822647.53	-9822647.34	-9822647.13	0.0089	0.0037
Neptune	-31606-09-04 17:16 J	-9822421.98	-9822421.78	-9822421.56	0.0089	0.0030
Neptune	-31605-04-17 06:57 J	-9822196.42	-9822196.21	-9822195.99	0.0089	0.0023
Neptune	-31605-11-28 20:23 J	-9821970.87	-9821970.65	-9821970.43	0.0089	0.0016
Neptune	-31604-07-12 09:35 J	-9821745.32	-9821745.10	-9821744.88	0.0089	0.0010
Jupiter	-31604-10-14 02:09 J	-9821651.60	-9821651.41	-9821651.21	0.0501	0.0111
Neptune	-31603-02-22 23:02 J	-9821519.76	-9821519.54	-9821519.32	0.0089	0.0003
Jupiter	-31603-06-06 23:16 J	-9821415.64	-9821415.53	-9821415.41	0.0493	0.0408
Neptune	-31603-10-06 12:14 J	-9821294.21	-9821293.99	-9821293.76	0.0089	0.0004
Neptune	-31602-05-20 01:26 J	-9821068.65	-9821068.44	-9821068.21	0.0089	0.0011
Neptune	-31602-12-31 14:52 J	-9820843.10	-9820842.88	-9820842.66	0.0089	0.0017
Neptune	-31601-08-13 03:50 J	-9820617.54	-9820617.34	-9820617.12	0.0089	0.0024
Neptune	-31600-03-26 17:02 J	-9820391.99	-9820391.79	-9820391.57	0.0089	0.0031
Neptune	-31600-11-07 06:43 J	-9820166.42	-9820166.22	-9820166.02	0.0089	0.0037
Neptune	-31599-06-20 19:40 J	-9819940.86	-9819940.68	-9819940.48	0.0089	0.0044
Neptune	-31598-02-01 08:38 J	-9819715.31	-9819715.14	-9819714.95	0.0089	0.0051
Saturn	-31598-07-04 09:21 J	-9819562.22	-9819562.11	-9819562.00	0.0287	0.0246
Neptune	-31598-09-14 22:04 J	-9819489.74	-9819489.58	-9819489.41	0.0089	0.0057
Saturn	-31597-02-19 10:47 J	-9819332.25	-9819332.05	-9819331.84	0.0288	0.0088
Jupiter	-31597-04-06 00:57 J	-9819285.66	-9819285.46	-9819285.25	0.0529	0.0059
Neptune	-31597-04-27 11:02 J	-9819264.18	-9819264.04	-9819263.87	0.0089	0.0064
Saturn	-31597-10-06 13:11 J	-9819102.16	-9819101.95	-9819101.74	0.0289	0.0073
Neptune	-31597-12-09 00:28 J	-9819038.60	-9819038.48	-9819038.34	0.0089	0.0070
Saturn	-31596-05-24 16:04 J	-9818871.95	-9818871.83	-9818871.70	0.0289	0.0235
Neptune	-31596-07-22 13:11 J	-9818813.03	-9818812.95	-9818812.82	0.0089	0.0078
Neptune	-31595-03-05 02:38 J	-9818587.45	-9818587.39	-9818587.30	0.0089	0.0083

Uranus	-31593-01-27 15:35 J	-9817893.87	-9817893.85	-9817893.82	0.0136	0.0134
Uranus	-31593-09-09 20:52 J	-9817667.70	-9817667.63	-9817667.52	0.0136	0.0123
Uranus	-31592-04-24 02:38 J	-9817441.50	-9817441.39	-9817441.24	0.0137	0.0110
Jupiter	-31592-06-19 05:16 J	-9817385.45	-9817385.28	-9817385.11	0.0504	0.0260
Uranus	-31592-12-06 08:52 J	-9817215.27	-9817215.13	-9817214.97	0.0137	0.0096
Jupiter	-31591-02-10 04:04 J	-9817149.50	-9817149.33	-9817149.16	0.0496	0.0268
Uranus	-31591-07-20 14:38 J	-9816989.04	-9816988.89	-9816988.70	0.0137	0.0083
Uranus	-31590-03-03 20:38 J	-9816762.81	-9816762.64	-9816762.44	0.0138	0.0070
Uranus	-31590-10-16 02:52 J	-9816536.56	-9816536.38	-9816536.17	0.0138	0.0056
Uranus	-31589-05-29 09:21 J	-9816310.31	-9816310.11	-9816309.90	0.0138	0.0041
Uranus	-31588-01-10 16:04 J	-9816084.04	-9816083.83	-9816083.62	0.0139	0.0027
Uranus	-31588-08-24 22:33 J	-9815857.77	-9815857.56	-9815857.35	0.0139	0.0013
Uranus	-31587-04-08 05:16 J	-9815631.49	-9815631.28	-9815631.07	0.0139	0.0002
Uranus	-31587-11-20 12:14 J	-9815405.21	-9815404.99	-9815404.78	0.0140	0.0017
Uranus	-31586-07-04 18:57 J	-9815178.91	-9815178.71	-9815178.49	0.0140	0.0032
Jupiter	-31586-12-10 12:43 J	-9815020.16	-9815019.97	-9815019.76	0.0527	0.0129
Uranus	-31585-02-16 02:23 J	-9814952.60	-9814952.40	-9814952.20	0.0140	0.0047
Uranus	-31585-09-29 09:35 J	-9814726.28	-9814726.10	-9814725.90	0.0141	0.0062
Uranus	-31584-05-13 17:31 J	-9814499.95	-9814499.77	-9814499.60	0.0141	0.0076
Saturn	-31584-12-20 03:07 J	-9814279.51	-9814279.37	-9814279.22	0.0272	0.0194
Uranus	-31584-12-26 00:57 J	-9814273.61	-9814273.46	-9814273.29	0.0141	0.0092
Mars	-31583-01-29 02:38 J	-9814239.54	-9814239.39	-9814239.23	0.1869	0.0865
Saturn	-31583-08-06 02:52 J	-9814050.58	-9814050.38	-9814050.18	0.0271	0.0069
Uranus	-31583-08-09 08:52 J	-9814047.26	-9814047.13	-9814046.98	0.0142	0.0107
Saturn	-31582-03-23 02:09 J	-9813821.62	-9813821.41	-9813821.21	0.0270	0.0056
Uranus	-31582-03-23 17:02 J	-9813820.89	-9813820.79	-9813820.67	0.0142	0.0121
Uranus	-31582-11-05 01:26 J	-9813594.49	-9813594.44	-9813594.37	0.0142	0.0136
Saturn	-31582-11-07 00:43 J	-9813592.62	-9813592.47	-9813592.32	0.0270	0.0179
Jupiter	-31580-02-22 08:23 J	-9813119.26	-9813119.15	-9813119.03	0.0506	0.0407
Jupiter	-31580-10-16 08:52 J	-9812883.33	-9812883.13	-9812882.94	0.0498	0.0127

Mars	-31579-09-09 13:11 J	-9812555.09	-9812554.95	-9812554.81	0.1660	0.0995
Jupiter	-31574-08-15 01:26 J	-9810754.61	-9810754.44	-9810754.27	0.0524	0.0307
Jupiter	-31573-04-09 06:43 J	-9810516.37	-9810516.22	-9810516.06	0.0533	0.0353
Saturn	-31568-01-13 13:40 J	-9808776.06	-9808775.93	-9808775.79	0.0287	0.0224
Jupiter	-31568-06-21 12:57 J	-9808617.16	-9808616.96	-9808616.76	0.0500	0.0021
Saturn	-31568-08-31 15:07 J	-9808546.08	-9808545.87	-9808545.66	0.0288	0.0067
Jupiter	-31567-02-12 09:35 J	-9808381.11	-9808381.10	-9808381.09	0.0493	0.0491
Saturn	-31567-04-18 17:16 J	-9808315.98	-9808315.78	-9808315.57	0.0289	0.0094
Saturn	-31567-12-04 19:55 J	-9808085.76	-9808085.67	-9808085.56	0.0289	0.0254
Pluto	-31565-11-03 14:23 J	-9807386.12	-9807385.90	-9807385.68	0.0079	0.0013
Pluto	-31564-06-17 00:28 J	-9807160.60	-9807160.48	-9807160.32	0.0079	0.0063
Jupiter	-31562-04-19 16:04 J	-9806488.91	-9806488.83	-9806488.74	0.0522	0.0477
Jupiter	-31562-12-13 20:09 J	-9806250.86	-9806250.66	-9806250.47	0.0531	0.0170
Jupiter	-31556-02-24 15:35 J	-9804351.04	-9804350.85	-9804350.66	0.0502	0.0169
Jupiter	-31556-10-18 12:57 J	-9804115.09	-9804114.96	-9804114.81	0.0494	0.0352
Saturn	-31554-07-02 03:50 J	-9803493.49	-9803493.34	-9803493.18	0.0272	0.0177
Uranus	-31554-09-30 15:07 J	-9803402.92	-9803402.87	-9803402.82	0.0143	0.0138
Saturn	-31553-02-16 03:50 J	-9803264.55	-9803264.34	-9803264.14	0.0271	0.0052
Uranus	-31553-05-14 03:07 J	-9803176.47	-9803176.37	-9803176.25	0.0142	0.0123
Saturn	-31553-10-02 02:38 J	-9803035.58	-9803035.39	-9803035.18	0.0271	0.0074
Uranus	-31553-12-26 14:52 J	-9802950.01	-9802949.88	-9802949.72	0.0142	0.0107
Saturn	-31552-05-19 01:26 J	-9802806.58	-9802806.44	-9802806.30	0.0271	0.0196
Uranus	-31552-08-10 02:38 J	-9802723.54	-9802723.39	-9802723.21	0.0142	0.0092
Uranus	-31551-03-24 14:23 J	-9802497.08	-9802496.90	-9802496.70	0.0141	0.0076
Uranus	-31551-11-06 01:55 J	-9802270.61	-9802270.42	-9802270.21	0.0141	0.0060
Uranus	-31550-06-20 13:26 J	-9802044.14	-9802043.94	-9802043.72	0.0141	0.0044
Jupiter	-31550-08-18 08:52 J	-9801985.34	-9801985.13	-9801984.93	0.0529	0.0018
Mars	-31550-11-26 17:59 J	-9801884.86	-9801884.75	-9801884.65	0.1859	0.1465
Uranus	-31549-02-02 00:43 J	-9801817.68	-9801817.47	-9801817.25	0.0140	0.0028
Uranus	-31549-09-15 11:45 J	-9801591.23	-9801591.01	-9801590.79	0.0140	0.0012

Uranus	-31548-04-29 22:33 J	-9801364.78	-9801364.56	-9801364.34	0.0140	0.0004
Uranus	-31548-12-12 09:07 J	-9801138.34	-9801138.12	-9801137.90	0.0139	0.0019
Moon	-31547-04-21 06:28 J	-9801008.39	-9801008.23	-9801008.06	0.2687	0.0059
Earth	-31547-04-21 07:55 J	-9801008.32	-9801008.17	-9801008.01	0.2693	0.0063 *
Uranus	-31547-07-26 19:40 J	-9800911.89	-9800911.68	-9800911.46	0.0139	0.0034
Mars	-31547-09-08 12:43 J	-9800868.14	-9800867.97	-9800867.79	0.1654	0.0306
Uranus	-31546-03-10 05:59 J	-9800685.46	-9800685.25	-9800685.04	0.0138	0.0050
Uranus	-31546-10-22 16:04 J	-9800459.03	-9800458.83	-9800458.63	0.0138	0.0064
Uranus	-31545-06-05 01:55 J	-9800232.60	-9800232.42	-9800232.23	0.0138	0.0079
Jupiter	-31545-10-30 18:14 J	-9800084.89	-9800084.74	-9800084.58	0.0504	0.0318
Uranus	-31544-01-17 11:31 J	-9800006.17	-9800006.02	-9800005.84	0.0137	0.0094
Jupiter	-31544-06-23 17:16 J	-9799848.96	-9799848.78	-9799848.60	0.0496	0.0210
Uranus	-31544-08-31 21:21 J	-9799779.74	-9799779.61	-9799779.46	0.0137	0.0107
Uranus	-31543-04-15 06:43 J	-9799553.31	-9799553.22	-9799553.11	0.0137	0.0121
Uranus	-31543-11-27 16:04 J	-9799326.86	-9799326.83	-9799326.78	0.0136	0.0134
Saturn	-31539-07-26 21:35 J	-9797989.75	-9797989.60	-9797989.44	0.0288	0.0200
Saturn	-31538-03-13 23:31 J	-9797759.74	-9797759.52	-9797759.31	0.0289	0.0041
Jupiter	-31538-04-22 19:11 J	-9797719.89	-9797719.70	-9797719.50	0.0525	0.0200
Saturn	-31538-10-30 02:09 J	-9797529.61	-9797529.41	-9797529.21	0.0289	0.0121
Jupiter	-31538-12-17 00:57 J	-9797481.56	-9797481.46	-9797481.35	0.0534	0.0461
Saturn	-31537-06-16 05:02 J	-9797299.33	-9797299.29	-9797299.23	0.0289	0.0282
Jupiter	-31533-07-05 19:55 J	-9795818.74	-9795818.67	-9795818.60	0.0507	0.0469
Jupiter	-31532-02-26 21:21 J	-9795582.81	-9795582.61	-9795582.41	0.0499	0.0067
Neptune	-31530-08-16 00:57 J	-9794682.48	-9794682.46	-9794682.40	0.0089	0.0087
Neptune	-31529-03-28 13:26 J	-9794457.00	-9794456.94	-9794456.83	0.0089	0.0081
Neptune	-31529-11-09 01:55 J	-9794231.51	-9794231.42	-9794231.28	0.0089	0.0075
Neptune	-31528-06-22 14:38 J	-9794006.02	-9794005.89	-9794005.74	0.0089	0.0068
Neptune	-31527-02-03 02:52 J	-9793780.52	-9793780.38	-9793780.21	0.0089	0.0062
Neptune	-31527-09-16 15:21 J	-9793555.02	-9793554.86	-9793554.68	0.0089	0.0056
Jupiter	-31527-12-26 07:55 J	-9793454.31	-9793454.17	-9793454.02	0.0523	0.0377

Neptune -31526-04-30 04:19 J -9793329.50 -9793329.32 -9793329.14 0.0088 0.0049
 Jupiter -31526-08-21 11:59 J -9793216.17 -9793216.00 -9793215.82 0.0532 0.0275
 Neptune -31526-12-11 16:33 J -9793103.99 -9793103.81 -9793103.61 0.0088 0.0043
 Neptune -31525-07-24 04:47 J -9792878.48 -9792878.30 -9792878.08 0.0088 0.0037
 Saturn -31524-01-11 11:16 J -9792707.20 -9792707.03 -9792706.86 0.0271 0.0154
 Neptune -31524-03-06 17:45 J -9792652.97 -9792652.76 -9792652.55 0.0088 0.0030
 Saturn -31524-08-28 10:47 J -9792478.26 -9792478.05 -9792477.84 0.0271 0.0029
 Neptune -31524-10-18 05:59 J -9792427.45 -9792427.25 -9792427.03 0.0088 0.0024
 Saturn -31523-04-14 09:35 J -9792249.29 -9792249.10 -9792248.91 0.0270 0.0095
 Neptune -31523-05-31 18:57 J -9792201.93 -9792201.71 -9792201.50 0.0088 0.0017
 Saturn -31523-11-29 07:55 J -9792020.28 -9792020.17 -9792020.04 0.0270 0.0217
 Neptune -31522-01-12 07:26 J -9791976.41 -9791976.19 -9791975.97 0.0088 0.0010
 Neptune -31522-08-25 19:55 J -9791750.88 -9791750.67 -9791750.45 0.0088 0.0004
 Neptune -31521-04-07 08:52 J -9791525.35 -9791525.13 -9791524.91 0.0088 0.0003
 Jupiter -31521-11-02 01:26 J -9791316.64 -9791316.44 -9791316.24 0.0501 0.0079
 Neptune -31521-11-18 21:21 J -9791299.82 -9791299.61 -9791299.38 0.0088 0.0010
 Jupiter -31520-06-25 22:47 J -9791080.64 -9791080.55 -9791080.45 0.0494 0.0436
 Neptune -31520-07-02 10:19 J -9791074.29 -9791074.07 -9791073.86 0.0088 0.0016
 Neptune -31519-02-12 22:47 J -9790848.76 -9790848.55 -9790848.33 0.0088 0.0022
 Neptune -31519-09-26 11:31 J -9790623.22 -9790623.02 -9790622.81 0.0088 0.0029
 Neptune -31518-05-10 00:14 J -9790397.68 -9790397.49 -9790397.28 0.0088 0.0036
 Mars -31518-11-26 08:38 J -9790197.31 -9790197.14 -9790196.98 0.1867 0.0531
 Neptune -31518-12-21 13:11 J -9790172.14 -9790171.95 -9790171.75 0.0088 0.0042
 Neptune -31517-08-03 01:40 J -9789946.60 -9789946.43 -9789946.23 0.0088 0.0048
 Neptune -31516-03-16 14:38 J -9789721.05 -9789720.89 -9789720.71 0.0088 0.0055
 Neptune -31516-10-28 03:07 J -9789495.51 -9789495.37 -9789495.19 0.0088 0.0061
 Neptune -31515-06-10 16:04 J -9789269.95 -9789269.83 -9789269.67 0.0088 0.0068
 Mars -31515-09-07 11:16 J -9789181.09 -9789181.03 -9789180.98 0.1648 0.1556
 Neptune -31514-01-22 05:02 J -9789044.40 -9789044.29 -9789044.16 0.0088 0.0074
 Jupiter -31514-04-25 23:45 J -9788950.71 -9788950.51 -9788950.30 0.0530 0.0091

Neptune	-31514-09-04 17:31 J	-9788818.84	-9788818.77	-9788818.65	0.0088	0.0080
Neptune	-31513-04-17 06:28 J	-9788593.25	-9788593.23	-9788593.16	0.0088	0.0087
Mars	-31513-07-06 23:31 J	-9788512.64	-9788512.52	-9788512.39	0.1662	0.1149
Saturn	-31509-02-06 02:38 J	-9787203.56	-9787203.39	-9787203.22	0.0288	0.0177
Uranus	-31509-05-10 09:07 J	-9787109.19	-9787109.12	-9787109.04	0.0136	0.0126
Jupiter	-31509-07-08 05:16 J	-9787050.46	-9787050.28	-9787050.10	0.0503	0.0226
Saturn	-31509-09-23 04:19 J	-9786973.54	-9786973.32	-9786973.10	0.0289	0.0018
Uranus	-31509-12-22 14:52 J	-9786882.99	-9786882.88	-9786882.76	0.0136	0.0114
Jupiter	-31508-03-01 03:50 J	-9786814.50	-9786814.34	-9786814.18	0.0495	0.0298
Saturn	-31508-05-11 06:28 J	-9786743.41	-9786743.23	-9786743.03	0.0289	0.0143
Uranus	-31508-08-05 20:23 J	-9786656.78	-9786656.65	-9786656.49	0.0137	0.0101
Uranus	-31507-03-20 02:23 J	-9786430.56	-9786430.40	-9786430.23	0.0137	0.0087
Uranus	-31507-11-01 08:23 J	-9786204.33	-9786204.15	-9786203.97	0.0137	0.0074
Uranus	-31506-06-15 14:23 J	-9785978.09	-9785977.90	-9785977.70	0.0138	0.0060
Uranus	-31505-01-27 20:38 J	-9785751.83	-9785751.64	-9785751.43	0.0138	0.0046
Uranus	-31505-09-10 03:07 J	-9785525.58	-9785525.37	-9785525.16	0.0138	0.0031
Uranus	-31504-04-24 09:35 J	-9785299.31	-9785299.10	-9785298.89	0.0139	0.0017
Uranus	-31504-12-06 16:19 J	-9785073.03	-9785072.82	-9785072.61	0.0139	0.0003
Uranus	-31503-07-20 23:02 J	-9784846.75	-9784846.54	-9784846.33	0.0139	0.0012
Jupiter	-31503-12-29 13:26 J	-9784685.14	-9784684.94	-9784684.73	0.0527	0.0091
Uranus	-31502-03-04 05:59 J	-9784620.46	-9784620.25	-9784620.04	0.0140	0.0027
Uranus	-31502-10-16 13:11 J	-9784394.15	-9784393.95	-9784393.75	0.0140	0.0042
Uranus	-31501-05-29 20:09 J	-9784167.84	-9784167.66	-9784167.45	0.0140	0.0058
Uranus	-31500-01-11 03:50 J	-9783941.51	-9783941.34	-9783941.15	0.0141	0.0073
Uranus	-31500-08-25 11:45 J	-9783715.18	-9783715.01	-9783714.84	0.0141	0.0087
Uranus	-31499-04-08 19:11 J	-9783488.83	-9783488.70	-9783488.54	0.0141	0.0103
Uranus	-31499-11-21 03:35 J	-9783262.47	-9783262.35	-9783262.23	0.0142	0.0117
Uranus	-31498-07-05 11:31 J	-9783036.08	-9783036.02	-9783035.93	0.0142	0.0132
Jupiter	-31497-03-13 07:40 J	-9782784.32	-9782784.18	-9782784.05	0.0505	0.0376
Jupiter	-31497-11-04 07:11 J	-9782548.38	-9782548.20	-9782548.00	0.0497	0.0155

Saturn	-31496-12-07 10:47 J	-9782150.09	-9782150.05	-9782149.98	0.0272	0.0263
Saturn	-31495-07-24 11:02 J	-9781921.21	-9781921.04	-9781920.85	0.0272	0.0139
Saturn	-31494-03-10 10:33 J	-9781692.26	-9781692.06	-9781691.85	0.0271	0.0014
Saturn	-31494-10-25 09:21 J	-9781463.29	-9781463.11	-9781462.92	0.0271	0.0111
Saturn	-31493-06-10 07:40 J	-9781234.27	-9781234.18	-9781234.06	0.0270	0.0234
Jupiter	-31491-09-03 03:21 J	-9780419.54	-9780419.36	-9780419.18	0.0525	0.0268
Jupiter	-31490-04-29 09:07 J	-9780181.26	-9780181.12	-9780180.98	0.0533	0.0390
Jupiter	-31485-07-10 11:02 J	-9778282.24	-9778282.04	-9778281.83	0.0499	0.0014
Mars	-31484-09-22 23:45 J	-9777842.56	-9777842.51	-9777842.47	0.1856	0.1782
Mars	-31481-07-05 23:02 J	-9776825.72	-9776825.54	-9776825.36	0.1656	0.0151
Saturn	-31480-08-18 08:09 J	-9776417.34	-9776417.16	-9776416.97	0.0288	0.0156
Saturn	-31479-04-05 10:19 J	-9776187.29	-9776187.07	-9776186.85	0.0289	0.0005
Jupiter	-31479-05-08 15:21 J	-9776153.96	-9776153.86	-9776153.75	0.0521	0.0443
Saturn	-31479-11-21 13:11 J	-9775957.12	-9775956.95	-9775956.77	0.0289	0.0166
Jupiter	-31478-01-01 18:28 J	-9775915.91	-9775915.73	-9775915.53	0.0531	0.0202
Jupiter	-31473-03-15 14:09 J	-9774016.11	-9774015.91	-9774015.72	0.0502	0.0139
Jupiter	-31473-11-06 12:14 J	-9773780.11	-9773779.99	-9773779.86	0.0495	0.0381
Uranus	-31469-01-12 11:31 J	-9772618.10	-9772618.02	-9772617.91	0.0143	0.0129
Uranus	-31469-08-25 23:59 J	-9772391.64	-9772391.50	-9772391.37	0.0142	0.0113
Uranus	-31468-04-09 11:31 J	-9772165.17	-9772165.02	-9772164.85	0.0142	0.0097
Uranus	-31468-11-21 23:31 J	-9771938.70	-9771938.52	-9771938.34	0.0142	0.0081
Uranus	-31467-07-06 10:47 J	-9771712.23	-9771712.05	-9771711.84	0.0141	0.0066
Jupiter	-31467-09-06 06:28 J	-9771650.44	-9771650.23	-9771650.03	0.0528	0.0018
Uranus	-31466-02-17 22:33 J	-9771485.77	-9771485.56	-9771485.35	0.0141	0.0049
Saturn	-31466-06-19 17:59 J	-9771363.84	-9771363.75	-9771363.65	0.0272	0.0240
Uranus	-31466-10-02 09:50 J	-9771259.31	-9771259.09	-9771258.87	0.0140	0.0033
Saturn	-31465-02-03 18:14 J	-9771134.92	-9771134.74	-9771134.55	0.0271	0.0115
Uranus	-31465-05-15 20:52 J	-9771032.85	-9771032.63	-9771032.41	0.0140	0.0017
Saturn	-31465-09-19 17:31 J	-9770905.98	-9770905.77	-9770905.56	0.0270	0.0009
Uranus	-31465-12-28 07:55 J	-9770806.40	-9770806.17	-9770805.95	0.0140	0.0003

Saturn	-31464-05-06 16:04 J	-9770677.00	-9770676.83	-9770676.65	0.0270	0.0132
Uranus	-31464-08-11 18:28 J	-9770579.95	-9770579.73	-9770579.50	0.0139	0.0015
Saturn	-31464-12-21 14:23 J	-9770447.96	-9770447.90	-9770447.83	0.0270	0.0253
Uranus	-31463-03-26 05:02 J	-9770353.50	-9770353.29	-9770353.07	0.0139	0.0031
Uranus	-31463-11-07 15:21 J	-9770127.06	-9770126.86	-9770126.64	0.0139	0.0046
Uranus	-31462-06-22 01:55 J	-9769900.62	-9769900.42	-9769900.22	0.0138	0.0061
Jupiter	-31462-11-19 17:31 J	-9769749.93	-9769749.77	-9769749.60	0.0505	0.0285
Uranus	-31461-02-03 11:31 J	-9769674.19	-9769674.02	-9769673.81	0.0138	0.0076
Jupiter	-31461-07-12 17:02 J	-9769513.96	-9769513.79	-9769513.61	0.0496	0.0242
Uranus	-31461-09-16 21:50 J	-9769447.76	-9769447.59	-9769447.42	0.0138	0.0090
Uranus	-31460-05-01 07:11 J	-9769221.33	-9769221.20	-9769221.04	0.0137	0.0105
Uranus	-31460-12-13 16:47 J	-9768994.90	-9768994.80	-9768994.67	0.0137	0.0118
Uranus	-31459-07-28 02:09 J	-9768768.44	-9768768.41	-9768768.33	0.0137	0.0132
Jupiter	-31455-05-11 18:28 J	-9767384.92	-9767384.73	-9767384.53	0.0526	0.0165
Jupiter	-31454-01-05 00:28 J	-9767146.55	-9767146.48	-9767146.39	0.0534	0.0494
Mars	-31452-09-22 13:40 J	-9766155.10	-9766154.93	-9766154.76	0.1864	0.0185
Saturn	-31450-02-28 13:11 J	-9765631.14	-9765630.95	-9765630.76	0.0288	0.0133
Jupiter	-31450-07-25 20:38 J	-9765483.74	-9765483.64	-9765483.53	0.0507	0.0432
Saturn	-31450-10-16 15:07 J	-9765401.08	-9765400.87	-9765400.65	0.0289	0.0027
Earth	-31450-10-24 14:38 J	-9765393.04	-9765392.89	-9765392.74	0.2639	0.0963
Moon	-31450-10-24 15:21 J	-9765393.02	-9765392.86	-9765392.70	0.2632	0.1142 *
Jupiter	-31449-03-17 21:50 J	-9765247.79	-9765247.59	-9765247.39	0.0498	0.0100
Saturn	-31449-06-02 17:45 J	-9765170.92	-9765170.76	-9765170.59	0.0289	0.0188
Mars	-31449-07-04 21:50 J	-9765138.68	-9765138.59	-9765138.50	0.1650	0.1410
Mars	-31447-05-04 09:50 J	-9764470.20	-9764470.09	-9764469.98	0.1664	0.1308
Neptune	-31447-12-28 11:02 J	-9764232.07	-9764232.04	-9764231.96	0.0089	0.0086
Neptune	-31446-08-11 00:57 J	-9764006.55	-9764006.46	-9764006.36	0.0089	0.0079
Neptune	-31445-03-23 14:09 J	-9763781.01	-9763780.91	-9763780.76	0.0089	0.0073
Neptune	-31445-11-04 04:19 J	-9763555.47	-9763555.32	-9763555.17	0.0089	0.0066
Neptune	-31444-06-17 17:31 J	-9763329.92	-9763329.77	-9763329.59	0.0089	0.0060

Jupiter -31443-01-14 08:52 J -9763119.29 -9763119.13 -9763118.98 0.0523 0.0339
 Neptune -31443-01-29 07:11 J -9763104.37 -9763104.20 -9763104.02 0.0089 0.0053
 Jupiter -31443-09-09 13:40 J -9762881.09 -9762880.93 -9762880.76 0.0532 0.0314
 Neptune -31443-09-11 20:38 J -9762878.82 -9762878.64 -9762878.44 0.0089 0.0047
 Neptune -31442-04-25 10:19 J -9762653.26 -9762653.07 -9762652.87 0.0089 0.0040
 Neptune -31442-12-06 23:31 J -9762427.71 -9762427.52 -9762427.29 0.0089 0.0034
 Neptune -31441-07-19 13:11 J -9762202.15 -9762201.95 -9762201.73 0.0089 0.0027
 Neptune -31440-03-02 02:52 J -9761976.60 -9761976.38 -9761976.17 0.0089 0.0020
 Neptune -31440-10-13 16:04 J -9761751.04 -9761750.83 -9761750.60 0.0089 0.0014
 Neptune -31439-05-27 05:45 J -9761525.48 -9761525.26 -9761525.04 0.0089 0.0007
 Neptune -31438-01-07 18:57 J -9761299.93 -9761299.71 -9761299.49 0.0089 0.0001
 Neptune -31438-08-21 08:09 J -9761074.37 -9761074.16 -9761073.93 0.0089 0.0007
 Jupiter -31438-11-22 01:11 J -9760981.65 -9760981.45 -9760981.25 0.0500 0.0047
 Neptune -31437-04-02 21:35 J -9760848.82 -9760848.60 -9760848.38 0.0089 0.0013
 Jupiter -31437-07-14 22:04 J -9760745.64 -9760745.58 -9760745.51 0.0493 0.0462
 Neptune -31437-11-14 10:47 J -9760623.26 -9760623.05 -9760622.83 0.0089 0.0020
 Saturn -31437-12-29 17:59 J -9760577.86 -9760577.75 -9760577.64 0.0272 0.0225
 Neptune -31436-06-27 23:59 J -9760397.70 -9760397.50 -9760397.28 0.0089 0.0026
 Saturn -31436-08-15 17:45 J -9760348.95 -9760348.76 -9760348.57 0.0271 0.0100
 Neptune -31435-02-08 13:11 J -9760172.15 -9760171.95 -9760171.74 0.0089 0.0033
 Saturn -31435-04-01 16:47 J -9760120.00 -9760119.80 -9760119.59 0.0271 0.0024
 Neptune -31435-09-22 02:23 J -9759946.59 -9759946.40 -9759946.19 0.0089 0.0039
 Saturn -31435-11-16 15:21 J -9759891.03 -9759890.86 -9759890.69 0.0270 0.0147
 Neptune -31434-05-05 15:35 J -9759721.03 -9759720.85 -9759720.65 0.0089 0.0046
 Saturn -31434-07-03 13:26 J -9759661.95 -9759661.94 -9759661.91 0.0270 0.0268
 Neptune -31434-12-17 05:02 J -9759495.46 -9759495.29 -9759495.11 0.0089 0.0052
 Neptune -31433-07-29 17:45 J -9759269.90 -9759269.76 -9759269.57 0.0089 0.0059
 Neptune -31432-03-12 07:11 J -9759044.34 -9759044.20 -9759044.04 0.0089 0.0065
 Jupiter -31432-09-18 23:31 J -9758853.56 -9758853.52 -9758853.47 0.0521 0.0507
 Neptune -31432-10-23 20:38 J -9758818.77 -9758818.64 -9758818.51 0.0089 0.0071

Jupiter	-31431-05-15 02:52 J	-9758615.58	-9758615.38	-9758615.18	0.0530	0.0131
Neptune	-31431-06-06 09:21 J	-9758593.19	-9758593.11	-9758592.99	0.0089	0.0078
Neptune	-31430-01-17 22:33 J	-9758367.61	-9758367.56	-9758367.47	0.0089	0.0084
Jupiter	-31426-07-28 04:19 J	-9756715.50	-9756715.32	-9756715.13	0.0503	0.0194
Uranus	-31425-01-08 20:52 J	-9756550.66	-9756550.63	-9756550.55	0.0136	0.0131
Jupiter	-31425-03-20 02:52 J	-9756479.53	-9756479.38	-9756479.23	0.0495	0.0326
Uranus	-31425-08-22 02:38 J	-9756324.48	-9756324.39	-9756324.27	0.0136	0.0118
Uranus	-31424-04-05 08:09 J	-9756098.28	-9756098.16	-9756098.01	0.0136	0.0105
Uranus	-31424-11-17 13:55 J	-9755872.06	-9755871.92	-9755871.75	0.0137	0.0092
Uranus	-31423-07-01 19:55 J	-9755645.84	-9755645.67	-9755645.49	0.0137	0.0078
Uranus	-31422-02-13 01:40 J	-9755419.60	-9755419.43	-9755419.23	0.0137	0.0065
Uranus	-31422-09-27 08:09 J	-9755193.36	-9755193.16	-9755192.96	0.0138	0.0050
Saturn	-31421-01-23 15:50 J	-9755074.90	-9755074.84	-9755074.76	0.0287	0.0269
Uranus	-31421-05-10 14:09 J	-9754967.11	-9754966.91	-9754966.70	0.0138	0.0036
Saturn	-31421-09-09 17:16 J	-9754844.97	-9754844.78	-9754844.57	0.0288	0.0113
Uranus	-31421-12-22 20:38 J	-9754740.85	-9754740.64	-9754740.43	0.0138	0.0021
Saturn	-31420-04-27 19:40 J	-9754614.89	-9754614.68	-9754614.46	0.0289	0.0048
Uranus	-31420-08-06 03:07 J	-9754514.58	-9754514.37	-9754514.15	0.0139	0.0007
Saturn	-31420-12-13 22:47 J	-9754384.69	-9754384.55	-9754384.40	0.0290	0.0209
Jupiter	-31419-01-17 13:40 J	-9754350.13	-9754349.93	-9754349.72	0.0527	0.0054
Uranus	-31419-03-20 09:50 J	-9754288.30	-9754288.09	-9754287.88	0.0139	0.0008
Uranus	-31419-11-01 16:33 J	-9754062.02	-9754061.81	-9754061.60	0.0139	0.0023
Uranus	-31418-06-15 23:31 J	-9753835.72	-9753835.52	-9753835.31	0.0140	0.0038
Uranus	-31417-01-28 06:43 J	-9753609.41	-9753609.22	-9753609.01	0.0140	0.0054
Uranus	-31417-09-10 14:09 J	-9753383.09	-9753382.91	-9753382.72	0.0140	0.0068
Uranus	-31416-04-24 21:50 J	-9753156.76	-9753156.59	-9753156.42	0.0141	0.0083
Uranus	-31416-12-07 05:16 J	-9752930.42	-9752930.28	-9752930.12	0.0141	0.0099
Mars	-31415-05-03 09:35 J	-9752783.27	-9752783.10	-9752782.92	0.1658	0.0033
Uranus	-31415-07-21 12:57 J	-9752704.07	-9752703.96	-9752703.82	0.0141	0.0114
Uranus	-31414-03-04 21:35 J	-9752477.69	-9752477.60	-9752477.51	0.0142	0.0128

Jupiter	-31414-04-02 05:59 J	-9752449.39	-9752449.25	-9752449.10	0.0506	0.0344
Jupiter	-31414-11-24 06:28 J	-9752213.41	-9752213.23	-9752213.04	0.0498	0.0186
Jupiter	-31408-09-22 02:38 J	-9750084.58	-9750084.39	-9750084.21	0.0524	0.0232
Jupiter	-31407-05-18 07:26 J	-9749846.31	-9749846.19	-9749846.07	0.0533	0.0420
Saturn	-31407-07-12 00:28 J	-9749791.62	-9749791.48	-9749791.34	0.0272	0.0203
Saturn	-31406-02-26 00:14 J	-9749562.69	-9749562.49	-9749562.29	0.0271	0.0078
Saturn	-31406-10-12 23:16 J	-9749333.73	-9749333.53	-9749333.33	0.0270	0.0046
Saturn	-31405-05-28 21:35 J	-9749104.75	-9749104.60	-9749104.43	0.0270	0.0168
Pluto	-31405-06-23 16:04 J	-9749079.01	-9749078.83	-9749078.62	0.0065	0.0028
Pluto	-31404-02-03 19:55 J	-9748853.87	-9748853.67	-9748853.44	0.0065	0.0012
Pluto	-31404-09-16 23:31 J	-9748628.62	-9748628.52	-9748628.36	0.0065	0.0052
Jupiter	-31403-12-06 08:38 J	-9748183.19	-9748183.14	-9748183.09	0.0508	0.0491
Jupiter	-31402-07-30 10:47 J	-9747947.25	-9747947.05	-9747946.85	0.0500	0.0044
Jupiter	-31396-05-27 15:07 J	-9745819.00	-9745818.87	-9745818.74	0.0522	0.0406
Jupiter	-31395-01-20 18:28 J	-9745580.91	-9745580.73	-9745580.54	0.0531	0.0237
Saturn	-31392-08-04 21:07 J	-9744288.72	-9744288.62	-9744288.50	0.0288	0.0247
Saturn	-31391-03-22 22:19 J	-9744058.77	-9744058.57	-9744058.35	0.0288	0.0091
Saturn	-31391-11-08 00:43 J	-9743828.68	-9743828.47	-9743828.26	0.0289	0.0071
Jupiter	-31390-04-04 15:21 J	-9743681.06	-9743680.86	-9743680.67	0.0502	0.0102
Saturn	-31390-06-26 03:21 J	-9743598.48	-9743598.36	-9743598.22	0.0289	0.0232
Jupiter	-31390-11-26 13:11 J	-9743445.06	-9743444.95	-9743444.84	0.0494	0.0412
Mars	-31386-07-20 19:26 J	-9742112.86	-9742112.69	-9742112.52	0.1862	0.0146
Uranus	-31386-09-11 18:14 J	-9742059.79	-9742059.74	-9742059.66	0.0143	0.0135
Uranus	-31385-04-25 06:14 J	-9741833.34	-9741833.24	-9741833.10	0.0142	0.0120
Uranus	-31385-12-07 18:28 J	-9741606.87	-9741606.73	-9741606.57	0.0142	0.0103
Uranus	-31384-07-22 06:28 J	-9741380.40	-9741380.23	-9741380.05	0.0142	0.0087
Jupiter	-31384-09-25 08:09 J	-9741315.37	-9741315.16	-9741314.96	0.0529	0.0056
Uranus	-31383-03-05 18:14 J	-9741153.93	-9741153.74	-9741153.55	0.0141	0.0071
Mars	-31383-05-02 08:52 J	-9741096.24	-9741096.13	-9741096.02	0.1652	0.1268
Uranus	-31383-10-18 05:45 J	-9740927.46	-9740927.26	-9740927.05	0.0141	0.0054

Uranus	-31382-06-01 17:16 J	-9740701.00	-9740700.78	-9740700.57	0.0141	0.0038
Uranus	-31381-01-14 04:19 J	-9740474.53	-9740474.32	-9740474.09	0.0140	0.0022
Mars	-31381-02-29 20:09 J	-9740427.74	-9740427.66	-9740427.58	0.1666	0.1464
Uranus	-31381-08-27 15:35 J	-9740248.07	-9740247.85	-9740247.63	0.0140	0.0006
Uranus	-31380-04-11 02:23 J	-9740021.62	-9740021.40	-9740021.18	0.0140	0.0010
Uranus	-31380-11-23 12:57 J	-9739795.17	-9739794.96	-9739794.73	0.0139	0.0026
Uranus	-31379-07-07 23:45 J	-9739568.72	-9739568.51	-9739568.29	0.0139	0.0041
Jupiter	-31379-12-08 18:14 J	-9739414.91	-9739414.74	-9739414.56	0.0504	0.0250
Uranus	-31378-02-19 10:04 J	-9739342.28	-9739342.08	-9739341.87	0.0139	0.0057
Jupiter	-31378-08-01 17:16 J	-9739178.95	-9739178.78	-9739178.61	0.0496	0.0273
Uranus	-31378-10-03 20:23 J	-9739115.84	-9739115.65	-9739115.46	0.0138	0.0072
Saturn	-31377-01-21 23:45 J	-9739005.65	-9739005.51	-9739005.35	0.0272	0.0189
Uranus	-31377-05-17 06:14 J	-9738889.40	-9738889.24	-9738889.05	0.0138	0.0087
Saturn	-31377-09-06 23:31 J	-9738776.72	-9738776.52	-9738776.32	0.0271	0.0064
Uranus	-31377-12-29 16:19 J	-9738662.96	-9738662.82	-9738662.66	0.0138	0.0101
Saturn	-31376-04-23 22:19 J	-9738547.77	-9738547.57	-9738547.37	0.0270	0.0060
Uranus	-31376-08-13 01:55 J	-9738436.52	-9738436.42	-9738436.28	0.0137	0.0115
Saturn	-31376-12-08 20:38 J	-9738318.79	-9738318.64	-9738318.49	0.0270	0.0182
Uranus	-31375-03-27 11:31 J	-9738210.08	-9738210.02	-9738209.93	0.0137	0.0129
Jupiter	-31372-05-30 21:50 J	-9737049.79	-9737049.59	-9737049.39	0.0526	0.0123
Jupiter	-31371-01-24 04:33 J	-9736811.32	-9736811.31	-9736811.30	0.0535	0.0533
Jupiter	-31367-08-13 20:52 J	-9735148.75	-9735148.63	-9735148.51	0.0506	0.0398
Jupiter	-31366-04-06 21:35 J	-9734912.79	-9734912.60	-9734912.40	0.0498	0.0132
Neptune	-31366-11-17 10:04 J	-9734688.08	-9734688.08	-9734688.06	0.0089	0.0089
Neptune	-31365-06-29 22:19 J	-9734462.63	-9734462.57	-9734462.47	0.0089	0.0083
Neptune	-31364-02-10 10:33 J	-9734237.14	-9734237.06	-9734236.93	0.0089	0.0077
Neptune	-31364-09-23 23:02 J	-9734011.65	-9734011.54	-9734011.38	0.0089	0.0071
Neptune	-31363-05-07 11:31 J	-9733786.14	-9733786.02	-9733785.84	0.0089	0.0065
Neptune	-31363-12-19 00:28 J	-9733560.64	-9733560.48	-9733560.31	0.0089	0.0058
Saturn	-31362-02-14 23:31 J	-9733502.65	-9733502.52	-9733502.39	0.0287	0.0230

Neptune -31362-08-01 12:57 J -9733335.13 -9733334.96 -9733334.78 0.0089 0.0052
 Saturn -31362-10-03 00:57 J -9733272.66 -9733272.46 -9733272.24 0.0288 0.0073
 Neptune -31361-03-14 01:11 J -9733109.62 -9733109.45 -9733109.25 0.0088 0.0046
 Saturn -31361-05-20 03:35 J -9733042.56 -9733042.35 -9733042.14 0.0289 0.0089
 Neptune -31361-10-25 13:40 J -9732884.11 -9732883.93 -9732883.72 0.0088 0.0040
 Saturn -31360-01-05 06:43 J -9732812.32 -9732812.22 -9732812.10 0.0290 0.0250
 Jupiter -31360-02-02 10:33 J -9732784.23 -9732784.06 -9732783.89 0.0523 0.0297
 Neptune -31360-06-08 02:38 J -9732658.59 -9732658.39 -9732658.19 0.0088 0.0033
 Jupiter -31360-09-28 14:52 J -9732546.03 -9732545.88 -9732545.72 0.0532 0.0350
 Neptune -31359-01-19 14:52 J -9732433.08 -9732432.88 -9732432.66 0.0088 0.0027
 Neptune -31359-09-02 03:21 J -9732207.56 -9732207.36 -9732207.14 0.0088 0.0021
 Neptune -31358-04-15 16:19 J -9731982.04 -9731981.82 -9731981.61 0.0088 0.0014
 Neptune -31358-11-27 04:47 J -9731756.52 -9731756.30 -9731756.08 0.0088 0.0008
 Neptune -31357-07-09 17:16 J -9731530.99 -9731530.78 -9731530.56 0.0088 0.0002
 Neptune -31356-02-20 05:59 J -9731305.47 -9731305.25 -9731305.03 0.0088 0.0005
 Neptune -31356-10-03 18:28 J -9731079.94 -9731079.73 -9731079.51 0.0088 0.0012
 Neptune -31355-05-17 07:11 J -9730854.41 -9730854.20 -9730853.98 0.0088 0.0018
 Jupiter -31355-12-11 00:14 J -9730646.69 -9730646.49 -9730646.29 0.0501 0.0016
 Neptune -31355-12-28 19:55 J -9730628.87 -9730628.67 -9730628.45 0.0088 0.0025
 Mars -31354-07-20 10:04 J -9730425.10 -9730425.08 -9730425.07 0.1870 0.1857
 Jupiter -31354-08-03 21:50 J -9730410.59 -9730410.59 -9730410.57 0.0494 0.0493
 Neptune -31354-08-11 08:52 J -9730403.34 -9730403.13 -9730402.93 0.0088 0.0031
 Neptune -31353-03-23 21:21 J -9730177.80 -9730177.61 -9730177.40 0.0088 0.0037
 Neptune -31353-11-04 10:04 J -9729952.26 -9729952.08 -9729951.88 0.0088 0.0044
 Neptune -31352-06-17 22:33 J -9729726.72 -9729726.56 -9729726.36 0.0088 0.0051
 Neptune -31351-01-29 11:31 J -9729501.17 -9729501.02 -9729500.84 0.0088 0.0056
 Neptune -31351-09-12 00:14 J -9729275.63 -9729275.49 -9729275.32 0.0088 0.0063
 Neptune -31350-04-25 13:26 J -9729050.07 -9729049.94 -9729049.80 0.0088 0.0069
 Neptune -31350-12-07 02:23 J -9728824.51 -9728824.40 -9728824.28 0.0088 0.0075
 Mars -31349-02-28 19:55 J -9728740.85 -9728740.67 -9728740.49 0.1660 0.0156

Neptune	-31349-07-19 14:38 J	-9728598.95	-9728598.89	-9728598.78	0.0088	0.0081
Jupiter	-31349-10-08 00:14 J	-9728518.57	-9728518.49	-9728518.39	0.0520	0.0467
Neptune	-31348-03-02 03:21 J	-9728373.37	-9728373.36	-9728373.30	0.0088	0.0088
Jupiter	-31348-06-03 02:38 J	-9728280.59	-9728280.39	-9728280.20	0.0529	0.0166
Saturn	-31348-08-03 05:59 J	-9728219.41	-9728219.25	-9728219.09	0.0271	0.0166
Saturn	-31347-03-20 05:31 J	-9727990.47	-9727990.27	-9727990.07	0.0271	0.0042
Saturn	-31347-11-04 04:19 J	-9727761.52	-9727761.32	-9727761.12	0.0270	0.0081
Saturn	-31346-06-21 02:23 J	-9727532.52	-9727532.40	-9727532.25	0.0270	0.0203
Jupiter	-31343-08-16 03:50 J	-9726380.53	-9726380.34	-9726380.15	0.0503	0.0160
Jupiter	-31342-04-09 02:52 J	-9726144.51	-9726144.38	-9726144.24	0.0495	0.0359
Uranus	-31342-09-08 09:50 J	-9725992.10	-9725992.09	-9725992.07	0.0136	0.0135
Uranus	-31341-04-21 15:21 J	-9725765.95	-9725765.86	-9725765.76	0.0136	0.0122
Uranus	-31341-12-03 20:52 J	-9725539.75	-9725539.63	-9725539.49	0.0136	0.0109
Uranus	-31340-07-18 02:38 J	-9725313.54	-9725313.39	-9725313.23	0.0137	0.0096
Uranus	-31339-03-01 08:23 J	-9725087.32	-9725087.15	-9725086.98	0.0137	0.0082
Uranus	-31339-10-13 14:09 J	-9724861.09	-9724860.91	-9724860.72	0.0137	0.0069
Uranus	-31338-05-27 20:09 J	-9724634.85	-9724634.66	-9724634.46	0.0137	0.0055
Uranus	-31337-01-09 02:38 J	-9724408.59	-9724408.39	-9724408.19	0.0138	0.0040
Uranus	-31337-08-22 08:52 J	-9724182.34	-9724182.13	-9724181.92	0.0138	0.0026
Jupiter	-31336-02-05 13:55 J	-9724015.12	-9724014.92	-9724014.71	0.0527	0.0020
Uranus	-31336-04-05 15:07 J	-9723956.08	-9723955.87	-9723955.65	0.0138	0.0011
Uranus	-31336-11-17 21:50 J	-9723729.80	-9723729.59	-9723729.38	0.0139	0.0004
Uranus	-31335-07-02 04:33 J	-9723503.52	-9723503.31	-9723503.10	0.0139	0.0019
Uranus	-31334-02-13 11:31 J	-9723277.22	-9723277.02	-9723276.81	0.0139	0.0034
Uranus	-31334-09-27 18:28 J	-9723050.92	-9723050.73	-9723050.52	0.0140	0.0049
Uranus	-31333-05-11 01:40 J	-9722824.61	-9722824.43	-9722824.23	0.0140	0.0064
Saturn	-31333-08-27 05:16 J	-9722716.43	-9722716.28	-9722716.13	0.0288	0.0206
Uranus	-31333-12-23 09:07 J	-9722598.28	-9722598.12	-9722597.94	0.0141	0.0080
Saturn	-31332-04-14 06:43 J	-9722486.43	-9722486.22	-9722486.00	0.0289	0.0048
Uranus	-31332-08-06 16:33 J	-9722371.95	-9722371.81	-9722371.64	0.0141	0.0095

Saturn	-31332-11-30 09:07 J	-9722256.31	-9722256.12	-9722255.91	0.0289	0.0113
Uranus	-31331-03-21 00:14 J	-9722145.60	-9722145.49	-9722145.34	0.0141	0.0110
Jupiter	-31331-04-21 07:40 J	-9722114.33	-9722114.18	-9722114.02	0.0506	0.0306
Saturn	-31331-07-18 12:14 J	-9722026.05	-9722025.99	-9722025.91	0.0290	0.0273
Uranus	-31331-11-02 08:23 J	-9721919.24	-9721919.15	-9721919.05	0.0142	0.0125
Jupiter	-31331-12-13 07:55 J	-9721878.35	-9721878.17	-9721877.99	0.0497	0.0220
Uranus	-31330-06-16 16:19 J	-9721692.84	-9721692.82	-9721692.77	0.0142	0.0140
Jupiter	-31325-10-11 04:04 J	-9719749.52	-9719749.33	-9719749.14	0.0525	0.0193
Jupiter	-31324-06-06 09:35 J	-9719511.20	-9719511.10	-9719510.99	0.0534	0.0459
Mars	-31320-05-17 00:43 J	-9718070.64	-9718070.47	-9718070.31	0.1859	0.0484
Jupiter	-31320-12-25 10:19 J	-9717848.15	-9717848.07	-9717847.98	0.0508	0.0453
Jupiter	-31319-08-18 11:45 J	-9717612.20	-9717612.01	-9717611.81	0.0499	0.0078
Saturn	-31318-02-13 05:16 J	-9717433.44	-9717433.28	-9717433.10	0.0271	0.0153
Saturn	-31318-09-30 04:47 J	-9717204.51	-9717204.30	-9717204.09	0.0271	0.0028
Mars	-31317-02-27 19:11 J	-9717053.83	-9717053.70	-9717053.57	0.1654	0.1118
Saturn	-31317-05-16 03:21 J	-9716975.55	-9716975.36	-9716975.16	0.0270	0.0095
Pluto	-31317-10-06 22:47 J	-9716831.77	-9716831.55	-9716831.32	0.0079	0.0010
Saturn	-31317-12-31 01:26 J	-9716746.55	-9716746.44	-9716746.31	0.0270	0.0217
Pluto	-31316-05-20 09:07 J	-9716606.23	-9716606.12	-9716605.98	0.0079	0.0065
Mars	-31316-12-27 05:45 J	-9716385.29	-9716385.26	-9716385.23	0.1669	0.1635
Jupiter	-31313-06-15 18:43 J	-9715483.87	-9715483.72	-9715483.57	0.0522	0.0364
Jupiter	-31312-02-08 22:47 J	-9715245.73	-9715245.55	-9715245.38	0.0531	0.0279
Jupiter	-31307-04-23 15:50 J	-9713346.04	-9713345.84	-9713345.64	0.0501	0.0068
Jupiter	-31307-12-15 13:26 J	-9713110.03	-9713109.94	-9713109.85	0.0494	0.0441
Moon	-31304-04-21 10:33 J	-9712252.20	-9712252.06	-9712251.91	0.2700	0.0198
Earth	-31304-04-21 11:59 J	-9712252.15	-9712252.00	-9712251.84	0.2694	0.0246 *
Saturn	-31303-03-09 06:43 J	-9711930.38	-9711930.22	-9711930.06	0.0288	0.0190
Saturn	-31303-10-25 08:23 J	-9711700.36	-9711700.15	-9711699.93	0.0289	0.0032
Uranus	-31302-05-12 02:09 J	-9711501.43	-9711501.41	-9711501.37	0.0143	0.0141
Saturn	-31302-06-12 11:02 J	-9711470.23	-9711470.04	-9711469.84	0.0289	0.0129

Uranus	-31302-12-24 14:09 J	-9711274.99	-9711274.91	-9711274.79	0.0143	0.0126
Saturn	-31301-01-28 14:23 J	-9711239.91	-9711239.90	-9711239.88	0.0290	0.0289
Uranus	-31301-08-07 02:23 J	-9711048.53	-9711048.40	-9711048.25	0.0142	0.0109
Jupiter	-31301-10-14 10:33 J	-9710980.26	-9710980.06	-9710979.86	0.0528	0.0098
Uranus	-31300-03-21 14:09 J	-9710822.06	-9710821.91	-9710821.73	0.0142	0.0093
Uranus	-31300-11-03 01:55 J	-9710595.59	-9710595.42	-9710595.22	0.0142	0.0077
Uranus	-31299-06-17 13:40 J	-9710369.12	-9710368.93	-9710368.71	0.0141	0.0061
Uranus	-31298-01-30 01:26 J	-9710142.65	-9710142.44	-9710142.22	0.0141	0.0044
Uranus	-31298-09-13 12:43 J	-9709916.18	-9709915.97	-9709915.75	0.0141	0.0027
Uranus	-31297-04-26 23:59 J	-9709689.73	-9709689.50	-9709689.28	0.0140	0.0011
Uranus	-31297-12-09 10:47 J	-9709463.27	-9709463.05	-9709462.82	0.0140	0.0006
Moon	-31296-04-19 08:09 J	-9709332.18	-9709332.16	-9709332.13	0.2701	0.2640
Uranus	-31296-07-23 21:50 J	-9709236.81	-9709236.59	-9709236.37	0.0140	0.0021
Jupiter	-31296-12-27 17:02 J	-9709079.97	-9709079.79	-9709079.61	0.0504	0.0217
Uranus	-31295-03-07 08:23 J	-9709010.36	-9709010.15	-9709009.93	0.0139	0.0037
Jupiter	-31295-08-20 16:47 J	-9708843.96	-9708843.80	-9708843.64	0.0496	0.0304
Uranus	-31295-10-19 19:11 J	-9708783.91	-9708783.70	-9708783.50	0.0139	0.0052
Uranus	-31294-06-03 05:16 J	-9708557.46	-9708557.28	-9708557.07	0.0139	0.0068
Uranus	-31293-01-15 15:21 J	-9708331.02	-9708330.86	-9708330.66	0.0138	0.0083
Uranus	-31293-08-29 01:26 J	-9708104.58	-9708104.44	-9708104.26	0.0138	0.0098
Uranus	-31292-04-12 11:31 J	-9707878.14	-9707878.02	-9707877.88	0.0137	0.0112
Uranus	-31292-11-24 21:07 J	-9707651.69	-9707651.62	-9707651.52	0.0137	0.0126
Saturn	-31289-01-09 10:33 J	-9706876.12	-9706876.06	-9706875.98	0.0272	0.0255
Jupiter	-31289-06-18 23:02 J	-9706714.75	-9706714.54	-9706714.34	0.0526	0.0082
Saturn	-31289-08-25 11:02 J	-9706647.22	-9706647.04	-9706646.86	0.0271	0.0131
Saturn	-31288-04-11 10:19 J	-9706418.28	-9706418.07	-9706417.86	0.0271	0.0007
Mars	-31288-05-16 14:52 J	-9706382.98	-9706382.88	-9706382.78	0.1867	0.1496
Saturn	-31288-11-26 08:52 J	-9706189.31	-9706189.13	-9706188.94	0.0270	0.0116
Saturn	-31287-07-13 07:11 J	-9705960.29	-9705960.20	-9705960.10	0.0270	0.0236
Jupiter	-31284-09-01 19:55 J	-9704813.81	-9704813.67	-9704813.53	0.0507	0.0364

Mars -31284-12-26 05:59 J -9704698.42 -9704698.25 -9704698.07 0.1662 0.0316
 Jupiter -31283-04-25 21:21 J -9704577.80 -9704577.61 -9704577.42 0.0498 0.0165
 Neptune -31282-03-31 17:45 J -9704237.77 -9704237.76 -9704237.72 0.0089 0.0088
 Neptune -31282-11-12 07:11 J -9704012.27 -9704012.20 -9704012.10 0.0089 0.0082
 Neptune -31281-06-24 20:38 J -9703786.73 -9703786.64 -9703786.50 0.0089 0.0076
 Neptune -31280-02-05 10:33 J -9703561.20 -9703561.06 -9703560.92 0.0089 0.0069
 Neptune -31280-09-18 23:45 J -9703335.65 -9703335.51 -9703335.33 0.0089 0.0063
 Neptune -31279-05-02 13:11 J -9703110.10 -9703109.95 -9703109.76 0.0089 0.0057
 Neptune -31279-12-14 03:07 J -9702884.55 -9702884.37 -9702884.18 0.0089 0.0050
 Neptune -31278-07-27 16:19 J -9702659.00 -9702658.82 -9702658.61 0.0089 0.0044
 Jupiter -31277-02-22 10:47 J -9702449.22 -9702449.05 -9702448.87 0.0523 0.0261
 Neptune -31277-03-09 05:59 J -9702433.44 -9702433.25 -9702433.04 0.0089 0.0037
 Jupiter -31277-10-17 15:21 J -9702211.00 -9702210.86 -9702210.72 0.0532 0.0385
 Neptune -31277-10-20 19:26 J -9702207.88 -9702207.69 -9702207.47 0.0089 0.0031
 Neptune -31276-06-03 09:07 J -9701982.33 -9701982.12 -9701981.90 0.0089 0.0024
 Neptune -31275-01-14 22:33 J -9701756.77 -9701756.56 -9701756.34 0.0089 0.0018
 Neptune -31275-08-28 11:59 J -9701531.22 -9701531.00 -9701530.78 0.0089 0.0011
 Neptune -31274-04-11 01:26 J -9701305.66 -9701305.44 -9701305.21 0.0089 0.0005
 Saturn -31274-09-19 12:57 J -9701144.13 -9701143.96 -9701143.77 0.0288 0.0165
 Neptune -31274-11-22 14:52 J -9701080.10 -9701079.88 -9701079.65 0.0089 0.0003
 Saturn -31273-05-06 14:52 J -9700914.10 -9700913.88 -9700913.67 0.0289 0.0008
 Neptune -31273-07-05 04:19 J -9700854.54 -9700854.32 -9700854.10 0.0089 0.0009
 Saturn -31273-12-22 17:16 J -9700683.96 -9700683.78 -9700683.59 0.0289 0.0154
 Neptune -31272-02-15 17:31 J -9700628.99 -9700628.77 -9700628.55 0.0089 0.0015
 Neptune -31272-09-29 06:43 J -9700403.43 -9700403.22 -9700403.00 0.0089 0.0022
 Jupiter -31272-12-30 01:55 J -9700311.62 -9700311.42 -9700311.22 0.0501 0.0024
 Neptune -31271-05-12 19:55 J -9700177.87 -9700177.67 -9700177.45 0.0089 0.0028
 Neptune -31271-12-24 09:07 J -9699952.31 -9699952.12 -9699951.90 0.0089 0.0035
 Neptune -31270-08-06 22:19 J -9699726.75 -9699726.57 -9699726.36 0.0089 0.0041
 Neptune -31269-03-19 11:45 J -9699501.19 -9699501.01 -9699500.82 0.0089 0.0047

Neptune	-31269-10-31 00:43 J	-9699275.63	-9699275.47	-9699275.28	0.0089	0.0054
Neptune	-31268-06-13 13:55 J	-9699050.07	-9699049.92	-9699049.74	0.0089	0.0060
Neptune	-31267-01-25 03:07 J	-9698824.50	-9698824.37	-9698824.21	0.0089	0.0066
Neptune	-31267-09-07 16:33 J	-9698598.94	-9698598.81	-9698598.69	0.0089	0.0072
Neptune	-31266-04-21 05:02 J	-9698373.36	-9698373.29	-9698373.16	0.0089	0.0079
Jupiter	-31266-10-28 01:26 J	-9698183.55	-9698183.44	-9698183.32	0.0521	0.0429
Neptune	-31266-12-02 18:28 J	-9698147.77	-9698147.73	-9698147.65	0.0089	0.0085
Jupiter	-31265-06-22 04:19 J	-9697945.51	-9697945.32	-9697945.13	0.0530	0.0206
Saturn	-31260-07-21 10:33 J	-9696090.15	-9696090.06	-9696089.96	0.0272	0.0240
Jupiter	-31260-09-04 05:31 J	-9696045.46	-9696045.27	-9696045.08	0.0503	0.0123
Saturn	-31259-03-07 10:47 J	-9695861.24	-9695861.05	-9695860.86	0.0271	0.0116
Jupiter	-31259-04-28 03:50 J	-9695809.46	-9695809.34	-9695809.21	0.0495	0.0390
Saturn	-31259-10-22 09:50 J	-9695632.29	-9695632.09	-9695631.88	0.0270	0.0009
Saturn	-31258-06-08 08:23 J	-9695403.33	-9695403.15	-9695402.97	0.0270	0.0130
Uranus	-31258-12-21 04:04 J	-9695207.39	-9695207.33	-9695207.24	0.0136	0.0127
Saturn	-31257-01-23 06:43 J	-9695174.30	-9695174.22	-9695174.15	0.0269	0.0250
Uranus	-31257-08-03 09:50 J	-9694981.20	-9694981.09	-9694980.97	0.0136	0.0113
Uranus	-31256-03-17 15:07 J	-9694755.00	-9694754.87	-9694754.71	0.0136	0.0101
Uranus	-31256-10-29 20:52 J	-9694528.78	-9694528.63	-9694528.45	0.0137	0.0087
Uranus	-31255-06-13 02:52 J	-9694302.55	-9694302.38	-9694302.19	0.0137	0.0073
Uranus	-31254-01-25 09:07 J	-9694076.31	-9694076.12	-9694075.93	0.0137	0.0059
Mars	-31254-03-14 06:28 J	-9694028.38	-9694028.23	-9694028.08	0.1856	0.0804
Uranus	-31254-09-08 15:07 J	-9693850.07	-9693849.87	-9693849.66	0.0138	0.0044
Jupiter	-31253-02-25 17:59 J	-9693679.96	-9693679.75	-9693679.54	0.0528	0.0027
Uranus	-31253-04-21 21:21 J	-9693623.82	-9693623.61	-9693623.40	0.0138	0.0030
Uranus	-31253-12-04 03:50 J	-9693397.55	-9693397.34	-9693397.13	0.0138	0.0015
Uranus	-31252-07-18 10:19 J	-9693171.28	-9693171.07	-9693170.86	0.0139	0.0001
Mars	-31252-12-25 05:59 J	-9693011.39	-9693011.25	-9693011.11	0.1656	0.0974
Uranus	-31251-03-01 17:02 J	-9692945.00	-9692944.79	-9692944.58	0.0139	0.0015
Uranus	-31251-10-13 23:45 J	-9692718.72	-9692718.51	-9692718.30	0.0139	0.0030

Uranus	-31250-05-28 06:28 J	-9692492.42	-9692492.23	-9692492.02	0.0140	0.0046
Uranus	-31249-01-09 13:40 J	-9692266.11	-9692265.93	-9692265.72	0.0140	0.0061
Uranus	-31249-08-22 21:21 J	-9692039.79	-9692039.61	-9692039.43	0.0140	0.0076
Uranus	-31248-04-06 04:33 J	-9691813.46	-9691813.31	-9691813.14	0.0141	0.0091
Jupiter	-31248-05-10 08:38 J	-9691779.31	-9691779.14	-9691778.97	0.0505	0.0270
Uranus	-31248-11-18 12:14 J	-9691587.13	-9691586.99	-9691586.85	0.0141	0.0106
Jupiter	-31247-01-01 08:23 J	-9691543.32	-9691543.15	-9691542.97	0.0497	0.0252
Uranus	-31247-07-02 19:40 J	-9691360.77	-9691360.68	-9691360.56	0.0141	0.0122
Uranus	-31246-02-14 03:35 J	-9691134.38	-9691134.35	-9691134.27	0.0142	0.0137
Saturn	-31244-03-31 13:26 J	-9690358.11	-9690357.94	-9690357.74	0.0288	0.0151
Saturn	-31244-11-16 15:35 J	-9690128.07	-9690127.85	-9690127.63	0.0289	0.0009
Saturn	-31243-07-04 18:28 J	-9689897.90	-9689897.73	-9689897.55	0.0289	0.0169
Jupiter	-31242-10-31 07:11 J	-9689414.39	-9689414.20	-9689414.00	0.0525	0.0148
Jupiter	-31241-06-25 12:14 J	-9689176.05	-9689175.99	-9689175.91	0.0533	0.0498
Jupiter	-31236-01-13 08:38 J	-9687513.25	-9687513.14	-9687513.03	0.0508	0.0421
Jupiter	-31236-09-06 10:47 J	-9687277.25	-9687277.05	-9687276.85	0.0500	0.0109
Saturn	-31230-01-31 15:50 J	-9685303.95	-9685303.84	-9685303.71	0.0272	0.0220
Jupiter	-31230-07-05 20:38 J	-9685148.80	-9685148.64	-9685148.48	0.0522	0.0321
Saturn	-31230-09-17 16:04 J	-9685075.02	-9685074.83	-9685074.63	0.0271	0.0095
Jupiter	-31229-02-28 23:45 J	-9684910.67	-9684910.51	-9684910.34	0.0531	0.0317
Saturn	-31229-05-03 15:21 J	-9684846.06	-9684845.86	-9684845.65	0.0271	0.0029
Saturn	-31229-12-18 13:55 J	-9684617.09	-9684616.92	-9684616.75	0.0270	0.0151
Saturn	-31228-08-04 12:14 J	-9684387.99	-9684387.99	-9684387.99	0.0269	0.0269
Jupiter	-31224-05-12 14:38 J	-9683011.09	-9683010.89	-9683010.69	0.0502	0.0036
Jupiter	-31223-01-03 12:43 J	-9682775.02	-9682774.97	-9682774.91	0.0494	0.0473
Mars	-31222-03-13 20:09 J	-9682340.80	-9682340.66	-9682340.53	0.1864	0.1148
Jupiter	-31218-03-10 09:07 J	-9680883.18	-9680883.12	-9680883.05	0.0519	0.0491
Uranus	-31218-08-23 21:21 J	-9680716.67	-9680716.61	-9680716.51	0.0143	0.0132
Mars	-31218-10-23 16:33 J	-9680655.98	-9680655.81	-9680655.64	0.1664	0.0466
Jupiter	-31218-11-03 10:33 J	-9680645.25	-9680645.06	-9680644.85	0.0529	0.0135

Uranus	-31217-04-06 09:35 J	-9680490.22	-9680490.10	-9680489.96	0.0143	0.0116
Uranus	-31217-11-18 21:35 J	-9680263.75	-9680263.60	-9680263.43	0.0142	0.0099
Uranus	-31216-07-03 09:21 J	-9680037.27	-9680037.11	-9680036.91	0.0142	0.0083
Uranus	-31215-02-14 21:07 J	-9679810.80	-9679810.62	-9679810.41	0.0142	0.0067
Saturn	-31215-02-23 20:38 J	-9679801.69	-9679801.64	-9679801.59	0.0287	0.0278
Uranus	-31215-09-29 08:52 J	-9679584.33	-9679584.13	-9679583.92	0.0141	0.0050
Saturn	-31215-10-11 21:21 J	-9679571.81	-9679571.61	-9679571.42	0.0288	0.0124
Uranus	-31214-05-13 20:23 J	-9679357.87	-9679357.65	-9679357.43	0.0141	0.0033
Saturn	-31214-05-29 23:02 J	-9679341.75	-9679341.54	-9679341.32	0.0289	0.0036
Uranus	-31214-12-26 07:40 J	-9679131.40	-9679131.18	-9679130.96	0.0141	0.0017
Saturn	-31213-01-15 01:55 J	-9679111.58	-9679111.42	-9679111.26	0.0290	0.0196
Uranus	-31213-08-08 18:43 J	-9678904.94	-9678904.72	-9678904.49	0.0140	0.0003
Jupiter	-31212-01-15 18:28 J	-9678744.91	-9678744.73	-9678744.54	0.0504	0.0180
Uranus	-31212-03-23 05:45 J	-9678678.48	-9678678.26	-9678678.04	0.0140	0.0016
Jupiter	-31212-09-08 17:59 J	-9678508.90	-9678508.75	-9678508.60	0.0496	0.0337
Uranus	-31212-11-04 16:33 J	-9678452.02	-9678451.81	-9678451.59	0.0139	0.0032
Uranus	-31211-06-19 03:07 J	-9678225.57	-9678225.37	-9678225.15	0.0139	0.0049
Uranus	-31210-01-31 13:40 J	-9677999.11	-9677998.93	-9677998.72	0.0139	0.0064
Uranus	-31210-09-15 00:14 J	-9677772.67	-9677772.49	-9677772.30	0.0138	0.0079
Uranus	-31209-04-28 10:04 J	-9677546.22	-9677546.08	-9677545.90	0.0138	0.0094
Uranus	-31209-12-10 20:09 J	-9677319.78	-9677319.66	-9677319.51	0.0138	0.0109
Uranus	-31208-07-25 06:28 J	-9677093.32	-9677093.23	-9677093.13	0.0137	0.0123
Uranus	-31207-03-08 16:19 J	-9676866.84	-9676866.82	-9676866.80	0.0137	0.0137
Moon	-31207-10-24 10:04 J	-9676637.23	-9676637.08	-9676636.93	0.2644	0.0848
Earth	-31207-10-24 13:11 J	-9676637.11	-9676636.95	-9676636.80	0.2638	0.0984 *
Jupiter	-31206-07-08 23:59 J	-9676379.71	-9676379.50	-9676379.30	0.0526	0.0045
Saturn	-31201-08-12 16:19 J	-9674517.95	-9674517.82	-9674517.68	0.0272	0.0204
Jupiter	-31201-09-20 21:35 J	-9674478.74	-9674478.60	-9674478.44	0.0506	0.0327
Neptune	-31201-10-01 06:43 J	-9674468.26	-9674468.22	-9674468.13	0.0089	0.0085
Saturn	-31200-03-29 16:19 J	-9674289.02	-9674288.82	-9674288.62	0.0271	0.0080

Neptune -31200-05-14 19:26 J -9674242.77 -9674242.69 -9674242.57 0.0089 0.0079
 Jupiter -31200-05-14 22:19 J -9674242.75 -9674242.57 -9674242.38 0.0498 0.0199 *
 Saturn -31200-11-13 15:21 J -9674060.06 -9674059.86 -9674059.66 0.0270 0.0044
 Neptune -31200-12-26 07:55 J -9674017.28 -9674017.17 -9674017.03 0.0089 0.0073
 Saturn -31199-06-30 13:40 J -9673831.09 -9673830.93 -9673830.76 0.0270 0.0165
 Neptune -31199-08-08 20:23 J -9673791.78 -9673791.65 -9673791.49 0.0089 0.0067
 Moon -31199-10-22 02:52 J -9673717.44 -9673717.38 -9673717.32 0.2644 0.2431
 Neptune -31198-03-22 08:52 J -9673566.27 -9673566.13 -9673565.95 0.0089 0.0061
 Neptune -31198-11-02 21:21 J -9673340.76 -9673340.61 -9673340.42 0.0089 0.0055
 Neptune -31197-06-15 09:50 J -9673115.25 -9673115.09 -9673114.89 0.0089 0.0049
 Neptune -31196-01-26 22:47 J -9672889.74 -9672889.55 -9672889.36 0.0088 0.0042
 Neptune -31196-09-09 11:16 J -9672664.23 -9672664.03 -9672663.83 0.0088 0.0036
 Neptune -31195-04-22 23:45 J -9672438.71 -9672438.51 -9672438.30 0.0088 0.0030
 Neptune -31195-12-04 12:14 J -9672213.19 -9672212.99 -9672212.77 0.0088 0.0024
 Jupiter -31194-03-13 14:09 J -9672114.09 -9672113.91 -9672113.72 0.0524 0.0218
 Neptune -31194-07-18 00:57 J -9671987.67 -9671987.46 -9671987.24 0.0088 0.0017
 Jupiter -31194-11-06 19:11 J -9671875.81 -9671875.70 -9671875.57 0.0533 0.0427
 Neptune -31193-02-28 13:26 J -9671762.15 -9671761.94 -9671761.72 0.0088 0.0011
 Neptune -31193-10-11 02:09 J -9671536.63 -9671536.41 -9671536.19 0.0088 0.0005
 Neptune -31192-05-24 14:38 J -9671311.10 -9671310.89 -9671310.67 0.0088 0.0003
 Neptune -31191-01-05 03:21 J -9671085.58 -9671085.36 -9671085.14 0.0088 0.0008
 Neptune -31191-08-18 15:50 J -9670860.05 -9670859.84 -9670859.62 0.0088 0.0014
 Neptune -31190-04-01 04:33 J -9670634.52 -9670634.31 -9670634.09 0.0088 0.0021
 Neptune -31190-11-12 17:16 J -9670408.98 -9670408.78 -9670408.56 0.0088 0.0027
 Jupiter -31189-05-26 23:59 J -9670212.57 -9670212.50 -9670212.42 0.0509 0.0473
 Neptune -31189-06-25 05:45 J -9670183.45 -9670183.26 -9670183.04 0.0088 0.0033
 Mars -31188-01-08 11:45 J -9669986.15 -9669986.01 -9669985.88 0.1853 0.1129
 Jupiter -31188-01-18 02:23 J -9669976.60 -9669976.40 -9669976.20 0.0500 0.0056
 Neptune -31188-02-05 18:28 J -9669957.91 -9669957.73 -9669957.52 0.0088 0.0040
 Neptune -31188-09-19 07:11 J -9669732.37 -9669732.20 -9669731.99 0.0088 0.0046

Neptune -31187-05-02 20:23 J -9669506.82 -9669506.65 -9669506.46 0.0088 0.0051
 Neptune -31187-12-14 09:21 J -9669281.27 -9669281.11 -9669280.94 0.0088 0.0058
 Neptune -31186-07-27 22:04 J -9669055.73 -9669055.58 -9669055.42 0.0088 0.0064
 Saturn -31186-09-05 20:52 J -9669015.71 -9669015.63 -9669015.54 0.0287 0.0263
 Mars -31186-10-22 16:19 J -9668968.97 -9668968.82 -9668968.66 0.1658 0.0824
 Neptune -31185-03-09 10:19 J -9668830.18 -9668830.07 -9668829.91 0.0088 0.0071
 Saturn -31185-04-22 21:35 J -9668785.79 -9668785.60 -9668785.39 0.0288 0.0109
 Neptune -31185-10-20 23:16 J -9668604.62 -9668604.53 -9668604.40 0.0088 0.0076
 Saturn -31185-12-08 23:45 J -9668555.72 -9668555.51 -9668555.29 0.0289 0.0050
 Neptune -31184-06-03 12:14 J -9668379.05 -9668378.99 -9668378.89 0.0088 0.0082
 Saturn -31184-07-27 02:38 J -9668325.53 -9668325.39 -9668325.23 0.0289 0.0211
 Neptune -31183-01-15 01:11 J -9668153.45 -9668153.45 -9668153.42 0.0088 0.0088
 Jupiter -31183-11-16 05:02 J -9667848.43 -9667848.29 -9667848.15 0.0521 0.0384
 Jupiter -31182-07-12 07:26 J -9667610.37 -9667610.19 -9667610.00 0.0530 0.0249
 Jupiter -31177-09-23 03:35 J -9665710.54 -9665710.35 -9665710.15 0.0503 0.0092
 Jupiter -31176-05-17 02:38 J -9665474.50 -9665474.39 -9665474.29 0.0495 0.0419
 Uranus -31174-08-20 16:47 J -9664648.84 -9664648.80 -9664648.73 0.0136 0.0131
 Uranus -31173-04-02 22:19 J -9664422.66 -9664422.57 -9664422.46 0.0136 0.0118
 Uranus -31173-11-15 04:04 J -9664196.46 -9664196.33 -9664196.19 0.0136 0.0105
 Uranus -31172-06-29 09:50 J -9663970.25 -9663970.09 -9663969.93 0.0136 0.0091
 Uranus -31171-02-10 15:35 J -9663744.02 -9663743.85 -9663743.67 0.0137 0.0077
 Saturn -31171-02-22 21:21 J -9663731.76 -9663731.61 -9663731.45 0.0272 0.0183
 Uranus -31171-09-24 21:21 J -9663517.79 -9663517.61 -9663517.41 0.0137 0.0063
 Saturn -31171-10-09 21:21 J -9663502.81 -9663502.61 -9663502.40 0.0271 0.0059
 Jupiter -31170-03-16 19:40 J -9663344.89 -9663344.68 -9663344.48 0.0527 0.0068
 Uranus -31170-05-09 03:35 J -9663291.55 -9663291.35 -9663291.15 0.0137 0.0049
 Saturn -31170-05-26 20:38 J -9663273.84 -9663273.64 -9663273.44 0.0271 0.0065
 Uranus -31170-12-21 09:50 J -9663065.30 -9663065.09 -9663064.88 0.0138 0.0034
 Saturn -31169-01-10 19:11 J -9663044.84 -9663044.70 -9663044.55 0.0270 0.0186
 Uranus -31169-08-03 16:19 J -9662839.04 -9662838.82 -9662838.61 0.0138 0.0020

Uranus	-31168-03-17 22:33 J	-9662612.77	-9662612.56	-9662612.34	0.0138	0.0005
Uranus	-31168-10-30 05:16 J	-9662386.49	-9662386.28	-9662386.07	0.0139	0.0011
Uranus	-31167-06-13 11:59 J	-9662160.21	-9662160.00	-9662159.79	0.0139	0.0026
Uranus	-31166-01-25 18:57 J	-9661933.91	-9661933.71	-9661933.50	0.0139	0.0041
Uranus	-31166-09-09 01:55 J	-9661707.60	-9661707.42	-9661707.22	0.0140	0.0057
Uranus	-31165-04-22 09:07 J	-9661481.29	-9661481.12	-9661480.93	0.0140	0.0072
Jupiter	-31165-05-29 06:28 J	-9661444.41	-9661444.23	-9661444.05	0.0505	0.0238
Uranus	-31165-12-04 16:19 J	-9661254.97	-9661254.82	-9661254.64	0.0140	0.0088
Jupiter	-31164-01-20 06:43 J	-9661208.38	-9661208.22	-9661208.05	0.0497	0.0283
Uranus	-31164-07-18 23:45 J	-9661028.64	-9661028.51	-9661028.35	0.0141	0.0103
Uranus	-31163-03-02 07:40 J	-9660802.28	-9660802.18	-9660802.05	0.0141	0.0118
Uranus	-31163-10-14 15:21 J	-9660575.91	-9660575.86	-9660575.77	0.0142	0.0134
Jupiter	-31159-11-19 06:43 J	-9659079.42	-9659079.22	-9659079.01	0.0525	0.0114
Jupiter	-31158-07-15 11:59 J	-9658841.02	-9658841.00	-9658840.98	0.0533	0.0530
Pluto	-31158-10-14 23:31 J	-9658749.59	-9658749.52	-9658749.41	0.0064	0.0059
Pluto	-31157-05-27 03:21 J	-9658524.55	-9658524.36	-9658524.14	0.0065	0.0020
Pluto	-31156-01-07 07:26 J	-9658299.39	-9658299.19	-9658298.98	0.0065	0.0020
Mars	-31156-01-08 00:57 J	-9658298.61	-9658298.46	-9658298.31	0.1861	0.0799
Saturn	-31156-03-18 05:02 J	-9658229.40	-9658229.29	-9658229.16	0.0287	0.0237
Pluto	-31156-08-20 11:02 J	-9658074.10	-9658074.04	-9658073.95	0.0065	0.0060
Saturn	-31156-11-03 06:14 J	-9657999.45	-9657999.24	-9657999.03	0.0288	0.0081
Saturn	-31155-06-21 08:09 J	-9657769.36	-9657769.16	-9657768.94	0.0289	0.0080
Saturn	-31154-02-06 11:16 J	-9657539.15	-9657539.03	-9657538.91	0.0290	0.0238
Jupiter	-31153-02-02 09:50 J	-9657178.22	-9657178.09	-9657177.96	0.0508	0.0384
Jupiter	-31153-09-25 11:45 J	-9656942.21	-9656942.01	-9656941.82	0.0499	0.0143
Mars	-31152-08-20 02:38 J	-9656613.56	-9656613.39	-9656613.23	0.1667	0.0626
Jupiter	-31147-07-24 20:23 J	-9654813.82	-9654813.65	-9654813.47	0.0522	0.0286
Jupiter	-31146-03-20 00:14 J	-9654575.64	-9654575.49	-9654575.34	0.0531	0.0352
Saturn	-31142-09-04 23:02 J	-9652945.70	-9652945.54	-9652945.38	0.0272	0.0166
Saturn	-31141-04-20 22:33 J	-9652716.76	-9652716.56	-9652716.35	0.0271	0.0043

Jupiter	-31141-05-31 15:35 J	-9652676.05	-9652675.85	-9652675.65	0.0501	0.0009
Saturn	-31141-12-05 21:35 J	-9652487.80	-9652487.60	-9652487.40	0.0270	0.0081
Saturn	-31140-07-22 19:40 J	-9652258.80	-9652258.68	-9652258.53	0.0270	0.0202
Jupiter	-31135-03-29 11:31 J	-9650548.12	-9650548.02	-9650547.92	0.0520	0.0450
Jupiter	-31135-11-22 13:40 J	-9650310.12	-9650309.93	-9650309.73	0.0529	0.0175
Uranus	-31134-04-23 06:28 J	-9650158.28	-9650158.23	-9650158.17	0.0143	0.0138
Uranus	-31134-12-05 18:43 J	-9649931.83	-9649931.72	-9649931.60	0.0143	0.0121
Uranus	-31133-07-19 06:43 J	-9649705.37	-9649705.22	-9649705.07	0.0142	0.0105
Uranus	-31132-03-02 18:28 J	-9649478.90	-9649478.73	-9649478.55	0.0142	0.0088
Uranus	-31132-10-15 05:59 J	-9649252.43	-9649252.25	-9649252.04	0.0142	0.0072
Uranus	-31131-05-29 17:59 J	-9649025.95	-9649025.75	-9649025.54	0.0141	0.0055
Uranus	-31130-01-11 05:31 J	-9648799.48	-9648799.27	-9648799.06	0.0141	0.0038
Uranus	-31130-08-25 16:47 J	-9648573.02	-9648572.80	-9648572.58	0.0141	0.0022
Jupiter	-31129-02-04 18:57 J	-9648409.90	-9648409.71	-9648409.51	0.0504	0.0145
Uranus	-31129-04-08 04:04 J	-9648346.55	-9648346.33	-9648346.11	0.0140	0.0005
Jupiter	-31129-09-27 17:59 J	-9648173.88	-9648173.75	-9648173.61	0.0496	0.0367
Uranus	-31129-11-20 15:07 J	-9648120.09	-9648119.87	-9648119.65	0.0140	0.0011
Uranus	-31128-07-05 02:09 J	-9647893.63	-9647893.41	-9647893.19	0.0140	0.0028
Uranus	-31127-02-16 12:57 J	-9647667.17	-9647666.96	-9647666.75	0.0139	0.0044
Saturn	-31127-09-28 05:59 J	-9647443.38	-9647443.25	-9647443.11	0.0287	0.0221
Uranus	-31127-09-30 23:16 J	-9647440.72	-9647440.53	-9647440.31	0.0139	0.0060
Uranus	-31126-05-15 09:50 J	-9647214.27	-9647214.09	-9647213.89	0.0139	0.0075
Saturn	-31126-05-16 06:57 J	-9647213.41	-9647213.21	-9647212.99	0.0288	0.0067
Uranus	-31126-12-27 19:55 J	-9646987.82	-9646987.67	-9646987.48	0.0138	0.0091
Saturn	-31125-01-01 09:21 J	-9646983.31	-9646983.11	-9646982.90	0.0289	0.0093
Uranus	-31125-08-10 06:14 J	-9646761.37	-9646761.24	-9646761.08	0.0138	0.0105
Saturn	-31125-08-18 12:28 J	-9646753.08	-9646752.98	-9646752.87	0.0289	0.0253
Uranus	-31124-03-24 16:04 J	-9646534.92	-9646534.83	-9646534.70	0.0138	0.0120
Uranus	-31124-11-06 02:09 J	-9646308.45	-9646308.41	-9646308.36	0.0137	0.0134
Jupiter	-31123-07-28 03:07 J	-9646044.58	-9646044.37	-9646044.16	0.0526	0.0002

Mars	-31123-11-05 17:59 J	-9645943.86	-9645943.75	-9645943.65	0.1850	0.1436
Mars	-31120-08-19 02:52 J	-9644926.54	-9644926.38	-9644926.22	0.1660	0.0679
Jupiter	-31118-10-10 19:11 J	-9644143.86	-9644143.70	-9644143.54	0.0506	0.0295
Neptune	-31117-02-13 14:09 J	-9644017.97	-9644017.91	-9644017.83	0.0089	0.0084
Jupiter	-31117-06-02 19:55 J	-9643907.84	-9643907.67	-9643907.48	0.0498	0.0229
Neptune	-31117-09-26 03:35 J	-9643792.43	-9643792.35	-9643792.22	0.0089	0.0078
Neptune	-31116-05-09 17:16 J	-9643566.89	-9643566.78	-9643566.63	0.0089	0.0072
Neptune	-31116-12-21 06:43 J	-9643341.35	-9643341.22	-9643341.05	0.0089	0.0066
Neptune	-31115-08-03 20:23 J	-9643115.81	-9643115.65	-9643115.48	0.0089	0.0059
Neptune	-31114-03-17 09:50 J	-9642890.26	-9642890.09	-9642889.90	0.0089	0.0053
Neptune	-31114-10-28 23:16 J	-9642664.70	-9642664.53	-9642664.32	0.0089	0.0047
Neptune	-31113-06-10 13:11 J	-9642439.15	-9642438.95	-9642438.75	0.0089	0.0040
Saturn	-31113-07-31 02:38 J	-9642388.41	-9642388.39	-9642388.35	0.0273	0.0269
Neptune	-31112-01-22 02:23 J	-9642213.59	-9642213.40	-9642213.18	0.0089	0.0034
Saturn	-31112-03-17 03:35 J	-9642159.52	-9642159.35	-9642159.17	0.0272	0.0145
Neptune	-31112-09-04 15:50 J	-9641988.04	-9641987.84	-9641987.62	0.0089	0.0028
Saturn	-31112-11-01 03:35 J	-9641930.56	-9641930.35	-9641930.14	0.0271	0.0020
Jupiter	-31111-04-01 16:04 J	-9641779.02	-9641778.83	-9641778.63	0.0523	0.0176
Neptune	-31111-04-18 05:31 J	-9641762.48	-9641762.27	-9641762.05	0.0089	0.0021
Saturn	-31111-06-18 02:38 J	-9641701.58	-9641701.39	-9641701.20	0.0271	0.0102
Jupiter	-31111-11-25 20:09 J	-9641540.75	-9641540.66	-9641540.55	0.0532	0.0463
Neptune	-31111-11-29 18:57 J	-9641536.92	-9641536.71	-9641536.48	0.0089	0.0015
Saturn	-31110-02-02 01:26 J	-9641472.56	-9641472.44	-9641472.33	0.0270	0.0222
Neptune	-31110-07-13 08:38 J	-9641311.36	-9641311.14	-9641310.92	0.0089	0.0008
Neptune	-31109-02-23 21:50 J	-9641085.81	-9641085.59	-9641085.36	0.0089	0.0003
Neptune	-31109-10-06 11:31 J	-9640860.24	-9640860.02	-9640859.80	0.0089	0.0005
Neptune	-31108-05-20 00:43 J	-9640634.68	-9640634.47	-9640634.25	0.0089	0.0011
Neptune	-31108-12-31 14:09 J	-9640409.13	-9640408.91	-9640408.69	0.0089	0.0017
Neptune	-31107-08-14 03:07 J	-9640183.57	-9640183.37	-9640183.14	0.0089	0.0024
Neptune	-31106-03-27 16:33 J	-9639958.01	-9639957.81	-9639957.60	0.0089	0.0030

Jupiter	-31106-06-15 20:52 J	-9639877.73	-9639877.63	-9639877.53	0.0509	0.0443
Neptune	-31106-11-08 05:59 J	-9639732.45	-9639732.25	-9639732.05	0.0089	0.0036
Jupiter	-31105-02-06 23:45 J	-9639641.71	-9639641.51	-9639641.31	0.0500	0.0086
Neptune	-31105-06-20 18:43 J	-9639506.89	-9639506.72	-9639506.50	0.0089	0.0043
Neptune	-31104-02-01 07:55 J	-9639281.33	-9639281.17	-9639280.97	0.0089	0.0049
Neptune	-31104-09-14 21:07 J	-9639055.77	-9639055.62	-9639055.43	0.0089	0.0055
Neptune	-31103-04-28 10:33 J	-9638830.21	-9638830.06	-9638829.89	0.0089	0.0061
Neptune	-31103-12-09 23:45 J	-9638604.64	-9638604.51	-9638604.36	0.0089	0.0067
Neptune	-31102-07-23 12:57 J	-9638379.08	-9638378.96	-9638378.83	0.0089	0.0074
Neptune	-31101-03-05 01:26 J	-9638153.51	-9638153.44	-9638153.31	0.0089	0.0080
Neptune	-31101-10-16 14:38 J	-9637927.92	-9637927.89	-9637927.80	0.0089	0.0086
Jupiter	-31100-12-05 03:35 J	-9637513.50	-9637513.35	-9637513.19	0.0521	0.0351
Jupiter	-31099-07-31 06:14 J	-9637275.42	-9637275.24	-9637275.07	0.0530	0.0280
Saturn	-31097-04-09 15:50 J	-9636657.00	-9636656.84	-9636656.67	0.0288	0.0192
Saturn	-31097-11-25 17:02 J	-9636427.00	-9636426.79	-9636426.57	0.0288	0.0035
Saturn	-31096-07-13 19:26 J	-9636196.89	-9636196.69	-9636196.49	0.0289	0.0124
Saturn	-31095-02-28 22:19 J	-9635966.61	-9635966.57	-9635966.52	0.0290	0.0283
Jupiter	-31094-10-13 03:50 J	-9635375.53	-9635375.34	-9635375.14	0.0503	0.0059
Jupiter	-31093-06-05 02:38 J	-9635139.47	-9635139.39	-9635139.31	0.0495	0.0449
Mars	-31091-11-05 07:11 J	-9634256.37	-9634256.20	-9634256.03	0.1858	0.0481
Uranus	-31090-04-20 05:16 J	-9634090.28	-9634090.28	-9634090.27	0.0135	0.0135
Uranus	-31090-12-02 10:19 J	-9633864.14	-9633864.07	-9633863.95	0.0136	0.0123
Uranus	-31089-07-15 16:04 J	-9633637.94	-9633637.83	-9633637.69	0.0136	0.0109
Uranus	-31088-02-26 21:50 J	-9633411.73	-9633411.59	-9633411.43	0.0136	0.0095
Jupiter	-31088-08-09 17:59 J	-9633247.77	-9633247.75	-9633247.72	0.0518	0.0514
Uranus	-31088-10-11 03:35 J	-9633185.51	-9633185.35	-9633185.17	0.0137	0.0082
Jupiter	-31087-04-04 18:43 J	-9633009.92	-9633009.72	-9633009.52	0.0528	0.0101
Uranus	-31087-05-25 09:21 J	-9632959.28	-9632959.11	-9632958.91	0.0137	0.0068
Uranus	-31086-01-06 15:35 J	-9632733.04	-9632732.85	-9632732.64	0.0137	0.0053
Mars	-31086-06-17 12:57 J	-9632571.12	-9632570.96	-9632570.81	0.1669	0.0781

Uranus	-31086-08-20 21:50 J	-9632506.79	-9632506.59	-9632506.38	0.0137	0.0039
Uranus	-31085-04-03 04:04 J	-9632280.54	-9632280.33	-9632280.12	0.0138	0.0024
Uranus	-31085-11-15 10:33 J	-9632054.27	-9632054.06	-9632053.85	0.0138	0.0009
Uranus	-31084-06-29 17:02 J	-9631828.00	-9631827.79	-9631827.57	0.0138	0.0006
Saturn	-31083-02-10 05:31 J	-9631602.34	-9631602.27	-9631602.18	0.0272	0.0251
Uranus	-31083-02-10 23:45 J	-9631601.72	-9631601.51	-9631601.29	0.0139	0.0022
Uranus	-31083-09-25 06:28 J	-9631375.43	-9631375.23	-9631375.02	0.0139	0.0037
Saturn	-31083-09-27 05:59 J	-9631373.42	-9631373.25	-9631373.06	0.0271	0.0128
Uranus	-31082-05-09 13:26 J	-9631149.13	-9631148.94	-9631148.74	0.0140	0.0053
Saturn	-31082-05-14 05:59 J	-9631144.46	-9631144.25	-9631144.05	0.0271	0.0006
Jupiter	-31082-06-18 07:26 J	-9631109.38	-9631109.19	-9631109.01	0.0505	0.0203
Uranus	-31082-12-21 20:38 J	-9630922.82	-9630922.64	-9630922.45	0.0140	0.0068
Saturn	-31082-12-29 04:47 J	-9630915.48	-9630915.30	-9630915.11	0.0270	0.0119
Jupiter	-31081-02-09 06:57 J	-9630873.36	-9630873.21	-9630873.05	0.0497	0.0314
Uranus	-31081-08-04 03:50 J	-9630696.50	-9630696.34	-9630696.16	0.0140	0.0083
Saturn	-31081-08-14 02:52 J	-9630686.46	-9630686.38	-9630686.27	0.0270	0.0239
Uranus	-31080-03-18 11:16 J	-9630470.18	-9630470.03	-9630469.88	0.0141	0.0099
Uranus	-31080-10-30 18:43 J	-9630243.84	-9630243.72	-9630243.59	0.0141	0.0114
Uranus	-31079-06-14 02:23 J	-9630017.47	-9630017.40	-9630017.31	0.0141	0.0130
Jupiter	-31076-12-08 08:38 J	-9628744.35	-9628744.14	-9628743.94	0.0525	0.0074
Jupiter	-31070-02-21 09:50 J	-9626843.23	-9626843.09	-9626842.94	0.0507	0.0349
Jupiter	-31070-10-15 11:16 J	-9626607.22	-9626607.03	-9626606.84	0.0499	0.0174
Pluto	-31069-01-27 23:16 J	-9626502.62	-9626502.53	-9626502.40	0.0080	0.0070
Pluto	-31069-09-09 10:33 J	-9626277.28	-9626277.06	-9626276.83	0.0079	0.0007
Saturn	-31068-10-20 16:47 J	-9625870.96	-9625870.80	-9625870.62	0.0287	0.0177
Saturn	-31067-06-07 18:14 J	-9625640.96	-9625640.74	-9625640.52	0.0288	0.0020
Saturn	-31066-01-23 20:38 J	-9625410.83	-9625410.64	-9625410.45	0.0289	0.0139
Jupiter	-31064-08-12 23:02 J	-9624478.72	-9624478.54	-9624478.35	0.0522	0.0243
Jupiter	-31063-04-08 02:52 J	-9624240.51	-9624240.38	-9624240.24	0.0531	0.0393
Earth	-31061-04-21 15:50 J	-9623495.99	-9623495.84	-9623495.69	0.2695	0.0490

Moon	-31061-04-21 19:55 J	-9623495.82	-9623495.67	-9623495.52	0.2691	0.0967 *
Jupiter	-31059-10-27 08:52 J	-9622577.16	-9622577.13	-9622577.09	0.0510	0.0500
Jupiter	-31058-06-20 12:28 J	-9622341.18	-9622340.98	-9622340.78	0.0501	0.0028
Mars	-31057-09-01 23:45 J	-9621901.56	-9621901.51	-9621901.45	0.1847	0.1737
Mars	-31054-06-16 13:11 J	-9620884.12	-9620883.95	-9620883.79	0.1662	0.0523
Saturn	-31054-08-23 10:04 J	-9620816.18	-9620816.08	-9620815.96	0.0273	0.0230
Saturn	-31053-04-08 11:02 J	-9620587.23	-9620587.04	-9620586.85	0.0272	0.0105
Saturn	-31053-11-23 10:47 J	-9620358.26	-9620358.05	-9620357.84	0.0271	0.0019
Jupiter	-31052-04-17 13:11 J	-9620213.08	-9620212.95	-9620212.82	0.0520	0.0410
Saturn	-31052-07-10 09:50 J	-9620129.26	-9620129.09	-9620128.91	0.0271	0.0141
Jupiter	-31052-12-11 14:38 J	-9619975.08	-9619974.89	-9619974.70	0.0529	0.0214
Saturn	-31051-02-24 08:09 J	-9619900.20	-9619900.16	-9619900.09	0.0270	0.0260
Uranus	-31050-08-05 01:40 J	-9619373.51	-9619373.43	-9619373.31	0.0143	0.0128
Uranus	-31049-03-18 14:09 J	-9619147.05	-9619146.91	-9619146.77	0.0143	0.0111
Uranus	-31049-10-31 01:55 J	-9618920.58	-9618920.42	-9618920.25	0.0142	0.0094
Uranus	-31048-06-14 13:40 J	-9618694.10	-9618693.93	-9618693.73	0.0142	0.0078
Uranus	-31047-01-27 01:40 J	-9618467.63	-9618467.43	-9618467.23	0.0142	0.0061
Uranus	-31047-09-10 12:57 J	-9618241.16	-9618240.96	-9618240.74	0.0141	0.0045
Jupiter	-31046-02-23 15:07 J	-9618075.06	-9618074.87	-9618074.67	0.0504	0.0117
Uranus	-31046-04-25 00:43 J	-9618014.69	-9618014.47	-9618014.26	0.0141	0.0027
Jupiter	-31046-10-17 14:38 J	-9617839.01	-9617838.89	-9617838.77	0.0496	0.0394
Uranus	-31046-12-07 11:59 J	-9617788.22	-9617788.00	-9617787.78	0.0141	0.0011
Uranus	-31045-07-20 23:16 J	-9617561.75	-9617561.53	-9617561.31	0.0140	0.0006
Uranus	-31044-03-04 10:19 J	-9617335.29	-9617335.07	-9617334.85	0.0140	0.0022
Uranus	-31044-10-16 21:07 J	-9617108.83	-9617108.62	-9617108.40	0.0139	0.0039
Uranus	-31043-05-31 07:40 J	-9616882.37	-9616882.18	-9616881.96	0.0139	0.0055
Uranus	-31042-01-12 18:14 J	-9616655.92	-9616655.74	-9616655.54	0.0139	0.0071
Uranus	-31042-08-27 04:33 J	-9616429.47	-9616429.31	-9616429.12	0.0138	0.0087
Uranus	-31041-04-09 14:52 J	-9616203.02	-9616202.88	-9616202.72	0.0138	0.0101
Uranus	-31041-11-22 00:57 J	-9615976.57	-9615976.46	-9615976.33	0.0138	0.0116

Uranus	-31040-07-06 10:47 J	-9615750.10	-9615750.05	-9615749.97	0.0137	0.0131
Jupiter	-31040-08-16 00:43 J	-9615709.67	-9615709.47	-9615709.26	0.0526	0.0032
Saturn	-31038-05-03 04:04 J	-9615084.51	-9615084.33	-9615084.14	0.0288	0.0145
Saturn	-31038-12-19 05:31 J	-9614854.49	-9614854.27	-9614854.05	0.0289	0.0012
Saturn	-31037-08-05 07:55 J	-9614624.34	-9614624.17	-9614623.99	0.0289	0.0172
Neptune	-31036-01-02 15:50 J	-9614473.86	-9614473.84	-9614473.77	0.0089	0.0087
Neptune	-31036-08-16 04:19 J	-9614248.38	-9614248.32	-9614248.21	0.0089	0.0081
Neptune	-31035-03-29 17:02 J	-9614022.89	-9614022.79	-9614022.66	0.0089	0.0075
Jupiter	-31035-10-29 18:28 J	-9613808.89	-9613808.73	-9613808.55	0.0506	0.0264
Neptune	-31035-11-10 05:31 J	-9613797.39	-9613797.27	-9613797.12	0.0089	0.0069
Jupiter	-31034-06-22 19:26 J	-9613572.86	-9613572.69	-9613572.51	0.0498	0.0257
Neptune	-31034-06-23 18:14 J	-9613571.88	-9613571.74	-9613571.58	0.0089	0.0063
Neptune	-31033-02-04 06:43 J	-9613346.38	-9613346.22	-9613346.05	0.0089	0.0057
Neptune	-31033-09-16 19:11 J	-9613120.87	-9613120.70	-9613120.52	0.0089	0.0051
Neptune	-31032-04-30 07:40 J	-9612895.35	-9612895.18	-9612894.98	0.0089	0.0045
Neptune	-31032-12-11 20:23 J	-9612669.84	-9612669.65	-9612669.45	0.0089	0.0039
Neptune	-31031-07-25 08:52 J	-9612444.33	-9612444.13	-9612443.92	0.0089	0.0033
Neptune	-31030-03-07 21:21 J	-9612218.81	-9612218.61	-9612218.39	0.0088	0.0027
Neptune	-31030-10-19 09:50 J	-9611993.29	-9611993.09	-9611992.87	0.0088	0.0021
Neptune	-31029-05-31 22:33 J	-9611767.77	-9611767.56	-9611767.34	0.0088	0.0014
Neptune	-31028-01-12 11:02 J	-9611542.25	-9611542.04	-9611541.82	0.0088	0.0008
Jupiter	-31028-04-20 13:40 J	-9611444.12	-9611443.93	-9611443.72	0.0524	0.0146
Neptune	-31028-08-25 23:45 J	-9611316.73	-9611316.51	-9611316.29	0.0088	0.0002
Jupiter	-31028-12-14 18:14 J	-9611205.81	-9611205.74	-9611205.66	0.0533	0.0492
Neptune	-31027-04-08 12:28 J	-9611091.20	-9611090.98	-9611090.76	0.0088	0.0004
Neptune	-31027-11-20 00:57 J	-9610865.67	-9610865.46	-9610865.24	0.0088	0.0010
Neptune	-31026-07-03 13:26 J	-9610640.15	-9610639.94	-9610639.72	0.0088	0.0017
Neptune	-31025-02-14 02:09 J	-9610414.62	-9610414.41	-9610414.20	0.0088	0.0023
Mars	-31025-09-01 12:28 J	-9610214.15	-9610213.98	-9610213.81	0.1855	0.0153
Neptune	-31025-09-26 14:52 J	-9610189.09	-9610188.88	-9610188.67	0.0088	0.0029

Saturn	-31024-03-04 13:55 J	-9610030.04	-9610029.92	-9610029.78	0.0272	0.0211
Neptune	-31024-05-10 03:21 J	-9609963.55	-9609963.36	-9609963.14	0.0088	0.0035
Saturn	-31024-10-19 14:38 J	-9609801.09	-9609800.89	-9609800.69	0.0271	0.0086
Neptune	-31024-12-21 16:04 J	-9609738.01	-9609737.83	-9609737.62	0.0088	0.0041
Saturn	-31023-06-05 14:09 J	-9609572.11	-9609571.91	-9609571.70	0.0271	0.0037
Jupiter	-31023-07-04 21:07 J	-9609542.73	-9609542.62	-9609542.50	0.0509	0.0409
Neptune	-31023-08-04 04:47 J	-9609512.47	-9609512.30	-9609512.10	0.0088	0.0047
Saturn	-31022-01-20 13:11 J	-9609343.12	-9609342.95	-9609342.79	0.0270	0.0158
Jupiter	-31022-02-25 23:31 J	-9609306.71	-9609306.52	-9609306.32	0.0500	0.0118
Neptune	-31022-03-17 17:31 J	-9609286.93	-9609286.77	-9609286.58	0.0088	0.0053
Neptune	-31022-10-29 06:14 J	-9609061.38	-9609061.24	-9609061.06	0.0088	0.0060
Neptune	-31021-06-10 19:11 J	-9608835.83	-9608835.70	-9608835.54	0.0088	0.0065
Neptune	-31020-01-22 07:55 J	-9608610.28	-9608610.17	-9608610.02	0.0088	0.0072
Mars	-31020-04-13 22:47 J	-9608528.69	-9608528.55	-9608528.40	0.1671	0.0945
Neptune	-31020-09-04 20:52 J	-9608384.72	-9608384.63	-9608384.51	0.0088	0.0077
Neptune	-31019-04-18 09:35 J	-9608159.15	-9608159.10	-9608159.00	0.0088	0.0084
Jupiter	-31017-12-24 03:50 J	-9607178.50	-9607178.34	-9607178.17	0.0521	0.0315
Jupiter	-31016-08-19 07:11 J	-9606940.37	-9606940.20	-9606940.04	0.0531	0.0317
Jupiter	-31011-11-01 03:07 J	-9605040.57	-9605040.37	-9605040.17	0.0502	0.0027
Jupiter	-31010-06-25 01:26 J	-9604804.49	-9604804.44	-9604804.39	0.0495	0.0475
Saturn	-31009-03-27 05:59 J	-9604528.29	-9604528.25	-9604528.20	0.0286	0.0280
Saturn	-31009-11-12 05:59 J	-9604298.43	-9604298.25	-9604298.05	0.0287	0.0129
Saturn	-31008-06-30 07:55 J	-9604068.39	-9604068.17	-9604067.96	0.0288	0.0029
Saturn	-31007-02-15 10:19 J	-9603838.23	-9603838.07	-9603837.90	0.0289	0.0187
Uranus	-31006-08-01 22:04 J	-9603305.63	-9603305.58	-9603305.49	0.0136	0.0128
Uranus	-31005-03-15 03:35 J	-9603079.45	-9603079.35	-9603079.22	0.0136	0.0114
Jupiter	-31005-08-28 19:55 J	-9602912.75	-9602912.67	-9602912.59	0.0519	0.0474
Uranus	-31005-10-27 09:21 J	-9602853.25	-9602853.11	-9602852.96	0.0136	0.0100
Jupiter	-31004-04-23 20:52 J	-9602674.83	-9602674.63	-9602674.43	0.0528	0.0143
Uranus	-31004-06-10 15:07 J	-9602627.03	-9602626.87	-9602626.70	0.0136	0.0086

Uranus	-31003-01-22 20:52 J	-9602400.80	-9602400.63	-9602400.44	0.0137	0.0073
Uranus	-31003-09-06 02:52 J	-9602174.56	-9602174.38	-9602174.18	0.0137	0.0058
Uranus	-31002-04-20 09:07 J	-9601948.32	-9601948.12	-9601947.92	0.0137	0.0043
Uranus	-31002-12-02 15:21 J	-9601722.07	-9601721.86	-9601721.65	0.0138	0.0029
Uranus	-31001-07-15 21:35 J	-9601495.81	-9601495.60	-9601495.38	0.0138	0.0014

31ST MILLENNIUM BCE

This is a list of transits of Venus in the 31st millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	-31000-02-27 04:19 J	-9601269.54	-9601269.32	-9601269.11	0.0138	0.0003		
Uranus	-31000-10-11 10:47 J	-9601043.26	-9601043.05	-9601042.84	0.0139	0.0017		
Uranus	-30999-05-25 17:31 J	-9600816.98	-9600816.77	-9600816.56	0.0139	0.0032		
Jupiter	-30999-07-07 03:21 J	-9600774.54	-9600774.36	-9600774.17	0.0505	0.0176		
Uranus	-30998-01-07 00:14 J	-9600590.68	-9600590.49	-9600590.28	0.0139	0.0048		
Jupiter	-30998-02-28 03:21 J	-9600538.51	-9600538.36	-9600538.21	0.0497	0.0339		
Uranus	-30998-08-21 07:11 J	-9600364.38	-9600364.20	-9600364.00	0.0140	0.0064		
Uranus	-30997-04-03 14:23 J	-9600138.07	-9600137.90	-9600137.72	0.0140	0.0079		
Uranus	-30997-11-15 21:35 J	-9599911.75	-9599911.60	-9599911.44	0.0140	0.0095		
Uranus	-30996-06-30 05:02 J	-9599685.41	-9599685.29	-9599685.15	0.0141	0.0110		
Uranus	-30995-02-11 12:43 J	-9599459.05	-9599458.97	-9599458.87	0.0141	0.0126		
Saturn	-30995-09-14 18:28 J	-9599243.88	-9599243.73	-9599243.58	0.0273	0.0190		
Uranus	-30995-09-25 20:23 J	-9599232.66	-9599232.65	-9599232.62	0.0141	0.0141		
Saturn	-30994-05-01 19:11 J	-9599014.90	-9599014.70	-9599014.50	0.0272	0.0065		

Saturn	-30994-12-16 18:43 J	-9598785.91	-9598785.72	-9598785.51	0.0271	0.0060
Saturn	-30993-08-01 17:59 J	-9598556.91	-9598556.75	-9598556.60	0.0271	0.0180
Jupiter	-30993-12-27 09:21 J	-9598409.32	-9598409.11	-9598408.91	0.0525	0.0036
Mars	-30988-04-12 23:31 J	-9596841.69	-9596841.52	-9596841.35	0.1665	0.0370
Jupiter	-30987-03-12 05:02 J	-9596508.44	-9596508.29	-9596508.13	0.0507	0.0324
Jupiter	-30987-11-03 06:57 J	-9596272.40	-9596272.21	-9596272.03	0.0499	0.0199
Jupiter	-30981-08-31 19:55 J	-9594143.86	-9594143.67	-9594143.48	0.0522	0.0214
Jupiter	-30980-04-26 23:31 J	-9593905.65	-9593905.52	-9593905.40	0.0531	0.0419
Saturn	-30980-10-07 17:45 J	-9593741.85	-9593741.76	-9593741.64	0.0287	0.0249
Saturn	-30979-05-25 18:14 J	-9593511.94	-9593511.74	-9593511.53	0.0288	0.0096
Saturn	-30978-01-10 19:55 J	-9593281.88	-9593281.67	-9593281.46	0.0289	0.0062
Saturn	-30978-08-28 22:33 J	-9593051.70	-9593051.56	-9593051.42	0.0289	0.0221
Jupiter	-30976-11-15 07:26 J	-9592242.26	-9592242.19	-9592242.11	0.0510	0.0470
Jupiter	-30975-07-09 11:02 J	-9592006.24	-9592006.04	-9592005.84	0.0501	0.0058
Jupiter	-30969-05-06 09:21 J	-9589878.24	-9589878.11	-9589877.96	0.0520	0.0383
Jupiter	-30969-12-30 11:16 J	-9589640.21	-9589640.03	-9589639.85	0.0529	0.0240
Uranus	-30966-04-04 09:50 J	-9588815.15	-9588815.09	-9588815.00	0.0143	0.0134
Uranus	-30966-11-16 22:04 J	-9588588.70	-9588588.58	-9588588.45	0.0143	0.0117
Saturn	-30965-03-26 23:31 J	-9588457.67	-9588457.52	-9588457.35	0.0272	0.0169
Uranus	-30965-06-30 10:04 J	-9588362.22	-9588362.08	-9588361.91	0.0142	0.0101
Saturn	-30965-11-10 23:59 J	-9588228.70	-9588228.50	-9588228.30	0.0271	0.0044
Uranus	-30964-02-11 22:19 J	-9588135.75	-9588135.57	-9588135.39	0.0142	0.0084
Saturn	-30964-06-27 23:31 J	-9587999.72	-9587999.52	-9587999.32	0.0271	0.0078
Uranus	-30964-09-26 09:50 J	-9587909.28	-9587909.09	-9587908.89	0.0142	0.0067
Earth	-30964-10-24 11:31 J	-9587881.18	-9587881.02	-9587880.87	0.2637	0.0989
Moon	-30964-10-24 16:33 J	-9587880.96	-9587880.81	-9587880.65	0.2634	0.1148 *
Saturn	-30963-02-11 22:19 J	-9587770.70	-9587770.57	-9587770.43	0.0270	0.0199
Jupiter	-30963-03-14 14:38 J	-9587740.08	-9587739.89	-9587739.69	0.0503	0.0086
Uranus	-30963-05-10 21:35 J	-9587682.81	-9587682.60	-9587682.39	0.0141	0.0050
Jupiter	-30963-11-05 13:40 J	-9587504.03	-9587503.93	-9587503.82	0.0496	0.0421

Uranus	-30963-12-23 09:07 J	-9587456.33	-9587456.12	-9587455.90	0.0141	0.0033
Uranus	-30962-08-06 20:38 J	-9587229.86	-9587229.64	-9587229.42	0.0141	0.0016
Uranus	-30961-03-20 07:55 J	-9587003.39	-9587003.17	-9587002.95	0.0140	0.0001
Uranus	-30961-11-01 18:57 J	-9586776.93	-9586776.71	-9586776.49	0.0140	0.0018
Uranus	-30960-06-16 05:59 J	-9586550.46	-9586550.25	-9586550.03	0.0140	0.0034
Uranus	-30959-01-28 16:47 J	-9586324.00	-9586323.80	-9586323.58	0.0139	0.0051
Mars	-30959-06-29 18:57 J	-9586171.88	-9586171.71	-9586171.54	0.1853	0.0158
Uranus	-30959-09-12 03:35 J	-9586097.54	-9586097.35	-9586097.15	0.0139	0.0066
Uranus	-30958-04-26 14:09 J	-9585871.09	-9585870.91	-9585870.73	0.0139	0.0082
Uranus	-30958-12-09 00:14 J	-9585644.64	-9585644.49	-9585644.33	0.0138	0.0098
Uranus	-30957-07-22 10:19 J	-9585418.18	-9585418.07	-9585417.93	0.0138	0.0113
Jupiter	-30957-09-04 00:28 J	-9585374.69	-9585374.48	-9585374.28	0.0527	0.0066
Uranus	-30956-03-05 20:09 J	-9585191.72	-9585191.66	-9585191.56	0.0138	0.0128
Mars	-30956-04-11 23:16 J	-9585154.55	-9585154.53	-9585154.50	0.1658	0.1638
Mars	-30954-02-09 08:52 J	-9584486.27	-9584486.13	-9584486.00	0.1674	0.1106
Neptune	-30953-05-16 21:35 J	-9584023.64	-9584023.60	-9584023.54	0.0089	0.0086
Neptune	-30953-12-28 11:02 J	-9583798.12	-9583798.04	-9583797.93	0.0089	0.0080
Neptune	-30952-08-11 00:28 J	-9583572.58	-9583572.48	-9583572.34	0.0089	0.0074
Jupiter	-30952-11-17 17:16 J	-9583473.95	-9583473.78	-9583473.60	0.0506	0.0232
Neptune	-30951-03-24 14:09 J	-9583347.04	-9583346.91	-9583346.76	0.0089	0.0068
Jupiter	-30951-07-11 17:45 J	-9583237.92	-9583237.76	-9583237.59	0.0498	0.0285
Neptune	-30951-11-05 03:35 J	-9583121.49	-9583121.35	-9583121.17	0.0089	0.0062
Saturn	-30950-04-19 20:38 J	-9582955.76	-9582955.64	-9582955.51	0.0287	0.0230
Neptune	-30950-06-18 17:02 J	-9582895.94	-9582895.79	-9582895.60	0.0089	0.0056
Saturn	-30950-12-05 21:07 J	-9582725.82	-9582725.62	-9582725.41	0.0288	0.0078
Neptune	-30949-01-30 06:28 J	-9582670.39	-9582670.23	-9582670.03	0.0089	0.0050
Saturn	-30949-07-22 23:02 J	-9582495.75	-9582495.54	-9582495.33	0.0288	0.0080
Neptune	-30949-09-11 20:23 J	-9582444.84	-9582444.65	-9582444.45	0.0089	0.0043
Saturn	-30948-03-10 01:40 J	-9582265.55	-9582265.43	-9582265.31	0.0289	0.0238
Neptune	-30948-04-25 09:50 J	-9582219.29	-9582219.09	-9582218.88	0.0089	0.0037

Neptune	-30948-12-06 23:16 J	-9581993.73	-9581993.53	-9581993.31	0.0089	0.0031
Neptune	-30947-07-20 12:28 J	-9581768.18	-9581767.98	-9581767.75	0.0089	0.0025
Neptune	-30946-03-03 02:09 J	-9581542.62	-9581542.41	-9581542.18	0.0089	0.0018
Neptune	-30946-10-14 15:50 J	-9581317.06	-9581316.84	-9581316.62	0.0089	0.0012
Jupiter	-30945-05-09 14:52 J	-9581109.08	-9581108.88	-9581108.68	0.0524	0.0106
Neptune	-30945-05-27 05:16 J	-9581091.50	-9581091.28	-9581091.06	0.0089	0.0006
Jupiter	-30944-01-02 19:40 J	-9580870.70	-9580870.68	-9580870.66	0.0533	0.0528
Neptune	-30944-01-07 18:43 J	-9580865.94	-9580865.72	-9580865.50	0.0089	0.0001
Neptune	-30944-08-21 08:09 J	-9580640.38	-9580640.16	-9580639.94	0.0089	0.0007
Neptune	-30943-04-03 21:35 J	-9580414.82	-9580414.60	-9580414.38	0.0089	0.0013
Neptune	-30943-11-15 10:47 J	-9580189.26	-9580189.05	-9580188.82	0.0089	0.0020
Neptune	-30942-06-29 00:14 J	-9579963.70	-9579963.49	-9579963.27	0.0089	0.0026
Neptune	-30941-02-09 13:26 J	-9579738.14	-9579737.94	-9579737.73	0.0089	0.0032
Neptune	-30941-09-22 02:52 J	-9579512.58	-9579512.38	-9579512.18	0.0089	0.0038
Neptune	-30940-05-05 16:04 J	-9579287.02	-9579286.83	-9579286.63	0.0089	0.0044
Jupiter	-30940-07-23 16:47 J	-9579207.93	-9579207.80	-9579207.67	0.0508	0.0382
Neptune	-30940-12-17 05:02 J	-9579061.45	-9579061.29	-9579061.09	0.0089	0.0051
Jupiter	-30939-03-16 19:11 J	-9578971.89	-9578971.70	-9578971.51	0.0500	0.0142
Neptune	-30939-07-30 18:14 J	-9578835.89	-9578835.74	-9578835.55	0.0089	0.0057
Neptune	-30938-03-13 07:11 J	-9578610.33	-9578610.20	-9578610.02	0.0089	0.0063
Neptune	-30938-10-24 20:23 J	-9578384.76	-9578384.65	-9578384.48	0.0089	0.0069
Neptune	-30937-06-06 09:35 J	-9578159.19	-9578159.10	-9578158.96	0.0089	0.0075
Neptune	-30936-01-17 23:02 J	-9577933.62	-9577933.54	-9577933.44	0.0089	0.0081
Saturn	-30936-02-20 02:09 J	-9577900.43	-9577900.41	-9577900.39	0.0274	0.0272
Neptune	-30936-08-31 11:59 J	-9577708.04	-9577708.00	-9577707.94	0.0089	0.0087
Saturn	-30936-10-07 03:35 J	-9577671.52	-9577671.35	-9577671.17	0.0273	0.0148
Saturn	-30935-05-24 04:19 J	-9577442.53	-9577442.32	-9577442.12	0.0272	0.0023
Saturn	-30934-01-08 03:50 J	-9577213.53	-9577213.34	-9577213.14	0.0271	0.0101
Saturn	-30934-08-25 02:38 J	-9576984.50	-9576984.39	-9576984.26	0.0271	0.0221
Jupiter	-30933-01-13 04:04 J	-9576843.50	-9576843.33	-9576843.15	0.0521	0.0278

Jupiter	-30933-09-07 06:57 J	-9576605.36	-9576605.21	-9576605.05	0.0530	0.0352
Jupiter	-30928-11-19 21:50 J	-9574705.79	-9574705.59	-9574705.39	0.0502	0.0007
Mars	-30927-06-29 08:23 J	-9574484.20	-9574484.15	-9574484.10	0.1861	0.1772
Mars	-30922-02-08 09:21 J	-9572799.28	-9572799.11	-9572798.93	0.1667	0.0211
Uranus	-30922-04-01 09:21 J	-9572747.13	-9572747.11	-9572747.05	0.0135	0.0133
Jupiter	-30922-09-17 15:50 J	-9572577.94	-9572577.84	-9572577.73	0.0518	0.0447
Uranus	-30922-11-13 15:07 J	-9572520.96	-9572520.87	-9572520.76	0.0136	0.0119
Jupiter	-30921-05-12 16:19 J	-9572340.01	-9572339.82	-9572339.62	0.0528	0.0168
Uranus	-30921-06-26 20:52 J	-9572294.76	-9572294.63	-9572294.50	0.0136	0.0105
Saturn	-30921-10-30 09:35 J	-9572169.25	-9572169.10	-9572168.94	0.0287	0.0198
Uranus	-30920-02-08 02:23 J	-9572068.55	-9572068.40	-9572068.24	0.0136	0.0091
Saturn	-30920-06-17 10:33 J	-9571939.27	-9571939.06	-9571938.85	0.0288	0.0043
Uranus	-30920-09-22 07:55 J	-9571842.33	-9571842.17	-9571841.98	0.0136	0.0078
Saturn	-30919-02-02 12:14 J	-9571709.18	-9571708.99	-9571708.78	0.0289	0.0115
Uranus	-30919-05-06 13:55 J	-9571616.10	-9571615.92	-9571615.72	0.0137	0.0063
Saturn	-30919-09-20 14:52 J	-9571478.94	-9571478.88	-9571478.80	0.0290	0.0273
Uranus	-30919-12-18 20:09 J	-9571389.86	-9571389.66	-9571389.46	0.0137	0.0048
Uranus	-30918-08-02 02:23 J	-9571163.61	-9571163.40	-9571163.19	0.0137	0.0033
Uranus	-30917-03-15 08:23 J	-9570937.36	-9570937.15	-9570936.93	0.0138	0.0019
Uranus	-30917-10-27 14:52 J	-9570711.09	-9570710.88	-9570710.67	0.0138	0.0003
Uranus	-30916-06-10 21:21 J	-9570484.82	-9570484.61	-9570484.40	0.0138	0.0012
Jupiter	-30916-07-26 01:11 J	-9570439.64	-9570439.45	-9570439.26	0.0505	0.0147
Uranus	-30915-01-23 04:04 J	-9570258.54	-9570258.33	-9570258.12	0.0139	0.0028
Jupiter	-30915-03-19 01:11 J	-9570203.58	-9570203.45	-9570203.31	0.0497	0.0364
Uranus	-30915-09-06 10:33 J	-9570032.25	-9570032.06	-9570031.85	0.0139	0.0044
Uranus	-30914-04-20 17:31 J	-9569805.96	-9569805.77	-9569805.57	0.0139	0.0059
Uranus	-30914-12-03 00:14 J	-9569579.66	-9569579.49	-9569579.30	0.0140	0.0075
Uranus	-30913-07-16 07:26 J	-9569353.34	-9569353.19	-9569353.02	0.0140	0.0090
Uranus	-30912-02-27 14:52 J	-9569127.01	-9569126.88	-9569126.73	0.0141	0.0106
Uranus	-30912-10-11 22:19 J	-9568900.67	-9568900.57	-9568900.45	0.0141	0.0121

Uranus	-30911-05-26 05:45 J	-9568674.30	-9568674.26	-9568674.19	0.0141	0.0137
Pluto	-30910-09-17 13:26 J	-9568195.09	-9568194.94	-9568194.75	0.0065	0.0041
Jupiter	-30909-01-16 04:33 J	-9568074.52	-9568074.31	-9568074.10	0.0525	0.0011
Pluto	-30909-04-29 17:45 J	-9567969.98	-9567969.76	-9567969.55	0.0065	0.0002
Pluto	-30909-12-10 21:21 J	-9567744.78	-9567744.61	-9567744.43	0.0065	0.0038
Saturn	-30907-09-02 08:23 J	-9567114.21	-9567114.15	-9567114.05	0.0273	0.0250
Saturn	-30906-04-19 09:50 J	-9566885.27	-9566885.09	-9566884.90	0.0272	0.0126
Saturn	-30906-12-04 10:04 J	-9566656.29	-9566656.08	-9566655.87	0.0271	0.0002
Saturn	-30905-07-20 09:21 J	-9566427.29	-9566427.11	-9566426.92	0.0270	0.0120
Saturn	-30904-03-06 08:09 J	-9566198.25	-9566198.16	-9566198.06	0.0270	0.0239
Jupiter	-30904-03-31 04:04 J	-9566173.49	-9566173.33	-9566173.17	0.0507	0.0292
Jupiter	-30904-11-22 05:31 J	-9565937.45	-9565937.27	-9565937.09	0.0499	0.0227
Jupiter	-30898-09-20 18:14 J	-9563808.94	-9563808.74	-9563808.55	0.0523	0.0182
Jupiter	-30897-05-15 22:19 J	-9563570.68	-9563570.57	-9563570.46	0.0532	0.0450
Mars	-30893-04-26 00:28 J	-9562129.65	-9562129.48	-9562129.32	0.1849	0.0473
Jupiter	-30893-12-04 05:59 J	-9561907.35	-9561907.25	-9561907.15	0.0510	0.0438
Jupiter	-30892-07-28 09:07 J	-9561671.32	-9561671.12	-9561670.92	0.0501	0.0087
Saturn	-30891-05-12 13:11 J	-9561383.11	-9561382.95	-9561382.78	0.0287	0.0179
Saturn	-30891-12-28 13:55 J	-9561153.14	-9561152.92	-9561152.70	0.0288	0.0025
Mars	-30890-02-07 09:21 J	-9561112.18	-9561112.11	-9561112.03	0.1660	0.1487
Saturn	-30890-08-15 15:50 J	-9560923.03	-9560922.84	-9560922.64	0.0289	0.0133
Saturn	-30889-04-01 18:43 J	-9560692.72	-9560692.72	-9560692.72	0.0289	0.0289
Mars	-30889-12-06 18:14 J	-9560443.85	-9560443.74	-9560443.62	0.1676	0.1278
Jupiter	-30886-05-26 09:21 J	-9559543.26	-9559543.11	-9559542.95	0.0520	0.0346
Jupiter	-30885-01-19 11:31 J	-9559305.19	-9559305.02	-9559304.84	0.0529	0.0277
Uranus	-30883-12-02 15:35 J	-9558256.87	-9558256.85	-9558256.80	0.0143	0.0142
Uranus	-30882-07-17 04:19 J	-9558030.43	-9558030.32	-9558030.22	0.0143	0.0125
Uranus	-30881-02-28 16:04 J	-9557803.97	-9557803.83	-9557803.68	0.0143	0.0108
Uranus	-30881-10-12 04:04 J	-9557577.49	-9557577.33	-9557577.15	0.0142	0.0091
Jupiter	-30880-04-02 09:50 J	-9557405.29	-9557405.09	-9557404.89	0.0503	0.0062

Uranus	-30880-05-26 15:50 J	-9557351.01	-9557350.84	-9557350.64	0.0142	0.0074
Jupiter	-30880-11-24 08:52 J	-9557169.22	-9557169.13	-9557169.04	0.0496	0.0442
Uranus	-30879-01-08 03:50 J	-9557124.54	-9557124.34	-9557124.13	0.0142	0.0057
Uranus	-30879-08-22 15:35 J	-9556898.06	-9556897.85	-9556897.63	0.0141	0.0039
Uranus	-30878-04-06 03:07 J	-9556671.59	-9556671.37	-9556671.15	0.0141	0.0022
Uranus	-30878-11-18 14:38 J	-9556445.12	-9556444.89	-9556444.67	0.0141	0.0006
Saturn	-30877-03-14 11:59 J	-9556328.10	-9556328.00	-9556327.88	0.0274	0.0230
Uranus	-30877-07-02 01:55 J	-9556218.64	-9556218.42	-9556218.20	0.0140	0.0012
Saturn	-30877-10-29 13:26 J	-9556099.13	-9556098.94	-9556098.75	0.0273	0.0105
Uranus	-30876-02-13 12:57 J	-9555992.17	-9555991.96	-9555991.74	0.0140	0.0029
Saturn	-30876-06-15 13:55 J	-9555870.13	-9555869.92	-9555869.72	0.0272	0.0020
Uranus	-30876-09-27 23:59 J	-9555765.71	-9555765.50	-9555765.29	0.0140	0.0045
Saturn	-30875-01-30 13:26 J	-9555641.11	-9555640.94	-9555640.76	0.0271	0.0142
Uranus	-30875-05-12 10:33 J	-9555539.25	-9555539.06	-9555538.85	0.0139	0.0061
Saturn	-30875-09-16 12:14 J	-9555412.03	-9555411.99	-9555411.93	0.0271	0.0261
Uranus	-30875-12-24 21:07 J	-9555312.80	-9555312.62	-9555312.43	0.0139	0.0077
Jupiter	-30874-01-28 23:45 J	-9555277.54	-9555277.51	-9555277.47	0.0517	0.0507
Uranus	-30874-08-08 07:40 J	-9555086.34	-9555086.18	-9555086.01	0.0139	0.0093
Jupiter	-30874-09-23 23:59 J	-9555039.70	-9555039.50	-9555039.30	0.0527	0.0100
Uranus	-30873-03-21 17:45 J	-9554859.88	-9554859.76	-9554859.61	0.0138	0.0109
Uranus	-30873-11-03 03:50 J	-9554633.43	-9554633.34	-9554633.23	0.0138	0.0123
Neptune	-30872-04-06 01:26 J	-9554479.45	-9554479.44	-9554479.39	0.0089	0.0088
Neptune	-30872-11-17 14:09 J	-9554253.98	-9554253.91	-9554253.82	0.0089	0.0082
Neptune	-30871-07-01 02:09 J	-9554028.49	-9554028.41	-9554028.28	0.0089	0.0077
Neptune	-30870-02-11 14:38 J	-9553803.00	-9553802.89	-9553802.74	0.0089	0.0071
Neptune	-30870-09-25 03:21 J	-9553577.50	-9553577.36	-9553577.20	0.0089	0.0065
Neptune	-30869-05-07 16:04 J	-9553351.99	-9553351.83	-9553351.66	0.0089	0.0059
Jupiter	-30869-12-06 11:45 J	-9553139.19	-9553139.01	-9553138.83	0.0506	0.0208
Neptune	-30869-12-19 04:33 J	-9553126.48	-9553126.31	-9553126.13	0.0089	0.0053
Jupiter	-30868-07-30 12:14 J	-9552903.14	-9552902.99	-9552902.83	0.0498	0.0306

Neptune	-30868-08-01 17:16 J	-9552900.96	-9552900.78	-9552900.60	0.0089	0.0047
Neptune	-30867-03-15 05:31 J	-9552675.45	-9552675.27	-9552675.06	0.0089	0.0041
Neptune	-30867-10-26 17:59 J	-9552449.93	-9552449.75	-9552449.53	0.0089	0.0036
Neptune	-30866-06-09 06:43 J	-9552224.42	-9552224.22	-9552224.01	0.0089	0.0029
Neptune	-30865-01-20 19:11 J	-9551998.90	-9551998.70	-9551998.48	0.0088	0.0024
Neptune	-30865-09-02 07:55 J	-9551773.38	-9551773.17	-9551772.95	0.0088	0.0017
Neptune	-30864-04-15 20:38 J	-9551547.85	-9551547.64	-9551547.42	0.0088	0.0011
Neptune	-30864-11-27 09:21 J	-9551322.33	-9551322.11	-9551321.89	0.0088	0.0005
Neptune	-30863-07-10 21:50 J	-9551096.80	-9551096.59	-9551096.37	0.0088	0.0002
Neptune	-30862-02-21 10:19 J	-9550871.28	-9550871.07	-9550870.85	0.0088	0.0007
Jupiter	-30862-05-29 10:04 J	-9550774.29	-9550774.08	-9550773.88	0.0524	0.0082
Neptune	-30862-10-04 23:02 J	-9550645.75	-9550645.54	-9550645.32	0.0088	0.0013
Saturn	-30862-11-23 02:09 J	-9550596.59	-9550596.41	-9550596.22	0.0287	0.0146
Mars	-30861-04-25 13:26 J	-9550442.05	-9550441.94	-9550441.83	0.1859	0.1429
Neptune	-30861-05-17 11:31 J	-9550420.22	-9550420.02	-9550419.79	0.0088	0.0020
Saturn	-30861-07-10 03:21 J	-9550366.57	-9550366.36	-9550366.14	0.0288	0.0010
Neptune	-30861-12-29 00:28 J	-9550194.69	-9550194.48	-9550194.27	0.0088	0.0025
Saturn	-30860-02-25 05:31 J	-9550136.45	-9550136.27	-9550136.09	0.0289	0.0167
Neptune	-30860-08-11 12:43 J	-9549969.16	-9549968.97	-9549968.75	0.0088	0.0032
Neptune	-30859-03-25 01:26 J	-9549743.62	-9549743.44	-9549743.23	0.0088	0.0037
Neptune	-30859-11-05 14:09 J	-9549518.09	-9549517.91	-9549517.70	0.0088	0.0043
Neptune	-30858-06-19 02:38 J	-9549292.55	-9549292.39	-9549292.18	0.0088	0.0050
Neptune	-30857-01-30 15:50 J	-9549067.01	-9549066.84	-9549066.66	0.0088	0.0055
Jupiter	-30857-08-11 13:40 J	-9548873.06	-9548872.93	-9548872.78	0.0509	0.0356
Neptune	-30857-09-12 04:33 J	-9548841.46	-9548841.31	-9548841.14	0.0088	0.0061
Mars	-30857-12-05 19:26 J	-9548756.87	-9548756.69	-9548756.51	0.1669	0.0049
Jupiter	-30856-04-04 16:33 J	-9548637.00	-9548636.81	-9548636.62	0.0500	0.0167
Neptune	-30856-04-25 17:31 J	-9548615.91	-9548615.77	-9548615.62	0.0088	0.0067
Neptune	-30856-12-07 06:14 J	-9548390.35	-9548390.24	-9548390.10	0.0088	0.0073
Neptune	-30855-07-20 18:57 J	-9548164.79	-9548164.71	-9548164.59	0.0088	0.0078

Neptune	-30854-03-03 07:40 J	-9547939.22	-9547939.18	-9547939.09	0.0088	0.0084
Jupiter	-30850-01-31 22:47 J	-9546508.73	-9546508.55	-9546508.37	0.0521	0.0253
Jupiter	-30850-09-27 01:40 J	-9546270.57	-9546270.43	-9546270.28	0.0530	0.0372
Saturn	-30848-09-24 19:26 J	-9545541.82	-9545541.69	-9545541.55	0.0273	0.0207
Saturn	-30847-05-11 20:38 J	-9545312.84	-9545312.64	-9545312.44	0.0272	0.0082
Saturn	-30847-12-26 20:38 J	-9545083.85	-9545083.64	-9545083.44	0.0271	0.0041
Saturn	-30846-08-12 19:40 J	-9544854.84	-9544854.68	-9544854.51	0.0270	0.0162
Jupiter	-30845-04-16 15:50 J	-9544606.87	-9544606.84	-9544606.80	0.0511	0.0499
Jupiter	-30845-12-08 20:09 J	-9544370.86	-9544370.66	-9544370.46	0.0502	0.0027
Jupiter	-30839-10-06 12:57 J	-9542243.08	-9542242.96	-9542242.84	0.0519	0.0417
Jupiter	-30838-06-01 14:09 J	-9542005.10	-9542004.91	-9542004.72	0.0528	0.0197
Uranus	-30838-07-14 02:09 J	-9541962.47	-9541962.41	-9541962.30	0.0135	0.0125
Uranus	-30837-02-25 07:40 J	-9541736.28	-9541736.18	-9541736.04	0.0136	0.0111
Uranus	-30837-10-08 13:26 J	-9541510.08	-9541509.94	-9541509.78	0.0136	0.0097
Uranus	-30836-05-22 19:11 J	-9541283.86	-9541283.70	-9541283.52	0.0136	0.0083
Uranus	-30835-01-04 01:11 J	-9541057.63	-9541057.45	-9541057.26	0.0137	0.0068
Uranus	-30835-08-18 06:57 J	-9540831.39	-9540831.21	-9540831.00	0.0137	0.0054
Uranus	-30834-04-01 13:11 J	-9540605.15	-9540604.95	-9540604.74	0.0137	0.0039
Uranus	-30834-11-13 19:11 J	-9540378.90	-9540378.70	-9540378.48	0.0137	0.0024
Uranus	-30833-06-27 01:26 J	-9540152.65	-9540152.44	-9540152.22	0.0138	0.0009
Jupiter	-30833-08-13 23:02 J	-9540104.73	-9540104.54	-9540104.34	0.0504	0.0118
Saturn	-30833-10-17 06:57 J	-9540040.25	-9540040.21	-9540040.15	0.0286	0.0276
Uranus	-30832-02-08 07:55 J	-9539926.38	-9539926.17	-9539925.95	0.0138	0.0008
Jupiter	-30832-04-06 22:47 J	-9539868.67	-9539868.55	-9539868.42	0.0496	0.0389
Saturn	-30832-06-04 06:43 J	-9539810.41	-9539810.22	-9539810.02	0.0287	0.0126
Uranus	-30832-09-22 14:23 J	-9539700.11	-9539699.90	-9539699.69	0.0139	0.0023
Saturn	-30831-01-20 07:55 J	-9539580.39	-9539580.17	-9539579.96	0.0288	0.0030
Uranus	-30831-05-06 21:07 J	-9539473.83	-9539473.62	-9539473.42	0.0139	0.0038
Saturn	-30831-09-07 09:50 J	-9539350.25	-9539350.09	-9539349.92	0.0289	0.0187
Uranus	-30831-12-19 03:35 J	-9539247.54	-9539247.35	-9539247.15	0.0139	0.0054

Uranus	-30830-08-02 10:19 J	-9539021.24	-9539021.07	-9539020.87	0.0140	0.0070
Uranus	-30829-03-15 17:31 J	-9538794.93	-9538794.77	-9538794.60	0.0140	0.0085
Uranus	-30829-10-28 00:28 J	-9538568.61	-9538568.48	-9538568.32	0.0140	0.0101
Uranus	-30828-06-11 07:40 J	-9538342.28	-9538342.18	-9538342.04	0.0141	0.0117
Uranus	-30827-01-23 15:21 J	-9538115.92	-9538115.86	-9538115.77	0.0141	0.0132
Mars	-30827-02-21 06:43 J	-9538087.37	-9538087.22	-9538087.07	0.1847	0.0774
Jupiter	-30826-02-04 04:19 J	-9537739.53	-9537739.32	-9537739.12	0.0526	0.0027
Mars	-30825-12-04 20:09 J	-9537069.76	-9537069.66	-9537069.56	0.1662	0.1342
Mars	-30823-10-04 04:04 J	-9536401.41	-9536401.33	-9536401.24	0.1679	0.1442
Pluto	-30822-12-31 14:52 J	-9535948.07	-9535947.88	-9535947.67	0.0079	0.0039
Jupiter	-30821-04-18 23:31 J	-9535838.69	-9535838.52	-9535838.35	0.0507	0.0267
Pluto	-30821-08-13 01:40 J	-9535722.62	-9535722.43	-9535722.23	0.0079	0.0037
Jupiter	-30821-12-11 00:28 J	-9535602.65	-9535602.48	-9535602.30	0.0498	0.0250
Saturn	-30818-04-06 22:19 J	-9534755.71	-9534755.57	-9534755.41	0.0273	0.0188
Moon	-30818-04-22 14:38 J	-9534740.04	-9534739.89	-9534739.74	0.2698	0.0416
Earth	-30818-04-22 19:55 J	-9534739.82	-9534739.67	-9534739.53	0.2696	0.0764 *
Saturn	-30818-11-21 23:31 J	-9534526.72	-9534526.52	-9534526.32	0.0272	0.0062
Saturn	-30817-07-07 23:45 J	-9534297.71	-9534297.51	-9534297.31	0.0272	0.0062
Saturn	-30816-02-21 23:02 J	-9534068.68	-9534068.54	-9534068.38	0.0271	0.0183
Jupiter	-30815-10-09 17:31 J	-9533473.97	-9533473.77	-9533473.57	0.0523	0.0148
Jupiter	-30814-06-04 21:35 J	-9533235.68	-9533235.60	-9533235.51	0.0532	0.0481
Moon	-30810-04-20 10:47 J	-9531820.09	-9531820.05	-9531820.01	0.2703	0.2572
Earth	-30810-04-20 13:26 J	-9531819.99	-9531819.94	-9531819.88	0.2697	0.2512
Jupiter	-30810-12-24 00:28 J	-9531572.59	-9531572.48	-9531572.37	0.0509	0.0415
Jupiter	-30809-08-16 03:21 J	-9531336.55	-9531336.36	-9531336.16	0.0501	0.0108
Saturn	-30803-04-29 19:11 J	-9529253.80	-9529253.70	-9529253.58	0.0286	0.0246
Jupiter	-30803-06-14 04:33 J	-9529208.47	-9529208.31	-9529208.14	0.0520	0.0321
Saturn	-30803-12-15 19:11 J	-9529023.90	-9529023.70	-9529023.49	0.0287	0.0094
Jupiter	-30802-02-07 06:14 J	-9528970.40	-9528970.24	-9528970.06	0.0529	0.0299
Saturn	-30802-08-02 20:52 J	-9528793.84	-9528793.63	-9528793.42	0.0288	0.0063

Saturn	-30801-03-19 23:02 J	-9528563.67	-9528563.54	-9528563.39	0.0289	0.0220
Uranus	-30798-03-16 09:50 J	-9527472.15	-9527472.09	-9527471.98	0.0143	0.0133
Uranus	-30798-10-28 22:19 J	-9527245.69	-9527245.57	-9527245.43	0.0143	0.0115
Jupiter	-30797-04-21 06:57 J	-9527070.41	-9527070.21	-9527070.01	0.0503	0.0036
Uranus	-30797-06-11 10:33 J	-9527019.21	-9527019.06	-9527018.89	0.0143	0.0098
Jupiter	-30797-12-13 06:14 J	-9526834.31	-9526834.24	-9526834.18	0.0496	0.0465
Uranus	-30796-01-23 22:47 J	-9526792.73	-9526792.55	-9526792.37	0.0142	0.0081
Uranus	-30796-09-07 10:33 J	-9526566.25	-9526566.06	-9526565.86	0.0142	0.0063
Mars	-30795-02-20 19:11 J	-9526399.84	-9526399.70	-9526399.56	0.1855	0.1103
Uranus	-30795-04-21 22:19 J	-9526339.78	-9526339.57	-9526339.36	0.0142	0.0046
Uranus	-30795-12-04 09:50 J	-9526113.30	-9526113.09	-9526112.86	0.0141	0.0029
Uranus	-30794-07-18 21:35 J	-9525886.82	-9525886.60	-9525886.38	0.0141	0.0012
Uranus	-30793-03-01 09:07 J	-9525660.35	-9525660.12	-9525659.90	0.0141	0.0006
Uranus	-30793-10-13 20:09 J	-9525433.88	-9525433.66	-9525433.44	0.0140	0.0023
Uranus	-30792-05-28 06:57 J	-9525207.41	-9525207.21	-9525206.98	0.0140	0.0040
Uranus	-30791-01-09 18:14 J	-9524980.95	-9524980.74	-9524980.54	0.0139	0.0056
Jupiter	-30791-02-16 18:28 J	-9524942.80	-9524942.73	-9524942.66	0.0517	0.0483
Uranus	-30791-08-24 04:47 J	-9524754.48	-9524754.30	-9524754.10	0.0139	0.0072
Mars	-30791-10-03 05:45 J	-9524714.44	-9524714.26	-9524714.08	0.1671	0.0107
Jupiter	-30791-10-12 18:14 J	-9524704.94	-9524704.74	-9524704.54	0.0527	0.0121
Uranus	-30790-04-07 15:21 J	-9524528.03	-9524527.86	-9524527.69	0.0139	0.0088
Uranus	-30790-11-20 01:40 J	-9524301.57	-9524301.43	-9524301.28	0.0138	0.0104
Uranus	-30789-07-03 11:45 J	-9524075.11	-9524075.01	-9524074.89	0.0138	0.0119
Neptune	-30789-08-18 05:16 J	-9524029.29	-9524029.28	-9524029.22	0.0089	0.0088
Saturn	-30789-10-17 06:14 J	-9523969.40	-9523969.24	-9523969.07	0.0273	0.0163
Uranus	-30788-02-14 21:50 J	-9523848.63	-9523848.59	-9523848.54	0.0138	0.0134
Neptune	-30788-03-31 18:57 J	-9523803.77	-9523803.71	-9523803.60	0.0089	0.0082
Saturn	-30788-06-03 06:57 J	-9523740.41	-9523740.21	-9523740.00	0.0272	0.0039
Neptune	-30788-11-12 08:38 J	-9523578.23	-9523578.14	-9523578.00	0.0089	0.0076
Saturn	-30787-01-18 06:57 J	-9523511.41	-9523511.21	-9523511.01	0.0271	0.0084

Neptune	-30787-06-25 22:19 J	-9523352.69	-9523352.57	-9523352.41	0.0089	0.0070
Saturn	-30787-09-04 05:59 J	-9523282.39	-9523282.25	-9523282.12	0.0270	0.0204
Neptune	-30786-02-06 11:45 J	-9523127.14	-9523127.01	-9523126.83	0.0089	0.0064
Neptune	-30786-09-20 01:26 J	-9522901.59	-9522901.44	-9522901.25	0.0089	0.0058
Jupiter	-30786-12-26 09:50 J	-9522804.28	-9522804.09	-9522803.90	0.0506	0.0179
Neptune	-30785-05-02 14:52 J	-9522676.04	-9522675.88	-9522675.68	0.0089	0.0052
Jupiter	-30785-08-18 10:19 J	-9522568.22	-9522568.07	-9522567.92	0.0498	0.0332
Neptune	-30785-12-14 04:33 J	-9522450.49	-9522450.31	-9522450.11	0.0089	0.0046
Neptune	-30784-07-27 17:45 J	-9522224.94	-9522224.76	-9522224.54	0.0089	0.0040
Neptune	-30783-03-10 07:11 J	-9521999.39	-9521999.20	-9521998.97	0.0089	0.0034
Neptune	-30783-10-21 20:52 J	-9521773.83	-9521773.63	-9521773.40	0.0089	0.0028
Neptune	-30782-06-04 10:33 J	-9521548.27	-9521548.06	-9521547.84	0.0089	0.0021
Neptune	-30781-01-15 23:59 J	-9521322.72	-9521322.50	-9521322.28	0.0089	0.0015
Neptune	-30781-08-28 13:26 J	-9521097.16	-9521096.94	-9521096.72	0.0089	0.0009
Neptune	-30780-04-11 02:52 J	-9520871.60	-9520871.38	-9520871.16	0.0089	0.0003
Neptune	-30780-11-22 16:19 J	-9520646.04	-9520645.82	-9520645.60	0.0089	0.0004
Jupiter	-30779-06-17 06:57 J	-9520439.41	-9520439.21	-9520439.00	0.0524	0.0053
Neptune	-30779-07-06 05:31 J	-9520420.48	-9520420.27	-9520420.04	0.0089	0.0010
Neptune	-30778-02-16 18:57 J	-9520194.92	-9520194.71	-9520194.49	0.0089	0.0016
Neptune	-30778-09-30 08:23 J	-9519969.36	-9519969.15	-9519968.93	0.0089	0.0022
Neptune	-30777-05-12 21:35 J	-9519743.80	-9519743.60	-9519743.38	0.0089	0.0028
Neptune	-30777-12-24 11:02 J	-9519518.24	-9519518.04	-9519517.83	0.0089	0.0034
Neptune	-30776-08-07 00:14 J	-9519292.68	-9519292.49	-9519292.28	0.0089	0.0040
Neptune	-30775-03-20 13:26 J	-9519067.12	-9519066.94	-9519066.74	0.0089	0.0046
Neptune	-30775-11-01 02:52 J	-9518841.55	-9518841.38	-9518841.20	0.0089	0.0052
Neptune	-30774-06-14 15:50 J	-9518615.99	-9518615.84	-9518615.66	0.0089	0.0058
Jupiter	-30774-08-31 12:14 J	-9518538.14	-9518537.99	-9518537.84	0.0508	0.0324
Saturn	-30774-11-10 00:14 J	-9518467.62	-9518467.49	-9518467.36	0.0286	0.0224
Neptune	-30773-01-26 05:02 J	-9518390.43	-9518390.29	-9518390.12	0.0089	0.0064
Jupiter	-30773-04-23 14:23 J	-9518302.08	-9518301.90	-9518301.72	0.0500	0.0195

Saturn	-30773-06-27 00:14 J	-9518237.70	-9518237.49	-9518237.28	0.0287	0.0073
Neptune	-30773-09-07 17:59 J	-9518164.86	-9518164.75	-9518164.60	0.0089	0.0070
Saturn	-30772-02-12 01:26 J	-9518007.64	-9518007.44	-9518007.23	0.0288	0.0084
Neptune	-30772-04-21 06:57 J	-9517939.30	-9517939.21	-9517939.07	0.0089	0.0077
Saturn	-30772-09-30 03:50 J	-9517777.46	-9517777.34	-9517777.22	0.0289	0.0240
Neptune	-30772-12-02 20:52 J	-9517713.72	-9517713.63	-9517713.54	0.0089	0.0082
Neptune	-30771-07-16 09:35 J	-9517488.13	-9517488.10	-9517488.05	0.0089	0.0087
Jupiter	-30767-02-19 21:50 J	-9516173.78	-9516173.59	-9516173.40	0.0522	0.0220
Jupiter	-30767-10-16 01:26 J	-9515935.57	-9515935.44	-9515935.31	0.0531	0.0406
Jupiter	-30762-05-06 12:14 J	-9514272.06	-9514271.99	-9514271.92	0.0510	0.0473
Mars	-30762-12-19 12:28 J	-9514045.11	-9514044.98	-9514044.84	0.1843	0.1080
Jupiter	-30762-12-28 15:50 J	-9514036.04	-9514035.84	-9514035.64	0.0502	0.0050
Saturn	-30760-09-12 06:57 J	-9513412.24	-9513412.21	-9513412.18	0.0274	0.0269
Saturn	-30759-04-29 08:38 J	-9513183.31	-9513183.14	-9513182.96	0.0273	0.0145
Mars	-30759-10-02 06:14 J	-9513027.36	-9513027.24	-9513027.11	0.1665	0.1190
Saturn	-30759-12-14 09:21 J	-9512954.31	-9512954.11	-9512953.90	0.0272	0.0021
Saturn	-30758-07-31 09:07 J	-9512725.30	-9512725.12	-9512724.92	0.0271	0.0104
Saturn	-30757-03-16 08:09 J	-9512496.26	-9512496.16	-9512496.03	0.0271	0.0224
Mars	-30757-07-31 13:40 J	-9512358.98	-9512358.93	-9512358.88	0.1681	0.1612
Jupiter	-30756-10-25 12:14 J	-9511908.13	-9511907.99	-9511907.85	0.0519	0.0384
Jupiter	-30755-06-20 13:40 J	-9511670.11	-9511669.93	-9511669.74	0.0528	0.0230
Uranus	-30754-03-13 14:09 J	-9511403.95	-9511403.91	-9511403.83	0.0135	0.0129
Uranus	-30754-10-25 19:40 J	-9511177.77	-9511177.68	-9511177.55	0.0135	0.0116
Uranus	-30753-06-08 01:26 J	-9510951.57	-9510951.44	-9510951.29	0.0136	0.0102
Uranus	-30752-01-20 07:26 J	-9510725.35	-9510725.19	-9510725.03	0.0136	0.0087
Uranus	-30752-09-03 12:57 J	-9510499.13	-9510498.96	-9510498.77	0.0136	0.0073
Uranus	-30751-04-17 18:43 J	-9510272.90	-9510272.72	-9510272.52	0.0137	0.0059
Uranus	-30751-11-30 00:43 J	-9510046.66	-9510046.47	-9510046.26	0.0137	0.0044
Uranus	-30750-07-14 06:57 J	-9509820.42	-9509820.21	-9509820.00	0.0137	0.0028
Jupiter	-30750-09-02 17:59 J	-9509769.94	-9509769.75	-9509769.55	0.0504	0.0096

Uranus	-30749-02-25 12:57 J	-9509594.17	-9509593.96	-9509593.74	0.0138	0.0014
Jupiter	-30749-04-25 17:45 J	-9509533.87	-9509533.76	-9509533.65	0.0496	0.0409
Uranus	-30749-10-08 19:11 J	-9509367.91	-9509367.70	-9509367.48	0.0138	0.0004
Uranus	-30748-05-23 01:40 J	-9509141.64	-9509141.43	-9509141.22	0.0138	0.0018
Uranus	-30747-01-04 08:09 J	-9508915.36	-9508915.16	-9508914.95	0.0139	0.0034
Uranus	-30747-08-18 14:52 J	-9508689.08	-9508688.88	-9508688.68	0.0139	0.0049
Uranus	-30746-04-01 21:21 J	-9508462.79	-9508462.61	-9508462.41	0.0139	0.0065
Uranus	-30746-11-14 04:04 J	-9508236.49	-9508236.33	-9508236.14	0.0140	0.0081
Uranus	-30745-06-27 11:16 J	-9508010.17	-9508010.03	-9508009.87	0.0140	0.0096
Uranus	-30744-02-08 18:28 J	-9507783.84	-9507783.73	-9507783.59	0.0140	0.0112
Saturn	-30744-05-22 11:16 J	-9507681.18	-9507681.03	-9507680.87	0.0287	0.0196
Uranus	-30744-09-23 01:55 J	-9507557.49	-9507557.42	-9507557.32	0.0141	0.0128
Saturn	-30743-01-07 11:45 J	-9507451.22	-9507451.01	-9507450.79	0.0288	0.0043
Jupiter	-30743-02-22 23:31 J	-9507404.73	-9507404.52	-9507404.31	0.0525	0.0049
Saturn	-30743-08-25 13:40 J	-9507221.13	-9507220.93	-9507220.73	0.0289	0.0115
Saturn	-30742-04-12 16:04 J	-9506990.89	-9506990.83	-9506990.75	0.0289	0.0272
Jupiter	-30738-05-08 20:09 J	-9505503.83	-9505503.66	-9505503.48	0.0507	0.0241
Jupiter	-30738-12-30 21:50 J	-9505267.76	-9505267.59	-9505267.42	0.0499	0.0274
Jupiter	-30732-10-28 12:14 J	-9503139.19	-9503138.99	-9503138.79	0.0523	0.0124
Jupiter	-30731-06-23 15:50 J	-9502900.90	-9502900.84	-9502900.77	0.0532	0.0500
Saturn	-30730-03-25 15:07 J	-9502625.95	-9502625.87	-9502625.77	0.0273	0.0245
Saturn	-30730-11-09 16:33 J	-9502396.99	-9502396.81	-9502396.62	0.0272	0.0121
Mars	-30730-12-19 00:28 J	-9502357.63	-9502357.48	-9502357.32	0.1852	0.0776
Saturn	-30729-06-25 17:02 J	-9502167.99	-9502167.79	-9502167.58	0.0271	0.0006
Saturn	-30728-02-09 16:47 J	-9501938.98	-9501938.80	-9501938.62	0.0271	0.0125
Saturn	-30728-09-26 15:35 J	-9501709.93	-9501709.85	-9501709.76	0.0270	0.0243
Jupiter	-30726-01-11 22:19 J	-9501237.69	-9501237.57	-9501237.43	0.0510	0.0386
Jupiter	-30726-09-05 01:40 J	-9501001.62	-9501001.43	-9501001.24	0.0501	0.0136
Mars	-30725-07-30 15:21 J	-9500672.03	-9500671.86	-9500671.68	0.1674	0.0272
Moon	-30721-10-24 04:19 J	-9499125.48	-9499125.32	-9499125.17	0.2638	0.0746

Earth	-30721-10-24 10:04 J	-9499125.23	-9499125.08	-9499124.93	0.2636	0.1017 *
Jupiter	-30720-07-03 01:26 J	-9498873.61	-9498873.44	-9498873.27	0.0520	0.0292
Jupiter	-30719-02-26 03:50 J	-9498635.50	-9498635.34	-9498635.18	0.0530	0.0327
Uranus	-30715-11-13 15:21 J	-9496913.90	-9496913.86	-9496913.80	0.0143	0.0140
Saturn	-30715-12-02 16:33 J	-9496894.98	-9496894.81	-9496894.63	0.0287	0.0174
Jupiter	-30714-05-11 05:16 J	-9496735.48	-9496735.28	-9496735.08	0.0503	0.0006
Uranus	-30714-06-28 04:04 J	-9496687.45	-9496687.33	-9496687.22	0.0143	0.0122
Saturn	-30714-07-20 17:16 J	-9496665.00	-9496664.78	-9496664.57	0.0288	0.0021
Jupiter	-30713-01-02 03:50 J	-9496499.36	-9496499.34	-9496499.30	0.0495	0.0490
Uranus	-30713-02-09 15:50 J	-9496460.97	-9496460.84	-9496460.68	0.0143	0.0106
Saturn	-30713-03-06 18:43 J	-9496434.91	-9496434.72	-9496434.53	0.0289	0.0136
Uranus	-30713-09-23 03:50 J	-9496234.50	-9496234.34	-9496234.15	0.0142	0.0089
Uranus	-30712-05-07 15:50 J	-9496008.02	-9496007.84	-9496007.64	0.0142	0.0071
Uranus	-30712-12-20 03:50 J	-9495781.54	-9495781.34	-9495781.13	0.0142	0.0053
Uranus	-30711-08-03 15:50 J	-9495555.06	-9495554.84	-9495554.63	0.0141	0.0036
Uranus	-30710-03-18 03:21 J	-9495328.58	-9495328.36	-9495328.14	0.0141	0.0018
Uranus	-30710-10-30 14:52 J	-9495102.11	-9495101.88	-9495101.66	0.0141	0.0003
Uranus	-30709-06-13 02:09 J	-9494875.63	-9494875.41	-9494875.19	0.0140	0.0016
Uranus	-30708-01-25 13:11 J	-9494649.16	-9494648.95	-9494648.73	0.0140	0.0033
Jupiter	-30708-03-07 17:02 J	-9494607.89	-9494607.79	-9494607.69	0.0518	0.0451
Uranus	-30708-09-09 00:14 J	-9494422.69	-9494422.49	-9494422.28	0.0140	0.0050
Jupiter	-30708-10-31 17:45 J	-9494369.96	-9494369.76	-9494369.56	0.0527	0.0155
Neptune	-30707-02-18 23:45 J	-9494259.56	-9494259.51	-9494259.42	0.0089	0.0084
Uranus	-30707-04-23 11:02 J	-9494196.23	-9494196.04	-9494195.84	0.0139	0.0067
Neptune	-30707-10-02 12:14 J	-9494034.07	-9494033.99	-9494033.87	0.0089	0.0078
Uranus	-30707-12-05 21:21 J	-9493969.78	-9493969.61	-9493969.42	0.0139	0.0083
Neptune	-30706-05-16 00:28 J	-9493808.58	-9493808.48	-9493808.33	0.0089	0.0073
Uranus	-30706-07-20 07:55 J	-9493743.31	-9493743.17	-9493743.00	0.0139	0.0099
Neptune	-30706-12-27 12:57 J	-9493583.08	-9493582.96	-9493582.80	0.0089	0.0067
Uranus	-30705-03-02 18:14 J	-9493516.85	-9493516.74	-9493516.60	0.0138	0.0115

Neptune	-30705-08-09 01:40 J	-9493357.58	-9493357.43	-9493357.26	0.0089	0.0061
Uranus	-30705-10-15 04:33 J	-9493290.38	-9493290.31	-9493290.23	0.0138	0.0129
Neptune	-30704-03-22 14:23 J	-9493132.07	-9493131.90	-9493131.73	0.0089	0.0055
Neptune	-30704-11-03 02:38 J	-9492906.56	-9492906.39	-9492906.20	0.0089	0.0050
Neptune	-30703-06-16 15:07 J	-9492681.05	-9492680.87	-9492680.67	0.0089	0.0044
Jupiter	-30702-01-14 06:28 J	-9492469.42	-9492469.23	-9492469.04	0.0505	0.0153
Neptune	-30702-01-28 03:35 J	-9492455.53	-9492455.35	-9492455.14	0.0089	0.0038
Jupiter	-30702-09-07 06:28 J	-9492233.37	-9492233.23	-9492233.09	0.0497	0.0354
Neptune	-30702-09-10 16:19 J	-9492230.02	-9492229.82	-9492229.61	0.0089	0.0032
Neptune	-30701-04-23 05:16 J	-9492004.49	-9492004.28	-9492004.07	0.0089	0.0026
Saturn	-30701-10-04 16:47 J	-9491839.91	-9491839.80	-9491839.69	0.0274	0.0228
Neptune	-30701-12-04 17:45 J	-9491778.97	-9491778.76	-9491778.54	0.0089	0.0020
Saturn	-30700-05-21 18:14 J	-9491610.93	-9491610.74	-9491610.55	0.0273	0.0103
Neptune	-30700-07-18 06:14 J	-9491553.45	-9491553.24	-9491553.02	0.0089	0.0014
Saturn	-30699-01-05 18:43 J	-9491381.93	-9491381.72	-9491381.51	0.0272	0.0021
Neptune	-30699-02-28 18:43 J	-9491327.93	-9491327.72	-9491327.49	0.0088	0.0009
Saturn	-30699-08-22 18:14 J	-9491152.91	-9491152.74	-9491152.56	0.0271	0.0143
Neptune	-30699-10-12 07:26 J	-9491102.40	-9491102.19	-9491101.97	0.0088	0.0003
Saturn	-30698-04-08 17:02 J	-9490923.83	-9490923.79	-9490923.74	0.0271	0.0262
Neptune	-30698-05-25 20:09 J	-9490876.87	-9490876.66	-9490876.44	0.0088	0.0004
Neptune	-30697-01-06 08:52 J	-9490651.35	-9490651.13	-9490650.91	0.0088	0.0010
Neptune	-30697-08-18 21:21 J	-9490425.82	-9490425.61	-9490425.39	0.0088	0.0016
Neptune	-30696-04-01 10:04 J	-9490200.29	-9490200.08	-9490199.86	0.0088	0.0021
Jupiter	-30696-07-06 06:57 J	-9490104.42	-9490104.21	-9490104.00	0.0525	0.0018
Mars	-30696-10-15 19:11 J	-9490002.81	-9490002.70	-9490002.59	0.1840	0.1367
Neptune	-30696-11-12 22:33 J	-9489974.76	-9489974.56	-9489974.34	0.0088	0.0028
Neptune	-30695-06-26 11:16 J	-9489749.22	-9489749.03	-9489748.82	0.0088	0.0033
Neptune	-30694-02-06 23:45 J	-9489523.69	-9489523.51	-9489523.30	0.0088	0.0039
Neptune	-30694-09-20 12:43 J	-9489298.15	-9489297.97	-9489297.78	0.0088	0.0045
Neptune	-30693-05-03 01:26 J	-9489072.61	-9489072.44	-9489072.25	0.0088	0.0051

Mars	-30693-07-29 16:33 J	-9488984.94	-9488984.81	-9488984.67	0.1667	0.1043
Neptune	-30693-12-14 14:09 J	-9488847.06	-9488846.91	-9488846.73	0.0088	0.0057
Neptune	-30692-07-28 02:52 J	-9488621.52	-9488621.38	-9488621.21	0.0088	0.0062
Neptune	-30691-03-10 15:21 J	-9488395.97	-9488395.86	-9488395.70	0.0088	0.0069
Jupiter	-30691-09-19 08:09 J	-9488203.32	-9488203.16	-9488203.00	0.0508	0.0299
Neptune	-30691-10-22 04:47 J	-9488170.42	-9488170.30	-9488170.18	0.0088	0.0074
Jupiter	-30690-05-13 09:50 J	-9487967.26	-9487967.09	-9487966.90	0.0499	0.0217
Neptune	-30690-06-04 17:31 J	-9487944.85	-9487944.77	-9487944.66	0.0088	0.0079
Neptune	-30689-01-16 06:14 J	-9487719.28	-9487719.24	-9487719.17	0.0088	0.0085
Saturn	-30685-06-14 01:55 J	-9486108.59	-9486108.42	-9486108.22	0.0287	0.0148
Saturn	-30684-01-30 03:07 J	-9485878.59	-9485878.37	-9485878.15	0.0288	0.0007
Jupiter	-30684-03-10 17:59 J	-9485838.94	-9485838.75	-9485838.55	0.0522	0.0193
Saturn	-30684-09-17 05:02 J	-9485648.46	-9485648.29	-9485648.11	0.0289	0.0165
Jupiter	-30684-11-03 21:07 J	-9485600.74	-9485600.62	-9485600.50	0.0530	0.0428
Jupiter	-30679-05-25 08:52 J	-9483937.22	-9483937.13	-9483937.03	0.0511	0.0446
Jupiter	-30678-01-16 13:11 J	-9483701.15	-9483700.95	-9483700.75	0.0502	0.0077
Jupiter	-30673-11-13 07:55 J	-9481573.32	-9481573.17	-9481573.02	0.0519	0.0357
Jupiter	-30672-07-09 08:38 J	-9481335.32	-9481335.14	-9481334.96	0.0528	0.0253
Saturn	-30671-04-17 00:57 J	-9481053.59	-9481053.46	-9481053.32	0.0273	0.0204
Uranus	-30671-11-11 01:55 J	-9480845.43	-9480845.42	-9480845.38	0.0135	0.0134
Saturn	-30671-12-02 02:09 J	-9480824.61	-9480824.41	-9480824.21	0.0272	0.0080
Uranus	-30670-06-25 07:40 J	-9480619.27	-9480619.18	-9480619.08	0.0135	0.0121
Saturn	-30670-07-19 02:09 J	-9480595.61	-9480595.41	-9480595.20	0.0271	0.0044
Uranus	-30669-02-06 13:11 J	-9480393.07	-9480392.95	-9480392.81	0.0136	0.0107
Saturn	-30669-03-04 01:26 J	-9480366.60	-9480366.44	-9480366.27	0.0270	0.0165
Uranus	-30669-09-19 18:43 J	-9480166.87	-9480166.72	-9480166.55	0.0136	0.0093
Uranus	-30668-05-04 00:28 J	-9479940.65	-9479940.48	-9479940.30	0.0136	0.0078
Uranus	-30668-12-16 06:28 J	-9479714.41	-9479714.23	-9479714.04	0.0136	0.0064
Uranus	-30667-07-30 12:14 J	-9479488.18	-9479487.99	-9479487.78	0.0137	0.0049
Jupiter	-30667-09-21 16:33 J	-9479435.01	-9479434.81	-9479434.61	0.0504	0.0065

Uranus	-30666-03-13 18:14 J	-9479261.94	-9479261.74	-9479261.53	0.0137	0.0034
Jupiter	-30666-05-15 16:19 J	-9479198.91	-9479198.82	-9479198.72	0.0496	0.0436
Uranus	-30666-10-26 00:14 J	-9479035.70	-9479035.49	-9479035.27	0.0137	0.0019
Uranus	-30665-06-08 06:28 J	-9478809.44	-9478809.23	-9478809.01	0.0138	0.0004
Uranus	-30664-01-20 12:57 J	-9478583.17	-9478582.96	-9478582.74	0.0138	0.0013
Uranus	-30664-09-03 19:26 J	-9478356.90	-9478356.69	-9478356.48	0.0138	0.0029
Mars	-30664-10-15 07:11 J	-9478315.36	-9478315.20	-9478315.03	0.1849	0.0476
Uranus	-30663-04-18 01:40 J	-9478130.62	-9478130.43	-9478130.22	0.0139	0.0045
Uranus	-30663-11-30 08:23 J	-9477904.33	-9477904.15	-9477903.95	0.0139	0.0060
Pluto	-30662-01-08 00:57 J	-9477865.53	-9477865.46	-9477865.32	0.0064	0.0057
Uranus	-30662-07-14 15:07 J	-9477678.04	-9477677.87	-9477677.68	0.0139	0.0076
Pluto	-30662-08-21 05:31 J	-9477640.48	-9477640.27	-9477640.06	0.0065	0.0017
Uranus	-30661-02-25 22:19 J	-9477451.72	-9477451.57	-9477451.40	0.0140	0.0092
Pluto	-30661-04-02 09:21 J	-9477415.31	-9477415.11	-9477414.90	0.0065	0.0022
Jupiter	-30661-07-18 22:04 J	-9477307.59	-9477307.58	-9477307.58	0.0516	0.0516
Uranus	-30661-10-09 05:31 J	-9477225.40	-9477225.27	-9477225.13	0.0140	0.0108
Pluto	-30661-11-13 12:57 J	-9477190.00	-9477189.96	-9477189.88	0.0065	0.0063
Jupiter	-30660-03-13 20:52 J	-9477069.83	-9477069.63	-9477069.42	0.0526	0.0080
Uranus	-30660-05-23 12:28 J	-9476999.06	-9476998.98	-9476998.86	0.0140	0.0124
Uranus	-30659-01-04 20:09 J	-9476772.68	-9476772.66	-9476772.62	0.0141	0.0139
Mars	-30659-05-28 01:40 J	-9476629.60	-9476629.43	-9476629.26	0.1676	0.0424
Saturn	-30656-05-09 08:09 J	-9475552.22	-9475552.16	-9475552.10	0.0286	0.0274
Saturn	-30656-12-25 07:26 J	-9475322.38	-9475322.19	-9475321.99	0.0287	0.0125
Jupiter	-30655-05-27 19:26 J	-9475168.87	-9475168.69	-9475168.51	0.0507	0.0209
Saturn	-30655-08-12 08:23 J	-9475092.37	-9475092.15	-9475091.94	0.0288	0.0030
Jupiter	-30654-01-18 20:23 J	-9474932.80	-9474932.65	-9474932.48	0.0498	0.0302
Saturn	-30654-03-30 10:04 J	-9474862.24	-9474862.08	-9474861.91	0.0289	0.0187
Jupiter	-30649-11-16 11:31 J	-9472804.22	-9472804.02	-9472803.82	0.0523	0.0090
Jupiter	-30643-01-30 20:23 J	-9470902.79	-9470902.65	-9470902.50	0.0509	0.0356
Jupiter	-30643-09-23 23:02 J	-9470666.73	-9470666.54	-9470666.35	0.0500	0.0161

Saturn	-30642-10-28 01:40 J	-9470267.56	-9470267.43	-9470267.27	0.0273	0.0188
Saturn	-30641-06-13 03:07 J	-9470038.57	-9470038.37	-9470038.17	0.0272	0.0063
Saturn	-30640-01-28 03:21 J	-9469809.57	-9469809.36	-9469809.16	0.0271	0.0061
Saturn	-30640-09-14 02:09 J	-9469580.55	-9469580.41	-9469580.24	0.0271	0.0182
Jupiter	-30637-07-22 01:40 J	-9468538.60	-9468538.43	-9468538.24	0.0521	0.0257
Jupiter	-30636-03-17 04:33 J	-9468300.46	-9468300.31	-9468300.16	0.0530	0.0361
Jupiter	-30632-10-05 21:21 J	-9466636.64	-9466636.61	-9466636.57	0.0512	0.0502
Jupiter	-30631-05-30 01:55 J	-9466400.62	-9466400.42	-9466400.22	0.0503	0.0021
Uranus	-30630-02-25 10:47 J	-9466129.14	-9466129.05	-9466128.96	0.0143	0.0130
Mars	-30630-08-13 01:26 J	-9465960.51	-9465960.44	-9465960.36	0.1837	0.1651
Uranus	-30630-10-09 22:33 J	-9465902.67	-9465902.56	-9465902.41	0.0143	0.0113
Uranus	-30629-05-23 11:16 J	-9465676.20	-9465676.03	-9465675.87	0.0143	0.0095
Uranus	-30628-01-04 23:02 J	-9465449.72	-9465449.54	-9465449.35	0.0142	0.0078
Uranus	-30628-08-19 11:02 J	-9465223.24	-9465223.04	-9465222.83	0.0142	0.0060
Uranus	-30627-04-02 22:47 J	-9464996.76	-9464996.55	-9464996.34	0.0142	0.0042
Mars	-30627-05-27 02:38 J	-9464942.54	-9464942.39	-9464942.24	0.1669	0.0886
Uranus	-30627-11-15 10:19 J	-9464770.28	-9464770.07	-9464769.84	0.0141	0.0025
Saturn	-30627-11-19 15:07 J	-9464765.96	-9464765.87	-9464765.76	0.0286	0.0252
Uranus	-30626-06-29 22:04 J	-9464543.80	-9464543.58	-9464543.35	0.0141	0.0007
Saturn	-30626-07-07 15:21 J	-9464536.06	-9464535.86	-9464535.66	0.0287	0.0101
Uranus	-30625-02-11 09:35 J	-9464317.32	-9464317.10	-9464316.88	0.0141	0.0010
Saturn	-30625-02-22 16:33 J	-9464306.02	-9464305.81	-9464305.59	0.0288	0.0055
Jupiter	-30625-03-26 14:52 J	-9464273.00	-9464272.88	-9464272.76	0.0517	0.0420
Uranus	-30625-09-24 20:38 J	-9464090.86	-9464090.64	-9464090.42	0.0140	0.0027
Saturn	-30625-10-09 18:57 J	-9464075.85	-9464075.71	-9464075.56	0.0289	0.0212
Jupiter	-30625-11-19 14:52 J	-9464035.07	-9464034.88	-9464034.69	0.0527	0.0183
Neptune	-30625-11-19 14:09 J	-9464034.91	-9464034.91	-9464034.89	0.0089	0.0088 *
Uranus	-30624-05-09 07:26 J	-9463864.39	-9463864.19	-9463863.97	0.0140	0.0045
Neptune	-30624-07-03 03:35 J	-9463809.41	-9463809.35	-9463809.25	0.0089	0.0083
Uranus	-30624-12-21 18:14 J	-9463637.93	-9463637.74	-9463637.53	0.0140	0.0062

Neptune	-30623-02-13 17:31 J	-9463583.87	-9463583.77	-9463583.65	0.0089	0.0077
Uranus	-30623-08-05 05:02 J	-9463411.46	-9463411.29	-9463411.09	0.0139	0.0078
Neptune	-30623-09-27 07:26 J	-9463358.32	-9463358.19	-9463358.06	0.0089	0.0071
Uranus	-30622-03-19 15:35 J	-9463185.00	-9463184.85	-9463184.68	0.0139	0.0094
Neptune	-30622-05-10 20:23 J	-9463132.77	-9463132.65	-9463132.47	0.0089	0.0066
Uranus	-30622-11-01 01:55 J	-9462958.55	-9462958.42	-9462958.28	0.0139	0.0110
Neptune	-30622-12-22 10:04 J	-9462907.23	-9462907.08	-9462906.90	0.0089	0.0060
Uranus	-30621-06-14 11:59 J	-9462732.08	-9462732.00	-9462731.90	0.0138	0.0125
Neptune	-30621-08-03 23:31 J	-9462681.68	-9462681.52	-9462681.32	0.0089	0.0054
Neptune	-30620-03-17 13:11 J	-9462456.12	-9462455.95	-9462455.75	0.0089	0.0048
Neptune	-30620-10-29 02:52 J	-9462230.56	-9462230.38	-9462230.17	0.0089	0.0042
Jupiter	-30619-02-02 04:04 J	-9462134.53	-9462134.33	-9462134.14	0.0506	0.0125
Neptune	-30619-06-11 16:19 J	-9462005.01	-9462004.82	-9462004.60	0.0089	0.0036
Jupiter	-30619-09-26 04:33 J	-9461898.43	-9461898.31	-9461898.18	0.0498	0.0380
Neptune	-30618-01-23 05:45 J	-9461779.46	-9461779.26	-9461779.04	0.0089	0.0030
Neptune	-30618-09-05 19:11 J	-9461553.90	-9461553.70	-9461553.47	0.0089	0.0024
Neptune	-30617-04-18 08:52 J	-9461328.35	-9461328.13	-9461327.91	0.0089	0.0018
Neptune	-30617-11-29 22:19 J	-9461102.79	-9461102.57	-9461102.35	0.0089	0.0012
Neptune	-30616-07-13 11:45 J	-9460877.23	-9460877.01	-9460876.79	0.0089	0.0006
Neptune	-30615-02-24 01:11 J	-9460651.67	-9460651.45	-9460651.23	0.0089	0.0001
Neptune	-30615-10-07 14:23 J	-9460426.11	-9460425.90	-9460425.67	0.0089	0.0007
Neptune	-30614-05-21 03:50 J	-9460200.55	-9460200.34	-9460200.11	0.0089	0.0013
Neptune	-30613-01-01 17:02 J	-9459974.99	-9459974.79	-9459974.56	0.0089	0.0019
Jupiter	-30613-07-25 03:07 J	-9459769.57	-9459769.37	-9459769.16	0.0524	0.0012
Neptune	-30613-08-14 06:43 J	-9459749.43	-9459749.22	-9459749.01	0.0089	0.0024
Neptune	-30612-03-27 20:09 J	-9459523.87	-9459523.66	-9459523.46	0.0089	0.0030
Saturn	-30612-05-09 09:35 J	-9459481.26	-9459481.10	-9459480.93	0.0273	0.0164
Neptune	-30612-11-08 09:21 J	-9459298.30	-9459298.11	-9459297.90	0.0089	0.0036
Saturn	-30612-12-24 10:33 J	-9459252.27	-9459252.06	-9459251.86	0.0272	0.0040
Neptune	-30611-06-21 22:47 J	-9459072.74	-9459072.55	-9459072.35	0.0089	0.0042

Saturn	-30611-08-10 10:19 J	-9459023.27	-9459023.07	-9459022.87	0.0271	0.0082
Neptune	-30610-02-02 11:45 J	-9458847.18	-9458847.01	-9458846.81	0.0089	0.0048
Saturn	-30610-03-27 09:07 J	-9458794.25	-9458794.12	-9458793.97	0.0270	0.0202
Neptune	-30610-09-16 00:57 J	-9458621.62	-9458621.46	-9458621.27	0.0089	0.0054
Neptune	-30609-04-28 14:09 J	-9458396.05	-9458395.91	-9458395.73	0.0089	0.0060
Neptune	-30609-12-10 03:21 J	-9458170.48	-9458170.36	-9458170.19	0.0089	0.0066
Neptune	-30608-07-23 16:47 J	-9457944.92	-9457944.80	-9457944.66	0.0089	0.0071
Jupiter	-30608-10-08 06:28 J	-9457868.39	-9457868.23	-9457868.05	0.0508	0.0268
Neptune	-30607-03-06 05:45 J	-9457719.35	-9457719.26	-9457719.13	0.0089	0.0077
Jupiter	-30607-06-01 08:52 J	-9457632.30	-9457632.13	-9457631.95	0.0500	0.0246
Neptune	-30607-10-17 18:43 J	-9457493.77	-9457493.72	-9457493.62	0.0089	0.0083
Neptune	-30606-05-31 08:09 J	-9457268.17	-9457268.16	-9457268.12	0.0089	0.0088
Jupiter	-30601-03-29 16:04 J	-9455504.02	-9455503.83	-9455503.63	0.0522	0.0161
Jupiter	-30601-11-22 19:26 J	-9455265.79	-9455265.69	-9455265.58	0.0531	0.0458
Mars	-30598-08-12 12:57 J	-9454273.13	-9454272.96	-9454272.79	0.1846	0.0172
Saturn	-30597-05-31 20:52 J	-9453979.75	-9453979.63	-9453979.50	0.0286	0.0229
Saturn	-30596-01-16 20:38 J	-9453749.85	-9453749.64	-9453749.43	0.0288	0.0078
Jupiter	-30596-06-13 08:52 J	-9453602.24	-9453602.13	-9453602.01	0.0511	0.0412
Saturn	-30596-09-03 21:50 J	-9453519.80	-9453519.59	-9453519.38	0.0288	0.0078
Jupiter	-30595-02-04 12:43 J	-9453366.16	-9453365.97	-9453365.77	0.0502	0.0108
Saturn	-30595-04-21 23:59 J	-9453289.62	-9453289.50	-9453289.37	0.0289	0.0234
Mars	-30593-03-24 11:16 J	-9452587.19	-9452587.03	-9452586.86	0.1679	0.0590
Jupiter	-30590-12-03 07:11 J	-9451238.35	-9451238.20	-9451238.03	0.0519	0.0324
Jupiter	-30589-07-28 08:52 J	-9451000.30	-9451000.13	-9450999.95	0.0529	0.0288
Uranus	-30586-02-22 18:43 J	-9450060.78	-9450060.72	-9450060.62	0.0135	0.0126
Uranus	-30586-10-07 00:43 J	-9449834.59	-9449834.47	-9449834.35	0.0135	0.0112
Uranus	-30585-05-20 05:59 J	-9449608.38	-9449608.25	-9449608.09	0.0136	0.0098
Uranus	-30584-01-01 11:59 J	-9449382.16	-9449382.00	-9449381.83	0.0136	0.0083
Uranus	-30584-08-15 17:45 J	-9449155.94	-9449155.76	-9449155.57	0.0136	0.0069
Jupiter	-30584-10-10 15:21 J	-9449100.06	-9449099.86	-9449099.66	0.0504	0.0037

Uranus	-30583-03-29 23:31 J	-9448929.71	-9448929.52	-9448929.32	0.0137	0.0054
Saturn	-30583-04-04 08:09 J	-9448924.16	-9448924.16	-9448924.14	0.0274	0.0273
Jupiter	-30583-06-03 14:23 J	-9448863.97	-9448863.90	-9448863.83	0.0496	0.0459
Uranus	-30583-11-11 05:16 J	-9448703.48	-9448703.28	-9448703.07	0.0137	0.0039
Saturn	-30583-11-19 10:04 J	-9448695.25	-9448695.08	-9448694.90	0.0273	0.0149
Uranus	-30582-06-25 11:31 J	-9448477.23	-9448477.02	-9448476.81	0.0137	0.0023
Saturn	-30582-07-06 10:47 J	-9448466.26	-9448466.05	-9448465.84	0.0272	0.0025
Uranus	-30581-02-06 17:45 J	-9448250.97	-9448250.76	-9448250.55	0.0138	0.0008
Saturn	-30581-02-20 10:33 J	-9448237.25	-9448237.06	-9448236.86	0.0271	0.0098
Uranus	-30581-09-19 23:59 J	-9448024.71	-9448024.50	-9448024.29	0.0138	0.0008
Saturn	-30581-10-06 09:21 J	-9448008.22	-9448008.11	-9448007.98	0.0270	0.0218
Uranus	-30580-05-04 06:14 J	-9447798.45	-9447798.24	-9447798.03	0.0138	0.0024
Uranus	-30580-12-16 12:43 J	-9447572.17	-9447571.97	-9447571.76	0.0139	0.0040
Uranus	-30579-07-30 19:26 J	-9447345.88	-9447345.69	-9447345.49	0.0139	0.0055
Uranus	-30578-03-14 02:09 J	-9447119.59	-9447119.41	-9447119.22	0.0139	0.0071
Jupiter	-30578-08-07 22:47 J	-9446972.62	-9446972.55	-9446972.47	0.0517	0.0480
Uranus	-30578-10-26 08:52 J	-9446893.28	-9446893.13	-9446892.95	0.0140	0.0088
Jupiter	-30577-04-01 22:33 J	-9446734.76	-9446734.56	-9446734.36	0.0526	0.0116
Uranus	-30577-06-08 16:04 J	-9446666.96	-9446666.83	-9446666.68	0.0140	0.0103
Uranus	-30576-01-20 23:16 J	-9446440.62	-9446440.53	-9446440.40	0.0140	0.0119
Uranus	-30576-09-04 06:43 J	-9446214.26	-9446214.22	-9446214.15	0.0141	0.0135
Earth	-30575-04-22 23:31 J	-9445983.67	-9445983.52	-9445983.38	0.2696	0.1005
Moon	-30575-04-23 04:47 J	-9445983.44	-9445983.30	-9445983.16	0.2698	0.1191 *
Pluto	-30574-04-22 22:47 J	-9445618.64	-9445618.55	-9445618.40	0.0080	0.0068
Pluto	-30574-12-04 10:04 J	-9445393.30	-9445393.08	-9445392.85	0.0079	0.0009
Jupiter	-30572-06-15 17:31 J	-9444833.96	-9444833.77	-9444833.58	0.0506	0.0180
Jupiter	-30571-02-06 18:14 J	-9444597.89	-9444597.74	-9444597.59	0.0498	0.0326
Saturn	-30568-12-12 01:55 J	-9443193.56	-9443193.42	-9443193.27	0.0286	0.0210
Earth	-30567-04-20 17:02 J	-9443063.87	-9443063.79	-9443063.71	0.2698	0.2278
Moon	-30567-04-20 21:35 J	-9443063.71	-9443063.60	-9443063.48	0.2694	0.1758 *

Saturn	-30567-07-30 02:09 J	-9442963.61	-9442963.41	-9442963.19	0.0288	0.0058
Saturn	-30566-03-17 03:50 J	-9442733.54	-9442733.34	-9442733.13	0.0289	0.0100
Saturn	-30566-11-02 06:28 J	-9442503.32	-9442503.23	-9442503.12	0.0290	0.0257
Jupiter	-30566-12-06 10:19 J	-9442469.28	-9442469.07	-9442468.86	0.0523	0.0057
Mars	-30561-03-23 12:43 J	-9440900.12	-9440899.97	-9440899.81	0.1672	0.0734
Jupiter	-30560-02-18 17:59 J	-9440567.89	-9440567.75	-9440567.59	0.0509	0.0327
Jupiter	-30560-10-12 21:21 J	-9440331.79	-9440331.61	-9440331.42	0.0501	0.0191
Jupiter	-30554-08-10 23:45 J	-9438203.69	-9438203.51	-9438203.32	0.0520	0.0224
Saturn	-30554-10-15 15:50 J	-9438137.92	-9438137.84	-9438137.75	0.0273	0.0249
Jupiter	-30553-04-05 01:40 J	-9437965.57	-9437965.43	-9437965.29	0.0529	0.0388
Saturn	-30553-05-31 17:31 J	-9437908.96	-9437908.77	-9437908.59	0.0272	0.0126
Saturn	-30552-01-15 17:59 J	-9437679.96	-9437679.75	-9437679.54	0.0271	0.0002
Saturn	-30552-09-01 17:31 J	-9437450.96	-9437450.77	-9437450.59	0.0270	0.0119
Saturn	-30551-04-18 15:50 J	-9437221.92	-9437221.84	-9437221.73	0.0270	0.0238
Jupiter	-30549-10-24 19:55 J	-9436301.75	-9436301.67	-9436301.60	0.0512	0.0470
Jupiter	-30548-06-18 01:11 J	-9436065.65	-9436065.45	-9436065.25	0.0503	0.0052
Uranus	-30547-10-25 16:47 J	-9435570.85	-9435570.80	-9435570.72	0.0143	0.0137
Uranus	-30546-06-09 05:02 J	-9435344.39	-9435344.29	-9435344.15	0.0143	0.0120
Uranus	-30545-01-21 17:45 J	-9435117.91	-9435117.76	-9435117.61	0.0143	0.0102
Uranus	-30545-09-04 05:31 J	-9434891.44	-9434891.27	-9434891.08	0.0142	0.0085
Uranus	-30544-04-18 17:16 J	-9434664.96	-9434664.78	-9434664.57	0.0142	0.0067
Uranus	-30544-12-01 05:16 J	-9434438.48	-9434438.28	-9434438.07	0.0142	0.0049
Neptune	-30543-05-23 10:04 J	-9434265.12	-9434265.08	-9434264.99	0.0089	0.0085
Uranus	-30543-07-15 17:02 J	-9434212.00	-9434211.79	-9434211.57	0.0141	0.0032
Neptune	-30542-01-03 22:47 J	-9434039.63	-9434039.55	-9434039.44	0.0089	0.0079
Uranus	-30542-02-27 04:33 J	-9433985.53	-9433985.31	-9433985.08	0.0141	0.0014
Jupiter	-30542-04-15 13:40 J	-9433938.07	-9433937.93	-9433937.80	0.0518	0.0387
Neptune	-30542-08-17 11:02 J	-9433814.14	-9433814.04	-9433813.90	0.0089	0.0074
Uranus	-30542-10-11 16:04 J	-9433759.05	-9433758.83	-9433758.61	0.0141	0.0004
Jupiter	-30542-12-09 13:40 J	-9433700.12	-9433699.93	-9433699.74	0.0527	0.0215

Neptune	-30541-03-29 23:45 J	-9433588.63	-9433588.51	-9433588.36	0.0089	0.0068
Uranus	-30541-05-25 03:07 J	-9433532.58	-9433532.37	-9433532.14	0.0140	0.0022
Neptune	-30541-11-10 11:59 J	-9433363.13	-9433363.00	-9433362.83	0.0089	0.0063
Uranus	-30540-01-06 14:23 J	-9433306.12	-9433305.90	-9433305.69	0.0140	0.0039
Neptune	-30540-06-24 00:43 J	-9433137.63	-9433137.47	-9433137.30	0.0089	0.0057
Uranus	-30540-08-21 00:57 J	-9433079.65	-9433079.46	-9433079.24	0.0140	0.0056
Neptune	-30539-02-04 13:11 J	-9432912.12	-9432911.95	-9432911.77	0.0089	0.0051
Uranus	-30539-04-04 11:45 J	-9432853.19	-9432853.01	-9432852.81	0.0139	0.0072
Neptune	-30539-09-18 01:26 J	-9432686.61	-9432686.44	-9432686.24	0.0089	0.0046
Uranus	-30539-11-16 22:04 J	-9432626.73	-9432626.58	-9432626.39	0.0139	0.0089
Neptune	-30538-05-01 14:09 J	-9432461.09	-9432460.91	-9432460.70	0.0089	0.0040
Saturn	-30538-06-24 07:26 J	-9432407.34	-9432407.19	-9432407.02	0.0287	0.0187
Uranus	-30538-07-01 08:38 J	-9432400.27	-9432400.14	-9432399.98	0.0139	0.0105
Neptune	-30538-12-13 02:52 J	-9432235.58	-9432235.38	-9432235.18	0.0089	0.0034
Saturn	-30537-02-09 07:55 J	-9432177.39	-9432177.17	-9432176.96	0.0288	0.0034
Uranus	-30537-02-12 18:57 J	-9432173.80	-9432173.71	-9432173.59	0.0138	0.0121
Neptune	-30537-07-25 15:07 J	-9432010.06	-9432009.87	-9432009.65	0.0089	0.0029
Uranus	-30537-09-26 04:47 J	-9431947.31	-9431947.30	-9431947.24	0.0138	0.0136
Saturn	-30537-09-26 09:21 J	-9431947.31	-9431947.11	-9431946.91	0.0289	0.0123 *
Jupiter	-30536-02-21 04:33 J	-9431799.50	-9431799.31	-9431799.11	0.0505	0.0090
Neptune	-30536-03-08 03:50 J	-9431784.54	-9431784.34	-9431784.12	0.0089	0.0023
Saturn	-30536-05-14 11:45 J	-9431717.06	-9431717.01	-9431716.95	0.0290	0.0279
Jupiter	-30536-10-15 04:47 J	-9431563.41	-9431563.30	-9431563.18	0.0497	0.0410
Neptune	-30536-10-19 16:33 J	-9431559.02	-9431558.81	-9431558.59	0.0089	0.0017
Neptune	-30535-06-02 05:16 J	-9431333.50	-9431333.28	-9431333.06	0.0089	0.0011
Neptune	-30534-01-13 17:45 J	-9431107.97	-9431107.76	-9431107.54	0.0089	0.0006
Neptune	-30534-08-27 06:28 J	-9430882.45	-9430882.23	-9430882.01	0.0088	0.0001
Neptune	-30533-04-08 19:11 J	-9430656.92	-9430656.70	-9430656.48	0.0088	0.0007
Neptune	-30533-11-20 07:40 J	-9430431.39	-9430431.18	-9430430.95	0.0088	0.0013
Mars	-30532-06-08 19:55 J	-9430230.84	-9430230.67	-9430230.50	0.1843	0.0130

Neptune	-30532-07-03 20:23 J	-9430205.86	-9430205.65	-9430205.43	0.0088	0.0018
Neptune	-30531-02-14 09:07 J	-9429980.33	-9429980.12	-9429979.91	0.0088	0.0024
Neptune	-30531-09-27 21:35 J	-9429754.80	-9429754.60	-9429754.39	0.0088	0.0030
Neptune	-30530-05-11 10:19 J	-9429529.26	-9429529.07	-9429528.86	0.0088	0.0036
Jupiter	-30530-08-14 03:50 J	-9429434.55	-9429434.34	-9429434.14	0.0525	0.0046
Neptune	-30530-12-22 23:02 J	-9429303.72	-9429303.54	-9429303.34	0.0088	0.0041
Neptune	-30529-08-04 11:59 J	-9429078.19	-9429078.00	-9429077.82	0.0088	0.0047
Neptune	-30528-03-18 00:28 J	-9428852.65	-9428852.48	-9428852.30	0.0088	0.0053
Neptune	-30528-10-29 12:57 J	-9428627.11	-9428626.96	-9428626.78	0.0088	0.0059
Mars	-30527-01-19 21:07 J	-9428544.78	-9428544.62	-9428544.46	0.1681	0.0751
Neptune	-30527-06-12 02:09 J	-9428401.56	-9428401.41	-9428401.26	0.0088	0.0064
Neptune	-30526-01-23 14:38 J	-9428176.01	-9428175.89	-9428175.74	0.0088	0.0070
Neptune	-30526-09-06 03:07 J	-9427950.46	-9427950.37	-9427950.23	0.0088	0.0076
Neptune	-30525-04-18 16:19 J	-9427724.89	-9427724.82	-9427724.72	0.0088	0.0081
Jupiter	-30525-10-27 06:43 J	-9427533.39	-9427533.22	-9427533.04	0.0508	0.0235
Neptune	-30525-11-30 05:02 J	-9427499.31	-9427499.29	-9427499.22	0.0088	0.0086
Saturn	-30524-04-26 15:50 J	-9427351.94	-9427351.84	-9427351.73	0.0273	0.0235
Jupiter	-30524-06-20 08:09 J	-9427297.32	-9427297.16	-9427296.99	0.0499	0.0275
Saturn	-30524-12-11 17:16 J	-9427122.96	-9427122.78	-9427122.59	0.0272	0.0111
Saturn	-30523-07-28 17:45 J	-9426893.97	-9426893.76	-9426893.56	0.0271	0.0013
Saturn	-30522-03-14 16:47 J	-9426664.97	-9426664.80	-9426664.61	0.0271	0.0135
Saturn	-30522-10-29 15:35 J	-9426435.92	-9426435.85	-9426435.78	0.0270	0.0252
Jupiter	-30518-04-18 18:14 J	-9425168.94	-9425168.74	-9425168.53	0.0522	0.0122
Jupiter	-30518-12-12 22:04 J	-9424930.65	-9424930.58	-9424930.50	0.0531	0.0494
Jupiter	-30513-07-02 08:09 J	-9423267.29	-9423267.16	-9423267.02	0.0510	0.0380
Jupiter	-30512-02-23 11:45 J	-9423031.20	-9423031.01	-9423030.82	0.0501	0.0137
Saturn	-30508-01-03 11:02 J	-9421621.21	-9421621.04	-9421620.86	0.0287	0.0169
Saturn	-30508-08-21 11:45 J	-9421391.22	-9421391.01	-9421390.79	0.0288	0.0015
Saturn	-30507-04-08 13:40 J	-9421161.12	-9421160.93	-9421160.74	0.0289	0.0142
Jupiter	-30507-12-22 07:55 J	-9420903.35	-9420903.17	-9420903.00	0.0519	0.0286

Jupiter	-30506-08-17 08:52 J	-9420665.29	-9420665.13	-9420664.97	0.0528	0.0321
Uranus	-30503-10-23 05:31 J	-9419502.30	-9419502.27	-9419502.21	0.0135	0.0132
Uranus	-30502-06-06 11:02 J	-9419276.13	-9419276.04	-9419275.92	0.0135	0.0118
Uranus	-30501-01-18 16:33 J	-9419049.93	-9419049.81	-9419049.65	0.0136	0.0104
Uranus	-30501-08-31 22:19 J	-9418823.72	-9418823.57	-9418823.40	0.0136	0.0089
Jupiter	-30501-10-29 13:40 J	-9418765.13	-9418764.93	-9418764.73	0.0504	0.0010
Uranus	-30500-04-15 04:04 J	-9418597.50	-9418597.33	-9418597.14	0.0136	0.0074
Mars	-30500-06-08 07:55 J	-9418543.22	-9418543.17	-9418543.11	0.1852	0.1731
Jupiter	-30500-06-22 13:26 J	-9418528.97	-9418528.94	-9418528.90	0.0496	0.0488
Uranus	-30500-11-27 09:50 J	-9418371.27	-9418371.09	-9418370.89	0.0137	0.0059
Uranus	-30499-07-11 15:50 J	-9418145.04	-9418144.84	-9418144.64	0.0137	0.0044
Uranus	-30498-02-22 21:50 J	-9417918.80	-9417918.59	-9417918.38	0.0137	0.0029
Uranus	-30498-10-07 03:50 J	-9417692.55	-9417692.34	-9417692.13	0.0137	0.0013
Uranus	-30497-05-20 10:04 J	-9417466.29	-9417466.08	-9417465.87	0.0138	0.0003
Uranus	-30496-01-01 16:19 J	-9417240.03	-9417239.82	-9417239.60	0.0138	0.0019
Uranus	-30496-08-15 22:47 J	-9417013.75	-9417013.55	-9417013.34	0.0138	0.0034
Mars	-30495-01-18 22:33 J	-9416857.72	-9416857.56	-9416857.39	0.1674	0.0571
Uranus	-30495-03-30 05:02 J	-9416787.47	-9416787.29	-9416787.08	0.0139	0.0051
Jupiter	-30495-08-26 22:47 J	-9416637.66	-9416637.55	-9416637.45	0.0516	0.0443
Saturn	-30495-11-06 22:33 J	-9416565.68	-9416565.56	-9416565.42	0.0273	0.0213
Uranus	-30495-11-11 11:59 J	-9416561.18	-9416561.00	-9416560.81	0.0139	0.0066
Jupiter	-30494-04-21 21:21 J	-9416399.81	-9416399.61	-9416399.41	0.0526	0.0149
Saturn	-30494-06-23 23:59 J	-9416336.70	-9416336.50	-9416336.30	0.0272	0.0088
Uranus	-30494-06-25 18:43 J	-9416334.88	-9416334.72	-9416334.54	0.0139	0.0082
Uranus	-30493-02-07 02:09 J	-9416108.56	-9416108.41	-9416108.26	0.0140	0.0098
Saturn	-30493-02-08 00:14 J	-9416107.69	-9416107.49	-9416107.28	0.0271	0.0035
Uranus	-30493-09-20 09:07 J	-9415882.23	-9415882.12	-9415881.99	0.0140	0.0114
Saturn	-30493-09-23 23:16 J	-9415878.69	-9415878.53	-9415878.35	0.0270	0.0155
Uranus	-30492-05-04 16:33 J	-9415655.88	-9415655.81	-9415655.73	0.0140	0.0130
Jupiter	-30489-07-04 16:33 J	-9414499.00	-9414498.81	-9414498.62	0.0507	0.0147

Jupiter	-30488-02-25 17:59 J	-9414262.89	-9414262.75	-9414262.61	0.0498	0.0358
Jupiter	-30483-12-25 09:50 J	-9412134.30	-9412134.09	-9412133.88	0.0523	0.0023
Saturn	-30479-07-16 16:33 J	-9410834.99	-9410834.81	-9410834.62	0.0287	0.0146
Saturn	-30478-03-03 17:16 J	-9410605.00	-9410604.78	-9410604.57	0.0288	0.0010
Saturn	-30478-10-19 18:57 J	-9410374.89	-9410374.71	-9410374.53	0.0289	0.0165
Earth	-30478-10-25 08:38 J	-9410369.29	-9410369.14	-9410368.99	0.2636	0.1031
Moon	-30478-10-25 14:09 J	-9410369.04	-9410368.91	-9410368.78	0.2638	0.1545 *
Jupiter	-30477-03-09 19:26 J	-9410232.85	-9410232.69	-9410232.52	0.0509	0.0290
Jupiter	-30477-10-31 22:33 J	-9409996.74	-9409996.56	-9409996.38	0.0500	0.0223
Jupiter	-30471-08-30 00:28 J	-9407868.67	-9407868.48	-9407868.28	0.0521	0.0188
Jupiter	-30470-04-25 03:07 J	-9407630.48	-9407630.37	-9407630.24	0.0530	0.0424
Moon	-30470-10-23 02:23 J	-9407449.52	-9407449.40	-9407449.29	0.2632	0.1876
Mars	-30466-04-06 01:55 J	-9406188.59	-9406188.42	-9406188.25	0.1840	0.0424
Jupiter	-30466-11-13 21:07 J	-9405966.72	-9405966.62	-9405966.51	0.0511	0.0434
Saturn	-30465-05-18 22:33 J	-9405779.69	-9405779.56	-9405779.41	0.0273	0.0198
Jupiter	-30465-07-07 01:40 J	-9405730.63	-9405730.43	-9405730.23	0.0502	0.0084
Saturn	-30464-01-02 23:59 J	-9405550.70	-9405550.50	-9405550.30	0.0272	0.0074
Saturn	-30464-08-19 23:45 J	-9405321.71	-9405321.51	-9405321.30	0.0271	0.0049
Saturn	-30463-04-05 22:47 J	-9405092.71	-9405092.55	-9405092.39	0.0270	0.0169
Uranus	-30462-02-06 11:59 J	-9404786.08	-9404786.00	-9404785.88	0.0143	0.0128
Uranus	-30462-09-21 00:43 J	-9404559.61	-9404559.47	-9404559.33	0.0143	0.0109
Mars	-30462-11-17 06:28 J	-9404502.38	-9404502.23	-9404502.08	0.1684	0.0925
Uranus	-30461-05-04 12:28 J	-9404333.14	-9404332.98	-9404332.80	0.0143	0.0092
Uranus	-30461-12-17 00:14 J	-9404106.66	-9404106.49	-9404106.28	0.0142	0.0075
Uranus	-30460-07-31 12:14 J	-9403880.18	-9403879.99	-9403879.77	0.0142	0.0056
Neptune	-30460-10-04 13:11 J	-9403815.01	-9403814.95	-9403814.87	0.0089	0.0084
Uranus	-30459-03-15 00:14 J	-9403653.71	-9403653.49	-9403653.28	0.0142	0.0038
Jupiter	-30459-05-04 16:04 J	-9403602.98	-9403602.83	-9403602.67	0.0518	0.0348
Neptune	-30459-05-18 02:23 J	-9403589.47	-9403589.40	-9403589.27	0.0089	0.0079
Uranus	-30459-10-27 11:45 J	-9403427.23	-9403427.01	-9403426.79	0.0141	0.0020

Jupiter	-30459-12-28 16:47 J	-9403364.98	-9403364.80	-9403364.62	0.0528	0.0255
Neptune	-30459-12-29 16:19 J	-9403363.93	-9403363.82	-9403363.68	0.0089	0.0073
Uranus	-30458-06-10 23:16 J	-9403200.75	-9403200.53	-9403200.31	0.0141	0.0003
Neptune	-30458-08-12 05:59 J	-9403138.38	-9403138.25	-9403138.09	0.0089	0.0067
Uranus	-30457-01-23 10:33 J	-9402974.28	-9402974.06	-9402973.84	0.0141	0.0015
Neptune	-30457-03-24 19:40 J	-9402912.83	-9402912.68	-9402912.51	0.0089	0.0061
Uranus	-30457-09-05 21:21 J	-9402747.82	-9402747.61	-9402747.38	0.0140	0.0033
Neptune	-30457-11-05 09:07 J	-9402687.27	-9402687.12	-9402686.93	0.0089	0.0056
Uranus	-30456-04-20 08:23 J	-9402521.35	-9402521.15	-9402520.94	0.0140	0.0050
Neptune	-30456-06-18 22:47 J	-9402461.72	-9402461.55	-9402461.35	0.0089	0.0050
Uranus	-30456-12-02 19:11 J	-9402294.89	-9402294.70	-9402294.50	0.0140	0.0067
Neptune	-30455-01-30 12:14 J	-9402236.17	-9402235.99	-9402235.78	0.0089	0.0044
Uranus	-30455-07-17 05:59 J	-9402068.42	-9402068.25	-9402068.07	0.0139	0.0084
Neptune	-30455-09-13 01:55 J	-9402010.61	-9402010.42	-9402010.21	0.0089	0.0038
Uranus	-30454-02-28 16:19 J	-9401841.96	-9401841.82	-9401841.66	0.0139	0.0100
Neptune	-30454-04-26 15:21 J	-9401785.06	-9401784.86	-9401784.64	0.0089	0.0032
Uranus	-30454-10-13 02:38 J	-9401615.50	-9401615.39	-9401615.26	0.0139	0.0116
Neptune	-30454-12-08 05:02 J	-9401559.50	-9401559.29	-9401559.07	0.0089	0.0026
Jupiter	-30453-03-12 04:33 J	-9401464.51	-9401464.31	-9401464.11	0.0505	0.0058
Uranus	-30453-05-26 12:43 J	-9401389.03	-9401388.97	-9401388.89	0.0138	0.0131
Neptune	-30453-07-20 18:28 J	-9401333.95	-9401333.73	-9401333.51	0.0089	0.0020
Jupiter	-30453-11-03 04:33 J	-9401228.40	-9401228.31	-9401228.21	0.0497	0.0437
Neptune	-30452-03-03 07:40 J	-9401108.39	-9401108.18	-9401107.95	0.0089	0.0015
Neptune	-30452-10-14 21:21 J	-9400882.83	-9400882.61	-9400882.39	0.0089	0.0008
Neptune	-30451-05-28 10:47 J	-9400657.27	-9400657.05	-9400656.83	0.0089	0.0003
Neptune	-30450-01-08 23:59 J	-9400431.72	-9400431.50	-9400431.27	0.0089	0.0004
Saturn	-30450-06-10 19:11 J	-9400278.73	-9400278.70	-9400278.64	0.0286	0.0278
Neptune	-30450-08-22 13:26 J	-9400206.16	-9400205.94	-9400205.72	0.0089	0.0009
Saturn	-30449-01-26 18:43 J	-9400048.91	-9400048.72	-9400048.52	0.0287	0.0129
Neptune	-30449-04-04 02:38 J	-9399980.60	-9399980.39	-9399980.17	0.0089	0.0015

Saturn	-30449-09-12 19:40 J	-9399818.90	-9399818.68	-9399818.47	0.0288	0.0025
Neptune	-30449-11-15 16:04 J	-9399755.04	-9399754.83	-9399754.61	0.0089	0.0021
Saturn	-30448-04-30 21:35 J	-9399588.76	-9399588.60	-9399588.42	0.0289	0.0182
Neptune	-30448-06-29 05:16 J	-9399529.48	-9399529.28	-9399529.06	0.0089	0.0027
Jupiter	-30447-01-07 07:26 J	-9399337.23	-9399337.19	-9399337.14	0.0515	0.0500
Neptune	-30447-02-09 18:28 J	-9399303.92	-9399303.73	-9399303.51	0.0089	0.0033
Jupiter	-30447-09-02 05:16 J	-9399099.48	-9399099.28	-9399099.07	0.0525	0.0085
Neptune	-30447-09-23 07:55 J	-9399078.36	-9399078.17	-9399077.96	0.0089	0.0039
Neptune	-30446-05-06 21:35 J	-9398852.79	-9398852.60	-9398852.41	0.0089	0.0044
Neptune	-30446-12-18 10:47 J	-9398627.23	-9398627.05	-9398626.86	0.0089	0.0050
Neptune	-30445-07-30 23:45 J	-9398401.66	-9398401.51	-9398401.32	0.0089	0.0056
Neptune	-30444-03-13 12:57 J	-9398176.10	-9398175.96	-9398175.78	0.0089	0.0062
Neptune	-30444-10-25 02:23 J	-9397950.53	-9397950.40	-9397950.24	0.0089	0.0067
Neptune	-30443-06-07 15:21 J	-9397724.96	-9397724.86	-9397724.71	0.0089	0.0073
Neptune	-30442-01-19 04:47 J	-9397499.39	-9397499.30	-9397499.19	0.0089	0.0078
Neptune	-30442-09-01 17:45 J	-9397273.81	-9397273.76	-9397273.67	0.0089	0.0084
Jupiter	-30442-11-16 05:16 J	-9397198.47	-9397198.28	-9397198.10	0.0508	0.0203
Jupiter	-30441-07-09 07:26 J	-9396962.35	-9396962.19	-9396962.03	0.0500	0.0305
Saturn	-30436-11-29 04:47 J	-9394993.45	-9394993.30	-9394993.14	0.0273	0.0176
Jupiter	-30435-05-07 18:57 J	-9394833.92	-9394833.71	-9394833.51	0.0522	0.0085
Saturn	-30435-07-16 05:45 J	-9394764.46	-9394764.26	-9394764.05	0.0272	0.0053
Jupiter	-30435-12-31 21:35 J	-9394595.62	-9394595.60	-9394595.57	0.0531	0.0525
Saturn	-30434-03-02 05:45 J	-9394535.46	-9394535.26	-9394535.05	0.0271	0.0070
Mars	-30434-04-05 13:40 J	-9394501.04	-9394500.93	-9394500.82	0.1850	0.1408
Saturn	-30434-10-17 04:47 J	-9394306.44	-9394306.30	-9394306.15	0.0270	0.0189
Jupiter	-30430-07-22 06:57 J	-9392932.35	-9392932.21	-9392932.06	0.0511	0.0346
Mars	-30430-11-16 08:23 J	-9392815.32	-9392815.15	-9392814.97	0.1676	0.0413
Jupiter	-30429-03-14 11:16 J	-9392696.22	-9392696.03	-9392695.84	0.0502	0.0170
Jupiter	-30423-01-10 07:55 J	-9390568.35	-9390568.17	-9390567.99	0.0519	0.0250
Jupiter	-30423-09-05 09:07 J	-9390330.27	-9390330.12	-9390329.97	0.0529	0.0355

Saturn	-30421-12-21 01:11 J	-9389492.54	-9389492.45	-9389492.35	0.0286	0.0255
Saturn	-30420-08-08 00:43 J	-9389262.67	-9389262.47	-9389262.27	0.0287	0.0105
Saturn	-30419-03-26 01:40 J	-9389032.65	-9389032.43	-9389032.22	0.0289	0.0050
Saturn	-30419-11-11 03:21 J	-9388802.50	-9388802.36	-9388802.19	0.0289	0.0207
Uranus	-30418-02-03 21:07 J	-9388717.69	-9388717.62	-9388717.52	0.0135	0.0124
Jupiter	-30418-03-27 09:07 J	-9388666.17	-9388666.12	-9388666.06	0.0513	0.0489
Uranus	-30418-09-18 02:23 J	-9388491.50	-9388491.40	-9388491.25	0.0136	0.0110
Jupiter	-30418-11-18 15:21 J	-9388430.06	-9388429.86	-9388429.66	0.0504	0.0032
Uranus	-30417-05-01 08:09 J	-9388265.30	-9388265.16	-9388265.00	0.0136	0.0095
Uranus	-30417-12-13 13:55 J	-9388039.08	-9388038.92	-9388038.74	0.0136	0.0080
Uranus	-30416-07-27 19:40 J	-9387812.86	-9387812.68	-9387812.48	0.0136	0.0065
Uranus	-30415-03-11 01:26 J	-9387586.63	-9387586.44	-9387586.23	0.0137	0.0050
Pluto	-30415-04-30 16:04 J	-9387535.87	-9387535.83	-9387535.79	0.0064	0.0063
Uranus	-30415-10-23 07:11 J	-9387360.40	-9387360.20	-9387359.98	0.0137	0.0035
Pluto	-30415-12-11 19:26 J	-9387310.88	-9387310.69	-9387310.47	0.0065	0.0025
Uranus	-30414-06-06 13:26 J	-9387134.15	-9387133.94	-9387133.73	0.0137	0.0019
Pluto	-30414-07-24 23:31 J	-9387085.73	-9387085.52	-9387085.31	0.0065	0.0015
Uranus	-30413-01-18 19:40 J	-9386907.89	-9386907.68	-9386907.46	0.0138	0.0003
Pluto	-30413-03-06 02:52 J	-9386860.47	-9386860.38	-9386860.24	0.0065	0.0056
Uranus	-30413-09-01 01:55 J	-9386681.63	-9386681.42	-9386681.21	0.0138	0.0013
Uranus	-30412-04-15 08:09 J	-9386455.36	-9386455.16	-9386454.95	0.0138	0.0029
Jupiter	-30412-09-14 23:31 J	-9386302.64	-9386302.52	-9386302.39	0.0517	0.0407
Uranus	-30412-11-27 14:38 J	-9386229.09	-9386228.89	-9386228.68	0.0139	0.0045
Jupiter	-30411-05-10 22:47 J	-9386064.74	-9386064.55	-9386064.35	0.0526	0.0186
Uranus	-30411-07-11 21:07 J	-9386002.80	-9386002.62	-9386002.42	0.0139	0.0061
Uranus	-30410-02-23 04:04 J	-9385776.50	-9385776.33	-9385776.14	0.0139	0.0077
Uranus	-30410-10-07 11:16 J	-9385550.19	-9385550.03	-9385549.87	0.0140	0.0093
Uranus	-30409-05-20 18:14 J	-9385323.86	-9385323.74	-9385323.60	0.0140	0.0109
Uranus	-30408-01-02 01:26 J	-9385097.52	-9385097.44	-9385097.33	0.0140	0.0125
Uranus	-30408-08-16 09:21 J	-9384871.11	-9384871.11	-9384871.11	0.0141	0.0140

Saturn	-30406-06-11 04:47 J	-9384207.46	-9384207.30	-9384207.13	0.0273	0.0161
Jupiter	-30406-07-24 17:59 J	-9384163.94	-9384163.75	-9384163.55	0.0506	0.0111
Saturn	-30405-01-26 05:45 J	-9383978.47	-9383978.26	-9383978.05	0.0271	0.0038
Jupiter	-30405-03-16 18:57 J	-9383927.83	-9383927.71	-9383927.59	0.0498	0.0388
Saturn	-30405-09-11 05:31 J	-9383749.47	-9383749.27	-9383749.08	0.0271	0.0084
Saturn	-30404-04-28 04:04 J	-9383520.46	-9383520.33	-9383520.19	0.0270	0.0203
Mars	-30400-01-31 08:38 J	-9382146.30	-9382146.14	-9382145.98	0.1837	0.0705
Jupiter	-30399-01-13 13:11 J	-9381799.16	-9381798.95	-9381798.74	0.0524	0.0019
Mars	-30396-09-13 16:04 J	-9380459.96	-9380459.83	-9380459.69	0.1686	0.1092
Jupiter	-30394-03-29 20:23 J	-9379897.82	-9379897.65	-9379897.48	0.0509	0.0254
Jupiter	-30394-11-20 22:47 J	-9379661.72	-9379661.55	-9379661.37	0.0500	0.0255
Saturn	-30391-07-03 01:40 J	-9378706.53	-9378706.43	-9378706.30	0.0286	0.0241
Saturn	-30390-02-18 01:40 J	-9378476.64	-9378476.43	-9378476.23	0.0287	0.0091
Saturn	-30390-10-06 02:38 J	-9378246.60	-9378246.39	-9378246.18	0.0288	0.0064
Saturn	-30389-05-23 04:47 J	-9378016.43	-9378016.30	-9378016.15	0.0289	0.0221
Jupiter	-30388-09-18 03:21 J	-9377533.56	-9377533.36	-9377533.16	0.0521	0.0145
Jupiter	-30387-05-14 05:31 J	-9377295.37	-9377295.27	-9377295.17	0.0530	0.0461
Jupiter	-30383-12-02 19:26 J	-9375631.81	-9375631.69	-9375631.57	0.0512	0.0401
Jupiter	-30382-07-27 00:28 J	-9375395.67	-9375395.48	-9375395.28	0.0503	0.0116
Neptune	-30379-08-24 21:21 J	-9374270.66	-9374270.61	-9374270.55	0.0089	0.0085
Uranus	-30379-10-06 17:59 J	-9374227.82	-9374227.75	-9374227.67	0.0143	0.0134
Neptune	-30378-04-07 09:50 J	-9374045.17	-9374045.09	-9374044.99	0.0089	0.0080
Uranus	-30378-05-21 05:59 J	-9374001.36	-9374001.25	-9374001.11	0.0143	0.0117
Neptune	-30378-11-18 22:04 J	-9373819.68	-9373819.58	-9373819.45	0.0089	0.0075
Uranus	-30377-01-02 18:28 J	-9373774.89	-9373774.73	-9373774.57	0.0143	0.0099
Saturn	-30377-05-06 08:23 J	-9373650.20	-9373650.15	-9373650.09	0.0274	0.0264
Neptune	-30377-07-01 10:47 J	-9373594.18	-9373594.05	-9373593.91	0.0089	0.0069
Uranus	-30377-08-16 06:14 J	-9373548.41	-9373548.24	-9373548.05	0.0142	0.0081
Saturn	-30377-12-21 10:33 J	-9373421.24	-9373421.06	-9373420.88	0.0273	0.0140
Neptune	-30376-02-11 22:47 J	-9373368.68	-9373368.55	-9373368.38	0.0089	0.0064

Uranus	-30376-03-30 17:59 J	-9373321.94	-9373321.75	-9373321.54	0.0142	0.0063
Jupiter	-30376-05-23 17:59 J	-9373267.92	-9373267.75	-9373267.58	0.0518	0.0306
Saturn	-30376-08-07 11:16 J	-9373192.23	-9373192.03	-9373191.82	0.0272	0.0017
Neptune	-30376-09-25 11:02 J	-9373143.18	-9373143.04	-9373142.85	0.0089	0.0059
Uranus	-30376-11-12 05:59 J	-9373095.46	-9373095.25	-9373095.04	0.0142	0.0045
Jupiter	-30375-01-16 17:45 J	-9373029.93	-9373029.76	-9373029.59	0.0527	0.0291
Saturn	-30375-03-24 10:47 J	-9372963.23	-9372963.05	-9372962.85	0.0271	0.0106
Neptune	-30375-05-08 23:45 J	-9372917.67	-9372917.51	-9372917.32	0.0089	0.0053
Uranus	-30375-06-26 17:31 J	-9372868.98	-9372868.77	-9372868.54	0.0141	0.0027
Saturn	-30375-11-08 09:50 J	-9372734.20	-9372734.09	-9372733.97	0.0270	0.0223
Neptune	-30375-12-20 12:43 J	-9372692.16	-9372691.97	-9372691.79	0.0089	0.0047
Uranus	-30374-02-08 05:02 J	-9372642.51	-9372642.29	-9372642.06	0.0141	0.0010
Neptune	-30374-08-03 00:43 J	-9372466.65	-9372466.47	-9372466.26	0.0089	0.0042
Uranus	-30374-09-22 16:19 J	-9372416.04	-9372415.82	-9372415.59	0.0141	0.0009
Neptune	-30373-03-15 13:26 J	-9372241.13	-9372240.94	-9372240.73	0.0089	0.0036
Uranus	-30373-05-06 03:21 J	-9372189.57	-9372189.36	-9372189.14	0.0140	0.0027
Neptune	-30373-10-27 01:55 J	-9372015.62	-9372015.42	-9372015.21	0.0089	0.0030
Uranus	-30373-12-18 14:09 J	-9371963.11	-9371962.91	-9371962.68	0.0140	0.0045
Neptune	-30372-06-09 14:23 J	-9371790.10	-9371789.90	-9371789.68	0.0089	0.0025
Uranus	-30372-08-02 01:11 J	-9371736.64	-9371736.45	-9371736.24	0.0140	0.0061
Neptune	-30371-01-21 03:07 J	-9371564.58	-9371564.37	-9371564.15	0.0089	0.0019
Uranus	-30371-03-16 11:59 J	-9371510.18	-9371510.00	-9371509.81	0.0139	0.0078
Neptune	-30371-09-03 15:35 J	-9371339.06	-9371338.85	-9371338.63	0.0089	0.0014
Uranus	-30371-10-28 22:33 J	-9371283.72	-9371283.56	-9371283.39	0.0139	0.0094
Jupiter	-30370-04-01 03:35 J	-9371129.55	-9371129.35	-9371129.15	0.0505	0.0025
Neptune	-30370-04-17 04:33 J	-9371113.53	-9371113.31	-9371113.09	0.0089	0.0008
Uranus	-30370-06-12 08:38 J	-9371057.25	-9371057.14	-9371056.99	0.0139	0.0111
Jupiter	-30370-11-23 04:19 J	-9370893.38	-9370893.32	-9370893.25	0.0497	0.0468
Neptune	-30370-11-28 17:16 J	-9370888.00	-9370887.78	-9370887.57	0.0089	0.0002
Uranus	-30369-01-24 18:57 J	-9370830.78	-9370830.71	-9370830.60	0.0138	0.0127

Neptune -30369-07-11 05:45 J -9370662.48 -9370662.26 -9370662.04 0.0088 0.0004
 Mars -30368-01-30 19:55 J -9370458.81 -9370458.67 -9370458.54 0.1846 0.1103
 Neptune -30368-02-21 18:14 J -9370436.95 -9370436.74 -9370436.52 0.0088 0.0010
 Neptune -30368-10-05 06:57 J -9370211.42 -9370211.21 -9370210.99 0.0088 0.0015
 Neptune -30367-05-18 19:55 J -9369985.88 -9369985.67 -9369985.46 0.0088 0.0021
 Neptune -30367-12-30 08:23 J -9369760.35 -9369760.15 -9369759.93 0.0088 0.0027
 Neptune -30366-08-12 20:52 J -9369534.82 -9369534.63 -9369534.41 0.0088 0.0033
 Neptune -30365-03-25 09:50 J -9369309.28 -9369309.09 -9369308.89 0.0088 0.0038
 Neptune -30365-11-05 22:19 J -9369083.74 -9369083.57 -9369083.36 0.0088 0.0044
 Jupiter -30364-01-26 07:40 J -9369002.26 -9369002.18 -9369002.08 0.0515 0.0464
 Neptune -30364-06-19 11:31 J -9368858.20 -9368858.02 -9368857.84 0.0088 0.0049
 Mars -30364-09-12 18:28 J -9368772.90 -9368772.73 -9368772.55 0.1679 0.0253
 Jupiter -30364-09-21 05:45 J -9368764.46 -9368764.26 -9368764.06 0.0525 0.0120
 Neptune -30363-01-30 23:45 J -9368632.67 -9368632.51 -9368632.32 0.0088 0.0055
 Neptune -30363-09-13 12:28 J -9368407.12 -9368406.98 -9368406.80 0.0088 0.0060
 Neptune -30362-04-27 01:26 J -9368181.57 -9368181.44 -9368181.28 0.0088 0.0066
 Neptune -30362-12-08 13:55 J -9367956.02 -9367955.92 -9367955.76 0.0088 0.0072
 Saturn -30361-01-13 08:09 J -9367920.29 -9367920.16 -9367920.01 0.0286 0.0217
 Neptune -30361-07-21 02:52 J -9367730.47 -9367730.38 -9367730.25 0.0088 0.0077
 Saturn -30361-08-30 07:55 J -9367690.38 -9367690.17 -9367689.96 0.0288 0.0066
 Neptune -30360-03-03 16:04 J -9367504.91 -9367504.83 -9367504.75 0.0088 0.0082
 Saturn -30360-04-17 08:52 J -9367460.33 -9367460.13 -9367459.92 0.0289 0.0090
 Neptune -30360-10-15 04:19 J -9367279.33 -9367279.32 -9367279.26 0.0088 0.0088
 Saturn -30360-12-03 11:16 J -9367230.14 -9367230.03 -9367229.91 0.0290 0.0246
 Jupiter -30359-12-05 06:57 J -9366863.40 -9366863.21 -9366863.02 0.0508 0.0166
 Jupiter -30358-07-29 08:52 J -9366627.27 -9366627.13 -9366626.98 0.0499 0.0338
 Jupiter -30352-05-26 19:55 J -9364498.87 -9364498.67 -9364498.46 0.0522 0.0047
 Saturn -30348-11-16 08:52 J -9362864.21 -9362864.13 -9362864.04 0.0273 0.0249
 Saturn -30347-07-03 10:33 J -9362635.24 -9362635.06 -9362634.87 0.0272 0.0125
 Jupiter -30347-08-10 09:07 J -9362597.27 -9362597.12 -9362596.96 0.0510 0.0309

Saturn	-30346-02-17 11:31 J	-9362406.23	-9362406.02	-9362405.82	0.0271	0.0006
Jupiter	-30346-04-03 12:57 J	-9362361.15	-9362360.96	-9362360.78	0.0501	0.0203
Saturn	-30346-10-04 10:47 J	-9362177.23	-9362177.05	-9362176.86	0.0270	0.0119
Saturn	-30345-05-20 09:21 J	-9361948.20	-9361948.11	-9361948.01	0.0270	0.0236
Jupiter	-30340-01-29 11:02 J	-9360233.23	-9360233.04	-9360232.85	0.0520	0.0209
Jupiter	-30340-09-24 13:11 J	-9359995.09	-9359994.95	-9359994.82	0.0529	0.0395
Jupiter	-30335-04-15 10:33 J	-9358331.15	-9358331.06	-9358330.96	0.0513	0.0452
Uranus	-30335-10-04 06:43 J	-9358159.27	-9358159.22	-9358159.15	0.0135	0.0129
Mars	-30335-11-28 15:07 J	-9358104.01	-9358103.87	-9358103.73	0.1834	0.0988
Jupiter	-30335-12-07 16:19 J	-9358095.02	-9358094.82	-9358094.63	0.0503	0.0066
Uranus	-30334-05-18 11:59 J	-9357933.09	-9357933.00	-9357932.87	0.0135	0.0116
Uranus	-30334-12-30 17:45 J	-9357706.89	-9357706.76	-9357706.61	0.0136	0.0101
Uranus	-30333-08-12 23:16 J	-9357480.68	-9357480.53	-9357480.35	0.0136	0.0086
Uranus	-30332-03-27 04:47 J	-9357254.47	-9357254.30	-9357254.11	0.0136	0.0072
Moon	-30332-04-22 22:33 J	-9357227.70	-9357227.56	-9357227.41	0.2694	0.1096
Earth	-30332-04-23 03:07 J	-9357227.50	-9357227.37	-9357227.23	0.2697	0.1254 *
Saturn	-30332-07-25 08:38 J	-9357134.29	-9357134.14	-9357133.99	0.0286	0.0202
Mars	-30332-09-11 19:55 J	-9357085.73	-9357085.67	-9357085.60	0.1671	0.1553
Uranus	-30332-11-08 10:47 J	-9357028.25	-9357028.05	-9357027.86	0.0136	0.0056
Saturn	-30331-03-12 08:38 J	-9356904.36	-9356904.14	-9356903.93	0.0287	0.0052
Uranus	-30331-06-22 16:33 J	-9356802.01	-9356801.81	-9356801.60	0.0137	0.0041
Saturn	-30331-10-28 09:50 J	-9356674.29	-9356674.09	-9356673.89	0.0289	0.0104
Uranus	-30330-02-03 22:33 J	-9356575.77	-9356575.56	-9356575.35	0.0137	0.0025
Saturn	-30330-06-15 12:28 J	-9356444.07	-9356443.98	-9356443.89	0.0290	0.0260
Mars	-30330-07-12 01:26 J	-9356417.56	-9356417.44	-9356417.33	0.1689	0.1267
Uranus	-30330-09-18 04:33 J	-9356349.52	-9356349.31	-9356349.09	0.0137	0.0010
Uranus	-30329-05-01 10:47 J	-9356123.26	-9356123.05	-9356122.84	0.0138	0.0007
Jupiter	-30329-10-04 02:52 J	-9355967.52	-9355967.38	-9355967.23	0.0517	0.0364
Uranus	-30329-12-13 17:02 J	-9355897.00	-9355896.79	-9355896.58	0.0138	0.0023
Jupiter	-30328-05-30 02:09 J	-9355729.60	-9355729.41	-9355729.23	0.0526	0.0228

Uranus	-30328-07-27 23:31 J	-9355670.72	-9355670.52	-9355670.31	0.0138	0.0039
Uranus	-30327-03-11 05:59 J	-9355444.44	-9355444.25	-9355444.05	0.0139	0.0055
Uranus	-30327-10-23 12:43 J	-9355218.15	-9355217.97	-9355217.78	0.0139	0.0071
Pluto	-30326-03-26 21:07 J	-9355063.84	-9355063.62	-9355063.39	0.0079	0.0008
Uranus	-30326-06-06 19:26 J	-9354991.84	-9354991.69	-9354991.51	0.0139	0.0088
Pluto	-30326-11-07 07:40 J	-9354838.28	-9354838.18	-9354838.05	0.0079	0.0067
Uranus	-30325-01-19 02:38 J	-9354765.52	-9354765.39	-9354765.24	0.0140	0.0104
Uranus	-30325-09-01 10:04 J	-9354539.19	-9354539.08	-9354538.97	0.0140	0.0119
Uranus	-30324-04-15 17:02 J	-9354312.83	-9354312.79	-9354312.72	0.0140	0.0136
Earth	-30324-04-20 20:38 J	-9354307.74	-9354307.64	-9354307.54	0.2698	0.2032
Jupiter	-30323-08-12 16:33 J	-9353829.01	-9353828.81	-9353828.61	0.0506	0.0079
Jupiter	-30322-04-05 17:59 J	-9353592.85	-9353592.75	-9353592.64	0.0498	0.0418
Saturn	-30318-05-29 13:55 J	-9352078.03	-9352077.92	-9352077.80	0.0274	0.0228
Saturn	-30317-01-13 15:50 J	-9351849.03	-9351848.84	-9351848.64	0.0273	0.0104
Saturn	-30317-08-29 16:33 J	-9351620.02	-9351619.81	-9351619.60	0.0272	0.0019
Jupiter	-30316-02-01 15:21 J	-9351464.07	-9351463.86	-9351463.66	0.0523	0.0060
Saturn	-30316-04-15 16:04 J	-9351391.01	-9351390.83	-9351390.65	0.0271	0.0140
Saturn	-30316-11-30 14:23 J	-9351161.95	-9351161.90	-9351161.83	0.0270	0.0257
Jupiter	-30311-04-17 18:43 J	-9349562.90	-9349562.72	-9349562.54	0.0509	0.0222
Jupiter	-30311-12-09 21:50 J	-9349326.75	-9349326.59	-9349326.42	0.0501	0.0286
Jupiter	-30305-10-07 03:50 J	-9347198.55	-9347198.34	-9347198.14	0.0521	0.0110
Jupiter	-30304-06-02 05:45 J	-9346960.32	-9346960.26	-9346960.18	0.0530	0.0494
Mars	-30303-11-28 01:55 J	-9346416.58	-9346416.42	-9346416.27	0.1843	0.0795
Saturn	-30302-02-04 15:50 J	-9346348.01	-9346347.84	-9346347.67	0.0287	0.0177
Saturn	-30302-09-22 15:35 J	-9346118.06	-9346117.85	-9346117.63	0.0288	0.0025
Saturn	-30301-05-09 16:47 J	-9345887.99	-9345887.80	-9345887.60	0.0289	0.0130
Saturn	-30301-12-25 19:11 J	-9345657.72	-9345657.70	-9345657.66	0.0290	0.0286
Jupiter	-30300-12-21 20:52 J	-9345296.76	-9345296.63	-9345296.48	0.0512	0.0365
Jupiter	-30299-08-15 01:55 J	-9345060.61	-9345060.42	-9345060.22	0.0503	0.0151
Mars	-30298-07-11 04:04 J	-9344730.51	-9344730.33	-9344730.15	0.1681	0.0089

Neptune	-30295-01-05 22:47 J	-9343820.59	-9343820.55	-9343820.46	0.0089	0.0085
Uranus	-30295-06-05 23:02 J	-9343669.55	-9343669.54	-9343669.51	0.0143	0.0143
Neptune	-30295-08-19 12:43 J	-9343595.06	-9343594.97	-9343594.86	0.0089	0.0079
Uranus	-30294-01-18 11:16 J	-9343443.12	-9343443.03	-9343442.91	0.0143	0.0125
Neptune	-30294-04-02 02:09 J	-9343369.51	-9343369.41	-9343369.27	0.0089	0.0074
Uranus	-30294-09-01 23:31 J	-9343216.66	-9343216.52	-9343216.37	0.0143	0.0107
Neptune	-30294-11-13 16:04 J	-9343143.96	-9343143.83	-9343143.68	0.0089	0.0068
Uranus	-30293-04-15 11:16 J	-9342990.18	-9342990.03	-9342989.84	0.0143	0.0090
Jupiter	-30293-06-11 18:28 J	-9342932.90	-9342932.73	-9342932.55	0.0518	0.0271
Neptune	-30293-06-26 05:16 J	-9342918.41	-9342918.28	-9342918.10	0.0089	0.0063
Uranus	-30293-11-27 23:16 J	-9342763.71	-9342763.53	-9342763.33	0.0142	0.0071
Jupiter	-30292-02-04 18:57 J	-9342694.87	-9342694.71	-9342694.55	0.0528	0.0327
Neptune	-30292-02-06 19:11 J	-9342692.86	-9342692.70	-9342692.52	0.0089	0.0057
Uranus	-30292-07-12 11:16 J	-9342537.23	-9342537.03	-9342536.82	0.0142	0.0053
Neptune	-30292-09-20 08:52 J	-9342467.30	-9342467.13	-9342466.94	0.0089	0.0051
Uranus	-30291-02-23 23:02 J	-9342310.75	-9342310.54	-9342310.32	0.0142	0.0035
Neptune	-30291-05-03 22:19 J	-9342241.74	-9342241.57	-9342241.36	0.0089	0.0046
Uranus	-30291-10-08 10:33 J	-9342084.28	-9342084.06	-9342083.84	0.0141	0.0017
Neptune	-30291-12-15 11:59 J	-9342016.18	-9342016.00	-9342015.79	0.0089	0.0040
Uranus	-30290-05-22 22:04 J	-9341857.80	-9341857.58	-9341857.36	0.0141	0.0002
Neptune	-30290-07-29 01:40 J	-9341790.63	-9341790.43	-9341790.22	0.0089	0.0034
Uranus	-30289-01-04 09:07 J	-9341631.33	-9341631.12	-9341630.89	0.0141	0.0020
Neptune	-30289-03-10 15:21 J	-9341565.07	-9341564.86	-9341564.65	0.0089	0.0028
Uranus	-30289-08-17 20:09 J	-9341404.86	-9341404.66	-9341404.43	0.0140	0.0038
Neptune	-30289-10-22 04:33 J	-9341339.51	-9341339.31	-9341339.08	0.0089	0.0023
Saturn	-30289-12-08 14:52 J	-9341292.00	-9341291.88	-9341291.74	0.0273	0.0212
Uranus	-30288-04-01 06:57 J	-9341178.40	-9341178.21	-9341177.99	0.0140	0.0055
Neptune	-30288-06-04 18:14 J	-9341113.95	-9341113.74	-9341113.52	0.0089	0.0017
Saturn	-30288-07-25 16:33 J	-9341063.00	-9341062.81	-9341062.61	0.0272	0.0089
Jupiter	-30288-08-26 22:47 J	-9341030.58	-9341030.55	-9341030.52	0.0514	0.0506

Uranus	-30288-11-13 17:59 J	-9340951.93	-9340951.75	-9340951.55	0.0140	0.0072
Neptune	-30287-01-16 07:40 J	-9340888.40	-9340888.18	-9340887.96	0.0089	0.0011
Saturn	-30287-03-11 17:02 J	-9340834.00	-9340833.79	-9340833.58	0.0271	0.0034
Jupiter	-30287-04-20 05:31 J	-9340794.47	-9340794.27	-9340794.07	0.0505	0.0013
Uranus	-30287-06-28 04:47 J	-9340725.46	-9340725.30	-9340725.12	0.0139	0.0089
Neptune	-30287-08-29 21:07 J	-9340662.84	-9340662.62	-9340662.40	0.0089	0.0005
Saturn	-30287-10-26 16:19 J	-9340604.99	-9340604.82	-9340604.65	0.0270	0.0154
Uranus	-30286-02-09 15:21 J	-9340499.00	-9340498.86	-9340498.71	0.0139	0.0105
Neptune	-30286-04-12 10:33 J	-9340437.28	-9340437.06	-9340436.84	0.0089	0.0001
Uranus	-30286-09-24 01:55 J	-9340272.53	-9340272.42	-9340272.31	0.0139	0.0121
Neptune	-30286-11-23 23:45 J	-9340211.72	-9340211.51	-9340211.28	0.0089	0.0007
Uranus	-30285-05-07 11:31 J	-9340046.02	-9340046.02	-9340045.97	0.0138	0.0138
Neptune	-30285-07-06 13:11 J	-9339986.17	-9339985.95	-9339985.73	0.0089	0.0012
Neptune	-30284-02-17 02:23 J	-9339760.61	-9339760.40	-9339760.18	0.0089	0.0018
Neptune	-30284-09-30 15:35 J	-9339535.05	-9339534.85	-9339534.62	0.0089	0.0024
Neptune	-30283-05-14 05:02 J	-9339309.49	-9339309.29	-9339309.07	0.0089	0.0030
Neptune	-30283-12-25 18:28 J	-9339083.93	-9339083.73	-9339083.52	0.0089	0.0035
Neptune	-30282-08-08 07:40 J	-9338858.37	-9338858.18	-9338857.98	0.0089	0.0041
Jupiter	-30281-02-15 10:33 J	-9338667.17	-9338667.06	-9338666.94	0.0516	0.0424
Neptune	-30281-03-20 20:38 J	-9338632.81	-9338632.64	-9338632.43	0.0089	0.0047
Jupiter	-30281-10-10 09:07 J	-9338429.31	-9338429.12	-9338428.92	0.0525	0.0162
Neptune	-30281-11-01 10:19 J	-9338407.24	-9338407.07	-9338406.88	0.0089	0.0052
Neptune	-30280-06-14 23:16 J	-9338181.67	-9338181.53	-9338181.34	0.0089	0.0058
Neptune	-30279-01-26 12:43 J	-9337956.11	-9337955.97	-9337955.80	0.0089	0.0063
Neptune	-30279-09-09 01:40 J	-9337730.54	-9337730.43	-9337730.27	0.0089	0.0069
Neptune	-30278-04-22 15:07 J	-9337504.97	-9337504.87	-9337504.74	0.0089	0.0074
Neptune	-30278-12-04 04:19 J	-9337279.40	-9337279.32	-9337279.20	0.0089	0.0080
Neptune	-30277-07-16 17:31 J	-9337053.81	-9337053.77	-9337053.69	0.0089	0.0085
Jupiter	-30276-12-24 08:09 J	-9336528.36	-9336528.16	-9336527.97	0.0507	0.0130
Jupiter	-30275-08-17 09:35 J	-9336292.23	-9336292.10	-9336291.96	0.0499	0.0369

Saturn	-30273-08-16 15:35 J	-9335562.02	-9335561.85	-9335561.66	0.0286	0.0164
Saturn	-30272-04-03 15:50 J	-9335332.06	-9335331.84	-9335331.62	0.0288	0.0011
Saturn	-30272-11-19 17:16 J	-9335101.96	-9335101.78	-9335101.59	0.0289	0.0144
Jupiter	-30269-06-14 23:31 J	-9334163.72	-9334163.52	-9334163.31	0.0522	0.0012
Mars	-30269-09-24 22:04 J	-9334061.71	-9334061.58	-9334061.46	0.1831	0.1259
Mars	-30266-07-10 06:14 J	-9333043.34	-9333043.24	-9333043.15	0.1674	0.1404
Mars	-30264-05-08 10:33 J	-9332375.15	-9332375.06	-9332374.96	0.1692	0.1442
Jupiter	-30264-08-29 07:11 J	-9332262.36	-9332262.20	-9332262.03	0.0510	0.0277
Jupiter	-30263-04-22 11:16 J	-9332026.21	-9332026.03	-9332025.85	0.0501	0.0234
Saturn	-30259-06-20 19:40 J	-9330505.83	-9330505.68	-9330505.53	0.0274	0.0191
Saturn	-30258-02-04 21:21 J	-9330276.80	-9330276.61	-9330276.40	0.0273	0.0068
Saturn	-30258-09-21 21:50 J	-9330047.79	-9330047.59	-9330047.38	0.0272	0.0056
Jupiter	-30257-02-18 13:40 J	-9329898.12	-9329897.93	-9329897.73	0.0520	0.0167
Saturn	-30257-05-07 21:21 J	-9329818.77	-9329818.61	-9329818.45	0.0271	0.0175
Jupiter	-30257-10-13 14:52 J	-9329659.99	-9329659.88	-9329659.76	0.0529	0.0432
Jupiter	-30252-05-04 08:09 J	-9327996.27	-9327996.16	-9327996.05	0.0513	0.0421
Jupiter	-30252-12-26 14:09 J	-9327760.10	-9327759.91	-9327759.71	0.0504	0.0096
Uranus	-30250-01-15 22:04 J	-9327374.66	-9327374.58	-9327374.47	0.0135	0.0122
Uranus	-30250-08-30 03:50 J	-9327148.47	-9327148.34	-9327148.21	0.0135	0.0107
Uranus	-30249-04-12 08:52 J	-9326922.27	-9326922.13	-9326921.96	0.0136	0.0093
Uranus	-30249-11-24 14:38 J	-9326696.06	-9326695.89	-9326695.70	0.0136	0.0077
Uranus	-30248-07-08 20:23 J	-9326469.83	-9326469.65	-9326469.45	0.0136	0.0062
Uranus	-30247-02-20 02:09 J	-9326243.61	-9326243.41	-9326243.20	0.0137	0.0047
Uranus	-30247-10-04 08:09 J	-9326017.37	-9326017.16	-9326016.95	0.0137	0.0031
Uranus	-30246-05-18 14:09 J	-9325791.13	-9325790.91	-9325790.70	0.0137	0.0015
Jupiter	-30246-10-24 02:52 J	-9325632.53	-9325632.38	-9325632.22	0.0517	0.0329
Uranus	-30246-12-30 20:23 J	-9325564.87	-9325564.65	-9325564.44	0.0137	0.0002
Jupiter	-30245-06-18 01:55 J	-9325394.60	-9325394.42	-9325394.24	0.0526	0.0261
Uranus	-30245-08-13 02:23 J	-9325338.61	-9325338.40	-9325338.18	0.0138	0.0017
Uranus	-30244-03-27 08:38 J	-9325112.34	-9325112.14	-9325111.92	0.0138	0.0033

Saturn	-30244-07-12 01:26 J	-9325005.45	-9325005.44	-9325005.40	0.0285	0.0283
Uranus	-30244-11-08 15:07 J	-9324886.06	-9324885.87	-9324885.66	0.0138	0.0049
Saturn	-30243-02-27 00:14 J	-9324775.68	-9324775.49	-9324775.30	0.0287	0.0136
Uranus	-30243-06-22 22:04 J	-9324659.77	-9324659.58	-9324659.40	0.0139	0.0065
Saturn	-30243-10-15 00:14 J	-9324545.71	-9324545.49	-9324545.27	0.0288	0.0017
Uranus	-30242-02-04 04:47 J	-9324433.47	-9324433.30	-9324433.12	0.0139	0.0082
Saturn	-30242-06-02 01:40 J	-9324315.60	-9324315.43	-9324315.25	0.0289	0.0172
Uranus	-30242-09-18 11:45 J	-9324207.16	-9324207.01	-9324206.85	0.0139	0.0098
Uranus	-30241-05-01 18:43 J	-9323980.83	-9323980.72	-9323980.59	0.0140	0.0114
Uranus	-30241-12-14 01:55 J	-9323754.49	-9323754.42	-9323754.33	0.0140	0.0130
Jupiter	-30240-08-31 17:45 J	-9323493.96	-9323493.76	-9323493.56	0.0506	0.0044
Jupiter	-30239-04-24 18:57 J	-9323257.79	-9323257.71	-9323257.62	0.0498	0.0449
Mars	-30237-09-24 08:38 J	-9322374.30	-9322374.14	-9322373.97	0.1840	0.0515
Moon	-30235-10-25 03:21 J	-9321613.53	-9321613.36	-9321613.19	0.2630	0.0461
Earth	-30235-10-25 07:26 J	-9321613.34	-9321613.19	-9321613.04	0.2635	0.1083 *
Jupiter	-30234-06-28 18:28 J	-9321366.79	-9321366.73	-9321366.65	0.0514	0.0482
Jupiter	-30233-02-21 15:21 J	-9321129.06	-9321128.86	-9321128.65	0.0524	0.0095
Mars	-30232-05-07 14:09 J	-9320688.09	-9320687.91	-9320687.73	0.1683	0.0074
Saturn	-30230-12-31 21:35 J	-9319719.76	-9319719.60	-9319719.44	0.0273	0.0175
Saturn	-30229-08-16 23:02 J	-9319490.74	-9319490.54	-9319490.34	0.0272	0.0051
Saturn	-30228-04-02 23:16 J	-9319261.73	-9319261.53	-9319261.33	0.0271	0.0071
Jupiter	-30228-05-06 20:38 J	-9319227.83	-9319227.64	-9319227.46	0.0509	0.0185
Saturn	-30228-11-17 22:04 J	-9319032.71	-9319032.58	-9319032.42	0.0270	0.0191
Jupiter	-30228-12-28 23:02 J	-9318991.69	-9318991.54	-9318991.38	0.0500	0.0319
Jupiter	-30222-10-27 06:14 J	-9316863.44	-9316863.24	-9316863.03	0.0521	0.0070
Jupiter	-30216-01-09 22:19 J	-9314961.72	-9314961.57	-9314961.42	0.0511	0.0328
Jupiter	-30216-09-03 02:38 J	-9314725.58	-9314725.39	-9314725.20	0.0502	0.0183
Neptune	-30215-11-26 08:38 J	-9314276.17	-9314276.14	-9314276.07	0.0089	0.0086
Saturn	-30214-01-22 01:40 J	-9314219.49	-9314219.43	-9314219.35	0.0285	0.0268
Neptune	-30214-07-09 21:07 J	-9314050.69	-9314050.62	-9314050.51	0.0089	0.0081

Saturn	-30214-09-09 00:14 J	-9313989.68	-9313989.49	-9313989.29	0.0287	0.0122
Neptune	-30213-02-20 09:21 J	-9313825.20	-9313825.11	-9313824.97	0.0089	0.0076
Saturn	-30213-04-26 00:43 J	-9313759.69	-9313759.47	-9313759.26	0.0288	0.0031
Neptune	-30213-10-02 22:04 J	-9313599.70	-9313599.58	-9313599.44	0.0089	0.0070
Saturn	-30213-12-12 02:09 J	-9313529.57	-9313529.41	-9313529.24	0.0289	0.0186
Neptune	-30212-05-16 10:33 J	-9313374.19	-9313374.06	-9313373.90	0.0089	0.0065
Neptune	-30212-12-27 22:47 J	-9313148.69	-9313148.55	-9313148.37	0.0089	0.0060
Neptune	-30211-08-10 11:31 J	-9312923.18	-9312923.02	-9312922.84	0.0089	0.0054
Uranus	-30211-09-17 15:35 J	-9312884.92	-9312884.85	-9312884.77	0.0143	0.0134
Neptune	-30210-03-23 23:45 J	-9312697.67	-9312697.51	-9312697.31	0.0089	0.0049
Uranus	-30210-05-02 03:21 J	-9312658.47	-9312658.36	-9312658.21	0.0143	0.0116
Jupiter	-30210-07-01 22:04 J	-9312597.77	-9312597.58	-9312597.40	0.0519	0.0227
Neptune	-30210-11-04 12:43 J	-9312472.16	-9312471.97	-9312471.78	0.0089	0.0043
Uranus	-30210-12-14 15:35 J	-9312432.00	-9312431.85	-9312431.68	0.0143	0.0098
Jupiter	-30209-02-24 22:19 J	-9312359.71	-9312359.57	-9312359.42	0.0528	0.0369
Neptune	-30209-06-17 00:57 J	-9312246.65	-9312246.46	-9312246.26	0.0089	0.0038
Uranus	-30209-07-28 03:35 J	-9312205.52	-9312205.35	-9312205.15	0.0142	0.0080
Neptune	-30208-01-28 13:11 J	-9312021.14	-9312020.95	-9312020.73	0.0089	0.0033
Uranus	-30208-03-11 15:21 J	-9311979.05	-9311978.86	-9311978.65	0.0142	0.0062
Neptune	-30208-09-11 01:55 J	-9311795.62	-9311795.42	-9311795.21	0.0089	0.0027
Uranus	-30208-10-24 03:07 J	-9311752.57	-9311752.37	-9311752.15	0.0142	0.0043
Neptune	-30207-04-24 14:23 J	-9311570.10	-9311569.90	-9311569.68	0.0089	0.0022
Uranus	-30207-06-07 14:52 J	-9311526.09	-9311525.88	-9311525.65	0.0142	0.0025
Neptune	-30207-12-06 03:07 J	-9311344.58	-9311344.37	-9311344.15	0.0089	0.0016
Uranus	-30206-01-20 02:38 J	-9311299.62	-9311299.39	-9311299.17	0.0141	0.0007
Neptune	-30206-07-19 15:35 J	-9311119.06	-9311118.85	-9311118.63	0.0089	0.0010
Uranus	-30206-09-03 13:55 J	-9311073.14	-9311072.92	-9311072.70	0.0141	0.0012
Neptune	-30205-03-01 04:19 J	-9310893.54	-9310893.32	-9310893.10	0.0089	0.0005
Uranus	-30205-04-17 00:57 J	-9310846.68	-9310846.46	-9310846.24	0.0141	0.0030
Jupiter	-30205-09-14 20:23 J	-9310695.72	-9310695.65	-9310695.58	0.0514	0.0475

Neptune	-30205-10-12 16:47 J	-9310668.02	-9310667.80	-9310667.58	0.0089	0.0001
Uranus	-30205-11-29 11:59 J	-9310620.21	-9310620.00	-9310619.79	0.0140	0.0048
Jupiter	-30204-05-09 03:07 J	-9310459.57	-9310459.37	-9310459.17	0.0505	0.0042
Neptune	-30204-05-26 05:31 J	-9310442.48	-9310442.27	-9310442.05	0.0089	0.0007
Uranus	-30204-07-13 23:02 J	-9310393.73	-9310393.54	-9310393.34	0.0140	0.0065
Neptune	-30203-01-06 17:59 J	-9310216.96	-9310216.75	-9310216.52	0.0089	0.0013
Uranus	-30203-02-25 09:35 J	-9310167.26	-9310167.10	-9310166.91	0.0140	0.0083
Mars	-30203-07-23 04:47 J	-9310019.39	-9310019.30	-9310019.21	0.1827	0.1524
Neptune	-30203-08-20 06:57 J	-9309991.43	-9309991.21	-9309991.00	0.0088	0.0018
Uranus	-30203-10-09 20:09 J	-9309940.80	-9309940.66	-9309940.49	0.0139	0.0099
Neptune	-30202-04-02 19:26 J	-9309765.89	-9309765.69	-9309765.47	0.0088	0.0024
Uranus	-30202-05-24 06:57 J	-9309714.33	-9309714.21	-9309714.08	0.0139	0.0115
Neptune	-30202-11-14 08:23 J	-9309540.36	-9309540.15	-9309539.95	0.0088	0.0029
Uranus	-30201-01-05 17:02 J	-9309487.84	-9309487.79	-9309487.70	0.0139	0.0132
Neptune	-30201-06-26 20:52 J	-9309314.82	-9309314.63	-9309314.42	0.0088	0.0034
Neptune	-30200-02-07 09:21 J	-9309089.29	-9309089.11	-9309088.90	0.0088	0.0040
Mars	-30200-05-06 16:04 J	-9309000.95	-9309000.83	-9309000.72	0.1676	0.1245
Saturn	-30200-07-13 01:40 J	-9308933.60	-9308933.43	-9308933.26	0.0274	0.0154
Neptune	-30200-09-20 22:04 J	-9308863.75	-9308863.58	-9308863.38	0.0088	0.0046
Saturn	-30199-02-27 03:21 J	-9308704.56	-9308704.36	-9308704.15	0.0273	0.0030
Neptune	-30199-05-04 11:16 J	-9308638.21	-9308638.03	-9308637.85	0.0088	0.0051
Saturn	-30199-10-14 03:35 J	-9308475.54	-9308475.35	-9308475.15	0.0272	0.0093
Neptune	-30199-12-15 23:45 J	-9308412.66	-9308412.51	-9308412.33	0.0088	0.0057
Mars	-30198-03-05 19:55 J	-9308332.72	-9308332.67	-9308332.62	0.1694	0.1616
Jupiter	-30198-03-06 13:11 J	-9308332.08	-9308331.95	-9308331.81	0.0516	0.0383
Saturn	-30198-05-31 03:07 J	-9308246.50	-9308246.37	-9308246.24	0.0271	0.0211
Neptune	-30198-07-29 12:43 J	-9308187.12	-9308186.97	-9308186.81	0.0088	0.0062
Jupiter	-30198-10-30 11:16 J	-9308094.22	-9308094.03	-9308093.83	0.0525	0.0201
Neptune	-30197-03-11 00:57 J	-9307961.58	-9307961.46	-9307961.29	0.0088	0.0068
Neptune	-30197-10-22 13:55 J	-9307736.03	-9307735.92	-9307735.78	0.0088	0.0073

Neptune	-30196-06-05 03:07 J	-9307510.47	-9307510.37	-9307510.26	0.0088	0.0078
Neptune	-30195-01-16 15:21 J	-9307284.90	-9307284.86	-9307284.76	0.0088	0.0084
Neptune	-30195-08-30 04:33 J	-9307059.31	-9307059.31	-9307059.29	0.0088	0.0088
Jupiter	-30192-01-12 05:02 J	-9306193.48	-9306193.29	-9306193.09	0.0507	0.0101
Jupiter	-30192-09-05 07:11 J	-9305957.32	-9305957.20	-9305957.08	0.0499	0.0397
Jupiter	-30186-07-04 22:47 J	-9303828.76	-9303828.55	-9303828.34	0.0522	0.0030
Saturn	-30185-08-03 11:02 J	-9303433.15	-9303433.04	-9303432.92	0.0285	0.0241
Saturn	-30184-03-21 09:50 J	-9303203.29	-9303203.09	-9303202.88	0.0287	0.0093
Saturn	-30184-11-06 10:04 J	-9302973.29	-9302973.08	-9302972.86	0.0288	0.0060
Saturn	-30183-06-24 11:45 J	-9302743.15	-9302743.01	-9302742.86	0.0289	0.0215
Jupiter	-30181-09-17 07:40 J	-9301927.35	-9301927.18	-9301927.00	0.0510	0.0243
Jupiter	-30180-05-11 11:45 J	-9301691.18	-9301691.01	-9301690.84	0.0501	0.0265
Jupiter	-30174-03-09 12:57 J	-9299563.16	-9299562.96	-9299562.76	0.0520	0.0134
Jupiter	-30174-11-02 14:23 J	-9299324.99	-9299324.90	-9299324.80	0.0529	0.0463
Saturn	-30171-06-08 01:40 J	-9298376.48	-9298376.43	-9298376.36	0.0274	0.0261
Mars	-30171-07-22 15:07 J	-9298332.04	-9298331.87	-9298331.70	0.1837	0.0223
Saturn	-30170-01-23 04:33 J	-9298147.48	-9298147.31	-9298147.12	0.0273	0.0136
Saturn	-30170-09-09 05:59 J	-9297918.46	-9297918.25	-9297918.04	0.0272	0.0013
Saturn	-30169-04-25 05:59 J	-9297689.44	-9297689.25	-9297689.06	0.0271	0.0108
Jupiter	-30169-05-23 09:35 J	-9297661.22	-9297661.10	-9297660.96	0.0512	0.0385
Saturn	-30169-12-10 05:02 J	-9297460.40	-9297460.29	-9297460.17	0.0270	0.0226
Jupiter	-30168-01-14 15:07 J	-9297425.06	-9297424.87	-9297424.67	0.0503	0.0130
Pluto	-30167-04-03 11:02 J	-9296981.23	-9296981.04	-9296980.83	0.0065	0.0027
Uranus	-30167-09-15 08:09 J	-9296816.22	-9296816.16	-9296816.08	0.0135	0.0127
Pluto	-30167-11-14 14:52 J	-9296756.08	-9296755.88	-9296755.66	0.0065	0.0013
Mars	-30166-03-04 23:16 J	-9296645.70	-9296645.53	-9296645.35	0.1686	0.0242
Uranus	-30166-04-29 13:40 J	-9296590.04	-9296589.93	-9296589.81	0.0135	0.0113
Pluto	-30166-06-27 18:57 J	-9296530.83	-9296530.71	-9296530.58	0.0065	0.0052
Uranus	-30166-12-11 18:57 J	-9296363.84	-9296363.71	-9296363.55	0.0136	0.0099
Uranus	-30165-07-25 00:43 J	-9296137.63	-9296137.47	-9296137.29	0.0136	0.0083

Uranus	-30164-03-08 06:14 J	-9295911.42	-9295911.24	-9295911.05	0.0136	0.0068
Uranus	-30164-10-20 11:59 J	-9295685.19	-9295685.00	-9295684.80	0.0136	0.0053
Uranus	-30163-06-03 17:59 J	-9295458.96	-9295458.75	-9295458.54	0.0137	0.0037
Jupiter	-30163-11-12 04:19 J	-9295297.49	-9295297.32	-9295297.15	0.0517	0.0291
Uranus	-30162-01-15 23:59 J	-9295232.71	-9295232.50	-9295232.28	0.0137	0.0021
Jupiter	-30162-07-08 04:04 J	-9295059.50	-9295059.33	-9295059.16	0.0527	0.0299
Uranus	-30162-08-30 06:14 J	-9295006.46	-9295006.24	-9295006.03	0.0137	0.0006
Uranus	-30161-04-12 12:14 J	-9294780.20	-9294779.99	-9294779.77	0.0138	0.0011
Uranus	-30161-11-24 18:28 J	-9294553.93	-9294553.73	-9294553.52	0.0138	0.0027
Uranus	-30160-07-09 00:57 J	-9294327.66	-9294327.46	-9294327.25	0.0138	0.0043
Uranus	-30159-02-20 07:40 J	-9294101.37	-9294101.18	-9294100.98	0.0139	0.0060
Uranus	-30159-10-04 14:23 J	-9293875.07	-9293874.90	-9293874.72	0.0139	0.0076
Uranus	-30158-05-18 21:07 J	-9293648.77	-9293648.62	-9293648.45	0.0139	0.0093
Uranus	-30158-12-31 04:19 J	-9293422.45	-9293422.32	-9293422.18	0.0140	0.0109
Uranus	-30157-08-13 11:16 J	-9293196.11	-9293196.03	-9293195.93	0.0140	0.0125
Jupiter	-30157-09-19 18:14 J	-9293158.94	-9293158.74	-9293158.54	0.0506	0.0014
Jupiter	-30156-05-13 18:57 J	-9292922.76	-9292922.71	-9292922.66	0.0498	0.0477
Saturn	-30155-02-13 11:45 J	-9292647.13	-9292647.01	-9292646.87	0.0285	0.0226
Saturn	-30155-10-01 10:47 J	-9292417.26	-9292417.05	-9292416.84	0.0287	0.0078
Saturn	-30154-05-19 11:16 J	-9292187.24	-9292187.03	-9292186.83	0.0288	0.0075
Saturn	-30153-01-04 12:43 J	-9291957.08	-9291956.97	-9291956.83	0.0289	0.0230
Jupiter	-30151-07-17 21:07 J	-9291031.72	-9291031.62	-9291031.51	0.0515	0.0441
Jupiter	-30150-03-12 18:28 J	-9290793.93	-9290793.73	-9290793.53	0.0524	0.0136
Jupiter	-30145-05-25 17:31 J	-9288892.96	-9288892.77	-9288892.58	0.0508	0.0156
Jupiter	-30144-01-16 20:09 J	-9288656.80	-9288656.66	-9288656.51	0.0500	0.0345
Saturn	-30142-12-19 05:45 J	-9287590.35	-9287590.26	-9287590.15	0.0275	0.0240
Saturn	-30141-08-04 08:38 J	-9287361.32	-9287361.14	-9287360.95	0.0274	0.0115
Saturn	-30140-03-21 10:04 J	-9287132.28	-9287132.08	-9287131.87	0.0273	0.0010
Saturn	-30140-11-05 10:19 J	-9286903.25	-9286903.07	-9286902.88	0.0272	0.0130
Saturn	-30139-06-22 09:21 J	-9286674.17	-9286674.11	-9286674.01	0.0271	0.0248

Jupiter	-30139-11-15 08:23 J	-9286528.36	-9286528.15	-9286527.95	0.0521	0.0030
Mars	-30137-05-19 11:45 J	-9285977.04	-9285977.01	-9285976.99	0.1824	0.1790
Mars	-30134-03-04 01:40 J	-9284958.57	-9284958.43	-9284958.30	0.1679	0.1086
Jupiter	-30133-01-29 18:28 J	-9284626.89	-9284626.73	-9284626.57	0.0511	0.0300
Jupiter	-30133-09-21 23:02 J	-9284390.72	-9284390.54	-9284390.35	0.0502	0.0210
Neptune	-30131-04-09 09:35 J	-9283826.15	-9283826.10	-9283826.03	0.0089	0.0085
Neptune	-30131-11-20 23:02 J	-9283600.62	-9283600.54	-9283600.43	0.0089	0.0080
Neptune	-30130-07-04 12:28 J	-9283375.08	-9283374.98	-9283374.84	0.0089	0.0075
Neptune	-30129-02-15 02:23 J	-9283149.53	-9283149.40	-9283149.25	0.0089	0.0069
Neptune	-30129-09-27 15:50 J	-9282923.98	-9282923.84	-9282923.67	0.0089	0.0064
Neptune	-30128-05-11 05:31 J	-9282698.42	-9282698.27	-9282698.09	0.0089	0.0058
Neptune	-30128-12-22 18:57 J	-9282472.87	-9282472.71	-9282472.51	0.0089	0.0053
Uranus	-30127-05-17 20:38 J	-9282326.67	-9282326.64	-9282326.61	0.0143	0.0142
Jupiter	-30127-07-20 20:23 J	-9282262.84	-9282262.65	-9282262.46	0.0518	0.0196
Neptune	-30127-08-05 08:38 J	-9282247.31	-9282247.14	-9282246.94	0.0089	0.0047
Uranus	-30127-12-30 08:23 J	-9282100.24	-9282100.15	-9282100.03	0.0143	0.0124
Jupiter	-30126-03-15 20:38 J	-9282024.78	-9282024.64	-9282024.51	0.0528	0.0397
Neptune	-30126-03-18 22:33 J	-9282021.76	-9282021.56	-9282021.36	0.0089	0.0041
Uranus	-30126-08-13 20:23 J	-9281873.78	-9281873.65	-9281873.49	0.0143	0.0106
Saturn	-30126-08-26 22:33 J	-9281860.71	-9281860.56	-9281860.40	0.0286	0.0196
Neptune	-30126-10-30 11:59 J	-9281796.19	-9281796.00	-9281795.78	0.0089	0.0036
Uranus	-30125-03-27 08:23 J	-9281647.31	-9281647.15	-9281646.96	0.0143	0.0088
Saturn	-30125-04-12 21:35 J	-9281630.82	-9281630.60	-9281630.39	0.0287	0.0047
Neptune	-30125-06-12 01:40 J	-9281570.63	-9281570.43	-9281570.22	0.0089	0.0030
Uranus	-30125-11-08 20:23 J	-9281420.84	-9281420.65	-9281420.45	0.0142	0.0069
Saturn	-30125-11-28 22:04 J	-9281400.78	-9281400.58	-9281400.38	0.0288	0.0106
Neptune	-30124-01-23 14:52 J	-9281345.08	-9281344.88	-9281344.65	0.0089	0.0025
Uranus	-30124-06-23 08:09 J	-9281194.35	-9281194.16	-9281193.94	0.0142	0.0051
Saturn	-30124-07-17 00:14 J	-9281170.58	-9281170.49	-9281170.40	0.0289	0.0261
Neptune	-30124-09-06 04:33 J	-9281119.52	-9281119.31	-9281119.08	0.0089	0.0019

Uranus	-30123-02-04 20:09 J	-9280967.88	-9280967.66	-9280967.45	0.0142	0.0032
Neptune	-30123-04-19 18:14 J	-9280893.96	-9280893.74	-9280893.52	0.0089	0.0013
Uranus	-30123-09-19 07:40 J	-9280741.40	-9280741.18	-9280740.96	0.0141	0.0014
Neptune	-30123-12-01 07:40 J	-9280668.40	-9280668.18	-9280667.95	0.0089	0.0008
Uranus	-30122-05-03 18:57 J	-9280514.93	-9280514.71	-9280514.49	0.0141	0.0004
Neptune	-30122-07-14 21:07 J	-9280442.84	-9280442.62	-9280442.39	0.0089	0.0002
Jupiter	-30122-10-04 19:55 J	-9280360.77	-9280360.67	-9280360.57	0.0514	0.0443
Uranus	-30122-12-16 06:14 J	-9280288.46	-9280288.24	-9280288.02	0.0141	0.0023
Neptune	-30121-02-25 10:33 J	-9280217.28	-9280217.06	-9280216.84	0.0089	0.0004
Jupiter	-30121-05-28 02:52 J	-9280124.58	-9280124.38	-9280124.19	0.0505	0.0073
Uranus	-30121-07-29 17:31 J	-9280061.98	-9280061.77	-9280061.56	0.0140	0.0040
Neptune	-30121-10-07 23:59 J	-9279991.72	-9279991.50	-9279991.28	0.0089	0.0010
Uranus	-30120-03-13 04:19 J	-9279835.51	-9279835.32	-9279835.11	0.0140	0.0058
Neptune	-30120-05-21 13:26 J	-9279766.16	-9279765.94	-9279765.72	0.0089	0.0015
Uranus	-30120-10-25 15:07 J	-9279609.04	-9279608.87	-9279608.67	0.0140	0.0076
Neptune	-30119-01-02 02:38 J	-9279540.60	-9279540.39	-9279540.17	0.0089	0.0021
Uranus	-30119-06-09 02:09 J	-9279382.57	-9279382.41	-9279382.24	0.0139	0.0093
Neptune	-30119-08-15 15:35 J	-9279315.05	-9279314.85	-9279314.62	0.0089	0.0027
Uranus	-30118-01-21 12:43 J	-9279156.10	-9279155.97	-9279155.82	0.0139	0.0109
Neptune	-30118-03-29 05:02 J	-9279089.49	-9279089.29	-9279089.07	0.0089	0.0032
Uranus	-30118-09-04 23:16 J	-9278929.61	-9278929.53	-9278929.43	0.0139	0.0126
Neptune	-30118-11-09 18:14 J	-9278863.92	-9278863.74	-9278863.52	0.0089	0.0038
Neptune	-30117-06-22 07:55 J	-9278638.36	-9278638.17	-9278637.97	0.0089	0.0043
Neptune	-30116-02-02 20:52 J	-9278412.80	-9278412.63	-9278412.43	0.0089	0.0049
Neptune	-30116-09-16 10:19 J	-9278187.24	-9278187.07	-9278186.89	0.0089	0.0054
Jupiter	-30115-03-25 11:16 J	-9277997.18	-9277997.03	-9277996.88	0.0516	0.0353
Neptune	-30115-04-29 23:16 J	-9277961.67	-9277961.53	-9277961.35	0.0089	0.0060
Jupiter	-30115-11-18 09:21 J	-9277759.29	-9277759.11	-9277758.92	0.0525	0.0231
Neptune	-30115-12-11 12:43 J	-9277736.10	-9277735.97	-9277735.80	0.0089	0.0065
Neptune	-30114-07-25 02:23 J	-9277510.53	-9277510.40	-9277510.27	0.0089	0.0070

Neptune	-30113-03-06 15:07 J	-9277284.96	-9277284.87	-9277284.74	0.0089	0.0076
Neptune	-30113-10-18 04:19 J	-9277059.39	-9277059.32	-9277059.21	0.0089	0.0081
Neptune	-30112-05-31 17:45 J	-9276833.80	-9276833.76	-9276833.70	0.0089	0.0086
Saturn	-30112-06-30 09:50 J	-9276804.20	-9276804.09	-9276803.96	0.0274	0.0221
Saturn	-30111-02-14 12:28 J	-9276575.17	-9276574.98	-9276574.78	0.0273	0.0097
Saturn	-30111-10-01 13:40 J	-9276346.13	-9276345.93	-9276345.72	0.0272	0.0027
Saturn	-30110-05-18 13:40 J	-9276117.10	-9276116.93	-9276116.75	0.0271	0.0147
Saturn	-30109-01-02 12:43 J	-9275888.01	-9275887.97	-9275887.92	0.0270	0.0263
Jupiter	-30109-02-01 05:45 J	-9275858.46	-9275858.26	-9275858.06	0.0507	0.0067
Jupiter	-30109-09-24 07:11 J	-9275622.30	-9275622.20	-9275622.09	0.0499	0.0426
Mars	-30105-05-18 22:04 J	-9274289.75	-9274289.58	-9274289.41	0.1834	0.0057
Jupiter	-30104-11-28 03:21 J	-9273731.40	-9273731.36	-9273731.32	0.0513	0.0502
Jupiter	-30103-07-23 23:31 J	-9273493.73	-9273493.52	-9273493.32	0.0523	0.0066
Mars	-30101-12-30 08:52 J	-9272603.30	-9272603.13	-9272602.96	0.1689	0.0408
Jupiter	-30098-10-07 07:55 J	-9271592.35	-9271592.17	-9271591.99	0.0509	0.0209
Jupiter	-30097-05-30 11:02 J	-9271356.20	-9271356.04	-9271355.88	0.0501	0.0294
Saturn	-30096-03-07 23:59 J	-9271074.66	-9271074.50	-9271074.33	0.0286	0.0180
Saturn	-30096-10-23 23:16 J	-9270844.75	-9270844.53	-9270844.32	0.0287	0.0031
Saturn	-30095-06-10 23:45 J	-9270614.70	-9270614.51	-9270614.31	0.0288	0.0122
Saturn	-30094-01-27 01:40 J	-9270384.48	-9270384.43	-9270384.36	0.0289	0.0276
Jupiter	-30091-03-28 14:52 J	-9269228.08	-9269227.88	-9269227.67	0.0520	0.0094
Jupiter	-30091-11-21 16:47 J	-9268989.86	-9268989.80	-9268989.74	0.0529	0.0501
Earth	-30089-04-23 06:43 J	-9268471.35	-9268471.22	-9268471.10	0.2698	0.1481
Moon	-30089-04-23 09:07 J	-9268471.23	-9268471.12	-9268471.01	0.2704	0.1683 *
Jupiter	-30086-06-12 06:14 J	-9267326.38	-9267326.24	-9267326.10	0.0512	0.0357
Jupiter	-30085-02-03 11:31 J	-9267090.21	-9267090.02	-9267089.83	0.0503	0.0155
Uranus	-30083-05-15 18:14 J	-9266257.76	-9266257.74	-9266257.70	0.0135	0.0133
Uranus	-30083-12-27 23:31 J	-9266031.60	-9266031.52	-9266031.40	0.0135	0.0119
Saturn	-30082-01-10 13:40 J	-9266018.06	-9266017.93	-9266017.78	0.0275	0.0201
Uranus	-30082-08-11 05:02 J	-9265805.41	-9265805.29	-9265805.14	0.0135	0.0105

Saturn	-30082-08-27 16:33 J	-9265789.01	-9265788.81	-9265788.61	0.0274	0.0076
Uranus	-30081-03-24 10:33 J	-9265579.21	-9265579.06	-9265578.88	0.0136	0.0090
Saturn	-30081-04-12 17:45 J	-9265559.96	-9265559.76	-9265559.56	0.0273	0.0048
Earth	-30081-04-20 23:59 J	-9265551.61	-9265551.50	-9265551.38	0.2699	0.1823
Moon	-30081-04-21 05:02 J	-9265551.43	-9265551.29	-9265551.14	0.2701	0.0965 *
Uranus	-30081-11-05 16:19 J	-9265352.99	-9265352.82	-9265352.63	0.0136	0.0074
Saturn	-30081-11-27 17:45 J	-9265330.91	-9265330.76	-9265330.59	0.0271	0.0169
Uranus	-30080-06-19 22:19 J	-9265126.76	-9265126.57	-9265126.38	0.0136	0.0059
Jupiter	-30080-12-01 05:45 J	-9264962.44	-9264962.26	-9264962.08	0.0517	0.0254
Uranus	-30079-02-01 04:04 J	-9264900.53	-9264900.33	-9264900.12	0.0137	0.0043
Pluto	-30079-07-17 11:45 J	-9264734.23	-9264734.01	-9264733.78	0.0079	0.0009
Jupiter	-30079-07-27 05:16 J	-9264724.44	-9264724.28	-9264724.13	0.0527	0.0335
Uranus	-30079-09-15 10:04 J	-9264674.29	-9264674.08	-9264673.87	0.0137	0.0027
Pluto	-30078-02-27 22:04 J	-9264508.68	-9264508.58	-9264508.44	0.0079	0.0066
Uranus	-30078-04-29 16:04 J	-9264448.04	-9264447.83	-9264447.61	0.0137	0.0012
Uranus	-30078-12-11 22:19 J	-9264221.78	-9264221.57	-9264221.35	0.0137	0.0005
Uranus	-30077-07-25 04:33 J	-9263995.51	-9263995.31	-9263995.09	0.0138	0.0022
Uranus	-30076-03-08 11:02 J	-9263769.24	-9263769.04	-9263768.83	0.0138	0.0038
Uranus	-30076-10-20 17:31 J	-9263542.96	-9263542.77	-9263542.57	0.0138	0.0054
Uranus	-30075-06-04 00:14 J	-9263316.67	-9263316.49	-9263316.30	0.0139	0.0071
Uranus	-30074-01-16 07:11 J	-9263090.36	-9263090.20	-9263090.03	0.0139	0.0087
Jupiter	-30074-02-15 05:45 J	-9263060.29	-9263060.26	-9263060.20	0.0515	0.0501
Uranus	-30074-08-30 14:09 J	-9262864.05	-9262863.91	-9262863.76	0.0139	0.0103
Jupiter	-30074-10-09 13:40 J	-9262824.13	-9262823.93	-9262823.73	0.0506	0.0015
Uranus	-30073-04-12 21:07 J	-9262637.72	-9262637.62	-9262637.51	0.0140	0.0120
Mars	-30073-05-18 09:07 J	-9262602.17	-9262602.12	-9262602.06	0.1843	0.1731
Uranus	-30073-11-25 04:04 J	-9262411.36	-9262411.33	-9262411.27	0.0140	0.0136
Mars	-30069-12-29 11:16 J	-9260916.18	-9260916.03	-9260915.88	0.1681	0.0922
Jupiter	-30068-08-05 18:43 J	-9260696.84	-9260696.72	-9260696.59	0.0515	0.0412
Jupiter	-30067-03-31 15:35 J	-9260459.04	-9260458.85	-9260458.65	0.0524	0.0164

Saturn	-30067-09-18 11:31 J	-9260288.20	-9260288.02	-9260287.83	0.0286	0.0150
Saturn	-30066-05-06 10:47 J	-9260058.26	-9260058.05	-9260057.83	0.0287	0.0006
Saturn	-30066-12-22 11:31 J	-9259828.19	-9259828.02	-9259827.83	0.0288	0.0155
Jupiter	-30062-06-14 16:19 J	-9258558.02	-9258557.82	-9258557.63	0.0508	0.0126
Jupiter	-30061-02-05 18:57 J	-9258321.84	-9258321.71	-9258321.58	0.0500	0.0372
Jupiter	-30056-12-04 05:02 J	-9256193.50	-9256193.29	-9256193.08	0.0521	0.0002
Saturn	-30053-07-22 19:11 J	-9255231.85	-9255231.70	-9255231.53	0.0274	0.0180
Saturn	-30052-03-08 21:35 J	-9255002.80	-9255002.60	-9255002.39	0.0273	0.0055
Saturn	-30052-10-23 22:33 J	-9254773.76	-9254773.56	-9254773.36	0.0272	0.0067
Saturn	-30051-06-09 22:19 J	-9254544.71	-9254544.57	-9254544.41	0.0271	0.0187
Jupiter	-30050-02-17 18:28 J	-9254291.90	-9254291.73	-9254291.56	0.0511	0.0267
Neptune	-30050-02-27 20:23 J	-9254281.69	-9254281.65	-9254281.59	0.0089	0.0086
Neptune	-30050-10-11 08:52 J	-9254056.20	-9254056.13	-9254056.03	0.0089	0.0081
Jupiter	-30050-10-11 22:47 J	-9254055.73	-9254055.55	-9254055.37	0.0502	0.0240
Neptune	-30049-05-23 21:21 J	-9253830.71	-9253830.61	-9253830.49	0.0089	0.0076
Neptune	-30048-01-04 09:35 J	-9253605.21	-9253605.10	-9253604.95	0.0089	0.0071
Neptune	-30048-08-17 22:04 J	-9253379.71	-9253379.58	-9253379.42	0.0089	0.0066
Neptune	-30047-03-31 10:33 J	-9253154.20	-9253154.06	-9253153.88	0.0089	0.0061
Neptune	-30047-11-11 23:31 J	-9252928.69	-9252928.52	-9252928.35	0.0089	0.0055
Neptune	-30046-06-25 11:45 J	-9252703.18	-9252703.01	-9252702.82	0.0089	0.0050
Neptune	-30045-02-05 23:59 J	-9252477.67	-9252477.50	-9252477.30	0.0089	0.0045
Neptune	-30045-09-18 12:28 J	-9252252.16	-9252251.98	-9252251.77	0.0089	0.0040
Neptune	-30044-05-02 01:11 J	-9252026.64	-9252026.45	-9252026.24	0.0089	0.0034
Jupiter	-30044-08-08 19:26 J	-9251927.88	-9251927.69	-9251927.49	0.0519	0.0163
Neptune	-30044-12-13 13:40 J	-9251801.12	-9251800.93	-9251800.71	0.0089	0.0029
Jupiter	-30043-04-03 20:23 J	-9251689.76	-9251689.65	-9251689.53	0.0528	0.0429
Neptune	-30043-07-27 02:23 J	-9251575.61	-9251575.40	-9251575.19	0.0089	0.0023
Uranus	-30043-08-29 13:55 J	-9251541.99	-9251541.92	-9251541.82	0.0143	0.0132
Neptune	-30042-03-09 14:52 J	-9251350.09	-9251349.88	-9251349.66	0.0089	0.0018
Uranus	-30042-04-13 01:55 J	-9251315.54	-9251315.42	-9251315.27	0.0143	0.0114

Neptune	-30042-10-21 03:21 J	-9251124.57	-9251124.36	-9251124.14	0.0089	0.0012
Uranus	-30042-11-25 13:55 J	-9251089.07	-9251088.92	-9251088.75	0.0143	0.0096
Neptune	-30041-06-02 16:04 J	-9250899.05	-9250898.83	-9250898.61	0.0089	0.0007
Uranus	-30041-07-09 02:09 J	-9250862.59	-9250862.41	-9250862.22	0.0142	0.0077
Neptune	-30040-01-14 04:33 J	-9250673.53	-9250673.31	-9250673.09	0.0089	0.0002
Uranus	-30040-02-20 13:55 J	-9250636.12	-9250635.92	-9250635.72	0.0142	0.0058
Neptune	-30040-08-27 17:02 J	-9250448.00	-9250447.79	-9250447.56	0.0089	0.0005
Uranus	-30040-10-05 01:26 J	-9250409.65	-9250409.44	-9250409.22	0.0142	0.0040
Mars	-30039-03-16 04:47 J	-9250247.47	-9250247.30	-9250247.14	0.1830	0.0338
Neptune	-30039-04-10 05:59 J	-9250222.47	-9250222.25	-9250222.04	0.0089	0.0010
Uranus	-30039-05-19 12:57 J	-9250183.17	-9250182.96	-9250182.74	0.0141	0.0022
Jupiter	-30039-10-23 19:26 J	-9250025.80	-9250025.69	-9250025.56	0.0513	0.0410
Neptune	-30039-11-21 18:28 J	-9249996.94	-9249996.73	-9249996.51	0.0089	0.0015
Uranus	-30038-01-01 00:28 J	-9249956.70	-9249956.48	-9249956.26	0.0141	0.0003
Jupiter	-30038-06-17 01:40 J	-9249789.62	-9249789.43	-9249789.23	0.0504	0.0104
Neptune	-30038-07-05 06:57 J	-9249771.41	-9249771.21	-9249770.99	0.0088	0.0021
Saturn	-30038-08-13 16:33 J	-9249731.85	-9249731.81	-9249731.75	0.0284	0.0276
Uranus	-30038-08-15 11:45 J	-9249730.22	-9249730.01	-9249729.78	0.0141	0.0016
Neptune	-30037-02-15 19:55 J	-9249545.88	-9249545.67	-9249545.46	0.0088	0.0026
Uranus	-30037-03-28 23:02 J	-9249503.75	-9249503.54	-9249503.32	0.0140	0.0034
Saturn	-30037-03-30 14:09 J	-9249502.10	-9249501.91	-9249501.71	0.0286	0.0132
Neptune	-30037-09-28 08:23 J	-9249320.35	-9249320.15	-9249319.94	0.0088	0.0031
Uranus	-30037-11-10 10:04 J	-9249277.28	-9249277.08	-9249276.87	0.0140	0.0051
Saturn	-30037-11-15 13:40 J	-9249272.15	-9249271.93	-9249271.71	0.0287	0.0018
Neptune	-30036-05-11 21:21 J	-9249094.80	-9249094.61	-9249094.40	0.0088	0.0037
Uranus	-30036-06-24 21:07 J	-9249050.81	-9249050.62	-9249050.42	0.0140	0.0069
Saturn	-30036-07-03 14:23 J	-9249042.06	-9249041.90	-9249041.71	0.0288	0.0173
Neptune	-30036-12-23 09:50 J	-9248869.26	-9248869.09	-9248868.88	0.0088	0.0043
Uranus	-30035-02-06 07:55 J	-9248824.33	-9248824.17	-9248823.99	0.0139	0.0087
Neptune	-30035-08-05 22:47 J	-9248643.73	-9248643.55	-9248643.36	0.0088	0.0048

Uranus	-30035-09-20 18:43 J	-9248597.86	-9248597.72	-9248597.57	0.0139	0.0104
Mars	-30035-10-27 17:59 J	-9248560.92	-9248560.75	-9248560.58	0.1692	0.0582
Neptune	-30034-03-19 11:31 J	-9248418.19	-9248418.02	-9248417.84	0.0088	0.0053
Uranus	-30034-05-05 05:16 J	-9248371.39	-9248371.28	-9248371.17	0.0139	0.0120
Neptune	-30034-10-30 23:59 J	-9248192.64	-9248192.50	-9248192.32	0.0088	0.0059
Uranus	-30034-12-17 15:21 J	-9248144.88	-9248144.86	-9248144.81	0.0138	0.0137
Neptune	-30033-06-12 12:57 J	-9247967.10	-9247966.96	-9247966.79	0.0088	0.0064
Neptune	-30032-01-24 01:55 J	-9247741.55	-9247741.42	-9247741.28	0.0088	0.0069
Jupiter	-30032-04-13 11:59 J	-9247662.16	-9247662.00	-9247661.83	0.0516	0.0316
Neptune	-30032-09-06 14:52 J	-9247516.00	-9247515.88	-9247515.76	0.0088	0.0074
Jupiter	-30032-12-07 10:47 J	-9247424.23	-9247424.05	-9247423.87	0.0526	0.0267
Neptune	-30031-04-20 03:07 J	-9247290.44	-9247290.37	-9247290.25	0.0088	0.0080
Neptune	-30031-12-01 16:04 J	-9247064.87	-9247064.83	-9247064.75	0.0088	0.0084
Jupiter	-30026-02-20 01:40 J	-9245523.63	-9245523.43	-9245523.23	0.0507	0.0042
Jupiter	-30026-10-14 02:52 J	-9245287.46	-9245287.38	-9245287.29	0.0499	0.0448
Saturn	-30023-02-01 22:47 J	-9244445.72	-9244445.55	-9244445.38	0.0275	0.0160
Saturn	-30023-09-19 01:11 J	-9244216.65	-9244216.45	-9244216.24	0.0274	0.0035
Saturn	-30022-05-06 02:09 J	-9243987.60	-9243987.41	-9243987.21	0.0272	0.0089
Saturn	-30022-12-21 02:09 J	-9243758.53	-9243758.41	-9243758.27	0.0271	0.0208
Jupiter	-30021-12-17 03:50 J	-9243396.43	-9243396.34	-9243396.26	0.0514	0.0467
Jupiter	-30020-08-11 23:59 J	-9243158.70	-9243158.50	-9243158.30	0.0523	0.0101
Jupiter	-30015-10-26 02:38 J	-9241257.57	-9241257.39	-9241257.20	0.0509	0.0185
Jupiter	-30014-06-19 05:59 J	-9241021.40	-9241021.25	-9241021.09	0.0501	0.0316
Saturn	-30008-02-23 04:47 J	-9238945.41	-9238945.30	-9238945.19	0.0285	0.0246
Jupiter	-30008-04-16 11:31 J	-9238893.23	-9238893.02	-9238892.82	0.0520	0.0068
Saturn	-30008-10-11 02:38 J	-9238715.59	-9238715.39	-9238715.19	0.0286	0.0101
Jupiter	-30008-12-10 12:57 J	-9238654.99	-9238654.96	-9238654.94	0.0529	0.0523
Mars	-30007-03-15 15:21 J	-9238559.97	-9238559.86	-9238559.75	0.1840	0.1425
Saturn	-30007-05-29 02:09 J	-9238485.62	-9238485.41	-9238485.19	0.0287	0.0051
Saturn	-30006-01-14 03:21 J	-9238255.51	-9238255.36	-9238255.20	0.0289	0.0204

Jupiter -30003-07-01 03:50 J -9236991.49 -9236991.34 -9236991.18 0.0512 0.0329

Mars -30003-10-26 20:52 J -9236873.79 -9236873.63 -9236873.47 0.1684 0.0762

Jupiter -30002-02-22 09:35 J -9236755.29 -9236755.10 -9236754.91 0.0503 0.0182

30TH MILLENNIUM BCE

This is a list of transits of Venus in the 30th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-29999-08-27	09:07 J	-9235473.18	-9235473.12	-9235473.03	0.0135	0.0125	
Uranus	-29998-04-10	14:38 J	-9235247.00	-9235246.89	-9235246.76	0.0135	0.0111	
Uranus	-29998-11-22	20:09 J	-9235020.80	-9235020.66	-9235020.50	0.0136	0.0096	
Uranus	-29997-07-06	02:09 J	-9234794.58	-9234794.41	-9234794.24	0.0136	0.0080	
Jupiter	-29997-12-20	01:11 J	-9234627.63	-9234627.45	-9234627.26	0.0517	0.0229	
Uranus	-29996-02-17	07:40 J	-9234568.36	-9234568.18	-9234567.98	0.0136	0.0065	
Jupiter	-29996-08-15	00:43 J	-9234389.62	-9234389.47	-9234389.32	0.0527	0.0358	
Uranus	-29996-10-01	13:26 J	-9234342.13	-9234341.94	-9234341.73	0.0136	0.0050	
Uranus	-29995-05-15	19:26 J	-9234115.89	-9234115.69	-9234115.47	0.0137	0.0034	
Uranus	-29995-12-28	01:40 J	-9233889.64	-9233889.43	-9233889.21	0.0137	0.0017	
Saturn	-29995-12-29	01:55 J	-9233888.48	-9233888.42	-9233888.36	0.0275	0.0262	
Uranus	-29994-08-11	07:55 J	-9233663.38	-9233663.17	-9233662.95	0.0137	0.0001	
Saturn	-29994-08-15	05:16 J	-9233659.45	-9233659.28	-9233659.09	0.0274	0.0138	
Uranus	-29993-03-24	14:09 J	-9233437.12	-9233436.91	-9233436.70	0.0138	0.0015	
Saturn	-29993-03-31	07:26 J	-9233430.40	-9233430.19	-9233429.98	0.0273	0.0013	
Uranus	-29993-11-05	20:23 J	-9233210.85	-9233210.65	-9233210.43	0.0138	0.0032	

Saturn	-29993-11-15 08:09 J	-9233201.35	-9233201.16	-9233200.97	0.0271	0.0108
Uranus	-29992-06-20 03:07 J	-9232984.57	-9232984.37	-9232984.17	0.0138	0.0048
Saturn	-29992-07-02 07:40 J	-9232972.28	-9232972.18	-9232972.06	0.0271	0.0226
Earth	-29992-10-25 06:14 J	-9232857.39	-9232857.24	-9232857.09	0.2634	0.1107
Moon	-29992-10-25 07:40 J	-9232857.31	-9232857.18	-9232857.06	0.2640	0.1609 *
Uranus	-29991-02-01 09:50 J	-9232758.27	-9232758.09	-9232757.90	0.0139	0.0065
Jupiter	-29991-03-06 05:02 J	-9232725.36	-9232725.29	-9232725.20	0.0515	0.0470
Uranus	-29991-09-15 16:19 J	-9232531.98	-9232531.82	-9232531.63	0.0139	0.0082
Jupiter	-29991-10-28 12:43 J	-9232489.17	-9232488.97	-9232488.77	0.0506	0.0045
Uranus	-29990-04-29 23:02 J	-9232305.67	-9232305.54	-9232305.37	0.0139	0.0099
Uranus	-29990-12-12 06:14 J	-9232079.35	-9232079.24	-9232079.11	0.0140	0.0115
Uranus	-29989-07-25 13:11 J	-9231853.01	-9231852.95	-9231852.86	0.0140	0.0131
Jupiter	-29985-08-24 16:33 J	-9230361.95	-9230361.81	-9230361.67	0.0515	0.0381
Jupiter	-29984-04-19 14:09 J	-9230124.10	-9230123.91	-9230123.72	0.0525	0.0194
Earth	-29984-10-22 18:57 J	-9229937.72	-9229937.71	-9229937.70	0.2633	0.2624
Moon	-29984-10-23 00:14 J	-9229937.58	-9229937.49	-9229937.41	0.2636	0.2211
Jupiter	-29979-07-03 14:52 J	-9228223.07	-9228222.88	-9228222.68	0.0508	0.0096
Saturn	-29979-09-05 07:55 J	-9228159.29	-9228159.17	-9228159.03	0.0285	0.0228
Jupiter	-29978-02-24 17:02 J	-9227986.90	-9227986.79	-9227986.66	0.0500	0.0397
Saturn	-29978-04-23 05:59 J	-9227929.46	-9227929.25	-9227929.04	0.0286	0.0081
Saturn	-29978-12-09 05:45 J	-9227699.47	-9227699.26	-9227699.05	0.0287	0.0070
Saturn	-29977-07-26 06:57 J	-9227469.34	-9227469.21	-9227469.07	0.0288	0.0223
Mars	-29973-01-11 11:45 J	-9226205.17	-9226205.01	-9226204.85	0.1827	0.0602
Jupiter	-29973-12-23 05:16 J	-9225858.49	-9225858.28	-9225858.08	0.0522	0.0035
Mars	-29969-08-24 03:21 J	-9224518.52	-9224518.36	-9224518.20	0.1695	0.0753
Jupiter	-29967-03-08 14:09 J	-9223957.09	-9223956.91	-9223956.73	0.0510	0.0242
Neptune	-29967-07-11 20:09 J	-9223831.69	-9223831.66	-9223831.57	0.0089	0.0086
Jupiter	-29967-10-30 17:59 J	-9223720.92	-9223720.75	-9223720.57	0.0502	0.0262
Neptune	-29966-02-22 10:19 J	-9223606.16	-9223606.07	-9223605.97	0.0089	0.0080
Neptune	-29966-10-05 23:45 J	-9223380.61	-9223380.51	-9223380.37	0.0089	0.0075

Neptune	-29965-05-18 13:11 J	-9223155.06	-9223154.95	-9223154.79	0.0089	0.0070
Saturn	-29965-07-10 05:02 J	-9223102.38	-9223102.29	-9223102.19	0.0276	0.0244
Neptune	-29965-12-30 02:38 J	-9222929.51	-9222929.39	-9222929.21	0.0089	0.0065
Saturn	-29964-02-24 08:38 J	-9222873.32	-9222873.14	-9222872.95	0.0274	0.0118
Neptune	-29964-08-12 16:33 J	-9222703.96	-9222703.81	-9222703.63	0.0089	0.0059
Saturn	-29964-10-11 10:47 J	-9222644.25	-9222644.05	-9222643.84	0.0273	0.0009
Neptune	-29963-03-26 05:59 J	-9222478.41	-9222478.25	-9222478.05	0.0089	0.0054
Saturn	-29963-05-28 11:45 J	-9222415.19	-9222415.01	-9222414.83	0.0272	0.0129
Neptune	-29963-11-06 19:55 J	-9222252.85	-9222252.67	-9222252.47	0.0089	0.0048
Saturn	-29962-01-12 11:31 J	-9222186.10	-9222186.02	-9222185.93	0.0271	0.0247
Neptune	-29962-06-20 09:21 J	-9222027.29	-9222027.11	-9222026.90	0.0089	0.0043
Neptune	-29961-01-31 23:02 J	-9221801.74	-9221801.54	-9221801.33	0.0089	0.0037
Jupiter	-29961-08-27 19:26 J	-9221592.89	-9221592.69	-9221592.49	0.0519	0.0129
Neptune	-29961-09-13 12:28 J	-9221576.18	-9221575.98	-9221575.76	0.0089	0.0032
Jupiter	-29960-04-22 20:23 J	-9221354.75	-9221354.65	-9221354.55	0.0528	0.0460
Neptune	-29960-04-27 02:09 J	-9221350.61	-9221350.41	-9221350.19	0.0089	0.0026
Neptune	-29960-12-08 15:50 J	-9221125.05	-9221124.84	-9221124.62	0.0089	0.0021
Uranus	-29959-04-28 19:40 J	-9220983.71	-9220983.68	-9220983.62	0.0143	0.0141
Neptune	-29959-07-22 05:16 J	-9220899.49	-9220899.28	-9220899.05	0.0089	0.0015
Uranus	-29959-12-11 07:40 J	-9220757.27	-9220757.18	-9220757.05	0.0143	0.0122
Neptune	-29958-03-04 18:43 J	-9220673.93	-9220673.72	-9220673.49	0.0089	0.0010
Uranus	-29958-07-25 20:09 J	-9220530.81	-9220530.66	-9220530.51	0.0143	0.0103
Neptune	-29958-10-16 08:23 J	-9220448.37	-9220448.15	-9220447.93	0.0089	0.0004
Uranus	-29957-03-08 07:55 J	-9220304.34	-9220304.17	-9220303.99	0.0143	0.0085
Neptune	-29957-05-28 21:50 J	-9220222.81	-9220222.59	-9220222.37	0.0089	0.0002
Uranus	-29957-10-20 19:26 J	-9220077.87	-9220077.69	-9220077.48	0.0142	0.0067
Neptune	-29956-01-09 11:16 J	-9219997.25	-9219997.03	-9219996.81	0.0089	0.0007
Uranus	-29956-06-04 07:40 J	-9219851.39	-9219851.18	-9219850.98	0.0142	0.0047
Neptune	-29956-08-23 00:28 J	-9219771.69	-9219771.48	-9219771.26	0.0089	0.0013
Jupiter	-29956-11-11 13:55 J	-9219691.04	-9219690.92	-9219690.78	0.0513	0.0387

Uranus	-29955-01-16 19:11 J	-9219624.92	-9219624.70	-9219624.48	0.0142	0.0029
Neptune	-29955-04-05 13:55 J	-9219546.14	-9219545.92	-9219545.70	0.0089	0.0018
Jupiter	-29955-07-05 20:09 J	-9219454.85	-9219454.66	-9219454.46	0.0504	0.0124
Uranus	-29955-08-31 06:43 J	-9219398.44	-9219398.22	-9219398.00	0.0141	0.0010
Neptune	-29955-11-17 03:07 J	-9219320.57	-9219320.37	-9219320.14	0.0089	0.0024
Uranus	-29954-04-14 17:59 J	-9219171.97	-9219171.75	-9219171.53	0.0141	0.0008
Neptune	-29954-06-30 16:33 J	-9219095.01	-9219094.81	-9219094.60	0.0089	0.0029
Uranus	-29954-11-27 05:16 J	-9218945.50	-9218945.28	-9218945.06	0.0141	0.0027
Neptune	-29953-02-11 05:31 J	-9218869.46	-9218869.27	-9218869.05	0.0089	0.0035
Uranus	-29953-07-10 16:19 J	-9218719.02	-9218718.82	-9218718.60	0.0140	0.0046
Neptune	-29953-09-23 18:57 J	-9218643.90	-9218643.71	-9218643.50	0.0089	0.0040
Uranus	-29952-02-22 03:21 J	-9218492.54	-9218492.36	-9218492.15	0.0140	0.0063
Neptune	-29952-05-07 08:23 J	-9218418.34	-9218418.15	-9218417.96	0.0089	0.0045
Uranus	-29952-10-06 14:09 J	-9218266.07	-9218265.91	-9218265.71	0.0140	0.0081
Neptune	-29952-12-18 21:21 J	-9218192.77	-9218192.61	-9218192.41	0.0089	0.0051
Uranus	-29951-05-21 01:11 J	-9218039.60	-9218039.45	-9218039.29	0.0139	0.0098
Neptune	-29951-08-01 10:47 J	-9217967.21	-9217967.05	-9217966.87	0.0089	0.0056
Uranus	-29950-01-02 11:59 J	-9217813.13	-9217813.00	-9217812.88	0.0139	0.0114
Neptune	-29950-03-15 00:14 J	-9217741.65	-9217741.49	-9217741.33	0.0089	0.0061
Uranus	-29950-08-16 22:19 J	-9217586.63	-9217586.57	-9217586.49	0.0139	0.0131
Neptune	-29950-10-26 12:57 J	-9217516.08	-9217515.96	-9217515.79	0.0089	0.0067
Saturn	-29949-03-17 20:09 J	-9217372.81	-9217372.66	-9217372.50	0.0285	0.0198
Jupiter	-29949-05-02 07:55 J	-9217327.34	-9217327.17	-9217327.00	0.0516	0.0291
Neptune	-29949-06-08 02:23 J	-9217290.51	-9217290.40	-9217290.26	0.0089	0.0072
Saturn	-29949-11-02 18:43 J	-9217142.93	-9217142.72	-9217142.51	0.0286	0.0050
Jupiter	-29949-12-26 06:14 J	-9217089.41	-9217089.24	-9217089.07	0.0525	0.0290
Neptune	-29948-01-19 15:35 J	-9217064.94	-9217064.85	-9217064.73	0.0089	0.0077
Saturn	-29948-06-20 18:43 J	-9216912.92	-9216912.72	-9216912.51	0.0288	0.0102
Neptune	-29948-09-02 04:47 J	-9216839.37	-9216839.30	-9216839.21	0.0089	0.0082
Saturn	-29947-02-05 20:23 J	-9216682.75	-9216682.65	-9216682.55	0.0289	0.0255

Neptune	-29947-04-15 17:59 J	-9216613.78	-9216613.75	-9216613.70	0.0089	0.0087
Jupiter	-29943-03-10 22:47 J	-9215188.75	-9215188.55	-9215188.35	0.0507	0.0016
Jupiter	-29943-11-02 00:28 J	-9214952.54	-9214952.48	-9214952.41	0.0499	0.0471
Mars	-29941-01-10 21:35 J	-9214517.73	-9214517.60	-9214517.46	0.1837	0.1136
Jupiter	-29937-01-05 22:33 J	-9213061.65	-9213061.56	-9213061.45	0.0513	0.0443
Mars	-29937-08-23 06:28 J	-9212831.39	-9212831.23	-9212831.06	0.1686	0.0599
Jupiter	-29937-08-30 18:43 J	-9212823.92	-9212823.72	-9212823.51	0.0523	0.0125
Saturn	-29935-01-20 12:57 J	-9212316.07	-9212315.96	-9212315.83	0.0275	0.0220
Saturn	-29935-09-06 16:19 J	-9212087.02	-9212086.82	-9212086.63	0.0274	0.0095
Saturn	-29934-04-23 17:59 J	-9211857.96	-9211857.75	-9211857.55	0.0272	0.0029
Saturn	-29934-12-08 18:28 J	-9211628.90	-9211628.73	-9211628.56	0.0271	0.0150
Saturn	-29933-07-24 17:45 J	-9211399.79	-9211399.76	-9211399.72	0.0270	0.0266
Jupiter	-29932-11-14 01:11 J	-9210922.64	-9210922.45	-9210922.26	0.0509	0.0155
Jupiter	-29931-07-08 04:19 J	-9210686.46	-9210686.32	-9210686.17	0.0501	0.0342
Jupiter	-29925-05-05 08:38 J	-9208558.35	-9208558.14	-9208557.93	0.0521	0.0039
Pluto	-29921-12-12 00:43 J	-9206876.53	-9206876.47	-9206876.39	0.0064	0.0061
Jupiter	-29920-07-20 02:23 J	-9206656.56	-9206656.40	-9206656.23	0.0512	0.0297
Pluto	-29920-07-25 04:19 J	-9206651.51	-9206651.32	-9206651.10	0.0065	0.0023
Saturn	-29920-09-28 00:43 J	-9206586.63	-9206586.47	-9206586.29	0.0285	0.0178
Pluto	-29919-03-07 08:23 J	-9206426.35	-9206426.15	-9206425.93	0.0065	0.0017
Jupiter	-29919-03-13 07:40 J	-9206420.36	-9206420.18	-9206420.00	0.0503	0.0209
Saturn	-29919-05-15 23:16 J	-9206356.75	-9206356.53	-9206356.32	0.0286	0.0030
Pluto	-29919-10-18 11:45 J	-9206201.09	-9206201.01	-9206200.88	0.0065	0.0057
Saturn	-29919-12-31 23:02 J	-9206126.73	-9206126.54	-9206126.33	0.0288	0.0123
Saturn	-29918-08-19 00:43 J	-9205896.52	-9205896.47	-9205896.40	0.0289	0.0275
Uranus	-29915-04-26 17:59 J	-9204914.77	-9204914.75	-9204914.68	0.0135	0.0132
Uranus	-29915-12-08 23:45 J	-9204688.60	-9204688.51	-9204688.39	0.0135	0.0117
Uranus	-29914-07-23 05:16 J	-9204462.40	-9204462.28	-9204462.12	0.0135	0.0103
Jupiter	-29913-01-09 00:14 J	-9204292.68	-9204292.49	-9204292.29	0.0518	0.0195
Uranus	-29913-03-05 11:02 J	-9204236.20	-9204236.04	-9204235.87	0.0136	0.0087

Jupiter	-29913-09-03 00:28 J	-9204054.61	-9204054.48	-9204054.34	0.0527	0.0391
Uranus	-29913-10-17 17:02 J	-9204009.98	-9204009.79	-9204009.61	0.0136	0.0071
Uranus	-29912-05-31 22:47 J	-9203783.75	-9203783.55	-9203783.36	0.0136	0.0056
Uranus	-29911-01-13 04:47 J	-9203557.50	-9203557.30	-9203557.09	0.0137	0.0040
Uranus	-29911-08-27 10:47 J	-9203331.26	-9203331.05	-9203330.84	0.0137	0.0024
Uranus	-29910-04-10 17:02 J	-9203105.01	-9203104.79	-9203104.58	0.0137	0.0008
Uranus	-29910-11-22 23:16 J	-9202878.75	-9202878.53	-9202878.32	0.0137	0.0009
Uranus	-29909-07-06 05:31 J	-9202652.48	-9202652.27	-9202652.06	0.0138	0.0026
Uranus	-29908-02-17 11:59 J	-9202426.20	-9202426.00	-9202425.79	0.0138	0.0042
Jupiter	-29908-03-25 01:11 J	-9202390.55	-9202390.45	-9202390.35	0.0514	0.0444
Uranus	-29908-10-01 18:43 J	-9202199.92	-9202199.72	-9202199.53	0.0138	0.0059
Mars	-29908-11-07 18:43 J	-9202162.87	-9202162.72	-9202162.57	0.1824	0.0871
Jupiter	-29908-11-16 08:09 J	-9202154.36	-9202154.16	-9202153.96	0.0505	0.0068
Uranus	-29907-05-16 00:57 J	-9201973.62	-9201973.46	-9201973.27	0.0139	0.0076
Uranus	-29907-12-28 07:55 J	-9201747.32	-9201747.17	-9201747.00	0.0139	0.0092
Saturn	-29906-08-02 16:04 J	-9201529.97	-9201529.83	-9201529.69	0.0275	0.0201
Uranus	-29906-08-11 14:38 J	-9201521.00	-9201520.89	-9201520.74	0.0139	0.0110
Saturn	-29905-03-18 19:11 J	-9201300.90	-9201300.70	-9201300.50	0.0274	0.0075
Uranus	-29905-03-24 21:35 J	-9201294.67	-9201294.60	-9201294.49	0.0140	0.0126
Saturn	-29905-11-02 20:52 J	-9201071.83	-9201071.63	-9201071.42	0.0273	0.0049
Saturn	-29904-06-19 21:21 J	-9200842.76	-9200842.61	-9200842.44	0.0272	0.0170
Mars	-29903-06-21 12:14 J	-9200476.14	-9200475.99	-9200475.84	0.1697	0.0933
Jupiter	-29902-09-13 15:50 J	-9200026.99	-9200026.84	-9200026.69	0.0515	0.0349
Jupiter	-29901-05-08 13:40 J	-9199789.12	-9199788.93	-9199788.74	0.0525	0.0226
Jupiter	-29896-07-22 09:21 J	-9197888.31	-9197888.11	-9197887.91	0.0508	0.0074
Jupiter	-29895-03-15 11:31 J	-9197652.13	-9197652.02	-9197651.91	0.0500	0.0416
Saturn	-29890-04-10 12:14 J	-9195800.17	-9195799.99	-9195799.80	0.0285	0.0149
Jupiter	-29890-05-19 05:31 J	-9195761.31	-9195761.27	-9195761.22	0.0512	0.0500
Saturn	-29890-11-26 11:16 J	-9195570.25	-9195570.03	-9195569.82	0.0287	0.0006
Jupiter	-29889-01-12 00:28 J	-9195523.69	-9195523.48	-9195523.28	0.0522	0.0057

Saturn	-29889-07-13 11:45 J	-9195340.19	-9195340.01	-9195339.82	0.0288	0.0154
Neptune	-29886-06-01 08:23 J	-9194287.17	-9194287.15	-9194287.08	0.0089	0.0087
Neptune	-29885-01-12 20:38 J	-9194061.70	-9194061.64	-9194061.53	0.0089	0.0082
Neptune	-29885-08-25 09:07 J	-9193836.20	-9193836.12	-9193835.99	0.0089	0.0077
Jupiter	-29884-03-27 10:33 J	-9193622.23	-9193622.06	-9193621.87	0.0511	0.0217
Neptune	-29884-04-07 21:50 J	-9193610.70	-9193610.59	-9193610.44	0.0089	0.0072
Jupiter	-29884-11-18 15:07 J	-9193386.03	-9193385.87	-9193385.70	0.0502	0.0285
Neptune	-29884-11-19 10:19 J	-9193385.19	-9193385.07	-9193384.91	0.0089	0.0067
Neptune	-29883-07-02 23:16 J	-9193159.69	-9193159.53	-9193159.38	0.0089	0.0061
Neptune	-29882-02-13 11:31 J	-9192934.18	-9192934.02	-9192933.85	0.0089	0.0056
Neptune	-29882-09-26 23:45 J	-9192708.67	-9192708.51	-9192708.32	0.0089	0.0051
Neptune	-29881-05-09 12:14 J	-9192483.16	-9192482.99	-9192482.79	0.0089	0.0046
Neptune	-29881-12-21 00:43 J	-9192257.65	-9192257.47	-9192257.26	0.0089	0.0041
Neptune	-29880-08-03 13:11 J	-9192032.13	-9192031.95	-9192031.73	0.0089	0.0036
Neptune	-29879-03-17 01:55 J	-9191806.62	-9191806.42	-9191806.21	0.0089	0.0030
Neptune	-29879-10-28 14:23 J	-9191581.10	-9191580.90	-9191580.68	0.0089	0.0025
Neptune	-29878-06-11 02:52 J	-9191355.59	-9191355.38	-9191355.16	0.0089	0.0020
Jupiter	-29878-09-16 13:55 J	-9191258.12	-9191257.92	-9191257.71	0.0519	0.0106
Neptune	-29877-01-22 15:21 J	-9191130.07	-9191129.86	-9191129.64	0.0089	0.0014
Jupiter	-29877-05-11 14:38 J	-9191019.97	-9191019.89	-9191019.81	0.0528	0.0480
Neptune	-29877-09-04 04:04 J	-9190904.55	-9190904.33	-9190904.11	0.0089	0.0009
Saturn	-29876-02-12 00:28 J	-9190743.63	-9190743.48	-9190743.31	0.0275	0.0177
Neptune	-29876-04-17 16:47 J	-9190679.02	-9190678.80	-9190678.59	0.0089	0.0004
Saturn	-29876-09-29 03:21 J	-9190514.56	-9190514.36	-9190514.15	0.0273	0.0052
Mars	-29876-11-07 04:04 J	-9190475.48	-9190475.33	-9190475.17	0.1833	0.0844
Neptune	-29876-11-29 05:16 J	-9190453.50	-9190453.28	-9190453.06	0.0089	0.0002
Saturn	-29875-05-16 04:47 J	-9190285.50	-9190285.30	-9190285.10	0.0272	0.0071
Neptune	-29875-07-12 17:45 J	-9190227.98	-9190227.76	-9190227.54	0.0089	0.0007
Uranus	-29875-08-10 13:55 J	-9190199.01	-9190198.92	-9190198.83	0.0143	0.0130
Saturn	-29875-12-31 04:47 J	-9190056.43	-9190056.30	-9190056.14	0.0271	0.0191

Neptune	-29874-02-23 06:14 J	-9190002.45	-9190002.24	-9190002.02	0.0089	0.0013
Uranus	-29874-03-25 01:40 J	-9189972.56	-9189972.43	-9189972.29	0.0143	0.0111
Neptune	-29874-10-06 18:57 J	-9189776.92	-9189776.71	-9189776.50	0.0089	0.0018
Uranus	-29874-11-06 13:26 J	-9189746.10	-9189745.94	-9189745.76	0.0143	0.0093
Neptune	-29873-05-19 07:26 J	-9189551.39	-9189551.19	-9189550.97	0.0088	0.0024
Uranus	-29873-06-20 01:40 J	-9189519.62	-9189519.43	-9189519.24	0.0142	0.0074
Jupiter	-29873-11-30 11:59 J	-9189356.14	-9189356.00	-9189355.86	0.0513	0.0357
Neptune	-29873-12-30 20:09 J	-9189325.85	-9189325.66	-9189325.44	0.0088	0.0029
Uranus	-29872-02-01 13:11 J	-9189293.14	-9189292.95	-9189292.74	0.0142	0.0055
Jupiter	-29872-07-24 18:14 J	-9189119.93	-9189119.74	-9189119.55	0.0504	0.0152
Neptune	-29872-08-13 09:07 J	-9189100.32	-9189100.12	-9189099.92	0.0088	0.0034
Uranus	-29872-09-16 00:43 J	-9189066.67	-9189066.47	-9189066.24	0.0142	0.0037
Neptune	-29871-03-26 21:21 J	-9188874.78	-9188874.61	-9188874.39	0.0088	0.0040
Uranus	-29871-04-30 12:28 J	-9188840.20	-9188839.98	-9188839.76	0.0141	0.0018
Mars	-29871-06-20 15:50 J	-9188789.01	-9188788.84	-9188788.67	0.1689	0.0431
Neptune	-29871-11-07 10:19 J	-9188649.25	-9188649.07	-9188648.87	0.0088	0.0045
Uranus	-29871-12-12 23:59 J	-9188613.72	-9188613.50	-9188613.28	0.0141	0.0001
Neptune	-29870-06-20 23:02 J	-9188423.70	-9188423.54	-9188423.34	0.0088	0.0050
Uranus	-29870-07-27 11:16 J	-9188387.24	-9188387.03	-9188386.80	0.0141	0.0020
Neptune	-29869-02-01 11:59 J	-9188198.16	-9188198.00	-9188197.82	0.0088	0.0055
Uranus	-29869-03-09 22:19 J	-9188160.77	-9188160.57	-9188160.34	0.0140	0.0039
Neptune	-29869-09-14 00:57 J	-9187972.62	-9187972.46	-9187972.30	0.0088	0.0060
Uranus	-29869-10-22 09:35 J	-9187934.30	-9187934.10	-9187933.89	0.0140	0.0056
Neptune	-29868-04-27 13:26 J	-9187747.07	-9187746.94	-9187746.77	0.0088	0.0065
Uranus	-29868-06-05 20:23 J	-9187707.83	-9187707.65	-9187707.45	0.0140	0.0074
Neptune	-29868-12-09 02:09 J	-9187521.52	-9187521.41	-9187521.25	0.0088	0.0071
Uranus	-29867-01-18 07:11 J	-9187481.35	-9187481.20	-9187481.02	0.0139	0.0092
Neptune	-29867-07-22 14:52 J	-9187295.97	-9187295.88	-9187295.74	0.0088	0.0076
Uranus	-29867-09-01 17:45 J	-9187254.88	-9187254.76	-9187254.61	0.0139	0.0109
Neptune	-29866-03-05 03:50 J	-9187070.41	-9187070.34	-9187070.23	0.0088	0.0080

Uranus	-29866-04-16 04:19 J	-9187028.40	-9187028.32	-9187028.21	0.0139	0.0126
Jupiter	-29866-05-22 04:19 J	-9186992.50	-9186992.32	-9186992.14	0.0517	0.0263
Neptune	-29866-10-16 16:33 J	-9186844.84	-9186844.81	-9186844.73	0.0088	0.0086
Jupiter	-29865-01-15 03:07 J	-9186754.53	-9186754.37	-9186754.20	0.0526	0.0317
Saturn	-29861-03-04 20:23 J	-9185243.70	-9185243.65	-9185243.58	0.0284	0.0270
Jupiter	-29861-08-05 12:28 J	-9185090.03	-9185089.98	-9185089.93	0.0516	0.0499
Saturn	-29861-10-20 17:31 J	-9185013.96	-9185013.77	-9185013.57	0.0286	0.0127
Jupiter	-29860-03-29 21:07 J	-9184853.82	-9184853.62	-9184853.42	0.0507	0.0017
Saturn	-29860-06-07 16:33 J	-9184784.03	-9184783.81	-9184783.60	0.0287	0.0023
Jupiter	-29860-11-20 22:19 J	-9184617.59	-9184617.57	-9184617.55	0.0498	0.0494
Saturn	-29859-01-23 16:47 J	-9184553.96	-9184553.80	-9184553.62	0.0288	0.0175
Jupiter	-29854-01-24 20:52 J	-9182726.75	-9182726.63	-9182726.51	0.0514	0.0411
Jupiter	-29854-09-19 17:45 J	-9182488.95	-9182488.76	-9182488.56	0.0524	0.0156
Jupiter	-29849-12-02 21:07 J	-9180587.81	-9180587.62	-9180587.43	0.0509	0.0130
Jupiter	-29848-07-26 23:45 J	-9180351.64	-9180351.51	-9180351.37	0.0500	0.0363
Saturn	-29847-08-25 03:07 J	-9179957.53	-9179957.37	-9179957.20	0.0275	0.0158
Saturn	-29846-04-11 05:45 J	-9179728.46	-9179728.26	-9179728.05	0.0274	0.0033
Moon	-29846-04-24 10:04 J	-9179715.21	-9179715.08	-9179714.94	0.2692	0.1510
Earth	-29846-04-24 10:19 J	-9179715.19	-9179715.07	-9179714.96	0.2699	0.1728 *
Saturn	-29846-11-26 07:11 J	-9179499.39	-9179499.20	-9179499.00	0.0273	0.0091
Saturn	-29845-07-12 07:26 J	-9179270.32	-9179270.19	-9179270.06	0.0272	0.0210
Jupiter	-29842-05-25 07:55 J	-9178223.38	-9178223.17	-9178222.96	0.0521	0.0008
Mars	-29842-09-05 01:40 J	-9178120.56	-9178120.43	-9178120.29	0.1821	0.1129
Moon	-29838-04-21 23:31 J	-9176795.61	-9176795.52	-9176795.43	0.2696	0.2198
Earth	-29838-04-22 03:35 J	-9176795.48	-9176795.35	-9176795.23	0.2700	0.1586 *
Mars	-29837-04-17 21:07 J	-9176433.75	-9176433.62	-9176433.48	0.1700	0.1113
Jupiter	-29837-08-07 21:21 J	-9176321.77	-9176321.61	-9176321.44	0.0511	0.0274
Jupiter	-29836-04-01 02:23 J	-9176085.58	-9176085.40	-9176085.22	0.0503	0.0229
Saturn	-29832-09-15 06:43 J	-9174457.32	-9174457.22	-9174457.10	0.0284	0.0244
Pluto	-29832-11-07 03:50 J	-9174404.57	-9174404.34	-9174404.12	0.0079	0.0005

Saturn	-29831-05-03 04:33 J	-9174227.52	-9174227.31	-9174227.11	0.0286	0.0099
Pluto	-29831-06-20 14:23 J	-9174178.99	-9174178.90	-9174178.80	0.0079	0.0071
Uranus	-29831-08-08 08:09 J	-9174130.22	-9174130.16	-9174130.06	0.0135	0.0124
Saturn	-29831-12-19 03:50 J	-9173997.55	-9173997.34	-9173997.13	0.0287	0.0051
Jupiter	-29830-01-27 19:55 J	-9173957.86	-9173957.67	-9173957.47	0.0518	0.0170
Uranus	-29830-03-22 13:40 J	-9173904.04	-9173903.93	-9173903.79	0.0135	0.0109
Saturn	-29830-08-06 04:47 J	-9173767.44	-9173767.30	-9173767.14	0.0288	0.0205
Jupiter	-29830-09-22 19:40 J	-9173719.80	-9173719.68	-9173719.55	0.0527	0.0412
Uranus	-29830-11-03 19:26 J	-9173677.83	-9173677.69	-9173677.53	0.0136	0.0094
Uranus	-29829-06-17 01:26 J	-9173451.62	-9173451.44	-9173451.27	0.0136	0.0078
Uranus	-29828-01-29 07:11 J	-9173225.39	-9173225.20	-9173225.01	0.0136	0.0063
Uranus	-29828-09-12 13:11 J	-9172999.15	-9172998.95	-9172998.75	0.0136	0.0047
Uranus	-29827-04-26 18:57 J	-9172772.91	-9172772.71	-9172772.49	0.0137	0.0031
Uranus	-29827-12-09 01:11 J	-9172546.66	-9172546.45	-9172546.23	0.0137	0.0014
Uranus	-29826-07-23 07:26 J	-9172320.40	-9172320.19	-9172319.97	0.0137	0.0003
Uranus	-29825-03-05 13:40 J	-9172094.14	-9172093.93	-9172093.72	0.0138	0.0019
Jupiter	-29825-04-12 21:21 J	-9172055.73	-9172055.61	-9172055.50	0.0515	0.0418
Uranus	-29825-10-17 19:55 J	-9171867.87	-9171867.67	-9171867.46	0.0138	0.0036
Jupiter	-29825-12-05 04:47 J	-9171819.49	-9171819.30	-9171819.10	0.0506	0.0093
Uranus	-29824-06-01 02:23 J	-9171641.59	-9171641.40	-9171641.19	0.0138	0.0053
Uranus	-29823-01-13 09:07 J	-9171415.30	-9171415.12	-9171414.93	0.0139	0.0070
Uranus	-29823-08-27 15:50 J	-9171189.00	-9171188.84	-9171188.67	0.0139	0.0086
Uranus	-29822-04-10 22:19 J	-9170962.69	-9170962.57	-9170962.41	0.0139	0.0104
Uranus	-29822-11-23 05:16 J	-9170736.37	-9170736.28	-9170736.15	0.0140	0.0120
Uranus	-29821-07-06 12:28 J	-9170510.01	-9170509.98	-9170509.92	0.0140	0.0136
Jupiter	-29819-10-02 10:47 J	-9169692.21	-9169692.05	-9169691.89	0.0515	0.0324
Jupiter	-29818-05-28 07:55 J	-9169454.35	-9169454.17	-9169453.98	0.0524	0.0248
Saturn	-29818-07-21 08:09 J	-9169400.23	-9169400.16	-9169400.10	0.0276	0.0259
Saturn	-29817-03-06 11:45 J	-9169171.19	-9169171.01	-9169170.82	0.0274	0.0134
Saturn	-29817-10-21 14:09 J	-9168942.12	-9168941.91	-9168941.70	0.0273	0.0009

Saturn	-29816-06-07 15:07 J	-9168713.05	-9168712.87	-9168712.68	0.0272	0.0113
Saturn	-29815-01-22 15:07 J	-9168483.97	-9168483.87	-9168483.76	0.0271	0.0231
Jupiter	-29813-08-10 07:11 J	-9167553.40	-9167553.20	-9167553.00	0.0508	0.0045
Jupiter	-29812-04-03 09:35 J	-9167317.18	-9167317.10	-9167317.00	0.0500	0.0441
Mars	-29810-09-04 11:16 J	-9166433.19	-9166433.03	-9166432.87	0.1830	0.0573
Jupiter	-29807-06-07 01:55 J	-9165426.50	-9165426.42	-9165426.34	0.0512	0.0473
Jupiter	-29806-01-30 21:07 J	-9165188.83	-9165188.62	-9165188.42	0.0522	0.0085
Mars	-29805-04-17 01:26 J	-9164746.61	-9164746.44	-9164746.26	0.1691	0.0268
Neptune	-29803-10-13 07:26 J	-9163837.22	-9163837.19	-9163837.11	0.0089	0.0086
Saturn	-29802-03-28 12:14 J	-9163671.11	-9163670.99	-9163670.85	0.0285	0.0223
Neptune	-29802-05-26 21:07 J	-9163611.69	-9163611.62	-9163611.50	0.0089	0.0081
Saturn	-29802-11-13 09:50 J	-9163441.29	-9163441.09	-9163440.88	0.0286	0.0077
Neptune	-29801-01-07 10:33 J	-9163386.15	-9163386.06	-9163385.92	0.0089	0.0076
Jupiter	-29801-04-15 09:21 J	-9163287.30	-9163287.11	-9163286.93	0.0510	0.0186
Saturn	-29801-06-30 09:21 J	-9163211.32	-9163211.11	-9163210.90	0.0287	0.0074
Neptune	-29801-08-20 00:43 J	-9163160.60	-9163160.47	-9163160.33	0.0089	0.0070
Jupiter	-29801-12-07 13:11 J	-9163051.10	-9163050.95	-9163050.79	0.0502	0.0312
Saturn	-29800-02-15 10:04 J	-9162981.21	-9162981.08	-9162980.94	0.0288	0.0226
Neptune	-29800-04-02 14:09 J	-9162935.05	-9162934.91	-9162934.75	0.0089	0.0065
Neptune	-29800-11-14 03:35 J	-9162709.49	-9162709.35	-9162709.16	0.0089	0.0060
Neptune	-29799-06-27 17:02 J	-9162483.94	-9162483.79	-9162483.59	0.0089	0.0055
Neptune	-29798-02-08 06:57 J	-9162258.39	-9162258.21	-9162258.02	0.0089	0.0049
Neptune	-29798-09-21 20:23 J	-9162032.83	-9162032.65	-9162032.44	0.0089	0.0044
Neptune	-29797-05-04 10:04 J	-9161807.27	-9161807.08	-9161806.87	0.0089	0.0039
Neptune	-29797-12-15 23:45 J	-9161581.71	-9161581.51	-9161581.30	0.0089	0.0033
Neptune	-29796-07-29 13:11 J	-9161356.15	-9161355.95	-9161355.73	0.0089	0.0028
Neptune	-29795-03-12 02:52 J	-9161130.59	-9161130.38	-9161130.16	0.0089	0.0022
Jupiter	-29795-10-05 12:28 J	-9160923.19	-9160922.98	-9160922.78	0.0520	0.0074
Neptune	-29795-10-23 16:33 J	-9160905.03	-9160904.81	-9160904.59	0.0089	0.0017
Jupiter	-29794-05-31 13:55 J	-9160684.97	-9160684.92	-9160684.87	0.0529	0.0510

Neptune	-29794-06-06 05:59 J	-9160679.46	-9160679.25	-9160679.02	0.0089	0.0012
Neptune	-29793-01-17 19:40 J	-9160453.90	-9160453.68	-9160453.46	0.0089	0.0006
Neptune	-29793-08-30 09:07 J	-9160228.34	-9160228.12	-9160227.90	0.0089	0.0001
Neptune	-29792-04-12 22:33 J	-9160002.78	-9160002.56	-9160002.34	0.0089	0.0005
Neptune	-29792-11-24 11:59 J	-9159777.21	-9159777.00	-9159776.77	0.0089	0.0011
Uranus	-29791-04-09 18:28 J	-9159640.76	-9159640.73	-9159640.65	0.0144	0.0139
Neptune	-29791-07-08 01:26 J	-9159551.65	-9159551.44	-9159551.22	0.0089	0.0016
Uranus	-29791-11-22 06:28 J	-9159414.33	-9159414.23	-9159414.09	0.0143	0.0121
Neptune	-29790-02-18 14:52 J	-9159326.09	-9159325.88	-9159325.66	0.0089	0.0021
Uranus	-29790-07-06 18:57 J	-9159187.86	-9159187.71	-9159187.55	0.0143	0.0101
Neptune	-29790-10-02 04:04 J	-9159100.53	-9159100.33	-9159100.11	0.0089	0.0027
Jupiter	-29790-12-20 08:52 J	-9159021.28	-9159021.13	-9159020.97	0.0513	0.0330
Uranus	-29789-02-18 06:43 J	-9158961.39	-9158961.22	-9158961.03	0.0143	0.0083
Neptune	-29789-05-14 17:16 J	-9158874.97	-9158874.78	-9158874.56	0.0089	0.0032
Jupiter	-29789-08-12 14:38 J	-9158785.08	-9158784.89	-9158784.70	0.0504	0.0175
Uranus	-29789-10-01 18:28 J	-9158734.92	-9158734.73	-9158734.52	0.0142	0.0064
Neptune	-29789-12-26 06:43 J	-9158649.41	-9158649.22	-9158649.01	0.0089	0.0037
Saturn	-29788-01-30 10:19 J	-9158614.17	-9158614.07	-9158613.97	0.0276	0.0242
Uranus	-29788-05-16 06:28 J	-9158508.44	-9158508.23	-9158508.02	0.0142	0.0044
Neptune	-29788-08-08 20:09 J	-9158423.85	-9158423.66	-9158423.46	0.0089	0.0042
Saturn	-29788-09-16 13:55 J	-9158385.10	-9158384.92	-9158384.73	0.0274	0.0116
Uranus	-29788-12-28 17:59 J	-9158281.97	-9158281.75	-9158281.53	0.0142	0.0026
Neptune	-29787-03-22 09:07 J	-9158198.29	-9158198.12	-9158197.92	0.0089	0.0048
Saturn	-29787-05-03 16:19 J	-9158156.03	-9158155.82	-9158155.61	0.0273	0.0009
Uranus	-29787-08-12 05:31 J	-9158055.49	-9158055.27	-9158055.04	0.0141	0.0007
Neptune	-29787-11-02 22:19 J	-9157972.73	-9157972.57	-9157972.37	0.0089	0.0053
Saturn	-29787-12-18 17:02 J	-9157926.96	-9157926.79	-9157926.60	0.0272	0.0132
Uranus	-29786-03-26 17:02 J	-9157829.01	-9157828.79	-9157828.57	0.0141	0.0012
Neptune	-29786-06-16 11:45 J	-9157747.16	-9157747.01	-9157746.83	0.0089	0.0058
Saturn	-29786-08-04 17:02 J	-9157697.86	-9157697.79	-9157697.70	0.0271	0.0249

Uranus	-29786-11-08 04:04 J	-9157602.54	-9157602.33	-9157602.10	0.0141	0.0031
Neptune	-29785-01-28 00:57 J	-9157521.60	-9157521.46	-9157521.29	0.0089	0.0063
Uranus	-29785-06-21 15:21 J	-9157376.06	-9157375.86	-9157375.64	0.0140	0.0049
Neptune	-29785-09-09 14:09 J	-9157296.04	-9157295.91	-9157295.76	0.0089	0.0068
Uranus	-29784-02-03 02:23 J	-9157149.59	-9157149.40	-9157149.20	0.0140	0.0067
Neptune	-29784-04-23 03:21 J	-9157070.47	-9157070.36	-9157070.23	0.0089	0.0073
Uranus	-29784-09-17 13:26 J	-9156923.11	-9156922.94	-9156922.76	0.0140	0.0085
Neptune	-29784-12-04 16:47 J	-9156844.90	-9156844.80	-9156844.69	0.0089	0.0078
Uranus	-29783-05-01 23:59 J	-9156696.64	-9156696.50	-9156696.35	0.0139	0.0103
Jupiter	-29783-06-10 03:35 J	-9156657.54	-9156657.35	-9156657.17	0.0517	0.0230
Neptune	-29783-07-18 05:59 J	-9156619.32	-9156619.25	-9156619.17	0.0089	0.0083
Uranus	-29783-12-14 10:19 J	-9156470.17	-9156470.07	-9156469.94	0.0139	0.0120
Jupiter	-29782-02-03 02:52 J	-9156419.53	-9156419.38	-9156419.23	0.0526	0.0348
Neptune	-29782-02-28 18:57 J	-9156393.72	-9156393.71	-9156393.67	0.0089	0.0088
Uranus	-29782-07-28 20:52 J	-9156243.65	-9156243.63	-9156243.58	0.0139	0.0137
Jupiter	-29778-08-25 08:23 J	-9154755.22	-9154755.15	-9154755.07	0.0515	0.0474
Jupiter	-29777-04-17 16:33 J	-9154519.01	-9154518.81	-9154518.61	0.0506	0.0037
Mars	-29776-07-02 09:07 J	-9154078.23	-9154078.12	-9154078.01	0.1817	0.1378
Mars	-29773-04-16 04:19 J	-9153059.38	-9153059.32	-9153059.26	0.1684	0.1590
Saturn	-29773-10-07 21:21 J	-9152884.77	-9152884.61	-9152884.46	0.0285	0.0198
Saturn	-29772-05-25 19:26 J	-9152654.91	-9152654.69	-9152654.48	0.0286	0.0052
Saturn	-29771-01-10 18:57 J	-9152424.90	-9152424.71	-9152424.50	0.0288	0.0101
Jupiter	-29771-02-12 17:16 J	-9152391.91	-9152391.78	-9152391.63	0.0514	0.0384
Mars	-29771-02-13 05:59 J	-9152391.37	-9152391.25	-9152391.14	0.1703	0.1297
Saturn	-29771-08-28 20:38 J	-9152194.74	-9152194.64	-9152194.54	0.0289	0.0253
Jupiter	-29771-10-08 13:55 J	-9152154.11	-9152153.92	-9152153.73	0.0523	0.0181
Jupiter	-29766-12-22 17:31 J	-9150252.96	-9150252.77	-9150252.57	0.0509	0.0104
Jupiter	-29765-08-14 21:07 J	-9150016.75	-9150016.62	-9150016.50	0.0501	0.0387
Jupiter	-29759-06-13 03:07 J	-9147888.58	-9147888.37	-9147888.16	0.0520	0.0019
Saturn	-29759-08-12 18:57 J	-9147827.82	-9147827.71	-9147827.57	0.0275	0.0218

Saturn	-29758-03-29 22:33 J	-9147598.76	-9147598.56	-9147598.36	0.0274	0.0091
Saturn	-29758-11-14 00:28 J	-9147369.69	-9147369.48	-9147369.27	0.0273	0.0032
Saturn	-29757-06-30 01:11 J	-9147140.62	-9147140.45	-9147140.28	0.0271	0.0153
Saturn	-29756-02-14 00:43 J	-9146911.48	-9146911.47	-9146911.44	0.0270	0.0269
Jupiter	-29754-08-27 19:11 J	-9145986.88	-9145986.70	-9145986.53	0.0512	0.0245
Jupiter	-29753-04-20 00:28 J	-9145750.65	-9145750.48	-9145750.30	0.0503	0.0257
Earth	-29749-10-25 05:16 J	-9144101.43	-9144101.28	-9144101.13	0.2633	0.1183
Moon	-29749-10-25 06:28 J	-9144101.39	-9144101.23	-9144101.07	0.2626	0.1059 *
Jupiter	-29747-02-15 16:47 J	-9143623.00	-9143622.80	-9143622.60	0.0518	0.0141
Uranus	-29747-04-07 16:47 J	-9143571.83	-9143571.80	-9143571.74	0.0135	0.0131
Jupiter	-29747-10-11 17:02 J	-9143384.90	-9143384.79	-9143384.68	0.0527	0.0439
Uranus	-29747-11-19 22:19 J	-9143345.66	-9143345.57	-9143345.45	0.0135	0.0116
Uranus	-29746-07-04 04:04 J	-9143119.46	-9143119.33	-9143119.18	0.0135	0.0101
Uranus	-29745-02-15 09:35 J	-9142893.25	-9142893.10	-9142892.92	0.0136	0.0086
Uranus	-29745-09-28 15:21 J	-9142667.03	-9142666.86	-9142666.66	0.0136	0.0070
Uranus	-29744-05-12 21:35 J	-9142440.80	-9142440.60	-9142440.41	0.0136	0.0054
Mars	-29744-07-01 18:14 J	-9142390.91	-9142390.74	-9142390.58	0.1827	0.0303
Uranus	-29744-12-25 03:21 J	-9142214.56	-9142214.36	-9142214.15	0.0136	0.0038
Saturn	-29743-04-20 03:07 J	-9142098.53	-9142098.37	-9142098.19	0.0285	0.0176
Uranus	-29743-08-08 09:35 J	-9141988.31	-9141988.10	-9141987.89	0.0137	0.0021
Saturn	-29743-12-06 01:11 J	-9141868.66	-9141868.45	-9141868.23	0.0286	0.0028
Uranus	-29742-03-22 15:35 J	-9141762.07	-9141761.85	-9141761.64	0.0137	0.0005
Jupiter	-29742-05-02 20:23 J	-9141720.78	-9141720.65	-9141720.52	0.0514	0.0386
Saturn	-29742-07-24 01:11 J	-9141638.64	-9141638.45	-9141638.25	0.0288	0.0124
Uranus	-29742-11-03 21:35 J	-9141535.81	-9141535.60	-9141535.38	0.0137	0.0012
Jupiter	-29742-12-25 03:35 J	-9141484.54	-9141484.35	-9141484.16	0.0505	0.0122
Saturn	-29741-03-10 02:23 J	-9141408.45	-9141408.40	-9141408.33	0.0289	0.0276
Uranus	-29741-06-17 03:50 J	-9141309.54	-9141309.34	-9141309.12	0.0138	0.0029
Moon	-29741-10-22 14:09 J	-9141181.92	-9141181.91	-9141181.90	0.2627	0.2620
Earth	-29741-10-22 17:59 J	-9141181.78	-9141181.75	-9141181.71	0.2632	0.2554

Uranus	-29740-01-29 10:19 J	-9141083.26	-9141083.07	-9141082.86	0.0138	0.0046
Uranus	-29740-09-12 16:47 J	-9140856.98	-9140856.80	-9140856.60	0.0138	0.0063
Mars	-29739-02-12 10:19 J	-9140704.25	-9140704.07	-9140703.89	0.1694	0.0093
Uranus	-29739-04-26 23:16 J	-9140630.69	-9140630.53	-9140630.35	0.0139	0.0080
Uranus	-29739-12-09 06:14 J	-9140404.39	-9140404.24	-9140404.09	0.0139	0.0096
Uranus	-29738-07-23 12:43 J	-9140178.08	-9140177.97	-9140177.83	0.0139	0.0114
Uranus	-29737-03-05 19:55 J	-9139951.73	-9139951.67	-9139951.58	0.0140	0.0130
Jupiter	-29736-10-21 09:07 J	-9139357.29	-9139357.12	-9139356.95	0.0516	0.0293
Jupiter	-29735-06-16 07:11 J	-9139119.38	-9139119.20	-9139119.03	0.0525	0.0279
Jupiter	-29730-08-30 04:47 J	-9137218.50	-9137218.30	-9137218.10	0.0507	0.0018
Saturn	-29729-02-22 20:52 J	-9137041.77	-9137041.63	-9137041.49	0.0275	0.0200
Jupiter	-29729-04-22 06:43 J	-9136982.29	-9136982.22	-9136982.15	0.0499	0.0462
Saturn	-29729-10-08 23:59 J	-9136812.70	-9136812.50	-9136812.30	0.0274	0.0075
Saturn	-29728-05-26 01:55 J	-9136583.63	-9136583.42	-9136583.22	0.0273	0.0049
Saturn	-29727-01-10 02:23 J	-9136354.55	-9136354.40	-9136354.23	0.0272	0.0170
Jupiter	-29724-06-26 01:11 J	-9135091.55	-9135091.45	-9135091.34	0.0513	0.0441
Jupiter	-29723-02-18 21:07 J	-9134853.82	-9134853.62	-9134853.42	0.0523	0.0118
Neptune	-29722-09-02 20:52 J	-9134292.65	-9134292.63	-9134292.56	0.0089	0.0087
Neptune	-29721-04-15 09:21 J	-9134067.17	-9134067.11	-9134067.00	0.0089	0.0082
Neptune	-29721-11-26 21:50 J	-9133841.67	-9133841.59	-9133841.46	0.0089	0.0077
Neptune	-29720-07-10 10:19 J	-9133616.18	-9133616.07	-9133615.93	0.0089	0.0072
Neptune	-29719-02-20 22:47 J	-9133390.68	-9133390.55	-9133390.40	0.0089	0.0067
Neptune	-29719-10-04 11:16 J	-9133165.17	-9133165.03	-9133164.86	0.0089	0.0062
Jupiter	-29718-05-05 05:59 J	-9132952.44	-9132952.25	-9132952.06	0.0510	0.0159
Neptune	-29718-05-17 23:45 J	-9132939.66	-9132939.51	-9132939.33	0.0089	0.0057
Jupiter	-29718-12-27 09:35 J	-9132716.25	-9132716.10	-9132715.95	0.0501	0.0334
Neptune	-29718-12-29 12:14 J	-9132714.15	-9132713.99	-9132713.80	0.0089	0.0052
Neptune	-29717-08-11 00:43 J	-9132488.64	-9132488.47	-9132488.27	0.0089	0.0047
Neptune	-29716-03-24 13:26 J	-9132263.12	-9132262.94	-9132262.74	0.0089	0.0042
Neptune	-29716-11-05 01:55 J	-9132037.61	-9132037.42	-9132037.21	0.0089	0.0037

Neptune -29715-06-18 14:23 J -9131812.09 -9131811.90 -9131811.69 0.0089 0.0032
 Neptune -29714-01-30 02:38 J -9131586.58 -9131586.39 -9131586.16 0.0089 0.0027
 Neptune -29714-09-12 15:35 J -9131361.06 -9131360.85 -9131360.64 0.0089 0.0021
 Saturn -29714-10-31 10:19 J -9131312.25 -9131312.07 -9131311.89 0.0285 0.0154
 Neptune -29713-04-25 04:19 J -9131135.54 -9131135.32 -9131135.11 0.0089 0.0016
 Saturn -29713-06-17 08:52 J -9131082.35 -9131082.13 -9131081.91 0.0287 0.0005
 Neptune -29713-12-06 16:47 J -9130910.02 -9130909.80 -9130909.58 0.0089 0.0011
 Saturn -29712-02-02 09:07 J -9130852.30 -9130852.12 -9130851.93 0.0288 0.0147
 Neptune -29712-07-20 05:16 J -9130684.50 -9130684.28 -9130684.06 0.0089 0.0006
 Jupiter -29712-10-24 09:50 J -9130588.30 -9130588.09 -9130587.88 0.0519 0.0044
 Neptune -29711-03-02 17:45 J -9130458.98 -9130458.76 -9130458.54 0.0089 0.0000
 Neptune -29711-10-14 06:14 J -9130233.46 -9130233.24 -9130233.02 0.0089 0.0005
 Mars -29710-04-29 16:04 J -9130035.90 -9130035.83 -9130035.75 0.1814 0.1630
 Neptune -29710-05-27 18:57 J -9130007.93 -9130007.71 -9130007.49 0.0089 0.0010
 Neptune -29709-01-08 07:26 J -9129782.40 -9129782.19 -9129781.97 0.0089 0.0015
 Neptune -29709-08-20 19:55 J -9129556.87 -9129556.67 -9129556.45 0.0089 0.0021
 Neptune -29708-04-03 08:38 J -9129331.34 -9129331.14 -9129330.92 0.0089 0.0026
 Neptune -29708-11-14 21:21 J -9129105.81 -9129105.61 -9129105.40 0.0088 0.0031
 Mars -29707-02-11 13:26 J -9129017.03 -9129016.94 -9129016.84 0.1687 0.1426
 Neptune -29707-06-28 10:04 J -9128880.28 -9128880.08 -9128879.88 0.0088 0.0036
 Uranus -29707-07-22 10:47 J -9128856.12 -9128856.05 -9128855.94 0.0143 0.0130
 Jupiter -29706-01-08 05:31 J -9128686.43 -9128686.27 -9128686.11 0.0513 0.0303
 Neptune -29706-02-08 22:19 J -9128654.74 -9128654.57 -9128654.36 0.0088 0.0042
 Uranus -29706-03-05 23:02 J -9128629.67 -9128629.54 -9128629.39 0.0143 0.0110
 Jupiter -29706-09-01 11:45 J -9128450.19 -9128450.01 -9128449.82 0.0504 0.0202
 Neptune -29706-09-22 11:02 J -9128429.21 -9128429.04 -9128428.83 0.0088 0.0047
 Uranus -29706-10-18 11:16 J -9128403.20 -9128403.03 -9128402.86 0.0143 0.0091
 Mars -29706-12-11 14:23 J -9128348.98 -9128348.90 -9128348.81 0.1706 0.1487
 Neptune -29705-05-04 23:59 J -9128203.66 -9128203.50 -9128203.30 0.0088 0.0052
 Uranus -29705-05-31 22:47 J -9128176.72 -9128176.55 -9128176.34 0.0142 0.0073

Neptune	-29705-12-16 12:43 J	-9127978.12	-9127977.97	-9127977.78	0.0088	0.0057
Uranus	-29704-01-13 10:47 J	-9127950.25	-9127950.05	-9127949.84	0.0142	0.0053
Neptune	-29704-07-30 01:40 J	-9127752.58	-9127752.43	-9127752.26	0.0088	0.0062
Uranus	-29704-08-27 22:33 J	-9127723.77	-9127723.56	-9127723.34	0.0142	0.0034
Neptune	-29703-03-12 14:23 J	-9127527.03	-9127526.90	-9127526.74	0.0088	0.0067
Uranus	-29703-04-11 10:19 J	-9127497.29	-9127497.07	-9127496.85	0.0142	0.0015
Neptune	-29703-10-24 03:07 J	-9127301.48	-9127301.37	-9127301.23	0.0088	0.0072
Uranus	-29703-11-23 21:35 J	-9127270.82	-9127270.60	-9127270.37	0.0141	0.0006
Neptune	-29702-06-06 16:04 J	-9127075.92	-9127075.83	-9127075.71	0.0088	0.0077
Uranus	-29702-07-08 09:07 J	-9127044.33	-9127044.12	-9127043.90	0.0141	0.0023
Neptune	-29701-01-18 04:47 J	-9126850.36	-9126850.30	-9126850.19	0.0088	0.0082
Uranus	-29701-02-19 20:23 J	-9126817.86	-9126817.65	-9126817.43	0.0141	0.0042
Neptune	-29701-08-30 17:31 J	-9126624.79	-9126624.77	-9126624.70	0.0088	0.0087
Uranus	-29701-10-03 07:26 J	-9126591.38	-9126591.19	-9126590.98	0.0140	0.0060
Uranus	-29700-05-17 18:28 J	-9126364.91	-9126364.73	-9126364.55	0.0140	0.0078
Jupiter	-29700-06-29 00:14 J	-9126322.68	-9126322.49	-9126322.30	0.0516	0.0201
Saturn	-29700-09-04 05:16 J	-9126255.44	-9126255.28	-9126255.12	0.0275	0.0176
Uranus	-29700-12-30 05:16 J	-9126138.44	-9126138.28	-9126138.12	0.0140	0.0096
Jupiter	-29699-02-21 22:47 J	-9126084.70	-9126084.55	-9126084.41	0.0526	0.0372
Saturn	-29699-04-21 08:09 J	-9126026.36	-9126026.16	-9126025.96	0.0273	0.0051
Uranus	-29699-08-13 15:50 J	-9125911.96	-9125911.84	-9125911.71	0.0139	0.0114
Saturn	-29699-12-06 09:35 J	-9125797.30	-9125797.10	-9125796.90	0.0272	0.0072
Uranus	-29698-03-28 01:55 J	-9125685.47	-9125685.42	-9125685.33	0.0139	0.0131
Saturn	-29698-07-23 09:50 J	-9125568.23	-9125568.09	-9125567.94	0.0271	0.0191
Jupiter	-29695-09-13 05:59 J	-9124420.34	-9124420.25	-9124420.14	0.0516	0.0444
Jupiter	-29694-05-07 14:52 J	-9124184.08	-9124183.88	-9124183.69	0.0507	0.0067
Jupiter	-29688-03-03 14:52 J	-9122057.03	-9122056.88	-9122056.73	0.0514	0.0354
Jupiter	-29688-10-27 11:31 J	-9121819.21	-9121819.02	-9121818.83	0.0523	0.0210
Saturn	-29685-09-24 19:26 J	-9120755.74	-9120755.69	-9120755.63	0.0284	0.0273
Saturn	-29684-05-12 16:04 J	-9120526.02	-9120525.83	-9120525.63	0.0285	0.0131

Saturn	-29684-12-28 14:38 J	-9120296.10	-9120295.89	-9120295.67	0.0287	0.0019
Saturn	-29683-08-15 15:07 J	-9120066.05	-9120065.87	-9120065.70	0.0288	0.0170
Jupiter	-29682-01-10 17:16 J	-9119917.98	-9119917.78	-9119917.59	0.0509	0.0072
Jupiter	-29682-09-03 20:09 J	-9119681.77	-9119681.66	-9119681.54	0.0500	0.0414
Mars	-29678-04-29 01:26 J	-9118348.61	-9118348.44	-9118348.27	0.1824	0.0060
Jupiter	-29677-11-06 07:55 J	-9117791.21	-9117791.17	-9117791.12	0.0512	0.0497
Jupiter	-29676-07-02 02:23 J	-9117553.61	-9117553.40	-9117553.20	0.0521	0.0052
Mars	-29674-12-10 19:40 J	-9116661.86	-9116661.68	-9116661.50	0.1697	0.0081
Pluto	-29673-04-03 18:28 J	-9116546.83	-9116546.73	-9116546.58	0.0064	0.0054
Pluto	-29673-11-14 22:33 J	-9116321.76	-9116321.56	-9116321.34	0.0065	0.0015
Pluto	-29672-06-28 02:09 J	-9116096.59	-9116096.41	-9116096.19	0.0065	0.0025
Pluto	-29671-02-08 06:14 J	-9115871.26	-9115871.24	-9115871.20	0.0065	0.0065
Jupiter	-29671-09-15 18:14 J	-9115651.92	-9115651.74	-9115651.56	0.0511	0.0214
Saturn	-29670-03-17 06:14 J	-9115469.40	-9115469.24	-9115469.07	0.0275	0.0160
Jupiter	-29670-05-09 22:47 J	-9115415.71	-9115415.55	-9115415.38	0.0502	0.0283
Saturn	-29670-11-01 09:07 J	-9115240.33	-9115240.12	-9115239.92	0.0273	0.0035
Saturn	-29669-06-17 10:19 J	-9115011.26	-9115011.07	-9115010.87	0.0272	0.0088
Saturn	-29668-02-01 10:33 J	-9114782.18	-9114782.06	-9114781.92	0.0271	0.0207
Jupiter	-29664-03-06 17:31 J	-9113287.98	-9113287.77	-9113287.57	0.0519	0.0106
Jupiter	-29664-10-30 18:14 J	-9113049.83	-9113049.74	-9113049.65	0.0528	0.0471
Uranus	-29663-07-20 06:57 J	-9112787.27	-9112787.21	-9112787.10	0.0135	0.0123
Uranus	-29662-03-03 12:57 J	-9112561.09	-9112560.96	-9112560.83	0.0135	0.0108
Uranus	-29662-10-15 18:14 J	-9112334.88	-9112334.74	-9112334.57	0.0135	0.0093
Uranus	-29661-05-28 23:59 J	-9112108.66	-9112108.50	-9112108.31	0.0136	0.0077
Uranus	-29660-01-10 06:14 J	-9111882.43	-9111882.24	-9111882.04	0.0136	0.0061
Uranus	-29660-08-24 11:59 J	-9111656.20	-9111656.00	-9111655.79	0.0136	0.0044
Uranus	-29659-04-07 17:59 J	-9111429.96	-9111429.75	-9111429.54	0.0137	0.0028
Jupiter	-29659-05-21 18:28 J	-9111385.87	-9111385.73	-9111385.58	0.0514	0.0356
Uranus	-29659-11-19 23:59 J	-9111203.71	-9111203.50	-9111203.29	0.0137	0.0011
Jupiter	-29658-01-13 01:11 J	-9111149.64	-9111149.45	-9111149.26	0.0505	0.0148

Uranus	-29658-07-04 05:59 J	-9110977.46	-9110977.25	-9110977.03	0.0137	0.0007
Uranus	-29657-02-15 12:14 J	-9110751.19	-9110750.99	-9110750.77	0.0138	0.0023
Uranus	-29657-09-28 18:43 J	-9110524.93	-9110524.72	-9110524.52	0.0138	0.0039
Uranus	-29656-05-13 00:57 J	-9110298.65	-9110298.46	-9110298.26	0.0138	0.0056
Uranus	-29656-12-25 07:11 J	-9110072.36	-9110072.20	-9110072.00	0.0139	0.0074
Saturn	-29655-04-07 00:14 J	-9109969.58	-9109969.49	-9109969.39	0.0284	0.0254
Uranus	-29655-08-08 14:09 J	-9109846.07	-9109845.91	-9109845.74	0.0139	0.0090
Saturn	-29655-11-22 21:21 J	-9109739.81	-9109739.61	-9109739.41	0.0286	0.0111
Uranus	-29654-03-22 20:38 J	-9109619.76	-9109619.64	-9109619.49	0.0139	0.0107
Saturn	-29654-07-10 20:38 J	-9109509.86	-9109509.64	-9109509.43	0.0287	0.0039
Uranus	-29654-11-04 03:50 J	-9109393.43	-9109393.34	-9109393.24	0.0139	0.0124
Saturn	-29653-02-25 21:07 J	-9109279.77	-9109279.62	-9109279.45	0.0288	0.0192
Jupiter	-29653-11-09 07:55 J	-9109022.34	-9109022.17	-9109021.99	0.0515	0.0260
Jupiter	-29652-07-05 05:31 J	-9108784.43	-9108784.27	-9108784.10	0.0525	0.0309
Jupiter	-29647-01-24 16:33 J	-9107119.85	-9107119.81	-9107119.76	0.0517	0.0500
Jupiter	-29647-09-18 02:23 J	-9106883.60	-9106883.40	-9106883.20	0.0508	0.0016
Mars	-29646-04-28 11:02 J	-9106661.09	-9106661.04	-9106660.99	0.1833	0.1751
Jupiter	-29646-05-12 04:47 J	-9106647.34	-9106647.30	-9106647.26	0.0500	0.0489
Mars	-29642-12-09 22:47 J	-9104974.66	-9104974.55	-9104974.43	0.1689	0.1259
Saturn	-29641-02-10 10:04 J	-9104912.14	-9104912.08	-9104912.01	0.0276	0.0262
Jupiter	-29641-07-14 23:45 J	-9104756.63	-9104756.51	-9104756.38	0.0512	0.0408
Saturn	-29641-09-26 14:09 J	-9104683.09	-9104682.91	-9104682.73	0.0274	0.0136
Jupiter	-29640-03-09 18:43 J	-9104518.92	-9104518.72	-9104518.52	0.0522	0.0147
Saturn	-29640-05-13 16:33 J	-9104454.01	-9104453.81	-9104453.60	0.0273	0.0013
Mars	-29640-10-07 23:16 J	-9104306.56	-9104306.53	-9104306.49	0.1709	0.1668
Saturn	-29640-12-28 17:45 J	-9104224.95	-9104224.76	-9104224.57	0.0272	0.0110
Saturn	-29639-08-14 17:31 J	-9103995.87	-9103995.77	-9103995.65	0.0271	0.0228
Neptune	-29638-01-14 18:43 J	-9103842.75	-9103842.72	-9103842.64	0.0089	0.0086
Neptune	-29638-08-28 08:38 J	-9103617.21	-9103617.14	-9103617.03	0.0089	0.0081
Neptune	-29637-04-09 22:19 J	-9103391.67	-9103391.57	-9103391.44	0.0089	0.0076

Neptune	-29637-11-21 11:59 J	-9103166.11	-9103166.00	-9103165.85	0.0089	0.0071
Neptune	-29636-07-05 01:26 J	-9102940.56	-9102940.44	-9102940.26	0.0089	0.0066
Neptune	-29635-02-15 15:07 J	-9102715.01	-9102714.87	-9102714.69	0.0089	0.0061
Jupiter	-29635-05-24 04:19 J	-9102617.52	-9102617.32	-9102617.13	0.0510	0.0129
Neptune	-29635-09-29 05:16 J	-9102489.45	-9102489.28	-9102489.11	0.0089	0.0055
Jupiter	-29634-01-15 08:23 J	-9102381.28	-9102381.15	-9102381.01	0.0502	0.0363
Neptune	-29634-05-12 18:43 J	-9102263.90	-9102263.72	-9102263.53	0.0089	0.0050
Neptune	-29634-12-24 08:09 J	-9102038.34	-9102038.16	-9102037.96	0.0089	0.0045
Neptune	-29633-08-05 21:35 J	-9101812.79	-9101812.60	-9101812.39	0.0089	0.0040
Neptune	-29632-03-19 11:02 J	-9101587.23	-9101587.04	-9101586.82	0.0089	0.0035
Neptune	-29632-10-31 00:57 J	-9101361.67	-9101361.46	-9101361.25	0.0089	0.0029
Neptune	-29631-06-13 14:23 J	-9101136.11	-9101135.90	-9101135.68	0.0089	0.0024
Neptune	-29630-01-25 03:50 J	-9100910.55	-9100910.34	-9100910.12	0.0089	0.0019
Neptune	-29630-09-07 17:16 J	-9100684.99	-9100684.78	-9100684.55	0.0089	0.0013
Neptune	-29629-04-20 06:57 J	-9100459.43	-9100459.21	-9100458.99	0.0089	0.0008
Jupiter	-29629-11-12 08:09 J	-9100253.37	-9100253.16	-9100252.95	0.0519	0.0013
Neptune	-29629-12-01 20:38 J	-9100233.87	-9100233.64	-9100233.42	0.0089	0.0003
Neptune	-29628-07-15 10:04 J	-9100008.31	-9100008.08	-9100007.86	0.0089	0.0003
Neptune	-29627-02-25 23:16 J	-9099782.75	-9099782.53	-9099782.30	0.0089	0.0008
Neptune	-29627-10-09 12:57 J	-9099557.18	-9099556.96	-9099556.74	0.0089	0.0013
Neptune	-29626-05-23 02:09 J	-9099331.62	-9099331.41	-9099331.18	0.0089	0.0019
Saturn	-29626-10-18 05:59 J	-9099183.36	-9099183.25	-9099183.12	0.0284	0.0232
Neptune	-29625-01-03 15:35 J	-9099106.05	-9099105.85	-9099105.63	0.0089	0.0024
Saturn	-29625-06-04 03:21 J	-9098953.56	-9098953.36	-9098953.15	0.0286	0.0087
Neptune	-29625-08-16 05:02 J	-9098880.49	-9098880.29	-9098880.08	0.0089	0.0029
Saturn	-29624-01-20 02:23 J	-9098723.61	-9098723.40	-9098723.19	0.0287	0.0063
Neptune	-29624-03-29 18:28 J	-9098654.93	-9098654.73	-9098654.53	0.0089	0.0034
Saturn	-29624-09-07 02:52 J	-9098493.51	-9098493.38	-9098493.23	0.0288	0.0215
Neptune	-29624-11-10 07:55 J	-9098429.37	-9098429.17	-9098428.97	0.0089	0.0039
Jupiter	-29623-01-27 05:59 J	-9098351.42	-9098351.25	-9098351.08	0.0513	0.0268

Uranus	-29623-03-21 14:38 J	-9098297.93	-9098297.89	-9098297.82	0.0144	0.0139
Neptune	-29623-06-23 20:52 J	-9098203.81	-9098203.63	-9098203.43	0.0089	0.0045
Jupiter	-29623-09-20 11:59 J	-9098115.17	-9098115.00	-9098114.82	0.0504	0.0233
Uranus	-29623-11-03 02:52 J	-9098071.49	-9098071.38	-9098071.25	0.0143	0.0120
Neptune	-29622-02-04 10:04 J	-9097978.25	-9097978.08	-9097977.88	0.0089	0.0050
Uranus	-29622-06-17 14:52 J	-9097845.02	-9097844.88	-9097844.71	0.0143	0.0101
Neptune	-29622-09-17 23:16 J	-9097752.69	-9097752.53	-9097752.34	0.0089	0.0055
Uranus	-29621-01-30 02:52 J	-9097618.54	-9097618.38	-9097618.18	0.0143	0.0082
Neptune	-29621-04-30 12:28 J	-9097527.12	-9097526.98	-9097526.80	0.0089	0.0060
Uranus	-29621-09-12 14:52 J	-9097392.07	-9097391.88	-9097391.67	0.0142	0.0062
Neptune	-29621-12-12 01:40 J	-9097301.56	-9097301.43	-9097301.26	0.0089	0.0065
Uranus	-29620-04-27 02:38 J	-9097165.59	-9097165.39	-9097165.17	0.0142	0.0043
Neptune	-29620-07-25 14:52 J	-9097075.99	-9097075.88	-9097075.72	0.0089	0.0070
Uranus	-29620-12-09 14:23 J	-9096939.11	-9096938.90	-9096938.67	0.0142	0.0024
Neptune	-29619-03-08 04:04 J	-9096850.43	-9096850.33	-9096850.19	0.0089	0.0075
Uranus	-29619-07-24 02:09 J	-9096712.63	-9096712.41	-9096712.18	0.0141	0.0005
Neptune	-29619-10-19 17:02 J	-9096624.86	-9096624.79	-9096624.66	0.0089	0.0080
Uranus	-29618-03-07 13:40 J	-9096486.15	-9096485.93	-9096485.71	0.0141	0.0015
Neptune	-29618-06-02 06:57 J	-9096399.28	-9096399.21	-9096399.14	0.0089	0.0084
Uranus	-29618-10-20 00:57 J	-9096259.67	-9096259.46	-9096259.24	0.0141	0.0034
Uranus	-29617-06-02 11:59 J	-9096033.20	-9096033.00	-9096032.79	0.0140	0.0053
Jupiter	-29617-07-17 23:45 J	-9095987.71	-9095987.51	-9095987.31	0.0517	0.0168
Uranus	-29616-01-14 22:47 J	-9095806.72	-9095806.55	-9095806.34	0.0140	0.0072
Jupiter	-29616-03-12 23:02 J	-9095749.67	-9095749.54	-9095749.41	0.0526	0.0405
Uranus	-29616-08-29 09:50 J	-9095580.25	-9095580.09	-9095579.91	0.0140	0.0089
Uranus	-29615-04-12 20:38 J	-9095353.78	-9095353.64	-9095353.49	0.0140	0.0107
Uranus	-29615-11-25 06:57 J	-9095127.29	-9095127.21	-9095127.10	0.0139	0.0124
Mars	-29612-02-23 08:09 J	-9094306.33	-9094306.16	-9094305.99	0.1820	0.0231
Saturn	-29612-08-22 10:33 J	-9094126.14	-9094126.06	-9094125.96	0.0275	0.0247
Jupiter	-29612-10-02 06:43 J	-9094085.34	-9094085.22	-9094085.10	0.0515	0.0409

Saturn	-29611-04-08 14:23 J	-9093897.08	-9093896.90	-9093896.71	0.0274	0.0122
Jupiter	-29611-05-26 14:23 J	-9093849.09	-9093848.90	-9093848.70	0.0506	0.0097
Saturn	-29611-11-23 16:47 J	-9093668.01	-9093667.80	-9093667.59	0.0273	0.0004
Saturn	-29610-07-10 17:45 J	-9093438.94	-9093438.76	-9093438.57	0.0272	0.0124
Saturn	-29609-02-24 17:45 J	-9093209.85	-9093209.76	-9093209.66	0.0271	0.0242
Mars	-29608-10-07 04:19 J	-9092619.50	-9092619.32	-9092619.14	0.1700	0.0261
Jupiter	-29605-03-22 16:04 J	-9091721.99	-9091721.83	-9091721.66	0.0515	0.0318
Jupiter	-29605-11-15 13:26 J	-9091484.12	-9091483.94	-9091483.76	0.0524	0.0246
Moon	-29603-04-24 11:02 J	-9090959.13	-9090959.04	-9090958.94	0.2705	0.2019
Earth	-29603-04-24 13:26 J	-9090959.04	-9090958.94	-9090958.83	0.2700	0.1942 *
Jupiter	-29599-01-29 16:19 J	-9089583.02	-9089582.82	-9089582.62	0.0508	0.0042
Jupiter	-29599-09-22 18:57 J	-9089346.81	-9089346.71	-9089346.62	0.0500	0.0439
Saturn	-29596-04-29 09:07 J	-9088397.25	-9088397.12	-9088396.97	0.0284	0.0215
Saturn	-29596-12-15 06:43 J	-9088167.43	-9088167.22	-9088167.01	0.0286	0.0070
Earth	-29595-04-22 06:57 J	-9088039.35	-9088039.21	-9088039.08	0.2701	0.1370
Moon	-29595-04-22 08:23 J	-9088039.28	-9088039.15	-9088039.02	0.2707	0.1299 *
Saturn	-29595-08-02 06:14 J	-9087937.45	-9087937.24	-9087937.03	0.0287	0.0081
Saturn	-29594-03-20 07:11 J	-9087707.32	-9087707.20	-9087707.07	0.0289	0.0233
Jupiter	-29594-11-26 08:23 J	-9087456.23	-9087456.15	-9087456.06	0.0511	0.0461
Jupiter	-29593-07-21 02:23 J	-9087218.60	-9087218.40	-9087218.19	0.0521	0.0087
Jupiter	-29588-10-04 15:50 J	-9085317.02	-9085316.84	-9085316.65	0.0512	0.0184
Jupiter	-29587-05-28 21:07 J	-9085080.77	-9085080.62	-9085080.46	0.0503	0.0312
Pluto	-29585-07-17 11:45 J	-9084300.14	-9084300.01	-9084299.87	0.0080	0.0064
Pluto	-29584-02-27 22:33 J	-9084074.77	-9084074.56	-9084074.33	0.0079	0.0013
Saturn	-29582-03-04 17:45 J	-9083339.87	-9083339.76	-9083339.63	0.0276	0.0224
Saturn	-29582-10-19 21:35 J	-9083110.80	-9083110.60	-9083110.41	0.0274	0.0099
Jupiter	-29581-03-25 17:02 J	-9082953.00	-9082952.79	-9082952.59	0.0518	0.0072
Saturn	-29581-06-04 23:45 J	-9082881.72	-9082881.51	-9082881.31	0.0273	0.0026
Jupiter	-29581-11-18 16:33 J	-9082714.86	-9082714.81	-9082714.74	0.0527	0.0500
Saturn	-29580-01-20 00:28 J	-9082652.65	-9082652.48	-9082652.30	0.0272	0.0146

Mars	-29580-02-22 17:31 J	-9082618.87	-9082618.77	-9082618.67	0.1830	0.1463
Saturn	-29580-09-06 00:14 J	-9082423.54	-9082423.49	-9082423.44	0.0271	0.0262
Uranus	-29579-03-19 16:19 J	-9082228.85	-9082228.82	-9082228.74	0.0135	0.0130
Uranus	-29579-10-31 22:19 J	-9082002.68	-9082002.57	-9082002.45	0.0135	0.0114
Uranus	-29578-06-15 03:35 J	-9081776.48	-9081776.35	-9081776.18	0.0135	0.0100
Uranus	-29577-01-27 09:35 J	-9081550.26	-9081550.10	-9081549.92	0.0136	0.0084
Uranus	-29577-09-09 15:35 J	-9081324.04	-9081323.85	-9081323.66	0.0136	0.0067
Uranus	-29576-04-23 21:07 J	-9081097.81	-9081097.62	-9081097.41	0.0136	0.0052
Jupiter	-29576-06-09 16:47 J	-9081050.95	-9081050.80	-9081050.65	0.0514	0.0324
Mars	-29576-10-06 08:09 J	-9080932.30	-9080932.16	-9080932.03	0.1692	0.1091
Uranus	-29576-12-06 03:21 J	-9080871.57	-9080871.36	-9080871.15	0.0136	0.0035
Jupiter	-29575-01-31 23:59 J	-9080814.68	-9080814.50	-9080814.31	0.0505	0.0181
Uranus	-29575-07-20 09:07 J	-9080645.33	-9080645.12	-9080644.90	0.0137	0.0018
Uranus	-29574-03-03 15:21 J	-9080419.08	-9080418.86	-9080418.65	0.0137	0.0002
Uranus	-29574-10-15 21:21 J	-9080192.82	-9080192.61	-9080192.40	0.0137	0.0016
Uranus	-29573-05-29 03:35 J	-9079966.56	-9079966.35	-9079966.14	0.0138	0.0033
Uranus	-29572-01-10 09:50 J	-9079740.28	-9079740.09	-9079739.88	0.0138	0.0050
Uranus	-29572-08-24 16:33 J	-9079514.00	-9079513.81	-9079513.63	0.0138	0.0067
Uranus	-29571-04-07 22:47 J	-9079287.71	-9079287.55	-9079287.37	0.0139	0.0084
Uranus	-29571-11-20 05:16 J	-9079061.41	-9079061.28	-9079061.12	0.0139	0.0101
Uranus	-29570-07-04 12:28 J	-9078835.09	-9078834.98	-9078834.87	0.0139	0.0118
Jupiter	-29570-11-29 07:11 J	-9078687.39	-9078687.20	-9078687.01	0.0515	0.0227
Uranus	-29569-02-15 19:26 J	-9078608.73	-9078608.69	-9078608.63	0.0140	0.0135
Jupiter	-29569-07-24 04:47 J	-9078449.46	-9078449.30	-9078449.14	0.0525	0.0340
Saturn	-29567-11-09 14:38 J	-9077611.03	-9077610.89	-9077610.72	0.0285	0.0193
Saturn	-29566-06-27 12:43 J	-9077381.19	-9077380.97	-9077380.76	0.0286	0.0046
Saturn	-29565-02-12 11:59 J	-9077151.20	-9077151.00	-9077150.80	0.0288	0.0105
Saturn	-29565-09-29 12:57 J	-9076921.05	-9076920.96	-9076920.86	0.0289	0.0257
Jupiter	-29564-02-12 17:45 J	-9076784.84	-9076784.76	-9076784.67	0.0517	0.0464
Jupiter	-29564-10-07 03:21 J	-9076548.56	-9076548.36	-9076548.16	0.0508	0.0045

Jupiter -29558-08-03 23:45 J -9074421.65 -9074421.51 -9074421.37 0.0513 0.0374
 Neptune -29558-12-05 10:19 J -9074298.11 -9074298.07 -9074298.02 0.0089 0.0086
 Jupiter -29557-03-28 19:26 J -9074183.89 -9074183.69 -9074183.50 0.0523 0.0182
 Neptune -29557-07-17 22:04 J -9074072.64 -9074072.58 -9074072.47 0.0089 0.0082
 Neptune -29556-02-28 10:33 J -9073847.15 -9073847.06 -9073846.93 0.0089 0.0077
 Neptune -29556-10-11 23:16 J -9073621.65 -9073621.53 -9073621.40 0.0089 0.0072
 Neptune -29555-05-25 11:45 J -9073396.15 -9073396.01 -9073395.87 0.0089 0.0067
 Neptune -29554-01-05 23:31 J -9073170.65 -9073170.52 -9073170.34 0.0089 0.0063
 Neptune -29554-08-19 11:59 J -9072945.14 -9072945.00 -9072944.81 0.0089 0.0058
 Neptune -29553-04-01 00:43 J -9072719.63 -9072719.47 -9072719.28 0.0089 0.0053
 Saturn -29553-09-13 18:14 J -9072553.87 -9072553.74 -9072553.60 0.0275 0.0209
 Neptune -29553-11-12 13:11 J -9072494.12 -9072493.95 -9072493.75 0.0089 0.0048
 Saturn -29552-04-30 21:50 J -9072324.79 -9072324.59 -9072324.39 0.0274 0.0084
 Jupiter -29552-06-12 05:16 J -9072282.47 -9072282.28 -9072282.08 0.0510 0.0094
 Neptune -29552-06-26 01:40 J -9072268.61 -9072268.43 -9072268.23 0.0089 0.0043
 Saturn -29552-12-15 23:45 J -9072095.71 -9072095.51 -9072095.30 0.0272 0.0039
 Jupiter -29551-02-03 08:52 J -9072046.26 -9072046.13 -9072046.01 0.0501 0.0392
 Neptune -29551-02-06 14:09 J -9072043.10 -9072042.91 -9072042.70 0.0089 0.0038
 Saturn -29551-08-02 00:28 J -9071866.65 -9071866.48 -9071866.32 0.0271 0.0160
 Neptune -29551-09-20 02:38 J -9071817.58 -9071817.39 -9071817.18 0.0089 0.0033
 Neptune -29550-05-03 15:21 J -9071592.06 -9071591.86 -9071591.64 0.0089 0.0028
 Neptune -29550-12-15 04:04 J -9071366.54 -9071366.33 -9071366.12 0.0089 0.0023
 Neptune -29549-07-27 16:33 J -9071141.02 -9071140.81 -9071140.59 0.0089 0.0018
 Neptune -29548-03-10 05:02 J -9070915.50 -9070915.29 -9070915.07 0.0089 0.0013
 Neptune -29548-10-21 17:31 J -9070689.98 -9070689.77 -9070689.55 0.0089 0.0008
 Neptune -29547-06-04 06:14 J -9070464.46 -9070464.24 -9070464.02 0.0089 0.0002
 Mars -29547-12-21 15:35 J -9070264.01 -9070263.85 -9070263.69 0.1817 0.0481
 Neptune -29546-01-15 18:43 J -9070238.93 -9070238.72 -9070238.50 0.0089 0.0003
 Neptune -29546-08-29 07:26 J -9070013.41 -9070013.19 -9070012.97 0.0089 0.0008
 Jupiter -29546-12-02 10:33 J -9069918.27 -9069918.06 -9069917.85 0.0520 0.0025

Neptune	-29545-04-10 20:09 J	-9069787.88	-9069787.66	-9069787.45	0.0089	0.0013
Neptune	-29545-11-22 08:38 J	-9069562.35	-9069562.14	-9069561.93	0.0089	0.0018
Neptune	-29544-07-05 21:07 J	-9069336.83	-9069336.62	-9069336.41	0.0089	0.0023
Neptune	-29543-02-16 09:21 J	-9069111.30	-9069111.11	-9069110.89	0.0088	0.0029
Neptune	-29543-09-29 22:04 J	-9068885.77	-9068885.58	-9068885.36	0.0088	0.0034
Neptune	-29542-05-13 10:47 J	-9068660.23	-9068660.05	-9068659.83	0.0088	0.0039
Mars	-29542-08-04 13:11 J	-9068577.12	-9068576.95	-9068576.78	0.1703	0.0438
Neptune	-29542-12-24 23:31 J	-9068434.69	-9068434.52	-9068434.31	0.0088	0.0044
Neptune	-29541-08-06 12:14 J	-9068209.16	-9068208.99	-9068208.79	0.0088	0.0049
Jupiter	-29540-02-15 06:28 J	-9068016.41	-9068016.23	-9068016.05	0.0512	0.0234
Neptune	-29540-03-20 00:57 J	-9067983.62	-9067983.46	-9067983.27	0.0088	0.0053
Jupiter	-29540-10-09 11:59 J	-9067780.17	-9067780.00	-9067779.83	0.0503	0.0262
Neptune	-29540-10-31 13:40 J	-9067758.08	-9067757.93	-9067757.75	0.0088	0.0058
Neptune	-29539-06-14 02:23 J	-9067532.53	-9067532.40	-9067532.22	0.0088	0.0064
Uranus	-29539-07-03 07:55 J	-9067513.26	-9067513.17	-9067513.07	0.0143	0.0129
Neptune	-29538-01-25 15:50 J	-9067306.98	-9067306.84	-9067306.70	0.0088	0.0068
Uranus	-29538-02-14 20:09 J	-9067286.80	-9067286.66	-9067286.52	0.0143	0.0109
Neptune	-29538-09-08 04:19 J	-9067081.43	-9067081.32	-9067081.18	0.0088	0.0073
Uranus	-29538-09-29 08:09 J	-9067060.33	-9067060.16	-9067059.99	0.0143	0.0090
Neptune	-29537-04-20 17:16 J	-9066855.87	-9066855.78	-9066855.66	0.0088	0.0078
Uranus	-29537-05-12 19:55 J	-9066833.86	-9066833.67	-9066833.47	0.0142	0.0071
Saturn	-29537-05-21 16:47 J	-9066824.97	-9066824.80	-9066824.63	0.0285	0.0177
Neptune	-29537-12-02 05:59 J	-9066630.31	-9066630.25	-9066630.15	0.0088	0.0082
Uranus	-29537-12-25 07:40 J	-9066607.38	-9066607.18	-9066606.97	0.0142	0.0052
Saturn	-29536-01-06 14:38 J	-9066595.10	-9066594.89	-9066594.67	0.0286	0.0031
Neptune	-29536-07-15 18:43 J	-9066404.73	-9066404.72	-9066404.66	0.0088	0.0087
Uranus	-29536-08-08 19:26 J	-9066380.90	-9066380.69	-9066380.47	0.0142	0.0032
Saturn	-29536-08-24 14:23 J	-9066365.09	-9066364.90	-9066364.70	0.0288	0.0121
Uranus	-29535-03-23 07:11 J	-9066154.42	-9066154.20	-9066153.98	0.0142	0.0013
Saturn	-29535-04-11 15:35 J	-9066134.91	-9066134.85	-9066134.77	0.0289	0.0273

Uranus	-29535-11-04 18:28 J	-9065927.95	-9065927.73	-9065927.50	0.0141	0.0007
Uranus	-29534-06-19 05:59 J	-9065701.47	-9065701.25	-9065701.03	0.0141	0.0026
Jupiter	-29534-08-07 01:26 J	-9065652.64	-9065652.44	-9065652.24	0.0517	0.0129
Uranus	-29533-01-31 17:16 J	-9065474.99	-9065474.78	-9065474.57	0.0141	0.0045
Jupiter	-29533-04-01 00:14 J	-9065414.60	-9065414.49	-9065414.37	0.0526	0.0440
Uranus	-29533-09-14 04:19 J	-9065248.52	-9065248.32	-9065248.12	0.0140	0.0064
Uranus	-29532-04-28 14:52 J	-9065022.05	-9065021.88	-9065021.69	0.0140	0.0082
Uranus	-29532-12-11 01:55 J	-9064795.57	-9064795.42	-9064795.27	0.0140	0.0100
Uranus	-29531-07-25 12:28 J	-9064569.09	-9064568.98	-9064568.86	0.0139	0.0118
Uranus	-29530-03-08 22:47 J	-9064342.59	-9064342.55	-9064342.49	0.0139	0.0135
Jupiter	-29529-10-21 04:33 J	-9063750.44	-9063750.31	-9063750.17	0.0515	0.0378
Jupiter	-29528-06-14 12:57 J	-9063514.16	-9063513.96	-9063513.77	0.0506	0.0127
Saturn	-29523-03-27 00:14 J	-9061767.63	-9061767.49	-9061767.33	0.0275	0.0187
Saturn	-29523-11-11 03:35 J	-9061538.55	-9061538.35	-9061538.14	0.0274	0.0062
Jupiter	-29522-04-11 17:16 J	-9061386.95	-9061386.78	-9061386.60	0.0514	0.0279
Saturn	-29522-06-28 05:31 J	-9061309.47	-9061309.27	-9061309.07	0.0273	0.0061
Jupiter	-29522-12-05 13:40 J	-9061149.10	-9061148.93	-9061148.76	0.0523	0.0281
Saturn	-29521-02-12 06:14 J	-9061080.39	-9061080.24	-9061080.08	0.0271	0.0180
Jupiter	-29516-02-17 15:07 J	-9059248.07	-9059247.87	-9059247.67	0.0509	0.0009
Jupiter	-29516-10-11 18:28 J	-9059011.80	-9059011.73	-9059011.66	0.0501	0.0470
Mars	-29515-12-21 00:28 J	-9058576.61	-9058576.48	-9058576.35	0.1827	0.1188
Jupiter	-29511-12-15 08:23 J	-9057121.26	-9057121.15	-9057121.03	0.0511	0.0427
Mars	-29510-08-03 17:16 J	-9056889.93	-9056889.78	-9056889.63	0.1694	0.0923
Jupiter	-29510-08-10 02:23 J	-9056883.60	-9056883.40	-9056883.20	0.0521	0.0120
Saturn	-29508-12-01 22:19 J	-9056038.74	-9056038.57	-9056038.38	0.0285	0.0154
Saturn	-29507-07-19 20:38 J	-9055808.86	-9055808.64	-9055808.43	0.0287	0.0007
Saturn	-29506-03-06 20:09 J	-9055578.84	-9055578.66	-9055578.46	0.0288	0.0145
Moon	-29506-10-26 01:11 J	-9055345.60	-9055345.45	-9055345.31	0.2638	0.0925
Earth	-29506-10-26 04:19 J	-9055345.46	-9055345.32	-9055345.17	0.2632	0.1247 *
Jupiter	-29505-10-23 17:31 J	-9054981.96	-9054981.77	-9054981.58	0.0511	0.0147

Jupiter	-29504-06-16 22:33 J	-9054745.71	-9054745.56	-9054745.42	0.0503	0.0344
Jupiter	-29498-04-14 17:45 J	-9052617.97	-9052617.76	-9052617.55	0.0519	0.0036
Earth	-29498-10-23 17:31 J	-9052425.83	-9052425.77	-9052425.71	0.2631	0.2443
Uranus	-29495-07-01 07:26 J	-9051444.28	-9051444.19	-9051444.09	0.0135	0.0121
Uranus	-29494-02-12 12:43 J	-9051218.08	-9051217.97	-9051217.82	0.0135	0.0107
Uranus	-29494-09-26 18:28 J	-9050991.87	-9050991.73	-9050991.55	0.0135	0.0091
Saturn	-29494-10-07 00:43 J	-9050981.63	-9050981.47	-9050981.31	0.0275	0.0172
Uranus	-29493-05-10 00:28 J	-9050765.65	-9050765.48	-9050765.30	0.0136	0.0074
Saturn	-29493-05-23 03:50 J	-9050752.54	-9050752.34	-9050752.13	0.0273	0.0048
Jupiter	-29493-06-28 18:57 J	-9050715.87	-9050715.71	-9050715.54	0.0514	0.0287
Uranus	-29493-12-22 06:14 J	-9050539.42	-9050539.24	-9050539.03	0.0136	0.0058
Saturn	-29492-01-07 05:31 J	-9050523.47	-9050523.27	-9050523.07	0.0272	0.0075
Jupiter	-29492-02-20 01:40 J	-9050479.61	-9050479.43	-9050479.25	0.0505	0.0213
Uranus	-29492-08-05 12:14 J	-9050313.19	-9050312.99	-9050312.78	0.0136	0.0042
Saturn	-29492-08-24 05:45 J	-9050294.39	-9050294.26	-9050294.11	0.0271	0.0194
Uranus	-29491-03-19 18:14 J	-9050086.95	-9050086.74	-9050086.53	0.0137	0.0025
Uranus	-29491-11-01 00:14 J	-9049860.71	-9049860.49	-9049860.28	0.0137	0.0008
Uranus	-29490-06-15 06:14 J	-9049634.45	-9049634.24	-9049634.02	0.0137	0.0009
Uranus	-29489-01-27 12:28 J	-9049408.18	-9049407.98	-9049407.76	0.0138	0.0027
Uranus	-29489-09-09 18:57 J	-9049181.91	-9049181.71	-9049181.51	0.0138	0.0043
Uranus	-29488-04-24 01:11 J	-9048955.64	-9048955.45	-9048955.25	0.0138	0.0060
Uranus	-29488-12-06 07:40 J	-9048729.35	-9048729.18	-9048728.99	0.0138	0.0078
Uranus	-29487-07-20 14:23 J	-9048503.05	-9048502.90	-9048502.74	0.0139	0.0095
Jupiter	-29487-12-18 09:50 J	-9048352.28	-9048352.09	-9048351.90	0.0516	0.0188
Uranus	-29486-03-03 21:07 J	-9048276.73	-9048276.62	-9048276.48	0.0139	0.0112
Jupiter	-29486-08-13 08:09 J	-9048114.30	-9048114.16	-9048114.01	0.0526	0.0378
Uranus	-29486-10-16 04:19 J	-9048050.39	-9048050.32	-9048050.24	0.0139	0.0129
Jupiter	-29481-03-03 19:11 J	-9046449.80	-9046449.70	-9046449.58	0.0516	0.0427
Mars	-29481-10-17 22:47 J	-9046221.70	-9046221.55	-9046221.39	0.1814	0.0737
Jupiter	-29481-10-26 04:04 J	-9046213.52	-9046213.33	-9046213.13	0.0507	0.0079

Saturn	-29479-10-27 02:38 J	-9045482.41	-9045482.39	-9045482.37	0.0283	0.0281
Saturn	-29478-06-13 22:47 J	-9045252.73	-9045252.55	-9045252.35	0.0285	0.0140
Saturn	-29477-01-29 21:21 J	-9045022.83	-9045022.61	-9045022.40	0.0286	0.0009
Saturn	-29477-09-15 21:21 J	-9044792.79	-9044792.61	-9044792.43	0.0288	0.0159
Mars	-29476-05-31 21:50 J	-9044534.76	-9044534.59	-9044534.43	0.1706	0.0622
Jupiter	-29475-08-23 02:38 J	-9044086.55	-9044086.39	-9044086.23	0.0513	0.0332
Jupiter	-29474-04-17 22:04 J	-9043848.77	-9043848.58	-9043848.39	0.0522	0.0222
Neptune	-29474-04-18 05:59 J	-9043848.28	-9043848.25	-9043848.17	0.0088	0.0086
Neptune	-29474-11-29 19:55 J	-9043622.74	-9043622.67	-9043622.56	0.0089	0.0081
Neptune	-29473-07-12 09:35 J	-9043397.20	-9043397.10	-9043396.97	0.0089	0.0076
Neptune	-29472-02-22 23:16 J	-9043171.65	-9043171.53	-9043171.38	0.0089	0.0071
Neptune	-29472-10-06 13:11 J	-9042946.09	-9042945.95	-9042945.79	0.0089	0.0066
Neptune	-29471-05-20 02:52 J	-9042720.53	-9042720.38	-9042720.21	0.0089	0.0061
Neptune	-29471-12-31 16:33 J	-9042494.98	-9042494.81	-9042494.63	0.0089	0.0056
Neptune	-29470-08-14 05:59 J	-9042269.42	-9042269.25	-9042269.06	0.0089	0.0051
Neptune	-29469-03-26 19:40 J	-9042043.86	-9042043.68	-9042043.48	0.0089	0.0046
Jupiter	-29469-07-01 03:35 J	-9041947.54	-9041947.35	-9041947.15	0.0510	0.0063
Neptune	-29469-11-07 09:21 J	-9041818.30	-9041818.11	-9041817.90	0.0089	0.0041
Jupiter	-29468-02-22 07:40 J	-9041711.28	-9041711.18	-9041711.07	0.0502	0.0422
Neptune	-29468-06-20 22:47 J	-9041592.74	-9041592.55	-9041592.33	0.0089	0.0036
Neptune	-29467-02-01 12:14 J	-9041367.19	-9041366.99	-9041366.77	0.0089	0.0031
Neptune	-29467-09-15 01:40 J	-9041141.63	-9041141.43	-9041141.20	0.0089	0.0026
Neptune	-29466-04-28 15:35 J	-9040916.07	-9040915.85	-9040915.63	0.0089	0.0020
Neptune	-29466-12-10 05:02 J	-9040690.50	-9040690.29	-9040690.06	0.0089	0.0015
Neptune	-29465-07-22 18:28 J	-9040464.94	-9040464.73	-9040464.50	0.0089	0.0010
Saturn	-29465-09-01 01:40 J	-9040424.43	-9040424.43	-9040424.43	0.0277	0.0277
Neptune	-29464-03-05 08:09 J	-9040239.39	-9040239.16	-9040238.94	0.0089	0.0005
Saturn	-29464-04-18 05:59 J	-9040195.41	-9040195.25	-9040195.06	0.0275	0.0152
Neptune	-29464-10-16 21:35 J	-9040013.82	-9040013.60	-9040013.37	0.0089	0.0001
Saturn	-29464-12-03 09:21 J	-9039966.32	-9039966.11	-9039965.90	0.0274	0.0026

Jupiter	-29463-04-27 19:40 J	-9039820.75	-9039820.68	-9039820.60	0.0510	0.0474
Neptune	-29463-05-30 11:02 J	-9039788.26	-9039788.04	-9039787.81	0.0089	0.0006
Saturn	-29463-07-20 10:47 J	-9039737.24	-9039737.05	-9039736.85	0.0272	0.0096
Jupiter	-29463-12-21 12:14 J	-9039583.19	-9039582.99	-9039582.78	0.0520	0.0065
Neptune	-29462-01-11 00:28 J	-9039562.70	-9039562.48	-9039562.25	0.0089	0.0011
Saturn	-29462-03-06 11:16 J	-9039508.15	-9039508.03	-9039507.90	0.0271	0.0214
Neptune	-29462-08-24 13:55 J	-9039337.13	-9039336.92	-9039336.70	0.0089	0.0016
Neptune	-29461-04-06 03:21 J	-9039111.57	-9039111.36	-9039111.14	0.0089	0.0021
Neptune	-29461-11-17 17:02 J	-9038886.00	-9038885.79	-9038885.58	0.0089	0.0026
Neptune	-29460-07-01 06:28 J	-9038660.44	-9038660.23	-9038660.03	0.0089	0.0031
Neptune	-29459-02-11 19:26 J	-9038434.88	-9038434.69	-9038434.48	0.0089	0.0037
Neptune	-29459-09-25 08:38 J	-9038209.32	-9038209.14	-9038208.93	0.0089	0.0042
Neptune	-29458-05-08 22:04 J	-9037983.75	-9037983.58	-9037983.38	0.0089	0.0047
Neptune	-29458-12-20 11:16 J	-9037758.19	-9037758.03	-9037757.83	0.0089	0.0052
Jupiter	-29457-03-06 04:47 J	-9037681.48	-9037681.30	-9037681.11	0.0513	0.0202
Neptune	-29457-08-02 00:57 J	-9037532.63	-9037532.46	-9037532.29	0.0089	0.0056
Jupiter	-29457-10-28 11:02 J	-9037445.20	-9037445.04	-9037444.87	0.0504	0.0294
Neptune	-29456-03-15 14:09 J	-9037307.07	-9037306.91	-9037306.75	0.0089	0.0061
Neptune	-29456-10-27 03:07 J	-9037081.50	-9037081.37	-9037081.21	0.0089	0.0066
Uranus	-29455-03-02 13:11 J	-9036954.99	-9036954.95	-9036954.87	0.0143	0.0138
Neptune	-29455-06-09 16:19 J	-9036855.94	-9036855.82	-9036855.67	0.0089	0.0071
Uranus	-29455-10-15 01:26 J	-9036728.55	-9036728.44	-9036728.31	0.0143	0.0118
Neptune	-29454-01-21 05:16 J	-9036630.37	-9036630.28	-9036630.14	0.0089	0.0076
Uranus	-29454-05-29 13:26 J	-9036502.08	-9036501.94	-9036501.77	0.0143	0.0099
Neptune	-29454-09-03 18:14 J	-9036404.80	-9036404.74	-9036404.62	0.0089	0.0081
Uranus	-29453-01-11 01:26 J	-9036275.61	-9036275.44	-9036275.25	0.0143	0.0080
Neptune	-29453-04-16 07:40 J	-9036179.22	-9036179.18	-9036179.10	0.0089	0.0085
Uranus	-29453-08-24 13:26 J	-9036049.14	-9036048.94	-9036048.74	0.0142	0.0060
Uranus	-29452-04-08 01:11 J	-9035822.66	-9035822.45	-9035822.24	0.0142	0.0040
Uranus	-29452-11-20 12:43 J	-9035596.19	-9035595.97	-9035595.75	0.0142	0.0021

Uranus	-29451-07-05 00:28 J	-9035369.70	-9035369.48	-9035369.26	0.0141	0.0001
Jupiter	-29451-08-26 01:55 J	-9035317.62	-9035317.42	-9035317.21	0.0517	0.0094
Uranus	-29450-02-16 11:45 J	-9035143.23	-9035143.01	-9035142.79	0.0141	0.0018
Jupiter	-29450-04-21 00:43 J	-9035079.55	-9035079.47	-9035079.38	0.0526	0.0472
Uranus	-29450-09-30 22:47 J	-9034916.75	-9034916.55	-9034916.33	0.0141	0.0038
Saturn	-29449-05-08 08:38 J	-9034696.22	-9034696.14	-9034696.04	0.0284	0.0258
Uranus	-29449-05-14 09:50 J	-9034690.28	-9034690.09	-9034689.88	0.0140	0.0056
Mars	-29449-10-17 07:11 J	-9034534.35	-9034534.20	-9034534.06	0.1823	0.0910
Saturn	-29449-12-24 05:02 J	-9034466.48	-9034466.29	-9034466.09	0.0285	0.0116
Uranus	-29449-12-26 20:38 J	-9034463.81	-9034463.64	-9034463.44	0.0140	0.0075
Uranus	-29448-08-10 07:40 J	-9034237.34	-9034237.18	-9034237.01	0.0140	0.0093
Saturn	-29448-08-11 03:35 J	-9034236.56	-9034236.35	-9034236.13	0.0287	0.0032
Uranus	-29447-03-24 17:59 J	-9034010.86	-9034010.75	-9034010.60	0.0139	0.0112
Saturn	-29447-03-29 03:21 J	-9034006.51	-9034006.36	-9034006.18	0.0288	0.0185
Uranus	-29447-11-06 05:02 J	-9033784.37	-9033784.29	-9033784.21	0.0139	0.0129
Jupiter	-29446-11-10 06:28 J	-9033415.38	-9033415.23	-9033415.08	0.0515	0.0341
Jupiter	-29445-07-03 14:38 J	-9033179.08	-9033178.89	-9033178.70	0.0506	0.0162
Mars	-29444-05-31 02:23 J	-9032847.56	-9032847.40	-9032847.24	0.1697	0.0752
Jupiter	-29439-04-30 17:59 J	-9031051.93	-9031051.75	-9031051.56	0.0514	0.0244
Jupiter	-29439-12-24 14:52 J	-9030814.04	-9030813.88	-9030813.72	0.0524	0.0315
Saturn	-29435-03-14 02:09 J	-9029638.47	-9029638.41	-9029638.34	0.0276	0.0261
Saturn	-29435-10-29 06:28 J	-9029409.40	-9029409.23	-9029409.04	0.0274	0.0136
Saturn	-29434-06-15 09:35 J	-9029180.31	-9029180.10	-9029179.90	0.0273	0.0013
Jupiter	-29434-07-16 06:57 J	-9029149.28	-9029149.21	-9029149.13	0.0518	0.0480
Saturn	-29433-01-30 11:02 J	-9028951.23	-9028951.04	-9028950.85	0.0272	0.0110
Jupiter	-29433-03-08 17:16 J	-9028912.98	-9028912.78	-9028912.58	0.0508	0.0029
Saturn	-29433-09-15 11:02 J	-9028722.15	-9028722.04	-9028721.93	0.0271	0.0227
Jupiter	-29433-10-30 19:55 J	-9028676.67	-9028676.67	-9028676.66	0.0500	0.0499
Jupiter	-29427-01-03 11:02 J	-9026786.17	-9026786.04	-9026785.90	0.0512	0.0388
Jupiter	-29427-08-29 05:45 J	-9026548.45	-9026548.26	-9026548.06	0.0522	0.0160

Pluto	-29426-07-26 15:07 J	-9026217.03	-9026216.87	-9026216.69	0.0064	0.0039
Pluto	-29425-03-07 18:57 J	-9025991.92	-9025991.71	-9025991.49	0.0065	0.0002
Pluto	-29425-10-18 22:33 J	-9025766.72	-9025766.56	-9025766.37	0.0065	0.0039
Jupiter	-29422-11-12 19:11 J	-9024646.90	-9024646.70	-9024646.51	0.0511	0.0111
Jupiter	-29421-07-05 23:31 J	-9024410.65	-9024410.52	-9024410.38	0.0502	0.0374
Saturn	-29420-11-18 08:09 J	-9023910.26	-9023910.16	-9023910.04	0.0284	0.0245
Saturn	-29419-07-06 05:02 J	-9023680.49	-9023680.29	-9023680.08	0.0285	0.0103
Saturn	-29418-02-21 03:35 J	-9023450.56	-9023450.35	-9023450.13	0.0287	0.0046
Saturn	-29418-10-09 03:50 J	-9023220.49	-9023220.34	-9023220.18	0.0288	0.0197
Jupiter	-29415-05-03 21:21 J	-9022282.82	-9022282.61	-9022282.40	0.0519	0.0008
Mars	-29415-08-15 06:14 J	-9022179.38	-9022179.24	-9022179.09	0.1810	0.0980
Uranus	-29411-02-28 16:33 J	-9020885.87	-9020885.81	-9020885.74	0.0135	0.0128
Uranus	-29411-10-12 21:50 J	-9020659.69	-9020659.59	-9020659.46	0.0135	0.0113
Mars	-29410-03-29 06:14 J	-9020492.39	-9020492.24	-9020492.08	0.1709	0.0809
Uranus	-29410-05-27 03:35 J	-9020433.49	-9020433.35	-9020433.19	0.0135	0.0097
Jupiter	-29410-07-18 17:16 J	-9020380.95	-9020380.78	-9020380.61	0.0514	0.0255
Uranus	-29409-01-08 09:21 J	-9020207.27	-9020207.11	-9020206.93	0.0136	0.0082
Jupiter	-29409-03-11 00:14 J	-9020144.66	-9020144.49	-9020144.31	0.0505	0.0244
Uranus	-29409-08-21 15:07 J	-9019981.05	-9019980.87	-9019980.67	0.0136	0.0065
Uranus	-29408-04-04 21:07 J	-9019754.82	-9019754.62	-9019754.42	0.0136	0.0048
Uranus	-29408-11-17 03:07 J	-9019528.58	-9019528.37	-9019528.16	0.0136	0.0032
Uranus	-29407-07-01 09:07 J	-9019302.34	-9019302.12	-9019301.91	0.0137	0.0015
Uranus	-29406-02-12 15:07 J	-9019076.08	-9019075.87	-9019075.65	0.0137	0.0003
Saturn	-29406-09-24 06:57 J	-9018852.31	-9018852.21	-9018852.11	0.0277	0.0241
Uranus	-29406-09-26 21:21 J	-9018849.82	-9018849.61	-9018849.40	0.0137	0.0019
Uranus	-29405-05-10 03:21 J	-9018623.56	-9018623.36	-9018623.15	0.0138	0.0037
Saturn	-29405-05-10 11:16 J	-9018623.21	-9018623.03	-9018622.83	0.0275	0.0115 *
Uranus	-29405-12-22 09:50 J	-9018397.28	-9018397.09	-9018396.89	0.0138	0.0054
Saturn	-29405-12-25 14:23 J	-9018394.11	-9018393.90	-9018393.69	0.0274	0.0010
Uranus	-29404-08-05 16:19 J	-9018170.99	-9018170.82	-9018170.63	0.0138	0.0071

Saturn	-29404-08-11 15:35 J	-9018165.02	-9018164.85	-9018164.66	0.0272	0.0131
Jupiter	-29403-01-06 12:43 J	-9018017.17	-9018016.97	-9018016.77	0.0516	0.0146
Uranus	-29403-03-19 22:47 J	-9017944.70	-9017944.55	-9017944.37	0.0139	0.0089
Saturn	-29403-03-28 15:35 J	-9017935.92	-9017935.85	-9017935.76	0.0271	0.0248
Jupiter	-29403-09-01 10:19 J	-9017779.19	-9017779.07	-9017778.94	0.0525	0.0415
Uranus	-29403-11-01 05:31 J	-9017718.39	-9017718.27	-9017718.12	0.0139	0.0106
Uranus	-29402-06-15 12:43 J	-9017492.06	-9017491.97	-9017491.86	0.0139	0.0123
Jupiter	-29398-03-23 17:16 J	-9016114.90	-9016114.78	-9016114.65	0.0517	0.0396
Jupiter	-29398-11-15 02:38 J	-9015878.58	-9015878.39	-9015878.19	0.0507	0.0110
Neptune	-29393-03-07 23:02 J	-9014303.58	-9014303.54	-9014303.48	0.0089	0.0086
Neptune	-29393-10-19 11:02 J	-9014078.10	-9014078.04	-9014077.93	0.0089	0.0082
Neptune	-29392-06-01 23:31 J	-9013852.61	-9013852.52	-9013852.39	0.0089	0.0077
Jupiter	-29392-09-11 03:07 J	-9013751.53	-9013751.37	-9013751.19	0.0513	0.0298
Neptune	-29391-01-13 12:14 J	-9013627.11	-9013626.99	-9013626.86	0.0089	0.0072
Jupiter	-29391-05-06 22:33 J	-9013513.74	-9013513.56	-9013513.38	0.0522	0.0255
Neptune	-29391-08-27 00:14 J	-9013401.61	-9013401.49	-9013401.33	0.0089	0.0068
Neptune	-29390-04-09 12:57 J	-9013176.10	-9013175.96	-9013175.80	0.0089	0.0063
Saturn	-29390-05-31 14:52 J	-9013124.00	-9013123.88	-9013123.74	0.0284	0.0221
Neptune	-29390-11-21 01:26 J	-9012950.60	-9012950.44	-9012950.27	0.0089	0.0058
Saturn	-29389-01-16 11:45 J	-9012894.22	-9012894.01	-9012893.80	0.0286	0.0078
Neptune	-29389-07-03 13:26 J	-9012725.09	-9012724.94	-9012724.75	0.0089	0.0054
Saturn	-29389-09-02 10:19 J	-9012664.28	-9012664.07	-9012663.86	0.0287	0.0071
Neptune	-29388-02-14 01:55 J	-9012499.59	-9012499.42	-9012499.23	0.0089	0.0049
Saturn	-29388-04-20 10:33 J	-9012434.19	-9012434.06	-9012433.92	0.0288	0.0223
Neptune	-29388-09-27 14:23 J	-9012274.08	-9012273.90	-9012273.70	0.0089	0.0044
Neptune	-29387-05-11 03:07 J	-9012048.56	-9012048.37	-9012048.17	0.0089	0.0039
Neptune	-29387-12-22 15:35 J	-9011823.04	-9011822.85	-9011822.64	0.0089	0.0034
Jupiter	-29386-07-21 05:31 J	-9011612.47	-9011612.27	-9011612.07	0.0510	0.0027
Neptune	-29386-08-05 04:04 J	-9011597.53	-9011597.33	-9011597.12	0.0089	0.0029
Jupiter	-29385-03-13 09:35 J	-9011376.19	-9011376.10	-9011376.02	0.0501	0.0453

Neptune	-29385-03-17 16:47 J	-9011372.01	-9011371.80	-9011371.59	0.0089	0.0024
Neptune	-29385-10-29 05:02 J	-9011146.49	-9011146.29	-9011146.07	0.0089	0.0020
Neptune	-29384-06-11 17:31 J	-9010920.97	-9010920.77	-9010920.54	0.0089	0.0015
Neptune	-29383-01-23 06:14 J	-9010695.45	-9010695.24	-9010695.02	0.0089	0.0009
Mars	-29383-08-14 14:38 J	-9010492.05	-9010491.89	-9010491.74	0.1820	0.0656
Neptune	-29383-09-05 18:43 J	-9010469.93	-9010469.72	-9010469.50	0.0089	0.0005
Neptune	-29382-04-19 07:40 J	-9010244.40	-9010244.18	-9010243.97	0.0089	0.0002
Neptune	-29382-11-30 20:09 J	-9010018.88	-9010018.66	-9010018.44	0.0089	0.0006
Neptune	-29381-07-13 08:38 J	-9009793.36	-9009793.14	-9009792.92	0.0089	0.0010
Neptune	-29380-02-23 21:07 J	-9009567.83	-9009567.62	-9009567.40	0.0089	0.0015
Jupiter	-29380-05-16 19:55 J	-9009485.76	-9009485.67	-9009485.56	0.0511	0.0441
Neptune	-29380-10-07 09:35 J	-9009342.31	-9009342.10	-9009341.88	0.0089	0.0021
Jupiter	-29379-01-09 13:11 J	-9009248.15	-9009247.95	-9009247.75	0.0520	0.0099
Neptune	-29379-05-20 22:19 J	-9009116.77	-9009116.57	-9009116.35	0.0089	0.0025
Neptune	-29378-01-01 10:47 J	-9008891.24	-9008891.05	-9008890.83	0.0089	0.0031
Mars	-29378-03-28 11:31 J	-9008805.18	-9008805.02	-9008804.85	0.1700	0.0584
Neptune	-29378-08-14 23:16 J	-9008665.71	-9008665.53	-9008665.31	0.0088	0.0036
Neptune	-29377-03-27 11:59 J	-9008440.18	-9008440.00	-9008439.79	0.0088	0.0040
Neptune	-29377-11-08 00:57 J	-9008214.65	-9008214.46	-9008214.27	0.0088	0.0045
Saturn	-29376-04-05 08:23 J	-9008066.27	-9008066.15	-9008066.03	0.0276	0.0225
Neptune	-29376-06-21 13:40 J	-9007989.11	-9007988.93	-9007988.75	0.0088	0.0050
Saturn	-29376-11-20 12:28 J	-9007837.17	-9007836.98	-9007836.78	0.0274	0.0100
Neptune	-29375-02-02 02:09 J	-9007763.57	-9007763.41	-9007763.23	0.0088	0.0055
Saturn	-29375-07-07 15:07 J	-9007608.07	-9007607.87	-9007607.66	0.0273	0.0025
Neptune	-29375-09-15 14:52 J	-9007538.03	-9007537.88	-9007537.71	0.0088	0.0060
Saturn	-29374-02-21 16:19 J	-9007378.99	-9007378.82	-9007378.64	0.0272	0.0145
Jupiter	-29374-03-26 07:40 J	-9007346.37	-9007346.18	-9007345.99	0.0512	0.0164
Neptune	-29374-04-29 03:35 J	-9007312.48	-9007312.35	-9007312.18	0.0088	0.0065
Saturn	-29374-10-08 16:04 J	-9007149.87	-9007149.83	-9007149.77	0.0270	0.0261
Jupiter	-29374-11-17 13:11 J	-9007110.10	-9007109.95	-9007109.80	0.0503	0.0326

Neptune	-29374-12-10 16:19 J	-9007086.94	-9007086.82	-9007086.66	0.0088	0.0069
Neptune	-29373-07-23 05:16 J	-9006861.39	-9006861.28	-9006861.15	0.0088	0.0074
Neptune	-29372-03-05 17:59 J	-9006635.83	-9006635.75	-9006635.63	0.0088	0.0079
Neptune	-29372-10-17 06:43 J	-9006410.27	-9006410.22	-9006410.12	0.0088	0.0083
Neptune	-29371-05-30 19:55 J	-9006184.68	-9006184.67	-9006184.63	0.0088	0.0088
Uranus	-29371-06-14 07:40 J	-9006170.27	-9006170.18	-9006170.07	0.0143	0.0127
Uranus	-29370-01-26 19:40 J	-9005943.81	-9005943.68	-9005943.52	0.0143	0.0107
Uranus	-29370-09-10 07:40 J	-9005717.35	-9005717.18	-9005717.00	0.0143	0.0088
Uranus	-29369-04-23 19:11 J	-9005490.88	-9005490.70	-9005490.49	0.0142	0.0069
Uranus	-29369-12-06 07:11 J	-9005264.40	-9005264.20	-9005263.99	0.0142	0.0048
Uranus	-29368-07-20 18:57 J	-9005037.92	-9005037.71	-9005037.49	0.0142	0.0029
Jupiter	-29368-09-14 05:02 J	-9004982.50	-9004982.29	-9004982.08	0.0518	0.0054
Uranus	-29367-03-04 06:28 J	-9004811.45	-9004811.23	-9004811.01	0.0142	0.0009
Jupiter	-29367-05-10 04:33 J	-9004744.36	-9004744.31	-9004744.26	0.0527	0.0510
Uranus	-29367-10-16 17:45 J	-9004584.98	-9004584.76	-9004584.53	0.0141	0.0011
Uranus	-29366-05-31 05:02 J	-9004358.50	-9004358.29	-9004358.07	0.0141	0.0030
Uranus	-29365-01-12 16:19 J	-9004132.03	-9004131.82	-9004131.61	0.0141	0.0049
Uranus	-29365-08-26 02:52 J	-9003905.56	-9003905.38	-9003905.17	0.0140	0.0069
Uranus	-29364-04-09 13:40 J	-9003679.09	-9003678.93	-9003678.74	0.0140	0.0087
Uranus	-29364-11-22 00:28 J	-9003452.62	-9003452.48	-9003452.33	0.0140	0.0105
Uranus	-29363-07-06 11:16 J	-9003226.13	-9003226.03	-9003225.92	0.0139	0.0123
Jupiter	-29363-11-29 08:23 J	-9003080.31	-9003080.15	-9003079.99	0.0515	0.0303
Jupiter	-29362-07-23 16:04 J	-9002844.01	-9002843.83	-9002843.65	0.0506	0.0196
Saturn	-29361-12-10 14:23 J	-9002338.04	-9002337.90	-9002337.75	0.0284	0.0208
Earth	-29360-04-24 17:02 J	-9002202.88	-9002202.79	-9002202.70	0.2701	0.2181
Moon	-29360-04-24 21:35 J	-9002202.66	-9002202.60	-9002202.54	0.2698	0.2473
Saturn	-29360-07-28 11:16 J	-9002108.23	-9002108.03	-9002107.81	0.0285	0.0065
Saturn	-29359-03-15 10:04 J	-9001878.28	-9001878.08	-9001877.86	0.0287	0.0085
Saturn	-29359-10-31 10:47 J	-9001648.17	-9001648.05	-9001647.92	0.0288	0.0235
Jupiter	-29356-05-19 21:50 J	-9000716.78	-9000716.59	-9000716.40	0.0515	0.0201

Jupiter	-29355-01-12 18:43 J	-9000478.87	-9000478.72	-9000478.57	0.0524	0.0357
Earth	-29352-04-22 10:04 J	-8999283.22	-8999283.08	-8999282.94	0.2702	0.1165
Moon	-29352-04-22 11:16 J	-8999283.19	-8999283.03	-8999282.87	0.2695	0.0751 *
Jupiter	-29351-08-04 05:16 J	-8998814.38	-8998814.28	-8998814.18	0.0518	0.0448
Jupiter	-29350-03-28 15:35 J	-8998578.04	-8998577.85	-8998577.65	0.0508	0.0059
Mars	-29349-06-11 13:55 J	-8998137.04	-8998136.92	-8998136.79	0.1807	0.1218
Saturn	-29347-10-16 12:14 J	-8997280.12	-8997279.99	-8997279.84	0.0276	0.0205
Saturn	-29346-06-02 16:47 J	-8997051.00	-8997050.80	-8997050.60	0.0275	0.0078
Saturn	-29345-01-17 19:40 J	-8996821.89	-8996821.68	-8996821.48	0.0273	0.0046
Saturn	-29345-09-02 20:38 J	-8996592.80	-8996592.64	-8996592.47	0.0272	0.0166
Jupiter	-29344-01-22 14:23 J	-8996451.05	-8996450.90	-8996450.75	0.0512	0.0346
Mars	-29344-01-23 14:38 J	-8996450.03	-8996449.89	-8996449.75	0.1712	0.0998
Jupiter	-29344-09-17 08:38 J	-8996213.32	-8996213.14	-8996212.94	0.0521	0.0201
Jupiter	-29339-12-01 16:47 J	-8994311.99	-8994311.80	-8994311.60	0.0511	0.0081
Jupiter	-29338-07-25 21:50 J	-8994075.70	-8994075.59	-8994075.47	0.0503	0.0404
Pluto	-29338-11-08 07:40 J	-8993970.35	-8993970.18	-8993969.97	0.0080	0.0043
Pluto	-29337-06-20 18:43 J	-8993744.92	-8993744.72	-8993744.51	0.0079	0.0034
Jupiter	-29333-09-27 05:59 J	-8992185.30	-8992185.25	-8992185.19	0.0509	0.0489
Jupiter	-29332-05-22 21:35 J	-8991947.81	-8991947.60	-8991947.39	0.0519	0.0040
Saturn	-29331-06-22 22:19 J	-8991551.73	-8991551.57	-8991551.40	0.0284	0.0182
Saturn	-29330-02-07 19:11 J	-8991321.91	-8991321.70	-8991321.48	0.0286	0.0038
Saturn	-29330-09-25 17:59 J	-8991091.94	-8991091.75	-8991091.55	0.0287	0.0112
Saturn	-29329-05-12 18:28 J	-8990861.81	-8990861.73	-8990861.63	0.0289	0.0263
Uranus	-29327-06-12 06:14 J	-8990101.32	-8990101.24	-8990101.13	0.0135	0.0121
Jupiter	-29327-08-06 18:28 J	-8990045.90	-8990045.73	-8990045.54	0.0514	0.0220
Uranus	-29326-01-24 11:59 J	-8989875.13	-8989875.00	-8989874.86	0.0135	0.0105
Jupiter	-29326-03-31 01:55 J	-8989809.59	-8989809.42	-8989809.26	0.0505	0.0276
Uranus	-29326-09-07 17:31 J	-8989648.92	-8989648.77	-8989648.60	0.0136	0.0089
Uranus	-29325-04-20 23:31 J	-8989422.70	-8989422.52	-8989422.34	0.0136	0.0072
Uranus	-29325-12-03 05:02 J	-8989196.47	-8989196.29	-8989196.08	0.0136	0.0056

Uranus	-29324-07-17 11:02 J	-8988970.24	-8988970.04	-8988969.83	0.0136	0.0039
Uranus	-29323-02-28 17:02 J	-8988744.00	-8988743.79	-8988743.58	0.0137	0.0022
Uranus	-29323-10-12 23:02 J	-8988517.75	-8988517.54	-8988517.32	0.0137	0.0005
Uranus	-29322-05-27 05:16 J	-8988291.50	-8988291.28	-8988291.07	0.0137	0.0012
Uranus	-29321-01-08 11:31 J	-8988065.23	-8988065.02	-8988064.81	0.0138	0.0030
Uranus	-29321-08-21 17:45 J	-8987838.95	-8987838.76	-8987838.55	0.0138	0.0047
Jupiter	-29320-01-25 12:43 J	-8987682.17	-8987681.97	-8987681.76	0.0516	0.0113
Uranus	-29320-04-05 00:14 J	-8987612.67	-8987612.49	-8987612.29	0.0138	0.0064
Jupiter	-29320-09-20 10:47 J	-8987444.15	-8987444.05	-8987443.93	0.0525	0.0448
Uranus	-29320-11-17 06:43 J	-8987386.38	-8987386.22	-8987386.04	0.0138	0.0082
Uranus	-29319-07-01 13:26 J	-8987160.07	-8987159.94	-8987159.78	0.0139	0.0099
Uranus	-29318-02-12 20:38 J	-8986933.75	-8986933.64	-8986933.52	0.0139	0.0116
Uranus	-29318-09-27 03:35 J	-8986707.40	-8986707.35	-8986707.28	0.0139	0.0134
Saturn	-29317-04-27 14:38 J	-8986494.04	-8986493.89	-8986493.73	0.0276	0.0188
Mars	-29317-06-10 21:35 J	-8986449.76	-8986449.60	-8986449.43	0.1817	0.0397
Saturn	-29317-12-12 18:43 J	-8986264.92	-8986264.72	-8986264.52	0.0274	0.0062
Saturn	-29316-07-29 21:07 J	-8986035.82	-8986035.62	-8986035.42	0.0273	0.0061
Saturn	-29315-03-15 21:50 J	-8985806.73	-8985806.59	-8985806.42	0.0271	0.0181
Jupiter	-29315-04-11 19:55 J	-8985779.81	-8985779.67	-8985779.53	0.0516	0.0357
Jupiter	-29315-12-04 04:47 J	-8985543.49	-8985543.30	-8985543.11	0.0507	0.0145
Mars	-29312-01-22 19:55 J	-8984762.84	-8984762.67	-8984762.49	0.1703	0.0401
Neptune	-29310-07-20 17:16 J	-8983853.82	-8983853.78	-8983853.70	0.0089	0.0086
Neptune	-29309-03-02 06:57 J	-8983628.28	-8983628.21	-8983628.10	0.0089	0.0081
Jupiter	-29309-09-30 05:31 J	-8983416.45	-8983416.27	-8983416.09	0.0514	0.0260
Neptune	-29309-10-13 21:07 J	-8983402.72	-8983402.62	-8983402.50	0.0089	0.0076
Jupiter	-29308-05-26 01:40 J	-8983178.60	-8983178.43	-8983178.26	0.0523	0.0293
Neptune	-29308-05-27 11:02 J	-8983177.17	-8983177.04	-8983176.91	0.0089	0.0071
Neptune	-29307-01-08 00:14 J	-8982951.62	-8982951.49	-8982951.32	0.0089	0.0067
Neptune	-29307-08-21 13:55 J	-8982726.06	-8982725.92	-8982725.74	0.0089	0.0062
Neptune	-29306-04-04 03:35 J	-8982500.50	-8982500.35	-8982500.16	0.0089	0.0057

Neptune	-29306-11-15 17:16 J	-8982274.94	-8982274.78	-8982274.58	0.0089	0.0052
Neptune	-29305-06-28 06:57 J	-8982049.38	-8982049.21	-8982049.00	0.0089	0.0047
Neptune	-29304-02-08 20:38 J	-8981823.83	-8981823.64	-8981823.43	0.0089	0.0042
Neptune	-29304-09-22 10:19 J	-8981598.26	-8981598.07	-8981597.86	0.0089	0.0037
Jupiter	-29304-12-15 19:40 J	-8981513.73	-8981513.68	-8981513.62	0.0519	0.0496
Neptune	-29303-05-05 23:45 J	-8981372.70	-8981372.51	-8981372.29	0.0089	0.0032
Jupiter	-29303-08-09 06:57 J	-8981277.41	-8981277.21	-8981277.01	0.0509	0.0012
Neptune	-29303-12-17 13:26 J	-8981147.14	-8981146.94	-8981146.72	0.0089	0.0027
Jupiter	-29302-04-02 10:19 J	-8981041.11	-8981041.07	-8981041.01	0.0501	0.0482
Neptune	-29302-07-31 02:52 J	-8980921.59	-8980921.38	-8980921.16	0.0089	0.0022
Saturn	-29301-01-02 21:35 J	-8980765.77	-8980765.60	-8980765.43	0.0284	0.0169
Neptune	-29301-03-12 16:19 J	-8980696.03	-8980695.82	-8980695.59	0.0089	0.0017
Saturn	-29301-08-19 18:43 J	-8980535.93	-8980535.72	-8980535.50	0.0286	0.0025
Neptune	-29301-10-24 05:59 J	-8980470.46	-8980470.25	-8980470.02	0.0089	0.0012
Saturn	-29300-04-06 17:45 J	-8980305.95	-8980305.76	-8980305.56	0.0287	0.0125
Neptune	-29300-06-06 19:26 J	-8980244.90	-8980244.69	-8980244.46	0.0089	0.0007
Saturn	-29300-11-22 18:28 J	-8980075.78	-8980075.73	-8980075.66	0.0288	0.0275
Neptune	-29299-01-18 09:07 J	-8980019.35	-8980019.12	-8980018.90	0.0089	0.0002
Neptune	-29299-08-31 22:19 J	-8979793.79	-8979793.57	-8979793.34	0.0089	0.0004
Neptune	-29298-04-14 11:45 J	-8979568.22	-8979568.01	-8979567.78	0.0089	0.0009
Neptune	-29298-11-26 01:26 J	-8979342.66	-8979342.44	-8979342.22	0.0089	0.0014
Jupiter	-29297-06-04 23:31 J	-8979150.65	-8979150.52	-8979150.39	0.0511	0.0399
Neptune	-29297-07-08 14:38 J	-8979117.10	-8979116.89	-8979116.66	0.0089	0.0019
Jupiter	-29296-01-28 17:02 J	-8978912.99	-8978912.79	-8978912.59	0.0520	0.0142
Neptune	-29296-02-19 04:04 J	-8978891.53	-8978891.33	-8978891.11	0.0089	0.0024
Neptune	-29296-10-02 17:31 J	-8978665.97	-8978665.77	-8978665.55	0.0089	0.0029
Neptune	-29295-05-16 06:57 J	-8978440.40	-8978440.21	-8978439.99	0.0089	0.0034
Neptune	-29295-12-27 20:23 J	-8978214.84	-8978214.65	-8978214.44	0.0089	0.0039
Neptune	-29294-08-10 09:35 J	-8977989.27	-8977989.10	-8977988.89	0.0089	0.0044
Neptune	-29293-03-22 23:16 J	-8977763.71	-8977763.53	-8977763.34	0.0089	0.0048

Neptune	-29293-11-03 12:28 J	-8977538.14	-8977537.98	-8977537.79	0.0089	0.0053
Neptune	-29292-06-17 01:40 J	-8977312.58	-8977312.43	-8977312.25	0.0089	0.0058
Neptune	-29291-01-28 14:52 J	-8977087.02	-8977086.88	-8977086.71	0.0089	0.0063
Jupiter	-29291-04-14 05:31 J	-8977011.47	-8977011.27	-8977011.08	0.0512	0.0134
Neptune	-29291-09-11 04:33 J	-8976861.46	-8976861.31	-8976861.17	0.0089	0.0067
Jupiter	-29291-12-06 11:02 J	-8976775.18	-8976775.04	-8976774.89	0.0503	0.0355
Neptune	-29290-04-24 17:16 J	-8976635.89	-8976635.78	-8976635.64	0.0089	0.0072
Neptune	-29290-12-06 06:28 J	-8976410.32	-8976410.23	-8976410.10	0.0089	0.0077
Neptune	-29289-07-18 19:55 J	-8976184.75	-8976184.67	-8976184.57	0.0089	0.0081
Neptune	-29288-03-01 08:38 J	-8975959.17	-8975959.14	-8975959.06	0.0089	0.0087
Saturn	-29288-11-07 18:28 J	-8975707.89	-8975707.73	-8975707.56	0.0276	0.0167
Uranus	-29287-02-11 13:26 J	-8975611.99	-8975611.94	-8975611.85	0.0143	0.0136
Saturn	-29287-06-24 22:33 J	-8975478.76	-8975478.56	-8975478.35	0.0275	0.0042
Uranus	-29287-09-26 01:26 J	-8975385.55	-8975385.44	-8975385.30	0.0143	0.0117
Saturn	-29286-02-09 01:11 J	-8975249.64	-8975249.45	-8975249.24	0.0273	0.0083
Uranus	-29286-05-10 13:40 J	-8975159.09	-8975158.93	-8975158.76	0.0143	0.0096
Saturn	-29286-09-26 02:23 J	-8975020.54	-8975020.40	-8975020.26	0.0272	0.0201
Uranus	-29286-12-23 01:26 J	-8974932.62	-8974932.44	-8974932.25	0.0143	0.0077
Uranus	-29285-08-05 13:26 J	-8974706.14	-8974705.94	-8974705.74	0.0142	0.0057
Jupiter	-29285-10-03 08:09 J	-8974647.37	-8974647.16	-8974646.96	0.0517	0.0015
Uranus	-29284-03-20 00:43 J	-8974479.67	-8974479.47	-8974479.25	0.0142	0.0037
Uranus	-29284-11-01 12:28 J	-8974253.20	-8974252.98	-8974252.76	0.0142	0.0017
Mars	-29283-04-08 21:21 J	-8974094.71	-8974094.61	-8974094.51	0.1803	0.1457
Uranus	-29283-06-15 23:59 J	-8974026.72	-8974026.50	-8974026.28	0.0141	0.0003
Uranus	-29282-01-28 11:16 J	-8973800.25	-8973800.03	-8973799.81	0.0141	0.0022
Uranus	-29282-09-11 22:04 J	-8973573.78	-8973573.58	-8973573.36	0.0141	0.0042
Uranus	-29281-04-25 09:07 J	-8973347.31	-8973347.12	-8973346.91	0.0140	0.0061
Uranus	-29281-12-07 20:09 J	-8973120.84	-8973120.66	-8973120.48	0.0140	0.0080
Uranus	-29280-07-22 06:57 J	-8972894.36	-8972894.21	-8972894.05	0.0140	0.0098
Jupiter	-29280-12-18 05:16 J	-8972745.44	-8972745.28	-8972745.11	0.0515	0.0274

Uranus	-29279-03-05 17:16 J	-8972667.88	-8972667.78	-8972667.64	0.0139	0.0117
Jupiter	-29279-08-11 13:26 J	-8972509.12	-8972508.94	-8972508.76	0.0506	0.0224
Uranus	-29279-10-18 03:35 J	-8972441.39	-8972441.35	-8972441.27	0.0139	0.0134
Mars	-29279-11-20 22:47 J	-8972407.67	-8972407.55	-8972407.42	0.1715	0.1193
Jupiter	-29273-06-07 21:35 J	-8970381.79	-8970381.60	-8970381.40	0.0515	0.0168
Saturn	-29273-11-27 11:02 J	-8970209.05	-8970209.04	-8970209.01	0.0283	0.0281
Jupiter	-29272-01-31 18:14 J	-8970143.87	-8970143.74	-8970143.60	0.0524	0.0387
Saturn	-29272-07-15 06:28 J	-8969979.41	-8969979.23	-8969979.04	0.0284	0.0142
Saturn	-29271-03-02 03:50 J	-8969749.56	-8969749.34	-8969749.12	0.0286	0.0004
Saturn	-29271-10-18 02:38 J	-8969519.56	-8969519.39	-8969519.19	0.0287	0.0154
Jupiter	-29268-08-23 05:45 J	-8968479.37	-8968479.26	-8968479.13	0.0518	0.0415
Jupiter	-29267-04-16 16:19 J	-8968243.01	-8968242.82	-8968242.62	0.0508	0.0092
Earth	-29263-10-26 03:35 J	-8966589.49	-8966589.35	-8966589.20	0.2631	0.1327
Moon	-29263-10-26 08:52 J	-8966589.23	-8966589.13	-8966589.03	0.2628	0.2109 *
Jupiter	-29261-02-11 13:40 J	-8966116.09	-8966115.93	-8966115.76	0.0512	0.0315
Jupiter	-29261-10-06 08:23 J	-8965878.34	-8965878.15	-8965877.97	0.0522	0.0231
Saturn	-29259-10-03 16:19 J	-8965150.84	-8965150.82	-8965150.80	0.0277	0.0275
Saturn	-29258-05-20 21:35 J	-8964921.76	-8964921.60	-8964921.41	0.0275	0.0150
Saturn	-29257-01-05 01:40 J	-8964692.64	-8964692.43	-8964692.22	0.0274	0.0024
Saturn	-29257-08-21 03:50 J	-8964463.53	-8964463.34	-8964463.14	0.0273	0.0098
Saturn	-29256-04-07 04:33 J	-8964234.43	-8964234.31	-8964234.18	0.0271	0.0216
Jupiter	-29256-12-20 18:43 J	-8963976.92	-8963976.72	-8963976.52	0.0511	0.0045
Jupiter	-29255-08-13 23:16 J	-8963740.63	-8963740.53	-8963740.43	0.0502	0.0434
Earth	-29255-10-23 16:47 J	-8963669.87	-8963669.80	-8963669.73	0.2630	0.2364
Moon	-29255-10-23 17:31 J	-8963669.87	-8963669.77	-8963669.66	0.2624	0.2074 *
Mars	-29251-04-08 05:16 J	-8962407.45	-8962407.28	-8962407.11	0.1813	0.0146
Jupiter	-29250-10-17 06:57 J	-8961850.30	-8961850.21	-8961850.11	0.0510	0.0454
Jupiter	-29249-06-10 23:16 J	-8961612.73	-8961612.53	-8961612.32	0.0519	0.0079
Mars	-29247-11-20 05:02 J	-8960720.46	-8960720.29	-8960720.11	0.1706	0.0233
Jupiter	-29244-08-25 19:55 J	-8959710.86	-8959710.67	-8959710.48	0.0513	0.0183

Uranus	-29243-02-09 14:23 J	-8959542.95	-8959542.90	-8959542.82	0.0135	0.0128
Jupiter	-29243-04-19 02:23 J	-8959474.55	-8959474.40	-8959474.24	0.0504	0.0307
Saturn	-29243-06-09 11:16 J	-8959423.09	-8959423.03	-8959422.95	0.0283	0.0267
Uranus	-29243-09-23 19:55 J	-8959316.78	-8959316.67	-8959316.54	0.0135	0.0112
Saturn	-29242-01-25 06:57 J	-8959193.40	-8959193.21	-8959193.02	0.0284	0.0127
Uranus	-29242-05-08 01:26 J	-8959090.58	-8959090.44	-8959090.27	0.0135	0.0096
Saturn	-29242-09-12 04:19 J	-8958963.54	-8958963.32	-8958963.11	0.0286	0.0018
Uranus	-29242-12-20 07:26 J	-8958864.36	-8958864.19	-8958864.01	0.0136	0.0080
Saturn	-29241-04-29 03:21 J	-8958733.53	-8958733.36	-8958733.18	0.0287	0.0168
Uranus	-29241-08-02 13:11 J	-8958638.14	-8958637.95	-8958637.76	0.0136	0.0063
Uranus	-29240-03-16 18:57 J	-8958411.91	-8958411.71	-8958411.51	0.0136	0.0047
Uranus	-29240-10-29 00:43 J	-8958185.68	-8958185.47	-8958185.26	0.0136	0.0030
Uranus	-29239-06-12 06:43 J	-8957959.43	-8957959.22	-8957959.00	0.0137	0.0013
Uranus	-29238-01-24 12:57 J	-8957733.17	-8957732.96	-8957732.74	0.0137	0.0005
Uranus	-29238-09-07 18:57 J	-8957506.91	-8957506.71	-8957506.49	0.0137	0.0023
Jupiter	-29237-02-14 15:50 J	-8957347.04	-8957346.84	-8957346.63	0.0516	0.0072
Uranus	-29237-04-21 01:11 J	-8957280.65	-8957280.45	-8957280.24	0.0138	0.0040
Jupiter	-29237-10-09 14:23 J	-8957108.97	-8957108.90	-8957108.82	0.0526	0.0486
Uranus	-29237-12-03 07:40 J	-8957054.37	-8957054.18	-8957053.98	0.0138	0.0057
Uranus	-29236-07-17 14:09 J	-8956828.08	-8956827.91	-8956827.72	0.0138	0.0075
Uranus	-29235-02-28 21:07 J	-8956601.77	-8956601.62	-8956601.46	0.0139	0.0092
Uranus	-29235-10-13 04:04 J	-8956375.46	-8956375.33	-8956375.20	0.0139	0.0109
Uranus	-29234-05-27 11:02 J	-8956149.12	-8956149.04	-8956148.95	0.0139	0.0127
Jupiter	-29232-04-30 17:16 J	-8955444.93	-8955444.78	-8955444.62	0.0516	0.0328
Jupiter	-29232-12-23 01:55 J	-8955208.60	-8955208.42	-8955208.23	0.0507	0.0173
Saturn	-29229-04-14 19:40 J	-8954364.76	-8954364.68	-8954364.60	0.0278	0.0256
Neptune	-29229-06-09 11:31 J	-8954309.06	-8954309.02	-8954308.95	0.0089	0.0086
Saturn	-29229-11-30 01:11 J	-8954135.63	-8954135.45	-8954135.26	0.0276	0.0129
Neptune	-29228-01-21 00:14 J	-8954083.57	-8954083.49	-8954083.41	0.0089	0.0081
Saturn	-29228-07-17 05:16 J	-8953906.49	-8953906.28	-8953906.07	0.0275	0.0004

Neptune	-29228-09-03 12:14 J	-8953858.08	-8953857.99	-8953857.87	0.0089	0.0077
Saturn	-29227-03-03 07:40 J	-8953677.36	-8953677.18	-8953676.99	0.0273	0.0120
Neptune	-29227-04-17 00:28 J	-8953632.58	-8953632.48	-8953632.33	0.0089	0.0073
Saturn	-29227-10-18 08:38 J	-8953448.24	-8953448.14	-8953448.04	0.0272	0.0237
Neptune	-29227-11-28 12:57 J	-8953407.08	-8953406.96	-8953406.80	0.0089	0.0068
Neptune	-29226-07-12 01:40 J	-8953181.58	-8953181.43	-8953181.28	0.0089	0.0063
Jupiter	-29226-10-20 08:09 J	-8953081.35	-8953081.16	-8953080.97	0.0514	0.0220
Neptune	-29225-02-22 13:40 J	-8952956.07	-8952955.93	-8952955.75	0.0089	0.0059
Jupiter	-29225-06-14 03:50 J	-8952843.49	-8952843.34	-8952843.17	0.0523	0.0331
Neptune	-29225-10-05 02:09 J	-8952730.57	-8952730.41	-8952730.23	0.0089	0.0054
Neptune	-29224-05-18 14:23 J	-8952505.06	-8952504.90	-8952504.70	0.0089	0.0050
Neptune	-29224-12-30 02:52 J	-8952279.55	-8952279.38	-8952279.17	0.0089	0.0045
Neptune	-29223-08-12 15:35 J	-8952054.04	-8952053.85	-8952053.65	0.0089	0.0040
Neptune	-29222-03-26 04:04 J	-8951828.52	-8951828.33	-8951828.13	0.0089	0.0035
Neptune	-29222-11-06 16:19 J	-8951603.01	-8951602.82	-8951602.60	0.0089	0.0031
Neptune	-29221-06-19 04:47 J	-8951377.49	-8951377.30	-8951377.08	0.0089	0.0026
Jupiter	-29220-01-03 15:50 J	-8951178.91	-8951178.84	-8951178.75	0.0518	0.0470
Neptune	-29220-01-30 17:31 J	-8951151.98	-8951151.77	-8951151.56	0.0089	0.0021
Jupiter	-29220-08-28 03:21 J	-8950942.56	-8950942.36	-8950942.16	0.0509	0.0036
Neptune	-29220-09-13 05:59 J	-8950926.46	-8950926.25	-8950926.03	0.0089	0.0016
Mars	-29219-04-07 13:55 J	-8950719.95	-8950719.92	-8950719.90	0.1823	0.1792
Neptune	-29219-04-26 18:43 J	-8950700.93	-8950700.72	-8950700.50	0.0089	0.0011
Neptune	-29219-12-08 07:26 J	-8950475.41	-8950475.19	-8950474.97	0.0089	0.0006
Neptune	-29218-07-21 19:55 J	-8950249.89	-8950249.67	-8950249.45	0.0089	0.0002
Mars	-29217-02-04 05:31 J	-8950052.33	-8950052.27	-8950052.21	0.1800	0.1677
Neptune	-29217-03-03 08:23 J	-8950024.36	-8950024.15	-8950023.93	0.0089	0.0004
Neptune	-29217-10-14 21:07 J	-8949798.84	-8949798.62	-8949798.40	0.0089	0.0008
Neptune	-29216-05-28 09:35 J	-8949573.31	-8949573.10	-8949572.87	0.0089	0.0014
Neptune	-29215-01-08 22:04 J	-8949347.78	-8949347.58	-8949347.35	0.0089	0.0019
Neptune	-29215-08-22 11:02 J	-8949122.25	-8949122.04	-8949121.83	0.0089	0.0023

Mars	-29215-11-19 09:21 J	-8949033.17	-8949033.11	-8949033.05	0.1697	0.1577
Neptune	-29214-04-04 23:31 J	-8948896.72	-8948896.52	-8948896.31	0.0089	0.0028
Jupiter	-29214-06-24 22:33 J	-8948815.70	-8948815.56	-8948815.41	0.0511	0.0368
Neptune	-29214-11-16 11:59 J	-8948671.19	-8948671.00	-8948670.78	0.0088	0.0033
Saturn	-29214-12-20 20:52 J	-8948636.73	-8948636.63	-8948636.51	0.0283	0.0240
Jupiter	-29213-02-17 15:50 J	-8948578.04	-8948577.84	-8948577.65	0.0520	0.0171
Neptune	-29213-06-29 00:28 J	-8948445.66	-8948445.48	-8948445.26	0.0088	0.0038
Saturn	-29213-08-06 16:33 J	-8948407.01	-8948406.81	-8948406.60	0.0284	0.0100
Mars	-29213-09-17 07:26 J	-8948365.30	-8948365.19	-8948365.09	0.1718	0.1381
Neptune	-29212-02-09 13:26 J	-8948220.13	-8948219.94	-8948219.74	0.0088	0.0042
Saturn	-29212-03-24 14:09 J	-8948177.12	-8948176.91	-8948176.69	0.0286	0.0047
Neptune	-29212-09-23 01:55 J	-8947994.59	-8947994.42	-8947994.22	0.0088	0.0047
Saturn	-29212-11-09 13:26 J	-8947947.09	-8947946.94	-8947946.78	0.0288	0.0197
Neptune	-29211-05-06 14:38 J	-8947769.05	-8947768.89	-8947768.70	0.0088	0.0052
Neptune	-29211-12-18 03:07 J	-8947543.51	-8947543.37	-8947543.18	0.0088	0.0057
Neptune	-29210-07-31 16:04 J	-8947317.98	-8947317.83	-8947317.66	0.0088	0.0061
Neptune	-29209-03-13 04:33 J	-8947092.43	-8947092.31	-8947092.14	0.0088	0.0066
Neptune	-29209-10-24 17:45 J	-8946866.89	-8946866.76	-8946866.62	0.0088	0.0070
Jupiter	-29208-05-03 05:16 J	-8946676.48	-8946676.28	-8946676.09	0.0512	0.0101
Neptune	-29208-06-07 06:28 J	-8946641.33	-8946641.23	-8946641.10	0.0088	0.0075
Jupiter	-29208-12-25 11:02 J	-8946440.17	-8946440.04	-8946439.91	0.0503	0.0383
Neptune	-29207-01-18 18:57 J	-8946415.78	-8946415.71	-8946415.59	0.0088	0.0080
Neptune	-29207-09-01 08:09 J	-8946190.22	-8946190.16	-8946190.08	0.0088	0.0084
Neptune	-29206-04-14 20:52 J	-8945964.63	-8945964.63	-8945964.59	0.0088	0.0088
Uranus	-29203-05-26 06:43 J	-8944827.31	-8944827.22	-8944827.10	0.0143	0.0126
Uranus	-29202-01-07 18:57 J	-8944600.85	-8944600.71	-8944600.56	0.0143	0.0106
Jupiter	-29202-02-27 15:35 J	-8944549.86	-8944549.85	-8944549.83	0.0508	0.0506
Uranus	-29202-08-22 06:28 J	-8944374.39	-8944374.23	-8944374.04	0.0143	0.0086
Jupiter	-29202-10-23 06:28 J	-8944312.44	-8944312.23	-8944312.03	0.0518	0.0018
Uranus	-29201-04-04 18:28 J	-8944147.92	-8944147.73	-8944147.53	0.0143	0.0066

Uranus	-29201-11-17 06:14 J	-8943921.45	-8943921.24	-8943921.03	0.0142	0.0046
Uranus	-29200-07-01 17:45 J	-8943694.97	-8943694.76	-8943694.53	0.0142	0.0026
Saturn	-29200-10-26 00:14 J	-8943578.59	-8943578.49	-8943578.37	0.0277	0.0236
Uranus	-29199-02-13 05:31 J	-8943468.49	-8943468.27	-8943468.05	0.0142	0.0006
Saturn	-29199-06-12 05:45 J	-8943349.45	-8943349.26	-8943349.07	0.0275	0.0109
Uranus	-29199-09-27 16:47 J	-8943242.02	-8943241.80	-8943241.58	0.0141	0.0014
Saturn	-29198-01-27 09:35 J	-8943120.31	-8943120.10	-8943119.89	0.0274	0.0015
Uranus	-29198-05-12 03:50 J	-8943015.55	-8943015.34	-8943015.12	0.0141	0.0034
Saturn	-29198-09-13 11:31 J	-8942891.20	-8942891.02	-8942890.84	0.0272	0.0137
Uranus	-29198-12-24 14:52 J	-8942789.08	-8942788.88	-8942788.67	0.0141	0.0053
Saturn	-29197-04-29 11:59 J	-8942662.06	-8942662.00	-8942661.92	0.0271	0.0253
Uranus	-29197-08-07 01:40 J	-8942562.61	-8942562.43	-8942562.23	0.0140	0.0073
Jupiter	-29196-01-06 06:28 J	-8942410.40	-8942410.23	-8942410.05	0.0515	0.0240
Uranus	-29196-03-21 12:28 J	-8942336.13	-8942335.98	-8942335.80	0.0140	0.0091
Jupiter	-29196-08-30 14:09 J	-8942174.08	-8942173.91	-8942173.73	0.0505	0.0255
Uranus	-29196-11-02 23:02 J	-8942109.66	-8942109.54	-8942109.38	0.0140	0.0110
Uranus	-29195-06-17 09:50 J	-8941883.17	-8941883.09	-8941882.99	0.0139	0.0128
Jupiter	-29190-06-27 22:04 J	-8940046.78	-8940046.58	-8940046.38	0.0515	0.0133
Jupiter	-29189-02-20 19:26 J	-8939808.81	-8939808.69	-8939808.57	0.0525	0.0421
Mars	-29185-02-03 12:28 J	-8938365.15	-8938364.98	-8938364.81	0.1810	0.0107
Jupiter	-29185-09-11 06:43 J	-8938144.35	-8938144.22	-8938144.08	0.0517	0.0379
Jupiter	-29184-05-05 16:33 J	-8937908.00	-8937907.81	-8937907.61	0.0508	0.0124
Saturn	-29184-07-01 22:19 J	-8937850.69	-8937850.57	-8937850.43	0.0283	0.0224
Saturn	-29183-02-16 17:59 J	-8937620.95	-8937620.75	-8937620.54	0.0284	0.0083
Saturn	-29183-10-04 15:35 J	-8937391.06	-8937390.85	-8937390.64	0.0286	0.0063
Saturn	-29182-05-22 14:52 J	-8937161.01	-8937160.88	-8937160.72	0.0287	0.0212
Mars	-29181-09-16 13:26 J	-8936678.12	-8936677.94	-8936677.76	0.1709	0.0043
Pluto	-29179-04-05 08:52 J	-8936112.20	-8936112.13	-8936112.00	0.0064	0.0058
Pluto	-29179-11-16 12:57 J	-8935887.15	-8935886.96	-8935886.74	0.0065	0.0019
Jupiter	-29178-03-02 15:35 J	-8935781.02	-8935780.85	-8935780.67	0.0513	0.0277

Pluto	-29178-06-29 16:33 J	-8935662.00	-8935661.81	-8935661.58	0.0065	0.0021
Jupiter	-29178-10-26 10:47 J	-8935543.22	-8935543.05	-8935542.87	0.0522	0.0270
Pluto	-29177-02-09 20:09 J	-8935436.71	-8935436.66	-8935436.55	0.0065	0.0060
Jupiter	-29172-01-08 15:21 J	-8933642.06	-8933641.86	-8933641.66	0.0510	0.0018
Jupiter	-29172-09-01 19:40 J	-8933405.76	-8933405.68	-8933405.60	0.0502	0.0457
Saturn	-29170-05-08 03:35 J	-8932792.47	-8932792.35	-8932792.21	0.0278	0.0217
Saturn	-29170-12-23 09:21 J	-8932563.31	-8932563.11	-8932562.91	0.0276	0.0089
Saturn	-29169-08-08 13:11 J	-8932334.16	-8932333.95	-8932333.75	0.0275	0.0037
Saturn	-29168-03-25 15:07 J	-8932105.03	-8932104.87	-8932104.70	0.0273	0.0158
Jupiter	-29167-11-05 08:38 J	-8931515.25	-8931515.14	-8931515.01	0.0510	0.0419
Jupiter	-29166-07-01 01:11 J	-8931277.65	-8931277.45	-8931277.25	0.0519	0.0115
Jupiter	-29161-09-13 15:35 J	-8929376.04	-8929375.85	-8929375.66	0.0513	0.0158
Jupiter	-29160-05-07 22:04 J	-8929139.73	-8929139.58	-8929139.42	0.0504	0.0331
Uranus	-29159-05-24 03:35 J	-8928758.43	-8928758.35	-8928758.23	0.0135	0.0120
Uranus	-29158-01-05 09:21 J	-8928532.23	-8928532.11	-8928531.96	0.0135	0.0104
Uranus	-29158-08-19 15:07 J	-8928306.03	-8928305.87	-8928305.70	0.0135	0.0088
Uranus	-29157-04-01 20:52 J	-8928079.81	-8928079.63	-8928079.45	0.0136	0.0071
Uranus	-29157-11-14 02:38 J	-8927853.59	-8927853.39	-8927853.19	0.0136	0.0054
Uranus	-29156-06-28 08:23 J	-8927627.35	-8927627.15	-8927626.94	0.0136	0.0037
Uranus	-29155-02-09 14:23 J	-8927401.11	-8927400.90	-8927400.69	0.0137	0.0020
Uranus	-29155-09-23 20:23 J	-8927174.86	-8927174.65	-8927174.43	0.0137	0.0003
Saturn	-29154-01-12 08:52 J	-8927064.27	-8927064.13	-8927063.96	0.0283	0.0196
Jupiter	-29154-03-05 13:55 J	-8927012.13	-8927011.92	-8927011.71	0.0516	0.0043
Uranus	-29154-05-08 02:38 J	-8926948.61	-8926948.39	-8926948.18	0.0137	0.0014
Saturn	-29154-08-30 05:02 J	-8926834.50	-8926834.29	-8926834.08	0.0285	0.0054
Jupiter	-29154-10-29 12:14 J	-8926774.04	-8926773.99	-8926773.95	0.0525	0.0511
Uranus	-29154-12-20 08:52 J	-8926722.34	-8926722.13	-8926721.92	0.0137	0.0032
Mars	-29153-02-02 20:38 J	-8926677.73	-8926677.64	-8926677.54	0.1820	0.1522
Saturn	-29153-04-16 02:52 J	-8926604.58	-8926604.38	-8926604.17	0.0286	0.0094
Uranus	-29153-08-02 14:52 J	-8926496.06	-8926495.88	-8926495.67	0.0138	0.0050

Saturn	-29153-12-02 02:23 J	-8926374.50	-8926374.40	-8926374.27	0.0288	0.0243
Uranus	-29152-03-16 21:35 J	-8926269.78	-8926269.60	-8926269.41	0.0138	0.0067
Uranus	-29152-10-29 04:04 J	-8926043.49	-8926043.33	-8926043.15	0.0138	0.0085
Uranus	-29151-06-12 11:02 J	-8925817.18	-8925817.04	-8925816.89	0.0139	0.0102
Uranus	-29150-01-24 17:45 J	-8925590.85	-8925590.76	-8925590.64	0.0139	0.0120
Uranus	-29150-09-08 00:43 J	-8925364.48	-8925364.47	-8925364.41	0.0139	0.0138
Jupiter	-29149-05-19 16:04 J	-8925109.99	-8925109.83	-8925109.67	0.0516	0.0298
Mars	-29149-09-15 18:14 J	-8924990.84	-8924990.74	-8924990.64	0.1700	0.1404
Jupiter	-29148-01-11 00:57 J	-8924873.64	-8924873.46	-8924873.27	0.0507	0.0200
Mars	-29147-07-15 15:21 J	-8924322.93	-8924322.86	-8924322.80	0.1721	0.1579
Neptune	-29146-10-22 04:47 J	-8923859.35	-8923859.30	-8923859.23	0.0088	0.0085
Neptune	-29145-06-03 18:14 J	-8923633.81	-8923633.74	-8923633.63	0.0089	0.0081
Neptune	-29144-01-15 08:09 J	-8923408.26	-8923408.16	-8923408.03	0.0089	0.0076
Neptune	-29144-08-28 21:35 J	-8923182.71	-8923182.60	-8923182.44	0.0089	0.0072
Neptune	-29143-04-11 11:31 J	-8922957.15	-8922957.02	-8922956.86	0.0089	0.0067
Jupiter	-29143-11-08 05:16 J	-8922746.47	-8922746.28	-8922746.09	0.0514	0.0192
Neptune	-29143-11-23 01:26 J	-8922731.59	-8922731.44	-8922731.27	0.0089	0.0062
Jupiter	-29142-07-04 00:57 J	-8922508.60	-8922508.46	-8922508.30	0.0523	0.0357
Neptune	-29142-07-06 15:07 J	-8922506.03	-8922505.87	-8922505.69	0.0089	0.0057
Neptune	-29141-02-17 04:33 J	-8922280.47	-8922280.31	-8922280.11	0.0089	0.0053
Neptune	-29141-09-29 18:14 J	-8922054.91	-8922054.74	-8922054.53	0.0089	0.0048
Saturn	-29141-11-17 09:50 J	-8922006.23	-8922006.09	-8922005.94	0.0277	0.0195
Neptune	-29140-05-13 08:09 J	-8921829.34	-8921829.16	-8921828.95	0.0089	0.0043
Saturn	-29140-07-04 14:52 J	-8921777.08	-8921776.88	-8921776.67	0.0275	0.0069
Neptune	-29140-12-24 21:50 J	-8921603.78	-8921603.59	-8921603.38	0.0089	0.0038
Saturn	-29139-02-18 18:28 J	-8921547.93	-8921547.73	-8921547.53	0.0274	0.0056
Neptune	-29139-08-07 11:31 J	-8921378.22	-8921378.02	-8921377.81	0.0089	0.0033
Saturn	-29139-10-05 20:09 J	-8921318.81	-8921318.66	-8921318.50	0.0272	0.0176
Neptune	-29138-03-21 00:57 J	-8921152.66	-8921152.46	-8921152.24	0.0089	0.0028
Neptune	-29138-11-01 14:52 J	-8920927.10	-8920926.88	-8920926.67	0.0089	0.0023

Jupiter -29137-01-23 16:19 J -8920843.92 -8920843.82 -8920843.71 0.0518 0.0436
 Neptune -29137-06-14 04:04 J -8920701.54 -8920701.33 -8920701.10 0.0089 0.0019
 Jupiter -29137-09-16 03:35 J -8920607.55 -8920607.35 -8920607.16 0.0509 0.0068
 Neptune -29136-01-25 17:31 J -8920475.98 -8920475.77 -8920475.54 0.0089 0.0014
 Neptune -29136-09-08 07:11 J -8920250.42 -8920250.20 -8920249.98 0.0089 0.0008
 Neptune -29135-04-21 20:38 J -8920024.86 -8920024.64 -8920024.42 0.0089 0.0004
 Neptune -29135-12-03 10:19 J -8919799.30 -8919799.07 -8919798.85 0.0089 0.0002
 Neptune -29134-07-16 23:31 J -8919573.74 -8919573.52 -8919573.29 0.0089 0.0006
 Neptune -29133-02-27 12:57 J -8919348.18 -8919347.96 -8919347.74 0.0089 0.0011
 Neptune -29133-10-10 02:23 J -8919122.61 -8919122.40 -8919122.18 0.0089 0.0016
 Neptune -29132-05-23 15:50 J -8918897.05 -8918896.84 -8918896.62 0.0089 0.0021
 Neptune -29131-01-04 05:02 J -8918671.49 -8918671.29 -8918671.07 0.0089 0.0026
 Jupiter -29131-07-13 21:35 J -8918480.76 -8918480.60 -8918480.45 0.0511 0.0336
 Neptune -29131-08-17 18:28 J -8918445.93 -8918445.73 -8918445.51 0.0089 0.0031
 Jupiter -29130-03-08 15:21 J -8918243.05 -8918242.86 -8918242.67 0.0521 0.0203
 Neptune -29130-03-31 07:40 J -8918220.37 -8918220.18 -8918219.96 0.0089 0.0036
 Neptune -29130-11-11 21:35 J -8917994.80 -8917994.60 -8917994.40 0.0089 0.0040
 Neptune -29129-06-24 10:47 J -8917769.23 -8917769.05 -8917768.85 0.0089 0.0045
 Neptune -29128-02-04 23:59 J -8917543.67 -8917543.50 -8917543.31 0.0089 0.0050
 Neptune -29128-09-18 13:11 J -8917318.11 -8917317.95 -8917317.76 0.0089 0.0055
 Neptune -29127-05-02 02:38 J -8917092.54 -8917092.39 -8917092.22 0.0089 0.0059
 Neptune -29127-12-13 15:50 J -8916866.97 -8916866.84 -8916866.67 0.0089 0.0064
 Neptune -29126-07-27 04:47 J -8916641.41 -8916641.30 -8916641.13 0.0089 0.0069
 Neptune -29125-03-08 18:14 J -8916415.85 -8916415.74 -8916415.60 0.0089 0.0073
 Jupiter -29125-05-22 05:02 J -8916341.49 -8916341.29 -8916341.09 0.0512 0.0069
 Saturn -29125-07-24 11:31 J -8916278.18 -8916278.02 -8916277.85 0.0283 0.0178
 Neptune -29125-10-20 07:11 J -8916190.28 -8916190.20 -8916190.07 0.0089 0.0078
 Jupiter -29124-01-13 10:04 J -8916105.19 -8916105.08 -8916104.96 0.0503 0.0410
 Saturn -29124-03-11 07:26 J -8916048.40 -8916048.19 -8916047.97 0.0285 0.0036
 Neptune -29124-06-02 20:38 J -8915964.71 -8915964.64 -8915964.54 0.0089 0.0082

Saturn	-29124-10-27 05:16 J	-8915818.47	-8915818.28	-8915818.07	0.0286	0.0111
Neptune	-29123-01-14 10:04 J	-8915739.12	-8915739.08	-8915739.03	0.0089	0.0086
Saturn	-29123-06-14 05:02 J	-8915588.37	-8915588.29	-8915588.19	0.0288	0.0260
Mars	-29120-11-30 20:23 J	-8914322.81	-8914322.65	-8914322.48	0.1807	0.0344
Uranus	-29119-01-23 11:16 J	-8914269.10	-8914269.03	-8914268.96	0.0144	0.0135
Jupiter	-29119-03-18 16:04 J	-8914214.90	-8914214.83	-8914214.75	0.0509	0.0472
Uranus	-29119-09-06 23:02 J	-8914042.66	-8914042.54	-8914042.40	0.0143	0.0116
Jupiter	-29119-11-11 07:40 J	-8913977.39	-8913977.18	-8913976.98	0.0518	0.0054
Uranus	-29118-04-21 11:02 J	-8913816.20	-8913816.04	-8913815.87	0.0143	0.0095
Uranus	-29118-12-03 23:02 J	-8913589.73	-8913589.54	-8913589.35	0.0143	0.0075
Moon	-29117-04-24 14:52 J	-8913446.99	-8913446.88	-8913446.76	0.2701	0.1782
Earth	-29117-04-24 20:09 J	-8913446.73	-8913446.66	-8913446.59	0.2701	0.2393
Uranus	-29117-07-17 10:47 J	-8913363.25	-8913363.05	-8913362.84	0.0143	0.0055
Uranus	-29116-02-28 22:19 J	-8913136.78	-8913136.57	-8913136.35	0.0142	0.0035
Uranus	-29116-10-13 09:50 J	-8912910.30	-8912910.09	-8912909.86	0.0142	0.0015
Uranus	-29115-05-27 21:21 J	-8912683.83	-8912683.61	-8912683.39	0.0142	0.0006
Mars	-29115-07-14 22:04 J	-8912635.76	-8912635.58	-8912635.41	0.1712	0.0145
Uranus	-29114-01-09 08:38 J	-8912457.36	-8912457.14	-8912456.92	0.0141	0.0025
Uranus	-29114-08-23 19:40 J	-8912230.88	-8912230.68	-8912230.46	0.0141	0.0045
Jupiter	-29113-01-26 02:52 J	-8912075.56	-8912075.38	-8912075.19	0.0514	0.0213
Uranus	-29113-04-06 06:43 J	-8912004.41	-8912004.22	-8912004.01	0.0141	0.0065
Jupiter	-29113-09-18 10:04 J	-8911839.24	-8911839.08	-8911838.91	0.0505	0.0278
Uranus	-29113-11-18 17:45 J	-8911777.93	-8911777.76	-8911777.58	0.0140	0.0083
Uranus	-29112-07-03 04:33 J	-8911551.45	-8911551.31	-8911551.15	0.0140	0.0102
Uranus	-29111-02-14 15:07 J	-8911324.96	-8911324.87	-8911324.74	0.0140	0.0121
Saturn	-29111-05-30 12:57 J	-8911220.12	-8911219.96	-8911219.80	0.0277	0.0176
Uranus	-29111-09-29 01:55 J	-8911098.43	-8911098.42	-8911098.39	0.0139	0.0138
Saturn	-29110-01-14 18:14 J	-8910990.94	-8910990.74	-8910990.53	0.0276	0.0048
Saturn	-29110-08-31 21:50 J	-8910761.79	-8910761.59	-8910761.39	0.0274	0.0077
Saturn	-29109-04-16 23:31 J	-8910532.65	-8910532.52	-8910532.37	0.0273	0.0197

Moon	-29109-04-22 09:50 J	-8910527.21	-8910527.09	-8910526.97	0.2707	0.1578
Earth	-29109-04-22 13:11 J	-8910527.09	-8910526.95	-8910526.80	0.2702	0.0942 *
Jupiter	-29107-07-16 23:02 J	-8909711.75	-8909711.54	-8909711.34	0.0515	0.0099
Jupiter	-29106-03-11 20:09 J	-8909473.75	-8909473.66	-8909473.55	0.0525	0.0454
Jupiter	-29102-10-01 01:55 J	-8907809.56	-8907809.42	-8907809.27	0.0517	0.0355
Jupiter	-29101-05-24 11:31 J	-8907573.21	-8907573.02	-8907572.82	0.0508	0.0145
Saturn	-29095-02-03 23:02 J	-8905491.72	-8905491.54	-8905491.36	0.0283	0.0149
Jupiter	-29095-03-21 12:43 J	-8905446.15	-8905445.97	-8905445.78	0.0513	0.0250
Saturn	-29095-09-21 19:11 J	-8905261.91	-8905261.70	-8905261.48	0.0285	0.0007
Jupiter	-29095-11-14 07:26 J	-8905208.35	-8905208.19	-8905208.01	0.0522	0.0295
Saturn	-29094-05-09 17:31 J	-8905031.96	-8905031.77	-8905031.58	0.0287	0.0142
Pluto	-29091-07-18 21:21 J	-8903865.61	-8903865.61	-8903865.59	0.0080	0.0080
Pluto	-29090-03-01 08:23 J	-8903640.37	-8903640.15	-8903639.92	0.0080	0.0004
Jupiter	-29090-06-06 00:57 J	-8903543.51	-8903543.46	-8903543.40	0.0520	0.0495
Pluto	-29090-10-12 18:57 J	-8903414.78	-8903414.71	-8903414.60	0.0079	0.0073
Jupiter	-29089-01-28 13:26 J	-8903307.14	-8903306.94	-8903306.74	0.0511	0.0014
Jupiter	-29089-09-20 17:59 J	-8903070.81	-8903070.75	-8903070.70	0.0502	0.0481
Mars	-29088-11-30 04:04 J	-8902635.45	-8902635.33	-8902635.21	0.1817	0.1264
Jupiter	-29084-11-24 05:02 J	-8901180.42	-8901180.29	-8901180.16	0.0510	0.0392
Mars	-29083-07-14 03:07 J	-8900948.49	-8900948.37	-8900948.25	0.1703	0.1233
Jupiter	-29083-07-19 21:07 J	-8900942.82	-8900942.62	-8900942.42	0.0519	0.0139
Saturn	-29082-12-10 20:23 J	-8900433.83	-8900433.65	-8900433.48	0.0277	0.0153
Saturn	-29081-07-27 01:11 J	-8900204.66	-8900204.45	-8900204.25	0.0275	0.0027
Saturn	-29080-03-13 04:04 J	-8899975.52	-8899975.33	-8899975.13	0.0273	0.0098
Saturn	-29080-10-28 05:45 J	-8899746.38	-8899746.26	-8899746.13	0.0272	0.0216
Jupiter	-29078-10-03 14:52 J	-8899041.07	-8899040.88	-8899040.68	0.0513	0.0127
Jupiter	-29077-05-26 21:21 J	-8898804.75	-8898804.61	-8898804.47	0.0504	0.0358
Uranus	-29075-01-21 12:57 J	-8898200.02	-8898199.96	-8898199.89	0.0135	0.0127
Uranus	-29075-09-04 18:14 J	-8897973.85	-8897973.74	-8897973.61	0.0135	0.0111
Uranus	-29074-04-18 23:45 J	-8897747.65	-8897747.51	-8897747.35	0.0135	0.0095

Uranus	-29074-12-01 05:31 J	-8897521.44	-8897521.27	-8897521.09	0.0136	0.0079
Uranus	-29073-07-14 11:16 J	-8897295.22	-8897295.03	-8897294.84	0.0136	0.0062
Uranus	-29072-02-25 17:02 J	-8897068.99	-8897068.79	-8897068.58	0.0136	0.0045
Uranus	-29072-10-09 23:02 J	-8896842.75	-8896842.54	-8896842.33	0.0136	0.0028
Jupiter	-29071-03-24 11:59 J	-8896677.21	-8896677.00	-8896676.79	0.0517	0.0013
Uranus	-29071-05-24 05:02 J	-8896616.51	-8896616.29	-8896616.08	0.0137	0.0011
Uranus	-29070-01-05 11:02 J	-8896390.25	-8896390.04	-8896389.82	0.0137	0.0008
Uranus	-29070-08-19 17:16 J	-8896163.99	-8896163.78	-8896163.57	0.0137	0.0025
Uranus	-29069-04-01 23:16 J	-8895937.72	-8895937.53	-8895937.31	0.0138	0.0043
Uranus	-29069-11-14 05:45 J	-8895711.44	-8895711.26	-8895711.06	0.0138	0.0060
Uranus	-29068-06-28 12:28 J	-8895485.15	-8895484.98	-8895484.80	0.0138	0.0078
Uranus	-29067-02-09 19:11 J	-8895258.84	-8895258.70	-8895258.53	0.0138	0.0095
Uranus	-29067-09-24 01:55 J	-8895032.53	-8895032.42	-8895032.28	0.0139	0.0113
Saturn	-29067-12-30 08:23 J	-8894935.22	-8894935.15	-8894935.09	0.0282	0.0267
Uranus	-29066-05-08 08:52 J	-8894806.19	-8894806.13	-8894806.05	0.0139	0.0131
Jupiter	-29066-06-08 15:21 J	-8894775.02	-8894774.86	-8894774.68	0.0515	0.0266
Saturn	-29066-08-17 02:23 J	-8894705.58	-8894705.40	-8894705.20	0.0283	0.0131
Jupiter	-29065-01-30 23:45 J	-8894538.69	-8894538.51	-8894538.33	0.0506	0.0228
Saturn	-29065-04-02 22:47 J	-8894475.76	-8894475.55	-8894475.33	0.0285	0.0014
Neptune	-29065-09-10 23:45 J	-8894314.53	-8894314.51	-8894314.42	0.0089	0.0086
Saturn	-29065-11-18 21:07 J	-8894245.80	-8894245.62	-8894245.44	0.0287	0.0161
Neptune	-29064-04-24 12:43 J	-8894089.04	-8894088.97	-8894088.87	0.0089	0.0081
Neptune	-29064-12-06 00:57 J	-8893863.55	-8893863.46	-8893863.34	0.0089	0.0077
Neptune	-29063-07-19 13:11 J	-8893638.05	-8893637.95	-8893637.80	0.0089	0.0073
Neptune	-29062-03-02 01:40 J	-8893412.55	-8893412.43	-8893412.28	0.0089	0.0068
Neptune	-29062-10-13 13:55 J	-8893187.05	-8893186.92	-8893186.75	0.0089	0.0064
Neptune	-29061-05-26 02:38 J	-8892961.54	-8892961.39	-8892961.22	0.0089	0.0059
Neptune	-29060-01-06 14:38 J	-8892736.04	-8892735.89	-8892735.70	0.0089	0.0055
Neptune	-29060-08-20 03:21 J	-8892510.53	-8892510.36	-8892510.18	0.0089	0.0050
Jupiter	-29060-11-27 05:02 J	-8892411.49	-8892411.29	-8892411.09	0.0514	0.0159

Neptune	-29059-04-02 15:35 J	-8892285.02	-8892284.85	-8892284.65	0.0089	0.0046
Jupiter	-29059-07-23 01:26 J	-8892173.57	-8892173.44	-8892173.30	0.0524	0.0390
Neptune	-29059-11-14 04:04 J	-8892059.51	-8892059.33	-8892059.13	0.0089	0.0041
Neptune	-29058-06-27 16:19 J	-8891834.00	-8891833.82	-8891833.61	0.0089	0.0037
Neptune	-29057-02-08 04:47 J	-8891608.49	-8891608.30	-8891608.09	0.0089	0.0032
Neptune	-29057-09-20 17:31 J	-8891382.98	-8891382.77	-8891382.56	0.0089	0.0027
Neptune	-29056-05-04 05:45 J	-8891157.46	-8891157.26	-8891157.03	0.0089	0.0023
Neptune	-29056-12-15 18:28 J	-8890931.94	-8890931.73	-8890931.51	0.0089	0.0018
Neptune	-29055-07-29 06:57 J	-8890706.42	-8890706.21	-8890705.99	0.0089	0.0013
Jupiter	-29054-02-11 12:43 J	-8890509.08	-8890508.97	-8890508.84	0.0518	0.0410
Neptune	-29054-03-11 19:26 J	-8890480.90	-8890480.69	-8890480.47	0.0089	0.0008
Mars	-29054-09-28 04:04 J	-8890280.49	-8890280.33	-8890280.17	0.1803	0.0581
Jupiter	-29054-10-05 23:16 J	-8890272.73	-8890272.53	-8890272.33	0.0509	0.0091
Neptune	-29054-10-23 08:09 J	-8890255.38	-8890255.16	-8890254.94	0.0089	0.0004
Neptune	-29053-06-04 20:38 J	-8890029.85	-8890029.64	-8890029.42	0.0089	0.0002
Saturn	-29053-11-04 16:47 J	-8889876.87	-8889876.80	-8889876.73	0.0279	0.0262
Neptune	-29052-01-16 09:07 J	-8889804.33	-8889804.12	-8889803.89	0.0089	0.0007
Saturn	-29052-06-21 23:31 J	-8889647.71	-8889647.52	-8889647.34	0.0277	0.0134
Neptune	-29052-08-29 21:50 J	-8889578.80	-8889578.59	-8889578.37	0.0089	0.0011
Saturn	-29051-02-06 04:19 J	-8889418.52	-8889418.32	-8889418.11	0.0276	0.0008
Neptune	-29051-04-12 10:33 J	-8889353.27	-8889353.06	-8889352.84	0.0089	0.0015
Saturn	-29051-09-23 07:26 J	-8889189.37	-8889189.19	-8889189.00	0.0274	0.0118
Neptune	-29051-11-23 23:02 J	-8889127.75	-8889127.54	-8889127.32	0.0089	0.0020
Saturn	-29050-05-10 09:07 J	-8888960.22	-8888960.12	-8888960.01	0.0273	0.0237
Neptune	-29050-07-07 11:45 J	-8888902.22	-8888902.01	-8888901.80	0.0089	0.0025
Neptune	-29049-02-18 00:14 J	-8888676.69	-8888676.49	-8888676.28	0.0088	0.0030
Mars	-29049-05-11 06:28 J	-8888593.41	-8888593.23	-8888593.06	0.1715	0.0330
Neptune	-29049-09-30 12:43 J	-8888451.16	-8888450.97	-8888450.76	0.0088	0.0035
Neptune	-29048-05-14 01:40 J	-8888225.62	-8888225.43	-8888225.23	0.0088	0.0039
Jupiter	-29048-08-01 21:21 J	-8888145.77	-8888145.61	-8888145.44	0.0512	0.0304

Neptune	-29048-12-25 14:09 J	-8888000.09	-8887999.91	-8887999.71	0.0088	0.0044
Jupiter	-29047-03-27 15:35 J	-8887908.04	-8887907.85	-8887907.67	0.0521	0.0235
Neptune	-29047-08-08 02:38 J	-8887774.55	-8887774.39	-8887774.19	0.0088	0.0049
Neptune	-29046-03-21 15:35 J	-8887549.02	-8887548.85	-8887548.67	0.0088	0.0053
Neptune	-29046-11-02 04:04 J	-8887323.48	-8887323.33	-8887323.15	0.0088	0.0057
Neptune	-29045-06-14 17:02 J	-8887097.94	-8887097.79	-8887097.63	0.0088	0.0062
Neptune	-29044-01-26 05:31 J	-8886872.40	-8886872.27	-8886872.11	0.0088	0.0067
Neptune	-29044-09-08 18:28 J	-8886646.85	-8886646.73	-8886646.59	0.0088	0.0071
Neptune	-29043-04-22 06:57 J	-8886421.30	-8886421.21	-8886421.07	0.0088	0.0076
Neptune	-29043-12-03 19:55 J	-8886195.75	-8886195.67	-8886195.56	0.0088	0.0080
Jupiter	-29042-06-10 23:31 J	-8886006.71	-8886006.52	-8886006.32	0.0511	0.0049
Neptune	-29042-07-17 09:07 J	-8885970.18	-8885970.12	-8885970.05	0.0088	0.0084
Jupiter	-29041-02-02 04:33 J	-8885770.41	-8885770.31	-8885770.20	0.0503	0.0429
Neptune	-29041-02-27 21:50 J	-8885744.59	-8885744.59	-8885744.57	0.0088	0.0088
Saturn	-29037-07-11 19:26 J	-8884148.79	-8884148.69	-8884148.57	0.0282	0.0240
Saturn	-29036-02-26 14:23 J	-8883919.10	-8883918.90	-8883918.70	0.0284	0.0102
Jupiter	-29036-04-06 12:28 J	-8883880.07	-8883879.98	-8883879.87	0.0509	0.0446
Saturn	-29036-10-14 11:02 J	-8883689.25	-8883689.04	-8883688.82	0.0285	0.0043
Jupiter	-29036-11-30 03:35 J	-8883642.55	-8883642.35	-8883642.14	0.0518	0.0078
Uranus	-29035-05-07 03:07 J	-8883484.46	-8883484.37	-8883484.25	0.0144	0.0126
Saturn	-29035-06-01 09:35 J	-8883459.25	-8883459.10	-8883458.93	0.0287	0.0192
Uranus	-29035-12-19 15:07 J	-8883258.00	-8883257.87	-8883257.70	0.0143	0.0106
Uranus	-29034-08-03 03:07 J	-8883031.53	-8883031.37	-8883031.18	0.0143	0.0085
Uranus	-29033-03-16 14:52 J	-8882805.06	-8882804.88	-8882804.67	0.0143	0.0065
Uranus	-29033-10-29 02:38 J	-8882578.59	-8882578.39	-8882578.17	0.0142	0.0044
Uranus	-29032-06-12 14:23 J	-8882352.11	-8882351.90	-8882351.68	0.0142	0.0024
Uranus	-29031-01-25 01:55 J	-8882125.64	-8882125.42	-8882125.19	0.0142	0.0005
Uranus	-29031-09-08 13:26 J	-8881899.16	-8881898.94	-8881898.72	0.0141	0.0017
Jupiter	-29030-02-13 23:59 J	-8881740.68	-8881740.50	-8881740.31	0.0514	0.0186
Uranus	-29030-04-23 00:43 J	-8881672.69	-8881672.47	-8881672.26	0.0141	0.0036

Jupiter	-29030-10-08 07:26 J	-8881504.34	-8881504.19	-8881504.02	0.0505	0.0303
Uranus	-29030-12-05 11:45 J	-8881446.21	-8881446.01	-8881445.80	0.0141	0.0056
Uranus	-29029-07-18 22:47 J	-8881219.73	-8881219.55	-8881219.35	0.0140	0.0076
Uranus	-29028-03-02 09:50 J	-8880993.25	-8880993.09	-8880992.92	0.0140	0.0095
Uranus	-29028-10-14 20:38 J	-8880766.76	-8880766.64	-8880766.51	0.0140	0.0113
Uranus	-29027-05-29 07:11 J	-8880540.26	-8880540.20	-8880540.12	0.0139	0.0132
Jupiter	-29024-08-04 18:14 J	-8879376.95	-8879376.74	-8879376.54	0.0515	0.0075
Jupiter	-29023-03-30 15:21 J	-8879138.94	-8879138.86	-8879138.77	0.0524	0.0473
Saturn	-29023-05-18 00:57 J	-8879090.55	-8879090.46	-8879090.34	0.0278	0.0238
Saturn	-29022-01-02 07:26 J	-8878861.38	-8878861.19	-8878861.00	0.0276	0.0110
Saturn	-29022-08-19 11:59 J	-8878632.21	-8878632.00	-8878631.80	0.0275	0.0017
Mars	-29022-09-27 11:02 J	-8878593.18	-8878593.04	-8878592.90	0.1813	0.1002
Saturn	-29021-04-04 14:38 J	-8878403.07	-8878402.89	-8878402.71	0.0273	0.0139
Saturn	-29021-11-19 15:50 J	-8878173.90	-8878173.84	-8878173.76	0.0272	0.0256
Moon	-29020-10-25 21:21 J	-8877833.77	-8877833.61	-8877833.45	0.2633	0.0469
Earth	-29020-10-26 03:07 J	-8877833.50	-8877833.37	-8877833.23	0.2631	0.1429 *
Jupiter	-29019-10-20 00:28 J	-8877474.63	-8877474.48	-8877474.33	0.0517	0.0325
Jupiter	-29018-06-13 10:04 J	-8877238.27	-8877238.08	-8877237.89	0.0508	0.0173
Mars	-29017-05-10 11:59 J	-8876906.14	-8876906.00	-8876905.86	0.1706	0.1058
Jupiter	-29012-04-09 09:35 J	-8875111.28	-8875111.10	-8875110.91	0.0513	0.0222
Moon	-29012-10-23 13:26 J	-8874913.99	-8874913.94	-8874913.89	0.2636	0.2473
Earth	-29012-10-23 16:19 J	-8874913.90	-8874913.82	-8874913.73	0.2630	0.2233 *
Jupiter	-29012-12-03 04:47 J	-8874873.46	-8874873.30	-8874873.13	0.0522	0.0322
Saturn	-29007-01-21 23:59 J	-8873362.62	-8873362.50	-8873362.35	0.0282	0.0221
Jupiter	-29007-06-24 23:59 J	-8873208.59	-8873208.50	-8873208.41	0.0519	0.0463
Saturn	-29007-09-08 18:57 J	-8873132.92	-8873132.71	-8873132.50	0.0284	0.0081
Jupiter	-29006-02-16 11:59 J	-8872972.20	-8872972.00	-8872971.81	0.0510	0.0040
Saturn	-29006-04-26 15:35 J	-8872903.06	-8872902.85	-8872902.64	0.0285	0.0064
Saturn	-29006-12-12 14:09 J	-8872673.05	-8872672.91	-8872672.76	0.0287	0.0212
Jupiter	-29001-12-13 03:21 J	-8870845.50	-8870845.36	-8870845.21	0.0511	0.0362

29TH MILLENNIUM BCE

This is a list of transits of Venus in the 29th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-29000-08-07 20:23 J		-8870607.85	-8870607.65	-8870607.46	0.0520	0.0171	
Jupiter	-28995-10-22 10:47 J		-8868706.24	-8868706.05	-8868705.85	0.0512	0.0103	
Jupiter	-28994-06-15 16:33 J		-8868469.94	-8868469.81	-8868469.68	0.0504	0.0378	
Saturn	-28994-11-28 04:19 J		-8868304.45	-8868304.32	-8868304.19	0.0278	0.0219	
Saturn	-28993-07-14 10:33 J		-8868075.26	-8868075.06	-8868074.87	0.0277	0.0091	
Saturn	-28992-02-28 14:52 J		-8867846.08	-8867845.88	-8867845.67	0.0275	0.0036	
Uranus	-28992-09-20 21:35 J		-8867641.60	-8867641.60	-8867641.58	0.0135	0.0135	
Saturn	-28992-10-15 17:31 J		-8867616.93	-8867616.77	-8867616.59	0.0274	0.0159	
Uranus	-28991-05-05 02:52 J		-8867415.46	-8867415.38	-8867415.26	0.0135	0.0119	
Uranus	-28991-12-17 08:52 J		-8867189.26	-8867189.13	-8867188.99	0.0135	0.0102	
Uranus	-28990-07-31 14:38 J		-8866963.06	-8866962.89	-8866962.73	0.0135	0.0086	
Uranus	-28989-03-13 19:55 J		-8866736.84	-8866736.67	-8866736.47	0.0136	0.0070	
Jupiter	-28989-08-17 20:52 J		-8866579.66	-8866579.63	-8866579.58	0.0508	0.0498	
Uranus	-28989-10-26 01:55 J		-8866510.62	-8866510.42	-8866510.22	0.0136	0.0052	
Jupiter	-28988-04-12 11:31 J		-8866342.23	-8866342.02	-8866341.82	0.0517	0.0020	
Uranus	-28988-06-09 07:40 J		-8866284.38	-8866284.18	-8866283.97	0.0136	0.0035	
Mars	-28988-07-25 11:59 J		-8866238.15	-8866238.00	-8866237.85	0.1800	0.0807	
Uranus	-28987-01-21 13:55 J		-8866058.13	-8866057.92	-8866057.71	0.0136	0.0018	
Uranus	-28987-09-04 19:55 J		-8865831.88	-8865831.67	-8865831.45	0.0137	0.0002	

Uranus	-28986-04-19 02:09 J	-8865605.62	-8865605.41	-8865605.20	0.0137	0.0017
Uranus	-28986-12-01 08:23 J	-8865379.35	-8865379.15	-8865378.94	0.0137	0.0035
Uranus	-28985-07-14 14:52 J	-8865153.08	-8865152.88	-8865152.68	0.0138	0.0053
Uranus	-28984-02-25 21:07 J	-8864926.79	-8864926.62	-8864926.42	0.0138	0.0071
Uranus	-28984-10-10 03:50 J	-8864700.49	-8864700.34	-8864700.16	0.0138	0.0089
Mars	-28983-03-08 14:23 J	-8864551.07	-8864550.90	-8864550.73	0.1718	0.0521
Uranus	-28983-05-24 10:33 J	-8864474.18	-8864474.06	-8864473.91	0.0139	0.0107
Jupiter	-28983-06-27 10:04 J	-8864440.25	-8864440.08	-8864439.90	0.0515	0.0244
Uranus	-28982-01-05 17:31 J	-8864247.85	-8864247.77	-8864247.66	0.0139	0.0124
Jupiter	-28982-02-18 18:14 J	-8864203.92	-8864203.74	-8864203.57	0.0506	0.0248
Neptune	-28981-01-23 15:35 J	-8863864.90	-8863864.85	-8863864.77	0.0089	0.0085
Neptune	-28981-09-05 05:02 J	-8863639.36	-8863639.29	-8863639.17	0.0089	0.0081
Neptune	-28980-04-18 19:11 J	-8863413.81	-8863413.70	-8863413.58	0.0089	0.0076
Neptune	-28980-11-30 08:38 J	-8863188.25	-8863188.14	-8863187.99	0.0089	0.0072
Neptune	-28979-07-13 22:19 J	-8862962.70	-8862962.57	-8862962.41	0.0089	0.0067
Neptune	-28978-02-24 11:45 J	-8862737.14	-8862737.01	-8862736.83	0.0089	0.0063
Saturn	-28978-08-04 11:02 J	-8862576.20	-8862576.04	-8862575.89	0.0282	0.0194
Neptune	-28978-10-08 01:40 J	-8862511.58	-8862511.43	-8862511.24	0.0089	0.0058
Saturn	-28977-03-21 06:14 J	-8862346.45	-8862346.24	-8862346.03	0.0284	0.0053
Neptune	-28977-05-20 15:35 J	-8862286.02	-8862285.85	-8862285.66	0.0089	0.0053
Saturn	-28977-11-06 03:35 J	-8862116.56	-8862116.35	-8862116.15	0.0286	0.0093
Jupiter	-28977-12-16 00:43 J	-8862076.67	-8862076.47	-8862076.27	0.0514	0.0134
Neptune	-28976-01-01 05:02 J	-8862060.46	-8862060.29	-8862060.08	0.0089	0.0049
Saturn	-28976-06-24 02:38 J	-8861886.50	-8861886.39	-8861886.27	0.0287	0.0241
Jupiter	-28976-08-10 20:52 J	-8861838.75	-8861838.63	-8861838.50	0.0523	0.0411
Neptune	-28976-08-14 18:43 J	-8861834.90	-8861834.72	-8861834.51	0.0089	0.0044
Neptune	-28975-03-28 08:38 J	-8861609.33	-8861609.14	-8861608.93	0.0089	0.0039
Neptune	-28975-11-08 22:33 J	-8861383.77	-8861383.56	-8861383.35	0.0089	0.0034
Neptune	-28974-06-22 11:45 J	-8861158.20	-8861158.01	-8861157.78	0.0089	0.0030
Neptune	-28973-02-03 01:26 J	-8860932.64	-8860932.44	-8860932.21	0.0089	0.0025

Neptune	-28973-09-15 15:07 J	-8860707.08	-8860706.87	-8860706.64	0.0089	0.0020
Neptune	-28972-04-29 04:47 J	-8860481.52	-8860481.30	-8860481.08	0.0089	0.0015
Neptune	-28972-12-10 18:28 J	-8860255.95	-8860255.73	-8860255.51	0.0089	0.0010
Jupiter	-28971-03-02 08:52 J	-8860174.26	-8860174.13	-8860173.99	0.0518	0.0384
Neptune	-28971-07-24 07:55 J	-8860030.39	-8860030.17	-8860029.95	0.0089	0.0005
Jupiter	-28971-10-24 19:55 J	-8859937.87	-8859937.67	-8859937.48	0.0509	0.0116
Neptune	-28970-03-06 21:21 J	-8859804.83	-8859804.61	-8859804.39	0.0089	0.0001
Neptune	-28970-10-18 10:47 J	-8859579.27	-8859579.05	-8859578.82	0.0089	0.0005
Neptune	-28969-05-31 00:14 J	-8859353.71	-8859353.49	-8859353.26	0.0089	0.0009
Neptune	-28968-01-11 13:40 J	-8859128.15	-8859127.93	-8859127.71	0.0089	0.0014
Neptune	-28968-08-25 02:52 J	-8858902.59	-8858902.38	-8858902.15	0.0089	0.0019
Neptune	-28967-04-07 16:33 J	-8858677.02	-8858676.81	-8858676.60	0.0089	0.0023
Neptune	-28967-11-19 05:59 J	-8858451.46	-8858451.25	-8858451.04	0.0089	0.0028
Neptune	-28966-07-02 19:11 J	-8858225.89	-8858225.70	-8858225.48	0.0089	0.0033
Neptune	-28965-02-13 08:52 J	-8858000.33	-8858000.13	-8857999.93	0.0089	0.0037
Jupiter	-28965-08-20 16:19 J	-8857810.99	-8857810.82	-8857810.64	0.0511	0.0280
Neptune	-28965-09-25 22:04 J	-8857774.77	-8857774.58	-8857774.38	0.0089	0.0042
Jupiter	-28964-04-15 10:04 J	-8857573.26	-8857573.08	-8857572.90	0.0521	0.0257
Neptune	-28964-05-09 11:16 J	-8857549.21	-8857549.03	-8857548.83	0.0089	0.0047
Saturn	-28964-06-09 13:26 J	-8857518.08	-8857517.94	-8857517.79	0.0278	0.0194
Neptune	-28964-12-21 00:57 J	-8857323.64	-8857323.46	-8857323.28	0.0089	0.0051
Saturn	-28963-01-24 19:11 J	-8857288.89	-8857288.70	-8857288.49	0.0276	0.0067
Neptune	-28963-08-03 13:55 J	-8857098.07	-8857097.92	-8857097.73	0.0089	0.0056
Saturn	-28963-09-10 23:16 J	-8857059.73	-8857059.53	-8857059.32	0.0274	0.0059
Neptune	-28962-03-17 03:35 J	-8856872.51	-8856872.35	-8856872.19	0.0089	0.0060
Saturn	-28962-04-28 01:40 J	-8856830.58	-8856830.43	-8856830.27	0.0273	0.0180
Neptune	-28962-10-28 16:33 J	-8856646.94	-8856646.81	-8856646.64	0.0089	0.0065
Neptune	-28961-06-10 06:14 J	-8856421.37	-8856421.24	-8856421.10	0.0089	0.0069
Neptune	-28960-01-21 18:57 J	-8856195.81	-8856195.71	-8856195.56	0.0089	0.0074
Neptune	-28960-09-04 08:23 J	-8855970.24	-8855970.15	-8855970.03	0.0089	0.0078

Neptune	-28959-04-17 21:50 J	-8855744.67	-8855744.59	-8855744.51	0.0089	0.0082
Jupiter	-28959-06-29 21:35 J	-8855671.80	-8855671.60	-8855671.40	0.0512	0.0022
Neptune	-28959-11-29 10:33 J	-8855519.08	-8855519.06	-8855518.99	0.0089	0.0087
Jupiter	-28958-02-21 02:38 J	-8855435.47	-8855435.39	-8855435.30	0.0503	0.0454
Mars	-28956-07-24 18:57 J	-8854550.86	-8854550.71	-8854550.55	0.1810	0.0766
Jupiter	-28953-04-25 08:38 J	-8853545.25	-8853545.14	-8853545.02	0.0509	0.0419
Jupiter	-28953-12-18 23:59 J	-8853307.70	-8853307.50	-8853307.29	0.0518	0.0104
Uranus	-28951-01-04 08:38 J	-8852926.20	-8852926.14	-8852926.05	0.0144	0.0135
Mars	-28951-03-07 20:38 J	-8852863.79	-8852863.64	-8852863.48	0.1709	0.0885
Uranus	-28951-08-18 20:38 J	-8852699.76	-8852699.64	-8852699.50	0.0143	0.0115
Uranus	-28950-04-02 08:23 J	-8852473.30	-8852473.15	-8852472.97	0.0143	0.0094
Uranus	-28950-11-14 20:09 J	-8852246.83	-8852246.66	-8852246.46	0.0143	0.0074
Uranus	-28949-06-28 08:09 J	-8852020.36	-8852020.16	-8852019.95	0.0143	0.0053
Uranus	-28948-02-09 19:55 J	-8851793.88	-8851793.67	-8851793.45	0.0142	0.0033
Saturn	-28948-02-13 16:47 J	-8851789.97	-8851789.80	-8851789.63	0.0283	0.0172
Uranus	-28948-09-24 07:26 J	-8851567.41	-8851567.19	-8851566.97	0.0142	0.0013
Saturn	-28948-10-01 11:59 J	-8851560.22	-8851560.00	-8851559.79	0.0284	0.0031
Jupiter	-28947-03-04 22:33 J	-8851405.75	-8851405.56	-8851405.37	0.0514	0.0156
Uranus	-28947-05-08 18:57 J	-8851340.93	-8851340.71	-8851340.49	0.0142	0.0008
Saturn	-28947-05-19 09:07 J	-8851330.32	-8851330.12	-8851329.92	0.0286	0.0116
Jupiter	-28947-10-27 05:31 J	-8851169.42	-8851169.27	-8851169.11	0.0505	0.0329
Uranus	-28947-12-21 06:14 J	-8851114.46	-8851114.24	-8851114.02	0.0141	0.0028
Saturn	-28946-01-04 08:09 J	-8851100.24	-8851100.16	-8851100.07	0.0287	0.0263
Uranus	-28946-08-04 17:31 J	-8850887.97	-8850887.77	-8850887.56	0.0141	0.0048
Uranus	-28945-03-18 04:33 J	-8850661.50	-8850661.31	-8850661.11	0.0141	0.0068
Uranus	-28945-10-30 15:21 J	-8850435.02	-8850434.86	-8850434.67	0.0140	0.0087
Uranus	-28944-06-14 02:23 J	-8850208.53	-8850208.40	-8850208.24	0.0140	0.0106
Uranus	-28943-01-26 13:11 J	-8849982.04	-8849981.95	-8849981.84	0.0140	0.0125
Jupiter	-28941-08-23 16:19 J	-8849042.03	-8849041.82	-8849041.61	0.0516	0.0044
Jupiter	-28940-04-18 14:23 J	-8848803.96	-8848803.90	-8848803.84	0.0525	0.0503

Jupiter	-28936-11-07 20:52 J	-8847139.79	-8847139.63	-8847139.46	0.0516	0.0299
Jupiter	-28935-07-02 05:45 J	-8846903.44	-8846903.26	-8846903.07	0.0507	0.0195
Saturn	-28935-12-20 16:19 J	-8846731.98	-8846731.82	-8846731.66	0.0278	0.0176
Saturn	-28934-08-06 21:50 J	-8846502.79	-8846502.59	-8846502.38	0.0276	0.0048
Saturn	-28933-03-23 01:40 J	-8846273.62	-8846273.43	-8846273.22	0.0275	0.0078
Saturn	-28933-11-07 04:04 J	-8846044.47	-8846044.33	-8846044.18	0.0273	0.0199
Pluto	-28932-07-27 09:50 J	-8845782.27	-8845782.09	-8845781.87	0.0065	0.0028
Pluto	-28931-03-09 13:55 J	-8845557.12	-8845556.92	-8845556.70	0.0065	0.0012
Pluto	-28931-10-20 17:31 J	-8845331.88	-8845331.77	-8845331.62	0.0065	0.0051
Jupiter	-28929-04-28 08:23 J	-8844776.34	-8844776.15	-8844775.95	0.0513	0.0192
Jupiter	-28929-12-22 04:04 J	-8844538.48	-8844538.33	-8844538.17	0.0523	0.0351
Jupiter	-28924-07-13 19:11 J	-8842873.80	-8842873.70	-8842873.59	0.0519	0.0439
Jupiter	-28923-03-07 06:43 J	-8842637.42	-8842637.22	-8842637.02	0.0510	0.0060
Mars	-28922-05-22 19:55 J	-8842195.81	-8842195.67	-8842195.53	0.1796	0.1032
Saturn	-28919-08-27 02:23 J	-8841003.58	-8841003.40	-8841003.21	0.0283	0.0147
Saturn	-28918-04-13 22:19 J	-8840773.79	-8840773.57	-8840773.36	0.0284	0.0005
Saturn	-28918-11-29 19:55 J	-8840543.85	-8840543.67	-8840543.48	0.0286	0.0143
Jupiter	-28917-01-01 23:16 J	-8840510.68	-8840510.53	-8840510.37	0.0510	0.0335
Mars	-28917-01-03 22:33 J	-8840508.72	-8840508.56	-8840508.40	0.1721	0.0715
Jupiter	-28917-08-26 15:50 J	-8840273.03	-8840272.84	-8840272.64	0.0519	0.0195
Jupiter	-28912-11-10 06:57 J	-8838371.41	-8838371.21	-8838371.01	0.0513	0.0077
Jupiter	-28911-07-04 13:11 J	-8838135.07	-8838134.95	-8838134.83	0.0504	0.0400
Uranus	-28907-01-02 12:28 J	-8836857.04	-8836856.98	-8836856.89	0.0135	0.0126
Uranus	-28907-08-16 17:59 J	-8836630.86	-8836630.75	-8836630.61	0.0135	0.0110
Uranus	-28906-03-30 23:45 J	-8836404.66	-8836404.51	-8836404.35	0.0135	0.0093
Jupiter	-28906-09-06 16:19 J	-8836244.89	-8836244.82	-8836244.74	0.0508	0.0471
Uranus	-28906-11-12 05:16 J	-8836178.44	-8836178.28	-8836178.09	0.0135	0.0077
Jupiter	-28905-05-01 06:14 J	-8836007.45	-8836007.24	-8836007.03	0.0517	0.0042
Uranus	-28905-06-25 11:16 J	-8835952.22	-8835952.03	-8835951.83	0.0136	0.0060
Saturn	-28905-07-02 01:26 J	-8835945.60	-8835945.44	-8835945.25	0.0277	0.0151

Uranus	-28904-02-06 17:16 J	-8835725.98	-8835725.78	-8835725.57	0.0136	0.0042
Saturn	-28904-02-16 06:57 J	-8835716.42	-8835716.21	-8835716.00	0.0275	0.0024
Uranus	-28904-09-20 23:16 J	-8835499.74	-8835499.53	-8835499.32	0.0136	0.0025
Saturn	-28904-10-03 10:19 J	-8835487.25	-8835487.07	-8835486.87	0.0274	0.0101
Uranus	-28903-05-05 05:16 J	-8835273.49	-8835273.28	-8835273.06	0.0137	0.0008
Saturn	-28903-05-20 12:28 J	-8835258.10	-8835257.98	-8835257.86	0.0273	0.0220
Uranus	-28903-12-17 11:31 J	-8835047.23	-8835047.02	-8835046.80	0.0137	0.0011
Uranus	-28902-07-31 17:45 J	-8834820.96	-8834820.76	-8834820.54	0.0137	0.0028
Uranus	-28901-03-13 23:59 J	-8834594.69	-8834594.50	-8834594.29	0.0137	0.0047
Uranus	-28901-10-26 06:28 J	-8834368.41	-8834368.23	-8834368.03	0.0138	0.0064
Neptune	-28901-12-13 12:14 J	-8834320.03	-8834319.99	-8834319.91	0.0089	0.0085
Uranus	-28900-06-09 12:57 J	-8834142.12	-8834141.96	-8834141.77	0.0138	0.0082
Jupiter	-28900-07-16 07:26 J	-8834105.37	-8834105.19	-8834105.01	0.0515	0.0215
Neptune	-28900-07-27 00:43 J	-8834094.54	-8834094.47	-8834094.37	0.0089	0.0081
Uranus	-28899-01-21 20:09 J	-8833915.81	-8833915.66	-8833915.51	0.0138	0.0100
Neptune	-28899-03-09 12:57 J	-8833869.05	-8833868.96	-8833868.83	0.0089	0.0077
Jupiter	-28899-03-09 15:50 J	-8833869.00	-8833868.84	-8833868.67	0.0506	0.0275 *
Uranus	-28899-09-05 02:38 J	-8833689.49	-8833689.39	-8833689.27	0.0139	0.0118
Neptune	-28899-10-21 01:55 J	-8833643.55	-8833643.42	-8833643.30	0.0089	0.0072
Uranus	-28898-04-19 09:35 J	-8833463.14	-8833463.10	-8833463.05	0.0139	0.0136
Neptune	-28898-06-03 13:55 J	-8833418.04	-8833417.92	-8833417.77	0.0089	0.0068
Neptune	-28897-01-15 02:09 J	-8833192.54	-8833192.41	-8833192.24	0.0089	0.0064
Neptune	-28897-08-27 14:23 J	-8832967.04	-8832966.90	-8832966.72	0.0089	0.0060
Neptune	-28896-04-10 03:21 J	-8832741.52	-8832741.36	-8832741.18	0.0089	0.0055
Neptune	-28896-11-21 15:35 J	-8832516.01	-8832515.85	-8832515.66	0.0089	0.0051
Neptune	-28895-07-05 04:19 J	-8832290.51	-8832290.32	-8832290.14	0.0089	0.0046
Neptune	-28894-02-15 16:19 J	-8832065.00	-8832064.82	-8832064.62	0.0089	0.0042
Neptune	-28894-09-29 04:33 J	-8831839.49	-8831839.31	-8831839.10	0.0089	0.0038
Jupiter	-28893-01-04 20:52 J	-8831741.84	-8831741.63	-8831741.43	0.0514	0.0108
Neptune	-28893-05-11 17:16 J	-8831613.97	-8831613.78	-8831613.57	0.0089	0.0033

Jupiter -28893-08-29 17:16 J -8831503.89 -8831503.78 -8831503.66 0.0524 0.0436
 Neptune -28893-12-23 05:31 J -8831388.46 -8831388.27 -8831388.05 0.0089 0.0029
 Neptune -28892-08-05 18:14 J -8831162.94 -8831162.74 -8831162.53 0.0089 0.0024
 Neptune -28891-03-19 06:43 J -8830937.43 -8830937.22 -8830937.00 0.0089 0.0019
 Neptune -28891-10-30 19:11 J -8830711.91 -8830711.70 -8830711.48 0.0089 0.0015
 Mars -28890-05-22 02:38 J -8830508.56 -8830508.39 -8830508.23 0.1806 0.0520
 Neptune -28890-06-13 07:40 J -8830486.39 -8830486.18 -8830485.96 0.0089 0.0010
 Saturn -28890-07-22 14:52 J -8830446.96 -8830446.88 -8830446.80 0.0282 0.0261
 Neptune -28889-01-24 20:09 J -8830260.87 -8830260.66 -8830260.44 0.0089 0.0005
 Saturn -28889-03-08 08:23 J -8830217.34 -8830217.15 -8830216.95 0.0283 0.0125
 Neptune -28889-09-06 08:38 J -8830035.35 -8830035.14 -8830034.92 0.0089 0.0002
 Saturn -28889-10-24 04:19 J -8829987.54 -8829987.32 -8829987.11 0.0285 0.0019
 Jupiter -28888-03-21 07:26 J -8829839.33 -8829839.19 -8829839.04 0.0518 0.0354
 Neptune -28888-04-19 21:21 J -8829809.82 -8829809.61 -8829809.39 0.0089 0.0004
 Saturn -28888-06-11 02:09 J -8829757.59 -8829757.41 -8829757.24 0.0286 0.0166
 Jupiter -28888-11-12 18:14 J -8829602.93 -8829602.74 -8829602.55 0.0509 0.0143
 Neptune -28888-12-01 10:04 J -8829584.30 -8829584.08 -8829583.86 0.0089 0.0008
 Neptune -28887-07-14 22:33 J -8829358.77 -8829358.56 -8829358.34 0.0089 0.0013
 Neptune -28886-02-25 11:02 J -8829133.25 -8829133.04 -8829132.82 0.0089 0.0018
 Neptune -28886-10-08 23:31 J -8828907.72 -8828907.52 -8828907.30 0.0089 0.0023
 Mars -28885-01-03 05:02 J -8828821.46 -8828821.29 -8828821.13 0.1712 0.0699
 Neptune -28885-05-21 12:28 J -8828682.18 -8828681.98 -8828681.77 0.0088 0.0027
 Neptune -28884-01-02 00:57 J -8828456.65 -8828456.46 -8828456.24 0.0088 0.0032
 Neptune -28884-08-15 13:40 J -8828231.12 -8828230.93 -8828230.72 0.0088 0.0036
 Neptune -28883-03-29 02:09 J -8828005.59 -8828005.41 -8828005.20 0.0088 0.0041
 Neptune -28883-11-09 15:07 J -8827780.06 -8827779.87 -8827779.68 0.0088 0.0045
 Neptune -28882-06-23 03:35 J -8827554.52 -8827554.35 -8827554.16 0.0088 0.0049
 Jupiter -28882-09-09 13:55 J -8827476.10 -8827475.92 -8827475.74 0.0512 0.0250
 Neptune -28881-02-03 16:19 J -8827328.99 -8827328.82 -8827328.64 0.0088 0.0054
 Jupiter -28881-05-04 08:23 J -8827238.32 -8827238.15 -8827237.98 0.0521 0.0286

Neptune	-28881-09-16 04:47 J	-8827103.45	-8827103.30	-8827103.12	0.0088	0.0059
Neptune	-28880-04-29 17:45 J	-8826877.90	-8826877.76	-8826877.60	0.0088	0.0063
Neptune	-28880-12-11 06:43 J	-8826652.36	-8826652.22	-8826652.08	0.0088	0.0067
Neptune	-28879-07-24 18:57 J	-8826426.82	-8826426.71	-8826426.56	0.0088	0.0072
Neptune	-28878-03-07 07:40 J	-8826201.27	-8826201.18	-8826201.05	0.0088	0.0076
Neptune	-28878-10-18 20:38 J	-8825975.72	-8825975.64	-8825975.54	0.0088	0.0080
Neptune	-28877-05-31 09:07 J	-8825750.16	-8825750.12	-8825750.02	0.0088	0.0085
Jupiter	-28877-11-24 05:31 J	-8825573.32	-8825573.27	-8825573.21	0.0520	0.0493
Neptune	-28876-01-11 22:19 J	-8825524.57	-8825524.57	-8825524.54	0.0088	0.0088
Saturn	-28876-05-27 21:07 J	-8825388.68	-8825388.62	-8825388.54	0.0279	0.0262
Jupiter	-28876-07-18 18:14 J	-8825336.94	-8825336.74	-8825336.54	0.0511	0.0010
Saturn	-28875-01-12 04:19 J	-8825159.50	-8825159.32	-8825159.13	0.0277	0.0133
Jupiter	-28875-03-11 22:33 J	-8825100.61	-8825100.56	-8825100.49	0.0502	0.0474
Saturn	-28875-08-29 09:21 J	-8824930.31	-8824930.11	-8824929.90	0.0276	0.0007
Saturn	-28874-04-15 12:43 J	-8824701.15	-8824700.97	-8824700.78	0.0274	0.0119
Earth	-28874-04-25 23:16 J	-8824690.57	-8824690.53	-8824690.49	0.2702	0.2597
Saturn	-28874-11-30 14:38 J	-8824471.99	-8824471.89	-8824471.79	0.0273	0.0238
Jupiter	-28870-05-15 07:11 J	-8823210.33	-8823210.20	-8823210.07	0.0510	0.0390
Jupiter	-28869-01-07 23:02 J	-8822972.74	-8822972.54	-8822972.34	0.0519	0.0134
Uranus	-28868-09-03 14:52 J	-8822367.88	-8822367.88	-8822367.86	0.0144	0.0144
Uranus	-28867-04-18 02:38 J	-8822141.48	-8822141.39	-8822141.26	0.0144	0.0124
Uranus	-28867-11-30 14:38 J	-8821915.03	-8821914.89	-8821914.73	0.0143	0.0103
Earth	-28866-04-23 16:04 J	-8821770.97	-8821770.83	-8821770.68	0.2703	0.0766
Moon	-28866-04-23 21:21 J	-8821770.77	-8821770.61	-8821770.45	0.2701	0.0202 *
Uranus	-28866-07-15 02:38 J	-8821688.56	-8821688.39	-8821688.20	0.0143	0.0083
Uranus	-28865-02-26 14:38 J	-8821462.09	-8821461.89	-8821461.69	0.0143	0.0062
Uranus	-28865-10-10 02:09 J	-8821235.62	-8821235.41	-8821235.19	0.0142	0.0042
Jupiter	-28864-03-23 18:14 J	-8821070.93	-8821070.74	-8821070.55	0.0513	0.0133
Uranus	-28864-05-24 13:55 J	-8821009.14	-8821008.92	-8821008.70	0.0142	0.0021
Jupiter	-28864-11-15 00:57 J	-8820834.61	-8820834.46	-8820834.32	0.0505	0.0348

Uranus	-28863-01-06 01:26 J	-8820782.66	-8820782.44	-8820782.22	0.0142	0.0000
Uranus	-28863-08-20 12:43 J	-8820556.18	-8820555.97	-8820555.74	0.0141	0.0021
Uranus	-28862-04-03 23:59 J	-8820329.71	-8820329.50	-8820329.28	0.0141	0.0040
Uranus	-28862-11-16 11:16 J	-8820103.23	-8820103.03	-8820102.83	0.0141	0.0060
Uranus	-28861-06-29 22:33 J	-8819876.74	-8819876.56	-8819876.38	0.0140	0.0080
Saturn	-28860-01-31 22:47 J	-8819660.65	-8819660.55	-8819660.43	0.0282	0.0239
Uranus	-28860-02-11 09:21 J	-8819650.26	-8819650.11	-8819649.95	0.0140	0.0099
Saturn	-28860-09-18 17:16 J	-8819430.98	-8819430.78	-8819430.58	0.0283	0.0101
Uranus	-28860-09-25 20:09 J	-8819423.77	-8819423.66	-8819423.54	0.0140	0.0118
Saturn	-28859-05-06 13:26 J	-8819201.15	-8819200.94	-8819200.72	0.0285	0.0044
Uranus	-28859-05-10 06:43 J	-8819197.25	-8819197.22	-8819197.17	0.0139	0.0137
Saturn	-28859-12-22 11:45 J	-8818971.17	-8818971.01	-8818970.85	0.0287	0.0191
Jupiter	-28858-09-12 12:43 J	-8818707.18	-8818706.97	-8818706.76	0.0516	0.0018
Jupiter	-28857-05-07 10:04 J	-8818469.08	-8818469.08	-8818469.07	0.0525	0.0524
Mars	-28856-03-19 03:50 J	-8818153.46	-8818153.34	-8818153.22	0.1793	0.1258
Jupiter	-28853-11-26 16:47 J	-8816804.97	-8816804.80	-8816804.63	0.0517	0.0273
Jupiter	-28852-07-21 02:23 J	-8816568.58	-8816568.40	-8816568.22	0.0508	0.0220
Mars	-28852-10-31 06:28 J	-8816466.38	-8816466.23	-8816466.08	0.1724	0.0910
Saturn	-28847-12-08 06:57 J	-8814602.31	-8814602.21	-8814602.10	0.0278	0.0236
Jupiter	-28846-05-18 04:04 J	-8814441.53	-8814441.33	-8814441.13	0.0513	0.0165
Saturn	-28846-07-25 13:26 J	-8814373.13	-8814372.94	-8814372.74	0.0277	0.0108
Jupiter	-28845-01-10 23:02 J	-8814203.69	-8814203.54	-8814203.40	0.0522	0.0372
Saturn	-28845-03-10 18:14 J	-8814143.95	-8814143.74	-8814143.53	0.0275	0.0019
Saturn	-28845-10-25 21:07 J	-8813914.79	-8813914.62	-8813914.44	0.0274	0.0142
Saturn	-28844-06-11 22:33 J	-8813685.61	-8813685.56	-8813685.49	0.0272	0.0259
Pluto	-28844-11-09 01:26 J	-8813535.64	-8813535.44	-8813535.22	0.0080	0.0027
Pluto	-28843-06-22 11:59 J	-8813310.16	-8813310.00	-8813309.80	0.0079	0.0050
Jupiter	-28841-08-01 15:50 J	-8812538.95	-8812538.84	-8812538.71	0.0519	0.0411
Jupiter	-28840-03-26 04:19 J	-8812302.52	-8812302.32	-8812302.13	0.0510	0.0088
Jupiter	-28834-01-20 19:26 J	-8810175.85	-8810175.69	-8810175.52	0.0510	0.0309

Jupiter	-28834-09-15 12:28 J	-8809938.17	-8809937.98	-8809937.79	0.0520	0.0221
Saturn	-28831-08-14 04:47 J	-8808874.42	-8808874.30	-8808874.15	0.0282	0.0218
Saturn	-28830-03-31 23:31 J	-8808644.73	-8808644.52	-8808644.32	0.0284	0.0078
Saturn	-28830-11-16 19:40 J	-8808414.88	-8808414.68	-8808414.46	0.0285	0.0068
Saturn	-28829-07-03 18:14 J	-8808184.88	-8808184.74	-8808184.59	0.0287	0.0215
Jupiter	-28829-11-29 05:45 J	-8808036.46	-8808036.26	-8808036.06	0.0512	0.0048
Jupiter	-28828-07-23 11:31 J	-8807800.12	-8807800.02	-8807799.91	0.0504	0.0426
Mars	-28824-03-18 10:33 J	-8806466.23	-8806466.06	-8806465.89	0.1803	0.0285
Uranus	-28824-09-01 21:07 J	-8806298.63	-8806298.62	-8806298.57	0.0135	0.0134
Uranus	-28823-04-16 02:52 J	-8806072.47	-8806072.38	-8806072.26	0.0135	0.0117
Jupiter	-28823-09-25 13:40 J	-8805910.03	-8805909.93	-8805909.83	0.0508	0.0443
Uranus	-28823-11-28 08:23 J	-8805846.28	-8805846.15	-8805845.99	0.0135	0.0101
Jupiter	-28822-05-21 04:04 J	-8805672.53	-8805672.33	-8805672.12	0.0517	0.0072
Uranus	-28822-07-12 14:09 J	-8805620.06	-8805619.91	-8805619.73	0.0135	0.0084
Uranus	-28821-02-23 20:09 J	-8805393.84	-8805393.66	-8805393.47	0.0136	0.0067
Uranus	-28821-10-07 01:55 J	-8805167.61	-8805167.42	-8805167.21	0.0136	0.0050
Uranus	-28820-05-21 07:55 J	-8804941.37	-8804941.17	-8804940.96	0.0136	0.0033
Mars	-28820-10-30 13:55 J	-8804779.09	-8804778.92	-8804778.75	0.1715	0.0527
Uranus	-28819-01-02 14:09 J	-8804715.12	-8804714.91	-8804714.69	0.0136	0.0015
Uranus	-28819-08-16 20:23 J	-8804488.87	-8804488.65	-8804488.44	0.0137	0.0003
Uranus	-28818-03-31 02:23 J	-8804262.60	-8804262.40	-8804262.18	0.0137	0.0021
Neptune	-28818-09-13 13:11 J	-8804095.95	-8804095.95	-8804095.94	0.0088	0.0088
Uranus	-28818-11-12 08:52 J	-8804036.34	-8804036.13	-8804035.92	0.0137	0.0039
Neptune	-28817-04-26 02:23 J	-8803870.44	-8803870.40	-8803870.31	0.0088	0.0085
Saturn	-28817-06-19 09:07 J	-8803816.24	-8803816.12	-8803815.99	0.0278	0.0219
Uranus	-28817-06-25 15:07 J	-8803810.06	-8803809.87	-8803809.67	0.0138	0.0057
Jupiter	-28817-08-04 05:16 J	-8803770.46	-8803770.28	-8803770.09	0.0515	0.0186
Neptune	-28817-12-07 16:33 J	-8803644.90	-8803644.81	-8803644.71	0.0089	0.0080
Saturn	-28816-02-03 15:35 J	-8803587.04	-8803586.85	-8803586.65	0.0276	0.0091
Uranus	-28816-02-06 21:50 J	-8803583.76	-8803583.59	-8803583.40	0.0138	0.0075

Jupiter -28816-03-28 13:11 J -8803534.11 -8803533.95 -8803533.79 0.0506 0.0298
 Neptune -28816-07-21 05:59 J -8803419.35 -8803419.25 -8803419.12 0.0089 0.0076
 Saturn -28816-09-20 20:09 J -8803357.87 -8803357.66 -8803357.45 0.0275 0.0036
 Uranus -28816-09-21 04:19 J -8803357.46 -8803357.32 -8803357.15 0.0138 0.0093 *
 Neptune -28815-03-03 19:26 J -8803193.80 -8803193.69 -8803193.54 0.0089 0.0072
 Uranus -28815-05-05 11:16 J -8803131.15 -8803131.03 -8803130.90 0.0139 0.0111
 Saturn -28815-05-07 22:47 J -8803128.71 -8803128.55 -8803128.37 0.0274 0.0159
 Neptune -28815-10-15 09:35 J -8802968.24 -8802968.10 -8802967.95 0.0089 0.0067
 Uranus -28815-12-17 17:45 J -8802904.82 -8802904.76 -8802904.67 0.0139 0.0129
 Neptune -28814-05-28 23:02 J -8802742.68 -8802742.54 -8802742.37 0.0089 0.0063
 Neptune -28813-01-09 12:57 J -8802517.13 -8802516.96 -8802516.79 0.0089 0.0058
 Neptune -28813-08-22 02:09 J -8802291.57 -8802291.41 -8802291.21 0.0089 0.0054
 Neptune -28812-04-04 16:04 J -8802066.01 -8802065.83 -8802065.64 0.0089 0.0049
 Neptune -28812-11-16 05:45 J -8801840.44 -8801840.26 -8801840.05 0.0089 0.0045
 Neptune -28811-06-29 19:26 J -8801614.88 -8801614.69 -8801614.48 0.0089 0.0040
 Jupiter -28810-01-23 19:55 J -8801406.87 -8801406.67 -8801406.46 0.0515 0.0076
 Neptune -28810-02-10 08:52 J -8801389.32 -8801389.13 -8801388.91 0.0089 0.0036
 Jupiter -28810-09-18 17:02 J -8801168.88 -8801168.79 -8801168.69 0.0524 0.0465
 Neptune -28810-09-23 22:47 J -8801163.75 -8801163.55 -8801163.33 0.0089 0.0031
 Neptune -28809-05-06 12:28 J -8800938.19 -8800937.98 -8800937.76 0.0089 0.0026
 Neptune -28809-12-18 01:55 J -8800712.62 -8800712.42 -8800712.19 0.0089 0.0022
 Neptune -28808-07-31 15:35 J -8800487.06 -8800486.85 -8800486.62 0.0089 0.0017
 Neptune -28807-03-14 05:16 J -8800261.50 -8800261.28 -8800261.06 0.0089 0.0012
 Neptune -28807-10-25 18:57 J -8800035.93 -8800035.71 -8800035.49 0.0089 0.0007
 Neptune -28806-06-08 08:23 J -8799810.37 -8799810.15 -8799809.92 0.0089 0.0003
 Neptune -28805-01-19 21:50 J -8799584.81 -8799584.59 -8799584.36 0.0089 0.0002
 Jupiter -28805-04-09 04:19 J -8799504.47 -8799504.32 -8799504.16 0.0517 0.0326
 Neptune -28805-09-01 11:16 J -8799359.25 -8799359.03 -8799358.81 0.0089 0.0007
 Jupiter -28805-12-01 14:23 J -8799268.08 -8799267.90 -8799267.71 0.0508 0.0167
 Neptune -28804-04-15 00:43 J -8799133.69 -8799133.47 -8799133.25 0.0089 0.0011

Neptune	-28804-11-26 14:09 J	-8798908.12	-8798907.91	-8798907.69	0.0089	0.0016
Neptune	-28803-07-10 03:21 J	-8798682.56	-8798682.36	-8798682.13	0.0089	0.0021
Neptune	-28802-02-20 17:02 J	-8798457.00	-8798456.79	-8798456.58	0.0089	0.0025
Neptune	-28802-10-04 06:14 J	-8798231.44	-8798231.24	-8798231.02	0.0089	0.0030
Saturn	-28801-02-24 11:31 J	-8798088.17	-8798088.02	-8798087.87	0.0282	0.0196
Neptune	-28801-05-16 19:26 J	-8798005.88	-8798005.69	-8798005.47	0.0089	0.0035
Saturn	-28801-10-11 06:14 J	-8797858.45	-8797858.24	-8797858.03	0.0284	0.0056
Neptune	-28801-12-28 08:52 J	-8797780.31	-8797780.13	-8797779.92	0.0089	0.0039
Saturn	-28800-05-29 03:07 J	-8797628.57	-8797628.37	-8797628.16	0.0285	0.0089
Neptune	-28800-08-10 22:04 J	-8797554.75	-8797554.58	-8797554.37	0.0089	0.0044
Saturn	-28799-01-14 01:55 J	-8797398.54	-8797398.42	-8797398.29	0.0287	0.0237
Neptune	-28799-03-24 11:31 J	-8797329.19	-8797329.02	-8797328.82	0.0089	0.0048
Jupiter	-28799-09-28 11:16 J	-8797141.21	-8797141.03	-8797140.84	0.0512	0.0221
Neptune	-28799-11-05 00:43 J	-8797103.63	-8797103.47	-8797103.27	0.0089	0.0053
Jupiter	-28798-05-24 05:16 J	-8796903.44	-8796903.28	-8796903.11	0.0521	0.0313
Neptune	-28798-06-18 14:09 J	-8796878.06	-8796877.91	-8796877.72	0.0089	0.0057
Neptune	-28797-01-30 03:35 J	-8796652.50	-8796652.35	-8796652.18	0.0089	0.0061
Neptune	-28797-09-11 16:33 J	-8796426.93	-8796426.81	-8796426.64	0.0089	0.0066
Neptune	-28796-04-25 05:59 J	-8796201.36	-8796201.25	-8796201.10	0.0089	0.0070
Neptune	-28796-12-06 19:40 J	-8795975.79	-8795975.68	-8795975.55	0.0089	0.0074
Neptune	-28795-07-20 09:07 J	-8795750.22	-8795750.12	-8795750.02	0.0089	0.0078
Neptune	-28794-03-02 21:35 J	-8795524.65	-8795524.60	-8795524.49	0.0089	0.0083
Neptune	-28794-10-14 10:47 J	-8795299.07	-8795299.05	-8795298.98	0.0089	0.0087
Jupiter	-28794-12-14 01:11 J	-8795238.53	-8795238.45	-8795238.36	0.0520	0.0467
Jupiter	-28793-08-06 14:23 J	-8795002.10	-8795001.90	-8795001.70	0.0511	0.0034
Jupiter	-28792-03-30 19:55 J	-8794765.70	-8794765.67	-8794765.64	0.0503	0.0497
Mars	-28790-01-14 12:14 J	-8794111.08	-8794110.99	-8794110.89	0.1789	0.1464
Saturn	-28788-12-30 18:28 J	-8793029.87	-8793029.73	-8793029.57	0.0278	0.0194
Jupiter	-28787-06-03 04:04 J	-8792875.47	-8792875.33	-8792875.18	0.0509	0.0360
Saturn	-28787-08-17 00:28 J	-8792800.68	-8792800.48	-8792800.27	0.0276	0.0066

Jupiter	-28786-01-26 19:11 J	-8792637.89	-8792637.70	-8792637.50	0.0518	0.0161
Saturn	-28786-04-03 04:33 J	-8792571.51	-8792571.31	-8792571.10	0.0275	0.0060
Mars	-28786-08-28 14:38 J	-8792424.02	-8792423.89	-8792423.75	0.1727	0.1103
Saturn	-28786-11-18 06:57 J	-8792342.35	-8792342.21	-8792342.05	0.0273	0.0181
Uranus	-28784-12-16 09:50 J	-8791583.17	-8791583.09	-8791583.00	0.0144	0.0132
Uranus	-28783-07-30 21:35 J	-8791356.73	-8791356.60	-8791356.45	0.0143	0.0112
Uranus	-28782-03-14 09:21 J	-8791130.27	-8791130.11	-8791129.93	0.0143	0.0092
Uranus	-28782-10-26 21:07 J	-8790903.80	-8790903.62	-8790903.42	0.0143	0.0071
Jupiter	-28781-04-11 15:21 J	-8790736.05	-8790735.86	-8790735.66	0.0514	0.0104
Uranus	-28781-06-09 09:07 J	-8790677.32	-8790677.12	-8790676.91	0.0143	0.0050
Jupiter	-28781-12-03 22:47 J	-8790499.68	-8790499.55	-8790499.41	0.0505	0.0375
Uranus	-28780-01-21 20:52 J	-8790450.84	-8790450.63	-8790450.41	0.0142	0.0029
Uranus	-28780-09-05 08:23 J	-8790224.37	-8790224.15	-8790223.93	0.0142	0.0009
Uranus	-28779-04-19 19:55 J	-8789997.89	-8789997.67	-8789997.45	0.0142	0.0012
Uranus	-28779-12-02 07:11 J	-8789771.41	-8789771.20	-8789770.98	0.0141	0.0033
Uranus	-28778-07-16 18:28 J	-8789544.93	-8789544.73	-8789544.52	0.0141	0.0053
Uranus	-28777-02-28 05:31 J	-8789318.45	-8789318.27	-8789318.07	0.0141	0.0073
Uranus	-28777-10-11 16:33 J	-8789091.97	-8789091.81	-8789091.63	0.0140	0.0092
Earth	-28777-10-26 02:38 J	-8789077.53	-8789077.39	-8789077.26	0.2630	0.1506
Moon	-28777-10-26 08:23 J	-8789077.22	-8789077.15	-8789077.08	0.2631	0.2349
Uranus	-28776-05-26 03:35 J	-8788865.48	-8788865.35	-8788865.22	0.0140	0.0111
Uranus	-28775-01-07 13:55 J	-8788638.98	-8788638.92	-8788638.82	0.0140	0.0131
Jupiter	-28775-02-05 20:38 J	-8788609.67	-8788609.64	-8788609.59	0.0507	0.0495
Jupiter	-28775-10-01 09:35 J	-8788372.31	-8788372.10	-8788371.89	0.0516	0.0011
Saturn	-28772-09-05 17:31 J	-8787301.93	-8787301.77	-8787301.59	0.0283	0.0174
Saturn	-28771-04-23 12:28 J	-8787072.19	-8787071.98	-8787071.76	0.0284	0.0033
Saturn	-28771-12-09 09:21 J	-8786842.30	-8786842.11	-8786841.91	0.0286	0.0113
Saturn	-28770-07-27 08:38 J	-8786612.23	-8786612.14	-8786612.06	0.0287	0.0261
Jupiter	-28770-12-16 16:04 J	-8786470.01	-8786469.83	-8786469.65	0.0516	0.0240
Jupiter	-28769-08-09 01:26 J	-8786233.61	-8786233.44	-8786233.26	0.0507	0.0249

Earth	-28769-10-23 15:50 J	-8786157.93	-8786157.84	-8786157.74	0.2629	0.2130
Moon	-28769-10-23 20:52 J	-8786157.74	-8786157.63	-8786157.52	0.2625	0.1939 *
Jupiter	-28763-06-06 02:09 J	-8784106.61	-8784106.41	-8784106.21	0.0513	0.0135
Jupiter	-28762-01-29 21:50 J	-8783868.72	-8783868.59	-8783868.46	0.0523	0.0402
Mars	-28758-01-13 18:14 J	-8782423.91	-8782423.74	-8782423.57	0.1800	0.0049
Saturn	-28758-07-12 20:23 J	-8782243.81	-8782243.65	-8782243.49	0.0277	0.0177
Jupiter	-28758-08-21 15:07 J	-8782203.99	-8782203.87	-8782203.73	0.0519	0.0380
Saturn	-28757-02-27 02:09 J	-8782014.62	-8782014.41	-8782014.21	0.0276	0.0049
Jupiter	-28757-04-14 02:38 J	-8781967.58	-8781967.39	-8781967.19	0.0509	0.0117
Saturn	-28757-10-13 05:59 J	-8781785.45	-8781785.25	-8781785.05	0.0274	0.0076
Saturn	-28756-05-30 08:23 J	-8781556.29	-8781556.15	-8781556.01	0.0273	0.0196
Mars	-28754-08-27 21:50 J	-8780736.76	-8780736.59	-8780736.41	0.1718	0.0338
Jupiter	-28751-02-08 19:11 J	-8779840.88	-8779840.70	-8779840.53	0.0511	0.0276
Jupiter	-28751-10-04 12:43 J	-8779603.15	-8779602.97	-8779602.79	0.0520	0.0253
Jupiter	-28746-04-26 13:26 J	-8777937.95	-8777937.94	-8777937.91	0.0521	0.0517
Jupiter	-28746-12-19 03:21 J	-8777701.56	-8777701.36	-8777701.16	0.0512	0.0019
Jupiter	-28745-08-11 08:52 J	-8777465.22	-8777465.13	-8777465.04	0.0503	0.0448
Saturn	-28742-03-18 22:19 J	-8776515.74	-8776515.57	-8776515.38	0.0283	0.0155
Saturn	-28742-11-03 17:45 J	-8776285.97	-8776285.76	-8776285.54	0.0284	0.0014
Saturn	-28741-06-20 15:07 J	-8776056.05	-8776055.87	-8776055.67	0.0286	0.0133
Saturn	-28740-02-05 14:23 J	-8775825.93	-8775825.90	-8775825.85	0.0287	0.0281
Jupiter	-28740-10-14 12:28 J	-8775575.10	-8775574.98	-8775574.86	0.0508	0.0410
Uranus	-28740-12-14 11:59 J	-8775514.07	-8775514.00	-8775513.91	0.0135	0.0125
Jupiter	-28739-06-09 02:38 J	-8775337.59	-8775337.39	-8775337.19	0.0517	0.0103
Uranus	-28739-07-28 17:45 J	-8775287.88	-8775287.76	-8775287.63	0.0135	0.0108
Uranus	-28738-03-11 23:16 J	-8775061.68	-8775061.53	-8775061.36	0.0135	0.0092
Uranus	-28738-10-24 05:02 J	-8774835.46	-8774835.29	-8774835.10	0.0135	0.0075
Uranus	-28737-06-06 10:47 J	-8774609.23	-8774609.05	-8774608.84	0.0136	0.0058
Neptune	-28737-08-03 11:59 J	-8774551.00	-8774551.00	-8774550.97	0.0089	0.0089
Uranus	-28736-01-18 17:02 J	-8774382.99	-8774382.79	-8774382.58	0.0136	0.0040

Neptune	-28736-03-17 00:14 J	-8774325.53	-8774325.49	-8774325.41	0.0089	0.0085
Uranus	-28736-09-01 23:02 J	-8774156.75	-8774156.54	-8774156.33	0.0136	0.0022
Neptune	-28736-10-28 12:28 J	-8774100.04	-8774099.98	-8774099.87	0.0089	0.0081
Uranus	-28735-04-16 05:02 J	-8773930.50	-8773930.29	-8773930.07	0.0137	0.0005
Neptune	-28735-06-11 00:43 J	-8773874.55	-8773874.47	-8773874.34	0.0089	0.0077
Uranus	-28735-11-28 11:16 J	-8773704.24	-8773704.03	-8773703.81	0.0137	0.0014
Neptune	-28734-01-22 12:57 J	-8773649.06	-8773648.96	-8773648.81	0.0089	0.0073
Uranus	-28734-07-12 17:31 J	-8773477.97	-8773477.77	-8773477.56	0.0137	0.0032
Jupiter	-28734-08-24 01:55 J	-8773435.61	-8773435.42	-8773435.23	0.0515	0.0158
Neptune	-28734-09-05 01:55 J	-8773423.55	-8773423.42	-8773423.28	0.0089	0.0068
Uranus	-28733-02-23 23:59 J	-8773251.70	-8773251.50	-8773251.30	0.0138	0.0050
Jupiter	-28733-04-16 10:19 J	-8773199.22	-8773199.07	-8773198.91	0.0506	0.0324
Neptune	-28733-04-17 14:23 J	-8773198.04	-8773197.90	-8773197.75	0.0089	0.0064
Uranus	-28733-10-07 06:14 J	-8773025.42	-8773025.24	-8773025.04	0.0138	0.0068
Neptune	-28733-11-29 02:38 J	-8772972.54	-8772972.39	-8772972.22	0.0089	0.0060
Uranus	-28732-05-21 12:43 J	-8772799.12	-8772798.97	-8772798.79	0.0138	0.0086
Neptune	-28732-07-12 14:52 J	-8772747.03	-8772746.88	-8772746.70	0.0089	0.0056
Uranus	-28731-01-02 19:26 J	-8772572.82	-8772572.69	-8772572.54	0.0138	0.0105
Neptune	-28731-02-23 03:35 J	-8772521.52	-8772521.35	-8772521.17	0.0089	0.0051
Uranus	-28731-08-17 02:23 J	-8772346.49	-8772346.40	-8772346.30	0.0139	0.0122
Neptune	-28731-10-06 15:50 J	-8772296.02	-8772295.84	-8772295.65	0.0089	0.0047
Neptune	-28730-05-20 04:04 J	-8772070.50	-8772070.33	-8772070.12	0.0089	0.0043
Neptune	-28730-12-31 16:33 J	-8771844.99	-8771844.81	-8771844.60	0.0089	0.0039
Neptune	-28729-08-13 05:02 J	-8771619.48	-8771619.29	-8771619.08	0.0089	0.0034
Saturn	-28728-01-22 04:47 J	-8771457.47	-8771457.30	-8771457.12	0.0277	0.0153
Neptune	-28728-03-26 17:31 J	-8771393.96	-8771393.77	-8771393.56	0.0089	0.0030
Saturn	-28728-09-08 10:19 J	-8771228.28	-8771228.07	-8771227.87	0.0276	0.0026
Neptune	-28728-11-07 05:59 J	-8771168.45	-8771168.25	-8771168.04	0.0089	0.0025
Jupiter	-28727-02-11 17:59 J	-8771071.96	-8771071.75	-8771071.54	0.0514	0.0045
Saturn	-28727-04-25 13:40 J	-8770999.12	-8770998.93	-8770998.73	0.0274	0.0099

Neptune -28727-06-20 18:28 J -8770942.94 -8770942.73 -8770942.52 0.0089 0.0021
 Jupiter -28727-10-07 14:09 J -8770833.97 -8770833.91 -8770833.83 0.0524 0.0491
 Saturn -28727-12-10 15:35 J -8770769.96 -8770769.85 -8770769.71 0.0273 0.0219
 Mars -28726-01-13 01:26 J -8770736.52 -8770736.44 -8770736.37 0.1810 0.1616
 Neptune -28726-02-01 06:43 J -8770717.42 -8770717.22 -8770717.00 0.0089 0.0017
 Neptune -28726-09-14 19:26 J -8770491.91 -8770491.69 -8770491.48 0.0089 0.0012
 Neptune -28725-04-27 07:55 J -8770266.38 -8770266.17 -8770265.95 0.0089 0.0007
 Mars -28725-11-10 20:38 J -8770068.69 -8770068.64 -8770068.58 0.1786 0.1671
 Neptune -28725-12-08 20:23 J -8770040.86 -8770040.65 -8770040.43 0.0089 0.0003
 Neptune -28724-07-22 08:52 J -8769815.34 -8769815.13 -8769814.91 0.0089 0.0002
 Neptune -28723-03-04 21:21 J -8769589.82 -8769589.61 -8769589.39 0.0089 0.0006
 Neptune -28723-10-16 09:50 J -8769364.30 -8769364.09 -8769363.87 0.0089 0.0011
 Jupiter -28722-04-29 01:40 J -8769169.59 -8769169.43 -8769169.27 0.0518 0.0296
 Neptune -28722-05-29 22:33 J -8769138.77 -8769138.56 -8769138.34 0.0089 0.0015
 Jupiter -28722-12-21 12:28 J -8768933.16 -8768932.98 -8768932.80 0.0509 0.0196
 Neptune -28721-01-10 11:16 J -8768913.24 -8768913.03 -8768912.82 0.0089 0.0020
 Neptune -28721-08-22 23:31 J -8768687.71 -8768687.52 -8768687.29 0.0088 0.0025
 Neptune -28720-04-05 12:28 J -8768462.18 -8768461.98 -8768461.77 0.0088 0.0029
 Mars -28720-06-24 22:19 J -8768381.68 -8768381.57 -8768381.45 0.1731 0.1305
 Neptune -28720-11-17 01:11 J -8768236.65 -8768236.45 -8768236.24 0.0088 0.0033
 Neptune -28719-06-30 13:40 J -8768011.12 -8768010.93 -8768010.72 0.0088 0.0038
 Neptune -28718-02-11 02:23 J -8767785.58 -8767785.40 -8767785.20 0.0088 0.0042
 Neptune -28718-09-24 14:52 J -8767560.05 -8767559.88 -8767559.68 0.0088 0.0046
 Neptune -28717-05-07 03:50 J -8767334.51 -8767334.34 -8767334.15 0.0088 0.0051
 Neptune -28717-12-18 16:33 J -8767108.97 -8767108.81 -8767108.63 0.0088 0.0055
 Neptune -28716-08-01 05:02 J -8766883.43 -8766883.29 -8766883.11 0.0088 0.0059
 Jupiter -28716-10-17 09:07 J -8766806.31 -8766806.12 -8766805.92 0.0512 0.0191
 Neptune -28715-03-14 17:45 J -8766657.90 -8766657.76 -8766657.59 0.0088 0.0064
 Jupiter -28715-06-12 03:07 J -8766568.52 -8766568.37 -8766568.21 0.0521 0.0341
 Neptune -28715-10-26 06:28 J -8766432.35 -8766432.23 -8766432.07 0.0088 0.0068

Neptune	-28714-06-08 19:26 J	-8766206.80	-8766206.69	-8766206.55	0.0088	0.0072
Neptune	-28713-01-20 08:23 J	-8765981.25	-8765981.15	-8765981.03	0.0088	0.0076
Saturn	-28713-02-11 10:47 J	-8765959.10	-8765959.05	-8765958.98	0.0281	0.0269
Neptune	-28713-09-01 21:21 J	-8765755.70	-8765755.61	-8765755.52	0.0088	0.0080
Saturn	-28713-09-28 04:04 J	-8765729.51	-8765729.33	-8765729.13	0.0283	0.0133
Neptune	-28712-04-15 09:21 J	-8765530.14	-8765530.11	-8765530.01	0.0088	0.0085
Saturn	-28712-05-15 23:45 J	-8765499.73	-8765499.51	-8765499.30	0.0285	0.0011
Neptune	-28712-11-26 22:33 J	-8765304.56	-8765304.56	-8765304.53	0.0088	0.0088
Saturn	-28712-12-31 21:07 J	-8765269.80	-8765269.62	-8765269.44	0.0286	0.0157
Jupiter	-28710-01-02 01:26 J	-8764903.55	-8764903.44	-8764903.33	0.0520	0.0434
Jupiter	-28710-08-26 14:23 J	-8764667.09	-8764666.90	-8764666.70	0.0511	0.0065
Jupiter	-28704-06-22 02:38 J	-8762540.54	-8762540.39	-8762540.23	0.0509	0.0329
Jupiter	-28703-02-14 18:28 J	-8762302.92	-8762302.73	-8762302.54	0.0519	0.0192
Uranus	-28700-08-15 16:19 J	-8761024.85	-8761024.82	-8761024.78	0.0144	0.0141
Saturn	-28700-12-17 23:02 J	-8760900.59	-8760900.54	-8760900.47	0.0278	0.0265
Uranus	-28699-03-30 04:04 J	-8760798.44	-8760798.33	-8760798.20	0.0144	0.0121
Saturn	-28699-08-04 06:14 J	-8760671.42	-8760671.24	-8760671.06	0.0277	0.0137
Uranus	-28699-11-11 15:50 J	-8760571.98	-8760571.84	-8760571.67	0.0143	0.0101
Saturn	-28698-03-21 11:31 J	-8760442.23	-8760442.02	-8760441.82	0.0275	0.0011
Jupiter	-28698-05-01 15:21 J	-8760401.05	-8760400.86	-8760400.66	0.0513	0.0072
Uranus	-28698-06-26 04:04 J	-8760345.50	-8760345.33	-8760345.14	0.0143	0.0079
Saturn	-28698-11-05 14:52 J	-8760213.07	-8760212.88	-8760212.69	0.0274	0.0114
Jupiter	-28698-12-23 22:04 J	-8760164.70	-8760164.58	-8760164.46	0.0504	0.0402
Uranus	-28697-02-07 15:50 J	-8760119.03	-8760118.84	-8760118.63	0.0143	0.0059
Saturn	-28697-06-21 16:47 J	-8759983.90	-8759983.80	-8759983.69	0.0272	0.0233
Uranus	-28697-09-21 03:35 J	-8759892.56	-8759892.35	-8759892.13	0.0142	0.0038
Uranus	-28696-05-05 15:21 J	-8759666.08	-8759665.86	-8759665.64	0.0142	0.0017
Uranus	-28696-12-18 02:52 J	-8759439.60	-8759439.38	-8759439.16	0.0142	0.0004
Uranus	-28695-08-01 14:23 J	-8759213.12	-8759212.90	-8759212.68	0.0141	0.0025
Uranus	-28694-03-16 01:26 J	-8758986.64	-8758986.44	-8758986.22	0.0141	0.0046

Uranus	-28694-10-28 12:57 J	-8758760.16	-8758759.96	-8758759.77	0.0141	0.0065
Uranus	-28693-06-10 23:31 J	-8758533.68	-8758533.52	-8758533.33	0.0140	0.0086
Mars	-28693-11-10 02:52 J	-8758381.55	-8758381.38	-8758381.21	0.1797	0.0173
Uranus	-28692-01-23 10:47 J	-8758307.19	-8758307.05	-8758306.90	0.0140	0.0105
Jupiter	-28692-02-24 20:52 J	-8758274.71	-8758274.63	-8758274.54	0.0507	0.0462
Uranus	-28692-09-06 21:21 J	-8758080.70	-8758080.61	-8758080.50	0.0140	0.0124
Jupiter	-28692-10-20 10:33 J	-8758037.27	-8758037.06	-8758036.86	0.0516	0.0046
Mars	-28688-06-24 06:14 J	-8756694.42	-8756694.24	-8756694.06	0.1721	0.0153
Jupiter	-28686-01-04 15:21 J	-8756135.04	-8756134.86	-8756134.68	0.0516	0.0209
Jupiter	-28686-08-28 23:59 J	-8755898.66	-8755898.50	-8755898.33	0.0507	0.0276
Pluto	-28685-04-06 09:07 J	-8755677.29	-8755677.12	-8755676.90	0.0065	0.0029
Pluto	-28685-11-17 13:11 J	-8755452.15	-8755451.95	-8755451.73	0.0065	0.0011
Pluto	-28684-06-30 16:47 J	-8755226.92	-8755226.80	-8755226.64	0.0065	0.0050
Saturn	-28684-08-23 13:26 J	-8755173.02	-8755172.94	-8755172.84	0.0281	0.0253
Saturn	-28683-04-10 07:11 J	-8754943.39	-8754943.20	-8754943.00	0.0283	0.0116
Saturn	-28683-11-26 03:07 J	-8754713.58	-8754713.37	-8754713.15	0.0285	0.0027
Saturn	-28682-07-14 00:57 J	-8754483.62	-8754483.46	-8754483.28	0.0286	0.0174
Jupiter	-28680-06-25 02:09 J	-8753771.61	-8753771.41	-8753771.20	0.0513	0.0099
Jupiter	-28679-02-17 21:35 J	-8753533.71	-8753533.60	-8753533.49	0.0522	0.0434
Jupiter	-28675-09-09 12:14 J	-8751869.13	-8751868.99	-8751868.84	0.0519	0.0350
Jupiter	-28674-05-04 00:14 J	-8751632.68	-8751632.49	-8751632.30	0.0510	0.0145
Saturn	-28670-06-30 06:43 J	-8750114.32	-8750114.22	-8750114.11	0.0279	0.0242
Saturn	-28669-02-14 13:40 J	-8749885.12	-8749884.93	-8749884.74	0.0277	0.0113
Saturn	-28669-09-30 18:43 J	-8749655.93	-8749655.72	-8749655.51	0.0275	0.0014
Jupiter	-28668-02-27 18:57 J	-8749505.89	-8749505.71	-8749505.52	0.0511	0.0241
Saturn	-28668-05-17 21:50 J	-8749426.76	-8749426.59	-8749426.41	0.0274	0.0137
Jupiter	-28668-10-23 11:45 J	-8749268.18	-8749268.01	-8749267.84	0.0520	0.0284
Saturn	-28667-01-01 23:31 J	-8749197.58	-8749197.52	-8749197.44	0.0272	0.0254
Jupiter	-28663-05-15 10:47 J	-8747603.12	-8747603.05	-8747602.98	0.0522	0.0487
Jupiter	-28662-01-07 01:11 J	-8747366.65	-8747366.45	-8747366.25	0.0513	0.0015

Jupiter	-28662-08-31 07:26 J	-8747130.24	-8747130.19	-8747130.12	0.0504	0.0477
Mars	-28661-11-09 09:21 J	-8746694.22	-8746694.11	-8746694.00	0.1807	0.1374
Jupiter	-28657-11-02 11:16 J	-8745240.16	-8745240.03	-8745239.89	0.0508	0.0379
Mars	-28656-06-23 12:28 J	-8745007.06	-8745006.98	-8745006.90	0.1712	0.1537
Jupiter	-28656-06-28 01:26 J	-8745002.64	-8745002.44	-8745002.24	0.0517	0.0134
Uranus	-28656-08-13 20:09 J	-8744955.67	-8744955.66	-8744955.60	0.0135	0.0133
Uranus	-28655-03-28 01:55 J	-8744729.52	-8744729.42	-8744729.30	0.0135	0.0116
Uranus	-28655-11-09 07:40 J	-8744503.32	-8744503.18	-8744503.03	0.0135	0.0099
Saturn	-28654-03-05 19:26 J	-8744386.80	-8744386.69	-8744386.56	0.0282	0.0231
Mars	-28654-04-22 06:43 J	-8744339.31	-8744339.22	-8744339.13	0.1734	0.1497
Uranus	-28654-06-23 13:11 J	-8744277.11	-8744276.95	-8744276.77	0.0135	0.0083
Saturn	-28654-10-21 13:11 J	-8744157.15	-8744156.95	-8744156.74	0.0283	0.0093
Neptune	-28654-12-15 23:16 J	-8744101.55	-8744101.53	-8744101.50	0.0088	0.0088
Uranus	-28653-02-04 18:57 J	-8744050.88	-8744050.71	-8744050.51	0.0136	0.0066
Saturn	-28653-06-07 09:21 J	-8743927.33	-8743927.11	-8743926.90	0.0285	0.0051
Neptune	-28653-07-28 12:43 J	-8743876.02	-8743875.97	-8743875.89	0.0088	0.0084
Uranus	-28653-09-18 00:57 J	-8743824.65	-8743824.46	-8743824.25	0.0136	0.0048
Saturn	-28652-01-23 07:11 J	-8743697.35	-8743697.20	-8743697.04	0.0287	0.0198
Neptune	-28652-03-11 02:23 J	-8743650.48	-8743650.40	-8743650.29	0.0088	0.0080
Uranus	-28652-05-02 06:57 J	-8743598.41	-8743598.21	-8743598.00	0.0136	0.0030
Neptune	-28652-10-22 16:04 J	-8743424.92	-8743424.83	-8743424.69	0.0089	0.0076
Uranus	-28652-12-14 13:11 J	-8743372.17	-8743371.95	-8743371.74	0.0136	0.0012
Neptune	-28651-06-05 05:45 J	-8743199.37	-8743199.26	-8743199.11	0.0089	0.0072
Uranus	-28651-07-28 19:11 J	-8743145.91	-8743145.70	-8743145.48	0.0137	0.0006
Jupiter	-28651-09-12 02:38 J	-8743100.58	-8743100.39	-8743100.20	0.0515	0.0124
Neptune	-28650-01-16 19:55 J	-8742973.81	-8742973.67	-8742973.52	0.0089	0.0067
Uranus	-28650-03-12 01:11 J	-8742919.65	-8742919.45	-8742919.23	0.0137	0.0024
Jupiter	-28650-05-06 11:02 J	-8742864.18	-8742864.04	-8742863.90	0.0506	0.0355
Neptune	-28650-08-30 09:21 J	-8742748.26	-8742748.11	-8742747.94	0.0089	0.0063
Uranus	-28650-10-24 07:26 J	-8742693.39	-8742693.19	-8742692.98	0.0137	0.0042

Neptune	-28649-04-11 22:47 J	-8742522.70	-8742522.55	-8742522.36	0.0089	0.0059
Uranus	-28649-06-06 13:40 J	-8742467.11	-8742466.93	-8742466.73	0.0138	0.0061
Neptune	-28649-11-23 12:57 J	-8742297.13	-8742296.96	-8742296.78	0.0089	0.0054
Uranus	-28648-01-18 20:09 J	-8742240.82	-8742240.66	-8742240.47	0.0138	0.0079
Neptune	-28648-07-07 02:23 J	-8742071.58	-8742071.40	-8742071.21	0.0089	0.0050
Uranus	-28648-09-02 03:07 J	-8742014.52	-8742014.37	-8742014.22	0.0138	0.0097
Neptune	-28647-02-17 15:50 J	-8741846.02	-8741845.84	-8741845.63	0.0089	0.0046
Uranus	-28647-04-16 09:35 J	-8741788.21	-8741788.10	-8741787.98	0.0139	0.0115
Neptune	-28647-10-01 05:45 J	-8741620.45	-8741620.26	-8741620.05	0.0089	0.0041
Uranus	-28647-11-28 16:19 J	-8741561.87	-8741561.82	-8741561.75	0.0139	0.0133
Neptune	-28646-05-14 19:11 J	-8741394.89	-8741394.70	-8741394.48	0.0089	0.0037
Neptune	-28646-12-26 09:07 J	-8741169.32	-8741169.12	-8741168.91	0.0089	0.0032
Neptune	-28645-08-07 22:33 J	-8740943.76	-8740943.56	-8740943.34	0.0089	0.0028
Jupiter	-28644-03-02 17:31 J	-8740736.97	-8740736.77	-8740736.56	0.0515	0.0015
Neptune	-28644-03-21 12:14 J	-8740718.20	-8740717.99	-8740717.76	0.0089	0.0023
Jupiter	-28644-10-26 14:23 J	-8740498.91	-8740498.90	-8740498.87	0.0524	0.0521
Neptune	-28644-11-02 01:55 J	-8740492.63	-8740492.42	-8740492.19	0.0089	0.0019
Neptune	-28643-06-15 15:50 J	-8740267.06	-8740266.84	-8740266.62	0.0089	0.0014
Neptune	-28642-01-27 05:16 J	-8740041.50	-8740041.28	-8740041.05	0.0089	0.0009
Neptune	-28642-09-09 18:57 J	-8739815.93	-8739815.71	-8739815.49	0.0089	0.0005
Neptune	-28641-04-22 08:23 J	-8739590.37	-8739590.15	-8739589.92	0.0089	0.0002
Neptune	-28641-12-03 22:04 J	-8739364.80	-8739364.58	-8739364.35	0.0089	0.0005
Saturn	-28640-01-09 07:55 J	-8739328.28	-8739328.17	-8739328.04	0.0278	0.0226
Neptune	-28640-07-17 11:31 J	-8739139.24	-8739139.02	-8739138.79	0.0089	0.0009
Saturn	-28640-08-26 14:38 J	-8739099.08	-8739098.89	-8739098.69	0.0276	0.0098
Neptune	-28639-02-28 00:57 J	-8738913.68	-8738913.46	-8738913.24	0.0089	0.0014
Saturn	-28639-04-12 19:26 J	-8738869.90	-8738869.69	-8738869.48	0.0275	0.0028
Jupiter	-28639-05-18 03:07 J	-8738834.54	-8738834.37	-8738834.20	0.0517	0.0260
Neptune	-28639-10-11 14:23 J	-8738688.11	-8738687.90	-8738687.68	0.0089	0.0018
Saturn	-28639-11-27 22:33 J	-8738640.74	-8738640.56	-8738640.39	0.0273	0.0151

Jupiter	-28638-01-09 12:57 J	-8738598.13	-8738597.96	-8738597.78	0.0508	0.0228
Neptune	-28638-05-25 03:35 J	-8738462.55	-8738462.35	-8738462.12	0.0089	0.0023
Saturn	-28638-07-14 23:45 J	-8738411.53	-8738411.51	-8738411.47	0.0272	0.0268
Neptune	-28637-01-05 17:16 J	-8738236.99	-8738236.78	-8738236.57	0.0089	0.0027
Neptune	-28637-08-18 06:14 J	-8738011.43	-8738011.24	-8738011.01	0.0089	0.0032
Neptune	-28636-03-31 19:40 J	-8737785.87	-8737785.68	-8737785.46	0.0089	0.0036
Neptune	-28636-11-12 09:21 J	-8737560.30	-8737560.11	-8737559.91	0.0089	0.0040
Neptune	-28635-06-25 22:19 J	-8737334.74	-8737334.57	-8737334.36	0.0089	0.0045
Neptune	-28634-02-06 11:45 J	-8737109.18	-8737109.01	-8737108.81	0.0089	0.0049
Neptune	-28634-09-20 01:11 J	-8736883.62	-8736883.45	-8736883.27	0.0089	0.0053
Neptune	-28633-05-02 14:09 J	-8736658.05	-8736657.91	-8736657.72	0.0089	0.0058
Jupiter	-28633-11-05 10:33 J	-8736471.25	-8736471.06	-8736470.86	0.0513	0.0155
Neptune	-28633-12-14 03:50 J	-8736432.49	-8736432.34	-8736432.17	0.0089	0.0062
Jupiter	-28632-07-01 05:16 J	-8736233.42	-8736233.28	-8736233.13	0.0522	0.0376
Neptune	-28632-07-27 17:02 J	-8736206.92	-8736206.79	-8736206.63	0.0089	0.0066
Neptune	-28631-03-10 06:28 J	-8735981.36	-8735981.23	-8735981.09	0.0089	0.0070
Moon	-28631-04-25 22:47 J	-8735934.65	-8735934.55	-8735934.45	0.2697	0.2096
Neptune	-28631-10-21 19:11 J	-8735755.79	-8735755.70	-8735755.55	0.0089	0.0075
Neptune	-28630-06-04 08:38 J	-8735530.22	-8735530.14	-8735530.02	0.0089	0.0079
Neptune	-28629-01-15 21:50 J	-8735304.64	-8735304.59	-8735304.48	0.0089	0.0083
Neptune	-28629-08-28 11:02 J	-8735079.06	-8735079.04	-8735078.97	0.0089	0.0087
Jupiter	-28627-01-21 02:09 J	-8734568.54	-8734568.41	-8734568.28	0.0520	0.0398
Mars	-28627-09-07 10:33 J	-8734339.22	-8734339.06	-8734338.89	0.1793	0.0397
Jupiter	-28627-09-14 14:38 J	-8734332.09	-8734331.89	-8734331.70	0.0511	0.0096
Saturn	-28625-09-14 20:38 J	-8733600.77	-8733600.64	-8733600.50	0.0282	0.0216
Saturn	-28624-05-02 14:38 J	-8733371.09	-8733370.89	-8733370.68	0.0283	0.0078
Saturn	-28624-12-18 11:02 J	-8733141.25	-8733141.04	-8733140.83	0.0285	0.0066
Moon	-28623-04-23 13:40 J	-8733015.08	-8733014.93	-8733014.79	0.2703	0.0922
Earth	-28623-04-23 19:11 J	-8733014.85	-8733014.70	-8733014.55	0.2704	0.0561 *
Saturn	-28623-08-05 09:07 J	-8732911.25	-8732911.12	-8732910.96	0.0287	0.0214

Mars	-28622-04-21 14:23 J	-8732652.08	-8732651.90	-8732651.72	0.1724	0.0040
Jupiter	-28621-07-11 04:04 J	-8732205.49	-8732205.33	-8732205.15	0.0510	0.0291
Jupiter	-28620-03-05 19:55 J	-8731967.86	-8731967.67	-8731967.49	0.0519	0.0229
Uranus	-28616-11-27 09:50 J	-8730240.16	-8730240.09	-8730239.98	0.0144	0.0131
Jupiter	-28615-05-20 13:11 J	-8730066.15	-8730065.95	-8730065.75	0.0514	0.0041
Uranus	-28615-07-11 22:04 J	-8730013.71	-8730013.58	-8730013.43	0.0144	0.0110
Jupiter	-28614-01-11 20:23 J	-8729829.75	-8729829.65	-8729829.55	0.0505	0.0430
Uranus	-28614-02-23 10:19 J	-8729787.24	-8729787.07	-8729786.90	0.0143	0.0089
Uranus	-28614-10-07 22:04 J	-8729560.77	-8729560.58	-8729560.38	0.0143	0.0068
Uranus	-28613-05-21 09:50 J	-8729334.29	-8729334.09	-8729333.87	0.0143	0.0047
Uranus	-28612-01-02 21:50 J	-8729107.81	-8729107.59	-8729107.37	0.0142	0.0025
Uranus	-28612-08-17 09:21 J	-8728881.33	-8728881.11	-8728880.88	0.0142	0.0005
Uranus	-28611-03-31 20:52 J	-8728654.85	-8728654.63	-8728654.41	0.0142	0.0017
Saturn	-28611-07-22 14:23 J	-8728542.03	-8728541.90	-8728541.75	0.0278	0.0204
Uranus	-28611-11-13 08:09 J	-8728428.37	-8728428.16	-8728427.94	0.0141	0.0037
Saturn	-28610-03-08 21:07 J	-8728312.82	-8728312.62	-8728312.42	0.0277	0.0075
Uranus	-28610-06-27 19:26 J	-8728201.88	-8728201.69	-8728201.48	0.0141	0.0058
Saturn	-28610-10-24 01:40 J	-8728083.63	-8728083.43	-8728083.22	0.0275	0.0052
Uranus	-28609-02-09 06:43 J	-8727975.40	-8727975.22	-8727975.03	0.0141	0.0078
Jupiter	-28609-03-15 22:19 J	-8727939.67	-8727939.57	-8727939.45	0.0507	0.0424
Saturn	-28609-06-09 04:33 J	-8727854.46	-8727854.31	-8727854.14	0.0274	0.0173
Uranus	-28609-09-22 17:45 J	-8727748.91	-8727748.76	-8727748.60	0.0140	0.0098
Jupiter	-28609-11-08 11:16 J	-8727702.23	-8727702.03	-8727701.82	0.0516	0.0082
Uranus	-28608-05-07 04:19 J	-8727522.43	-8727522.32	-8727522.19	0.0140	0.0117
Uranus	-28608-12-19 15:07 J	-8727295.91	-8727295.87	-8727295.81	0.0140	0.0136
Jupiter	-28603-01-23 13:11 J	-8725800.13	-8725799.95	-8725799.76	0.0516	0.0178
Jupiter	-28603-09-16 22:47 J	-8725563.71	-8725563.55	-8725563.39	0.0507	0.0306
Jupiter	-28597-07-14 01:55 J	-8723436.62	-8723436.42	-8723436.21	0.0513	0.0067
Pluto	-28597-07-19 23:16 J	-8723430.72	-8723430.53	-8723430.30	0.0080	0.0027
Pluto	-28596-03-02 10:19 J	-8723205.23	-8723205.07	-8723204.88	0.0079	0.0050

Jupiter	-28596-03-08 21:07 J	-8723198.71	-8723198.62	-8723198.52	0.0523	0.0464
Saturn	-28595-03-28 02:09 J	-8722814.55	-8722814.41	-8722814.24	0.0282	0.0194
Mars	-28595-09-06 16:33 J	-8722651.94	-8722651.81	-8722651.68	0.1803	0.1127
Saturn	-28595-11-12 20:38 J	-8722584.85	-8722584.64	-8722584.43	0.0284	0.0054
Saturn	-28594-06-30 17:02 J	-8722354.99	-8722354.79	-8722354.59	0.0285	0.0090
Saturn	-28593-02-15 15:21 J	-8722124.98	-8722124.86	-8722124.74	0.0287	0.0237
Jupiter	-28592-09-28 13:40 J	-8721534.09	-8721533.93	-8721533.77	0.0519	0.0314
Jupiter	-28591-05-23 01:26 J	-8721297.63	-8721297.44	-8721297.25	0.0510	0.0178
Mars	-28590-04-20 21:07 J	-8720964.73	-8720964.62	-8720964.52	0.1715	0.1360
Mars	-28588-02-16 13:55 J	-8720296.95	-8720296.92	-8720296.90	0.1737	0.1710
Jupiter	-28585-03-18 19:11 J	-8719170.89	-8719170.70	-8719170.51	0.0511	0.0207
Jupiter	-28585-11-11 12:14 J	-8718933.15	-8718932.99	-8718932.82	0.0520	0.0317
Saturn	-28581-02-01 15:50 J	-8717755.99	-8717755.84	-8717755.69	0.0278	0.0188
Saturn	-28581-09-17 22:04 J	-8717526.78	-8717526.58	-8717526.38	0.0276	0.0060
Saturn	-28580-05-05 02:23 J	-8717297.60	-8717297.40	-8717297.20	0.0274	0.0065
Jupiter	-28580-06-03 13:11 J	-8717268.04	-8717267.95	-8717267.84	0.0521	0.0451
Saturn	-28580-12-20 05:02 J	-8717068.44	-8717068.29	-8717068.14	0.0273	0.0186
Jupiter	-28579-01-26 03:07 J	-8717031.56	-8717031.37	-8717031.17	0.0512	0.0048
Jupiter	-28574-11-22 13:11 J	-8714905.10	-8714904.95	-8714904.80	0.0509	0.0343
Jupiter	-28573-07-17 04:04 J	-8714667.53	-8714667.33	-8714667.14	0.0518	0.0171
Neptune	-28573-11-04 23:45 J	-8714556.52	-8714556.51	-8714556.46	0.0089	0.0088
Neptune	-28572-06-18 11:59 J	-8714331.05	-8714331.00	-8714330.92	0.0089	0.0084
Uranus	-28572-11-25 11:16 J	-8714171.10	-8714171.03	-8714170.94	0.0135	0.0124
Neptune	-28571-01-30 00:28 J	-8714105.56	-8714105.48	-8714105.38	0.0089	0.0080
Uranus	-28571-07-09 16:47 J	-8713944.92	-8713944.80	-8713944.66	0.0135	0.0107
Neptune	-28571-09-12 12:43 J	-8713880.07	-8713879.97	-8713879.85	0.0089	0.0076
Uranus	-28570-02-20 22:33 J	-8713718.71	-8713718.56	-8713718.39	0.0135	0.0090
Neptune	-28570-04-26 01:11 J	-8713654.57	-8713654.45	-8713654.32	0.0089	0.0072
Uranus	-28570-10-05 04:19 J	-8713492.50	-8713492.32	-8713492.13	0.0135	0.0073
Neptune	-28570-12-07 13:40 J	-8713429.07	-8713428.93	-8713428.79	0.0089	0.0068

Uranus	-28569-05-18 10:04 J	-8713266.27	-8713266.08	-8713265.88	0.0136	0.0055
Neptune	-28569-07-20 01:55 J	-8713203.56	-8713203.42	-8713203.27	0.0089	0.0064
Uranus	-28569-12-30 16:04 J	-8713040.03	-8713039.83	-8713039.62	0.0136	0.0038
Neptune	-28568-03-02 14:09 J	-8712978.06	-8712977.91	-8712977.74	0.0089	0.0060
Uranus	-28568-08-13 22:04 J	-8712813.79	-8712813.58	-8712813.37	0.0136	0.0020
Jupiter	-28568-10-01 04:04 J	-8712765.53	-8712765.33	-8712765.14	0.0514	0.0089
Neptune	-28568-10-14 02:38 J	-8712752.55	-8712752.39	-8712752.22	0.0089	0.0056
Uranus	-28567-03-28 04:04 J	-8712587.55	-8712587.33	-8712587.12	0.0136	0.0003
Jupiter	-28567-05-25 11:31 J	-8712529.14	-8712529.02	-8712528.89	0.0505	0.0385
Neptune	-28567-05-27 14:52 J	-8712527.04	-8712526.88	-8712526.69	0.0089	0.0052
Uranus	-28567-11-09 10:04 J	-8712361.29	-8712361.08	-8712360.87	0.0137	0.0016
Neptune	-28566-01-08 03:21 J	-8712301.53	-8712301.36	-8712301.17	0.0089	0.0048
Uranus	-28566-06-23 16:19 J	-8712135.03	-8712134.82	-8712134.62	0.0137	0.0035
Neptune	-28566-08-21 15:35 J	-8712076.02	-8712075.85	-8712075.64	0.0089	0.0044
Saturn	-28566-10-08 02:38 J	-8712028.55	-8712028.39	-8712028.22	0.0282	0.0180
Uranus	-28565-02-04 22:33 J	-8711908.76	-8711908.56	-8711908.36	0.0137	0.0053
Neptune	-28565-04-03 04:33 J	-8711850.50	-8711850.31	-8711850.12	0.0089	0.0039
Saturn	-28565-05-24 21:07 J	-8711798.83	-8711798.62	-8711798.40	0.0284	0.0041
Uranus	-28565-09-18 04:47 J	-8711682.48	-8711682.30	-8711682.11	0.0138	0.0071
Neptune	-28565-11-14 16:47 J	-8711624.99	-8711624.80	-8711624.59	0.0089	0.0035
Saturn	-28564-01-09 17:45 J	-8711568.96	-8711568.76	-8711568.56	0.0285	0.0104
Uranus	-28564-05-02 11:16 J	-8711456.19	-8711456.03	-8711455.87	0.0138	0.0089
Neptune	-28564-06-28 05:02 J	-8711399.48	-8711399.29	-8711399.07	0.0089	0.0031
Saturn	-28564-08-27 16:19 J	-8711338.91	-8711338.82	-8711338.71	0.0287	0.0251
Uranus	-28564-12-14 17:45 J	-8711229.89	-8711229.76	-8711229.62	0.0138	0.0108
Neptune	-28563-02-08 17:31 J	-8711173.97	-8711173.77	-8711173.56	0.0089	0.0027
Uranus	-28563-07-29 00:28 J	-8711003.56	-8711003.48	-8711003.39	0.0139	0.0126
Neptune	-28563-09-22 05:45 J	-8710948.46	-8710948.26	-8710948.03	0.0089	0.0023
Neptune	-28562-05-05 18:43 J	-8710722.93	-8710722.72	-8710722.51	0.0089	0.0018
Jupiter	-28562-07-28 08:23 J	-8710639.22	-8710639.15	-8710639.07	0.0506	0.0470

Neptune -28562-12-17 06:57 J -8710497.42 -8710497.21 -8710496.99 0.0089 0.0014
 Jupiter -28561-03-21 20:23 J -8710401.86 -8710401.65 -8710401.45 0.0515 0.0029
 Mars -28561-07-04 19:11 J -8710296.86 -8710296.70 -8710296.54 0.1790 0.0607
 Neptune -28561-07-29 19:26 J -8710271.90 -8710271.69 -8710271.47 0.0089 0.0009
 Neptune -28560-03-12 07:55 J -8710046.39 -8710046.17 -8710045.95 0.0089 0.0005
 Neptune -28560-10-23 20:23 J -8709820.87 -8709820.65 -8709820.43 0.0089 0.0001
 Neptune -28559-06-06 08:52 J -8709595.34 -8709595.13 -8709594.91 0.0089 0.0004
 Neptune -28558-01-17 21:21 J -8709369.82 -8709369.61 -8709369.39 0.0089 0.0008
 Neptune -28558-08-31 09:50 J -8709144.30 -8709144.09 -8709143.87 0.0089 0.0013
 Neptune -28557-04-12 22:33 J -8708918.77 -8708918.56 -8708918.35 0.0089 0.0017
 Neptune -28557-11-24 10:47 J -8708693.25 -8708693.05 -8708692.82 0.0089 0.0022
 Mars -28556-02-15 22:04 J -8708609.76 -8708609.58 -8708609.40 0.1728 0.0238
 Jupiter -28556-06-06 00:57 J -8708499.63 -8708499.46 -8708499.28 0.0517 0.0230
 Neptune -28556-07-07 23:31 J -8708467.72 -8708467.52 -8708467.30 0.0089 0.0026
 Jupiter -28555-01-28 11:31 J -8708263.19 -8708263.02 -8708262.85 0.0508 0.0257
 Neptune -28555-02-18 12:14 J -8708242.19 -8708241.99 -8708241.78 0.0088 0.0030
 Neptune -28555-10-02 00:28 J -8708016.66 -8708016.48 -8708016.26 0.0088 0.0035
 Neptune -28554-05-15 13:26 J -8707791.12 -8707790.94 -8707790.73 0.0088 0.0039
 Neptune -28554-12-27 02:09 J -8707565.59 -8707565.41 -8707565.21 0.0088 0.0043
 Neptune -28553-08-08 15:07 J -8707340.06 -8707339.87 -8707339.69 0.0088 0.0047
 Neptune -28552-03-22 03:21 J -8707114.52 -8707114.36 -8707114.17 0.0088 0.0052
 Saturn -28552-08-13 21:21 J -8706969.78 -8706969.61 -8706969.44 0.0278 0.0166
 Neptune -28552-11-02 16:04 J -8706888.98 -8706888.83 -8706888.64 0.0088 0.0056
 Saturn -28551-03-31 03:35 J -8706740.56 -8706740.35 -8706740.15 0.0276 0.0038
 Neptune -28551-06-16 05:02 J -8706663.44 -8706663.29 -8706663.12 0.0088 0.0060
 Saturn -28551-11-15 07:40 J -8706511.37 -8706511.18 -8706510.98 0.0275 0.0088
 Neptune -28550-01-27 17:45 J -8706437.90 -8706437.76 -8706437.60 0.0088 0.0064
 Saturn -28550-07-02 10:33 J -8706282.20 -8706282.06 -8706281.93 0.0273 0.0208
 Neptune -28550-09-10 06:28 J -8706212.36 -8706212.23 -8706212.08 0.0088 0.0068
 Jupiter -28550-11-25 12:57 J -8706136.16 -8706135.96 -8706135.75 0.0512 0.0115

Neptune	-28549-04-22 19:26 J	-8705986.81	-8705986.69	-8705986.56	0.0088	0.0072
Jupiter	-28549-07-20 06:57 J	-8705898.33	-8705898.21	-8705898.08	0.0521	0.0411
Neptune	-28549-12-04 08:09 J	-8705761.27	-8705761.16	-8705761.05	0.0088	0.0076
Neptune	-28548-07-17 20:52 J	-8705535.72	-8705535.63	-8705535.53	0.0088	0.0080
Neptune	-28547-02-28 09:35 J	-8705310.16	-8705310.10	-8705310.03	0.0088	0.0084
Neptune	-28547-10-11 22:04 J	-8705084.59	-8705084.58	-8705084.54	0.0088	0.0088
Jupiter	-28544-02-08 23:59 J	-8704233.64	-8704233.50	-8704233.36	0.0520	0.0367
Jupiter	-28544-10-03 12:57 J	-8703997.15	-8703996.96	-8703996.76	0.0511	0.0128
Jupiter	-28538-07-31 04:33 J	-8701870.48	-8701870.31	-8701870.12	0.0510	0.0258
Jupiter	-28537-03-24 20:23 J	-8701632.83	-8701632.65	-8701632.47	0.0519	0.0261
Saturn	-28536-04-19 08:23 J	-8701242.31	-8701242.15	-8701241.96	0.0282	0.0158
Saturn	-28536-12-05 03:07 J	-8701012.58	-8701012.37	-8701012.15	0.0284	0.0017
Saturn	-28535-07-22 23:59 J	-8700782.69	-8700782.50	-8700782.31	0.0286	0.0129
Saturn	-28534-03-09 22:33 J	-8700552.61	-8700552.56	-8700552.49	0.0287	0.0275
Moon	-28534-10-26 21:35 J	-8700321.75	-8700321.60	-8700321.45	0.2626	0.1119
Earth	-28534-10-27 02:23 J	-8700321.53	-8700321.40	-8700321.27	0.2629	0.1629 *
Jupiter	-28533-10-14 23:16 J	-8699967.57	-8699967.53	-8699967.47	0.0523	0.0504
Jupiter	-28532-06-08 14:52 J	-8699731.08	-8699730.88	-8699730.68	0.0514	0.0007
Uranus	-28532-07-27 14:38 J	-8699681.91	-8699681.89	-8699681.82	0.0144	0.0142
Jupiter	-28531-01-30 21:50 J	-8699494.66	-8699494.59	-8699494.50	0.0505	0.0461
Uranus	-28531-03-11 03:07 J	-8699455.48	-8699455.37	-8699455.24	0.0144	0.0120
Uranus	-28531-10-23 15:07 J	-8699229.02	-8699228.87	-8699228.70	0.0143	0.0099
Uranus	-28530-06-07 03:21 J	-8699002.54	-8699002.36	-8699002.17	0.0143	0.0078
Uranus	-28529-01-19 15:21 J	-8698776.06	-8698775.86	-8698775.65	0.0143	0.0056
Mars	-28529-07-04 01:11 J	-8698609.60	-8698609.45	-8698609.31	0.1800	0.0906
Uranus	-28529-09-02 03:07 J	-8698549.58	-8698549.37	-8698549.15	0.0143	0.0035
Uranus	-28528-04-16 14:52 J	-8698323.10	-8698322.88	-8698322.66	0.0142	0.0014
Uranus	-28528-11-29 02:38 J	-8698096.61	-8698096.39	-8698096.17	0.0142	0.0008
Uranus	-28527-07-13 14:09 J	-8697870.12	-8697869.91	-8697869.69	0.0142	0.0029
Uranus	-28526-02-25 01:26 J	-8697643.64	-8697643.44	-8697643.23	0.0141	0.0049

Jupiter	-28526-04-04 22:47 J	-8697604.67	-8697604.55	-8697604.41	0.0507	0.0391
Uranus	-28526-10-09 12:28 J	-8697417.16	-8697416.98	-8697416.77	0.0141	0.0070
Moon	-28526-10-24 10:04 J	-8697402.17	-8697402.08	-8697402.00	0.2630	0.2214
Earth	-28526-10-24 15:50 J	-8697401.95	-8697401.84	-8697401.74	0.2628	0.1994
Jupiter	-28526-11-28 11:59 J	-8697367.20	-8697367.00	-8697366.79	0.0516	0.0115
Uranus	-28525-05-22 23:45 J	-8697190.68	-8697190.51	-8697190.34	0.0141	0.0090
Uranus	-28524-01-04 10:33 J	-8696964.19	-8696964.06	-8696963.91	0.0140	0.0110
Mars	-28524-02-15 05:16 J	-8696922.40	-8696922.28	-8696922.15	0.1718	0.1181
Uranus	-28524-08-18 21:21 J	-8696737.68	-8696737.61	-8696737.51	0.0140	0.0129
Saturn	-28522-02-23 22:19 J	-8696183.74	-8696183.57	-8696183.39	0.0277	0.0150
Saturn	-28522-10-11 04:19 J	-8695954.53	-8695954.32	-8695954.11	0.0276	0.0023
Saturn	-28521-05-27 08:23 J	-8695725.34	-8695725.15	-8695724.96	0.0274	0.0101
Saturn	-28520-01-11 10:47 J	-8695496.17	-8695496.05	-8695495.93	0.0273	0.0221
Jupiter	-28520-02-11 16:04 J	-8695465.02	-8695464.83	-8695464.64	0.0516	0.0139
Jupiter	-28520-10-06 00:57 J	-8695228.61	-8695228.46	-8695228.31	0.0507	0.0339
Jupiter	-28514-08-03 04:33 J	-8693101.51	-8693101.31	-8693101.10	0.0514	0.0030
Jupiter	-28513-03-28 00:43 J	-8692863.53	-8692863.47	-8692863.41	0.0523	0.0500
Jupiter	-28509-10-17 16:04 J	-8691199.00	-8691198.83	-8691198.67	0.0518	0.0276
Jupiter	-28508-06-11 03:07 J	-8690962.56	-8690962.37	-8690962.19	0.0509	0.0212
Saturn	-28507-03-14 15:21 J	-8690685.88	-8690685.86	-8690685.82	0.0280	0.0277
Saturn	-28507-10-30 07:55 J	-8690456.35	-8690456.17	-8690455.98	0.0282	0.0144
Saturn	-28506-06-17 02:52 J	-8690226.59	-8690226.38	-8690226.16	0.0284	0.0004
Saturn	-28505-02-01 23:45 J	-8689996.69	-8689996.51	-8689996.32	0.0286	0.0142
Jupiter	-28502-04-07 22:33 J	-8688835.75	-8688835.56	-8688835.36	0.0511	0.0166
Jupiter	-28502-12-01 15:50 J	-8688597.99	-8688597.84	-8688597.69	0.0520	0.0357
Jupiter	-28497-06-22 11:45 J	-8686933.13	-8686933.01	-8686932.89	0.0521	0.0418
Jupiter	-28496-02-14 01:40 J	-8686696.63	-8686696.43	-8686696.23	0.0512	0.0077
Mars	-28495-05-02 03:21 J	-8686254.51	-8686254.36	-8686254.20	0.1786	0.0819
Saturn	-28493-01-19 18:43 J	-8685626.78	-8685626.72	-8685626.63	0.0280	0.0259
Saturn	-28493-09-05 02:52 J	-8685397.56	-8685397.38	-8685397.19	0.0278	0.0129

Saturn	-28492-04-22 08:52 J	-8685168.34	-8685168.13	-8685167.92	0.0276	0.0004
Saturn	-28492-12-07 12:57 J	-8684939.14	-8684938.96	-8684938.77	0.0275	0.0123
Saturn	-28491-07-24 15:35 J	-8684709.95	-8684709.85	-8684709.76	0.0273	0.0242
Jupiter	-28491-12-11 16:33 J	-8684569.98	-8684569.81	-8684569.64	0.0509	0.0302
Mars	-28491-12-14 05:59 J	-8684567.43	-8684567.25	-8684567.08	0.1731	0.0438
Jupiter	-28490-08-06 06:57 J	-8684332.40	-8684332.21	-8684332.02	0.0517	0.0210
Neptune	-28489-03-18 08:38 J	-8684107.15	-8684107.14	-8684107.09	0.0088	0.0088
Neptune	-28489-10-29 22:33 J	-8683881.61	-8683881.56	-8683881.47	0.0088	0.0084
Neptune	-28488-06-12 12:14 J	-8683656.07	-8683655.99	-8683655.87	0.0088	0.0080
Uranus	-28488-07-25 20:52 J	-8683612.67	-8683612.63	-8683612.57	0.0134	0.0131
Neptune	-28487-01-24 01:55 J	-8683430.51	-8683430.42	-8683430.28	0.0088	0.0076
Uranus	-28487-03-09 02:09 J	-8683386.50	-8683386.41	-8683386.28	0.0135	0.0115
Neptune	-28487-09-06 15:35 J	-8683204.95	-8683204.85	-8683204.69	0.0089	0.0072
Uranus	-28487-10-21 08:09 J	-8683160.31	-8683160.16	-8683160.01	0.0135	0.0097
Neptune	-28486-04-20 05:16 J	-8682979.40	-8682979.28	-8682979.11	0.0089	0.0068
Uranus	-28486-06-04 13:40 J	-8682934.10	-8682933.93	-8682933.75	0.0135	0.0080
Neptune	-28486-12-01 19:26 J	-8682753.84	-8682753.69	-8682753.52	0.0089	0.0063
Uranus	-28485-01-16 19:40 J	-8682707.87	-8682707.68	-8682707.49	0.0135	0.0063
Neptune	-28485-07-14 09:07 J	-8682528.28	-8682528.12	-8682527.95	0.0089	0.0059
Uranus	-28485-08-30 01:11 J	-8682481.64	-8682481.45	-8682481.24	0.0136	0.0046
Jupiter	-28485-10-20 02:09 J	-8682430.61	-8682430.41	-8682430.21	0.0515	0.0058
Neptune	-28484-02-24 22:33 J	-8682302.72	-8682302.56	-8682302.37	0.0089	0.0055
Uranus	-28484-04-13 07:11 J	-8682255.41	-8682255.20	-8682254.99	0.0136	0.0027
Jupiter	-28484-06-13 10:19 J	-8682194.18	-8682194.07	-8682193.96	0.0506	0.0414
Neptune	-28484-10-08 12:14 J	-8682077.16	-8682076.99	-8682076.79	0.0089	0.0051
Uranus	-28484-11-25 13:11 J	-8682029.17	-8682028.95	-8682028.74	0.0136	0.0010
Neptune	-28483-05-22 02:09 J	-8681851.59	-8681851.41	-8681851.21	0.0089	0.0046
Uranus	-28483-07-09 18:57 J	-8681802.92	-8681802.71	-8681802.49	0.0137	0.0010
Neptune	-28482-01-02 15:35 J	-8681626.03	-8681625.85	-8681625.64	0.0089	0.0042
Uranus	-28482-02-21 01:11 J	-8681576.66	-8681576.45	-8681576.24	0.0137	0.0027

Neptune	-28482-08-16 05:02 J	-8681400.48	-8681400.29	-8681400.07	0.0089	0.0038
Uranus	-28482-10-05 07:26 J	-8681350.39	-8681350.19	-8681349.99	0.0137	0.0046
Neptune	-28481-03-28 18:57 J	-8681174.91	-8681174.71	-8681174.50	0.0089	0.0033
Uranus	-28481-05-18 13:40 J	-8681124.12	-8681123.93	-8681123.74	0.0138	0.0064
Neptune	-28481-11-09 08:38 J	-8680949.34	-8680949.14	-8680948.92	0.0089	0.0029
Uranus	-28481-12-30 19:40 J	-8680897.83	-8680897.68	-8680897.49	0.0138	0.0083
Neptune	-28480-06-22 22:04 J	-8680723.78	-8680723.58	-8680723.35	0.0089	0.0025
Uranus	-28480-08-14 02:09 J	-8680671.54	-8680671.41	-8680671.25	0.0138	0.0101
Neptune	-28479-02-03 11:45 J	-8680498.22	-8680498.01	-8680497.79	0.0089	0.0020
Uranus	-28479-03-28 08:38 J	-8680445.22	-8680445.14	-8680445.01	0.0139	0.0120
Jupiter	-28479-08-16 09:35 J	-8680304.20	-8680304.10	-8680304.00	0.0506	0.0436
Neptune	-28479-09-17 01:26 J	-8680272.66	-8680272.44	-8680272.22	0.0089	0.0015
Uranus	-28479-11-09 15:50 J	-8680218.86	-8680218.84	-8680218.81	0.0139	0.0137
Jupiter	-28478-04-10 21:07 J	-8680066.82	-8680066.62	-8680066.41	0.0515	0.0062
Neptune	-28478-04-30 15:07 J	-8680047.09	-8680046.87	-8680046.65	0.0089	0.0011
Saturn	-28478-09-24 21:50 J	-8679899.67	-8679899.59	-8679899.49	0.0280	0.0255
Neptune	-28478-12-12 04:47 J	-8679821.52	-8679821.30	-8679821.08	0.0089	0.0007
Saturn	-28477-05-11 14:23 J	-8679670.08	-8679669.90	-8679669.70	0.0282	0.0121
Neptune	-28477-07-24 18:14 J	-8679595.96	-8679595.74	-8679595.51	0.0089	0.0003
Saturn	-28477-12-27 09:21 J	-8679440.32	-8679440.11	-8679439.89	0.0284	0.0022
Neptune	-28476-03-07 07:55 J	-8679370.39	-8679370.17	-8679369.95	0.0089	0.0002
Saturn	-28476-08-14 06:14 J	-8679210.40	-8679210.24	-8679210.05	0.0286	0.0167
Neptune	-28476-10-18 21:35 J	-8679144.82	-8679144.60	-8679144.38	0.0089	0.0007
Neptune	-28475-06-01 11:02 J	-8678919.26	-8678919.04	-8678918.82	0.0089	0.0011
Neptune	-28474-01-13 00:14 J	-8678693.70	-8678693.49	-8678693.26	0.0089	0.0016
Neptune	-28474-08-26 13:55 J	-8678468.13	-8678467.92	-8678467.70	0.0089	0.0020
Neptune	-28473-04-08 03:21 J	-8678242.57	-8678242.36	-8678242.14	0.0089	0.0024
Jupiter	-28473-06-25 02:52 J	-8678164.56	-8678164.38	-8678164.19	0.0517	0.0194
Neptune	-28473-11-19 16:33 J	-8678017.01	-8678016.81	-8678016.58	0.0089	0.0029
Jupiter	-28472-02-16 13:11 J	-8677928.11	-8677927.95	-8677927.78	0.0508	0.0291

Neptune -28472-07-03 05:59 J -8677791.44 -8677791.25 -8677791.03 0.0089 0.0033
 Neptune -28471-02-13 19:26 J -8677565.88 -8677565.69 -8677565.48 0.0089 0.0037
 Neptune -28471-09-27 08:23 J -8677340.32 -8677340.15 -8677339.93 0.0089 0.0042
 Neptune -28470-05-10 21:50 J -8677114.76 -8677114.59 -8677114.38 0.0089 0.0046
 Neptune -28470-12-22 11:31 J -8676889.19 -8676889.02 -8676888.83 0.0089 0.0050
 Neptune -28469-08-04 00:43 J -8676663.63 -8676663.47 -8676663.28 0.0089 0.0054
 Neptune -28468-03-17 14:09 J -8676438.07 -8676437.91 -8676437.74 0.0089 0.0058
 Neptune -28468-10-29 03:35 J -8676212.51 -8676212.35 -8676212.19 0.0089 0.0062
 Neptune -28467-06-11 16:19 J -8675986.94 -8675986.82 -8675986.65 0.0089 0.0067
 Jupiter -28467-12-14 13:40 J -8675801.14 -8675800.93 -8675800.72 0.0512 0.0082
 Neptune -28466-01-23 05:31 J -8675761.37 -8675761.27 -8675761.11 0.0089 0.0071
 Jupiter -28466-08-09 07:55 J -8675563.27 -8675563.17 -8675563.06 0.0522 0.0443
 Neptune -28466-09-05 18:43 J -8675535.81 -8675535.72 -8675535.57 0.0089 0.0075
 Neptune -28465-04-18 07:55 J -8675310.24 -8675310.17 -8675310.04 0.0089 0.0079
 Neptune -28465-11-29 21:50 J -8675084.66 -8675084.59 -8675084.50 0.0089 0.0082
 Neptune -28464-07-13 11:02 J -8674859.08 -8674859.04 -8674858.98 0.0089 0.0086
 Saturn -28464-07-31 20:52 J -8674840.73 -8674840.63 -8674840.52 0.0279 0.0242
 Saturn -28463-03-18 04:33 J -8674611.50 -8674611.31 -8674611.12 0.0277 0.0113
 Mars -28463-05-01 08:52 J -8674567.29 -8674567.13 -8674566.97 0.1796 0.0674
 Saturn -28463-11-02 10:04 J -8674382.28 -8674382.08 -8674381.87 0.0275 0.0016
 Saturn -28462-06-19 13:55 J -8674153.09 -8674152.92 -8674152.73 0.0274 0.0137
 Saturn -28461-02-03 16:19 J -8673923.89 -8673923.82 -8673923.75 0.0272 0.0255
 Jupiter -28461-02-29 03:21 J -8673898.51 -8673898.36 -8673898.21 0.0520 0.0328
 Jupiter -28461-10-22 15:50 J -8673662.03 -8673661.84 -8673661.65 0.0510 0.0163
 Mars -28459-12-13 13:26 J -8672880.08 -8672879.94 -8672879.79 0.1721 0.0992
 Jupiter -28455-08-19 07:11 J -8671535.39 -8671535.20 -8671535.01 0.0510 0.0219
 Jupiter -28454-04-13 23:31 J -8671297.69 -8671297.52 -8671297.35 0.0519 0.0299
 Jupiter -28450-11-04 02:09 J -8669632.49 -8669632.41 -8669632.32 0.0522 0.0465
 Jupiter -28449-06-27 17:02 J -8669395.99 -8669395.79 -8669395.59 0.0513 0.0031
 Jupiter -28448-02-18 23:16 J -8669159.56 -8669159.53 -8669159.48 0.0504 0.0491

Saturn	-28448-04-05 20:52 J	-8669113.73	-8669113.63	-8669113.52	0.0280	0.0242
Uranus	-28448-11-08 09:07 J	-8668897.22	-8668897.12	-8668897.03	0.0144	0.0129
Saturn	-28448-11-21 13:40 J	-8668884.13	-8668883.93	-8668883.73	0.0282	0.0107
Uranus	-28447-06-22 20:52 J	-8668670.75	-8668670.63	-8668670.47	0.0144	0.0109
Saturn	-28447-07-09 08:52 J	-8668654.34	-8668654.13	-8668653.91	0.0284	0.0035
Uranus	-28446-02-04 09:07 J	-8668444.28	-8668444.12	-8668443.93	0.0143	0.0087
Saturn	-28446-02-24 05:59 J	-8668424.41	-8668424.25	-8668424.08	0.0286	0.0180
Uranus	-28446-09-18 21:21 J	-8668217.81	-8668217.61	-8668217.42	0.0143	0.0066
Uranus	-28445-05-02 09:07 J	-8667991.33	-8667991.12	-8667990.91	0.0143	0.0044
Uranus	-28445-12-14 20:52 J	-8667764.84	-8667764.63	-8667764.41	0.0142	0.0023
Uranus	-28444-07-29 08:52 J	-8667538.36	-8667538.13	-8667537.91	0.0142	0.0003
Uranus	-28443-03-12 20:23 J	-8667311.87	-8667311.65	-8667311.43	0.0142	0.0020
Jupiter	-28443-04-24 02:23 J	-8667269.54	-8667269.40	-8667269.24	0.0508	0.0351
Uranus	-28443-10-25 07:40 J	-8667085.39	-8667085.18	-8667084.96	0.0142	0.0041
Jupiter	-28443-12-17 16:04 J	-8667032.03	-8667031.83	-8667031.63	0.0517	0.0157
Uranus	-28442-06-08 18:43 J	-8666858.90	-8666858.72	-8666858.51	0.0141	0.0062
Uranus	-28441-01-21 06:14 J	-8666632.42	-8666632.24	-8666632.06	0.0141	0.0082
Uranus	-28441-09-03 17:02 J	-8666405.93	-8666405.79	-8666405.63	0.0141	0.0103
Uranus	-28440-04-18 03:50 J	-8666179.44	-8666179.34	-8666179.22	0.0140	0.0122
Pluto	-28439-05-05 06:57 J	-8665797.27	-8665797.21	-8665797.09	0.0064	0.0059
Pluto	-28439-12-16 11:16 J	-8665572.23	-8665572.03	-8665571.82	0.0065	0.0020
Pluto	-28438-07-29 14:52 J	-8665347.08	-8665346.88	-8665346.66	0.0065	0.0019
Jupiter	-28437-03-02 14:23 J	-8665130.09	-8665129.90	-8665129.70	0.0516	0.0109
Pluto	-28437-03-10 18:28 J	-8665121.80	-8665121.73	-8665121.61	0.0065	0.0058
Jupiter	-28437-10-24 23:16 J	-8664893.66	-8664893.53	-8664893.38	0.0507	0.0368
Saturn	-28434-02-11 00:14 J	-8664054.61	-8664054.49	-8664054.36	0.0280	0.0223
Saturn	-28434-09-28 08:09 J	-8663825.35	-8663825.16	-8663824.96	0.0278	0.0092
Saturn	-28433-05-14 13:55 J	-8663596.12	-8663595.92	-8663595.71	0.0276	0.0035
Saturn	-28433-12-29 17:45 J	-8663366.92	-8663366.76	-8663366.58	0.0275	0.0159
Jupiter	-28432-12-27 21:35 J	-8663003.66	-8663003.60	-8663003.53	0.0505	0.0479

Jupiter	-28431-08-22 08:23 J	-8662766.36	-8662766.15	-8662765.94	0.0514	0.0014
Mars	-28429-02-27 11:45 J	-8662212.15	-8662212.01	-8662211.87	0.1783	0.1030
Jupiter	-28426-11-06 13:40 J	-8660864.10	-8660863.93	-8660863.75	0.0518	0.0246
Jupiter	-28425-06-30 01:11 J	-8660627.63	-8660627.45	-8660627.28	0.0509	0.0241
Mars	-28425-10-10 13:26 J	-8660525.10	-8660524.94	-8660524.77	0.1734	0.0638
Jupiter	-28419-04-26 23:31 J	-8658500.72	-8658500.52	-8658500.32	0.0511	0.0132
Saturn	-28419-10-17 04:04 J	-8658327.46	-8658327.33	-8658327.19	0.0281	0.0218
Jupiter	-28419-12-20 16:19 J	-8658262.95	-8658262.82	-8658262.68	0.0520	0.0388
Saturn	-28418-06-03 20:52 J	-8658097.83	-8658097.63	-8658097.42	0.0282	0.0083
Saturn	-28417-01-19 16:04 J	-8657868.04	-8657867.83	-8657867.62	0.0284	0.0060
Saturn	-28417-09-05 13:11 J	-8657638.09	-8657637.95	-8657637.79	0.0286	0.0206
Jupiter	-28414-07-12 13:11 J	-8656598.08	-8656597.95	-8656597.81	0.0521	0.0383
Jupiter	-28413-03-05 03:21 J	-8656361.56	-8656361.36	-8656361.17	0.0512	0.0111
Neptune	-28408-02-06 11:16 J	-8654562.06	-8654562.03	-8654561.99	0.0089	0.0087
Neptune	-28408-09-19 23:02 J	-8654336.59	-8654336.54	-8654336.45	0.0089	0.0084
Jupiter	-28408-12-30 16:47 J	-8654234.97	-8654234.80	-8654234.62	0.0509	0.0270
Neptune	-28407-05-03 11:31 J	-8654111.09	-8654111.02	-8654110.91	0.0089	0.0080
Jupiter	-28407-08-25 07:26 J	-8653997.37	-8653997.19	-8653997.01	0.0518	0.0242
Neptune	-28407-12-14 23:59 J	-8653885.60	-8653885.50	-8653885.38	0.0089	0.0076
Neptune	-28406-07-28 12:14 J	-8653660.10	-8653659.99	-8653659.86	0.0089	0.0072
Neptune	-28405-03-10 00:43 J	-8653434.60	-8653434.47	-8653434.33	0.0089	0.0068
Saturn	-28405-08-23 03:07 J	-8653268.51	-8653268.37	-8653268.23	0.0279	0.0205
Neptune	-28405-10-21 12:28 J	-8653209.10	-8653208.98	-8653208.81	0.0089	0.0065
Saturn	-28404-04-09 10:19 J	-8653039.26	-8653039.07	-8653038.86	0.0277	0.0076
Neptune	-28404-06-04 00:43 J	-8652983.60	-8652983.47	-8652983.29	0.0089	0.0061
Uranus	-28404-11-06 12:57 J	-8652828.04	-8652827.96	-8652827.85	0.0134	0.0122
Saturn	-28404-11-24 15:50 J	-8652810.04	-8652809.84	-8652809.63	0.0275	0.0051
Neptune	-28403-01-15 13:11 J	-8652758.10	-8652757.95	-8652757.77	0.0089	0.0057
Uranus	-28403-06-20 18:28 J	-8652601.85	-8652601.73	-8652601.58	0.0135	0.0105
Saturn	-28403-07-11 19:26 J	-8652580.85	-8652580.69	-8652580.52	0.0274	0.0173

Neptune	-28403-08-29 01:26 J	-8652532.59	-8652532.44	-8652532.24	0.0089	0.0053
Uranus	-28402-02-02 00:28 J	-8652375.64	-8652375.48	-8652375.31	0.0135	0.0087
Jupiter	-28402-03-17 12:43 J	-8652332.00	-8652331.97	-8652331.94	0.0523	0.0517
Neptune	-28402-04-11 14:09 J	-8652307.07	-8652306.91	-8652306.71	0.0089	0.0049
Uranus	-28402-09-16 05:59 J	-8652149.42	-8652149.25	-8652149.05	0.0135	0.0070
Jupiter	-28402-11-09 05:02 J	-8652095.49	-8652095.29	-8652095.09	0.0514	0.0021
Neptune	-28402-11-23 02:23 J	-8652081.56	-8652081.40	-8652081.19	0.0089	0.0045
Uranus	-28401-04-29 11:45 J	-8651923.20	-8651923.01	-8651922.80	0.0136	0.0052
Jupiter	-28401-07-02 12:28 J	-8651859.07	-8651858.98	-8651858.88	0.0505	0.0445
Neptune	-28401-07-05 15:21 J	-8651856.06	-8651855.86	-8651855.67	0.0089	0.0040
Uranus	-28401-12-11 17:45 J	-8651696.97	-8651696.76	-8651696.55	0.0136	0.0034
Neptune	-28400-02-16 03:35 J	-8651630.54	-8651630.35	-8651630.15	0.0089	0.0036
Uranus	-28400-07-25 23:31 J	-8651470.73	-8651470.52	-8651470.30	0.0136	0.0016
Neptune	-28400-09-29 15:50 J	-8651405.03	-8651404.84	-8651404.63	0.0089	0.0032
Uranus	-28399-03-09 05:31 J	-8651244.48	-8651244.27	-8651244.05	0.0136	0.0002
Neptune	-28399-05-13 04:33 J	-8651179.51	-8651179.31	-8651179.10	0.0089	0.0028
Uranus	-28399-10-21 11:31 J	-8651018.23	-8651018.02	-8651017.81	0.0137	0.0020
Neptune	-28399-12-24 16:47 J	-8650954.00	-8650953.80	-8650953.58	0.0089	0.0024
Uranus	-28398-06-04 17:31 J	-8650791.97	-8650791.77	-8650791.56	0.0137	0.0039
Neptune	-28398-08-07 05:16 J	-8650728.48	-8650728.28	-8650728.06	0.0089	0.0020
Uranus	-28397-01-16 23:45 J	-8650565.69	-8650565.51	-8650565.30	0.0137	0.0058
Mars	-28397-02-26 17:16 J	-8650524.94	-8650524.78	-8650524.61	0.1793	0.0455
Neptune	-28397-03-19 17:59 J	-8650502.96	-8650502.75	-8650502.54	0.0089	0.0015
Uranus	-28397-08-30 06:14 J	-8650339.41	-8650339.24	-8650339.06	0.0138	0.0076
Neptune	-28397-10-31 06:28 J	-8650277.45	-8650277.23	-8650277.02	0.0089	0.0011
Uranus	-28396-04-13 12:28 J	-8650113.12	-8650112.98	-8650112.81	0.0138	0.0094
Neptune	-28396-06-13 18:57 J	-8650051.93	-8650051.71	-8650051.50	0.0089	0.0007
Jupiter	-28396-09-04 11:16 J	-8649969.15	-8649969.03	-8649968.90	0.0507	0.0401
Uranus	-28396-11-25 19:11 J	-8649886.82	-8649886.70	-8649886.57	0.0138	0.0113
Neptune	-28395-01-25 07:26 J	-8649826.41	-8649826.19	-8649825.98	0.0089	0.0003

Jupiter -28395-04-29 23:45 J -8649731.72 -8649731.51 -8649731.31 0.0516 0.0099
 Uranus -28395-07-10 01:55 J -8649660.48 -8649660.42 -8649660.35 0.0139 0.0131
 Neptune -28395-09-07 19:40 J -8649600.89 -8649600.68 -8649600.46 0.0089 0.0003
 Neptune -28394-04-21 08:23 J -8649375.37 -8649375.15 -8649374.93 0.0089 0.0006
 Neptune -28394-12-02 20:52 J -8649149.84 -8649149.63 -8649149.41 0.0089 0.0010
 Neptune -28393-07-15 09:07 J -8648924.32 -8648924.12 -8648923.89 0.0089 0.0015
 Mars -28393-10-09 22:04 J -8648837.73 -8648837.58 -8648837.42 0.1724 0.0816
 Neptune -28392-02-25 21:35 J -8648698.80 -8648698.60 -8648698.38 0.0089 0.0019
 Neptune -28392-10-09 10:19 J -8648473.28 -8648473.07 -8648472.86 0.0088 0.0023
 Neptune -28391-05-22 23:02 J -8648247.74 -8648247.54 -8648247.33 0.0088 0.0027
 Neptune -28390-01-03 11:31 J -8648022.21 -8648022.02 -8648021.81 0.0088 0.0031
 Jupiter -28390-07-15 05:16 J -8647829.47 -8647829.28 -8647829.09 0.0517 0.0156
 Neptune -28390-08-16 23:59 J -8647796.69 -8647796.50 -8647796.28 0.0088 0.0036
 Jupiter -28389-03-07 15:07 J -8647593.02 -8647592.87 -8647592.72 0.0508 0.0323
 Neptune -28389-03-29 12:43 J -8647571.15 -8647570.97 -8647570.76 0.0088 0.0040
 Saturn -28389-04-28 03:07 J -8647541.51 -8647541.37 -8647541.22 0.0281 0.0205
 Neptune -28389-11-10 01:26 J -8647345.62 -8647345.44 -8647345.24 0.0088 0.0044
 Saturn -28389-12-13 20:09 J -8647311.87 -8647311.66 -8647311.45 0.0282 0.0069
 Neptune -28388-06-23 14:09 J -8647120.08 -8647119.91 -8647119.72 0.0088 0.0048
 Saturn -28388-07-31 15:21 J -8647082.06 -8647081.86 -8647081.64 0.0284 0.0074
 Neptune -28387-02-04 02:52 J -8646894.55 -8646894.38 -8646894.19 0.0088 0.0052
 Saturn -28387-03-18 12:43 J -8646852.10 -8646851.97 -8646851.82 0.0286 0.0218
 Neptune -28387-09-17 15:50 J -8646669.01 -8646668.84 -8646668.67 0.0088 0.0056
 Neptune -28386-05-01 04:33 J -8646443.47 -8646443.31 -8646443.14 0.0088 0.0060
 Neptune -28386-12-12 17:16 J -8646217.92 -8646217.78 -8646217.62 0.0088 0.0064
 Neptune -28385-07-25 05:59 J -8645992.38 -8645992.25 -8645992.10 0.0088 0.0068
 Neptune -28384-03-07 18:28 J -8645766.84 -8645766.73 -8645766.59 0.0088 0.0072
 Neptune -28384-10-19 07:11 J -8645541.30 -8645541.20 -8645541.07 0.0088 0.0076
 Jupiter -28383-01-02 17:16 J -8645465.98 -8645465.78 -8645465.57 0.0513 0.0042
 Neptune -28383-06-01 20:09 J -8645315.74 -8645315.66 -8645315.55 0.0088 0.0080

Jupiter	-28383-08-28 11:59 J	-8645228.07	-8645228.00	-8645227.92	0.0522	0.0482
Neptune	-28382-01-13 08:52 J	-8645090.18	-8645090.13	-8645090.04	0.0088	0.0083
Neptune	-28382-08-26 21:21 J	-8644864.62	-8644864.61	-8644864.54	0.0088	0.0088
Earth	-28380-04-23 21:50 J	-8644258.74	-8644258.59	-8644258.44	0.2704	0.0393
Moon	-28380-04-24 02:38 J	-8644258.54	-8644258.39	-8644258.24	0.2708	0.0266 *
Jupiter	-28378-03-20 01:40 J	-8643563.59	-8643563.43	-8643563.27	0.0519	0.0297
Jupiter	-28378-11-11 13:55 J	-8643327.10	-8643326.92	-8643326.73	0.0510	0.0192
Saturn	-28375-03-05 06:14 J	-8642482.40	-8642482.24	-8642482.08	0.0280	0.0185
Saturn	-28375-10-20 13:40 J	-8642253.13	-8642252.93	-8642252.72	0.0278	0.0056
Saturn	-28374-06-06 19:26 J	-8642023.89	-8642023.69	-8642023.49	0.0276	0.0072
Saturn	-28373-01-21 23:16 J	-8641794.68	-8641794.53	-8641794.38	0.0274	0.0194
Jupiter	-28372-09-07 10:47 J	-8641200.24	-8641200.05	-8641199.85	0.0510	0.0180
Jupiter	-28371-05-03 02:52 J	-8640962.53	-8640962.38	-8640962.22	0.0519	0.0338
Jupiter	-28367-11-22 23:16 J	-8639297.63	-8639297.53	-8639297.41	0.0522	0.0436
Jupiter	-28366-07-17 14:23 J	-8639061.10	-8639060.90	-8639060.70	0.0513	0.0059
Uranus	-28364-07-08 15:21 J	-8638338.89	-8638338.86	-8638338.78	0.0144	0.0140
Mars	-28364-12-24 20:38 J	-8638169.76	-8638169.64	-8638169.52	0.1779	0.1223
Uranus	-28363-02-20 03:35 J	-8638112.46	-8638112.35	-8638112.21	0.0144	0.0118
Uranus	-28363-10-04 15:50 J	-8637885.99	-8637885.84	-8637885.67	0.0144	0.0097
Uranus	-28362-05-19 04:04 J	-8637659.51	-8637659.33	-8637659.14	0.0143	0.0075
Uranus	-28362-12-31 16:04 J	-8637433.03	-8637432.83	-8637432.62	0.0143	0.0053
Uranus	-28361-08-14 03:50 J	-8637206.55	-8637206.34	-8637206.12	0.0143	0.0032
Uranus	-28360-03-28 15:35 J	-8636980.07	-8636979.85	-8636979.63	0.0142	0.0010
Jupiter	-28360-05-13 03:07 J	-8636934.53	-8636934.37	-8636934.21	0.0507	0.0318
Saturn	-28360-11-08 11:02 J	-8636755.19	-8636755.04	-8636754.87	0.0281	0.0180
Uranus	-28360-11-10 03:07 J	-8636753.59	-8636753.37	-8636753.15	0.0142	0.0012
Jupiter	-28359-01-05 16:19 J	-8636697.01	-8636696.82	-8636696.63	0.0516	0.0188
Uranus	-28359-06-24 14:52 J	-8636527.10	-8636526.88	-8636526.67	0.0142	0.0033
Saturn	-28359-06-26 04:33 J	-8636525.52	-8636525.31	-8636525.10	0.0283	0.0043
Mars	-28359-08-07 21:21 J	-8636482.77	-8636482.61	-8636482.45	0.1737	0.0834

Uranus	-28358-02-06 02:09 J	-8636300.61	-8636300.41	-8636300.20	0.0141	0.0054
Saturn	-28358-02-10 23:59 J	-8636295.70	-8636295.50	-8636295.30	0.0285	0.0100
Uranus	-28358-09-20 12:57 J	-8636074.13	-8636073.96	-8636073.75	0.0141	0.0075
Saturn	-28358-09-28 21:21 J	-8636065.71	-8636065.61	-8636065.49	0.0286	0.0245
Uranus	-28357-05-04 00:14 J	-8635847.65	-8635847.49	-8635847.32	0.0141	0.0095
Uranus	-28357-12-16 10:47 J	-8635621.15	-8635621.05	-8635620.90	0.0140	0.0116
Uranus	-28356-07-30 22:04 J	-8635394.63	-8635394.58	-8635394.52	0.0140	0.0135
Jupiter	-28354-03-22 15:35 J	-8634795.05	-8634794.85	-8634794.66	0.0516	0.0075
Jupiter	-28354-11-14 00:28 J	-8634558.60	-8634558.48	-8634558.35	0.0507	0.0397
Pluto	-28350-03-31 01:11 J	-8633325.67	-8633325.45	-8633325.23	0.0080	0.0014
Pluto	-28350-11-11 11:45 J	-8633100.13	-8633100.01	-8633099.85	0.0079	0.0062
Jupiter	-28348-01-15 21:21 J	-8632668.70	-8632668.61	-8632668.52	0.0505	0.0447
Jupiter	-28348-09-10 08:09 J	-8632431.37	-8632431.16	-8632430.95	0.0514	0.0044
Saturn	-28346-09-15 09:35 J	-8631696.26	-8631696.10	-8631695.93	0.0279	0.0167
Saturn	-28345-05-01 16:47 J	-8631467.00	-8631466.80	-8631466.59	0.0277	0.0038
Saturn	-28345-12-16 22:04 J	-8631237.77	-8631237.58	-8631237.38	0.0275	0.0088
Saturn	-28344-08-03 01:26 J	-8631008.57	-8631008.44	-8631008.30	0.0274	0.0208
Jupiter	-28343-11-25 16:04 J	-8630529.01	-8630528.83	-8630528.64	0.0518	0.0209
Jupiter	-28342-07-20 03:07 J	-8630292.53	-8630292.37	-8630292.20	0.0509	0.0274
Jupiter	-28336-05-16 00:57 J	-8628165.66	-8628165.46	-8628165.25	0.0512	0.0097
Jupiter	-28335-01-08 18:43 J	-8627927.84	-8627927.72	-8627927.60	0.0521	0.0423
Mars	-28332-12-24 01:26 J	-8626482.61	-8626482.44	-8626482.27	0.1789	0.0235
Jupiter	-28331-07-31 15:21 J	-8626263.00	-8626262.86	-8626262.71	0.0521	0.0346
Jupiter	-28330-03-25 05:02 J	-8626026.49	-8626026.29	-8626026.10	0.0511	0.0146
Saturn	-28330-05-21 11:02 J	-8625969.21	-8625969.04	-8625968.87	0.0281	0.0166
Saturn	-28329-01-06 04:19 J	-8625739.53	-8625739.32	-8625739.11	0.0283	0.0029
Saturn	-28329-08-22 23:59 J	-8625509.70	-8625509.50	-8625509.31	0.0284	0.0114
Saturn	-28328-04-09 21:21 J	-8625279.69	-8625279.61	-8625279.51	0.0286	0.0259
Mars	-28327-08-07 05:45 J	-8624795.43	-8624795.26	-8624795.10	0.1727	0.0621
Neptune	-28325-06-19 17:45 J	-8624112.79	-8624112.76	-8624112.70	0.0088	0.0087

Jupiter -28324-01-18 19:40 J -8623899.86 -8623899.68 -8623899.49 0.0509 0.0231
 Neptune -28324-01-31 07:40 J -8623887.25 -8623887.18 -8623887.10 0.0088 0.0083
 Jupiter -28324-09-13 11:02 J -8623662.21 -8623662.04 -8623661.86 0.0518 0.0282
 Neptune -28324-09-13 21:50 J -8623661.69 -8623661.59 -8623661.49 0.0088 0.0079
 Neptune -28323-04-27 11:02 J -8623436.13 -8623436.04 -8623435.90 0.0088 0.0076
 Neptune -28323-12-09 00:43 J -8623210.57 -8623210.47 -8623210.31 0.0088 0.0072
 Neptune -28322-07-22 14:38 J -8622985.01 -8622984.89 -8622984.72 0.0088 0.0068
 Neptune -28321-03-04 04:19 J -8622759.45 -8622759.32 -8622759.14 0.0089 0.0064
 Neptune -28321-10-15 18:43 J -8622533.89 -8622533.72 -8622533.55 0.0089 0.0059
 Neptune -28320-05-29 08:23 J -8622308.32 -8622308.15 -8622307.97 0.0089 0.0055
 Uranus -28320-07-06 23:16 J -8622269.58 -8622269.53 -8622269.46 0.0134 0.0129
 Neptune -28319-01-09 21:50 J -8622082.76 -8622082.59 -8622082.40 0.0089 0.0051
 Uranus -28319-02-18 04:47 J -8622043.41 -8622043.30 -8622043.17 0.0135 0.0112
 Jupiter -28319-04-05 10:47 J -8621997.12 -8621997.05 -8621996.98 0.0523 0.0487
 Neptune -28319-08-23 11:31 J -8621857.20 -8621857.02 -8621856.82 0.0089 0.0047
 Uranus -28319-10-02 10:33 J -8621817.21 -8621817.06 -8621816.90 0.0135 0.0094
 Jupiter -28319-11-28 02:38 J -8621760.59 -8621760.39 -8621760.19 0.0514 0.0011
 Neptune -28318-04-06 00:57 J -8621631.64 -8621631.46 -8621631.25 0.0089 0.0043
 Uranus -28318-05-16 16:04 J -8621591.00 -8621590.83 -8621590.64 0.0135 0.0077
 Jupiter -28318-07-22 10:04 J -8621524.14 -8621524.08 -8621524.00 0.0505 0.0470
 Neptune -28318-11-17 14:38 J -8621406.07 -8621405.89 -8621405.67 0.0089 0.0039
 Uranus -28318-12-28 21:50 J -8621364.77 -8621364.59 -8621364.39 0.0135 0.0059
 Neptune -28317-06-30 04:19 J -8621180.51 -8621180.32 -8621180.10 0.0089 0.0035
 Saturn -28317-08-10 02:52 J -8621139.39 -8621139.38 -8621139.35 0.0281 0.0279
 Uranus -28317-08-11 03:35 J -8621138.55 -8621138.35 -8621138.14 0.0136 0.0042
 Neptune -28316-02-10 18:14 J -8620954.95 -8620954.74 -8620954.53 0.0089 0.0030
 Uranus -28316-03-25 09:35 J -8620912.31 -8620912.10 -8620911.89 0.0136 0.0023
 Saturn -28316-03-27 12:28 J -8620910.16 -8620909.98 -8620909.80 0.0280 0.0147
 Neptune -28316-09-24 07:40 J -8620729.38 -8620729.18 -8620728.96 0.0089 0.0026
 Uranus -28316-11-06 15:21 J -8620686.07 -8620685.86 -8620685.64 0.0136 0.0005

Saturn	-28316-11-11 19:40 J	-8620680.88	-8620680.68	-8620680.47	0.0278	0.0019
Neptune	-28315-05-07 21:21 J	-8620503.82	-8620503.61	-8620503.39	0.0089	0.0022
Uranus	-28315-06-20 21:21 J	-8620459.82	-8620459.61	-8620459.39	0.0137	0.0013
Saturn	-28315-06-29 01:11 J	-8620451.64	-8620451.45	-8620451.26	0.0276	0.0109
Neptune	-28315-12-19 10:47 J	-8620278.25	-8620278.05	-8620277.82	0.0089	0.0018
Uranus	-28314-02-02 03:35 J	-8620233.56	-8620233.35	-8620233.14	0.0137	0.0032
Saturn	-28314-02-13 04:47 J	-8620222.40	-8620222.30	-8620222.18	0.0274	0.0229
Neptune	-28314-08-02 00:43 J	-8620052.69	-8620052.47	-8620052.25	0.0089	0.0013
Uranus	-28314-09-16 09:35 J	-8620007.29	-8620007.10	-8620006.89	0.0137	0.0051
Neptune	-28313-03-14 14:09 J	-8619827.13	-8619826.91	-8619826.68	0.0089	0.0009
Uranus	-28313-04-29 16:04 J	-8619781.02	-8619780.83	-8619780.65	0.0137	0.0069
Jupiter	-28313-09-23 14:23 J	-8619634.04	-8619633.90	-8619633.75	0.0507	0.0363
Neptune	-28313-10-26 03:50 J	-8619601.56	-8619601.34	-8619601.11	0.0089	0.0005
Uranus	-28313-12-11 22:04 J	-8619554.73	-8619554.58	-8619554.40	0.0138	0.0088
Jupiter	-28312-05-19 02:52 J	-8619396.58	-8619396.38	-8619396.18	0.0516	0.0137
Neptune	-28312-06-08 17:31 J	-8619375.99	-8619375.77	-8619375.55	0.0089	0.0000
Uranus	-28312-07-26 04:47 J	-8619328.42	-8619328.30	-8619328.15	0.0138	0.0106
Neptune	-28311-01-20 06:57 J	-8619150.43	-8619150.21	-8619149.98	0.0089	0.0005
Uranus	-28311-03-09 11:31 J	-8619102.10	-8619102.02	-8619101.92	0.0138	0.0125
Neptune	-28311-09-02 20:23 J	-8618924.86	-8618924.65	-8618924.42	0.0089	0.0009
Neptune	-28310-04-16 10:04 J	-8618699.30	-8618699.08	-8618698.86	0.0089	0.0013
Neptune	-28310-11-27 23:45 J	-8618473.73	-8618473.51	-8618473.29	0.0089	0.0017
Neptune	-28309-07-10 12:57 J	-8618248.17	-8618247.96	-8618247.73	0.0089	0.0022
Neptune	-28308-02-21 02:23 J	-8618022.60	-8618022.40	-8618022.18	0.0089	0.0026
Neptune	-28308-10-04 15:50 J	-8617797.04	-8617796.84	-8617796.62	0.0089	0.0030
Neptune	-28307-05-18 05:16 J	-8617571.48	-8617571.28	-8617571.07	0.0089	0.0034
Jupiter	-28307-08-03 01:55 J	-8617494.61	-8617494.42	-8617494.23	0.0517	0.0129
Neptune	-28307-12-29 18:57 J	-8617345.91	-8617345.71	-8617345.51	0.0089	0.0038
Jupiter	-28306-03-27 11:59 J	-8617258.15	-8617258.00	-8617257.86	0.0508	0.0348
Neptune	-28306-08-12 08:09 J	-8617120.35	-8617120.16	-8617119.96	0.0089	0.0042

Neptune	-28305-03-24 21:07 J	-8616894.79	-8616894.62	-8616894.42	0.0089	0.0047
Neptune	-28305-11-05 10:33 J	-8616669.23	-8616669.06	-8616668.86	0.0089	0.0051
Neptune	-28304-06-18 23:45 J	-8616443.66	-8616443.51	-8616443.32	0.0089	0.0055
Neptune	-28303-01-30 12:57 J	-8616218.10	-8616217.96	-8616217.77	0.0089	0.0059
Neptune	-28303-09-13 02:09 J	-8615992.54	-8615992.41	-8615992.23	0.0089	0.0063
Neptune	-28302-04-26 15:21 J	-8615766.98	-8615766.86	-8615766.69	0.0089	0.0067
Neptune	-28302-12-08 04:47 J	-8615541.41	-8615541.30	-8615541.15	0.0089	0.0071
Saturn	-28301-04-15 04:19 J	-8615412.36	-8615412.32	-8615412.26	0.0279	0.0271
Jupiter	-28301-05-29 07:26 J	-8615368.22	-8615368.19	-8615368.14	0.0504	0.0493
Neptune	-28301-07-20 18:28 J	-8615315.85	-8615315.73	-8615315.61	0.0089	0.0074
Saturn	-28301-11-30 19:40 J	-8615182.86	-8615182.68	-8615182.49	0.0281	0.0140
Jupiter	-28300-01-21 17:02 J	-8615131.00	-8615130.79	-8615130.58	0.0513	0.0010
Neptune	-28300-03-03 07:26 J	-8615090.28	-8615090.19	-8615090.08	0.0089	0.0078
Saturn	-28300-07-18 13:26 J	-8614953.16	-8614952.94	-8614952.72	0.0283	0.0002
Jupiter	-28300-09-16 11:31 J	-8614893.06	-8614893.02	-8614892.97	0.0522	0.0509
Neptune	-28300-10-14 20:23 J	-8614864.71	-8614864.65	-8614864.55	0.0089	0.0082
Mars	-28300-12-23 07:26 J	-8614795.23	-8614795.19	-8614795.15	0.1800	0.1743
Saturn	-28299-03-05 09:07 J	-8614723.30	-8614723.12	-8614722.93	0.0285	0.0141
Neptune	-28299-05-28 09:35 J	-8614639.13	-8614639.10	-8614639.02	0.0089	0.0086
Saturn	-28299-10-21 06:57 J	-8614493.21	-8614493.21	-8614493.20	0.0286	0.0286
Mars	-28298-10-22 05:16 J	-8614127.38	-8614127.28	-8614127.18	0.1776	0.1420
Jupiter	-28295-04-08 01:40 J	-8613228.60	-8613228.43	-8613228.26	0.0519	0.0265
Jupiter	-28295-11-30 14:09 J	-8612992.09	-8612991.91	-8612991.73	0.0510	0.0222
Mars	-28293-06-04 04:47 J	-8612440.45	-8612440.30	-8612440.16	0.1740	0.1041
Earth	-28291-10-27 01:55 J	-8611565.54	-8611565.42	-8611565.30	0.2628	0.1728
Moon	-28291-10-27 04:04 J	-8611565.44	-8611565.33	-8611565.21	0.2634	0.1707 *
Jupiter	-28289-09-26 09:35 J	-8610865.29	-8610865.10	-8610864.89	0.0510	0.0150
Jupiter	-28288-05-22 01:55 J	-8610627.57	-8610627.42	-8610627.27	0.0519	0.0365
Saturn	-28287-02-20 08:09 J	-8610353.23	-8610353.16	-8610353.08	0.0281	0.0259
Saturn	-28287-10-07 17:16 J	-8610123.96	-8610123.78	-8610123.59	0.0279	0.0128

Saturn	-28286-05-25 00:14 J	-8609894.70	-8609894.49	-8609894.28	0.0277	0.0003
Saturn	-28285-01-09 05:16 J	-8609665.46	-8609665.28	-8609665.09	0.0275	0.0126
Saturn	-28285-08-25 08:23 J	-8609436.23	-8609436.15	-8609436.05	0.0273	0.0245
Jupiter	-28284-12-12 01:11 J	-8608962.58	-8608962.45	-8608962.33	0.0522	0.0400
Jupiter	-28283-08-05 15:50 J	-8608726.03	-8608725.84	-8608725.64	0.0513	0.0094
Earth	-28283-10-24 15:35 J	-8608645.97	-8608645.85	-8608645.74	0.2627	0.1872
Moon	-28283-10-24 20:52 J	-8608645.76	-8608645.63	-8608645.50	0.2630	0.1490 *
Uranus	-28280-10-20 11:45 J	-8607554.10	-8607554.01	-8607553.90	0.0144	0.0126
Uranus	-28279-06-03 23:59 J	-8607327.64	-8607327.50	-8607327.34	0.0144	0.0105
Uranus	-28278-01-16 11:59 J	-8607101.17	-8607101.00	-8607100.81	0.0143	0.0083
Uranus	-28278-08-30 23:59 J	-8606874.69	-8606874.50	-8606874.29	0.0143	0.0062
Uranus	-28277-04-13 11:45 J	-8606648.21	-8606648.01	-8606647.79	0.0143	0.0040
Jupiter	-28277-06-01 03:07 J	-8606599.54	-8606599.37	-8606599.19	0.0508	0.0285
Uranus	-28277-11-25 23:45 J	-8606421.73	-8606421.51	-8606421.29	0.0143	0.0018
Jupiter	-28276-01-24 17:02 J	-8606361.97	-8606361.79	-8606361.60	0.0517	0.0222
Uranus	-28276-07-10 11:31 J	-8606195.24	-8606195.02	-8606194.80	0.0142	0.0004
Uranus	-28275-02-21 23:02 J	-8605968.75	-8605968.54	-8605968.32	0.0142	0.0025
Uranus	-28275-10-06 10:19 J	-8605742.27	-8605742.07	-8605741.86	0.0142	0.0047
Uranus	-28274-05-20 21:35 J	-8605515.79	-8605515.60	-8605515.40	0.0141	0.0068
Uranus	-28273-01-02 08:38 J	-8605289.31	-8605289.14	-8605288.96	0.0141	0.0088
Uranus	-28273-08-15 19:26 J	-8605062.81	-8605062.69	-8605062.53	0.0141	0.0109
Uranus	-28272-03-30 06:14 J	-8604836.31	-8604836.24	-8604836.14	0.0140	0.0129
Saturn	-28272-10-26 05:16 J	-8604626.36	-8604626.28	-8604626.20	0.0279	0.0256
Jupiter	-28271-04-10 16:47 J	-8604460.00	-8604459.80	-8604459.60	0.0515	0.0040
Saturn	-28271-06-12 20:38 J	-8604396.83	-8604396.64	-8604396.44	0.0281	0.0125
Jupiter	-28271-12-03 01:11 J	-8604223.55	-8604223.45	-8604223.34	0.0506	0.0426
Saturn	-28270-01-28 14:23 J	-8604167.12	-8604166.90	-8604166.69	0.0283	0.0015
Saturn	-28270-09-15 10:04 J	-8603937.26	-8603937.08	-8603936.90	0.0285	0.0157
Mars	-28266-10-21 10:19 J	-8602440.24	-8602440.07	-8602439.90	0.1786	0.0027
Jupiter	-28265-02-04 23:02 J	-8602333.66	-8602333.54	-8602333.42	0.0506	0.0412

Jupiter	-28265-09-29 10:33 J	-8602096.26	-8602096.06	-8602095.85	0.0515	0.0082
Mars	-28261-06-03 13:55 J	-8600753.10	-8600752.92	-8600752.75	0.1731	0.0436
Jupiter	-28260-12-14 13:26 J	-8600194.12	-8600193.94	-8600193.75	0.0518	0.0181
Jupiter	-28259-08-08 00:14 J	-8599957.65	-8599957.49	-8599957.33	0.0509	0.0299
Saturn	-28258-09-02 10:47 J	-8599567.15	-8599567.05	-8599566.94	0.0281	0.0240
Saturn	-28257-04-18 19:55 J	-8599337.86	-8599337.67	-8599337.47	0.0279	0.0108
Saturn	-28257-12-04 03:07 J	-8599108.58	-8599108.37	-8599108.16	0.0278	0.0021
Saturn	-28256-07-21 08:09 J	-8598879.33	-8598879.16	-8598878.98	0.0276	0.0146
Saturn	-28255-03-07 11:45 J	-8598650.06	-8598650.01	-8598649.96	0.0274	0.0266
Jupiter	-28253-06-04 03:21 J	-8597830.57	-8597830.36	-8597830.15	0.0512	0.0060
Jupiter	-28252-01-27 20:52 J	-8597592.72	-8597592.63	-8597592.52	0.0521	0.0457
Jupiter	-28248-08-19 11:31 J	-8595928.17	-8595928.02	-8595927.86	0.0520	0.0320
Jupiter	-28247-04-13 00:57 J	-8595691.65	-8595691.46	-8595691.27	0.0511	0.0169
Neptune	-28244-05-10 21:50 J	-8594567.61	-8594567.59	-8594567.52	0.0089	0.0087
Neptune	-28244-12-22 10:19 J	-8594342.13	-8594342.07	-8594341.98	0.0089	0.0083
Neptune	-28243-08-04 22:47 J	-8594116.64	-8594116.55	-8594116.45	0.0089	0.0079
Neptune	-28242-03-18 10:47 J	-8593891.14	-8593891.05	-8593890.92	0.0089	0.0076
Saturn	-28242-05-08 14:38 J	-8593840.00	-8593839.89	-8593839.76	0.0279	0.0231
Neptune	-28242-10-29 23:02 J	-8593665.65	-8593665.54	-8593665.40	0.0089	0.0072
Saturn	-28242-12-24 06:28 J	-8593610.43	-8593610.23	-8593610.03	0.0281	0.0098
Jupiter	-28241-02-07 18:43 J	-8593564.92	-8593564.72	-8593564.53	0.0509	0.0202
Neptune	-28241-06-11 11:31 J	-8593440.15	-8593440.02	-8593439.88	0.0089	0.0068
Saturn	-28241-08-10 00:28 J	-8593380.69	-8593380.48	-8593380.27	0.0283	0.0042
Jupiter	-28241-10-02 09:35 J	-8593327.26	-8593327.10	-8593326.93	0.0518	0.0309
Neptune	-28240-01-22 23:31 J	-8593214.65	-8593214.52	-8593214.36	0.0089	0.0065
Saturn	-28240-03-27 20:23 J	-8593150.81	-8593150.65	-8593150.48	0.0285	0.0185
Neptune	-28240-09-05 11:45 J	-8592989.15	-8592989.01	-8592988.83	0.0089	0.0061
Neptune	-28239-04-19 00:14 J	-8592763.64	-8592763.49	-8592763.31	0.0089	0.0057
Neptune	-28239-11-30 12:43 J	-8592538.13	-8592537.97	-8592537.79	0.0089	0.0053
Neptune	-28238-07-14 00:57 J	-8592312.63	-8592312.46	-8592312.27	0.0089	0.0049

Neptune	-28237-02-24 13:26 J	-8592087.12	-8592086.94	-8592086.75	0.0089	0.0045
Neptune	-28237-10-07 01:40 J	-8591861.61	-8591861.43	-8591861.23	0.0089	0.0041
Jupiter	-28236-04-24 09:50 J	-8591662.19	-8591662.09	-8591662.00	0.0523	0.0457
Neptune	-28236-05-20 14:09 J	-8591636.10	-8591635.91	-8591635.70	0.0089	0.0037
Uranus	-28236-10-18 15:35 J	-8591484.94	-8591484.85	-8591484.74	0.0134	0.0119
Jupiter	-28236-12-17 01:55 J	-8591425.62	-8591425.42	-8591425.22	0.0514	0.0038
Neptune	-28235-01-01 02:38 J	-8591410.59	-8591410.39	-8591410.18	0.0089	0.0033
Uranus	-28235-06-01 20:52 J	-8591258.75	-8591258.63	-8591258.47	0.0135	0.0102
Jupiter	-28235-08-10 09:35 J	-8591189.13	-8591189.10	-8591189.07	0.0505	0.0496
Neptune	-28235-08-14 15:07 J	-8591185.07	-8591184.87	-8591184.66	0.0089	0.0029
Uranus	-28234-01-14 02:52 J	-8591032.54	-8591032.38	-8591032.20	0.0135	0.0084
Neptune	-28234-03-28 03:35 J	-8590959.56	-8590959.35	-8590959.14	0.0089	0.0025
Uranus	-28234-08-28 08:23 J	-8590806.33	-8590806.15	-8590805.95	0.0135	0.0067
Mars	-28234-10-20 15:35 J	-8590752.94	-8590752.85	-8590752.76	0.1796	0.1512
Neptune	-28234-11-08 16:04 J	-8590734.04	-8590733.83	-8590733.62	0.0089	0.0021
Uranus	-28233-04-10 14:09 J	-8590580.10	-8590579.91	-8590579.70	0.0136	0.0049
Neptune	-28233-06-21 04:19 J	-8590508.53	-8590508.32	-8590508.10	0.0089	0.0017
Uranus	-28233-11-22 20:09 J	-8590353.87	-8590353.66	-8590353.45	0.0136	0.0030
Neptune	-28232-02-01 16:47 J	-8590283.01	-8590282.80	-8590282.58	0.0089	0.0013
Uranus	-28232-07-07 01:55 J	-8590127.63	-8590127.42	-8590127.20	0.0136	0.0012
Mars	-28232-08-18 14:23 J	-8590084.97	-8590084.90	-8590084.83	0.1773	0.1603
Neptune	-28232-09-15 05:16 J	-8590057.49	-8590057.28	-8590057.06	0.0089	0.0009
Uranus	-28231-02-18 07:55 J	-8589901.38	-8589901.17	-8589900.95	0.0136	0.0007
Neptune	-28231-04-28 17:59 J	-8589831.97	-8589831.75	-8589831.53	0.0089	0.0005
Uranus	-28231-10-02 13:55 J	-8589675.13	-8589674.92	-8589674.71	0.0137	0.0025
Neptune	-28231-12-10 06:28 J	-8589606.45	-8589606.23	-8589606.02	0.0089	0.0001
Uranus	-28230-05-16 19:55 J	-8589448.87	-8589448.67	-8589448.46	0.0137	0.0044
Neptune	-28230-07-23 18:43 J	-8589380.93	-8589380.72	-8589380.50	0.0089	0.0004
Jupiter	-28230-10-13 12:14 J	-8589299.15	-8589298.99	-8589298.84	0.0507	0.0335
Uranus	-28230-12-29 02:23 J	-8589222.59	-8589222.40	-8589222.21	0.0137	0.0062

Neptune	-28229-03-05 07:11 J	-8589155.42	-8589155.20	-8589154.98	0.0089	0.0008
Jupiter	-28229-06-07 00:28 J	-8589061.68	-8589061.48	-8589061.28	0.0516	0.0164
Uranus	-28229-08-11 08:52 J	-8588996.30	-8588996.13	-8588995.96	0.0138	0.0081
Neptune	-28229-10-16 19:40 J	-8588929.89	-8588929.68	-8588929.46	0.0089	0.0012
Saturn	-28228-03-14 17:02 J	-8588780.91	-8588780.79	-8588780.65	0.0280	0.0219
Uranus	-28228-03-25 14:52 J	-8588770.01	-8588769.88	-8588769.71	0.0138	0.0100
Neptune	-28228-05-30 08:23 J	-8588704.37	-8588704.15	-8588703.94	0.0089	0.0016
Saturn	-28228-10-30 01:55 J	-8588551.62	-8588551.42	-8588551.22	0.0278	0.0087
Uranus	-28228-11-06 21:35 J	-8588543.69	-8588543.60	-8588543.48	0.0138	0.0119
Neptune	-28227-01-10 20:52 J	-8588478.84	-8588478.63	-8588478.42	0.0089	0.0020
Mars	-28227-04-01 12:43 J	-8588398.10	-8588397.97	-8588397.85	0.1743	0.1238
Saturn	-28227-06-16 08:38 J	-8588322.34	-8588322.14	-8588321.93	0.0277	0.0041
Uranus	-28227-06-21 04:33 J	-8588317.33	-8588317.31	-8588317.27	0.0139	0.0137
Neptune	-28227-08-24 09:07 J	-8588253.32	-8588253.12	-8588252.90	0.0088	0.0024
Saturn	-28226-01-31 13:26 J	-8588093.10	-8588092.94	-8588092.77	0.0275	0.0165
Neptune	-28226-04-06 21:35 J	-8588027.80	-8588027.60	-8588027.38	0.0088	0.0028
Neptune	-28226-11-18 10:04 J	-8587802.27	-8587802.08	-8587801.86	0.0088	0.0033
Neptune	-28225-06-30 22:47 J	-8587576.74	-8587576.55	-8587576.34	0.0088	0.0036
Neptune	-28224-02-11 11:16 J	-8587351.21	-8587351.03	-8587350.82	0.0088	0.0041
Jupiter	-28224-08-22 02:38 J	-8587159.59	-8587159.39	-8587159.20	0.0517	0.0096
Neptune	-28224-09-24 23:59 J	-8587125.68	-8587125.50	-8587125.30	0.0088	0.0044
Jupiter	-28223-04-15 12:28 J	-8586923.11	-8586922.98	-8586922.85	0.0508	0.0377
Neptune	-28223-05-08 12:43 J	-8586900.14	-8586899.97	-8586899.77	0.0088	0.0048
Neptune	-28223-12-20 01:26 J	-8586674.60	-8586674.44	-8586674.25	0.0088	0.0052
Neptune	-28222-08-02 13:55 J	-8586449.07	-8586448.92	-8586448.73	0.0088	0.0057
Neptune	-28221-03-15 02:38 J	-8586223.53	-8586223.39	-8586223.21	0.0088	0.0060
Neptune	-28221-10-26 15:50 J	-8585997.99	-8585997.84	-8585997.69	0.0088	0.0064
Neptune	-28220-06-09 04:33 J	-8585772.44	-8585772.31	-8585772.16	0.0088	0.0068
Neptune	-28219-01-20 17:16 J	-8585546.89	-8585546.78	-8585546.64	0.0088	0.0072
Neptune	-28219-09-03 05:45 J	-8585321.35	-8585321.26	-8585321.12	0.0088	0.0076

Neptune	-28218-04-16 19:11 J	-8585095.80	-8585095.70	-8585095.61	0.0088	0.0079
Jupiter	-28218-06-18 06:28 J	-8585033.31	-8585033.23	-8585033.15	0.0505	0.0463
Neptune	-28218-11-28 07:40 J	-8584870.25	-8584870.18	-8584870.09	0.0088	0.0083
Jupiter	-28217-02-10 16:19 J	-8584796.02	-8584795.82	-8584795.61	0.0513	0.0024
Neptune	-28217-07-10 20:09 J	-8584644.68	-8584644.66	-8584644.59	0.0088	0.0087
Saturn	-28213-11-17 16:33 J	-8583053.94	-8583053.81	-8583053.67	0.0280	0.0215
Jupiter	-28212-04-27 02:23 J	-8582893.58	-8582893.40	-8582893.22	0.0519	0.0231
Saturn	-28212-07-05 08:23 J	-8582824.35	-8582824.15	-8582823.94	0.0281	0.0081
Jupiter	-28212-12-19 14:09 J	-8582657.08	-8582656.91	-8582656.73	0.0510	0.0252
Saturn	-28211-02-20 02:23 J	-8582594.61	-8582594.40	-8582594.19	0.0283	0.0059
Saturn	-28211-10-07 22:19 J	-8582364.71	-8582364.57	-8582364.41	0.0285	0.0202
Jupiter	-28206-10-16 10:33 J	-8580530.26	-8580530.06	-8580529.85	0.0511	0.0115
Jupiter	-28205-06-10 03:35 J	-8580292.48	-8580292.35	-8580292.22	0.0520	0.0399
Jupiter	-28201-12-30 22:33 J	-8578627.70	-8578627.56	-8578627.43	0.0521	0.0372
Mars	-28200-08-17 18:28 J	-8578397.90	-8578397.73	-8578397.56	0.1783	0.0187
Jupiter	-28200-08-24 12:28 J	-8578391.17	-8578390.98	-8578390.79	0.0512	0.0118
Saturn	-28199-09-24 19:55 J	-8577994.81	-8577994.67	-8577994.51	0.0281	0.0200
Saturn	-28198-05-12 04:47 J	-8577765.50	-8577765.30	-8577765.09	0.0279	0.0068
Saturn	-28198-12-27 11:45 J	-8577536.21	-8577536.01	-8577535.81	0.0277	0.0061
Saturn	-28197-08-12 16:33 J	-8577306.96	-8577306.81	-8577306.65	0.0276	0.0185
Uranus	-28196-06-19 19:55 J	-8576995.73	-8576995.67	-8576995.58	0.0144	0.0136
Uranus	-28195-02-01 08:09 J	-8576769.28	-8576769.16	-8576769.01	0.0144	0.0114
Mars	-28195-03-31 21:35 J	-8576710.78	-8576710.60	-8576710.43	0.1734	0.0239
Uranus	-28195-09-15 20:23 J	-8576542.81	-8576542.65	-8576542.48	0.0144	0.0092
Uranus	-28194-04-30 08:09 J	-8576316.34	-8576316.16	-8576315.96	0.0143	0.0070
Jupiter	-28194-06-21 04:19 J	-8576264.50	-8576264.32	-8576264.14	0.0508	0.0251
Uranus	-28194-12-12 20:09 J	-8576089.86	-8576089.66	-8576089.45	0.0143	0.0048
Jupiter	-28193-02-13 18:43 J	-8576026.90	-8576026.72	-8576026.54	0.0517	0.0256
Uranus	-28193-07-26 08:09 J	-8575863.38	-8575863.16	-8575862.94	0.0143	0.0026
Pluto	-28192-01-13 10:47 J	-8575692.20	-8575692.05	-8575691.89	0.0064	0.0045

Uranus	-28192-03-09 19:55 J	-8575636.89	-8575636.67	-8575636.45	0.0142	0.0005
Pluto	-28192-08-26 14:23 J	-8575467.11	-8575466.90	-8575466.68	0.0065	0.0007
Uranus	-28192-10-22 07:11 J	-8575410.41	-8575410.20	-8575409.97	0.0142	0.0018
Pluto	-28191-04-08 18:28 J	-8575241.92	-8575241.73	-8575241.54	0.0065	0.0032
Uranus	-28191-06-05 18:43 J	-8575183.93	-8575183.72	-8575183.50	0.0142	0.0039
Uranus	-28190-01-18 05:45 J	-8574957.45	-8574957.26	-8574957.05	0.0141	0.0061
Uranus	-28190-09-01 17:02 J	-8574730.96	-8574730.79	-8574730.60	0.0141	0.0081
Uranus	-28189-04-15 04:04 J	-8574504.47	-8574504.33	-8574504.17	0.0141	0.0102
Jupiter	-28189-09-04 19:26 J	-8574361.74	-8574361.69	-8574361.65	0.0524	0.0510
Uranus	-28189-11-27 15:07 J	-8574277.98	-8574277.87	-8574277.76	0.0140	0.0122
Jupiter	-28188-04-29 11:59 J	-8574125.20	-8574125.00	-8574124.80	0.0515	0.0020
Jupiter	-28188-12-21 20:23 J	-8573888.74	-8573888.65	-8573888.56	0.0506	0.0446
Saturn	-28183-05-31 02:38 J	-8572267.54	-8572267.39	-8572267.22	0.0280	0.0189
Saturn	-28182-01-15 18:57 J	-8572037.92	-8572037.71	-8572037.50	0.0282	0.0054
Jupiter	-28182-02-23 20:52 J	-8571998.76	-8571998.63	-8571998.49	0.0506	0.0385
Saturn	-28182-09-02 13:11 J	-8571808.15	-8571807.95	-8571807.74	0.0283	0.0087
Jupiter	-28182-10-19 08:09 J	-8571761.36	-8571761.16	-8571760.95	0.0514	0.0109
Saturn	-28181-04-19 09:50 J	-8571578.22	-8571578.09	-8571577.97	0.0285	0.0231
Jupiter	-28176-01-02 11:31 J	-8569859.21	-8569859.02	-8569858.83	0.0518	0.0153
Jupiter	-28176-08-26 22:19 J	-8569622.72	-8569622.57	-8569622.41	0.0509	0.0325
Jupiter	-28170-06-23 23:59 J	-8567495.71	-8567495.50	-8567495.30	0.0512	0.0035
Jupiter	-28169-02-16 17:16 J	-8567257.85	-8567257.78	-8567257.69	0.0521	0.0480
Saturn	-28169-04-06 03:50 J	-8567208.50	-8567208.34	-8567208.18	0.0280	0.0176
Saturn	-28169-11-21 12:14 J	-8566979.20	-8566978.99	-8566978.79	0.0278	0.0045
Saturn	-28168-07-08 18:28 J	-8566749.93	-8566749.73	-8566749.53	0.0276	0.0082
Mars	-28168-08-16 23:16 J	-8566710.64	-8566710.53	-8566710.41	0.1793	0.1280
Saturn	-28167-02-22 23:02 J	-8566520.67	-8566520.54	-8566520.40	0.0275	0.0205
Jupiter	-28165-09-07 11:02 J	-8565593.20	-8565593.04	-8565592.87	0.0520	0.0288
Jupiter	-28164-05-02 00:28 J	-8565356.66	-8565356.48	-8565356.30	0.0511	0.0199
Mars	-28163-03-31 05:16 J	-8565023.33	-8565023.28	-8565023.23	0.1724	0.1648

Mars	-28161-01-27 19:11 J	-8564355.79	-8564355.70	-8564355.60	0.1747	0.1459
Neptune	-28161-09-21 02:09 J	-8564118.43	-8564118.41	-8564118.34	0.0088	0.0087
Neptune	-28160-05-04 16:04 J	-8563892.89	-8563892.83	-8563892.73	0.0088	0.0083
Neptune	-28160-12-16 05:59 J	-8563667.34	-8563667.25	-8563667.14	0.0088	0.0079
Neptune	-28159-07-29 19:55 J	-8563441.78	-8563441.67	-8563441.55	0.0088	0.0075
Jupiter	-28158-02-26 16:33 J	-8563230.01	-8563229.81	-8563229.62	0.0510	0.0172
Neptune	-28158-03-12 09:07 J	-8563216.23	-8563216.12	-8563215.96	0.0088	0.0072
Jupiter	-28158-10-22 07:55 J	-8562992.32	-8562992.17	-8562992.01	0.0519	0.0338
Neptune	-28158-10-23 23:02 J	-8562990.66	-8562990.54	-8562990.37	0.0088	0.0068
Neptune	-28157-06-05 12:57 J	-8562765.10	-8562764.96	-8562764.79	0.0089	0.0064
Neptune	-28156-01-17 02:38 J	-8562539.53	-8562539.39	-8562539.20	0.0089	0.0060
Neptune	-28156-08-30 16:33 J	-8562313.97	-8562313.81	-8562313.62	0.0089	0.0056
Neptune	-28155-04-13 06:14 J	-8562088.41	-8562088.24	-8562088.04	0.0089	0.0052
Neptune	-28155-11-24 19:55 J	-8561862.84	-8561862.67	-8561862.46	0.0089	0.0048
Neptune	-28154-07-08 09:35 J	-8561637.28	-8561637.10	-8561636.89	0.0089	0.0044
Saturn	-28154-12-11 06:14 J	-8561481.41	-8561481.24	-8561481.07	0.0280	0.0170
Neptune	-28153-02-18 23:16 J	-8561411.71	-8561411.53	-8561411.31	0.0089	0.0040
Jupiter	-28153-05-13 09:50 J	-8561327.21	-8561327.09	-8561326.98	0.0523	0.0424
Saturn	-28153-07-27 22:19 J	-8561251.78	-8561251.57	-8561251.35	0.0282	0.0035
Neptune	-28153-10-01 12:57 J	-8561186.15	-8561185.96	-8561185.74	0.0089	0.0036
Jupiter	-28152-01-05 01:26 J	-8561090.64	-8561090.44	-8561090.25	0.0514	0.0069
Saturn	-28152-03-14 16:47 J	-8561022.00	-8561021.80	-8561021.60	0.0284	0.0106
Neptune	-28152-05-15 03:07 J	-8560960.58	-8560960.37	-8560960.16	0.0089	0.0031
Uranus	-28152-06-18 01:40 J	-8560926.50	-8560926.43	-8560926.35	0.0134	0.0126
Saturn	-28152-10-30 13:11 J	-8560792.04	-8560791.95	-8560791.84	0.0285	0.0250
Neptune	-28152-12-26 16:33 J	-8560735.02	-8560734.81	-8560734.59	0.0089	0.0027
Uranus	-28151-01-30 06:57 J	-8560700.32	-8560700.21	-8560700.07	0.0135	0.0109
Neptune	-28151-08-09 05:59 J	-8560509.46	-8560509.25	-8560509.03	0.0089	0.0023
Uranus	-28151-09-13 12:43 J	-8560474.13	-8560473.97	-8560473.81	0.0135	0.0091
Neptune	-28150-03-22 19:40 J	-8560283.89	-8560283.68	-8560283.46	0.0089	0.0019

Uranus	-28150-04-27 18:14 J	-8560247.92	-8560247.74	-8560247.56	0.0135	0.0074
Neptune	-28150-11-03 09:21 J	-8560058.33	-8560058.11	-8560057.89	0.0089	0.0015
Uranus	-28150-12-09 23:45 J	-8560021.70	-8560021.51	-8560021.31	0.0135	0.0056
Neptune	-28149-06-15 22:47 J	-8559832.76	-8559832.55	-8559832.32	0.0089	0.0011
Uranus	-28149-07-23 05:31 J	-8559795.47	-8559795.27	-8559795.06	0.0136	0.0038
Neptune	-28148-01-27 12:28 J	-8559607.20	-8559606.98	-8559606.75	0.0089	0.0006
Uranus	-28148-03-06 11:16 J	-8559569.24	-8559569.03	-8559568.81	0.0136	0.0019
Neptune	-28148-09-10 02:09 J	-8559381.63	-8559381.41	-8559381.19	0.0089	0.0002
Uranus	-28148-10-18 17:16 J	-8559343.00	-8559342.78	-8559342.57	0.0136	0.0001
Neptune	-28147-04-23 15:35 J	-8559156.07	-8559155.85	-8559155.62	0.0089	0.0003
Uranus	-28147-06-01 23:16 J	-8559116.75	-8559116.53	-8559116.32	0.0137	0.0018
Jupiter	-28147-11-01 11:31 J	-8558964.18	-8558964.02	-8558963.85	0.0507	0.0304
Neptune	-28147-12-05 05:16 J	-8558930.50	-8558930.28	-8558930.05	0.0089	0.0006
Uranus	-28146-01-14 05:16 J	-8558890.48	-8558890.28	-8558890.07	0.0137	0.0037
Jupiter	-28146-06-27 00:43 J	-8558726.66	-8558726.47	-8558726.28	0.0516	0.0197
Neptune	-28146-07-18 18:43 J	-8558704.93	-8558704.72	-8558704.49	0.0089	0.0011
Uranus	-28146-08-28 11:31 J	-8558664.21	-8558664.02	-8558663.82	0.0137	0.0055
Neptune	-28145-02-29 08:09 J	-8558479.37	-8558479.16	-8558478.93	0.0089	0.0015
Uranus	-28145-04-10 17:31 J	-8558437.93	-8558437.77	-8558437.57	0.0137	0.0075
Neptune	-28145-10-11 21:50 J	-8558253.80	-8558253.59	-8558253.37	0.0089	0.0019
Uranus	-28145-11-22 23:59 J	-8558211.64	-8558211.50	-8558211.33	0.0138	0.0093
Neptune	-28144-05-25 11:16 J	-8558028.23	-8558028.03	-8558027.80	0.0089	0.0023
Uranus	-28144-07-07 06:57 J	-8557985.33	-8557985.21	-8557985.08	0.0138	0.0111
Neptune	-28143-01-06 00:57 J	-8557802.67	-8557802.46	-8557802.24	0.0089	0.0027
Uranus	-28143-02-18 13:26 J	-8557758.99	-8557758.94	-8557758.85	0.0138	0.0131
Neptune	-28143-08-19 14:23 J	-8557577.10	-8557576.90	-8557576.69	0.0089	0.0031
Neptune	-28142-04-02 03:50 J	-8557351.54	-8557351.34	-8557351.13	0.0089	0.0035
Neptune	-28142-11-13 17:16 J	-8557125.97	-8557125.78	-8557125.57	0.0089	0.0039
Neptune	-28141-06-26 06:43 J	-8556900.41	-8556900.22	-8556900.02	0.0089	0.0043
Jupiter	-28141-09-09 23:02 J	-8556824.73	-8556824.54	-8556824.34	0.0516	0.0071

Neptune -28140-02-06 19:55 J -8556674.85 -8556674.67 -8556674.47 0.0089 0.0047
 Jupiter -28140-05-04 08:09 J -8556588.28 -8556588.16 -8556588.03 0.0507 0.0398
 Neptune -28140-09-20 09:07 J -8556449.29 -8556449.12 -8556448.92 0.0089 0.0051
 Saturn -28140-10-17 06:28 J -8556422.39 -8556422.23 -8556422.05 0.0280 0.0158
 Neptune -28139-05-03 22:33 J -8556223.72 -8556223.56 -8556223.38 0.0089 0.0055
 Saturn -28139-06-03 15:07 J -8556193.08 -8556192.87 -8556192.66 0.0279 0.0026
 Neptune -28139-12-15 11:45 J -8555998.16 -8555998.01 -8555997.83 0.0089 0.0059
 Saturn -28138-01-18 21:35 J -8555963.79 -8555963.60 -8555963.41 0.0277 0.0102
 Neptune -28138-07-29 00:57 J -8555772.60 -8555772.46 -8555772.28 0.0089 0.0063
 Saturn -28138-09-05 02:09 J -8555734.53 -8555734.41 -8555734.29 0.0275 0.0225
 Neptune -28137-03-10 14:09 J -8555547.03 -8555546.91 -8555546.74 0.0089 0.0067
 Moon -28137-04-23 21:07 J -8555502.78 -8555502.62 -8555502.46 0.2700 0.0275
 Earth -28137-04-24 00:28 J -8555502.63 -8555502.48 -8555502.32 0.2705 0.0225 *
 Neptune -28137-10-22 03:35 J -8555321.47 -8555321.35 -8555321.20 0.0089 0.0070
 Neptune -28136-06-04 16:47 J -8555095.90 -8555095.80 -8555095.66 0.0089 0.0074
 Neptune -28135-01-16 05:59 J -8554870.34 -8554870.25 -8554870.13 0.0089 0.0078
 Jupiter -28135-07-07 05:59 J -8554698.35 -8554698.25 -8554698.14 0.0505 0.0433
 Neptune -28135-08-29 19:26 J -8554644.77 -8554644.69 -8554644.60 0.0089 0.0081
 Jupiter -28134-03-01 16:47 J -8554461.01 -8554460.80 -8554460.60 0.0514 0.0054
 Neptune -28134-04-12 08:23 J -8554419.20 -8554419.15 -8554419.07 0.0089 0.0085
 Mars -28134-06-15 03:21 J -8554355.52 -8554355.36 -8554355.19 0.1780 0.0388
 Neptune -28134-11-23 22:04 J -8554193.60 -8554193.58 -8554193.56 0.0089 0.0088
 Mars -28129-01-27 04:47 J -8552668.48 -8552668.30 -8552668.13 0.1737 0.0055
 Jupiter -28129-05-15 21:21 J -8552558.79 -8552558.61 -8552558.42 0.0518 0.0208
 Jupiter -28128-01-07 08:52 J -8552322.30 -8552322.13 -8552321.96 0.0510 0.0272
 Saturn -28125-11-05 01:40 J -8550924.45 -8550924.43 -8550924.38 0.0278 0.0275
 Saturn -28124-06-22 16:33 J -8550694.99 -8550694.81 -8550694.63 0.0280 0.0144
 Saturn -28123-02-07 09:07 J -8550465.33 -8550465.12 -8550464.90 0.0282 0.0007
 Saturn -28123-09-25 03:50 J -8550235.52 -8550235.34 -8550235.15 0.0284 0.0134
 Jupiter -28123-11-04 07:26 J -8550195.39 -8550195.19 -8550194.98 0.0511 0.0089

Saturn	-28122-05-13 00:57 J	-8550005.51	-8550005.46	-8550005.41	0.0286	0.0278
Jupiter	-28122-06-29 23:45 J	-8549957.62	-8549957.51	-8549957.38	0.0520	0.0423
Jupiter	-28117-01-19 19:11 J	-8548292.84	-8548292.70	-8548292.55	0.0521	0.0346
Jupiter	-28117-09-12 09:50 J	-8548056.28	-8548056.09	-8548055.90	0.0512	0.0143
Uranus	-28112-02-17 04:04 J	-8546437.33	-8546437.33	-8546437.31	0.0144	0.0144
Uranus	-28112-10-01 16:19 J	-8546210.93	-8546210.82	-8546210.70	0.0144	0.0122
Uranus	-28111-05-16 04:33 J	-8545984.46	-8545984.31	-8545984.15	0.0144	0.0100
Jupiter	-28111-07-10 00:14 J	-8545929.68	-8545929.49	-8545929.30	0.0508	0.0226
Saturn	-28111-09-12 05:16 J	-8545865.33	-8545865.28	-8545865.20	0.0282	0.0266
Uranus	-28111-12-28 16:19 J	-8545757.99	-8545757.82	-8545757.62	0.0144	0.0079
Jupiter	-28110-03-04 14:09 J	-8545692.09	-8545691.91	-8545691.74	0.0517	0.0278
Saturn	-28110-04-29 15:35 J	-8545636.03	-8545635.85	-8545635.66	0.0280	0.0133
Uranus	-28110-08-12 04:19 J	-8545531.51	-8545531.32	-8545531.11	0.0143	0.0057
Saturn	-28110-12-14 23:31 J	-8545406.73	-8545406.52	-8545406.31	0.0278	0.0004
Uranus	-28109-03-25 16:19 J	-8545305.03	-8545304.82	-8545304.60	0.0143	0.0034
Saturn	-28109-07-31 05:31 J	-8545177.46	-8545177.27	-8545177.08	0.0276	0.0124
Uranus	-28109-11-07 04:04 J	-8545078.55	-8545078.33	-8545078.11	0.0143	0.0012
Saturn	-28108-03-17 09:21 J	-8544948.19	-8544948.11	-8544948.01	0.0274	0.0246
Uranus	-28108-06-21 15:50 J	-8544852.06	-8544851.84	-8544851.62	0.0142	0.0010
Uranus	-28107-02-03 03:07 J	-8544625.58	-8544625.37	-8544625.15	0.0142	0.0032
Uranus	-28107-09-17 14:38 J	-8544399.09	-8544398.89	-8544398.69	0.0142	0.0053
Uranus	-28106-05-02 01:40 J	-8544172.61	-8544172.43	-8544172.24	0.0141	0.0074
Jupiter	-28106-09-24 17:31 J	-8544026.84	-8544026.77	-8544026.69	0.0524	0.0480
Uranus	-28106-12-14 12:43 J	-8543946.12	-8543945.97	-8543945.80	0.0141	0.0095
Jupiter	-28105-05-18 10:33 J	-8543790.26	-8543790.06	-8543789.86	0.0515	0.0014
Uranus	-28105-07-27 23:45 J	-8543719.62	-8543719.51	-8543719.37	0.0141	0.0116
Jupiter	-28104-01-09 18:57 J	-8543553.77	-8543553.71	-8543553.64	0.0506	0.0472
Uranus	-28104-03-11 10:47 J	-8543493.10	-8543493.05	-8543492.99	0.0140	0.0136
Pluto	-28104-04-27 19:26 J	-8543445.82	-8543445.69	-8543445.53	0.0080	0.0061
Pluto	-28104-12-09 06:28 J	-8543220.44	-8543220.23	-8543220.00	0.0080	0.0016

Mars	-28102-06-14 08:09 J	-8542668.29	-8542668.16	-8542668.02	0.1790	0.1068
Jupiter	-28099-03-14 17:31 J	-8541663.91	-8541663.77	-8541663.62	0.0506	0.0358
Jupiter	-28099-11-07 05:16 J	-8541426.48	-8541426.28	-8541426.08	0.0515	0.0136
Mars	-28097-01-26 13:11 J	-8540981.04	-8540980.95	-8540980.86	0.1727	0.1463
Mars	-28096-11-24 02:38 J	-8540313.44	-8540313.39	-8540313.34	0.1751	0.1669
Saturn	-28095-05-18 06:43 J	-8540138.30	-8540138.22	-8540138.13	0.0279	0.0255
Saturn	-28094-01-02 20:52 J	-8539908.81	-8539908.63	-8539908.43	0.0280	0.0125
Saturn	-28094-08-20 13:40 J	-8539679.14	-8539678.93	-8539678.71	0.0282	0.0014
Jupiter	-28093-01-22 10:33 J	-8539524.25	-8539524.06	-8539523.86	0.0517	0.0122
Saturn	-28093-04-06 08:38 J	-8539449.32	-8539449.14	-8539448.96	0.0284	0.0155
Jupiter	-28093-09-14 21:07 J	-8539287.77	-8539287.62	-8539287.48	0.0508	0.0350
Jupiter	-28088-11-17 13:26 J	-8537397.99	-8537397.94	-8537397.88	0.0504	0.0482
Jupiter	-28087-07-12 22:33 J	-8537160.77	-8537160.56	-8537160.35	0.0512	0.0004
Jupiter	-28086-03-07 16:47 J	-8536922.83	-8536922.80	-8536922.75	0.0521	0.0509
Jupiter	-28082-09-27 07:55 J	-8535258.34	-8535258.17	-8535258.00	0.0519	0.0262
Saturn	-28081-03-24 08:38 J	-8535079.23	-8535079.14	-8535079.03	0.0282	0.0247
Jupiter	-28081-05-20 20:09 J	-8535021.83	-8535021.66	-8535021.47	0.0511	0.0222
Saturn	-28081-11-08 18:43 J	-8534849.91	-8534849.72	-8534849.53	0.0280	0.0114
Saturn	-28080-06-26 02:38 J	-8534620.60	-8534620.39	-8534620.18	0.0278	0.0017
Neptune	-28080-08-12 08:09 J	-8534573.20	-8534573.16	-8534573.09	0.0089	0.0086
Saturn	-28079-02-10 08:38 J	-8534391.32	-8534391.14	-8534390.96	0.0276	0.0144
Neptune	-28079-03-25 20:52 J	-8534347.70	-8534347.63	-8534347.55	0.0089	0.0082
Saturn	-28079-09-27 12:28 J	-8534162.02	-8534161.98	-8534161.91	0.0275	0.0265
Neptune	-28079-11-06 08:52 J	-8534122.21	-8534122.13	-8534122.02	0.0089	0.0079
Neptune	-28078-06-19 21:21 J	-8533896.72	-8533896.61	-8533896.49	0.0089	0.0075
Neptune	-28077-01-31 09:07 J	-8533671.22	-8533671.12	-8533670.97	0.0089	0.0072
Neptune	-28077-09-12 21:50 J	-8533445.72	-8533445.59	-8533445.45	0.0089	0.0068
Neptune	-28076-04-26 09:50 J	-8533220.21	-8533220.09	-8533219.92	0.0089	0.0065
Neptune	-28076-12-07 22:19 J	-8532994.71	-8532994.57	-8532994.40	0.0089	0.0061
Jupiter	-28075-03-17 15:35 J	-8532895.05	-8532894.85	-8532894.65	0.0510	0.0142

Neptune	-28075-07-21 10:47 J	-8532769.21	-8532769.05	-8532768.88	0.0089	0.0057
Jupiter	-28075-11-10 07:40 J	-8532657.32	-8532657.18	-8532657.03	0.0519	0.0367
Neptune	-28074-03-03 22:33 J	-8532543.71	-8532543.56	-8532543.36	0.0089	0.0054
Neptune	-28074-10-15 11:02 J	-8532318.20	-8532318.04	-8532317.84	0.0089	0.0050
Neptune	-28073-05-27 23:31 J	-8532092.69	-8532092.52	-8532092.32	0.0089	0.0046
Neptune	-28072-01-08 11:59 J	-8531867.19	-8531867.00	-8531866.81	0.0089	0.0042
Neptune	-28072-08-22 00:14 J	-8531641.68	-8531641.49	-8531641.29	0.0089	0.0038
Neptune	-28071-04-04 12:57 J	-8531416.16	-8531415.96	-8531415.76	0.0089	0.0034
Neptune	-28071-11-16 00:57 J	-8531190.65	-8531190.46	-8531190.24	0.0089	0.0031
Jupiter	-28070-06-02 05:02 J	-8530992.41	-8530992.29	-8530992.16	0.0522	0.0400
Neptune	-28070-06-29 13:26 J	-8530965.14	-8530964.94	-8530964.73	0.0089	0.0026
Jupiter	-28069-01-24 19:55 J	-8530755.86	-8530755.67	-8530755.47	0.0513	0.0089
Neptune	-28069-02-10 01:40 J	-8530739.63	-8530739.43	-8530739.21	0.0089	0.0023
Neptune	-28069-09-22 14:09 J	-8530514.11	-8530513.91	-8530513.69	0.0089	0.0019
Uranus	-28068-02-15 11:45 J	-8530368.01	-8530368.01	-8530367.96	0.0134	0.0133
Mars	-28068-04-11 11:59 J	-8530313.16	-8530313.00	-8530312.84	0.1776	0.0588
Neptune	-28068-05-06 02:52 J	-8530288.59	-8530288.38	-8530288.16	0.0089	0.0015
Uranus	-28068-09-29 17:31 J	-8530141.87	-8530141.77	-8530141.66	0.0134	0.0116
Neptune	-28068-12-17 15:21 J	-8530063.07	-8530062.86	-8530062.64	0.0089	0.0011
Uranus	-28067-05-13 22:33 J	-8529915.69	-8529915.56	-8529915.39	0.0135	0.0099
Neptune	-28067-07-31 03:50 J	-8529837.55	-8529837.34	-8529837.12	0.0089	0.0007
Uranus	-28067-12-26 04:19 J	-8529689.48	-8529689.32	-8529689.14	0.0135	0.0081
Neptune	-28066-03-13 16:19 J	-8529612.03	-8529611.82	-8529611.60	0.0089	0.0003
Uranus	-28066-08-09 09:50 J	-8529463.27	-8529463.09	-8529462.89	0.0135	0.0063
Neptune	-28066-10-25 04:47 J	-8529386.51	-8529386.30	-8529386.08	0.0089	0.0002
Saturn	-28066-11-28 16:19 J	-8529351.93	-8529351.82	-8529351.70	0.0279	0.0231
Uranus	-28065-03-22 15:35 J	-8529237.05	-8529236.85	-8529236.64	0.0135	0.0045
Neptune	-28065-06-06 17:16 J	-8529160.99	-8529160.78	-8529160.56	0.0089	0.0006
Saturn	-28065-07-15 07:26 J	-8529122.39	-8529122.19	-8529121.99	0.0281	0.0098
Uranus	-28065-11-03 21:21 J	-8529010.82	-8529010.61	-8529010.40	0.0136	0.0027

Neptune	-28064-01-18 05:45 J	-8528935.47	-8528935.26	-8528935.04	0.0089	0.0010
Saturn	-28064-03-02 00:43 J	-8528892.68	-8528892.47	-8528892.26	0.0282	0.0040
Uranus	-28064-06-18 03:07 J	-8528784.58	-8528784.37	-8528784.15	0.0136	0.0008
Neptune	-28064-08-31 18:14 J	-8528709.95	-8528709.74	-8528709.52	0.0089	0.0014
Saturn	-28064-10-17 20:09 J	-8528662.83	-8528662.66	-8528662.50	0.0284	0.0183
Jupiter	-28064-11-20 07:40 J	-8528629.35	-8528629.18	-8528629.00	0.0507	0.0278
Mars	-28064-11-23 12:14 J	-8528626.17	-8528625.99	-8528625.81	0.1740	0.0173
Uranus	-28063-01-30 09:07 J	-8528558.33	-8528558.12	-8528557.90	0.0136	0.0011
Neptune	-28063-04-14 06:43 J	-8528484.42	-8528484.22	-8528484.00	0.0088	0.0018
Jupiter	-28063-07-15 20:38 J	-8528391.83	-8528391.64	-8528391.45	0.0516	0.0221
Uranus	-28063-09-13 15:07 J	-8528332.07	-8528331.87	-8528331.65	0.0137	0.0029
Neptune	-28063-11-25 19:11 J	-8528258.90	-8528258.70	-8528258.48	0.0088	0.0022
Uranus	-28062-04-27 21:07 J	-8528105.81	-8528105.62	-8528105.41	0.0137	0.0048
Neptune	-28062-07-09 07:40 J	-8528033.38	-8528033.18	-8528032.96	0.0088	0.0025
Uranus	-28062-12-10 03:21 J	-8527879.54	-8527879.36	-8527879.16	0.0137	0.0067
Neptune	-28061-02-19 20:09 J	-8527807.86	-8527807.66	-8527807.44	0.0088	0.0029
Uranus	-28061-07-23 09:50 J	-8527653.25	-8527653.09	-8527652.92	0.0138	0.0086
Neptune	-28061-10-02 08:52 J	-8527582.33	-8527582.13	-8527581.93	0.0088	0.0033
Uranus	-28060-03-06 16:19 J	-8527426.95	-8527426.82	-8527426.67	0.0138	0.0105
Neptune	-28060-05-15 21:35 J	-8527356.80	-8527356.60	-8527356.40	0.0088	0.0037
Uranus	-28060-10-18 23:02 J	-8527200.63	-8527200.54	-8527200.44	0.0138	0.0123
Neptune	-28060-12-27 10:04 J	-8527131.27	-8527131.08	-8527130.88	0.0088	0.0041
Neptune	-28059-08-09 22:33 J	-8526905.74	-8526905.56	-8526905.36	0.0088	0.0045
Neptune	-28058-03-23 11:02 J	-8526680.21	-8526680.04	-8526679.84	0.0088	0.0049
Jupiter	-28058-09-29 19:26 J	-8526489.89	-8526489.69	-8526489.49	0.0516	0.0045
Neptune	-28058-11-03 23:45 J	-8526454.67	-8526454.51	-8526454.32	0.0088	0.0052
Jupiter	-28057-05-23 04:47 J	-8526253.40	-8526253.30	-8526253.18	0.0507	0.0421
Neptune	-28057-06-16 12:28 J	-8526229.13	-8526228.98	-8526228.80	0.0088	0.0056
Neptune	-28056-01-28 01:26 J	-8526003.59	-8526003.44	-8526003.27	0.0088	0.0060
Neptune	-28056-09-10 13:55 J	-8525778.06	-8525777.92	-8525777.75	0.0088	0.0064

Neptune	-28055-04-24 02:38 J	-8525552.51	-8525552.39	-8525552.23	0.0088	0.0068
Neptune	-28055-12-05 15:50 J	-8525326.97	-8525326.84	-8525326.71	0.0088	0.0071
Neptune	-28054-07-19 04:19 J	-8525101.42	-8525101.32	-8525101.19	0.0088	0.0075
Neptune	-28053-02-29 16:47 J	-8524875.88	-8524875.80	-8524875.68	0.0088	0.0079
Neptune	-28053-10-12 05:45 J	-8524650.33	-8524650.26	-8524650.16	0.0088	0.0082
Neptune	-28052-05-25 18:28 J	-8524424.76	-8524424.73	-8524424.65	0.0088	0.0086
Jupiter	-28052-07-26 01:40 J	-8524363.55	-8524363.43	-8524363.30	0.0505	0.0407
Saturn	-28052-10-04 18:57 J	-8524292.84	-8524292.71	-8524292.59	0.0281	0.0221
Jupiter	-28051-03-20 11:45 J	-8524126.21	-8524126.01	-8524125.80	0.0513	0.0078
Saturn	-28051-05-22 04:19 J	-8524063.52	-8524063.32	-8524063.12	0.0279	0.0088
Saturn	-28050-01-06 11:45 J	-8523834.21	-8523834.01	-8523833.80	0.0277	0.0042
Saturn	-28050-08-23 17:02 J	-8523604.95	-8523604.79	-8523604.62	0.0276	0.0167
Earth	-28048-10-27 01:55 J	-8522809.53	-8522809.42	-8522809.30	0.2628	0.1858
Moon	-28048-10-27 02:38 J	-8522809.48	-8522809.39	-8522809.30	0.2622	0.2219 *
Jupiter	-28046-06-04 18:57 J	-8522223.89	-8522223.71	-8522223.52	0.0519	0.0179
Jupiter	-28045-01-27 06:43 J	-8521987.38	-8521987.22	-8521987.05	0.0510	0.0299
Moon	-28040-10-24 11:45 J	-8519890.10	-8519890.01	-8519889.92	0.2622	0.2212
Earth	-28040-10-24 15:35 J	-8519889.97	-8519889.85	-8519889.72	0.2627	0.1713 *
Jupiter	-28040-11-23 03:35 J	-8519860.56	-8519860.35	-8519860.14	0.0511	0.0063
Jupiter	-28039-07-18 20:23 J	-8519622.75	-8519622.65	-8519622.54	0.0520	0.0446
Mars	-28036-04-10 16:19 J	-8518625.97	-8518625.82	-8518625.67	0.1786	0.0846
Saturn	-28036-06-09 22:04 J	-8518565.72	-8518565.58	-8518565.44	0.0279	0.0210
Saturn	-28035-01-25 12:57 J	-8518336.16	-8518335.96	-8518335.75	0.0281	0.0077
Saturn	-28035-09-12 06:14 J	-8518106.45	-8518106.24	-8518106.03	0.0283	0.0063
Jupiter	-28034-02-07 17:59 J	-8517957.90	-8517957.75	-8517957.59	0.0521	0.0315
Saturn	-28034-04-30 01:26 J	-8517876.58	-8517876.44	-8517876.29	0.0284	0.0205
Jupiter	-28034-10-02 08:09 J	-8517721.35	-8517721.16	-8517720.97	0.0512	0.0171
Mars	-28032-11-22 20:52 J	-8516938.75	-8516938.63	-8516938.51	0.1730	0.1273
Uranus	-28028-05-31 22:47 J	-8515652.61	-8515652.55	-8515652.44	0.0144	0.0133
Jupiter	-28028-07-28 21:35 J	-8515594.79	-8515594.60	-8515594.40	0.0509	0.0198

Uranus	-28027-01-13 11:16 J	-8515426.16	-8515426.03	-8515425.88	0.0144	0.0110
Jupiter	-28027-03-23 12:14 J	-8515357.15	-8515356.99	-8515356.82	0.0518	0.0307
Uranus	-28027-08-27 23:16 J	-8515199.69	-8515199.53	-8515199.34	0.0144	0.0088
Uranus	-28026-04-11 11:16 J	-8514973.21	-8514973.03	-8514972.82	0.0144	0.0066
Uranus	-28026-11-23 23:16 J	-8514746.73	-8514746.53	-8514746.31	0.0143	0.0043
Uranus	-28025-07-07 11:16 J	-8514520.24	-8514520.03	-8514519.81	0.0143	0.0021
Uranus	-28024-02-18 23:02 J	-8514293.76	-8514293.54	-8514293.32	0.0143	0.0003
Uranus	-28024-10-03 10:33 J	-8514067.27	-8514067.06	-8514066.84	0.0142	0.0023
Uranus	-28023-05-17 22:04 J	-8513840.79	-8513840.58	-8513840.37	0.0142	0.0045
Jupiter	-28023-10-13 14:52 J	-8513691.98	-8513691.88	-8513691.78	0.0523	0.0453
Uranus	-28023-12-30 09:07 J	-8513614.30	-8513614.12	-8513613.91	0.0142	0.0067
Saturn	-28022-04-16 22:04 J	-8513506.73	-8513506.58	-8513506.44	0.0281	0.0202
Jupiter	-28022-06-07 06:57 J	-8513455.41	-8513455.21	-8513455.01	0.0514	0.0036
Uranus	-28022-08-13 20:38 J	-8513387.81	-8513387.64	-8513387.46	0.0141	0.0088
Saturn	-28022-12-02 07:26 J	-8513277.39	-8513277.19	-8513276.99	0.0279	0.0070
Jupiter	-28021-01-29 14:38 J	-8513218.94	-8513218.89	-8513218.85	0.0506	0.0490
Uranus	-28021-03-27 07:55 J	-8513161.31	-8513161.17	-8513161.03	0.0141	0.0108
Saturn	-28021-07-18 14:38 J	-8513048.09	-8513047.89	-8513047.68	0.0278	0.0060
Uranus	-28021-11-08 18:43 J	-8512934.80	-8512934.72	-8512934.63	0.0141	0.0129
Saturn	-28020-03-04 19:55 J	-8512818.81	-8512818.67	-8512818.51	0.0276	0.0186
Jupiter	-28016-04-02 15:50 J	-8511328.99	-8511328.84	-8511328.68	0.0507	0.0329
Jupiter	-28016-11-26 04:04 J	-8511091.53	-8511091.33	-8511091.13	0.0515	0.0165
Jupiter	-28010-02-10 05:45 J	-8509189.46	-8509189.26	-8509189.06	0.0517	0.0099
Jupiter	-28010-10-04 15:35 J	-8508952.98	-8508952.85	-8508952.71	0.0508	0.0369
Saturn	-28007-12-21 06:57 J	-8507779.36	-8507779.21	-8507779.05	0.0279	0.0187
Saturn	-28006-08-07 22:33 J	-8507549.77	-8507549.56	-8507549.35	0.0281	0.0052
Saturn	-28005-03-24 16:19 J	-8507320.02	-8507319.82	-8507319.61	0.0283	0.0088
Saturn	-28005-11-09 12:14 J	-8507090.11	-8507089.99	-8507089.86	0.0285	0.0231
Jupiter	-28005-12-06 09:35 J	-8507063.18	-8507063.10	-8507063.01	0.0504	0.0456
Jupiter	-28004-07-31 18:28 J	-8506825.94	-8506825.73	-8506825.52	0.0512	0.0022

Mars -28002-02-06 20:38 J -8506270.80 -8506270.64 -8506270.49 0.1773 0.0790

28TH MILLENNIUM BCE

This is a list of transits of Venus in the 28th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-27999-10-16 03:21 J		-8504923.53	-8504923.36	-8504923.18	0.0520	0.0236	
Jupiter	-27998-06-09 16:19 J		-8504686.99	-8504686.82	-8504686.64	0.0511	0.0245	
Mars	-27998-09-20 19:26 J		-8504583.86	-8504583.69	-8504583.51	0.1744	0.0382	
Neptune	-27997-12-23 10:19 J		-8504124.11	-8504124.07	-8504124.00	0.0088	0.0086	
Neptune	-27996-08-05 23:45 J		-8503898.57	-8503898.51	-8503898.40	0.0088	0.0083	
Neptune	-27995-03-19 13:40 J		-8503673.01	-8503672.93	-8503672.81	0.0088	0.0079	
Neptune	-27995-10-31 03:50 J		-8503447.45	-8503447.34	-8503447.21	0.0088	0.0075	
Neptune	-27994-06-13 17:16 J		-8503221.89	-8503221.78	-8503221.63	0.0088	0.0071	
Neptune	-27993-01-25 06:57 J		-8502996.33	-8502996.21	-8502996.04	0.0088	0.0068	
Neptune	-27993-09-06 20:52 J		-8502770.77	-8502770.63	-8502770.46	0.0089	0.0064	
Saturn	-27993-10-27 08:23 J		-8502720.31	-8502720.15	-8502719.98	0.0281	0.0175	
Jupiter	-27992-04-05 11:02 J		-8502560.25	-8502560.04	-8502559.84	0.0510	0.0117	
Neptune	-27992-04-20 10:47 J		-8502545.20	-8502545.05	-8502544.87	0.0089	0.0060	
Saturn	-27992-06-13 17:16 J		-8502490.98	-8502490.78	-8502490.57	0.0279	0.0043	
Jupiter	-27992-11-29 02:09 J		-8502322.54	-8502322.41	-8502322.27	0.0519	0.0388	
Neptune	-27992-12-02 00:43 J		-8502319.63	-8502319.47	-8502319.29	0.0089	0.0056	
Saturn	-27991-01-29 00:14 J		-8502261.68	-8502261.49	-8502261.29	0.0277	0.0085	
Neptune	-27991-07-15 14:38 J		-8502094.07	-8502093.89	-8502093.71	0.0089	0.0052	

Saturn	-27991-09-15 05:02 J	-8502032.42	-8502032.29	-8502032.15	0.0275	0.0209
Neptune	-27990-02-26 03:50 J	-8501868.50	-8501868.34	-8501868.13	0.0089	0.0049
Neptune	-27990-10-09 17:45 J	-8501642.93	-8501642.76	-8501642.55	0.0089	0.0045
Neptune	-27989-05-22 07:40 J	-8501417.37	-8501417.18	-8501416.97	0.0089	0.0041
Neptune	-27988-01-02 21:21 J	-8501191.80	-8501191.61	-8501191.39	0.0089	0.0037
Neptune	-27988-08-16 11:02 J	-8500966.24	-8500966.04	-8500965.82	0.0089	0.0033
Neptune	-27987-03-30 00:43 J	-8500740.67	-8500740.47	-8500740.25	0.0089	0.0029
Jupiter	-27987-06-21 01:40 J	-8500657.57	-8500657.43	-8500657.29	0.0523	0.0372
Neptune	-27987-11-10 14:23 J	-8500515.10	-8500514.90	-8500514.68	0.0089	0.0025
Jupiter	-27986-02-12 17:16 J	-8500420.97	-8500420.78	-8500420.59	0.0514	0.0116
Neptune	-27986-06-24 04:04 J	-8500289.54	-8500289.33	-8500289.11	0.0089	0.0021
Neptune	-27985-02-04 17:31 J	-8500063.98	-8500063.77	-8500063.54	0.0089	0.0017
Neptune	-27985-09-17 07:11 J	-8499838.42	-8499838.20	-8499837.97	0.0089	0.0013
Neptune	-27984-04-30 20:52 J	-8499612.85	-8499612.63	-8499612.41	0.0089	0.0008
Uranus	-27984-05-30 03:21 J	-8499583.42	-8499583.36	-8499583.25	0.0134	0.0124
Neptune	-27984-12-12 10:33 J	-8499387.28	-8499387.06	-8499386.84	0.0089	0.0004
Uranus	-27983-01-11 09:07 J	-8499357.24	-8499357.12	-8499356.98	0.0134	0.0106
Neptune	-27983-07-25 23:59 J	-8499161.72	-8499161.50	-8499161.28	0.0089	0.0001
Uranus	-27983-08-25 14:38 J	-8499131.05	-8499130.89	-8499130.72	0.0135	0.0088
Neptune	-27982-03-08 13:26 J	-8498936.16	-8498935.94	-8498935.71	0.0089	0.0004
Uranus	-27982-04-08 19:55 J	-8498904.85	-8498904.67	-8498904.48	0.0135	0.0070
Neptune	-27982-10-20 03:07 J	-8498710.59	-8498710.37	-8498710.15	0.0089	0.0008
Uranus	-27982-11-21 01:26 J	-8498678.63	-8498678.44	-8498678.23	0.0135	0.0052
Neptune	-27981-06-01 16:33 J	-8498485.02	-8498484.81	-8498484.58	0.0089	0.0012
Uranus	-27981-07-04 07:11 J	-8498452.40	-8498452.20	-8498451.99	0.0135	0.0034
Jupiter	-27981-12-09 03:35 J	-8498294.53	-8498294.35	-8498294.17	0.0507	0.0252
Neptune	-27980-01-13 05:59 J	-8498259.46	-8498259.25	-8498259.02	0.0089	0.0016
Uranus	-27980-02-15 12:57 J	-8498226.17	-8498225.96	-8498225.74	0.0136	0.0016
Jupiter	-27980-08-03 16:33 J	-8498056.99	-8498056.81	-8498056.63	0.0516	0.0245
Neptune	-27980-08-26 19:26 J	-8498033.90	-8498033.69	-8498033.46	0.0089	0.0020

Uranus	-27980-09-29 18:57 J	-8497999.93	-8497999.71	-8497999.50	0.0136	0.0004
Neptune	-27979-04-09 09:07 J	-8497808.33	-8497808.12	-8497807.90	0.0089	0.0024
Uranus	-27979-05-14 00:43 J	-8497773.68	-8497773.47	-8497773.25	0.0136	0.0022
Neptune	-27979-11-20 22:33 J	-8497582.76	-8497582.56	-8497582.34	0.0089	0.0028
Uranus	-27979-12-26 06:57 J	-8497547.42	-8497547.21	-8497547.01	0.0137	0.0041
Neptune	-27978-07-04 11:59 J	-8497357.19	-8497357.00	-8497356.78	0.0089	0.0032
Uranus	-27978-08-09 12:57 J	-8497321.15	-8497320.96	-8497320.76	0.0137	0.0060
Neptune	-27977-02-15 01:26 J	-8497131.63	-8497131.44	-8497131.23	0.0089	0.0036
Uranus	-27977-03-22 19:11 J	-8497094.87	-8497094.70	-8497094.52	0.0137	0.0079
Saturn	-27977-07-02 13:26 J	-8496993.11	-8496992.94	-8496992.76	0.0280	0.0164
Neptune	-27977-09-27 14:52 J	-8496906.07	-8496905.88	-8496905.67	0.0089	0.0040
Uranus	-27977-11-04 01:26 J	-8496868.58	-8496868.44	-8496868.28	0.0138	0.0098
Saturn	-27976-02-17 05:02 J	-8496763.50	-8496763.29	-8496763.07	0.0281	0.0029
Neptune	-27976-05-11 04:04 J	-8496680.50	-8496680.33	-8496680.12	0.0089	0.0044
Uranus	-27976-06-18 08:23 J	-8496642.27	-8496642.15	-8496642.04	0.0138	0.0116
Saturn	-27976-10-04 23:02 J	-8496533.74	-8496533.54	-8496533.35	0.0283	0.0112
Neptune	-27976-12-22 17:31 J	-8496454.93	-8496454.77	-8496454.56	0.0089	0.0048
Uranus	-27975-01-30 14:52 J	-8496415.91	-8496415.88	-8496415.83	0.0138	0.0135
Jupiter	-27975-02-23 23:31 J	-8496391.56	-8496391.52	-8496391.46	0.0525	0.0507
Saturn	-27975-05-22 18:43 J	-8496303.81	-8496303.72	-8496303.62	0.0285	0.0254
Neptune	-27975-08-05 07:11 J	-8496229.37	-8496229.20	-8496229.01	0.0089	0.0051
Jupiter	-27975-10-18 17:45 J	-8496154.96	-8496154.76	-8496154.56	0.0516	0.0017
Neptune	-27974-03-18 20:23 J	-8496003.81	-8496003.65	-8496003.47	0.0089	0.0055
Jupiter	-27974-06-12 02:52 J	-8495918.47	-8495918.38	-8495918.28	0.0507	0.0445
Neptune	-27974-10-30 09:35 J	-8495778.25	-8495778.10	-8495777.92	0.0089	0.0059
Neptune	-27973-06-11 22:47 J	-8495552.68	-8495552.55	-8495552.37	0.0089	0.0063
Neptune	-27972-01-23 12:14 J	-8495327.12	-8495326.99	-8495326.83	0.0089	0.0066
Neptune	-27972-09-06 01:11 J	-8495101.56	-8495101.45	-8495101.29	0.0089	0.0070
Neptune	-27971-04-19 14:52 J	-8494876.00	-8494875.88	-8494875.75	0.0089	0.0073
Neptune	-27971-12-01 03:50 J	-8494650.43	-8494650.34	-8494650.21	0.0089	0.0077

Mars	-27970-02-06 00:57 J	-8494583.62	-8494583.46	-8494583.30	0.1783	0.0640
Neptune	-27970-07-14 17:31 J	-8494424.86	-8494424.77	-8494424.68	0.0089	0.0080
Neptune	-27969-02-25 06:14 J	-8494199.29	-8494199.24	-8494199.15	0.0089	0.0084
Jupiter	-27969-08-13 22:33 J	-8494028.69	-8494028.56	-8494028.42	0.0505	0.0380
Neptune	-27969-10-07 19:40 J	-8493973.71	-8493973.68	-8493973.64	0.0089	0.0087
Jupiter	-27968-04-08 09:21 J	-8493791.32	-8493791.11	-8493790.91	0.0514	0.0106
Mars	-27966-09-20 05:16 J	-8492896.42	-8492896.28	-8492896.14	0.1733	0.1089
Saturn	-27963-05-09 11:31 J	-8491934.19	-8491934.02	-8491933.84	0.0280	0.0157
Jupiter	-27963-06-23 16:04 J	-8491889.01	-8491888.83	-8491888.63	0.0518	0.0153
Saturn	-27963-12-24 20:23 J	-8491704.86	-8491704.65	-8491704.44	0.0279	0.0025
Jupiter	-27962-02-15 03:07 J	-8491652.52	-8491652.37	-8491652.21	0.0509	0.0320
Saturn	-27962-08-11 03:07 J	-8491475.56	-8491475.37	-8491475.18	0.0277	0.0103
Saturn	-27961-03-27 07:40 J	-8491246.29	-8491246.18	-8491246.05	0.0275	0.0227
Jupiter	-27957-12-12 01:55 J	-8489525.63	-8489525.42	-8489525.21	0.0512	0.0034
Jupiter	-27956-08-06 19:11 J	-8489287.77	-8489287.70	-8489287.61	0.0521	0.0474
Jupiter	-27951-02-26 13:55 J	-8487623.08	-8487622.92	-8487622.75	0.0520	0.0290
Jupiter	-27951-10-21 03:35 J	-8487386.54	-8487386.35	-8487386.17	0.0512	0.0193
Saturn	-27948-05-28 07:11 J	-8486436.22	-8486436.20	-8486436.14	0.0278	0.0272
Saturn	-27947-01-12 21:21 J	-8486206.79	-8486206.61	-8486206.42	0.0280	0.0142
Saturn	-27947-08-30 13:26 J	-8485977.15	-8485976.94	-8485976.72	0.0282	0.0008
Pluto	-27946-02-11 12:43 J	-8485812.01	-8485811.97	-8485811.89	0.0064	0.0062
Saturn	-27946-04-17 07:40 J	-8485747.36	-8485747.18	-8485746.98	0.0283	0.0136
Pluto	-27946-09-24 16:33 J	-8485587.00	-8485586.81	-8485586.60	0.0065	0.0024
Saturn	-27946-12-03 04:04 J	-8485517.36	-8485517.33	-8485517.27	0.0285	0.0279
Pluto	-27945-05-06 20:38 J	-8485361.85	-8485361.64	-8485361.43	0.0065	0.0015
Jupiter	-27945-08-16 18:14 J	-8485259.94	-8485259.74	-8485259.55	0.0509	0.0170
Pluto	-27945-12-17 23:59 J	-8485136.60	-8485136.50	-8485136.36	0.0065	0.0054
Uranus	-27944-01-29 05:16 J	-8485094.31	-8485094.28	-8485094.24	0.0145	0.0142
Jupiter	-27944-04-11 08:23 J	-8485022.31	-8485022.15	-8485021.99	0.0517	0.0331
Uranus	-27944-09-12 17:31 J	-8484867.89	-8484867.77	-8484867.65	0.0144	0.0120

Uranus	-27943-04-27 05:45 J	-8484641.42	-8484641.26	-8484641.10	0.0144	0.0097
Uranus	-27943-12-09 17:45 J	-8484414.94	-8484414.76	-8484414.57	0.0144	0.0075
Uranus	-27942-07-24 05:45 J	-8484188.46	-8484188.26	-8484188.05	0.0144	0.0053
Uranus	-27941-03-06 17:45 J	-8483961.97	-8483961.76	-8483961.54	0.0143	0.0030
Uranus	-27941-10-19 05:45 J	-8483735.48	-8483735.26	-8483735.04	0.0143	0.0008
Uranus	-27940-06-02 17:31 J	-8483508.99	-8483508.77	-8483508.55	0.0143	0.0015
Jupiter	-27940-11-01 09:50 J	-8483357.20	-8483357.09	-8483356.97	0.0524	0.0428
Uranus	-27939-01-15 05:02 J	-8483282.50	-8483282.29	-8483282.08	0.0142	0.0037
Jupiter	-27939-06-26 02:38 J	-8483120.59	-8483120.39	-8483120.19	0.0515	0.0062
Uranus	-27939-08-29 16:19 J	-8483056.01	-8483055.82	-8483055.61	0.0142	0.0059
Uranus	-27938-04-13 03:50 J	-8482829.52	-8482829.34	-8482829.15	0.0142	0.0080
Uranus	-27938-11-25 14:52 J	-8482603.02	-8482602.88	-8482602.71	0.0141	0.0101
Uranus	-27937-07-09 02:09 J	-8482376.50	-8482376.41	-8482376.28	0.0141	0.0122
Mars	-27937-12-04 05:45 J	-8482228.40	-8482228.26	-8482228.12	0.1769	0.0971
Saturn	-27934-04-04 11:16 J	-8481377.10	-8481377.03	-8481376.96	0.0282	0.0264
Saturn	-27934-11-19 21:35 J	-8481147.78	-8481147.60	-8481147.41	0.0280	0.0131
Jupiter	-27933-04-21 11:45 J	-8480994.17	-8480994.01	-8480993.84	0.0506	0.0302
Saturn	-27933-07-06 05:59 J	-8480918.46	-8480918.25	-8480918.04	0.0278	0.0002
Jupiter	-27933-12-14 23:16 J	-8480756.72	-8480756.53	-8480756.33	0.0515	0.0189
Saturn	-27932-02-20 12:14 J	-8480689.17	-8480688.99	-8480688.80	0.0277	0.0128
Mars	-27932-07-18 02:52 J	-8480541.55	-8480541.38	-8480541.21	0.1747	0.0586
Saturn	-27932-10-07 16:33 J	-8480459.89	-8480459.81	-8480459.71	0.0275	0.0249
Jupiter	-27927-03-01 02:23 J	-8478854.59	-8478854.40	-8478854.20	0.0517	0.0072
Jupiter	-27927-10-23 12:57 J	-8478618.08	-8478617.96	-8478617.83	0.0508	0.0395
Jupiter	-27922-12-26 05:31 J	-8476728.37	-8476728.27	-8476728.16	0.0504	0.0430
Jupiter	-27921-08-19 14:23 J	-8476491.10	-8476490.90	-8476490.69	0.0512	0.0049
Saturn	-27919-12-08 13:40 J	-8475650.01	-8475649.93	-8475649.83	0.0278	0.0250
Saturn	-27918-07-26 04:04 J	-8475420.53	-8475420.33	-8475420.14	0.0280	0.0120
Saturn	-27917-03-11 20:09 J	-8475190.87	-8475190.66	-8475190.44	0.0282	0.0018
Saturn	-27917-10-27 14:38 J	-8474961.07	-8474960.89	-8474960.71	0.0284	0.0159

Neptune -27916-04-02 06:14 J -8474804.25 -8474804.24 -8474804.21 0.0089 0.0088
 Jupiter -27916-11-04 02:09 J -8474588.59 -8474588.41 -8474588.23 0.0520 0.0206
 Neptune -27916-11-13 18:28 J -8474578.78 -8474578.73 -8474578.66 0.0089 0.0085
 Neptune -27915-06-27 06:28 J -8474353.29 -8474353.23 -8474353.13 0.0089 0.0082
 Jupiter -27915-06-28 14:38 J -8474352.05 -8474351.89 -8474351.71 0.0511 0.0272
 Neptune -27914-02-07 19:11 J -8474127.80 -8474127.70 -8474127.60 0.0089 0.0078
 Neptune -27914-09-21 07:11 J -8473902.30 -8473902.20 -8473902.08 0.0089 0.0075
 Neptune -27913-05-03 19:11 J -8473676.80 -8473676.70 -8473676.55 0.0089 0.0072
 Neptune -27913-12-15 07:55 J -8473451.30 -8473451.17 -8473451.02 0.0089 0.0068
 Neptune -27912-07-28 19:55 J -8473225.80 -8473225.67 -8473225.50 0.0089 0.0065
 Neptune -27911-03-11 08:23 J -8473000.30 -8473000.15 -8472999.98 0.0089 0.0061
 Neptune -27911-10-22 20:23 J -8472774.79 -8472774.65 -8472774.46 0.0089 0.0058
 Neptune -27910-06-05 08:52 J -8472549.29 -8472549.13 -8472548.95 0.0089 0.0054
 Neptune -27909-01-16 21:21 J -8472323.79 -8472323.61 -8472323.43 0.0089 0.0050
 Jupiter -27909-04-24 08:09 J -8472225.37 -8472225.16 -8472224.96 0.0510 0.0089
 Neptune -27909-08-29 09:21 J -8472098.28 -8472098.11 -8472097.91 0.0089 0.0047
 Jupiter -27909-12-17 23:59 J -8471987.62 -8471987.50 -8471987.37 0.0519 0.0414
 Neptune -27908-04-11 21:50 J -8471872.77 -8471872.59 -8471872.39 0.0089 0.0043
 Neptune -27908-11-23 10:19 J -8471647.26 -8471647.07 -8471646.87 0.0089 0.0039
 Neptune -27907-07-06 22:19 J -8471421.76 -8471421.57 -8471421.36 0.0089 0.0036
 Neptune -27906-02-17 10:33 J -8471196.25 -8471196.06 -8471195.84 0.0089 0.0032
 Neptune -27906-09-30 23:02 J -8470970.74 -8470970.54 -8470970.33 0.0089 0.0028
 Neptune -27905-05-13 11:31 J -8470745.22 -8470745.02 -8470744.80 0.0089 0.0024
 Saturn -27905-10-14 14:09 J -8470591.00 -8470590.91 -8470590.80 0.0281 0.0247
 Mars -27905-12-03 09:35 J -8470541.26 -8470541.10 -8470540.93 0.1779 0.0433
 Neptune -27905-12-24 23:59 J -8470519.71 -8470519.50 -8470519.28 0.0089 0.0020
 Saturn -27904-06-01 00:28 J -8470361.67 -8470361.48 -8470361.28 0.0280 0.0113
 Jupiter -27904-07-09 23:59 J -8470322.65 -8470322.50 -8470322.35 0.0522 0.0342
 Neptune -27904-08-07 12:14 J -8470294.19 -8470293.99 -8470293.77 0.0089 0.0017
 Saturn -27903-01-16 08:52 J -8470132.34 -8470132.13 -8470131.93 0.0278 0.0019

Jupiter -27903-03-03 14:52 J -8470086.07 -8470085.88 -8470085.69 0.0513 0.0142
 Neptune -27903-03-21 00:43 J -8470068.68 -8470068.47 -8470068.25 0.0089 0.0013
 Saturn -27903-09-02 14:52 J -8469903.06 -8469902.88 -8469902.70 0.0276 0.0145
 Neptune -27903-11-01 13:11 J -8469843.16 -8469842.95 -8469842.73 0.0089 0.0009
 Saturn -27902-04-19 18:43 J -8469673.76 -8469673.72 -8469673.65 0.0275 0.0266
 Neptune -27902-06-15 01:55 J -8469617.64 -8469617.42 -8469617.21 0.0089 0.0005
 Neptune -27901-01-26 14:09 J -8469392.12 -8469391.91 -8469391.69 0.0089 0.0002
 Neptune -27901-09-08 02:38 J -8469166.60 -8469166.39 -8469166.17 0.0089 0.0004
 Uranus -27900-01-27 15:07 J -8469024.90 -8469024.87 -8469024.79 0.0134 0.0130
 Neptune -27900-04-21 15:21 J -8468941.08 -8468940.86 -8468940.64 0.0088 0.0007
 Mars -27900-07-17 12:14 J -8468854.14 -8468853.99 -8468853.83 0.1737 0.0887
 Uranus -27900-09-10 20:38 J -8468798.74 -8468798.64 -8468798.51 0.0134 0.0113
 Neptune -27900-12-03 03:50 J -8468715.56 -8468715.34 -8468715.12 0.0088 0.0011
 Uranus -27899-04-25 02:09 J -8468572.56 -8468572.41 -8468572.25 0.0134 0.0095
 Neptune -27899-07-16 16:19 J -8468490.04 -8468489.82 -8468489.61 0.0088 0.0015
 Uranus -27899-12-07 07:40 J -8468346.35 -8468346.18 -8468346.00 0.0135 0.0077
 Neptune -27898-02-27 04:33 J -8468264.52 -8468264.31 -8468264.09 0.0088 0.0019
 Uranus -27898-07-21 13:11 J -8468120.14 -8468119.95 -8468119.75 0.0135 0.0059
 Neptune -27898-10-10 17:02 J -8468038.99 -8468038.79 -8468038.57 0.0088 0.0022
 Jupiter -27898-12-29 01:40 J -8467959.61 -8467959.43 -8467959.24 0.0508 0.0223
 Uranus -27897-03-03 18:57 J -8467893.92 -8467893.71 -8467893.51 0.0135 0.0041
 Neptune -27897-05-23 05:31 J -8467813.46 -8467813.27 -8467813.04 0.0088 0.0027
 Jupiter -27897-08-22 15:21 J -8467722.03 -8467721.86 -8467721.68 0.0517 0.0275
 Uranus -27897-10-16 00:28 J -8467667.69 -8467667.48 -8467667.26 0.0135 0.0022
 Neptune -27896-01-03 18:28 J -8467587.94 -8467587.73 -8467587.53 0.0088 0.0030
 Uranus -27896-05-30 06:14 J -8467441.45 -8467441.24 -8467441.02 0.0136 0.0005
 Neptune -27896-08-17 06:43 J -8467362.41 -8467362.22 -8467362.01 0.0088 0.0034
 Uranus -27895-01-11 12:28 J -8467215.20 -8467214.98 -8467214.77 0.0136 0.0015
 Neptune -27895-03-30 19:11 J -8467136.89 -8467136.70 -8467136.49 0.0088 0.0038
 Uranus -27895-08-25 18:14 J -8466988.94 -8466988.74 -8466988.53 0.0136 0.0034

Neptune -27895-11-11 07:40 J -8466911.36 -8466911.18 -8466910.97 0.0088 0.0042
 Uranus -27894-04-09 00:28 J -8466762.68 -8466762.48 -8466762.28 0.0137 0.0053
 Earth -27894-04-25 03:07 J -8466746.53 -8466746.37 -8466746.22 0.2706 0.0093
 Moon -27894-04-25 04:04 J -8466746.48 -8466746.33 -8466746.18 0.2713 0.0030 *
 Neptune -27894-06-24 20:38 J -8466685.83 -8466685.64 -8466685.45 0.0088 0.0045
 Uranus -27894-11-21 06:28 J -8466536.40 -8466536.23 -8466536.04 0.0137 0.0072
 Neptune -27893-02-05 09:07 J -8466460.30 -8466460.12 -8466459.93 0.0088 0.0049
 Uranus -27893-07-04 12:43 J -8466310.12 -8466309.97 -8466309.80 0.0137 0.0091
 Neptune -27893-09-17 21:35 J -8466234.76 -8466234.60 -8466234.41 0.0088 0.0052
 Uranus -27892-02-15 19:40 J -8466083.81 -8466083.68 -8466083.56 0.0138 0.0110
 Jupiter -27892-03-14 20:52 J -8466056.70 -8466056.63 -8466056.54 0.0524 0.0478
 Neptune -27892-05-01 10:04 J -8466009.23 -8466009.08 -8466008.89 0.0088 0.0057
 Uranus -27892-09-30 01:55 J -8465857.48 -8465857.42 -8465857.34 0.0138 0.0129
 Jupiter -27892-11-06 14:23 J -8465820.10 -8465819.90 -8465819.70 0.0515 0.0010
 Neptune -27892-12-12 23:02 J -8465783.69 -8465783.54 -8465783.37 0.0088 0.0060
 Jupiter -27891-06-30 22:47 J -8465583.62 -8465583.55 -8465583.47 0.0507 0.0464
 Neptune -27891-07-26 11:31 J -8465558.15 -8465558.02 -8465557.85 0.0088 0.0064
 Neptune -27890-03-09 00:28 J -8465332.61 -8465332.48 -8465332.33 0.0088 0.0067
 Neptune -27890-10-20 12:57 J -8465107.07 -8465106.96 -8465106.81 0.0088 0.0071
 Neptune -27889-06-02 02:09 J -8464881.52 -8464881.41 -8464881.28 0.0088 0.0074
 Saturn -27889-06-19 19:55 J -8464863.78 -8464863.67 -8464863.55 0.0279 0.0231
 Neptune -27888-01-13 14:38 J -8464655.97 -8464655.89 -8464655.76 0.0088 0.0078
 Saturn -27888-02-04 10:19 J -8464634.26 -8464634.07 -8464633.86 0.0280 0.0099
 Neptune -27888-08-27 03:50 J -8464430.42 -8464430.34 -8464430.24 0.0088 0.0080
 Saturn -27888-09-22 03:07 J -8464404.58 -8464404.37 -8464404.15 0.0282 0.0039
 Neptune -27887-04-09 16:04 J -8464204.86 -8464204.83 -8464204.73 0.0088 0.0085
 Saturn -27887-05-09 21:50 J -8464174.75 -8464174.59 -8464174.42 0.0284 0.0181
 Neptune -27887-11-21 05:02 J -8463979.30 -8463979.29 -8463979.23 0.0088 0.0088
 Jupiter -27886-09-02 19:55 J -8463693.82 -8463693.67 -8463693.52 0.0505 0.0350
 Jupiter -27885-04-27 06:14 J -8463456.44 -8463456.24 -8463456.04 0.0514 0.0134

Jupiter	-27880-07-12 11:45 J	-8461554.20	-8461554.01	-8461553.82	0.0518	0.0126
Jupiter	-27879-03-05 23:31 J	-8461317.67	-8461317.52	-8461317.38	0.0510	0.0345
Saturn	-27875-04-27 00:28 J	-8459804.61	-8459804.48	-8459804.35	0.0281	0.0220
Saturn	-27875-12-12 10:19 J	-8459575.27	-8459575.07	-8459574.87	0.0280	0.0087
Jupiter	-27874-05-08 14:52 J	-8459427.94	-8459427.88	-8459427.80	0.0503	0.0474
Saturn	-27874-07-29 17:59 J	-8459345.95	-8459345.75	-8459345.54	0.0278	0.0044
Jupiter	-27874-12-31 22:33 J	-8459190.77	-8459190.56	-8459190.35	0.0511	0.0008
Saturn	-27873-03-14 23:45 J	-8459116.67	-8459116.51	-8459116.35	0.0276	0.0169
Jupiter	-27873-08-25 15:07 J	-8458952.92	-8458952.87	-8458952.81	0.0520	0.0496
Mars	-27871-10-01 14:38 J	-8458186.02	-8458185.89	-8458185.76	0.1766	0.1159
Jupiter	-27868-03-17 10:19 J	-8457288.24	-8457288.07	-8457287.89	0.0521	0.0262
Jupiter	-27868-11-09 00:43 J	-8457051.65	-8457051.47	-8457051.29	0.0512	0.0220
Mars	-27866-05-15 09:50 J	-8456499.25	-8456499.09	-8456498.93	0.1750	0.0799
Jupiter	-27862-09-05 14:38 J	-8454925.09	-8454924.89	-8454924.69	0.0509	0.0143
Jupiter	-27861-04-30 05:02 J	-8454687.44	-8454687.29	-8454687.14	0.0518	0.0356
Uranus	-27860-05-13 00:14 J	-8454309.58	-8454309.49	-8454309.39	0.0145	0.0130
Uranus	-27860-12-25 12:14 J	-8454083.12	-8454082.99	-8454082.83	0.0144	0.0108
Saturn	-27860-12-31 02:09 J	-8454077.54	-8454077.41	-8454077.26	0.0279	0.0209
Uranus	-27859-08-09 00:28 J	-8453856.65	-8453856.48	-8453856.29	0.0144	0.0085
Saturn	-27859-08-17 17:02 J	-8453848.00	-8453847.79	-8453847.58	0.0281	0.0076
Uranus	-27858-03-23 12:43 J	-8453630.17	-8453629.97	-8453629.77	0.0144	0.0062
Saturn	-27858-04-04 09:50 J	-8453618.30	-8453618.09	-8453617.88	0.0283	0.0063
Uranus	-27858-11-05 00:43 J	-8453403.68	-8453403.47	-8453403.26	0.0143	0.0039
Saturn	-27858-11-20 04:33 J	-8453388.44	-8453388.31	-8453388.15	0.0284	0.0206
Pluto	-27857-01-07 03:50 J	-8453340.56	-8453340.34	-8453340.12	0.0080	0.0021
Uranus	-27857-06-18 12:43 J	-8453177.19	-8453176.97	-8453176.75	0.0143	0.0017
Pluto	-27857-08-19 14:09 J	-8453115.05	-8453114.91	-8453114.72	0.0080	0.0055
Jupiter	-27857-11-20 08:52 J	-8453022.25	-8453022.13	-8453022.00	0.0524	0.0397
Uranus	-27856-01-31 00:28 J	-8452950.70	-8452950.48	-8452950.26	0.0143	0.0006
Jupiter	-27856-07-15 01:40 J	-8452785.63	-8452785.43	-8452785.23	0.0515	0.0091

Uranus	-27856-09-14 12:14 J	-8452724.21	-8452723.99	-8452723.77	0.0142	0.0028
Uranus	-27855-04-28 23:45 J	-8452497.71	-8452497.51	-8452497.30	0.0142	0.0050
Uranus	-27855-12-11 11:16 J	-8452271.22	-8452271.03	-8452270.84	0.0142	0.0072
Uranus	-27854-07-25 22:33 J	-8452044.71	-8452044.56	-8452044.38	0.0141	0.0094
Uranus	-27853-03-08 10:04 J	-8451818.20	-8451818.08	-8451817.95	0.0141	0.0114
Uranus	-27853-10-20 21:07 J	-8451591.67	-8451591.62	-8451591.55	0.0141	0.0135
Jupiter	-27850-05-11 09:07 J	-8450659.29	-8450659.12	-8450658.94	0.0506	0.0274
Jupiter	-27849-01-03 21:07 J	-8450421.81	-8450421.62	-8450421.43	0.0515	0.0217
Saturn	-27846-11-07 02:38 J	-8449018.52	-8449018.39	-8449018.23	0.0281	0.0203
Saturn	-27845-06-23 12:28 J	-8448789.18	-8448788.98	-8448788.78	0.0279	0.0070
Saturn	-27844-02-07 19:55 J	-8448559.87	-8448559.67	-8448559.46	0.0277	0.0060
Jupiter	-27844-03-20 01:26 J	-8448519.64	-8448519.44	-8448519.24	0.0517	0.0041
Saturn	-27844-09-25 01:26 J	-8448330.59	-8448330.44	-8448330.28	0.0276	0.0185
Jupiter	-27844-11-11 11:02 J	-8448283.14	-8448283.04	-8448282.92	0.0508	0.0419
Mars	-27839-09-30 18:28 J	-8446498.90	-8446498.73	-8446498.56	0.1776	0.0236
Jupiter	-27838-01-14 04:04 J	-8446393.46	-8446393.33	-8446393.21	0.0504	0.0400
Jupiter	-27838-09-08 13:40 J	-8446156.13	-8446155.93	-8446155.72	0.0513	0.0079
Mars	-27834-05-14 20:09 J	-8444811.82	-8444811.66	-8444811.50	0.1740	0.0694
Neptune	-27833-08-13 03:50 J	-8444355.34	-8444355.34	-8444355.32	0.0088	0.0088
Jupiter	-27833-11-22 23:59 J	-8444253.69	-8444253.50	-8444253.31	0.0519	0.0177
Neptune	-27832-03-26 17:02 J	-8444129.82	-8444129.79	-8444129.70	0.0088	0.0086
Jupiter	-27832-07-17 11:59 J	-8444017.16	-8444017.00	-8444016.83	0.0510	0.0296
Neptune	-27832-11-07 07:11 J	-8443904.26	-8443904.20	-8443904.10	0.0088	0.0082
Neptune	-27831-06-20 20:38 J	-8443678.71	-8443678.64	-8443678.51	0.0088	0.0079
Neptune	-27830-02-01 10:47 J	-8443453.16	-8443453.05	-8443452.92	0.0088	0.0075
Saturn	-27830-07-13 06:43 J	-8443291.37	-8443291.22	-8443291.06	0.0279	0.0191
Neptune	-27830-09-15 00:14 J	-8443227.59	-8443227.49	-8443227.33	0.0088	0.0072
Saturn	-27829-02-27 21:50 J	-8443061.80	-8443061.59	-8443061.38	0.0281	0.0057
Neptune	-27829-04-27 14:09 J	-8443002.03	-8443001.91	-8443001.74	0.0088	0.0068
Saturn	-27829-10-14 15:07 J	-8442832.08	-8442831.87	-8442831.66	0.0283	0.0082

Neptune	-27829-12-09 04:19 J	-8442776.47	-8442776.32	-8442776.16	0.0089	0.0064
Saturn	-27828-06-01 10:19 J	-8442602.19	-8442602.07	-8442601.93	0.0284	0.0225
Neptune	-27828-07-22 17:45 J	-8442550.91	-8442550.76	-8442550.58	0.0089	0.0060
Neptune	-27827-03-05 07:26 J	-8442325.34	-8442325.19	-8442325.00	0.0089	0.0057
Neptune	-27827-10-16 21:35 J	-8442099.77	-8442099.60	-8442099.41	0.0089	0.0053
Jupiter	-27826-05-14 06:28 J	-8441890.44	-8441890.23	-8441890.03	0.0510	0.0058
Neptune	-27826-05-30 11:31 J	-8441874.20	-8441874.02	-8441873.83	0.0089	0.0049
Jupiter	-27825-01-06 22:04 J	-8441652.68	-8441652.58	-8441652.47	0.0519	0.0442
Neptune	-27825-01-11 00:57 J	-8441648.64	-8441648.46	-8441648.25	0.0089	0.0045
Neptune	-27825-08-23 14:38 J	-8441423.07	-8441422.89	-8441422.68	0.0089	0.0042
Neptune	-27824-04-06 04:33 J	-8441197.50	-8441197.31	-8441197.10	0.0089	0.0038
Neptune	-27824-11-17 18:28 J	-8440971.93	-8440971.73	-8440971.52	0.0089	0.0034
Neptune	-27823-07-01 08:09 J	-8440746.36	-8440746.16	-8440745.94	0.0089	0.0030
Neptune	-27822-02-11 21:50 J	-8440520.80	-8440520.59	-8440520.37	0.0089	0.0026
Neptune	-27822-09-25 11:31 J	-8440295.23	-8440295.02	-8440294.80	0.0089	0.0022
Neptune	-27821-05-08 00:57 J	-8440069.66	-8440069.46	-8440069.23	0.0089	0.0019
Jupiter	-27821-07-28 19:40 J	-8439987.83	-8439987.68	-8439987.52	0.0522	0.0315
Neptune	-27821-12-19 14:52 J	-8439844.10	-8439843.88	-8439843.65	0.0089	0.0014
Jupiter	-27820-03-22 11:16 J	-8439751.22	-8439751.03	-8439750.84	0.0513	0.0169
Neptune	-27820-08-02 04:19 J	-8439618.53	-8439618.32	-8439618.09	0.0089	0.0011
Neptune	-27819-03-15 17:59 J	-8439392.97	-8439392.75	-8439392.52	0.0089	0.0007
Neptune	-27819-10-27 07:40 J	-8439167.40	-8439167.18	-8439166.95	0.0089	0.0003
Neptune	-27818-06-09 21:21 J	-8438941.84	-8438941.61	-8438941.39	0.0089	0.0002
Neptune	-27817-01-21 10:47 J	-8438716.27	-8438716.05	-8438715.83	0.0089	0.0005
Neptune	-27817-09-03 00:14 J	-8438490.71	-8438490.49	-8438490.27	0.0089	0.0009
Neptune	-27816-04-16 13:55 J	-8438265.14	-8438264.92	-8438264.70	0.0089	0.0013
Uranus	-27816-05-11 08:09 J	-8438240.24	-8438240.16	-8438240.04	0.0134	0.0119
Saturn	-27816-05-19 11:59 J	-8438232.16	-8438232.00	-8438231.83	0.0281	0.0177
Neptune	-27816-11-28 03:21 J	-8438039.57	-8438039.36	-8438039.14	0.0089	0.0017
Uranus	-27816-12-23 13:40 J	-8438014.06	-8438013.93	-8438013.77	0.0134	0.0102

Saturn	-27815-01-03 21:21 J	-8438002.81	-8438002.61	-8438002.40	0.0279	0.0044
Neptune	-27815-07-11 16:47 J	-8437814.01	-8437813.80	-8437813.58	0.0089	0.0021
Uranus	-27815-08-06 19:11 J	-8437787.86	-8437787.70	-8437787.52	0.0135	0.0084
Saturn	-27815-08-21 04:33 J	-8437773.51	-8437773.31	-8437773.11	0.0277	0.0085
Jupiter	-27814-01-16 23:59 J	-8437624.69	-8437624.50	-8437624.31	0.0507	0.0191
Neptune	-27814-02-22 06:14 J	-8437588.44	-8437588.24	-8437588.02	0.0089	0.0025
Uranus	-27814-03-21 00:28 J	-8437561.65	-8437561.48	-8437561.28	0.0135	0.0066
Saturn	-27814-04-07 09:21 J	-8437544.23	-8437544.11	-8437543.96	0.0276	0.0209
Jupiter	-27814-09-11 12:57 J	-8437387.12	-8437386.96	-8437386.79	0.0516	0.0303
Neptune	-27814-10-05 19:40 J	-8437362.88	-8437362.68	-8437362.46	0.0089	0.0029
Uranus	-27814-11-02 06:14 J	-8437335.44	-8437335.24	-8437335.03	0.0135	0.0047
Neptune	-27813-05-18 09:07 J	-8437137.31	-8437137.12	-8437136.90	0.0089	0.0033
Uranus	-27813-06-15 11:59 J	-8437109.21	-8437109.00	-8437108.79	0.0135	0.0029
Neptune	-27813-12-29 23:02 J	-8436911.74	-8436911.54	-8436911.34	0.0089	0.0036
Uranus	-27812-01-27 17:59 J	-8436882.97	-8436882.75	-8436882.54	0.0136	0.0010
Neptune	-27812-08-12 12:14 J	-8436686.18	-8436685.99	-8436685.78	0.0089	0.0040
Uranus	-27812-09-10 23:45 J	-8436656.72	-8436656.51	-8436656.29	0.0136	0.0009
Neptune	-27811-03-26 01:40 J	-8436460.61	-8436460.43	-8436460.23	0.0089	0.0044
Uranus	-27811-04-25 05:31 J	-8436430.47	-8436430.27	-8436430.05	0.0136	0.0028
Neptune	-27811-11-06 14:52 J	-8436235.04	-8436234.88	-8436234.67	0.0089	0.0048
Uranus	-27811-12-07 11:45 J	-8436204.21	-8436204.01	-8436203.81	0.0136	0.0047
Neptune	-27810-06-20 04:33 J	-8436009.48	-8436009.31	-8436009.12	0.0089	0.0051
Uranus	-27810-07-21 17:45 J	-8435977.94	-8435977.76	-8435977.56	0.0137	0.0066
Neptune	-27809-01-31 17:45 J	-8435783.92	-8435783.76	-8435783.57	0.0089	0.0055
Uranus	-27809-03-03 23:59 J	-8435751.65	-8435751.50	-8435751.32	0.0137	0.0085
Jupiter	-27809-04-02 17:16 J	-8435721.88	-8435721.78	-8435721.68	0.0525	0.0450
Neptune	-27809-09-13 07:26 J	-8435558.36	-8435558.19	-8435558.02	0.0089	0.0058
Uranus	-27809-10-16 06:14 J	-8435525.36	-8435525.24	-8435525.09	0.0137	0.0105
Jupiter	-27809-11-25 11:16 J	-8435485.23	-8435485.03	-8435484.83	0.0516	0.0039
Neptune	-27808-04-26 20:23 J	-8435332.79	-8435332.65	-8435332.48	0.0089	0.0062

Uranus	-27808-05-30 12:57 J	-8435299.05	-8435298.96	-8435298.86	0.0138	0.0123
Jupiter	-27808-07-19 20:38 J	-8435248.68	-8435248.64	-8435248.59	0.0507	0.0491
Neptune	-27808-12-08 09:35 J	-8435107.23	-8435107.10	-8435106.93	0.0089	0.0066
Neptune	-27807-07-21 23:02 J	-8434881.66	-8434881.54	-8434881.39	0.0089	0.0069
Mars	-27807-09-29 22:47 J	-8434811.61	-8434811.55	-8434811.49	0.1786	0.1664
Neptune	-27806-03-04 11:59 J	-8434656.10	-8434656.00	-8434655.85	0.0089	0.0073
Neptune	-27806-10-16 01:11 J	-8434430.54	-8434430.45	-8434430.32	0.0089	0.0077
Neptune	-27805-05-28 14:52 J	-8434204.97	-8434204.88	-8434204.78	0.0089	0.0079
Mars	-27805-07-29 00:14 J	-8434143.60	-8434143.49	-8434143.38	0.1763	0.1331
Moon	-27805-10-26 22:47 J	-8434053.67	-8434053.55	-8434053.42	0.2632	0.1531
Earth	-27805-10-27 01:55 J	-8434053.52	-8434053.42	-8434053.31	0.2627	0.1997 *
Neptune	-27804-01-09 03:35 J	-8433979.40	-8433979.35	-8433979.25	0.0089	0.0083
Neptune	-27804-08-22 16:47 J	-8433753.83	-8433753.80	-8433753.72	0.0089	0.0087
Jupiter	-27803-09-21 17:31 J	-8433358.93	-8433358.77	-8433358.61	0.0505	0.0322
Jupiter	-27802-05-17 03:50 J	-8433121.54	-8433121.34	-8433121.14	0.0514	0.0161
Saturn	-27800-01-22 12:28 J	-8432505.14	-8432504.98	-8432504.80	0.0279	0.0170
Mars	-27800-03-11 17:16 J	-8432456.93	-8432456.78	-8432456.64	0.1754	0.1006
Saturn	-27800-09-09 03:50 J	-8432275.55	-8432275.34	-8432275.12	0.0281	0.0035
Saturn	-27799-04-26 21:07 J	-8432045.81	-8432045.62	-8432045.41	0.0283	0.0106
Saturn	-27799-12-12 16:47 J	-8431815.90	-8431815.80	-8431815.69	0.0285	0.0248
Jupiter	-27797-07-31 11:31 J	-8431219.22	-8431219.02	-8431218.83	0.0518	0.0094
Earth	-27797-10-24 15:50 J	-8431133.97	-8431133.84	-8431133.71	0.2626	0.1568
Moon	-27797-10-24 17:16 J	-8431133.92	-8431133.78	-8431133.64	0.2632	0.1119 *
Jupiter	-27796-03-24 23:02 J	-8430982.67	-8430982.54	-8430982.40	0.0509	0.0373
Jupiter	-27791-05-27 12:57 J	-8429093.05	-8429092.96	-8429092.86	0.0503	0.0445
Jupiter	-27790-01-19 20:38 J	-8428855.84	-8428855.64	-8428855.43	0.0511	0.0026
Saturn	-27787-11-29 14:09 J	-8427446.07	-8427445.91	-8427445.73	0.0280	0.0160
Saturn	-27786-07-16 23:16 J	-8427216.74	-8427216.53	-8427216.32	0.0278	0.0028
Saturn	-27785-03-02 06:14 J	-8426987.43	-8426987.24	-8426987.05	0.0277	0.0100
Jupiter	-27785-04-05 10:47 J	-8426953.23	-8426953.05	-8426952.87	0.0521	0.0228

Saturn	-27785-10-17 11:02 J	-8426758.15	-8426758.04	-8426757.91	0.0275	0.0223
Jupiter	-27785-11-28 00:14 J	-8426716.66	-8426716.49	-8426716.31	0.0511	0.0249
Jupiter	-27779-09-24 14:23 J	-8424590.10	-8424589.90	-8424589.69	0.0509	0.0111
Jupiter	-27778-05-20 05:31 J	-8424352.40	-8424352.27	-8424352.13	0.0518	0.0387
Uranus	-27776-01-10 07:55 J	-8423751.22	-8423751.17	-8423751.10	0.0145	0.0139
Uranus	-27776-08-24 19:55 J	-8423524.78	-8423524.67	-8423524.52	0.0145	0.0117
Uranus	-27775-04-08 08:23 J	-8423298.31	-8423298.15	-8423297.98	0.0144	0.0094
Uranus	-27775-11-20 20:23 J	-8423071.83	-8423071.65	-8423071.45	0.0144	0.0071
Uranus	-27774-07-05 08:52 J	-8422845.34	-8422845.13	-8422844.92	0.0144	0.0048
Jupiter	-27774-12-10 08:23 J	-8422687.29	-8422687.15	-8422687.00	0.0523	0.0363
Uranus	-27773-02-16 20:52 J	-8422618.85	-8422618.63	-8422618.41	0.0143	0.0025
Mars	-27773-07-28 03:07 J	-8422456.54	-8422456.37	-8422456.20	0.1773	0.0041
Jupiter	-27773-08-03 00:28 J	-8422450.67	-8422450.48	-8422450.29	0.0514	0.0121
Uranus	-27773-09-30 08:52 J	-8422392.35	-8422392.13	-8422391.91	0.0143	0.0004
Uranus	-27772-05-14 20:23 J	-8422165.86	-8422165.65	-8422165.43	0.0143	0.0021
Uranus	-27772-12-27 08:09 J	-8421939.37	-8421939.16	-8421938.94	0.0142	0.0043
Saturn	-27771-08-04 15:21 J	-8421719.03	-8421718.86	-8421718.68	0.0279	0.0153
Uranus	-27771-08-10 19:40 J	-8421712.86	-8421712.68	-8421712.47	0.0142	0.0065
Saturn	-27770-03-22 07:11 J	-8421489.42	-8421489.20	-8421488.99	0.0281	0.0018
Uranus	-27770-03-25 07:11 J	-8421486.36	-8421486.20	-8421486.01	0.0142	0.0087
Uranus	-27770-11-06 18:43 J	-8421259.86	-8421259.72	-8421259.57	0.0141	0.0108
Saturn	-27770-11-07 00:43 J	-8421259.66	-8421259.47	-8421259.27	0.0283	0.0123 *
Uranus	-27769-06-20 05:45 J	-8421033.33	-8421033.26	-8421033.16	0.0141	0.0129
Saturn	-27769-06-23 21:07 J	-8421029.70	-8421029.62	-8421029.55	0.0285	0.0265
Mars	-27768-03-11 03:07 J	-8420769.54	-8420769.37	-8420769.19	0.1743	0.0489
Jupiter	-27767-05-30 08:52 J	-8420324.31	-8420324.13	-8420323.95	0.0506	0.0239
Jupiter	-27766-01-22 20:38 J	-8420086.82	-8420086.64	-8420086.45	0.0515	0.0250
Jupiter	-27762-08-15 02:38 J	-8418421.44	-8418421.39	-8418421.33	0.0526	0.0501
Jupiter	-27761-04-07 22:04 J	-8418184.78	-8418184.58	-8418184.38	0.0517	0.0013
Jupiter	-27761-11-30 08:23 J	-8417948.24	-8417948.15	-8417948.05	0.0508	0.0445

Saturn	-27758-10-25 10:47 J	-8416889.09	-8416889.05	-8416888.97	0.0282	0.0270
Saturn	-27757-06-10 21:50 J	-8416659.76	-8416659.59	-8416659.40	0.0281	0.0136
Saturn	-27756-01-26 06:57 J	-8416430.42	-8416430.21	-8416430.00	0.0279	0.0003
Saturn	-27756-09-12 13:26 J	-8416201.12	-8416200.94	-8416200.75	0.0277	0.0124
Jupiter	-27755-02-02 04:04 J	-8416058.47	-8416058.33	-8416058.19	0.0504	0.0365
Saturn	-27755-04-29 18:14 J	-8415971.83	-8415971.74	-8415971.65	0.0275	0.0245
Jupiter	-27755-09-27 13:11 J	-8415821.15	-8415820.95	-8415820.75	0.0512	0.0111
Neptune	-27752-07-04 15:50 J	-8414809.87	-8414809.84	-8414809.80	0.0089	0.0087
Neptune	-27751-02-15 03:50 J	-8414584.40	-8414584.34	-8414584.26	0.0089	0.0084
Neptune	-27751-09-28 16:04 J	-8414358.91	-8414358.83	-8414358.73	0.0089	0.0081
Neptune	-27750-05-12 04:04 J	-8414133.41	-8414133.33	-8414133.20	0.0089	0.0078
Jupiter	-27750-12-12 20:52 J	-8413918.82	-8413918.63	-8413918.44	0.0520	0.0147
Neptune	-27750-12-23 16:19 J	-8413907.91	-8413907.82	-8413907.68	0.0089	0.0075
Neptune	-27749-08-05 05:02 J	-8413682.41	-8413682.29	-8413682.15	0.0089	0.0071
Jupiter	-27749-08-05 09:50 J	-8413682.24	-8413682.09	-8413681.93	0.0511	0.0325 *
Neptune	-27748-03-18 17:16 J	-8413456.90	-8413456.78	-8413456.63	0.0089	0.0068
Neptune	-27748-10-30 05:16 J	-8413231.40	-8413231.28	-8413231.11	0.0089	0.0065
Neptune	-27747-06-12 17:59 J	-8413005.90	-8413005.75	-8413005.59	0.0089	0.0061
Neptune	-27746-01-24 05:59 J	-8412780.40	-8412780.25	-8412780.07	0.0089	0.0058
Neptune	-27746-09-06 18:28 J	-8412554.89	-8412554.73	-8412554.55	0.0089	0.0054
Neptune	-27745-04-19 06:43 J	-8412329.38	-8412329.22	-8412329.02	0.0089	0.0051
Neptune	-27745-11-30 19:11 J	-8412103.87	-8412103.70	-8412103.51	0.0089	0.0047
Neptune	-27744-07-14 07:11 J	-8411878.37	-8411878.20	-8411877.99	0.0089	0.0044
Jupiter	-27744-10-07 22:47 J	-8411792.59	-8411792.55	-8411792.50	0.0502	0.0488
Neptune	-27743-02-24 19:40 J	-8411652.86	-8411652.68	-8411652.48	0.0089	0.0040
Jupiter	-27743-06-02 05:02 J	-8411555.50	-8411555.29	-8411555.09	0.0510	0.0029
Neptune	-27743-10-08 07:55 J	-8411427.35	-8411427.17	-8411426.96	0.0089	0.0037
Jupiter	-27742-01-25 20:23 J	-8411317.73	-8411317.65	-8411317.56	0.0519	0.0469
Neptune	-27742-05-21 20:23 J	-8411201.84	-8411201.65	-8411201.44	0.0089	0.0033
Saturn	-27742-06-30 07:40 J	-8411162.24	-8411162.18	-8411162.09	0.0278	0.0260

Neptune -27741-01-02 08:52 J -8410976.33 -8410976.13 -8410975.92 0.0089 0.0029
 Saturn -27741-02-14 21:21 J -8410932.79 -8410932.61 -8410932.42 0.0280 0.0130
 Mars -27741-07-27 06:57 J -8410769.31 -8410769.21 -8410769.11 0.1783 0.1445
 Neptune -27741-08-14 20:52 J -8410750.82 -8410750.63 -8410750.41 0.0089 0.0026
 Saturn -27741-10-01 13:11 J -8410703.17 -8410702.95 -8410702.74 0.0282 0.0008
 Neptune -27740-03-28 09:21 J -8410525.31 -8410525.11 -8410524.89 0.0089 0.0022
 Saturn -27740-05-19 06:57 J -8410473.39 -8410473.21 -8410473.03 0.0283 0.0147
 Neptune -27740-11-08 21:50 J -8410299.80 -8410299.59 -8410299.37 0.0089 0.0018
 Mars -27739-05-26 09:21 J -8410101.19 -8410101.11 -8410101.02 0.1759 0.1507
 Neptune -27739-06-22 10:04 J -8410074.29 -8410074.08 -8410073.86 0.0089 0.0015
 Neptune -27738-02-02 22:33 J -8409848.77 -8409848.56 -8409848.34 0.0089 0.0011
 Jupiter -27738-08-17 20:09 J -8409652.83 -8409652.66 -8409652.49 0.0522 0.0281
 Neptune -27738-09-16 11:02 J -8409623.26 -8409623.04 -8409622.82 0.0089 0.0007
 Jupiter -27737-04-10 11:31 J -8409416.20 -8409416.02 -8409415.83 0.0513 0.0201
 Neptune -27737-04-28 23:31 J -8409397.73 -8409397.52 -8409397.30 0.0089 0.0004
 Neptune -27737-12-10 12:14 J -8409172.21 -8409171.99 -8409171.78 0.0089 0.0002
 Neptune -27736-07-24 00:28 J -8408946.69 -8408946.48 -8408946.26 0.0088 0.0005
 Neptune -27735-03-06 12:57 J -8408721.18 -8408720.96 -8408720.74 0.0088 0.0008
 Neptune -27735-10-18 01:26 J -8408495.65 -8408495.44 -8408495.22 0.0088 0.0012
 Mars -27734-01-06 23:16 J -8408414.65 -8408414.53 -8408414.40 0.1757 0.1236
 Neptune -27734-05-31 13:55 J -8408270.13 -8408269.92 -8408269.70 0.0088 0.0016
 Neptune -27733-01-12 02:23 J -8408044.60 -8408044.40 -8408044.18 0.0088 0.0020
 Neptune -27733-08-24 14:52 J -8407819.08 -8407818.88 -8407818.66 0.0088 0.0023
 Uranus -27732-01-08 20:52 J -8407681.70 -8407681.63 -8407681.55 0.0134 0.0125
 Neptune -27732-04-07 03:35 J -8407593.56 -8407593.35 -8407593.14 0.0088 0.0027
 Uranus -27732-08-23 01:55 J -8407455.53 -8407455.42 -8407455.28 0.0134 0.0108
 Neptune -27732-11-18 15:50 J -8407368.03 -8407367.84 -8407367.63 0.0088 0.0031
 Jupiter -27731-02-04 22:47 J -8407289.74 -8407289.55 -8407289.35 0.0508 0.0161
 Uranus -27731-04-06 07:11 J -8407229.34 -8407229.20 -8407229.02 0.0134 0.0091
 Neptune -27731-07-02 04:19 J -8407142.51 -8407142.32 -8407142.11 0.0088 0.0034

Jupiter -27731-09-30 12:28 J -8407052.14 -8407051.98 -8407051.83 0.0517 0.0332
 Uranus -27731-11-18 13:11 J -8407003.13 -8407002.95 -8407002.77 0.0135 0.0072
 Neptune -27730-02-12 17:02 J -8406916.98 -8406916.79 -8406916.59 0.0088 0.0038
 Uranus -27730-07-02 18:28 J -8406776.92 -8406776.73 -8406776.52 0.0135 0.0054
 Neptune -27730-09-26 05:16 J -8406691.46 -8406691.28 -8406691.07 0.0088 0.0042
 Uranus -27729-02-14 00:28 J -8406550.69 -8406550.48 -8406550.27 0.0135 0.0035
 Neptune -27729-05-08 18:14 J -8406465.92 -8406465.74 -8406465.55 0.0088 0.0045
 Uranus -27729-09-27 06:14 J -8406324.45 -8406324.24 -8406324.03 0.0135 0.0016
 Neptune -27729-12-20 06:43 J -8406240.39 -8406240.22 -8406240.03 0.0088 0.0048
 Saturn -27728-05-06 13:11 J -8406103.03 -8406102.95 -8406102.85 0.0282 0.0252
 Uranus -27728-05-11 11:59 J -8406098.21 -8406098.00 -8406097.78 0.0136 0.0003
 Neptune -27728-08-02 18:57 J -8406014.87 -8406014.71 -8406014.51 0.0088 0.0053
 Saturn -27728-12-21 23:59 J -8405873.69 -8405873.50 -8405873.31 0.0280 0.0119
 Uranus -27728-12-23 17:59 J -8405871.96 -8405871.75 -8405871.54 0.0136 0.0022
 Neptune -27727-03-16 07:40 J -8405789.34 -8405789.18 -8405789.00 0.0088 0.0056
 Uranus -27727-08-06 23:59 J -8405645.70 -8405645.50 -8405645.29 0.0136 0.0041
 Saturn -27727-08-08 08:23 J -8405644.36 -8405644.15 -8405643.94 0.0278 0.0012
 Neptune -27727-10-27 20:09 J -8405563.80 -8405563.66 -8405563.48 0.0088 0.0059
 Uranus -27726-03-21 05:59 J -8405419.44 -8405419.25 -8405419.05 0.0137 0.0060
 Saturn -27726-03-25 14:38 J -8405415.07 -8405414.89 -8405414.71 0.0276 0.0139
 Jupiter -27726-04-22 18:43 J -8405386.84 -8405386.72 -8405386.60 0.0524 0.0414
 Neptune -27726-06-10 09:07 J -8405338.26 -8405338.12 -8405337.95 0.0088 0.0063
 Uranus -27726-11-02 12:14 J -8405193.16 -8405192.99 -8405192.81 0.0137 0.0079
 Saturn -27726-11-09 18:57 J -8405185.77 -8405185.71 -8405185.63 0.0275 0.0259
 Jupiter -27726-12-15 12:14 J -8405150.18 -8405149.99 -8405149.79 0.0515 0.0072
 Neptune -27725-01-21 21:35 J -8405112.72 -8405112.60 -8405112.43 0.0088 0.0067
 Uranus -27725-06-15 18:28 J -8404966.87 -8404966.73 -8404966.57 0.0137 0.0098
 Neptune -27725-09-03 10:33 J -8404887.18 -8404887.06 -8404886.91 0.0088 0.0069
 Uranus -27724-01-28 00:43 J -8404740.56 -8404740.47 -8404740.34 0.0138 0.0118
 Neptune -27724-04-16 23:31 J -8404661.64 -8404661.52 -8404661.39 0.0088 0.0073

Uranus	-27724-09-11 07:11 J	-8404514.21	-8404514.20	-8404514.15	0.0138	0.0137
Neptune	-27724-11-28 11:45 J	-8404436.09	-8404436.01	-8404435.87	0.0088	0.0077
Neptune	-27723-07-12 00:43 J	-8404210.54	-8404210.47	-8404210.35	0.0088	0.0080
Neptune	-27722-02-22 13:40 J	-8403984.99	-8403984.93	-8403984.84	0.0088	0.0083
Neptune	-27722-10-06 02:52 J	-8403759.43	-8403759.38	-8403759.33	0.0088	0.0086
Jupiter	-27720-10-10 17:45 J	-8403023.93	-8403023.76	-8403023.59	0.0506	0.0288
Jupiter	-27719-06-05 04:47 J	-8402786.49	-8402786.30	-8402786.11	0.0514	0.0195
Jupiter	-27714-08-20 11:45 J	-8400884.21	-8400884.01	-8400883.81	0.0518	0.0061
Jupiter	-27713-04-12 22:47 J	-8400647.67	-8400647.55	-8400647.43	0.0509	0.0400
Saturn	-27712-01-09 08:23 J	-8400376.24	-8400376.15	-8400376.04	0.0278	0.0246
Saturn	-27712-08-26 22:19 J	-8400146.76	-8400146.57	-8400146.37	0.0280	0.0116
Saturn	-27711-04-13 14:23 J	-8399917.12	-8399916.90	-8399916.69	0.0282	0.0021
Saturn	-27711-11-29 08:38 J	-8399687.31	-8399687.14	-8399686.96	0.0283	0.0161
Jupiter	-27708-06-15 13:55 J	-8398758.04	-8398757.92	-8398757.80	0.0503	0.0409
Jupiter	-27707-02-07 21:50 J	-8398520.80	-8398520.59	-8398520.38	0.0511	0.0061
Mars	-27707-05-25 12:14 J	-8398414.16	-8398413.99	-8398413.82	0.1770	0.0157
Mars	-27702-01-06 10:04 J	-8396727.26	-8396727.08	-8396726.91	0.1747	0.0276
Jupiter	-27702-04-25 07:55 J	-8396618.35	-8396618.17	-8396617.99	0.0521	0.0198
Jupiter	-27702-12-17 21:35 J	-8396381.76	-8396381.60	-8396381.42	0.0512	0.0278
Pluto	-27700-10-22 19:26 J	-8395706.85	-8395706.69	-8395706.50	0.0064	0.0037
Pluto	-27699-06-04 23:31 J	-8395481.74	-8395481.52	-8395481.30	0.0065	0.0002
Saturn	-27699-11-16 19:55 J	-8395316.78	-8395316.67	-8395316.54	0.0282	0.0229
Pluto	-27698-01-16 02:52 J	-8395256.53	-8395256.38	-8395256.19	0.0065	0.0041
Saturn	-27698-07-04 06:28 J	-8395087.42	-8395087.23	-8395087.03	0.0280	0.0096
Saturn	-27697-02-18 15:07 J	-8394858.08	-8394857.87	-8394857.67	0.0278	0.0036
Saturn	-27697-10-04 21:07 J	-8394628.78	-8394628.62	-8394628.45	0.0277	0.0162
Jupiter	-27696-10-13 15:35 J	-8394255.05	-8394254.85	-8394254.64	0.0509	0.0074
Jupiter	-27695-06-08 05:59 J	-8394017.37	-8394017.25	-8394017.13	0.0518	0.0420
Uranus	-27692-04-24 05:16 J	-8392966.38	-8392966.28	-8392966.16	0.0145	0.0125
Uranus	-27692-12-06 17:16 J	-8392739.92	-8392739.78	-8392739.61	0.0144	0.0103

Uranus	-27691-07-21 05:45 J	-8392513.44	-8392513.26	-8392513.07	0.0144	0.0079
Jupiter	-27691-12-29 05:31 J	-8392352.42	-8392352.27	-8392352.12	0.0523	0.0334
Uranus	-27690-03-04 17:45 J	-8392286.95	-8392286.76	-8392286.55	0.0144	0.0057
Jupiter	-27690-08-22 22:19 J	-8392115.76	-8392115.57	-8392115.38	0.0514	0.0151
Uranus	-27690-10-17 05:59 J	-8392060.46	-8392060.25	-8392060.03	0.0143	0.0033
Uranus	-27689-05-30 17:59 J	-8391833.97	-8391833.75	-8391833.53	0.0143	0.0011
Uranus	-27688-01-12 05:45 J	-8391607.47	-8391607.26	-8391607.03	0.0143	0.0013
Uranus	-27688-08-26 17:45 J	-8391380.97	-8391380.76	-8391380.55	0.0142	0.0035
Uranus	-27687-04-10 05:16 J	-8391154.48	-8391154.28	-8391154.07	0.0142	0.0057
Uranus	-27687-11-22 17:02 J	-8390927.98	-8390927.79	-8390927.61	0.0142	0.0079
Uranus	-27686-07-07 04:04 J	-8390701.46	-8390701.33	-8390701.16	0.0141	0.0102
Uranus	-27685-02-18 15:35 J	-8390474.95	-8390474.85	-8390474.73	0.0141	0.0122
Jupiter	-27684-06-18 08:38 J	-8389989.33	-8389989.14	-8389988.95	0.0506	0.0207
Jupiter	-27683-02-10 20:09 J	-8389751.83	-8389751.66	-8389751.48	0.0515	0.0280
Saturn	-27683-07-22 14:23 J	-8389590.02	-8389589.90	-8389589.77	0.0278	0.0224
Saturn	-27682-03-09 04:19 J	-8389360.53	-8389360.32	-8389360.12	0.0280	0.0093
Saturn	-27682-10-24 20:23 J	-8389130.87	-8389130.65	-8389130.44	0.0282	0.0044
Saturn	-27681-06-10 14:38 J	-8388901.05	-8388900.89	-8388900.72	0.0284	0.0185
Jupiter	-27679-09-03 03:35 J	-8388086.43	-8388086.35	-8388086.26	0.0526	0.0468
Jupiter	-27678-04-27 23:02 J	-8387849.73	-8387849.54	-8387849.34	0.0517	0.0024
Jupiter	-27678-12-20 09:21 J	-8387613.17	-8387613.11	-8387613.03	0.0508	0.0474
Mars	-27675-05-24 15:50 J	-8386726.96	-8386726.84	-8386726.72	0.1779	0.1243
Mars	-27673-03-22 18:57 J	-8386058.75	-8386058.71	-8386058.66	0.1756	0.1678
Jupiter	-27672-02-21 03:35 J	-8385723.50	-8385723.35	-8385723.19	0.0504	0.0334
Jupiter	-27672-10-16 12:57 J	-8385486.16	-8385485.96	-8385485.76	0.0513	0.0143
Mars	-27670-01-05 19:40 J	-8385039.70	-8385039.68	-8385039.66	0.1737	0.1722
Saturn	-27669-05-28 21:50 J	-8384530.72	-8384530.59	-8384530.45	0.0281	0.0213
Mars	-27669-11-03 06:28 J	-8384372.33	-8384372.23	-8384372.13	0.1761	0.1448
Neptune	-27669-11-14 10:33 J	-8384361.07	-8384361.06	-8384361.01	0.0088	0.0088
Saturn	-27668-01-13 08:09 J	-8384301.36	-8384301.16	-8384300.95	0.0279	0.0080

Neptune -27668-06-28 00:14 J -8384135.53 -8384135.49 -8384135.40 0.0088 0.0085
 Saturn -27668-08-30 16:19 J -8384072.03 -8384071.82 -8384071.62 0.0278 0.0051
 Neptune -27667-02-08 13:55 J -8383909.98 -8383909.92 -8383909.81 0.0088 0.0082
 Saturn -27667-04-16 21:50 J -8383842.74 -8383842.59 -8383842.42 0.0276 0.0176
 Neptune -27667-09-22 04:04 J -8383684.42 -8383684.33 -8383684.21 0.0088 0.0078
 Jupiter -27667-12-31 23:02 J -8383583.73 -8383583.54 -8383583.34 0.0519 0.0111
 Neptune -27666-05-05 17:45 J -8383458.86 -8383458.76 -8383458.62 0.0088 0.0075
 Jupiter -27666-08-25 11:16 J -8383347.16 -8383347.03 -8383346.88 0.0510 0.0357
 Neptune -27666-12-17 07:55 J -8383233.30 -8383233.17 -8383233.04 0.0088 0.0071
 Neptune -27665-07-29 21:07 J -8383007.75 -8383007.62 -8383007.46 0.0088 0.0068
 Neptune -27664-03-12 10:47 J -8382782.18 -8382782.05 -8382781.88 0.0089 0.0065
 Neptune -27664-10-24 00:43 J -8382556.62 -8382556.47 -8382556.29 0.0089 0.0061
 Neptune -27663-06-06 14:52 J -8382331.05 -8382330.88 -8382330.71 0.0089 0.0057
 Neptune -27662-01-18 04:04 J -8382105.49 -8382105.33 -8382105.13 0.0089 0.0054
 Neptune -27662-08-31 17:59 J -8381879.92 -8381879.75 -8381879.55 0.0089 0.0050
 Neptune -27661-04-13 07:40 J -8381654.36 -8381654.18 -8381653.97 0.0089 0.0046
 Jupiter -27661-10-26 23:31 J -8381457.60 -8381457.52 -8381457.43 0.0502 0.0454
 Neptune -27661-11-24 21:35 J -8381428.78 -8381428.60 -8381428.39 0.0089 0.0043
 Jupiter -27660-06-21 06:28 J -8381220.44 -8381220.23 -8381220.02 0.0511 0.0008
 Neptune -27660-07-08 11:16 J -8381203.22 -8381203.03 -8381202.82 0.0089 0.0039
 Jupiter -27659-02-13 22:47 J -8380982.59 -8380982.55 -8380982.50 0.0520 0.0503
 Neptune -27659-02-19 01:11 J -8380977.65 -8380977.45 -8380977.24 0.0089 0.0035
 Neptune -27659-10-02 14:38 J -8380752.08 -8380751.89 -8380751.66 0.0089 0.0032
 Neptune -27658-05-16 04:33 J -8380526.51 -8380526.31 -8380526.09 0.0089 0.0028
 Neptune -27658-12-27 18:28 J -8380300.94 -8380300.73 -8380300.51 0.0089 0.0024
 Neptune -27657-08-09 08:09 J -8380075.38 -8380075.16 -8380074.94 0.0089 0.0020
 Neptune -27656-03-22 21:35 J -8379849.81 -8379849.60 -8379849.37 0.0089 0.0017
 Neptune -27656-11-03 11:16 J -8379624.24 -8379624.03 -8379623.80 0.0089 0.0013
 Neptune -27655-06-17 00:57 J -8379398.67 -8379398.46 -8379398.23 0.0089 0.0009
 Jupiter -27655-09-05 21:50 J -8379317.76 -8379317.59 -8379317.41 0.0522 0.0245

Neptune -27654-01-28 14:38 J -8379173.11 -8379172.89 -8379172.67 0.0089 0.0005
 Jupiter -27654-04-30 12:43 J -8379081.15 -8379080.97 -8379080.80 0.0513 0.0233
 Neptune -27654-09-11 04:19 J -8378947.55 -8378947.32 -8378947.10 0.0089 0.0002
 Saturn -27653-02-01 13:55 J -8378804.05 -8378803.92 -8378803.77 0.0278 0.0212
 Neptune -27653-04-23 17:45 J -8378721.98 -8378721.76 -8378721.54 0.0089 0.0003
 Saturn -27653-09-18 04:04 J -8378574.53 -8378574.33 -8378574.12 0.0280 0.0080
 Neptune -27653-12-05 07:11 J -8378496.41 -8378496.20 -8378495.97 0.0089 0.0007
 Saturn -27652-05-05 20:23 J -8378344.85 -8378344.65 -8378344.43 0.0282 0.0058
 Neptune -27652-07-18 20:38 J -8378270.85 -8378270.64 -8378270.41 0.0089 0.0011
 Saturn -27652-12-21 15:07 J -8378115.02 -8378114.87 -8378114.71 0.0284 0.0199
 Neptune -27651-03-01 10:19 J -8378045.29 -8378045.07 -8378044.85 0.0089 0.0014
 Earth -27651-04-25 05:31 J -8377990.43 -8377990.27 -8377990.11 0.2707 0.0106
 Moon -27651-04-25 07:11 J -8377990.36 -8377990.20 -8377990.04 0.2700 0.0050 *
 Neptune -27651-10-12 23:45 J -8377819.72 -8377819.51 -8377819.29 0.0089 0.0018
 Neptune -27650-05-26 13:11 J -8377594.16 -8377593.95 -8377593.72 0.0089 0.0022
 Neptune -27649-01-07 02:38 J -8377368.59 -8377368.39 -8377368.16 0.0089 0.0026
 Neptune -27649-08-19 16:19 J -8377143.03 -8377142.82 -8377142.61 0.0089 0.0029
 Uranus -27649-09-08 08:23 J -8377123.17 -8377123.15 -8377123.10 0.0134 0.0132
 Jupiter -27648-02-24 01:11 J -8376954.65 -8376954.45 -8376954.25 0.0508 0.0122
 Neptune -27648-04-02 05:31 J -8376917.46 -8376917.27 -8376917.05 0.0089 0.0033
 Uranus -27648-04-22 13:55 J -8376897.02 -8376896.92 -8376896.80 0.0134 0.0114
 Jupiter -27648-10-19 14:38 J -8376717.02 -8376716.89 -8376716.74 0.0517 0.0370
 Neptune -27648-11-13 19:11 J -8376691.89 -8376691.70 -8376691.49 0.0089 0.0037
 Uranus -27648-12-04 19:26 J -8376670.84 -8376670.69 -8376670.54 0.0134 0.0097
 Neptune -27647-06-27 08:52 J -8376466.32 -8376466.13 -8376465.93 0.0089 0.0040
 Uranus -27647-07-19 00:43 J -8376444.63 -8376444.47 -8376444.28 0.0134 0.0079
 Neptune -27646-02-07 22:04 J -8376240.76 -8376240.58 -8376240.38 0.0089 0.0044
 Uranus -27646-03-02 06:28 J -8376218.42 -8376218.23 -8376218.04 0.0135 0.0060
 Neptune -27646-09-21 11:45 J -8376015.20 -8376015.01 -8376014.82 0.0089 0.0047
 Uranus -27646-10-14 11:45 J -8375992.20 -8375992.01 -8375991.79 0.0135 0.0042

Neptune -27645-05-04 00:57 J -8375789.63 -8375789.46 -8375789.27 0.0089 0.0051
 Uranus -27645-05-27 17:31 J -8375765.97 -8375765.77 -8375765.55 0.0135 0.0024
 Neptune -27645-12-15 14:09 J -8375564.06 -8375563.91 -8375563.71 0.0089 0.0055
 Uranus -27644-01-08 23:45 J -8375539.73 -8375539.51 -8375539.30 0.0136 0.0005
 Neptune -27644-07-29 03:50 J -8375338.49 -8375338.34 -8375338.16 0.0089 0.0058
 Uranus -27644-08-23 05:31 J -8375313.49 -8375313.27 -8375313.06 0.0136 0.0015
 Neptune -27643-03-11 16:47 J -8375112.93 -8375112.80 -8375112.62 0.0089 0.0062
 Uranus -27643-04-06 11:16 J -8375087.23 -8375087.03 -8375086.82 0.0136 0.0034
 Jupiter -27643-05-11 16:33 J -8375051.94 -8375051.81 -8375051.68 0.0524 0.0383
 Neptune -27643-10-23 06:14 J -8374887.37 -8374887.24 -8374887.07 0.0089 0.0065
 Uranus -27643-11-18 17:16 J -8374860.97 -8374860.78 -8374860.58 0.0136 0.0054
 Jupiter -27642-01-03 10:04 J -8374815.27 -8374815.08 -8374814.88 0.0515 0.0102
 Neptune -27642-06-05 19:55 J -8374661.80 -8374661.67 -8374661.52 0.0089 0.0068
 Uranus -27642-07-02 23:16 J -8374634.70 -8374634.53 -8374634.34 0.0137 0.0073
 Neptune -27641-01-17 08:52 J -8374436.24 -8374436.13 -8374435.98 0.0089 0.0072
 Uranus -27641-02-14 05:31 J -8374408.42 -8374408.27 -8374408.10 0.0137 0.0092
 Mars -27641-03-21 21:07 J -8374371.79 -8374371.62 -8374371.45 0.1766 0.0352
 Neptune -27641-08-29 22:04 J -8374210.68 -8374210.58 -8374210.44 0.0089 0.0075
 Uranus -27641-09-27 11:45 J -8374182.12 -8374182.01 -8374181.87 0.0137 0.0112
 Neptune -27640-04-12 11:31 J -8373985.11 -8373985.02 -8373984.91 0.0089 0.0078
 Uranus -27640-05-11 17:59 J -8373955.80 -8373955.75 -8373955.67 0.0138 0.0131
 Neptune -27640-11-24 00:43 J -8373759.54 -8373759.47 -8373759.37 0.0089 0.0082
 Saturn -27640-12-09 03:21 J -8373744.51 -8373744.36 -8373744.20 0.0282 0.0190
 Neptune -27639-07-07 14:09 J -8373533.97 -8373533.91 -8373533.84 0.0089 0.0085
 Saturn -27639-07-26 13:40 J -8373515.14 -8373514.93 -8373514.73 0.0280 0.0057
 Neptune -27638-02-18 02:38 J -8373308.40 -8373308.39 -8373308.32 0.0089 0.0088
 Saturn -27638-03-12 21:35 J -8373285.80 -8373285.60 -8373285.40 0.0278 0.0074
 Saturn -27638-10-28 03:21 J -8373056.50 -8373056.36 -8373056.21 0.0276 0.0198
 Jupiter -27637-10-29 20:23 J -8372688.83 -8372688.65 -8372688.47 0.0505 0.0250
 Mars -27637-11-02 17:16 J -8372684.96 -8372684.78 -8372684.61 0.1750 0.0079

Jupiter	-27636-06-24 06:57 J	-8372451.39	-8372451.21	-8372451.02	0.0514	0.0232
Jupiter	-27631-01-14 12:57 J	-8370785.99	-8370785.96	-8370785.92	0.0527	0.0518
Jupiter	-27631-09-08 09:35 J	-8370549.30	-8370549.10	-8370548.90	0.0518	0.0031
Jupiter	-27630-05-02 21:07 J	-8370312.72	-8370312.62	-8370312.51	0.0509	0.0430
Jupiter	-27625-07-04 14:23 J	-8368423.03	-8368422.90	-8368422.75	0.0503	0.0377
Jupiter	-27624-02-26 22:19 J	-8368185.77	-8368185.57	-8368185.36	0.0511	0.0093
Saturn	-27624-08-13 19:26 J	-8368017.83	-8368017.69	-8368017.52	0.0278	0.0190
Saturn	-27623-03-31 09:50 J	-8367788.30	-8367788.09	-8367787.88	0.0280	0.0057
Saturn	-27623-11-16 02:09 J	-8367558.61	-8367558.41	-8367558.20	0.0282	0.0081
Saturn	-27622-07-03 21:07 J	-8367328.75	-8367328.62	-8367328.49	0.0284	0.0222
Jupiter	-27619-05-14 09:21 J	-8366283.30	-8366283.11	-8366282.92	0.0521	0.0163
Jupiter	-27618-01-05 23:16 J	-8366046.69	-8366046.53	-8366046.37	0.0512	0.0309
Jupiter	-27613-03-09 10:33 J	-8364157.08	-8364157.06	-8364157.02	0.0501	0.0496
Jupiter	-27613-11-01 16:04 J	-8363920.04	-8363919.83	-8363919.62	0.0509	0.0042
Jupiter	-27612-06-27 06:43 J	-8363682.32	-8363682.22	-8363682.12	0.0518	0.0450
Pluto	-27611-02-04 03:50 J	-8363460.53	-8363460.34	-8363460.16	0.0080	0.0046
Pluto	-27611-09-17 14:38 J	-8363235.09	-8363234.89	-8363234.67	0.0080	0.0031
Saturn	-27610-06-21 05:16 J	-8362958.43	-8362958.28	-8362958.11	0.0281	0.0174
Saturn	-27609-02-05 15:21 J	-8362729.06	-8362728.86	-8362728.65	0.0279	0.0041
Mars	-27609-03-21 00:14 J	-8362684.63	-8362684.49	-8362684.35	0.1776	0.1029
Saturn	-27609-09-21 23:02 J	-8362499.74	-8362499.54	-8362499.34	0.0277	0.0088
Uranus	-27609-12-22 13:55 J	-8362407.99	-8362407.92	-8362407.83	0.0145	0.0134
Saturn	-27608-05-09 04:19 J	-8362270.44	-8362270.32	-8362270.18	0.0275	0.0212
Uranus	-27608-08-06 02:23 J	-8362181.54	-8362181.40	-8362181.26	0.0145	0.0111
Jupiter	-27607-01-17 08:38 J	-8362017.30	-8362017.14	-8362016.97	0.0523	0.0295
Uranus	-27607-03-20 14:23 J	-8361955.06	-8361954.90	-8361954.72	0.0144	0.0088
Jupiter	-27607-09-11 00:43 J	-8361780.65	-8361780.47	-8361780.28	0.0514	0.0186
Uranus	-27607-11-02 02:38 J	-8361728.58	-8361728.39	-8361728.19	0.0144	0.0065
Uranus	-27606-06-16 14:52 J	-8361502.08	-8361501.88	-8361501.66	0.0144	0.0042
Uranus	-27605-01-29 03:07 J	-8361275.59	-8361275.37	-8361275.15	0.0143	0.0018

Uranus	-27605-09-11 15:07 J	-8361049.09	-8361048.87	-8361048.65	0.0143	0.0005
Mars	-27605-11-02 03:07 J	-8360997.46	-8360997.37	-8360997.29	0.1740	0.1529
Uranus	-27604-04-26 02:52 J	-8360822.59	-8360822.38	-8360822.16	0.0143	0.0027
Uranus	-27604-12-08 14:23 J	-8360596.09	-8360595.90	-8360595.68	0.0142	0.0051
Uranus	-27603-07-23 02:23 J	-8360369.58	-8360369.40	-8360369.21	0.0142	0.0072
Mars	-27603-08-31 12:28 J	-8360330.03	-8360329.98	-8360329.93	0.1764	0.1682
Uranus	-27602-03-06 13:40 J	-8360143.08	-8360142.93	-8360142.75	0.0142	0.0095
Uranus	-27602-10-19 00:57 J	-8359916.57	-8359916.46	-8359916.32	0.0141	0.0117
Uranus	-27601-06-01 12:14 J	-8359690.02	-8359689.99	-8359689.93	0.0141	0.0137
Jupiter	-27601-07-07 10:19 J	-8359654.26	-8359654.07	-8359653.87	0.0507	0.0172
Jupiter	-27600-03-01 22:47 J	-8359416.71	-8359416.55	-8359416.38	0.0516	0.0316
Jupiter	-27596-09-22 06:28 J	-8357751.34	-8357751.23	-8357751.11	0.0525	0.0429
Jupiter	-27595-05-17 01:11 J	-8357514.65	-8357514.45	-8357514.25	0.0516	0.0057
Jupiter	-27594-01-08 10:47 J	-8357278.07	-8357278.05	-8357278.02	0.0507	0.0503
Saturn	-27594-02-23 18:28 J	-8357231.89	-8357231.73	-8357231.56	0.0278	0.0177
Saturn	-27594-10-11 08:52 J	-8357002.34	-8357002.13	-8357001.91	0.0280	0.0045
Saturn	-27593-05-28 01:26 J	-8356772.63	-8356772.44	-8356772.23	0.0282	0.0095
Saturn	-27592-01-12 20:23 J	-8356542.76	-8356542.65	-8356542.52	0.0284	0.0235
Jupiter	-27589-03-12 06:28 J	-8355388.39	-8355388.23	-8355388.05	0.0505	0.0296
Jupiter	-27589-11-04 16:19 J	-8355151.01	-8355150.82	-8355150.62	0.0513	0.0183
Neptune	-27588-10-06 01:11 J	-8354815.49	-8354815.45	-8354815.40	0.0089	0.0086
Neptune	-27587-05-19 13:26 J	-8354590.01	-8354589.94	-8354589.87	0.0089	0.0083
Neptune	-27587-12-31 01:40 J	-8354364.52	-8354364.43	-8354364.34	0.0089	0.0080
Neptune	-27586-08-13 13:40 J	-8354139.03	-8354138.93	-8354138.82	0.0089	0.0077
Neptune	-27585-03-26 01:55 J	-8353913.53	-8353913.42	-8353913.29	0.0089	0.0074
Neptune	-27585-11-06 14:09 J	-8353688.03	-8353687.91	-8353687.77	0.0089	0.0071
Neptune	-27584-06-20 02:09 J	-8353462.53	-8353462.41	-8353462.25	0.0089	0.0068
Jupiter	-27583-01-19 21:21 J	-8353248.80	-8353248.61	-8353248.41	0.0519	0.0080
Neptune	-27583-01-31 14:23 J	-8353237.03	-8353236.90	-8353236.73	0.0089	0.0065
Jupiter	-27583-09-13 09:50 J	-8353012.22	-8353012.09	-8353011.96	0.0510	0.0384

Neptune	-27583-09-14 02:52 J	-8353011.52	-8353011.38	-8353011.21	0.0089	0.0061
Neptune	-27582-04-27 15:21 J	-8352786.01	-8352785.86	-8352785.68	0.0089	0.0058
Neptune	-27582-12-09 03:21 J	-8352560.51	-8352560.36	-8352560.17	0.0089	0.0055
Neptune	-27581-07-21 16:04 J	-8352335.00	-8352334.83	-8352334.65	0.0089	0.0051
Saturn	-27581-12-31 10:04 J	-8352172.26	-8352172.08	-8352171.91	0.0282	0.0152
Neptune	-27580-03-04 04:04 J	-8352109.50	-8352109.33	-8352109.13	0.0089	0.0048
Saturn	-27580-08-17 19:55 J	-8351942.88	-8351942.67	-8351942.46	0.0280	0.0019
Neptune	-27580-10-15 16:33 J	-8351883.99	-8351883.81	-8351883.61	0.0089	0.0044
Saturn	-27579-04-04 03:21 J	-8351713.55	-8351713.36	-8351713.16	0.0278	0.0111
Neptune	-27579-05-29 04:47 J	-8351658.48	-8351658.30	-8351658.10	0.0089	0.0041
Saturn	-27579-11-19 09:07 J	-8351484.23	-8351484.12	-8351484.01	0.0276	0.0233
Neptune	-27578-01-09 17:16 J	-8351432.97	-8351432.78	-8351432.58	0.0089	0.0037
Neptune	-27578-08-23 05:31 J	-8351207.46	-8351207.27	-8351207.06	0.0089	0.0034
Jupiter	-27578-11-16 03:07 J	-8351122.48	-8351122.37	-8351122.25	0.0502	0.0417
Neptune	-27577-04-04 17:59 J	-8350981.95	-8350981.75	-8350981.54	0.0089	0.0030
Jupiter	-27577-07-10 09:50 J	-8350885.30	-8350885.09	-8350884.88	0.0510	0.0048
Neptune	-27577-11-16 06:14 J	-8350756.44	-8350756.24	-8350756.03	0.0089	0.0027
Neptune	-27576-06-29 18:43 J	-8350530.93	-8350530.72	-8350530.52	0.0089	0.0023
Mars	-27575-01-17 05:59 J	-8350329.42	-8350329.25	-8350329.09	0.1763	0.0542
Neptune	-27575-02-10 06:43 J	-8350305.42	-8350305.22	-8350305.00	0.0089	0.0020
Neptune	-27575-09-23 19:11 J	-8350079.91	-8350079.70	-8350079.49	0.0089	0.0016
Neptune	-27574-05-07 07:40 J	-8349854.39	-8349854.18	-8349853.96	0.0089	0.0012
Neptune	-27574-12-18 20:09 J	-8349628.88	-8349628.66	-8349628.45	0.0089	0.0009
Neptune	-27573-07-31 08:23 J	-8349403.36	-8349403.15	-8349402.93	0.0089	0.0005
Neptune	-27572-03-13 20:52 J	-8349177.85	-8349177.63	-8349177.42	0.0088	0.0002
Jupiter	-27572-09-24 19:40 J	-8348982.86	-8348982.68	-8348982.50	0.0522	0.0214
Neptune	-27572-10-25 09:21 J	-8348952.33	-8348952.11	-8348951.90	0.0088	0.0003
Jupiter	-27571-05-19 10:47 J	-8348746.22	-8348746.05	-8348745.88	0.0513	0.0262
Neptune	-27571-06-07 21:50 J	-8348726.81	-8348726.59	-8348726.37	0.0088	0.0006
Mars	-27571-08-30 23:59 J	-8348642.68	-8348642.50	-8348642.33	0.1754	0.0153

Neptune	-27570-01-19 10:19 J	-8348501.29	-8348501.07	-8348500.85	0.0088	0.0009
Neptune	-27570-09-01 22:33 J	-8348275.77	-8348275.56	-8348275.34	0.0088	0.0013
Neptune	-27569-04-14 11:16 J	-8348050.24	-8348050.03	-8348049.81	0.0088	0.0017
Neptune	-27569-11-25 23:45 J	-8347824.72	-8347824.51	-8347824.29	0.0088	0.0020
Neptune	-27568-07-09 12:14 J	-8347599.19	-8347598.99	-8347598.77	0.0088	0.0024
Neptune	-27567-02-20 00:43 J	-8347373.67	-8347373.47	-8347373.26	0.0088	0.0027
Neptune	-27567-10-03 13:26 J	-8347148.15	-8347147.94	-8347147.74	0.0088	0.0031
Neptune	-27566-05-17 01:55 J	-8346922.61	-8346922.42	-8346922.21	0.0088	0.0034
Neptune	-27566-12-28 14:38 J	-8346697.09	-8346696.89	-8346696.69	0.0088	0.0038
Jupiter	-27565-03-15 02:23 J	-8346619.61	-8346619.40	-8346619.20	0.0508	0.0088
Neptune	-27565-08-10 02:52 J	-8346471.56	-8346471.38	-8346471.18	0.0088	0.0041
Saturn	-27565-09-05 00:43 J	-8346445.64	-8346445.47	-8346445.29	0.0279	0.0154
Jupiter	-27565-11-07 15:35 J	-8346381.98	-8346381.85	-8346381.72	0.0517	0.0400
Uranus	-27565-12-21 01:55 J	-8346338.50	-8346338.42	-8346338.32	0.0134	0.0121
Neptune	-27564-03-23 15:35 J	-8346246.04	-8346245.85	-8346245.66	0.0088	0.0045
Saturn	-27564-04-22 15:07 J	-8346216.08	-8346215.87	-8346215.65	0.0281	0.0021
Uranus	-27564-08-04 07:26 J	-8346112.33	-8346112.19	-8346112.05	0.0134	0.0103
Neptune	-27564-11-04 03:50 J	-8346020.51	-8346020.34	-8346020.14	0.0088	0.0049
Saturn	-27564-12-08 07:55 J	-8345986.36	-8345986.17	-8345985.97	0.0282	0.0118
Uranus	-27563-03-18 12:28 J	-8345886.13	-8345885.98	-8345885.80	0.0134	0.0086
Neptune	-27563-06-17 16:47 J	-8345794.97	-8345794.80	-8345794.62	0.0088	0.0052
Saturn	-27563-07-26 03:07 J	-8345756.45	-8345756.37	-8345756.28	0.0284	0.0259
Uranus	-27563-10-30 18:14 J	-8345659.93	-8345659.74	-8345659.55	0.0135	0.0067
Neptune	-27562-01-29 05:02 J	-8345569.44	-8345569.29	-8345569.10	0.0088	0.0056
Uranus	-27562-06-13 23:31 J	-8345433.71	-8345433.52	-8345433.30	0.0135	0.0049
Neptune	-27562-09-11 17:45 J	-8345343.91	-8345343.76	-8345343.58	0.0088	0.0059
Earth	-27562-10-28 02:09 J	-8345297.50	-8345297.41	-8345297.32	0.2626	0.2140
Moon	-27562-10-28 07:26 J	-8345297.23	-8345297.19	-8345297.14	0.2623	0.2524
Uranus	-27561-01-26 05:31 J	-8345207.48	-8345207.27	-8345207.06	0.0135	0.0030
Neptune	-27561-04-24 06:43 J	-8345118.37	-8345118.22	-8345118.06	0.0088	0.0062

Uranus	-27561-09-08 11:16 J	-8344981.24	-8344981.03	-8344980.81	0.0135	0.0011
Neptune	-27561-12-05 18:57 J	-8344892.84	-8344892.71	-8344892.54	0.0088	0.0065
Uranus	-27560-04-22 17:02 J	-8344755.01	-8344754.79	-8344754.58	0.0136	0.0008
Jupiter	-27560-05-30 18:14 J	-8344716.89	-8344716.74	-8344716.59	0.0524	0.0349
Neptune	-27560-07-19 07:40 J	-8344667.30	-8344667.18	-8344667.02	0.0088	0.0069
Uranus	-27560-12-04 22:47 J	-8344528.76	-8344528.55	-8344528.34	0.0136	0.0028
Jupiter	-27559-01-22 11:59 J	-8344480.19	-8344480.00	-8344479.81	0.0515	0.0136
Neptune	-27559-03-01 20:38 J	-8344441.76	-8344441.64	-8344441.51	0.0088	0.0071
Uranus	-27559-07-19 04:33 J	-8344302.50	-8344302.31	-8344302.10	0.0136	0.0047
Neptune	-27559-10-13 09:21 J	-8344216.22	-8344216.11	-8344215.99	0.0088	0.0075
Uranus	-27558-03-02 10:33 J	-8344076.23	-8344076.06	-8344075.86	0.0137	0.0067
Neptune	-27558-05-26 21:50 J	-8343990.66	-8343990.59	-8343990.46	0.0088	0.0078
Uranus	-27558-10-14 16:33 J	-8343849.96	-8343849.81	-8343849.63	0.0137	0.0086
Neptune	-27557-01-07 10:47 J	-8343765.11	-8343765.05	-8343764.94	0.0088	0.0081
Uranus	-27557-05-27 22:47 J	-8343623.67	-8343623.55	-8343623.40	0.0137	0.0105
Neptune	-27557-08-19 23:31 J	-8343539.56	-8343539.52	-8343539.43	0.0088	0.0084
Uranus	-27556-01-09 05:16 J	-8343397.36	-8343397.28	-8343397.18	0.0138	0.0125
Neptune	-27556-04-02 12:14 J	-8343314.00	-8343313.99	-8343313.93	0.0088	0.0088
Earth	-27554-10-25 16:19 J	-8342377.96	-8342377.82	-8342377.68	0.2626	0.1383
Moon	-27554-10-25 17:31 J	-8342377.91	-8342377.77	-8342377.63	0.2619	0.1539 *
Jupiter	-27554-11-18 21:07 J	-8342353.81	-8342353.62	-8342353.44	0.0506	0.0218
Jupiter	-27553-07-13 07:40 J	-8342116.36	-8342116.18	-8342116.00	0.0514	0.0264
Saturn	-27552-11-26 00:14 J	-8341615.55	-8341615.49	-8341615.43	0.0283	0.0270
Saturn	-27551-07-13 11:59 J	-8341386.18	-8341386.00	-8341385.81	0.0281	0.0136
Saturn	-27550-02-27 21:50 J	-8341156.80	-8341156.59	-8341156.38	0.0279	0.0006
Saturn	-27550-10-15 05:02 J	-8340927.47	-8340927.29	-8340927.10	0.0277	0.0125
Saturn	-27549-05-31 10:19 J	-8340698.16	-8340698.07	-8340697.98	0.0275	0.0247
Jupiter	-27548-02-02 16:33 J	-8340450.88	-8340450.81	-8340450.73	0.0527	0.0480
Jupiter	-27548-09-27 12:43 J	-8340214.17	-8340213.97	-8340213.77	0.0518	0.0011
Jupiter	-27547-05-21 23:45 J	-8339977.59	-8339977.51	-8339977.42	0.0509	0.0461

Mars	-27543-01-16 09:07 J	-8338642.26	-8338642.12	-8338641.97	0.1773	0.0837
Jupiter	-27542-07-24 16:19 J	-8338087.97	-8338087.82	-8338087.67	0.0504	0.0342
Jupiter	-27541-03-18 00:43 J	-8337850.67	-8337850.47	-8337850.26	0.0512	0.0130
Mars	-27539-08-30 10:47 J	-8336955.16	-8336955.05	-8336954.94	0.1743	0.1338
Jupiter	-27536-06-02 12:14 J	-8335948.18	-8335947.99	-8335947.80	0.0520	0.0125
Saturn	-27536-07-31 10:47 J	-8335889.09	-8335889.05	-8335888.99	0.0277	0.0269
Jupiter	-27535-01-25 01:11 J	-8335711.59	-8335711.45	-8335711.29	0.0511	0.0343
Saturn	-27535-03-17 23:16 J	-8335659.71	-8335659.53	-8335659.35	0.0279	0.0142
Saturn	-27535-11-02 13:55 J	-8335430.14	-8335429.92	-8335429.71	0.0280	0.0009
Saturn	-27534-06-20 06:43 J	-8335200.40	-8335200.22	-8335200.02	0.0282	0.0131
Saturn	-27533-02-05 01:55 J	-8334970.47	-8334970.42	-8334970.35	0.0284	0.0272
Jupiter	-27530-03-29 13:55 J	-8333822.00	-8333821.92	-8333821.84	0.0501	0.0458
Jupiter	-27530-11-21 19:40 J	-8333584.89	-8333584.68	-8333584.47	0.0509	0.0005
Jupiter	-27529-07-16 10:47 J	-8333347.12	-8333347.05	-8333346.98	0.0518	0.0488
Uranus	-27525-08-21 22:33 J	-8331849.58	-8331849.56	-8331849.52	0.0145	0.0143
Jupiter	-27524-02-05 07:26 J	-8331682.36	-8331682.19	-8331682.02	0.0523	0.0264
Uranus	-27524-04-05 11:02 J	-8331623.16	-8331623.04	-8331622.91	0.0145	0.0120
Jupiter	-27524-09-29 23:16 J	-8331445.71	-8331445.53	-8331445.35	0.0514	0.0215
Uranus	-27524-11-17 23:31 J	-8331396.68	-8331396.52	-8331396.36	0.0144	0.0097
Uranus	-27523-07-02 11:59 J	-8331170.19	-8331170.00	-8331169.82	0.0144	0.0074
Uranus	-27522-02-14 00:14 J	-8330943.70	-8330943.49	-8330943.29	0.0144	0.0050
Saturn	-27522-06-08 03:21 J	-8330829.45	-8330829.36	-8330829.26	0.0284	0.0251
Uranus	-27522-09-28 12:14 J	-8330717.21	-8330716.99	-8330716.77	0.0144	0.0027
Saturn	-27521-01-23 15:35 J	-8330600.04	-8330599.85	-8330599.65	0.0282	0.0115
Uranus	-27521-05-12 00:14 J	-8330490.71	-8330490.49	-8330490.27	0.0143	0.0004
Saturn	-27521-09-09 01:26 J	-8330370.65	-8330370.44	-8330370.23	0.0280	0.0018
Uranus	-27521-12-24 11:59 J	-8330264.21	-8330264.00	-8330263.77	0.0143	0.0020
Saturn	-27520-04-26 08:38 J	-8330141.31	-8330141.14	-8330140.95	0.0278	0.0147
Uranus	-27520-08-07 23:59 J	-8330037.71	-8330037.50	-8330037.29	0.0143	0.0042
Saturn	-27520-12-11 14:09 J	-8329911.95	-8329911.91	-8329911.86	0.0276	0.0268

Uranus	-27519-03-22 11:31 J	-8329811.20	-8329811.02	-8329810.81	0.0142	0.0065
Uranus	-27519-11-03 23:16 J	-8329584.70	-8329584.53	-8329584.35	0.0142	0.0087
Uranus	-27518-06-18 10:33 J	-8329358.18	-8329358.06	-8329357.91	0.0142	0.0110
Jupiter	-27518-07-27 14:23 J	-8329319.10	-8329318.90	-8329318.70	0.0507	0.0132
Uranus	-27517-01-30 22:19 J	-8329131.65	-8329131.57	-8329131.49	0.0141	0.0131
Jupiter	-27517-03-21 02:38 J	-8329081.54	-8329081.39	-8329081.24	0.0516	0.0353
Jupiter	-27513-10-11 04:19 J	-8327416.45	-8327416.32	-8327416.19	0.0525	0.0400
Jupiter	-27512-06-04 23:02 J	-8327179.74	-8327179.54	-8327179.35	0.0516	0.0086
Mars	-27510-11-14 15:35 J	-8326287.01	-8326286.85	-8326286.70	0.1759	0.0713
Saturn	-27506-02-10 17:31 J	-8325102.86	-8325102.77	-8325102.67	0.0277	0.0246
Jupiter	-27506-04-01 07:55 J	-8325053.34	-8325053.17	-8325052.98	0.0504	0.0263
Saturn	-27506-09-28 05:45 J	-8324873.44	-8324873.26	-8324873.06	0.0279	0.0119
Jupiter	-27506-11-24 17:31 J	-8324815.96	-8324815.77	-8324815.58	0.0513	0.0215
Saturn	-27505-05-14 20:38 J	-8324643.85	-8324643.64	-8324643.42	0.0281	0.0016
Mars	-27505-06-27 06:43 J	-8324600.39	-8324600.22	-8324600.04	0.1757	0.0364
Saturn	-27505-12-30 13:40 J	-8324414.11	-8324413.93	-8324413.75	0.0283	0.0155
Neptune	-27504-02-15 16:33 J	-8324366.83	-8324366.81	-8324366.75	0.0088	0.0087
Neptune	-27504-09-29 06:28 J	-8324141.28	-8324141.23	-8324141.14	0.0088	0.0084
Neptune	-27503-05-12 20:23 J	-8323915.73	-8323915.65	-8323915.54	0.0088	0.0081
Neptune	-27503-12-24 10:04 J	-8323690.17	-8323690.08	-8323689.95	0.0088	0.0078
Neptune	-27502-08-06 23:45 J	-8323464.61	-8323464.51	-8323464.37	0.0088	0.0074
Neptune	-27501-03-19 13:55 J	-8323239.05	-8323238.92	-8323238.78	0.0088	0.0071
Neptune	-27501-10-31 03:35 J	-8323013.48	-8323013.35	-8323013.19	0.0088	0.0068
Jupiter	-27500-02-07 23:02 J	-8322913.74	-8322913.54	-8322913.34	0.0519	0.0046
Neptune	-27500-06-13 17:02 J	-8322787.92	-8322787.79	-8322787.61	0.0088	0.0065
Jupiter	-27500-10-02 11:31 J	-8322677.13	-8322677.02	-8322676.90	0.0510	0.0415
Neptune	-27499-01-25 07:11 J	-8322562.36	-8322562.20	-8322562.03	0.0089	0.0061
Neptune	-27499-09-07 20:38 J	-8322336.79	-8322336.64	-8322336.45	0.0089	0.0058
Neptune	-27498-04-21 10:47 J	-8322111.22	-8322111.05	-8322110.87	0.0089	0.0054
Neptune	-27498-12-03 00:14 J	-8321885.66	-8321885.49	-8321885.29	0.0089	0.0051

Neptune	-27497-07-15 14:09 J	-8321660.09	-8321659.91	-8321659.71	0.0089	0.0047
Neptune	-27496-02-26 03:35 J	-8321434.53	-8321434.35	-8321434.14	0.0089	0.0044
Neptune	-27496-10-09 17:45 J	-8321208.95	-8321208.76	-8321208.55	0.0089	0.0040
Neptune	-27495-05-23 07:11 J	-8320983.38	-8320983.20	-8320982.98	0.0089	0.0037
Jupiter	-27495-12-05 03:35 J	-8320787.48	-8320787.35	-8320787.22	0.0502	0.0385
Neptune	-27494-01-03 21:07 J	-8320757.82	-8320757.62	-8320757.40	0.0089	0.0033
Jupiter	-27494-07-30 10:19 J	-8320550.27	-8320550.07	-8320549.86	0.0511	0.0080
Neptune	-27494-08-17 11:02 J	-8320532.25	-8320532.04	-8320531.83	0.0089	0.0029
Neptune	-27493-03-30 00:28 J	-8320306.68	-8320306.48	-8320306.25	0.0089	0.0026
Neptune	-27493-11-10 14:23 J	-8320081.11	-8320080.90	-8320080.67	0.0089	0.0022
Saturn	-27493-12-18 06:57 J	-8320043.32	-8320043.21	-8320043.09	0.0283	0.0232
Neptune	-27492-06-24 04:19 J	-8319855.54	-8319855.32	-8319855.10	0.0089	0.0018
Saturn	-27492-08-04 18:43 J	-8319813.92	-8319813.72	-8319813.53	0.0281	0.0097
Neptune	-27491-02-04 17:45 J	-8319629.97	-8319629.76	-8319629.53	0.0089	0.0015
Saturn	-27491-03-22 03:50 J	-8319584.54	-8319584.34	-8319584.13	0.0279	0.0035
Neptune	-27491-09-18 07:40 J	-8319404.40	-8319404.18	-8319403.96	0.0089	0.0011
Saturn	-27491-11-06 10:47 J	-8319355.21	-8319355.05	-8319354.87	0.0277	0.0162
Neptune	-27490-05-01 21:21 J	-8319178.83	-8319178.61	-8319178.39	0.0089	0.0007
Neptune	-27490-12-13 11:02 J	-8318953.26	-8318953.04	-8318952.82	0.0089	0.0003
Neptune	-27489-07-26 00:28 J	-8318727.70	-8318727.48	-8318727.25	0.0089	0.0001
Jupiter	-27489-10-13 23:02 J	-8318647.73	-8318647.54	-8318647.35	0.0521	0.0176
Neptune	-27488-03-08 14:09 J	-8318502.14	-8318501.91	-8318501.69	0.0089	0.0004
Jupiter	-27488-06-07 13:26 J	-8318411.09	-8318410.94	-8318410.77	0.0512	0.0297
Neptune	-27488-10-20 03:35 J	-8318276.57	-8318276.35	-8318276.12	0.0089	0.0008
Neptune	-27487-06-02 17:16 J	-8318051.00	-8318050.78	-8318050.56	0.0089	0.0011
Neptune	-27486-01-14 06:43 J	-8317825.44	-8317825.22	-8317825.00	0.0089	0.0015
Neptune	-27486-08-27 19:55 J	-8317599.88	-8317599.67	-8317599.44	0.0089	0.0019
Neptune	-27485-04-09 09:35 J	-8317374.31	-8317374.10	-8317373.88	0.0089	0.0022
Neptune	-27485-11-20 23:02 J	-8317148.74	-8317148.54	-8317148.32	0.0089	0.0026
Neptune	-27484-07-04 12:43 J	-8316923.18	-8316922.97	-8316922.76	0.0089	0.0029

Neptune	-27483-02-15 01:55 J	-8316697.62	-8316697.42	-8316697.20	0.0089	0.0033
Neptune	-27483-09-28 15:07 J	-8316472.05	-8316471.87	-8316471.65	0.0089	0.0037
Jupiter	-27482-04-04 04:19 J	-8316284.52	-8316284.32	-8316284.11	0.0508	0.0054
Neptune	-27482-05-12 04:47 J	-8316246.49	-8316246.30	-8316246.09	0.0089	0.0040
Jupiter	-27482-11-27 18:14 J	-8316046.84	-8316046.74	-8316046.62	0.0517	0.0436
Neptune	-27482-12-23 18:14 J	-8316020.92	-8316020.74	-8316020.53	0.0089	0.0044
Neptune	-27481-08-05 07:40 J	-8315795.35	-8315795.18	-8315794.98	0.0089	0.0047
Uranus	-27481-08-20 13:40 J	-8315779.99	-8315779.93	-8315779.87	0.0134	0.0128
Neptune	-27480-03-18 20:52 J	-8315569.79	-8315569.63	-8315569.43	0.0089	0.0051
Uranus	-27480-04-03 18:57 J	-8315553.83	-8315553.71	-8315553.59	0.0134	0.0110
Neptune	-27480-10-30 10:33 J	-8315344.22	-8315344.06	-8315343.87	0.0089	0.0054
Uranus	-27480-11-15 23:59 J	-8315327.64	-8315327.50	-8315327.33	0.0134	0.0092
Neptune	-27479-06-12 23:59 J	-8315118.66	-8315118.50	-8315118.32	0.0089	0.0057
Uranus	-27479-06-30 05:16 J	-8315101.44	-8315101.28	-8315101.08	0.0134	0.0075
Neptune	-27478-01-24 13:11 J	-8314893.09	-8314892.95	-8314892.77	0.0089	0.0061
Uranus	-27478-02-11 11:02 J	-8314875.23	-8314875.04	-8314874.83	0.0135	0.0056
Neptune	-27478-09-07 02:38 J	-8314667.53	-8314667.39	-8314667.22	0.0089	0.0064
Uranus	-27478-09-25 16:33 J	-8314649.01	-8314648.81	-8314648.59	0.0135	0.0037
Mars	-27478-11-13 18:14 J	-8314599.90	-8314599.74	-8314599.58	0.1769	0.0640
Neptune	-27477-04-19 16:04 J	-8314441.96	-8314441.83	-8314441.68	0.0089	0.0067
Uranus	-27477-05-08 22:04 J	-8314422.78	-8314422.58	-8314422.36	0.0135	0.0019
Jupiter	-27477-06-18 21:21 J	-8314381.76	-8314381.61	-8314381.45	0.0524	0.0310
Saturn	-27477-08-22 16:33 J	-8314316.93	-8314316.81	-8314316.70	0.0277	0.0233
Neptune	-27477-12-01 05:31 J	-8314216.40	-8314216.27	-8314216.13	0.0089	0.0070
Uranus	-27477-12-21 04:04 J	-8314196.55	-8314196.33	-8314196.12	0.0135	0.0002
Jupiter	-27476-02-10 14:23 J	-8314145.09	-8314144.90	-8314144.71	0.0515	0.0171
Saturn	-27476-04-09 04:47 J	-8314087.49	-8314087.30	-8314087.10	0.0279	0.0105
Neptune	-27476-07-14 18:14 J	-8313990.83	-8313990.74	-8313990.59	0.0089	0.0074
Uranus	-27476-08-04 09:35 J	-8313970.31	-8313970.10	-8313969.88	0.0136	0.0021
Saturn	-27476-11-24 19:40 J	-8313857.89	-8313857.68	-8313857.47	0.0281	0.0029

Neptune	-27475-02-25 07:26 J	-8313765.27	-8313765.19	-8313765.05	0.0089	0.0077
Uranus	-27475-03-18 15:21 J	-8313744.06	-8313743.86	-8313743.65	0.0136	0.0040
Saturn	-27475-07-12 12:57 J	-8313628.13	-8313627.96	-8313627.78	0.0283	0.0168
Neptune	-27475-10-08 20:38 J	-8313539.71	-8313539.64	-8313539.52	0.0089	0.0080
Uranus	-27475-10-30 21:07 J	-8313517.80	-8313517.62	-8313517.42	0.0136	0.0060
Neptune	-27474-05-22 09:50 J	-8313314.14	-8313314.09	-8313313.99	0.0089	0.0083
Uranus	-27474-06-14 03:07 J	-8313291.54	-8313291.37	-8313291.19	0.0137	0.0079
Neptune	-27473-01-02 23:16 J	-8313088.57	-8313088.53	-8313088.46	0.0089	0.0086
Uranus	-27473-01-26 09:21 J	-8313065.25	-8313065.11	-8313064.96	0.0137	0.0098
Mars	-27473-06-26 17:31 J	-8312912.90	-8312912.77	-8312912.63	0.1747	0.1131
Neptune	-27473-08-15 12:28 J	-8312862.98	-8312862.98	-8312862.95	0.0089	0.0089
Uranus	-27473-09-08 15:35 J	-8312838.95	-8312838.85	-8312838.74	0.0137	0.0118
Uranus	-27472-04-22 21:50 J	-8312612.60	-8312612.59	-8312612.57	0.0138	0.0137
Jupiter	-27471-12-08 00:28 J	-8312018.68	-8312018.48	-8312018.29	0.0506	0.0179
Jupiter	-27470-08-02 11:45 J	-8311781.18	-8311781.01	-8311780.84	0.0515	0.0303
Jupiter	-27465-02-22 15:35 J	-8310115.95	-8310115.85	-8310115.74	0.0526	0.0449
Jupiter	-27465-10-16 11:16 J	-8309879.23	-8309879.03	-8309878.83	0.0517	0.0037
Jupiter	-27464-06-09 22:04 J	-8309642.63	-8309642.58	-8309642.52	0.0509	0.0487
Saturn	-27463-06-30 09:21 J	-8309257.23	-8309257.11	-8309256.96	0.0284	0.0214
Saturn	-27462-02-14 21:21 J	-8309027.80	-8309027.61	-8309027.40	0.0282	0.0078
Saturn	-27462-10-02 06:57 J	-8308798.41	-8308798.21	-8308798.00	0.0280	0.0056
Saturn	-27461-05-18 14:09 J	-8308569.06	-8308568.91	-8308568.75	0.0278	0.0183
Jupiter	-27459-08-12 20:23 J	-8307752.82	-8307752.65	-8307752.49	0.0504	0.0304
Jupiter	-27458-04-07 05:02 J	-8307515.49	-8307515.29	-8307515.10	0.0512	0.0169
Pluto	-27454-11-21 01:11 J	-8305826.61	-8305826.45	-8305826.27	0.0064	0.0041
Jupiter	-27453-06-21 09:50 J	-8305613.29	-8305613.09	-8305612.90	0.0520	0.0097
Pluto	-27453-07-03 05:02 J	-8305601.50	-8305601.29	-8305601.07	0.0065	0.0003
Jupiter	-27452-02-12 23:02 J	-8305376.68	-8305376.54	-8305376.40	0.0511	0.0368
Pluto	-27452-02-13 08:38 J	-8305376.31	-8305376.14	-8305375.95	0.0065	0.0036
Saturn	-27447-03-04 23:45 J	-8303530.65	-8303530.51	-8303530.38	0.0277	0.0210

Jupiter	-27447-04-17 15:07 J	-8303486.98	-8303486.87	-8303486.76	0.0501	0.0427
Saturn	-27447-10-20 12:14 J	-8303301.19	-8303300.99	-8303300.78	0.0279	0.0081
Jupiter	-27447-12-10 20:38 J	-8303249.85	-8303249.64	-8303249.43	0.0509	0.0031
Saturn	-27446-06-07 03:21 J	-8303071.57	-8303071.36	-8303071.15	0.0281	0.0054
Jupiter	-27446-08-05 11:31 J	-8303012.03	-8303012.02	-8303012.01	0.0518	0.0517
Saturn	-27445-01-22 20:38 J	-8302841.79	-8302841.64	-8302841.48	0.0283	0.0193
Mars	-27444-09-11 00:28 J	-8302244.62	-8302244.48	-8302244.33	0.1756	0.0894
Jupiter	-27441-02-25 08:23 J	-8301347.32	-8301347.15	-8301346.97	0.0523	0.0231
Jupiter	-27441-10-19 00:28 J	-8301110.65	-8301110.48	-8301110.30	0.0514	0.0247
Uranus	-27441-12-03 17:31 J	-8301064.86	-8301064.77	-8301064.67	0.0145	0.0130
Uranus	-27440-07-18 05:59 J	-8300838.39	-8300838.25	-8300838.10	0.0145	0.0107
Uranus	-27439-03-01 18:28 J	-8300611.90	-8300611.73	-8300611.55	0.0144	0.0084
Mars	-27439-04-24 13:26 J	-8300558.10	-8300557.94	-8300557.77	0.1760	0.0582
Uranus	-27439-10-14 06:43 J	-8300385.41	-8300385.22	-8300385.01	0.0144	0.0060
Uranus	-27438-05-28 18:57 J	-8300158.91	-8300158.71	-8300158.49	0.0144	0.0037
Uranus	-27437-01-10 07:26 J	-8299932.41	-8299932.19	-8299931.97	0.0144	0.0013
Uranus	-27437-08-23 19:26 J	-8299705.91	-8299705.69	-8299705.47	0.0143	0.0011
Uranus	-27436-04-07 07:26 J	-8299479.40	-8299479.19	-8299478.97	0.0143	0.0034
Uranus	-27436-11-19 19:11 J	-8299252.90	-8299252.70	-8299252.49	0.0143	0.0057
Uranus	-27435-07-04 06:57 J	-8299026.38	-8299026.21	-8299026.02	0.0142	0.0080
Jupiter	-27435-08-15 14:23 J	-8298984.10	-8298983.90	-8298983.69	0.0507	0.0101
Uranus	-27434-02-15 18:28 J	-8298799.87	-8298799.73	-8298799.56	0.0142	0.0102
Jupiter	-27434-04-10 02:38 J	-8298746.52	-8298746.39	-8298746.24	0.0516	0.0383
Uranus	-27434-09-30 05:59 J	-8298573.35	-8298573.25	-8298573.14	0.0142	0.0124
Saturn	-27433-01-10 13:40 J	-8298471.08	-8298470.93	-8298470.77	0.0283	0.0194
Saturn	-27433-08-27 01:11 J	-8298241.65	-8298241.45	-8298241.24	0.0281	0.0059
Saturn	-27432-04-13 10:19 J	-8298012.27	-8298012.07	-8298011.87	0.0279	0.0073
Saturn	-27432-11-28 17:16 J	-8297782.93	-8297782.78	-8297782.64	0.0277	0.0198
Jupiter	-27430-10-31 07:11 J	-8297081.34	-8297081.20	-8297081.05	0.0525	0.0363
Jupiter	-27429-06-24 01:40 J	-8296844.62	-8296844.43	-8296844.23	0.0516	0.0121

Neptune	-27424-05-26 21:50 J	-8295046.60	-8295046.59	-8295046.55	0.0089	0.0088
Neptune	-27423-01-07 10:04 J	-8294821.13	-8294821.08	-8294821.01	0.0089	0.0085
Jupiter	-27423-04-20 09:21 J	-8294718.30	-8294718.11	-8294717.93	0.0505	0.0228
Neptune	-27423-08-20 22:33 J	-8294595.64	-8294595.56	-8294595.48	0.0089	0.0082
Jupiter	-27423-12-13 19:26 J	-8294480.87	-8294480.69	-8294480.51	0.0514	0.0249
Neptune	-27422-04-03 10:19 J	-8294370.14	-8294370.07	-8294369.95	0.0089	0.0080
Neptune	-27422-11-14 22:33 J	-8294144.64	-8294144.56	-8294144.43	0.0089	0.0077
Neptune	-27421-06-27 10:47 J	-8293919.15	-8293919.05	-8293918.91	0.0089	0.0074
Neptune	-27420-02-07 22:47 J	-8293693.65	-8293693.55	-8293693.39	0.0089	0.0071
Neptune	-27420-09-21 11:02 J	-8293468.15	-8293468.04	-8293467.87	0.0089	0.0068
Neptune	-27419-05-04 23:59 J	-8293242.64	-8293242.50	-8293242.35	0.0089	0.0064
Neptune	-27419-12-16 12:14 J	-8293017.14	-8293016.99	-8293016.83	0.0089	0.0061
Jupiter	-27418-07-06 04:33 J	-8292815.37	-8292815.31	-8292815.24	0.0527	0.0495
Neptune	-27418-07-30 00:14 J	-8292791.64	-8292791.49	-8292791.31	0.0089	0.0058
Saturn	-27418-09-14 23:16 J	-8292744.68	-8292744.53	-8292744.38	0.0277	0.0196
Jupiter	-27417-02-28 01:40 J	-8292578.63	-8292578.43	-8292578.23	0.0519	0.0009
Neptune	-27417-03-11 12:28 J	-8292566.13	-8292565.98	-8292565.79	0.0089	0.0055
Saturn	-27417-05-01 11:45 J	-8292515.21	-8292515.01	-8292514.80	0.0279	0.0067
Jupiter	-27417-10-21 13:26 J	-8292342.03	-8292341.94	-8292341.84	0.0510	0.0446
Neptune	-27417-10-23 00:43 J	-8292340.62	-8292340.47	-8292340.27	0.0089	0.0052
Saturn	-27417-12-17 02:52 J	-8292285.59	-8292285.38	-8292285.17	0.0281	0.0068
Neptune	-27416-06-05 13:26 J	-8292115.12	-8292114.94	-8292114.75	0.0089	0.0048
Saturn	-27416-08-03 20:23 J	-8292055.79	-8292055.65	-8292055.50	0.0283	0.0207
Neptune	-27415-01-17 01:26 J	-8291889.61	-8291889.44	-8291889.24	0.0089	0.0045
Neptune	-27415-08-30 13:40 J	-8291664.10	-8291663.93	-8291663.72	0.0089	0.0042
Neptune	-27414-04-13 02:23 J	-8291438.59	-8291438.40	-8291438.20	0.0089	0.0038
Neptune	-27414-11-24 14:38 J	-8291213.08	-8291212.89	-8291212.68	0.0089	0.0035
Neptune	-27413-07-07 02:52 J	-8290987.57	-8290987.38	-8290987.17	0.0089	0.0032
Neptune	-27412-02-17 15:21 J	-8290762.06	-8290761.86	-8290761.65	0.0089	0.0028
Mars	-27412-09-10 03:21 J	-8290557.52	-8290557.36	-8290557.19	0.1766	0.0451

Neptune -27412-10-01 03:21 J -8290536.55 -8290536.36 -8290536.14 0.0089 0.0025
 Jupiter -27412-12-24 06:14 J -8290452.39 -8290452.24 -8290452.09 0.0503 0.0349
 Neptune -27411-05-14 16:04 J -8290311.04 -8290310.83 -8290310.62 0.0089 0.0021
 Jupiter -27411-08-18 13:55 J -8290215.13 -8290214.92 -8290214.72 0.0511 0.0118
 Neptune -27411-12-26 04:19 J -8290085.53 -8290085.32 -8290085.10 0.0089 0.0018
 Neptune -27410-08-08 16:33 J -8289860.02 -8289859.81 -8289859.59 0.0089 0.0014
 Neptune -27409-03-21 05:02 J -8289634.51 -8289634.29 -8289634.08 0.0089 0.0011
 Neptune -27409-11-01 17:16 J -8289408.99 -8289408.78 -8289408.56 0.0089 0.0007
 Moon -27408-04-25 04:04 J -8289234.48 -8289234.33 -8289234.18 0.2712 0.0191
 Earth -27408-04-25 07:55 J -8289234.33 -8289234.17 -8289234.02 0.2707 0.0254 *
 Neptune -27408-06-15 05:45 J -8289183.48 -8289183.26 -8289183.04 0.0089 0.0004
 Neptune -27407-01-26 17:59 J -8288957.96 -8288957.75 -8288957.53 0.0089 0.0002
 Mars -27407-04-24 00:57 J -8288870.61 -8288870.46 -8288870.31 0.1750 0.0933
 Neptune -27407-09-09 06:28 J -8288732.45 -8288732.23 -8288732.01 0.0088 0.0003
 Neptune -27406-04-22 18:57 J -8288506.92 -8288506.71 -8288506.49 0.0088 0.0007
 Jupiter -27406-11-02 21:35 J -8288312.79 -8288312.60 -8288312.41 0.0521 0.0147
 Neptune -27406-12-04 07:26 J -8288281.41 -8288281.19 -8288280.97 0.0088 0.0010
 Jupiter -27405-06-26 11:31 J -8288076.17 -8288076.02 -8288075.86 0.0512 0.0322
 Neptune -27405-07-16 19:55 J -8288055.89 -8288055.67 -8288055.46 0.0088 0.0014
 Neptune -27404-02-27 08:09 J -8287830.37 -8287830.16 -8287829.94 0.0088 0.0017
 Saturn -27404-07-22 16:04 J -8287684.99 -8287684.83 -8287684.66 0.0283 0.0175
 Neptune -27404-10-10 20:38 J -8287604.84 -8287604.64 -8287604.42 0.0088 0.0021
 Saturn -27403-03-09 03:50 J -8287455.55 -8287455.34 -8287455.13 0.0281 0.0039
 Neptune -27403-05-24 09:21 J -8287379.31 -8287379.11 -8287378.89 0.0088 0.0024
 Saturn -27403-10-24 12:57 J -8287226.15 -8287225.96 -8287225.76 0.0279 0.0093
 Neptune -27402-01-04 21:50 J -8287153.79 -8287153.59 -8287153.37 0.0088 0.0028
 Saturn -27402-06-10 20:09 J -8286996.79 -8286996.66 -8286996.53 0.0278 0.0219
 Neptune -27402-08-18 10:19 J -8286928.26 -8286928.07 -8286927.86 0.0088 0.0031
 Neptune -27401-03-30 22:47 J -8286702.74 -8286702.55 -8286702.34 0.0088 0.0035
 Neptune -27401-11-11 11:31 J -8286477.21 -8286477.02 -8286476.82 0.0088 0.0038

Neptune -27400-06-24 23:45 J -8286251.68 -8286251.51 -8286251.30 0.0088 0.0042
 Jupiter -27400-08-29 03:07 J -8286186.44 -8286186.37 -8286186.30 0.0501 0.0467
 Neptune -27399-02-05 12:28 J -8286026.16 -8286025.98 -8286025.78 0.0088 0.0045
 Jupiter -27399-04-23 08:09 J -8285949.37 -8285949.16 -8285948.96 0.0509 0.0019
 Neptune -27399-09-19 00:43 J -8285800.63 -8285800.47 -8285800.26 0.0088 0.0049
 Jupiter -27399-12-16 22:04 J -8285711.66 -8285711.58 -8285711.49 0.0517 0.0470
 Neptune -27398-05-02 13:26 J -8285575.10 -8285574.94 -8285574.74 0.0088 0.0052
 Neptune -27398-12-14 02:09 J -8285349.57 -8285349.41 -8285349.22 0.0088 0.0055
 Neptune -27397-07-26 14:52 J -8285124.04 -8285123.88 -8285123.70 0.0088 0.0058
 Uranus -27397-12-02 07:11 J -8284995.29 -8284995.20 -8284995.09 0.0134 0.0117
 Neptune -27396-03-09 03:35 J -8284898.50 -8284898.35 -8284898.19 0.0088 0.0061
 Uranus -27396-07-16 12:28 J -8284769.12 -8284768.98 -8284768.83 0.0134 0.0099
 Neptune -27396-10-20 15:50 J -8284672.97 -8284672.84 -8284672.67 0.0088 0.0064
 Uranus -27395-02-27 17:59 J -8284542.92 -8284542.75 -8284542.58 0.0134 0.0081
 Neptune -27395-06-03 04:47 J -8284447.43 -8284447.30 -8284447.14 0.0088 0.0067
 Uranus -27395-10-11 23:02 J -8284316.72 -8284316.54 -8284316.33 0.0134 0.0063
 Neptune -27394-01-14 17:31 J -8284221.89 -8284221.77 -8284221.62 0.0088 0.0070
 Uranus -27394-05-26 04:33 J -8284090.50 -8284090.31 -8284090.09 0.0135 0.0044
 Jupiter -27394-07-08 18:43 J -8284046.89 -8284046.72 -8284046.56 0.0523 0.0282
 Neptune -27394-08-28 06:14 J -8283996.35 -8283996.24 -8283996.11 0.0088 0.0073
 Uranus -27393-01-07 10:19 J -8283864.28 -8283864.07 -8283863.85 0.0135 0.0025
 Jupiter -27393-03-01 11:31 J -8283810.21 -8283810.02 -8283809.84 0.0515 0.0197
 Neptune -27393-04-09 18:57 J -8283770.81 -8283770.71 -8283770.59 0.0088 0.0076
 Uranus -27393-08-20 15:50 J -8283638.05 -8283637.84 -8283637.62 0.0135 0.0006
 Neptune -27393-11-21 07:40 J -8283545.26 -8283545.18 -8283545.07 0.0088 0.0079
 Uranus -27392-04-03 21:21 J -8283411.82 -8283411.61 -8283411.39 0.0135 0.0015
 Neptune -27392-07-04 20:23 J -8283319.70 -8283319.65 -8283319.55 0.0088 0.0083
 Uranus -27392-11-16 02:52 J -8283185.58 -8283185.38 -8283185.16 0.0136 0.0034
 Neptune -27391-02-15 09:21 J -8283094.15 -8283094.11 -8283094.04 0.0088 0.0085
 Uranus -27391-06-30 08:38 J -8282959.32 -8282959.14 -8282958.93 0.0136 0.0053

Neptune	-27391-09-28 22:19 J	-8282868.57	-8282868.57	-8282868.55	0.0088	0.0088
Uranus	-27390-02-11 14:38 J	-8282733.06	-8282732.89	-8282732.69	0.0136	0.0073
Uranus	-27390-09-25 20:38 J	-8282506.79	-8282506.64	-8282506.47	0.0137	0.0092
Uranus	-27389-05-09 02:38 J	-8282280.50	-8282280.39	-8282280.25	0.0137	0.0111
Uranus	-27389-12-21 08:52 J	-8282054.18	-8282054.13	-8282054.05	0.0137	0.0131
Saturn	-27388-03-27 06:57 J	-8281958.37	-8281958.21	-8281958.03	0.0277	0.0173
Saturn	-27388-11-11 20:09 J	-8281728.87	-8281728.66	-8281728.45	0.0279	0.0042
Jupiter	-27388-12-27 00:43 J	-8281683.67	-8281683.47	-8281683.27	0.0506	0.0148
Saturn	-27387-06-29 11:31 J	-8281499.22	-8281499.02	-8281498.81	0.0281	0.0094
Jupiter	-27387-08-21 11:45 J	-8281446.16	-8281446.01	-8281445.84	0.0515	0.0333
Saturn	-27386-02-14 05:16 J	-8281269.40	-8281269.28	-8281269.16	0.0283	0.0233
Jupiter	-27382-03-13 15:50 J	-8279780.96	-8279780.84	-8279780.72	0.0526	0.0417
Jupiter	-27382-11-05 11:45 J	-8279544.21	-8279544.01	-8279543.81	0.0517	0.0068
Mars	-27378-07-09 10:33 J	-8278202.20	-8278202.06	-8278201.93	0.1753	0.1055
Jupiter	-27376-08-31 19:40 J	-8277417.85	-8277417.68	-8277417.51	0.0504	0.0274
Jupiter	-27375-04-26 04:04 J	-8277180.52	-8277180.33	-8277180.13	0.0512	0.0197
Saturn	-27374-02-01 21:35 J	-8276898.77	-8276898.60	-8276898.42	0.0283	0.0154
Saturn	-27374-09-19 08:38 J	-8276669.34	-8276669.14	-8276668.93	0.0281	0.0020
Mars	-27373-02-19 20:09 J	-8276515.81	-8276515.66	-8276515.50	0.1764	0.0799
Saturn	-27373-05-05 17:31 J	-8276439.96	-8276439.77	-8276439.58	0.0279	0.0111
Saturn	-27373-12-21 00:14 J	-8276210.59	-8276210.49	-8276210.38	0.0277	0.0236
Jupiter	-27370-07-11 11:45 J	-8275278.21	-8275278.01	-8275277.81	0.0520	0.0061
Jupiter	-27369-03-04 00:43 J	-8275041.58	-8275041.47	-8275041.34	0.0511	0.0400
Pluto	-27365-03-04 05:59 J	-8273580.39	-8273580.25	-8273580.08	0.0080	0.0058
Pluto	-27365-10-15 17:31 J	-8273354.99	-8273354.77	-8273354.55	0.0080	0.0018
Jupiter	-27364-05-06 15:07 J	-8273151.99	-8273151.87	-8273151.74	0.0502	0.0395
Jupiter	-27364-12-29 21:21 J	-8272914.82	-8272914.61	-8272914.41	0.0510	0.0064
Saturn	-27359-10-07 07:55 J	-8271172.34	-8271172.17	-8271171.99	0.0277	0.0158
Jupiter	-27358-03-16 10:47 J	-8271012.24	-8271012.05	-8271011.87	0.0522	0.0194
Saturn	-27358-05-24 20:52 J	-8270942.84	-8270942.63	-8270942.42	0.0279	0.0027

Jupiter	-27358-11-08 02:09 J	-8270775.58	-8270775.41	-8270775.24	0.0513	0.0278
Saturn	-27357-01-09 12:14 J	-8270713.19	-8270712.99	-8270712.79	0.0281	0.0110
Uranus	-27357-08-02 23:59 J	-8270506.53	-8270506.50	-8270506.43	0.0145	0.0141
Saturn	-27357-08-26 05:59 J	-8270483.35	-8270483.25	-8270483.15	0.0283	0.0249
Uranus	-27356-03-17 12:57 J	-8270280.08	-8270279.96	-8270279.83	0.0145	0.0117
Uranus	-27356-10-30 01:11 J	-8270053.60	-8270053.45	-8270053.27	0.0145	0.0094
Uranus	-27355-06-13 13:40 J	-8269827.11	-8269826.93	-8269826.72	0.0144	0.0071
Uranus	-27354-01-26 02:23 J	-8269600.61	-8269600.40	-8269600.19	0.0144	0.0046
Uranus	-27354-09-09 14:38 J	-8269374.11	-8269373.89	-8269373.67	0.0144	0.0023
Uranus	-27353-04-23 02:38 J	-8269147.61	-8269147.39	-8269147.17	0.0143	0.0002
Uranus	-27353-12-05 14:38 J	-8268921.10	-8268920.89	-8268920.67	0.0143	0.0025
Uranus	-27352-07-20 02:38 J	-8268694.59	-8268694.39	-8268694.17	0.0143	0.0048
Jupiter	-27352-09-03 16:47 J	-8268649.01	-8268648.80	-8268648.60	0.0508	0.0065
Uranus	-27351-03-03 14:38 J	-8268468.08	-8268467.89	-8268467.70	0.0142	0.0071
Jupiter	-27351-04-29 05:45 J	-8268411.38	-8268411.26	-8268411.14	0.0516	0.0418
Uranus	-27351-10-16 02:23 J	-8268241.57	-8268241.40	-8268241.24	0.0142	0.0094
Uranus	-27350-05-30 13:26 J	-8268015.05	-8268014.94	-8268014.80	0.0142	0.0116
Uranus	-27349-01-12 00:57 J	-8267788.50	-8267788.46	-8267788.40	0.0141	0.0138
Jupiter	-27347-11-19 05:31 J	-8266746.42	-8266746.27	-8266746.11	0.0524	0.0333
Mars	-27346-07-08 12:28 J	-8266515.15	-8266514.98	-8266514.81	0.1763	0.0263
Jupiter	-27346-07-13 23:16 J	-8266509.72	-8266509.53	-8266509.33	0.0516	0.0148
Saturn	-27346-12-28 09:50 J	-8266342.14	-8266342.09	-8266342.03	0.0285	0.0274
Saturn	-27345-08-13 23:31 J	-8266112.70	-8266112.52	-8266112.33	0.0283	0.0136
Saturn	-27344-03-31 10:47 J	-8265883.25	-8265883.05	-8265882.84	0.0281	0.0006
Saturn	-27344-11-15 19:40 J	-8265653.85	-8265653.68	-8265653.49	0.0279	0.0132
Saturn	-27343-07-03 02:38 J	-8265424.46	-8265424.39	-8265424.31	0.0277	0.0256
Mars	-27341-02-19 07:26 J	-8264828.35	-8264828.19	-8264828.02	0.1754	0.0718
Jupiter	-27340-05-09 11:45 J	-8264383.20	-8264383.01	-8264382.82	0.0505	0.0193
Neptune	-27340-05-19 23:02 J	-8264372.59	-8264372.54	-8264372.49	0.0088	0.0086
Neptune	-27340-12-31 12:43 J	-8264147.04	-8264146.97	-8264146.89	0.0088	0.0083

Jupiter -27339-01-01 22:19 J -8264145.75 -8264145.57 -8264145.40 0.0514 0.0284
 Neptune -27339-08-14 02:38 J -8263921.48 -8263921.39 -8263921.29 0.0088 0.0080
 Neptune -27338-03-27 16:19 J -8263695.92 -8263695.82 -8263695.70 0.0088 0.0077
 Neptune -27338-11-08 06:14 J -8263470.35 -8263470.24 -8263470.11 0.0088 0.0074
 Neptune -27337-06-20 19:55 J -8263244.79 -8263244.67 -8263244.52 0.0088 0.0071
 Neptune -27336-02-01 09:35 J -8263019.23 -8263019.10 -8263018.94 0.0088 0.0068
 Neptune -27336-09-14 23:16 J -8262793.66 -8262793.53 -8262793.36 0.0088 0.0065
 Neptune -27335-04-28 13:26 J -8262568.10 -8262567.94 -8262567.77 0.0088 0.0061
 Jupiter -27335-07-25 01:26 J -8262480.53 -8262480.44 -8262480.35 0.0526 0.0468
 Neptune -27335-12-10 03:07 J -8262342.53 -8262342.37 -8262342.19 0.0089 0.0058
 Jupiter -27334-03-18 22:04 J -8262243.78 -8262243.58 -8262243.38 0.0518 0.0016
 Neptune -27334-07-23 16:33 J -8262116.97 -8262116.81 -8262116.62 0.0089 0.0055
 Jupiter -27334-11-10 09:35 J -8262007.17 -8262007.10 -8262007.01 0.0510 0.0468
 Neptune -27333-03-05 06:43 J -8261891.40 -8261891.22 -8261891.04 0.0089 0.0051
 Neptune -27333-10-16 20:09 J -8261665.83 -8261665.66 -8261665.46 0.0089 0.0048
 Neptune -27332-05-30 09:50 J -8261440.27 -8261440.09 -8261439.88 0.0089 0.0045
 Neptune -27331-01-10 23:45 J -8261214.70 -8261214.51 -8261214.31 0.0089 0.0041
 Neptune -27331-08-24 13:11 J -8260989.14 -8260988.95 -8260988.73 0.0089 0.0038
 Neptune -27330-04-07 03:07 J -8260763.57 -8260763.37 -8260763.16 0.0089 0.0034
 Saturn -27330-09-02 05:16 J -8260615.34 -8260615.28 -8260615.19 0.0275 0.0259
 Neptune -27330-11-18 16:47 J -8260538.00 -8260537.80 -8260537.58 0.0089 0.0031
 Saturn -27329-04-18 16:19 J -8260386.00 -8260385.82 -8260385.62 0.0277 0.0134
 Neptune -27329-07-01 06:43 J -8260312.43 -8260312.22 -8260312.01 0.0089 0.0027
 Saturn -27329-12-04 05:59 J -8260156.47 -8260156.25 -8260156.04 0.0279 0.0006
 Jupiter -27328-01-12 05:45 J -8260117.42 -8260117.26 -8260117.10 0.0503 0.0319
 Neptune -27328-02-11 20:09 J -8260086.87 -8260086.66 -8260086.43 0.0089 0.0024
 Saturn -27328-07-21 21:35 J -8259926.78 -8259926.60 -8259926.41 0.0281 0.0136
 Jupiter -27328-09-06 13:11 J -8259880.15 -8259879.95 -8259879.75 0.0511 0.0147
 Neptune -27328-09-25 10:04 J -8259861.29 -8259861.08 -8259860.86 0.0089 0.0020
 Saturn -27327-03-08 15:35 J -8259696.89 -8259696.85 -8259696.79 0.0283 0.0275

Neptune	-27327-05-08 23:45 J	-8259635.72	-8259635.51	-8259635.28	0.0089	0.0016
Neptune	-27327-12-20 13:40 J	-8259410.15	-8259409.93	-8259409.71	0.0089	0.0013
Neptune	-27326-08-03 03:07 J	-8259184.59	-8259184.37	-8259184.14	0.0089	0.0010
Neptune	-27325-03-15 16:47 J	-8258959.02	-8258958.80	-8258958.57	0.0089	0.0006
Neptune	-27325-10-27 06:43 J	-8258733.44	-8258733.22	-8258733.00	0.0089	0.0002
Neptune	-27324-06-09 20:23 J	-8258507.88	-8258507.65	-8258507.43	0.0089	0.0002
Neptune	-27323-01-21 09:50 J	-8258282.31	-8258282.09	-8258281.87	0.0089	0.0005
Neptune	-27323-09-03 23:16 J	-8258056.75	-8258056.53	-8258056.30	0.0089	0.0009
Jupiter	-27323-11-21 20:52 J	-8257977.83	-8257977.63	-8257977.44	0.0521	0.0117
Neptune	-27322-04-17 12:57 J	-8257831.18	-8257830.96	-8257830.74	0.0089	0.0012
Jupiter	-27322-07-16 11:16 J	-8257741.18	-8257741.03	-8257740.89	0.0512	0.0350
Neptune	-27322-11-29 02:23 J	-8257605.61	-8257605.40	-8257605.17	0.0089	0.0016
Neptune	-27321-07-11 16:04 J	-8257380.05	-8257379.83	-8257379.61	0.0089	0.0019
Neptune	-27320-02-22 05:16 J	-8257154.48	-8257154.28	-8257154.05	0.0089	0.0023
Neptune	-27320-10-05 18:57 J	-8256928.92	-8256928.71	-8256928.49	0.0089	0.0026
Neptune	-27319-05-19 08:09 J	-8256703.35	-8256703.16	-8256702.93	0.0089	0.0030
Moon	-27319-10-27 20:38 J	-8256541.74	-8256541.64	-8256541.54	0.2627	0.2032
Earth	-27319-10-28 02:38 J	-8256541.46	-8256541.39	-8256541.31	0.2626	0.2305
Neptune	-27319-12-30 21:50 J	-8256477.79	-8256477.59	-8256477.37	0.0089	0.0033
Neptune	-27318-08-13 11:31 J	-8256252.22	-8256252.02	-8256251.82	0.0089	0.0036
Neptune	-27317-03-26 00:28 J	-8256026.66	-8256026.48	-8256026.26	0.0089	0.0040
Jupiter	-27317-09-17 01:26 J	-8255851.53	-8255851.44	-8255851.33	0.0501	0.0439
Neptune	-27317-11-06 14:09 J	-8255801.09	-8255800.91	-8255800.70	0.0089	0.0043
Jupiter	-27316-05-12 06:14 J	-8255614.45	-8255614.24	-8255614.03	0.0509	0.0014
Neptune	-27316-06-20 03:21 J	-8255575.52	-8255575.36	-8255575.15	0.0089	0.0047
Saturn	-27316-07-09 16:47 J	-8255555.88	-8255555.80	-8255555.69	0.0284	0.0252
Jupiter	-27315-01-04 20:09 J	-8255376.72	-8255376.66	-8255376.60	0.0517	0.0494
Neptune	-27315-01-31 17:02 J	-8255349.96	-8255349.79	-8255349.59	0.0089	0.0050
Saturn	-27315-02-24 06:14 J	-8255326.43	-8255326.24	-8255326.05	0.0282	0.0114
Neptune	-27315-09-14 06:28 J	-8255124.40	-8255124.23	-8255124.04	0.0089	0.0053

Saturn -27315-10-11 17:02 J -8255097.00 -8255096.79 -8255096.58 0.0280 0.0021
 Neptune -27314-04-27 19:55 J -8254898.83 -8254898.67 -8254898.49 0.0089 0.0056
 Saturn -27314-05-29 01:40 J -8254867.60 -8254867.43 -8254867.25 0.0278 0.0151
 Mars -27314-07-07 15:21 J -8254827.93 -8254827.86 -8254827.80 0.1773 0.1621
 Neptune -27314-12-09 09:07 J -8254673.26 -8254673.12 -8254672.93 0.0089 0.0060
 Saturn -27313-01-13 07:55 J -8254638.18 -8254638.17 -8254638.13 0.0277 0.0274
 Neptune -27313-07-21 22:33 J -8254447.70 -8254447.56 -8254447.38 0.0089 0.0063
 Uranus -27313-08-01 19:55 J -8254436.74 -8254436.67 -8254436.57 0.0133 0.0124
 Neptune -27312-03-04 11:59 J -8254222.13 -8254222.00 -8254221.84 0.0089 0.0066
 Uranus -27312-03-16 00:57 J -8254210.57 -8254210.46 -8254210.31 0.0134 0.0106
 Mars -27312-05-05 19:55 J -8254159.79 -8254159.67 -8254159.55 0.1749 0.1221
 Neptune -27312-10-16 01:11 J -8253996.57 -8253996.45 -8253996.29 0.0089 0.0069
 Uranus -27312-10-28 06:28 J -8253984.38 -8253984.23 -8253984.06 0.0134 0.0087
 Neptune -27311-05-29 14:38 J -8253771.00 -8253770.89 -8253770.75 0.0089 0.0072
 Uranus -27311-06-11 11:59 J -8253758.18 -8253758.00 -8253757.81 0.0134 0.0068
 Jupiter -27311-07-27 19:26 J -8253711.86 -8253711.69 -8253711.51 0.0523 0.0248
 Moon -27311-10-25 13:26 J -8253622.07 -8253621.94 -8253621.81 0.2631 0.1463
 Earth -27311-10-25 16:47 J -8253621.95 -8253621.80 -8253621.66 0.2625 0.1217 *
 Neptune -27310-01-10 03:50 J -8253545.44 -8253545.34 -8253545.20 0.0089 0.0076
 Uranus -27310-01-23 17:31 J -8253531.97 -8253531.77 -8253531.57 0.0134 0.0050
 Jupiter -27310-03-21 12:28 J -8253475.16 -8253474.98 -8253474.80 0.0515 0.0228
 Neptune -27310-08-23 17:02 J -8253319.87 -8253319.79 -8253319.67 0.0089 0.0078
 Uranus -27310-09-06 22:47 J -8253305.75 -8253305.55 -8253305.33 0.0135 0.0031
 Neptune -27309-04-05 06:14 J -8253094.31 -8253094.24 -8253094.13 0.0089 0.0081
 Uranus -27309-04-20 04:19 J -8253079.53 -8253079.32 -8253079.10 0.0135 0.0012
 Neptune -27309-11-16 19:26 J -8252868.74 -8252868.69 -8252868.60 0.0089 0.0084
 Uranus -27309-12-02 09:50 J -8252853.30 -8252853.09 -8252852.87 0.0135 0.0008
 Neptune -27308-06-30 08:23 J -8252643.17 -8252643.15 -8252643.07 0.0089 0.0087
 Uranus -27308-07-16 15:21 J -8252627.06 -8252626.86 -8252626.64 0.0136 0.0028
 Mars -27308-12-17 02:09 J -8252473.55 -8252473.41 -8252473.27 0.1767 0.1034

Uranus	-27307-02-27 21:07 J	-8252400.81	-8252400.62	-8252400.41	0.0136	0.0047
Uranus	-27307-10-12 02:52 J	-8252174.56	-8252174.38	-8252174.19	0.0136	0.0066
Uranus	-27306-05-26 08:52 J	-8251948.29	-8251948.13	-8251947.96	0.0136	0.0086
Uranus	-27305-01-07 15:07 J	-8251722.01	-8251721.87	-8251721.74	0.0137	0.0105
Uranus	-27305-08-20 20:38 J	-8251495.71	-8251495.64	-8251495.53	0.0137	0.0125
Jupiter	-27304-01-14 23:59 J	-8251348.70	-8251348.50	-8251348.30	0.0506	0.0117
Jupiter	-27304-09-09 11:45 J	-8251111.15	-8251111.01	-8251110.86	0.0515	0.0362
Saturn	-27300-03-14 07:26 J	-8249829.29	-8249829.19	-8249829.09	0.0276	0.0242
Saturn	-27300-10-29 18:14 J	-8249599.92	-8249599.74	-8249599.54	0.0278	0.0117
Jupiter	-27299-04-01 17:16 J	-8249445.91	-8249445.78	-8249445.64	0.0526	0.0382
Saturn	-27299-06-16 07:55 J	-8249370.39	-8249370.17	-8249369.96	0.0279	0.0016
Jupiter	-27299-11-24 12:43 J	-8249209.17	-8249208.97	-8249208.78	0.0517	0.0101
Saturn	-27298-01-31 23:31 J	-8249140.70	-8249140.52	-8249140.34	0.0281	0.0153
Jupiter	-27293-09-19 20:23 J	-8247082.84	-8247082.65	-8247082.47	0.0504	0.0242
Jupiter	-27292-05-15 05:45 J	-8246845.45	-8246845.26	-8246845.08	0.0513	0.0231
Jupiter	-27288-12-05 11:45 J	-8245180.05	-8245180.01	-8245179.98	0.0527	0.0518
Jupiter	-27287-07-30 09:07 J	-8244943.32	-8244943.12	-8244942.92	0.0519	0.0036
Saturn	-27286-01-19 19:40 J	-8244769.80	-8244769.68	-8244769.56	0.0285	0.0233
Jupiter	-27286-03-23 21:35 J	-8244706.70	-8244706.60	-8244706.48	0.0510	0.0422
Saturn	-27286-09-06 08:52 J	-8244540.33	-8244540.13	-8244539.93	0.0283	0.0095
Saturn	-27285-04-22 19:40 J	-8244310.89	-8244310.68	-8244310.47	0.0281	0.0040
Saturn	-27285-12-08 04:19 J	-8244081.48	-8244081.32	-8244081.15	0.0279	0.0170
Jupiter	-27281-05-25 16:04 J	-8242816.97	-8242816.83	-8242816.68	0.0502	0.0364
Jupiter	-27280-01-17 22:47 J	-8242579.75	-8242579.55	-8242579.34	0.0510	0.0098
Mars	-27280-05-04 21:50 J	-8242472.76	-8242472.59	-8242472.42	0.1760	0.0083
Mars	-27276-12-16 13:55 J	-8240786.09	-8240785.92	-8240785.74	0.1757	0.0499
Jupiter	-27275-04-04 06:43 J	-8240677.41	-8240677.22	-8240677.03	0.0522	0.0169
Jupiter	-27275-11-26 21:35 J	-8240440.76	-8240440.60	-8240440.43	0.0513	0.0300
Uranus	-27273-11-14 19:11 J	-8239721.79	-8239721.70	-8239721.58	0.0145	0.0128
Uranus	-27272-06-29 08:09 J	-8239495.31	-8239495.16	-8239495.00	0.0145	0.0104

Uranus	-27271-02-10 20:23 J	-8239268.82	-8239268.65	-8239268.45	0.0145	0.0081
Saturn	-27271-09-24 16:19 J	-8239042.94	-8239042.82	-8239042.68	0.0276	0.0219
Uranus	-27271-09-25 08:52 J	-8239042.32	-8239042.13	-8239041.92	0.0144	0.0057
Uranus	-27270-05-09 21:21 J	-8238815.82	-8238815.61	-8238815.39	0.0144	0.0032
Saturn	-27270-05-12 03:50 J	-8238813.54	-8238813.34	-8238813.14	0.0278	0.0091
Uranus	-27270-12-22 09:35 J	-8238589.32	-8238589.10	-8238588.88	0.0144	0.0008
Saturn	-27270-12-27 17:31 J	-8238583.98	-8238583.77	-8238583.55	0.0280	0.0043
Jupiter	-27269-01-29 11:16 J	-8238551.08	-8238551.03	-8238550.97	0.0500	0.0482
Uranus	-27269-08-04 21:50 J	-8238362.81	-8238362.59	-8238362.37	0.0143	0.0015
Saturn	-27269-08-13 09:50 J	-8238354.25	-8238354.09	-8238353.92	0.0282	0.0180
Jupiter	-27269-09-22 15:07 J	-8238314.08	-8238313.87	-8238313.66	0.0508	0.0037
Uranus	-27268-03-19 09:35 J	-8238136.30	-8238136.10	-8238135.88	0.0143	0.0039
Jupiter	-27268-05-18 03:50 J	-8238076.44	-8238076.34	-8238076.23	0.0516	0.0443
Uranus	-27268-10-31 21:21 J	-8237909.79	-8237909.61	-8237909.40	0.0143	0.0063
Uranus	-27267-06-15 09:07 J	-8237683.28	-8237683.12	-8237682.93	0.0142	0.0086
Uranus	-27266-01-27 20:52 J	-8237456.76	-8237456.63	-8237456.48	0.0142	0.0108
Uranus	-27266-09-11 08:38 J	-8237230.23	-8237230.14	-8237230.06	0.0142	0.0130
Jupiter	-27264-12-08 03:35 J	-8236411.51	-8236411.35	-8236411.19	0.0524	0.0304
Jupiter	-27263-08-01 21:50 J	-8236174.78	-8236174.59	-8236174.41	0.0516	0.0175
Neptune	-27260-08-28 06:28 J	-8235052.25	-8235052.23	-8235052.17	0.0089	0.0087
Neptune	-27259-04-10 18:57 J	-8234826.76	-8234826.71	-8234826.63	0.0089	0.0084
Neptune	-27259-11-22 06:57 J	-8234601.27	-8234601.21	-8234601.10	0.0089	0.0082
Neptune	-27258-07-05 19:11 J	-8234375.78	-8234375.70	-8234375.58	0.0089	0.0079
Neptune	-27257-02-16 07:26 J	-8234150.28	-8234150.19	-8234150.06	0.0089	0.0076
Jupiter	-27257-05-28 09:07 J	-8234048.32	-8234048.12	-8234047.93	0.0505	0.0166
Saturn	-27257-08-01 03:35 J	-8233983.49	-8233983.35	-8233983.20	0.0284	0.0209
Neptune	-27257-09-28 19:40 J	-8233924.78	-8233924.68	-8233924.54	0.0089	0.0073
Jupiter	-27256-01-20 19:11 J	-8233810.86	-8233810.70	-8233810.53	0.0514	0.0308
Saturn	-27256-03-18 16:19 J	-8233754.02	-8233753.82	-8233753.61	0.0282	0.0072
Neptune	-27256-05-12 07:55 J	-8233699.28	-8233699.17	-8233699.02	0.0089	0.0070

Saturn -27256-11-03 02:38 J -8233524.59 -8233524.39 -8233524.18 0.0280 0.0063
 Neptune -27256-12-23 20:09 J -8233473.78 -8233473.66 -8233473.50 0.0089 0.0067
 Saturn -27255-06-20 10:47 J -8233295.19 -8233295.05 -8233294.89 0.0278 0.0191
 Neptune -27255-08-06 08:23 J -8233248.28 -8233248.15 -8233247.99 0.0089 0.0064
 Neptune -27254-03-19 20:52 J -8233022.78 -8233022.63 -8233022.47 0.0089 0.0061
 Neptune -27254-10-31 08:52 J -8232797.28 -8232797.13 -8232796.95 0.0089 0.0058
 Neptune -27253-06-12 21:07 J -8232571.77 -8232571.62 -8232571.43 0.0089 0.0055
 Neptune -27252-01-24 09:21 J -8232346.27 -8232346.11 -8232345.92 0.0089 0.0052
 Jupiter -27252-08-13 00:57 J -8232145.57 -8232145.46 -8232145.35 0.0527 0.0437
 Neptune -27252-09-06 21:35 J -8232120.76 -8232120.60 -8232120.40 0.0089 0.0049
 Jupiter -27251-04-06 21:50 J -8231908.79 -8231908.59 -8231908.39 0.0518 0.0048
 Neptune -27251-04-20 10:04 J -8231895.25 -8231895.08 -8231894.87 0.0089 0.0046
 Jupiter -27251-11-29 09:35 J -8231672.14 -8231672.10 -8231672.05 0.0509 0.0494
 Neptune -27251-12-01 22:47 J -8231669.74 -8231669.55 -8231669.36 0.0089 0.0042
 Neptune -27250-07-15 11:02 J -8231444.23 -8231444.04 -8231443.84 0.0089 0.0039
 Neptune -27249-02-25 23:16 J -8231218.72 -8231218.53 -8231218.33 0.0089 0.0036
 Neptune -27249-10-08 11:31 J -8230993.21 -8230993.02 -8230992.81 0.0089 0.0033
 Mars -27248-05-04 00:28 J -8230785.58 -8230785.48 -8230785.38 0.1769 0.1431
 Neptune -27248-05-22 00:14 J -8230767.69 -8230767.49 -8230767.29 0.0089 0.0029
 Neptune -27247-01-02 12:28 J -8230542.18 -8230541.98 -8230541.77 0.0089 0.0026
 Neptune -27247-08-16 00:43 J -8230316.67 -8230316.47 -8230316.25 0.0089 0.0022
 Mars -27246-03-03 05:45 J -8230117.36 -8230117.26 -8230117.16 0.1746 0.1384
 Neptune -27246-03-29 13:11 J -8230091.16 -8230090.95 -8230090.74 0.0089 0.0019
 Neptune -27246-11-10 01:26 J -8229865.65 -8229865.44 -8229865.22 0.0089 0.0016
 Jupiter -27245-02-01 03:35 J -8229782.52 -8229782.35 -8229782.18 0.0503 0.0291
 Neptune -27245-06-22 13:40 J -8229640.14 -8229639.93 -8229639.71 0.0089 0.0013
 Jupiter -27245-09-25 11:31 J -8229545.22 -8229545.02 -8229544.82 0.0511 0.0175
 Neptune -27244-02-03 02:09 J -8229414.62 -8229414.41 -8229414.19 0.0089 0.0009
 Neptune -27244-09-16 14:38 J -8229189.11 -8229188.89 -8229188.68 0.0089 0.0006
 Neptune -27243-04-30 03:07 J -8228963.59 -8228963.37 -8228963.16 0.0089 0.0003

Neptune	-27243-12-11 15:21 J	-8228738.07	-8228737.86	-8228737.64	0.0089	0.0002
Neptune	-27242-07-25 03:50 J	-8228512.56	-8228512.34	-8228512.13	0.0088	0.0005
Mars	-27242-10-14 08:52 J	-8228431.26	-8228431.13	-8228431.01	0.1771	0.1252
Neptune	-27241-03-06 16:04 J	-8228287.05	-8228286.83	-8228286.61	0.0088	0.0008
Saturn	-27241-04-05 19:40 J	-8228256.83	-8228256.68	-8228256.53	0.0276	0.0200
Neptune	-27241-10-18 04:19 J	-8228061.53	-8228061.32	-8228061.10	0.0088	0.0012
Saturn	-27241-11-21 06:57 J	-8228027.41	-8228027.21	-8228027.00	0.0278	0.0073
Neptune	-27240-05-31 17:02 J	-8227836.00	-8227835.79	-8227835.57	0.0088	0.0014
Saturn	-27240-07-08 20:52 J	-8227797.83	-8227797.63	-8227797.41	0.0280	0.0062
Jupiter	-27240-12-10 20:52 J	-8227642.82	-8227642.63	-8227642.43	0.0521	0.0085
Neptune	-27239-01-12 05:31 J	-8227610.48	-8227610.27	-8227610.05	0.0088	0.0018
Saturn	-27239-02-23 12:57 J	-8227568.10	-8227567.96	-8227567.80	0.0282	0.0199
Jupiter	-27239-08-04 10:47 J	-8227406.18	-8227406.05	-8227405.91	0.0512	0.0377
Neptune	-27239-08-25 17:45 J	-8227384.96	-8227384.76	-8227384.53	0.0088	0.0022
Neptune	-27238-04-08 06:28 J	-8227159.43	-8227159.23	-8227159.02	0.0088	0.0025
Neptune	-27238-11-19 19:11 J	-8226933.91	-8226933.70	-8226933.50	0.0088	0.0028
Neptune	-27237-07-02 07:26 J	-8226708.38	-8226708.19	-8226707.98	0.0088	0.0031
Neptune	-27236-02-12 19:55 J	-8226482.86	-8226482.67	-8226482.46	0.0088	0.0035
Neptune	-27236-09-26 08:38 J	-8226257.33	-8226257.14	-8226256.94	0.0088	0.0038
Neptune	-27235-05-09 21:21 J	-8226031.80	-8226031.61	-8226031.41	0.0088	0.0041
Neptune	-27235-12-21 09:35 J	-8225806.27	-8225806.10	-8225805.89	0.0088	0.0045
Neptune	-27234-08-03 22:04 J	-8225580.74	-8225580.58	-8225580.38	0.0088	0.0048
Jupiter	-27234-10-07 00:28 J	-8225516.59	-8225516.48	-8225516.35	0.0501	0.0409
Neptune	-27233-03-16 10:47 J	-8225355.22	-8225355.05	-8225354.86	0.0088	0.0051
Jupiter	-27233-05-31 05:59 J	-8225279.46	-8225279.25	-8225279.04	0.0509	0.0044
Neptune	-27233-10-27 23:31 J	-8225129.69	-8225129.52	-8225129.34	0.0088	0.0053
Neptune	-27232-06-10 12:14 J	-8224904.15	-8224903.99	-8224903.82	0.0088	0.0057
Neptune	-27231-01-22 00:57 J	-8224678.62	-8224678.46	-8224678.30	0.0088	0.0060
Neptune	-27231-09-04 13:40 J	-8224453.09	-8224452.93	-8224452.78	0.0088	0.0063
Neptune	-27230-04-18 02:09 J	-8224227.55	-8224227.41	-8224227.26	0.0088	0.0066

Neptune	-27230-11-29 14:52 J	-8224002.02	-8224001.88	-8224001.74	0.0088	0.0069
Uranus	-27229-04-01 09:21 J	-8223878.15	-8223878.11	-8223878.06	0.0133	0.0130
Neptune	-27229-07-12 03:35 J	-8223776.48	-8223776.35	-8223776.22	0.0088	0.0072
Uranus	-27229-11-13 14:23 J	-8223652.00	-8223651.90	-8223651.77	0.0134	0.0112
Neptune	-27228-02-22 16:04 J	-8223550.94	-8223550.83	-8223550.71	0.0088	0.0075
Uranus	-27228-06-27 19:40 J	-8223425.82	-8223425.68	-8223425.51	0.0134	0.0094
Jupiter	-27228-08-15 17:02 J	-8223376.97	-8223376.79	-8223376.61	0.0523	0.0221
Neptune	-27228-10-06 04:47 J	-8223325.39	-8223325.30	-8223325.19	0.0088	0.0078
Uranus	-27227-02-09 00:57 J	-8223199.62	-8223199.46	-8223199.26	0.0134	0.0075
Saturn	-27227-02-11 06:28 J	-8223197.38	-8223197.23	-8223197.07	0.0284	0.0191
Jupiter	-27227-04-09 09:07 J	-8223140.29	-8223140.12	-8223139.95	0.0514	0.0251
Neptune	-27227-05-19 17:31 J	-8223099.84	-8223099.77	-8223099.67	0.0088	0.0080
Uranus	-27227-09-23 06:28 J	-8222973.42	-8222973.23	-8222973.03	0.0134	0.0056
Saturn	-27227-09-28 19:11 J	-8222967.91	-8222967.70	-8222967.49	0.0282	0.0053
Neptune	-27227-12-31 06:14 J	-8222874.29	-8222874.24	-8222874.15	0.0088	0.0083
Uranus	-27226-05-07 11:59 J	-8222747.21	-8222747.00	-8222746.79	0.0135	0.0037
Saturn	-27226-05-16 05:45 J	-8222738.46	-8222738.26	-8222738.06	0.0280	0.0082
Neptune	-27226-08-13 18:43 J	-8222648.74	-8222648.72	-8222648.64	0.0088	0.0087
Uranus	-27226-12-19 17:31 J	-8222520.98	-8222520.77	-8222520.56	0.0135	0.0018
Saturn	-27226-12-31 13:40 J	-8222509.05	-8222508.93	-8222508.78	0.0279	0.0211
Uranus	-27225-08-01 23:02 J	-8222294.76	-8222294.54	-8222294.32	0.0135	0.0002
Uranus	-27224-03-16 04:33 J	-8222068.52	-8222068.31	-8222068.10	0.0135	0.0021
Uranus	-27224-10-28 10:04 J	-8221842.28	-8221842.08	-8221841.87	0.0136	0.0041
Uranus	-27223-06-11 15:50 J	-8221616.03	-8221615.84	-8221615.64	0.0136	0.0060
Uranus	-27222-01-23 21:35 J	-8221389.76	-8221389.60	-8221389.41	0.0136	0.0080
Uranus	-27222-09-07 03:35 J	-8221163.48	-8221163.35	-8221163.19	0.0137	0.0100
Jupiter	-27221-02-04 00:14 J	-8221013.70	-8221013.49	-8221013.29	0.0507	0.0086
Uranus	-27221-04-20 09:35 J	-8220937.19	-8220937.10	-8220936.98	0.0137	0.0119
Jupiter	-27221-09-28 12:28 J	-8220776.11	-8220775.98	-8220775.84	0.0515	0.0393
Jupiter	-27216-04-20 13:11 J	-8219111.09	-8219110.95	-8219110.80	0.0525	0.0356

Jupiter	-27216-12-13 07:55 J	-8218874.37	-8218874.17	-8218873.98	0.0516	0.0123
Mars	-27214-03-02 06:57 J	-8218430.38	-8218430.21	-8218430.04	0.1756	0.0102
Saturn	-27212-10-17 04:33 J	-8217470.47	-8217470.31	-8217470.14	0.0276	0.0177
Saturn	-27211-06-03 16:47 J	-8217241.01	-8217240.80	-8217240.59	0.0278	0.0048
Saturn	-27210-01-19 06:57 J	-8217011.41	-8217011.21	-8217011.00	0.0280	0.0087
Saturn	-27210-09-05 23:31 J	-8216781.64	-8216781.52	-8216781.38	0.0282	0.0225
Jupiter	-27210-10-09 17:45 J	-8216747.95	-8216747.76	-8216747.57	0.0504	0.0214
Mars	-27210-10-13 20:52 J	-8216743.81	-8216743.63	-8216743.45	0.1760	0.0285
Jupiter	-27209-06-03 02:52 J	-8216510.56	-8216510.38	-8216510.20	0.0513	0.0256
Pluto	-27208-12-19 07:26 J	-8215946.34	-8215946.19	-8215946.01	0.0064	0.0043
Pluto	-27207-08-01 11:16 J	-8215721.24	-8215721.03	-8215720.81	0.0065	0.0005
Pluto	-27206-03-14 15:07 J	-8215496.05	-8215495.87	-8215495.68	0.0065	0.0034
Jupiter	-27205-12-24 08:23 J	-8214845.22	-8214845.15	-8214845.08	0.0528	0.0491
Jupiter	-27204-08-18 06:14 J	-8214608.44	-8214608.24	-8214608.04	0.0519	0.0009
Jupiter	-27203-04-11 19:11 J	-8214371.79	-8214371.70	-8214371.60	0.0511	0.0445
Jupiter	-27198-06-14 12:43 J	-8212482.12	-8212481.97	-8212481.82	0.0502	0.0337
Saturn	-27198-08-24 15:50 J	-8212411.00	-8212410.84	-8212410.66	0.0284	0.0165
Jupiter	-27197-02-06 18:57 J	-8212244.91	-8212244.71	-8212244.51	0.0510	0.0122
Saturn	-27197-04-10 04:04 J	-8212181.54	-8212181.33	-8212181.12	0.0282	0.0028
Saturn	-27197-11-25 14:09 J	-8211952.11	-8211951.91	-8211951.72	0.0280	0.0105
Saturn	-27196-07-12 21:35 J	-8211722.70	-8211722.60	-8211722.48	0.0278	0.0232
Jupiter	-27192-04-23 05:02 J	-8210342.48	-8210342.29	-8210342.09	0.0522	0.0140
Jupiter	-27192-12-15 20:23 J	-8210105.80	-8210105.65	-8210105.49	0.0513	0.0327
Uranus	-27189-07-15 04:19 J	-8209163.37	-8209163.32	-8209163.23	0.0145	0.0138
Uranus	-27188-02-26 17:16 J	-8208936.91	-8208936.78	-8208936.65	0.0145	0.0113
Uranus	-27188-10-11 05:31 J	-8208710.43	-8208710.27	-8208710.09	0.0145	0.0090
Uranus	-27187-05-25 17:59 J	-8208483.94	-8208483.75	-8208483.55	0.0144	0.0066
Uranus	-27186-01-07 06:28 J	-8208257.44	-8208257.23	-8208257.02	0.0144	0.0041
Jupiter	-27186-02-17 08:09 J	-8208216.24	-8208216.16	-8208216.08	0.0500	0.0455
Uranus	-27186-08-21 18:43 J	-8208030.94	-8208030.72	-8208030.50	0.0144	0.0017

Jupiter	-27186-10-12 11:59 J	-8207979.21	-8207979.00	-8207978.79	0.0508	0.0011
Uranus	-27185-04-04 06:43 J	-8207804.43	-8207804.22	-8207803.99	0.0144	0.0008
Jupiter	-27185-06-06 01:11 J	-8207741.53	-8207741.45	-8207741.36	0.0517	0.0468
Uranus	-27185-11-16 18:43 J	-8207577.93	-8207577.72	-8207577.50	0.0143	0.0031
Uranus	-27184-07-01 06:57 J	-8207351.41	-8207351.21	-8207351.01	0.0143	0.0054
Uranus	-27183-02-12 18:28 J	-8207124.90	-8207124.73	-8207124.53	0.0143	0.0078
Uranus	-27183-09-27 06:14 J	-8206898.39	-8206898.24	-8206898.08	0.0142	0.0101
Mars	-27182-03-01 09:07 J	-8206743.24	-8206743.12	-8206743.00	0.1766	0.1229
Saturn	-27182-04-29 09:07 J	-8206684.29	-8206684.12	-8206683.94	0.0277	0.0158
Uranus	-27182-05-11 17:31 J	-8206671.86	-8206671.77	-8206671.65	0.0142	0.0123
Saturn	-27182-12-14 21:21 J	-8206454.83	-8206454.61	-8206454.40	0.0278	0.0027
Saturn	-27181-07-31 11:45 J	-8206225.21	-8206225.01	-8206224.81	0.0280	0.0108
Jupiter	-27181-12-27 03:07 J	-8206076.54	-8206076.37	-8206076.20	0.0524	0.0273
Mars	-27181-12-28 15:21 J	-8206074.93	-8206074.86	-8206074.78	0.1743	0.1545
Saturn	-27180-03-18 04:19 J	-8205995.42	-8205995.32	-8205995.21	0.0282	0.0246
Jupiter	-27180-08-20 20:52 J	-8205839.81	-8205839.63	-8205839.45	0.0515	0.0203
Neptune	-27176-01-07 14:38 J	-8204603.90	-8204603.89	-8204603.85	0.0088	0.0088
Mars	-27176-08-10 14:23 J	-8204388.99	-8204388.90	-8204388.80	0.1774	0.1493
Neptune	-27176-08-21 04:33 J	-8204378.36	-8204378.31	-8204378.24	0.0088	0.0085
Neptune	-27175-04-03 18:43 J	-8204152.80	-8204152.72	-8204152.64	0.0088	0.0082
Neptune	-27175-11-15 07:55 J	-8203927.24	-8203927.17	-8203927.04	0.0088	0.0080
Jupiter	-27174-06-17 07:11 J	-8203713.40	-8203713.20	-8203713.00	0.0506	0.0137
Neptune	-27174-06-28 21:50 J	-8203701.68	-8203701.59	-8203701.45	0.0088	0.0076
Neptune	-27173-02-09 11:31 J	-8203476.12	-8203476.02	-8203475.87	0.0088	0.0074
Jupiter	-27173-02-09 17:59 J	-8203475.90	-8203475.75	-8203475.59	0.0514	0.0338 *
Neptune	-27173-09-22 01:40 J	-8203250.55	-8203250.43	-8203250.27	0.0088	0.0070
Neptune	-27172-05-05 15:21 J	-8203024.98	-8203024.86	-8203024.69	0.0088	0.0068
Neptune	-27172-12-17 05:16 J	-8202799.41	-8202799.28	-8202799.10	0.0088	0.0065
Neptune	-27171-07-30 19:26 J	-8202573.85	-8202573.69	-8202573.52	0.0088	0.0061
Neptune	-27170-03-13 09:07 J	-8202348.28	-8202348.12	-8202347.94	0.0088	0.0058

Neptune	-27170-10-24 23:02 J	-8202122.71	-8202122.54	-8202122.36	0.0088	0.0055
Neptune	-27169-06-06 12:43 J	-8201897.14	-8201896.97	-8201896.78	0.0089	0.0052
Jupiter	-27169-08-31 22:33 J	-8201810.68	-8201810.56	-8201810.43	0.0526	0.0409
Neptune	-27168-01-18 02:09 J	-8201671.58	-8201671.41	-8201671.20	0.0089	0.0049
Saturn	-27168-03-05 18:43 J	-8201624.89	-8201624.72	-8201624.53	0.0284	0.0147
Jupiter	-27168-04-25 18:28 J	-8201573.92	-8201573.73	-8201573.53	0.0517	0.0072
Neptune	-27168-08-31 16:19 J	-8201446.01	-8201445.82	-8201445.63	0.0089	0.0045
Saturn	-27168-10-21 06:57 J	-8201395.41	-8201395.21	-8201395.00	0.0282	0.0011
Neptune	-27167-04-14 05:45 J	-8201220.44	-8201220.26	-8201220.05	0.0089	0.0042
Saturn	-27167-06-07 16:47 J	-8201165.98	-8201165.80	-8201165.61	0.0280	0.0124
Neptune	-27167-11-25 19:26 J	-8200994.87	-8200994.69	-8200994.47	0.0089	0.0039
Saturn	-27166-01-23 00:43 J	-8200936.55	-8200936.47	-8200936.38	0.0278	0.0250
Neptune	-27166-07-09 09:35 J	-8200769.31	-8200769.10	-8200768.90	0.0089	0.0035
Neptune	-27165-02-19 23:02 J	-8200543.74	-8200543.54	-8200543.33	0.0089	0.0032
Earth	-27165-04-25 10:04 J	-8200478.24	-8200478.08	-8200477.93	0.2708	0.0395
Moon	-27165-04-25 15:21 J	-8200478.02	-8200477.86	-8200477.71	0.2707	0.0767 *
Neptune	-27165-10-02 12:43 J	-8200318.17	-8200317.97	-8200317.75	0.0089	0.0029
Neptune	-27164-05-16 02:38 J	-8200092.60	-8200092.39	-8200092.17	0.0089	0.0025
Neptune	-27164-12-27 16:04 J	-8199867.04	-8199866.83	-8199866.60	0.0089	0.0022
Neptune	-27163-08-10 05:45 J	-8199641.47	-8199641.26	-8199641.03	0.0089	0.0019
Jupiter	-27162-02-20 02:09 J	-8199447.58	-8199447.41	-8199447.23	0.0504	0.0263
Neptune	-27162-03-23 19:40 J	-8199415.90	-8199415.68	-8199415.46	0.0089	0.0015
Jupiter	-27162-10-15 11:02 J	-8199210.23	-8199210.04	-8199209.85	0.0512	0.0204
Neptune	-27162-11-04 09:21 J	-8199190.33	-8199190.11	-8199189.88	0.0089	0.0011
Neptune	-27161-06-16 23:02 J	-8198964.76	-8198964.54	-8198964.31	0.0089	0.0008
Neptune	-27160-01-28 12:43 J	-8198739.19	-8198738.97	-8198738.75	0.0089	0.0005
Neptune	-27160-09-11 02:23 J	-8198513.62	-8198513.40	-8198513.18	0.0089	0.0001
Neptune	-27159-04-24 16:04 J	-8198288.05	-8198287.83	-8198287.61	0.0089	0.0002
Neptune	-27159-12-06 05:45 J	-8198062.48	-8198062.26	-8198062.04	0.0089	0.0006
Neptune	-27158-07-19 19:11 J	-8197836.92	-8197836.70	-8197836.47	0.0089	0.0009

Neptune	-27157-03-01 08:38 J	-8197611.35	-8197611.14	-8197610.91	0.0089	0.0013
Moon	-27157-04-23 04:47 J	-8197558.36	-8197558.30	-8197558.24	0.2703	0.2506
Neptune	-27157-10-12 22:19 J	-8197385.78	-8197385.57	-8197385.35	0.0089	0.0016
Jupiter	-27157-12-29 16:04 J	-8197308.02	-8197307.83	-8197307.63	0.0520	0.0062
Neptune	-27156-05-26 11:59 J	-8197160.22	-8197160.00	-8197159.78	0.0089	0.0019
Jupiter	-27156-08-23 05:31 J	-8197071.39	-8197071.27	-8197071.14	0.0511	0.0396
Neptune	-27155-01-07 01:11 J	-8196934.65	-8196934.45	-8196934.22	0.0089	0.0023
Neptune	-27155-08-20 14:52 J	-8196709.09	-8196708.88	-8196708.67	0.0089	0.0026
Neptune	-27154-04-03 04:19 J	-8196483.53	-8196483.32	-8196483.11	0.0089	0.0029
Neptune	-27154-11-14 17:31 J	-8196257.96	-8196257.77	-8196257.55	0.0089	0.0033
Saturn	-27153-03-24 07:40 J	-8196127.23	-8196127.18	-8196127.09	0.0275	0.0259
Neptune	-27153-06-27 07:11 J	-8196032.40	-8196032.20	-8196031.99	0.0089	0.0036
Saturn	-27153-11-08 18:14 J	-8195897.92	-8195897.74	-8195897.55	0.0277	0.0134
Neptune	-27152-02-07 20:38 J	-8195806.84	-8195806.64	-8195806.44	0.0089	0.0039
Saturn	-27152-06-26 06:57 J	-8195668.42	-8195668.21	-8195667.99	0.0279	0.0005
Neptune	-27152-09-21 09:35 J	-8195581.27	-8195581.10	-8195580.88	0.0089	0.0043
Saturn	-27151-02-10 21:50 J	-8195438.77	-8195438.59	-8195438.40	0.0280	0.0133
Neptune	-27151-05-04 23:02 J	-8195355.71	-8195355.54	-8195355.33	0.0089	0.0046
Saturn	-27151-09-28 14:52 J	-8195208.92	-8195208.88	-8195208.81	0.0282	0.0272
Jupiter	-27151-10-25 21:07 J	-8195181.75	-8195181.62	-8195181.48	0.0501	0.0383
Neptune	-27151-12-16 12:43 J	-8195130.14	-8195129.97	-8195129.77	0.0089	0.0049
Jupiter	-27150-06-20 02:23 J	-8194944.60	-8194944.40	-8194944.19	0.0509	0.0071
Neptune	-27150-07-30 02:09 J	-8194904.58	-8194904.41	-8194904.22	0.0089	0.0052
Neptune	-27149-03-11 15:35 J	-8194679.01	-8194678.85	-8194678.67	0.0089	0.0055
Neptune	-27149-10-23 05:02 J	-8194453.45	-8194453.29	-8194453.12	0.0089	0.0058
Mars	-27149-12-27 16:19 J	-8194387.99	-8194387.82	-8194387.66	0.1753	0.0280
Neptune	-27148-06-05 18:28 J	-8194227.88	-8194227.73	-8194227.57	0.0089	0.0061
Neptune	-27147-01-17 07:55 J	-8194002.32	-8194002.17	-8194002.01	0.0089	0.0064
Neptune	-27147-08-30 21:21 J	-8193776.75	-8193776.61	-8193776.47	0.0089	0.0067
Neptune	-27146-04-13 10:33 J	-8193551.19	-8193551.06	-8193550.92	0.0089	0.0070

Neptune	-27146-11-24 23:45 J	-8193325.62	-8193325.51	-8193325.37	0.0089	0.0073
Neptune	-27145-07-07 12:57 J	-8193100.06	-8193099.96	-8193099.83	0.0089	0.0076
Uranus	-27145-07-14 03:21 J	-8193093.44	-8193093.36	-8193093.24	0.0134	0.0119
Jupiter	-27145-09-03 12:57 J	-8193042.15	-8193041.96	-8193041.78	0.0523	0.0195
Neptune	-27144-02-18 01:55 J	-8192874.49	-8192874.42	-8192874.29	0.0089	0.0080
Uranus	-27144-02-25 08:52 J	-8192867.27	-8192867.13	-8192866.98	0.0134	0.0100
Jupiter	-27144-04-28 05:31 J	-8192805.44	-8192805.27	-8192805.10	0.0514	0.0275
Mars	-27144-08-10 03:07 J	-8192701.55	-8192701.37	-8192701.19	0.1764	0.0063
Neptune	-27144-10-01 15:07 J	-8192648.93	-8192648.87	-8192648.76	0.0089	0.0082
Uranus	-27144-10-09 14:09 J	-8192641.08	-8192640.91	-8192640.73	0.0134	0.0081
Neptune	-27143-05-15 04:33 J	-8192423.36	-8192423.31	-8192423.23	0.0089	0.0085
Uranus	-27143-05-23 19:26 J	-8192414.88	-8192414.69	-8192414.49	0.0134	0.0062
Neptune	-27143-12-26 17:45 J	-8192197.79	-8192197.76	-8192197.70	0.0089	0.0087
Uranus	-27142-01-05 00:43 J	-8192188.66	-8192188.47	-8192188.25	0.0134	0.0044
Uranus	-27142-08-19 06:28 J	-8191962.45	-8191962.23	-8191962.02	0.0135	0.0024
Uranus	-27141-04-01 11:45 J	-8191736.22	-8191736.01	-8191735.79	0.0135	0.0005
Uranus	-27141-11-13 17:16 J	-8191509.99	-8191509.78	-8191509.56	0.0135	0.0015
Uranus	-27140-06-27 22:47 J	-8191283.75	-8191283.55	-8191283.34	0.0136	0.0035
Saturn	-27139-01-29 15:21 J	-8191067.95	-8191067.86	-8191067.77	0.0285	0.0258
Uranus	-27139-02-09 04:47 J	-8191057.50	-8191057.30	-8191057.10	0.0136	0.0054
Jupiter	-27139-06-30 17:16 J	-8190915.78	-8190915.78	-8190915.76	0.0499	0.0498
Saturn	-27139-09-16 05:16 J	-8190838.47	-8190838.28	-8190838.09	0.0283	0.0119
Uranus	-27139-09-23 10:19 J	-8190831.24	-8190831.07	-8190830.88	0.0136	0.0074
Jupiter	-27138-02-22 19:55 J	-8190678.88	-8190678.67	-8190678.47	0.0507	0.0061
Saturn	-27138-05-03 16:47 J	-8190609.01	-8190608.80	-8190608.59	0.0281	0.0017
Uranus	-27138-05-07 16:19 J	-8190604.97	-8190604.82	-8190604.66	0.0136	0.0093
Jupiter	-27138-10-18 07:40 J	-8190441.30	-8190441.18	-8190441.05	0.0515	0.0413
Saturn	-27138-12-19 02:09 J	-8190379.58	-8190379.41	-8190379.23	0.0279	0.0148
Uranus	-27138-12-19 22:33 J	-8190378.68	-8190378.56	-8190378.44	0.0137	0.0113
Uranus	-27137-08-02 04:19 J	-8190152.35	-8190152.32	-8190152.25	0.0137	0.0133

Saturn	-27137-08-04 09:21 J	-8190150.14	-8190150.11	-8190150.07	0.0277	0.0273
Jupiter	-27133-05-09 10:19 J	-8188776.23	-8188776.07	-8188775.92	0.0525	0.0328
Jupiter	-27132-01-01 05:31 J	-8188539.46	-8188539.27	-8188539.08	0.0517	0.0151
Jupiter	-27127-10-28 13:40 J	-8186413.12	-8186412.93	-8186412.73	0.0504	0.0188
Jupiter	-27126-06-22 22:47 J	-8186175.72	-8186175.55	-8186175.37	0.0513	0.0281
Saturn	-27124-10-04 13:26 J	-8185341.04	-8185340.94	-8185340.84	0.0275	0.0239
Saturn	-27123-05-21 23:45 J	-8185111.70	-8185111.51	-8185111.31	0.0277	0.0113
Saturn	-27122-01-06 12:28 J	-8184882.19	-8184881.98	-8184881.77	0.0279	0.0019
Saturn	-27122-08-24 03:21 J	-8184652.53	-8184652.36	-8184652.18	0.0281	0.0156
Jupiter	-27121-01-13 07:11 J	-8184510.29	-8184510.20	-8184510.10	0.0528	0.0461
Jupiter	-27121-09-06 05:02 J	-8184273.49	-8184273.29	-8184273.09	0.0519	0.0023
Jupiter	-27120-04-30 17:31 J	-8184036.84	-8184036.77	-8184036.69	0.0510	0.0469
Pluto	-27119-04-02 11:31 J	-8183700.16	-8183700.02	-8183699.87	0.0080	0.0060
Pluto	-27119-11-13 22:33 J	-8183474.77	-8183474.56	-8183474.33	0.0080	0.0016
Mars	-27117-12-26 18:28 J	-8182700.86	-8182700.73	-8182700.59	0.1763	0.1049
Jupiter	-27115-07-03 09:35 J	-8182147.26	-8182147.10	-8182146.93	0.0502	0.0311
Mars	-27115-10-26 01:40 J	-8182032.46	-8182032.43	-8182032.40	0.1740	0.1697
Jupiter	-27114-02-25 16:33 J	-8181910.01	-8181909.81	-8181909.61	0.0511	0.0149
Mars	-27112-08-09 15:21 J	-8181013.94	-8181013.86	-8181013.79	0.1753	0.1569
Mars	-27110-06-07 20:23 J	-8180346.69	-8180346.65	-8180346.61	0.1778	0.1728
Saturn	-27110-08-11 18:43 J	-8180281.82	-8180281.72	-8180281.60	0.0285	0.0240
Saturn	-27109-03-28 08:38 J	-8180052.33	-8180052.14	-8180051.94	0.0283	0.0101
Jupiter	-27109-05-12 02:09 J	-8180007.60	-8180007.41	-8180007.21	0.0521	0.0113
Saturn	-27109-11-12 20:09 J	-8179822.87	-8179822.66	-8179822.45	0.0281	0.0036
Jupiter	-27108-01-03 16:33 J	-8179770.95	-8179770.81	-8179770.66	0.0512	0.0348
Saturn	-27108-06-30 05:16 J	-8179593.44	-8179593.28	-8179593.11	0.0279	0.0167
Uranus	-27105-10-27 01:11 J	-8178378.55	-8178378.45	-8178378.32	0.0145	0.0123
Uranus	-27104-06-10 13:55 J	-8178152.07	-8178151.92	-8178151.75	0.0145	0.0099
Uranus	-27103-01-23 02:23 J	-8177925.58	-8177925.40	-8177925.20	0.0145	0.0075
Jupiter	-27103-03-08 05:31 J	-8177881.37	-8177881.27	-8177881.16	0.0501	0.0429

Uranus	-27103-09-06 14:52 J	-8177699.08	-8177698.88	-8177698.67	0.0144	0.0050
Jupiter	-27103-10-31 10:19 J	-8177644.28	-8177644.07	-8177643.86	0.0508	0.0019
Uranus	-27102-04-21 03:07 J	-8177472.58	-8177472.37	-8177472.15	0.0144	0.0026
Jupiter	-27102-06-25 23:59 J	-8177406.55	-8177406.50	-8177406.43	0.0517	0.0495
Uranus	-27102-12-03 15:21 J	-8177246.08	-8177245.86	-8177245.64	0.0144	0.0003
Uranus	-27101-07-17 03:21 J	-8177019.57	-8177019.36	-8177019.14	0.0143	0.0023
Uranus	-27100-02-28 15:21 J	-8176793.06	-8176792.86	-8176792.65	0.0143	0.0046
Uranus	-27100-10-13 03:07 J	-8176566.56	-8176566.37	-8176566.17	0.0143	0.0070
Uranus	-27099-05-27 14:52 J	-8176340.04	-8176339.88	-8176339.71	0.0142	0.0093
Uranus	-27098-01-09 02:23 J	-8176113.52	-8176113.40	-8176113.27	0.0142	0.0116
Uranus	-27098-08-23 13:55 J	-8175886.96	-8175886.92	-8175886.86	0.0142	0.0138
Jupiter	-27097-01-15 22:47 J	-8175741.72	-8175741.55	-8175741.37	0.0523	0.0248
Jupiter	-27097-09-08 15:50 J	-8175505.02	-8175504.84	-8175504.66	0.0515	0.0224
Neptune	-27096-04-18 03:07 J	-8175283.38	-8175283.37	-8175283.32	0.0089	0.0088
Neptune	-27096-11-29 15:07 J	-8175057.89	-8175057.87	-8175057.78	0.0089	0.0086
Neptune	-27095-07-13 03:35 J	-8174832.40	-8174832.35	-8174832.25	0.0089	0.0083
Neptune	-27094-02-23 16:04 J	-8174606.91	-8174606.83	-8174606.73	0.0089	0.0080
Saturn	-27094-04-16 21:07 J	-8174554.74	-8174554.62	-8174554.48	0.0275	0.0218
Neptune	-27094-10-07 04:04 J	-8174381.41	-8174381.33	-8174381.20	0.0089	0.0078
Saturn	-27094-12-02 08:09 J	-8174325.36	-8174325.16	-8174324.95	0.0277	0.0090
Neptune	-27093-05-19 16:19 J	-8174155.91	-8174155.82	-8174155.68	0.0089	0.0075
Saturn	-27093-07-18 21:35 J	-8174095.81	-8174095.60	-8174095.39	0.0279	0.0043
Neptune	-27093-12-31 04:47 J	-8173930.41	-8173930.30	-8173930.16	0.0089	0.0072
Saturn	-27092-03-05 12:57 J	-8173866.12	-8173865.96	-8173865.79	0.0281	0.0180
Neptune	-27092-08-13 17:16 J	-8173704.91	-8173704.78	-8173704.65	0.0089	0.0069
Neptune	-27091-03-27 05:02 J	-8173479.41	-8173479.29	-8173479.12	0.0089	0.0067
Jupiter	-27091-07-06 03:21 J	-8173378.56	-8173378.36	-8173378.15	0.0506	0.0111
Neptune	-27091-11-07 17:16 J	-8173253.91	-8173253.78	-8173253.61	0.0089	0.0064
Jupiter	-27090-02-28 13:55 J	-8173141.06	-8173140.92	-8173140.76	0.0514	0.0361
Neptune	-27090-06-21 05:31 J	-8173028.41	-8173028.27	-8173028.09	0.0089	0.0061

Neptune	-27089-02-01 17:45 J	-8172802.91	-8172802.76	-8172802.58	0.0089	0.0058
Neptune	-27089-09-14 05:59 J	-8172577.40	-8172577.25	-8172577.06	0.0089	0.0055
Neptune	-27088-04-27 18:28 J	-8172351.89	-8172351.73	-8172351.54	0.0089	0.0052
Neptune	-27088-12-09 06:43 J	-8172126.39	-8172126.22	-8172126.03	0.0089	0.0049
Neptune	-27087-07-22 18:57 J	-8171900.88	-8171900.71	-8171900.51	0.0089	0.0046
Neptune	-27086-03-05 07:11 J	-8171675.38	-8171675.20	-8171675.00	0.0089	0.0043
Jupiter	-27086-09-20 17:45 J	-8171475.89	-8171475.76	-8171475.62	0.0526	0.0383
Neptune	-27086-10-16 19:26 J	-8171449.87	-8171449.69	-8171449.48	0.0089	0.0040
Jupiter	-27085-05-14 14:09 J	-8171239.11	-8171238.91	-8171238.72	0.0518	0.0097
Neptune	-27085-05-29 07:55 J	-8171224.35	-8171224.17	-8171223.96	0.0089	0.0037
Neptune	-27084-01-09 20:09 J	-8170998.84	-8170998.66	-8170998.44	0.0089	0.0034
Neptune	-27084-08-23 08:52 J	-8170773.33	-8170773.13	-8170772.93	0.0089	0.0030
Neptune	-27083-04-05 21:07 J	-8170547.82	-8170547.62	-8170547.41	0.0089	0.0027
Mars	-27083-10-25 02:09 J	-8170345.57	-8170345.41	-8170345.24	0.1749	0.0443
Neptune	-27083-11-17 09:21 J	-8170322.31	-8170322.11	-8170321.89	0.0089	0.0024
Neptune	-27082-06-30 21:50 J	-8170096.80	-8170096.59	-8170096.38	0.0089	0.0021
Neptune	-27081-02-11 10:04 J	-8169871.29	-8169871.08	-8169870.86	0.0089	0.0017
Neptune	-27081-09-23 22:33 J	-8169645.77	-8169645.56	-8169645.35	0.0089	0.0014
Saturn	-27080-02-21 05:59 J	-8169495.38	-8169495.25	-8169495.10	0.0285	0.0212
Neptune	-27080-05-07 11:02 J	-8169420.25	-8169420.04	-8169419.82	0.0089	0.0011
Saturn	-27080-10-08 19:26 J	-8169265.89	-8169265.69	-8169265.49	0.0283	0.0073
Neptune	-27080-12-18 23:16 J	-8169194.74	-8169194.53	-8169194.31	0.0089	0.0008
Jupiter	-27079-03-10 22:04 J	-8169112.76	-8169112.58	-8169112.40	0.0503	0.0236
Saturn	-27079-05-26 06:14 J	-8169036.44	-8169036.24	-8169036.03	0.0281	0.0063
Neptune	-27079-08-01 11:45 J	-8168969.23	-8168969.01	-8168968.79	0.0089	0.0004
Jupiter	-27079-11-03 05:59 J	-8168875.43	-8168875.25	-8168875.06	0.0512	0.0228
Saturn	-27078-01-10 15:07 J	-8168807.02	-8168806.87	-8168806.71	0.0279	0.0192
Neptune	-27078-03-14 23:59 J	-8168743.72	-8168743.50	-8168743.28	0.0089	0.0001
Mars	-27078-06-07 09:50 J	-8168659.27	-8168659.09	-8168658.91	0.1767	0.0154
Neptune	-27078-10-26 12:28 J	-8168518.20	-8168517.98	-8168517.77	0.0089	0.0002

Neptune	-27077-06-08 00:43 J	-8168292.68	-8168292.47	-8168292.25	0.0089	0.0006
Neptune	-27076-01-19 13:11 J	-8168067.16	-8168066.95	-8168066.73	0.0088	0.0009
Neptune	-27076-09-02 01:40 J	-8167841.65	-8167841.43	-8167841.22	0.0088	0.0012
Earth	-27076-10-28 02:52 J	-8167785.43	-8167785.38	-8167785.32	0.2625	0.2465
Neptune	-27075-04-15 13:55 J	-8167616.13	-8167615.92	-8167615.70	0.0088	0.0015
Neptune	-27075-11-27 02:23 J	-8167390.61	-8167390.40	-8167390.18	0.0088	0.0018
Jupiter	-27074-05-26 13:26 J	-8167209.97	-8167209.94	-8167209.89	0.0529	0.0516
Neptune	-27074-07-10 14:52 J	-8167165.09	-8167164.88	-8167164.66	0.0088	0.0022
Jupiter	-27073-01-18 12:43 J	-8166973.17	-8166972.97	-8166972.77	0.0520	0.0034
Neptune	-27073-02-21 03:21 J	-8166939.56	-8166939.36	-8166939.15	0.0088	0.0025
Jupiter	-27073-09-11 02:38 J	-8166736.50	-8166736.39	-8166736.27	0.0512	0.0421
Neptune	-27073-10-03 16:04 J	-8166714.04	-8166713.83	-8166713.63	0.0088	0.0028
Neptune	-27072-05-17 04:19 J	-8166488.51	-8166488.32	-8166488.10	0.0088	0.0032
Neptune	-27072-12-28 17:02 J	-8166262.98	-8166262.79	-8166262.58	0.0088	0.0034
Neptune	-27071-08-11 05:31 J	-8166037.46	-8166037.27	-8166037.06	0.0088	0.0038
Neptune	-27070-03-24 17:59 J	-8165811.93	-8165811.75	-8165811.54	0.0088	0.0041
Neptune	-27070-11-05 06:43 J	-8165586.40	-8165586.22	-8165586.02	0.0088	0.0044
Neptune	-27069-06-17 19:26 J	-8165360.87	-8165360.69	-8165360.50	0.0088	0.0047
Neptune	-27068-01-29 08:09 J	-8165135.34	-8165135.16	-8165134.97	0.0088	0.0050
Neptune	-27068-09-11 20:38 J	-8164909.81	-8164909.64	-8164909.46	0.0088	0.0053
Earth	-27068-10-25 17:16 J	-8164865.92	-8164865.78	-8164865.63	0.2624	0.1028
Moon	-27068-10-25 22:33 J	-8164865.73	-8164865.56	-8164865.39	0.2621	0.0314 *
Jupiter	-27068-11-13 16:47 J	-8164846.94	-8164846.80	-8164846.65	0.0501	0.0358
Neptune	-27067-04-25 09:21 J	-8164684.27	-8164684.11	-8164683.94	0.0088	0.0056
Jupiter	-27067-07-08 22:04 J	-8164609.78	-8164609.58	-8164609.37	0.0509	0.0095
Neptune	-27067-12-06 21:50 J	-8164458.74	-8164458.59	-8164458.42	0.0088	0.0059
Neptune	-27066-07-20 10:33 J	-8164233.21	-8164233.06	-8164232.90	0.0088	0.0061
Neptune	-27065-03-01 23:02 J	-8164007.67	-8164007.54	-8164007.38	0.0088	0.0065
Neptune	-27065-10-13 11:31 J	-8163782.14	-8163782.02	-8163781.86	0.0088	0.0068
Saturn	-27065-10-27 03:35 J	-8163768.50	-8163768.35	-8163768.20	0.0276	0.0196

Neptune	-27064-05-27 00:14 J	-8163556.60	-8163556.49	-8163556.33	0.0088	0.0071
Saturn	-27064-06-13 14:38 J	-8163539.09	-8163538.89	-8163538.68	0.0278	0.0068
Neptune	-27063-01-07 12:57 J	-8163331.06	-8163330.96	-8163330.81	0.0088	0.0073
Saturn	-27063-01-29 04:04 J	-8163309.54	-8163309.33	-8163309.12	0.0280	0.0066
Neptune	-27063-08-21 01:55 J	-8163105.52	-8163105.42	-8163105.30	0.0088	0.0076
Saturn	-27063-09-15 19:40 J	-8163079.83	-8163079.68	-8163079.53	0.0281	0.0203
Neptune	-27062-04-03 14:23 J	-8162879.98	-8162879.90	-8162879.78	0.0088	0.0079
Jupiter	-27062-09-23 11:16 J	-8162707.21	-8162707.03	-8162706.84	0.0523	0.0166
Neptune	-27062-11-15 03:07 J	-8162654.43	-8162654.37	-8162654.26	0.0088	0.0081
Uranus	-27061-03-13 16:33 J	-8162534.88	-8162534.81	-8162534.74	0.0133	0.0125
Jupiter	-27061-05-17 03:35 J	-8162470.51	-8162470.35	-8162470.19	0.0514	0.0301
Neptune	-27061-06-27 16:33 J	-8162428.88	-8162428.81	-8162428.74	0.0088	0.0084
Uranus	-27061-10-25 21:21 J	-8162308.72	-8162308.61	-8162308.47	0.0134	0.0107
Neptune	-27060-02-08 05:02 J	-8162203.32	-8162203.29	-8162203.23	0.0088	0.0086
Uranus	-27060-06-09 02:38 J	-8162082.54	-8162082.39	-8162082.21	0.0134	0.0088
Uranus	-27059-01-21 08:09 J	-8161856.34	-8161856.16	-8161855.97	0.0134	0.0069
Uranus	-27059-09-04 13:26 J	-8161630.13	-8161629.94	-8161629.73	0.0134	0.0050
Uranus	-27058-04-18 18:43 J	-8161403.92	-8161403.72	-8161403.50	0.0135	0.0031
Uranus	-27058-12-01 00:14 J	-8161177.70	-8161177.49	-8161177.27	0.0135	0.0012
Uranus	-27057-07-14 05:45 J	-8160951.47	-8160951.26	-8160951.04	0.0135	0.0008
Uranus	-27056-02-25 11:16 J	-8160725.23	-8160725.03	-8160724.81	0.0135	0.0028
Jupiter	-27056-07-19 13:40 J	-8160580.99	-8160580.93	-8160580.86	0.0499	0.0473
Uranus	-27056-10-09 17:02 J	-8160498.99	-8160498.79	-8160498.59	0.0136	0.0048
Jupiter	-27055-03-13 16:33 J	-8160344.02	-8160343.81	-8160343.60	0.0507	0.0035
Uranus	-27055-05-23 22:33 J	-8160272.73	-8160272.56	-8160272.36	0.0136	0.0068
Jupiter	-27055-11-06 05:02 J	-8160106.39	-8160106.29	-8160106.18	0.0516	0.0439
Uranus	-27054-01-05 04:33 J	-8160046.46	-8160046.31	-8160046.13	0.0136	0.0088
Uranus	-27054-08-19 10:47 J	-8159820.18	-8159820.05	-8159819.92	0.0137	0.0107
Uranus	-27053-04-01 16:33 J	-8159593.87	-8159593.81	-8159593.72	0.0137	0.0127
Saturn	-27051-09-03 09:50 J	-8158709.24	-8158709.09	-8158708.93	0.0284	0.0193

Mars	-27051-10-24 03:50 J	-8158658.48	-8158658.34	-8158658.19	0.1759	0.0863
Saturn	-27050-04-20 22:47 J	-8158479.75	-8158479.55	-8158479.34	0.0282	0.0055
Jupiter	-27050-05-29 08:09 J	-8158441.32	-8158441.16	-8158441.00	0.0525	0.0300
Saturn	-27050-12-06 09:35 J	-8158250.30	-8158250.10	-8158249.90	0.0280	0.0080
Jupiter	-27049-01-21 02:09 J	-8158204.59	-8158204.41	-8158204.22	0.0516	0.0175
Saturn	-27049-07-22 17:59 J	-8158020.87	-8158020.75	-8158020.60	0.0279	0.0210
Mars	-27046-06-06 21:50 J	-8156971.70	-8156971.59	-8156971.48	0.1757	0.1358
Jupiter	-27044-11-16 11:16 J	-8156078.23	-8156078.03	-8156077.84	0.0505	0.0161
Jupiter	-27043-07-11 21:07 J	-8155840.78	-8155840.62	-8155840.45	0.0513	0.0308
Jupiter	-27038-02-01 03:50 J	-8154175.45	-8154175.34	-8154175.23	0.0527	0.0433
Jupiter	-27038-09-26 00:43 J	-8153938.67	-8153938.47	-8153938.27	0.0518	0.0045
Jupiter	-27037-05-19 12:28 J	-8153702.03	-8153701.98	-8153701.92	0.0510	0.0488
Saturn	-27035-05-09 10:19 J	-8152982.22	-8152982.07	-8152981.90	0.0276	0.0176
Saturn	-27035-12-24 22:04 J	-8152752.79	-8152752.58	-8152752.37	0.0278	0.0046
Saturn	-27034-08-11 11:59 J	-8152523.20	-8152523.00	-8152522.79	0.0280	0.0088
Saturn	-27033-03-28 04:04 J	-8152293.45	-8152293.33	-8152293.20	0.0282	0.0226
Jupiter	-27032-07-22 05:45 J	-8151812.42	-8151812.26	-8151812.08	0.0502	0.0284
Jupiter	-27031-03-16 12:43 J	-8151575.16	-8151574.97	-8151574.77	0.0511	0.0176
Jupiter	-27026-05-31 21:07 J	-8149672.81	-8149672.62	-8149672.42	0.0521	0.0088
Jupiter	-27025-01-23 11:59 J	-8149436.13	-8149436.00	-8149435.86	0.0513	0.0372
Saturn	-27021-03-15 21:07 J	-8147922.79	-8147922.62	-8147922.45	0.0284	0.0164
Uranus	-27021-06-26 11:02 J	-8147820.11	-8147820.04	-8147819.94	0.0145	0.0132
Saturn	-27021-10-31 09:35 J	-8147693.30	-8147693.10	-8147692.89	0.0282	0.0027
Uranus	-27020-02-07 23:31 J	-8147593.65	-8147593.52	-8147593.36	0.0145	0.0108
Jupiter	-27020-03-27 01:55 J	-8147546.53	-8147546.42	-8147546.29	0.0500	0.0401
Saturn	-27020-06-17 19:55 J	-8147463.86	-8147463.67	-8147463.47	0.0280	0.0107
Uranus	-27020-09-22 11:59 J	-8147367.17	-8147367.00	-8147366.81	0.0145	0.0084
Jupiter	-27020-11-19 05:59 J	-8147309.46	-8147309.25	-8147309.04	0.0508	0.0045
Saturn	-27019-02-02 04:04 J	-8147234.43	-8147234.33	-8147234.21	0.0278	0.0235
Uranus	-27019-05-07 00:14 J	-8147140.68	-8147140.49	-8147140.28	0.0145	0.0060

Jupiter	-27019-07-14 18:57 J	-8147071.71	-8147071.71	-8147071.69	0.0517	0.0516
Uranus	-27019-12-19 12:28 J	-8146914.18	-8146913.98	-8146913.76	0.0144	0.0036
Uranus	-27018-08-03 00:57 J	-8146687.68	-8146687.46	-8146687.24	0.0144	0.0010
Uranus	-27017-03-16 12:57 J	-8146461.17	-8146460.96	-8146460.74	0.0144	0.0014
Mars	-27017-08-21 11:31 J	-8146303.18	-8146303.02	-8146302.86	0.1746	0.0613
Uranus	-27017-10-29 00:57 J	-8146234.67	-8146234.46	-8146234.24	0.0143	0.0038
Uranus	-27016-06-12 12:43 J	-8146008.16	-8146007.97	-8146007.76	0.0143	0.0062
Uranus	-27015-01-25 00:28 J	-8145781.65	-8145781.48	-8145781.29	0.0143	0.0086
Uranus	-27015-09-08 11:59 J	-8145555.13	-8145555.00	-8145554.84	0.0142	0.0109
Jupiter	-27014-02-03 18:28 J	-8145406.90	-8145406.73	-8145406.54	0.0524	0.0221
Uranus	-27014-04-22 23:31 J	-8145328.59	-8145328.52	-8145328.42	0.0142	0.0131
Jupiter	-27014-09-28 12:14 J	-8145170.16	-8145169.99	-8145169.81	0.0515	0.0251
Mars	-27012-04-03 16:04 J	-8144617.00	-8144616.83	-8144616.65	0.1771	0.0379
Neptune	-27012-04-10 20:38 J	-8144609.66	-8144609.64	-8144609.57	0.0088	0.0087
Neptune	-27012-11-22 10:47 J	-8144384.11	-8144384.05	-8144383.97	0.0088	0.0084
Neptune	-27011-07-06 00:43 J	-8144158.55	-8144158.47	-8144158.38	0.0088	0.0081
Neptune	-27010-02-16 13:55 J	-8143933.00	-8143932.92	-8143932.79	0.0088	0.0079
Neptune	-27010-09-30 04:04 J	-8143707.43	-8143707.33	-8143707.20	0.0088	0.0076
Neptune	-27009-05-12 17:59 J	-8143481.86	-8143481.75	-8143481.61	0.0088	0.0073
Neptune	-27009-12-24 07:55 J	-8143256.30	-8143256.17	-8143256.03	0.0088	0.0070
Jupiter	-27008-07-24 23:02 J	-8143043.74	-8143043.54	-8143043.33	0.0506	0.0086
Neptune	-27008-08-06 21:35 J	-8143030.73	-8143030.60	-8143030.44	0.0088	0.0067
Jupiter	-27007-03-19 09:50 J	-8142806.23	-8142806.09	-8142805.95	0.0514	0.0383
Neptune	-27007-03-20 11:31 J	-8142805.17	-8142805.02	-8142804.86	0.0088	0.0064
Neptune	-27007-11-01 01:26 J	-8142579.59	-8142579.44	-8142579.27	0.0088	0.0061
Neptune	-27006-06-14 15:07 J	-8142354.03	-8142353.87	-8142353.69	0.0088	0.0058
Saturn	-27006-11-19 16:47 J	-8142195.97	-8142195.80	-8142195.61	0.0276	0.0154
Neptune	-27005-01-26 05:02 J	-8142128.46	-8142128.29	-8142128.11	0.0088	0.0055
Saturn	-27005-07-06 04:47 J	-8141966.51	-8141966.30	-8141966.08	0.0278	0.0024
Neptune	-27005-09-07 18:43 J	-8141902.89	-8141902.72	-8141902.53	0.0088	0.0052

Saturn	-27004-02-20 18:43 J	-8141736.91	-8141736.72	-8141736.52	0.0280	0.0113
Neptune	-27004-04-21 08:23 J	-8141677.32	-8141677.15	-8141676.95	0.0088	0.0049
Saturn	-27004-10-08 11:02 J	-8141507.13	-8141507.04	-8141506.94	0.0282	0.0250
Neptune	-27004-12-02 22:19 J	-8141451.75	-8141451.57	-8141451.37	0.0089	0.0046
Neptune	-27003-07-16 11:45 J	-8141226.19	-8141226.01	-8141225.79	0.0089	0.0043
Jupiter	-27003-10-09 16:04 J	-8141140.97	-8141140.83	-8141140.68	0.0526	0.0353
Neptune	-27002-02-27 01:26 J	-8141000.62	-8141000.44	-8141000.22	0.0089	0.0040
Jupiter	-27002-06-03 12:14 J	-8140904.18	-8140903.99	-8140903.79	0.0518	0.0125
Neptune	-27002-10-10 15:35 J	-8140775.05	-8140774.85	-8140774.64	0.0089	0.0036
Neptune	-27001-05-23 05:16 J	-8140549.48	-8140549.28	-8140549.07	0.0089	0.0033

27TH MILLENNIUM BCE

This is a list of transits of Venus in the 27th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-27000-01-03 18:57 J	-8140323.92	-8140323.71	-8140323.49	0.0089	0.0030		
Neptune	-27000-08-17 08:23 J	-8140098.35	-8140098.15	-8140097.92	0.0089	0.0027		
Neptune	-26999-03-30 22:04 J	-8139872.78	-8139872.58	-8139872.35	0.0089	0.0024		
Neptune	-26999-11-11 11:59 J	-8139647.21	-8139647.00	-8139646.77	0.0089	0.0020		
Neptune	-26998-06-25 01:40 J	-8139421.64	-8139421.43	-8139421.20	0.0089	0.0017		
Neptune	-26997-02-05 15:21 J	-8139196.08	-8139195.86	-8139195.63	0.0089	0.0013		
Neptune	-26997-09-18 05:02 J	-8138970.51	-8138970.29	-8138970.06	0.0089	0.0010		
Jupiter	-26996-03-29 18:28 J	-8138777.92	-8138777.73	-8138777.54	0.0504	0.0210		
Neptune	-26996-05-01 18:43 J	-8138744.94	-8138744.72	-8138744.49	0.0089	0.0007		

Jupiter -26996-11-22 02:52 J -8138540.56 -8138540.38 -8138540.20 0.0512 0.0254
 Neptune -26996-12-13 08:38 J -8138519.36 -8138519.14 -8138518.92 0.0089 0.0003
 Neptune -26995-07-26 22:19 J -8138293.80 -8138293.57 -8138293.35 0.0089 0.0001
 Neptune -26994-03-09 11:45 J -8138068.23 -8138068.01 -8138067.78 0.0089 0.0004
 Neptune -26994-10-21 01:26 J -8137842.66 -8137842.44 -8137842.21 0.0089 0.0007
 Neptune -26993-06-02 15:07 J -8137617.09 -8137616.87 -8137616.64 0.0089 0.0010
 Neptune -26992-01-14 04:47 J -8137391.52 -8137391.30 -8137391.08 0.0089 0.0013
 Saturn -26992-02-08 10:19 J -8137366.07 -8137366.07 -8137366.07 0.0285 0.0285
 Neptune -26992-08-27 18:14 J -8137165.95 -8137165.74 -8137165.51 0.0089 0.0017
 Saturn -26992-09-26 00:57 J -8137136.64 -8137136.46 -8137136.28 0.0283 0.0146
 Neptune -26991-04-10 07:40 J -8136940.39 -8136940.18 -8136939.95 0.0089 0.0020
 Saturn -26991-05-13 13:11 J -8136907.16 -8136906.95 -8136906.74 0.0282 0.0008
 Jupiter -26991-06-14 12:14 J -8136875.06 -8136874.99 -8136874.91 0.0528 0.0485
 Neptune -26991-11-21 21:21 J -8136714.81 -8136714.61 -8136714.38 0.0089 0.0023
 Saturn -26991-12-28 23:16 J -8136677.72 -8136677.53 -8136677.34 0.0280 0.0125
 Jupiter -26990-02-06 10:47 J -8136638.25 -8136638.05 -8136637.85 0.0520 0.0007
 Neptune -26990-07-05 11:02 J -8136489.25 -8136489.04 -8136488.83 0.0089 0.0026
 Saturn -26990-08-15 06:57 J -8136448.29 -8136448.21 -8136448.11 0.0278 0.0251
 Jupiter -26990-09-30 23:45 J -8136401.60 -8136401.51 -8136401.41 0.0511 0.0443
 Neptune -26989-02-16 00:28 J -8136263.69 -8136263.48 -8136263.27 0.0089 0.0029
 Neptune -26989-09-28 13:55 J -8136038.13 -8136037.92 -8136037.71 0.0089 0.0032
 Neptune -26988-05-12 03:07 J -8135812.56 -8135812.37 -8135812.15 0.0089 0.0036
 Neptune -26988-12-23 16:33 J -8135586.99 -8135586.81 -8135586.59 0.0089 0.0039
 Neptune -26987-08-06 05:59 J -8135361.43 -8135361.25 -8135361.04 0.0089 0.0042
 Neptune -26986-03-19 19:26 J -8135135.87 -8135135.69 -8135135.49 0.0089 0.0045
 Neptune -26986-10-31 08:52 J -8134910.31 -8134910.13 -8134909.93 0.0089 0.0048
 Neptune -26985-06-12 22:19 J -8134684.74 -8134684.57 -8134684.38 0.0089 0.0051
 Mars -26985-08-20 13:26 J -8134616.10 -8134615.94 -8134615.79 0.1756 0.0686
 Jupiter -26985-12-02 13:55 J -8134512.07 -8134511.92 -8134511.76 0.0502 0.0331
 Neptune -26984-01-24 11:31 J -8134459.18 -8134459.02 -8134458.83 0.0089 0.0054

Jupiter -26984-07-27 20:09 J -8134274.87 -8134274.66 -8134274.46 0.0510 0.0123
 Neptune -26984-09-07 00:57 J -8134233.62 -8134233.46 -8134233.28 0.0089 0.0057
 Neptune -26983-04-20 14:09 J -8134008.05 -8134007.91 -8134007.73 0.0089 0.0060
 Neptune -26983-12-02 03:35 J -8133782.48 -8133782.35 -8133782.17 0.0089 0.0063
 Neptune -26982-07-15 17:02 J -8133556.92 -8133556.79 -8133556.63 0.0089 0.0066
 Neptune -26981-02-26 06:43 J -8133331.36 -8133331.22 -8133331.08 0.0089 0.0069
 Neptune -26981-10-08 19:40 J -8133105.80 -8133105.68 -8133105.54 0.0089 0.0072
 Mars -26980-04-03 05:02 J -8132929.43 -8132929.29 -8132929.16 0.1760 0.1157
 Neptune -26980-05-22 08:52 J -8132880.23 -8132880.13 -8132879.99 0.0089 0.0074
 Neptune -26979-01-02 22:04 J -8132654.66 -8132654.58 -8132654.44 0.0089 0.0078
 Neptune -26979-08-16 11:45 J -8132429.10 -8132429.01 -8132428.91 0.0089 0.0080
 Jupiter -26979-10-12 08:09 J -8132372.35 -8132372.16 -8132371.97 0.0522 0.0138
 Neptune -26978-03-30 00:28 J -8132203.54 -8132203.48 -8132203.37 0.0089 0.0083
 Jupiter -26978-06-05 23:45 J -8132135.67 -8132135.51 -8132135.36 0.0513 0.0324
 Neptune -26978-11-10 14:09 J -8131977.97 -8131977.91 -8131977.84 0.0089 0.0085
 Uranus -26978-11-12 05:02 J -8131976.32 -8131976.29 -8131976.27 0.0133 0.0132
 Neptune -26977-06-23 02:52 J -8131752.40 -8131752.38 -8131752.32 0.0089 0.0088
 Uranus -26977-06-25 09:50 J -8131750.19 -8131750.09 -8131749.97 0.0133 0.0114
 Saturn -26977-10-14 12:43 J -8131639.03 -8131638.97 -8131638.89 0.0275 0.0259
 Uranus -26976-02-06 15:07 J -8131524.01 -8131523.87 -8131523.71 0.0134 0.0095
 Saturn -26976-05-31 23:02 J -8131409.73 -8131409.54 -8131409.36 0.0277 0.0134
 Uranus -26976-09-20 20:09 J -8131297.83 -8131297.66 -8131297.47 0.0134 0.0076
 Saturn -26975-01-16 11:16 J -8131180.25 -8131180.03 -8131179.82 0.0278 0.0003
 Uranus -26975-05-05 01:26 J -8131071.63 -8131071.44 -8131071.24 0.0134 0.0057
 Saturn -26975-09-03 01:40 J -8130950.62 -8130950.43 -8130950.24 0.0280 0.0133
 Uranus -26975-12-17 06:57 J -8130845.42 -8130845.21 -8130845.00 0.0134 0.0038
 Saturn -26974-04-20 18:14 J -8130720.78 -8130720.74 -8130720.67 0.0282 0.0271
 Uranus -26974-07-31 12:14 J -8130619.20 -8130618.99 -8130618.77 0.0135 0.0018
 Uranus -26973-03-13 17:45 J -8130392.98 -8130392.76 -8130392.54 0.0135 0.0001
 Jupiter -26973-08-07 10:19 J -8130246.15 -8130246.07 -8130245.97 0.0499 0.0445

Uranus	-26973-10-25 23:16 J	-8130166.74	-8130166.53	-8130166.32	0.0135	0.0021
Jupiter	-26972-04-01 13:26 J	-8130009.15	-8130008.94	-8130008.73	0.0507	0.0008
Uranus	-26972-06-09 04:47 J	-8129940.50	-8129940.30	-8129940.09	0.0135	0.0041
Jupiter	-26972-11-25 01:40 J	-8129771.51	-8129771.43	-8129771.34	0.0516	0.0464
Uranus	-26971-01-21 10:33 J	-8129714.24	-8129714.06	-8129713.86	0.0136	0.0061
Uranus	-26971-09-04 16:33 J	-8129487.98	-8129487.81	-8129487.64	0.0136	0.0081
Uranus	-26970-04-18 22:04 J	-8129261.71	-8129261.58	-8129261.42	0.0136	0.0101
Uranus	-26970-12-01 04:04 J	-8129035.41	-8129035.33	-8129035.21	0.0137	0.0121
Jupiter	-26967-06-17 02:52 J	-8128106.54	-8128106.38	-8128106.21	0.0525	0.0274
Jupiter	-26966-02-08 21:50 J	-8127869.78	-8127869.59	-8127869.41	0.0516	0.0200
Saturn	-26963-08-21 21:07 J	-8126579.70	-8126579.62	-8126579.52	0.0286	0.0258
Saturn	-26962-04-08 11:31 J	-8126350.21	-8126350.02	-8126349.83	0.0284	0.0118
Saturn	-26962-11-23 23:16 J	-8126120.74	-8126120.53	-8126120.32	0.0282	0.0020
Pluto	-26961-01-17 16:19 J	-8126065.98	-8126065.82	-8126065.62	0.0064	0.0035
Saturn	-26961-07-10 08:52 J	-8125891.30	-8125891.13	-8125890.95	0.0280	0.0151
Pluto	-26961-08-29 20:23 J	-8125840.86	-8125840.65	-8125840.43	0.0065	0.0003
Jupiter	-26961-12-05 08:09 J	-8125743.36	-8125743.16	-8125742.96	0.0505	0.0132
Saturn	-26960-02-24 16:19 J	-8125661.83	-8125661.82	-8125661.79	0.0278	0.0276
Pluto	-26960-04-11 23:59 J	-8125615.65	-8125615.50	-8125615.32	0.0065	0.0042
Jupiter	-26960-07-30 17:16 J	-8125505.93	-8125505.78	-8125505.62	0.0513	0.0333
Jupiter	-26955-02-19 23:02 J	-8123840.66	-8123840.54	-8123840.41	0.0527	0.0407
Jupiter	-26955-10-14 20:52 J	-8123603.83	-8123603.63	-8123603.43	0.0519	0.0073
Mars	-26951-06-18 21:50 J	-8122260.74	-8122260.59	-8122260.44	0.1743	0.0766
Jupiter	-26949-08-10 02:23 J	-8121477.58	-8121477.40	-8121477.22	0.0502	0.0257
Jupiter	-26948-04-04 09:07 J	-8121240.31	-8121240.12	-8121239.93	0.0510	0.0201
Saturn	-26947-04-26 18:57 J	-8120852.80	-8120852.71	-8120852.59	0.0275	0.0237
Saturn	-26947-12-12 05:16 J	-8120623.47	-8120623.28	-8120623.08	0.0277	0.0111
Mars	-26946-01-29 22:19 J	-8120574.73	-8120574.57	-8120574.40	0.1774	0.0604
Saturn	-26946-07-29 17:45 J	-8120393.97	-8120393.76	-8120393.55	0.0279	0.0021
Saturn	-26945-03-15 08:23 J	-8120164.33	-8120164.15	-8120163.97	0.0281	0.0157

Jupiter	-26943-06-19 19:55 J	-8119337.87	-8119337.67	-8119337.47	0.0521	0.0058
Jupiter	-26942-02-11 10:33 J	-8119101.18	-8119101.06	-8119100.93	0.0513	0.0398
Uranus	-26937-02-24 18:14 J	-8117261.77	-8117261.74	-8117261.70	0.0145	0.0143
Jupiter	-26937-04-14 22:47 J	-8117211.69	-8117211.55	-8117211.41	0.0500	0.0375
Uranus	-26937-10-08 06:43 J	-8117035.34	-8117035.22	-8117035.09	0.0145	0.0119
Jupiter	-26937-12-08 02:52 J	-8116974.58	-8116974.38	-8116974.17	0.0508	0.0072
Uranus	-26936-05-22 19:11 J	-8116808.86	-8116808.70	-8116808.53	0.0145	0.0094
Uranus	-26935-01-04 07:26 J	-8116582.37	-8116582.19	-8116581.99	0.0145	0.0070
Uranus	-26935-08-18 19:55 J	-8116355.87	-8116355.67	-8116355.46	0.0144	0.0045
Uranus	-26934-04-02 08:09 J	-8116129.37	-8116129.16	-8116128.94	0.0144	0.0020
Uranus	-26934-11-14 20:23 J	-8115902.87	-8115902.65	-8115902.43	0.0144	0.0004
Saturn	-26933-03-03 00:43 J	-8115793.57	-8115793.47	-8115793.35	0.0285	0.0239
Uranus	-26933-06-28 08:23 J	-8115676.36	-8115676.15	-8115675.93	0.0144	0.0029
Saturn	-26933-10-18 14:38 J	-8115564.08	-8115563.89	-8115563.68	0.0283	0.0100
Neptune	-26933-12-06 23:31 J	-8115514.52	-8115514.52	-8115514.50	0.0089	0.0089
Uranus	-26932-02-09 20:09 J	-8115449.85	-8115449.66	-8115449.44	0.0143	0.0054
Saturn	-26932-06-05 02:23 J	-8115334.60	-8115334.40	-8115334.19	0.0281	0.0037
Neptune	-26932-07-20 11:59 J	-8115289.05	-8115289.00	-8115288.95	0.0089	0.0086
Uranus	-26932-09-24 07:55 J	-8115223.34	-8115223.17	-8115222.97	0.0143	0.0077
Saturn	-26931-01-20 11:59 J	-8115105.17	-8115105.00	-8115104.83	0.0279	0.0168
Jupiter	-26931-02-22 17:45 J	-8115071.94	-8115071.76	-8115071.57	0.0523	0.0189
Neptune	-26931-03-02 23:59 J	-8115063.55	-8115063.50	-8115063.42	0.0089	0.0084
Uranus	-26931-05-08 19:55 J	-8114996.82	-8114996.67	-8114996.51	0.0143	0.0100
Neptune	-26931-10-14 12:43 J	-8114838.06	-8114837.97	-8114837.89	0.0089	0.0081
Jupiter	-26931-10-17 10:47 J	-8114835.22	-8114835.05	-8114834.88	0.0515	0.0277
Uranus	-26931-12-21 07:11 J	-8114770.29	-8114770.20	-8114770.07	0.0142	0.0124
Neptune	-26930-05-28 00:28 J	-8114612.56	-8114612.48	-8114612.37	0.0089	0.0079
Neptune	-26929-01-08 13:11 J	-8114387.06	-8114386.95	-8114386.84	0.0089	0.0076
Neptune	-26929-08-21 00:57 J	-8114161.56	-8114161.46	-8114161.32	0.0089	0.0074
Neptune	-26928-04-03 13:40 J	-8113936.05	-8113935.93	-8113935.79	0.0089	0.0071

Neptune	-26928-11-15 01:40 J	-8113710.55	-8113710.43	-8113710.27	0.0089	0.0069
Neptune	-26927-06-28 13:55 J	-8113485.05	-8113484.92	-8113484.76	0.0089	0.0066
Neptune	-26926-02-09 02:09 J	-8113259.54	-8113259.41	-8113259.24	0.0089	0.0063
Neptune	-26926-09-22 14:38 J	-8113034.04	-8113033.89	-8113033.73	0.0089	0.0060
Jupiter	-26926-12-19 19:11 J	-8112945.74	-8112945.70	-8112945.66	0.0499	0.0488
Neptune	-26925-05-05 02:38 J	-8112808.53	-8112808.39	-8112808.20	0.0089	0.0058
Jupiter	-26925-08-12 21:07 J	-8112708.82	-8112708.62	-8112708.41	0.0506	0.0057
Neptune	-26925-12-16 15:07 J	-8112583.03	-8112582.87	-8112582.69	0.0089	0.0055
Jupiter	-26924-04-07 08:38 J	-8112471.26	-8112471.14	-8112471.01	0.0515	0.0412
Neptune	-26924-07-30 03:21 J	-8112357.52	-8112357.36	-8112357.17	0.0089	0.0052
Neptune	-26923-03-12 15:35 J	-8112132.02	-8112131.85	-8112131.66	0.0089	0.0049
Neptune	-26923-10-24 03:50 J	-8111906.51	-8111906.34	-8111906.14	0.0089	0.0046
Moon	-26922-04-26 06:57 J	-8111722.37	-8111722.21	-8111722.06	0.2707	0.0114
Earth	-26922-04-26 11:59 J	-8111722.15	-8111722.00	-8111721.84	0.2708	0.0529 *
Neptune	-26922-06-06 16:19 J	-8111681.00	-8111680.82	-8111680.63	0.0089	0.0043
Neptune	-26921-01-18 04:33 J	-8111455.50	-8111455.31	-8111455.11	0.0089	0.0040
Neptune	-26921-08-30 16:47 J	-8111229.99	-8111229.80	-8111229.60	0.0089	0.0037
Neptune	-26920-04-13 05:16 J	-8111004.47	-8111004.28	-8111004.07	0.0089	0.0034
Jupiter	-26920-10-28 14:23 J	-8110806.06	-8110805.90	-8110805.74	0.0526	0.0323
Neptune	-26920-11-24 17:45 J	-8110778.96	-8110778.76	-8110778.56	0.0089	0.0031
Mars	-26919-06-17 23:02 J	-8110573.71	-8110573.54	-8110573.38	0.1753	0.0510
Jupiter	-26919-06-22 09:50 J	-8110569.28	-8110569.09	-8110568.90	0.0517	0.0151
Neptune	-26919-07-08 05:59 J	-8110553.45	-8110553.25	-8110553.04	0.0089	0.0028
Neptune	-26918-02-18 18:14 J	-8110327.94	-8110327.74	-8110327.53	0.0089	0.0025
Neptune	-26918-10-02 06:43 J	-8110102.43	-8110102.22	-8110102.01	0.0089	0.0022
Saturn	-26918-11-06 22:47 J	-8110066.67	-8110066.55	-8110066.42	0.0275	0.0220
Neptune	-26917-05-14 19:11 J	-8109876.91	-8109876.70	-8109876.48	0.0089	0.0019
Saturn	-26917-06-23 09:35 J	-8109837.29	-8109837.10	-8109836.89	0.0277	0.0094
Neptune	-26917-12-26 07:40 J	-8109651.39	-8109651.18	-8109650.97	0.0089	0.0016
Saturn	-26916-02-07 22:33 J	-8109607.77	-8109607.56	-8109607.35	0.0279	0.0039

Neptune -26916-08-08 19:55 J -8109425.88 -8109425.67 -8109425.45 0.0089 0.0013
 Saturn -26916-09-25 13:26 J -8109378.10 -8109377.94 -8109377.76 0.0281 0.0176
 Neptune -26915-03-22 08:09 J -8109200.37 -8109200.16 -8109199.93 0.0089 0.0010
 Neptune -26915-11-02 20:38 J -8108974.85 -8108974.64 -8108974.42 0.0089 0.0007
 Mars -26914-01-29 11:02 J -8108887.19 -8108887.04 -8108886.89 0.1764 0.0934
 Neptune -26914-06-16 09:07 J -8108749.33 -8108749.12 -8108748.90 0.0089 0.0003
 Neptune -26913-01-27 21:35 J -8108523.82 -8108523.60 -8108523.39 0.0089 0.0001
 Jupiter -26913-04-17 16:33 J -8108443.01 -8108442.81 -8108442.62 0.0504 0.0179
 Neptune -26913-09-09 09:50 J -8108298.30 -8108298.09 -8108297.87 0.0089 0.0003
 Jupiter -26913-12-11 00:43 J -8108205.64 -8108205.47 -8108205.29 0.0512 0.0283
 Neptune -26912-04-22 22:19 J -8108072.78 -8108072.57 -8108072.35 0.0089 0.0006
 Neptune -26912-12-04 10:33 J -8107847.27 -8107847.06 -8107846.83 0.0089 0.0010
 Neptune -26911-07-17 23:02 J -8107621.75 -8107621.54 -8107621.32 0.0088 0.0012
 Neptune -26910-02-28 11:16 J -8107396.24 -8107396.03 -8107395.81 0.0088 0.0016
 Neptune -26910-10-11 23:45 J -8107170.72 -8107170.51 -8107170.29 0.0088 0.0019
 Neptune -26909-05-24 12:28 J -8106945.19 -8106944.98 -8106944.77 0.0088 0.0022
 Neptune -26908-01-05 00:57 J -8106719.67 -8106719.46 -8106719.25 0.0088 0.0025
 Jupiter -26908-07-03 07:26 J -8106540.28 -8106540.19 -8106540.09 0.0528 0.0458
 Neptune -26908-08-18 13:26 J -8106494.15 -8106493.94 -8106493.73 0.0088 0.0028
 Jupiter -26907-02-25 06:14 J -8106303.43 -8106303.24 -8106303.04 0.0520 0.0024
 Neptune -26907-04-01 01:55 J -8106268.62 -8106268.42 -8106268.22 0.0088 0.0031
 Jupiter -26907-10-19 19:55 J -8106066.74 -8106066.67 -8106066.59 0.0511 0.0467
 Neptune -26907-11-12 14:23 J -8106043.10 -8106042.90 -8106042.70 0.0088 0.0034
 Neptune -26906-06-26 02:38 J -8105817.57 -8105817.39 -8105817.17 0.0088 0.0038
 Neptune -26905-02-06 15:21 J -8105592.04 -8105591.86 -8105591.65 0.0088 0.0040
 Neptune -26905-09-19 03:50 J -8105366.51 -8105366.34 -8105366.13 0.0088 0.0043
 Neptune -26904-05-02 16:33 J -8105140.98 -8105140.81 -8105140.61 0.0088 0.0046
 Saturn -26904-09-13 10:47 J -8105007.18 -8105007.05 -8105006.90 0.0285 0.0212
 Neptune -26904-12-14 05:31 J -8104915.45 -8104915.27 -8104915.09 0.0088 0.0049
 Saturn -26903-05-01 00:43 J -8104777.68 -8104777.47 -8104777.27 0.0283 0.0073

Neptune -26903-07-27 17:59 J -8104689.92 -8104689.75 -8104689.57 0.0088 0.0052
 Saturn -26903-12-16 11:59 J -8104548.21 -8104548.00 -8104547.80 0.0281 0.0064
 Neptune -26902-03-10 06:28 J -8104464.39 -8104464.23 -8104464.05 0.0088 0.0055
 Saturn -26902-08-02 20:52 J -8104318.77 -8104318.63 -8104318.47 0.0279 0.0193
 Neptune -26902-10-21 18:57 J -8104238.86 -8104238.71 -8104238.53 0.0088 0.0058
 Jupiter -26902-12-22 12:28 J -8104177.15 -8104176.98 -8104176.81 0.0501 0.0299
 Neptune -26901-06-03 07:40 J -8104013.32 -8104013.18 -8104013.00 0.0088 0.0061
 Jupiter -26901-08-15 17:45 J -8103939.95 -8103939.76 -8103939.56 0.0509 0.0153
 Neptune -26900-01-14 20:09 J -8103787.79 -8103787.66 -8103787.48 0.0088 0.0064
 Neptune -26900-08-28 09:21 J -8103562.25 -8103562.11 -8103561.96 0.0088 0.0066
 Neptune -26899-04-10 21:35 J -8103336.72 -8103336.60 -8103336.45 0.0088 0.0069
 Neptune -26899-11-22 10:04 J -8103111.18 -8103111.08 -8103110.93 0.0088 0.0072
 Neptune -26898-07-05 23:16 J -8102885.64 -8102885.53 -8102885.40 0.0088 0.0074
 Neptune -26897-02-16 11:45 J -8102660.10 -8102660.01 -8102659.88 0.0088 0.0077
 Neptune -26897-09-29 00:14 J -8102434.56 -8102434.49 -8102434.36 0.0088 0.0080
 Neptune -26896-05-12 13:26 J -8102209.01 -8102208.94 -8102208.85 0.0088 0.0081
 Jupiter -26896-10-31 04:19 J -8102037.52 -8102037.32 -8102037.13 0.0523 0.0111
 Neptune -26896-12-24 01:55 J -8101983.46 -8101983.42 -8101983.33 0.0088 0.0084
 Jupiter -26895-06-24 20:23 J -8101800.79 -8101800.65 -8101800.50 0.0514 0.0350
 Neptune -26895-08-06 14:52 J -8101757.90 -8101757.88 -8101757.82 0.0088 0.0086
 Uranus -26893-02-23 21:50 J -8101191.67 -8101191.59 -8101191.49 0.0133 0.0121
 Uranus -26893-10-07 03:07 J -8100965.51 -8100965.37 -8100965.23 0.0134 0.0102
 Uranus -26892-05-21 08:09 J -8100739.33 -8100739.16 -8100738.99 0.0134 0.0083
 Uranus -26891-01-02 13:26 J -8100513.13 -8100512.94 -8100512.75 0.0134 0.0064
 Uranus -26891-08-16 18:28 J -8100286.92 -8100286.73 -8100286.52 0.0134 0.0045
 Uranus -26890-03-30 23:59 J -8100060.71 -8100060.50 -8100060.29 0.0134 0.0025
 Jupiter -26890-08-27 08:09 J -8099911.27 -8099911.16 -8099911.05 0.0499 0.0417
 Uranus -26890-11-12 05:16 J -8099834.49 -8099834.28 -8099834.06 0.0135 0.0006
 Jupiter -26889-04-20 10:47 J -8099674.26 -8099674.05 -8099673.84 0.0507 0.0023
 Uranus -26889-06-25 10:47 J -8099608.26 -8099608.05 -8099607.83 0.0135 0.0014

Jupiter	-26889-12-13 22:47 J	-8099436.61	-8099436.55	-8099436.49	0.0516	0.0488
Uranus	-26888-02-06 16:19 J	-8099382.02	-8099381.82	-8099381.60	0.0135	0.0034
Saturn	-26888-05-19 05:16 J	-8099280.42	-8099280.28	-8099280.13	0.0275	0.0198
Uranus	-26888-09-20 21:50 J	-8099155.78	-8099155.59	-8099155.38	0.0135	0.0054
Saturn	-26887-01-03 16:04 J	-8099051.03	-8099050.83	-8099050.62	0.0277	0.0071
Uranus	-26887-05-05 03:35 J	-8098929.52	-8098929.35	-8098929.16	0.0136	0.0074
Saturn	-26887-08-21 05:02 J	-8098821.50	-8098821.29	-8098821.08	0.0279	0.0063
Uranus	-26887-12-17 09:35 J	-8098703.25	-8098703.10	-8098702.94	0.0136	0.0093
Saturn	-26886-04-07 20:23 J	-8098591.80	-8098591.65	-8098591.50	0.0281	0.0200
Uranus	-26886-07-31 15:21 J	-8098476.96	-8098476.86	-8098476.73	0.0136	0.0114
Uranus	-26885-03-13 21:21 J	-8098250.63	-8098250.61	-8098250.55	0.0137	0.0134
Mars	-26885-04-15 07:40 J	-8098218.32	-8098218.18	-8098218.03	0.1740	0.0922
Jupiter	-26884-07-06 02:09 J	-8097771.58	-8097771.41	-8097771.23	0.0525	0.0243
Jupiter	-26883-02-27 20:52 J	-8097534.80	-8097534.63	-8097534.44	0.0516	0.0230
Mars	-26881-11-26 04:04 J	-8096532.49	-8096532.33	-8096532.17	0.1778	0.0842
Jupiter	-26878-12-25 05:31 J	-8095408.47	-8095408.27	-8095408.06	0.0505	0.0105
Jupiter	-26877-08-18 15:21 J	-8095171.01	-8095170.86	-8095170.72	0.0513	0.0360
Saturn	-26874-03-26 14:09 J	-8094221.06	-8094220.91	-8094220.75	0.0284	0.0193
Saturn	-26874-11-11 03:35 J	-8093991.56	-8093991.35	-8093991.15	0.0282	0.0055
Pluto	-26873-04-30 20:38 J	-8093819.81	-8093819.64	-8093819.46	0.0080	0.0049
Saturn	-26873-06-27 14:23 J	-8093762.09	-8093761.90	-8093761.69	0.0280	0.0080
Pluto	-26873-12-12 07:26 J	-8093594.39	-8093594.19	-8093593.96	0.0080	0.0028
Saturn	-26872-02-11 23:16 J	-8093532.66	-8093532.53	-8093532.39	0.0278	0.0209
Jupiter	-26872-03-10 23:31 J	-8093505.65	-8093505.52	-8093505.37	0.0527	0.0373
Jupiter	-26872-11-02 20:38 J	-8093268.83	-8093268.64	-8093268.44	0.0518	0.0104
Jupiter	-26866-08-30 00:57 J	-8091142.64	-8091142.46	-8091142.27	0.0503	0.0226
Jupiter	-26865-04-23 08:23 J	-8090905.33	-8090905.15	-8090904.96	0.0511	0.0231
Jupiter	-26861-11-13 19:11 J	-8089239.75	-8089239.70	-8089239.64	0.0529	0.0504
Jupiter	-26860-07-08 18:57 J	-8089002.91	-8089002.71	-8089002.51	0.0521	0.0026
Jupiter	-26859-03-02 09:07 J	-8088766.23	-8088766.12	-8088766.01	0.0512	0.0423

Saturn	-26859-11-29 07:26 J	-8088494.34	-8088494.19	-8088494.02	0.0276	0.0183
Saturn	-26858-07-16 18:57 J	-8088264.92	-8088264.71	-8088264.50	0.0277	0.0054
Saturn	-26857-03-02 08:09 J	-8088035.36	-8088035.16	-8088034.95	0.0279	0.0079
Saturn	-26857-10-17 23:45 J	-8087805.64	-8087805.51	-8087805.37	0.0281	0.0216
Jupiter	-26854-05-04 21:50 J	-8086876.74	-8086876.59	-8086876.44	0.0501	0.0342
Jupiter	-26854-12-28 02:09 J	-8086639.61	-8086639.41	-8086639.20	0.0508	0.0104
Mars	-26853-04-14 08:38 J	-8086531.30	-8086531.14	-8086530.97	0.1750	0.0339
Uranus	-26853-06-07 13:26 J	-8086477.02	-8086476.94	-8086476.83	0.0145	0.0130
Uranus	-26852-01-20 01:55 J	-8086250.55	-8086250.42	-8086250.25	0.0145	0.0105
Uranus	-26852-09-03 14:23 J	-8086024.07	-8086023.90	-8086023.71	0.0145	0.0080
Uranus	-26851-04-18 02:38 J	-8085797.58	-8085797.39	-8085797.17	0.0145	0.0056
Uranus	-26851-11-30 15:07 J	-8085571.08	-8085570.87	-8085570.65	0.0144	0.0031
Uranus	-26850-07-15 03:35 J	-8085344.57	-8085344.35	-8085344.13	0.0144	0.0006
Uranus	-26849-02-26 15:50 J	-8085118.06	-8085117.84	-8085117.62	0.0144	0.0019
Uranus	-26849-10-10 03:35 J	-8084891.55	-8084891.35	-8084891.13	0.0143	0.0044
Mars	-26849-11-25 17:16 J	-8084844.94	-8084844.78	-8084844.62	0.1767	0.0713
Neptune	-26849-11-29 13:40 J	-8084840.93	-8084840.93	-8084840.86	0.0088	0.0088
Jupiter	-26848-03-13 13:55 J	-8084737.11	-8084736.92	-8084736.73	0.0524	0.0161
Uranus	-26848-05-24 15:35 J	-8084665.04	-8084664.85	-8084664.65	0.0143	0.0067
Neptune	-26848-07-13 03:50 J	-8084615.39	-8084615.34	-8084615.26	0.0088	0.0085
Jupiter	-26848-11-05 07:11 J	-8084500.36	-8084500.20	-8084500.04	0.0515	0.0304
Uranus	-26847-01-06 03:35 J	-8084438.52	-8084438.35	-8084438.18	0.0143	0.0091
Neptune	-26847-02-23 17:16 J	-8084389.84	-8084389.78	-8084389.67	0.0088	0.0082
Uranus	-26847-08-20 15:07 J	-8084211.98	-8084211.87	-8084211.73	0.0142	0.0115
Neptune	-26847-10-07 07:26 J	-8084164.27	-8084164.19	-8084164.08	0.0088	0.0080
Uranus	-26846-04-04 02:52 J	-8083985.42	-8083985.38	-8083985.32	0.0142	0.0138
Neptune	-26846-05-20 21:35 J	-8083938.71	-8083938.60	-8083938.49	0.0088	0.0077
Neptune	-26845-01-01 10:47 J	-8083713.15	-8083713.05	-8083712.91	0.0088	0.0075
Neptune	-26845-08-14 00:43 J	-8083487.59	-8083487.47	-8083487.33	0.0088	0.0072
Saturn	-26845-10-05 22:19 J	-8083434.73	-8083434.57	-8083434.39	0.0285	0.0168

Neptune	-26844-03-27 14:38 J	-8083262.02	-8083261.89	-8083261.74	0.0088	0.0069
Saturn	-26844-05-23 11:45 J	-8083205.22	-8083205.01	-8083204.80	0.0283	0.0029
Neptune	-26844-11-08 04:04 J	-8083036.45	-8083036.33	-8083036.16	0.0088	0.0067
Saturn	-26843-01-07 22:33 J	-8082975.75	-8082975.56	-8082975.36	0.0281	0.0106
Neptune	-26843-06-21 17:59 J	-8082810.89	-8082810.75	-8082810.58	0.0088	0.0064
Saturn	-26843-08-25 06:57 J	-8082746.31	-8082746.21	-8082746.09	0.0279	0.0234
Jupiter	-26842-01-07 19:11 J	-8082610.78	-8082610.70	-8082610.61	0.0499	0.0455
Neptune	-26842-02-02 07:40 J	-8082585.32	-8082585.18	-8082585.00	0.0088	0.0061
Jupiter	-26842-09-01 20:52 J	-8082373.84	-8082373.63	-8082373.42	0.0506	0.0023
Neptune	-26842-09-15 21:50 J	-8082359.75	-8082359.59	-8082359.41	0.0088	0.0058
Jupiter	-26841-04-26 07:40 J	-8082136.28	-8082136.18	-8082136.07	0.0514	0.0441
Neptune	-26841-04-28 11:31 J	-8082134.18	-8082134.02	-8082133.83	0.0088	0.0055
Neptune	-26841-12-10 01:26 J	-8081908.61	-8081908.44	-8081908.25	0.0088	0.0052
Neptune	-26840-07-23 15:21 J	-8081683.04	-8081682.86	-8081682.67	0.0088	0.0049
Neptune	-26839-03-06 05:02 J	-8081457.47	-8081457.29	-8081457.09	0.0088	0.0046
Neptune	-26839-10-17 18:57 J	-8081231.90	-8081231.71	-8081231.51	0.0088	0.0043
Neptune	-26838-05-31 08:38 J	-8081006.33	-8081006.14	-8081005.93	0.0089	0.0040
Neptune	-26837-01-11 22:19 J	-8080780.77	-8080780.57	-8080780.36	0.0089	0.0037
Neptune	-26837-08-24 11:59 J	-8080555.20	-8080555.00	-8080554.79	0.0089	0.0034
Jupiter	-26837-11-16 10:19 J	-8080471.23	-8080471.07	-8080470.90	0.0526	0.0295
Neptune	-26836-04-07 01:40 J	-8080329.63	-8080329.43	-8080329.21	0.0089	0.0031
Jupiter	-26836-07-11 06:43 J	-8080234.41	-8080234.22	-8080234.03	0.0518	0.0180
Neptune	-26836-11-18 15:21 J	-8080104.06	-8080103.86	-8080103.64	0.0089	0.0028
Neptune	-26835-07-02 05:02 J	-8079878.50	-8079878.29	-8079878.07	0.0089	0.0025
Neptune	-26834-02-12 18:43 J	-8079652.93	-8079652.72	-8079652.50	0.0089	0.0021
Neptune	-26834-09-26 08:09 J	-8079427.36	-8079427.16	-8079426.92	0.0089	0.0019
Neptune	-26833-05-08 22:04 J	-8079201.80	-8079201.58	-8079201.35	0.0089	0.0015
Moon	-26833-10-27 22:47 J	-8079029.62	-8079029.55	-8079029.48	0.2621	0.2348
Neptune	-26833-12-20 11:45 J	-8078976.23	-8078976.01	-8078975.78	0.0089	0.0012
Neptune	-26832-08-03 01:26 J	-8078750.66	-8078750.44	-8078750.22	0.0089	0.0009

Neptune -26831-03-16 15:07 J -8078525.09 -8078524.87 -8078524.65 0.0089 0.0005
 Neptune -26831-10-28 04:47 J -8078299.52 -8078299.30 -8078299.08 0.0089 0.0002
 Jupiter -26830-05-07 14:52 J -8078108.08 -8078107.88 -8078107.68 0.0503 0.0150
 Neptune -26830-06-10 18:28 J -8078073.95 -8078073.73 -8078073.51 0.0089 0.0001
 Jupiter -26830-12-30 23:02 J -8077870.71 -8077870.54 -8077870.38 0.0512 0.0310
 Neptune -26829-01-22 08:09 J -8077848.39 -8077848.16 -8077847.94 0.0089 0.0004
 Saturn -26829-06-10 13:40 J -8077708.09 -8077707.93 -8077707.75 0.0276 0.0161
 Neptune -26829-09-03 21:35 J -8077622.82 -8077622.60 -8077622.37 0.0089 0.0007
 Saturn -26828-01-26 00:57 J -8077478.67 -8077478.46 -8077478.25 0.0278 0.0031
 Neptune -26828-04-17 11:02 J -8077397.25 -8077397.04 -8077396.81 0.0089 0.0011
 Saturn -26828-09-12 14:23 J -8077249.10 -8077248.90 -8077248.70 0.0280 0.0103
 Neptune -26828-11-29 00:57 J -8077171.68 -8077171.46 -8077171.24 0.0089 0.0014
 Saturn -26827-04-30 05:59 J -8077019.36 -8077019.25 -8077019.14 0.0282 0.0240
 Neptune -26827-07-12 14:23 J -8076946.11 -8076945.90 -8076945.67 0.0089 0.0017
 Neptune -26826-02-23 04:04 J -8076720.54 -8076720.33 -8076720.11 0.0089 0.0020
 Neptune -26826-10-06 17:31 J -8076494.98 -8076494.77 -8076494.55 0.0089 0.0023
 Neptune -26825-05-19 07:11 J -8076269.41 -8076269.20 -8076268.99 0.0089 0.0026
 Jupiter -26825-07-22 07:11 J -8076205.31 -8076205.20 -8076205.08 0.0528 0.0427
 Moon -26825-10-25 12:28 J -8076110.10 -8076109.98 -8076109.86 0.2626 0.1743
 Earth -26825-10-25 18:14 J -8076109.90 -8076109.74 -8076109.59 0.2624 0.0829 *
 Neptune -26825-12-30 20:38 J -8076043.84 -8076043.64 -8076043.42 0.0089 0.0029
 Jupiter -26824-03-16 06:28 J -8075968.43 -8075968.23 -8075968.03 0.0520 0.0053
 Neptune -26824-08-13 10:04 J -8075818.28 -8075818.08 -8075817.87 0.0089 0.0032
 Jupiter -26824-11-07 19:55 J -8075731.71 -8075731.67 -8075731.61 0.0511 0.0494
 Neptune -26823-03-26 23:31 J -8075592.72 -8075592.52 -8075592.31 0.0089 0.0035
 Neptune -26823-11-07 12:57 J -8075367.15 -8075366.96 -8075366.75 0.0089 0.0038
 Neptune -26822-06-21 02:23 J -8075141.59 -8075141.40 -8075141.20 0.0089 0.0041
 Neptune -26821-02-01 15:50 J -8074916.03 -8074915.84 -8074915.64 0.0089 0.0044
 Mars -26821-04-13 10:19 J -8074844.13 -8074844.07 -8074844.01 0.1759 0.1638
 Neptune -26821-09-14 05:02 J -8074690.47 -8074690.29 -8074690.09 0.0089 0.0047

Neptune -26820-04-27 18:28 J -8074464.90 -8074464.73 -8074464.54 0.0089 0.0050
 Neptune -26820-12-09 07:55 J -8074239.34 -8074239.17 -8074238.98 0.0089 0.0053
 Mars -26819-02-10 17:45 J -8074175.89 -8074175.76 -8074175.63 0.1737 0.1076
 Neptune -26819-07-22 21:07 J -8074013.77 -8074013.62 -8074013.43 0.0089 0.0056
 Jupiter -26818-01-10 10:47 J -8073842.22 -8073842.05 -8073841.87 0.0501 0.0270
 Neptune -26818-03-05 10:19 J -8073788.21 -8073788.07 -8073787.88 0.0089 0.0059
 Jupiter -26818-09-04 16:33 J -8073605.01 -8073604.81 -8073604.62 0.0510 0.0181
 Neptune -26818-10-16 23:59 J -8073562.65 -8073562.50 -8073562.33 0.0089 0.0061
 Neptune -26817-05-29 13:11 J -8073337.09 -8073336.95 -8073336.78 0.0089 0.0064
 Neptune -26816-01-10 02:38 J -8073111.52 -8073111.39 -8073111.23 0.0089 0.0067
 Neptune -26816-08-23 16:19 J -8072885.96 -8072885.82 -8072885.68 0.0089 0.0069
 Neptune -26815-04-06 05:16 J -8072660.39 -8072660.28 -8072660.14 0.0089 0.0072
 Saturn -26815-04-18 01:26 J -8072648.61 -8072648.44 -8072648.25 0.0284 0.0150
 Mars -26815-09-23 10:33 J -8072490.20 -8072490.06 -8072489.92 0.1781 0.1066
 Neptune -26815-11-17 18:28 J -8072434.83 -8072434.73 -8072434.59 0.0089 0.0075
 Saturn -26815-12-03 14:23 J -8072419.11 -8072418.90 -8072418.69 0.0282 0.0012
 Neptune -26814-07-01 07:55 J -8072209.26 -8072209.17 -8072209.05 0.0089 0.0077
 Saturn -26814-07-21 00:57 J -8072189.65 -8072189.46 -8072189.27 0.0280 0.0121
 Neptune -26813-02-11 20:52 J -8071983.70 -8071983.63 -8071983.51 0.0089 0.0080
 Saturn -26813-03-06 09:07 J -8071960.21 -8071960.12 -8071960.03 0.0278 0.0248
 Neptune -26813-09-24 10:19 J -8071758.14 -8071758.07 -8071757.97 0.0089 0.0082
 Jupiter -26813-11-19 05:31 J -8071702.47 -8071702.27 -8071702.08 0.0522 0.0076
 Neptune -26812-05-07 23:45 J -8071532.57 -8071532.51 -8071532.44 0.0089 0.0084
 Jupiter -26812-07-13 21:07 J -8071465.75 -8071465.62 -8071465.49 0.0513 0.0380
 Neptune -26812-12-19 12:28 J -8071307.00 -8071306.98 -8071306.91 0.0089 0.0087
 Neptune -26811-08-02 02:09 J -8071081.41 -8071081.41 -8071081.40 0.0089 0.0089
 Uranus -26810-10-24 10:19 J -8070633.13 -8070633.07 -8070633.01 0.0133 0.0128
 Uranus -26809-06-06 14:52 J -8070406.98 -8070406.88 -8070406.74 0.0133 0.0110
 Uranus -26808-01-18 20:09 J -8070180.80 -8070180.66 -8070180.48 0.0134 0.0091
 Uranus -26808-09-02 01:40 J -8069954.61 -8069954.43 -8069954.24 0.0134 0.0071

Uranus	-26807-04-16 06:43 J	-8069728.41	-8069728.22	-8069728.01	0.0134	0.0052
Jupiter	-26807-09-15 07:26 J	-8069576.32	-8069576.19	-8069576.06	0.0500	0.0386
Uranus	-26807-11-28 12:14 J	-8069502.20	-8069501.99	-8069501.78	0.0134	0.0032
Jupiter	-26806-05-10 10:47 J	-8069339.26	-8069339.05	-8069338.84	0.0508	0.0054
Uranus	-26806-07-12 17:31 J	-8069275.98	-8069275.77	-8069275.55	0.0134	0.0013
Uranus	-26805-02-23 23:02 J	-8069049.76	-8069049.54	-8069049.32	0.0135	0.0007
Uranus	-26805-10-07 04:19 J	-8068823.52	-8068823.32	-8068823.10	0.0135	0.0027
Uranus	-26804-05-21 10:04 J	-8068597.28	-8068597.08	-8068596.88	0.0135	0.0047
Uranus	-26803-01-02 15:50 J	-8068371.03	-8068370.84	-8068370.65	0.0136	0.0067
Uranus	-26803-08-16 21:21 J	-8068144.76	-8068144.61	-8068144.43	0.0136	0.0087
Uranus	-26802-03-31 03:07 J	-8067918.48	-8067918.37	-8067918.22	0.0136	0.0107
Uranus	-26802-11-12 09:21 J	-8067692.18	-8067692.11	-8067692.03	0.0136	0.0127
Jupiter	-26801-07-25 02:52 J	-8067436.56	-8067436.38	-8067436.20	0.0524	0.0208
Jupiter	-26800-03-18 21:07 J	-8067199.79	-8067199.62	-8067199.45	0.0516	0.0259
Saturn	-26800-05-06 05:16 J	-8067151.31	-8067151.28	-8067151.24	0.0274	0.0269
Saturn	-26800-12-21 14:38 J	-8066922.07	-8066921.89	-8066921.71	0.0276	0.0146
Saturn	-26799-08-08 02:09 J	-8066692.62	-8066692.41	-8066692.20	0.0278	0.0017
Saturn	-26798-03-25 15:50 J	-8066463.03	-8066462.84	-8066462.64	0.0280	0.0118
Saturn	-26798-11-10 07:55 J	-8066233.25	-8066233.17	-8066233.07	0.0282	0.0255
Jupiter	-26795-05-21 05:31 J	-8065310.28	-8065310.27	-8065310.24	0.0498	0.0494
Jupiter	-26794-01-13 06:14 J	-8065073.45	-8065073.24	-8065073.04	0.0505	0.0069
Jupiter	-26794-09-07 16:04 J	-8064835.96	-8064835.83	-8064835.70	0.0513	0.0394
Jupiter	-26789-03-29 20:23 J	-8063170.80	-8063170.65	-8063170.50	0.0527	0.0344
Jupiter	-26789-11-21 17:45 J	-8062933.95	-8062933.76	-8062933.57	0.0519	0.0132
Mars	-26787-02-09 17:59 J	-8062488.92	-8062488.75	-8062488.58	0.1746	0.0165
Saturn	-26786-03-13 17:31 J	-8062091.85	-8062091.77	-8062091.70	0.0286	0.0266
Saturn	-26786-10-29 08:23 J	-8061862.33	-8061862.15	-8061861.95	0.0284	0.0125
Saturn	-26785-06-14 21:21 J	-8061632.82	-8061632.61	-8061632.40	0.0282	0.0013
Saturn	-26784-01-30 07:40 J	-8061403.35	-8061403.18	-8061403.00	0.0280	0.0146
Saturn	-26784-09-16 15:50 J	-8061173.88	-8061173.84	-8061173.80	0.0278	0.0272

Jupiter	-26783-09-18 02:23 J	-8060807.59	-8060807.40	-8060807.21	0.0503	0.0191
Mars	-26783-09-22 23:45 J	-8060802.68	-8060802.51	-8060802.34	0.1771	0.0495
Jupiter	-26782-05-13 09:21 J	-8060570.29	-8060570.11	-8060569.93	0.0511	0.0265
Jupiter	-26778-12-03 15:35 J	-8058904.93	-8058904.85	-8058904.76	0.0529	0.0477
Jupiter	-26777-07-27 15:50 J	-8058668.04	-8058667.84	-8058667.64	0.0521	0.0008
Jupiter	-26776-03-21 06:43 J	-8058431.30	-8058431.22	-8058431.12	0.0513	0.0451
Jupiter	-26771-05-23 21:35 J	-8056541.76	-8056541.60	-8056541.44	0.0500	0.0312
Saturn	-26771-11-16 11:02 J	-8056365.12	-8056365.04	-8056364.94	0.0274	0.0248
Jupiter	-26770-01-16 01:40 J	-8056304.63	-8056304.43	-8056304.23	0.0508	0.0134
Saturn	-26770-07-03 20:23 J	-8056135.83	-8056135.65	-8056135.45	0.0276	0.0125
Uranus	-26769-02-05 18:28 J	-8055918.76	-8055918.73	-8055918.67	0.0145	0.0141
Saturn	-26769-02-18 08:09 J	-8055906.37	-8055906.16	-8055905.95	0.0278	0.0006
Uranus	-26769-09-19 07:11 J	-8055692.33	-8055692.20	-8055692.07	0.0145	0.0117
Saturn	-26769-10-04 21:50 J	-8055676.77	-8055676.59	-8055676.40	0.0280	0.0141
Neptune	-26768-03-10 08:09 J	-8055520.18	-8055520.16	-8055520.09	0.0089	0.0088
Uranus	-26768-05-03 19:26 J	-8055465.85	-8055465.69	-8055465.51	0.0145	0.0092
Saturn	-26768-05-22 14:09 J	-8055446.94	-8055446.91	-8055446.88	0.0282	0.0278
Neptune	-26768-10-21 20:23 J	-8055294.69	-8055294.65	-8055294.56	0.0089	0.0085
Uranus	-26768-12-16 07:55 J	-8055239.36	-8055239.17	-8055238.97	0.0145	0.0067
Neptune	-26767-06-04 09:07 J	-8055069.19	-8055069.12	-8055069.04	0.0089	0.0082
Uranus	-26767-07-30 20:23 J	-8055012.86	-8055012.65	-8055012.44	0.0145	0.0042
Neptune	-26766-01-15 21:07 J	-8054843.70	-8054843.62	-8054843.51	0.0089	0.0080
Uranus	-26766-03-14 08:38 J	-8054786.35	-8054786.14	-8054785.92	0.0144	0.0017
Neptune	-26766-08-29 09:07 J	-8054618.20	-8054618.12	-8054617.99	0.0089	0.0078
Uranus	-26766-10-26 20:52 J	-8054559.85	-8054559.63	-8054559.41	0.0144	0.0008
Jupiter	-26765-04-01 14:38 J	-8054402.08	-8054401.89	-8054401.70	0.0524	0.0128
Neptune	-26765-04-10 21:50 J	-8054392.69	-8054392.59	-8054392.46	0.0089	0.0075
Uranus	-26765-06-09 08:52 J	-8054333.33	-8054333.13	-8054332.91	0.0144	0.0033
Neptune	-26765-11-22 10:04 J	-8054167.18	-8054167.08	-8054166.94	0.0089	0.0073
Jupiter	-26765-11-24 08:09 J	-8054165.31	-8054165.16	-8054165.01	0.0515	0.0334

Uranus	-26764-01-21 20:52 J	-8054106.82	-8054106.63	-8054106.42	0.0143	0.0057
Neptune	-26764-07-05 22:33 J	-8053941.68	-8053941.56	-8053941.42	0.0089	0.0070
Uranus	-26764-09-05 08:52 J	-8053880.30	-8053880.13	-8053879.94	0.0143	0.0081
Neptune	-26763-02-16 10:33 J	-8053716.18	-8053716.06	-8053715.90	0.0089	0.0068
Uranus	-26763-04-19 20:52 J	-8053653.77	-8053653.63	-8053653.48	0.0143	0.0105
Neptune	-26763-09-29 23:02 J	-8053490.67	-8053490.54	-8053490.38	0.0089	0.0065
Uranus	-26763-12-02 08:23 J	-8053427.23	-8053427.15	-8053427.04	0.0142	0.0128
Neptune	-26762-05-13 11:31 J	-8053265.16	-8053265.02	-8053264.86	0.0089	0.0062
Neptune	-26762-12-24 23:31 J	-8053039.66	-8053039.52	-8053039.34	0.0089	0.0060
Neptune	-26761-08-06 11:59 J	-8052814.16	-8052814.00	-8052813.83	0.0089	0.0057
Neptune	-26760-03-20 00:28 J	-8052588.65	-8052588.48	-8052588.31	0.0089	0.0054
Neptune	-26760-10-31 12:14 J	-8052363.14	-8052362.99	-8052362.79	0.0089	0.0052
Jupiter	-26759-01-26 18:28 J	-8052275.83	-8052275.73	-8052275.62	0.0499	0.0426
Neptune	-26759-06-14 00:43 J	-8052137.64	-8052137.47	-8052137.28	0.0089	0.0049
Jupiter	-26759-09-20 20:23 J	-8052038.86	-8052038.65	-8052038.44	0.0506	0.0008
Neptune	-26758-01-25 12:57 J	-8051912.13	-8051911.96	-8051911.77	0.0089	0.0046
Jupiter	-26758-05-16 07:26 J	-8051801.27	-8051801.19	-8051801.11	0.0515	0.0469
Neptune	-26758-09-08 01:26 J	-8051686.63	-8051686.44	-8051686.25	0.0089	0.0043
Neptune	-26757-04-20 13:26 J	-8051461.11	-8051460.94	-8051460.73	0.0089	0.0041
Saturn	-26757-09-22 19:55 J	-8051305.76	-8051305.67	-8051305.56	0.0286	0.0249
Neptune	-26757-12-02 01:55 J	-8051235.61	-8051235.42	-8051235.22	0.0089	0.0038
Saturn	-26756-05-10 10:47 J	-8051076.24	-8051076.05	-8051075.85	0.0284	0.0109
Neptune	-26756-07-15 14:09 J	-8051010.10	-8051009.91	-8051009.70	0.0089	0.0035
Saturn	-26756-12-25 23:16 J	-8050846.73	-8050846.53	-8050846.32	0.0281	0.0030
Mars	-26755-02-08 19:11 J	-8050801.79	-8050801.70	-8050801.61	0.1756	0.1449
Neptune	-26755-02-26 02:23 J	-8050784.59	-8050784.40	-8050784.19	0.0089	0.0032
Saturn	-26755-08-12 09:21 J	-8050617.28	-8050617.11	-8050616.94	0.0279	0.0161
Neptune	-26755-10-09 14:38 J	-8050559.08	-8050558.89	-8050558.67	0.0089	0.0029
Neptune	-26754-05-23 03:07 J	-8050333.57	-8050333.37	-8050333.15	0.0089	0.0026
Jupiter	-26754-12-06 12:43 J	-8050136.14	-8050135.97	-8050135.79	0.0526	0.0258

Mars -26754-12-09 03:50 J -8050133.46 -8050133.34 -8050133.22 0.1734 0.1226
 Neptune -26753-01-03 15:35 J -8050108.05 -8050107.85 -8050107.64 0.0089 0.0023
 Jupiter -26753-07-30 08:38 J -8049899.32 -8049899.14 -8049898.96 0.0517 0.0214
 Neptune -26753-08-16 04:04 J -8049882.54 -8049882.33 -8049882.12 0.0089 0.0020
 Neptune -26752-03-29 16:19 J -8049657.03 -8049656.82 -8049656.60 0.0089 0.0017
 Neptune -26752-11-10 04:47 J -8049431.51 -8049431.30 -8049431.08 0.0089 0.0014
 Neptune -26751-06-23 17:16 J -8049205.99 -8049205.78 -8049205.56 0.0089 0.0011
 Neptune -26750-02-04 05:45 J -8048980.48 -8048980.26 -8048980.05 0.0089 0.0008
 Neptune -26750-09-17 17:59 J -8048754.96 -8048754.75 -8048754.53 0.0089 0.0005
 Neptune -26749-04-30 06:43 J -8048529.44 -8048529.22 -8048529.01 0.0089 0.0002
 Mars -26749-07-20 15:50 J -8048447.96 -8048447.84 -8048447.72 0.1785 0.1314
 Neptune -26749-12-11 18:57 J -8048303.92 -8048303.71 -8048303.49 0.0089 0.0002
 Neptune -26748-07-25 07:26 J -8048078.41 -8048078.19 -8048077.97 0.0089 0.0004
 Neptune -26747-03-07 19:40 J -8047852.89 -8047852.68 -8047852.46 0.0089 0.0007
 Jupiter -26747-05-26 15:35 J -8047773.06 -8047772.85 -8047772.65 0.0504 0.0116
 Neptune -26747-10-19 08:09 J -8047627.38 -8047627.16 -8047626.94 0.0089 0.0010
 Jupiter -26746-01-19 00:14 J -8047535.64 -8047535.49 -8047535.33 0.0513 0.0343
 Neptune -26746-06-01 20:38 J -8047401.85 -8047401.64 -8047401.42 0.0088 0.0013
 Neptune -26745-01-13 09:07 J -8047176.33 -8047176.12 -8047175.90 0.0088 0.0016
 Neptune -26745-08-25 21:35 J -8046950.81 -8046950.60 -8046950.39 0.0088 0.0019
 Neptune -26744-04-08 10:04 J -8046725.29 -8046725.08 -8046724.87 0.0088 0.0022
 Neptune -26744-11-19 22:33 J -8046499.77 -8046499.56 -8046499.35 0.0088 0.0025
 Neptune -26743-07-03 11:02 J -8046274.25 -8046274.04 -8046273.83 0.0088 0.0028
 Neptune -26742-02-13 23:16 J -8046048.73 -8046048.53 -8046048.32 0.0088 0.0031
 Jupiter -26742-08-11 09:21 J -8045870.24 -8045870.11 -8045869.97 0.0528 0.0390
 Neptune -26742-09-27 11:45 J -8045823.20 -8045823.01 -8045822.80 0.0088 0.0034
 Jupiter -26741-04-04 07:55 J -8045633.37 -8045633.17 -8045632.97 0.0520 0.0087
 Neptune -26741-05-10 00:28 J -8045597.67 -8045597.48 -8045597.27 0.0088 0.0037
 Saturn -26741-05-28 10:33 J -8045579.16 -8045579.06 -8045578.94 0.0274 0.0235
 Neptune -26741-12-21 12:57 J -8045372.14 -8045371.96 -8045371.75 0.0088 0.0040

Saturn	-26740-01-12 20:09 J	-8045349.85	-8045349.66	-8045349.46	0.0276	0.0111
Neptune	-26740-08-04 01:26 J	-8045146.61	-8045146.44	-8045146.23	0.0088	0.0043
Saturn	-26740-08-30 07:55 J	-8045120.38	-8045120.17	-8045119.95	0.0278	0.0020
Neptune	-26739-03-17 13:55 J	-8044921.09	-8044920.92	-8044920.71	0.0088	0.0046
Saturn	-26739-04-16 21:50 J	-8044890.76	-8044890.59	-8044890.40	0.0280	0.0155
Neptune	-26739-10-29 03:07 J	-8044695.56	-8044695.37	-8044695.19	0.0088	0.0048
Neptune	-26738-06-11 15:35 J	-8044470.02	-8044469.85	-8044469.66	0.0088	0.0051
Neptune	-26737-01-23 04:19 J	-8044244.48	-8044244.32	-8044244.14	0.0088	0.0053
Neptune	-26737-09-04 16:47 J	-8044018.95	-8044018.80	-8044018.61	0.0088	0.0056
Neptune	-26736-04-18 05:45 J	-8043793.42	-8043793.26	-8043793.09	0.0088	0.0059
Neptune	-26736-11-29 18:14 J	-8043567.89	-8043567.74	-8043567.57	0.0088	0.0061
Jupiter	-26735-01-29 12:28 J	-8043507.16	-8043506.98	-8043506.79	0.0502	0.0234
Neptune	-26735-07-13 06:43 J	-8043342.35	-8043342.22	-8043342.05	0.0088	0.0064
Jupiter	-26735-09-23 18:43 J	-8043269.91	-8043269.72	-8043269.53	0.0510	0.0218
Neptune	-26734-02-23 19:40 J	-8043116.81	-8043116.68	-8043116.53	0.0088	0.0067
Neptune	-26734-10-07 08:09 J	-8042891.28	-8042891.16	-8042891.01	0.0088	0.0069
Neptune	-26733-05-19 21:07 J	-8042665.74	-8042665.62	-8042665.48	0.0088	0.0072
Neptune	-26733-12-31 09:35 J	-8042440.20	-8042440.10	-8042439.96	0.0088	0.0074
Neptune	-26732-08-13 22:33 J	-8042214.66	-8042214.56	-8042214.44	0.0088	0.0076
Neptune	-26731-03-27 10:47 J	-8041989.12	-8041989.05	-8041988.93	0.0088	0.0080
Neptune	-26731-11-07 23:45 J	-8041763.57	-8041763.51	-8041763.41	0.0088	0.0082
Jupiter	-26730-04-16 01:55 J	-8041604.45	-8041604.42	-8041604.40	0.0530	0.0524
Neptune	-26730-06-21 12:57 J	-8041538.02	-8041537.96	-8041537.88	0.0088	0.0084
Jupiter	-26730-12-09 03:07 J	-8041367.57	-8041367.37	-8041367.17	0.0522	0.0046
Neptune	-26729-02-02 01:26 J	-8041312.46	-8041312.44	-8041312.37	0.0088	0.0086
Jupiter	-26729-08-01 18:43 J	-8041130.83	-8041130.72	-8041130.59	0.0514	0.0408
Neptune	-26729-09-14 14:38 J	-8041086.89	-8041086.89	-8041086.87	0.0088	0.0088
Saturn	-26727-04-05 01:11 J	-8040519.56	-8040519.45	-8040519.31	0.0286	0.0227
Saturn	-26727-11-20 16:19 J	-8040290.02	-8040289.82	-8040289.62	0.0284	0.0085
Saturn	-26726-07-08 04:47 J	-8040060.50	-8040060.30	-8040060.09	0.0282	0.0053

Uranus	-26725-02-05 03:35 J	-8039848.44	-8039848.35	-8039848.23	0.0133	0.0116
Saturn	-26725-02-22 14:52 J	-8039831.03	-8039830.88	-8039830.72	0.0280	0.0184
Uranus	-26725-09-18 08:38 J	-8039622.27	-8039622.14	-8039621.98	0.0133	0.0098
Uranus	-26724-05-02 13:40 J	-8039396.09	-8039395.93	-8039395.74	0.0134	0.0079
Jupiter	-26724-10-04 10:04 J	-8039241.23	-8039241.08	-8039240.93	0.0500	0.0350
Uranus	-26724-12-14 19:11 J	-8039169.88	-8039169.70	-8039169.50	0.0134	0.0059
Jupiter	-26723-05-29 13:11 J	-8039004.15	-8039003.95	-8039003.74	0.0507	0.0091
Uranus	-26723-07-29 00:43 J	-8038943.68	-8038943.47	-8038943.26	0.0134	0.0039
Uranus	-26722-03-12 05:59 J	-8038717.46	-8038717.25	-8038717.03	0.0134	0.0020
Uranus	-26722-10-24 11:31 J	-8038491.24	-8038491.02	-8038490.81	0.0135	0.0002
Mars	-26722-12-08 03:50 J	-8038446.51	-8038446.34	-8038446.17	0.1743	0.0021
Uranus	-26721-06-06 17:02 J	-8038265.01	-8038264.79	-8038264.58	0.0135	0.0020
Uranus	-26720-01-18 22:33 J	-8038038.76	-8038038.56	-8038038.35	0.0135	0.0040
Uranus	-26720-09-02 04:04 J	-8037812.51	-8037812.33	-8037812.13	0.0135	0.0060
Uranus	-26719-04-16 09:35 J	-8037586.25	-8037586.10	-8037585.91	0.0136	0.0081
Uranus	-26719-11-28 15:50 J	-8037359.98	-8037359.84	-8037359.70	0.0136	0.0100
Uranus	-26718-07-12 21:35 J	-8037133.69	-8037133.60	-8037133.49	0.0136	0.0120
Jupiter	-26718-08-13 23:59 J	-8037101.68	-8037101.50	-8037101.31	0.0525	0.0179
Jupiter	-26717-04-06 18:57 J	-8036864.88	-8036864.71	-8036864.55	0.0516	0.0288
Mars	-26717-07-20 05:45 J	-8036760.44	-8036760.26	-8036760.09	0.1774	0.0268
Pluto	-26715-02-15 01:55 J	-8036185.61	-8036185.42	-8036185.21	0.0064	0.0027
Pluto	-26715-09-28 05:45 J	-8035960.47	-8035960.26	-8035960.04	0.0065	0.0012
Pluto	-26714-05-11 09:21 J	-8035735.22	-8035735.11	-8035734.95	0.0065	0.0050
Jupiter	-26712-06-09 06:28 J	-8034975.30	-8034975.23	-8034975.15	0.0498	0.0463
Saturn	-26712-12-08 16:04 J	-8034792.96	-8034792.83	-8034792.69	0.0274	0.0214
Jupiter	-26711-02-01 06:43 J	-8034738.42	-8034738.22	-8034738.01	0.0505	0.0038
Saturn	-26711-07-26 01:55 J	-8034563.63	-8034563.42	-8034563.22	0.0276	0.0089
Jupiter	-26711-09-26 16:33 J	-8034500.93	-8034500.81	-8034500.70	0.0513	0.0423
Saturn	-26710-03-12 13:40 J	-8034334.14	-8034333.93	-8034333.72	0.0278	0.0043
Saturn	-26710-10-28 03:35 J	-8034104.50	-8034104.35	-8034104.17	0.0280	0.0178

Jupiter	-26706-04-18 21:35 J	-8032835.76	-8032835.60	-8032835.44	0.0527	0.0310
Jupiter	-26706-12-11 18:57 J	-8032598.89	-8032598.71	-8032598.52	0.0519	0.0165
Jupiter	-26700-10-07 02:23 J	-8030472.59	-8030472.40	-8030472.20	0.0503	0.0160
Jupiter	-26699-06-01 09:35 J	-8030235.27	-8030235.10	-8030234.93	0.0511	0.0295
Saturn	-26698-10-16 04:04 J	-8029733.46	-8029733.33	-8029733.17	0.0285	0.0209
Saturn	-26697-06-01 18:43 J	-8029503.92	-8029503.72	-8029503.51	0.0283	0.0069
Saturn	-26696-01-17 06:57 J	-8029274.41	-8029274.21	-8029274.00	0.0281	0.0069
Saturn	-26696-09-03 16:33 J	-8029044.95	-8029044.81	-8029044.66	0.0279	0.0199
Jupiter	-26695-12-22 18:57 J	-8028569.82	-8028569.71	-8028569.60	0.0529	0.0439
Jupiter	-26694-08-16 18:43 J	-8028332.91	-8028332.72	-8028332.52	0.0521	0.0041
Jupiter	-26693-04-09 09:21 J	-8028096.17	-8028096.11	-8028096.04	0.0512	0.0481
Mars	-26690-12-07 05:16 J	-8026759.39	-8026759.28	-8026759.17	0.1753	0.1281
Jupiter	-26688-06-11 22:33 J	-8026206.73	-8026206.56	-8026206.38	0.0501	0.0278
Mars	-26688-10-05 14:23 J	-8026091.00	-8026090.90	-8026090.80	0.1731	0.1370
Jupiter	-26687-02-04 03:21 J	-8025969.55	-8025969.36	-8025969.16	0.0509	0.0169
Uranus	-26685-05-19 14:09 J	-8025134.00	-8025133.91	-8025133.80	0.0145	0.0128
Neptune	-26685-07-20 07:26 J	-8025072.20	-8025072.19	-8025072.14	0.0088	0.0087
Uranus	-26684-01-01 02:52 J	-8024907.53	-8024907.38	-8024907.23	0.0145	0.0102
Neptune	-26684-03-02 21:07 J	-8024846.66	-8024846.62	-8024846.54	0.0088	0.0085
Uranus	-26684-08-15 14:52 J	-8024681.05	-8024680.88	-8024680.68	0.0145	0.0078
Neptune	-26684-10-14 11:16 J	-8024621.10	-8024621.03	-8024620.94	0.0088	0.0083
Uranus	-26683-03-30 03:21 J	-8024454.55	-8024454.36	-8024454.15	0.0145	0.0053
Mars	-26683-05-17 21:35 J	-8024405.69	-8024405.60	-8024405.52	0.1789	0.1554
Neptune	-26683-05-28 00:43 J	-8024395.54	-8024395.47	-8024395.36	0.0088	0.0081
Uranus	-26683-11-11 15:50 J	-8024228.05	-8024227.84	-8024227.62	0.0144	0.0027
Neptune	-26682-01-08 14:23 J	-8024169.98	-8024169.90	-8024169.77	0.0088	0.0078
Jupiter	-26682-04-21 17:16 J	-8024066.97	-8024066.78	-8024066.58	0.0523	0.0090
Saturn	-26682-06-20 14:52 J	-8024007.02	-8024006.88	-8024006.73	0.0275	0.0202
Uranus	-26682-06-26 04:19 J	-8024001.54	-8024001.32	-8024001.10	0.0144	0.0003
Neptune	-26682-08-22 04:19 J	-8023944.42	-8023944.32	-8023944.19	0.0088	0.0076

Jupiter	-26682-12-14 10:04 J	-8023830.22	-8023830.08	-8023829.94	0.0514	0.0366
Saturn	-26681-02-05 00:43 J	-8023777.67	-8023777.47	-8023777.26	0.0276	0.0076
Uranus	-26681-02-07 16:19 J	-8023775.03	-8023774.82	-8023774.60	0.0144	0.0023
Neptune	-26681-04-03 18:28 J	-8023718.86	-8023718.73	-8023718.61	0.0088	0.0073
Uranus	-26681-09-21 04:19 J	-8023548.52	-8023548.32	-8023548.10	0.0143	0.0048
Saturn	-26681-09-21 12:43 J	-8023548.18	-8023547.97	-8023547.76	0.0278	0.0056 *
Neptune	-26681-11-15 07:55 J	-8023493.29	-8023493.17	-8023493.02	0.0088	0.0070
Uranus	-26680-05-05 16:33 J	-8023322.00	-8023321.81	-8023321.62	0.0143	0.0072
Saturn	-26680-05-09 02:52 J	-8023318.52	-8023318.38	-8023318.21	0.0280	0.0191
Neptune	-26680-06-28 21:50 J	-8023267.73	-8023267.59	-8023267.44	0.0088	0.0068
Uranus	-26680-12-18 04:04 J	-8023095.48	-8023095.33	-8023095.15	0.0143	0.0096
Neptune	-26679-02-09 11:02 J	-8023042.16	-8023042.04	-8023041.86	0.0088	0.0066
Earth	-26679-04-26 13:55 J	-8022966.07	-8022965.92	-8022965.77	0.2709	0.0631
Moon	-26679-04-26 17:59 J	-8022965.88	-8022965.75	-8022965.63	0.2714	0.1378 *
Uranus	-26679-08-01 16:04 J	-8022868.93	-8022868.83	-8022868.69	0.0142	0.0120
Neptune	-26679-09-23 01:11 J	-8022816.59	-8022816.45	-8022816.28	0.0088	0.0063
Neptune	-26678-05-06 15:07 J	-8022591.03	-8022590.87	-8022590.70	0.0088	0.0060
Neptune	-26678-12-18 04:33 J	-8022365.46	-8022365.31	-8022365.12	0.0088	0.0058
Neptune	-26677-07-30 18:28 J	-8022139.89	-8022139.73	-8022139.54	0.0088	0.0054
Jupiter	-26676-02-14 20:52 J	-8021940.75	-8021940.63	-8021940.49	0.0499	0.0390
Neptune	-26676-03-13 08:23 J	-8021914.32	-8021914.15	-8021913.96	0.0088	0.0052
Jupiter	-26676-10-09 23:16 J	-8021703.74	-8021703.53	-8021703.32	0.0506	0.0046
Neptune	-26676-10-24 22:19 J	-8021688.75	-8021688.57	-8021688.37	0.0088	0.0049
Jupiter	-26675-06-04 10:47 J	-8021466.09	-8021466.05	-8021466.01	0.0515	0.0505
Neptune	-26675-06-07 12:14 J	-8021463.18	-8021462.99	-8021462.79	0.0088	0.0046
Neptune	-26674-01-19 02:09 J	-8021237.61	-8021237.41	-8021237.22	0.0088	0.0043
Neptune	-26674-09-01 15:21 J	-8021012.04	-8021011.86	-8021011.64	0.0088	0.0041
Neptune	-26673-04-14 05:16 J	-8020786.47	-8020786.28	-8020786.06	0.0088	0.0038
Neptune	-26673-11-25 19:11 J	-8020560.90	-8020560.70	-8020560.48	0.0089	0.0034
Neptune	-26672-07-09 08:52 J	-8020335.33	-8020335.13	-8020334.91	0.0089	0.0032

Neptune	-26671-02-19 22:33 J	-8020109.76	-8020109.56	-8020109.34	0.0089	0.0029
Moon	-26671-04-24 11:16 J	-8020046.11	-8020046.03	-8020045.95	0.2710	0.2296
Neptune	-26671-10-03 12:14 J	-8019884.19	-8019883.99	-8019883.76	0.0089	0.0026
Jupiter	-26671-12-25 11:16 J	-8019801.21	-8019801.03	-8019800.85	0.0526	0.0227
Neptune	-26670-05-17 02:09 J	-8019658.62	-8019658.41	-8019658.19	0.0089	0.0022
Jupiter	-26670-08-19 06:57 J	-8019564.39	-8019564.21	-8019564.04	0.0517	0.0242
Neptune	-26670-12-28 15:50 J	-8019433.05	-8019432.84	-8019432.61	0.0089	0.0020
Neptune	-26669-08-10 05:16 J	-8019207.49	-8019207.28	-8019207.05	0.0089	0.0017
Neptune	-26668-03-23 18:57 J	-8018981.92	-8018981.71	-8018981.48	0.0089	0.0014
Saturn	-26668-04-27 08:09 J	-8018947.32	-8018947.16	-8018947.00	0.0286	0.0187
Neptune	-26668-11-04 08:52 J	-8018756.35	-8018756.13	-8018755.90	0.0089	0.0010
Saturn	-26668-12-12 22:47 J	-8018717.75	-8018717.55	-8018717.34	0.0284	0.0046
Neptune	-26667-06-17 22:33 J	-8018530.78	-8018530.56	-8018530.34	0.0089	0.0007
Saturn	-26667-07-30 10:47 J	-8018488.24	-8018488.05	-8018487.84	0.0282	0.0091
Neptune	-26666-01-29 11:59 J	-8018305.22	-8018305.00	-8018304.77	0.0089	0.0005
Saturn	-26666-03-16 20:38 J	-8018258.76	-8018258.64	-8018258.51	0.0280	0.0221
Neptune	-26666-09-12 01:40 J	-8018079.65	-8018079.43	-8018079.20	0.0089	0.0002
Neptune	-26665-04-24 15:21 J	-8017854.08	-8017853.86	-8017853.63	0.0089	0.0002
Neptune	-26665-12-06 05:02 J	-8017628.51	-8017628.29	-8017628.06	0.0089	0.0005
Jupiter	-26664-06-14 19:11 J	-8017437.91	-8017437.70	-8017437.49	0.0504	0.0078
Neptune	-26664-07-19 18:43 J	-8017402.94	-8017402.72	-8017402.50	0.0089	0.0008
Jupiter	-26663-02-07 03:50 J	-8017200.48	-8017200.34	-8017200.20	0.0512	0.0379
Neptune	-26663-03-02 08:09 J	-8017177.38	-8017177.16	-8017176.93	0.0089	0.0011
Neptune	-26663-10-13 21:50 J	-8016951.81	-8016951.59	-8016951.37	0.0089	0.0014
Neptune	-26662-05-27 11:31 J	-8016726.24	-8016726.02	-8016725.80	0.0089	0.0017
Neptune	-26661-01-08 00:57 J	-8016500.67	-8016500.46	-8016500.23	0.0089	0.0020
Neptune	-26661-08-20 14:38 J	-8016275.10	-8016274.89	-8016274.67	0.0089	0.0023
Neptune	-26660-04-03 04:04 J	-8016049.54	-8016049.33	-8016049.11	0.0089	0.0026
Neptune	-26660-11-14 17:31 J	-8015823.97	-8015823.77	-8015823.55	0.0089	0.0029
Neptune	-26659-06-28 06:57 J	-8015598.40	-8015598.21	-8015597.99	0.0089	0.0032

Jupiter -26659-08-30 07:11 J -8015535.34 -8015535.20 -8015535.06 0.0528 0.0360
 Neptune -26658-02-08 20:23 J -8015372.84 -8015372.65 -8015372.43 0.0089 0.0035
 Jupiter -26658-04-24 05:45 J -8015298.46 -8015298.26 -8015298.07 0.0520 0.0116
 Neptune -26658-09-22 09:50 J -8015147.28 -8015147.09 -8015146.88 0.0089 0.0038
 Neptune -26657-05-04 23:31 J -8014921.72 -8014921.52 -8014921.32 0.0089 0.0040
 Neptune -26657-12-16 12:57 J -8014696.15 -8014695.96 -8014695.76 0.0089 0.0043
 Neptune -26656-07-30 02:09 J -8014470.59 -8014470.41 -8014470.21 0.0089 0.0046
 Mars -26656-10-04 13:55 J -8014404.09 -8014403.92 -8014403.75 0.1740 0.0159
 Neptune -26655-03-12 15:21 J -8014245.03 -8014244.86 -8014244.66 0.0089 0.0049
 Neptune -26655-10-24 04:33 J -8014019.47 -8014019.31 -8014019.11 0.0089 0.0052
 Neptune -26654-06-06 18:14 J -8013793.91 -8013793.74 -8013793.56 0.0089 0.0054
 Neptune -26653-01-18 07:26 J -8013568.34 -8013568.19 -8013568.00 0.0089 0.0057
 Neptune -26653-08-30 20:38 J -8013342.78 -8013342.64 -8013342.46 0.0089 0.0060
 Saturn -26653-12-30 20:38 J -8013220.80 -8013220.64 -8013220.48 0.0274 0.0180
 Jupiter -26652-02-17 13:55 J -8013172.11 -8013171.92 -8013171.72 0.0502 0.0202
 Neptune -26652-04-13 10:19 J -8013117.22 -8013117.07 -8013116.91 0.0089 0.0062
 Saturn -26652-08-17 06:28 J -8012991.44 -8012991.23 -8012991.02 0.0276 0.0054
 Jupiter -26652-10-12 19:55 J -8012934.85 -8012934.67 -8012934.49 0.0510 0.0249
 Neptune -26652-11-24 23:16 J -8012891.66 -8012891.53 -8012891.36 0.0089 0.0065
 Saturn -26651-04-03 18:28 J -8012761.93 -8012761.73 -8012761.52 0.0278 0.0078
 Mars -26651-05-17 12:14 J -8012718.17 -8012717.99 -8012717.81 0.1778 0.0054
 Neptune -26651-07-08 12:57 J -8012666.10 -8012665.96 -8012665.81 0.0089 0.0068
 Saturn -26651-11-19 09:07 J -8012532.26 -8012532.12 -8012531.99 0.0280 0.0214
 Neptune -26650-02-19 01:55 J -8012440.54 -8012440.42 -8012440.27 0.0089 0.0070
 Neptune -26650-10-02 15:21 J -8012214.97 -8012214.86 -8012214.72 0.0089 0.0073
 Neptune -26649-05-15 04:19 J -8011989.41 -8011989.32 -8011989.18 0.0089 0.0076
 Neptune -26649-12-26 17:59 J -8011763.84 -8011763.75 -8011763.63 0.0089 0.0077
 Neptune -26648-08-09 07:26 J -8011538.28 -8011538.19 -8011538.09 0.0089 0.0080
 Neptune -26647-03-22 20:09 J -8011312.72 -8011312.66 -8011312.55 0.0089 0.0082
 Jupiter -26647-05-05 03:07 J -8011269.43 -8011269.37 -8011269.29 0.0530 0.0491

Neptune	-26647-11-03 09:21 J	-8011087.16	-8011087.11	-8011087.02	0.0089	0.0084
Jupiter	-26647-12-28 04:47 J	-8011032.50	-8011032.30	-8011032.11	0.0522	0.0016
Neptune	-26646-06-16 22:33 J	-8010861.59	-8010861.56	-8010861.49	0.0089	0.0087
Jupiter	-26646-08-21 20:38 J	-8010795.74	-8010795.64	-8010795.53	0.0514	0.0438
Neptune	-26645-01-28 11:59 J	-8010636.02	-8010636.00	-8010635.96	0.0089	0.0088
Uranus	-26642-10-05 16:04 J	-8009289.90	-8009289.83	-8009289.74	0.0133	0.0123
Uranus	-26641-05-18 21:07 J	-8009063.74	-8009063.62	-8009063.47	0.0133	0.0105
Jupiter	-26641-10-23 10:47 J	-8008906.21	-8008906.05	-8008905.89	0.0500	0.0318
Uranus	-26641-12-31 02:23 J	-8008837.55	-8008837.40	-8008837.22	0.0134	0.0086
Jupiter	-26640-06-17 13:55 J	-8008669.12	-8008668.92	-8008668.72	0.0507	0.0123
Uranus	-26640-08-14 07:55 J	-8008611.35	-8008611.17	-8008610.98	0.0134	0.0066
Uranus	-26639-03-28 13:11 J	-8008385.15	-8008384.95	-8008384.74	0.0134	0.0046
Saturn	-26639-11-07 11:02 J	-8008161.21	-8008161.04	-8008160.87	0.0285	0.0169
Uranus	-26639-11-09 18:43 J	-8008158.94	-8008158.72	-8008158.51	0.0134	0.0027
Uranus	-26638-06-23 23:59 J	-8007932.71	-8007932.50	-8007932.28	0.0134	0.0007
Saturn	-26638-06-25 01:11 J	-8007931.65	-8007931.45	-8007931.24	0.0283	0.0030
Uranus	-26637-02-05 05:45 J	-8007706.48	-8007706.26	-8007706.04	0.0135	0.0013
Saturn	-26637-02-09 13:11 J	-8007702.14	-8007701.95	-8007701.76	0.0281	0.0106
Uranus	-26637-09-18 11:16 J	-8007480.24	-8007480.03	-8007479.82	0.0135	0.0033
Saturn	-26637-09-25 22:19 J	-8007472.67	-8007472.57	-8007472.45	0.0279	0.0235
Uranus	-26636-05-02 16:47 J	-8007253.99	-8007253.80	-8007253.60	0.0135	0.0054
Uranus	-26636-12-14 22:33 J	-8007027.73	-8007027.56	-8007027.37	0.0136	0.0074
Uranus	-26635-07-29 04:19 J	-8006801.46	-8006801.32	-8006801.16	0.0136	0.0094
Jupiter	-26635-09-02 03:35 J	-8006766.54	-8006766.35	-8006766.16	0.0524	0.0140
Uranus	-26634-03-12 10:19 J	-8006575.18	-8006575.07	-8006574.95	0.0136	0.0114
Jupiter	-26634-04-26 22:04 J	-8006529.74	-8006529.58	-8006529.43	0.0516	0.0322
Uranus	-26634-10-24 16:04 J	-8006348.85	-8006348.83	-8006348.78	0.0136	0.0135
Jupiter	-26629-06-28 07:55 J	-8004640.27	-8004640.17	-8004640.07	0.0498	0.0430
Jupiter	-26628-02-20 08:38 J	-8004403.34	-8004403.14	-8004402.93	0.0505	0.0010
Jupiter	-26628-10-15 19:11 J	-8004165.79	-8004165.70	-8004165.61	0.0514	0.0456

Pluto	-26627-05-30 06:28 J	-8003939.43	-8003939.23	-8003939.01	0.0080	0.0031
Pluto	-26626-01-10 17:16 J	-8003713.95	-8003713.78	-8003713.58	0.0080	0.0045
Mars	-26624-10-03 14:52 J	-8002717.01	-8002716.88	-8002716.75	0.1750	0.1107
Jupiter	-26623-05-08 00:57 J	-8002500.62	-8002500.46	-8002500.28	0.0527	0.0272
Saturn	-26623-07-12 18:57 J	-8002434.88	-8002434.71	-8002434.55	0.0275	0.0168
Jupiter	-26623-12-30 21:50 J	-8002263.77	-8002263.59	-8002263.41	0.0518	0.0200
Saturn	-26622-02-27 04:47 J	-8002205.51	-8002205.30	-8002205.09	0.0277	0.0041
Mars	-26622-08-03 00:28 J	-8002048.56	-8002048.48	-8002048.40	0.1728	0.1514
Saturn	-26622-10-14 17:02 J	-8001975.99	-8001975.79	-8001975.59	0.0278	0.0091
Saturn	-26621-05-31 07:26 J	-8001746.30	-8001746.19	-8001746.05	0.0280	0.0226
Mars	-26619-05-17 01:26 J	-8001030.52	-8001030.44	-8001030.36	0.1767	0.1577
Jupiter	-26617-10-26 05:45 J	-8000137.46	-8000137.26	-8000137.06	0.0503	0.0122
Jupiter	-26616-06-20 13:26 J	-7999900.09	-7999899.94	-7999899.78	0.0511	0.0333
Jupiter	-26611-01-10 17:59 J	-7998234.87	-7998234.75	-7998234.62	0.0529	0.0409
Jupiter	-26611-09-04 17:31 J	-7997997.97	-7997997.77	-7997997.57	0.0521	0.0069
Jupiter	-26610-04-29 07:55 J	-7997761.19	-7997761.17	-7997761.14	0.0512	0.0508
Saturn	-26609-05-19 13:55 J	-7997375.09	-7997374.92	-7997374.73	0.0286	0.0149
Saturn	-26608-01-04 04:33 J	-7997145.52	-7997145.31	-7997145.10	0.0284	0.0008
Saturn	-26608-08-21 16:19 J	-7996916.00	-7996915.82	-7996915.63	0.0282	0.0128
Saturn	-26607-04-08 01:40 J	-7996686.50	-7996686.43	-7996686.34	0.0280	0.0256
Neptune	-26605-03-17 17:02 J	-7995976.79	-7995976.79	-7995976.76	0.0089	0.0089
Jupiter	-26605-07-01 02:38 J	-7995871.56	-7995871.39	-7995871.20	0.0501	0.0241
Neptune	-26605-10-29 05:02 J	-7995751.31	-7995751.29	-7995751.22	0.0089	0.0088
Jupiter	-26604-02-23 07:40 J	-7995634.37	-7995634.18	-7995633.99	0.0509	0.0207
Neptune	-26604-06-11 17:16 J	-7995525.82	-7995525.78	-7995525.69	0.0089	0.0085
Neptune	-26603-01-23 05:31 J	-7995300.32	-7995300.27	-7995300.17	0.0089	0.0083
Neptune	-26603-09-05 18:14 J	-7995074.82	-7995074.74	-7995074.64	0.0089	0.0080
Neptune	-26602-04-19 06:28 J	-7994849.32	-7994849.23	-7994849.12	0.0089	0.0078
Neptune	-26602-11-30 18:43 J	-7994623.81	-7994623.72	-7994623.59	0.0089	0.0076
Uranus	-26601-01-17 21:07 J	-7994575.67	-7994575.62	-7994575.54	0.0145	0.0139

Neptune	-26601-07-13 06:43 J	-7994398.31	-7994398.22	-7994398.08	0.0089	0.0074
Uranus	-26601-08-31 09:35 J	-7994349.22	-7994349.10	-7994348.95	0.0145	0.0113
Neptune	-26600-02-23 19:26 J	-7994172.81	-7994172.69	-7994172.55	0.0089	0.0071
Uranus	-26600-04-14 22:04 J	-7994122.75	-7994122.58	-7994122.40	0.0145	0.0088
Neptune	-26600-10-07 07:26 J	-7993947.30	-7993947.19	-7993947.03	0.0089	0.0069
Uranus	-26600-11-27 10:33 J	-7993896.26	-7993896.06	-7993895.86	0.0145	0.0063
Jupiter	-26599-05-10 15:07 J	-7993732.07	-7993731.87	-7993731.67	0.0523	0.0062
Neptune	-26599-05-20 20:09 J	-7993721.80	-7993721.66	-7993721.51	0.0089	0.0066
Uranus	-26599-07-11 23:02 J	-7993669.75	-7993669.54	-7993669.33	0.0144	0.0038
Neptune	-26598-01-01 08:09 J	-7993496.29	-7993496.16	-7993495.99	0.0089	0.0064
Jupiter	-26598-01-02 07:55 J	-7993495.29	-7993495.17	-7993495.04	0.0515	0.0394
Uranus	-26598-02-23 11:16 J	-7993443.25	-7993443.03	-7993442.81	0.0144	0.0013
Neptune	-26598-08-14 20:52 J	-7993270.78	-7993270.63	-7993270.47	0.0089	0.0061
Uranus	-26598-10-07 23:31 J	-7993216.74	-7993216.52	-7993216.30	0.0144	0.0012
Neptune	-26597-03-27 08:52 J	-7993045.27	-7993045.13	-7993044.95	0.0089	0.0059
Uranus	-26597-05-21 11:31 J	-7992990.23	-7992990.02	-7992989.80	0.0144	0.0037
Neptune	-26597-11-07 21:35 J	-7992819.76	-7992819.60	-7992819.43	0.0089	0.0056
Uranus	-26596-01-02 23:31 J	-7992763.71	-7992763.52	-7992763.31	0.0143	0.0062
Neptune	-26596-06-21 09:35 J	-7992594.26	-7992594.10	-7992593.92	0.0089	0.0054
Uranus	-26596-08-17 11:45 J	-7992537.18	-7992537.01	-7992536.83	0.0143	0.0086
Neptune	-26595-02-01 22:04 J	-7992368.75	-7992368.58	-7992368.40	0.0089	0.0051
Uranus	-26595-03-31 23:16 J	-7992310.65	-7992310.53	-7992310.37	0.0143	0.0111
Neptune	-26595-09-15 10:04 J	-7992143.24	-7992143.08	-7992142.88	0.0089	0.0049
Uranus	-26595-11-13 11:16 J	-7992084.09	-7992084.03	-7992083.95	0.0142	0.0134
Neptune	-26594-04-28 22:33 J	-7991917.73	-7991917.56	-7991917.36	0.0089	0.0046
Saturn	-26594-06-07 16:47 J	-7991877.84	-7991877.80	-7991877.75	0.0273	0.0267
Neptune	-26594-12-10 11:02 J	-7991692.22	-7991692.04	-7991691.85	0.0089	0.0043
Saturn	-26593-01-23 00:43 J	-7991648.65	-7991648.47	-7991648.29	0.0275	0.0146
Jupiter	-26593-03-05 22:47 J	-7991605.69	-7991605.55	-7991605.40	0.0499	0.0358
Neptune	-26593-07-22 23:02 J	-7991466.72	-7991466.54	-7991466.33	0.0089	0.0041

Saturn -26593-09-08 10:47 J -7991419.26 -7991419.05 -7991418.84 0.0277 0.0019
 Jupiter -26593-10-29 00:57 J -7991368.67 -7991368.46 -7991368.25 0.0506 0.0078
 Neptune -26592-03-05 11:16 J -7991241.21 -7991241.03 -7991240.82 0.0089 0.0038
 Saturn -26592-04-25 23:02 J -7991189.73 -7991189.54 -7991189.34 0.0279 0.0114
 Neptune -26592-10-16 23:45 J -7991015.70 -7991015.51 -7991015.30 0.0089 0.0035
 Saturn -26592-12-11 13:40 J -7990960.01 -7990959.93 -7990959.82 0.0281 0.0250
 Neptune -26591-05-30 12:14 J -7990790.19 -7990789.99 -7990789.79 0.0089 0.0032
 Neptune -26590-01-11 00:14 J -7990564.68 -7990564.49 -7990564.27 0.0089 0.0030
 Mars -26590-08-01 23:45 J -7990361.68 -7990361.51 -7990361.34 0.1737 0.0315
 Neptune -26590-08-24 12:43 J -7990339.17 -7990338.97 -7990338.76 0.0089 0.0027
 Neptune -26589-04-06 01:11 J -7990113.66 -7990113.45 -7990113.24 0.0089 0.0024
 Neptune -26589-11-17 13:26 J -7989888.14 -7989887.94 -7989887.72 0.0089 0.0021
 Neptune -26588-07-01 01:55 J -7989662.63 -7989662.42 -7989662.21 0.0089 0.0018
 Jupiter -26587-01-13 12:57 J -7989466.15 -7989465.96 -7989465.78 0.0526 0.0193
 Neptune -26587-02-11 14:09 J -7989437.12 -7989436.91 -7989436.69 0.0089 0.0015
 Jupiter -26587-09-07 08:38 J -7989229.31 -7989229.14 -7989228.97 0.0517 0.0274
 Neptune -26587-09-25 02:23 J -7989211.60 -7989211.40 -7989211.17 0.0089 0.0013
 Neptune -26586-05-08 15:07 J -7988986.08 -7988985.87 -7988985.65 0.0089 0.0010
 Neptune -26586-12-20 03:35 J -7988760.56 -7988760.35 -7988760.13 0.0089 0.0007
 Mars -26585-03-13 17:59 J -7988675.93 -7988675.75 -7988675.57 0.1781 0.0190
 Neptune -26585-08-01 16:04 J -7988535.05 -7988534.83 -7988534.62 0.0089 0.0004
 Neptune -26584-03-15 04:19 J -7988309.53 -7988309.32 -7988309.10 0.0089 0.0002
 Neptune -26584-10-26 16:47 J -7988084.02 -7988083.80 -7988083.58 0.0089 0.0002
 Neptune -26583-06-09 05:16 J -7987858.49 -7987858.28 -7987858.06 0.0089 0.0005
 Neptune -26582-01-20 17:45 J -7987632.98 -7987632.76 -7987632.54 0.0089 0.0008
 Neptune -26582-09-03 06:14 J -7987407.46 -7987407.24 -7987407.03 0.0089 0.0011
 Earth -26582-10-26 18:57 J -7987353.87 -7987353.71 -7987353.55 0.2623 0.0638
 Moon -26582-10-27 00:28 J -7987353.64 -7987353.48 -7987353.32 0.2625 0.0197 *
 Jupiter -26582-11-09 20:23 J -7987339.71 -7987339.65 -7987339.57 0.0497 0.0468
 Neptune -26581-04-15 18:28 J -7987181.94 -7987181.73 -7987181.51 0.0089 0.0014

Jupiter -26581-07-03 19:55 J -7987102.88 -7987102.67 -7987102.46 0.0504 0.0046
 Neptune -26581-11-27 06:57 J -7986956.42 -7986956.21 -7986955.99 0.0089 0.0016
 Jupiter -26580-02-26 04:33 J -7986865.43 -7986865.31 -7986865.18 0.0512 0.0409
 Saturn -26580-04-14 00:43 J -7986818.52 -7986818.47 -7986818.40 0.0287 0.0274
 Neptune -26580-07-10 19:11 J -7986730.90 -7986730.70 -7986730.47 0.0089 0.0020
 Saturn -26580-11-29 17:16 J -7986588.96 -7986588.78 -7986588.59 0.0285 0.0131
 Neptune -26579-02-21 07:55 J -7986505.38 -7986505.17 -7986504.96 0.0088 0.0022
 Saturn -26579-07-17 07:26 J -7986359.40 -7986359.19 -7986358.98 0.0283 0.0010
 Neptune -26579-10-04 20:23 J -7986279.86 -7986279.65 -7986279.44 0.0088 0.0025
 Saturn -26578-03-03 18:43 J -7986129.89 -7986129.72 -7986129.53 0.0281 0.0144
 Neptune -26578-05-18 08:52 J -7986054.33 -7986054.13 -7986053.92 0.0088 0.0028
 Saturn -26578-10-19 03:35 J -7985900.38 -7985900.35 -7985900.29 0.0279 0.0271
 Neptune -26578-12-29 21:21 J -7985828.81 -7985828.61 -7985828.40 0.0088 0.0030
 Neptune -26577-08-11 09:35 J -7985603.29 -7985603.10 -7985602.88 0.0088 0.0034
 Neptune -26576-03-24 22:04 J -7985377.76 -7985377.58 -7985377.37 0.0088 0.0036
 Jupiter -26576-09-18 10:47 J -7985200.21 -7985200.05 -7985199.89 0.0528 0.0322
 Neptune -26576-11-05 10:47 J -7985152.24 -7985152.05 -7985151.85 0.0088 0.0039
 Jupiter -26575-05-13 09:07 J -7984963.31 -7984963.12 -7984962.93 0.0519 0.0153
 Neptune -26575-06-18 23:31 J -7984926.70 -7984926.52 -7984926.32 0.0088 0.0042
 Neptune -26574-01-30 11:59 J -7984701.17 -7984701.00 -7984700.80 0.0088 0.0044
 Neptune -26574-09-13 00:57 J -7984475.65 -7984475.46 -7984475.28 0.0088 0.0047
 Neptune -26573-04-25 13:26 J -7984250.11 -7984249.94 -7984249.75 0.0088 0.0050
 Neptune -26573-12-07 01:55 J -7984024.58 -7984024.42 -7984024.23 0.0088 0.0052
 Neptune -26572-07-20 14:52 J -7983799.05 -7983798.88 -7983798.70 0.0088 0.0055
 Neptune -26571-03-03 03:21 J -7983573.51 -7983573.36 -7983573.18 0.0088 0.0057
 Neptune -26571-10-14 15:50 J -7983347.98 -7983347.84 -7983347.66 0.0088 0.0060
 Neptune -26570-05-28 04:47 J -7983122.44 -7983122.30 -7983122.13 0.0088 0.0063
 Neptune -26569-01-08 17:45 J -7982896.90 -7982896.76 -7982896.61 0.0088 0.0065
 Jupiter -26569-03-08 15:35 J -7982837.04 -7982836.85 -7982836.65 0.0502 0.0168
 Neptune -26569-08-21 06:14 J -7982671.37 -7982671.24 -7982671.08 0.0088 0.0067

Jupiter -26569-10-31 22:04 J -7982599.75 -7982599.58 -7982599.40 0.0510 0.0284
 Neptune -26568-04-03 18:57 J -7982445.83 -7982445.71 -7982445.56 0.0088 0.0070
 Neptune -26568-11-15 07:26 J -7982220.29 -7982220.19 -7982220.04 0.0088 0.0072
 Neptune -26567-06-28 20:23 J -7981994.75 -7981994.65 -7981994.51 0.0088 0.0075
 Neptune -26566-02-09 09:21 J -7981769.20 -7981769.11 -7981768.99 0.0088 0.0077
 Neptune -26566-09-22 21:50 J -7981543.66 -7981543.59 -7981543.47 0.0088 0.0079
 Neptune -26565-05-05 10:33 J -7981318.12 -7981318.06 -7981317.95 0.0088 0.0081
 Neptune -26565-12-16 23:31 J -7981092.57 -7981092.52 -7981092.43 0.0088 0.0083
 Saturn -26565-12-17 15:07 J -7981091.93 -7981091.87 -7981091.78 0.0273 0.0255
 Jupiter -26564-05-24 07:11 J -7980934.29 -7980934.20 -7980934.09 0.0530 0.0452
 Neptune -26564-07-30 12:28 J -7980867.02 -7980866.98 -7980866.91 0.0088 0.0085
 Saturn -26564-08-03 23:02 J -7980862.71 -7980862.54 -7980862.34 0.0275 0.0134
 Jupiter -26563-01-16 07:55 J -7980697.36 -7980697.17 -7980696.97 0.0522 0.0028
 Neptune -26563-03-13 01:26 J -7980641.46 -7980641.44 -7980641.40 0.0088 0.0087
 Saturn -26563-03-21 09:21 J -7980633.32 -7980633.11 -7980632.89 0.0277 0.0006
 Jupiter -26563-09-09 23:16 J -7980460.61 -7980460.53 -7980460.45 0.0513 0.0469
 Saturn -26563-11-05 21:50 J -7980403.78 -7980403.59 -7980403.40 0.0279 0.0127
 Saturn -26562-06-23 12:57 J -7980174.04 -7980173.96 -7980173.89 0.0281 0.0262
 Uranus -26558-06-05 04:19 J -7978731.36 -7978731.32 -7978731.28 0.0133 0.0131
 Mars -26558-08-01 00:43 J -7978674.61 -7978674.47 -7978674.33 0.1747 0.0941
 Jupiter -26558-11-12 13:40 J -7978571.10 -7978570.93 -7978570.75 0.0500 0.0282
 Uranus -26557-01-17 09:35 J -7978505.22 -7978505.10 -7978504.98 0.0133 0.0112
 Jupiter -26557-07-06 17:45 J -7978333.96 -7978333.76 -7978333.57 0.0508 0.0161
 Uranus -26557-08-30 14:38 J -7978279.04 -7978278.89 -7978278.73 0.0134 0.0093
 Uranus -26556-04-13 19:40 J -7978052.85 -7978052.68 -7978052.48 0.0134 0.0074
 Mars -26556-05-30 11:02 J -7978006.09 -7978006.04 -7978006.00 0.1725 0.1655
 Uranus -26556-11-26 01:11 J -7977826.64 -7977826.45 -7977826.24 0.0134 0.0054
 Uranus -26555-07-10 06:43 J -7977600.43 -7977600.22 -7977600.01 0.0134 0.0034
 Uranus -26554-02-21 12:14 J -7977374.20 -7977373.99 -7977373.77 0.0134 0.0014
 Uranus -26554-10-05 17:45 J -7977147.98 -7977147.76 -7977147.54 0.0135 0.0006

Mars	-26553-03-13 08:09 J	-7976988.27	-7976988.16	-7976988.05	0.1771	0.1369
Uranus	-26553-05-18 23:16 J	-7976921.74	-7976921.53	-7976921.32	0.0135	0.0026
Uranus	-26553-12-31 04:47 J	-7976695.49	-7976695.30	-7976695.09	0.0135	0.0047
Uranus	-26552-08-14 10:33 J	-7976469.24	-7976469.06	-7976468.86	0.0135	0.0067
Jupiter	-26552-09-21 02:52 J	-7976431.58	-7976431.38	-7976431.19	0.0524	0.0110
Uranus	-26551-03-28 16:04 J	-7976242.98	-7976242.83	-7976242.65	0.0136	0.0088
Jupiter	-26551-05-15 20:38 J	-7976194.78	-7976194.64	-7976194.49	0.0515	0.0349
Saturn	-26551-10-25 02:52 J	-7976032.48	-7976032.38	-7976032.29	0.0288	0.0255
Uranus	-26551-11-09 21:50 J	-7976016.70	-7976016.59	-7976016.44	0.0136	0.0108
Saturn	-26550-06-11 19:26 J	-7975802.88	-7975802.69	-7975802.49	0.0286	0.0112
Uranus	-26550-06-24 03:50 J	-7975790.39	-7975790.34	-7975790.25	0.0136	0.0128
Saturn	-26549-01-27 09:35 J	-7975573.30	-7975573.10	-7975572.88	0.0284	0.0030
Saturn	-26549-09-12 21:21 J	-7975343.78	-7975343.61	-7975343.44	0.0282	0.0164
Jupiter	-26546-07-18 11:45 J	-7974305.13	-7974305.01	-7974304.88	0.0499	0.0395
Jupiter	-26545-03-11 13:11 J	-7974068.16	-7974067.95	-7974067.75	0.0506	0.0037
Jupiter	-26545-11-03 23:31 J	-7973830.57	-7973830.52	-7973830.46	0.0514	0.0492
Jupiter	-26540-05-26 23:02 J	-7972165.71	-7972165.54	-7972165.36	0.0526	0.0243
Jupiter	-26539-01-18 19:40 J	-7971928.86	-7971928.68	-7971928.50	0.0518	0.0227
Saturn	-26535-06-29 21:21 J	-7970305.71	-7970305.61	-7970305.50	0.0273	0.0234
Saturn	-26534-02-14 05:31 J	-7970076.46	-7970076.27	-7970076.07	0.0275	0.0111
Saturn	-26534-10-01 15:50 J	-7969847.05	-7969846.84	-7969846.63	0.0277	0.0017
Jupiter	-26534-11-15 07:26 J	-7969802.39	-7969802.19	-7969801.98	0.0503	0.0089
Saturn	-26533-05-18 04:19 J	-7969617.49	-7969617.32	-7969617.13	0.0279	0.0150
Jupiter	-26533-07-09 14:52 J	-7969565.02	-7969564.88	-7969564.73	0.0511	0.0364
Jupiter	-26528-01-29 19:26 J	-7967899.83	-7967899.69	-7967899.55	0.0529	0.0374
Jupiter	-26528-09-23 18:57 J	-7967662.90	-7967662.71	-7967662.51	0.0521	0.0102
Mars	-26524-05-29 10:19 J	-7966319.23	-7966319.07	-7966318.91	0.1734	0.0460
Jupiter	-26522-07-21 03:21 J	-7965536.55	-7965536.36	-7965536.17	0.0501	0.0209
Neptune	-26521-03-10 01:26 J	-7965303.44	-7965303.44	-7965303.38	0.0088	0.0088
Jupiter	-26521-03-14 08:09 J	-7965299.34	-7965299.16	-7965298.97	0.0509	0.0237

Saturn	-26521-05-06 07:26 J	-7965246.31	-7965246.19	-7965246.07	0.0287	0.0235
Neptune	-26521-10-21 15:21 J	-7965077.89	-7965077.86	-7965077.77	0.0088	0.0085
Saturn	-26521-12-21 23:45 J	-7965016.71	-7965016.51	-7965016.31	0.0285	0.0092
Neptune	-26520-06-04 05:45 J	-7964852.33	-7964852.26	-7964852.18	0.0088	0.0083
Saturn	-26520-08-08 13:26 J	-7964787.14	-7964786.94	-7964786.73	0.0283	0.0048
Mars	-26519-01-08 23:59 J	-7964633.68	-7964633.50	-7964633.33	0.1784	0.0422
Neptune	-26519-01-15 19:11 J	-7964626.77	-7964626.70	-7964626.59	0.0088	0.0081
Saturn	-26519-03-26 00:43 J	-7964557.63	-7964557.47	-7964557.31	0.0281	0.0181
Neptune	-26519-08-29 08:52 J	-7964401.21	-7964401.13	-7964401.01	0.0088	0.0079
Neptune	-26518-04-11 22:33 J	-7964175.65	-7964175.56	-7964175.42	0.0088	0.0077
Neptune	-26518-11-23 12:43 J	-7963950.08	-7963949.97	-7963949.84	0.0088	0.0074
Uranus	-26517-04-30 18:14 J	-7963790.84	-7963790.74	-7963790.62	0.0145	0.0123
Neptune	-26517-07-06 02:09 J	-7963724.52	-7963724.41	-7963724.26	0.0088	0.0072
Jupiter	-26517-10-04 16:04 J	-7963633.89	-7963633.83	-7963633.77	0.0531	0.0502
Uranus	-26517-12-13 06:43 J	-7963564.37	-7963564.22	-7963564.06	0.0145	0.0098
Neptune	-26516-02-16 15:50 J	-7963498.96	-7963498.84	-7963498.68	0.0088	0.0069
Jupiter	-26516-05-29 18:14 J	-7963396.94	-7963396.74	-7963396.54	0.0523	0.0026
Uranus	-26516-07-27 19:11 J	-7963337.89	-7963337.70	-7963337.51	0.0145	0.0073
Neptune	-26516-09-30 05:45 J	-7963273.39	-7963273.26	-7963273.09	0.0088	0.0067
Jupiter	-26515-01-21 11:02 J	-7963160.15	-7963160.04	-7963159.93	0.0514	0.0426
Uranus	-26515-03-11 07:26 J	-7963111.39	-7963111.19	-7963110.98	0.0145	0.0048
Neptune	-26515-05-13 19:26 J	-7963047.82	-7963047.69	-7963047.51	0.0088	0.0064
Uranus	-26515-10-23 19:55 J	-7962884.89	-7962884.67	-7962884.46	0.0144	0.0022
Neptune	-26515-12-25 09:21 J	-7962822.26	-7962822.11	-7962821.94	0.0088	0.0062
Uranus	-26514-06-07 08:09 J	-7962658.38	-7962658.16	-7962657.94	0.0144	0.0003
Neptune	-26514-08-07 22:47 J	-7962596.69	-7962596.55	-7962596.36	0.0088	0.0059
Uranus	-26513-01-19 20:23 J	-7962431.87	-7962431.65	-7962431.44	0.0144	0.0028
Neptune	-26513-03-20 12:43 J	-7962371.13	-7962370.97	-7962370.78	0.0088	0.0057
Uranus	-26513-09-02 08:09 J	-7962205.35	-7962205.16	-7962204.94	0.0143	0.0054
Neptune	-26513-11-01 02:38 J	-7962145.56	-7962145.39	-7962145.20	0.0088	0.0054

Uranus	-26512-04-16 20:23 J	-7961978.83	-7961978.65	-7961978.46	0.0143	0.0078
Neptune	-26512-06-14 16:04 J	-7961919.99	-7961919.83	-7961919.62	0.0088	0.0052
Uranus	-26512-11-29 08:09 J	-7961752.30	-7961752.16	-7961752.00	0.0143	0.0102
Neptune	-26511-01-26 05:59 J	-7961694.42	-7961694.25	-7961694.05	0.0088	0.0049
Uranus	-26511-07-13 20:09 J	-7961525.75	-7961525.66	-7961525.55	0.0142	0.0126
Neptune	-26511-09-08 19:55 J	-7961468.85	-7961468.67	-7961468.47	0.0088	0.0046
Jupiter	-26510-03-25 23:59 J	-7961270.65	-7961270.50	-7961270.34	0.0499	0.0325
Neptune	-26510-04-22 09:50 J	-7961243.28	-7961243.09	-7961242.89	0.0088	0.0043
Jupiter	-26510-11-18 02:38 J	-7961033.59	-7961033.39	-7961033.19	0.0507	0.0112
Neptune	-26510-12-03 23:16 J	-7961017.71	-7961017.53	-7961017.31	0.0088	0.0041
Neptune	-26509-07-16 13:11 J	-7960792.14	-7960791.95	-7960791.74	0.0088	0.0037
Neptune	-26508-02-27 02:52 J	-7960566.58	-7960566.38	-7960566.16	0.0088	0.0035
Neptune	-26508-10-10 16:47 J	-7960341.00	-7960340.80	-7960340.58	0.0089	0.0032
Neptune	-26507-05-24 06:43 J	-7960115.43	-7960115.22	-7960115.01	0.0089	0.0029
Neptune	-26506-01-04 20:09 J	-7959889.86	-7959889.66	-7959889.43	0.0089	0.0027
Neptune	-26506-08-18 09:50 J	-7959664.29	-7959664.09	-7959663.86	0.0089	0.0024
Saturn	-26505-01-09 20:38 J	-7959519.76	-7959519.64	-7959519.51	0.0273	0.0221
Neptune	-26505-03-30 23:31 J	-7959438.73	-7959438.52	-7959438.29	0.0089	0.0021
Saturn	-26505-08-26 04:33 J	-7959290.50	-7959290.31	-7959290.11	0.0275	0.0098
Neptune	-26505-11-11 13:26 J	-7959213.15	-7959212.94	-7959212.71	0.0089	0.0018
Jupiter	-26504-02-01 16:19 J	-7959131.01	-7959130.82	-7959130.63	0.0525	0.0155
Saturn	-26504-04-12 14:52 J	-7959061.09	-7959060.88	-7959060.66	0.0277	0.0031
Neptune	-26504-06-25 03:07 J	-7958987.59	-7958987.37	-7958987.14	0.0089	0.0015
Jupiter	-26504-09-26 11:31 J	-7958894.18	-7958894.02	-7958893.86	0.0517	0.0308
Saturn	-26504-11-28 03:35 J	-7958831.52	-7958831.35	-7958831.18	0.0279	0.0164
Neptune	-26503-02-05 16:47 J	-7958762.02	-7958761.80	-7958761.58	0.0089	0.0012
Neptune	-26503-09-19 06:28 J	-7958536.46	-7958536.23	-7958536.01	0.0089	0.0009
Neptune	-26502-05-02 20:09 J	-7958310.89	-7958310.66	-7958310.44	0.0089	0.0006
Neptune	-26502-12-14 09:35 J	-7958085.32	-7958085.10	-7958084.87	0.0089	0.0004
Neptune	-26501-07-26 23:16 J	-7957859.75	-7957859.53	-7957859.31	0.0089	0.0000

Neptune -26500-03-09 12:43 J -7957634.19 -7957633.97 -7957633.74 0.0089 0.0003
 Neptune -26500-10-21 02:23 J -7957408.62 -7957408.40 -7957408.17 0.0089 0.0006
 Neptune -26499-06-03 16:04 J -7957183.05 -7957182.83 -7957182.61 0.0089 0.0009
 Jupiter -26499-11-28 22:47 J -7957004.64 -7957004.55 -7957004.44 0.0498 0.0435
 Neptune -26498-01-15 05:31 J -7956957.48 -7956957.27 -7956957.04 0.0089 0.0012
 Jupiter -26498-07-23 23:02 J -7956767.75 -7956767.54 -7956767.33 0.0505 0.0010
 Neptune -26498-08-28 19:11 J -7956731.92 -7956731.70 -7956731.48 0.0089 0.0014
 Jupiter -26497-03-17 08:23 J -7956530.25 -7956530.15 -7956530.04 0.0513 0.0445
 Neptune -26497-04-10 08:38 J -7956506.35 -7956506.14 -7956505.91 0.0089 0.0018
 Neptune -26497-11-21 22:33 J -7956280.78 -7956280.56 -7956280.34 0.0089 0.0020
 Neptune -26496-07-05 11:59 J -7956055.21 -7956055.00 -7956054.78 0.0089 0.0023
 Neptune -26495-02-16 01:26 J -7955829.64 -7955829.44 -7955829.22 0.0089 0.0026
 Neptune -26495-09-29 14:52 J -7955604.08 -7955603.88 -7955603.66 0.0089 0.0029
 Neptune -26494-05-13 04:19 J -7955378.51 -7955378.32 -7955378.10 0.0089 0.0032
 Neptune -26494-12-24 18:14 J -7955152.94 -7955152.74 -7955152.53 0.0089 0.0034
 Neptune -26493-08-06 07:40 J -7954927.38 -7954927.18 -7954926.97 0.0089 0.0037
 Jupiter -26493-10-07 10:19 J -7954865.23 -7954865.07 -7954864.90 0.0527 0.0291
 Neptune -26492-03-19 20:52 J -7954701.82 -7954701.63 -7954701.42 0.0089 0.0040
 Mars -26492-05-28 10:33 J -7954632.21 -7954632.06 -7954631.91 0.1743 0.0773
 Jupiter -26492-06-01 07:40 J -7954628.36 -7954628.18 -7954627.99 0.0519 0.0181
 Neptune -26492-10-31 10:19 J -7954476.25 -7954476.07 -7954475.86 0.0089 0.0043
 Saturn -26492-11-16 09:07 J -7954460.25 -7954460.12 -7954459.98 0.0288 0.0217
 Neptune -26491-06-13 23:45 J -7954250.69 -7954250.51 -7954250.31 0.0089 0.0045
 Saturn -26491-07-04 01:40 J -7954230.63 -7954230.43 -7954230.23 0.0286 0.0073
 Neptune -26490-01-25 12:57 J -7954025.13 -7954024.96 -7954024.75 0.0089 0.0048
 Saturn -26490-02-18 15:35 J -7954001.05 -7954000.85 -7954000.65 0.0284 0.0067
 Neptune -26490-09-08 02:38 J -7953799.57 -7953799.39 -7953799.20 0.0089 0.0050
 Saturn -26490-10-06 02:52 J -7953771.52 -7953771.38 -7953771.23 0.0281 0.0201
 Neptune -26489-04-20 15:50 J -7953574.01 -7953573.84 -7953573.65 0.0089 0.0053
 Neptune -26489-12-02 05:02 J -7953348.44 -7953348.29 -7953348.10 0.0089 0.0056

Neptune -26488-07-15 18:28 J -7953122.88 -7953122.73 -7953122.55 0.0089 0.0058
 Mars -26487-01-08 13:40 J -7952946.06 -7952945.93 -7952945.79 0.1774 0.1140
 Neptune -26487-02-26 07:26 J -7952897.32 -7952897.19 -7952897.00 0.0089 0.0062
 Neptune -26487-10-09 20:52 J -7952671.76 -7952671.63 -7952671.46 0.0089 0.0064
 Jupiter -26486-03-28 19:26 J -7952501.89 -7952501.69 -7952501.49 0.0503 0.0131
 Neptune -26486-05-23 10:33 J -7952446.20 -7952446.06 -7952445.91 0.0089 0.0065
 Jupiter -26486-11-21 02:23 J -7952264.56 -7952264.40 -7952264.24 0.0511 0.0320
 Neptune -26485-01-03 23:31 J -7952220.64 -7952220.52 -7952220.36 0.0089 0.0068
 Neptune -26485-08-16 12:57 J -7951995.08 -7951994.96 -7951994.81 0.0089 0.0070
 Neptune -26484-03-30 02:23 J -7951769.52 -7951769.40 -7951769.27 0.0089 0.0073
 Neptune -26484-11-10 15:21 J -7951543.96 -7951543.86 -7951543.72 0.0089 0.0075
 Neptune -26483-06-24 04:33 J -7951318.40 -7951318.31 -7951318.18 0.0089 0.0078
 Neptune -26482-02-04 17:59 J -7951092.83 -7951092.75 -7951092.63 0.0089 0.0079
 Neptune -26482-09-18 07:11 J -7950867.27 -7950867.20 -7950867.10 0.0089 0.0081
 Neptune -26481-04-30 20:23 J -7950641.71 -7950641.65 -7950641.56 0.0089 0.0083
 Jupiter -26481-06-12 05:16 J -7950599.39 -7950599.28 -7950599.16 0.0529 0.0424
 Neptune -26481-12-12 09:35 J -7950416.15 -7950416.10 -7950416.03 0.0089 0.0085
 Jupiter -26480-02-04 05:31 J -7950362.47 -7950362.27 -7950362.07 0.0521 0.0053
 Neptune -26480-07-25 22:33 J -7950190.58 -7950190.56 -7950190.50 0.0089 0.0088
 Jupiter -26480-09-28 20:38 J -7950125.69 -7950125.64 -7950125.58 0.0513 0.0492
 Neptune -26479-03-08 11:59 J -7949965.00 -7949965.00 -7949964.99 0.0089 0.0089
 Saturn -26476-07-22 03:07 J -7948733.50 -7948733.37 -7948733.21 0.0273 0.0199
 Saturn -26475-03-08 11:45 J -7948504.22 -7948504.01 -7948503.81 0.0275 0.0075
 Saturn -26475-10-23 22:19 J -7948274.78 -7948274.57 -7948274.36 0.0277 0.0054
 Jupiter -26475-12-01 14:52 J -7948236.06 -7948235.88 -7948235.70 0.0500 0.0251
 Saturn -26474-06-10 11:16 J -7948045.18 -7948045.03 -7948044.87 0.0279 0.0188
 Jupiter -26474-07-26 18:43 J -7947998.91 -7947998.72 -7947998.53 0.0508 0.0191
 Uranus -26474-09-16 21:07 J -7947946.71 -7947946.62 -7947946.52 0.0133 0.0119
 Uranus -26473-04-30 02:09 J -7947720.54 -7947720.41 -7947720.26 0.0133 0.0101
 Uranus -26473-12-12 07:40 J -7947494.35 -7947494.18 -7947494.00 0.0134 0.0081

Uranus	-26472-07-26 13:11 J	-7947268.14	-7947267.95	-7947267.76	0.0134	0.0061
Uranus	-26471-03-09 18:28 J	-7947041.94	-7947041.73	-7947041.52	0.0134	0.0041
Uranus	-26471-10-21 23:45 J	-7946815.72	-7946815.51	-7946815.29	0.0134	0.0022
Uranus	-26470-06-05 05:16 J	-7946589.49	-7946589.28	-7946589.06	0.0135	0.0003
Pluto	-26470-08-03 09:07 J	-7946530.23	-7946530.12	-7946529.95	0.0064	0.0050
Uranus	-26469-01-17 11:02 J	-7946363.25	-7946363.04	-7946362.83	0.0135	0.0019
Pluto	-26469-03-15 13:26 J	-7946305.15	-7946304.94	-7946304.72	0.0065	0.0011
Uranus	-26469-08-30 16:33 J	-7946137.01	-7946136.81	-7946136.60	0.0135	0.0039
Jupiter	-26469-10-10 03:35 J	-7946096.55	-7946096.35	-7946096.16	0.0524	0.0077
Pluto	-26469-10-26 17:02 J	-7946079.98	-7946079.79	-7946079.58	0.0065	0.0027
Uranus	-26468-04-13 21:50 J	-7945910.77	-7945910.59	-7945910.38	0.0135	0.0060
Jupiter	-26468-06-03 21:21 J	-7945859.74	-7945859.61	-7945859.47	0.0516	0.0379
Uranus	-26468-11-26 03:35 J	-7945684.51	-7945684.35	-7945684.16	0.0136	0.0081
Uranus	-26467-07-10 09:21 J	-7945458.24	-7945458.11	-7945457.95	0.0136	0.0101
Uranus	-26466-02-21 15:21 J	-7945231.94	-7945231.86	-7945231.75	0.0136	0.0121
Jupiter	-26463-08-06 11:45 J	-7943970.14	-7943970.01	-7943969.86	0.0498	0.0365
Jupiter	-26462-03-31 12:57 J	-7943733.16	-7943732.96	-7943732.75	0.0506	0.0066
Saturn	-26462-05-29 14:38 J	-7943674.03	-7943673.89	-7943673.73	0.0287	0.0196
Saturn	-26461-01-14 06:57 J	-7943444.42	-7943444.21	-7943444.01	0.0285	0.0053
Saturn	-26461-08-30 20:23 J	-7943214.85	-7943214.65	-7943214.45	0.0283	0.0086
Saturn	-26460-04-17 07:11 J	-7942985.33	-7942985.20	-7942985.07	0.0281	0.0218
Mars	-26458-03-26 20:23 J	-7942276.80	-7942276.65	-7942276.49	0.1731	0.0612
Jupiter	-26457-06-15 01:26 J	-7941830.62	-7941830.44	-7941830.25	0.0526	0.0207
Jupiter	-26456-02-06 21:50 J	-7941593.75	-7941593.59	-7941593.41	0.0518	0.0261
Mars	-26454-11-06 05:16 J	-7940591.45	-7940591.28	-7940591.11	0.1788	0.0661
Jupiter	-26451-04-11 09:21 J	-7939704.17	-7939704.11	-7939704.05	0.0497	0.0475
Jupiter	-26451-12-04 07:55 J	-7939467.37	-7939467.17	-7939466.96	0.0504	0.0059
Jupiter	-26450-07-29 15:50 J	-7939229.96	-7939229.84	-7939229.70	0.0512	0.0395
Saturn	-26446-02-01 03:35 J	-7937947.51	-7937947.35	-7937947.20	0.0273	0.0185
Saturn	-26446-09-18 11:45 J	-7937718.22	-7937718.01	-7937717.80	0.0275	0.0060

Jupiter -26445-02-18 22:33 J -7937564.71 -7937564.56 -7937564.41 0.0528 0.0337
 Saturn -26445-05-04 22:19 J -7937488.78 -7937488.57 -7937488.36 0.0277 0.0069
 Jupiter -26445-10-12 21:35 J -7937327.80 -7937327.60 -7937327.41 0.0520 0.0137
 Saturn -26445-12-20 11:02 J -7937259.18 -7937259.04 -7937258.88 0.0279 0.0203
 Neptune -26442-11-06 14:23 J -7936207.90 -7936207.90 -7936207.85 0.0089 0.0089
 Neptune -26441-06-19 02:52 J -7935982.42 -7935982.38 -7935982.32 0.0089 0.0086
 Neptune -26440-01-30 15:07 J -7935756.92 -7935756.87 -7935756.79 0.0089 0.0085
 Neptune -26440-09-13 03:21 J -7935531.43 -7935531.36 -7935531.27 0.0089 0.0083
 Neptune -26439-04-26 15:50 J -7935305.92 -7935305.84 -7935305.74 0.0089 0.0080
 Jupiter -26439-08-09 05:16 J -7935201.47 -7935201.28 -7935201.08 0.0502 0.0175
 Neptune -26439-12-08 04:04 J -7935080.42 -7935080.33 -7935080.22 0.0089 0.0078
 Jupiter -26438-04-03 11:02 J -7934964.21 -7934964.04 -7934963.86 0.0510 0.0272
 Neptune -26438-07-21 16:19 J -7934854.92 -7934854.82 -7934854.70 0.0089 0.0076
 Neptune -26437-03-03 04:19 J -7934629.42 -7934629.32 -7934629.18 0.0089 0.0075
 Neptune -26437-10-14 16:33 J -7934403.91 -7934403.81 -7934403.66 0.0089 0.0072
 Moon -26436-04-26 13:26 J -7934210.10 -7934209.94 -7934209.78 0.2703 0.0161
 Earth -26436-04-26 15:50 J -7934209.99 -7934209.84 -7934209.69 0.2710 0.0749 *
 Neptune -26436-05-28 04:47 J -7934178.41 -7934178.30 -7934178.15 0.0089 0.0070
 Neptune -26435-01-08 17:16 J -7933952.91 -7933952.78 -7933952.63 0.0089 0.0068
 Neptune -26435-08-22 05:31 J -7933727.40 -7933727.27 -7933727.11 0.0089 0.0065
 Neptune -26434-04-04 17:45 J -7933501.89 -7933501.76 -7933501.59 0.0089 0.0063
 Jupiter -26434-10-24 15:50 J -7933298.92 -7933298.84 -7933298.75 0.0530 0.0472
 Neptune -26434-11-16 06:28 J -7933276.38 -7933276.23 -7933276.07 0.0089 0.0060
 Uranus -26434-12-30 01:26 J -7933232.51 -7933232.44 -7933232.35 0.0145 0.0134
 Jupiter -26433-06-17 17:02 J -7933061.99 -7933061.79 -7933061.59 0.0522 0.0006
 Neptune -26433-06-28 18:28 J -7933050.88 -7933050.73 -7933050.55 0.0089 0.0058
 Uranus -26433-08-12 13:40 J -7933006.05 -7933005.93 -7933005.77 0.0145 0.0110
 Saturn -26433-12-08 16:33 J -7932887.97 -7932887.81 -7932887.64 0.0287 0.0178
 Neptune -26432-02-09 06:43 J -7932825.37 -7932825.22 -7932825.04 0.0089 0.0056
 Jupiter -26432-02-09 08:52 J -7932825.22 -7932825.13 -7932825.03 0.0514 0.0449 *

Uranus	-26432-03-27 02:09 J	-7932779.58	-7932779.41	-7932779.22	0.0145	0.0084
Saturn	-26432-07-26 08:52 J	-7932658.34	-7932658.13	-7932657.92	0.0285	0.0034
Neptune	-26432-09-22 19:11 J	-7932599.86	-7932599.70	-7932599.52	0.0089	0.0053
Uranus	-26432-11-08 14:23 J	-7932553.08	-7932552.90	-7932552.68	0.0145	0.0059
Saturn	-26431-03-12 22:19 J	-7932428.76	-7932428.57	-7932428.37	0.0283	0.0106
Neptune	-26431-05-06 07:26 J	-7932374.35	-7932374.19	-7932373.99	0.0089	0.0051
Uranus	-26431-06-23 03:07 J	-7932326.58	-7932326.37	-7932326.15	0.0144	0.0033
Saturn	-26431-10-28 09:21 J	-7932199.21	-7932199.11	-7932198.99	0.0281	0.0238
Neptune	-26431-12-17 19:55 J	-7932148.84	-7932148.67	-7932148.47	0.0089	0.0048
Uranus	-26430-02-04 15:35 J	-7932100.07	-7932099.85	-7932099.63	0.0144	0.0008
Neptune	-26430-07-31 08:09 J	-7931923.33	-7931923.16	-7931922.96	0.0089	0.0046
Uranus	-26430-09-19 03:35 J	-7931873.56	-7931873.35	-7931873.13	0.0144	0.0018
Neptune	-26429-03-12 20:38 J	-7931697.82	-7931697.64	-7931697.44	0.0089	0.0043
Uranus	-26429-05-02 15:35 J	-7931647.05	-7931646.85	-7931646.64	0.0144	0.0043
Neptune	-26429-10-24 09:07 J	-7931472.31	-7931472.12	-7931471.93	0.0089	0.0040
Uranus	-26429-12-15 03:35 J	-7931420.54	-7931420.35	-7931420.15	0.0143	0.0068
Neptune	-26428-06-06 21:07 J	-7931246.80	-7931246.62	-7931246.41	0.0089	0.0038
Uranus	-26428-07-29 15:21 J	-7931194.01	-7931193.86	-7931193.67	0.0143	0.0093
Neptune	-26427-01-18 09:35 J	-7931021.29	-7931021.10	-7931020.89	0.0089	0.0035
Uranus	-26427-03-13 03:21 J	-7930967.47	-7930967.36	-7930967.22	0.0143	0.0117
Jupiter	-26427-04-14 02:38 J	-7930935.56	-7930935.39	-7930935.22	0.0500	0.0292
Neptune	-26427-08-31 21:35 J	-7930795.78	-7930795.60	-7930795.38	0.0089	0.0033
Uranus	-26427-10-25 15:07 J	-7930740.89	-7930740.87	-7930740.83	0.0142	0.0141
Jupiter	-26427-12-07 05:45 J	-7930698.46	-7930698.26	-7930698.06	0.0507	0.0147
Mars	-26426-03-25 20:23 J	-7930589.80	-7930589.65	-7930589.49	0.1740	0.0611
Neptune	-26426-04-14 10:19 J	-7930570.27	-7930570.07	-7930569.86	0.0089	0.0030
Neptune	-26426-11-25 22:47 J	-7930344.76	-7930344.55	-7930344.34	0.0089	0.0027
Neptune	-26425-07-08 10:47 J	-7930119.25	-7930119.05	-7930118.83	0.0089	0.0025
Neptune	-26424-02-18 23:02 J	-7929893.74	-7929893.54	-7929893.32	0.0089	0.0022
Neptune	-26424-10-02 11:31 J	-7929668.23	-7929668.02	-7929667.80	0.0089	0.0019

Neptune -26423-05-15 23:59 J -7929442.71 -7929442.50 -7929442.28 0.0089 0.0017
 Neptune -26423-12-27 12:28 J -7929217.19 -7929216.98 -7929216.76 0.0089 0.0014
 Neptune -26422-08-10 00:43 J -7928991.68 -7928991.47 -7928991.25 0.0089 0.0011
 Mars -26422-11-05 19:40 J -7928903.83 -7928903.68 -7928903.52 0.1778 0.0916
 Jupiter -26421-02-21 13:40 J -7928796.12 -7928795.93 -7928795.74 0.0524 0.0128
 Neptune -26421-03-22 13:11 J -7928766.16 -7928765.95 -7928765.73 0.0089 0.0008
 Jupiter -26421-10-15 08:09 J -7928559.31 -7928559.16 -7928559.00 0.0516 0.0331
 Neptune -26421-11-03 01:40 J -7928540.65 -7928540.43 -7928540.21 0.0089 0.0005
 Neptune -26420-06-16 14:09 J -7928315.12 -7928314.91 -7928314.69 0.0089 0.0003
 Neptune -26419-01-28 02:38 J -7928089.61 -7928089.39 -7928089.17 0.0089 0.0000
 Neptune -26419-09-10 15:07 J -7927864.09 -7927863.87 -7927863.65 0.0089 0.0003
 Neptune -26418-04-24 03:35 J -7927638.56 -7927638.35 -7927638.13 0.0089 0.0006
 Neptune -26418-12-05 16:04 J -7927413.04 -7927412.83 -7927412.61 0.0089 0.0009
 Neptune -26417-07-18 04:19 J -7927187.53 -7927187.32 -7927187.09 0.0089 0.0012
 Saturn -26417-08-13 10:47 J -7927161.22 -7927161.05 -7927160.88 0.0273 0.0162
 Neptune -26416-02-28 17:02 J -7926962.01 -7926961.79 -7926961.58 0.0089 0.0014
 Saturn -26416-03-30 19:26 J -7926931.90 -7926931.69 -7926931.48 0.0275 0.0037
 Neptune -26416-10-12 05:16 J -7926736.49 -7926736.28 -7926736.06 0.0089 0.0017
 Saturn -26416-11-15 06:14 J -7926702.43 -7926702.24 -7926702.03 0.0277 0.0094
 Jupiter -26416-12-17 23:02 J -7926669.66 -7926669.54 -7926669.42 0.0498 0.0405
 Neptune -26415-05-25 17:59 J -7926510.96 -7926510.75 -7926510.53 0.0089 0.0019
 Saturn -26415-07-02 19:40 J -7926472.79 -7926472.68 -7926472.55 0.0279 0.0227
 Jupiter -26415-08-11 23:16 J -7926432.74 -7926432.53 -7926432.32 0.0505 0.0021
 Neptune -26414-01-06 06:14 J -7926285.44 -7926285.24 -7926285.01 0.0088 0.0023
 Jupiter -26414-04-06 08:23 J -7926195.22 -7926195.15 -7926195.07 0.0513 0.0472
 Neptune -26414-08-19 18:57 J -7926059.92 -7926059.71 -7926059.50 0.0088 0.0025
 Neptune -26413-04-01 07:11 J -7925834.40 -7925834.20 -7925833.98 0.0088 0.0028
 Neptune -26413-11-12 19:40 J -7925608.87 -7925608.68 -7925608.46 0.0088 0.0030
 Neptune -26412-06-26 08:23 J -7925383.35 -7925383.15 -7925382.94 0.0088 0.0033
 Neptune -26411-02-06 20:52 J -7925157.82 -7925157.63 -7925157.42 0.0088 0.0036

Neptune -26411-09-20 09:07 J -7924932.30 -7924932.12 -7924931.90 0.0088 0.0039
 Neptune -26410-05-03 22:04 J -7924706.77 -7924706.58 -7924706.38 0.0088 0.0041
 Jupiter -26410-10-27 09:50 J -7924530.26 -7924530.09 -7924529.91 0.0527 0.0260
 Neptune -26410-12-15 10:33 J -7924481.24 -7924481.06 -7924480.86 0.0088 0.0043
 Jupiter -26409-06-20 07:26 J -7924293.37 -7924293.19 -7924293.00 0.0519 0.0211
 Neptune -26409-07-27 23:16 J -7924255.71 -7924255.53 -7924255.34 0.0088 0.0046
 Neptune -26408-03-10 11:45 J -7924030.18 -7924030.01 -7924029.82 0.0088 0.0048
 Neptune -26408-10-22 00:43 J -7923804.65 -7923804.47 -7923804.29 0.0088 0.0051
 Neptune -26407-06-04 13:11 J -7923579.11 -7923578.95 -7923578.76 0.0088 0.0053
 Neptune -26406-01-16 02:09 J -7923353.58 -7923353.41 -7923353.24 0.0088 0.0056
 Neptune -26406-08-29 14:23 J -7923128.04 -7923127.90 -7923127.71 0.0088 0.0059
 Neptune -26405-04-11 03:21 J -7922902.51 -7922902.36 -7922902.19 0.0088 0.0061
 Neptune -26405-11-22 15:50 J -7922676.97 -7922676.84 -7922676.67 0.0088 0.0063
 Neptune -26404-07-06 04:47 J -7922451.43 -7922451.30 -7922451.14 0.0088 0.0065
 Neptune -26403-02-16 17:31 J -7922225.89 -7922225.77 -7922225.61 0.0088 0.0068
 Jupiter -26403-04-16 18:28 J -7922166.93 -7922166.73 -7922166.52 0.0503 0.0102
 Saturn -26403-06-20 23:45 J -7922101.69 -7922101.51 -7922101.33 0.0287 0.0155
 Neptune -26403-09-30 06:28 J -7922000.36 -7922000.23 -7922000.09 0.0088 0.0070
 Jupiter -26403-12-10 00:57 J -7921929.60 -7921929.46 -7921929.30 0.0510 0.0347
 Saturn -26402-02-05 15:21 J -7921872.07 -7921871.86 -7921871.65 0.0285 0.0013
 Neptune -26402-05-13 18:43 J -7921774.82 -7921774.72 -7921774.57 0.0088 0.0073
 Saturn -26402-09-23 04:33 J -7921642.50 -7921642.31 -7921642.12 0.0283 0.0126
 Neptune -26402-12-25 07:40 J -7921549.28 -7921549.18 -7921549.04 0.0088 0.0074
 Saturn -26401-05-09 14:52 J -7921412.95 -7921412.88 -7921412.79 0.0280 0.0257
 Neptune -26401-08-06 20:23 J -7921323.74 -7921323.65 -7921323.52 0.0088 0.0077
 Neptune -26400-03-20 09:21 J -7921098.20 -7921098.11 -7921098.00 0.0088 0.0078
 Neptune -26400-10-31 22:04 J -7920872.65 -7920872.58 -7920872.48 0.0088 0.0081
 Neptune -26399-06-14 11:02 J -7920647.10 -7920647.04 -7920646.95 0.0088 0.0082
 Neptune -26398-01-25 23:59 J -7920421.55 -7920421.50 -7920421.43 0.0088 0.0084
 Jupiter -26398-07-02 06:14 J -7920264.36 -7920264.24 -7920264.10 0.0529 0.0391

Neptune	-26398-09-08 12:43 J	-7920196.00	-7920195.97	-7920195.91	0.0088	0.0086
Jupiter	-26397-02-24 06:57 J	-7920027.41	-7920027.21	-7920027.01	0.0521	0.0086
Neptune	-26397-04-21 01:55 J	-7919970.42	-7919970.42	-7919970.41	0.0088	0.0088
Mars	-26392-01-21 06:43 J	-7918234.37	-7918234.22	-7918234.07	0.1728	0.0757
Jupiter	-26392-12-20 14:09 J	-7917901.09	-7917900.91	-7917900.72	0.0501	0.0222
Jupiter	-26391-08-14 18:28 J	-7917663.92	-7917663.73	-7917663.54	0.0508	0.0221
Uranus	-26390-05-17 07:40 J	-7917388.23	-7917388.18	-7917388.11	0.0133	0.0128
Uranus	-26390-12-29 12:57 J	-7917162.07	-7917161.96	-7917161.82	0.0133	0.0109
Uranus	-26389-08-11 18:28 J	-7916935.89	-7916935.73	-7916935.56	0.0133	0.0089
Uranus	-26388-03-25 23:31 J	-7916709.69	-7916709.52	-7916709.32	0.0134	0.0070
Saturn	-26388-07-09 05:45 J	-7916604.29	-7916604.26	-7916604.21	0.0272	0.0266
Mars	-26388-09-02 11:16 J	-7916549.18	-7916549.03	-7916548.87	0.1792	0.0893
Uranus	-26388-11-07 04:47 J	-7916483.49	-7916483.30	-7916483.08	0.0134	0.0050
Saturn	-26387-02-23 12:28 J	-7916375.16	-7916374.98	-7916374.80	0.0274	0.0146
Uranus	-26387-06-21 10:33 J	-7916257.27	-7916257.06	-7916256.85	0.0134	0.0029
Saturn	-26387-10-10 21:07 J	-7916145.83	-7916145.62	-7916145.41	0.0275	0.0020
Uranus	-26386-02-02 16:04 J	-7916031.04	-7916030.83	-7916030.61	0.0134	0.0009
Jupiter	-26386-03-07 02:23 J	-7915998.44	-7915998.40	-7915998.36	0.0531	0.0519
Saturn	-26386-05-28 07:55 J	-7915916.36	-7915916.17	-7915915.97	0.0277	0.0111
Uranus	-26386-09-16 21:21 J	-7915804.82	-7915804.61	-7915804.39	0.0135	0.0012
Jupiter	-26386-10-30 05:31 J	-7915761.47	-7915761.27	-7915761.08	0.0524	0.0044
Saturn	-26385-01-12 21:07 J	-7915686.71	-7915686.62	-7915686.51	0.0279	0.0245
Uranus	-26385-04-30 02:52 J	-7915578.58	-7915578.38	-7915578.16	0.0135	0.0032
Jupiter	-26385-06-22 22:33 J	-7915524.67	-7915524.56	-7915524.43	0.0515	0.0408
Uranus	-26385-12-12 08:23 J	-7915352.34	-7915352.15	-7915351.94	0.0135	0.0052
Uranus	-26384-07-26 14:09 J	-7915126.09	-7915125.91	-7915125.72	0.0135	0.0073
Uranus	-26383-03-09 19:55 J	-7914899.82	-7914899.67	-7914899.51	0.0136	0.0093
Uranus	-26383-10-22 01:11 J	-7914673.54	-7914673.45	-7914673.31	0.0136	0.0114
Uranus	-26382-06-05 07:11 J	-7914447.22	-7914447.20	-7914447.15	0.0136	0.0134
Pluto	-26382-11-15 08:23 J	-7914284.20	-7914284.15	-7914284.10	0.0080	0.0078

Pluto	-26381-06-27 19:26 J	-7914058.91	-7914058.69	-7914058.46	0.0080	0.0002
Pluto	-26380-02-08 05:45 J	-7913833.32	-7913833.26	-7913833.15	0.0080	0.0074
Jupiter	-26380-08-25 12:28 J	-7913635.14	-7913634.98	-7913634.83	0.0499	0.0334
Jupiter	-26379-04-19 14:23 J	-7913398.11	-7913397.90	-7913397.70	0.0506	0.0099
Saturn	-26374-05-16 07:26 J	-7911545.22	-7911545.19	-7911545.14	0.0289	0.0283
Jupiter	-26374-07-05 00:14 J	-7911495.67	-7911495.49	-7911495.30	0.0525	0.0178
Saturn	-26373-01-01 01:40 J	-7911315.61	-7911315.43	-7911315.24	0.0287	0.0137
Jupiter	-26373-02-26 19:55 J	-7911258.84	-7911258.67	-7911258.51	0.0517	0.0285
Saturn	-26373-08-17 17:31 J	-7911085.98	-7911085.77	-7911085.56	0.0285	0.0007
Saturn	-26372-04-04 06:28 J	-7910856.40	-7910856.23	-7910856.04	0.0283	0.0145
Saturn	-26372-11-19 17:02 J	-7910626.81	-7910626.79	-7910626.74	0.0281	0.0276
Jupiter	-26368-04-30 10:04 J	-7909369.17	-7909369.08	-7909368.98	0.0497	0.0445
Jupiter	-26368-12-23 09:50 J	-7909132.30	-7909132.09	-7909131.89	0.0504	0.0027
Jupiter	-26367-08-17 18:14 J	-7908894.85	-7908894.74	-7908894.62	0.0512	0.0426
Jupiter	-26362-03-09 19:40 J	-7907229.84	-7907229.68	-7907229.52	0.0527	0.0310
Jupiter	-26362-11-01 17:45 J	-7906992.94	-7906992.76	-7906992.57	0.0520	0.0161
Mars	-26360-01-20 06:14 J	-7906547.41	-7906547.24	-7906547.08	0.1737	0.0446
Saturn	-26358-01-19 13:26 J	-7905818.02	-7905817.94	-7905817.84	0.0272	0.0244
Neptune	-26358-03-18 06:57 J	-7905760.21	-7905760.21	-7905760.20	0.0088	0.0088
Saturn	-26358-09-05 20:23 J	-7905588.84	-7905588.65	-7905588.46	0.0273	0.0124
Neptune	-26358-10-29 20:23 J	-7905534.67	-7905534.65	-7905534.59	0.0088	0.0086
Saturn	-26357-04-22 05:16 J	-7905359.49	-7905359.28	-7905359.06	0.0275	0.0007
Neptune	-26357-06-11 10:19 J	-7905309.12	-7905309.07	-7905308.99	0.0088	0.0084
Saturn	-26357-12-07 16:33 J	-7905129.99	-7905129.81	-7905129.62	0.0277	0.0135
Neptune	-26356-01-22 23:59 J	-7905083.56	-7905083.50	-7905083.41	0.0088	0.0082
Saturn	-26356-07-25 06:28 J	-7904900.28	-7904900.23	-7904900.17	0.0279	0.0269
Jupiter	-26356-08-28 04:33 J	-7904866.51	-7904866.31	-7904866.11	0.0502	0.0146
Mars	-26356-09-02 01:55 J	-7904861.59	-7904861.42	-7904861.26	0.1781	0.0691
Neptune	-26356-09-05 13:55 J	-7904858.00	-7904857.92	-7904857.81	0.0088	0.0080
Neptune	-26355-04-19 03:35 J	-7904632.43	-7904632.35	-7904632.23	0.0088	0.0078

Jupiter -26355-04-22 10:04 J -7904629.25 -7904629.08 -7904628.91 0.0509 0.0299
 Neptune -26355-11-30 17:16 J -7904406.87 -7904406.78 -7904406.64 0.0088 0.0077
 Neptune -26354-07-14 06:57 J -7904181.30 -7904181.21 -7904181.06 0.0088 0.0075
 Neptune -26353-02-24 21:21 J -7903955.74 -7903955.61 -7903955.48 0.0088 0.0072
 Neptune -26353-10-07 11:02 J -7903730.16 -7903730.04 -7903729.89 0.0088 0.0070
 Neptune -26352-05-21 00:43 J -7903504.60 -7903504.47 -7903504.31 0.0088 0.0067
 Neptune -26351-01-01 14:09 J -7903279.03 -7903278.91 -7903278.73 0.0088 0.0066
 Neptune -26351-08-15 04:19 J -7903053.47 -7903053.32 -7903053.15 0.0088 0.0063
 Jupiter -26351-11-12 14:09 J -7902964.02 -7902963.91 -7902963.80 0.0530 0.0442
 Neptune -26350-03-28 17:45 J -7902827.90 -7902827.76 -7902827.57 0.0088 0.0061
 Jupiter -26350-07-07 15:35 J -7902727.05 -7902726.85 -7902726.65 0.0522 0.0033
 Neptune -26350-11-09 07:55 J -7902602.33 -7902602.17 -7902601.99 0.0088 0.0058
 Jupiter -26349-02-29 07:40 J -7902490.25 -7902490.18 -7902490.10 0.0514 0.0475
 Uranus -26349-04-11 20:23 J -7902447.76 -7902447.65 -7902447.52 0.0145 0.0121
 Neptune -26349-06-21 21:21 J -7902376.77 -7902376.61 -7902376.42 0.0088 0.0056
 Uranus -26349-11-24 08:52 J -7902221.28 -7902221.13 -7902220.96 0.0145 0.0095
 Neptune -26348-02-02 11:16 J -7902151.20 -7902151.03 -7902150.84 0.0088 0.0053
 Uranus -26348-07-08 21:21 J -7901994.79 -7901994.61 -7901994.41 0.0145 0.0070
 Neptune -26348-09-16 00:57 J -7901925.63 -7901925.46 -7901925.26 0.0088 0.0050
 Uranus -26347-02-20 10:04 J -7901768.29 -7901768.08 -7901767.87 0.0145 0.0044
 Neptune -26347-04-29 14:52 J -7901700.06 -7901699.88 -7901699.68 0.0088 0.0048
 Uranus -26347-10-04 22:19 J -7901541.79 -7901541.57 -7901541.35 0.0144 0.0018
 Neptune -26347-12-11 04:19 J -7901474.49 -7901474.32 -7901474.11 0.0088 0.0046
 Uranus -26346-05-19 10:33 J -7901315.28 -7901315.06 -7901314.84 0.0144 0.0007
 Neptune -26346-07-24 18:14 J -7901248.93 -7901248.74 -7901248.53 0.0088 0.0043
 Uranus -26346-12-31 22:33 J -7901088.77 -7901088.56 -7901088.34 0.0144 0.0033
 Neptune -26345-03-06 08:09 J -7901023.36 -7901023.16 -7901022.96 0.0088 0.0040
 Uranus -26345-08-14 10:33 J -7900862.25 -7900862.06 -7900861.85 0.0143 0.0059
 Neptune -26345-10-17 21:50 J -7900797.78 -7900797.59 -7900797.38 0.0088 0.0038
 Saturn -26345-11-25 16:19 J -7900758.90 -7900758.82 -7900758.72 0.0289 0.0258

Uranus	-26344-03-28 22:33 J	-7900635.73	-7900635.56	-7900635.37	0.0143	0.0083
Jupiter	-26344-05-03 00:43 J	-7900600.65	-7900600.47	-7900600.29	0.0500	0.0264
Neptune	-26344-05-31 11:45 J	-7900572.21	-7900572.01	-7900571.80	0.0088	0.0035
Saturn	-26344-07-13 10:04 J	-7900529.27	-7900529.08	-7900528.88	0.0287	0.0112
Uranus	-26344-11-10 10:47 J	-7900409.20	-7900409.05	-7900408.91	0.0143	0.0107
Jupiter	-26344-12-26 03:35 J	-7900363.55	-7900363.35	-7900363.16	0.0507	0.0173
Neptune	-26343-01-12 01:40 J	-7900346.64	-7900346.43	-7900346.22	0.0088	0.0032
Saturn	-26343-02-28 01:26 J	-7900299.65	-7900299.44	-7900299.23	0.0285	0.0031
Uranus	-26343-06-24 22:19 J	-7900182.64	-7900182.57	-7900182.48	0.0143	0.0132
Neptune	-26343-08-25 15:07 J	-7900121.07	-7900120.87	-7900120.65	0.0088	0.0029
Saturn	-26343-10-15 13:55 J	-7900070.08	-7900069.92	-7900069.75	0.0282	0.0167
Neptune	-26342-04-08 04:47 J	-7899895.50	-7899895.30	-7899895.07	0.0089	0.0027
Neptune	-26342-11-19 18:43 J	-7899669.93	-7899669.72	-7899669.50	0.0089	0.0024
Neptune	-26341-07-02 08:38 J	-7899444.36	-7899444.14	-7899443.92	0.0089	0.0021
Neptune	-26340-02-12 22:04 J	-7899218.79	-7899218.58	-7899218.35	0.0089	0.0019
Neptune	-26340-09-26 11:59 J	-7898993.22	-7898993.00	-7898992.78	0.0089	0.0016
Neptune	-26339-05-10 01:40 J	-7898767.65	-7898767.43	-7898767.21	0.0089	0.0013
Moon	-26339-10-26 15:35 J	-7898598.00	-7898597.85	-7898597.69	0.2619	0.0928
Earth	-26339-10-26 20:09 J	-7898597.82	-7898597.66	-7898597.50	0.2623	0.0429 *
Neptune	-26339-12-21 15:21 J	-7898542.08	-7898541.86	-7898541.64	0.0089	0.0010
Jupiter	-26338-03-12 13:40 J	-7898461.13	-7898460.93	-7898460.74	0.0525	0.0096
Neptune	-26338-08-04 04:47 J	-7898316.52	-7898316.30	-7898316.07	0.0089	0.0008
Jupiter	-26338-11-04 08:23 J	-7898224.29	-7898224.15	-7898224.01	0.0516	0.0361
Neptune	-26337-03-16 18:28 J	-7898090.95	-7898090.73	-7898090.50	0.0089	0.0005
Neptune	-26337-10-28 08:09 J	-7897865.38	-7897865.16	-7897864.93	0.0089	0.0002
Neptune	-26336-06-10 21:50 J	-7897639.81	-7897639.59	-7897639.37	0.0089	0.0001
Neptune	-26335-01-22 11:16 J	-7897414.25	-7897414.03	-7897413.80	0.0089	0.0004
Neptune	-26335-09-05 00:43 J	-7897188.69	-7897188.47	-7897188.24	0.0089	0.0007
Neptune	-26334-04-18 14:23 J	-7896963.12	-7896962.90	-7896962.68	0.0089	0.0009
Neptune	-26334-11-30 04:04 J	-7896737.55	-7896737.33	-7896737.11	0.0089	0.0012

Neptune -26333-07-12 17:31 J -7896511.98 -7896511.77 -7896511.54 0.0089 0.0015
 Jupiter -26332-01-05 21:07 J -7896334.75 -7896334.62 -7896334.48 0.0498 0.0377
 Neptune -26332-02-23 06:57 J -7896286.42 -7896286.21 -7896285.98 0.0089 0.0018
 Jupiter -26332-08-30 21:35 J -7896097.81 -7896097.60 -7896097.39 0.0505 0.0049
 Neptune -26332-10-06 20:23 J -7896060.85 -7896060.65 -7896060.42 0.0089 0.0021
 Jupiter -26331-04-25 07:11 J -7895860.24 -7895860.20 -7895860.15 0.0513 0.0498
 Neptune -26331-05-20 10:19 J -7895835.29 -7895835.07 -7895834.86 0.0089 0.0023
 Neptune -26331-12-31 23:45 J -7895609.72 -7895609.51 -7895609.29 0.0089 0.0026
 Neptune -26330-08-14 13:11 J -7895384.15 -7895383.95 -7895383.73 0.0089 0.0029
 Neptune -26329-03-27 02:52 J -7895158.59 -7895158.38 -7895158.17 0.0089 0.0031
 Saturn -26329-07-31 16:19 J -7895031.92 -7895031.82 -7895031.69 0.0272 0.0227
 Neptune -26329-11-07 16:19 J -7894933.02 -7894932.82 -7894932.61 0.0089 0.0034
 Mars -26328-01-19 06:28 J -7894860.27 -7894860.23 -7894860.19 0.1746 0.1685
 Saturn -26328-03-17 23:16 J -7894802.72 -7894802.53 -7894802.33 0.0274 0.0106
 Neptune -26328-06-21 05:31 J -7894707.45 -7894707.27 -7894707.05 0.0089 0.0037
 Saturn -26328-11-02 08:23 J -7894573.36 -7894573.15 -7894572.93 0.0276 0.0022
 Neptune -26327-02-01 19:11 J -7894481.89 -7894481.70 -7894481.49 0.0089 0.0039
 Saturn -26327-06-19 19:55 J -7894343.85 -7894343.67 -7894343.49 0.0278 0.0154
 Neptune -26327-09-15 08:23 J -7894256.33 -7894256.15 -7894255.94 0.0089 0.0042
 Jupiter -26327-11-15 10:47 J -7894195.22 -7894195.05 -7894194.87 0.0527 0.0227
 Mars -26327-11-18 17:16 J -7894191.92 -7894191.78 -7894191.63 0.1725 0.0898
 Neptune -26326-04-28 22:04 J -7894030.77 -7894030.58 -7894030.38 0.0089 0.0044
 Jupiter -26326-07-10 08:09 J -7893958.34 -7893958.16 -7893957.99 0.0519 0.0240
 Neptune -26326-12-10 11:16 J -7893805.20 -7893805.03 -7893804.83 0.0089 0.0047
 Neptune -26325-07-23 00:43 J -7893579.64 -7893579.47 -7893579.27 0.0089 0.0049
 Neptune -26324-03-05 13:55 J -7893354.08 -7893353.92 -7893353.72 0.0089 0.0052
 Neptune -26324-10-17 03:21 J -7893128.52 -7893128.36 -7893128.18 0.0089 0.0054
 Neptune -26323-05-30 16:19 J -7892902.96 -7892902.82 -7892902.63 0.0089 0.0057
 Neptune -26322-01-11 05:59 J -7892677.40 -7892677.25 -7892677.07 0.0089 0.0059
 Mars -26322-06-30 16:04 J -7892506.96 -7892506.83 -7892506.69 0.1795 0.1148

Neptune -26322-08-24 19:11 J -7892451.84 -7892451.70 -7892451.53 0.0089 0.0062
 Neptune -26321-04-06 08:09 J -7892226.29 -7892226.16 -7892225.98 0.0089 0.0064
 Jupiter -26321-09-10 19:55 J -7892068.71 -7892068.67 -7892068.62 0.0496 0.0484
 Neptune -26321-11-17 21:35 J -7892000.73 -7892000.60 -7892000.43 0.0089 0.0066
 Jupiter -26320-05-05 18:14 J -7891831.95 -7891831.74 -7891831.54 0.0503 0.0073
 Neptune -26320-07-01 11:02 J -7891775.17 -7891775.04 -7891774.88 0.0089 0.0068
 Jupiter -26320-12-29 01:26 J -7891594.58 -7891594.44 -7891594.30 0.0511 0.0376
 Neptune -26319-02-12 00:14 J -7891549.61 -7891549.49 -7891549.34 0.0089 0.0070
 Neptune -26319-09-25 13:40 J -7891324.05 -7891323.93 -7891323.80 0.0089 0.0072
 Neptune -26318-05-09 02:52 J -7891098.49 -7891098.38 -7891098.25 0.0089 0.0074
 Neptune -26318-12-20 16:19 J -7890872.93 -7890872.82 -7890872.70 0.0089 0.0076
 Neptune -26317-08-02 05:31 J -7890647.37 -7890647.27 -7890647.16 0.0089 0.0078
 Neptune -26316-03-15 18:28 J -7890421.81 -7890421.73 -7890421.62 0.0089 0.0081
 Neptune -26316-10-27 07:40 J -7890196.25 -7890196.18 -7890196.09 0.0089 0.0082
 Saturn -26315-06-07 18:57 J -7889972.82 -7889972.71 -7889972.58 0.0288 0.0240
 Neptune -26315-06-09 20:38 J -7889970.69 -7889970.64 -7889970.55 0.0089 0.0085
 Jupiter -26315-07-21 05:16 J -7889929.42 -7889929.28 -7889929.14 0.0528 0.0360
 Neptune -26314-01-21 09:50 J -7889745.12 -7889745.09 -7889745.01 0.0089 0.0086
 Saturn -26314-01-23 12:57 J -7889743.16 -7889742.96 -7889742.76 0.0287 0.0094
 Jupiter -26314-03-15 04:33 J -7889692.50 -7889692.31 -7889692.11 0.0520 0.0113
 Neptune -26314-09-03 22:47 J -7889519.56 -7889519.55 -7889519.49 0.0089 0.0088
 Saturn -26314-09-10 04:04 J -7889513.54 -7889513.33 -7889513.12 0.0285 0.0049
 Saturn -26313-04-26 16:47 J -7889283.96 -7889283.80 -7889283.64 0.0283 0.0186
 Jupiter -26308-01-08 14:09 J -7887566.10 -7887565.91 -7887565.72 0.0501 0.0191
 Jupiter -26308-09-02 19:11 J -7887328.88 -7887328.70 -7887328.52 0.0509 0.0252
 Uranus -26306-08-28 23:59 J -7886603.60 -7886603.50 -7886603.40 0.0133 0.0117
 Uranus -26305-04-11 04:47 J -7886377.43 -7886377.30 -7886377.14 0.0133 0.0098
 Uranus -26305-11-23 10:19 J -7886151.24 -7886151.07 -7886150.89 0.0134 0.0078
 Uranus -26304-07-07 15:35 J -7885925.04 -7885924.85 -7885924.65 0.0134 0.0058
 Uranus -26303-02-18 21:07 J -7885698.82 -7885698.62 -7885698.41 0.0134 0.0038

Jupiter	-26303-03-25 23:31 J	-7885663.59	-7885663.52	-7885663.45	0.0530	0.0491
Uranus	-26303-10-03 02:38 J	-7885472.61	-7885472.39	-7885472.18	0.0134	0.0018
Jupiter	-26303-11-18 01:26 J	-7885426.63	-7885426.44	-7885426.24	0.0523	0.0021
Uranus	-26302-05-17 07:55 J	-7885246.39	-7885246.17	-7885245.95	0.0134	0.0003
Jupiter	-26302-07-12 18:14 J	-7885189.85	-7885189.74	-7885189.63	0.0515	0.0427
Uranus	-26302-12-29 13:11 J	-7885020.15	-7885019.95	-7885019.73	0.0135	0.0024
Uranus	-26301-08-11 18:43 J	-7884793.92	-7884793.72	-7884793.51	0.0135	0.0044
Uranus	-26300-03-26 00:14 J	-7884567.67	-7884567.49	-7884567.29	0.0135	0.0065
Uranus	-26300-11-07 05:31 J	-7884341.42	-7884341.27	-7884341.08	0.0135	0.0086
Saturn	-26299-02-11 00:28 J	-7884245.61	-7884245.48	-7884245.33	0.0272	0.0205
Uranus	-26299-06-21 11:16 J	-7884115.15	-7884115.03	-7884114.88	0.0136	0.0106
Saturn	-26299-09-28 07:55 J	-7884016.37	-7884016.17	-7884015.96	0.0274	0.0083
Uranus	-26298-02-02 17:16 J	-7883888.84	-7883888.78	-7883888.69	0.0136	0.0126
Saturn	-26298-05-15 17:31 J	-7883786.98	-7883786.77	-7883786.56	0.0276	0.0046
Saturn	-26298-12-31 05:16 J	-7883557.44	-7883557.28	-7883557.11	0.0278	0.0178
Jupiter	-26297-09-13 10:04 J	-7883300.23	-7883300.08	-7883299.91	0.0499	0.0307
Jupiter	-26296-05-08 12:14 J	-7883063.19	-7883062.99	-7883062.79	0.0506	0.0126
Mars	-26295-11-17 16:33 J	-7882504.98	-7882504.81	-7882504.65	0.1734	0.0292
Jupiter	-26291-07-23 21:21 J	-7881160.80	-7881160.61	-7881160.42	0.0526	0.0149
Jupiter	-26290-03-17 17:16 J	-7880923.93	-7880923.78	-7880923.62	0.0517	0.0311
Mars	-26290-06-30 07:11 J	-7880819.37	-7880819.20	-7880819.02	0.1785	0.0454
Saturn	-26286-12-19 05:31 J	-7879186.41	-7879186.27	-7879186.13	0.0288	0.0212
Jupiter	-26285-05-19 07:26 J	-7879034.30	-7879034.19	-7879034.08	0.0497	0.0418
Saturn	-26285-08-04 22:33 J	-7878956.76	-7878956.56	-7878956.35	0.0286	0.0067
Jupiter	-26284-01-11 06:28 J	-7878797.43	-7878797.23	-7878797.02	0.0504	0.0011
Saturn	-26284-03-22 12:57 J	-7878727.15	-7878726.96	-7878726.75	0.0284	0.0076
Jupiter	-26284-09-05 14:52 J	-7878559.98	-7878559.88	-7878559.78	0.0512	0.0449
Saturn	-26284-11-07 01:11 J	-7878497.58	-7878497.45	-7878497.31	0.0282	0.0210
Jupiter	-26279-03-28 17:59 J	-7876894.92	-7876894.75	-7876894.58	0.0528	0.0280
Neptune	-26279-11-13 23:59 J	-7876664.50	-7876664.50	-7876664.47	0.0089	0.0089

Jupiter -26279-11-20 16:33 J -7876657.99 -7876657.81 -7876657.62 0.0520 0.0190
 Neptune -26278-06-27 12:14 J -7876439.02 -7876438.99 -7876438.93 0.0089 0.0087
 Neptune -26277-02-08 00:43 J -7876213.52 -7876213.47 -7876213.40 0.0089 0.0085
 Neptune -26277-09-20 13:11 J -7875988.02 -7875987.95 -7875987.87 0.0089 0.0084
 Neptune -26276-05-04 01:40 J -7875762.51 -7875762.43 -7875762.34 0.0089 0.0082
 Neptune -26276-12-15 13:26 J -7875537.01 -7875536.94 -7875536.82 0.0089 0.0080
 Neptune -26275-07-29 01:55 J -7875311.50 -7875311.42 -7875311.30 0.0089 0.0078
 Neptune -26274-03-11 14:09 J -7875086.00 -7875085.91 -7875085.78 0.0089 0.0076
 Neptune -26274-10-23 02:23 J -7874860.49 -7874860.40 -7874860.26 0.0089 0.0075
 Neptune -26273-06-04 14:38 J -7874634.99 -7874634.89 -7874634.74 0.0089 0.0073
 Jupiter -26273-09-16 01:40 J -7874531.64 -7874531.43 -7874531.23 0.0502 0.0120
 Neptune -26272-01-16 02:52 J -7874409.49 -7874409.38 -7874409.23 0.0089 0.0071
 Jupiter -26272-05-11 07:11 J -7874294.35 -7874294.20 -7874294.03 0.0510 0.0325
 Neptune -26272-08-29 15:07 J -7874183.98 -7874183.87 -7874183.71 0.0089 0.0069
 Neptune -26271-04-12 03:35 J -7873958.47 -7873958.35 -7873958.18 0.0089 0.0066
 Neptune -26271-11-23 16:19 J -7873732.97 -7873732.82 -7873732.67 0.0089 0.0064
 Neptune -26270-07-07 04:19 J -7873507.46 -7873507.32 -7873507.15 0.0089 0.0062
 Saturn -26270-08-24 04:47 J -7873459.45 -7873459.30 -7873459.14 0.0273 0.0186
 Neptune -26269-02-17 16:33 J -7873281.96 -7873281.81 -7873281.64 0.0089 0.0059
 Saturn -26269-04-09 12:14 J -7873230.19 -7873229.99 -7873229.78 0.0274 0.0063
 Neptune -26269-09-30 04:47 J -7873056.45 -7873056.30 -7873056.12 0.0089 0.0057
 Saturn -26269-11-24 21:50 J -7873000.79 -7873000.59 -7873000.38 0.0276 0.0066
 Neptune -26268-05-13 17:31 J -7872830.94 -7872830.77 -7872830.60 0.0089 0.0054
 Saturn -26268-07-12 09:50 J -7872771.23 -7872771.09 -7872770.94 0.0278 0.0199
 Jupiter -26268-12-01 13:55 J -7872629.04 -7872628.92 -7872628.79 0.0530 0.0411
 Neptune -26268-12-25 05:31 J -7872605.43 -7872605.27 -7872605.08 0.0089 0.0052
 Jupiter -26267-07-26 15:21 J -7872392.06 -7872391.86 -7872391.66 0.0522 0.0064
 Neptune -26267-08-07 17:45 J -7872379.92 -7872379.76 -7872379.56 0.0089 0.0050
 Jupiter -26266-03-20 07:11 J -7872155.24 -7872155.20 -7872155.16 0.0514 0.0500
 Neptune -26266-03-21 06:28 J -7872154.41 -7872154.23 -7872154.04 0.0089 0.0047

Neptune	-26266-11-01 18:43 J	-7871928.90	-7871928.72	-7871928.53	0.0089	0.0045
Uranus	-26266-12-11 00:43 J	-7871889.54	-7871889.47	-7871889.37	0.0145	0.0133
Neptune	-26265-06-14 06:43 J	-7871703.39	-7871703.22	-7871703.01	0.0089	0.0043
Uranus	-26265-07-24 13:26 J	-7871663.08	-7871662.94	-7871662.79	0.0145	0.0108
Neptune	-26264-01-25 19:26 J	-7871477.88	-7871477.69	-7871477.49	0.0089	0.0040
Uranus	-26264-03-08 01:55 J	-7871436.59	-7871436.42	-7871436.24	0.0145	0.0082
Neptune	-26264-09-08 07:26 J	-7871252.37	-7871252.19	-7871251.98	0.0089	0.0038
Uranus	-26264-10-20 14:23 J	-7871210.10	-7871209.90	-7871209.70	0.0145	0.0056
Neptune	-26263-04-21 20:09 J	-7871026.85	-7871026.66	-7871026.45	0.0089	0.0035
Uranus	-26263-06-04 02:38 J	-7870983.60	-7870983.39	-7870983.17	0.0144	0.0031
Mars	-26263-11-16 16:47 J	-7870817.88	-7870817.80	-7870817.72	0.1743	0.1527
Neptune	-26263-12-03 08:23 J	-7870801.34	-7870801.15	-7870800.94	0.0089	0.0033
Uranus	-26262-01-16 15:07 J	-7870757.09	-7870756.87	-7870756.65	0.0144	0.0005
Neptune	-26262-07-16 20:52 J	-7870575.83	-7870575.63	-7870575.42	0.0089	0.0030
Uranus	-26262-08-31 03:21 J	-7870530.58	-7870530.36	-7870530.14	0.0144	0.0021
Neptune	-26261-02-27 08:52 J	-7870350.32	-7870350.13	-7870349.91	0.0089	0.0028
Uranus	-26261-04-13 15:21 J	-7870304.06	-7870303.86	-7870303.65	0.0144	0.0047
Jupiter	-26261-05-21 22:33 J	-7870265.74	-7870265.56	-7870265.37	0.0500	0.0236
Mars	-26261-09-15 03:50 J	-7870149.47	-7870149.34	-7870149.21	0.1722	0.1037
Neptune	-26261-10-09 21:21 J	-7870124.81	-7870124.61	-7870124.40	0.0089	0.0025
Uranus	-26261-11-26 03:21 J	-7870077.54	-7870077.36	-7870077.17	0.0143	0.0072
Jupiter	-26260-01-14 02:09 J	-7870028.60	-7870028.41	-7870028.22	0.0508	0.0202
Neptune	-26260-05-23 09:35 J	-7869899.30	-7869899.10	-7869898.88	0.0089	0.0023
Uranus	-26260-07-10 15:07 J	-7869851.01	-7869850.87	-7869850.69	0.0143	0.0097
Neptune	-26259-01-03 22:04 J	-7869673.78	-7869673.58	-7869673.36	0.0089	0.0020
Uranus	-26259-02-22 03:21 J	-7869624.47	-7869624.36	-7869624.24	0.0143	0.0121
Neptune	-26259-08-17 10:33 J	-7869448.27	-7869448.06	-7869447.85	0.0089	0.0017
Neptune	-26258-03-30 22:47 J	-7869222.76	-7869222.55	-7869222.33	0.0089	0.0015
Neptune	-26258-11-11 11:02 J	-7868997.25	-7868997.04	-7868996.82	0.0089	0.0012
Neptune	-26257-06-23 23:31 J	-7868771.73	-7868771.52	-7868771.30	0.0089	0.0009

Neptune -26256-02-04 11:45 J -7868546.22 -7868546.01 -7868545.79 0.0089 0.0007
 Mars -26256-04-26 21:35 J -7868464.71 -7868464.60 -7868464.49 0.1799 0.1394
 Saturn -26256-06-30 08:23 J -7868400.30 -7868400.15 -7868399.99 0.0288 0.0194
 Neptune -26256-09-18 00:14 J -7868320.70 -7868320.49 -7868320.27 0.0089 0.0004
 Saturn -26255-02-15 01:26 J -7868170.64 -7868170.44 -7868170.23 0.0286 0.0049
 Jupiter -26255-03-31 11:31 J -7868126.22 -7868126.02 -7868125.83 0.0524 0.0069
 Neptune -26255-05-01 12:57 J -7868095.18 -7868094.96 -7868094.75 0.0089 0.0002
 Saturn -26255-10-02 16:04 J -7867941.03 -7867940.83 -7867940.63 0.0284 0.0093
 Jupiter -26255-11-23 05:02 J -7867889.41 -7867889.29 -7867889.15 0.0516 0.0383
 Neptune -26255-12-13 01:11 J -7867869.66 -7867869.45 -7867869.23 0.0089 0.0003
 Saturn -26254-05-20 04:04 J -7867711.44 -7867711.33 -7867711.20 0.0282 0.0228
 Neptune -26254-07-26 13:40 J -7867644.14 -7867643.93 -7867643.71 0.0089 0.0004
 Neptune -26253-03-08 02:09 J -7867418.63 -7867418.41 -7867418.19 0.0089 0.0007
 Neptune -26253-10-19 14:23 J -7867193.11 -7867192.90 -7867192.67 0.0089 0.0010
 Neptune -26252-06-02 03:21 J -7866967.58 -7866967.36 -7866967.15 0.0089 0.0012
 Neptune -26251-01-13 15:35 J -7866742.06 -7866741.85 -7866741.63 0.0089 0.0015
 Neptune -26251-08-27 04:04 J -7866516.54 -7866516.33 -7866516.11 0.0089 0.0017
 Neptune -26250-04-09 16:33 J -7866291.02 -7866290.81 -7866290.59 0.0089 0.0020
 Neptune -26250-11-21 05:02 J -7866065.49 -7866065.29 -7866065.07 0.0089 0.0022
 Jupiter -26249-01-25 19:11 J -7865999.84 -7865999.70 -7865999.54 0.0499 0.0351
 Neptune -26249-07-03 17:45 J -7865839.97 -7865839.76 -7865839.55 0.0088 0.0025
 Jupiter -26249-09-18 20:52 J -7865762.84 -7865762.63 -7865762.43 0.0506 0.0078
 Neptune -26248-02-14 05:59 J -7865614.45 -7865614.25 -7865614.03 0.0088 0.0028
 Neptune -26248-09-27 18:43 J -7865388.92 -7865388.72 -7865388.51 0.0088 0.0030
 Neptune -26247-05-11 07:11 J -7865163.39 -7865163.20 -7865162.99 0.0088 0.0033
 Neptune -26247-12-22 19:55 J -7864937.87 -7864937.67 -7864937.47 0.0088 0.0035
 Neptune -26246-08-05 08:09 J -7864712.35 -7864712.16 -7864711.95 0.0088 0.0038
 Neptune -26245-03-17 20:52 J -7864486.82 -7864486.63 -7864486.43 0.0088 0.0040
 Neptune -26245-10-29 09:07 J -7864261.29 -7864261.12 -7864260.91 0.0088 0.0043
 Neptune -26244-06-11 22:04 J -7864035.76 -7864035.58 -7864035.38 0.0088 0.0045

Jupiter -26244-12-04 06:57 J -7863860.39 -7863860.21 -7863860.02 0.0526 0.0201
 Neptune -26243-01-23 10:33 J -7863810.23 -7863810.06 -7863809.86 0.0088 0.0048
 Jupiter -26243-07-29 03:21 J -7863623.53 -7863623.36 -7863623.19 0.0518 0.0262
 Neptune -26243-09-05 23:16 J -7863584.70 -7863584.53 -7863584.34 0.0088 0.0050
 Neptune -26242-04-19 11:45 J -7863359.17 -7863359.01 -7863358.81 0.0088 0.0052
 Neptune -26242-12-01 00:28 J -7863133.63 -7863133.48 -7863133.29 0.0088 0.0055
 Neptune -26241-07-13 13:26 J -7862908.09 -7862907.94 -7862907.76 0.0088 0.0057
 Neptune -26240-02-24 02:23 J -7862682.56 -7862682.40 -7862682.23 0.0088 0.0059
 Saturn -26240-03-05 12:57 J -7862673.12 -7862672.96 -7862672.79 0.0273 0.0165
 Neptune -26240-10-07 14:52 J -7862457.02 -7862456.88 -7862456.71 0.0088 0.0061
 Saturn -26240-10-20 20:52 J -7862443.84 -7862443.63 -7862443.42 0.0274 0.0040
 Neptune -26239-05-21 03:35 J -7862231.48 -7862231.35 -7862231.18 0.0088 0.0064
 Saturn -26239-06-07 06:57 J -7862214.41 -7862214.21 -7862214.00 0.0276 0.0090
 Neptune -26238-01-01 16:33 J -7862005.94 -7862005.81 -7862005.65 0.0088 0.0065
 Saturn -26238-01-22 19:26 J -7861984.81 -7861984.69 -7861984.56 0.0278 0.0223
 Neptune -26238-08-15 05:16 J -7861780.41 -7861780.28 -7861780.12 0.0088 0.0068
 Jupiter -26238-09-30 16:33 J -7861733.88 -7861733.81 -7861733.72 0.0497 0.0459
 Neptune -26237-03-27 18:14 J -7861554.87 -7861554.74 -7861554.60 0.0088 0.0069
 Jupiter -26237-05-24 14:52 J -7861497.08 -7861496.88 -7861496.67 0.0503 0.0046
 Neptune -26237-11-08 06:57 J -7861329.33 -7861329.21 -7861329.07 0.0088 0.0072
 Jupiter -26236-01-16 22:04 J -7861259.70 -7861259.58 -7861259.45 0.0511 0.0401
 Neptune -26236-06-21 19:55 J -7861103.78 -7861103.67 -7861103.54 0.0088 0.0074
 Neptune -26235-02-02 08:38 J -7860878.24 -7860878.14 -7860878.01 0.0088 0.0076
 Neptune -26235-09-15 21:35 J -7860652.70 -7860652.60 -7860652.49 0.0088 0.0077
 Neptune -26234-04-29 10:04 J -7860427.15 -7860427.08 -7860426.97 0.0088 0.0080
 Neptune -26234-12-10 23:02 J -7860201.61 -7860201.54 -7860201.44 0.0088 0.0081
 Neptune -26233-07-23 11:45 J -7859976.06 -7859976.01 -7859975.91 0.0088 0.0084
 Neptune -26232-03-06 00:43 J -7859750.51 -7859750.47 -7859750.39 0.0088 0.0085
 Jupiter -26232-08-09 00:57 J -7859594.61 -7859594.46 -7859594.30 0.0529 0.0334
 Neptune -26232-10-17 13:55 J -7859524.95 -7859524.92 -7859524.87 0.0088 0.0087

Jupiter	-26231-04-03 00:57 J	-7859357.65	-7859357.46	-7859357.27	0.0521	0.0137
Mars	-26229-09-14 02:38 J	-7858462.56	-7858462.39	-7858462.22	0.1731	0.0140
Saturn	-26226-01-10 19:40 J	-7857613.85	-7857613.68	-7857613.50	0.0288	0.0166
Saturn	-26226-08-28 12:14 J	-7857384.20	-7857383.99	-7857383.78	0.0286	0.0021
Jupiter	-26225-01-28 10:33 J	-7857231.26	-7857231.06	-7857230.86	0.0501	0.0164
Saturn	-26225-04-14 02:09 J	-7857154.60	-7857154.41	-7857154.22	0.0284	0.0120
Jupiter	-26225-09-21 15:07 J	-7856994.04	-7856993.87	-7856993.69	0.0509	0.0276
Saturn	-26225-11-29 13:40 J	-7856925.01	-7856924.93	-7856924.83	0.0282	0.0253
Mars	-26224-04-26 13:26 J	-7856777.12	-7856776.94	-7856776.76	0.1788	0.0225
Pluto	-26224-08-31 19:55 J	-7856649.83	-7856649.67	-7856649.48	0.0064	0.0037
Pluto	-26223-04-13 23:59 J	-7856424.71	-7856424.50	-7856424.28	0.0065	0.0002
Pluto	-26223-11-25 03:21 J	-7856199.51	-7856199.36	-7856199.17	0.0065	0.0040
Uranus	-26222-04-28 10:04 J	-7856045.13	-7856045.08	-7856044.99	0.0133	0.0125
Uranus	-26222-12-10 15:35 J	-7855818.97	-7855818.85	-7855818.71	0.0133	0.0105
Uranus	-26221-07-23 21:07 J	-7855592.78	-7855592.62	-7855592.45	0.0133	0.0086
Uranus	-26220-03-07 02:09 J	-7855366.59	-7855366.41	-7855366.21	0.0134	0.0066
Jupiter	-26220-04-13 19:55 J	-7855328.76	-7855328.67	-7855328.57	0.0531	0.0464
Uranus	-26220-10-19 07:26 J	-7855140.38	-7855140.19	-7855139.98	0.0134	0.0046
Jupiter	-26220-12-06 22:47 J	-7855091.75	-7855091.55	-7855091.35	0.0523	0.0011
Uranus	-26219-06-02 12:57 J	-7854914.17	-7854913.96	-7854913.75	0.0134	0.0026
Jupiter	-26219-07-31 16:04 J	-7854854.92	-7854854.83	-7854854.74	0.0515	0.0453
Uranus	-26218-01-14 18:28 J	-7854687.95	-7854687.73	-7854687.51	0.0134	0.0005
Uranus	-26218-08-28 23:45 J	-7854461.72	-7854461.51	-7854461.29	0.0135	0.0016
Uranus	-26217-04-11 05:02 J	-7854235.49	-7854235.29	-7854235.07	0.0135	0.0036
Uranus	-26217-11-23 10:19 J	-7854009.25	-7854009.07	-7854008.86	0.0135	0.0057
Uranus	-26216-07-07 16:04 J	-7853783.00	-7853782.83	-7853782.64	0.0135	0.0077
Uranus	-26215-02-18 21:50 J	-7853556.73	-7853556.59	-7853556.43	0.0136	0.0098
Uranus	-26215-10-03 03:21 J	-7853330.45	-7853330.36	-7853330.24	0.0136	0.0119
Jupiter	-26214-10-03 06:28 J	-7852965.40	-7852965.23	-7852965.06	0.0499	0.0281
Jupiter	-26213-05-27 08:23 J	-7852728.35	-7852728.15	-7852727.95	0.0506	0.0151

Saturn	-26211-01-29 12:28 J	-7852116.02	-7852115.98	-7852115.92	0.0271	0.0263
Saturn	-26211-09-15 18:28 J	-7851886.91	-7851886.73	-7851886.55	0.0273	0.0144
Saturn	-26210-05-03 02:23 J	-7851657.61	-7851657.40	-7851657.18	0.0275	0.0019
Saturn	-26210-12-18 12:43 J	-7851428.17	-7851427.97	-7851427.78	0.0277	0.0112
Saturn	-26209-08-04 01:26 J	-7851198.54	-7851198.44	-7851198.34	0.0279	0.0245
Jupiter	-26208-08-11 20:23 J	-7850825.85	-7850825.65	-7850825.46	0.0525	0.0120
Jupiter	-26207-04-05 16:04 J	-7850588.98	-7850588.83	-7850588.68	0.0517	0.0337
Jupiter	-26202-06-08 04:04 J	-7848699.45	-7848699.33	-7848699.20	0.0497	0.0392
Jupiter	-26201-01-31 03:50 J	-7848462.55	-7848462.34	-7848462.14	0.0504	0.0030
Jupiter	-26201-09-24 12:43 J	-7848225.04	-7848224.97	-7848224.89	0.0513	0.0474
Saturn	-26197-07-22 23:31 J	-7846827.69	-7846827.52	-7846827.33	0.0287	0.0147
Mars	-26197-09-13 02:23 J	-7846775.50	-7846775.40	-7846775.29	0.1740	0.1359
Saturn	-26196-03-09 16:04 J	-7846598.04	-7846597.83	-7846597.62	0.0285	0.0004
Jupiter	-26196-04-16 16:04 J	-7846560.01	-7846559.83	-7846559.66	0.0527	0.0251
Saturn	-26196-10-25 05:45 J	-7846368.44	-7846368.26	-7846368.07	0.0283	0.0138
Jupiter	-26196-12-09 13:40 J	-7846323.11	-7846322.93	-7846322.75	0.0519	0.0214
Saturn	-26195-06-11 17:16 J	-7846138.83	-7846138.78	-7846138.72	0.0281	0.0271
Mars	-26195-07-13 14:23 J	-7846107.03	-7846106.90	-7846106.78	0.1719	0.1174
Neptune	-26195-11-06 02:23 J	-7845991.41	-7845991.40	-7845991.34	0.0088	0.0087
Neptune	-26194-06-19 16:04 J	-7845765.86	-7845765.83	-7845765.75	0.0088	0.0085
Neptune	-26193-01-31 05:59 J	-7845540.31	-7845540.25	-7845540.17	0.0088	0.0083
Earth	-26193-04-26 17:16 J	-7845453.93	-7845453.78	-7845453.63	0.2710	0.0841
Moon	-26193-04-26 17:31 J	-7845453.91	-7845453.77	-7845453.64	0.2717	0.1012 *
Neptune	-26193-09-12 19:55 J	-7845314.74	-7845314.67	-7845314.58	0.0088	0.0082
Neptune	-26192-04-26 09:50 J	-7845089.18	-7845089.09	-7845088.99	0.0088	0.0080
Neptune	-26192-12-07 23:02 J	-7844863.62	-7844863.54	-7844863.41	0.0088	0.0078
Neptune	-26191-07-21 12:43 J	-7844638.06	-7844637.97	-7844637.83	0.0088	0.0076
Mars	-26190-02-22 02:23 J	-7844422.47	-7844422.40	-7844422.33	0.1802	0.1650
Neptune	-26190-03-04 02:23 J	-7844412.49	-7844412.40	-7844412.25	0.0088	0.0075
Jupiter	-26190-10-05 23:16 J	-7844196.74	-7844196.53	-7844196.33	0.0503	0.0092

Neptune	-26190-10-15 17:02 J	-7844186.92	-7844186.79	-7844186.66	0.0088	0.0072
Neptune	-26189-05-28 06:43 J	-7843961.35	-7843961.22	-7843961.08	0.0088	0.0070
Jupiter	-26189-05-30 05:45 J	-7843959.40	-7843959.26	-7843959.11	0.0510	0.0352
Neptune	-26188-01-08 20:23 J	-7843735.79	-7843735.65	-7843735.50	0.0088	0.0068
Neptune	-26188-08-22 10:04 J	-7843510.22	-7843510.08	-7843509.92	0.0088	0.0065
Neptune	-26187-04-04 23:45 J	-7843284.65	-7843284.51	-7843284.34	0.0088	0.0063
Neptune	-26187-11-16 13:26 J	-7843059.08	-7843058.94	-7843058.76	0.0088	0.0061
Neptune	-26186-06-30 03:35 J	-7842833.51	-7842833.35	-7842833.18	0.0088	0.0059
Neptune	-26185-02-10 17:02 J	-7842607.95	-7842607.79	-7842607.60	0.0088	0.0057
Moon	-26185-04-24 12:43 J	-7842533.98	-7842533.97	-7842533.95	0.2716	0.2690
Neptune	-26185-09-23 06:43 J	-7842382.38	-7842382.22	-7842382.02	0.0088	0.0055
Jupiter	-26185-12-20 10:33 J	-7842294.20	-7842294.06	-7842293.93	0.0529	0.0383
Neptune	-26184-05-06 20:52 J	-7842156.81	-7842156.63	-7842156.44	0.0088	0.0052
Jupiter	-26184-08-14 10:47 J	-7842057.25	-7842057.05	-7842056.85	0.0521	0.0087
Neptune	-26184-12-18 10:19 J	-7841931.24	-7841931.07	-7841930.87	0.0088	0.0050
Neptune	-26183-07-31 23:45 J	-7841705.68	-7841705.51	-7841705.30	0.0088	0.0048
Neptune	-26182-03-14 13:40 J	-7841480.11	-7841479.93	-7841479.72	0.0088	0.0045
Saturn	-26182-08-11 19:26 J	-7841329.77	-7841329.69	-7841329.58	0.0272	0.0244
Neptune	-26182-10-26 03:21 J	-7841254.54	-7841254.36	-7841254.14	0.0088	0.0043
Uranus	-26181-03-23 17:59 J	-7841104.86	-7841104.75	-7841104.62	0.0145	0.0120
Saturn	-26181-03-28 02:09 J	-7841100.59	-7841100.41	-7841100.21	0.0273	0.0123
Neptune	-26181-06-07 17:16 J	-7841028.97	-7841028.78	-7841028.57	0.0088	0.0040
Uranus	-26181-11-05 06:43 J	-7840878.38	-7840878.22	-7840878.05	0.0145	0.0094
Saturn	-26181-11-12 10:47 J	-7840871.26	-7840871.05	-7840870.83	0.0275	0.0004
Neptune	-26180-01-19 06:43 J	-7840803.40	-7840803.22	-7840803.00	0.0088	0.0038
Uranus	-26180-06-19 18:57 J	-7840651.89	-7840651.71	-7840651.50	0.0145	0.0069
Saturn	-26180-06-29 21:35 J	-7840641.78	-7840641.60	-7840641.41	0.0277	0.0135
Neptune	-26180-09-01 20:38 J	-7840577.84	-7840577.64	-7840577.42	0.0088	0.0035
Uranus	-26179-02-01 07:40 J	-7840425.39	-7840425.18	-7840424.97	0.0145	0.0043
Saturn	-26179-02-14 10:33 J	-7840412.10	-7840412.06	-7840412.00	0.0279	0.0269

Neptune	-26179-04-15 10:33 J	-7840352.27	-7840352.06	-7840351.85	0.0088	0.0032
Uranus	-26179-09-15 19:55 J	-7840198.89	-7840198.67	-7840198.45	0.0144	0.0017
Neptune	-26179-11-27 00:14 J	-7840126.69	-7840126.49	-7840126.27	0.0088	0.0030
Uranus	-26178-04-30 08:09 J	-7839972.38	-7839972.16	-7839971.94	0.0144	0.0009
Jupiter	-26178-06-10 18:43 J	-7839930.90	-7839930.72	-7839930.53	0.0500	0.0209
Neptune	-26178-07-10 14:09 J	-7839901.12	-7839900.91	-7839900.70	0.0088	0.0027
Uranus	-26178-12-12 20:09 J	-7839745.87	-7839745.66	-7839745.44	0.0144	0.0035
Jupiter	-26177-02-02 22:19 J	-7839693.76	-7839693.57	-7839693.38	0.0508	0.0227
Neptune	-26177-02-21 03:35 J	-7839675.55	-7839675.35	-7839675.12	0.0088	0.0025
Uranus	-26177-07-26 08:09 J	-7839519.35	-7839519.16	-7839518.95	0.0144	0.0061
Neptune	-26177-10-03 17:31 J	-7839449.98	-7839449.77	-7839449.55	0.0089	0.0022
Uranus	-26176-03-09 20:23 J	-7839292.82	-7839292.65	-7839292.47	0.0143	0.0086
Neptune	-26176-05-17 07:26 J	-7839224.41	-7839224.19	-7839223.97	0.0089	0.0019
Uranus	-26176-10-22 08:09 J	-7839066.29	-7839066.16	-7839066.01	0.0143	0.0110
Neptune	-26176-12-28 20:52 J	-7838998.84	-7838998.63	-7838998.40	0.0089	0.0017
Uranus	-26175-06-05 19:40 J	-7838839.73	-7838839.68	-7838839.59	0.0143	0.0135
Neptune	-26175-08-11 10:47 J	-7838773.27	-7838773.05	-7838772.83	0.0089	0.0014
Neptune	-26174-03-25 00:28 J	-7838547.70	-7838547.48	-7838547.26	0.0089	0.0011
Neptune	-26174-11-05 14:09 J	-7838322.13	-7838321.91	-7838321.68	0.0089	0.0009
Neptune	-26173-06-18 04:04 J	-7838096.56	-7838096.33	-7838096.11	0.0089	0.0006
Jupiter	-26173-08-25 02:38 J	-7838028.43	-7838028.39	-7838028.34	0.0531	0.0516
Neptune	-26172-01-29 17:31 J	-7837870.99	-7837870.77	-7837870.54	0.0089	0.0003
Jupiter	-26172-04-19 06:28 J	-7837791.42	-7837791.23	-7837791.03	0.0524	0.0044
Neptune	-26172-09-12 07:11 J	-7837645.43	-7837645.20	-7837644.98	0.0089	0.0001
Jupiter	-26172-12-12 00:43 J	-7837554.58	-7837554.47	-7837554.34	0.0516	0.0406
Neptune	-26171-04-25 20:38 J	-7837419.86	-7837419.64	-7837419.41	0.0089	0.0003
Neptune	-26171-12-07 10:33 J	-7837194.29	-7837194.06	-7837193.84	0.0089	0.0005
Neptune	-26170-07-20 23:59 J	-7836968.72	-7836968.50	-7836968.28	0.0089	0.0007
Neptune	-26169-03-02 13:26 J	-7836743.16	-7836742.94	-7836742.72	0.0089	0.0010
Neptune	-26169-10-14 02:52 J	-7836517.59	-7836517.38	-7836517.15	0.0089	0.0013

Neptune -26168-05-27 16:33 J -7836292.03 -7836291.81 -7836291.59 0.0089 0.0015
 Saturn -26168-06-17 16:33 J -7836270.88 -7836270.81 -7836270.71 0.0289 0.0265
 Neptune -26167-01-08 06:14 J -7836066.46 -7836066.24 -7836066.02 0.0089 0.0018
 Saturn -26167-02-02 11:02 J -7836041.23 -7836041.04 -7836040.84 0.0287 0.0117
 Neptune -26167-08-21 19:26 J -7835840.89 -7835840.69 -7835840.46 0.0089 0.0021
 Saturn -26167-09-20 02:52 J -7835811.59 -7835811.38 -7835811.17 0.0285 0.0027
 Jupiter -26166-02-13 15:35 J -7835665.00 -7835664.85 -7835664.69 0.0498 0.0323
 Neptune -26166-04-04 09:07 J -7835615.33 -7835615.12 -7835614.90 0.0089 0.0023
 Saturn -26166-05-07 16:04 J -7835581.99 -7835581.83 -7835581.65 0.0283 0.0165
 Jupiter -26166-10-08 16:33 J -7835428.02 -7835427.81 -7835427.61 0.0505 0.0104
 Neptune -26166-11-15 22:33 J -7835389.76 -7835389.56 -7835389.33 0.0089 0.0026
 Neptune -26165-06-28 12:28 J -7835164.19 -7835163.98 -7835163.77 0.0089 0.0028
 Neptune -26164-02-09 01:40 J -7834938.63 -7834938.43 -7834938.21 0.0089 0.0031
 Neptune -26164-09-22 15:21 J -7834713.06 -7834712.86 -7834712.65 0.0089 0.0033
 Neptune -26163-05-06 04:33 J -7834487.50 -7834487.31 -7834487.09 0.0089 0.0036
 Mars -26163-07-12 12:43 J -7834420.14 -7834419.97 -7834419.80 0.1728 0.0025
 Neptune -26163-12-17 18:28 J -7834261.93 -7834261.73 -7834261.53 0.0089 0.0038
 Neptune -26162-07-31 07:40 J -7834036.37 -7834036.18 -7834035.97 0.0089 0.0041
 Neptune -26161-03-12 21:07 J -7833810.80 -7833810.62 -7833810.42 0.0089 0.0043
 Neptune -26161-10-24 10:19 J -7833585.24 -7833585.07 -7833584.86 0.0089 0.0046
 Jupiter -26161-12-23 02:52 J -7833525.57 -7833525.38 -7833525.19 0.0527 0.0173
 Neptune -26160-06-06 23:45 J -7833359.68 -7833359.51 -7833359.31 0.0089 0.0048
 Jupiter -26160-08-16 23:59 J -7833288.66 -7833288.50 -7833288.33 0.0518 0.0288
 Neptune -26159-01-18 13:26 J -7833134.12 -7833133.94 -7833133.75 0.0089 0.0050
 Neptune -26159-09-01 02:23 J -7832908.56 -7832908.40 -7832908.20 0.0089 0.0053
 Mars -26158-02-21 18:28 J -7832734.90 -7832734.73 -7832734.55 0.1791 0.0048
 Neptune -26158-04-14 15:35 J -7832683.00 -7832682.85 -7832682.66 0.0089 0.0055
 Neptune -26158-11-26 05:02 J -7832457.44 -7832457.29 -7832457.10 0.0089 0.0057
 Neptune -26157-07-08 18:28 J -7832231.88 -7832231.73 -7832231.56 0.0089 0.0059
 Neptune -26156-02-19 07:55 J -7832006.33 -7832006.17 -7832006.01 0.0089 0.0061

Neptune	-26156-10-02 21:07 J	-7831780.77	-7831780.62	-7831780.47	0.0089	0.0064
Neptune	-26155-05-16 09:50 J	-7831555.21	-7831555.09	-7831554.92	0.0089	0.0066
Jupiter	-26155-10-19 12:28 J	-7831399.08	-7831398.98	-7831398.88	0.0496	0.0433
Neptune	-26155-12-27 23:16 J	-7831329.65	-7831329.53	-7831329.37	0.0089	0.0068
Jupiter	-26154-06-13 10:33 J	-7831162.27	-7831162.06	-7831161.85	0.0503	0.0020
Neptune	-26154-08-10 12:28 J	-7831104.10	-7831103.98	-7831103.83	0.0089	0.0070
Jupiter	-26153-02-05 17:31 J	-7830924.87	-7830924.77	-7830924.64	0.0511	0.0424
Neptune	-26153-03-23 01:26 J	-7830878.54	-7830878.44	-7830878.29	0.0089	0.0073
Neptune	-26153-11-03 14:38 J	-7830652.99	-7830652.89	-7830652.74	0.0089	0.0074
Saturn	-26152-02-21 01:55 J	-7830543.53	-7830543.42	-7830543.29	0.0272	0.0223
Neptune	-26152-06-17 03:50 J	-7830427.43	-7830427.34	-7830427.20	0.0089	0.0076
Saturn	-26152-10-08 08:38 J	-7830314.34	-7830314.14	-7830313.94	0.0274	0.0101
Neptune	-26151-01-28 17:31 J	-7830201.87	-7830201.77	-7830201.65	0.0089	0.0078
Saturn	-26151-05-25 17:16 J	-7830084.99	-7830084.78	-7830084.57	0.0275	0.0027
Neptune	-26151-09-11 06:28 J	-7829976.31	-7829976.23	-7829976.11	0.0089	0.0080
Saturn	-26150-01-10 04:04 J	-7829855.50	-7829855.33	-7829855.15	0.0277	0.0158
Neptune	-26150-04-24 19:26 J	-7829750.75	-7829750.69	-7829750.58	0.0089	0.0082
Neptune	-26150-12-06 08:38 J	-7829525.20	-7829525.14	-7829525.04	0.0089	0.0083
Neptune	-26149-07-18 22:04 J	-7829299.64	-7829299.58	-7829299.50	0.0089	0.0085
Jupiter	-26149-08-27 23:16 J	-7829259.69	-7829259.53	-7829259.36	0.0529	0.0305
Neptune	-26148-03-01 10:47 J	-7829074.08	-7829074.05	-7829073.97	0.0089	0.0087
Jupiter	-26148-04-21 23:02 J	-7829022.72	-7829022.54	-7829022.34	0.0521	0.0166
Neptune	-26148-10-13 00:14 J	-7828848.52	-7828848.49	-7828848.44	0.0089	0.0088
Neptune	-26147-05-26 13:11 J	-7828622.95	-7828622.95	-7828622.93	0.0089	0.0089
Jupiter	-26142-02-16 06:43 J	-7826896.42	-7826896.22	-7826896.02	0.0501	0.0139
Jupiter	-26142-10-11 11:45 J	-7826659.17	-7826659.01	-7826658.84	0.0509	0.0301
Uranus	-26139-12-26 21:35 J	-7825486.60	-7825486.60	-7825486.60	0.0133	0.0133
Saturn	-26139-12-28 21:21 J	-7825484.71	-7825484.61	-7825484.49	0.0288	0.0244
Uranus	-26138-08-10 02:52 J	-7825260.49	-7825260.38	-7825260.27	0.0133	0.0114
Saturn	-26138-08-15 15:21 J	-7825255.05	-7825254.86	-7825254.66	0.0287	0.0098

Uranus	-26137-03-23 07:40 J	-7825034.32	-7825034.18	-7825034.01	0.0133	0.0094
Saturn	-26137-04-01 06:57 J	-7825025.42	-7825025.21	-7825025.00	0.0285	0.0046
Jupiter	-26137-05-02 18:28 J	-7824993.84	-7824993.73	-7824993.61	0.0530	0.0434
Uranus	-26137-11-04 12:57 J	-7824808.13	-7824807.96	-7824807.77	0.0134	0.0074
Saturn	-26137-11-16 19:55 J	-7824795.82	-7824795.67	-7824795.51	0.0283	0.0183
Jupiter	-26137-12-25 20:09 J	-7824756.85	-7824756.66	-7824756.46	0.0522	0.0040
Uranus	-26136-06-18 18:28 J	-7824581.92	-7824581.73	-7824581.53	0.0134	0.0054
Jupiter	-26136-08-19 12:28 J	-7824520.05	-7824519.98	-7824519.90	0.0514	0.0474
Pluto	-26136-12-13 20:38 J	-7824403.81	-7824403.64	-7824403.46	0.0080	0.0052
Uranus	-26135-01-30 23:45 J	-7824355.71	-7824355.51	-7824355.29	0.0134	0.0034
Pluto	-26135-07-27 07:40 J	-7824178.39	-7824178.18	-7824177.96	0.0080	0.0024
Uranus	-26135-09-14 05:16 J	-7824129.49	-7824129.28	-7824129.06	0.0134	0.0013
Uranus	-26134-04-28 10:33 J	-7823903.27	-7823903.06	-7823902.84	0.0134	0.0008
Uranus	-26134-12-10 16:04 J	-7823677.04	-7823676.83	-7823676.62	0.0135	0.0028
Uranus	-26133-07-23 21:21 J	-7823450.80	-7823450.61	-7823450.40	0.0135	0.0049
Uranus	-26132-03-07 03:07 J	-7823224.55	-7823224.37	-7823224.18	0.0135	0.0070
Uranus	-26132-10-19 08:23 J	-7822998.29	-7822998.15	-7822997.97	0.0135	0.0091
Uranus	-26131-06-02 14:23 J	-7822772.02	-7822771.90	-7822771.77	0.0136	0.0111
Mars	-26131-07-11 12:57 J	-7822733.08	-7822732.96	-7822732.84	0.1737	0.1203
Jupiter	-26131-10-22 03:07 J	-7822630.55	-7822630.37	-7822630.19	0.0500	0.0255
Uranus	-26130-01-14 19:55 J	-7822545.70	-7822545.67	-7822545.60	0.0136	0.0132
Jupiter	-26130-06-16 05:45 J	-7822393.46	-7822393.26	-7822393.07	0.0507	0.0178
Mars	-26129-05-10 00:57 J	-7822064.57	-7822064.46	-7822064.35	0.1716	0.1307
Mars	-26126-02-21 10:04 J	-7821047.16	-7821047.08	-7821047.00	0.1781	0.1563
Jupiter	-26125-08-30 16:33 J	-7820491.01	-7820490.81	-7820490.62	0.0525	0.0093
Jupiter	-26124-04-24 11:31 J	-7820254.16	-7820254.02	-7820253.88	0.0516	0.0358
Saturn	-26123-09-03 08:09 J	-7819757.29	-7819757.16	-7819757.01	0.0272	0.0203
Saturn	-26122-04-20 15:21 J	-7819528.06	-7819527.86	-7819527.66	0.0274	0.0080
Saturn	-26122-12-06 00:28 J	-7819298.69	-7819298.48	-7819298.27	0.0276	0.0048
Saturn	-26121-07-22 11:59 J	-7819069.16	-7819069.00	-7819068.83	0.0277	0.0180

Jupiter -26119-06-26 23:59 J -7818364.63 -7818364.50 -7818364.35 0.0498 0.0366
 Jupiter -26118-02-18 23:45 J -7818127.71 -7818127.51 -7818127.30 0.0504 0.0056
 Jupiter -26118-10-14 08:52 J -7817890.18 -7817890.13 -7817890.09 0.0512 0.0498
 Neptune -26116-11-21 10:04 J -7817121.09 -7817121.08 -7817121.05 0.0089 0.0089
 Neptune -26115-07-04 22:04 J -7816895.60 -7816895.58 -7816895.52 0.0089 0.0088
 Neptune -26114-02-15 10:47 J -7816670.10 -7816670.05 -7816669.99 0.0089 0.0086
 Neptune -26114-09-28 22:47 J -7816444.60 -7816444.55 -7816444.46 0.0089 0.0084
 Jupiter -26113-05-05 10:19 J -7816225.25 -7816225.07 -7816224.89 0.0527 0.0226
 Neptune -26113-05-11 11:16 J -7816219.10 -7816219.03 -7816218.94 0.0089 0.0083
 Neptune -26113-12-22 23:59 J -7815993.59 -7815993.50 -7815993.41 0.0089 0.0081
 Jupiter -26113-12-28 08:38 J -7815988.32 -7815988.14 -7815987.97 0.0519 0.0238
 Neptune -26112-08-05 11:45 J -7815768.08 -7815768.01 -7815767.89 0.0089 0.0080
 Neptune -26111-03-19 00:28 J -7815542.57 -7815542.48 -7815542.36 0.0089 0.0077
 Neptune -26111-10-30 12:57 J -7815317.07 -7815316.96 -7815316.84 0.0089 0.0075
 Neptune -26110-06-13 01:11 J -7815091.56 -7815091.45 -7815091.32 0.0089 0.0074
 Neptune -26109-01-24 12:57 J -7814866.06 -7814865.96 -7814865.81 0.0089 0.0073
 Saturn -26109-07-10 09:21 J -7814698.24 -7814698.11 -7814697.96 0.0289 0.0215
 Neptune -26109-09-06 01:26 J -7814640.55 -7814640.44 -7814640.29 0.0089 0.0070
 Saturn -26108-02-25 03:07 J -7814468.57 -7814468.37 -7814468.16 0.0287 0.0068
 Neptune -26108-04-19 13:55 J -7814415.04 -7814414.92 -7814414.76 0.0089 0.0068
 Saturn -26108-10-12 17:59 J -7814238.94 -7814238.75 -7814238.54 0.0285 0.0076
 Neptune -26108-12-01 02:09 J -7814189.53 -7814189.41 -7814189.25 0.0089 0.0066
 Jupiter -26107-03-01 22:19 J -7814098.63 -7814098.57 -7814098.51 0.0496 0.0472
 Saturn -26107-05-30 06:28 J -7814009.35 -7814009.23 -7814009.08 0.0283 0.0212
 Neptune -26107-07-14 14:23 J -7813964.03 -7813963.90 -7813963.73 0.0089 0.0064
 Jupiter -26107-10-24 19:11 J -7813861.90 -7813861.70 -7813861.49 0.0502 0.0066
 Neptune -26106-02-25 02:38 J -7813738.52 -7813738.39 -7813738.22 0.0089 0.0062
 Jupiter -26106-06-19 01:11 J -7813624.59 -7813624.45 -7813624.31 0.0510 0.0375
 Neptune -26106-10-08 14:52 J -7813513.02 -7813512.88 -7813512.70 0.0089 0.0060
 Neptune -26105-05-21 03:35 J -7813287.51 -7813287.35 -7813287.18 0.0089 0.0058

Neptune	-26104-01-01 15:50 J	-7813062.00	-7813061.84	-7813061.67	0.0089	0.0055
Neptune	-26104-08-15 04:04 J	-7812836.49	-7812836.33	-7812836.15	0.0089	0.0053
Neptune	-26103-03-28 16:19 J	-7812610.98	-7812610.82	-7812610.63	0.0089	0.0051
Neptune	-26103-11-09 04:33 J	-7812385.47	-7812385.31	-7812385.11	0.0089	0.0049
Neptune	-26102-06-22 16:47 J	-7812159.97	-7812159.80	-7812159.60	0.0089	0.0047
Jupiter	-26101-01-09 05:16 J	-7811959.42	-7811959.28	-7811959.13	0.0530	0.0358
Neptune	-26101-02-03 05:16 J	-7811934.46	-7811934.28	-7811934.08	0.0089	0.0044
Jupiter	-26101-09-02 06:28 J	-7811722.42	-7811722.23	-7811722.03	0.0522	0.0113
Neptune	-26101-09-15 17:31 J	-7811708.95	-7811708.77	-7811708.57	0.0089	0.0042
Neptune	-26100-04-29 05:59 J	-7811483.43	-7811483.25	-7811483.04	0.0089	0.0040
Neptune	-26100-12-10 18:43 J	-7811257.91	-7811257.72	-7811257.52	0.0089	0.0037
Neptune	-26099-07-24 06:43 J	-7811032.40	-7811032.22	-7811032.01	0.0089	0.0035
Neptune	-26098-03-06 19:26 J	-7810806.89	-7810806.69	-7810806.49	0.0089	0.0032
Neptune	-26098-10-18 07:40 J	-7810581.38	-7810581.18	-7810580.97	0.0089	0.0030
Uranus	-26098-11-21 23:16 J	-7810546.60	-7810546.53	-7810546.42	0.0145	0.0133
Mars	-26097-05-08 23:31 J	-7810377.69	-7810377.52	-7810377.35	0.1725	0.0148
Neptune	-26097-05-30 19:55 J	-7810355.86	-7810355.67	-7810355.45	0.0089	0.0028
Uranus	-26097-07-05 12:14 J	-7810320.13	-7810319.99	-7810319.84	0.0145	0.0107
Neptune	-26096-01-11 08:23 J	-7810130.35	-7810130.15	-7810129.94	0.0089	0.0025
Uranus	-26096-02-17 00:28 J	-7810093.65	-7810093.48	-7810093.29	0.0145	0.0081
Neptune	-26096-08-24 20:38 J	-7809904.84	-7809904.64	-7809904.42	0.0089	0.0023
Uranus	-26096-10-01 12:43 J	-7809867.16	-7809866.97	-7809866.76	0.0145	0.0055
Earth	-26096-10-26 21:07 J	-7809841.78	-7809841.62	-7809841.46	0.2622	0.0209
Moon	-26096-10-26 22:47 J	-7809841.70	-7809841.55	-7809841.40	0.2628	0.0258 *
Neptune	-26095-04-07 09:07 J	-7809679.32	-7809679.12	-7809678.90	0.0089	0.0020
Uranus	-26095-05-16 01:11 J	-7809640.67	-7809640.45	-7809640.24	0.0144	0.0029
Jupiter	-26095-06-29 14:23 J	-7809596.09	-7809595.90	-7809595.70	0.0500	0.0185
Neptune	-26095-11-18 21:21 J	-7809453.81	-7809453.61	-7809453.39	0.0089	0.0018
Uranus	-26095-12-28 13:26 J	-7809414.16	-7809413.94	-7809413.72	0.0144	0.0003
Jupiter	-26094-02-21 17:45 J	-7809358.94	-7809358.76	-7809358.58	0.0508	0.0250

Neptune -26094-07-02 09:35 J -7809228.30 -7809228.10 -7809227.87 0.0089 0.0016
 Uranus -26094-08-12 01:26 J -7809187.65 -7809187.44 -7809187.22 0.0144 0.0024
 Neptune -26093-02-12 22:04 J -7809002.79 -7809002.58 -7809002.36 0.0089 0.0013
 Saturn -26093-03-15 14:38 J -7808971.03 -7808970.89 -7808970.72 0.0272 0.0182
 Uranus -26093-03-25 13:40 J -7808961.14 -7808960.93 -7808960.73 0.0144 0.0049
 Neptune -26093-09-25 10:19 J -7808777.27 -7808777.07 -7808776.84 0.0089 0.0011
 Saturn -26093-10-30 22:04 J -7808741.79 -7808741.58 -7808741.37 0.0274 0.0057
 Uranus -26093-11-07 01:26 J -7808734.62 -7808734.44 -7808734.25 0.0143 0.0075
 Mars -26093-12-19 00:14 J -7808692.67 -7808692.49 -7808692.32 0.1795 0.0259
 Neptune -26092-05-08 23:02 J -7808551.75 -7808551.54 -7808551.32 0.0089 0.0008
 Saturn -26092-06-17 07:26 J -7808512.39 -7808512.19 -7808511.98 0.0276 0.0072
 Uranus -26092-06-21 13:11 J -7808508.09 -7808507.95 -7808507.78 0.0143 0.0100
 Neptune -26092-12-20 11:16 J -7808326.24 -7808326.03 -7808325.81 0.0089 0.0006
 Saturn -26091-02-01 19:11 J -7808282.84 -7808282.70 -7808282.56 0.0278 0.0204
 Uranus -26091-02-03 00:43 J -7808281.55 -7808281.47 -7808281.34 0.0143 0.0125
 Neptune -26091-08-02 23:45 J -7808100.72 -7808100.51 -7808100.29 0.0089 0.0003
 Neptune -26090-03-16 12:14 J -7807875.21 -7807874.99 -7807874.78 0.0089 0.0001
 Jupiter -26090-09-14 00:43 J -7807693.55 -7807693.47 -7807693.39 0.0532 0.0487
 Neptune -26090-10-28 00:28 J -7807649.69 -7807649.48 -7807649.26 0.0089 0.0003
 Jupiter -26089-05-08 04:33 J -7807456.51 -7807456.31 -7807456.11 0.0524 0.0014
 Neptune -26089-06-09 13:11 J -7807424.17 -7807423.95 -7807423.73 0.0089 0.0005
 Jupiter -26089-12-30 22:47 J -7807219.66 -7807219.55 -7807219.44 0.0516 0.0430
 Neptune -26088-01-21 01:26 J -7807198.65 -7807198.44 -7807198.22 0.0089 0.0008
 Neptune -26088-09-03 14:09 J -7806973.13 -7806972.91 -7806972.70 0.0089 0.0010
 Neptune -26087-04-17 02:23 J -7806747.61 -7806747.40 -7806747.18 0.0089 0.0013
 Neptune -26087-11-28 15:07 J -7806522.08 -7806521.87 -7806521.66 0.0089 0.0015
 Neptune -26086-07-12 03:21 J -7806296.56 -7806296.36 -7806296.14 0.0089 0.0018
 Neptune -26085-02-22 16:04 J -7806071.04 -7806070.83 -7806070.62 0.0089 0.0020
 Neptune -26085-10-05 04:19 J -7805845.52 -7805845.32 -7805845.10 0.0089 0.0023
 Neptune -26084-05-18 17:02 J -7805619.99 -7805619.79 -7805619.57 0.0089 0.0025

Neptune -26084-12-30 05:31 J -7805394.46 -7805394.27 -7805394.05 0.0088 0.0028
 Jupiter -26083-03-04 11:31 J -7805330.18 -7805330.02 -7805329.85 0.0498 0.0299
 Neptune -26083-08-12 17:59 J -7805168.94 -7805168.75 -7805168.53 0.0088 0.0030
 Jupiter -26083-10-27 12:43 J -7805093.17 -7805092.97 -7805092.77 0.0506 0.0129
 Neptune -26082-03-26 06:43 J -7804943.42 -7804943.22 -7804943.01 0.0088 0.0032
 Neptune -26082-11-06 18:57 J -7804717.90 -7804717.71 -7804717.49 0.0088 0.0035
 Neptune -26081-06-19 07:55 J -7804492.37 -7804492.17 -7804491.97 0.0088 0.0037
 Neptune -26080-01-30 20:09 J -7804266.84 -7804266.66 -7804266.45 0.0088 0.0039
 Neptune -26080-09-13 08:52 J -7804041.31 -7804041.13 -7804040.93 0.0088 0.0041
 Saturn -26079-01-20 13:55 J -7803912.06 -7803911.92 -7803911.75 0.0288 0.0195
 Neptune -26079-04-26 21:21 J -7803815.79 -7803815.61 -7803815.41 0.0088 0.0044
 Saturn -26079-09-07 07:11 J -7803682.40 -7803682.20 -7803681.99 0.0286 0.0049
 Neptune -26079-12-08 10:19 J -7803590.26 -7803590.07 -7803589.89 0.0088 0.0046
 Saturn -26078-04-24 22:04 J -7803452.78 -7803452.58 -7803452.38 0.0284 0.0093
 Neptune -26078-07-21 22:33 J -7803364.73 -7803364.56 -7803364.36 0.0088 0.0048
 Saturn -26078-12-10 10:19 J -7803223.19 -7803223.07 -7803222.95 0.0282 0.0228
 Jupiter -26077-01-12 01:11 J -7803190.64 -7803190.45 -7803190.26 0.0526 0.0144
 Neptune -26077-03-03 11:16 J -7803139.20 -7803139.03 -7803138.84 0.0088 0.0051
 Jupiter -26077-09-04 21:35 J -7802953.76 -7802953.60 -7802953.44 0.0518 0.0313
 Neptune -26077-10-14 23:59 J -7802913.67 -7802913.50 -7802913.31 0.0088 0.0053
 Neptune -26076-05-28 12:57 J -7802688.13 -7802687.96 -7802687.78 0.0088 0.0055
 Neptune -26075-01-09 01:11 J -7802462.59 -7802462.45 -7802462.26 0.0088 0.0058
 Neptune -26075-08-22 14:09 J -7802237.06 -7802236.91 -7802236.73 0.0088 0.0059
 Neptune -26074-04-05 02:52 J -7802011.52 -7802011.38 -7802011.21 0.0088 0.0061
 Neptune -26074-11-16 15:35 J -7801785.98 -7801785.85 -7801785.68 0.0088 0.0063
 Neptune -26073-06-29 04:33 J -7801560.44 -7801560.31 -7801560.14 0.0088 0.0066
 Neptune -26072-02-09 17:16 J -7801334.90 -7801334.78 -7801334.62 0.0088 0.0068
 Neptune -26072-09-23 06:14 J -7801109.36 -7801109.24 -7801109.09 0.0088 0.0069
 Jupiter -26072-11-07 08:38 J -7801064.25 -7801064.14 -7801064.02 0.0497 0.0408
 Neptune -26071-05-06 18:57 J -7800883.82 -7800883.71 -7800883.56 0.0088 0.0071

Jupiter -26071-07-02 07:26 J -7800827.40 -7800827.19 -7800826.98 0.0504 0.0007
 Neptune -26071-12-18 07:40 J -7800658.28 -7800658.18 -7800658.03 0.0088 0.0073
 Jupiter -26070-02-24 15:21 J -7800589.95 -7800589.86 -7800589.76 0.0512 0.0449
 Neptune -26070-07-31 21:07 J -7800432.73 -7800432.62 -7800432.50 0.0088 0.0075
 Neptune -26069-03-13 09:35 J -7800207.19 -7800207.10 -7800206.98 0.0088 0.0077
 Neptune -26069-10-24 22:19 J -7799981.65 -7799981.57 -7799981.45 0.0088 0.0079
 Neptune -26068-06-07 11:16 J -7799756.10 -7799756.03 -7799755.92 0.0088 0.0080
 Neptune -26067-01-19 00:28 J -7799530.55 -7799530.48 -7799530.39 0.0088 0.0082
 Neptune -26067-09-01 13:11 J -7799305.00 -7799304.95 -7799304.86 0.0088 0.0083
 Neptune -26066-04-15 01:40 J -7799079.46 -7799079.43 -7799079.34 0.0088 0.0086
 Jupiter -26066-09-16 20:38 J -7798924.81 -7798924.64 -7798924.47 0.0528 0.0275
 Neptune -26066-11-26 14:52 J -7798853.90 -7798853.88 -7798853.82 0.0088 0.0087
 Mars -26065-05-07 22:47 J -7798690.68 -7798690.55 -7798690.41 0.1734 0.1044
 Jupiter -26065-05-10 19:26 J -7798687.87 -7798687.69 -7798687.50 0.0520 0.0191
 Neptune -26065-07-09 04:04 J -7798628.33 -7798628.33 -7798628.29 0.0088 0.0088
 Saturn -26064-09-25 20:09 J -7798184.83 -7798184.66 -7798184.49 0.0273 0.0163
 Mars -26063-03-07 11:45 J -7798022.10 -7798022.01 -7798021.92 0.1713 0.1438
 Saturn -26063-05-13 03:50 J -7797955.55 -7797955.34 -7797955.13 0.0274 0.0038
 Saturn -26063-12-28 13:40 J -7797726.13 -7797725.93 -7797725.73 0.0276 0.0092
 Saturn -26062-08-15 01:55 J -7797496.54 -7797496.42 -7797496.29 0.0278 0.0225
 Mars -26061-12-18 15:21 J -7797004.98 -7797004.86 -7797004.74 0.1784 0.1325
 Jupiter -26059-03-07 03:07 J -7796561.57 -7796561.37 -7796561.16 0.0501 0.0111
 Jupiter -26059-10-30 08:09 J -7796324.31 -7796324.16 -7796323.99 0.0509 0.0328
 Uranus -26054-04-09 12:43 J -7794702.04 -7794701.97 -7794701.87 0.0133 0.0123
 Jupiter -26054-05-22 12:43 J -7794659.09 -7794658.97 -7794658.84 0.0530 0.0409
 Uranus -26054-11-21 18:14 J -7794475.87 -7794475.74 -7794475.59 0.0133 0.0103
 Jupiter -26053-01-14 14:52 J -7794422.08 -7794421.88 -7794421.68 0.0523 0.0063
 Uranus -26053-07-04 23:31 J -7794249.68 -7794249.52 -7794249.34 0.0134 0.0083
 Jupiter -26053-09-07 07:40 J -7794185.22 -7794185.18 -7794185.12 0.0515 0.0497
 Uranus -26052-02-16 04:47 J -7794023.48 -7794023.30 -7794023.09 0.0134 0.0063

Uranus	-26052-09-30 10:19 J	-7793797.27	-7793797.07	-7793796.86	0.0134	0.0042
Uranus	-26051-05-14 15:35 J	-7793571.06	-7793570.85	-7793570.63	0.0134	0.0022
Uranus	-26051-12-26 21:07 J	-7793344.83	-7793344.62	-7793344.40	0.0134	0.0002
Saturn	-26050-08-03 01:26 J	-7793125.61	-7793125.44	-7793125.26	0.0288	0.0165
Uranus	-26050-08-10 02:38 J	-7793118.60	-7793118.39	-7793118.18	0.0135	0.0020
Saturn	-26049-03-19 18:14 J	-7792895.95	-7792895.74	-7792895.53	0.0286	0.0020
Uranus	-26049-03-23 07:55 J	-7792892.37	-7792892.17	-7792891.96	0.0135	0.0041
Saturn	-26049-11-04 08:38 J	-7792666.33	-7792666.14	-7792665.95	0.0284	0.0122
Uranus	-26049-11-04 13:26 J	-7792666.12	-7792665.94	-7792665.74	0.0135	0.0062 *
Uranus	-26048-06-18 19:11 J	-7792439.87	-7792439.70	-7792439.53	0.0135	0.0083
Saturn	-26048-06-21 20:38 J	-7792436.73	-7792436.64	-7792436.56	0.0282	0.0255
Jupiter	-26048-11-09 23:59 J	-7792295.68	-7792295.50	-7792295.31	0.0499	0.0226
Uranus	-26047-01-31 00:43 J	-7792213.59	-7792213.47	-7792213.32	0.0136	0.0104
Jupiter	-26047-07-05 02:09 J	-7792058.60	-7792058.41	-7792058.22	0.0506	0.0205
Uranus	-26047-09-14 06:43 J	-7791987.30	-7791987.22	-7791987.13	0.0136	0.0124
Jupiter	-26042-09-19 11:45 J	-7790156.21	-7790156.01	-7790155.82	0.0525	0.0068
Jupiter	-26041-05-13 07:11 J	-7789919.32	-7789919.20	-7789919.06	0.0517	0.0385
Jupiter	-26036-07-15 20:23 J	-7788029.80	-7788029.65	-7788029.50	0.0497	0.0340
Jupiter	-26035-03-09 19:55 J	-7787792.88	-7787792.67	-7787792.47	0.0504	0.0081
Saturn	-26035-08-21 20:38 J	-7787627.69	-7787627.64	-7787627.57	0.0271	0.0260
Saturn	-26034-04-08 02:23 J	-7787398.57	-7787398.40	-7787398.21	0.0273	0.0141
Saturn	-26034-11-23 10:19 J	-7787169.28	-7787169.07	-7787168.85	0.0275	0.0016
Saturn	-26033-07-09 20:23 J	-7786939.84	-7786939.65	-7786939.45	0.0277	0.0116
Saturn	-26032-02-24 08:38 J	-7786710.22	-7786710.14	-7786710.04	0.0279	0.0249
Neptune	-26032-04-01 19:40 J	-7786673.68	-7786673.68	-7786673.67	0.0088	0.0088
Neptune	-26032-11-13 09:21 J	-7786448.14	-7786448.11	-7786448.07	0.0088	0.0087
Mars	-26031-03-06 09:50 J	-7786335.26	-7786335.09	-7786334.93	0.1722	0.0297
Neptune	-26031-06-26 22:33 J	-7786222.59	-7786222.56	-7786222.48	0.0088	0.0085
Neptune	-26030-02-07 12:43 J	-7785997.04	-7785996.97	-7785996.90	0.0088	0.0083
Jupiter	-26030-05-25 08:23 J	-7785890.33	-7785890.15	-7785889.96	0.0528	0.0197

Neptune -26030-09-21 02:09 J -7785771.47 -7785771.41 -7785771.31 0.0088 0.0082
 Jupiter -26029-01-17 06:43 J -7785653.39 -7785653.22 -7785653.05 0.0519 0.0265
 Neptune -26029-05-03 15:50 J -7785545.91 -7785545.84 -7785545.73 0.0088 0.0081
 Neptune -26029-12-15 05:45 J -7785320.35 -7785320.26 -7785320.15 0.0088 0.0079
 Neptune -26028-07-28 18:57 J -7785094.79 -7785094.71 -7785094.57 0.0088 0.0078
 Neptune -26027-03-11 08:52 J -7784869.22 -7784869.13 -7784868.99 0.0088 0.0075
 Mars -26027-10-16 05:02 J -7784650.46 -7784650.29 -7784650.12 0.1798 0.0507
 Neptune -26027-10-22 22:47 J -7784643.65 -7784643.55 -7784643.41 0.0088 0.0073
 Neptune -26026-06-05 12:43 J -7784418.09 -7784417.97 -7784417.83 0.0088 0.0071
 Neptune -26025-01-17 02:23 J -7784192.52 -7784192.40 -7784192.25 0.0088 0.0070
 Neptune -26025-08-29 16:19 J -7783966.95 -7783966.82 -7783966.67 0.0088 0.0067
 Jupiter -26024-03-20 18:28 J -7783763.81 -7783763.73 -7783763.63 0.0496 0.0447
 Neptune -26024-04-12 05:59 J -7783741.38 -7783741.25 -7783741.08 0.0088 0.0066
 Jupiter -26024-11-12 15:35 J -7783527.06 -7783526.85 -7783526.64 0.0502 0.0039
 Neptune -26024-11-23 19:55 J -7783515.81 -7783515.67 -7783515.50 0.0088 0.0063
 Neptune -26023-07-07 09:35 J -7783290.25 -7783290.10 -7783289.92 0.0088 0.0061
 Jupiter -26023-07-07 21:50 J -7783289.72 -7783289.59 -7783289.46 0.0510 0.0399
 Neptune -26022-02-17 23:16 J -7783064.68 -7783064.53 -7783064.34 0.0088 0.0060
 Neptune -26022-10-01 13:11 J -7782839.10 -7782838.95 -7782838.76 0.0088 0.0057
 Neptune -26021-05-14 02:52 J -7782613.53 -7782613.38 -7782613.18 0.0088 0.0056
 Neptune -26021-12-25 17:02 J -7782387.96 -7782387.79 -7782387.60 0.0088 0.0053
 Saturn -26020-02-12 06:14 J -7782339.42 -7782339.24 -7782339.06 0.0287 0.0145
 Neptune -26020-08-08 06:43 J -7782162.39 -7782162.22 -7782162.03 0.0088 0.0051
 Saturn -26020-09-29 22:33 J -7782109.77 -7782109.56 -7782109.35 0.0285 0.0005
 Neptune -26019-03-21 20:23 J -7781936.82 -7781936.65 -7781936.45 0.0088 0.0048
 Saturn -26019-05-17 12:28 J -7781880.16 -7781879.98 -7781879.79 0.0283 0.0140
 Neptune -26019-11-02 10:04 J -7781711.25 -7781711.08 -7781710.87 0.0088 0.0047
 Saturn -26018-01-01 23:59 J -7781650.54 -7781650.50 -7781650.44 0.0281 0.0272
 Jupiter -26018-01-28 04:47 J -7781624.46 -7781624.30 -7781624.14 0.0529 0.0326
 Neptune -26018-06-15 23:59 J -7781485.68 -7781485.50 -7781485.29 0.0088 0.0044

Jupiter -26018-09-22 05:16 J -7781387.47 -7781387.28 -7781387.09 0.0521 0.0143
 Neptune -26017-01-27 13:40 J -7781260.12 -7781259.93 -7781259.72 0.0088 0.0041
 Neptune -26017-09-09 03:07 J -7781034.55 -7781034.37 -7781034.15 0.0088 0.0040
 Neptune -26016-04-22 17:02 J -7780808.98 -7780808.79 -7780808.57 0.0088 0.0037
 Neptune -26016-12-04 06:43 J -7780583.41 -7780583.22 -7780583.00 0.0088 0.0035
 Neptune -26015-07-17 20:38 J -7780357.85 -7780357.64 -7780357.43 0.0088 0.0032
 Neptune -26014-02-28 10:04 J -7780132.28 -7780132.08 -7780131.85 0.0088 0.0030
 Uranus -26014-07-22 05:59 J -7779988.25 -7779988.25 -7779988.20 0.0145 0.0145
 Neptune -26014-10-12 00:14 J -7779906.70 -7779906.49 -7779906.28 0.0088 0.0027
 Uranus -26013-03-04 18:43 J -7779761.84 -7779761.72 -7779761.59 0.0145 0.0118
 Neptune -26013-05-24 13:40 J -7779681.13 -7779680.93 -7779680.70 0.0089 0.0025
 Uranus -26013-10-17 07:11 J -7779535.37 -7779535.20 -7779535.03 0.0145 0.0092
 Neptune -26012-01-05 03:35 J -7779455.57 -7779455.35 -7779455.13 0.0089 0.0022
 Uranus -26012-05-31 19:26 J -7779308.88 -7779308.69 -7779308.49 0.0145 0.0066
 Jupiter -26012-07-18 11:31 J -7779261.22 -7779261.02 -7779260.82 0.0501 0.0157
 Neptune -26012-08-18 17:02 J -7779230.00 -7779229.79 -7779229.56 0.0089 0.0020
 Uranus -26011-01-13 07:40 J -7779082.38 -7779082.18 -7779081.96 0.0145 0.0040
 Jupiter -26011-03-12 15:21 J -7779024.03 -7779023.86 -7779023.68 0.0508 0.0278
 Neptune -26011-04-01 06:57 J -7779004.43 -7779004.21 -7779003.99 0.0089 0.0017
 Uranus -26011-08-27 19:55 J -7778855.89 -7778855.67 -7778855.45 0.0144 0.0014
 Neptune -26011-11-12 20:38 J -7778778.85 -7778778.64 -7778778.41 0.0089 0.0015
 Uranus -26010-04-11 07:55 J -7778629.38 -7778629.17 -7778628.95 0.0144 0.0013
 Neptune -26010-06-26 10:33 J -7778553.28 -7778553.06 -7778552.84 0.0089 0.0012
 Uranus -26010-11-23 19:55 J -7778402.88 -7778402.67 -7778402.45 0.0144 0.0038
 Neptune -26009-02-06 23:59 J -7778327.72 -7778327.50 -7778327.27 0.0089 0.0010
 Uranus -26009-07-07 08:09 J -7778176.36 -7778176.16 -7778175.96 0.0144 0.0064
 Neptune -26009-09-19 13:55 J -7778102.15 -7778101.92 -7778101.70 0.0089 0.0007
 Uranus -26008-02-18 19:55 J -7777949.84 -7777949.67 -7777949.49 0.0143 0.0089
 Neptune -26008-05-03 03:35 J -7777876.58 -7777876.35 -7777876.13 0.0089 0.0004
 Uranus -26008-10-03 07:40 J -7777723.31 -7777723.18 -7777723.05 0.0143 0.0114

Neptune -26008-12-14 17:16 J -7777651.00 -7777650.78 -7777650.56 0.0089 0.0002
 Uranus -26007-05-17 19:11 J -7777496.74 -7777496.70 -7777496.65 0.0143 0.0139
 Neptune -26007-07-28 06:57 J -7777425.44 -7777425.21 -7777424.99 0.0089 0.0002
 Jupiter -26007-10-02 23:16 J -7777358.63 -7777358.53 -7777358.43 0.0531 0.0455
 Neptune -26006-03-10 20:23 J -7777199.87 -7777199.65 -7777199.43 0.0089 0.0003
 Jupiter -26006-05-28 02:09 J -7777121.60 -7777121.41 -7777121.21 0.0524 0.0019
 Neptune -26006-10-22 10:04 J -7776974.30 -7776974.08 -7776973.86 0.0089 0.0006
 Jupiter -26005-01-19 19:40 J -7776884.77 -7776884.68 -7776884.58 0.0515 0.0454
 Saturn -26005-03-03 00:14 J -7776841.58 -7776841.49 -7776841.40 0.0272 0.0244
 Neptune -26005-06-03 23:31 J -7776748.74 -7776748.52 -7776748.29 0.0089 0.0008
 Saturn -26005-10-18 06:28 J -7776612.42 -7776612.23 -7776612.04 0.0273 0.0123
 Neptune -26004-01-15 13:11 J -7776523.17 -7776522.95 -7776522.73 0.0089 0.0011
 Saturn -26004-06-04 14:52 J -7776383.10 -7776382.88 -7776382.67 0.0275 0.0005
 Neptune -26004-08-29 02:38 J -7776297.61 -7776297.39 -7776297.17 0.0089 0.0013
 Saturn -26003-01-20 01:11 J -7776153.63 -7776153.45 -7776153.26 0.0277 0.0134
 Neptune -26003-04-11 16:04 J -7776072.05 -7776071.83 -7776071.61 0.0089 0.0016
 Saturn -26003-09-06 13:40 J -7775923.97 -7775923.93 -7775923.85 0.0279 0.0268
 Neptune -26003-11-23 05:45 J -7775846.48 -7775846.26 -7775846.04 0.0089 0.0018
 Neptune -26002-07-06 19:11 J -7775620.91 -7775620.70 -7775620.48 0.0089 0.0021
 Neptune -26001-02-17 08:38 J -7775395.35 -7775395.14 -7775394.92 0.0089 0.0023
 Neptune -26001-09-29 21:50 J -7775169.79 -7775169.59 -7775169.36 0.0089 0.0026

26TH MILLENNIUM BCE

This is a list of transits of Venus in the 26th millennium BCE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Jupiter -26000-03-23 08:52 J -7774995.30 -7774995.13 -7774994.95 0.0499 0.0269
Neptune -26000-05-13 11:31 J -7774944.22 -7774944.02 -7774943.80 0.0089 0.0028
Jupiter -26000-11-15 10:04 J -7774758.28 -7774758.08 -7774757.88 0.0506 0.0158
Neptune -26000-12-25 00:57 J -7774718.65 -7774718.46 -7774718.24 0.0089 0.0031
Mars -25999-03-05 08:52 J -7774648.27 -7774648.13 -7774647.98 0.1731 0.0886
Neptune -25999-08-07 14:38 J -7774493.09 -7774492.89 -7774492.68 0.0089 0.0033
Neptune -25998-03-21 04:04 J -7774267.53 -7774267.33 -7774267.12 0.0089 0.0035
Neptune -25998-11-01 17:31 J -7774041.96 -7774041.77 -7774041.56 0.0089 0.0038
Mars -25997-01-02 22:04 J -7773979.64 -7773979.58 -7773979.52 0.1710 0.1571
Neptune -25997-06-14 06:57 J -7773816.39 -7773816.21 -7773816.00 0.0089 0.0040
Neptune -25996-01-25 20:38 J -7773590.83 -7773590.64 -7773590.44 0.0089 0.0042
Neptune -25996-09-08 10:04 J -7773365.27 -7773365.08 -7773364.88 0.0089 0.0044
Neptune -25995-04-21 23:16 J -7773139.71 -7773139.53 -7773139.33 0.0089 0.0047
Mars -25995-10-15 20:52 J -7772962.77 -7772962.63 -7772962.49 0.1788 0.1093
Neptune -25995-12-03 12:43 J -7772914.14 -7772913.97 -7772913.77 0.0089 0.0049
Jupiter -25994-01-30 20:09 J -7772855.86 -7772855.66 -7772855.47 0.0526 0.0118
Neptune -25994-07-17 02:09 J -7772688.58 -7772688.41 -7772688.22 0.0089 0.0051
Jupiter -25994-09-24 16:47 J -7772618.95 -7772618.80 -7772618.65 0.0518 0.0337
Neptune -25993-02-27 15:21 J -7772463.02 -7772462.86 -7772462.67 0.0089 0.0053
Neptune -25993-10-10 04:47 J -7772237.47 -7772237.30 -7772237.12 0.0089 0.0055
Neptune -25992-05-23 17:59 J -7772011.91 -7772011.75 -7772011.57 0.0089 0.0058
Neptune -25991-01-04 07:26 J -7771786.35 -7771786.19 -7771786.02 0.0089 0.0060
Saturn -25991-01-07 21:50 J -7771782.67 -7771782.59 -7771782.50 0.0289 0.0263
Neptune -25991-08-17 20:38 J -7771560.79 -7771560.64 -7771560.47 0.0089 0.0062
Saturn -25991-08-25 16:33 J -7771553.00 -7771552.81 -7771552.62 0.0287 0.0116
Neptune -25990-03-31 09:50 J -7771335.24 -7771335.09 -7771334.93 0.0089 0.0064
Saturn -25990-04-12 08:38 J -7771323.35 -7771323.14 -7771322.93 0.0285 0.0029
Neptune -25990-11-11 23:02 J -7771109.68 -7771109.54 -7771109.38 0.0089 0.0065

Saturn -25990-11-27 22:04 J -7771093.74 -7771093.58 -7771093.40 0.0283 0.0168
 Neptune -25989-06-24 12:14 J -7770884.12 -7770883.99 -7770883.84 0.0089 0.0067
 Jupiter -25989-11-26 07:11 J -7770729.34 -7770729.20 -7770729.07 0.0497 0.0378
 Neptune -25988-02-05 01:26 J -7770658.56 -7770658.44 -7770658.29 0.0089 0.0069
 Jupiter -25988-07-21 05:16 J -7770492.48 -7770492.28 -7770492.07 0.0503 0.0039
 Neptune -25988-09-18 14:23 J -7770433.01 -7770432.90 -7770432.75 0.0089 0.0071
 Jupiter -25987-03-15 12:43 J -7770255.04 -7770254.97 -7770254.89 0.0511 0.0475
 Neptune -25987-05-02 03:35 J -7770207.46 -7770207.35 -7770207.21 0.0089 0.0073
 Neptune -25987-12-13 17:02 J -7769981.90 -7769981.79 -7769981.66 0.0089 0.0075
 Neptune -25986-07-27 05:59 J -7769756.34 -7769756.25 -7769756.12 0.0089 0.0077
 Neptune -25985-03-08 18:57 J -7769530.79 -7769530.71 -7769530.58 0.0089 0.0079
 Neptune -25985-10-20 08:23 J -7769305.23 -7769305.15 -7769305.04 0.0089 0.0080
 Neptune -25984-06-02 21:21 J -7769079.68 -7769079.61 -7769079.50 0.0089 0.0081
 Neptune -25983-01-14 10:47 J -7768854.12 -7768854.05 -7768853.96 0.0089 0.0083
 Neptune -25983-08-27 23:31 J -7768628.56 -7768628.52 -7768628.42 0.0089 0.0085
 Jupiter -25983-10-05 15:35 J -7768590.03 -7768589.85 -7768589.68 0.0528 0.0249
 Neptune -25982-04-10 12:43 J -7768403.01 -7768402.97 -7768402.89 0.0089 0.0086
 Jupiter -25982-05-30 15:07 J -7768353.05 -7768352.87 -7768352.69 0.0521 0.0217
 Neptune -25982-11-22 02:09 J -7768177.46 -7768177.41 -7768177.36 0.0089 0.0087
 Neptune -25981-07-04 14:38 J -7767951.90 -7767951.89 -7767951.84 0.0089 0.0089
 Pluto -25978-02-17 04:04 J -7766994.40 -7766994.33 -7766994.21 0.0064 0.0057
 Pluto -25978-09-30 08:09 J -7766769.36 -7766769.16 -7766768.95 0.0064 0.0020
 Pluto -25977-05-12 11:45 J -7766544.20 -7766544.01 -7766543.78 0.0065 0.0019
 Jupiter -25977-08-01 04:47 J -7766463.34 -7766463.30 -7766463.26 0.0495 0.0484
 Pluto -25977-12-23 15:21 J -7766318.94 -7766318.86 -7766318.73 0.0065 0.0057
 Jupiter -25976-03-26 00:14 J -7766226.69 -7766226.49 -7766226.28 0.0501 0.0084
 Saturn -25976-09-13 06:43 J -7766055.34 -7766055.22 -7766055.10 0.0272 0.0222
 Jupiter -25976-11-18 05:02 J -7765989.44 -7765989.29 -7765989.14 0.0509 0.0352
 Saturn -25975-04-30 12:57 J -7765826.16 -7765825.96 -7765825.76 0.0273 0.0101
 Saturn -25975-12-15 21:21 J -7765596.83 -7765596.61 -7765596.40 0.0275 0.0027

Saturn	-25974-08-02 07:55 J	-7765367.34	-7765367.17	-7765366.99	0.0277	0.0158
Jupiter	-25971-06-10 11:16 J	-7764324.17	-7764324.03	-7764323.89	0.0531	0.0379
Uranus	-25971-12-07 23:02 J	-7764143.56	-7764143.54	-7764143.48	0.0133	0.0131
Jupiter	-25970-02-02 13:40 J	-7764087.13	-7764086.93	-7764086.73	0.0523	0.0092
Uranus	-25970-07-22 04:19 J	-7763917.42	-7763917.32	-7763917.18	0.0133	0.0112
Uranus	-25969-03-04 09:35 J	-7763691.24	-7763691.10	-7763690.92	0.0133	0.0092
Uranus	-25969-10-16 15:07 J	-7763465.05	-7763464.87	-7763464.68	0.0134	0.0071
Uranus	-25968-05-30 20:23 J	-7763238.84	-7763238.65	-7763238.44	0.0134	0.0051
Uranus	-25967-01-12 01:55 J	-7763012.63	-7763012.42	-7763012.20	0.0134	0.0030
Uranus	-25967-08-26 07:26 J	-7762786.41	-7762786.19	-7762785.97	0.0134	0.0009
Uranus	-25966-04-09 12:43 J	-7762560.18	-7762559.97	-7762559.75	0.0135	0.0012
Uranus	-25966-11-21 17:59 J	-7762333.95	-7762333.75	-7762333.53	0.0135	0.0033
Mars	-25965-01-01 20:23 J	-7762292.82	-7762292.65	-7762292.49	0.1719	0.0434
Uranus	-25965-07-04 23:45 J	-7762107.70	-7762107.51	-7762107.31	0.0135	0.0053
Jupiter	-25965-11-28 21:07 J	-7761960.81	-7761960.62	-7761960.43	0.0499	0.0200
Uranus	-25964-02-16 05:31 J	-7761881.45	-7761881.27	-7761881.09	0.0135	0.0074
Jupiter	-25964-07-23 23:16 J	-7761723.72	-7761723.53	-7761723.35	0.0507	0.0230
Uranus	-25964-09-30 11:02 J	-7761655.18	-7761655.04	-7761654.88	0.0135	0.0096
Uranus	-25963-05-14 17:02 J	-7761428.90	-7761428.79	-7761428.68	0.0136	0.0116
Saturn	-25962-07-21 02:23 J	-7760996.51	-7760996.40	-7760996.28	0.0288	0.0243
Saturn	-25961-03-06 20:38 J	-7760766.84	-7760766.64	-7760766.44	0.0287	0.0097
Mars	-25961-08-12 10:33 J	-7760608.22	-7760608.06	-7760607.89	0.1802	0.0745
Saturn	-25961-10-22 12:14 J	-7760537.19	-7760536.99	-7760536.78	0.0285	0.0047
Saturn	-25960-06-09 01:26 J	-7760307.59	-7760307.44	-7760307.27	0.0283	0.0185
Jupiter	-25959-02-13 06:43 J	-7760058.27	-7760058.22	-7760058.15	0.0532	0.0505
Jupiter	-25959-10-08 11:31 J	-7759821.21	-7759821.02	-7759820.82	0.0525	0.0035
Jupiter	-25958-06-02 06:28 J	-7759584.34	-7759584.23	-7759584.11	0.0516	0.0411
Neptune	-25953-04-17 08:09 J	-7757803.16	-7757803.16	-7757803.13	0.0089	0.0089
Jupiter	-25953-08-03 17:59 J	-7757694.91	-7757694.75	-7757694.59	0.0498	0.0311
Neptune	-25953-11-28 20:52 J	-7757577.66	-7757577.63	-7757577.59	0.0089	0.0088

Jupiter -25952-03-28 17:59 J -7757457.95 -7757457.75 -7757457.54 0.0505 0.0110
 Neptune -25952-07-12 08:52 J -7757352.16 -7757352.13 -7757352.06 0.0089 0.0087
 Neptune -25951-02-22 21:07 J -7757126.66 -7757126.62 -7757126.54 0.0089 0.0086
 Neptune -25951-10-06 09:50 J -7756901.16 -7756901.09 -7756901.01 0.0089 0.0084
 Earth -25950-04-27 18:43 J -7756697.86 -7756697.72 -7756697.57 0.2711 0.0926
 Moon -25950-04-27 21:07 J -7756697.77 -7756697.62 -7756697.48 0.2704 0.1279 *
 Neptune -25950-05-19 21:50 J -7756675.65 -7756675.59 -7756675.49 0.0089 0.0083
 Neptune -25950-12-31 10:04 J -7756450.15 -7756450.08 -7756449.97 0.0089 0.0081
 Neptune -25949-08-12 22:33 J -7756224.64 -7756224.56 -7756224.45 0.0089 0.0079
 Neptune -25948-03-26 11:31 J -7755999.13 -7755999.02 -7755998.92 0.0089 0.0078
 Neptune -25948-11-06 23:16 J -7755773.62 -7755773.53 -7755773.40 0.0089 0.0077
 Jupiter -25947-06-13 07:40 J -7755555.36 -7755555.18 -7755554.98 0.0527 0.0165
 Neptune -25947-06-20 11:45 J -7755548.11 -7755548.01 -7755547.88 0.0089 0.0075
 Neptune -25946-01-31 23:45 J -7755322.60 -7755322.51 -7755322.36 0.0089 0.0074
 Jupiter -25946-02-05 05:16 J -7755318.44 -7755318.28 -7755318.11 0.0519 0.0293
 Saturn -25946-03-26 08:23 J -7755269.29 -7755269.15 -7755269.02 0.0272 0.0207
 Neptune -25946-09-14 12:14 J -7755097.10 -7755096.99 -7755096.84 0.0089 0.0072
 Saturn -25946-11-10 14:52 J -7755040.08 -7755039.88 -7755039.67 0.0274 0.0085
 Neptune -25945-04-27 00:57 J -7754871.58 -7754871.46 -7754871.31 0.0089 0.0069
 Saturn -25945-06-26 23:45 J -7754810.71 -7754810.51 -7754810.29 0.0275 0.0044
 Neptune -25945-12-08 13:26 J -7754646.07 -7754645.94 -7754645.80 0.0089 0.0067
 Saturn -25944-02-11 10:47 J -7754581.21 -7754581.05 -7754580.88 0.0277 0.0174
 Neptune -25944-07-22 01:55 J -7754420.57 -7754420.42 -7754420.28 0.0089 0.0066
 Neptune -25943-03-04 13:40 J -7754195.06 -7754194.93 -7754194.76 0.0089 0.0064
 Neptune -25943-10-16 01:55 J -7753969.55 -7753969.42 -7753969.24 0.0089 0.0062
 Moon -25942-04-25 07:55 J -7753778.22 -7753778.17 -7753778.13 0.2705 0.2582
 Earth -25942-04-25 10:19 J -7753778.10 -7753778.07 -7753778.05 0.2711 0.2655
 Neptune -25942-05-29 14:23 J -7753744.04 -7753743.90 -7753743.73 0.0089 0.0060
 Neptune -25941-01-10 02:38 J -7753518.54 -7753518.39 -7753518.21 0.0089 0.0058
 Jupiter -25941-04-08 16:47 J -7753428.91 -7753428.80 -7753428.69 0.0496 0.0417

Neptune -25941-08-22 14:52 J -7753293.03 -7753292.88 -7753292.70 0.0089 0.0056
 Jupiter -25941-12-01 14:09 J -7753192.12 -7753191.91 -7753191.70 0.0503 0.0009
 Neptune -25940-04-05 03:21 J -7753067.52 -7753067.36 -7753067.18 0.0089 0.0054
 Jupiter -25940-07-26 20:23 J -7752954.75 -7752954.65 -7752954.53 0.0510 0.0430
 Neptune -25940-11-16 15:35 J -7752842.01 -7752841.85 -7752841.66 0.0089 0.0052
 Neptune -25939-06-30 03:50 J -7752616.51 -7752616.34 -7752616.15 0.0089 0.0050
 Neptune -25938-02-10 15:50 J -7752391.00 -7752390.84 -7752390.64 0.0089 0.0048
 Neptune -25938-09-24 04:04 J -7752165.49 -7752165.33 -7752165.12 0.0089 0.0046
 Neptune -25937-05-06 17:02 J -7751939.98 -7751939.79 -7751939.60 0.0089 0.0043
 Neptune -25937-12-18 05:02 J -7751714.47 -7751714.29 -7751714.09 0.0089 0.0041
 Neptune -25936-07-31 17:16 J -7751488.96 -7751488.78 -7751488.57 0.0089 0.0039
 Jupiter -25935-02-16 00:14 J -7751289.65 -7751289.49 -7751289.33 0.0529 0.0299
 Neptune -25935-03-14 05:31 J -7751263.45 -7751263.27 -7751263.06 0.0089 0.0037
 Jupiter -25935-10-11 00:57 J -7751052.65 -7751052.46 -7751052.27 0.0522 0.0169
 Neptune -25935-10-25 18:14 J -7751037.94 -7751037.74 -7751037.54 0.0089 0.0034
 Neptune -25934-06-08 06:28 J -7750812.42 -7750812.23 -7750812.02 0.0089 0.0032
 Mars -25934-12-31 18:57 J -7750605.86 -7750605.71 -7750605.56 0.1728 0.0731
 Neptune -25933-01-19 18:43 J -7750586.91 -7750586.72 -7750586.50 0.0089 0.0030
 Neptune -25933-09-01 07:11 J -7750361.40 -7750361.20 -7750360.99 0.0089 0.0028
 Saturn -25932-01-30 11:31 J -7750210.16 -7750210.02 -7750209.88 0.0289 0.0216
 Neptune -25932-04-14 19:55 J -7750135.88 -7750135.67 -7750135.46 0.0089 0.0025
 Saturn -25932-09-17 05:31 J -7749980.47 -7749980.27 -7749980.06 0.0287 0.0069
 Mars -25932-10-30 09:21 J -7749937.13 -7749937.11 -7749937.09 0.1707 0.1690
 Neptune -25932-11-26 08:09 J -7749910.37 -7749910.16 -7749909.95 0.0089 0.0023
 Saturn -25931-05-04 21:07 J -7749750.82 -7749750.62 -7749750.41 0.0285 0.0075
 Neptune -25931-07-09 20:23 J -7749684.85 -7749684.65 -7749684.43 0.0089 0.0021
 Saturn -25931-12-20 10:19 J -7749521.21 -7749521.07 -7749520.93 0.0283 0.0211
 Neptune -25930-02-20 08:52 J -7749459.34 -7749459.13 -7749458.92 0.0089 0.0018
 Neptune -25930-10-03 21:07 J -7749233.83 -7749233.62 -7749233.40 0.0089 0.0016
 Uranus -25930-11-03 01:40 J -7749203.52 -7749203.43 -7749203.33 0.0145 0.0130

Neptune -25929-05-16 09:35 J -7749008.31 -7749008.10 -7749007.88 0.0089 0.0014
 Uranus -25929-06-16 14:09 J -7748977.06 -7748976.91 -7748976.76 0.0145 0.0104
 Jupiter -25929-08-06 11:02 J -7748926.24 -7748926.04 -7748925.84 0.0500 0.0124
 Mars -25929-08-12 02:23 J -7748920.56 -7748920.40 -7748920.24 0.1791 0.0859
 Neptune -25929-12-27 22:04 J -7748782.80 -7748782.58 -7748782.37 0.0089 0.0011
 Uranus -25928-01-29 02:09 J -7748750.58 -7748750.41 -7748750.22 0.0145 0.0078
 Jupiter -25928-03-31 14:38 J -7748689.05 -7748688.89 -7748688.73 0.0508 0.0308
 Neptune -25928-08-10 10:19 J -7748557.28 -7748557.07 -7748556.85 0.0089 0.0009
 Uranus -25928-09-12 14:09 J -7748524.10 -7748523.91 -7748523.69 0.0145 0.0052
 Neptune -25927-03-23 22:33 J -7748331.77 -7748331.56 -7748331.34 0.0089 0.0007
 Uranus -25927-04-27 02:38 J -7748297.61 -7748297.39 -7748297.18 0.0144 0.0025
 Neptune -25927-11-04 11:02 J -7748106.25 -7748106.04 -7748105.82 0.0089 0.0004
 Uranus -25927-12-09 14:38 J -7748071.11 -7748070.89 -7748070.67 0.0144 0.0001
 Neptune -25926-06-17 23:31 J -7747880.74 -7747880.52 -7747880.30 0.0089 0.0002
 Uranus -25926-07-24 02:38 J -7747844.60 -7747844.39 -7747844.17 0.0144 0.0028
 Neptune -25925-01-29 11:59 J -7747655.22 -7747655.00 -7747654.79 0.0089 0.0002
 Uranus -25925-03-06 14:23 J -7747618.09 -7747617.90 -7747617.68 0.0144 0.0054
 Neptune -25925-09-11 00:14 J -7747429.70 -7747429.49 -7747429.27 0.0089 0.0003
 Uranus -25925-10-19 02:09 J -7747391.58 -7747391.41 -7747391.21 0.0143 0.0080
 Neptune -25924-04-24 12:43 J -7747204.18 -7747203.97 -7747203.75 0.0089 0.0006
 Uranus -25924-06-02 14:09 J -7747165.06 -7747164.91 -7747164.76 0.0143 0.0104
 Jupiter -25924-10-21 18:28 J -7747023.84 -7747023.73 -7747023.61 0.0531 0.0430
 Neptune -25924-12-06 01:11 J -7746978.66 -7746978.45 -7746978.23 0.0089 0.0008
 Uranus -25923-01-15 01:40 J -7746938.51 -7746938.43 -7746938.33 0.0143 0.0129
 Jupiter -25923-06-15 22:04 J -7746786.78 -7746786.58 -7746786.38 0.0524 0.0042
 Neptune -25923-07-19 13:40 J -7746753.14 -7746752.93 -7746752.71 0.0089 0.0010
 Jupiter -25922-02-07 16:04 J -7746549.89 -7746549.83 -7746549.75 0.0516 0.0479
 Neptune -25922-03-02 02:09 J -7746527.62 -7746527.41 -7746527.19 0.0089 0.0013
 Neptune -25922-10-13 14:23 J -7746302.10 -7746301.90 -7746301.67 0.0089 0.0016
 Neptune -25921-05-26 03:21 J -7746076.57 -7746076.36 -7746076.14 0.0089 0.0017

Neptune -25920-01-06 15:50 J -7745851.05 -7745850.84 -7745850.62 0.0089 0.0020
 Neptune -25920-08-20 04:19 J -7745625.52 -7745625.32 -7745625.10 0.0089 0.0022
 Neptune -25919-04-02 16:47 J -7745400.00 -7745399.80 -7745399.58 0.0088 0.0025
 Neptune -25919-11-14 05:31 J -7745174.48 -7745174.27 -7745174.06 0.0088 0.0027
 Neptune -25918-06-27 17:45 J -7744948.95 -7744948.76 -7744948.54 0.0088 0.0030
 Neptune -25917-02-08 06:28 J -7744723.42 -7744723.23 -7744723.01 0.0088 0.0032
 Jupiter -25917-04-11 07:11 J -7744660.38 -7744660.20 -7744660.01 0.0498 0.0241
 Neptune -25917-09-20 19:11 J -7744497.90 -7744497.70 -7744497.49 0.0088 0.0034
 Saturn -25917-10-05 14:09 J -7744483.05 -7744482.91 -7744482.74 0.0272 0.0186
 Jupiter -25917-12-04 07:55 J -7744423.36 -7744423.17 -7744422.97 0.0505 0.0185
 Neptune -25916-05-04 07:55 J -7744272.37 -7744272.17 -7744271.97 0.0088 0.0036
 Saturn -25916-05-22 21:07 J -7744253.82 -7744253.62 -7744253.41 0.0274 0.0063
 Neptune -25916-12-15 20:09 J -7744046.84 -7744046.66 -7744046.45 0.0088 0.0038
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 Neptune -25915-07-29 08:38 J -7743821.32 -7743821.14 -7743820.93 0.0088 0.0041
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 Neptune -25914-10-23 10:04 J -7743370.26 -7743370.08 -7743369.88 0.0088 0.0045
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 Neptune -25912-01-16 11:31 J -7742919.19 -7742919.02 -7742918.83 0.0088 0.0049
 Neptune -25912-08-30 00:14 J -7742693.67 -7742693.49 -7742693.31 0.0088 0.0051
 Jupiter -25911-02-18 19:26 J -7742520.88 -7742520.69 -7742520.49 0.0526 0.0087
 Neptune -25911-04-12 12:28 J -7742468.13 -7742467.98 -7742467.79 0.0088 0.0053
 Jupiter -25911-10-13 16:19 J -7742283.96 -7742283.82 -7742283.68 0.0518 0.0366
 Neptune -25911-11-24 01:11 J -7742242.60 -7742242.45 -7742242.26 0.0088 0.0055
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 Neptune -25909-02-18 02:52 J -7741791.52 -7741791.38 -7741791.20 0.0088 0.0059
 Neptune -25909-09-30 15:35 J -7741565.99 -7741565.85 -7741565.67 0.0088 0.0061
 Neptune -25908-05-14 04:47 J -7741340.45 -7741340.30 -7741340.14 0.0088 0.0063
 Neptune -25908-12-25 17:31 J -7741114.91 -7741114.77 -7741114.61 0.0088 0.0065

Neptune -25907-08-08 06:14 J -7740889.37 -7740889.24 -7740889.08 0.0088 0.0067
 Neptune -25906-03-21 18:57 J -7740663.83 -7740663.71 -7740663.55 0.0088 0.0069
 Neptune -25906-11-02 07:40 J -7740438.29 -7740438.18 -7740438.02 0.0088 0.0071
 Jupiter -25906-12-16 05:02 J -7740394.44 -7740394.29 -7740394.14 0.0497 0.0351
 Neptune -25905-06-14 21:07 J -7740212.74 -7740212.62 -7740212.49 0.0088 0.0072
 Jupiter -25905-08-09 03:21 J -7740157.57 -7740157.36 -7740157.15 0.0503 0.0065
 Neptune -25904-01-26 09:50 J -7739987.20 -7739987.09 -7739986.96 0.0088 0.0073
 Jupiter -25904-04-03 11:02 J -7739920.08 -7739920.04 -7739920.00 0.0512 0.0500
 Neptune -25904-09-08 22:19 J -7739761.66 -7739761.57 -7739761.43 0.0088 0.0076
 Neptune -25903-04-22 11:31 J -7739536.12 -7739536.02 -7739535.90 0.0088 0.0077
 Saturn -25903-08-12 15:35 J -7739424.00 -7739423.85 -7739423.69 0.0288 0.0197
 Neptune -25903-12-04 00:14 J -7739310.57 -7739310.49 -7739310.37 0.0088 0.0078
 Saturn -25902-03-30 09:21 J -7739194.32 -7739194.11 -7739193.90 0.0286 0.0050
 Neptune -25902-07-17 13:40 J -7739085.02 -7739084.93 -7739084.84 0.0088 0.0080
 Saturn -25902-11-15 00:28 J -7738964.68 -7738964.48 -7738964.28 0.0284 0.0092
 Neptune -25901-02-28 02:09 J -7738859.47 -7738859.41 -7738859.31 0.0088 0.0082
 Saturn -25901-07-01 13:11 J -7738735.07 -7738734.95 -7738734.83 0.0282 0.0227
 Neptune -25901-10-10 15:35 J -7738633.93 -7738633.85 -7738633.78 0.0088 0.0083
 Neptune -25900-05-24 03:50 J -7738408.38 -7738408.34 -7738408.25 0.0088 0.0085
 Jupiter -25900-10-24 16:47 J -7738254.98 -7738254.80 -7738254.62 0.0528 0.0214
 Mars -25900-10-29 07:11 J -7738250.36 -7738250.20 -7738250.04 0.1716 0.0572
 Neptune -25899-01-04 17:02 J -7738182.82 -7738182.79 -7738182.72 0.0088 0.0086
 Jupiter -25899-06-18 15:50 J -7738018.01 -7738017.84 -7738017.66 0.0520 0.0248
 Neptune -25899-08-18 05:45 J -7737957.27 -7737957.26 -7737957.19 0.0088 0.0087
 Neptune -25898-03-31 19:11 J -7737731.70 -7737731.70 -7737731.68 0.0088 0.0088
 Mars -25895-06-09 14:52 J -7736566.02 -7736565.88 -7736565.73 0.1805 0.1010
 Jupiter -25894-08-21 02:52 J -7736128.45 -7736128.38 -7736128.29 0.0495 0.0456
 Jupiter -25893-04-13 23:16 J -7735891.74 -7735891.53 -7735891.32 0.0502 0.0053
 Jupiter -25893-12-07 04:33 J -7735654.44 -7735654.31 -7735654.17 0.0509 0.0382
 Pluto -25889-01-12 10:04 J -7734523.29 -7734523.08 -7734522.85 0.0080 0.0020

Pluto	-25889-08-24 20:52 J	-7734297.77	-7734297.63	-7734297.45	0.0080	0.0056
Jupiter	-25888-06-29 12:14 J	-7733989.14	-7733988.99	-7733988.84	0.0530	0.0344
Jupiter	-25887-02-21 13:55 J	-7733752.11	-7733751.92	-7733751.73	0.0522	0.0124
Saturn	-25887-04-17 14:52 J	-7733697.04	-7733696.88	-7733696.71	0.0272	0.0172
Saturn	-25887-12-02 22:04 J	-7733467.79	-7733467.58	-7733467.37	0.0274	0.0048
Uranus	-25886-03-21 13:40 J	-7733359.00	-7733358.93	-7733358.82	0.0133	0.0121
Saturn	-25886-07-20 07:26 J	-7733238.40	-7733238.19	-7733237.99	0.0276	0.0081
Uranus	-25886-11-02 18:57 J	-7733132.83	-7733132.71	-7733132.55	0.0133	0.0101
Saturn	-25885-03-05 18:43 J	-7733008.85	-7733008.72	-7733008.58	0.0278	0.0213
Uranus	-25885-06-16 00:28 J	-7732906.65	-7732906.48	-7732906.30	0.0134	0.0080
Uranus	-25884-01-28 05:45 J	-7732680.44	-7732680.26	-7732680.05	0.0134	0.0060
Uranus	-25884-09-11 11:16 J	-7732454.23	-7732454.03	-7732453.82	0.0134	0.0039
Uranus	-25883-04-25 16:33 J	-7732228.02	-7732227.81	-7732227.59	0.0134	0.0019
Uranus	-25883-12-07 22:04 J	-7732001.79	-7732001.58	-7732001.36	0.0134	0.0004
Uranus	-25882-07-22 03:35 J	-7731775.56	-7731775.35	-7731775.13	0.0135	0.0024
Jupiter	-25882-12-18 20:52 J	-7731625.83	-7731625.63	-7731625.43	0.0500	0.0167
Uranus	-25881-03-04 09:07 J	-7731549.32	-7731549.12	-7731548.91	0.0135	0.0045
Jupiter	-25881-08-11 23:16 J	-7731388.70	-7731388.53	-7731388.35	0.0507	0.0264
Uranus	-25881-10-16 14:38 J	-7731323.07	-7731322.89	-7731322.69	0.0135	0.0066
Uranus	-25880-05-30 20:09 J	-7731096.81	-7731096.66	-7731096.48	0.0135	0.0087
Uranus	-25879-01-12 02:23 J	-7730870.53	-7730870.40	-7730870.27	0.0136	0.0108
Uranus	-25879-08-26 07:55 J	-7730644.22	-7730644.17	-7730644.09	0.0136	0.0129
Jupiter	-25876-03-04 03:21 J	-7729723.44	-7729723.36	-7729723.27	0.0532	0.0478
Jupiter	-25876-10-27 08:09 J	-7729486.36	-7729486.16	-7729485.96	0.0525	0.0010
Jupiter	-25875-06-21 03:21 J	-7729249.47	-7729249.36	-7729249.26	0.0517	0.0436
Saturn	-25873-02-22 22:47 J	-7728637.71	-7728637.55	-7728637.37	0.0289	0.0171
Saturn	-25873-10-09 16:33 J	-7728408.02	-7728407.81	-7728407.60	0.0287	0.0024
Saturn	-25872-05-27 07:40 J	-7728178.37	-7728178.18	-7728177.99	0.0285	0.0118
Saturn	-25871-01-11 20:09 J	-7727948.74	-7727948.66	-7727948.56	0.0283	0.0253
Jupiter	-25870-08-23 19:11 J	-7727359.87	-7727359.70	-7727359.53	0.0498	0.0278

Neptune -25869-04-09 02:23 J -7727130.41 -7727130.40 -7727130.36 0.0088 0.0087
 Jupiter -25869-04-16 18:57 J -7727122.91 -7727122.71 -7727122.51 0.0505 0.0144
 Neptune -25869-11-20 15:50 J -7726904.86 -7726904.84 -7726904.77 0.0088 0.0086
 Neptune -25868-07-04 05:59 J -7726679.30 -7726679.25 -7726679.18 0.0088 0.0084
 Mars -25868-10-28 05:16 J -7726563.43 -7726563.28 -7726563.12 0.1725 0.0583
 Neptune -25867-02-14 19:26 J -7726453.74 -7726453.69 -7726453.60 0.0088 0.0083
 Neptune -25867-09-28 09:07 J -7726228.18 -7726228.12 -7726228.01 0.0088 0.0082
 Neptune -25866-05-11 23:02 J -7726002.61 -7726002.54 -7726002.43 0.0088 0.0080
 Neptune -25866-12-23 12:28 J -7725777.05 -7725776.98 -7725776.86 0.0088 0.0079
 Neptune -25865-08-05 02:23 J -7725551.49 -7725551.40 -7725551.28 0.0088 0.0077
 Neptune -25864-03-18 16:19 J -7725325.93 -7725325.82 -7725325.70 0.0088 0.0076
 Jupiter -25864-07-02 04:04 J -7725220.53 -7725220.33 -7725220.14 0.0527 0.0137
 Neptune -25864-10-30 05:45 J -7725100.36 -7725100.26 -7725100.12 0.0088 0.0074
 Jupiter -25863-02-24 01:55 J -7724983.57 -7724983.42 -7724983.26 0.0519 0.0320
 Mars -25863-06-09 07:26 J -7724878.36 -7724878.19 -7724878.02 0.1795 0.0615
 Neptune -25863-06-12 19:26 J -7724874.80 -7724874.69 -7724874.54 0.0088 0.0073
 Neptune -25862-01-24 09:21 J -7724649.24 -7724649.11 -7724648.97 0.0088 0.0071
 Neptune -25862-09-06 23:16 J -7724423.67 -7724423.53 -7724423.39 0.0088 0.0069
 Neptune -25861-04-19 12:28 J -7724198.10 -7724197.98 -7724197.81 0.0088 0.0068
 Neptune -25861-12-01 02:23 J -7723972.53 -7723972.40 -7723972.23 0.0088 0.0065
 Neptune -25860-07-14 16:04 J -7723746.97 -7723746.83 -7723746.65 0.0088 0.0064
 Neptune -25859-02-25 05:59 J -7723521.40 -7723521.25 -7723521.08 0.0088 0.0061
 Neptune -25859-10-08 19:55 J -7723295.82 -7723295.67 -7723295.49 0.0088 0.0059
 Saturn -25858-03-13 15:35 J -7723139.87 -7723139.85 -7723139.82 0.0270 0.0268
 Jupiter -25858-04-28 16:33 J -7723093.93 -7723093.81 -7723093.68 0.0496 0.0388
 Neptune -25858-05-22 09:35 J -7723070.25 -7723070.10 -7723069.91 0.0088 0.0058
 Saturn -25858-10-28 20:38 J -7722910.82 -7722910.64 -7722910.46 0.0272 0.0150
 Jupiter -25858-12-21 13:40 J -7722857.14 -7722856.93 -7722856.72 0.0502 0.0022
 Neptune -25857-01-02 23:31 J -7722844.68 -7722844.52 -7722844.34 0.0088 0.0055
 Saturn -25857-06-14 03:50 J -7722681.55 -7722681.34 -7722681.13 0.0274 0.0026

Jupiter -25857-08-14 19:40 J -7722619.77 -7722619.68 -7722619.59 0.0510 0.0456
 Neptune -25857-08-15 13:11 J -7722619.12 -7722618.95 -7722618.76 0.0088 0.0053
 Saturn -25856-01-29 12:57 J -7722452.15 -7722451.96 -7722451.76 0.0276 0.0104
 Neptune -25856-03-29 02:52 J -7722393.54 -7722393.38 -7722393.18 0.0088 0.0052
 Saturn -25856-09-16 00:14 J -7722222.59 -7722222.49 -7722222.37 0.0278 0.0236
 Neptune -25856-11-09 16:47 J -7722167.97 -7722167.80 -7722167.60 0.0088 0.0049
 Neptune -25855-06-23 06:28 J -7721942.40 -7721942.23 -7721942.02 0.0088 0.0048
 Neptune -25854-02-03 20:38 J -7721716.83 -7721716.64 -7721716.44 0.0088 0.0045
 Neptune -25854-09-17 10:19 J -7721491.26 -7721491.07 -7721490.86 0.0088 0.0043
 Neptune -25853-04-29 23:59 J -7721265.69 -7721265.50 -7721265.29 0.0088 0.0041
 Earth -25853-10-26 22:33 J -7721085.72 -7721085.56 -7721085.40 0.2622 0.0023
 Moon -25853-10-26 23:45 J -7721085.68 -7721085.51 -7721085.34 0.2616 0.0443 *
 Neptune -25853-12-11 13:40 J -7721040.12 -7721039.93 -7721039.71 0.0088 0.0039
 Jupiter -25852-03-07 00:14 J -7720954.65 -7720954.49 -7720954.31 0.0529 0.0267
 Neptune -25852-07-25 03:21 J -7720814.55 -7720814.36 -7720814.14 0.0088 0.0036
 Jupiter -25852-10-30 01:11 J -7720717.63 -7720717.45 -7720717.26 0.0522 0.0200
 Neptune -25851-03-07 17:16 J -7720588.98 -7720588.78 -7720588.57 0.0088 0.0034
 Neptune -25851-10-19 06:57 J -7720363.41 -7720363.21 -7720362.99 0.0088 0.0032
 Neptune -25850-06-01 20:38 J -7720137.84 -7720137.64 -7720137.42 0.0088 0.0029
 Neptune -25849-01-13 10:33 J -7719912.27 -7719912.06 -7719911.84 0.0088 0.0027
 Neptune -25849-08-25 23:59 J -7719686.71 -7719686.50 -7719686.27 0.0088 0.0025
 Neptune -25848-04-08 13:40 J -7719461.14 -7719460.93 -7719460.70 0.0089 0.0023
 Neptune -25848-11-20 03:35 J -7719235.56 -7719235.35 -7719235.12 0.0089 0.0020
 Neptune -25847-07-03 17:16 J -7719009.99 -7719009.78 -7719009.55 0.0089 0.0018
 Jupiter -25846-01-01 15:07 J -7718827.88 -7718827.87 -7718827.84 0.0494 0.0492
 Neptune -25846-02-14 06:57 J -7718784.43 -7718784.21 -7718783.98 0.0089 0.0015
 Uranus -25846-07-03 08:09 J -7718645.20 -7718645.16 -7718645.11 0.0145 0.0142
 Jupiter -25846-08-26 10:04 J -7718591.28 -7718591.08 -7718590.87 0.0500 0.0095
 Neptune -25846-09-27 20:38 J -7718558.85 -7718558.64 -7718558.41 0.0089 0.0013
 Uranus -25845-02-14 20:23 J -7718418.77 -7718418.65 -7718418.51 0.0145 0.0116

Jupiter -25845-04-19 13:40 J -7718354.08 -7718353.93 -7718353.77 0.0508 0.0336
 Neptune -25845-05-10 10:19 J -7718333.28 -7718333.07 -7718332.84 0.0089 0.0011
 Uranus -25845-09-28 08:38 J -7718192.31 -7718192.14 -7718191.97 0.0145 0.0089
 Neptune -25845-12-22 00:14 J -7718107.71 -7718107.49 -7718107.26 0.0089 0.0008
 Uranus -25844-05-12 20:38 J -7717965.83 -7717965.64 -7717965.44 0.0145 0.0063
 Neptune -25844-08-04 13:55 J -7717882.14 -7717881.92 -7717881.69 0.0089 0.0006
 Saturn -25844-09-04 02:38 J -7717851.56 -7717851.39 -7717851.21 0.0288 0.0153
 Uranus -25844-12-25 08:52 J -7717739.34 -7717739.13 -7717738.92 0.0145 0.0037
 Neptune -25843-03-18 03:35 J -7717656.57 -7717656.35 -7717656.12 0.0089 0.0003
 Saturn -25843-04-21 19:55 J -7717621.88 -7717621.67 -7717621.46 0.0286 0.0008
 Uranus -25843-08-08 21:07 J -7717512.84 -7717512.62 -7717512.40 0.0144 0.0010
 Neptune -25843-10-29 17:31 J -7717431.00 -7717430.77 -7717430.55 0.0089 0.0001
 Saturn -25843-12-07 10:33 J -7717392.24 -7717392.06 -7717391.87 0.0284 0.0135
 Uranus -25842-03-23 09:07 J -7717286.34 -7717286.12 -7717285.91 0.0144 0.0016
 Neptune -25842-06-12 07:11 J -7717205.43 -7717205.20 -7717204.98 0.0089 0.0002
 Saturn -25842-07-24 22:47 J -7717162.60 -7717162.55 -7717162.48 0.0282 0.0268
 Uranus -25842-11-04 20:38 J -7717059.84 -7717059.64 -7717059.42 0.0144 0.0043
 Neptune -25841-01-23 20:38 J -7716979.86 -7716979.64 -7716979.41 0.0089 0.0004
 Uranus -25841-06-18 08:38 J -7716833.32 -7716833.14 -7716832.94 0.0144 0.0069
 Neptune -25841-09-05 10:19 J -7716754.29 -7716754.07 -7716753.85 0.0089 0.0006
 Jupiter -25841-11-09 20:38 J -7716688.77 -7716688.64 -7716688.50 0.0531 0.0394
 Uranus -25840-01-30 20:23 J -7716606.80 -7716606.65 -7716606.47 0.0143 0.0094
 Neptune -25840-04-18 23:45 J -7716528.73 -7716528.51 -7716528.28 0.0089 0.0009
 Jupiter -25840-07-04 23:59 J -7716451.69 -7716451.50 -7716451.30 0.0524 0.0077
 Uranus -25840-09-14 08:09 J -7716380.27 -7716380.16 -7716380.03 0.0143 0.0119
 Neptune -25840-11-30 13:26 J -7716303.16 -7716302.94 -7716302.71 0.0089 0.0011
 Jupiter -25839-02-26 17:45 J -7716214.79 -7716214.76 -7716214.73 0.0515 0.0508
 Neptune -25839-07-14 02:52 J -7716077.59 -7716077.38 -7716077.15 0.0089 0.0014
 Neptune -25838-02-24 16:33 J -7715852.03 -7715851.81 -7715851.59 0.0089 0.0016
 Neptune -25838-10-08 05:45 J -7715626.47 -7715626.26 -7715626.03 0.0089 0.0019

Neptune -25837-05-20 19:26 J -7715400.90 -7715400.69 -7715400.47 0.0089 0.0021
 Neptune -25836-01-01 08:52 J -7715175.33 -7715175.13 -7715174.90 0.0089 0.0023
 Neptune -25836-08-14 22:33 J -7714949.77 -7714949.56 -7714949.35 0.0089 0.0025
 Neptune -25835-03-28 11:45 J -7714724.21 -7714724.01 -7714723.79 0.0089 0.0028
 Neptune -25835-11-09 01:26 J -7714498.64 -7714498.44 -7714498.23 0.0089 0.0030
 Jupiter -25834-05-01 06:57 J -7714325.40 -7714325.21 -7714325.02 0.0499 0.0209
 Neptune -25834-06-22 14:52 J -7714273.08 -7714272.88 -7714272.67 0.0089 0.0032
 Mars -25834-08-26 17:45 J -7714207.91 -7714207.76 -7714207.61 0.1713 0.0704
 Jupiter -25834-12-24 08:09 J -7714088.34 -7714088.16 -7714087.96 0.0506 0.0217
 Neptune -25833-02-03 04:33 J -7714047.52 -7714047.31 -7714047.11 0.0089 0.0034
 Neptune -25833-09-15 17:31 J -7713821.96 -7713821.77 -7713821.55 0.0089 0.0037
 Neptune -25832-04-29 06:57 J -7713596.39 -7713596.21 -7713595.99 0.0089 0.0039
 Neptune -25832-12-10 20:38 J -7713370.82 -7713370.64 -7713370.43 0.0089 0.0041
 Neptune -25831-07-24 10:04 J -7713145.26 -7713145.08 -7713144.88 0.0089 0.0043
 Neptune -25830-03-06 23:31 J -7712919.70 -7712919.52 -7712919.32 0.0089 0.0045
 Neptune -25830-10-18 12:57 J -7712694.14 -7712693.96 -7712693.77 0.0089 0.0047
 Mars -25829-04-05 19:55 J -7712523.79 -7712523.67 -7712523.54 0.1809 0.1262
 Neptune -25829-05-31 02:23 J -7712468.58 -7712468.40 -7712468.21 0.0089 0.0049
 Jupiter -25829-07-15 15:07 J -7712422.90 -7712422.87 -7712422.82 0.0533 0.0521
 Saturn -25829-09-22 15:07 J -7712353.94 -7712353.87 -7712353.80 0.0271 0.0255
 Neptune -25828-01-11 15:50 J -7712243.02 -7712242.84 -7712242.66 0.0089 0.0051
 Jupiter -25828-03-09 21:21 J -7712185.81 -7712185.61 -7712185.41 0.0526 0.0051
 Saturn -25828-05-09 20:09 J -7712124.84 -7712124.66 -7712124.47 0.0272 0.0137
 Neptune -25828-08-25 05:02 J -7712017.46 -7712017.29 -7712017.11 0.0089 0.0053
 Jupiter -25828-11-01 17:16 J -7711948.90 -7711948.78 -7711948.64 0.0518 0.0397
 Saturn -25828-12-25 03:21 J -7711895.57 -7711895.36 -7711895.14 0.0274 0.0013
 Neptune -25827-04-07 18:14 J -7711791.90 -7711791.74 -7711791.56 0.0089 0.0055
 Saturn -25827-08-11 12:57 J -7711666.15 -7711665.96 -7711665.77 0.0276 0.0117
 Neptune -25827-11-19 07:26 J -7711566.35 -7711566.19 -7711566.01 0.0089 0.0057
 Saturn -25826-03-29 00:43 J -7711436.56 -7711436.47 -7711436.37 0.0278 0.0249

Neptune -25826-07-02 20:38 J -7711340.79 -7711340.64 -7711340.46 0.0089 0.0059
 Neptune -25825-02-13 09:50 J -7711115.23 -7711115.09 -7711114.92 0.0089 0.0061
 Neptune -25825-09-25 22:47 J -7710889.68 -7710889.55 -7710889.37 0.0089 0.0064
 Neptune -25824-05-09 11:59 J -7710664.13 -7710664.00 -7710663.83 0.0089 0.0065
 Neptune -25824-12-21 01:40 J -7710438.57 -7710438.43 -7710438.28 0.0089 0.0066
 Neptune -25823-08-03 14:38 J -7710213.02 -7710212.89 -7710212.74 0.0089 0.0068
 Jupiter -25822-01-04 05:45 J -7710059.42 -7710059.26 -7710059.10 0.0497 0.0317
 Neptune -25822-03-17 03:35 J -7709987.47 -7709987.35 -7709987.20 0.0089 0.0070
 Jupiter -25822-08-29 04:47 J -7709822.50 -7709822.30 -7709822.10 0.0504 0.0100
 Neptune -25822-10-28 17:02 J -7709761.91 -7709761.79 -7709761.66 0.0089 0.0072
 Neptune -25821-06-10 05:59 J -7709536.36 -7709536.25 -7709536.11 0.0089 0.0073
 Neptune -25820-01-21 19:40 J -7709310.80 -7709310.68 -7709310.57 0.0089 0.0075
 Neptune -25820-09-04 08:23 J -7709085.25 -7709085.15 -7709085.03 0.0089 0.0076
 Neptune -25819-04-17 21:35 J -7708859.70 -7708859.60 -7708859.49 0.0089 0.0078
 Neptune -25819-11-29 10:19 J -7708634.14 -7708634.07 -7708633.95 0.0089 0.0080
 Neptune -25818-07-12 23:45 J -7708408.59 -7708408.51 -7708408.41 0.0089 0.0081
 Neptune -25817-02-23 13:11 J -7708183.04 -7708182.95 -7708182.87 0.0089 0.0082
 Neptune -25817-10-06 01:40 J -7707957.49 -7707957.43 -7707957.33 0.0089 0.0083
 Jupiter -25817-11-12 14:09 J -7707920.09 -7707919.91 -7707919.72 0.0528 0.0186
 Neptune -25816-05-19 14:38 J -7707731.94 -7707731.89 -7707731.80 0.0089 0.0085
 Jupiter -25816-07-07 13:11 J -7707683.11 -7707682.95 -7707682.78 0.0520 0.0275
 Neptune -25816-12-31 03:50 J -7707506.38 -7707506.34 -7707506.26 0.0089 0.0086
 Saturn -25815-07-30 12:28 J -7707295.03 -7707294.98 -7707294.92 0.0290 0.0278
 Neptune -25815-08-13 16:47 J -7707280.83 -7707280.80 -7707280.73 0.0089 0.0087
 Saturn -25814-03-17 08:23 J -7707065.34 -7707065.15 -7707064.96 0.0289 0.0128
 Neptune -25814-03-27 05:45 J -7707055.28 -7707055.26 -7707055.21 0.0089 0.0088
 Saturn -25814-11-02 01:40 J -7706835.64 -7706835.43 -7706835.22 0.0287 0.0018
 Neptune -25814-11-07 18:43 J -7706829.73 -7706829.72 -7706829.68 0.0089 0.0089
 Saturn -25813-06-18 16:19 J -7706605.99 -7706605.82 -7706605.64 0.0284 0.0159
 Jupiter -25811-09-09 05:16 J -7705793.38 -7705793.28 -7705793.17 0.0495 0.0424

Jupiter	-25810-05-04 01:40 J	-7705556.64	-7705556.43	-7705556.22	0.0502	0.0019
Jupiter	-25810-12-27 06:43 J	-7705319.33	-7705319.22	-7705319.10	0.0509	0.0415
Jupiter	-25805-07-18 08:52 J	-7703654.28	-7703654.13	-7703653.97	0.0530	0.0317
Jupiter	-25804-03-12 11:02 J	-7703417.23	-7703417.04	-7703416.85	0.0523	0.0152
Uranus	-25803-11-18 23:02 J	-7702800.58	-7702800.54	-7702800.48	0.0133	0.0130
Uranus	-25802-07-03 04:19 J	-7702574.43	-7702574.32	-7702574.19	0.0133	0.0110
Mars	-25802-08-25 15:50 J	-7702521.01	-7702520.84	-7702520.68	0.1722	0.0438
Uranus	-25801-02-14 09:21 J	-7702348.25	-7702348.11	-7702347.93	0.0133	0.0090
Uranus	-25801-09-27 14:52 J	-7702122.06	-7702121.88	-7702121.69	0.0134	0.0069
Uranus	-25800-05-11 19:55 J	-7701895.86	-7701895.67	-7701895.45	0.0134	0.0049
Uranus	-25800-12-24 01:40 J	-7701669.64	-7701669.43	-7701669.22	0.0134	0.0028
Saturn	-25799-04-04 20:09 J	-7701567.75	-7701567.66	-7701567.54	0.0270	0.0235
Uranus	-25799-08-07 07:11 J	-7701443.42	-7701443.20	-7701442.99	0.0134	0.0007
Saturn	-25799-11-20 01:26 J	-7701338.62	-7701338.44	-7701338.24	0.0272	0.0116
Jupiter	-25798-01-06 21:35 J	-7701290.80	-7701290.60	-7701290.40	0.0499	0.0136
Uranus	-25798-03-21 12:28 J	-7701217.19	-7701216.98	-7701216.76	0.0134	0.0014
Saturn	-25798-07-07 09:07 J	-7701109.33	-7701109.12	-7701108.90	0.0274	0.0011
Jupiter	-25798-08-31 23:59 J	-7701053.67	-7701053.50	-7701053.33	0.0507	0.0293
Uranus	-25798-11-02 17:45 J	-7700990.96	-7700990.76	-7700990.54	0.0135	0.0036
Saturn	-25797-02-21 18:43 J	-7700879.90	-7700879.72	-7700879.54	0.0276	0.0140
Mars	-25797-04-05 12:57 J	-7700836.13	-7700835.96	-7700835.78	0.1798	0.0380
Uranus	-25797-06-15 23:16 J	-7700764.71	-7700764.53	-7700764.32	0.0135	0.0057
Saturn	-25797-10-08 06:28 J	-7700650.27	-7700650.23	-7700650.18	0.0278	0.0272
Uranus	-25796-01-28 05:02 J	-7700538.45	-7700538.29	-7700538.10	0.0135	0.0078
Uranus	-25796-09-11 11:02 J	-7700312.18	-7700312.04	-7700311.89	0.0135	0.0099
Uranus	-25795-04-25 16:47 J	-7700085.89	-7700085.80	-7700085.69	0.0136	0.0120
Jupiter	-25793-03-23 04:04 J	-7699388.43	-7699388.33	-7699388.22	0.0532	0.0446
Jupiter	-25793-11-15 09:07 J	-7699151.32	-7699151.12	-7699150.92	0.0525	0.0027
Jupiter	-25792-07-10 04:19 J	-7698914.40	-7698914.32	-7698914.23	0.0517	0.0465
Neptune	-25791-01-29 18:43 J	-7698710.72	-7698710.72	-7698710.72	0.0089	0.0089

Neptune	-25791-09-12 06:43 J	-7698485.23	-7698485.22	-7698485.17	0.0089	0.0089
Neptune	-25790-04-25 19:11 J	-7698259.73	-7698259.70	-7698259.64	0.0089	0.0087
Neptune	-25790-12-07 07:26 J	-7698034.22	-7698034.19	-7698034.12	0.0089	0.0087
Neptune	-25789-07-19 19:40 J	-7697808.72	-7697808.68	-7697808.59	0.0089	0.0086
Neptune	-25788-03-02 08:09 J	-7697583.21	-7697583.16	-7697583.06	0.0089	0.0085
Neptune	-25788-10-13 21:07 J	-7697357.70	-7697357.62	-7697357.54	0.0089	0.0083
Neptune	-25787-05-27 09:07 J	-7697132.19	-7697132.12	-7697132.02	0.0089	0.0082
Jupiter	-25787-09-11 19:11 J	-7697024.88	-7697024.70	-7697024.52	0.0498	0.0248
Neptune	-25786-01-07 21:07 J	-7696906.69	-7696906.62	-7696906.51	0.0089	0.0081
Jupiter	-25786-05-06 18:57 J	-7696787.91	-7696787.71	-7696787.51	0.0505	0.0173
Neptune	-25786-08-21 09:21 J	-7696681.18	-7696681.11	-7696680.99	0.0089	0.0080
Saturn	-25785-02-09 16:04 J	-7696508.91	-7696508.83	-7696508.72	0.0290	0.0259
Neptune	-25785-04-02 22:19 J	-7696455.67	-7696455.57	-7696455.46	0.0089	0.0078
Saturn	-25785-09-26 11:45 J	-7696279.20	-7696279.01	-7696278.81	0.0288	0.0110
Neptune	-25785-11-14 10:19 J	-7696230.16	-7696230.07	-7696229.94	0.0089	0.0077
Saturn	-25784-05-14 04:47 J	-7696049.51	-7696049.30	-7696049.09	0.0286	0.0036
Neptune	-25784-06-27 23:02 J	-7696004.65	-7696004.54	-7696004.42	0.0089	0.0075
Saturn	-25784-12-29 18:57 J	-7695819.86	-7695819.71	-7695819.53	0.0283	0.0176
Neptune	-25783-02-08 11:02 J	-7695779.15	-7695779.04	-7695778.91	0.0089	0.0073
Neptune	-25783-09-21 23:31 J	-7695553.64	-7695553.52	-7695553.39	0.0089	0.0072
Neptune	-25782-05-05 11:31 J	-7695328.13	-7695328.02	-7695327.86	0.0089	0.0071
Neptune	-25782-12-17 00:14 J	-7695102.62	-7695102.49	-7695102.34	0.0089	0.0068
Jupiter	-25781-07-21 06:57 J	-7694885.41	-7694885.21	-7694885.02	0.0527	0.0100
Neptune	-25781-07-29 12:43 J	-7694877.11	-7694876.97	-7694876.82	0.0089	0.0067
Neptune	-25780-03-12 00:43 J	-7694651.59	-7694651.47	-7694651.30	0.0089	0.0065
Jupiter	-25780-03-15 04:33 J	-7694648.45	-7694648.31	-7694648.16	0.0519	0.0354
Neptune	-25780-10-23 13:11 J	-7694426.08	-7694425.95	-7694425.78	0.0089	0.0064
Neptune	-25779-06-06 01:40 J	-7694200.58	-7694200.43	-7694200.27	0.0089	0.0062
Neptune	-25778-01-17 13:40 J	-7693975.07	-7693974.93	-7693974.75	0.0089	0.0060
Neptune	-25778-08-31 02:09 J	-7693749.56	-7693749.41	-7693749.23	0.0089	0.0058

Neptune	-25777-04-12 14:38 J	-7693524.04	-7693523.89	-7693523.71	0.0089	0.0056
Neptune	-25777-11-24 02:52 J	-7693298.53	-7693298.38	-7693298.19	0.0089	0.0055
Neptune	-25776-07-07 15:21 J	-7693073.03	-7693072.86	-7693072.68	0.0089	0.0052
Neptune	-25775-02-18 03:35 J	-7692847.52	-7692847.35	-7692847.16	0.0089	0.0050
Jupiter	-25775-05-17 16:47 J	-7692758.94	-7692758.80	-7692758.65	0.0496	0.0357
Neptune	-25775-10-01 15:50 J	-7692622.01	-7692621.84	-7692621.65	0.0089	0.0048
Jupiter	-25774-01-09 14:23 J	-7692522.10	-7692521.90	-7692521.69	0.0503	0.0056
Neptune	-25774-05-15 04:19 J	-7692396.50	-7692396.32	-7692396.13	0.0089	0.0046
Jupiter	-25774-09-03 21:07 J	-7692284.67	-7692284.62	-7692284.55	0.0511	0.0488
Neptune	-25774-12-26 16:33 J	-7692170.99	-7692170.81	-7692170.62	0.0089	0.0044
Neptune	-25773-08-08 04:47 J	-7691945.48	-7691945.30	-7691945.10	0.0089	0.0042
Neptune	-25772-03-21 17:02 J	-7691719.97	-7691719.79	-7691719.59	0.0089	0.0040
Neptune	-25772-11-02 05:31 J	-7691494.46	-7691494.27	-7691494.07	0.0089	0.0038
Neptune	-25771-06-15 17:45 J	-7691268.95	-7691268.76	-7691268.56	0.0089	0.0036
Neptune	-25770-01-27 05:59 J	-7691043.44	-7691043.25	-7691043.04	0.0089	0.0034
Mars	-25770-08-24 14:52 J	-7690833.94	-7690833.88	-7690833.82	0.1731	0.1616
Neptune	-25770-09-09 18:14 J	-7690817.93	-7690817.74	-7690817.53	0.0089	0.0032
Saturn	-25770-10-15 18:57 J	-7690781.82	-7690781.71	-7690781.58	0.0271	0.0223
Jupiter	-25769-03-26 03:21 J	-7690619.53	-7690619.36	-7690619.18	0.0529	0.0229
Neptune	-25769-04-22 06:43 J	-7690592.41	-7690592.22	-7690592.00	0.0089	0.0030
Saturn	-25769-06-01 00:28 J	-7690552.67	-7690552.48	-7690552.28	0.0272	0.0102
Jupiter	-25769-11-18 03:35 J	-7690382.52	-7690382.35	-7690382.17	0.0521	0.0234
Neptune	-25769-12-03 18:57 J	-7690366.90	-7690366.71	-7690366.49	0.0089	0.0028
Saturn	-25768-01-16 07:55 J	-7690323.38	-7690323.17	-7690322.96	0.0274	0.0023
Mars	-25768-06-23 04:33 J	-7690165.46	-7690165.31	-7690165.16	0.1710	0.0835
Neptune	-25768-07-17 07:40 J	-7690141.39	-7690141.18	-7690140.97	0.0089	0.0025
Saturn	-25768-09-02 17:31 J	-7690093.94	-7690093.77	-7690093.59	0.0276	0.0153
Neptune	-25767-02-27 19:55 J	-7689915.87	-7689915.67	-7689915.46	0.0089	0.0023
Neptune	-25767-10-11 08:09 J	-7689690.36	-7689690.16	-7689689.94	0.0089	0.0021
Neptune	-25766-05-24 20:38 J	-7689464.84	-7689464.64	-7689464.41	0.0089	0.0019

Neptune	-25765-01-05 09:21 J	-7689239.32	-7689239.11	-7689238.90	0.0089	0.0016
Neptune	-25765-08-17 21:35 J	-7689013.81	-7689013.60	-7689013.38	0.0089	0.0014
Neptune	-25764-03-31 10:04 J	-7688788.30	-7688788.08	-7688787.87	0.0089	0.0012
Neptune	-25764-11-11 22:19 J	-7688562.78	-7688562.57	-7688562.35	0.0089	0.0010
Jupiter	-25763-01-20 16:47 J	-7688492.87	-7688492.80	-7688492.72	0.0495	0.0459
Mars	-25763-02-01 00:14 J	-7688481.58	-7688481.49	-7688481.39	0.1812	0.1528
Neptune	-25763-06-25 10:33 J	-7688337.27	-7688337.06	-7688336.83	0.0089	0.0008
Jupiter	-25763-09-14 12:14 J	-7688256.19	-7688255.99	-7688255.78	0.0501	0.0061
Neptune	-25762-02-05 23:02 J	-7688111.75	-7688111.54	-7688111.32	0.0089	0.0005
Jupiter	-25762-05-09 16:33 J	-7688018.95	-7688018.81	-7688018.67	0.0508	0.0372
Neptune	-25762-09-19 11:31 J	-7687886.24	-7687886.02	-7687885.80	0.0089	0.0003
Uranus	-25762-10-15 00:57 J	-7687860.55	-7687860.46	-7687860.35	0.0145	0.0129
Neptune	-25761-05-01 23:59 J	-7687660.72	-7687660.50	-7687660.28	0.0089	0.0001
Uranus	-25761-05-28 13:11 J	-7687634.09	-7687633.95	-7687633.78	0.0145	0.0102
Neptune	-25761-12-13 12:14 J	-7687435.20	-7687434.99	-7687434.77	0.0089	0.0003
Uranus	-25760-01-10 01:26 J	-7687407.61	-7687407.44	-7687407.24	0.0145	0.0076
Neptune	-25760-07-27 00:43 J	-7687209.69	-7687209.47	-7687209.25	0.0089	0.0004
Uranus	-25760-08-24 13:40 J	-7687181.13	-7687180.93	-7687180.72	0.0145	0.0049
Neptune	-25759-03-09 12:57 J	-7686984.17	-7686983.96	-7686983.74	0.0089	0.0006
Uranus	-25759-04-08 01:40 J	-7686954.64	-7686954.43	-7686954.21	0.0144	0.0023
Neptune	-25759-10-21 01:26 J	-7686758.65	-7686758.44	-7686758.22	0.0089	0.0008
Uranus	-25759-11-20 13:55 J	-7686728.14	-7686727.92	-7686727.70	0.0144	0.0004
Neptune	-25758-06-03 13:55 J	-7686533.13	-7686532.92	-7686532.70	0.0089	0.0011
Uranus	-25758-07-05 01:55 J	-7686501.63	-7686501.42	-7686501.20	0.0144	0.0031
Jupiter	-25758-11-29 19:26 J	-7686353.84	-7686353.69	-7686353.55	0.0531	0.0364
Neptune	-25757-01-15 02:38 J	-7686307.61	-7686307.39	-7686307.18	0.0089	0.0013
Uranus	-25757-02-16 13:55 J	-7686275.12	-7686274.92	-7686274.72	0.0144	0.0057
Jupiter	-25757-07-23 22:19 J	-7686116.77	-7686116.57	-7686116.38	0.0523	0.0106
Neptune	-25757-08-27 14:52 J	-7686082.09	-7686081.88	-7686081.66	0.0089	0.0015
Uranus	-25757-09-30 01:40 J	-7686048.60	-7686048.43	-7686048.25	0.0143	0.0083

Neptune -25756-04-10 03:21 J -7685856.57 -7685856.36 -7685856.14 0.0089 0.0018
 Uranus -25756-05-14 13:11 J -7685822.08 -7685821.95 -7685821.79 0.0143 0.0108
 Saturn -25756-08-21 20:09 J -7685722.78 -7685722.66 -7685722.54 0.0290 0.0238
 Neptune -25756-11-21 15:50 J -7685631.04 -7685630.84 -7685630.62 0.0089 0.0020
 Uranus -25756-12-27 00:57 J -7685595.52 -7685595.46 -7685595.37 0.0143 0.0133
 Saturn -25755-04-08 15:50 J -7685493.04 -7685492.84 -7685492.64 0.0288 0.0088
 Neptune -25755-07-05 04:33 J -7685405.52 -7685405.31 -7685405.10 0.0089 0.0022
 Saturn -25755-11-24 08:52 J -7685263.34 -7685263.13 -7685262.92 0.0286 0.0058
 Neptune -25754-02-15 16:47 J -7685179.99 -7685179.80 -7685179.58 0.0089 0.0025
 Saturn -25754-07-11 23:16 J -7685033.67 -7685033.53 -7685033.38 0.0284 0.0198
 Neptune -25754-09-29 05:31 J -7684954.47 -7684954.27 -7684954.05 0.0088 0.0027
 Neptune -25753-05-11 18:14 J -7684728.94 -7684728.74 -7684728.53 0.0088 0.0029
 Neptune -25753-12-23 06:43 J -7684503.41 -7684503.22 -7684503.00 0.0088 0.0031
 Neptune -25752-08-05 19:26 J -7684277.89 -7684277.69 -7684277.48 0.0088 0.0033
 Neptune -25751-03-19 07:55 J -7684052.37 -7684052.17 -7684051.96 0.0088 0.0035
 Jupiter -25751-05-20 10:19 J -7683990.26 -7683990.07 -7683989.87 0.0499 0.0174
 Neptune -25751-10-30 20:38 J -7683826.84 -7683826.64 -7683826.44 0.0088 0.0037
 Jupiter -25750-01-12 11:45 J -7683753.18 -7683753.01 -7683752.82 0.0506 0.0253
 Neptune -25750-06-13 09:07 J -7683601.30 -7683601.12 -7683600.91 0.0088 0.0039
 Neptune -25749-01-24 21:35 J -7683375.78 -7683375.60 -7683375.39 0.0088 0.0042
 Neptune -25749-09-06 10:19 J -7683150.25 -7683150.07 -7683149.87 0.0088 0.0043
 Neptune -25748-04-19 22:47 J -7682924.72 -7682924.55 -7682924.35 0.0088 0.0046
 Neptune -25748-12-01 11:31 J -7682699.19 -7682699.02 -7682698.82 0.0088 0.0047
 Neptune -25747-07-15 00:14 J -7682473.66 -7682473.49 -7682473.30 0.0088 0.0049
 Neptune -25746-02-25 12:43 J -7682248.13 -7682247.97 -7682247.77 0.0088 0.0052
 Jupiter -25746-08-04 12:57 J -7682088.03 -7682087.96 -7682087.88 0.0532 0.0493
 Neptune -25746-10-09 01:26 J -7682022.60 -7682022.44 -7682022.25 0.0088 0.0053
 Jupiter -25745-03-28 18:57 J -7681850.91 -7681850.71 -7681850.51 0.0526 0.0023
 Neptune -25745-05-21 14:38 J -7681797.06 -7681796.89 -7681796.72 0.0088 0.0055
 Jupiter -25745-11-20 15:07 J -7681613.98 -7681613.87 -7681613.75 0.0518 0.0423

Neptune	-25744-01-02 03:21 J	-7681571.52	-7681571.36	-7681571.19	0.0088	0.0057
Neptune	-25744-08-15 16:04 J	-7681345.99	-7681345.83	-7681345.66	0.0088	0.0058
Neptune	-25743-03-29 04:33 J	-7681120.45	-7681120.31	-7681120.13	0.0088	0.0061
Neptune	-25743-11-09 17:16 J	-7680894.91	-7680894.78	-7680894.60	0.0088	0.0063
Neptune	-25742-06-23 06:43 J	-7680669.36	-7680669.22	-7680669.06	0.0088	0.0064
Neptune	-25741-02-03 19:26 J	-7680443.82	-7680443.69	-7680443.53	0.0088	0.0066
Neptune	-25741-09-16 08:09 J	-7680218.28	-7680218.16	-7680218.00	0.0088	0.0067
Saturn	-25740-04-27 00:14 J	-7679995.62	-7679995.49	-7679995.34	0.0270	0.0202
Neptune	-25740-04-29 21:21 J	-7679992.74	-7679992.61	-7679992.47	0.0088	0.0069
Neptune	-25740-12-11 09:50 J	-7679767.20	-7679767.09	-7679766.94	0.0088	0.0071
Saturn	-25740-12-12 05:45 J	-7679766.46	-7679766.26	-7679766.05	0.0272	0.0081
Jupiter	-25739-01-23 07:26 J	-7679724.36	-7679724.19	-7679724.02	0.0497	0.0286
Neptune	-25739-07-24 22:47 J	-7679541.65	-7679541.55	-7679541.40	0.0088	0.0072
Saturn	-25739-07-29 13:26 J	-7679537.15	-7679536.94	-7679536.73	0.0274	0.0045
Jupiter	-25739-09-17 06:14 J	-7679487.44	-7679487.24	-7679487.04	0.0504	0.0132
Neptune	-25738-03-07 11:59 J	-7679316.11	-7679316.00	-7679315.87	0.0088	0.0073
Saturn	-25738-03-15 23:02 J	-7679307.69	-7679307.54	-7679307.36	0.0276	0.0175
Neptune	-25738-10-19 00:28 J	-7679090.57	-7679090.48	-7679090.34	0.0088	0.0076
Neptune	-25737-05-31 13:40 J	-7678865.02	-7678864.93	-7678864.80	0.0088	0.0076
Neptune	-25736-01-12 02:52 J	-7678639.47	-7678639.38	-7678639.27	0.0088	0.0078
Mars	-25736-06-22 02:09 J	-7678478.58	-7678478.41	-7678478.24	0.1719	0.0292
Neptune	-25736-08-25 15:21 J	-7678413.93	-7678413.86	-7678413.74	0.0088	0.0080
Neptune	-25735-04-08 04:33 J	-7678188.38	-7678188.31	-7678188.20	0.0088	0.0080
Neptune	-25735-11-19 17:45 J	-7677962.83	-7677962.76	-7677962.67	0.0088	0.0081
Neptune	-25734-07-03 06:57 J	-7677737.28	-7677737.21	-7677737.13	0.0088	0.0083
Jupiter	-25734-12-02 15:35 J	-7677585.04	-7677584.85	-7677584.66	0.0528	0.0151
Neptune	-25733-02-13 19:26 J	-7677511.73	-7677511.69	-7677511.60	0.0088	0.0084
Jupiter	-25733-07-26 14:52 J	-7677348.04	-7677347.88	-7677347.72	0.0520	0.0307
Neptune	-25733-09-26 08:38 J	-7677286.18	-7677286.14	-7677286.06	0.0088	0.0085
Pluto	-25732-03-17 14:52 J	-7677114.02	-7677113.88	-7677113.71	0.0064	0.0045

Neptune -25732-05-09 21:35 J -7677060.62 -7677060.60 -7677060.53 0.0088 0.0086
 Pluto -25732-10-28 18:57 J -7676888.93 -7676888.71 -7676888.50 0.0065 0.0007
 Neptune -25732-12-21 10:47 J -7676835.06 -7676835.05 -7676835.00 0.0088 0.0087
 Mars -25731-01-31 17:45 J -7676793.94 -7676793.76 -7676793.59 0.1802 0.0133
 Pluto -25731-06-10 22:33 J -7676663.74 -7676663.56 -7676663.36 0.0065 0.0031
 Neptune -25731-08-04 00:28 J -7676609.48 -7676609.48 -7676609.47 0.0088 0.0088
 Jupiter -25728-09-28 05:59 J -7675458.37 -7675458.25 -7675458.12 0.0495 0.0393
 Jupiter -25727-05-23 02:09 J -7675221.61 -7675221.41 -7675221.20 0.0502 0.0017
 Jupiter -25726-01-15 07:11 J -7674984.29 -7674984.20 -7674984.09 0.0509 0.0444
 Saturn -25726-03-03 23:45 J -7674936.64 -7674936.51 -7674936.36 0.0290 0.0219
 Saturn -25726-10-19 19:11 J -7674706.90 -7674706.70 -7674706.49 0.0288 0.0069
 Saturn -25725-06-05 11:59 J -7674477.20 -7674477.00 -7674476.80 0.0286 0.0076
 Saturn -25724-01-21 01:55 J -7674247.54 -7674247.42 -7674247.27 0.0283 0.0215
 Jupiter -25722-08-07 12:28 J -7673319.15 -7673318.98 -7673318.81 0.0530 0.0279
 Jupiter -25721-03-31 14:23 J -7673082.08 -7673081.90 -7673081.71 0.0522 0.0188
 Uranus -25718-03-02 12:43 J -7672016.05 -7672015.97 -7672015.86 0.0133 0.0119
 Uranus -25718-10-14 18:14 J -7671789.88 -7671789.74 -7671789.59 0.0133 0.0099
 Uranus -25717-05-27 23:16 J -7671563.69 -7671563.53 -7671563.34 0.0133 0.0079
 Uranus -25716-01-09 04:47 J -7671337.49 -7671337.30 -7671337.10 0.0134 0.0058
 Uranus -25716-08-23 10:19 J -7671111.28 -7671111.07 -7671110.86 0.0134 0.0037
 Jupiter -25715-01-25 22:47 J -7670955.75 -7670955.55 -7670955.35 0.0500 0.0102
 Uranus -25715-04-06 15:35 J -7670885.06 -7670884.85 -7670884.63 0.0134 0.0016
 Jupiter -25715-09-20 01:40 J -7670718.58 -7670718.43 -7670718.26 0.0507 0.0327
 Uranus -25715-11-18 21:07 J -7670658.84 -7670658.62 -7670658.40 0.0134 0.0005
 Uranus -25714-07-03 02:23 J -7670432.60 -7670432.40 -7670432.18 0.0134 0.0027
 Uranus -25713-02-14 08:09 J -7670206.36 -7670206.16 -7670205.95 0.0135 0.0047
 Uranus -25713-09-27 13:40 J -7669980.11 -7669979.93 -7669979.73 0.0135 0.0069
 Uranus -25712-05-11 19:11 J -7669753.84 -7669753.70 -7669753.52 0.0135 0.0090
 Uranus -25712-12-24 01:26 J -7669527.56 -7669527.44 -7669527.32 0.0135 0.0111
 Uranus -25711-08-07 07:11 J -7669301.24 -7669301.20 -7669301.15 0.0136 0.0132

Saturn	-25711-11-06 22:47 J	-7669209.70	-7669209.55	-7669209.39	0.0271	0.0189
Jupiter	-25710-04-12 08:09 J	-7669053.29	-7669053.16	-7669053.03	0.0532	0.0407
Saturn	-25710-06-24 04:19 J	-7668980.52	-7668980.32	-7668980.11	0.0272	0.0069
Jupiter	-25710-12-05 12:28 J	-7668816.18	-7668815.98	-7668815.78	0.0525	0.0064
Saturn	-25709-02-08 11:59 J	-7668751.21	-7668751.00	-7668750.79	0.0274	0.0058
Jupiter	-25709-07-29 07:11 J	-7668579.25	-7668579.20	-7668579.15	0.0516	0.0497
Saturn	-25709-09-24 21:35 J	-7668521.74	-7668521.60	-7668521.43	0.0276	0.0189
Neptune	-25707-01-21 06:28 J	-7668038.25	-7668038.23	-7668038.21	0.0088	0.0088
Moon	-25707-04-27 16:19 J	-7667941.97	-7667941.82	-7667941.67	0.2716	0.0296
Earth	-25707-04-27 20:23 J	-7667941.80	-7667941.65	-7667941.51	0.2711	0.1024 *
Neptune	-25707-09-03 20:09 J	-7667812.69	-7667812.66	-7667812.62	0.0088	0.0086
Neptune	-25706-04-17 09:50 J	-7667587.14	-7667587.09	-7667587.03	0.0088	0.0085
Neptune	-25706-11-28 23:16 J	-7667361.58	-7667361.53	-7667361.45	0.0088	0.0084
Neptune	-25705-07-11 12:57 J	-7667136.02	-7667135.96	-7667135.88	0.0088	0.0083
Neptune	-25704-02-22 02:23 J	-7666910.45	-7666910.40	-7666910.29	0.0088	0.0083
Mars	-25704-06-21 01:26 J	-7666791.53	-7666791.44	-7666791.36	0.1728	0.1466
Jupiter	-25704-09-30 21:50 J	-7666689.78	-7666689.59	-7666689.40	0.0498	0.0213
Neptune	-25704-10-05 16:19 J	-7666684.88	-7666684.82	-7666684.71	0.0088	0.0081
Neptune	-25703-05-19 06:28 J	-7666459.32	-7666459.23	-7666459.13	0.0088	0.0079
Jupiter	-25703-05-25 22:04 J	-7666452.76	-7666452.58	-7666452.38	0.0505	0.0211
Neptune	-25703-12-30 19:55 J	-7666233.75	-7666233.67	-7666233.55	0.0088	0.0078
Mars	-25702-04-20 15:21 J	-7666123.00	-7666122.86	-7666122.72	0.1708	0.0963
Neptune	-25702-08-13 09:35 J	-7666008.19	-7666008.10	-7666007.97	0.0088	0.0077
Neptune	-25701-03-25 23:31 J	-7665782.62	-7665782.52	-7665782.39	0.0088	0.0075
Neptune	-25701-11-06 13:11 J	-7665557.05	-7665556.95	-7665556.81	0.0088	0.0074
Neptune	-25700-06-20 03:07 J	-7665331.49	-7665331.37	-7665331.23	0.0088	0.0072
Mars	-25699-01-31 10:19 J	-7665106.11	-7665106.07	-7665106.02	0.1791	0.1731
Neptune	-25699-01-31 16:33 J	-7665105.92	-7665105.81	-7665105.66	0.0088	0.0071
Earth	-25699-04-25 11:31 J	-7665022.07	-7665022.02	-7665021.98	0.2711	0.2592
Moon	-25699-04-25 11:16 J	-7665022.05	-7665022.03	-7665022.01	0.2718	0.2676 *

Neptune -25699-09-14 06:28 J -7664880.35 -7664880.23 -7664880.07 0.0088 0.0070
 Neptune -25698-04-27 20:38 J -7664654.78 -7664654.64 -7664654.50 0.0088 0.0068
 Jupiter -25698-08-10 05:59 J -7664550.45 -7664550.25 -7664550.05 0.0527 0.0070
 Mars -25698-11-29 04:19 J -7664439.34 -7664439.32 -7664439.30 0.1816 0.1805
 Neptune -25698-12-09 09:50 J -7664429.22 -7664429.09 -7664428.92 0.0088 0.0067
 Jupiter -25697-04-03 03:21 J -7664313.49 -7664313.36 -7664313.22 0.0519 0.0381
 Neptune -25697-07-21 23:45 J -7664203.65 -7664203.51 -7664203.35 0.0088 0.0064
 Saturn -25697-09-13 02:38 J -7664150.54 -7664150.39 -7664150.23 0.0290 0.0199
 Neptune -25696-03-04 13:40 J -7663978.09 -7663977.93 -7663977.77 0.0088 0.0063
 Saturn -25696-04-30 22:19 J -7663920.78 -7663920.57 -7663920.37 0.0288 0.0049
 Neptune -25696-10-16 03:07 J -7663752.51 -7663752.37 -7663752.19 0.0088 0.0061
 Saturn -25696-12-16 15:07 J -7663691.07 -7663690.87 -7663690.67 0.0286 0.0097
 Neptune -25695-05-29 16:47 J -7663526.94 -7663526.80 -7663526.61 0.0088 0.0060
 Saturn -25695-08-03 05:02 J -7663461.39 -7663461.29 -7663461.16 0.0284 0.0236
 Neptune -25694-01-10 06:43 J -7663301.38 -7663301.22 -7663301.04 0.0088 0.0057
 Neptune -25694-08-23 20:23 J -7663075.81 -7663075.65 -7663075.46 0.0088 0.0056
 Neptune -25693-04-05 10:19 J -7662850.24 -7662850.07 -7662849.88 0.0088 0.0054
 Neptune -25693-11-17 00:14 J -7662624.67 -7662624.49 -7662624.30 0.0088 0.0052
 Jupiter -25692-06-05 20:38 J -7662423.79 -7662423.64 -7662423.48 0.0497 0.0322
 Neptune -25692-06-30 13:55 J -7662399.10 -7662398.92 -7662398.73 0.0088 0.0050
 Jupiter -25691-01-28 18:43 J -7662186.92 -7662186.72 -7662186.51 0.0503 0.0092
 Neptune -25691-02-11 03:35 J -7662173.53 -7662173.35 -7662173.15 0.0088 0.0048
 Neptune -25691-09-24 17:31 J -7661947.95 -7661947.77 -7661947.57 0.0088 0.0046
 Neptune -25690-05-08 07:26 J -7661722.38 -7661722.19 -7661721.99 0.0088 0.0044
 Neptune -25690-12-19 21:07 J -7661496.81 -7661496.62 -7661496.41 0.0088 0.0042
 Neptune -25689-08-01 10:47 J -7661271.24 -7661271.05 -7661270.84 0.0088 0.0040
 Neptune -25688-03-15 00:28 J -7661045.67 -7661045.48 -7661045.26 0.0088 0.0038
 Neptune -25688-10-26 14:23 J -7660820.09 -7660819.90 -7660819.68 0.0088 0.0036
 Neptune -25687-06-09 04:04 J -7660594.52 -7660594.33 -7660594.11 0.0088 0.0034
 Neptune -25686-01-20 17:45 J -7660368.96 -7660368.76 -7660368.54 0.0088 0.0031

Jupiter -25686-04-15 01:26 J -7660284.62 -7660284.44 -7660284.25 0.0529 0.0200
 Neptune -25686-09-03 07:40 J -7660143.39 -7660143.18 -7660142.96 0.0088 0.0029
 Jupiter -25686-12-08 01:40 J -7660047.60 -7660047.43 -7660047.26 0.0521 0.0261
 Neptune -25685-04-15 21:21 J -7659917.82 -7659917.61 -7659917.39 0.0088 0.0027
 Neptune -25685-11-27 11:02 J -7659692.25 -7659692.04 -7659691.82 0.0089 0.0025
 Neptune -25684-07-11 00:43 J -7659466.68 -7659466.47 -7659466.25 0.0089 0.0022
 Neptune -25683-02-21 14:09 J -7659241.12 -7659240.91 -7659240.68 0.0089 0.0021
 Neptune -25683-10-05 04:04 J -7659015.54 -7659015.33 -7659015.10 0.0089 0.0018
 Neptune -25682-05-18 17:45 J -7658789.97 -7658789.76 -7658789.53 0.0089 0.0016
 Neptune -25682-12-30 07:26 J -7658564.40 -7658564.19 -7658563.96 0.0089 0.0014
 Saturn -25681-05-19 04:19 J -7658423.48 -7658423.32 -7658423.15 0.0271 0.0169
 Neptune -25681-08-11 21:07 J -7658338.84 -7658338.62 -7658338.39 0.0089 0.0011
 Saturn -25680-01-03 09:50 J -7658194.29 -7658194.09 -7658193.87 0.0272 0.0048
 Jupiter -25680-02-08 19:11 J -7658157.80 -7658157.70 -7658157.60 0.0495 0.0428
 Neptune -25680-03-25 10:47 J -7658113.27 -7658113.05 -7658112.82 0.0089 0.0009
 Saturn -25680-08-20 17:31 J -7657964.97 -7657964.77 -7657964.56 0.0274 0.0080
 Jupiter -25680-10-03 14:23 J -7657921.11 -7657920.90 -7657920.69 0.0501 0.0027
 Neptune -25680-11-06 00:43 J -7657887.69 -7657887.47 -7657887.25 0.0089 0.0006
 Saturn -25679-04-07 03:35 J -7657735.48 -7657735.35 -7657735.21 0.0276 0.0210
 Jupiter -25679-05-28 18:28 J -7657683.86 -7657683.73 -7657683.61 0.0508 0.0402
 Neptune -25679-06-19 14:23 J -7657662.12 -7657661.90 -7657661.68 0.0089 0.0004
 Neptune -25678-01-31 04:04 J -7657436.56 -7657436.33 -7657436.11 0.0089 0.0002
 Uranus -25678-06-14 04:19 J -7657302.34 -7657302.32 -7657302.26 0.0145 0.0143
 Neptune -25678-09-13 17:45 J -7657210.99 -7657210.76 -7657210.54 0.0089 0.0002
 Uranus -25677-01-26 16:33 J -7657075.92 -7657075.81 -7657075.66 0.0145 0.0116
 Neptune -25677-04-26 07:26 J -7656985.42 -7656985.19 -7656984.97 0.0089 0.0003
 Uranus -25677-09-09 05:02 J -7656849.46 -7656849.29 -7656849.12 0.0145 0.0089
 Neptune -25677-12-07 21:07 J -7656759.84 -7656759.62 -7656759.40 0.0089 0.0005
 Uranus -25676-04-23 17:02 J -7656622.98 -7656622.79 -7656622.59 0.0145 0.0063
 Neptune -25676-07-21 10:33 J -7656534.28 -7656534.06 -7656533.83 0.0089 0.0008

Uranus	-25676-12-06 05:16 J	-7656396.49	-7656396.28	-7656396.07	0.0145	0.0036
Neptune	-25675-03-04 00:14 J	-7656308.71	-7656308.49	-7656308.27	0.0089	0.0009
Uranus	-25675-07-20 17:31 J	-7656169.99	-7656169.77	-7656169.55	0.0144	0.0009
Neptune	-25675-10-15 13:40 J	-7656083.14	-7656082.93	-7656082.70	0.0089	0.0012
Jupiter	-25675-12-18 20:52 J	-7656018.79	-7656018.63	-7656018.48	0.0531	0.0330
Uranus	-25674-03-04 05:31 J	-7655943.48	-7655943.27	-7655943.05	0.0144	0.0017
Neptune	-25674-05-29 03:21 J	-7655857.57	-7655857.36	-7655857.13	0.0089	0.0014
Jupiter	-25674-08-12 23:59 J	-7655781.70	-7655781.50	-7655781.31	0.0524	0.0139
Uranus	-25674-10-16 17:31 J	-7655716.98	-7655716.77	-7655716.56	0.0144	0.0044
Neptune	-25673-01-09 17:02 J	-7655632.01	-7655631.79	-7655631.57	0.0089	0.0016
Uranus	-25673-05-30 05:31 J	-7655490.46	-7655490.27	-7655490.08	0.0144	0.0070
Neptune	-25673-08-22 06:14 J	-7655406.44	-7655406.24	-7655406.01	0.0089	0.0019
Uranus	-25672-01-11 17:02 J	-7655263.94	-7655263.79	-7655263.61	0.0143	0.0096
Neptune	-25672-04-04 19:55 J	-7655180.88	-7655180.67	-7655180.45	0.0089	0.0021
Uranus	-25672-08-26 05:16 J	-7655037.39	-7655037.28	-7655037.16	0.0143	0.0121
Neptune	-25672-11-16 09:21 J	-7654955.31	-7654955.11	-7654954.88	0.0089	0.0023
Neptune	-25671-06-29 23:02 J	-7654729.75	-7654729.54	-7654729.32	0.0089	0.0025
Neptune	-25670-02-10 12:28 J	-7654504.19	-7654503.98	-7654503.77	0.0089	0.0027
Mars	-25670-04-19 13:11 J	-7654436.12	-7654435.95	-7654435.78	0.1716	0.0162
Neptune	-25670-09-24 01:55 J	-7654278.63	-7654278.42	-7654278.21	0.0089	0.0029
Neptune	-25669-05-06 15:21 J	-7654053.06	-7654052.86	-7654052.65	0.0089	0.0031
Neptune	-25669-12-18 04:33 J	-7653827.50	-7653827.31	-7653827.09	0.0089	0.0034
Jupiter	-25668-06-08 11:16 J	-7653655.23	-7653655.03	-7653654.83	0.0499	0.0142
Neptune	-25668-07-31 17:59 J	-7653601.93	-7653601.75	-7653601.53	0.0089	0.0036
Jupiter	-25667-01-31 12:43 J	-7653418.14	-7653417.97	-7653417.80	0.0506	0.0283
Neptune	-25667-03-14 07:26 J	-7653376.37	-7653376.19	-7653375.97	0.0089	0.0038
Saturn	-25667-03-26 06:14 J	-7653364.39	-7653364.24	-7653364.06	0.0290	0.0180
Neptune	-25667-10-25 20:52 J	-7653150.81	-7653150.63	-7653150.42	0.0089	0.0040
Saturn	-25667-11-11 01:26 J	-7653134.64	-7653134.44	-7653134.22	0.0288	0.0031
Neptune	-25666-06-08 10:19 J	-7652925.25	-7652925.07	-7652924.86	0.0089	0.0042

Saturn -25666-06-28 17:59 J -7652904.94 -7652904.75 -7652904.55 0.0285 0.0114
 Mars -25666-11-28 22:47 J -7652751.73 -7652751.55 -7652751.37 0.1805 0.0122
 Neptune -25665-01-19 23:45 J -7652699.68 -7652699.51 -7652699.30 0.0089 0.0044
 Saturn -25665-02-13 07:55 J -7652675.26 -7652675.17 -7652675.07 0.0283 0.0251
 Neptune -25665-09-01 13:11 J -7652474.12 -7652473.95 -7652473.74 0.0089 0.0046
 Neptune -25664-04-15 02:38 J -7652248.56 -7652248.39 -7652248.19 0.0089 0.0048
 Neptune -25664-11-26 16:04 J -7652023.00 -7652022.83 -7652022.63 0.0089 0.0050
 Neptune -25663-07-10 05:45 J -7651797.44 -7651797.26 -7651797.08 0.0089 0.0051
 Jupiter -25663-08-23 16:33 J -7651752.91 -7651752.81 -7651752.71 0.0533 0.0456
 Neptune -25662-02-20 18:57 J -7651571.88 -7651571.71 -7651571.53 0.0089 0.0053
 Jupiter -25662-04-17 22:33 J -7651515.76 -7651515.56 -7651515.36 0.0526 0.0017
 Neptune -25662-10-04 07:55 J -7651346.32 -7651346.17 -7651345.98 0.0089 0.0056
 Jupiter -25662-12-10 18:43 J -7651278.81 -7651278.72 -7651278.63 0.0517 0.0455
 Neptune -25661-05-16 21:07 J -7651120.77 -7651120.62 -7651120.43 0.0089 0.0057
 Neptune -25661-12-28 11:02 J -7650895.21 -7650895.04 -7650894.88 0.0089 0.0059
 Neptune -25660-08-10 23:59 J -7650669.65 -7650669.50 -7650669.33 0.0089 0.0060
 Neptune -25659-03-24 12:43 J -7650444.10 -7650443.97 -7650443.79 0.0089 0.0063
 Neptune -25659-11-05 02:23 J -7650218.55 -7650218.40 -7650218.25 0.0089 0.0064
 Neptune -25658-06-18 15:21 J -7649993.00 -7649992.86 -7649992.70 0.0089 0.0065
 Neptune -25657-01-30 04:19 J -7649767.44 -7649767.32 -7649767.15 0.0089 0.0067
 Neptune -25657-09-11 17:45 J -7649541.89 -7649541.76 -7649541.61 0.0089 0.0068
 Jupiter -25656-02-11 08:52 J -7649389.31 -7649389.13 -7649388.95 0.0497 0.0254
 Neptune -25656-04-25 06:28 J -7649316.34 -7649316.23 -7649316.07 0.0089 0.0070
 Jupiter -25656-10-06 08:09 J -7649152.36 -7649152.16 -7649151.96 0.0504 0.0165
 Neptune -25656-12-06 19:55 J -7649090.79 -7649090.67 -7649090.53 0.0089 0.0071
 Neptune -25655-07-20 08:38 J -7648865.24 -7648865.14 -7648864.99 0.0089 0.0074
 Neptune -25654-03-02 21:50 J -7648639.69 -7648639.59 -7648639.45 0.0089 0.0075
 Neptune -25654-10-14 11:02 J -7648414.14 -7648414.04 -7648413.91 0.0089 0.0076
 Neptune -25653-05-27 00:28 J -7648188.59 -7648188.48 -7648188.37 0.0089 0.0077
 Neptune -25652-01-07 13:11 J -7647963.03 -7647962.95 -7647962.82 0.0089 0.0078

Neptune -25652-08-21 02:09 J -7647737.48 -7647737.41 -7647737.29 0.0089 0.0080
 Saturn -25652-11-29 02:52 J -7647637.55 -7647637.38 -7647637.20 0.0271 0.0156
 Neptune -25651-04-03 15:21 J -7647511.94 -7647511.86 -7647511.75 0.0089 0.0080
 Saturn -25651-07-16 08:38 J -7647408.35 -7647408.14 -7647407.93 0.0273 0.0034
 Neptune -25651-11-15 04:19 J -7647286.39 -7647286.32 -7647286.22 0.0089 0.0082
 Jupiter -25651-12-21 19:26 J -7647249.88 -7647249.69 -7647249.49 0.0528 0.0113
 Saturn -25650-03-02 16:19 J -7647179.02 -7647178.82 -7647178.62 0.0274 0.0093
 Neptune -25650-06-28 17:16 J -7647060.84 -7647060.78 -7647060.68 0.0089 0.0083
 Jupiter -25650-08-15 17:59 J -7647012.89 -7647012.75 -7647012.59 0.0520 0.0342
 Saturn -25650-10-18 02:09 J -7646949.53 -7646949.41 -7646949.28 0.0276 0.0223
 Neptune -25649-02-09 06:28 J -7646835.29 -7646835.23 -7646835.14 0.0089 0.0083
 Neptune -25649-09-21 19:11 J -7646609.75 -7646609.70 -7646609.61 0.0089 0.0085
 Neptune -25648-05-05 07:55 J -7646384.21 -7646384.17 -7646384.08 0.0089 0.0086
 Neptune -25648-12-16 20:52 J -7646158.66 -7646158.63 -7646158.55 0.0089 0.0086
 Neptune -25647-07-30 09:35 J -7645933.12 -7645933.10 -7645933.03 0.0089 0.0087
 Neptune -25646-03-12 22:47 J -7645707.58 -7645707.55 -7645707.50 0.0089 0.0088
 Neptune -25646-10-24 11:16 J -7645482.04 -7645482.03 -7645481.98 0.0089 0.0089
 Neptune -25645-06-06 00:14 J -7645256.49 -7645256.49 -7645256.46 0.0089 0.0089
 Jupiter -25645-10-17 08:38 J -7645123.28 -7645123.14 -7645122.99 0.0496 0.0359
 Jupiter -25644-06-11 05:31 J -7644886.48 -7644886.27 -7644886.06 0.0502 0.0050
 Pluto -25644-06-29 09:35 J -7644868.16 -7644868.10 -7644867.99 0.0080 0.0074
 Jupiter -25643-02-03 11:16 J -7644649.09 -7644649.03 -7644648.96 0.0510 0.0479
 Pluto -25643-02-09 21:21 J -7644642.83 -7644642.61 -7644642.38 0.0080 0.0002
 Pluto -25643-09-23 08:09 J -7644417.20 -7644417.16 -7644417.09 0.0080 0.0077
 Jupiter -25639-08-26 12:28 J -7642984.15 -7642983.98 -7642983.80 0.0529 0.0248
 Mars -25638-04-18 11:31 J -7642749.12 -7642749.02 -7642748.91 0.1725 0.1314
 Jupiter -25638-04-20 13:40 J -7642747.11 -7642746.93 -7642746.75 0.0522 0.0217
 Saturn -25638-10-06 08:23 J -7642578.32 -7642578.15 -7642577.97 0.0290 0.0160
 Saturn -25637-05-23 03:35 J -7642348.56 -7642348.35 -7642348.13 0.0288 0.0012
 Saturn -25636-01-07 20:23 J -7642118.83 -7642118.65 -7642118.46 0.0286 0.0135

Mars	-25636-02-15 02:09 J	-7642080.54	-7642080.41	-7642080.28	0.1705	0.1090
Saturn	-25636-08-25 10:19 J	-7641889.12	-7641889.07	-7641889.01	0.0284	0.0272
Uranus	-25635-10-30 22:04 J	-7641457.62	-7641457.58	-7641457.52	0.0133	0.0129
Uranus	-25634-06-14 03:21 J	-7641231.48	-7641231.36	-7641231.23	0.0133	0.0108
Mars	-25634-11-28 15:21 J	-7641063.96	-7641063.86	-7641063.76	0.1795	0.1485
Uranus	-25633-01-26 08:52 J	-7641005.29	-7641005.13	-7641004.96	0.0133	0.0088
Jupiter	-25633-06-22 08:23 J	-7640857.22	-7640857.15	-7640857.08	0.0495	0.0463
Uranus	-25633-09-08 13:55 J	-7640779.09	-7640778.92	-7640778.72	0.0134	0.0068
Jupiter	-25632-02-14 03:07 J	-7640620.58	-7640620.37	-7640620.17	0.0500	0.0066
Uranus	-25632-04-22 19:11 J	-7640552.89	-7640552.70	-7640552.48	0.0134	0.0047
Jupiter	-25632-10-09 06:28 J	-7640383.37	-7640383.23	-7640383.08	0.0508	0.0362
Uranus	-25632-12-05 00:43 J	-7640326.67	-7640326.47	-7640326.25	0.0134	0.0026
Uranus	-25631-07-19 06:28 J	-7640100.45	-7640100.23	-7640100.02	0.0134	0.0005
Neptune	-25631-08-19 03:50 J	-7640069.34	-7640069.34	-7640069.34	0.0089	0.0089
Uranus	-25630-03-02 11:45 J	-7639874.22	-7639874.01	-7639873.79	0.0134	0.0018
Neptune	-25630-04-01 16:04 J	-7639843.84	-7639843.83	-7639843.79	0.0089	0.0089
Uranus	-25630-10-14 17:16 J	-7639647.98	-7639647.78	-7639647.56	0.0135	0.0039
Neptune	-25630-11-13 04:19 J	-7639618.33	-7639618.32	-7639618.26	0.0089	0.0088
Uranus	-25629-05-27 22:47 J	-7639421.73	-7639421.55	-7639421.34	0.0135	0.0060
Neptune	-25629-06-25 16:47 J	-7639392.82	-7639392.80	-7639392.74	0.0089	0.0088
Uranus	-25628-01-09 04:33 J	-7639195.47	-7639195.31	-7639195.12	0.0135	0.0081
Neptune	-25628-02-06 05:31 J	-7639167.31	-7639167.27	-7639167.21	0.0089	0.0087
Uranus	-25628-08-23 10:19 J	-7638969.19	-7638969.07	-7638968.91	0.0135	0.0103
Neptune	-25628-09-19 18:14 J	-7638941.79	-7638941.74	-7638941.68	0.0089	0.0086
Uranus	-25627-04-06 16:04 J	-7638742.90	-7638742.83	-7638742.73	0.0136	0.0124
Jupiter	-25627-05-01 06:43 J	-7638718.36	-7638718.22	-7638718.08	0.0531	0.0378
Neptune	-25627-05-03 06:14 J	-7638716.28	-7638716.24	-7638716.15	0.0089	0.0085
Neptune	-25627-12-14 18:43 J	-7638490.77	-7638490.72	-7638490.63	0.0089	0.0084
Jupiter	-25627-12-24 10:33 J	-7638481.26	-7638481.06	-7638480.87	0.0524	0.0092
Neptune	-25626-07-28 07:11 J	-7638265.25	-7638265.20	-7638265.10	0.0089	0.0084

Neptune -25625-03-09 19:40 J -7638039.74 -7638039.68 -7638039.57 0.0089 0.0083
 Neptune -25625-10-21 08:09 J -7637814.22 -7637814.16 -7637814.05 0.0089 0.0082
 Neptune -25624-06-03 20:23 J -7637588.72 -7637588.65 -7637588.53 0.0089 0.0081
 Neptune -25623-01-15 08:52 J -7637363.21 -7637363.13 -7637363.01 0.0089 0.0079
 Neptune -25623-08-28 21:07 J -7637137.70 -7637137.62 -7637137.49 0.0089 0.0079
 Saturn -25623-10-25 04:33 J -7637080.37 -7637080.31 -7637080.23 0.0269 0.0252
 Neptune -25622-04-11 10:04 J -7636912.18 -7636912.08 -7636911.96 0.0089 0.0077
 Saturn -25622-06-11 08:23 J -7636851.33 -7636851.15 -7636850.96 0.0271 0.0136
 Neptune -25622-11-22 22:19 J -7636686.67 -7636686.57 -7636686.45 0.0089 0.0075
 Saturn -25621-01-26 14:23 J -7636622.11 -7636621.90 -7636621.69 0.0272 0.0013
 Neptune -25621-07-05 10:19 J -7636461.17 -7636461.07 -7636460.93 0.0089 0.0075
 Saturn -25621-09-11 22:19 J -7636392.77 -7636392.57 -7636392.38 0.0274 0.0115
 Jupiter -25621-10-19 23:45 J -7636354.70 -7636354.51 -7636354.31 0.0498 0.0181
 Neptune -25620-02-15 22:33 J -7636235.66 -7636235.56 -7636235.41 0.0089 0.0073
 Saturn -25620-04-29 08:09 J -7636163.24 -7636163.16 -7636163.05 0.0276 0.0246
 Jupiter -25620-06-14 00:14 J -7636117.67 -7636117.49 -7636117.31 0.0505 0.0241
 Neptune -25620-09-29 11:16 J -7636010.15 -7636010.03 -7636009.89 0.0089 0.0071
 Neptune -25619-05-12 23:16 J -7635784.64 -7635784.53 -7635784.38 0.0089 0.0071
 Neptune -25619-12-24 11:59 J -7635559.13 -7635559.00 -7635558.86 0.0089 0.0069
 Neptune -25618-08-06 23:59 J -7635333.62 -7635333.50 -7635333.34 0.0089 0.0067
 Neptune -25617-03-19 12:43 J -7635108.11 -7635107.97 -7635107.82 0.0089 0.0066
 Neptune -25617-10-31 00:43 J -7634882.60 -7634882.47 -7634882.30 0.0089 0.0064
 Neptune -25616-06-13 13:11 J -7634657.09 -7634656.95 -7634656.79 0.0089 0.0063
 Jupiter -25615-01-04 00:28 J -7634452.53 -7634452.48 -7634452.41 0.0533 0.0506
 Neptune -25615-01-25 01:11 J -7634431.59 -7634431.45 -7634431.27 0.0089 0.0061
 Jupiter -25615-08-29 07:26 J -7634215.39 -7634215.19 -7634214.99 0.0527 0.0036
 Neptune -25615-09-07 13:40 J -7634206.07 -7634205.93 -7634205.75 0.0089 0.0060
 Neptune -25614-04-21 02:23 J -7633980.56 -7633980.40 -7633980.23 0.0089 0.0058
 Jupiter -25614-04-23 05:02 J -7633978.41 -7633978.29 -7633978.17 0.0519 0.0411
 Neptune -25614-12-02 14:23 J -7633755.05 -7633754.90 -7633754.71 0.0089 0.0056

Neptune	-25613-07-15 02:52 J	-7633529.54	-7633529.38	-7633529.20	0.0089	0.0054
Neptune	-25612-02-25 15:21 J	-7633304.03	-7633303.86	-7633303.68	0.0089	0.0052
Neptune	-25612-10-09 03:35 J	-7633078.52	-7633078.35	-7633078.16	0.0089	0.0051
Neptune	-25611-05-22 15:35 J	-7632853.01	-7632852.85	-7632852.65	0.0089	0.0049
Neptune	-25610-01-03 04:04 J	-7632627.50	-7632627.33	-7632627.13	0.0089	0.0047
Neptune	-25610-08-16 16:19 J	-7632401.99	-7632401.82	-7632401.62	0.0089	0.0045
Moon	-25610-10-27 20:23 J	-7632329.80	-7632329.65	-7632329.49	0.2626	0.0271
Earth	-25610-10-27 23:59 J	-7632329.66	-7632329.50	-7632329.34	0.2621	0.0266 *
Neptune	-25609-03-29 04:47 J	-7632176.48	-7632176.30	-7632176.10	0.0089	0.0043
Jupiter	-25609-06-24 21:50 J	-7632088.76	-7632088.59	-7632088.42	0.0497	0.0291
Neptune	-25609-11-09 17:02 J	-7631950.97	-7631950.79	-7631950.59	0.0089	0.0041
Jupiter	-25608-02-16 19:40 J	-7631851.89	-7631851.68	-7631851.48	0.0503	0.0123
Saturn	-25608-04-17 13:11 J	-7631792.13	-7631791.95	-7631791.76	0.0290	0.0140
Neptune	-25608-06-23 05:16 J	-7631725.46	-7631725.28	-7631725.08	0.0089	0.0039
Saturn	-25608-12-03 08:09 J	-7631562.37	-7631562.16	-7631561.95	0.0288	0.0010
Neptune	-25607-02-03 17:45 J	-7631499.95	-7631499.76	-7631499.56	0.0089	0.0037
Saturn	-25607-07-21 00:14 J	-7631332.66	-7631332.49	-7631332.31	0.0285	0.0153
Neptune	-25607-09-17 05:59 J	-7631274.44	-7631274.25	-7631274.05	0.0089	0.0035
Neptune	-25606-04-30 18:28 J	-7631048.93	-7631048.73	-7631048.53	0.0089	0.0033
Neptune	-25606-12-12 06:43 J	-7630823.42	-7630823.22	-7630823.01	0.0089	0.0031
Neptune	-25605-07-24 18:57 J	-7630597.91	-7630597.71	-7630597.50	0.0089	0.0029
Mars	-25604-02-13 23:31 J	-7630393.69	-7630393.52	-7630393.35	0.1713	0.0035
Neptune	-25604-03-07 07:11 J	-7630372.40	-7630372.20	-7630371.99	0.0089	0.0027
Neptune	-25604-10-18 19:40 J	-7630146.89	-7630146.68	-7630146.47	0.0089	0.0025
Jupiter	-25603-05-04 04:47 J	-7629949.49	-7629949.30	-7629949.11	0.0529	0.0163
Neptune	-25603-06-01 07:55 J	-7629921.37	-7629921.17	-7629920.95	0.0089	0.0023
Jupiter	-25603-12-27 04:47 J	-7629712.46	-7629712.30	-7629712.13	0.0521	0.0296
Neptune	-25602-01-12 20:23 J	-7629695.85	-7629695.65	-7629695.43	0.0089	0.0021
Neptune	-25602-08-26 08:38 J	-7629470.34	-7629470.14	-7629469.92	0.0089	0.0019
Neptune	-25601-04-07 21:07 J	-7629244.82	-7629244.62	-7629244.40	0.0089	0.0017

Neptune -25601-11-19 09:35 J -7629019.31 -7629019.10 -7629018.88 0.0089 0.0015
 Neptune -25600-07-02 22:04 J -7628793.79 -7628793.58 -7628793.36 0.0089 0.0012
 Mars -25600-09-25 03:21 J -7628709.54 -7628709.36 -7628709.18 0.1809 0.0379
 Neptune -25599-02-13 10:19 J -7628568.28 -7628568.07 -7628567.85 0.0089 0.0011
 Neptune -25599-09-26 22:47 J -7628342.76 -7628342.55 -7628342.33 0.0089 0.0008
 Neptune -25598-05-10 11:31 J -7628117.24 -7628117.02 -7628116.81 0.0089 0.0006
 Neptune -25598-12-21 23:45 J -7627891.72 -7627891.51 -7627891.29 0.0089 0.0004
 Jupiter -25597-02-28 20:09 J -7627822.78 -7627822.66 -7627822.54 0.0495 0.0397
 Neptune -25597-08-03 12:14 J -7627666.21 -7627665.99 -7627665.77 0.0089 0.0002
 Jupiter -25597-10-22 15:50 J -7627586.05 -7627585.84 -7627585.63 0.0501 0.0009
 Neptune -25596-03-17 00:28 J -7627440.69 -7627440.48 -7627440.26 0.0089 0.0001
 Jupiter -25596-06-16 20:09 J -7627348.76 -7627348.66 -7627348.55 0.0509 0.0434
 Neptune -25596-10-28 12:57 J -7627215.18 -7627214.96 -7627214.74 0.0089 0.0003
 Neptune -25595-06-11 01:26 J -7626989.65 -7626989.44 -7626989.22 0.0089 0.0005
 Neptune -25594-01-22 13:55 J -7626764.14 -7626763.92 -7626763.70 0.0089 0.0007
 Neptune -25594-09-05 02:23 J -7626538.62 -7626538.40 -7626538.19 0.0089 0.0009
 Uranus -25594-09-25 20:23 J -7626517.73 -7626517.65 -7626517.54 0.0145 0.0130
 Neptune -25593-04-17 14:38 J -7626313.10 -7626312.89 -7626312.67 0.0089 0.0011
 Saturn -25593-05-06 03:50 J -7626294.42 -7626294.34 -7626294.23 0.0269 0.0240
 Uranus -25593-05-09 08:38 J -7626291.28 -7626291.14 -7626290.98 0.0145 0.0103
 Neptune -25593-11-29 03:07 J -7626087.58 -7626087.37 -7626087.15 0.0089 0.0013
 Saturn -25593-12-21 07:40 J -7626065.36 -7626065.18 -7626064.99 0.0271 0.0122
 Uranus -25593-12-21 20:52 J -7626064.81 -7626064.63 -7626064.44 0.0145 0.0076
 Neptune -25592-07-12 15:35 J -7625862.06 -7625861.85 -7625861.63 0.0089 0.0015
 Uranus -25592-08-05 08:52 J -7625838.32 -7625838.13 -7625837.91 0.0145 0.0050
 Saturn -25592-08-07 13:40 J -7625836.15 -7625835.93 -7625835.72 0.0273 0.0006
 Jupiter -25591-01-07 00:57 J -7625683.63 -7625683.46 -7625683.29 0.0530 0.0292
 Neptune -25591-02-23 04:04 J -7625636.54 -7625636.33 -7625636.11 0.0089 0.0017
 Uranus -25591-03-19 21:07 J -7625611.83 -7625611.62 -7625611.40 0.0144 0.0023
 Saturn -25591-03-24 21:35 J -7625606.79 -7625606.60 -7625606.42 0.0275 0.0129

Jupiter -25591-09-01 03:21 J -7625446.54 -7625446.36 -7625446.17 0.0523 0.0175
 Neptune -25591-10-06 16:33 J -7625411.02 -7625410.81 -7625410.59 0.0089 0.0020
 Uranus -25591-11-01 09:21 J -7625385.33 -7625385.11 -7625384.89 0.0144 0.0005
 Saturn -25591-11-09 07:40 J -7625377.25 -7625377.18 -7625377.11 0.0277 0.0259
 Neptune -25590-05-20 05:16 J -7625185.49 -7625185.28 -7625185.07 0.0089 0.0022
 Uranus -25590-06-15 21:21 J -7625158.82 -7625158.61 -7625158.39 0.0144 0.0031
 Neptune -25590-12-31 17:45 J -7624959.96 -7624959.76 -7624959.54 0.0089 0.0024
 Uranus -25589-01-28 09:07 J -7624932.31 -7624932.12 -7624931.91 0.0144 0.0058
 Neptune -25589-08-13 06:14 J -7624734.44 -7624734.24 -7624734.02 0.0088 0.0026
 Uranus -25589-09-10 21:07 J -7624705.79 -7624705.62 -7624705.43 0.0143 0.0084
 Neptune -25588-03-26 18:57 J -7624508.92 -7624508.71 -7624508.50 0.0088 0.0028
 Uranus -25588-04-25 08:52 J -7624479.26 -7624479.13 -7624478.98 0.0143 0.0110
 Neptune -25588-11-07 07:26 J -7624283.39 -7624283.19 -7624282.98 0.0088 0.0030
 Uranus -25588-12-07 20:38 J -7624252.70 -7624252.64 -7624252.56 0.0143 0.0135
 Neptune -25587-06-20 20:09 J -7624057.86 -7624057.66 -7624057.45 0.0088 0.0032
 Neptune -25586-02-01 08:52 J -7623832.33 -7623832.13 -7623831.92 0.0088 0.0034
 Neptune -25586-09-14 21:21 J -7623606.80 -7623606.61 -7623606.40 0.0088 0.0036
 Neptune -25585-04-27 10:04 J -7623381.27 -7623381.08 -7623380.88 0.0088 0.0038
 Jupiter -25585-06-27 14:09 J -7623320.12 -7623319.91 -7623319.71 0.0499 0.0107
 Neptune -25585-12-08 22:33 J -7623155.75 -7623155.56 -7623155.36 0.0088 0.0040
 Jupiter -25584-02-19 16:04 J -7623082.98 -7623082.83 -7623082.66 0.0507 0.0319
 Neptune -25584-07-22 11:16 J -7622930.22 -7622930.03 -7622929.83 0.0088 0.0042
 Neptune -25583-03-04 23:45 J -7622704.69 -7622704.51 -7622704.31 0.0088 0.0044
 Neptune -25583-10-16 12:14 J -7622479.16 -7622478.99 -7622478.78 0.0088 0.0046
 Neptune -25582-05-30 00:57 J -7622253.63 -7622253.46 -7622253.26 0.0088 0.0048
 Neptune -25581-01-10 13:40 J -7622028.09 -7622027.93 -7622027.73 0.0088 0.0049
 Neptune -25581-08-23 02:38 J -7621802.57 -7621802.39 -7621802.21 0.0088 0.0051
 Neptune -25580-04-05 15:07 J -7621577.04 -7621576.87 -7621576.68 0.0088 0.0053
 Jupiter -25580-09-11 17:16 J -7621417.89 -7621417.78 -7621417.66 0.0532 0.0425
 Neptune -25580-11-17 03:35 J -7621351.50 -7621351.35 -7621351.16 0.0088 0.0055

Saturn -25579-03-12 16:33 J -7621235.87 -7621235.81 -7621235.73 0.0292 0.0275
 Jupiter -25579-05-06 22:04 J -7621180.78 -7621180.58 -7621180.38 0.0525 0.0045
 Neptune -25579-06-30 16:33 J -7621125.96 -7621125.81 -7621125.62 0.0088 0.0056
 Saturn -25579-10-28 14:09 J -7621006.10 -7621005.91 -7621005.71 0.0290 0.0122
 Jupiter -25579-12-29 17:31 J -7620943.84 -7620943.77 -7620943.70 0.0517 0.0480
 Neptune -25578-02-11 05:45 J -7620900.42 -7620900.26 -7620900.09 0.0088 0.0058
 Saturn -25578-06-15 09:21 J -7620776.32 -7620776.11 -7620775.90 0.0288 0.0028
 Neptune -25578-09-24 18:14 J -7620674.89 -7620674.74 -7620674.56 0.0088 0.0060
 Saturn -25577-01-31 01:40 J -7620546.59 -7620546.43 -7620546.26 0.0286 0.0172
 Neptune -25577-05-07 06:57 J -7620449.35 -7620449.21 -7620449.03 0.0088 0.0061
 Neptune -25577-12-18 19:55 J -7620223.81 -7620223.67 -7620223.50 0.0088 0.0063
 Neptune -25576-08-01 08:38 J -7619998.27 -7619998.14 -7619997.97 0.0088 0.0065
 Neptune -25575-03-14 21:50 J -7619772.73 -7619772.59 -7619772.44 0.0088 0.0066
 Neptune -25575-10-26 10:33 J -7619547.19 -7619547.06 -7619546.90 0.0088 0.0067
 Neptune -25574-06-08 23:45 J -7619321.64 -7619321.51 -7619321.36 0.0088 0.0068
 Neptune -25573-01-20 12:14 J -7619096.10 -7619095.99 -7619095.83 0.0088 0.0071
 Jupiter -25573-03-02 12:14 J -7619054.17 -7619053.99 -7619053.80 0.0498 0.0220
 Neptune -25573-09-02 01:26 J -7618870.55 -7618870.44 -7618870.30 0.0088 0.0071
 Jupiter -25573-10-25 12:14 J -7618817.18 -7618816.99 -7618816.79 0.0505 0.0201
 Mars -25572-02-12 21:50 J -7618706.71 -7618706.59 -7618706.46 0.1722 0.1163
 Neptune -25572-04-15 14:23 J -7618645.01 -7618644.90 -7618644.77 0.0088 0.0073
 Neptune -25572-11-27 03:07 J -7618419.47 -7618419.37 -7618419.23 0.0088 0.0074
 Neptune -25571-07-10 16:19 J -7618193.92 -7618193.82 -7618193.69 0.0088 0.0075
 Mars -25571-12-13 12:57 J -7618038.08 -7618037.96 -7618037.84 0.1702 0.1216
 Neptune -25570-02-21 05:16 J -7617968.37 -7617968.28 -7617968.15 0.0088 0.0077
 Neptune -25570-10-04 18:28 J -7617742.83 -7617742.73 -7617742.62 0.0088 0.0077
 Neptune -25569-05-17 07:26 J -7617517.28 -7617517.19 -7617517.09 0.0088 0.0079
 Neptune -25569-12-28 19:55 J -7617291.73 -7617291.67 -7617291.55 0.0088 0.0080
 Neptune -25568-08-11 09:07 J -7617066.18 -7617066.12 -7617066.01 0.0088 0.0081
 Mars -25568-09-24 20:23 J -7617021.78 -7617021.65 -7617021.52 0.1798 0.1245

Jupiter -25567-01-09 17:45 J -7616914.96 -7616914.76 -7616914.56 0.0527 0.0085
 Neptune -25567-03-24 22:04 J -7616840.63 -7616840.58 -7616840.47 0.0088 0.0083
 Jupiter -25567-09-03 15:50 J -7616677.98 -7616677.84 -7616677.70 0.0519 0.0366
 Neptune -25567-11-05 11:16 J -7616615.08 -7616615.03 -7616614.93 0.0088 0.0083
 Neptune -25566-06-19 00:57 J -7616389.52 -7616389.46 -7616389.39 0.0088 0.0084
 Neptune -25565-01-30 13:55 J -7616163.97 -7616163.92 -7616163.85 0.0088 0.0084
 Neptune -25565-09-12 02:52 J -7615938.41 -7615938.38 -7615938.31 0.0088 0.0086
 Neptune -25564-04-25 16:04 J -7615712.86 -7615712.83 -7615712.77 0.0088 0.0086
 Saturn -25564-11-16 09:35 J -7615508.21 -7615508.10 -7615507.97 0.0269 0.0219
 Neptune -25564-12-07 05:02 J -7615487.30 -7615487.29 -7615487.23 0.0088 0.0087
 Saturn -25563-07-03 13:55 J -7615279.12 -7615278.92 -7615278.72 0.0271 0.0101
 Neptune -25563-07-20 18:57 J -7615261.73 -7615261.71 -7615261.68 0.0088 0.0087
 Saturn -25562-02-17 19:55 J -7615049.88 -7615049.67 -7615049.46 0.0273 0.0023
 Neptune -25562-03-03 08:23 J -7615036.15 -7615036.15 -7615036.14 0.0088 0.0088
 Saturn -25562-10-05 04:04 J -7614820.51 -7614820.33 -7614820.15 0.0275 0.0151
 Jupiter -25562-11-06 10:19 J -7614788.23 -7614788.07 -7614787.92 0.0496 0.0328
 Jupiter -25561-06-30 07:11 J -7614551.41 -7614551.20 -7614551.00 0.0502 0.0081
 Jupiter -25560-02-22 12:57 J -7614313.98 -7614313.96 -7614313.94 0.0510 0.0507
 Jupiter -25556-09-14 13:11 J -7612649.13 -7612648.95 -7612648.76 0.0529 0.0215
 Jupiter -25555-05-09 14:38 J -7612412.07 -7612411.89 -7612411.72 0.0522 0.0248
 Uranus -25550-02-11 12:43 J -7610673.07 -7610672.97 -7610672.87 0.0133 0.0118
 Jupiter -25550-07-12 09:07 J -7610522.22 -7610522.12 -7610522.02 0.0495 0.0433
 Saturn -25550-09-22 22:47 J -7610449.65 -7610449.55 -7610449.44 0.0291 0.0253
 Uranus -25550-09-25 17:45 J -7610446.89 -7610446.76 -7610446.60 0.0133 0.0098
 Jupiter -25549-03-05 03:35 J -7610285.56 -7610285.35 -7610285.14 0.0500 0.0036
 Uranus -25549-05-08 23:16 J -7610220.70 -7610220.53 -7610220.35 0.0133 0.0077
 Saturn -25549-05-09 19:55 J -7610219.86 -7610219.67 -7610219.47 0.0290 0.0101
 Jupiter -25549-10-28 06:43 J -7610048.35 -7610048.22 -7610048.08 0.0508 0.0390
 Uranus -25549-12-21 04:47 J -7609994.49 -7609994.30 -7609994.10 0.0134 0.0056
 Saturn -25549-12-25 14:38 J -7609990.10 -7609989.89 -7609989.68 0.0287 0.0049

Uranus	-25548-08-04 10:04 J	-7609768.28	-7609768.08	-7609767.86	0.0134	0.0035
Saturn	-25548-08-12 06:28 J	-7609760.38	-7609760.23	-7609760.07	0.0285	0.0191
Uranus	-25547-03-18 15:35 J	-7609542.06	-7609541.85	-7609541.63	0.0134	0.0014
Neptune	-25547-08-10 07:55 J	-7609397.17	-7609397.17	-7609397.14	0.0088	0.0088
Uranus	-25547-10-30 21:07 J	-7609315.83	-7609315.62	-7609315.40	0.0134	0.0009
Neptune	-25546-03-23 21:21 J	-7609171.62	-7609171.61	-7609171.56	0.0088	0.0087
Uranus	-25546-06-14 02:38 J	-7609089.59	-7609089.39	-7609089.17	0.0134	0.0030
Neptune	-25546-11-04 11:16 J	-7608946.06	-7608946.03	-7608945.99	0.0088	0.0086
Uranus	-25545-01-26 08:23 J	-7608863.34	-7608863.15	-7608862.94	0.0135	0.0051
Neptune	-25545-06-17 00:14 J	-7608720.51	-7608720.49	-7608720.41	0.0088	0.0086
Uranus	-25545-09-08 14:09 J	-7608637.08	-7608636.91	-7608636.72	0.0135	0.0072
Neptune	-25544-01-28 13:55 J	-7608494.95	-7608494.92	-7608494.84	0.0088	0.0085
Uranus	-25544-04-22 19:55 J	-7608410.82	-7608410.67	-7608410.51	0.0135	0.0094
Jupiter	-25544-05-20 09:07 J	-7608383.27	-7608383.12	-7608382.97	0.0531	0.0342
Neptune	-25544-09-11 03:50 J	-7608269.39	-7608269.34	-7608269.26	0.0088	0.0084
Uranus	-25544-12-05 01:26 J	-7608184.53	-7608184.44	-7608184.31	0.0135	0.0116
Jupiter	-25543-01-12 13:11 J	-7608146.15	-7608145.95	-7608145.76	0.0524	0.0127
Neptune	-25543-04-24 17:31 J	-7608043.83	-7608043.77	-7608043.69	0.0088	0.0083
Neptune	-25543-12-06 07:11 J	-7607818.27	-7607818.20	-7607818.11	0.0088	0.0082
Neptune	-25542-07-19 20:38 J	-7607592.71	-7607592.64	-7607592.54	0.0088	0.0082
Neptune	-25541-03-01 10:19 J	-7607367.15	-7607367.07	-7607366.97	0.0088	0.0081
Neptune	-25541-10-12 23:59 J	-7607141.58	-7607141.50	-7607141.39	0.0088	0.0079
Neptune	-25540-05-26 13:40 J	-7606916.02	-7606915.93	-7606915.81	0.0088	0.0078
Neptune	-25539-01-07 03:07 J	-7606690.45	-7606690.37	-7606690.24	0.0088	0.0078
Neptune	-25539-08-20 16:47 J	-7606464.88	-7606464.80	-7606464.66	0.0088	0.0077
Mars	-25539-12-12 10:33 J	-7606351.23	-7606351.06	-7606350.89	0.1710	0.0112
Neptune	-25538-04-03 07:11 J	-7606239.32	-7606239.20	-7606239.08	0.0088	0.0075
Jupiter	-25538-11-09 00:28 J	-7606019.68	-7606019.48	-7606019.28	0.0499	0.0149
Neptune	-25538-11-14 20:38 J	-7606013.75	-7606013.64	-7606013.50	0.0088	0.0073
Neptune	-25537-06-27 10:04 J	-7605788.18	-7605788.08	-7605787.93	0.0088	0.0073

Jupiter -25537-07-03 01:11 J -7605782.62 -7605782.45 -7605782.27 0.0506 0.0273
 Neptune -25536-02-08 00:14 J -7605562.61 -7605562.49 -7605562.35 0.0088 0.0071
 Neptune -25536-09-21 13:55 J -7605337.04 -7605336.92 -7605336.76 0.0088 0.0069
 Neptune -25535-05-05 03:35 J -7605111.47 -7605111.35 -7605111.19 0.0088 0.0068
 Neptune -25535-12-16 17:31 J -7604885.90 -7604885.77 -7604885.61 0.0088 0.0066
 Saturn -25534-05-29 09:50 J -7604722.22 -7604722.09 -7604721.95 0.0269 0.0205
 Mars -25534-07-23 08:23 J -7604667.32 -7604667.15 -7604666.98 0.1812 0.0627
 Neptune -25534-07-30 06:57 J -7604660.34 -7604660.21 -7604660.03 0.0088 0.0065
 Saturn -25533-01-13 13:55 J -7604493.13 -7604492.92 -7604492.72 0.0271 0.0086
 Neptune -25533-03-11 20:52 J -7604434.77 -7604434.63 -7604434.46 0.0088 0.0064
 Saturn -25533-08-29 19:40 J -7604263.89 -7604263.68 -7604263.47 0.0273 0.0038
 Neptune -25533-10-23 11:02 J -7604209.20 -7604209.04 -7604208.88 0.0088 0.0062
 Jupiter -25532-01-23 04:19 J -7604117.41 -7604117.32 -7604117.22 0.0533 0.0469
 Saturn -25532-04-16 03:50 J -7604034.51 -7604034.34 -7604034.17 0.0275 0.0166
 Neptune -25532-06-06 00:14 J -7603983.63 -7603983.49 -7603983.30 0.0088 0.0061
 Jupiter -25532-09-17 10:47 J -7603880.25 -7603880.05 -7603879.85 0.0526 0.0002
 Neptune -25531-01-17 14:09 J -7603758.06 -7603757.91 -7603757.73 0.0088 0.0059
 Jupiter -25531-05-12 07:40 J -7603643.28 -7603643.18 -7603643.07 0.0518 0.0442
 Neptune -25531-08-31 04:04 J -7603532.49 -7603532.33 -7603532.15 0.0088 0.0057
 Neptune -25530-04-13 17:31 J -7603306.93 -7603306.77 -7603306.57 0.0088 0.0056
 Neptune -25530-11-25 07:26 J -7603081.36 -7603081.19 -7603081.00 0.0088 0.0053
 Neptune -25529-07-07 21:07 J -7602855.79 -7602855.62 -7602855.42 0.0088 0.0052
 Neptune -25528-02-18 11:02 J -7602630.22 -7602630.04 -7602629.85 0.0088 0.0050
 Neptune -25528-10-02 00:28 J -7602404.64 -7602404.48 -7602404.27 0.0088 0.0049
 Neptune -25527-05-15 14:23 J -7602179.07 -7602178.90 -7602178.69 0.0088 0.0047
 Neptune -25527-12-27 04:19 J -7601953.50 -7601953.32 -7601953.11 0.0088 0.0044
 Jupiter -25526-07-14 23:31 J -7601753.70 -7601753.52 -7601753.34 0.0497 0.0259
 Neptune -25526-08-09 17:59 J -7601727.93 -7601727.75 -7601727.54 0.0088 0.0043
 Jupiter -25525-03-07 22:04 J -7601516.78 -7601516.58 -7601516.38 0.0504 0.0156
 Neptune -25525-03-22 07:55 J -7601502.36 -7601502.17 -7601501.96 0.0088 0.0040

Neptune	-25525-11-02 21:50 J	-7601276.78	-7601276.59	-7601276.38	0.0088	0.0039
Neptune	-25524-06-16 11:31 J	-7601051.21	-7601051.02	-7601050.80	0.0088	0.0037
Neptune	-25523-01-28 01:26 J	-7600825.64	-7600825.44	-7600825.22	0.0088	0.0035
Neptune	-25523-09-10 15:07 J	-7600600.07	-7600599.87	-7600599.65	0.0088	0.0033
Neptune	-25522-04-24 05:02 J	-7600374.49	-7600374.29	-7600374.07	0.0088	0.0030
Neptune	-25522-12-05 18:43 J	-7600148.92	-7600148.72	-7600148.49	0.0088	0.0029
Neptune	-25521-07-18 08:23 J	-7599923.35	-7599923.15	-7599922.92	0.0088	0.0027
Neptune	-25520-02-28 22:04 J	-7599697.78	-7599697.58	-7599697.35	0.0088	0.0025
Saturn	-25520-04-04 00:14 J	-7599663.61	-7599663.49	-7599663.37	0.0292	0.0236
Jupiter	-25520-05-23 04:47 J	-7599614.49	-7599614.30	-7599614.11	0.0528	0.0132
Neptune	-25520-10-12 11:59 J	-7599472.21	-7599472.00	-7599471.77	0.0089	0.0022
Saturn	-25520-11-19 21:21 J	-7599433.81	-7599433.61	-7599433.40	0.0290	0.0083
Jupiter	-25519-01-15 03:50 J	-7599377.50	-7599377.34	-7599377.19	0.0520	0.0322
Neptune	-25519-05-26 01:40 J	-7599246.64	-7599246.43	-7599246.20	0.0089	0.0020
Saturn	-25519-07-07 16:04 J	-7599204.03	-7599203.83	-7599203.62	0.0288	0.0067
Neptune	-25518-01-06 15:35 J	-7599021.07	-7599020.85	-7599020.63	0.0089	0.0018
Saturn	-25518-02-22 08:09 J	-7598974.29	-7598974.16	-7598974.01	0.0286	0.0210
Neptune	-25518-08-20 05:16 J	-7598795.50	-7598795.28	-7598795.06	0.0089	0.0016
Neptune	-25517-04-01 18:43 J	-7598569.94	-7598569.72	-7598569.49	0.0089	0.0014
Neptune	-25517-11-13 08:38 J	-7598344.36	-7598344.14	-7598343.92	0.0089	0.0012
Neptune	-25516-06-26 22:19 J	-7598118.79	-7598118.57	-7598118.35	0.0089	0.0010
Neptune	-25515-02-07 11:45 J	-7597893.23	-7597893.01	-7597892.78	0.0089	0.0008
Neptune	-25515-09-21 01:26 J	-7597667.66	-7597667.44	-7597667.21	0.0089	0.0005
Jupiter	-25514-03-19 22:33 J	-7597487.70	-7597487.56	-7597487.42	0.0496	0.0366
Neptune	-25514-05-04 15:07 J	-7597442.09	-7597441.87	-7597441.64	0.0089	0.0004
Jupiter	-25514-11-11 18:57 J	-7597250.92	-7597250.71	-7597250.50	0.0502	0.0040
Neptune	-25514-12-16 05:02 J	-7597216.52	-7597216.29	-7597216.07	0.0089	0.0001
Jupiter	-25513-07-05 23:59 J	-7597013.58	-7597013.50	-7597013.42	0.0509	0.0466
Neptune	-25513-07-28 18:28 J	-7596990.95	-7596990.73	-7596990.50	0.0089	0.0002
Neptune	-25512-03-11 08:09 J	-7596765.38	-7596765.16	-7596764.93	0.0089	0.0004

Neptune	-25512-10-22 21:50 J	-7596539.81	-7596539.59	-7596539.36	0.0089	0.0006
Neptune	-25511-06-05 11:31 J	-7596314.24	-7596314.02	-7596313.79	0.0089	0.0008
Neptune	-25510-01-17 01:11 J	-7596088.67	-7596088.45	-7596088.23	0.0089	0.0010
Uranus	-25510-05-26 01:26 J	-7595959.47	-7595959.44	-7595959.39	0.0145	0.0143
Neptune	-25510-08-30 14:38 J	-7595863.10	-7595862.89	-7595862.66	0.0089	0.0012
Uranus	-25509-01-07 13:26 J	-7595733.05	-7595732.94	-7595732.80	0.0145	0.0117
Neptune	-25509-04-12 04:19 J	-7595637.54	-7595637.32	-7595637.10	0.0089	0.0014
Uranus	-25509-08-21 01:40 J	-7595506.59	-7595506.43	-7595506.25	0.0145	0.0089
Neptune	-25509-11-23 17:59 J	-7595411.97	-7595411.75	-7595411.53	0.0089	0.0016
Jupiter	-25508-01-25 23:16 J	-7595348.70	-7595348.53	-7595348.35	0.0530	0.0263
Uranus	-25508-04-04 13:40 J	-7595280.11	-7595279.93	-7595279.72	0.0145	0.0063
Neptune	-25508-07-07 07:40 J	-7595186.40	-7595186.18	-7595185.97	0.0089	0.0018
Jupiter	-25508-09-20 00:57 J	-7595111.64	-7595111.46	-7595111.27	0.0522	0.0201
Uranus	-25508-11-17 01:55 J	-7595053.62	-7595053.42	-7595053.20	0.0145	0.0036
Neptune	-25507-02-17 21:07 J	-7594960.84	-7594960.62	-7594960.41	0.0089	0.0020
Uranus	-25507-07-01 14:23 J	-7594827.12	-7594826.90	-7594826.68	0.0144	0.0008
Neptune	-25507-10-01 10:04 J	-7594735.28	-7594735.08	-7594734.85	0.0089	0.0023
Mars	-25507-12-11 08:23 J	-7594664.29	-7594664.15	-7594664.02	0.1719	0.1018
Uranus	-25506-02-13 02:23 J	-7594600.62	-7594600.40	-7594600.18	0.0144	0.0018
Neptune	-25506-05-14 23:45 J	-7594509.72	-7594509.51	-7594509.29	0.0089	0.0025
Uranus	-25506-09-27 14:23 J	-7594374.11	-7594373.90	-7594373.69	0.0144	0.0045
Neptune	-25506-12-26 13:11 J	-7594284.15	-7594283.95	-7594283.73	0.0089	0.0027
Uranus	-25505-05-11 02:09 J	-7594147.59	-7594147.41	-7594147.21	0.0143	0.0072
Neptune	-25505-08-08 02:38 J	-7594058.59	-7594058.39	-7594058.17	0.0089	0.0029
Mars	-25505-10-10 00:14 J	-7593995.59	-7593995.49	-7593995.38	0.1699	0.1331
Saturn	-25505-12-08 15:50 J	-7593935.98	-7593935.84	-7593935.68	0.0269	0.0185
Uranus	-25505-12-23 14:09 J	-7593921.07	-7593920.91	-7593920.75	0.0143	0.0098
Neptune	-25504-03-21 15:50 J	-7593833.03	-7593832.84	-7593832.61	0.0089	0.0031
Saturn	-25504-07-25 20:23 J	-7593706.86	-7593706.65	-7593706.44	0.0271	0.0065
Uranus	-25504-08-07 02:09 J	-7593694.52	-7593694.41	-7593694.30	0.0143	0.0123

Neptune -25504-11-02 05:16 J -7593607.47 -7593607.28 -7593607.05 0.0089 0.0033
 Saturn -25503-03-12 02:38 J -7593477.59 -7593477.39 -7593477.18 0.0273 0.0060
 Neptune -25503-06-15 18:43 J -7593381.90 -7593381.72 -7593381.50 0.0089 0.0035
 Saturn -25503-10-27 11:16 J -7593248.19 -7593248.03 -7593247.88 0.0275 0.0188
 Jupiter -25503-11-22 21:21 J -7593221.68 -7593221.61 -7593221.55 0.0494 0.0469
 Neptune -25502-01-27 08:38 J -7593156.34 -7593156.14 -7593155.94 0.0089 0.0036
 Jupiter -25502-07-17 14:52 J -7592985.09 -7592984.88 -7592984.67 0.0500 0.0076
 Mars -25502-07-23 01:26 J -7592979.59 -7592979.44 -7592979.29 0.1802 0.1001
 Neptune -25502-09-09 21:50 J -7592930.78 -7592930.59 -7592930.38 0.0089 0.0038
 Jupiter -25501-03-10 17:02 J -7592747.94 -7592747.79 -7592747.64 0.0507 0.0347
 Neptune -25501-04-22 11:16 J -7592705.22 -7592705.03 -7592704.83 0.0089 0.0040
 Neptune -25501-12-04 00:43 J -7592479.66 -7592479.47 -7592479.27 0.0089 0.0042
 Neptune -25500-07-17 13:55 J -7592254.10 -7592253.92 -7592253.71 0.0089 0.0044
 Neptune -25499-02-28 03:21 J -7592028.54 -7592028.36 -7592028.16 0.0089 0.0046
 Neptune -25499-10-11 16:33 J -7591802.98 -7591802.81 -7591802.61 0.0089 0.0048
 Neptune -25498-05-25 06:14 J -7591577.42 -7591577.24 -7591577.05 0.0089 0.0049
 Neptune -25497-01-05 19:26 J -7591351.85 -7591351.69 -7591351.49 0.0089 0.0051
 Neptune -25497-08-18 08:38 J -7591126.30 -7591126.14 -7591125.94 0.0089 0.0053
 Jupiter -25497-09-30 17:02 J -7591082.92 -7591082.79 -7591082.65 0.0532 0.0393
 Neptune -25496-03-31 22:19 J -7590900.74 -7590900.57 -7590900.40 0.0089 0.0054
 Jupiter -25496-05-25 22:04 J -7590845.78 -7590845.58 -7590845.38 0.0525 0.0076
 Neptune -25496-11-12 11:16 J -7590675.19 -7590675.03 -7590674.85 0.0089 0.0056
 Jupiter -25495-01-17 17:45 J -7590608.80 -7590608.76 -7590608.73 0.0517 0.0507
 Neptune -25495-06-26 00:14 J -7590449.63 -7590449.49 -7590449.30 0.0089 0.0059
 Neptune -25494-02-06 13:55 J -7590224.07 -7590223.92 -7590223.75 0.0089 0.0059
 Neptune -25494-09-20 02:38 J -7589998.52 -7589998.39 -7589998.20 0.0089 0.0062
 Neptune -25493-05-02 16:04 J -7589772.97 -7589772.83 -7589772.66 0.0089 0.0062
 Neptune -25493-12-14 05:02 J -7589547.42 -7589547.29 -7589547.11 0.0089 0.0064
 Neptune -25492-07-27 18:14 J -7589321.87 -7589321.74 -7589321.57 0.0089 0.0066
 Neptune -25491-03-10 07:40 J -7589096.32 -7589096.18 -7589096.03 0.0089 0.0067

Saturn -25491-10-15 07:11 J -7588877.33 -7588877.20 -7588877.05 0.0291 0.0212
 Neptune -25491-10-21 20:23 J -7588870.77 -7588870.65 -7588870.49 0.0089 0.0068
 Jupiter -25490-03-22 12:14 J -7588719.18 -7588718.99 -7588718.80 0.0498 0.0189
 Saturn -25490-06-02 04:04 J -7588647.53 -7588647.33 -7588647.12 0.0289 0.0060
 Neptune -25490-06-04 09:35 J -7588645.22 -7588645.10 -7588644.95 0.0089 0.0069
 Jupiter -25490-11-14 11:45 J -7588482.19 -7588482.01 -7588481.82 0.0504 0.0229
 Neptune -25489-01-15 23:02 J -7588419.67 -7588419.54 -7588419.40 0.0089 0.0070
 Saturn -25489-01-17 22:19 J -7588417.77 -7588417.57 -7588417.37 0.0287 0.0089
 Neptune -25489-08-28 12:14 J -7588194.12 -7588193.99 -7588193.86 0.0089 0.0072
 Saturn -25489-09-03 13:55 J -7588188.04 -7588187.92 -7588187.79 0.0285 0.0230
 Neptune -25488-04-11 00:43 J -7587968.57 -7587968.47 -7587968.32 0.0089 0.0073
 Neptune -25488-11-22 13:55 J -7587743.02 -7587742.92 -7587742.78 0.0089 0.0074
 Neptune -25487-07-06 02:52 J -7587517.47 -7587517.38 -7587517.24 0.0089 0.0076
 Pluto -25487-09-02 23:31 J -7587458.55 -7587458.52 -7587458.45 0.0064 0.0063
 Neptune -25486-02-16 16:04 J -7587291.92 -7587291.83 -7587291.70 0.0089 0.0077
 Pluto -25486-04-16 03:21 J -7587233.54 -7587233.36 -7587233.15 0.0064 0.0026
 Neptune -25486-09-30 05:02 J -7587066.37 -7587066.29 -7587066.16 0.0089 0.0078
 Pluto -25486-11-27 07:11 J -7587008.40 -7587008.20 -7587007.98 0.0065 0.0013
 Neptune -25485-05-12 17:59 J -7586840.83 -7586840.75 -7586840.62 0.0089 0.0079
 Jupiter -25485-06-05 11:31 J -7586817.06 -7586817.02 -7586816.97 0.0534 0.0519
 Pluto -25485-07-09 10:33 J -7586783.17 -7586783.06 -7586782.90 0.0065 0.0051
 Neptune -25485-12-24 06:57 J -7586615.28 -7586615.21 -7586615.08 0.0089 0.0080
 Jupiter -25484-01-28 19:26 J -7586579.89 -7586579.69 -7586579.50 0.0527 0.0051
 Neptune -25484-08-06 19:55 J -7586389.74 -7586389.67 -7586389.55 0.0089 0.0081
 Jupiter -25484-09-22 17:31 J -7586342.89 -7586342.77 -7586342.64 0.0519 0.0397
 Neptune -25483-03-20 09:21 J -7586164.20 -7586164.11 -7586164.01 0.0089 0.0081
 Neptune -25483-10-31 22:04 J -7585938.66 -7585938.58 -7585938.48 0.0089 0.0082
 Neptune -25482-06-14 10:47 J -7585713.12 -7585713.05 -7585712.95 0.0089 0.0082
 Neptune -25481-01-25 23:31 J -7585487.57 -7585487.52 -7585487.42 0.0089 0.0083
 Neptune -25481-09-07 12:43 J -7585262.03 -7585261.97 -7585261.89 0.0089 0.0084

Neptune	-25480-04-21 01:11 J	-7585036.50	-7585036.45	-7585036.36	0.0089	0.0084
Neptune	-25480-12-02 14:09 J	-7584810.96	-7584810.91	-7584810.83	0.0089	0.0085
Neptune	-25479-07-16 02:38 J	-7584585.43	-7584585.39	-7584585.30	0.0089	0.0086
Jupiter	-25479-11-25 09:50 J	-7584453.25	-7584453.09	-7584452.92	0.0496	0.0299
Neptune	-25478-02-26 15:50 J	-7584359.89	-7584359.84	-7584359.77	0.0089	0.0086
Jupiter	-25478-07-20 06:57 J	-7584216.41	-7584216.21	-7584216.00	0.0503	0.0111
Neptune	-25478-10-10 04:19 J	-7584134.35	-7584134.32	-7584134.24	0.0089	0.0086
Neptune	-25477-05-22 17:02 J	-7583908.82	-7583908.79	-7583908.72	0.0089	0.0087
Neptune	-25476-01-03 05:59 J	-7583683.29	-7583683.25	-7583683.19	0.0089	0.0087
Neptune	-25476-08-16 18:14 J	-7583457.76	-7583457.74	-7583457.66	0.0089	0.0088
Neptune	-25475-03-30 07:11 J	-7583232.22	-7583232.20	-7583232.13	0.0089	0.0087
Saturn	-25475-06-20 17:16 J	-7583149.94	-7583149.78	-7583149.61	0.0270	0.0170
Neptune	-25475-11-10 19:55 J	-7583006.69	-7583006.67	-7583006.61	0.0089	0.0088
Saturn	-25474-02-04 21:35 J	-7582920.80	-7582920.60	-7582920.39	0.0271	0.0049
Neptune	-25474-06-24 08:38 J	-7582781.16	-7582781.14	-7582781.08	0.0089	0.0088
Saturn	-25474-09-22 03:50 J	-7582691.54	-7582691.34	-7582691.13	0.0273	0.0077
Neptune	-25473-02-04 21:21 J	-7582555.63	-7582555.61	-7582555.54	0.0089	0.0088
Saturn	-25473-05-08 12:14 J	-7582462.12	-7582461.99	-7582461.84	0.0275	0.0205
Neptune	-25473-09-17 10:04 J	-7582330.10	-7582330.08	-7582330.02	0.0089	0.0088
Jupiter	-25473-10-03 16:04 J	-7582314.02	-7582313.83	-7582313.65	0.0529	0.0178
Mars	-25473-10-08 21:21 J	-7582308.78	-7582308.61	-7582308.44	0.1708	0.0242
Neptune	-25472-04-30 22:47 J	-7582104.58	-7582104.55	-7582104.49	0.0089	0.0087
Jupiter	-25472-05-28 16:33 J	-7582076.97	-7582076.81	-7582076.64	0.0522	0.0281
Neptune	-25472-12-12 11:16 J	-7581879.05	-7581879.03	-7581878.96	0.0089	0.0088
Neptune	-25471-07-25 23:45 J	-7581653.53	-7581653.51	-7581653.44	0.0089	0.0088
Neptune	-25470-03-08 12:57 J	-7581428.00	-7581427.96	-7581427.90	0.0089	0.0087
Neptune	-25470-10-20 01:26 J	-7581202.48	-7581202.44	-7581202.38	0.0089	0.0087
Neptune	-25469-06-01 13:40 J	-7580976.96	-7580976.93	-7580976.86	0.0089	0.0087
Neptune	-25468-01-13 01:55 J	-7580751.44	-7580751.42	-7580751.33	0.0089	0.0087
Mars	-25468-05-19 12:28 J	-7580625.13	-7580624.98	-7580624.82	0.1816	0.0896

Neptune	-25468-08-26 14:52 J	-7580525.93	-7580525.88	-7580525.81	0.0089	0.0086
Neptune	-25467-04-09 03:07 J	-7580300.41	-7580300.37	-7580300.28	0.0089	0.0086
Jupiter	-25467-07-31 09:35 J	-7580187.22	-7580187.10	-7580186.98	0.0495	0.0403
Uranus	-25467-10-11 21:50 J	-7580114.64	-7580114.59	-7580114.52	0.0133	0.0127
Neptune	-25467-11-20 15:50 J	-7580074.89	-7580074.84	-7580074.76	0.0089	0.0085
Jupiter	-25466-03-25 04:33 J	-7579950.51	-7579950.31	-7579950.10	0.0501	0.0010
Uranus	-25466-05-26 02:52 J	-7579888.49	-7579888.38	-7579888.23	0.0133	0.0108
Neptune	-25466-07-04 04:04 J	-7579849.38	-7579849.33	-7579849.24	0.0089	0.0085
Jupiter	-25466-11-17 08:38 J	-7579713.25	-7579713.14	-7579713.03	0.0508	0.0421
Uranus	-25465-01-07 08:38 J	-7579662.29	-7579662.14	-7579661.96	0.0133	0.0086
Neptune	-25465-02-14 16:47 J	-7579623.86	-7579623.80	-7579623.71	0.0089	0.0084
Uranus	-25465-08-20 13:55 J	-7579436.09	-7579435.92	-7579435.71	0.0134	0.0066
Neptune	-25465-09-27 05:02 J	-7579398.34	-7579398.29	-7579398.19	0.0089	0.0083
Uranus	-25464-04-03 19:40 J	-7579209.88	-7579209.68	-7579209.47	0.0134	0.0044
Earth	-25464-04-27 21:21 J	-7579185.75	-7579185.61	-7579185.46	0.2711	0.1069
Moon	-25464-04-28 02:38 J	-7579185.50	-7579185.39	-7579185.28	0.2710	0.1905 *
Neptune	-25464-05-10 17:31 J	-7579172.83	-7579172.77	-7579172.67	0.0089	0.0083
Uranus	-25464-11-16 01:11 J	-7578983.66	-7578983.45	-7578983.23	0.0134	0.0023
Neptune	-25464-12-22 05:59 J	-7578947.32	-7578947.25	-7578947.15	0.0089	0.0082
Uranus	-25463-06-30 06:43 J	-7578757.43	-7578757.22	-7578757.00	0.0134	0.0003
Neptune	-25463-08-04 18:43 J	-7578721.80	-7578721.72	-7578721.62	0.0089	0.0081
Uranus	-25462-02-11 12:28 J	-7578531.19	-7578530.98	-7578530.76	0.0134	0.0020
Neptune	-25462-03-18 06:57 J	-7578496.28	-7578496.21	-7578496.09	0.0089	0.0080
Uranus	-25462-09-25 17:59 J	-7578304.95	-7578304.75	-7578304.54	0.0135	0.0042
Neptune	-25462-10-29 19:26 J	-7578270.77	-7578270.69	-7578270.57	0.0089	0.0079
Saturn	-25461-04-26 08:52 J	-7578091.28	-7578091.13	-7578090.97	0.0291	0.0195
Uranus	-25461-05-08 23:45 J	-7578078.70	-7578078.51	-7578078.32	0.0135	0.0063
Jupiter	-25461-06-08 09:21 J	-7578048.27	-7578048.11	-7578047.95	0.0530	0.0311
Neptune	-25461-06-11 07:55 J	-7578045.25	-7578045.17	-7578045.05	0.0089	0.0078
Saturn	-25461-12-12 05:45 J	-7577861.47	-7577861.26	-7577861.05	0.0289	0.0042

Uranus	-25461-12-21 05:16 J	-7577852.43	-7577852.28	-7577852.10	0.0135	0.0085
Neptune	-25460-01-22 20:23 J	-7577819.74	-7577819.65	-7577819.53	0.0089	0.0077
Jupiter	-25460-01-31 12:14 J	-7577811.18	-7577810.99	-7577810.80	0.0523	0.0155
Saturn	-25460-07-29 23:59 J	-7577631.69	-7577631.50	-7577631.30	0.0287	0.0107
Uranus	-25460-08-04 11:16 J	-7577626.15	-7577626.03	-7577625.89	0.0135	0.0106
Neptune	-25460-09-05 08:52 J	-7577594.22	-7577594.13	-7577594.00	0.0089	0.0076
Saturn	-25459-03-16 15:35 J	-7577401.94	-7577401.85	-7577401.74	0.0285	0.0249
Uranus	-25459-03-18 17:16 J	-7577399.85	-7577399.78	-7577399.71	0.0136	0.0128
Neptune	-25459-04-18 21:21 J	-7577368.70	-7577368.61	-7577368.48	0.0089	0.0075
Neptune	-25459-11-30 09:35 J	-7577143.19	-7577143.10	-7577142.96	0.0089	0.0075
Neptune	-25458-07-13 22:04 J	-7576917.68	-7576917.58	-7576917.44	0.0089	0.0073
Neptune	-25457-02-24 10:47 J	-7576692.17	-7576692.05	-7576691.91	0.0089	0.0072
Neptune	-25457-10-06 23:02 J	-7576466.66	-7576466.54	-7576466.40	0.0089	0.0071
Earth	-25456-04-25 12:28 J	-7576266.03	-7576265.98	-7576265.92	0.2712	0.2535
Moon	-25456-04-25 15:21 J	-7576265.92	-7576265.86	-7576265.79	0.2706	0.2464 *
Neptune	-25456-05-20 11:16 J	-7576241.15	-7576241.03	-7576240.88	0.0089	0.0070
Neptune	-25456-12-31 23:31 J	-7576015.64	-7576015.52	-7576015.36	0.0089	0.0068
Neptune	-25455-08-14 11:45 J	-7575790.13	-7575790.01	-7575789.85	0.0089	0.0067
Jupiter	-25455-11-28 01:55 J	-7575684.62	-7575684.42	-7575684.21	0.0499	0.0118
Neptune	-25454-03-28 00:28 J	-7575564.61	-7575564.48	-7575564.32	0.0089	0.0066
Jupiter	-25454-07-23 03:35 J	-7575447.51	-7575447.35	-7575447.18	0.0506	0.0304
Neptune	-25454-11-08 12:43 J	-7575339.10	-7575338.97	-7575338.81	0.0089	0.0064
Neptune	-25453-06-21 00:43 J	-7575113.60	-7575113.47	-7575113.29	0.0089	0.0064
Neptune	-25452-02-01 13:11 J	-7574888.09	-7574887.95	-7574887.78	0.0089	0.0062
Neptune	-25452-09-15 01:26 J	-7574662.58	-7574662.44	-7574662.26	0.0089	0.0060
Neptune	-25451-04-28 14:09 J	-7574437.06	-7574436.91	-7574436.74	0.0089	0.0058
Neptune	-25451-12-10 02:09 J	-7574211.55	-7574211.41	-7574211.22	0.0089	0.0057
Neptune	-25450-07-23 14:38 J	-7573986.04	-7573985.89	-7573985.71	0.0089	0.0055
Jupiter	-25449-02-12 02:52 J	-7573782.49	-7573782.38	-7573782.27	0.0532	0.0440
Neptune	-25449-03-05 03:07 J	-7573760.53	-7573760.37	-7573760.19	0.0089	0.0054

Jupiter -25449-10-06 08:09 J -7573545.36 -7573545.16 -7573544.96 0.0525 0.0029
 Neptune -25449-10-16 15:21 J -7573535.02 -7573534.86 -7573534.67 0.0089 0.0052
 Neptune -25448-05-30 03:50 J -7573309.51 -7573309.34 -7573309.15 0.0089 0.0050
 Jupiter -25448-05-31 04:19 J -7573308.40 -7573308.32 -7573308.23 0.0518 0.0463
 Neptune -25447-01-10 16:19 J -7573084.00 -7573083.82 -7573083.64 0.0089 0.0048
 Neptune -25447-08-24 04:19 J -7572858.49 -7572858.32 -7572858.12 0.0089 0.0047
 Neptune -25446-04-06 17:02 J -7572632.97 -7572632.79 -7572632.60 0.0089 0.0045
 Saturn -25446-05-16 21:07 J -7572592.65 -7572592.62 -7572592.58 0.0268 0.0265
 Neptune -25446-11-18 05:16 J -7572407.46 -7572407.28 -7572407.08 0.0089 0.0044
 Saturn -25446-12-31 23:59 J -7572363.68 -7572363.50 -7572363.33 0.0270 0.0149
 Neptune -25445-06-30 17:16 J -7572181.95 -7572181.78 -7572181.57 0.0089 0.0042
 Saturn -25445-08-17 04:33 J -7572134.52 -7572134.31 -7572134.10 0.0271 0.0027
 Neptune -25444-02-11 05:45 J -7571956.44 -7571956.26 -7571956.06 0.0089 0.0040
 Saturn -25444-04-03 11:16 J -7571905.23 -7571905.03 -7571904.83 0.0273 0.0098
 Neptune -25444-09-24 17:59 J -7571730.93 -7571730.75 -7571730.54 0.0089 0.0038
 Saturn -25444-11-18 19:55 J -7571675.78 -7571675.67 -7571675.54 0.0275 0.0227
 Neptune -25443-05-08 06:28 J -7571505.41 -7571505.23 -7571505.02 0.0089 0.0036
 Jupiter -25443-08-02 23:02 J -7571418.72 -7571418.54 -7571418.35 0.0497 0.0229
 Neptune -25443-12-19 18:57 J -7571279.90 -7571279.71 -7571279.51 0.0089 0.0034
 Jupiter -25442-03-27 21:50 J -7571181.78 -7571181.59 -7571181.40 0.0504 0.0186
 Neptune -25442-08-02 06:57 J -7571054.40 -7571054.21 -7571054.00 0.0089 0.0033
 Neptune -25441-03-14 19:11 J -7570828.89 -7570828.70 -7570828.48 0.0089 0.0031
 Mars -25441-10-07 18:57 J -7570621.86 -7570621.71 -7570621.57 0.1716 0.0876
 Neptune -25441-10-26 07:40 J -7570603.38 -7570603.18 -7570602.97 0.0089 0.0029
 Neptune -25440-06-08 19:55 J -7570377.87 -7570377.67 -7570377.45 0.0089 0.0027
 Neptune -25439-01-20 08:09 J -7570152.35 -7570152.16 -7570151.94 0.0089 0.0025
 Mars -25439-08-07 11:16 J -7569953.12 -7569953.03 -7569952.95 0.1697 0.1451
 Neptune -25439-09-02 20:38 J -7569926.84 -7569926.64 -7569926.43 0.0089 0.0023
 Neptune -25438-04-16 09:07 J -7569701.33 -7569701.12 -7569700.91 0.0089 0.0021
 Neptune -25438-11-27 21:21 J -7569475.81 -7569475.61 -7569475.39 0.0089 0.0019

Jupiter -25437-06-11 03:35 J -7569279.55 -7569279.35 -7569279.16 0.0528 0.0102
 Neptune -25437-07-10 09:50 J -7569250.30 -7569250.09 -7569249.88 0.0089 0.0017
 Jupiter -25436-02-03 02:38 J -7569042.53 -7569042.39 -7569042.24 0.0520 0.0350
 Neptune -25436-02-20 22:04 J -7569024.79 -7569024.58 -7569024.36 0.0089 0.0015
 Mars -25436-05-19 06:14 J -7568937.41 -7568937.24 -7568937.08 0.1805 0.0751
 Neptune -25436-10-04 10:33 J -7568799.27 -7568799.06 -7568798.85 0.0089 0.0013
 Neptune -25435-05-17 23:02 J -7568573.75 -7568573.54 -7568573.32 0.0089 0.0011
 Neptune -25435-12-29 11:31 J -7568348.23 -7568348.02 -7568347.80 0.0089 0.0009
 Neptune -25434-08-11 23:59 J -7568122.72 -7568122.50 -7568122.29 0.0089 0.0007
 Neptune -25433-03-24 12:14 J -7567897.21 -7567896.99 -7567896.77 0.0089 0.0005
 Neptune -25433-11-05 00:43 J -7567671.69 -7567671.47 -7567671.26 0.0089 0.0003
 Neptune -25432-06-18 13:11 J -7567446.17 -7567445.95 -7567445.74 0.0089 0.0001
 Saturn -25432-11-06 17:45 J -7567304.93 -7567304.76 -7567304.58 0.0291 0.0169
 Neptune -25431-01-30 01:26 J -7567220.65 -7567220.44 -7567220.22 0.0089 0.0002
 Jupiter -25431-04-07 21:21 J -7567152.76 -7567152.61 -7567152.45 0.0496 0.0337
 Saturn -25431-06-24 14:09 J -7567075.12 -7567074.91 -7567074.70 0.0289 0.0017
 Neptune -25431-09-12 13:55 J -7566995.14 -7566994.92 -7566994.70 0.0089 0.0003
 Jupiter -25431-11-30 17:31 J -7566915.98 -7566915.77 -7566915.56 0.0502 0.0068
 Saturn -25430-02-09 07:55 J -7566845.35 -7566845.17 -7566844.98 0.0287 0.0131
 Neptune -25430-04-26 02:23 J -7566769.62 -7566769.40 -7566769.18 0.0089 0.0005
 Jupiter -25430-07-25 22:04 J -7566678.62 -7566678.58 -7566678.52 0.0509 0.0491
 Saturn -25430-09-26 23:02 J -7566615.60 -7566615.54 -7566615.47 0.0285 0.0270
 Neptune -25430-12-07 14:38 J -7566544.10 -7566543.89 -7566543.67 0.0089 0.0008
 Neptune -25429-07-20 03:07 J -7566318.58 -7566318.37 -7566318.15 0.0089 0.0009
 Neptune -25428-03-02 15:21 J -7566093.07 -7566092.86 -7566092.64 0.0089 0.0012
 Neptune -25428-10-14 03:50 J -7565867.55 -7565867.34 -7565867.12 0.0089 0.0013
 Neptune -25427-05-27 16:19 J -7565642.02 -7565641.82 -7565641.59 0.0089 0.0016
 Neptune -25426-01-08 04:47 J -7565416.50 -7565416.30 -7565416.07 0.0089 0.0018
 Neptune -25426-08-21 17:16 J -7565190.98 -7565190.78 -7565190.56 0.0089 0.0020
 Uranus -25426-09-06 19:55 J -7565174.76 -7565174.67 -7565174.56 0.0145 0.0128

Jupiter	-25425-02-14 23:16 J	-7565013.71	-7565013.53	-7565013.35	0.0530	0.0230
Neptune	-25425-04-03 05:45 J	-7564965.46	-7564965.26	-7564965.04	0.0089	0.0021
Uranus	-25425-04-20 08:09 J	-7564948.31	-7564948.16	-7564948.01	0.0145	0.0102
Jupiter	-25425-10-09 01:26 J	-7564776.62	-7564776.44	-7564776.26	0.0523	0.0232
Neptune	-25425-11-14 18:14 J	-7564739.94	-7564739.74	-7564739.52	0.0089	0.0024
Uranus	-25425-12-02 19:55 J	-7564721.84	-7564721.67	-7564721.47	0.0145	0.0075
Neptune	-25424-06-28 06:57 J	-7564514.41	-7564514.21	-7564513.99	0.0088	0.0025
Uranus	-25424-07-17 08:23 J	-7564495.35	-7564495.15	-7564494.94	0.0145	0.0048
Neptune	-25423-02-08 19:26 J	-7564288.88	-7564288.69	-7564288.47	0.0088	0.0028
Uranus	-25423-02-28 20:38 J	-7564268.86	-7564268.64	-7564268.43	0.0144	0.0020
Neptune	-25423-09-22 08:23 J	-7564063.36	-7564063.15	-7564062.94	0.0088	0.0029
Uranus	-25423-10-13 08:38 J	-7564042.36	-7564042.14	-7564041.92	0.0144	0.0007
Neptune	-25422-05-05 20:52 J	-7563837.83	-7563837.63	-7563837.42	0.0088	0.0031
Uranus	-25422-05-27 20:23 J	-7563815.85	-7563815.65	-7563815.43	0.0144	0.0034
Neptune	-25422-12-17 09:35 J	-7563612.30	-7563612.10	-7563611.89	0.0088	0.0033
Uranus	-25421-01-09 08:09 J	-7563589.34	-7563589.16	-7563588.95	0.0144	0.0061
Neptune	-25421-07-29 22:04 J	-7563386.77	-7563386.58	-7563386.37	0.0088	0.0035
Uranus	-25421-08-22 20:23 J	-7563362.82	-7563362.65	-7563362.47	0.0143	0.0087
Neptune	-25420-03-12 10:33 J	-7563161.25	-7563161.06	-7563160.85	0.0088	0.0037
Uranus	-25420-04-06 07:55 J	-7563136.29	-7563136.17	-7563136.02	0.0143	0.0113
Neptune	-25420-10-23 23:16 J	-7562935.72	-7562935.53	-7562935.32	0.0088	0.0038
Uranus	-25420-11-18 19:55 J	-7562909.72	-7562909.67	-7562909.62	0.0143	0.0138
Jupiter	-25420-12-11 19:40 J	-7562886.77	-7562886.68	-7562886.58	0.0494	0.0442
Neptune	-25419-06-06 12:14 J	-7562710.18	-7562709.99	-7562709.79	0.0088	0.0040
Jupiter	-25419-08-05 13:26 J	-7562650.15	-7562649.94	-7562649.73	0.0500	0.0048
Neptune	-25418-01-18 00:57 J	-7562484.65	-7562484.46	-7562484.26	0.0088	0.0042
Jupiter	-25418-03-30 15:50 J	-7562412.97	-7562412.84	-7562412.70	0.0507	0.0374
Neptune	-25418-08-31 13:26 J	-7562259.12	-7562258.94	-7562258.74	0.0088	0.0043
Neptune	-25417-04-13 01:55 J	-7562033.59	-7562033.42	-7562033.22	0.0088	0.0045
Neptune	-25417-11-24 14:52 J	-7561808.06	-7561807.88	-7561807.69	0.0088	0.0047

Saturn -25417-11-25 23:31 J -7561806.59 -7561806.52 -7561806.43 0.0268 0.0249
 Neptune -25416-07-08 03:35 J -7561582.53 -7561582.35 -7561582.16 0.0088 0.0049
 Saturn -25416-07-13 02:23 J -7561577.57 -7561577.40 -7561577.20 0.0270 0.0132
 Neptune -25415-02-18 16:04 J -7561356.99 -7561356.83 -7561356.63 0.0088 0.0050
 Saturn -25415-02-27 07:11 J -7561348.41 -7561348.20 -7561347.98 0.0272 0.0011
 Neptune -25415-10-02 05:02 J -7561131.46 -7561131.29 -7561131.11 0.0088 0.0052
 Saturn -25415-10-14 13:55 J -7561119.11 -7561118.92 -7561118.72 0.0273 0.0117
 Neptune -25414-05-15 17:31 J -7560905.93 -7560905.77 -7560905.58 0.0088 0.0054
 Saturn -25414-05-31 22:33 J -7560889.64 -7560889.56 -7560889.45 0.0275 0.0247
 Jupiter -25414-10-20 18:43 J -7560747.86 -7560747.72 -7560747.57 0.0532 0.0359
 Neptune -25414-12-27 06:14 J -7560680.39 -7560680.24 -7560680.05 0.0088 0.0055
 Jupiter -25413-06-13 23:16 J -7560510.72 -7560510.53 -7560510.33 0.0525 0.0109
 Neptune -25413-08-08 19:11 J -7560454.86 -7560454.70 -7560454.52 0.0088 0.0057
 Neptune -25412-03-22 07:55 J -7560229.32 -7560229.17 -7560228.99 0.0088 0.0058
 Neptune -25412-11-02 20:52 J -7560003.78 -7560003.63 -7560003.46 0.0088 0.0060
 Neptune -25411-06-16 09:35 J -7559778.24 -7559778.10 -7559777.92 0.0088 0.0061
 Neptune -25410-01-27 22:47 J -7559552.69 -7559552.55 -7559552.38 0.0088 0.0062
 Neptune -25410-09-10 11:45 J -7559327.15 -7559327.01 -7559326.85 0.0088 0.0064
 Neptune -25409-04-23 00:14 J -7559101.61 -7559101.49 -7559101.32 0.0088 0.0066
 Neptune -25409-12-04 13:26 J -7558876.07 -7558875.94 -7558875.78 0.0088 0.0066
 Neptune -25408-07-18 02:38 J -7558650.52 -7558650.39 -7558650.24 0.0088 0.0068
 Neptune -25407-02-28 15:21 J -7558424.98 -7558424.86 -7558424.70 0.0088 0.0069
 Jupiter -25407-04-10 11:45 J -7558384.21 -7558384.01 -7558383.81 0.0498 0.0160
 Mars -25407-08-06 08:09 J -7558266.32 -7558266.16 -7558265.99 0.1705 0.0371
 Neptune -25407-10-12 04:19 J -7558199.43 -7558199.32 -7558199.17 0.0088 0.0070
 Jupiter -25407-12-03 11:59 J -7558147.18 -7558147.00 -7558146.82 0.0505 0.0259
 Neptune -25406-05-25 17:16 J -7557973.89 -7557973.78 -7557973.63 0.0088 0.0072
 Neptune -25405-01-06 06:28 J -7557748.34 -7557748.23 -7557748.09 0.0088 0.0072
 Neptune -25405-08-18 19:26 J -7557522.80 -7557522.69 -7557522.56 0.0088 0.0073
 Neptune -25404-04-01 08:23 J -7557297.25 -7557297.15 -7557297.02 0.0088 0.0075

Neptune -25404-11-12 21:35 J -7557071.71 -7557071.60 -7557071.48 0.0088 0.0075
 Neptune -25403-06-26 10:33 J -7556846.16 -7556846.06 -7556845.94 0.0088 0.0076
 Neptune -25402-02-06 23:31 J -7556620.61 -7556620.52 -7556620.40 0.0088 0.0078
 Mars -25402-03-16 17:02 J -7556582.93 -7556582.79 -7556582.65 0.1819 0.1157
 Saturn -25402-05-19 20:09 J -7556518.84 -7556518.66 -7556518.48 0.0291 0.0151
 Jupiter -25402-06-25 11:45 J -7556482.08 -7556482.01 -7556481.93 0.0533 0.0487
 Neptune -25402-09-20 12:28 J -7556395.06 -7556394.98 -7556394.86 0.0088 0.0078
 Saturn -25401-01-04 16:33 J -7556289.03 -7556288.81 -7556288.60 0.0289 0.0006
 Jupiter -25401-02-17 18:28 J -7556244.93 -7556244.73 -7556244.53 0.0526 0.0023
 Neptune -25401-05-03 01:26 J -7556169.51 -7556169.44 -7556169.32 0.0088 0.0079
 Saturn -25401-08-21 10:04 J -7556059.25 -7556059.08 -7556058.90 0.0287 0.0149
 Jupiter -25401-10-11 15:21 J -7556007.97 -7556007.86 -7556007.74 0.0518 0.0421
 Neptune -25401-12-14 14:23 J -7555943.96 -7555943.90 -7555943.78 0.0088 0.0081
 Neptune -25400-07-28 04:19 J -7555718.40 -7555718.32 -7555718.23 0.0088 0.0081
 Neptune -25399-03-10 17:16 J -7555492.85 -7555492.78 -7555492.68 0.0088 0.0081
 Neptune -25399-10-22 06:14 J -7555267.30 -7555267.24 -7555267.14 0.0088 0.0082
 Neptune -25398-06-04 19:55 J -7555041.74 -7555041.67 -7555041.60 0.0088 0.0083
 Pluto -25398-07-29 00:28 J -7554987.67 -7554987.48 -7554987.28 0.0080 0.0040
 Neptune -25397-01-16 08:52 J -7554816.19 -7554816.13 -7554816.05 0.0088 0.0083
 Pluto -25397-03-10 11:31 J -7554762.21 -7554762.02 -7554761.81 0.0080 0.0036
 Neptune -25397-08-28 21:50 J -7554590.63 -7554590.59 -7554590.50 0.0088 0.0084
 Neptune -25396-04-11 11:16 J -7554365.07 -7554365.03 -7554364.95 0.0088 0.0084
 Neptune -25396-11-23 00:28 J -7554139.51 -7554139.48 -7554139.40 0.0088 0.0085
 Jupiter -25396-12-14 09:21 J -7554118.28 -7554118.11 -7554117.93 0.0497 0.0271
 Neptune -25395-07-06 13:55 J -7553913.95 -7553913.92 -7553913.84 0.0088 0.0085
 Jupiter -25395-08-08 07:40 J -7553881.38 -7553881.18 -7553880.98 0.0503 0.0142
 Neptune -25394-02-17 03:21 J -7553688.40 -7553688.36 -7553688.29 0.0088 0.0085
 Neptune -25394-09-30 16:19 J -7553462.84 -7553462.82 -7553462.74 0.0088 0.0086
 Neptune -25393-05-13 05:45 J -7553237.28 -7553237.26 -7553237.19 0.0088 0.0086
 Neptune -25393-12-24 19:11 J -7553011.72 -7553011.70 -7553011.64 0.0088 0.0086

Neptune	-25392-08-07 08:52 J	-7552786.16	-7552786.13	-7552786.08	0.0088	0.0086
Neptune	-25391-03-20 22:19 J	-7552560.60	-7552560.57	-7552560.52	0.0088	0.0086
Neptune	-25391-11-01 11:45 J	-7552335.05	-7552335.01	-7552334.97	0.0088	0.0086
Neptune	-25390-06-15 00:57 J	-7552109.49	-7552109.46	-7552109.41	0.0088	0.0086
Jupiter	-25390-10-23 13:11 J	-7551979.14	-7551978.95	-7551978.75	0.0528	0.0151
Neptune	-25389-01-26 14:23 J	-7551883.93	-7551883.90	-7551883.86	0.0088	0.0086
Jupiter	-25389-06-16 12:57 J	-7551742.12	-7551741.96	-7551741.80	0.0521	0.0303
Neptune	-25389-09-08 03:50 J	-7551658.37	-7551658.34	-7551658.29	0.0088	0.0086
Neptune	-25388-04-21 17:02 J	-7551432.81	-7551432.79	-7551432.73	0.0088	0.0086
Neptune	-25388-12-03 06:28 J	-7551207.26	-7551207.23	-7551207.17	0.0088	0.0086
Saturn	-25387-06-08 06:14 J	-7551020.33	-7551020.24	-7551020.12	0.0269	0.0229
Neptune	-25387-07-16 19:55 J	-7550981.70	-7550981.67	-7550981.60	0.0088	0.0086
Saturn	-25386-01-23 09:35 J	-7550791.29	-7550791.10	-7550790.90	0.0270	0.0111
Neptune	-25386-02-27 09:21 J	-7550756.13	-7550756.11	-7550756.04	0.0088	0.0086
Saturn	-25386-09-09 14:52 J	-7550562.10	-7550561.88	-7550561.67	0.0272	0.0013
Neptune	-25386-10-10 23:02 J	-7550530.57	-7550530.54	-7550530.47	0.0088	0.0085
Saturn	-25385-04-25 21:50 J	-7550332.77	-7550332.59	-7550332.40	0.0273	0.0139
Neptune	-25385-05-23 12:28 J	-7550305.01	-7550304.98	-7550304.90	0.0088	0.0085
Saturn	-25385-12-11 07:11 J	-7550103.24	-7550103.20	-7550103.15	0.0275	0.0269
Neptune	-25384-01-04 02:23 J	-7550079.45	-7550079.40	-7550079.33	0.0088	0.0084
Neptune	-25384-08-17 15:50 J	-7549853.89	-7549853.84	-7549853.76	0.0088	0.0084
Jupiter	-25384-08-19 07:40 J	-7549852.31	-7549852.18	-7549852.04	0.0495	0.0376
Neptune	-25383-03-31 05:45 J	-7549628.32	-7549628.26	-7549628.19	0.0088	0.0083
Jupiter	-25383-04-13 03:07 J	-7549615.58	-7549615.37	-7549615.16	0.0501	0.0025
Neptune	-25383-11-11 18:57 J	-7549402.76	-7549402.71	-7549402.62	0.0088	0.0083
Jupiter	-25383-12-06 06:57 J	-7549378.30	-7549378.21	-7549378.11	0.0508	0.0447
Uranus	-25382-01-23 12:14 J	-7549330.09	-7549329.99	-7549329.88	0.0133	0.0117
Neptune	-25382-06-25 08:52 J	-7549177.20	-7549177.13	-7549177.05	0.0088	0.0082
Uranus	-25382-09-06 17:16 J	-7549103.91	-7549103.78	-7549103.61	0.0133	0.0097
Neptune	-25381-02-05 22:04 J	-7548951.64	-7548951.58	-7548951.48	0.0088	0.0082

Uranus	-25381-04-19 22:47 J	-7548877.71	-7548877.55	-7548877.36	0.0134	0.0076
Neptune	-25381-09-18 11:59 J	-7548726.07	-7548726.00	-7548725.90	0.0088	0.0081
Uranus	-25381-12-02 04:33 J	-7548651.50	-7548651.31	-7548651.10	0.0134	0.0054
Neptune	-25380-05-02 01:40 J	-7548500.51	-7548500.43	-7548500.33	0.0088	0.0081
Uranus	-25380-07-16 10:04 J	-7548425.28	-7548425.08	-7548424.86	0.0134	0.0033
Neptune	-25380-12-13 14:52 J	-7548274.94	-7548274.88	-7548274.76	0.0088	0.0080
Uranus	-25379-02-27 15:50 J	-7548199.05	-7548198.84	-7548198.62	0.0134	0.0011
Neptune	-25379-07-27 04:33 J	-7548049.38	-7548049.31	-7548049.18	0.0088	0.0079
Uranus	-25379-10-11 21:21 J	-7547972.82	-7547972.61	-7547972.39	0.0134	0.0011
Neptune	-25378-03-09 18:14 J	-7547823.82	-7547823.74	-7547823.61	0.0088	0.0079
Uranus	-25378-05-26 02:52 J	-7547746.58	-7547746.38	-7547746.16	0.0135	0.0033
Jupiter	-25378-06-28 06:43 J	-7547713.39	-7547713.22	-7547713.05	0.0531	0.0282
Neptune	-25378-10-21 07:55 J	-7547598.25	-7547598.17	-7547598.04	0.0088	0.0078
Uranus	-25377-01-07 08:52 J	-7547520.33	-7547520.13	-7547519.93	0.0135	0.0054
Jupiter	-25377-02-20 09:50 J	-7547476.28	-7547476.09	-7547475.91	0.0524	0.0182
Neptune	-25377-06-02 21:35 J	-7547372.69	-7547372.60	-7547372.47	0.0088	0.0077
Uranus	-25377-08-20 14:23 J	-7547294.07	-7547293.90	-7547293.71	0.0135	0.0076
Neptune	-25376-01-14 11:16 J	-7547147.13	-7547147.03	-7547146.90	0.0088	0.0075
Uranus	-25376-04-03 20:09 J	-7547067.80	-7547067.66	-7547067.50	0.0135	0.0098
Neptune	-25376-08-28 00:57 J	-7546921.56	-7546921.46	-7546921.32	0.0088	0.0075
Uranus	-25376-11-16 01:40 J	-7546841.51	-7546841.43	-7546841.31	0.0136	0.0120
Neptune	-25375-04-10 14:38 J	-7546695.99	-7546695.89	-7546695.74	0.0088	0.0074
Mars	-25375-08-05 05:31 J	-7546579.42	-7546579.27	-7546579.11	0.1713	0.0740
Neptune	-25375-11-22 04:19 J	-7546470.43	-7546470.32	-7546470.17	0.0088	0.0072
Neptune	-25374-07-05 17:59 J	-7546244.86	-7546244.75	-7546244.60	0.0088	0.0071
Neptune	-25373-02-16 07:40 J	-7546019.29	-7546019.18	-7546019.02	0.0088	0.0070
Saturn	-25373-04-13 07:40 J	-7545962.23	-7545962.18	-7545962.10	0.0292	0.0279
Mars	-25373-06-03 22:47 J	-7545910.61	-7545910.55	-7545910.49	0.1694	0.1561
Neptune	-25373-09-28 21:50 J	-7545793.72	-7545793.59	-7545793.44	0.0088	0.0069
Saturn	-25373-11-29 05:59 J	-7545732.43	-7545732.25	-7545732.05	0.0291	0.0124

Jupiter -25372-04-24 06:57 J -7545586.26 -7545586.21 -7545586.16 0.0494 0.0477
 Neptune -25372-05-12 11:31 J -7545568.15 -7545568.02 -7545567.86 0.0088 0.0067
 Saturn -25372-07-17 01:55 J -7545502.63 -7545502.42 -7545502.21 0.0289 0.0028
 Jupiter -25372-12-16 23:45 J -7545349.72 -7545349.51 -7545349.31 0.0499 0.0090
 Neptune -25372-12-24 00:57 J -7545342.58 -7545342.46 -7545342.29 0.0088 0.0067
 Saturn -25371-03-03 18:57 J -7545272.87 -7545272.71 -7545272.54 0.0287 0.0175
 Neptune -25371-08-06 15:07 J -7545117.01 -7545116.87 -7545116.71 0.0088 0.0065
 Jupiter -25371-08-11 00:57 J -7545112.62 -7545112.46 -7545112.30 0.0506 0.0330
 Mars -25370-03-16 11:16 J -7544895.20 -7544895.03 -7544894.86 0.1808 0.0507
 Neptune -25370-03-20 04:47 J -7544891.44 -7544891.30 -7544891.13 0.0088 0.0063
 Neptune -25370-10-31 18:28 J -7544665.87 -7544665.73 -7544665.55 0.0088 0.0062
 Neptune -25369-06-13 08:23 J -7544440.30 -7544440.15 -7544439.98 0.0088 0.0060
 Neptune -25368-01-24 21:50 J -7544214.73 -7544214.59 -7544214.40 0.0088 0.0060
 Neptune -25368-09-07 11:59 J -7543989.16 -7543989.00 -7543988.82 0.0088 0.0057
 Neptune -25367-04-21 01:26 J -7543763.59 -7543763.44 -7543763.24 0.0088 0.0057
 Earth -25367-10-28 01:40 J -7543573.59 -7543573.43 -7543573.28 0.2621 0.0505
 Moon -25367-10-28 07:11 J -7543573.36 -7543573.20 -7543573.05 0.2619 0.0919 *
 Neptune -25367-12-02 15:21 J -7543538.02 -7543537.86 -7543537.67 0.0088 0.0055
 Jupiter -25366-03-03 00:57 J -7543447.58 -7543447.46 -7543447.33 0.0532 0.0410
 Neptune -25366-07-16 05:16 J -7543312.46 -7543312.28 -7543312.10 0.0088 0.0053
 Jupiter -25366-10-26 06:57 J -7543210.41 -7543210.21 -7543210.01 0.0526 0.0058
 Neptune -25365-02-26 18:43 J -7543086.89 -7543086.72 -7543086.52 0.0088 0.0051
 Jupiter -25365-06-19 03:35 J -7542973.41 -7542973.35 -7542973.29 0.0518 0.0490
 Neptune -25365-10-09 08:38 J -7542861.31 -7542861.14 -7542860.94 0.0088 0.0050
 Neptune -25364-05-22 22:04 J -7542635.74 -7542635.58 -7542635.37 0.0088 0.0049
 Neptune -25363-01-03 11:59 J -7542410.18 -7542410.00 -7542409.79 0.0088 0.0046
 Neptune -25363-08-17 01:40 J -7542184.61 -7542184.43 -7542184.22 0.0088 0.0045
 Neptune -25362-03-30 15:35 J -7541959.04 -7541958.85 -7541958.65 0.0088 0.0043
 Neptune -25362-11-11 05:16 J -7541733.47 -7541733.28 -7541733.07 0.0088 0.0041
 Neptune -25361-06-23 18:57 J -7541507.90 -7541507.71 -7541507.49 0.0088 0.0040

Neptune -25360-02-04 08:38 J -7541282.33 -7541282.14 -7541281.92 0.0088 0.0038
 Jupiter -25360-08-21 20:38 J -7541083.83 -7541083.64 -7541083.45 0.0497 0.0202
 Neptune -25360-09-17 22:33 J -7541056.75 -7541056.56 -7541056.34 0.0088 0.0036
 Jupiter -25359-04-15 19:26 J -7540846.88 -7540846.69 -7540846.50 0.0504 0.0212
 Neptune -25359-05-01 12:28 J -7540831.18 -7540830.98 -7540830.76 0.0088 0.0034
 Neptune -25359-12-13 02:23 J -7540605.60 -7540605.40 -7540605.19 0.0088 0.0032
 Neptune -25358-07-26 16:04 J -7540380.03 -7540379.83 -7540379.61 0.0088 0.0030
 Saturn -25358-12-19 10:04 J -7540234.20 -7540234.08 -7540233.94 0.0269 0.0211
 Neptune -25357-03-08 05:59 J -7540154.46 -7540154.25 -7540154.04 0.0088 0.0028
 Saturn -25357-08-04 13:26 J -7540005.13 -7540004.94 -7540004.73 0.0270 0.0092
 Neptune -25357-10-19 19:55 J -7539928.89 -7539928.67 -7539928.46 0.0088 0.0026
 Saturn -25356-03-21 18:43 J -7539775.93 -7539775.72 -7539775.51 0.0272 0.0032
 Neptune -25356-06-02 09:35 J -7539703.31 -7539703.10 -7539702.88 0.0088 0.0024
 Saturn -25356-11-06 01:55 J -7539546.59 -7539546.42 -7539546.25 0.0274 0.0159
 Neptune -25355-01-13 23:02 J -7539477.74 -7539477.54 -7539477.31 0.0088 0.0023
 Neptune -25355-08-27 12:43 J -7539252.18 -7539251.97 -7539251.74 0.0089 0.0021
 Neptune -25354-04-10 02:23 J -7539026.61 -7539026.40 -7539026.17 0.0089 0.0019
 Jupiter -25354-07-01 03:50 J -7538944.54 -7538944.34 -7538944.14 0.0528 0.0070
 Neptune -25354-11-21 16:19 J -7538801.03 -7538800.82 -7538800.59 0.0089 0.0016
 Jupiter -25353-02-23 02:38 J -7538707.52 -7538707.39 -7538707.25 0.0520 0.0378
 Neptune -25353-07-04 05:59 J -7538575.46 -7538575.25 -7538575.02 0.0089 0.0014
 Neptune -25352-02-14 19:40 J -7538349.90 -7538349.68 -7538349.45 0.0089 0.0012
 Neptune -25352-09-28 09:21 J -7538124.33 -7538124.11 -7538123.88 0.0089 0.0010
 Neptune -25351-05-11 23:02 J -7537898.76 -7537898.54 -7537898.31 0.0089 0.0008
 Neptune -25351-12-23 12:43 J -7537673.19 -7537672.97 -7537672.74 0.0089 0.0006
 Neptune -25350-08-06 02:23 J -7537447.62 -7537447.40 -7537447.17 0.0089 0.0004
 Neptune -25349-03-18 16:04 J -7537222.05 -7537221.83 -7537221.61 0.0089 0.0002
 Neptune -25349-10-30 05:45 J -7536996.48 -7536996.26 -7536996.03 0.0089 0.0001
 Jupiter -25348-04-26 19:26 J -7536817.85 -7536817.69 -7536817.53 0.0496 0.0310
 Neptune -25348-06-12 19:26 J -7536770.91 -7536770.69 -7536770.46 0.0089 0.0002

Jupiter -25348-12-19 15:50 J -7536581.04 -7536580.84 -7536580.63 0.0502 0.0096
 Neptune -25347-01-24 09:07 J -7536545.34 -7536545.12 -7536544.90 0.0089 0.0004
 Neptune -25347-09-06 22:47 J -7536319.78 -7536319.55 -7536319.33 0.0089 0.0006
 Neptune -25346-04-20 12:28 J -7536094.21 -7536093.98 -7536093.76 0.0089 0.0008
 Neptune -25346-12-02 02:09 J -7535868.63 -7535868.41 -7535868.19 0.0089 0.0010
 Neptune -25345-07-14 15:50 J -7535643.06 -7535642.84 -7535642.62 0.0089 0.0012
 Neptune -25344-02-25 05:16 J -7535417.50 -7535417.28 -7535417.06 0.0089 0.0014
 Neptune -25344-10-08 18:57 J -7535191.93 -7535191.71 -7535191.49 0.0089 0.0016
 Saturn -25344-10-24 11:16 J -7535176.12 -7535176.03 -7535175.93 0.0292 0.0259
 Neptune -25343-05-22 08:23 J -7534966.36 -7534966.15 -7534965.93 0.0089 0.0018
 Saturn -25343-06-11 09:21 J -7534946.30 -7534946.11 -7534945.91 0.0290 0.0105
 Neptune -25342-01-02 22:04 J -7534740.79 -7534740.58 -7534740.36 0.0089 0.0020
 Saturn -25342-01-27 05:02 J -7534716.49 -7534716.29 -7534716.08 0.0288 0.0048
 Jupiter -25342-03-05 22:19 J -7534678.75 -7534678.57 -7534678.38 0.0529 0.0200
 Uranus -25342-05-07 02:38 J -7534616.44 -7534616.39 -7534616.34 0.0145 0.0141
 Neptune -25342-08-16 11:31 J -7534515.23 -7534515.02 -7534514.80 0.0089 0.0022
 Saturn -25342-09-13 22:19 J -7534486.73 -7534486.57 -7534486.42 0.0286 0.0193
 Jupiter -25342-10-28 23:16 J -7534441.70 -7534441.53 -7534441.35 0.0522 0.0258
 Uranus -25342-12-19 14:23 J -7534390.02 -7534389.90 -7534389.75 0.0145 0.0114
 Neptune -25341-03-29 00:57 J -7534289.67 -7534289.46 -7534289.24 0.0089 0.0024
 Mars -25341-06-02 19:11 J -7534223.86 -7534223.70 -7534223.54 0.1702 0.0495
 Uranus -25341-08-02 02:38 J -7534163.55 -7534163.39 -7534163.21 0.0145 0.0087
 Neptune -25341-11-09 14:23 J -7534064.10 -7534063.90 -7534063.68 0.0089 0.0026
 Uranus -25340-03-16 14:52 J -7533937.08 -7533936.88 -7533936.68 0.0145 0.0060
 Neptune -25340-06-23 03:50 J -7533838.54 -7533838.34 -7533838.12 0.0089 0.0028
 Uranus -25340-10-29 02:52 J -7533710.59 -7533710.38 -7533710.16 0.0144 0.0033
 Neptune -25339-02-03 17:31 J -7533612.98 -7533612.77 -7533612.56 0.0089 0.0029
 Uranus -25339-06-12 15:07 J -7533484.09 -7533483.87 -7533483.65 0.0144 0.0005
 Neptune -25339-09-17 06:43 J -7533387.42 -7533387.22 -7533387.00 0.0089 0.0031
 Uranus -25338-01-25 03:07 J -7533257.58 -7533257.37 -7533257.15 0.0144 0.0022

Neptune -25338-04-30 20:09 J -7533161.86 -7533161.66 -7533161.45 0.0089 0.0033
 Uranus -25338-09-08 14:52 J -7533031.08 -7533030.88 -7533030.66 0.0144 0.0049
 Neptune -25338-12-12 09:35 J -7532936.29 -7532936.10 -7532935.89 0.0089 0.0035
 Uranus -25337-04-22 02:38 J -7532804.56 -7532804.39 -7532804.19 0.0143 0.0076
 Neptune -25337-07-24 22:47 J -7532710.73 -7532710.55 -7532710.33 0.0089 0.0037
 Uranus -25337-12-04 14:23 J -7532578.04 -7532577.90 -7532577.73 0.0143 0.0102
 Jupiter -25337-12-30 17:31 J -7532551.88 -7532551.77 -7532551.66 0.0495 0.0415
 Mars -25336-01-10 20:52 J -7532540.74 -7532540.63 -7532540.52 0.1822 0.1432
 Neptune -25336-03-07 12:14 J -7532485.18 -7532484.99 -7532484.78 0.0089 0.0039
 Uranus -25336-07-19 02:09 J -7532351.49 -7532351.41 -7532351.29 0.0143 0.0128
 Jupiter -25336-08-24 12:14 J -7532315.20 -7532314.99 -7532314.78 0.0500 0.0019
 Neptune -25336-10-19 01:40 J -7532259.62 -7532259.43 -7532259.22 0.0089 0.0040
 Jupiter -25335-04-18 15:35 J -7532077.97 -7532077.85 -7532077.72 0.0508 0.0402
 Neptune -25335-06-01 15:07 J -7532034.06 -7532033.87 -7532033.67 0.0089 0.0042
 Neptune -25334-01-13 04:19 J -7531808.49 -7531808.32 -7531808.11 0.0089 0.0044
 Neptune -25334-08-26 17:59 J -7531582.93 -7531582.75 -7531582.56 0.0089 0.0045
 Neptune -25333-04-08 07:11 J -7531357.38 -7531357.20 -7531357.00 0.0089 0.0047
 Neptune -25333-11-19 20:23 J -7531131.82 -7531131.65 -7531131.45 0.0089 0.0049
 Neptune -25332-07-03 09:50 J -7530906.26 -7530906.09 -7530905.89 0.0089 0.0051
 Neptune -25331-02-13 23:02 J -7530680.70 -7530680.54 -7530680.34 0.0089 0.0052
 Neptune -25331-09-27 12:28 J -7530455.14 -7530454.98 -7530454.79 0.0089 0.0053
 Jupiter -25331-11-08 16:04 J -7530412.98 -7530412.83 -7530412.67 0.0531 0.0330
 Neptune -25330-05-11 01:26 J -7530229.59 -7530229.44 -7530229.25 0.0089 0.0055
 Jupiter -25330-07-03 19:40 J -7530175.87 -7530175.68 -7530175.49 0.0524 0.0133
 Neptune -25330-12-22 14:52 J -7530004.03 -7530003.88 -7530003.69 0.0089 0.0057
 Neptune -25329-08-04 03:50 J -7529778.48 -7529778.34 -7529778.15 0.0089 0.0059
 Neptune -25328-03-17 17:16 J -7529552.93 -7529552.78 -7529552.60 0.0089 0.0059
 Saturn -25328-06-30 17:16 J -7529447.93 -7529447.78 -7529447.63 0.0269 0.0190
 Neptune -25328-10-29 06:28 J -7529327.38 -7529327.23 -7529327.06 0.0089 0.0060
 Saturn -25327-02-14 20:52 J -7529218.83 -7529218.63 -7529218.42 0.0270 0.0071

Neptune -25327-06-11 19:11 J -7529101.83 -7529101.70 -7529101.52 0.0089 0.0063
 Saturn -25327-10-02 02:23 J -7528989.60 -7528989.40 -7528989.19 0.0272 0.0054
 Neptune -25326-01-23 08:38 J -7528876.28 -7528876.14 -7528875.97 0.0089 0.0063
 Saturn -25326-05-19 09:50 J -7528760.23 -7528760.09 -7528759.92 0.0274 0.0182
 Neptune -25326-09-05 21:50 J -7528650.73 -7528650.59 -7528650.43 0.0089 0.0064
 Neptune -25325-04-18 10:47 J -7528425.19 -7528425.05 -7528424.89 0.0089 0.0066
 Neptune -25325-11-29 23:31 J -7528199.64 -7528199.52 -7528199.35 0.0089 0.0067
 Jupiter -25324-04-29 08:52 J -7528049.33 -7528049.13 -7528048.93 0.0498 0.0132
 Neptune -25324-07-13 12:43 J -7527974.09 -7527973.97 -7527973.81 0.0089 0.0068
 Jupiter -25324-12-22 09:07 J -7527812.28 -7527812.12 -7527811.94 0.0505 0.0286
 Neptune -25323-02-24 01:40 J -7527748.54 -7527748.43 -7527748.27 0.0089 0.0070
 Neptune -25323-10-07 14:52 J -7527523.00 -7527522.88 -7527522.73 0.0089 0.0070
 Neptune -25322-05-21 03:50 J -7527297.45 -7527297.34 -7527297.19 0.0089 0.0071
 Neptune -25321-01-01 16:47 J -7527071.90 -7527071.80 -7527071.65 0.0089 0.0073
 Neptune -25321-08-14 05:45 J -7526846.36 -7526846.26 -7526846.11 0.0089 0.0074
 Neptune -25320-03-27 18:43 J -7526620.81 -7526620.72 -7526620.57 0.0089 0.0075
 Neptune -25320-11-08 08:09 J -7526395.27 -7526395.16 -7526395.03 0.0089 0.0075
 Neptune -25319-06-21 21:07 J -7526169.73 -7526169.62 -7526169.50 0.0089 0.0076
 Jupiter -25319-07-14 07:40 J -7526147.28 -7526147.18 -7526147.08 0.0533 0.0460
 Neptune -25318-02-02 09:50 J -7525944.18 -7525944.09 -7525943.96 0.0089 0.0077
 Jupiter -25318-03-08 14:38 J -7525910.09 -7525909.89 -7525909.69 0.0527 0.0007
 Neptune -25318-09-15 22:47 J -7525718.64 -7525718.55 -7525718.42 0.0089 0.0077
 Jupiter -25318-10-31 12:14 J -7525673.09 -7525672.99 -7525672.89 0.0519 0.0445
 Neptune -25317-04-28 11:59 J -7525493.10 -7525493.00 -7525492.89 0.0089 0.0078
 Neptune -25317-12-10 00:28 J -7525267.56 -7525267.48 -7525267.36 0.0089 0.0079
 Neptune -25316-07-23 13:40 J -7525042.02 -7525041.93 -7525041.82 0.0089 0.0079
 Neptune -25315-03-06 02:23 J -7524816.48 -7524816.40 -7524816.29 0.0089 0.0079
 Neptune -25315-10-17 15:21 J -7524590.95 -7524590.86 -7524590.76 0.0089 0.0080
 Saturn -25314-05-06 23:16 J -7524389.66 -7524389.53 -7524389.40 0.0292 0.0229
 Neptune -25314-05-31 03:50 J -7524365.42 -7524365.34 -7524365.23 0.0089 0.0080

Saturn	-25314-12-22 20:52 J	-7524159.83	-7524159.63	-7524159.43	0.0290	0.0075
Neptune	-25313-01-11 16:47 J	-7524139.88	-7524139.80	-7524139.70	0.0089	0.0081
Saturn	-25313-08-08 15:50 J	-7523930.04	-7523929.84	-7523929.63	0.0288	0.0076
Neptune	-25313-08-24 05:16 J	-7523914.35	-7523914.28	-7523914.17	0.0089	0.0081
Jupiter	-25312-01-02 06:28 J	-7523783.41	-7523783.23	-7523783.05	0.0497	0.0243
Saturn	-25312-03-26 08:09 J	-7523700.28	-7523700.16	-7523700.02	0.0286	0.0220
Neptune	-25312-04-06 17:59 J	-7523688.82	-7523688.75	-7523688.64	0.0089	0.0082
Jupiter	-25312-08-27 04:19 J	-7523546.52	-7523546.32	-7523546.12	0.0503	0.0168
Neptune	-25312-11-18 06:57 J	-7523463.29	-7523463.21	-7523463.11	0.0089	0.0082
Neptune	-25311-07-01 19:40 J	-7523237.76	-7523237.68	-7523237.59	0.0089	0.0082
Neptune	-25310-02-12 08:09 J	-7523012.22	-7523012.16	-7523012.05	0.0089	0.0082
Neptune	-25310-09-25 20:52 J	-7522786.69	-7522786.63	-7522786.52	0.0089	0.0082
Neptune	-25309-05-08 09:35 J	-7522561.16	-7522561.10	-7522561.00	0.0089	0.0082
Mars	-25309-06-01 16:04 J	-7522536.98	-7522536.83	-7522536.67	0.1710	0.0602
Neptune	-25309-12-19 22:04 J	-7522335.64	-7522335.58	-7522335.47	0.0089	0.0083
Neptune	-25308-08-02 10:47 J	-7522110.11	-7522110.05	-7522109.94	0.0089	0.0083
Neptune	-25307-03-15 23:45 J	-7521884.57	-7521884.51	-7521884.41	0.0089	0.0082
Mars	-25307-04-01 10:04 J	-7521868.10	-7521868.08	-7521868.05	0.1692	0.1673
Neptune	-25307-10-27 12:57 J	-7521659.05	-7521658.96	-7521658.88	0.0089	0.0082
Jupiter	-25307-11-11 10:19 J	-7521644.26	-7521644.07	-7521643.88	0.0529	0.0122
Neptune	-25306-06-10 01:11 J	-7521433.52	-7521433.45	-7521433.35	0.0089	0.0082
Jupiter	-25306-07-06 10:33 J	-7521407.21	-7521407.06	-7521406.90	0.0521	0.0331
Neptune	-25305-01-21 13:40 J	-7521208.00	-7521207.93	-7521207.82	0.0089	0.0082
Neptune	-25305-09-03 02:09 J	-7520982.47	-7520982.41	-7520982.30	0.0089	0.0082
Mars	-25304-01-10 15:21 J	-7520853.03	-7520852.86	-7520852.68	0.1812	0.0251
Neptune	-25304-04-16 15:21 J	-7520756.95	-7520756.86	-7520756.77	0.0089	0.0081
Neptune	-25304-11-28 03:35 J	-7520531.43	-7520531.35	-7520531.25	0.0089	0.0081
Neptune	-25303-07-11 15:50 J	-7520305.91	-7520305.84	-7520305.72	0.0089	0.0081
Neptune	-25302-02-22 04:47 J	-7520080.39	-7520080.30	-7520080.20	0.0089	0.0080
Neptune	-25302-10-05 17:02 J	-7519854.87	-7519854.79	-7519854.68	0.0089	0.0080

Neptune -25301-05-18 05:45 J -7519629.35 -7519629.26 -7519629.16 0.0089 0.0079
 Jupiter -25301-09-07 04:19 J -7519517.46 -7519517.32 -7519517.17 0.0495 0.0350
 Neptune -25301-12-29 17:45 J -7519403.84 -7519403.76 -7519403.64 0.0089 0.0079
 Jupiter -25300-05-01 23:31 J -7519280.73 -7519280.52 -7519280.31 0.0501 0.0050
 Neptune -25300-08-12 06:28 J -7519178.32 -7519178.23 -7519178.11 0.0089 0.0078
 Jupiter -25300-12-25 03:21 J -7519043.43 -7519043.36 -7519043.28 0.0508 0.0470
 Neptune -25299-03-25 18:43 J -7518952.80 -7518952.72 -7518952.59 0.0089 0.0078
 Uranus -25299-09-22 21:07 J -7518771.68 -7518771.62 -7518771.56 0.0133 0.0127
 Neptune -25299-11-06 07:26 J -7518727.29 -7518727.19 -7518727.07 0.0089 0.0076
 Saturn -25298-01-10 22:19 J -7518661.73 -7518661.57 -7518661.41 0.0269 0.0171
 Uranus -25298-05-07 02:09 J -7518545.53 -7518545.41 -7518545.26 0.0133 0.0106
 Neptune -25298-06-19 19:55 J -7518501.77 -7518501.67 -7518501.55 0.0089 0.0076
 Saturn -25298-08-28 02:09 J -7518432.62 -7518432.41 -7518432.20 0.0271 0.0050
 Uranus -25298-12-19 07:40 J -7518319.33 -7518319.18 -7518319.00 0.0133 0.0086
 Neptune -25297-01-31 08:23 J -7518276.26 -7518276.15 -7518276.03 0.0089 0.0075
 Saturn -25297-04-13 07:40 J -7518203.38 -7518203.18 -7518202.97 0.0273 0.0075
 Uranus -25297-08-01 13:26 J -7518093.13 -7518092.94 -7518092.74 0.0134 0.0064
 Neptune -25297-09-12 20:23 J -7518050.74 -7518050.65 -7518050.50 0.0089 0.0075
 Saturn -25297-11-28 15:35 J -7517973.99 -7517973.85 -7517973.71 0.0274 0.0204
 Uranus -25296-03-15 18:43 J -7517866.91 -7517866.72 -7517866.50 0.0134 0.0043
 Neptune -25296-04-26 08:52 J -7517825.23 -7517825.13 -7517824.98 0.0089 0.0074
 Uranus -25296-10-28 00:28 J -7517640.69 -7517640.48 -7517640.26 0.0134 0.0021
 Neptune -25296-12-07 21:21 J -7517599.71 -7517599.61 -7517599.46 0.0089 0.0073
 Uranus -25295-06-11 06:14 J -7517414.46 -7517414.24 -7517414.03 0.0134 0.0002
 Jupiter -25295-07-17 05:45 J -7517378.43 -7517378.26 -7517378.08 0.0531 0.0251
 Neptune -25295-07-21 09:50 J -7517374.20 -7517374.09 -7517373.94 0.0089 0.0072
 Uranus -25294-01-23 11:45 J -7517188.22 -7517188.01 -7517187.79 0.0134 0.0023
 Neptune -25294-03-03 22:33 J -7517148.68 -7517148.56 -7517148.41 0.0089 0.0070
 Jupiter -25294-03-11 08:52 J -7517141.31 -7517141.13 -7517140.95 0.0523 0.0211
 Uranus -25294-09-06 17:16 J -7516961.98 -7516961.78 -7516961.57 0.0135 0.0045

Neptune	-25294-10-15 10:47 J	-7516923.16	-7516923.05	-7516922.89	0.0089	0.0070
Uranus	-25293-04-19 23:02 J	-7516735.73	-7516735.54	-7516735.35	0.0135	0.0066
Neptune	-25293-05-27 23:16 J	-7516697.65	-7516697.53	-7516697.38	0.0089	0.0068
Uranus	-25293-12-02 04:33 J	-7516509.46	-7516509.31	-7516509.14	0.0135	0.0088
Neptune	-25292-01-08 11:31 J	-7516472.14	-7516472.02	-7516471.86	0.0089	0.0068
Uranus	-25292-07-16 10:33 J	-7516283.18	-7516283.06	-7516282.93	0.0135	0.0110
Neptune	-25292-08-21 23:59 J	-7516246.63	-7516246.50	-7516246.34	0.0089	0.0066
Uranus	-25291-02-27 16:04 J	-7516056.86	-7516056.83	-7516056.76	0.0136	0.0132
Neptune	-25291-04-04 12:57 J	-7516021.11	-7516020.96	-7516020.82	0.0089	0.0065
Neptune	-25291-11-16 00:57 J	-7515795.60	-7515795.46	-7515795.30	0.0089	0.0064
Neptune	-25290-06-29 13:11 J	-7515570.09	-7515569.95	-7515569.78	0.0089	0.0062
Neptune	-25289-02-10 01:26 J	-7515344.58	-7515344.44	-7515344.27	0.0089	0.0061
Jupiter	-25289-05-13 03:35 J	-7515251.43	-7515251.35	-7515251.26	0.0494	0.0452
Neptune	-25289-09-22 13:26 J	-7515119.07	-7515118.94	-7515118.75	0.0089	0.0061
Jupiter	-25288-01-04 20:38 J	-7515014.85	-7515014.64	-7515014.43	0.0499	0.0064
Neptune	-25288-05-06 02:09 J	-7514893.56	-7514893.41	-7514893.24	0.0089	0.0059
Jupiter	-25288-08-29 22:19 J	-7514777.71	-7514777.57	-7514777.42	0.0506	0.0356
Neptune	-25288-12-17 14:23 J	-7514668.05	-7514667.90	-7514667.72	0.0089	0.0057
Neptune	-25287-07-31 02:52 J	-7514442.54	-7514442.38	-7514442.21	0.0089	0.0056
Neptune	-25286-03-13 15:07 J	-7514217.03	-7514216.87	-7514216.69	0.0089	0.0054
Neptune	-25286-10-25 03:07 J	-7513991.52	-7513991.37	-7513991.18	0.0089	0.0053
Neptune	-25285-06-06 15:35 J	-7513766.01	-7513765.85	-7513765.66	0.0089	0.0051
Saturn	-25285-11-16 03:21 J	-7513603.50	-7513603.36	-7513603.21	0.0291	0.0210
Neptune	-25284-01-18 03:50 J	-7513540.50	-7513540.34	-7513540.15	0.0089	0.0050
Saturn	-25284-07-04 00:43 J	-7513373.67	-7513373.47	-7513373.26	0.0290	0.0056
Neptune	-25284-08-31 16:19 J	-7513314.99	-7513314.82	-7513314.63	0.0089	0.0048
Saturn	-25283-02-18 19:40 J	-7513143.88	-7513143.68	-7513143.48	0.0288	0.0095
Jupiter	-25283-03-21 23:59 J	-7513112.63	-7513112.50	-7513112.36	0.0532	0.0380
Neptune	-25283-04-14 04:33 J	-7513089.47	-7513089.31	-7513089.11	0.0089	0.0047
Saturn	-25283-10-06 11:59 J	-7512914.11	-7512914.00	-7512913.88	0.0286	0.0238

Jupiter -25283-11-14 05:02 J -7512875.49 -7512875.29 -7512875.09 0.0525 0.0085
 Neptune -25283-11-25 17:02 J -7512863.96 -7512863.79 -7512863.59 0.0089 0.0045
 Jupiter -25282-07-09 00:28 J -7512638.50 -7512638.48 -7512638.45 0.0517 0.0511
 Neptune -25282-07-09 05:31 J -7512638.45 -7512638.27 -7512638.08 0.0089 0.0043 *
 Neptune -25281-02-19 17:31 J -7512412.94 -7512412.77 -7512412.56 0.0089 0.0042
 Neptune -25281-10-02 05:59 J -7512187.43 -7512187.25 -7512187.04 0.0089 0.0040
 Neptune -25280-05-15 18:43 J -7511961.91 -7511961.72 -7511961.52 0.0089 0.0038
 Neptune -25280-12-27 06:43 J -7511736.40 -7511736.22 -7511736.01 0.0089 0.0037
 Neptune -25279-08-09 19:11 J -7511510.89 -7511510.70 -7511510.49 0.0089 0.0035
 Neptune -25278-03-23 07:40 J -7511285.38 -7511285.18 -7511284.98 0.0089 0.0033
 Neptune -25278-11-03 19:40 J -7511059.87 -7511059.68 -7511059.46 0.0089 0.0032
 Neptune -25277-06-16 07:55 J -7510834.36 -7510834.17 -7510833.95 0.0089 0.0030
 Jupiter -25277-09-09 17:45 J -7510748.96 -7510748.76 -7510748.57 0.0498 0.0176
 Neptune -25276-01-27 20:23 J -7510608.85 -7510608.65 -7510608.44 0.0089 0.0028
 Jupiter -25276-05-04 17:16 J -7510511.96 -7510511.78 -7510511.59 0.0505 0.0239
 Neptune -25276-09-10 08:52 J -7510383.34 -7510383.13 -7510382.92 0.0089 0.0026
 Mars -25275-03-31 06:28 J -7510181.39 -7510181.23 -7510181.07 0.1700 0.0618
 Neptune -25275-04-23 21:21 J -7510157.82 -7510157.61 -7510157.40 0.0089 0.0024
 Neptune -25275-12-05 09:21 J -7509932.31 -7509932.11 -7509931.89 0.0089 0.0023
 Neptune -25274-07-18 21:35 J -7509706.80 -7509706.60 -7509706.38 0.0089 0.0021
 Neptune -25273-02-29 10:04 J -7509481.29 -7509481.08 -7509480.87 0.0089 0.0019
 Neptune -25273-10-11 22:19 J -7509255.77 -7509255.57 -7509255.35 0.0089 0.0017
 Neptune -25272-05-25 11:02 J -7509030.25 -7509030.04 -7509029.83 0.0089 0.0015
 Jupiter -25272-11-24 16:47 J -7508846.86 -7508846.80 -7508846.74 0.0533 0.0506
 Neptune -25271-01-05 23:16 J -7508804.74 -7508804.53 -7508804.31 0.0089 0.0013
 Jupiter -25271-07-20 00:14 J -7508609.69 -7508609.49 -7508609.29 0.0527 0.0043
 Neptune -25271-08-19 11:31 J -7508579.23 -7508579.02 -7508578.80 0.0089 0.0012
 Mars -25271-11-08 00:28 J -7508498.54 -7508498.48 -7508498.42 0.1826 0.1712
 Jupiter -25270-03-13 22:19 J -7508372.69 -7508372.57 -7508372.44 0.0519 0.0399
 Neptune -25270-04-01 23:59 J -7508353.71 -7508353.50 -7508353.28 0.0089 0.0010

Neptune	-25270-11-13 12:28 J	-7508128.19	-7508127.98	-7508127.76	0.0089	0.0008
Saturn	-25270-12-07 02:09 J	-7508104.43	-7508104.41	-7508104.39	0.0268	0.0267
Neptune	-25269-06-26 00:57 J	-7507902.68	-7507902.46	-7507902.24	0.0089	0.0006
Saturn	-25269-07-23 04:47 J	-7507875.47	-7507875.30	-7507875.12	0.0269	0.0151
Neptune	-25268-02-06 13:26 J	-7507677.16	-7507676.94	-7507676.73	0.0089	0.0004
Saturn	-25268-03-09 09:07 J	-7507646.33	-7507646.12	-7507645.91	0.0271	0.0029
Neptune	-25268-09-20 01:40 J	-7507451.64	-7507451.43	-7507451.21	0.0089	0.0003
Saturn	-25268-10-24 15:21 J	-7507417.06	-7507416.86	-7507416.66	0.0273	0.0097
Neptune	-25267-05-03 14:23 J	-7507226.12	-7507225.90	-7507225.68	0.0089	0.0000
Saturn	-25267-06-10 23:31 J	-7507187.63	-7507187.52	-7507187.39	0.0275	0.0226
Neptune	-25267-12-15 02:52 J	-7507000.60	-7507000.38	-7507000.17	0.0089	0.0002
Neptune	-25266-07-28 15:07 J	-7506775.08	-7506774.87	-7506774.65	0.0089	0.0004
Neptune	-25265-03-10 03:35 J	-7506549.57	-7506549.35	-7506549.14	0.0089	0.0006
Jupiter	-25265-05-15 15:21 J	-7506483.03	-7506482.86	-7506482.68	0.0496	0.0284
Neptune	-25265-10-21 15:50 J	-7506324.05	-7506323.84	-7506323.62	0.0089	0.0008
Jupiter	-25264-01-07 12:14 J	-7506246.19	-7506245.99	-7506245.79	0.0502	0.0123
Neptune	-25264-06-04 04:33 J	-7506098.53	-7506098.31	-7506098.09	0.0089	0.0009
Neptune	-25263-01-15 16:47 J	-7505873.01	-7505872.80	-7505872.58	0.0089	0.0012
Neptune	-25263-08-29 05:16 J	-7505647.49	-7505647.28	-7505647.06	0.0089	0.0013
Neptune	-25262-04-11 17:45 J	-7505421.97	-7505421.76	-7505421.54	0.0089	0.0015
Neptune	-25262-11-23 06:14 J	-7505196.45	-7505196.24	-7505196.03	0.0089	0.0017
Neptune	-25261-07-05 18:43 J	-7504970.93	-7504970.72	-7504970.50	0.0089	0.0019
Neptune	-25260-02-16 07:11 J	-7504745.41	-7504745.20	-7504744.99	0.0089	0.0020
Neptune	-25260-09-29 19:26 J	-7504519.89	-7504519.69	-7504519.47	0.0089	0.0023
Jupiter	-25259-03-24 17:31 J	-7504343.96	-7504343.77	-7504343.58	0.0529	0.0174
Neptune	-25259-05-13 08:09 J	-7504294.36	-7504294.16	-7504293.94	0.0089	0.0024
Jupiter	-25259-11-16 18:43 J	-7504106.88	-7504106.72	-7504106.55	0.0522	0.0282
Neptune	-25259-12-24 20:52 J	-7504068.84	-7504068.63	-7504068.42	0.0088	0.0026
Neptune	-25258-08-07 09:21 J	-7503843.31	-7503843.11	-7503842.90	0.0088	0.0028
Uranus	-25258-08-18 20:38 J	-7503831.74	-7503831.64	-7503831.53	0.0145	0.0127

Neptune	-25257-03-19 21:50 J	-7503617.79	-7503617.59	-7503617.38	0.0088	0.0030
Uranus	-25257-04-01 08:52 J	-7503605.29	-7503605.13	-7503604.97	0.0145	0.0099
Neptune	-25257-10-31 10:19 J	-7503392.26	-7503392.07	-7503391.85	0.0088	0.0032
Uranus	-25257-11-13 20:52 J	-7503378.81	-7503378.63	-7503378.44	0.0145	0.0072
Neptune	-25256-06-13 23:02 J	-7503166.73	-7503166.54	-7503166.32	0.0088	0.0034
Uranus	-25256-06-28 09:07 J	-7503152.32	-7503152.12	-7503151.91	0.0145	0.0045
Neptune	-25255-01-25 11:59 J	-7502941.20	-7502941.00	-7502940.79	0.0088	0.0035
Uranus	-25255-02-09 21:21 J	-7502925.83	-7502925.61	-7502925.39	0.0144	0.0017
Saturn	-25255-05-29 15:50 J	-7502817.01	-7502816.84	-7502816.67	0.0292	0.0179
Neptune	-25255-09-08 00:28 J	-7502715.67	-7502715.48	-7502715.27	0.0088	0.0037
Uranus	-25255-09-24 09:21 J	-7502699.33	-7502699.11	-7502698.89	0.0144	0.0010
Saturn	-25254-01-14 12:43 J	-7502587.18	-7502586.97	-7502586.75	0.0290	0.0025
Neptune	-25254-04-21 12:57 J	-7502490.14	-7502489.96	-7502489.75	0.0088	0.0039
Uranus	-25254-05-08 21:07 J	-7502472.83	-7502472.62	-7502472.40	0.0144	0.0037
Saturn	-25254-09-01 07:11 J	-7502357.39	-7502357.20	-7502357.01	0.0288	0.0124
Neptune	-25254-12-03 01:55 J	-7502264.61	-7502264.42	-7502264.22	0.0088	0.0040
Uranus	-25254-12-21 09:07 J	-7502246.31	-7502246.12	-7502245.92	0.0144	0.0064
Jupiter	-25253-01-19 14:09 J	-7502217.03	-7502216.91	-7502216.78	0.0495	0.0388
Saturn	-25253-04-17 22:47 J	-7502127.61	-7502127.55	-7502127.47	0.0286	0.0266
Neptune	-25253-07-15 14:23 J	-7502039.08	-7502038.90	-7502038.69	0.0088	0.0042
Uranus	-25253-08-03 20:52 J	-7502019.79	-7502019.63	-7502019.45	0.0143	0.0091
Jupiter	-25253-09-12 08:38 J	-7501980.35	-7501980.14	-7501979.93	0.0500	0.0009
Neptune	-25252-02-26 02:52 J	-7501813.55	-7501813.38	-7501813.17	0.0088	0.0044
Uranus	-25252-03-18 08:23 J	-7501793.26	-7501793.15	-7501793.01	0.0143	0.0117
Jupiter	-25252-05-07 11:31 J	-7501743.14	-7501743.02	-7501742.91	0.0507	0.0426
Neptune	-25252-10-09 15:50 J	-7501588.02	-7501587.84	-7501587.64	0.0088	0.0045
Uranus	-25252-10-30 20:23 J	-7501566.65	-7501566.65	-7501566.65	0.0143	0.0143
Neptune	-25251-05-23 04:19 J	-7501362.49	-7501362.32	-7501362.11	0.0088	0.0047
Neptune	-25250-01-03 17:16 J	-7501136.95	-7501136.78	-7501136.59	0.0088	0.0048
Neptune	-25250-08-17 05:45 J	-7500911.42	-7500911.26	-7500911.06	0.0088	0.0050

Neptune -25249-03-29 18:43 J -7500685.89 -7500685.72 -7500685.53 0.0088 0.0051
 Neptune -25249-11-10 07:11 J -7500460.36 -7500460.20 -7500460.00 0.0088 0.0053
 Neptune -25248-06-23 20:23 J -7500234.82 -7500234.65 -7500234.47 0.0088 0.0054
 Jupiter -25248-11-27 11:31 J -7500078.18 -7500078.02 -7500077.86 0.0531 0.0304
 Neptune -25247-02-04 08:52 J -7500009.28 -7500009.13 -7500008.94 0.0088 0.0055
 Jupiter -25247-07-22 15:50 J -7499841.03 -7499840.84 -7499840.65 0.0524 0.0160
 Neptune -25247-09-17 21:50 J -7499783.75 -7499783.59 -7499783.41 0.0088 0.0056
 Neptune -25246-05-01 10:47 J -7499558.21 -7499558.05 -7499557.88 0.0088 0.0058
 Neptune -25246-12-12 23:16 J -7499332.67 -7499332.53 -7499332.34 0.0088 0.0060
 Neptune -25245-07-25 12:28 J -7499107.12 -7499106.98 -7499106.80 0.0088 0.0060
 Neptune -25244-03-08 01:40 J -7498881.58 -7498881.43 -7498881.27 0.0088 0.0061
 Neptune -25244-10-19 14:09 J -7498656.04 -7498655.91 -7498655.73 0.0088 0.0063
 Mars -25243-03-30 03:21 J -7498494.52 -7498494.36 -7498494.19 0.1708 0.0474
 Neptune -25243-06-02 03:07 J -7498430.50 -7498430.37 -7498430.19 0.0088 0.0065
 Neptune -25242-01-13 16:19 J -7498204.95 -7498204.82 -7498204.66 0.0088 0.0065
 Neptune -25242-08-27 05:16 J -7497979.41 -7497979.28 -7497979.12 0.0088 0.0066
 Jupiter -25242-09-24 12:57 J -7497950.98 -7497950.96 -7497950.94 0.0493 0.0489
 Neptune -25241-04-08 18:14 J -7497753.86 -7497753.74 -7497753.58 0.0088 0.0067
 Jupiter -25241-05-18 04:33 J -7497714.51 -7497714.31 -7497714.10 0.0498 0.0108
 Pluto -25241-10-01 11:59 J -7497578.15 -7497578.00 -7497577.84 0.0064 0.0046
 Neptune -25241-11-20 07:11 J -7497528.32 -7497528.20 -7497528.04 0.0088 0.0069
 Jupiter -25240-01-10 04:47 J -7497477.46 -7497477.30 -7497477.13 0.0505 0.0308
 Pluto -25240-05-14 15:50 J -7497353.05 -7497352.84 -7497352.62 0.0065 0.0009
 Saturn -25240-06-18 08:09 J -7497318.23 -7497318.16 -7497318.07 0.0268 0.0247
 Neptune -25240-07-03 20:23 J -7497302.77 -7497302.65 -7497302.50 0.0088 0.0069
 Pluto -25240-12-25 19:11 J -7497127.87 -7497127.70 -7497127.49 0.0065 0.0030
 Saturn -25239-02-02 10:47 J -7497089.23 -7497089.05 -7497088.86 0.0270 0.0130
 Neptune -25239-02-14 09:21 J -7497077.22 -7497077.11 -7497076.95 0.0088 0.0071
 Saturn -25239-09-19 15:21 J -7496860.08 -7496859.86 -7496859.65 0.0271 0.0008
 Neptune -25239-09-27 22:19 J -7496851.68 -7496851.57 -7496851.42 0.0088 0.0072

Mars -25239-11-07 20:23 J -7496810.83 -7496810.65 -7496810.47 0.1815 0.0019
 Saturn -25238-05-06 21:35 J -7496630.79 -7496630.60 -7496630.41 0.0273 0.0120
 Neptune -25238-05-11 11:16 J -7496626.13 -7496626.03 -7496625.88 0.0088 0.0073
 Saturn -25238-12-22 05:45 J -7496401.34 -7496401.26 -7496401.16 0.0275 0.0249
 Neptune -25238-12-23 00:14 J -7496400.58 -7496400.49 -7496400.34 0.0088 0.0074
 Neptune -25237-08-04 14:09 J -7496175.03 -7496174.91 -7496174.79 0.0088 0.0074
 Neptune -25236-03-18 02:52 J -7495949.48 -7495949.38 -7495949.25 0.0088 0.0075
 Jupiter -25236-08-02 05:45 J -7495812.37 -7495812.26 -7495812.14 0.0533 0.0432
 Neptune -25236-10-29 15:50 J -7495723.93 -7495723.84 -7495723.71 0.0088 0.0075
 Jupiter -25235-03-27 12:57 J -7495575.16 -7495574.96 -7495574.76 0.0527 0.0035
 Neptune -25235-06-12 04:47 J -7495498.38 -7495498.30 -7495498.16 0.0088 0.0076
 Jupiter -25235-11-19 10:19 J -7495338.15 -7495338.07 -7495337.98 0.0519 0.0470
 Neptune -25234-01-23 18:28 J -7495272.83 -7495272.73 -7495272.62 0.0088 0.0076
 Neptune -25234-09-06 07:26 J -7495047.28 -7495047.19 -7495047.07 0.0088 0.0077
 Neptune -25233-04-18 20:23 J -7494821.73 -7494821.65 -7494821.52 0.0088 0.0078
 Neptune -25233-11-30 09:50 J -7494596.17 -7494596.09 -7494595.97 0.0088 0.0078
 Neptune -25232-07-13 23:31 J -7494370.61 -7494370.52 -7494370.42 0.0088 0.0079
 Neptune -25231-02-24 12:28 J -7494145.06 -7494144.98 -7494144.86 0.0088 0.0079
 Neptune -25231-10-08 01:55 J -7493919.50 -7493919.42 -7493919.31 0.0088 0.0079
 Neptune -25230-05-21 14:52 J -7493693.95 -7493693.88 -7493693.76 0.0088 0.0080
 Neptune -25229-01-02 04:19 J -7493468.39 -7493468.32 -7493468.21 0.0088 0.0080
 Jupiter -25229-01-22 02:23 J -7493448.58 -7493448.40 -7493448.21 0.0497 0.0218
 Neptune -25229-08-14 17:59 J -7493242.83 -7493242.75 -7493242.65 0.0088 0.0080
 Jupiter -25229-09-15 00:43 J -7493211.67 -7493211.47 -7493211.28 0.0503 0.0192
 Neptune -25228-03-28 07:40 J -7493017.27 -7493017.18 -7493017.09 0.0088 0.0081
 Neptune -25228-11-08 20:23 J -7492791.71 -7492791.65 -7492791.54 0.0088 0.0081
 Neptune -25227-06-22 09:50 J -7492566.16 -7492566.09 -7492565.98 0.0088 0.0081
 Neptune -25226-02-02 23:16 J -7492340.60 -7492340.53 -7492340.43 0.0088 0.0081
 Neptune -25226-09-16 12:43 J -7492115.04 -7492114.97 -7492114.87 0.0088 0.0081
 Saturn -25226-12-09 21:07 J -7492030.80 -7492030.62 -7492030.44 0.0291 0.0158

Neptune -25225-04-29 01:55 J -7491889.48 -7491889.42 -7491889.31 0.0088 0.0081
 Saturn -25225-07-26 17:31 J -7491800.98 -7491800.77 -7491800.55 0.0289 0.0007
 Neptune -25225-12-10 15:21 J -7491663.93 -7491663.86 -7491663.76 0.0088 0.0081
 Saturn -25224-03-13 11:31 J -7491571.19 -7491571.02 -7491570.83 0.0287 0.0144
 Neptune -25224-07-24 04:47 J -7491438.36 -7491438.30 -7491438.19 0.0088 0.0081
 Saturn -25224-10-29 03:07 J -7491341.38 -7491341.37 -7491341.35 0.0285 0.0284
 Jupiter -25224-11-30 08:38 J -7491309.34 -7491309.14 -7491308.95 0.0528 0.0092
 Neptune -25223-03-06 18:14 J -7491212.81 -7491212.74 -7491212.63 0.0088 0.0081
 Jupiter -25223-07-25 07:55 J -7491072.31 -7491072.17 -7491072.02 0.0520 0.0355
 Neptune -25223-10-18 07:26 J -7490987.25 -7490987.19 -7490987.07 0.0088 0.0081
 Neptune -25222-05-31 21:21 J -7490761.69 -7490761.61 -7490761.51 0.0088 0.0080
 Neptune -25221-01-12 10:33 J -7490536.13 -7490536.06 -7490535.95 0.0088 0.0080
 Moon -25221-04-27 17:31 J -7490429.92 -7490429.77 -7490429.61 0.2710 0.0539
 Earth -25221-04-27 22:47 J -7490429.69 -7490429.55 -7490429.41 0.2712 0.1156 *
 Neptune -25221-08-24 23:59 J -7490310.57 -7490310.50 -7490310.38 0.0088 0.0080
 Neptune -25220-04-07 14:09 J -7490085.00 -7490084.91 -7490084.82 0.0088 0.0079
 Neptune -25220-11-19 03:21 J -7489859.44 -7489859.36 -7489859.25 0.0088 0.0079
 Neptune -25219-07-02 16:33 J -7489633.88 -7489633.81 -7489633.69 0.0088 0.0079
 Neptune -25218-02-13 06:28 J -7489408.32 -7489408.23 -7489408.12 0.0088 0.0078
 Neptune -25218-09-26 19:55 J -7489182.75 -7489182.67 -7489182.54 0.0088 0.0078
 Jupiter -25218-09-26 23:59 J -7489182.65 -7489182.50 -7489182.33 0.0496 0.0326 *
 Neptune -25217-05-09 09:35 J -7488957.19 -7488957.10 -7488956.97 0.0088 0.0077
 Jupiter -25217-05-20 20:09 J -7488945.87 -7488945.66 -7488945.45 0.0502 0.0077
 Neptune -25217-12-20 23:31 J -7488731.62 -7488731.52 -7488731.41 0.0088 0.0076
 Jupiter -25216-01-13 00:57 J -7488708.50 -7488708.46 -7488708.41 0.0509 0.0495
 Neptune -25216-08-03 12:43 J -7488506.06 -7488505.97 -7488505.83 0.0088 0.0076
 Neptune -25215-03-17 02:38 J -7488280.49 -7488280.39 -7488280.26 0.0088 0.0075
 Neptune -25215-10-28 16:19 J -7488054.93 -7488054.82 -7488054.69 0.0088 0.0074
 Uranus -25214-01-04 10:19 J -7487987.16 -7487987.07 -7487986.95 0.0133 0.0117
 Neptune -25214-06-11 06:14 J -7487829.36 -7487829.24 -7487829.12 0.0088 0.0074

Uranus	-25214-08-18 15:50 J	-7487760.98	-7487760.84	-7487760.68	0.0133	0.0096
Neptune	-25213-01-22 19:11 J	-7487603.80	-7487603.70	-7487603.55	0.0088	0.0073
Uranus	-25213-03-31 21:07 J	-7487534.78	-7487534.62	-7487534.42	0.0133	0.0075
Moon	-25213-04-25 08:52 J	-7487510.16	-7487510.13	-7487510.09	0.2716	0.2636
Earth	-25213-04-25 13:40 J	-7487509.99	-7487509.93	-7487509.87	0.2712	0.2491
Neptune	-25213-09-04 09:07 J	-7487378.23	-7487378.12	-7487377.97	0.0088	0.0072
Uranus	-25213-11-13 02:52 J	-7487308.57	-7487308.38	-7487308.17	0.0134	0.0053
Neptune	-25212-04-17 22:47 J	-7487152.66	-7487152.55	-7487152.40	0.0088	0.0071
Uranus	-25212-06-27 08:23 J	-7487082.36	-7487082.15	-7487081.93	0.0134	0.0031
Jupiter	-25212-08-05 02:38 J	-7487043.57	-7487043.39	-7487043.20	0.0530	0.0223
Neptune	-25212-11-29 12:28 J	-7486927.10	-7486926.98	-7486926.83	0.0088	0.0070
Uranus	-25211-02-08 14:09 J	-7486856.13	-7486855.91	-7486855.69	0.0134	0.0010
Mars	-25211-03-29 01:11 J	-7486807.51	-7486807.45	-7486807.39	0.1716	0.1591
Jupiter	-25211-03-30 04:47 J	-7486806.47	-7486806.30	-7486806.12	0.0523	0.0236
Neptune	-25211-07-13 01:55 J	-7486701.54	-7486701.42	-7486701.26	0.0088	0.0070
Uranus	-25211-09-22 19:40 J	-7486629.90	-7486629.68	-7486629.46	0.0134	0.0012
Saturn	-25211-12-29 13:40 J	-7486532.03	-7486531.93	-7486531.81	0.0269	0.0228
Neptune	-25210-02-23 15:35 J	-7486475.97	-7486475.85	-7486475.69	0.0088	0.0069
Uranus	-25210-05-07 00:57 J	-7486403.66	-7486403.46	-7486403.24	0.0135	0.0035
Saturn	-25210-08-15 16:47 J	-7486302.99	-7486302.80	-7486302.60	0.0270	0.0110
Neptune	-25210-10-07 05:31 J	-7486250.40	-7486250.27	-7486250.11	0.0088	0.0067
Uranus	-25210-12-19 06:43 J	-7486177.41	-7486177.22	-7486177.02	0.0135	0.0056
Mars	-25209-01-26 17:16 J	-7486138.93	-7486138.78	-7486138.63	0.1697	0.0740
Saturn	-25209-03-31 21:50 J	-7486073.80	-7486073.59	-7486073.38	0.0272	0.0014
Neptune	-25209-05-19 18:57 J	-7486024.84	-7486024.71	-7486024.54	0.0088	0.0067
Uranus	-25209-08-01 12:14 J	-7485951.15	-7485950.99	-7485950.80	0.0135	0.0078
Saturn	-25209-11-16 04:47 J	-7485844.49	-7485844.30	-7485844.12	0.0273	0.0141
Neptune	-25209-12-31 08:38 J	-7485799.27	-7485799.14	-7485798.97	0.0088	0.0065
Uranus	-25208-03-15 17:45 J	-7485724.88	-7485724.76	-7485724.60	0.0135	0.0101
Saturn	-25208-07-03 13:40 J	-7485614.96	-7485614.93	-7485614.88	0.0275	0.0270

Neptune -25208-08-13 22:19 J -7485573.70 -7485573.57 -7485573.39 0.0088 0.0064
 Uranus -25208-10-27 23:45 J -7485498.59 -7485498.51 -7485498.41 0.0136 0.0122
 Neptune -25207-03-27 12:28 J -7485348.13 -7485347.98 -7485347.82 0.0088 0.0063
 Mars -25207-11-07 14:09 J -7485122.98 -7485122.91 -7485122.83 0.1805 0.1627
 Neptune -25207-11-08 02:09 J -7485122.56 -7485122.41 -7485122.24 0.0088 0.0061
 Jupiter -25206-06-01 23:16 J -7484916.64 -7484916.53 -7484916.43 0.0494 0.0426
 Neptune -25206-06-21 15:35 J -7484896.99 -7484896.85 -7484896.66 0.0088 0.0061
 Jupiter -25205-01-24 16:33 J -7484680.02 -7484679.81 -7484679.60 0.0499 0.0036
 Neptune -25205-02-02 05:16 J -7484671.42 -7484671.28 -7484671.09 0.0088 0.0060
 Neptune -25205-09-14 19:26 J -7484445.84 -7484445.69 -7484445.50 0.0088 0.0058
 Jupiter -25205-09-17 18:28 J -7484442.86 -7484442.73 -7484442.59 0.0506 0.0381
 Neptune -25204-04-28 09:07 J -7484220.27 -7484220.12 -7484219.92 0.0088 0.0057
 Neptune -25204-12-09 23:16 J -7483994.70 -7483994.53 -7483994.35 0.0088 0.0055
 Neptune -25203-07-23 12:43 J -7483769.13 -7483768.97 -7483768.77 0.0088 0.0054
 Neptune -25202-03-06 02:23 J -7483543.56 -7483543.40 -7483543.20 0.0088 0.0052
 Neptune -25202-10-17 16:33 J -7483317.98 -7483317.81 -7483317.61 0.0088 0.0050
 Neptune -25201-05-30 05:59 J -7483092.41 -7483092.25 -7483092.04 0.0088 0.0050
 Neptune -25200-01-10 19:55 J -7482866.84 -7482866.67 -7482866.47 0.0088 0.0048
 Jupiter -25200-04-09 18:14 J -7482777.89 -7482777.74 -7482777.59 0.0532 0.0354
 Neptune -25200-08-24 10:04 J -7482641.27 -7482641.08 -7482640.89 0.0088 0.0046
 Jupiter -25200-12-02 23:31 J -7482540.71 -7482540.52 -7482540.32 0.0525 0.0111
 Neptune -25199-04-06 23:31 J -7482415.70 -7482415.52 -7482415.32 0.0088 0.0044
 Neptune -25199-11-18 13:26 J -7482190.13 -7482189.94 -7482189.74 0.0088 0.0043
 Neptune -25198-07-02 02:52 J -7481964.56 -7481964.38 -7481964.17 0.0088 0.0041
 Neptune -25197-02-12 16:33 J -7481739.00 -7481738.81 -7481738.59 0.0088 0.0040
 Neptune -25197-09-25 06:43 J -7481513.42 -7481513.22 -7481513.01 0.0088 0.0038
 Saturn -25197-11-03 10:47 J -7481474.10 -7481474.05 -7481473.99 0.0293 0.0282
 Neptune -25196-05-08 20:09 J -7481287.85 -7481287.66 -7481287.44 0.0088 0.0036
 Saturn -25196-06-21 09:35 J -7481244.29 -7481244.10 -7481243.91 0.0291 0.0126
 Neptune -25196-12-20 10:04 J -7481062.28 -7481062.08 -7481061.86 0.0088 0.0034

Saturn -25195-02-06 05:45 J -7481014.47 -7481014.26 -7481014.05 0.0289 0.0027
 Neptune -25195-08-02 23:45 J -7480836.71 -7480836.51 -7480836.29 0.0088 0.0033
 Saturn -25195-09-23 23:16 J -7480784.69 -7480784.53 -7480784.36 0.0287 0.0174
 Neptune -25194-03-16 13:40 J -7480611.14 -7480610.93 -7480610.72 0.0088 0.0031
 Jupiter -25194-09-29 14:09 J -7480414.11 -7480413.91 -7480413.71 0.0498 0.0148
 Neptune -25194-10-28 03:21 J -7480385.56 -7480385.36 -7480385.13 0.0088 0.0029
 Jupiter -25193-05-23 13:11 J -7480177.12 -7480176.95 -7480176.77 0.0504 0.0264
 Neptune -25193-06-09 17:16 J -7480159.99 -7480159.78 -7480159.56 0.0088 0.0027
 Neptune -25192-01-21 06:57 J -7479934.41 -7479934.21 -7479933.98 0.0088 0.0026
 Neptune -25192-09-03 20:52 J -7479708.84 -7479708.63 -7479708.41 0.0088 0.0024
 Neptune -25191-04-17 10:33 J -7479483.27 -7479483.06 -7479482.84 0.0088 0.0022
 Neptune -25191-11-29 00:28 J -7479257.69 -7479257.48 -7479257.26 0.0088 0.0020
 Neptune -25190-07-12 14:09 J -7479032.12 -7479031.91 -7479031.68 0.0089 0.0018
 Neptune -25189-02-23 03:50 J -7478806.55 -7478806.34 -7478806.11 0.0089 0.0016
 Neptune -25189-10-05 17:31 J -7478580.98 -7478580.77 -7478580.54 0.0089 0.0015
 Jupiter -25189-12-13 10:47 J -7478512.13 -7478512.05 -7478511.96 0.0534 0.0483
 Neptune -25188-05-19 07:26 J -7478355.41 -7478355.19 -7478354.97 0.0089 0.0013
 Jupiter -25188-08-07 19:11 J -7478274.90 -7478274.70 -7478274.50 0.0528 0.0017
 Neptune -25188-12-30 21:07 J -7478129.84 -7478129.62 -7478129.40 0.0089 0.0011
 Jupiter -25187-04-01 17:59 J -7478037.85 -7478037.75 -7478037.63 0.0520 0.0424
 Neptune -25187-08-13 10:47 J -7477904.28 -7477904.05 -7477903.83 0.0089 0.0009
 Neptune -25186-03-27 00:14 J -7477678.71 -7477678.49 -7477678.26 0.0089 0.0007
 Neptune -25186-11-07 13:55 J -7477453.14 -7477452.92 -7477452.69 0.0089 0.0006
 Neptune -25185-06-20 03:35 J -7477227.57 -7477227.35 -7477227.12 0.0089 0.0004
 Neptune -25184-01-31 17:16 J -7477002.00 -7477001.78 -7477001.56 0.0089 0.0001
 Neptune -25184-09-14 06:57 J -7476776.44 -7476776.21 -7476775.99 0.0089 0.0002
 Neptune -25183-04-27 20:23 J -7476550.87 -7476550.65 -7476550.42 0.0089 0.0003
 Neptune -25183-12-09 10:04 J -7476325.30 -7476325.08 -7476324.85 0.0089 0.0005
 Jupiter -25182-06-04 11:16 J -7476148.21 -7476148.03 -7476147.85 0.0496 0.0259
 Neptune -25182-07-22 23:45 J -7476099.73 -7476099.51 -7476099.29 0.0089 0.0006

Jupiter -25181-01-27 07:40 J -7475911.38 -7475911.18 -7475910.98 0.0502 0.0147
 Neptune -25181-03-04 13:11 J -7475874.17 -7475873.95 -7475873.72 0.0089 0.0009
 Saturn -25181-07-10 20:38 J -7475745.78 -7475745.64 -7475745.51 0.0269 0.0206
 Neptune -25181-10-16 03:07 J -7475648.60 -7475648.37 -7475648.15 0.0089 0.0010
 Saturn -25180-02-24 23:45 J -7475516.71 -7475516.51 -7475516.31 0.0270 0.0087
 Neptune -25180-05-29 16:33 J -7475423.03 -7475422.81 -7475422.58 0.0089 0.0012
 Saturn -25180-10-12 04:33 J -7475287.52 -7475287.31 -7475287.10 0.0272 0.0037
 Neptune -25179-01-10 06:14 J -7475197.46 -7475197.24 -7475197.02 0.0089 0.0014
 Saturn -25179-05-29 11:16 J -7475058.19 -7475058.03 -7475057.85 0.0274 0.0165
 Neptune -25179-08-23 19:40 J -7474971.89 -7474971.68 -7474971.45 0.0089 0.0016
 Neptune -25178-04-06 09:07 J -7474746.33 -7474746.12 -7474745.89 0.0089 0.0018
 Neptune -25178-11-17 22:47 J -7474520.76 -7474520.55 -7474520.32 0.0089 0.0020
 Mars -25177-01-25 13:55 J -7474452.09 -7474451.92 -7474451.75 0.1705 0.0339
 Neptune -25177-06-30 12:28 J -7474295.19 -7474294.98 -7474294.76 0.0089 0.0021
 Neptune -25176-02-11 01:55 J -7474069.63 -7474069.42 -7474069.20 0.0089 0.0023
 Jupiter -25176-04-12 15:07 J -7474009.06 -7474008.87 -7474008.68 0.0530 0.0145
 Neptune -25176-09-24 15:21 J -7473844.06 -7473843.86 -7473843.64 0.0089 0.0025
 Jupiter -25176-12-05 16:33 J -7473771.97 -7473771.81 -7473771.65 0.0522 0.0309
 Neptune -25175-05-08 04:47 J -7473618.50 -7473618.30 -7473618.08 0.0089 0.0027
 Neptune -25175-12-19 18:28 J -7473392.94 -7473392.73 -7473392.51 0.0089 0.0028
 Uranus -25174-04-18 00:57 J -7473273.51 -7473273.46 -7473273.40 0.0145 0.0141
 Neptune -25174-08-02 07:40 J -7473167.38 -7473167.18 -7473166.96 0.0089 0.0030
 Uranus -25174-11-30 13:11 J -7473047.08 -7473046.95 -7473046.81 0.0145 0.0113
 Neptune -25173-03-14 21:07 J -7472941.82 -7472941.62 -7472941.40 0.0089 0.0032
 Uranus -25173-07-14 01:26 J -7472820.61 -7472820.44 -7472820.26 0.0145 0.0086
 Mars -25173-09-04 00:28 J -7472768.65 -7472768.48 -7472768.30 0.1819 0.0271
 Neptune -25173-10-26 10:47 J -7472716.26 -7472716.05 -7472715.85 0.0089 0.0033
 Uranus -25172-02-25 13:26 J -7472594.12 -7472593.94 -7472593.73 0.0145 0.0059
 Neptune -25172-06-08 23:59 J -7472490.70 -7472490.50 -7472490.29 0.0089 0.0035
 Uranus -25172-10-10 01:55 J -7472367.63 -7472367.42 -7472367.21 0.0145 0.0031

Neptune -25171-01-20 13:11 J -7472265.13 -7472264.95 -7472264.73 0.0089 0.0037
 Uranus -25171-05-24 13:55 J -7472141.14 -7472140.92 -7472140.70 0.0144 0.0003
 Neptune -25171-09-03 02:52 J -7472039.58 -7472039.38 -7472039.18 0.0089 0.0038
 Uranus -25170-01-06 01:55 J -7471914.63 -7471914.42 -7471914.20 0.0144 0.0024
 Jupiter -25170-02-07 10:04 J -7471882.22 -7471882.08 -7471881.94 0.0495 0.0364
 Neptune -25170-04-16 16:04 J -7471814.02 -7471813.83 -7471813.63 0.0089 0.0040
 Uranus -25170-08-20 13:40 J -7471688.12 -7471687.93 -7471687.71 0.0144 0.0052
 Jupiter -25170-10-02 04:19 J -7471645.53 -7471645.32 -7471645.11 0.0500 0.0032
 Neptune -25170-11-28 05:16 J -7471588.46 -7471588.28 -7471588.07 0.0089 0.0042
 Uranus -25169-04-03 01:26 J -7471461.61 -7471461.44 -7471461.24 0.0144 0.0079
 Jupiter -25169-05-26 07:11 J -7471408.28 -7471408.20 -7471408.09 0.0508 0.0449
 Neptune -25169-07-10 18:43 J -7471362.90 -7471362.72 -7471362.51 0.0089 0.0043
 Uranus -25169-11-15 13:11 J -7471235.08 -7471234.95 -7471234.79 0.0143 0.0105
 Neptune -25168-02-21 07:55 J -7471137.34 -7471137.17 -7471136.96 0.0089 0.0045
 Uranus -25168-06-30 01:11 J -7471008.53 -7471008.45 -7471008.36 0.0143 0.0131
 Neptune -25168-10-04 21:21 J -7470911.78 -7470911.61 -7470911.41 0.0089 0.0046
 Saturn -25167-05-16 16:33 J -7470687.90 -7470687.81 -7470687.71 0.0292 0.0260
 Neptune -25167-05-18 10:33 J -7470686.23 -7470686.06 -7470685.85 0.0089 0.0048
 Neptune -25167-12-30 00:14 J -7470460.66 -7470460.49 -7470460.30 0.0089 0.0049
 Saturn -25166-01-01 14:52 J -7470458.08 -7470457.88 -7470457.68 0.0290 0.0105
 Neptune -25166-08-12 13:40 J -7470235.11 -7470234.93 -7470234.75 0.0089 0.0050
 Saturn -25166-08-19 10:33 J -7470228.27 -7470228.06 -7470227.85 0.0288 0.0047
 Neptune -25165-03-25 02:38 J -7470009.55 -7470009.39 -7470009.20 0.0089 0.0052
 Saturn -25165-04-05 03:50 J -7469998.49 -7469998.34 -7469998.18 0.0286 0.0193
 Neptune -25165-11-05 15:50 J -7469784.00 -7469783.84 -7469783.65 0.0089 0.0054
 Jupiter -25165-12-16 10:04 J -7469743.24 -7469743.08 -7469742.90 0.0531 0.0273
 Neptune -25164-06-19 05:16 J -7469558.44 -7469558.28 -7469558.10 0.0089 0.0055
 Jupiter -25164-08-10 13:40 J -7469506.11 -7469505.93 -7469505.74 0.0524 0.0189
 Neptune -25163-01-30 18:14 J -7469332.89 -7469332.74 -7469332.55 0.0089 0.0057
 Neptune -25163-09-13 07:26 J -7469107.34 -7469107.19 -7469107.00 0.0089 0.0058

Neptune -25162-04-26 20:38 J -7468881.79 -7468881.64 -7468881.46 0.0089 0.0059
 Neptune -25162-12-08 09:50 J -7468656.24 -7468656.09 -7468655.91 0.0089 0.0060
 Neptune -25161-07-20 23:16 J -7468430.69 -7468430.53 -7468430.37 0.0089 0.0061
 Neptune -25160-03-03 12:14 J -7468205.14 -7468204.99 -7468204.83 0.0089 0.0062
 Neptune -25160-10-15 00:57 J -7467979.60 -7467979.46 -7467979.29 0.0089 0.0063
 Neptune -25159-05-28 13:55 J -7467754.05 -7467753.92 -7467753.75 0.0089 0.0064
 Jupiter -25159-10-13 08:23 J -7467616.22 -7467616.15 -7467616.08 0.0494 0.0465
 Neptune -25158-01-09 03:07 J -7467528.50 -7467528.37 -7467528.20 0.0089 0.0065
 Jupiter -25158-06-07 00:43 J -7467379.68 -7467379.47 -7467379.27 0.0499 0.0081
 Neptune -25158-08-22 16:04 J -7467302.96 -7467302.83 -7467302.66 0.0089 0.0066
 Jupiter -25157-01-30 01:40 J -7467142.59 -7467142.43 -7467142.28 0.0506 0.0334
 Neptune -25157-04-04 05:02 J -7467077.41 -7467077.29 -7467077.13 0.0089 0.0067
 Neptune -25157-11-15 18:28 J -7466851.87 -7466851.73 -7466851.59 0.0089 0.0068
 Neptune -25156-06-29 07:11 J -7466626.33 -7466626.20 -7466626.05 0.0089 0.0069
 Neptune -25155-02-09 20:09 J -7466400.78 -7466400.66 -7466400.51 0.0089 0.0070
 Neptune -25155-09-23 09:07 J -7466175.24 -7466175.12 -7466174.97 0.0089 0.0071
 Neptune -25154-05-06 21:50 J -7465949.69 -7465949.59 -7465949.43 0.0089 0.0072
 Neptune -25154-12-18 11:16 J -7465724.15 -7465724.03 -7465723.89 0.0089 0.0072
 Neptune -25153-07-30 23:59 J -7465498.61 -7465498.50 -7465498.36 0.0089 0.0073
 Jupiter -25153-08-21 03:35 J -7465477.48 -7465477.35 -7465477.22 0.0532 0.0401
 Neptune -25152-03-13 13:26 J -7465273.07 -7465272.94 -7465272.82 0.0089 0.0073
 Jupiter -25152-04-15 09:50 J -7465240.29 -7465240.09 -7465239.89 0.0526 0.0063
 Pluto -25152-08-26 14:23 J -7465107.12 -7465106.90 -7465106.68 0.0080 0.0008
 Neptune -25152-10-25 01:55 J -7465047.53 -7465047.42 -7465047.29 0.0089 0.0074
 Jupiter -25152-12-08 06:28 J -7465003.29 -7465003.23 -7465003.17 0.0518 0.0491
 Saturn -25151-01-21 01:11 J -7464959.60 -7464959.45 -7464959.30 0.0269 0.0188
 Pluto -25151-04-09 00:43 J -7464881.56 -7464881.47 -7464881.32 0.0080 0.0067
 Neptune -25151-06-07 14:23 J -7464821.99 -7464821.90 -7464821.75 0.0089 0.0075
 Saturn -25151-09-07 04:33 J -7464730.51 -7464730.31 -7464730.10 0.0271 0.0069
 Neptune -25150-01-19 03:35 J -7464596.45 -7464596.35 -7464596.22 0.0089 0.0075

Saturn -25150-04-24 10:04 J -7464501.29 -7464501.08 -7464500.87 0.0272 0.0056
 Neptune -25150-09-01 16:47 J -7464370.92 -7464370.80 -7464370.69 0.0089 0.0075
 Saturn -25150-12-09 17:31 J -7464271.92 -7464271.77 -7464271.61 0.0274 0.0184
 Neptune -25149-04-14 05:02 J -7464145.39 -7464145.29 -7464145.16 0.0089 0.0075
 Neptune -25149-11-25 17:59 J -7463919.86 -7463919.75 -7463919.63 0.0089 0.0076
 Neptune -25148-07-09 06:14 J -7463694.33 -7463694.24 -7463694.10 0.0089 0.0077
 Neptune -25147-02-19 19:11 J -7463468.79 -7463468.70 -7463468.57 0.0089 0.0077
 Neptune -25147-10-03 08:09 J -7463243.26 -7463243.16 -7463243.04 0.0089 0.0077
 Jupiter -25146-02-09 22:33 J -7463113.75 -7463113.56 -7463113.37 0.0497 0.0190
 Neptune -25146-05-16 20:52 J -7463017.73 -7463017.63 -7463017.51 0.0089 0.0077
 Jupiter -25146-10-04 20:52 J -7462876.82 -7462876.63 -7462876.44 0.0503 0.0220
 Neptune -25146-12-28 09:35 J -7462792.20 -7462792.10 -7462791.99 0.0089 0.0077
 Mars -25145-01-24 11:31 J -7462765.10 -7462765.02 -7462764.93 0.1713 0.1451
 Neptune -25145-08-09 21:50 J -7462566.68 -7462566.59 -7462566.46 0.0089 0.0077
 Neptune -25144-03-23 10:33 J -7462341.14 -7462341.06 -7462340.93 0.0089 0.0077
 Neptune -25144-11-03 23:02 J -7462115.62 -7462115.54 -7462115.40 0.0089 0.0078
 Mars -25144-11-23 04:33 J -7462096.46 -7462096.31 -7462096.16 0.1694 0.0858
 Neptune -25143-06-17 11:45 J -7461890.09 -7461890.01 -7461889.88 0.0089 0.0078
 Neptune -25142-01-29 00:57 J -7461664.56 -7461664.46 -7461664.35 0.0089 0.0077
 Neptune -25142-09-11 13:26 J -7461439.04 -7461438.94 -7461438.82 0.0089 0.0077
 Neptune -25141-04-24 01:55 J -7461213.51 -7461213.42 -7461213.29 0.0089 0.0077
 Jupiter -25141-04-25 17:31 J -7461211.79 -7461211.77 -7461211.75 0.0534 0.0531
 Mars -25141-09-03 18:57 J -7461080.82 -7461080.71 -7461080.60 0.1809 0.1382
 Neptune -25141-12-05 14:23 J -7460987.99 -7460987.90 -7460987.77 0.0089 0.0077
 Jupiter -25141-12-19 02:38 J -7460974.59 -7460974.39 -7460974.19 0.0528 0.0067
 Neptune -25140-07-19 03:07 J -7460762.46 -7460762.37 -7460762.24 0.0089 0.0076
 Jupiter -25140-08-13 02:23 J -7460737.53 -7460737.40 -7460737.26 0.0521 0.0379
 Neptune -25139-03-01 16:04 J -7460536.93 -7460536.83 -7460536.71 0.0089 0.0076
 Neptune -25139-10-13 04:33 J -7460311.41 -7460311.31 -7460311.18 0.0089 0.0075
 Neptune -25138-05-26 16:47 J -7460085.89 -7460085.80 -7460085.66 0.0089 0.0076

Saturn -25138-11-27 04:47 J -7459901.42 -7459901.30 -7459901.16 0.0292 0.0229
 Neptune -25137-01-07 05:31 J -7459860.37 -7459860.27 -7459860.14 0.0089 0.0075
 Saturn -25137-07-14 02:52 J -7459671.58 -7459671.38 -7459671.17 0.0290 0.0074
 Neptune -25137-08-19 17:45 J -7459634.85 -7459634.76 -7459634.62 0.0089 0.0075
 Saturn -25136-02-28 22:19 J -7459441.77 -7459441.57 -7459441.36 0.0289 0.0078
 Neptune -25136-04-02 06:43 J -7459409.33 -7459409.22 -7459409.09 0.0089 0.0074
 Saturn -25136-10-16 15:07 J -7459211.99 -7459211.87 -7459211.73 0.0286 0.0223
 Neptune -25136-11-13 18:57 J -7459183.81 -7459183.71 -7459183.57 0.0089 0.0073
 Neptune -25135-06-27 07:26 J -7458958.30 -7458958.19 -7458958.05 0.0089 0.0073
 Jupiter -25135-10-15 21:21 J -7458847.77 -7458847.61 -7458847.44 0.0495 0.0297
 Neptune -25134-02-07 20:09 J -7458732.78 -7458732.66 -7458732.53 0.0089 0.0072
 Jupiter -25134-06-09 16:47 J -7458611.00 -7458610.80 -7458610.59 0.0501 0.0105
 Neptune -25134-09-21 08:09 J -7458507.26 -7458507.16 -7458507.01 0.0089 0.0072
 Neptune -25133-05-03 20:52 J -7458281.75 -7458281.63 -7458281.49 0.0089 0.0071
 Neptune -25133-12-15 09:21 J -7458056.23 -7458056.11 -7458055.97 0.0089 0.0070
 Neptune -25132-07-28 21:21 J -7457830.72 -7457830.61 -7457830.45 0.0089 0.0070
 Neptune -25131-03-11 10:04 J -7457605.20 -7457605.08 -7457604.92 0.0089 0.0068
 Uranus -25131-09-03 19:11 J -7457428.76 -7457428.70 -7457428.64 0.0133 0.0126
 Neptune -25131-10-22 22:33 J -7457379.68 -7457379.56 -7457379.40 0.0089 0.0068
 Uranus -25130-04-18 00:28 J -7457202.61 -7457202.48 -7457202.34 0.0133 0.0106
 Neptune -25130-06-05 11:02 J -7457154.17 -7457154.04 -7457153.88 0.0089 0.0066
 Uranus -25130-11-30 05:45 J -7456976.41 -7456976.26 -7456976.08 0.0133 0.0085
 Neptune -25129-01-16 23:31 J -7456928.66 -7456928.52 -7456928.36 0.0089 0.0065
 Uranus -25129-07-13 11:16 J -7456750.21 -7456750.03 -7456749.83 0.0133 0.0063
 Jupiter -25129-08-23 21:07 J -7456708.81 -7456708.62 -7456708.44 0.0530 0.0198
 Neptune -25129-08-29 11:59 J -7456703.14 -7456703.00 -7456702.84 0.0089 0.0064
 Uranus -25128-02-24 16:47 J -7456524.00 -7456523.80 -7456523.58 0.0134 0.0042
 Neptune -25128-04-12 00:28 J -7456477.62 -7456477.48 -7456477.32 0.0089 0.0063
 Jupiter -25128-04-17 23:59 J -7456471.67 -7456471.50 -7456471.33 0.0523 0.0260
 Uranus -25128-10-08 22:19 J -7456297.78 -7456297.57 -7456297.35 0.0134 0.0020

Neptune	-25128-11-23 12:57 J	-7456252.10	-7456251.96	-7456251.80	0.0089	0.0062
Uranus	-25127-05-23 03:50 J	-7456071.56	-7456071.34	-7456071.12	0.0134	0.0002
Neptune	-25127-07-07 01:11 J	-7456026.59	-7456026.45	-7456026.28	0.0089	0.0061
Uranus	-25126-01-04 09:21 J	-7455845.32	-7455845.11	-7455844.89	0.0134	0.0024
Neptune	-25126-02-17 13:26 J	-7455801.08	-7455800.94	-7455800.76	0.0089	0.0061
Uranus	-25126-08-18 15:07 J	-7455619.08	-7455618.87	-7455618.67	0.0135	0.0046
Neptune	-25126-10-01 01:55 J	-7455575.56	-7455575.42	-7455575.24	0.0089	0.0059
Uranus	-25125-03-31 20:23 J	-7455392.83	-7455392.65	-7455392.46	0.0135	0.0068
Neptune	-25125-05-13 14:09 J	-7455350.05	-7455349.91	-7455349.72	0.0089	0.0058
Uranus	-25125-11-13 01:55 J	-7455166.57	-7455166.42	-7455166.25	0.0135	0.0090
Neptune	-25125-12-25 02:52 J	-7455124.54	-7455124.38	-7455124.21	0.0089	0.0057
Uranus	-25124-06-27 07:26 J	-7454940.29	-7454940.19	-7454940.05	0.0135	0.0113
Neptune	-25124-08-07 15:07 J	-7454899.03	-7454898.87	-7454898.69	0.0089	0.0055
Moon	-25124-10-27 21:21 J	-7454817.76	-7454817.61	-7454817.45	0.2621	0.0492
Earth	-25124-10-28 03:21 J	-7454817.51	-7454817.36	-7454817.20	0.2621	0.0761 *
Uranus	-25123-02-08 13:40 J	-7454713.95	-7454713.93	-7454713.89	0.0136	0.0134
Neptune	-25123-03-21 03:21 J	-7454673.51	-7454673.36	-7454673.17	0.0089	0.0055
Jupiter	-25123-06-20 19:26 J	-7454581.80	-7454581.69	-7454581.56	0.0494	0.0402
Neptune	-25123-11-01 15:35 J	-7454448.00	-7454447.85	-7454447.66	0.0089	0.0053
Jupiter	-25122-02-12 12:28 J	-7454345.19	-7454344.98	-7454344.77	0.0499	0.0012
Neptune	-25122-06-15 04:04 J	-7454222.50	-7454222.33	-7454222.15	0.0089	0.0052
Saturn	-25122-08-03 07:55 J	-7454173.33	-7454173.17	-7454173.00	0.0269	0.0166
Jupiter	-25122-10-07 14:09 J	-7454108.03	-7454107.91	-7454107.78	0.0506	0.0403
Neptune	-25121-01-26 16:19 J	-7453996.99	-7453996.82	-7453996.63	0.0089	0.0050
Saturn	-25121-03-19 11:31 J	-7453944.23	-7453944.02	-7453943.81	0.0271	0.0046
Neptune	-25121-09-08 04:33 J	-7453771.48	-7453771.31	-7453771.12	0.0089	0.0049
Saturn	-25121-11-03 17:02 J	-7453714.99	-7453714.79	-7453714.58	0.0272	0.0080
Neptune	-25120-04-21 17:16 J	-7453545.96	-7453545.78	-7453545.60	0.0089	0.0047
Saturn	-25120-06-21 00:43 J	-7453485.60	-7453485.47	-7453485.33	0.0274	0.0208
Neptune	-25120-12-03 05:16 J	-7453320.45	-7453320.28	-7453320.08	0.0089	0.0046

Neptune -25119-07-16 17:16 J -7453094.94 -7453094.78 -7453094.57 0.0089 0.0046
 Neptune -25118-02-27 05:45 J -7452869.43 -7452869.26 -7452869.06 0.0089 0.0043
 Neptune -25118-10-10 17:59 J -7452643.92 -7452643.75 -7452643.54 0.0089 0.0042
 Jupiter -25117-04-28 15:35 J -7452443.00 -7452442.85 -7452442.69 0.0532 0.0327
 Neptune -25117-05-23 06:28 J -7452418.41 -7452418.23 -7452418.02 0.0089 0.0040
 Jupiter -25117-12-21 21:21 J -7452205.80 -7452205.61 -7452205.42 0.0525 0.0139
 Neptune -25116-01-03 19:11 J -7452192.90 -7452192.70 -7452192.51 0.0089 0.0039
 Neptune -25116-08-17 07:11 J -7451967.38 -7451967.20 -7451966.99 0.0089 0.0037
 Earth -25116-10-25 18:57 J -7451897.75 -7451897.71 -7451897.68 0.2621 0.2552
 Neptune -25115-03-30 19:55 J -7451741.87 -7451741.67 -7451741.47 0.0089 0.0035
 Neptune -25115-11-11 07:55 J -7451516.36 -7451516.17 -7451515.96 0.0089 0.0034
 Neptune -25114-06-24 20:23 J -7451290.85 -7451290.65 -7451290.44 0.0089 0.0032
 Neptune -25113-02-05 08:23 J -7451065.33 -7451065.15 -7451064.93 0.0089 0.0031
 Neptune -25113-09-17 20:52 J -7450839.82 -7450839.63 -7450839.42 0.0089 0.0029
 Neptune -25112-05-01 09:35 J -7450614.30 -7450614.10 -7450613.89 0.0089 0.0027
 Mars -25112-11-22 01:26 J -7450409.61 -7450409.44 -7450409.27 0.1702 0.0218
 Neptune -25112-12-12 21:35 J -7450388.79 -7450388.60 -7450388.38 0.0089 0.0026
 Neptune -25111-07-26 10:04 J -7450163.28 -7450163.08 -7450162.87 0.0089 0.0024
 Jupiter -25111-10-18 10:04 J -7450079.28 -7450079.08 -7450078.88 0.0498 0.0123
 Neptune -25110-03-08 22:19 J -7449937.78 -7449937.57 -7449937.36 0.0089 0.0022
 Jupiter -25110-06-12 09:07 J -7449842.29 -7449842.12 -7449841.94 0.0504 0.0288
 Neptune -25110-10-20 10:33 J -7449712.26 -7449712.06 -7449711.84 0.0089 0.0021
 Neptune -25109-06-01 23:02 J -7449486.75 -7449486.54 -7449486.33 0.0089 0.0019
 Neptune -25108-01-13 11:16 J -7449261.24 -7449261.03 -7449260.81 0.0089 0.0017
 Saturn -25108-06-08 10:47 J -7449115.19 -7449115.05 -7449114.89 0.0291 0.0207
 Neptune -25108-08-26 23:31 J -7449035.73 -7449035.52 -7449035.30 0.0089 0.0016
 Saturn -25107-01-24 08:38 J -7448885.35 -7448885.14 -7448884.94 0.0290 0.0053
 Neptune -25107-04-09 11:59 J -7448810.21 -7448810.00 -7448809.78 0.0089 0.0014
 Mars -25107-07-02 05:16 J -7448726.45 -7448726.28 -7448726.11 0.1822 0.0521
 Saturn -25107-09-11 03:35 J -7448655.55 -7448655.35 -7448655.15 0.0288 0.0098

Neptune -25107-11-21 00:14 J -7448584.70 -7448584.49 -7448584.27 0.0089 0.0012
 Saturn -25106-04-28 19:55 J -7448425.78 -7448425.67 -7448425.56 0.0286 0.0241
 Neptune -25106-07-04 12:43 J -7448359.19 -7448358.97 -7448358.76 0.0089 0.0010
 Jupiter -25105-01-02 10:04 J -7448177.18 -7448177.08 -7448176.97 0.0533 0.0452
 Neptune -25105-02-15 00:57 J -7448133.67 -7448133.46 -7448133.24 0.0089 0.0008
 Jupiter -25105-08-26 17:59 J -7447939.95 -7447939.75 -7447939.55 0.0527 0.0014
 Neptune -25105-09-27 13:26 J -7447908.16 -7447907.94 -7447907.72 0.0089 0.0007
 Jupiter -25104-04-20 16:19 J -7447702.91 -7447702.82 -7447702.72 0.0519 0.0449
 Neptune -25104-05-11 01:55 J -7447682.63 -7447682.42 -7447682.20 0.0089 0.0005
 Neptune -25104-12-22 14:23 J -7447457.12 -7447456.90 -7447456.68 0.0089 0.0003
 Neptune -25103-08-05 02:52 J -7447231.60 -7447231.38 -7447231.17 0.0089 0.0002
 Neptune -25102-03-18 15:07 J -7447006.08 -7447005.87 -7447005.65 0.0089 0.0002
 Neptune -25102-10-30 03:35 J -7446780.56 -7446780.35 -7446780.13 0.0089 0.0003
 Neptune -25101-06-11 16:04 J -7446555.04 -7446554.83 -7446554.61 0.0089 0.0005
 Neptune -25100-01-23 04:33 J -7446329.52 -7446329.31 -7446329.09 0.0089 0.0006
 Neptune -25100-09-05 17:02 J -7446104.00 -7446103.79 -7446103.57 0.0089 0.0008
 Neptune -25099-04-19 05:31 J -7445878.48 -7445878.27 -7445878.05 0.0089 0.0009
 Jupiter -25099-06-23 07:11 J -7445813.38 -7445813.20 -7445813.01 0.0496 0.0233
 Neptune -25099-11-30 17:45 J -7445652.97 -7445652.76 -7445652.53 0.0089 0.0012
 Jupiter -25098-02-15 04:19 J -7445576.51 -7445576.32 -7445576.12 0.0503 0.0174
 Neptune -25098-07-14 06:28 J -7445427.45 -7445427.23 -7445427.02 0.0089 0.0013
 Neptune -25097-02-24 18:43 J -7445201.93 -7445201.72 -7445201.50 0.0089 0.0015
 Neptune -25097-10-07 07:11 J -7444976.41 -7444976.20 -7444975.98 0.0089 0.0017
 Neptune -25096-05-20 19:55 J -7444750.88 -7444750.67 -7444750.45 0.0089 0.0018
 Neptune -25095-01-01 08:23 J -7444525.36 -7444525.15 -7444524.93 0.0089 0.0020
 Neptune -25095-08-14 20:38 J -7444299.84 -7444299.64 -7444299.42 0.0089 0.0022
 Neptune -25094-03-28 09:07 J -7444074.32 -7444074.12 -7444073.90 0.0088 0.0024
 Neptune -25094-11-08 21:50 J -7443848.80 -7443848.59 -7443848.38 0.0088 0.0025
 Jupiter -25093-05-01 13:11 J -7443674.14 -7443673.95 -7443673.76 0.0529 0.0114
 Neptune -25093-06-21 10:33 J -7443623.26 -7443623.06 -7443622.85 0.0088 0.0026

Saturn	-25093-06-28 09:07 J	-7443616.14	-7443616.12	-7443616.08	0.0268	0.0265
Jupiter	-25093-12-24 13:55 J	-7443437.07	-7443436.92	-7443436.77	0.0521	0.0335
Neptune	-25092-02-01 23:02 J	-7443397.74	-7443397.54	-7443397.32	0.0088	0.0028
Saturn	-25092-02-12 11:31 J	-7443387.19	-7443387.02	-7443386.84	0.0269	0.0149
Neptune	-25092-09-15 11:45 J	-7443172.21	-7443172.01	-7443171.80	0.0088	0.0030
Saturn	-25092-09-29 15:35 J	-7443158.06	-7443157.85	-7443157.64	0.0271	0.0027
Neptune	-25091-04-29 00:14 J	-7442946.68	-7442946.49	-7442946.28	0.0088	0.0032
Saturn	-25091-05-16 21:21 J	-7442928.80	-7442928.61	-7442928.40	0.0273	0.0099
Neptune	-25091-12-10 12:43 J	-7442721.16	-7442720.97	-7442720.75	0.0088	0.0034
Saturn	-25090-01-01 05:31 J	-7442699.38	-7442699.27	-7442699.15	0.0274	0.0227
Neptune	-25090-07-24 01:40 J	-7442495.62	-7442495.43	-7442495.22	0.0088	0.0035
Uranus	-25090-07-30 16:33 J	-7442488.90	-7442488.81	-7442488.69	0.0145	0.0128
Neptune	-25089-03-05 14:09 J	-7442270.10	-7442269.91	-7442269.70	0.0088	0.0036
Uranus	-25089-03-13 05:02 J	-7442262.44	-7442262.29	-7442262.13	0.0145	0.0100
Neptune	-25089-10-17 03:07 J	-7442044.57	-7442044.37	-7442044.17	0.0088	0.0038
Uranus	-25089-10-25 17:02 J	-7442035.97	-7442035.79	-7442035.59	0.0145	0.0073
Neptune	-25088-05-30 15:35 J	-7441819.03	-7441818.85	-7441818.64	0.0088	0.0040
Uranus	-25088-06-09 05:31 J	-7441809.48	-7441809.27	-7441809.06	0.0145	0.0045
Neptune	-25087-01-11 04:33 J	-7441593.50	-7441593.31	-7441593.11	0.0088	0.0041
Uranus	-25087-01-21 17:31 J	-7441582.98	-7441582.77	-7441582.55	0.0144	0.0017
Jupiter	-25087-02-26 06:28 J	-7441547.38	-7441547.23	-7441547.08	0.0495	0.0336
Neptune	-25087-08-24 17:02 J	-7441367.97	-7441367.79	-7441367.58	0.0088	0.0042
Uranus	-25087-09-05 05:31 J	-7441356.48	-7441356.27	-7441356.05	0.0144	0.0011
Jupiter	-25087-10-21 01:11 J	-7441310.66	-7441310.45	-7441310.24	0.0500	0.0061
Neptune	-25086-04-07 05:45 J	-7441142.44	-7441142.26	-7441142.06	0.0088	0.0044
Uranus	-25086-04-19 17:31 J	-7441129.98	-7441129.77	-7441129.56	0.0144	0.0038
Jupiter	-25086-06-15 04:19 J	-7441073.38	-7441073.32	-7441073.24	0.0508	0.0475
Neptune	-25086-11-18 18:14 J	-7440916.91	-7440916.74	-7440916.53	0.0088	0.0046
Uranus	-25086-12-02 05:31 J	-7440903.47	-7440903.27	-7440903.08	0.0144	0.0065
Neptune	-25085-07-01 07:26 J	-7440691.37	-7440691.19	-7440691.00	0.0088	0.0046

Uranus	-25085-07-15 17:02 J	-7440676.94	-7440676.79	-7440676.61	0.0143	0.0093
Neptune	-25084-02-11 20:23 J	-7440465.83	-7440465.65	-7440465.47	0.0088	0.0048
Uranus	-25084-02-27 04:47 J	-7440450.40	-7440450.30	-7440450.16	0.0143	0.0119
Neptune	-25084-09-25 08:38 J	-7440240.30	-7440240.14	-7440239.94	0.0088	0.0050
Neptune	-25083-05-08 21:35 J	-7440014.77	-7440014.60	-7440014.41	0.0088	0.0050
Neptune	-25083-12-20 10:33 J	-7439789.24	-7439789.06	-7439788.88	0.0088	0.0052
Neptune	-25082-08-02 23:02 J	-7439563.70	-7439563.54	-7439563.35	0.0088	0.0053
Jupiter	-25081-01-05 04:33 J	-7439408.49	-7439408.31	-7439408.13	0.0531	0.0248
Neptune	-25081-03-15 11:59 J	-7439338.16	-7439338.00	-7439337.82	0.0088	0.0054
Jupiter	-25081-08-29 08:23 J	-7439171.33	-7439171.15	-7439170.97	0.0524	0.0213
Neptune	-25081-10-27 00:57 J	-7439112.63	-7439112.46	-7439112.28	0.0088	0.0055
Neptune	-25080-06-09 13:55 J	-7438887.08	-7438886.92	-7438886.75	0.0088	0.0057
Mars	-25080-11-20 22:33 J	-7438722.67	-7438722.56	-7438722.45	0.1711	0.1312
Neptune	-25079-01-21 02:23 J	-7438661.54	-7438661.40	-7438661.21	0.0088	0.0058
Neptune	-25079-09-03 15:21 J	-7438436.00	-7438435.86	-7438435.68	0.0088	0.0059
Saturn	-25079-12-19 21:35 J	-7438328.76	-7438328.60	-7438328.43	0.0292	0.0177
Neptune	-25078-04-17 04:19 J	-7438210.46	-7438210.32	-7438210.14	0.0088	0.0060
Saturn	-25078-08-06 18:57 J	-7438098.92	-7438098.71	-7438098.50	0.0290	0.0022
Mars	-25078-09-20 16:04 J	-7438053.97	-7438053.83	-7438053.69	0.1692	0.0968
Neptune	-25078-11-28 17:16 J	-7437984.92	-7437984.78	-7437984.60	0.0088	0.0061
Saturn	-25077-03-23 13:40 J	-7437869.11	-7437868.93	-7437868.74	0.0288	0.0128
Neptune	-25077-07-11 06:28 J	-7437759.37	-7437759.23	-7437759.06	0.0088	0.0062
Saturn	-25077-11-08 05:45 J	-7437639.32	-7437639.26	-7437639.18	0.0286	0.0270
Neptune	-25076-02-21 19:26 J	-7437533.82	-7437533.69	-7437533.52	0.0088	0.0063
Neptune	-25076-10-05 08:23 J	-7437308.28	-7437308.15	-7437307.98	0.0088	0.0064
Jupiter	-25076-11-01 06:43 J	-7437281.32	-7437281.22	-7437281.13	0.0493	0.0437
Neptune	-25075-05-18 21:21 J	-7437082.74	-7437082.61	-7437082.44	0.0088	0.0065
Jupiter	-25075-06-25 22:33 J	-7437044.76	-7437044.56	-7437044.35	0.0498	0.0052
Mars	-25075-07-01 23:31 J	-7437038.65	-7437038.52	-7437038.38	0.1812	0.1133
Neptune	-25075-12-30 10:19 J	-7436857.19	-7436857.07	-7436856.90	0.0088	0.0066

Jupiter -25074-02-17 23:02 J -7436807.68 -7436807.54 -7436807.39 0.0505 0.0361
 Neptune -25074-08-12 23:31 J -7436631.64 -7436631.52 -7436631.36 0.0088 0.0067
 Neptune -25073-03-25 12:57 J -7436406.10 -7436405.96 -7436405.81 0.0088 0.0067
 Neptune -25073-11-06 01:40 J -7436180.55 -7436180.43 -7436180.27 0.0088 0.0069
 Neptune -25072-06-19 14:38 J -7435955.00 -7435954.89 -7435954.73 0.0088 0.0070
 Neptune -25071-01-31 03:35 J -7435729.45 -7435729.35 -7435729.19 0.0088 0.0071
 Neptune -25071-09-13 17:02 J -7435503.91 -7435503.79 -7435503.64 0.0088 0.0071
 Neptune -25070-04-27 05:59 J -7435278.36 -7435278.25 -7435278.10 0.0088 0.0071
 Jupiter -25070-09-09 21:35 J -7435142.73 -7435142.60 -7435142.45 0.0533 0.0378
 Neptune -25070-12-08 18:57 J -7435052.81 -7435052.71 -7435052.56 0.0088 0.0072
 Jupiter -25069-05-04 04:33 J -7434905.51 -7434905.31 -7434905.12 0.0526 0.0088
 Neptune -25069-07-21 08:23 J -7434827.26 -7434827.15 -7434827.00 0.0088 0.0073
 Jupiter -25069-12-27 01:55 J -7434668.44 -7434668.42 -7434668.40 0.0519 0.0515
 Neptune -25068-03-03 21:21 J -7434601.70 -7434601.61 -7434601.46 0.0088 0.0074
 Neptune -25068-10-15 10:47 J -7434376.15 -7434376.05 -7434375.91 0.0088 0.0073
 Neptune -25067-05-29 00:28 J -7434150.60 -7434150.48 -7434150.36 0.0088 0.0074
 Neptune -25066-01-09 13:11 J -7433925.05 -7433924.95 -7433924.81 0.0088 0.0074
 Neptune -25066-08-23 02:52 J -7433699.49 -7433699.38 -7433699.25 0.0088 0.0074
 Neptune -25065-04-04 15:50 J -7433473.93 -7433473.84 -7433473.70 0.0088 0.0075
 Neptune -25065-11-16 05:16 J -7433248.38 -7433248.28 -7433248.14 0.0088 0.0075
 Neptune -25064-06-29 18:43 J -7433022.82 -7433022.72 -7433022.59 0.0088 0.0075
 Saturn -25063-01-08 15:50 J -7432829.92 -7432829.84 -7432829.75 0.0268 0.0243
 Neptune -25063-02-10 08:09 J -7432797.26 -7432797.16 -7432797.03 0.0088 0.0075
 Jupiter -25063-02-28 19:26 J -7432778.88 -7432778.69 -7432778.49 0.0497 0.0165
 Saturn -25063-08-25 17:59 J -7432600.93 -7432600.75 -7432600.56 0.0269 0.0127
 Neptune -25063-09-23 21:35 J -7432571.70 -7432571.60 -7432571.47 0.0088 0.0075
 Jupiter -25063-10-23 17:31 J -7432541.96 -7432541.77 -7432541.59 0.0503 0.0245
 Saturn -25062-04-11 22:19 J -7432371.79 -7432371.57 -7432371.36 0.0271 0.0007
 Neptune -25062-05-07 11:16 J -7432346.14 -7432346.03 -7432345.92 0.0088 0.0075
 Saturn -25062-11-27 04:04 J -7432142.51 -7432142.33 -7432142.13 0.0273 0.0122

Neptune -25062-12-18 23:59 J -7432120.59 -7432120.50 -7432120.36 0.0088 0.0076
 Saturn -25061-07-13 12:28 J -7431913.06 -7431912.98 -7431912.89 0.0275 0.0251
 Neptune -25061-07-31 13:26 J -7431895.02 -7431894.94 -7431894.80 0.0088 0.0076
 Neptune -25060-03-14 03:35 J -7431669.46 -7431669.35 -7431669.24 0.0088 0.0076
 Neptune -25060-10-25 16:47 J -7431443.91 -7431443.80 -7431443.68 0.0088 0.0076
 Neptune -25059-06-08 06:14 J -7431218.35 -7431218.24 -7431218.12 0.0088 0.0075
 Neptune -25058-01-19 19:26 J -7430992.79 -7430992.69 -7430992.56 0.0088 0.0075
 Jupiter -25058-05-15 15:21 J -7430876.93 -7430876.86 -7430876.80 0.0534 0.0504
 Neptune -25058-09-02 08:52 J -7430767.23 -7430767.13 -7430767.00 0.0088 0.0075
 Jupiter -25057-01-08 00:43 J -7430639.67 -7430639.47 -7430639.27 0.0528 0.0039
 Neptune -25057-04-14 22:19 J -7430541.67 -7430541.57 -7430541.44 0.0088 0.0075
 Jupiter -25057-09-01 00:43 J -7430402.59 -7430402.47 -7430402.34 0.0521 0.0405
 Neptune -25057-11-26 11:31 J -7430316.11 -7430316.02 -7430315.87 0.0088 0.0075
 Neptune -25056-07-10 01:26 J -7430090.55 -7430090.44 -7430090.31 0.0088 0.0074
 Neptune -25055-02-20 14:38 J -7429864.99 -7429864.89 -7429864.75 0.0088 0.0075
 Neptune -25055-10-04 04:04 J -7429639.42 -7429639.33 -7429639.18 0.0088 0.0074
 Neptune -25054-05-17 17:59 J -7429413.86 -7429413.75 -7429413.61 0.0088 0.0073
 Neptune -25054-12-29 07:11 J -7429188.30 -7429188.20 -7429188.05 0.0088 0.0073
 Neptune -25053-08-10 21:07 J -7428962.73 -7428962.62 -7428962.47 0.0088 0.0073
 Neptune -25052-03-24 10:33 J -7428737.16 -7428737.06 -7428736.90 0.0088 0.0072
 Jupiter -25052-11-03 17:59 J -7428512.92 -7428512.75 -7428512.57 0.0495 0.0271
 Neptune -25052-11-05 00:28 J -7428511.60 -7428511.48 -7428511.33 0.0088 0.0071
 Neptune -25051-06-18 14:23 J -7428286.03 -7428285.90 -7428285.77 0.0088 0.0070
 Jupiter -25051-06-28 13:26 J -7428276.14 -7428275.94 -7428275.74 0.0501 0.0130
 Neptune -25050-01-30 03:35 J -7428060.47 -7428060.35 -7428060.20 0.0088 0.0070
 Neptune -25050-09-12 17:31 J -7427834.89 -7427834.77 -7427834.62 0.0088 0.0069
 Neptune -25049-04-25 07:11 J -7427609.33 -7427609.20 -7427609.05 0.0088 0.0069
 Saturn -25049-07-01 03:07 J -7427542.54 -7427542.37 -7427542.18 0.0291 0.0156
 Neptune -25049-12-06 20:38 J -7427383.76 -7427383.64 -7427383.48 0.0088 0.0068
 Saturn -25048-02-16 00:14 J -7427312.70 -7427312.49 -7427312.27 0.0289 0.0005

Neptune	-25048-07-20 10:19 J	-7427158.20	-7427158.07	-7427157.91	0.0088	0.0067
Saturn	-25048-10-03 18:28 J	-7427082.90	-7427082.73	-7427082.54	0.0287	0.0147
Neptune	-25047-03-02 23:59 J	-7426932.63	-7426932.50	-7426932.34	0.0088	0.0066
Neptune	-25047-10-14 13:40 J	-7426707.06	-7426706.93	-7426706.76	0.0088	0.0065
Uranus	-25047-12-16 08:52 J	-7426644.22	-7426644.13	-7426644.01	0.0133	0.0116
Neptune	-25046-05-28 03:21 J	-7426481.50	-7426481.36	-7426481.19	0.0088	0.0064
Uranus	-25046-07-30 14:38 J	-7426418.04	-7426417.89	-7426417.74	0.0133	0.0095
Jupiter	-25046-09-12 20:52 J	-7426373.82	-7426373.63	-7426373.44	0.0530	0.0165
Mars	-25046-09-19 12:14 J	-7426367.15	-7426366.99	-7426366.82	0.1700	0.0103
Neptune	-25045-01-08 17:02 J	-7426255.93	-7426255.79	-7426255.62	0.0088	0.0063
Uranus	-25045-03-12 19:40 J	-7426191.85	-7426191.68	-7426191.48	0.0133	0.0074
Jupiter	-25045-05-06 23:16 J	-7426136.69	-7426136.53	-7426136.36	0.0523	0.0290
Neptune	-25045-08-21 06:43 J	-7426030.36	-7426030.22	-7426030.05	0.0088	0.0062
Uranus	-25045-10-25 01:11 J	-7425965.64	-7425965.45	-7425965.24	0.0134	0.0052
Neptune	-25044-04-03 20:23 J	-7425804.80	-7425804.65	-7425804.48	0.0088	0.0061
Uranus	-25044-06-08 06:43 J	-7425739.43	-7425739.22	-7425739.00	0.0134	0.0030
Neptune	-25044-11-15 10:04 J	-7425579.23	-7425579.08	-7425578.90	0.0088	0.0060
Uranus	-25043-01-20 12:28 J	-7425513.20	-7425512.98	-7425512.76	0.0134	0.0008
Neptune	-25043-06-28 23:45 J	-7425353.66	-7425353.51	-7425353.33	0.0088	0.0059
Uranus	-25043-09-03 17:45 J	-7425286.97	-7425286.76	-7425286.54	0.0134	0.0015
Neptune	-25042-02-09 13:11 J	-7425128.10	-7425127.95	-7425127.76	0.0088	0.0059
Uranus	-25042-04-17 23:16 J	-7425060.73	-7425060.53	-7425060.32	0.0134	0.0036
Neptune	-25042-09-23 03:07 J	-7424902.52	-7424902.37	-7424902.18	0.0088	0.0057
Uranus	-25042-11-30 04:33 J	-7424834.49	-7424834.31	-7424834.10	0.0135	0.0059
Mars	-25041-04-28 09:07 J	-7424684.28	-7424684.12	-7424683.95	0.1825	0.0797
Neptune	-25041-05-05 17:16 J	-7424676.95	-7424676.78	-7424676.60	0.0088	0.0056
Uranus	-25041-07-13 10:33 J	-7424608.23	-7424608.06	-7424607.88	0.0135	0.0080
Neptune	-25041-12-17 06:57 J	-7424451.38	-7424451.21	-7424451.03	0.0088	0.0054
Uranus	-25040-02-24 16:19 J	-7424381.96	-7424381.82	-7424381.68	0.0135	0.0102
Jupiter	-25040-07-09 16:19 J	-7424246.96	-7424246.82	-7424246.69	0.0494	0.0375

Neptune -25040-07-30 20:23 J -7424225.81 -7424225.65 -7424225.46 0.0088 0.0053
 Uranus -25040-10-08 21:50 J -7424155.66 -7424155.59 -7424155.49 0.0135 0.0125
 Jupiter -25039-03-03 09:35 J -7424010.31 -7424010.10 -7424009.89 0.0500 0.0017
 Neptune -25039-03-13 10:04 J -7424000.24 -7424000.08 -7423999.88 0.0088 0.0052
 Neptune -25039-10-25 00:14 J -7423774.67 -7423774.49 -7423774.30 0.0088 0.0051
 Jupiter -25039-10-26 11:59 J -7423773.11 -7423773.00 -7423772.89 0.0507 0.0430
 Neptune -25038-06-07 13:55 J -7423549.10 -7423548.92 -7423548.72 0.0088 0.0049
 Neptune -25037-01-19 03:35 J -7423323.52 -7423323.35 -7423323.15 0.0088 0.0048
 Neptune -25037-08-31 17:31 J -7423097.95 -7423097.77 -7423097.57 0.0088 0.0047
 Neptune -25036-04-14 07:11 J -7422872.38 -7422872.20 -7422871.99 0.0088 0.0045
 Neptune -25036-11-25 21:07 J -7422646.81 -7422646.62 -7422646.42 0.0088 0.0044
 Neptune -25035-07-09 10:47 J -7422421.24 -7422421.05 -7422420.84 0.0088 0.0042
 Neptune -25034-02-20 00:43 J -7422195.67 -7422195.47 -7422195.27 0.0088 0.0041
 Jupiter -25034-05-18 15:07 J -7422108.03 -7422107.87 -7422107.70 0.0532 0.0294
 Saturn -25034-07-21 17:31 J -7422043.87 -7422043.77 -7422043.65 0.0268 0.0228
 Neptune -25034-10-03 14:09 J -7421970.09 -7421969.91 -7421969.69 0.0088 0.0040
 Jupiter -25033-01-10 19:55 J -7421870.85 -7421870.67 -7421870.48 0.0525 0.0169
 Saturn -25033-03-06 20:09 J -7421814.85 -7421814.66 -7421814.46 0.0270 0.0111
 Neptune -25033-05-16 04:19 J -7421744.52 -7421744.32 -7421744.12 0.0088 0.0038
 Saturn -25033-10-22 00:43 J -7421585.68 -7421585.47 -7421585.26 0.0271 0.0012
 Neptune -25033-12-27 17:45 J -7421518.95 -7421518.76 -7421518.54 0.0088 0.0036
 Saturn -25032-06-08 06:57 J -7421356.38 -7421356.21 -7421356.02 0.0273 0.0139
 Neptune -25032-08-10 07:26 J -7421293.39 -7421293.19 -7421292.97 0.0088 0.0035
 Saturn -25031-01-23 15:50 J -7421126.89 -7421126.84 -7421126.80 0.0275 0.0267
 Neptune -25031-03-23 21:07 J -7421067.82 -7421067.62 -7421067.40 0.0088 0.0033
 Neptune -25031-11-04 11:02 J -7420842.24 -7420842.04 -7420841.82 0.0088 0.0032
 Neptune -25030-06-18 00:57 J -7420616.67 -7420616.46 -7420616.25 0.0088 0.0030
 Neptune -25029-01-29 14:23 J -7420391.10 -7420390.90 -7420390.67 0.0088 0.0029
 Neptune -25029-09-11 04:19 J -7420165.53 -7420165.32 -7420165.10 0.0088 0.0027
 Jupiter -25028-03-14 16:33 J -7419980.86 -7419980.81 -7419980.75 0.0493 0.0473

Neptune -25028-04-24 18:14 J -7419939.96 -7419939.74 -7419939.52 0.0088 0.0025
 Jupiter -25028-11-06 07:55 J -7419744.38 -7419744.17 -7419743.97 0.0498 0.0093
 Neptune -25028-12-06 07:55 J -7419714.38 -7419714.17 -7419713.95 0.0088 0.0023
 Jupiter -25027-07-01 07:11 J -7419507.35 -7419507.20 -7419507.03 0.0504 0.0319
 Neptune -25027-07-19 21:35 J -7419488.81 -7419488.60 -7419488.37 0.0088 0.0022
 Neptune -25026-03-02 11:31 J -7419263.24 -7419263.02 -7419262.80 0.0088 0.0020
 Neptune -25026-10-14 01:26 J -7419037.66 -7419037.44 -7419037.22 0.0088 0.0018
 Neptune -25025-05-26 15:07 J -7418812.09 -7418811.87 -7418811.64 0.0088 0.0016
 Neptune -25024-01-07 04:47 J -7418586.51 -7418586.30 -7418586.07 0.0089 0.0015
 Neptune -25024-08-20 18:43 J -7418360.94 -7418360.72 -7418360.50 0.0089 0.0013
 Neptune -25023-04-03 08:09 J -7418135.37 -7418135.16 -7418134.93 0.0089 0.0012
 Neptune -25023-11-14 22:04 J -7417909.80 -7417909.58 -7417909.35 0.0089 0.0010
 Jupiter -25022-01-21 05:16 J -7417842.39 -7417842.28 -7417842.15 0.0533 0.0427
 Neptune -25022-06-28 11:45 J -7417684.23 -7417684.01 -7417683.78 0.0089 0.0008
 Jupiter -25022-09-15 13:11 J -7417605.15 -7417604.95 -7417604.75 0.0527 0.0040
 Neptune -25021-02-09 01:26 J -7417458.66 -7417458.44 -7417458.21 0.0089 0.0006
 Jupiter -25021-05-09 11:45 J -7417368.09 -7417368.01 -7417367.93 0.0520 0.0473
 Neptune -25021-09-21 15:07 J -7417233.09 -7417232.87 -7417232.64 0.0089 0.0004
 Neptune -25020-05-05 04:47 J -7417007.52 -7417007.30 -7417007.08 0.0089 0.0002
 Saturn -25020-05-26 13:26 J -7416985.98 -7416985.94 -7416985.88 0.0293 0.0283
 Neptune -25020-12-16 18:28 J -7416781.95 -7416781.73 -7416781.50 0.0089 0.0001
 Saturn -25019-01-11 12:57 J -7416756.15 -7416755.96 -7416755.77 0.0291 0.0126
 Neptune -25019-07-30 08:09 J -7416556.39 -7416556.16 -7416555.94 0.0089 0.0002
 Saturn -25019-08-29 09:35 J -7416526.31 -7416526.10 -7416525.89 0.0290 0.0028
 Neptune -25018-03-12 21:35 J -7416330.82 -7416330.60 -7416330.37 0.0089 0.0003
 Saturn -25018-04-16 03:50 J -7416296.51 -7416296.34 -7416296.17 0.0288 0.0176
 Neptune -25018-10-24 11:16 J -7416105.25 -7416105.03 -7416104.80 0.0089 0.0005
 Neptune -25017-06-06 00:57 J -7415879.68 -7415879.46 -7415879.24 0.0089 0.0006
 Neptune -25016-01-17 14:38 J -7415654.11 -7415653.89 -7415653.67 0.0089 0.0008
 Jupiter -25016-07-12 06:43 J -7415478.41 -7415478.22 -7415478.03 0.0496 0.0202

Neptune -25016-08-31 04:04 J -7415428.55 -7415428.33 -7415428.11 0.0089 0.0010
 Jupiter -25015-03-06 03:35 J -7415241.54 -7415241.35 -7415241.16 0.0502 0.0204
 Neptune -25015-04-13 17:31 J -7415202.98 -7415202.77 -7415202.54 0.0089 0.0012
 Neptune -25015-11-25 07:11 J -7414977.41 -7414977.20 -7414976.97 0.0089 0.0014
 Neptune -25014-07-08 21:07 J -7414751.84 -7414751.62 -7414751.40 0.0089 0.0015
 Mars -25014-09-18 09:21 J -7414680.24 -7414680.11 -7414679.99 0.1708 0.1177
 Neptune -25013-02-19 10:33 J -7414526.28 -7414526.06 -7414525.84 0.0089 0.0017
 Neptune -25013-10-01 23:59 J -7414300.71 -7414300.50 -7414300.28 0.0089 0.0019
 Neptune -25012-05-15 13:40 J -7414075.15 -7414074.93 -7414074.71 0.0089 0.0020
 Mars -25012-07-18 03:21 J -7414011.49 -7414011.36 -7414011.23 0.1689 0.1081
 Neptune -25012-12-27 03:07 J -7413849.58 -7413849.37 -7413849.14 0.0089 0.0022
 Neptune -25011-08-09 16:33 J -7413624.01 -7413623.81 -7413623.58 0.0089 0.0024
 Neptune -25010-03-23 06:14 J -7413398.45 -7413398.24 -7413398.03 0.0089 0.0025
 Jupiter -25010-05-21 08:09 J -7413339.36 -7413339.16 -7413338.97 0.0529 0.0090
 Neptune -25010-11-03 19:26 J -7413172.89 -7413172.69 -7413172.46 0.0089 0.0027
 Jupiter -25009-01-13 09:21 J -7413102.25 -7413102.11 -7413101.97 0.0522 0.0359
 Mars -25009-04-28 04:04 J -7412996.49 -7412996.33 -7412996.17 0.1815 0.0875
 Neptune -25009-06-16 08:52 J -7412947.33 -7412947.13 -7412946.91 0.0089 0.0029
 Neptune -25008-01-27 22:33 J -7412721.76 -7412721.56 -7412721.35 0.0089 0.0030
 Neptune -25008-09-10 11:45 J -7412496.21 -7412496.01 -7412495.79 0.0089 0.0032
 Neptune -25007-04-24 01:11 J -7412270.65 -7412270.45 -7412270.24 0.0089 0.0033
 Neptune -25007-12-05 14:23 J -7412045.09 -7412044.90 -7412044.68 0.0089 0.0035
 Uranus -25006-03-29 20:38 J -7411930.67 -7411930.64 -7411930.58 0.0145 0.0142
 Neptune -25006-07-19 04:04 J -7411819.53 -7411819.33 -7411819.12 0.0089 0.0036
 Uranus -25006-11-11 09:07 J -7411704.25 -7411704.12 -7411703.99 0.0145 0.0115
 Neptune -25005-02-29 17:02 J -7411593.97 -7411593.79 -7411593.57 0.0089 0.0038
 Uranus -25005-06-24 21:07 J -7411477.78 -7411477.62 -7411477.43 0.0145 0.0087
 Neptune -25005-10-12 06:28 J -7411368.42 -7411368.23 -7411368.02 0.0089 0.0039
 Saturn -25004-01-30 23:59 J -7411257.63 -7411257.50 -7411257.37 0.0268 0.0206
 Uranus -25004-02-06 09:35 J -7411251.30 -7411251.10 -7411250.90 0.0145 0.0059

Jupiter -25004-03-17 05:02 J -7411212.45 -7411212.29 -7411212.13 0.0495 0.0309
 Neptune -25004-05-25 19:40 J -7411142.86 -7411142.68 -7411142.47 0.0089 0.0041
 Saturn -25004-09-17 02:23 J -7411028.59 -7411028.40 -7411028.19 0.0270 0.0089
 Uranus -25004-09-20 21:35 J -7411024.81 -7411024.60 -7411024.39 0.0145 0.0031
 Jupiter -25004-11-08 23:02 J -7410975.74 -7410975.54 -7410975.33 0.0500 0.0088
 Neptune -25003-01-06 09:07 J -7410917.30 -7410917.12 -7410916.91 0.0089 0.0042
 Saturn -25003-05-04 06:57 J -7410799.42 -7410799.21 -7410799.00 0.0271 0.0035
 Uranus -25003-05-05 09:35 J -7410798.32 -7410798.10 -7410797.88 0.0144 0.0003
 Jupiter -25003-07-04 01:55 J -7410738.45 -7410738.42 -7410738.38 0.0507 0.0499
 Neptune -25003-08-19 22:33 J -7410691.74 -7410691.56 -7410691.36 0.0089 0.0044
 Uranus -25003-12-17 21:35 J -7410571.82 -7410571.60 -7410571.39 0.0144 0.0024
 Saturn -25003-12-19 13:26 J -7410570.10 -7410569.94 -7410569.76 0.0273 0.0162
 Neptune -25002-04-02 11:31 J -7410466.19 -7410466.02 -7410465.81 0.0089 0.0045
 Uranus -25002-08-01 09:21 J -7410345.30 -7410345.11 -7410344.90 0.0144 0.0052
 Neptune -25002-11-14 00:57 J -7410240.63 -7410240.46 -7410240.26 0.0089 0.0046
 Uranus -25001-03-14 21:07 J -7410118.79 -7410118.62 -7410118.42 0.0144 0.0080
 Neptune -25001-06-26 14:38 J -7410015.08 -7410014.89 -7410014.71 0.0089 0.0047
 Uranus -25001-10-27 08:52 J -7409892.26 -7409892.13 -7409891.97 0.0143 0.0106

25TH MILLENNIUM BCE

This is a list of transits of Venus in the 25th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								

Neptune -25000-02-07 03:35 J -7409789.52 -7409789.35 -7409789.15 0.0089 0.0049

Uranus	-25000-06-10 20:23 J	-7409665.71	-7409665.65	-7409665.55	0.0143	0.0133
Neptune	-25000-09-20 16:47 J	-7409563.96	-7409563.80	-7409563.60	0.0089	0.0050
Neptune	-24999-05-04 06:14 J	-7409338.41	-7409338.24	-7409338.05	0.0089	0.0051
Neptune	-24999-12-15 19:26 J	-7409112.86	-7409112.69	-7409112.50	0.0089	0.0053
Jupiter	-24998-01-24 03:07 J	-7409073.55	-7409073.37	-7409073.18	0.0531	0.0218
Neptune	-24998-07-29 08:52 J	-7408887.30	-7408887.13	-7408886.95	0.0089	0.0054
Jupiter	-24998-09-18 07:26 J	-7408836.37	-7408836.19	-7408836.02	0.0524	0.0242
Neptune	-24997-03-10 22:04 J	-7408661.75	-7408661.58	-7408661.41	0.0089	0.0055
Neptune	-24997-10-22 10:33 J	-7408436.21	-7408436.06	-7408435.87	0.0089	0.0056
Neptune	-24996-06-04 23:45 J	-7408210.66	-7408210.51	-7408210.32	0.0089	0.0057
Neptune	-24995-01-16 12:57 J	-7407985.11	-7407984.96	-7407984.78	0.0089	0.0058
Pluto	-24995-03-19 22:04 J	-7407922.64	-7407922.58	-7407922.51	0.0064	0.0061
Neptune	-24995-08-30 01:55 J	-7407759.56	-7407759.42	-7407759.24	0.0089	0.0059
Pluto	-24995-10-31 01:40 J	-7407697.62	-7407697.43	-7407697.22	0.0064	0.0024
Neptune	-24994-04-12 14:52 J	-7407534.02	-7407533.88	-7407533.70	0.0089	0.0060
Pluto	-24994-06-13 05:31 J	-7407472.48	-7407472.27	-7407472.05	0.0065	0.0014
Neptune	-24994-11-24 03:50 J	-7407308.48	-7407308.34	-7407308.16	0.0089	0.0061
Pluto	-24993-01-24 08:52 J	-7407247.24	-7407247.13	-7407246.98	0.0065	0.0052
Neptune	-24993-07-06 17:16 J	-7407082.93	-7407082.78	-7407082.62	0.0089	0.0062
Jupiter	-24993-11-20 04:04 J	-7406946.43	-7406946.33	-7406946.21	0.0493	0.0412
Neptune	-24992-02-17 06:14 J	-7406857.38	-7406857.24	-7406857.07	0.0089	0.0063
Jupiter	-24992-07-14 20:09 J	-7406709.87	-7406709.66	-7406709.45	0.0498	0.0025
Neptune	-24992-09-30 19:11 J	-7406631.84	-7406631.70	-7406631.54	0.0089	0.0064
Jupiter	-24991-03-08 20:38 J	-7406472.77	-7406472.64	-7406472.51	0.0505	0.0386
Neptune	-24991-05-14 07:55 J	-7406406.30	-7406406.17	-7406406.00	0.0089	0.0065
Saturn	-24991-12-06 18:43 J	-7406199.80	-7406199.72	-7406199.62	0.0292	0.0262
Neptune	-24991-12-25 20:52 J	-7406180.75	-7406180.63	-7406180.46	0.0089	0.0066
Saturn	-24990-07-24 17:45 J	-7405969.96	-7405969.76	-7405969.56	0.0291	0.0106
Neptune	-24990-08-08 10:19 J	-7405955.21	-7405955.07	-7405954.92	0.0089	0.0066
Saturn	-24989-03-10 13:55 J	-7405740.12	-7405739.92	-7405739.71	0.0289	0.0048

Neptune -24989-03-20 23:02 J -7405729.67 -7405729.54 -7405729.38 0.0089 0.0066
 Saturn -24989-10-26 07:40 J -7405510.33 -7405510.18 -7405510.02 0.0287 0.0194
 Neptune -24989-11-01 11:45 J -7405504.13 -7405504.01 -7405503.84 0.0089 0.0067
 Neptune -24988-06-15 00:57 J -7405278.59 -7405278.46 -7405278.31 0.0089 0.0068
 Neptune -24987-01-26 13:40 J -7405053.04 -7405052.93 -7405052.76 0.0089 0.0069
 Neptune -24987-09-09 02:52 J -7404827.50 -7404827.38 -7404827.23 0.0089 0.0069
 Jupiter -24987-09-28 22:33 J -7404807.71 -7404807.56 -7404807.40 0.0533 0.0343
 Neptune -24986-04-22 15:35 J -7404601.97 -7404601.85 -7404601.70 0.0089 0.0069
 Jupiter -24986-05-24 05:02 J -7404570.48 -7404570.29 -7404570.09 0.0526 0.0122
 Neptune -24986-12-04 04:33 J -7404376.43 -7404376.31 -7404376.16 0.0089 0.0070
 Neptune -24985-07-16 17:45 J -7404150.90 -7404150.76 -7404150.63 0.0089 0.0070
 Neptune -24984-02-27 06:14 J -7403925.36 -7403925.24 -7403925.09 0.0089 0.0070
 Neptune -24984-10-10 19:11 J -7403699.82 -7403699.70 -7403699.56 0.0089 0.0071
 Neptune -24983-05-24 07:55 J -7403474.29 -7403474.17 -7403474.03 0.0089 0.0071
 Neptune -24982-01-04 20:23 J -7403248.76 -7403248.65 -7403248.50 0.0089 0.0071
 Neptune -24982-08-18 09:07 J -7403023.23 -7403023.12 -7403022.97 0.0089 0.0072
 Neptune -24981-03-30 21:50 J -7402797.70 -7402797.59 -7402797.44 0.0089 0.0072
 Neptune -24981-11-11 10:33 J -7402572.17 -7402572.06 -7402571.92 0.0089 0.0072
 Jupiter -24980-03-19 17:31 J -7402443.97 -7402443.77 -7402443.57 0.0497 0.0135
 Neptune -24980-06-24 23:16 J -7402346.65 -7402346.53 -7402346.39 0.0089 0.0072
 Mars -24980-07-16 23:45 J -7402324.68 -7402324.51 -7402324.34 0.1697 0.0033
 Jupiter -24980-11-11 15:50 J -7402207.01 -7402206.84 -7402206.66 0.0504 0.0274
 Neptune -24979-02-05 11:59 J -7402121.11 -7402121.00 -7402120.86 0.0089 0.0072
 Neptune -24979-09-19 00:43 J -7401895.59 -7401895.47 -7401895.33 0.0089 0.0072
 Earth -24978-04-28 23:31 J -7401673.66 -7401673.52 -7401673.38 0.2712 0.1181
 Moon -24978-04-29 03:07 J -7401673.50 -7401673.37 -7401673.24 0.2717 0.1334 *
 Neptune -24978-05-02 13:11 J -7401670.06 -7401669.95 -7401669.81 0.0089 0.0072
 Neptune -24978-12-14 01:55 J -7401444.54 -7401444.42 -7401444.28 0.0089 0.0072
 Neptune -24977-07-26 14:23 J -7401219.01 -7401218.90 -7401218.75 0.0089 0.0072
 Neptune -24976-03-09 03:07 J -7400993.48 -7400993.37 -7400993.22 0.0089 0.0072

Neptune -24976-10-20 15:35 J -7400767.96 -7400767.85 -7400767.70 0.0089 0.0072
 Mars -24975-02-23 13:11 J -7400642.09 -7400641.95 -7400641.80 0.1829 0.1064
 Neptune -24975-06-03 04:33 J -7400542.43 -7400542.31 -7400542.17 0.0089 0.0071
 Jupiter -24975-06-03 16:04 J -7400541.92 -7400541.83 -7400541.73 0.0534 0.0470
 Saturn -24975-08-13 00:14 J -7400471.62 -7400471.49 -7400471.33 0.0269 0.0193
 Neptune -24974-01-14 17:02 J -7400316.91 -7400316.79 -7400316.65 0.0089 0.0071
 Jupiter -24974-01-27 01:11 J -7400304.65 -7400304.45 -7400304.25 0.0528 0.0007
 Saturn -24974-03-30 03:21 J -7400242.57 -7400242.36 -7400242.16 0.0270 0.0073
 Neptune -24974-08-28 05:31 J -7400091.38 -7400091.27 -7400091.12 0.0089 0.0070
 Jupiter -24974-09-21 00:28 J -7400067.58 -7400067.48 -7400067.37 0.0520 0.0433
 Saturn -24974-11-14 07:55 J -7400013.37 -7400013.17 -7400012.95 0.0272 0.0051
 Neptune -24973-04-09 18:28 J -7399865.86 -7399865.73 -7399865.59 0.0089 0.0070
 Saturn -24973-06-30 14:52 J -7399784.03 -7399783.88 -7399783.71 0.0273 0.0178
 Neptune -24973-11-21 06:43 J -7399640.34 -7399640.22 -7399640.07 0.0089 0.0069
 Neptune -24972-07-04 19:26 J -7399414.82 -7399414.69 -7399414.55 0.0089 0.0069
 Neptune -24971-02-15 07:40 J -7399189.30 -7399189.18 -7399189.02 0.0089 0.0069
 Neptune -24971-09-28 20:38 J -7398963.78 -7398963.64 -7398963.50 0.0089 0.0068
 Earth -24970-04-26 14:23 J -7398753.97 -7398753.90 -7398753.84 0.2712 0.2466
 Moon -24970-04-26 19:40 J -7398753.77 -7398753.68 -7398753.58 0.2713 0.2077
 Neptune -24970-05-12 08:38 J -7398738.26 -7398738.14 -7398737.98 0.0089 0.0068
 Neptune -24970-12-23 21:21 J -7398512.75 -7398512.61 -7398512.47 0.0089 0.0067
 Neptune -24969-08-05 09:21 J -7398287.23 -7398287.11 -7398286.95 0.0089 0.0067
 Jupiter -24969-11-22 16:47 J -7398177.98 -7398177.80 -7398177.61 0.0496 0.0241
 Neptune -24968-03-18 22:04 J -7398061.71 -7398061.58 -7398061.42 0.0089 0.0066
 Jupiter -24968-07-17 12:43 J -7397941.16 -7397940.97 -7397940.77 0.0502 0.0162
 Neptune -24968-10-30 10:33 J -7397836.20 -7397836.06 -7397835.90 0.0089 0.0065
 Neptune -24967-06-12 22:33 J -7397610.68 -7397610.56 -7397610.39 0.0089 0.0065
 Neptune -24966-01-24 11:02 J -7397385.17 -7397385.04 -7397384.87 0.0089 0.0064
 Neptune -24966-09-06 23:31 J -7397159.66 -7397159.52 -7397159.35 0.0089 0.0063
 Neptune -24965-04-19 12:14 J -7396934.14 -7396933.99 -7396933.83 0.0089 0.0062

Neptune -24965-12-01 00:43 J -7396708.62 -7396708.47 -7396708.31 0.0089 0.0061
 Neptune -24964-07-14 13:11 J -7396483.11 -7396482.95 -7396482.79 0.0089 0.0060
 Neptune -24963-02-25 01:26 J -7396257.59 -7396257.44 -7396257.27 0.0089 0.0059
 Uranus -24963-08-15 17:59 J -7396085.80 -7396085.75 -7396085.66 0.0133 0.0126
 Jupiter -24963-10-01 17:02 J -7396038.98 -7396038.79 -7396038.59 0.0530 0.0138
 Neptune -24963-10-08 13:55 J -7396032.08 -7396031.92 -7396031.75 0.0089 0.0058
 Uranus -24962-03-29 23:45 J -7395859.64 -7395859.51 -7395859.38 0.0133 0.0105
 Neptune -24962-05-22 02:23 J -7395806.56 -7395806.40 -7395806.23 0.0089 0.0057
 Jupiter -24962-05-26 19:26 J -7395801.85 -7395801.69 -7395801.53 0.0523 0.0315
 Uranus -24962-11-11 04:47 J -7395633.45 -7395633.30 -7395633.11 0.0133 0.0084
 Neptune -24961-01-02 14:38 J -7395581.05 -7395580.89 -7395580.72 0.0089 0.0056
 Saturn -24961-06-18 02:09 J -7395413.52 -7395413.41 -7395413.28 0.0293 0.0236
 Uranus -24961-06-24 10:33 J -7395407.25 -7395407.06 -7395406.86 0.0134 0.0062
 Neptune -24961-08-15 03:07 J -7395355.54 -7395355.37 -7395355.20 0.0089 0.0055
 Saturn -24960-02-03 01:11 J -7395183.65 -7395183.45 -7395183.24 0.0291 0.0079
 Uranus -24960-02-05 16:04 J -7395181.03 -7395180.83 -7395180.62 0.0134 0.0040
 Neptune -24960-03-28 15:35 J -7395130.02 -7395129.85 -7395129.67 0.0089 0.0053
 Uranus -24960-09-19 21:35 J -7394954.82 -7394954.60 -7394954.38 0.0134 0.0018
 Saturn -24960-09-20 21:35 J -7394953.80 -7394953.60 -7394953.40 0.0289 0.0074
 Neptune -24960-11-09 03:50 J -7394904.51 -7394904.34 -7394904.16 0.0089 0.0052
 Uranus -24959-05-04 03:07 J -7394728.59 -7394728.37 -7394728.16 0.0134 0.0005
 Saturn -24959-05-08 15:21 J -7394723.99 -7394723.86 -7394723.73 0.0287 0.0220
 Neptune -24959-06-22 16:04 J -7394679.00 -7394678.83 -7394678.64 0.0089 0.0051
 Uranus -24959-12-16 08:38 J -7394502.35 -7394502.14 -7394501.93 0.0134 0.0026
 Neptune -24958-02-03 04:19 J -7394453.49 -7394453.32 -7394453.13 0.0089 0.0050
 Uranus -24958-07-30 14:09 J -7394276.11 -7394275.91 -7394275.71 0.0135 0.0049
 Neptune -24958-09-16 16:33 J -7394227.97 -7394227.81 -7394227.61 0.0089 0.0049
 Uranus -24957-03-12 19:40 J -7394049.86 -7394049.68 -7394049.49 0.0135 0.0071
 Neptune -24957-04-29 05:16 J -7394002.46 -7394002.28 -7394002.09 0.0089 0.0048
 Jupiter -24957-07-28 17:02 J -7393911.94 -7393911.79 -7393911.64 0.0494 0.0344

Uranus -24957-10-25 01:11 J -7393823.59 -7393823.45 -7393823.28 0.0135 0.0093
 Neptune -24957-12-10 17:31 J -7393776.95 -7393776.77 -7393776.58 0.0089 0.0046
 Jupiter -24956-03-22 10:33 J -7393675.27 -7393675.06 -7393674.85 0.0500 0.0049
 Uranus -24956-06-08 06:57 J -7393597.31 -7393597.21 -7393597.09 0.0135 0.0115
 Neptune -24956-07-24 05:31 J -7393551.44 -7393551.27 -7393551.07 0.0089 0.0046
 Jupiter -24956-11-14 12:14 J -7393438.06 -7393437.99 -7393437.89 0.0507 0.0461
 Neptune -24955-03-06 17:45 J -7393325.93 -7393325.76 -7393325.55 0.0089 0.0044
 Neptune -24955-10-18 06:28 J -7393100.42 -7393100.23 -7393100.04 0.0089 0.0042
 Neptune -24954-05-31 18:28 J -7392874.91 -7392874.73 -7392874.53 0.0089 0.0041
 Neptune -24953-01-12 06:43 J -7392649.40 -7392649.22 -7392649.01 0.0089 0.0040
 Neptune -24953-08-24 19:11 J -7392423.89 -7392423.70 -7392423.50 0.0089 0.0038
 Neptune -24952-04-07 07:26 J -7392198.37 -7392198.19 -7392197.98 0.0089 0.0037
 Neptune -24952-11-18 20:09 J -7391972.86 -7391972.66 -7391972.46 0.0089 0.0035
 Jupiter -24951-06-06 10:47 J -7391773.22 -7391773.05 -7391772.88 0.0532 0.0268
 Neptune -24951-07-02 08:09 J -7391747.35 -7391747.16 -7391746.95 0.0089 0.0034
 Jupiter -24950-01-29 15:50 J -7391536.02 -7391535.84 -7391535.65 0.0525 0.0195
 Neptune -24950-02-12 20:23 J -7391521.84 -7391521.65 -7391521.44 0.0089 0.0033
 Neptune -24950-09-26 08:52 J -7391296.32 -7391296.13 -7391295.92 0.0089 0.0031
 Neptune -24949-05-08 21:35 J -7391070.80 -7391070.60 -7391070.40 0.0089 0.0029
 Neptune -24949-12-20 09:50 J -7390845.29 -7390845.09 -7390844.88 0.0089 0.0028
 Mars -24948-07-15 20:23 J -7390637.78 -7390637.65 -7390637.52 0.1705 0.1050
 Neptune -24948-08-02 22:19 J -7390619.78 -7390619.57 -7390619.36 0.0089 0.0026
 Neptune -24947-03-16 10:19 J -7390394.26 -7390394.07 -7390393.85 0.0089 0.0025
 Neptune -24947-10-27 23:02 J -7390168.75 -7390168.54 -7390168.34 0.0089 0.0023
 Mars -24946-05-15 15:07 J -7389968.99 -7389968.87 -7389968.75 0.1687 0.1186
 Neptune -24946-06-10 11:02 J -7389943.24 -7389943.04 -7389942.82 0.0089 0.0022
 Neptune -24945-01-21 23:31 J -7389717.73 -7389717.52 -7389717.31 0.0089 0.0020
 Saturn -24945-02-23 05:59 J -7389685.41 -7389685.25 -7389685.08 0.0268 0.0171
 Jupiter -24945-04-02 16:33 J -7389645.90 -7389645.81 -7389645.73 0.0493 0.0445
 Neptune -24945-09-03 11:45 J -7389492.21 -7389492.01 -7389491.79 0.0089 0.0019

Saturn -24945-10-09 08:52 J -7389456.33 -7389456.13 -7389455.92 0.0270 0.0052
 Jupiter -24945-11-25 07:11 J -7389409.40 -7389409.20 -7389408.99 0.0498 0.0065
 Neptune -24944-04-17 00:14 J -7389266.70 -7389266.49 -7389266.27 0.0089 0.0017
 Saturn -24944-05-26 13:40 J -7389227.13 -7389226.93 -7389226.72 0.0272 0.0073
 Jupiter -24944-07-20 06:14 J -7389172.38 -7389172.24 -7389172.08 0.0504 0.0345
 Neptune -24944-11-28 12:28 J -7389041.19 -7389040.98 -7389040.76 0.0089 0.0016
 Saturn -24943-01-10 20:38 J -7388997.78 -7388997.64 -7388997.49 0.0274 0.0200
 Mars -24943-02-23 08:38 J -7388954.31 -7388954.14 -7388953.97 0.1818 0.0624
 Neptune -24943-07-12 00:43 J -7388815.68 -7388815.47 -7388815.25 0.0089 0.0014
 Neptune -24942-02-22 13:11 J -7388590.16 -7388589.95 -7388589.74 0.0089 0.0012
 Neptune -24942-10-06 01:26 J -7388364.65 -7388364.44 -7388364.22 0.0089 0.0011
 Neptune -24941-05-18 13:55 J -7388139.13 -7388138.92 -7388138.70 0.0089 0.0009
 Neptune -24941-12-30 02:09 J -7387913.62 -7387913.41 -7387913.18 0.0089 0.0008
 Neptune -24940-08-12 14:38 J -7387688.10 -7387687.89 -7387687.67 0.0089 0.0006
 Jupiter -24939-02-09 04:47 J -7387507.43 -7387507.30 -7387507.16 0.0533 0.0395
 Neptune -24939-03-26 03:07 J -7387462.59 -7387462.37 -7387462.16 0.0089 0.0004
 Jupiter -24939-10-04 12:57 J -7387270.16 -7387269.96 -7387269.76 0.0527 0.0071
 Neptune -24939-11-06 15:21 J -7387237.07 -7387236.86 -7387236.64 0.0089 0.0003
 Jupiter -24938-05-29 11:31 J -7387033.06 -7387033.02 -7387032.96 0.0520 0.0501
 Neptune -24938-06-20 03:50 J -7387011.55 -7387011.34 -7387011.12 0.0089 0.0002
 Neptune -24937-01-31 16:19 J -7386786.03 -7386785.82 -7386785.60 0.0089 0.0001
 Neptune -24937-09-13 04:47 J -7386560.52 -7386560.30 -7386560.08 0.0089 0.0003
 Neptune -24936-04-26 17:16 J -7386334.99 -7386334.78 -7386334.56 0.0089 0.0004
 Neptune -24936-12-08 05:45 J -7386109.48 -7386109.26 -7386109.04 0.0089 0.0006
 Neptune -24935-07-21 18:14 J -7385883.96 -7385883.74 -7385883.52 0.0089 0.0008
 Neptune -24934-03-04 06:28 J -7385658.44 -7385658.23 -7385658.01 0.0089 0.0009
 Neptune -24934-10-15 18:57 J -7385432.92 -7385432.71 -7385432.49 0.0089 0.0011
 Neptune -24933-05-28 07:40 J -7385207.39 -7385207.18 -7385206.96 0.0089 0.0012
 Jupiter -24933-07-31 05:16 J -7385143.47 -7385143.28 -7385143.08 0.0496 0.0174
 Neptune -24932-01-08 20:09 J -7384981.87 -7384981.66 -7384981.44 0.0089 0.0014

Jupiter -24932-03-25 02:09 J -7384906.59 -7384906.41 -7384906.22 0.0502 0.0231
 Neptune -24932-08-22 08:23 J -7384756.36 -7384756.15 -7384755.93 0.0089 0.0016
 Saturn -24932-12-29 07:11 J -7384627.33 -7384627.20 -7384627.05 0.0292 0.0215
 Neptune -24931-04-04 20:52 J -7384530.84 -7384530.63 -7384530.41 0.0089 0.0017
 Saturn -24931-08-16 05:45 J -7384397.46 -7384397.26 -7384397.05 0.0290 0.0059
 Neptune -24931-11-16 09:21 J -7384305.32 -7384305.11 -7384304.89 0.0089 0.0019
 Saturn -24930-04-03 01:40 J -7384167.63 -7384167.43 -7384167.23 0.0288 0.0093
 Neptune -24930-06-29 21:50 J -7384079.79 -7384079.59 -7384079.37 0.0089 0.0021
 Saturn -24930-11-18 18:57 J -7383937.82 -7383937.71 -7383937.59 0.0286 0.0238
 Neptune -24929-02-10 10:33 J -7383854.27 -7383854.06 -7383853.85 0.0089 0.0022
 Neptune -24929-09-22 22:47 J -7383628.75 -7383628.55 -7383628.33 0.0088 0.0024
 Neptune -24928-05-06 11:16 J -7383403.22 -7383403.03 -7383402.81 0.0088 0.0026
 Jupiter -24928-10-14 23:16 J -7383241.57 -7383241.53 -7383241.48 0.0535 0.0519
 Neptune -24928-12-17 23:59 J -7383177.70 -7383177.50 -7383177.28 0.0088 0.0027
 Jupiter -24927-06-09 09:50 J -7383004.29 -7383004.09 -7383003.89 0.0529 0.0054
 Neptune -24927-07-31 12:28 J -7382952.18 -7382951.98 -7382951.76 0.0088 0.0028
 Jupiter -24926-02-01 10:47 J -7382767.18 -7382767.05 -7382766.92 0.0522 0.0391
 Neptune -24926-03-14 01:11 J -7382726.65 -7382726.45 -7382726.24 0.0088 0.0030
 Neptune -24926-10-25 13:40 J -7382501.12 -7382500.93 -7382500.71 0.0088 0.0031
 Neptune -24925-06-07 02:38 J -7382275.59 -7382275.39 -7382275.18 0.0088 0.0033
 Neptune -24924-01-18 15:07 J -7382050.06 -7382049.87 -7382049.65 0.0088 0.0034
 Neptune -24924-09-01 03:50 J -7381824.53 -7381824.34 -7381824.13 0.0088 0.0036
 Neptune -24923-04-14 16:47 J -7381599.00 -7381598.80 -7381598.60 0.0088 0.0037
 Neptune -24923-11-26 05:02 J -7381373.47 -7381373.29 -7381373.07 0.0088 0.0039
 Neptune -24922-07-09 18:14 J -7381147.93 -7381147.74 -7381147.54 0.0088 0.0040
 Uranus -24922-07-11 14:23 J -7381145.98 -7381145.90 -7381145.78 0.0145 0.0129
 Neptune -24921-02-20 06:43 J -7380922.40 -7380922.22 -7380922.01 0.0088 0.0041
 Uranus -24921-02-23 02:52 J -7380919.53 -7380919.38 -7380919.22 0.0145 0.0100
 Jupiter -24921-04-05 03:50 J -7380877.51 -7380877.34 -7380877.17 0.0495 0.0280
 Neptune -24921-10-02 19:26 J -7380696.87 -7380696.69 -7380696.48 0.0088 0.0043

Uranus	-24921-10-06 14:38 J	-7380693.06	-7380692.89	-7380692.69	0.0145	0.0073
Jupiter	-24921-11-27 22:19 J	-7380640.77	-7380640.57	-7380640.36	0.0501	0.0119
Neptune	-24920-05-16 08:23 J	-7380471.34	-7380471.15	-7380470.95	0.0088	0.0043
Uranus	-24920-05-21 02:52 J	-7380466.58	-7380466.38	-7380466.17	0.0145	0.0045
Neptune	-24920-12-27 21:21 J	-7380245.80	-7380245.61	-7380245.42	0.0088	0.0045
Uranus	-24919-01-02 15:07 J	-7380240.09	-7380239.87	-7380239.66	0.0145	0.0016
Neptune	-24919-08-10 09:35 J	-7380020.27	-7380020.10	-7380019.89	0.0088	0.0047
Uranus	-24919-08-17 03:07 J	-7380013.59	-7380013.37	-7380013.15	0.0144	0.0012
Neptune	-24918-03-23 22:33 J	-7379794.73	-7379794.56	-7379794.36	0.0088	0.0047
Uranus	-24918-03-31 14:52 J	-7379787.09	-7379786.88	-7379786.67	0.0144	0.0039
Neptune	-24918-11-04 11:16 J	-7379569.20	-7379569.03	-7379568.83	0.0088	0.0049
Uranus	-24918-11-13 02:38 J	-7379560.58	-7379560.39	-7379560.19	0.0144	0.0067
Neptune	-24917-06-17 00:14 J	-7379343.66	-7379343.49	-7379343.30	0.0088	0.0050
Uranus	-24917-06-26 14:23 J	-7379334.05	-7379333.90	-7379333.73	0.0144	0.0094
Neptune	-24916-01-28 13:11 J	-7379118.12	-7379117.95	-7379117.76	0.0088	0.0051
Uranus	-24916-02-08 01:55 J	-7379107.52	-7379107.42	-7379107.29	0.0143	0.0122
Saturn	-24916-09-04 05:31 J	-7378899.43	-7378899.27	-7378899.09	0.0269	0.0158
Neptune	-24916-09-11 01:40 J	-7378892.59	-7378892.43	-7378892.23	0.0088	0.0052
Jupiter	-24915-02-12 05:16 J	-7378738.47	-7378738.28	-7378738.09	0.0531	0.0181
Saturn	-24915-04-21 08:38 J	-7378670.35	-7378670.14	-7378669.93	0.0270	0.0038
Neptune	-24915-04-24 14:23 J	-7378667.05	-7378666.90	-7378666.70	0.0088	0.0054
Jupiter	-24915-10-07 08:38 J	-7378501.30	-7378501.14	-7378500.97	0.0524	0.0275
Neptune	-24915-12-06 03:21 J	-7378441.51	-7378441.36	-7378441.17	0.0088	0.0054
Saturn	-24915-12-06 13:26 J	-7378441.13	-7378440.94	-7378440.73	0.0272	0.0087
Mars	-24914-05-14 11:02 J	-7378282.21	-7378282.04	-7378281.87	0.1694	0.0151
Neptune	-24914-07-19 16:33 J	-7378215.97	-7378215.81	-7378215.62	0.0088	0.0055
Saturn	-24914-07-23 20:52 J	-7378211.76	-7378211.63	-7378211.50	0.0274	0.0214
Neptune	-24913-03-01 05:31 J	-7377990.43	-7377990.27	-7377990.09	0.0088	0.0056
Neptune	-24913-10-12 18:28 J	-7377764.88	-7377764.73	-7377764.55	0.0088	0.0057
Neptune	-24912-05-26 07:11 J	-7377539.34	-7377539.20	-7377539.01	0.0088	0.0059

Neptune -24911-01-06 20:23 J -7377313.80 -7377313.65 -7377313.47 0.0088 0.0059
 Neptune -24911-08-20 09:50 J -7377088.25 -7377088.09 -7377087.93 0.0088 0.0060
 Neptune -24910-04-02 22:47 J -7376862.70 -7376862.55 -7376862.38 0.0088 0.0060
 Neptune -24910-11-14 11:45 J -7376637.16 -7376637.01 -7376636.84 0.0088 0.0061
 Jupiter -24910-12-10 04:19 J -7376611.45 -7376611.32 -7376611.19 0.0494 0.0381
 Mars -24910-12-21 16:47 J -7376599.92 -7376599.80 -7376599.68 0.1832 0.1347
 Neptune -24909-06-27 00:43 J -7376411.61 -7376411.47 -7376411.30 0.0088 0.0062
 Jupiter -24909-08-02 20:52 J -7376374.84 -7376374.63 -7376374.43 0.0499 0.0014
 Neptune -24908-02-07 13:40 J -7376186.06 -7376185.93 -7376185.75 0.0088 0.0063
 Jupiter -24908-03-27 21:35 J -7376137.71 -7376137.60 -7376137.48 0.0506 0.0419
 Neptune -24908-09-21 03:07 J -7375960.52 -7375960.37 -7375960.21 0.0088 0.0064
 Neptune -24907-05-04 16:04 J -7375734.97 -7375734.83 -7375734.67 0.0088 0.0064
 Neptune -24907-12-16 04:47 J -7375509.42 -7375509.30 -7375509.13 0.0088 0.0066
 Pluto -24906-02-11 19:55 J -7375451.85 -7375451.67 -7375451.45 0.0080 0.0040
 Neptune -24906-07-29 18:28 J -7375283.87 -7375283.73 -7375283.57 0.0088 0.0065
 Pluto -24906-09-25 07:26 J -7375226.38 -7375226.19 -7375225.98 0.0080 0.0036
 Neptune -24905-03-11 07:26 J -7375058.32 -7375058.19 -7375058.03 0.0088 0.0066
 Neptune -24905-10-22 20:52 J -7374832.77 -7374832.63 -7374832.48 0.0088 0.0067
 Neptune -24904-06-05 09:35 J -7374607.23 -7374607.10 -7374606.94 0.0088 0.0067
 Jupiter -24904-10-17 20:09 J -7374472.81 -7374472.66 -7374472.50 0.0532 0.0316
 Neptune -24903-01-16 22:33 J -7374381.68 -7374381.56 -7374381.39 0.0088 0.0068
 Jupiter -24903-06-12 02:23 J -7374235.59 -7374235.40 -7374235.21 0.0526 0.0148
 Neptune -24903-08-30 11:59 J -7374156.12 -7374156.00 -7374155.84 0.0088 0.0068
 Neptune -24902-04-13 01:26 J -7373930.57 -7373930.44 -7373930.29 0.0088 0.0068
 Saturn -24902-07-11 12:43 J -7373841.12 -7373840.97 -7373840.80 0.0293 0.0191
 Neptune -24902-11-24 14:23 J -7373705.02 -7373704.90 -7373704.74 0.0088 0.0069
 Saturn -24901-02-26 11:16 J -7373611.24 -7373611.03 -7373610.82 0.0291 0.0035
 Neptune -24901-07-07 03:50 J -7373479.46 -7373479.34 -7373479.19 0.0088 0.0069
 Saturn -24901-10-13 07:11 J -7373381.39 -7373381.20 -7373381.00 0.0289 0.0118
 Neptune -24900-02-17 17:16 J -7373253.91 -7373253.78 -7373253.64 0.0088 0.0069

Saturn -24900-05-31 00:28 J -7373151.55 -7373151.48 -7373151.39 0.0287 0.0263
 Neptune -24900-10-01 06:43 J -7373028.35 -7373028.22 -7373028.08 0.0088 0.0070
 Neptune -24899-05-14 19:26 J -7372802.80 -7372802.69 -7372802.53 0.0088 0.0070
 Neptune -24899-12-26 08:52 J -7372577.24 -7372577.13 -7372576.97 0.0088 0.0070
 Neptune -24898-08-08 22:33 J -7372351.68 -7372351.56 -7372351.41 0.0088 0.0070
 Jupiter -24898-08-15 05:16 J -7372345.32 -7372345.28 -7372345.23 0.0493 0.0479
 Neptune -24897-03-21 11:59 J -7372126.12 -7372126.00 -7372125.85 0.0088 0.0070
 Jupiter -24897-04-07 19:40 J -7372108.88 -7372108.68 -7372108.47 0.0497 0.0102
 Neptune -24897-11-02 01:26 J -7371900.56 -7371900.44 -7371900.30 0.0088 0.0070
 Jupiter -24897-11-30 17:59 J -7371871.91 -7371871.75 -7371871.58 0.0504 0.0307
 Neptune -24896-06-15 14:38 J -7371675.01 -7371674.89 -7371674.74 0.0088 0.0071
 Neptune -24895-01-27 04:04 J -7371449.45 -7371449.33 -7371449.18 0.0088 0.0070
 Neptune -24895-09-09 17:31 J -7371223.88 -7371223.77 -7371223.62 0.0088 0.0071
 Neptune -24894-04-23 06:57 J -7370998.33 -7370998.21 -7370998.06 0.0088 0.0070
 Neptune -24894-12-04 20:23 J -7370772.77 -7370772.65 -7370772.50 0.0088 0.0070
 Neptune -24893-07-17 09:35 J -7370547.21 -7370547.10 -7370546.94 0.0088 0.0070
 Neptune -24892-02-27 23:45 J -7370321.65 -7370321.51 -7370321.38 0.0088 0.0070
 Jupiter -24892-06-22 12:57 J -7370207.07 -7370206.96 -7370206.85 0.0534 0.0443
 Neptune -24892-10-11 12:57 J -7370096.09 -7370095.96 -7370095.81 0.0088 0.0069
 Jupiter -24891-02-14 21:50 J -7369969.79 -7369969.59 -7369969.39 0.0528 0.0022
 Neptune -24891-05-25 02:09 J -7369870.53 -7369870.41 -7369870.25 0.0088 0.0069
 Jupiter -24891-10-09 21:21 J -7369732.69 -7369732.61 -7369732.51 0.0521 0.0459
 Neptune -24890-01-05 15:21 J -7369644.97 -7369644.86 -7369644.69 0.0088 0.0069
 Neptune -24890-08-19 05:31 J -7369419.40 -7369419.27 -7369419.12 0.0088 0.0068
 Neptune -24889-03-31 18:43 J -7369193.84 -7369193.72 -7369193.56 0.0088 0.0068
 Neptune -24889-11-12 08:38 J -7368968.28 -7368968.14 -7368967.99 0.0088 0.0067
 Neptune -24888-06-25 21:50 J -7368742.72 -7368742.59 -7368742.43 0.0088 0.0067
 Neptune -24887-02-06 11:45 J -7368517.15 -7368517.01 -7368516.86 0.0088 0.0066
 Saturn -24887-07-31 09:21 J -7368342.17 -7368342.11 -7368342.04 0.0267 0.0252
 Neptune -24887-09-20 01:11 J -7368291.58 -7368291.45 -7368291.29 0.0088 0.0066

Saturn -24886-03-17 10:33 J -7368113.23 -7368113.06 -7368112.87 0.0268 0.0138
 Neptune -24886-05-03 14:52 J -7368066.01 -7368065.88 -7368065.72 0.0088 0.0066
 Saturn -24886-11-01 13:55 J -7367884.13 -7367883.92 -7367883.71 0.0270 0.0017
 Jupiter -24886-12-12 17:45 J -7367842.95 -7367842.76 -7367842.57 0.0495 0.0211
 Neptune -24886-12-15 04:19 J -7367840.45 -7367840.32 -7367840.15 0.0088 0.0065
 Saturn -24885-06-17 18:57 J -7367654.90 -7367654.71 -7367654.51 0.0272 0.0109
 Neptune -24885-07-27 17:59 J -7367614.88 -7367614.75 -7367614.58 0.0088 0.0064
 Jupiter -24885-08-05 13:26 J -7367606.14 -7367605.94 -7367605.75 0.0501 0.0191
 Saturn -24884-02-02 02:09 J -7367425.51 -7367425.41 -7367425.30 0.0274 0.0236
 Neptune -24884-03-10 07:55 J -7367389.31 -7367389.17 -7367389.00 0.0088 0.0063
 Neptune -24884-10-21 21:50 J -7367163.74 -7367163.59 -7367163.43 0.0088 0.0062
 Neptune -24883-06-04 11:02 J -7366938.18 -7366938.04 -7366937.86 0.0088 0.0062
 Neptune -24882-01-16 00:43 J -7366712.61 -7366712.47 -7366712.29 0.0088 0.0061
 Mars -24882-05-13 07:11 J -7366595.34 -7366595.20 -7366595.06 0.1702 0.0920
 Neptune -24882-08-29 14:38 J -7366487.04 -7366486.89 -7366486.71 0.0088 0.0060
 Neptune -24881-04-11 04:19 J -7366261.47 -7366261.32 -7366261.14 0.0088 0.0060
 Earth -24881-10-28 05:02 J -7366061.44 -7366061.29 -7366061.14 0.2620 0.1003
 Moon -24881-10-28 10:33 J -7366061.20 -7366061.06 -7366060.92 0.2623 0.1179 *
 Neptune -24881-11-22 18:14 J -7366035.90 -7366035.74 -7366035.57 0.0088 0.0058
 Mars -24880-03-12 02:38 J -7365926.50 -7365926.39 -7365926.28 0.1684 0.1294
 Neptune -24880-07-06 07:55 J -7365810.34 -7365810.17 -7365810.00 0.0088 0.0057
 Jupiter -24880-10-20 17:31 J -7365703.96 -7365703.77 -7365703.57 0.0530 0.0105
 Neptune -24879-02-16 21:35 J -7365584.77 -7365584.60 -7365584.43 0.0088 0.0057
 Jupiter -24879-06-14 19:55 J -7365466.81 -7365466.67 -7365466.51 0.0523 0.0346
 Neptune -24879-09-30 11:16 J -7365359.20 -7365359.03 -7365358.85 0.0088 0.0056
 Uranus -24879-11-27 08:09 J -7365301.25 -7365301.16 -7365301.03 0.0133 0.0115
 Neptune -24878-05-14 00:57 J -7365133.63 -7365133.46 -7365133.28 0.0088 0.0055
 Uranus -24878-07-11 13:40 J -7365075.07 -7365074.93 -7365074.76 0.0133 0.0094
 Mars -24878-12-21 12:43 J -7364912.15 -7364911.97 -7364911.80 0.1822 0.0356
 Neptune -24878-12-25 14:38 J -7364908.06 -7364907.89 -7364907.71 0.0088 0.0054

Uranus	-24877-02-22 19:11 J	-7364848.87	-7364848.70	-7364848.51	0.0134	0.0072
Neptune	-24877-08-07 04:19 J	-7364682.49	-7364682.32	-7364682.13	0.0088	0.0052
Uranus	-24877-10-06 00:43 J	-7364622.67	-7364622.47	-7364622.26	0.0134	0.0050
Neptune	-24876-03-20 17:59 J	-7364456.92	-7364456.75	-7364456.56	0.0088	0.0051
Uranus	-24876-05-20 06:14 J	-7364396.45	-7364396.24	-7364396.02	0.0134	0.0028
Neptune	-24876-11-01 07:40 J	-7364231.35	-7364231.18	-7364230.98	0.0088	0.0050
Uranus	-24875-01-01 11:59 J	-7364170.22	-7364170.00	-7364169.79	0.0134	0.0006
Neptune	-24875-06-14 21:21 J	-7364005.78	-7364005.61	-7364005.41	0.0088	0.0049
Uranus	-24875-08-15 17:31 J	-7363943.99	-7363943.77	-7363943.56	0.0134	0.0017
Neptune	-24874-01-26 11:02 J	-7363780.21	-7363780.04	-7363779.83	0.0088	0.0048
Uranus	-24874-03-29 23:02 J	-7363717.75	-7363717.54	-7363717.33	0.0134	0.0039
Jupiter	-24874-08-17 17:02 J	-7363576.95	-7363576.79	-7363576.63	0.0494	0.0315
Neptune	-24874-09-09 01:11 J	-7363554.63	-7363554.45	-7363554.25	0.0088	0.0047
Uranus	-24874-11-11 04:33 J	-7363491.50	-7363491.31	-7363491.12	0.0135	0.0061
Jupiter	-24873-04-10 10:19 J	-7363340.28	-7363340.07	-7363339.86	0.0500	0.0078
Neptune	-24873-04-21 14:52 J	-7363329.06	-7363328.88	-7363328.67	0.0088	0.0046
Uranus	-24873-06-24 10:19 J	-7363265.24	-7363265.07	-7363264.90	0.0135	0.0083
Earth	-24873-10-25 20:52 J	-7363141.71	-7363141.63	-7363141.55	0.2620	0.2281
Moon	-24873-10-26 02:23 J	-7363141.53	-7363141.40	-7363141.27	0.2618	0.1547
Neptune	-24873-12-03 04:33 J	-7363103.49	-7363103.31	-7363103.10	0.0088	0.0045
Jupiter	-24873-12-03 12:14 J	-7363103.05	-7363102.99	-7363102.94	0.0507	0.0487
Saturn	-24872-01-20 17:02 J	-7363054.95	-7363054.79	-7363054.61	0.0292	0.0171
Uranus	-24872-02-05 16:19 J	-7363038.96	-7363038.82	-7363038.69	0.0135	0.0106
Neptune	-24872-07-16 18:43 J	-7362877.92	-7362877.72	-7362877.52	0.0088	0.0043
Saturn	-24872-09-07 15:21 J	-7362825.07	-7362824.86	-7362824.65	0.0290	0.0016
Uranus	-24872-09-19 22:04 J	-7362812.65	-7362812.58	-7362812.51	0.0135	0.0128
Neptune	-24871-02-27 08:23 J	-7362652.34	-7362652.15	-7362651.95	0.0088	0.0041
Saturn	-24871-04-25 10:33 J	-7362595.23	-7362595.06	-7362594.86	0.0288	0.0137
Neptune	-24871-10-10 22:04 J	-7362426.77	-7362426.58	-7362426.37	0.0088	0.0040
Saturn	-24871-12-11 03:35 J	-7362365.38	-7362365.35	-7362365.30	0.0286	0.0279

Neptune	-24870-05-24 12:14 J	-7362201.19	-7362200.99	-7362200.79	0.0088	0.0039
Neptune	-24869-01-05 01:40 J	-7361975.62	-7361975.43	-7361975.21	0.0088	0.0038
Neptune	-24869-08-17 15:21 J	-7361750.05	-7361749.86	-7361749.64	0.0088	0.0036
Neptune	-24868-03-31 05:16 J	-7361524.48	-7361524.28	-7361524.07	0.0088	0.0035
Jupiter	-24868-06-25 13:26 J	-7361438.11	-7361437.94	-7361437.75	0.0532	0.0232
Neptune	-24868-11-11 18:57 J	-7361298.91	-7361298.71	-7361298.49	0.0088	0.0033
Jupiter	-24867-02-17 18:43 J	-7361200.90	-7361200.72	-7361200.54	0.0525	0.0229
Neptune	-24867-06-25 08:52 J	-7361073.34	-7361073.13	-7361072.92	0.0088	0.0032
Neptune	-24866-02-05 22:19 J	-7360847.77	-7360847.57	-7360847.35	0.0088	0.0031
Neptune	-24866-09-19 12:14 J	-7360622.20	-7360621.99	-7360621.77	0.0088	0.0029
Neptune	-24865-05-02 01:55 J	-7360396.63	-7360396.42	-7360396.20	0.0088	0.0027
Neptune	-24865-12-13 15:50 J	-7360171.05	-7360170.84	-7360170.62	0.0088	0.0026
Neptune	-24864-07-27 05:16 J	-7359945.49	-7359945.28	-7359945.05	0.0088	0.0024
Neptune	-24863-03-09 19:11 J	-7359719.92	-7359719.70	-7359719.48	0.0088	0.0023
Neptune	-24863-10-21 08:52 J	-7359494.34	-7359494.13	-7359493.90	0.0088	0.0021
Jupiter	-24862-04-22 16:19 J	-7359310.93	-7359310.82	-7359310.71	0.0493	0.0416
Neptune	-24862-06-03 22:47 J	-7359268.77	-7359268.55	-7359268.33	0.0088	0.0020
Jupiter	-24862-12-15 07:26 J	-7359074.40	-7359074.19	-7359073.98	0.0498	0.0034
Neptune	-24861-01-15 12:28 J	-7359043.20	-7359042.98	-7359042.76	0.0088	0.0018
Jupiter	-24861-08-08 07:11 J	-7358837.34	-7358837.20	-7358837.06	0.0505	0.0376
Neptune	-24861-08-28 02:09 J	-7358817.63	-7358817.41	-7358817.19	0.0089	0.0016
Neptune	-24860-04-10 15:50 J	-7358592.05	-7358591.84	-7358591.61	0.0089	0.0015
Neptune	-24860-11-22 05:45 J	-7358366.48	-7358366.26	-7358366.03	0.0089	0.0013
Neptune	-24859-07-05 19:26 J	-7358140.91	-7358140.69	-7358140.46	0.0089	0.0012
Neptune	-24858-02-16 09:21 J	-7357915.34	-7357915.11	-7357914.89	0.0089	0.0010
Neptune	-24858-09-29 22:47 J	-7357689.76	-7357689.55	-7357689.32	0.0089	0.0009
Saturn	-24857-02-10 07:55 J	-7357556.25	-7357556.17	-7357556.07	0.0267	0.0241
Neptune	-24857-05-12 12:43 J	-7357464.19	-7357463.97	-7357463.75	0.0089	0.0007
Saturn	-24857-09-26 09:21 J	-7357327.29	-7357327.11	-7357326.91	0.0269	0.0125
Neptune	-24857-12-24 02:23 J	-7357238.62	-7357238.40	-7357238.17	0.0089	0.0005

Jupiter -24856-02-28 08:09 J -7357172.30 -7357172.16 -7357172.01 0.0533 0.0358
 Saturn -24856-05-13 12:43 J -7357098.19 -7357097.97 -7357097.76 0.0270 0.0005
 Neptune -24856-08-06 16:04 J -7357013.05 -7357012.83 -7357012.61 0.0089 0.0003
 Jupiter -24856-10-23 15:50 J -7356935.04 -7356934.84 -7356934.65 0.0527 0.0107
 Saturn -24856-12-28 17:31 J -7356868.95 -7356868.77 -7356868.57 0.0272 0.0122
 Neptune -24855-03-20 05:45 J -7356787.49 -7356787.26 -7356787.04 0.0089 0.0002
 Saturn -24855-08-15 01:11 J -7356639.53 -7356639.45 -7356639.36 0.0274 0.0249
 Neptune -24855-10-31 19:26 J -7356561.91 -7356561.69 -7356561.47 0.0089 0.0000
 Neptune -24854-06-14 09:07 J -7356336.35 -7356336.12 -7356335.90 0.0089 0.0002
 Neptune -24853-01-25 22:33 J -7356110.78 -7356110.56 -7356110.33 0.0089 0.0003
 Neptune -24853-09-07 12:14 J -7355885.22 -7355884.99 -7355884.77 0.0089 0.0005
 Neptune -24852-04-21 01:40 J -7355659.65 -7355659.43 -7355659.20 0.0089 0.0006
 Neptune -24852-12-02 15:21 J -7355434.08 -7355433.86 -7355433.63 0.0089 0.0008
 Neptune -24851-07-16 04:47 J -7355208.51 -7355208.30 -7355208.07 0.0089 0.0010
 Neptune -24850-02-26 18:14 J -7354982.95 -7354982.74 -7354982.51 0.0089 0.0012
 Jupiter -24850-08-20 06:57 J -7354808.41 -7354808.21 -7354808.01 0.0497 0.0140
 Neptune -24850-10-10 07:55 J -7354757.38 -7354757.17 -7354756.94 0.0089 0.0013
 Jupiter -24849-04-13 04:19 J -7354571.49 -7354571.32 -7354571.14 0.0503 0.0266
 Neptune -24849-05-22 21:35 J -7354531.82 -7354531.60 -7354531.38 0.0089 0.0015
 Neptune -24848-01-03 11:16 J -7354306.25 -7354306.03 -7354305.81 0.0089 0.0016
 Mars -24848-03-10 22:19 J -7354239.74 -7354239.57 -7354239.40 0.1692 0.0266
 Neptune -24848-08-17 00:43 J -7354080.68 -7354080.47 -7354080.24 0.0089 0.0018
 Neptune -24847-03-30 14:23 J -7353855.12 -7353854.90 -7353854.68 0.0089 0.0019
 Neptune -24847-11-11 03:50 J -7353629.55 -7353629.34 -7353629.11 0.0089 0.0021
 Neptune -24846-06-24 17:45 J -7353403.98 -7353403.76 -7353403.55 0.0089 0.0022
 Neptune -24845-02-05 06:57 J -7353178.41 -7353178.21 -7353177.99 0.0089 0.0024
 Neptune -24845-09-17 20:38 J -7352952.85 -7352952.64 -7352952.43 0.0089 0.0025
 Jupiter -24845-11-02 22:33 J -7352906.63 -7352906.56 -7352906.48 0.0534 0.0489
 Neptune -24844-05-01 09:50 J -7352727.29 -7352727.09 -7352726.87 0.0089 0.0027
 Jupiter -24844-06-28 08:23 J -7352669.35 -7352669.15 -7352668.95 0.0529 0.0025

Mars -24844-10-17 20:09 J -7352557.74 -7352557.66 -7352557.58 0.1835 0.1630
 Neptune -24844-12-12 23:31 J -7352501.72 -7352501.52 -7352501.30 0.0089 0.0028
 Jupiter -24843-02-20 08:52 J -7352432.24 -7352432.13 -7352432.01 0.0521 0.0417
 Neptune -24843-07-26 12:43 J -7352276.16 -7352275.97 -7352275.75 0.0089 0.0030
 Saturn -24843-08-02 21:07 J -7352268.80 -7352268.62 -7352268.44 0.0293 0.0149
 Neptune -24842-03-09 02:09 J -7352050.61 -7352050.41 -7352050.19 0.0089 0.0031
 Saturn -24842-03-20 19:26 J -7352038.90 -7352038.69 -7352038.48 0.0291 0.0008
 Neptune -24842-10-20 15:21 J -7351825.05 -7351824.86 -7351824.64 0.0089 0.0033
 Saturn -24842-11-05 14:52 J -7351809.05 -7351808.88 -7351808.70 0.0289 0.0160
 Neptune -24841-06-02 04:47 J -7351599.49 -7351599.30 -7351599.08 0.0089 0.0034
 Neptune -24840-01-13 18:28 J -7351373.93 -7351373.73 -7351373.52 0.0089 0.0035
 Neptune -24840-08-27 07:26 J -7351148.37 -7351148.19 -7351147.97 0.0089 0.0037
 Neptune -24839-04-09 20:52 J -7350922.82 -7350922.63 -7350922.42 0.0089 0.0038
 Neptune -24839-11-21 10:19 J -7350697.26 -7350697.07 -7350696.87 0.0089 0.0039
 Uranus -24838-03-10 21:35 J -7350587.65 -7350587.60 -7350587.55 0.0145 0.0141
 Jupiter -24838-04-25 06:43 J -7350542.39 -7350542.22 -7350542.03 0.0495 0.0248
 Neptune -24838-07-04 23:45 J -7350471.71 -7350471.51 -7350471.31 0.0089 0.0041
 Uranus -24838-10-23 09:21 J -7350361.24 -7350361.11 -7350360.97 0.0145 0.0113
 Jupiter -24838-12-18 01:55 J -7350305.62 -7350305.42 -7350305.22 0.0501 0.0153
 Neptune -24837-02-15 12:43 J -7350246.15 -7350245.97 -7350245.76 0.0089 0.0042
 Uranus -24837-06-05 21:35 J -7350134.77 -7350134.60 -7350134.42 0.0145 0.0085
 Neptune -24837-09-28 02:09 J -7350020.59 -7350020.41 -7350020.21 0.0089 0.0043
 Uranus -24836-01-18 09:35 J -7349908.29 -7349908.10 -7349907.89 0.0145 0.0057
 Neptune -24836-05-11 15:21 J -7349795.04 -7349794.86 -7349794.66 0.0089 0.0044
 Uranus -24836-09-01 21:35 J -7349681.81 -7349681.60 -7349681.38 0.0145 0.0029
 Neptune -24836-12-23 04:47 J -7349569.48 -7349569.30 -7349569.10 0.0089 0.0045
 Uranus -24835-04-16 09:35 J -7349455.32 -7349455.10 -7349454.88 0.0144 0.0002
 Neptune -24835-08-05 18:14 J -7349343.93 -7349343.74 -7349343.55 0.0089 0.0047
 Uranus -24835-11-28 21:21 J -7349228.82 -7349228.61 -7349228.39 0.0144 0.0027
 Neptune -24834-03-19 06:57 J -7349118.38 -7349118.21 -7349118.01 0.0089 0.0048

Uranus	-24834-07-13 09:21 J	-7349002.31	-7349002.11	-7349001.91	0.0144	0.0055
Neptune	-24834-10-30 20:09 J	-7348892.82	-7348892.66	-7348892.46	0.0089	0.0049
Uranus	-24833-02-24 20:52 J	-7348775.80	-7348775.63	-7348775.44	0.0144	0.0083
Neptune	-24833-06-12 09:21 J	-7348667.27	-7348667.11	-7348666.91	0.0089	0.0050
Uranus	-24833-10-08 08:38 J	-7348549.27	-7348549.14	-7348548.99	0.0143	0.0110
Neptune	-24832-01-23 22:47 J	-7348441.71	-7348441.55	-7348441.36	0.0089	0.0051
Jupiter	-24832-03-03 02:52 J	-7348403.57	-7348403.38	-7348403.19	0.0530	0.0154
Uranus	-24832-05-22 20:09 J	-7348322.71	-7348322.66	-7348322.59	0.0143	0.0136
Neptune	-24832-09-06 11:45 J	-7348216.17	-7348216.01	-7348215.81	0.0089	0.0053
Jupiter	-24832-10-26 06:14 J	-7348166.40	-7348166.24	-7348166.08	0.0524	0.0301
Neptune	-24831-04-20 00:57 J	-7347990.62	-7347990.46	-7347990.27	0.0089	0.0053
Neptune	-24831-12-01 13:55 J	-7347765.07	-7347764.92	-7347764.72	0.0089	0.0055
Neptune	-24830-07-15 03:07 J	-7347539.53	-7347539.37	-7347539.18	0.0089	0.0055
Neptune	-24829-02-25 16:33 J	-7347313.98	-7347313.81	-7347313.64	0.0089	0.0056
Neptune	-24829-10-08 05:16 J	-7347088.44	-7347088.28	-7347088.10	0.0089	0.0057
Neptune	-24828-05-21 18:14 J	-7346862.89	-7346862.74	-7346862.56	0.0089	0.0058
Saturn	-24828-08-22 12:28 J	-7346770.08	-7346769.98	-7346769.85	0.0267	0.0221
Neptune	-24827-01-02 07:11 J	-7346637.35	-7346637.20	-7346637.02	0.0089	0.0058
Saturn	-24827-04-08 14:09 J	-7346541.10	-7346540.91	-7346540.71	0.0268	0.0104
Neptune	-24827-08-15 20:09 J	-7346411.81	-7346411.66	-7346411.48	0.0089	0.0059
Saturn	-24827-11-23 17:31 J	-7346311.98	-7346311.77	-7346311.56	0.0270	0.0017
Jupiter	-24827-12-29 05:45 J	-7346276.39	-7346276.26	-7346276.10	0.0494	0.0351
Neptune	-24826-03-29 09:21 J	-7346186.27	-7346186.11	-7346185.94	0.0089	0.0060
Saturn	-24826-07-10 22:47 J	-7346082.72	-7346082.55	-7346082.36	0.0272	0.0143
Jupiter	-24826-08-22 22:33 J	-7346039.77	-7346039.56	-7346039.35	0.0499	0.0040
Neptune	-24826-11-09 22:04 J	-7345960.73	-7345960.58	-7345960.41	0.0089	0.0060
Saturn	-24825-02-25 06:28 J	-7345853.26	-7345853.23	-7345853.20	0.0274	0.0270
Jupiter	-24825-04-15 23:16 J	-7345802.62	-7345802.53	-7345802.44	0.0506	0.0448
Neptune	-24825-06-22 10:47 J	-7345735.19	-7345735.05	-7345734.87	0.0089	0.0062
Neptune	-24824-02-03 00:14 J	-7345509.64	-7345509.49	-7345509.33	0.0089	0.0062

Neptune -24824-09-16 12:43 J -7345284.10 -7345283.97 -7345283.79 0.0089 0.0063
 Neptune -24823-04-30 01:55 J -7345058.57 -7345058.42 -7345058.26 0.0089 0.0063
 Neptune -24823-12-11 14:38 J -7344833.03 -7344832.89 -7344832.72 0.0089 0.0063
 Neptune -24822-07-25 03:50 J -7344607.49 -7344607.34 -7344607.19 0.0089 0.0064
 Neptune -24821-03-06 16:19 J -7344381.95 -7344381.82 -7344381.64 0.0089 0.0065
 Neptune -24821-10-18 05:31 J -7344156.41 -7344156.27 -7344156.11 0.0089 0.0065
 Jupiter -24821-11-05 21:07 J -7344137.78 -7344137.62 -7344137.44 0.0532 0.0283
 Neptune -24820-05-31 18:28 J -7343930.87 -7343930.73 -7343930.58 0.0089 0.0065
 Jupiter -24820-07-01 03:35 J -7343900.54 -7343900.35 -7343900.16 0.0526 0.0181
 Neptune -24819-01-12 06:57 J -7343705.34 -7343705.21 -7343705.04 0.0089 0.0066
 Neptune -24819-08-25 19:55 J -7343479.80 -7343479.67 -7343479.51 0.0089 0.0066
 Neptune -24818-04-08 08:38 J -7343254.27 -7343254.14 -7343253.98 0.0089 0.0066
 Neptune -24818-11-19 21:35 J -7343028.74 -7343028.60 -7343028.45 0.0089 0.0066
 Neptune -24817-07-02 09:50 J -7342803.21 -7342803.09 -7342802.92 0.0089 0.0067
 Neptune -24816-02-12 22:47 J -7342577.68 -7342577.55 -7342577.39 0.0089 0.0066
 Mars -24816-03-09 18:28 J -7342552.88 -7342552.73 -7342552.58 0.1700 0.0797
 Neptune -24816-09-26 11:31 J -7342352.15 -7342352.02 -7342351.86 0.0089 0.0066
 Neptune -24815-05-09 23:59 J -7342126.63 -7342126.50 -7342126.34 0.0089 0.0067
 Jupiter -24815-09-03 06:14 J -7342010.32 -7342010.24 -7342010.15 0.0493 0.0449
 Neptune -24815-12-21 12:43 J -7341901.10 -7341900.97 -7341900.81 0.0089 0.0067
 Mars -24814-01-07 14:09 J -7341884.01 -7341883.91 -7341883.82 0.1682 0.1402
 Jupiter -24814-04-27 20:23 J -7341773.86 -7341773.65 -7341773.44 0.0497 0.0071
 Saturn -24814-06-28 00:43 J -7341712.50 -7341712.47 -7341712.42 0.0294 0.0288
 Neptune -24814-08-04 01:26 J -7341675.57 -7341675.44 -7341675.28 0.0089 0.0066
 Jupiter -24814-12-20 18:28 J -7341536.88 -7341536.73 -7341536.57 0.0504 0.0336
 Saturn -24813-02-13 01:11 J -7341482.64 -7341482.45 -7341482.26 0.0292 0.0129
 Neptune -24813-03-16 14:09 J -7341450.04 -7341449.91 -7341449.75 0.0089 0.0066
 Saturn -24813-09-29 23:02 J -7341252.75 -7341252.54 -7341252.33 0.0290 0.0027
 Neptune -24813-10-28 02:38 J -7341224.52 -7341224.39 -7341224.23 0.0089 0.0067
 Saturn -24812-05-17 18:14 J -7341022.90 -7341022.74 -7341022.57 0.0288 0.0177

Neptune -24812-06-10 15:07 J -7340998.99 -7340998.87 -7340998.70 0.0089 0.0067
 Mars -24812-10-17 17:16 J -7340869.96 -7340869.78 -7340869.60 0.1825 0.0101
 Neptune -24811-01-22 04:19 J -7340773.47 -7340773.32 -7340773.18 0.0089 0.0066
 Neptune -24811-09-04 16:33 J -7340547.94 -7340547.81 -7340547.65 0.0089 0.0066
 Neptune -24810-04-18 05:02 J -7340322.42 -7340322.29 -7340322.12 0.0089 0.0066
 Neptune -24810-11-29 17:31 J -7340096.89 -7340096.77 -7340096.60 0.0089 0.0066
 Jupiter -24809-07-11 16:04 J -7339871.95 -7339871.83 -7339871.70 0.0534 0.0407
 Neptune -24809-07-12 06:28 J -7339871.37 -7339871.23 -7339871.07 0.0089 0.0065
 Neptune -24808-02-22 18:57 J -7339645.84 -7339645.71 -7339645.54 0.0089 0.0065
 Jupiter -24808-03-06 01:11 J -7339634.65 -7339634.45 -7339634.25 0.0528 0.0060
 Neptune -24808-10-06 07:26 J -7339420.32 -7339420.19 -7339420.02 0.0089 0.0065
 Jupiter -24808-10-29 00:43 J -7339397.53 -7339397.47 -7339397.40 0.0520 0.0491
 Neptune -24807-05-19 20:09 J -7339194.80 -7339194.66 -7339194.50 0.0089 0.0064
 Neptune -24807-12-31 08:23 J -7338969.28 -7338969.15 -7338968.98 0.0089 0.0064
 Neptune -24806-08-13 21:21 J -7338743.76 -7338743.61 -7338743.45 0.0089 0.0063
 Neptune -24805-03-26 09:35 J -7338518.23 -7338518.10 -7338517.92 0.0089 0.0063
 Neptune -24805-11-06 22:19 J -7338292.72 -7338292.57 -7338292.40 0.0089 0.0062
 Neptune -24804-06-20 10:33 J -7338067.20 -7338067.06 -7338066.89 0.0089 0.0061
 Neptune -24803-01-31 23:02 J -7337841.68 -7337841.54 -7337841.37 0.0089 0.0061
 Neptune -24803-09-14 11:31 J -7337616.17 -7337616.02 -7337615.85 0.0089 0.0060
 Jupiter -24803-12-31 18:28 J -7337507.92 -7337507.73 -7337507.53 0.0496 0.0179
 Neptune -24802-04-27 23:45 J -7337390.65 -7337390.51 -7337390.33 0.0089 0.0059
 Jupiter -24802-08-25 14:38 J -7337271.07 -7337270.89 -7337270.70 0.0502 0.0223
 Neptune -24802-12-09 12:14 J -7337165.14 -7337164.99 -7337164.81 0.0089 0.0059
 Neptune -24801-07-22 00:43 J -7336939.62 -7336939.47 -7336939.29 0.0089 0.0058
 Neptune -24800-03-04 13:26 J -7336714.10 -7336713.94 -7336713.77 0.0089 0.0057
 Neptune -24800-10-16 01:26 J -7336488.59 -7336488.44 -7336488.26 0.0089 0.0056
 Neptune -24799-05-29 13:40 J -7336263.08 -7336262.93 -7336262.74 0.0089 0.0056
 Neptune -24798-01-10 02:09 J -7336037.57 -7336037.41 -7336037.22 0.0089 0.0054
 Saturn -24798-03-04 11:16 J -7335984.16 -7335984.03 -7335983.90 0.0267 0.0209

Neptune -24798-08-23 14:38 J -7335812.05 -7335811.89 -7335811.71 0.0089 0.0053
 Saturn -24798-10-19 12:43 J -7335755.17 -7335754.97 -7335754.77 0.0269 0.0092
 Jupiter -24797-03-16 10:04 J -7335606.10 -7335606.08 -7335606.05 0.0535 0.0531
 Neptune -24797-04-05 03:07 J -7335586.53 -7335586.37 -7335586.18 0.0089 0.0053
 Saturn -24797-06-04 16:04 J -7335526.04 -7335525.83 -7335525.62 0.0270 0.0030
 Jupiter -24797-11-08 21:35 J -7335368.80 -7335368.60 -7335368.41 0.0530 0.0068
 Neptune -24797-11-16 15:35 J -7335361.01 -7335360.85 -7335360.66 0.0089 0.0051
 Saturn -24796-01-19 21:07 J -7335296.78 -7335296.62 -7335296.43 0.0272 0.0156
 Neptune -24796-06-30 03:50 J -7335135.50 -7335135.34 -7335135.15 0.0089 0.0051
 Jupiter -24796-07-03 23:16 J -7335131.66 -7335131.53 -7335131.39 0.0522 0.0379
 Neptune -24795-02-10 16:19 J -7334909.99 -7334909.82 -7334909.63 0.0089 0.0049
 Uranus -24795-07-27 17:16 J -7334742.83 -7334742.78 -7334742.69 0.0133 0.0125
 Neptune -24795-09-24 04:33 J -7334684.47 -7334684.31 -7334684.11 0.0089 0.0049
 Uranus -24794-03-10 22:47 J -7334516.68 -7334516.55 -7334516.40 0.0133 0.0104
 Neptune -24794-05-07 17:02 J -7334458.96 -7334458.79 -7334458.59 0.0089 0.0047
 Uranus -24794-10-23 04:19 J -7334290.49 -7334290.32 -7334290.14 0.0133 0.0082
 Neptune -24794-12-19 05:16 J -7334233.44 -7334233.28 -7334233.08 0.0089 0.0047
 Uranus -24793-06-05 09:50 J -7334064.28 -7334064.09 -7334063.90 0.0134 0.0060
 Neptune -24793-07-31 17:45 J -7334007.93 -7334007.76 -7334007.56 0.0089 0.0045
 Uranus -24792-01-17 15:21 J -7333838.07 -7333837.86 -7333837.65 0.0134 0.0038
 Neptune -24792-03-14 05:59 J -7333782.42 -7333782.25 -7333782.05 0.0089 0.0044
 Uranus -24792-08-31 20:52 J -7333611.85 -7333611.63 -7333611.41 0.0134 0.0016
 Neptune -24792-10-25 18:43 J -7333556.91 -7333556.72 -7333556.53 0.0089 0.0043
 Uranus -24791-04-15 02:23 J -7333385.62 -7333385.40 -7333385.18 0.0134 0.0007
 Neptune -24791-06-08 06:43 J -7333331.40 -7333331.22 -7333331.02 0.0089 0.0042
 Jupiter -24791-09-05 18:57 J -7333241.88 -7333241.71 -7333241.54 0.0495 0.0283
 Uranus -24791-11-27 07:55 J -7333159.38 -7333159.17 -7333158.96 0.0134 0.0029
 Neptune -24790-01-19 18:57 J -7333105.89 -7333105.71 -7333105.51 0.0089 0.0040
 Jupiter -24790-04-30 12:57 J -7333005.16 -7333004.96 -7333004.75 0.0500 0.0113
 Uranus -24790-07-11 13:26 J -7332933.13 -7332932.94 -7332932.73 0.0135 0.0051

Neptune	-24790-09-02 07:11 J	-7332880.38	-7332880.20	-7332880.00	0.0089	0.0039
Uranus	-24789-02-22 19:11 J	-7332706.87	-7332706.70	-7332706.51	0.0135	0.0074
Neptune	-24789-04-14 19:26 J	-7332654.87	-7332654.69	-7332654.48	0.0089	0.0039
Uranus	-24789-10-06 00:57 J	-7332480.60	-7332480.46	-7332480.30	0.0135	0.0096
Neptune	-24789-11-26 08:09 J	-7332429.36	-7332429.16	-7332428.96	0.0089	0.0036
Uranus	-24788-05-20 06:43 J	-7332254.31	-7332254.22	-7332254.10	0.0135	0.0119
Neptune	-24788-07-09 20:09 J	-7332203.85	-7332203.66	-7332203.45	0.0089	0.0035
Neptune	-24787-02-20 08:23 J	-7331978.34	-7331978.15	-7331977.94	0.0089	0.0034
Neptune	-24787-10-03 20:52 J	-7331752.83	-7331752.63	-7331752.43	0.0089	0.0033
Neptune	-24786-05-17 09:07 J	-7331527.31	-7331527.12	-7331526.91	0.0089	0.0031
Neptune	-24786-12-28 21:21 J	-7331301.80	-7331301.61	-7331301.39	0.0089	0.0030
Jupiter	-24785-07-14 13:26 J	-7331103.13	-7331102.94	-7331102.76	0.0531	0.0200
Neptune	-24785-08-10 09:50 J	-7331076.29	-7331076.09	-7331075.88	0.0089	0.0028
Saturn	-24784-01-07 03:07 J	-7330926.45	-7330926.37	-7330926.28	0.0294	0.0269
Jupiter	-24784-03-08 17:45 J	-7330865.93	-7330865.76	-7330865.59	0.0524	0.0258
Neptune	-24784-03-23 22:04 J	-7330850.78	-7330850.58	-7330850.37	0.0089	0.0027
Saturn	-24784-08-25 03:35 J	-7330696.54	-7330696.35	-7330696.15	0.0293	0.0109
Neptune	-24784-11-04 10:19 J	-7330625.26	-7330625.07	-7330624.85	0.0089	0.0026
Saturn	-24783-04-12 01:40 J	-7330466.64	-7330466.43	-7330466.22	0.0291	0.0048
Neptune	-24783-06-17 22:47 J	-7330399.75	-7330399.55	-7330399.33	0.0089	0.0024
Saturn	-24783-11-27 20:52 J	-7330236.77	-7330236.63	-7330236.47	0.0289	0.0199
Mars	-24782-01-06 09:21 J	-7330197.27	-7330197.11	-7330196.94	0.1689	0.0382
Neptune	-24782-01-29 11:02 J	-7330174.24	-7330174.04	-7330173.82	0.0089	0.0023
Neptune	-24782-09-11 23:31 J	-7329948.72	-7329948.52	-7329948.30	0.0089	0.0021
Neptune	-24781-04-24 11:59 J	-7329723.20	-7329723.00	-7329722.78	0.0089	0.0020
Neptune	-24781-12-06 00:28 J	-7329497.69	-7329497.48	-7329497.27	0.0089	0.0018
Neptune	-24780-07-19 12:43 J	-7329272.18	-7329271.97	-7329271.76	0.0089	0.0017
Mars	-24780-10-17 12:14 J	-7329182.03	-7329181.99	-7329181.94	0.1815	0.1756
Neptune	-24779-03-02 00:57 J	-7329046.67	-7329046.46	-7329046.24	0.0089	0.0015
Jupiter	-24779-05-11 19:26 J	-7328975.81	-7328975.69	-7328975.55	0.0494	0.0385

Neptune -24779-10-13 13:11 J -7328821.16 -7328820.95 -7328820.73 0.0089 0.0014
 Jupiter -24778-01-03 11:31 J -7328739.23 -7328739.02 -7328738.81 0.0498 0.0004
 Neptune -24778-05-27 01:40 J -7328595.64 -7328595.43 -7328595.21 0.0089 0.0013
 Jupiter -24778-08-28 11:31 J -7328502.13 -7328502.02 -7328501.90 0.0505 0.0410
 Neptune -24777-01-07 14:09 J -7328370.12 -7328369.91 -7328369.69 0.0089 0.0011
 Neptune -24777-08-20 02:23 J -7328144.61 -7328144.40 -7328144.18 0.0089 0.0009
 Neptune -24776-04-02 14:38 J -7327919.10 -7327918.89 -7327918.67 0.0089 0.0008
 Neptune -24776-11-14 03:07 J -7327693.59 -7327693.37 -7327693.15 0.0089 0.0006
 Neptune -24775-06-27 15:35 J -7327468.07 -7327467.85 -7327467.64 0.0089 0.0005
 Neptune -24774-02-08 03:50 J -7327242.56 -7327242.34 -7327242.12 0.0089 0.0003
 Neptune -24774-09-21 16:19 J -7327017.04 -7327016.82 -7327016.61 0.0089 0.0002
 Jupiter -24773-03-19 06:57 J -7326837.37 -7326837.21 -7326837.06 0.0533 0.0329
 Neptune -24773-05-04 04:47 J -7326791.52 -7326791.30 -7326791.08 0.0089 0.0001
 Jupiter -24773-11-11 13:55 J -7326600.11 -7326599.92 -7326599.73 0.0527 0.0134
 Neptune -24773-12-15 17:16 J -7326566.00 -7326565.78 -7326565.57 0.0089 0.0002
 Neptune -24772-07-29 05:31 J -7326340.48 -7326340.27 -7326340.05 0.0089 0.0003
 Neptune -24771-03-11 17:59 J -7326114.97 -7326114.75 -7326114.53 0.0089 0.0004
 Neptune -24771-10-23 06:28 J -7325889.45 -7325889.23 -7325889.01 0.0089 0.0006
 Neptune -24770-06-05 18:57 J -7325663.92 -7325663.71 -7325663.49 0.0089 0.0008
 Neptune -24769-01-17 07:40 J -7325438.40 -7325438.18 -7325437.96 0.0089 0.0009
 Neptune -24769-08-29 19:55 J -7325212.88 -7325212.67 -7325212.45 0.0089 0.0011
 Saturn -24769-09-13 15:50 J -7325197.99 -7325197.84 -7325197.69 0.0267 0.0189
 Neptune -24768-04-12 08:38 J -7324987.36 -7324987.14 -7324986.93 0.0089 0.0012
 Saturn -24768-04-30 17:16 J -7324968.98 -7324968.78 -7324968.58 0.0268 0.0072
 Neptune -24768-11-23 20:52 J -7324761.84 -7324761.63 -7324761.41 0.0089 0.0014
 Saturn -24768-12-15 20:38 J -7324739.85 -7324739.64 -7324739.43 0.0270 0.0050
 Jupiter -24767-01-14 19:40 J -7324709.71 -7324709.68 -7324709.64 0.0492 0.0482
 Neptune -24767-07-07 09:35 J -7324536.31 -7324536.10 -7324535.89 0.0089 0.0015
 Saturn -24767-08-02 02:09 J -7324510.57 -7324510.41 -7324510.24 0.0272 0.0176
 Jupiter -24767-09-08 09:21 J -7324473.31 -7324473.11 -7324472.91 0.0497 0.0108

Neptune -24766-02-17 21:50 J -7324310.79 -7324310.59 -7324310.37 0.0089 0.0017
 Jupiter -24766-05-03 06:28 J -7324236.39 -7324236.23 -7324236.05 0.0503 0.0297
 Neptune -24766-10-01 10:33 J -7324085.27 -7324085.06 -7324084.85 0.0089 0.0018
 Neptune -24765-05-13 23:02 J -7323859.75 -7323859.54 -7323859.32 0.0089 0.0019
 Neptune -24765-12-25 11:31 J -7323634.23 -7323634.02 -7323633.80 0.0088 0.0021
 Neptune -24764-08-08 00:14 J -7323408.70 -7323408.49 -7323408.28 0.0088 0.0022
 Neptune -24763-03-21 12:28 J -7323183.18 -7323182.98 -7323182.76 0.0088 0.0024
 Neptune -24763-11-02 01:11 J -7322957.66 -7322957.45 -7322957.24 0.0088 0.0025
 Neptune -24762-06-15 13:40 J -7322732.13 -7322731.93 -7322731.71 0.0088 0.0026
 Jupiter -24762-11-22 23:45 J -7322571.60 -7322571.51 -7322571.40 0.0534 0.0456
 Neptune -24761-01-27 02:23 J -7322506.60 -7322506.40 -7322506.19 0.0088 0.0028
 Jupiter -24761-07-17 09:50 J -7322334.29 -7322334.09 -7322333.89 0.0529 0.0012
 Neptune -24761-09-08 14:38 J -7322281.08 -7322280.89 -7322280.67 0.0088 0.0030
 Jupiter -24760-03-11 10:47 J -7322097.15 -7322097.05 -7322096.95 0.0522 0.0448
 Neptune -24760-04-22 03:21 J -7322055.55 -7322055.36 -7322055.14 0.0088 0.0031
 Neptune -24760-12-03 16:04 J -7321830.03 -7321829.83 -7321829.62 0.0088 0.0032
 Neptune -24759-07-17 04:47 J -7321604.49 -7321604.30 -7321604.09 0.0088 0.0033
 Neptune -24758-02-27 17:31 J -7321378.96 -7321378.77 -7321378.56 0.0088 0.0034
 Neptune -24758-10-11 06:14 J -7321153.43 -7321153.24 -7321153.03 0.0088 0.0036
 Neptune -24757-05-23 19:11 J -7320927.90 -7320927.70 -7320927.50 0.0088 0.0037
 Neptune -24756-01-04 07:40 J -7320702.36 -7320702.18 -7320701.97 0.0088 0.0038
 Neptune -24756-08-17 20:23 J -7320476.83 -7320476.65 -7320476.44 0.0088 0.0040
 Neptune -24755-03-31 09:07 J -7320251.30 -7320251.12 -7320250.91 0.0088 0.0041
 Jupiter -24755-05-14 08:09 J -7320207.35 -7320207.16 -7320206.97 0.0495 0.0215
 Saturn -24755-07-20 07:40 J -7320140.28 -7320140.18 -7320140.06 0.0294 0.0248
 Neptune -24755-11-11 22:04 J -7320025.77 -7320025.58 -7320025.38 0.0088 0.0042
 Jupiter -24754-01-06 02:52 J -7319970.57 -7319970.38 -7319970.18 0.0501 0.0184
 Saturn -24754-03-07 07:55 J -7319910.37 -7319910.17 -7319909.97 0.0292 0.0089
 Uranus -24754-06-22 16:33 J -7319802.92 -7319802.81 -7319802.70 0.0145 0.0126
 Neptune -24754-06-25 11:02 J -7319800.23 -7319800.04 -7319799.84 0.0088 0.0043

Saturn -24754-10-23 05:31 J -7319680.47 -7319680.27 -7319680.06 0.0290 0.0067
 Uranus -24753-02-04 04:19 J -7319576.47 -7319576.32 -7319576.15 0.0145 0.0098
 Neptune -24753-02-05 23:31 J -7319574.69 -7319574.52 -7319574.31 0.0088 0.0044
 Saturn -24753-06-09 00:28 J -7319450.61 -7319450.48 -7319450.33 0.0288 0.0216
 Uranus -24753-09-17 16:19 J -7319350.00 -7319349.82 -7319349.62 0.0145 0.0070
 Neptune -24753-09-18 12:14 J -7319349.16 -7319348.99 -7319348.78 0.0088 0.0045
 Neptune -24752-05-02 00:57 J -7319123.63 -7319123.46 -7319123.26 0.0088 0.0046
 Uranus -24752-05-02 04:19 J -7319123.52 -7319123.32 -7319123.10 0.0145 0.0041 *
 Neptune -24752-12-13 13:40 J -7318898.10 -7318897.93 -7318897.72 0.0088 0.0048
 Uranus -24752-12-14 16:19 J -7318897.03 -7318896.82 -7318896.60 0.0145 0.0013
 Neptune -24751-07-27 02:38 J -7318672.55 -7318672.39 -7318672.19 0.0088 0.0049
 Uranus -24751-07-29 04:19 J -7318670.53 -7318670.32 -7318670.10 0.0144 0.0015
 Mars -24750-01-05 05:31 J -7318510.43 -7318510.27 -7318510.12 0.1697 0.0671
 Neptune -24750-03-09 15:35 J -7318447.02 -7318446.85 -7318446.65 0.0088 0.0049
 Uranus -24750-03-12 16:04 J -7318444.03 -7318443.83 -7318443.62 0.0144 0.0043
 Neptune -24750-10-21 04:19 J -7318221.48 -7318221.32 -7318221.12 0.0088 0.0051
 Uranus -24750-10-25 03:50 J -7318217.52 -7318217.34 -7318217.14 0.0144 0.0071
 Jupiter -24749-03-22 06:28 J -7318068.43 -7318068.23 -7318068.04 0.0531 0.0116
 Pluto -24749-04-17 10:04 J -7318042.22 -7318042.08 -7318041.89 0.0064 0.0043
 Neptune -24749-06-02 17:16 J -7317995.94 -7317995.78 -7317995.58 0.0088 0.0051
 Uranus -24749-06-07 15:21 J -7317991.00 -7317990.86 -7317990.69 0.0144 0.0099
 Mars -24749-11-04 01:55 J -7317841.49 -7317841.42 -7317841.35 0.1680 0.1504
 Jupiter -24749-11-14 09:50 J -7317831.24 -7317831.09 -7317830.94 0.0524 0.0336
 Pluto -24749-11-28 14:09 J -7317817.12 -7317816.91 -7317816.69 0.0064 0.0006
 Neptune -24748-01-14 06:14 J -7317770.40 -7317770.24 -7317770.05 0.0088 0.0052
 Uranus -24748-01-20 03:07 J -7317764.46 -7317764.37 -7317764.26 0.0143 0.0126
 Pluto -24748-07-11 17:45 J -7317591.93 -7317591.76 -7317591.56 0.0065 0.0033
 Neptune -24748-08-27 18:57 J -7317544.86 -7317544.71 -7317544.51 0.0088 0.0054
 Neptune -24747-04-10 07:55 J -7317319.32 -7317319.17 -7317318.97 0.0088 0.0054
 Neptune -24747-11-21 21:21 J -7317093.78 -7317093.61 -7317093.43 0.0088 0.0054

Neptune -24746-07-05 10:19 J -7316868.23 -7316868.07 -7316867.89 0.0088 0.0055
 Mars -24746-08-14 21:07 J -7316827.80 -7316827.62 -7316827.44 0.1828 0.0171
 Neptune -24745-02-15 23:16 J -7316642.68 -7316642.53 -7316642.34 0.0088 0.0056
 Neptune -24745-09-28 12:14 J -7316417.14 -7316416.99 -7316416.80 0.0088 0.0057
 Neptune -24744-05-12 01:40 J -7316191.60 -7316191.43 -7316191.26 0.0088 0.0057
 Neptune -24744-12-23 14:23 J -7315966.05 -7315965.90 -7315965.72 0.0088 0.0058
 Jupiter -24743-01-17 06:57 J -7315941.36 -7315941.21 -7315941.04 0.0494 0.0320
 Neptune -24743-08-06 03:35 J -7315740.50 -7315740.35 -7315740.17 0.0088 0.0059
 Jupiter -24743-09-10 23:59 J -7315704.71 -7315704.50 -7315704.29 0.0499 0.0072
 Neptune -24742-03-19 17:02 J -7315514.95 -7315514.79 -7315514.62 0.0088 0.0059
 Jupiter -24742-05-06 01:11 J -7315467.51 -7315467.45 -7315467.38 0.0506 0.0479
 Neptune -24742-10-31 05:45 J -7315289.40 -7315289.26 -7315289.08 0.0088 0.0061
 Neptune -24741-06-12 19:26 J -7315063.85 -7315063.69 -7315063.53 0.0088 0.0061
 Neptune -24740-01-24 08:09 J -7314838.30 -7314838.16 -7314837.99 0.0088 0.0061
 Neptune -24740-09-06 21:35 J -7314612.75 -7314612.60 -7314612.44 0.0088 0.0062
 Saturn -24739-03-26 14:09 J -7314412.06 -7314411.91 -7314411.75 0.0267 0.0177
 Neptune -24739-04-20 10:19 J -7314387.21 -7314387.07 -7314386.89 0.0088 0.0063
 Saturn -24739-11-10 15:50 J -7314183.05 -7314182.84 -7314182.64 0.0269 0.0059
 Neptune -24739-12-01 23:45 J -7314161.66 -7314161.51 -7314161.35 0.0088 0.0063
 Saturn -24738-06-27 19:11 J -7313953.90 -7313953.70 -7313953.49 0.0270 0.0064
 Neptune -24738-07-15 12:43 J -7313936.10 -7313935.97 -7313935.79 0.0088 0.0063
 Jupiter -24738-11-26 01:40 J -7313802.60 -7313802.43 -7313802.25 0.0532 0.0243
 Saturn -24737-02-12 00:43 J -7313724.62 -7313724.47 -7313724.32 0.0272 0.0189
 Neptune -24737-02-26 02:09 J -7313710.55 -7313710.41 -7313710.24 0.0088 0.0063
 Jupiter -24737-07-20 07:40 J -7313565.36 -7313565.18 -7313565.00 0.0526 0.0218
 Neptune -24737-10-08 15:35 J -7313485.00 -7313484.85 -7313484.69 0.0088 0.0063
 Neptune -24736-05-22 04:19 J -7313259.45 -7313259.32 -7313259.14 0.0088 0.0064
 Neptune -24735-01-02 17:45 J -7313033.90 -7313033.76 -7313033.59 0.0088 0.0064
 Moon -24735-04-28 22:47 J -7312917.69 -7312917.55 -7312917.41 0.2706 0.1398
 Earth -24735-04-29 00:28 J -7312917.62 -7312917.48 -7312917.34 0.2713 0.1228 *

Neptune -24735-08-16 07:11 J -7312808.33 -7312808.20 -7312808.03 0.0088 0.0065
 Neptune -24734-03-29 20:52 J -7312582.78 -7312582.63 -7312582.48 0.0088 0.0064
 Neptune -24734-11-10 09:35 J -7312357.22 -7312357.10 -7312356.92 0.0088 0.0065
 Neptune -24733-06-22 23:02 J -7312131.67 -7312131.54 -7312131.37 0.0088 0.0065
 Neptune -24732-02-03 12:28 J -7311906.11 -7311905.98 -7311905.81 0.0088 0.0065
 Neptune -24732-09-17 01:55 J -7311680.55 -7311680.42 -7311680.25 0.0088 0.0065
 Jupiter -24732-09-22 08:23 J -7311675.26 -7311675.15 -7311675.04 0.0493 0.0418
 Neptune -24731-04-30 15:21 J -7311454.99 -7311454.86 -7311454.69 0.0088 0.0065
 Jupiter -24731-05-16 23:02 J -7311438.74 -7311438.54 -7311438.33 0.0498 0.0039
 Neptune -24731-12-12 04:47 J -7311229.43 -7311229.30 -7311229.13 0.0088 0.0065
 Jupiter -24730-01-08 22:04 J -7311201.72 -7311201.58 -7311201.43 0.0504 0.0370
 Neptune -24730-07-25 18:14 J -7311003.86 -7311003.74 -7311003.56 0.0088 0.0065
 Neptune -24729-03-07 08:23 J -7310778.30 -7310778.15 -7310778.00 0.0088 0.0064
 Neptune -24729-10-18 21:35 J -7310552.74 -7310552.60 -7310552.44 0.0088 0.0064
 Neptune -24728-06-01 10:47 J -7310327.19 -7310327.05 -7310326.88 0.0088 0.0064
 Neptune -24727-01-13 00:14 J -7310101.63 -7310101.49 -7310101.32 0.0088 0.0064
 Earth -24727-04-26 15:07 J -7309997.94 -7309997.87 -7309997.81 0.2713 0.2439
 Neptune -24727-08-26 13:40 J -7309876.06 -7309875.93 -7309875.75 0.0088 0.0064
 Neptune -24726-04-09 03:35 J -7309650.50 -7309650.35 -7309650.19 0.0088 0.0064
 Jupiter -24726-07-31 17:16 J -7309536.92 -7309536.78 -7309536.64 0.0533 0.0375
 Neptune -24726-11-20 16:47 J -7309424.94 -7309424.80 -7309424.63 0.0088 0.0063
 Saturn -24725-01-30 09:07 J -7309354.24 -7309354.12 -7309353.98 0.0294 0.0230
 Jupiter -24725-03-25 01:11 J -7309299.64 -7309299.45 -7309299.25 0.0527 0.0090
 Neptune -24725-07-03 06:14 J -7309199.38 -7309199.24 -7309199.07 0.0088 0.0063
 Saturn -24725-09-16 09:35 J -7309124.31 -7309124.10 -7309123.90 0.0292 0.0070
 Jupiter -24725-11-16 23:59 J -7309062.52 -7309062.50 -7309062.47 0.0520 0.0516
 Neptune -24724-02-13 20:09 J -7308973.82 -7308973.66 -7308973.51 0.0088 0.0063
 Saturn -24724-05-04 07:26 J -7308894.39 -7308894.19 -7308893.99 0.0291 0.0087
 Neptune -24724-09-27 09:21 J -7308748.25 -7308748.11 -7308747.94 0.0088 0.0062
 Saturn -24724-12-20 02:23 J -7308664.51 -7308664.40 -7308664.27 0.0288 0.0237

Neptune -24723-05-10 22:47 J -7308522.69 -7308522.55 -7308522.37 0.0088 0.0062
 Neptune -24723-12-22 12:28 J -7308297.13 -7308296.98 -7308296.81 0.0088 0.0061
 Neptune -24722-08-05 01:55 J -7308071.56 -7308071.42 -7308071.24 0.0088 0.0061
 Neptune -24721-03-17 15:35 J -7307845.99 -7307845.85 -7307845.67 0.0088 0.0060
 Neptune -24721-10-29 05:31 J -7307620.43 -7307620.27 -7307620.10 0.0088 0.0060
 Neptune -24720-06-11 18:43 J -7307394.86 -7307394.72 -7307394.53 0.0088 0.0060
 Jupiter -24719-01-19 22:19 J -7307172.77 -7307172.57 -7307172.37 0.0496 0.0145
 Neptune -24719-01-23 08:38 J -7307169.30 -7307169.14 -7307168.96 0.0088 0.0058
 Neptune -24719-09-05 22:47 J -7306943.72 -7306943.55 -7306943.38 0.0088 0.0058
 Jupiter -24719-09-13 19:11 J -7306935.87 -7306935.70 -7306935.52 0.0502 0.0259
 Neptune -24718-04-19 11:59 J -7306718.15 -7306718.00 -7306717.81 0.0088 0.0057
 Neptune -24718-12-01 01:40 J -7306492.59 -7306492.43 -7306492.24 0.0088 0.0056
 Neptune -24717-07-13 15:21 J -7306267.02 -7306266.86 -7306266.67 0.0088 0.0056
 Mars -24717-11-02 20:52 J -7306154.79 -7306154.63 -7306154.46 0.1687 0.0495
 Neptune -24716-02-24 05:16 J -7306041.45 -7306041.28 -7306041.10 0.0088 0.0055
 Neptune -24716-10-07 18:43 J -7305815.88 -7305815.72 -7305815.52 0.0088 0.0054
 Neptune -24715-05-21 08:23 J -7305590.31 -7305590.15 -7305589.95 0.0088 0.0053
 Neptune -24714-01-01 22:04 J -7305364.74 -7305364.58 -7305364.38 0.0088 0.0052
 Jupiter -24714-04-05 09:35 J -7305271.16 -7305271.10 -7305271.03 0.0534 0.0501
 Mars -24714-08-14 16:47 J -7305139.90 -7305139.80 -7305139.71 0.1819 0.1505
 Neptune -24714-08-15 11:45 J -7305139.18 -7305139.01 -7305138.81 0.0088 0.0051
 Jupiter -24714-11-28 20:09 J -7305033.86 -7305033.66 -7305033.46 0.0529 0.0038
 Neptune -24713-03-28 01:26 J -7304913.61 -7304913.44 -7304913.24 0.0088 0.0050
 Jupiter -24713-07-22 21:35 J -7304796.72 -7304796.60 -7304796.47 0.0522 0.0405
 Neptune -24713-11-08 15:07 J -7304688.04 -7304687.87 -7304687.67 0.0088 0.0050
 Neptune -24712-06-22 04:47 J -7304462.47 -7304462.30 -7304462.10 0.0088 0.0049
 Neptune -24711-02-02 18:28 J -7304236.90 -7304236.73 -7304236.52 0.0088 0.0047
 Neptune -24711-09-16 08:23 J -7304011.33 -7304011.15 -7304010.95 0.0088 0.0046
 Uranus -24711-11-08 06:57 J -7303958.31 -7303958.21 -7303958.09 0.0133 0.0114
 Neptune -24710-04-29 22:04 J -7303785.76 -7303785.58 -7303785.37 0.0088 0.0045

Uranus	-24710-06-22 12:28 J	-7303732.13	-7303731.98	-7303731.82	0.0133	0.0093
Saturn	-24710-10-06 18:43 J	-7303625.88	-7303625.72	-7303625.54	0.0267	0.0158
Neptune	-24710-12-11 11:45 J	-7303560.19	-7303560.01	-7303559.80	0.0088	0.0044
Uranus	-24709-02-03 17:59 J	-7303505.93	-7303505.75	-7303505.56	0.0133	0.0071
Saturn	-24709-05-22 20:38 J	-7303396.85	-7303396.64	-7303396.43	0.0269	0.0039
Neptune	-24709-07-24 01:26 J	-7303334.62	-7303334.44	-7303334.23	0.0088	0.0043
Uranus	-24709-09-16 23:16 J	-7303279.72	-7303279.53	-7303279.32	0.0134	0.0049
Saturn	-24708-01-07 00:14 J	-7303167.69	-7303167.49	-7303167.28	0.0270	0.0084
Neptune	-24708-03-06 15:35 J	-7303109.05	-7303108.85	-7303108.65	0.0088	0.0042
Uranus	-24708-05-01 04:47 J	-7303053.51	-7303053.30	-7303053.08	0.0134	0.0027
Saturn	-24708-08-24 05:45 J	-7302938.38	-7302938.26	-7302938.12	0.0272	0.0210
Jupiter	-24708-09-24 21:21 J	-7302906.79	-7302906.61	-7302906.43	0.0495	0.0251
Neptune	-24708-10-18 05:16 J	-7302883.47	-7302883.28	-7302883.07	0.0088	0.0041
Uranus	-24708-12-13 10:33 J	-7302827.28	-7302827.06	-7302826.84	0.0134	0.0004
Jupiter	-24707-05-19 15:21 J	-7302670.06	-7302669.86	-7302669.66	0.0500	0.0145
Neptune	-24707-05-31 18:57 J	-7302657.90	-7302657.71	-7302657.49	0.0088	0.0040
Uranus	-24707-07-27 16:04 J	-7302601.04	-7302600.83	-7302600.61	0.0134	0.0018
Neptune	-24706-01-12 08:38 J	-7302432.32	-7302432.14	-7302431.92	0.0088	0.0039
Uranus	-24706-03-10 21:50 J	-7302374.80	-7302374.59	-7302374.39	0.0134	0.0041
Neptune	-24706-08-25 22:47 J	-7302206.75	-7302206.55	-7302206.34	0.0088	0.0037
Uranus	-24706-10-23 03:07 J	-7302148.55	-7302148.37	-7302148.17	0.0135	0.0064
Neptune	-24705-04-07 12:28 J	-7301981.18	-7301980.98	-7301980.77	0.0088	0.0036
Uranus	-24705-06-05 08:52 J	-7301922.28	-7301922.13	-7301921.95	0.0135	0.0086
Neptune	-24705-11-19 02:09 J	-7301755.60	-7301755.41	-7301755.19	0.0088	0.0035
Uranus	-24704-01-17 14:52 J	-7301696.00	-7301695.88	-7301695.74	0.0135	0.0109
Neptune	-24704-07-02 16:19 J	-7301530.03	-7301529.82	-7301529.61	0.0088	0.0033
Uranus	-24704-08-31 21:07 J	-7301469.67	-7301469.62	-7301469.57	0.0135	0.0131
Neptune	-24703-02-13 05:45 J	-7301304.46	-7301304.26	-7301304.04	0.0088	0.0032
Neptune	-24703-09-26 19:40 J	-7301078.88	-7301078.68	-7301078.46	0.0088	0.0030
Neptune	-24702-05-10 09:35 J	-7300853.31	-7300853.10	-7300852.88	0.0088	0.0029

Jupiter -24702-08-03 14:52 J -7300768.07 -7300767.88 -7300767.69 0.0531 0.0166
 Neptune -24702-12-21 23:16 J -7300627.74 -7300627.53 -7300627.31 0.0088 0.0028
 Jupiter -24701-03-27 19:26 J -7300530.85 -7300530.69 -7300530.52 0.0525 0.0290
 Neptune -24701-08-03 12:43 J -7300402.17 -7300401.97 -7300401.74 0.0088 0.0027
 Neptune -24700-03-17 02:38 J -7300176.60 -7300176.39 -7300176.17 0.0088 0.0025
 Neptune -24700-10-28 16:33 J -7299951.02 -7299950.81 -7299950.59 0.0088 0.0023
 Neptune -24699-06-11 05:59 J -7299725.45 -7299725.25 -7299725.02 0.0088 0.0023
 Neptune -24698-01-22 19:55 J -7299499.88 -7299499.67 -7299499.45 0.0088 0.0021
 Neptune -24698-09-05 09:35 J -7299274.31 -7299274.10 -7299273.87 0.0088 0.0019
 Neptune -24697-04-17 23:31 J -7299048.74 -7299048.52 -7299048.30 0.0088 0.0018
 Neptune -24697-11-29 13:11 J -7298823.16 -7298822.95 -7298822.72 0.0088 0.0016
 Jupiter -24696-05-30 20:52 J -7298640.77 -7298640.63 -7298640.48 0.0493 0.0353
 Neptune -24696-07-13 02:52 J -7298597.59 -7298597.38 -7298597.15 0.0088 0.0015
 Saturn -24696-08-11 14:09 J -7298568.05 -7298567.91 -7298567.75 0.0294 0.0209
 Jupiter -24695-01-22 12:43 J -7298404.18 -7298403.97 -7298403.76 0.0498 0.0034
 Neptune -24695-02-23 16:33 J -7298372.02 -7298371.81 -7298371.58 0.0089 0.0014
 Saturn -24695-03-29 14:09 J -7298338.11 -7298337.91 -7298337.70 0.0292 0.0049
 Jupiter -24695-09-16 12:43 J -7298167.07 -7298166.97 -7298166.87 0.0505 0.0439
 Neptune -24695-10-07 06:28 J -7298146.45 -7298146.23 -7298146.00 0.0089 0.0012
 Saturn -24695-11-14 11:31 J -7298108.21 -7298108.02 -7298107.82 0.0290 0.0107
 Neptune -24694-05-20 20:09 J -7297920.87 -7297920.66 -7297920.43 0.0089 0.0011
 Saturn -24694-07-02 06:28 J -7297878.32 -7297878.23 -7297878.13 0.0288 0.0254
 Neptune -24693-01-01 10:04 J -7297695.30 -7297695.08 -7297694.85 0.0089 0.0009
 Neptune -24693-08-13 23:45 J -7297469.73 -7297469.51 -7297469.28 0.0089 0.0007
 Neptune -24692-03-27 13:26 J -7297244.16 -7297243.94 -7297243.71 0.0089 0.0006
 Neptune -24692-11-08 03:21 J -7297018.58 -7297018.36 -7297018.14 0.0089 0.0004
 Neptune -24691-06-21 17:02 J -7296793.01 -7296792.79 -7296792.57 0.0089 0.0003
 Neptune -24690-02-02 06:43 J -7296567.44 -7296567.22 -7296567.00 0.0089 0.0001
 Jupiter -24690-04-08 10:04 J -7296502.24 -7296502.08 -7296501.91 0.0533 0.0292
 Neptune -24690-09-15 20:09 J -7296341.88 -7296341.66 -7296341.43 0.0089 0.0002

Jupiter -24690-12-01 17:16 J -7296264.97 -7296264.78 -7296264.59 0.0527 0.0171
 Neptune -24689-04-28 09:50 J -7296116.31 -7296116.09 -7296115.86 0.0089 0.0002
 Neptune -24689-12-09 23:31 J -7295890.74 -7295890.52 -7295890.29 0.0089 0.0004
 Neptune -24688-07-23 13:11 J -7295665.17 -7295664.95 -7295664.73 0.0089 0.0005
 Neptune -24687-03-06 02:38 J -7295439.61 -7295439.39 -7295439.16 0.0089 0.0006
 Neptune -24687-10-17 16:19 J -7295214.04 -7295213.82 -7295213.60 0.0089 0.0008
 Neptune -24686-05-31 05:45 J -7294988.48 -7294988.26 -7294988.03 0.0089 0.0009
 Neptune -24685-01-11 19:26 J -7294762.91 -7294762.69 -7294762.47 0.0089 0.0011
 Neptune -24685-08-24 08:52 J -7294537.35 -7294537.13 -7294536.90 0.0089 0.0012
 Mars -24685-11-01 17:02 J -7294467.95 -7294467.79 -7294467.63 0.1695 0.0556
 Jupiter -24684-02-02 20:52 J -7294374.71 -7294374.63 -7294374.55 0.0492 0.0452
 Neptune -24684-04-06 22:19 J -7294311.78 -7294311.57 -7294311.34 0.0089 0.0014
 Jupiter -24684-09-27 10:33 J -7294138.26 -7294138.06 -7294137.85 0.0497 0.0077
 Neptune -24684-11-18 11:59 J -7294086.21 -7294086.00 -7294085.77 0.0089 0.0015
 Jupiter -24683-05-22 08:09 J -7293901.31 -7293901.16 -7293901.00 0.0503 0.0328
 Neptune -24683-07-02 01:26 J -7293860.65 -7293860.44 -7293860.21 0.0089 0.0017
 Mars -24683-09-01 13:26 J -7293798.98 -7293798.94 -7293798.89 0.1678 0.1607
 Neptune -24682-02-12 15:07 J -7293635.08 -7293634.87 -7293634.65 0.0089 0.0018
 Neptune -24682-09-26 04:19 J -7293409.52 -7293409.32 -7293409.09 0.0089 0.0020
 Neptune -24681-05-08 17:59 J -7293183.96 -7293183.75 -7293183.52 0.0089 0.0021
 Saturn -24681-08-31 17:59 J -7293068.79 -7293068.75 -7293068.70 0.0266 0.0258
 Neptune -24681-12-20 07:40 J -7292958.39 -7292958.18 -7292957.96 0.0089 0.0022
 Saturn -24680-04-17 17:59 J -7292839.93 -7292839.75 -7292839.57 0.0267 0.0145
 Mars -24680-06-11 01:26 J -7292785.61 -7292785.44 -7292785.26 0.1832 0.0429
 Neptune -24680-08-02 21:07 J -7292732.82 -7292732.62 -7292732.40 0.0089 0.0024
 Saturn -24680-12-02 19:40 J -7292610.90 -7292610.68 -7292610.47 0.0269 0.0026
 Neptune -24679-03-16 10:33 J -7292507.26 -7292507.06 -7292506.84 0.0089 0.0025
 Saturn -24679-07-19 23:16 J -7292381.73 -7292381.53 -7292381.33 0.0270 0.0098
 Neptune -24679-10-28 00:14 J -7292281.70 -7292281.49 -7292281.28 0.0089 0.0026
 Jupiter -24679-12-12 04:33 J -7292236.43 -7292236.31 -7292236.19 0.0534 0.0418

Saturn -24678-03-06 04:47 J -7292152.42 -7292152.30 -7292152.18 0.0272 0.0223
 Neptune -24678-06-10 13:26 J -7292056.14 -7292055.94 -7292055.72 0.0089 0.0028
 Jupiter -24678-08-06 14:09 J -7291999.11 -7291998.91 -7291998.71 0.0528 0.0047
 Neptune -24677-01-22 02:52 J -7291830.58 -7291830.38 -7291830.16 0.0089 0.0029
 Jupiter -24677-03-30 14:23 J -7291761.97 -7291761.90 -7291761.82 0.0521 0.0480
 Neptune -24677-09-03 16:19 J -7291605.02 -7291604.82 -7291604.60 0.0089 0.0030
 Neptune -24676-04-17 05:31 J -7291379.46 -7291379.27 -7291379.05 0.0089 0.0032
 Neptune -24676-11-28 18:57 J -7291153.90 -7291153.71 -7291153.49 0.0089 0.0033
 Neptune -24675-07-12 08:23 J -7290928.35 -7290928.15 -7290927.94 0.0089 0.0034
 Neptune -24674-02-22 21:35 J -7290702.79 -7290702.60 -7290702.39 0.0089 0.0035
 Neptune -24674-10-06 11:02 J -7290477.24 -7290477.04 -7290476.84 0.0089 0.0036
 Neptune -24673-05-18 23:59 J -7290251.69 -7290251.50 -7290251.29 0.0089 0.0038
 Neptune -24673-12-30 13:26 J -7290026.13 -7290025.94 -7290025.73 0.0089 0.0039
 Jupiter -24672-06-02 10:19 J -7289872.26 -7289872.07 -7289871.87 0.0496 0.0183
 Neptune -24672-08-13 02:38 J -7289800.57 -7289800.39 -7289800.18 0.0089 0.0040
 Jupiter -24671-01-25 05:59 J -7289635.43 -7289635.25 -7289635.06 0.0501 0.0218
 Neptune -24671-03-26 15:50 J -7289575.02 -7289574.84 -7289574.63 0.0089 0.0041
 Neptune -24671-11-07 05:02 J -7289349.47 -7289349.29 -7289349.08 0.0089 0.0042
 Uranus -24670-02-19 22:19 J -7289244.61 -7289244.57 -7289244.49 0.0146 0.0139
 Neptune -24670-06-20 18:28 J -7289123.91 -7289123.73 -7289123.53 0.0089 0.0043
 Uranus -24670-10-04 10:19 J -7289018.19 -7289018.07 -7289017.91 0.0145 0.0112
 Neptune -24669-02-01 07:40 J -7288898.36 -7288898.18 -7288897.98 0.0089 0.0045
 Uranus -24669-05-17 22:19 J -7288791.73 -7288791.57 -7288791.37 0.0145 0.0083
 Neptune -24669-09-13 20:52 J -7288672.81 -7288672.63 -7288672.43 0.0089 0.0045
 Uranus -24669-12-30 10:33 J -7288565.25 -7288565.06 -7288564.85 0.0145 0.0054
 Neptune -24668-04-27 10:04 J -7288447.25 -7288447.08 -7288446.88 0.0089 0.0046
 Uranus -24668-08-13 22:33 J -7288338.77 -7288338.56 -7288338.34 0.0145 0.0026
 Neptune -24668-12-08 23:16 J -7288221.70 -7288221.53 -7288221.33 0.0089 0.0047
 Uranus -24667-03-28 10:33 J -7288112.28 -7288112.06 -7288111.84 0.0144 0.0003
 Neptune -24667-07-22 12:28 J -7287996.15 -7287995.98 -7287995.78 0.0089 0.0048

Uranus -24667-11-09 22:19 J -7287885.78 -7287885.57 -7287885.35 0.0144 0.0031
 Saturn -24666-02-21 14:52 J -7287782.03 -7287781.88 -7287781.71 0.0294 0.0192
 Neptune -24666-03-05 01:40 J -7287770.60 -7287770.43 -7287770.23 0.0089 0.0049
 Jupiter -24666-04-11 07:11 J -7287733.39 -7287733.20 -7287733.00 0.0530 0.0085
 Uranus -24666-06-24 10:19 J -7287659.26 -7287659.07 -7287658.87 0.0144 0.0059
 Saturn -24666-10-09 15:21 J -7287552.08 -7287551.86 -7287551.65 0.0292 0.0032
 Neptune -24666-10-16 14:38 J -7287545.05 -7287544.89 -7287544.69 0.0089 0.0050
 Jupiter -24666-12-04 09:35 J -7287496.24 -7287496.10 -7287495.95 0.0523 0.0363
 Uranus -24665-02-05 22:04 J -7287432.75 -7287432.58 -7287432.40 0.0144 0.0087
 Saturn -24665-05-26 12:43 J -7287322.15 -7287321.97 -7287321.77 0.0290 0.0126
 Neptune -24665-05-29 04:04 J -7287319.50 -7287319.33 -7287319.15 0.0089 0.0051
 Uranus -24665-09-19 09:35 J -7287206.22 -7287206.10 -7287205.96 0.0143 0.0114
 Neptune -24664-01-09 17:02 J -7287093.95 -7287093.79 -7287093.60 0.0089 0.0052
 Saturn -24664-01-11 07:55 J -7287092.23 -7287092.17 -7287092.10 0.0288 0.0273
 Uranus -24664-05-03 21:07 J -7286979.64 -7286979.62 -7286979.57 0.0143 0.0141
 Neptune -24664-08-23 05:59 J -7286868.41 -7286868.25 -7286868.06 0.0089 0.0053
 Neptune -24663-04-05 18:57 J -7286642.87 -7286642.71 -7286642.52 0.0089 0.0053
 Neptune -24663-11-17 08:09 J -7286417.33 -7286417.16 -7286416.98 0.0089 0.0054
 Neptune -24662-06-30 20:52 J -7286191.79 -7286191.63 -7286191.44 0.0089 0.0055
 Neptune -24661-02-11 09:50 J -7285966.24 -7285966.09 -7285965.90 0.0089 0.0056
 Pluto -24661-07-29 23:31 J -7285796.53 -7285796.52 -7285796.46 0.0080 0.0080
 Neptune -24661-09-23 23:02 J -7285740.70 -7285740.54 -7285740.36 0.0089 0.0056
 Jupiter -24660-02-05 10:19 J -7285606.24 -7285606.07 -7285605.90 0.0495 0.0287
 Pluto -24660-03-12 11:02 J -7285571.26 -7285571.04 -7285570.81 0.0080 0.0004
 Neptune -24660-05-07 11:45 J -7285515.16 -7285515.01 -7285514.82 0.0089 0.0057
 Jupiter -24660-09-30 04:04 J -7285369.53 -7285369.33 -7285369.13 0.0500 0.0107
 Pluto -24660-10-23 22:04 J -7285345.67 -7285345.58 -7285345.47 0.0080 0.0071
 Neptune -24660-12-19 00:57 J -7285289.62 -7285289.46 -7285289.29 0.0089 0.0057
 Neptune -24659-08-01 13:40 J -7285064.08 -7285063.93 -7285063.75 0.0089 0.0057
 Neptune -24658-03-15 02:52 J -7284838.54 -7284838.38 -7284838.21 0.0089 0.0058

Neptune -24658-10-26 15:21 J -7284613.00 -7284612.86 -7284612.68 0.0089 0.0059
 Neptune -24657-06-08 04:33 J -7284387.47 -7284387.31 -7284387.14 0.0089 0.0059
 Neptune -24656-01-19 17:16 J -7284161.93 -7284161.78 -7284161.60 0.0089 0.0059
 Neptune -24656-09-02 06:14 J -7283936.39 -7283936.24 -7283936.07 0.0089 0.0059
 Neptune -24655-04-15 19:11 J -7283710.86 -7283710.70 -7283710.53 0.0089 0.0060
 Neptune -24655-11-27 07:40 J -7283485.32 -7283485.18 -7283485.00 0.0089 0.0060
 Jupiter -24655-12-15 00:57 J -7283467.64 -7283467.46 -7283467.27 0.0531 0.0213
 Neptune -24654-07-10 20:38 J -7283259.79 -7283259.64 -7283259.47 0.0089 0.0060
 Jupiter -24654-08-09 05:59 J -7283230.42 -7283230.25 -7283230.07 0.0525 0.0244
 Neptune -24653-02-21 09:35 J -7283034.25 -7283034.10 -7283033.93 0.0089 0.0061
 Neptune -24653-10-03 22:19 J -7282808.72 -7282808.57 -7282808.40 0.0089 0.0061
 Mars -24653-10-31 13:40 J -7282780.98 -7282780.93 -7282780.88 0.1702 0.1617
 Neptune -24652-05-17 11:16 J -7282583.19 -7282583.03 -7282582.87 0.0089 0.0061
 Neptune -24652-12-28 23:59 J -7282357.66 -7282357.50 -7282357.34 0.0089 0.0061
 Saturn -24651-03-13 22:33 J -7282282.64 -7282282.56 -7282282.46 0.0266 0.0240
 Neptune -24651-08-11 12:14 J -7282132.13 -7282131.99 -7282131.81 0.0089 0.0061
 Mars -24651-08-31 08:38 J -7282112.30 -7282112.14 -7282111.98 0.1685 0.0600
 Saturn -24651-10-28 23:02 J -7282053.73 -7282053.54 -7282053.36 0.0267 0.0125
 Neptune -24650-03-25 00:57 J -7281906.60 -7281906.46 -7281906.28 0.0089 0.0061
 Saturn -24650-06-15 00:57 J -7281824.67 -7281824.46 -7281824.25 0.0269 0.0006
 Neptune -24650-11-05 13:26 J -7281681.07 -7281680.94 -7281680.76 0.0089 0.0062
 Saturn -24649-01-30 04:33 J -7281595.49 -7281595.31 -7281595.11 0.0270 0.0118
 Neptune -24649-06-18 02:09 J -7281455.55 -7281455.41 -7281455.23 0.0089 0.0061
 Saturn -24649-09-15 10:19 J -7281366.15 -7281366.07 -7281365.97 0.0272 0.0244
 Jupiter -24649-10-11 10:04 J -7281340.20 -7281340.08 -7281339.95 0.0493 0.0388
 Neptune -24648-01-29 14:52 J -7281230.02 -7281229.88 -7281229.71 0.0089 0.0061
 Jupiter -24648-06-05 01:11 J -7281103.66 -7281103.45 -7281103.24 0.0498 0.0004
 Mars -24648-06-10 21:07 J -7281097.75 -7281097.62 -7281097.49 0.1822 0.1249
 Neptune -24648-09-12 03:50 J -7281004.50 -7281004.34 -7281004.18 0.0089 0.0061
 Jupiter -24647-01-28 00:14 J -7280866.61 -7280866.49 -7280866.36 0.0504 0.0400

Neptune	-24647-04-25 16:19 J	-7280778.97	-7280778.82	-7280778.66	0.0089	0.0061
Neptune	-24647-12-07 04:47 J	-7280553.45	-7280553.30	-7280553.13	0.0089	0.0061
Neptune	-24646-07-20 17:16 J	-7280327.93	-7280327.78	-7280327.61	0.0089	0.0061
Neptune	-24645-03-02 05:45 J	-7280102.40	-7280102.26	-7280102.08	0.0089	0.0061
Neptune	-24645-10-13 18:14 J	-7279876.87	-7279876.74	-7279876.56	0.0089	0.0061
Neptune	-24644-05-27 07:11 J	-7279651.35	-7279651.20	-7279651.03	0.0089	0.0060
Neptune	-24643-01-07 19:26 J	-7279425.83	-7279425.69	-7279425.51	0.0089	0.0060
Jupiter	-24643-08-19 17:59 J	-7279201.89	-7279201.75	-7279201.59	0.0533	0.0343
Neptune	-24643-08-21 07:55 J	-7279200.31	-7279200.17	-7279199.99	0.0089	0.0060
Neptune	-24642-04-03 20:52 J	-7278974.78	-7278974.63	-7278974.46	0.0089	0.0059
Jupiter	-24642-04-14 02:23 J	-7278964.59	-7278964.40	-7278964.21	0.0527	0.0122
Neptune	-24642-11-15 09:07 J	-7278749.26	-7278749.12	-7278748.93	0.0089	0.0059
Neptune	-24641-06-27 21:50 J	-7278523.74	-7278523.59	-7278523.41	0.0089	0.0058
Neptune	-24640-02-08 10:04 J	-7278298.22	-7278298.08	-7278297.89	0.0089	0.0058
Neptune	-24640-09-21 22:47 J	-7278072.70	-7278072.55	-7278072.37	0.0089	0.0057
Neptune	-24639-05-05 11:02 J	-7277847.18	-7277847.04	-7277846.85	0.0089	0.0057
Neptune	-24639-12-16 23:45 J	-7277621.67	-7277621.51	-7277621.33	0.0089	0.0055
Neptune	-24638-07-30 12:14 J	-7277396.15	-7277395.99	-7277395.81	0.0089	0.0055
Moon	-24638-10-29 03:07 J	-7277305.52	-7277305.37	-7277305.22	0.2615	0.1066
Earth	-24638-10-29 07:11 J	-7277305.34	-7277305.20	-7277305.06	0.2620	0.1274 *
Neptune	-24637-03-12 00:28 J	-7277170.63	-7277170.48	-7277170.29	0.0089	0.0055
Jupiter	-24637-06-16 10:33 J	-7277074.09	-7277074.06	-7277074.02	0.0492	0.0485
Saturn	-24637-09-02 21:21 J	-7276995.78	-7276995.61	-7276995.44	0.0294	0.0169
Neptune	-24637-10-23 12:57 J	-7276945.12	-7276944.96	-7276944.77	0.0089	0.0054
Jupiter	-24636-02-07 23:31 J	-7276837.72	-7276837.52	-7276837.32	0.0496	0.0114
Saturn	-24636-04-20 21:07 J	-7276765.83	-7276765.62	-7276765.41	0.0292	0.0010
Neptune	-24636-06-06 01:40 J	-7276719.61	-7276719.43	-7276719.26	0.0089	0.0053
Jupiter	-24636-10-02 20:09 J	-7276600.83	-7276600.66	-7276600.49	0.0502	0.0288
Saturn	-24636-12-06 18:14 J	-7276535.92	-7276535.74	-7276535.56	0.0290	0.0146
Neptune	-24635-01-17 13:26 J	-7276494.09	-7276493.94	-7276493.74	0.0089	0.0053

Neptune	-24635-08-31 01:55 J	-7276268.58	-7276268.42	-7276268.23	0.0089	0.0052
Neptune	-24634-04-13 14:38 J	-7276043.06	-7276042.89	-7276042.70	0.0089	0.0051
Neptune	-24634-11-25 03:07 J	-7275817.54	-7275817.37	-7275817.19	0.0089	0.0050
Neptune	-24633-07-07 15:07 J	-7275592.03	-7275591.87	-7275591.67	0.0089	0.0049
Neptune	-24632-02-18 03:35 J	-7275366.52	-7275366.35	-7275366.16	0.0089	0.0048
Neptune	-24632-10-01 15:50 J	-7275141.00	-7275140.84	-7275140.64	0.0089	0.0048
Jupiter	-24631-04-24 11:59 J	-7274936.09	-7274936.00	-7274935.90	0.0535	0.0466
Neptune	-24631-05-15 04:19 J	-7274915.49	-7274915.32	-7274915.12	0.0089	0.0046
Jupiter	-24631-12-17 23:02 J	-7274698.74	-7274698.54	-7274698.35	0.0529	0.0011
Neptune	-24631-12-26 16:47 J	-7274689.97	-7274689.80	-7274689.60	0.0089	0.0045
Neptune	-24630-08-09 05:16 J	-7274464.46	-7274464.28	-7274464.08	0.0089	0.0044
Jupiter	-24630-08-12 00:28 J	-7274461.58	-7274461.48	-7274461.37	0.0522	0.0438
Earth	-24630-10-26 22:47 J	-7274385.65	-7274385.55	-7274385.44	0.2620	0.2004
Neptune	-24629-03-21 17:45 J	-7274238.94	-7274238.76	-7274238.56	0.0089	0.0043
Neptune	-24629-11-02 05:59 J	-7274013.43	-7274013.25	-7274013.05	0.0089	0.0042
Neptune	-24628-06-15 18:14 J	-7273787.91	-7273787.74	-7273787.53	0.0089	0.0042
Neptune	-24627-01-27 06:43 J	-7273562.40	-7273562.22	-7273562.02	0.0089	0.0040
Uranus	-24627-07-08 15:50 J	-7273399.91	-7273399.84	-7273399.77	0.0133	0.0124
Neptune	-24627-09-09 18:57 J	-7273336.89	-7273336.71	-7273336.50	0.0089	0.0039
Uranus	-24626-02-19 20:52 J	-7273173.75	-7273173.63	-7273173.48	0.0133	0.0103
Neptune	-24626-04-23 07:26 J	-7273111.37	-7273111.19	-7273110.98	0.0089	0.0038
Uranus	-24626-10-04 02:09 J	-7272947.57	-7272947.41	-7272947.22	0.0133	0.0082
Neptune	-24626-12-04 19:40 J	-7272885.86	-7272885.68	-7272885.47	0.0089	0.0037
Uranus	-24625-05-17 07:40 J	-7272721.36	-7272721.18	-7272720.97	0.0133	0.0059
Neptune	-24625-07-17 07:55 J	-7272660.35	-7272660.17	-7272659.96	0.0089	0.0036
Jupiter	-24625-10-13 22:04 J	-7272571.76	-7272571.58	-7272571.39	0.0495	0.0220
Uranus	-24625-12-29 13:26 J	-7272495.15	-7272494.94	-7272494.73	0.0134	0.0037
Neptune	-24624-02-27 20:23 J	-7272434.84	-7272434.65	-7272434.44	0.0089	0.0035
Jupiter	-24624-06-07 16:19 J	-7272335.01	-7272334.82	-7272334.62	0.0500	0.0177
Uranus	-24624-08-12 18:57 J	-7272268.93	-7272268.71	-7272268.49	0.0134	0.0015

Neptune	-24624-10-11 08:38 J	-7272209.33	-7272209.14	-7272208.93	0.0089	0.0033
Uranus	-24623-03-27 00:28 J	-7272042.70	-7272042.48	-7272042.27	0.0134	0.0008
Neptune	-24623-05-24 20:52 J	-7271983.82	-7271983.63	-7271983.42	0.0089	0.0033
Uranus	-24623-11-08 05:59 J	-7271816.46	-7271816.25	-7271816.04	0.0134	0.0030
Neptune	-24622-01-05 09:07 J	-7271758.31	-7271758.12	-7271757.90	0.0089	0.0031
Uranus	-24622-06-22 11:16 J	-7271590.21	-7271590.03	-7271589.82	0.0134	0.0054
Neptune	-24622-08-18 21:21 J	-7271532.80	-7271532.61	-7271532.39	0.0089	0.0030
Saturn	-24622-09-23 22:47 J	-7271496.65	-7271496.55	-7271496.44	0.0266	0.0226
Uranus	-24621-02-03 17:16 J	-7271363.95	-7271363.78	-7271363.59	0.0135	0.0076
Neptune	-24621-03-31 10:04 J	-7271307.28	-7271307.08	-7271306.87	0.0089	0.0028
Saturn	-24621-05-09 22:47 J	-7271267.73	-7271267.55	-7271267.35	0.0267	0.0111
Uranus	-24621-09-16 23:02 J	-7271137.68	-7271137.54	-7271137.38	0.0135	0.0098
Neptune	-24621-11-11 22:19 J	-7271081.77	-7271081.57	-7271081.36	0.0089	0.0027
Saturn	-24621-12-25 00:43 J	-7271038.68	-7271038.47	-7271038.25	0.0269	0.0010
Uranus	-24620-05-01 05:02 J	-7270911.38	-7270911.29	-7270911.19	0.0135	0.0121
Neptune	-24620-06-25 10:33 J	-7270856.26	-7270856.06	-7270855.85	0.0089	0.0026
Saturn	-24620-08-11 04:33 J	-7270809.49	-7270809.31	-7270809.12	0.0271	0.0133
Neptune	-24619-02-05 22:47 J	-7270630.75	-7270630.55	-7270630.34	0.0089	0.0025
Saturn	-24619-03-28 10:04 J	-7270580.13	-7270580.08	-7270580.00	0.0272	0.0259
Jupiter	-24619-08-22 18:43 J	-7270432.91	-7270432.72	-7270432.52	0.0531	0.0129
Mars	-24619-08-30 04:19 J	-7270425.49	-7270425.32	-7270425.16	0.1692	0.0434
Neptune	-24619-09-19 11:16 J	-7270405.24	-7270405.03	-7270404.82	0.0089	0.0023
Jupiter	-24618-04-16 22:47 J	-7270195.70	-7270195.55	-7270195.39	0.0524	0.0325
Neptune	-24618-05-02 23:45 J	-7270179.72	-7270179.51	-7270179.30	0.0089	0.0022
Neptune	-24618-12-14 11:59 J	-7269954.20	-7269954.00	-7269953.78	0.0089	0.0021
Neptune	-24617-07-27 00:28 J	-7269728.69	-7269728.48	-7269728.27	0.0089	0.0019
Neptune	-24616-03-09 12:43 J	-7269503.18	-7269502.97	-7269502.76	0.0089	0.0018
Neptune	-24616-10-21 00:57 J	-7269277.66	-7269277.46	-7269277.24	0.0089	0.0017
Neptune	-24615-06-03 13:40 J	-7269052.15	-7269051.93	-7269051.72	0.0089	0.0015
Neptune	-24614-01-15 01:55 J	-7268826.63	-7268826.42	-7268826.21	0.0089	0.0014

Mars -24614-04-08 05:02 J -7268743.45 -7268743.29 -7268743.12 0.1835 0.0707
 Neptune -24614-08-28 14:09 J -7268601.12 -7268600.91 -7268600.69 0.0089 0.0013
 Neptune -24613-04-10 02:38 J -7268375.61 -7268375.39 -7268375.18 0.0089 0.0011
 Jupiter -24613-06-18 22:33 J -7268305.71 -7268305.56 -7268305.40 0.0494 0.0323
 Neptune -24613-11-21 14:52 J -7268150.09 -7268149.88 -7268149.66 0.0089 0.0010
 Jupiter -24612-02-10 14:52 J -7268069.08 -7268068.88 -7268068.67 0.0499 0.0067
 Neptune -24612-07-05 03:07 J -7267924.58 -7267924.37 -7267924.15 0.0089 0.0009
 Jupiter -24612-10-05 15:50 J -7267831.91 -7267831.84 -7267831.77 0.0506 0.0471
 Neptune -24611-02-15 15:35 J -7267699.07 -7267698.85 -7267698.64 0.0089 0.0007
 Neptune -24611-09-29 03:50 J -7267473.56 -7267473.34 -7267473.12 0.0089 0.0006
 Neptune -24610-05-12 16:19 J -7267248.04 -7267247.82 -7267247.60 0.0089 0.0004
 Neptune -24610-12-24 04:33 J -7267022.52 -7267022.31 -7267022.09 0.0089 0.0004
 Neptune -24609-08-05 17:02 J -7266797.01 -7266796.79 -7266796.58 0.0089 0.0002
 Neptune -24608-03-19 05:16 J -7266571.50 -7266571.28 -7266571.06 0.0089 0.0000
 Neptune -24608-10-30 17:45 J -7266345.98 -7266345.76 -7266345.55 0.0089 0.0002
 Saturn -24607-03-15 22:04 J -7266209.75 -7266209.58 -7266209.39 0.0294 0.0152
 Jupiter -24607-04-27 11:31 J -7266167.19 -7266167.02 -7266166.85 0.0532 0.0259
 Neptune -24607-06-13 06:14 J -7266120.46 -7266120.24 -7266120.02 0.0089 0.0003
 Saturn -24607-10-31 22:04 J -7265979.79 -7265979.58 -7265979.37 0.0292 0.0009
 Jupiter -24607-12-20 17:31 J -7265929.96 -7265929.77 -7265929.59 0.0526 0.0200
 Neptune -24606-01-24 18:43 J -7265894.94 -7265894.72 -7265894.51 0.0089 0.0004
 Saturn -24606-06-18 19:11 J -7265749.86 -7265749.70 -7265749.52 0.0290 0.0164
 Neptune -24606-09-07 06:57 J -7265669.42 -7265669.21 -7265668.99 0.0089 0.0006
 Neptune -24605-04-19 19:26 J -7265443.90 -7265443.69 -7265443.47 0.0089 0.0007
 Neptune -24605-12-01 07:55 J -7265218.38 -7265218.17 -7265217.95 0.0089 0.0009
 Neptune -24604-07-14 20:23 J -7264992.86 -7264992.65 -7264992.43 0.0089 0.0010
 Neptune -24603-02-25 08:52 J -7264767.34 -7264767.13 -7264766.91 0.0089 0.0011
 Neptune -24603-10-08 21:21 J -7264541.82 -7264541.61 -7264541.39 0.0089 0.0013
 Neptune -24602-05-22 10:04 J -7264316.29 -7264316.08 -7264315.86 0.0089 0.0014
 Neptune -24601-01-02 22:33 J -7264090.77 -7264090.56 -7264090.34 0.0089 0.0015

Jupiter -24601-02-22 22:47 J -7264039.65 -7264039.55 -7264039.44 0.0493 0.0423
 Neptune -24601-08-15 11:02 J -7263865.25 -7263865.04 -7263864.82 0.0089 0.0017
 Jupiter -24601-10-16 13:26 J -7263803.15 -7263802.94 -7263802.73 0.0498 0.0043
 Neptune -24600-03-28 23:31 J -7263639.73 -7263639.52 -7263639.30 0.0088 0.0018
 Jupiter -24600-06-10 11:59 J -7263566.14 -7263566.00 -7263565.85 0.0504 0.0361
 Neptune -24600-11-09 11:45 J -7263414.21 -7263414.01 -7263413.78 0.0088 0.0020
 Neptune -24599-06-23 00:43 J -7263188.68 -7263188.47 -7263188.25 0.0088 0.0020
 Neptune -24598-02-03 13:11 J -7262963.16 -7262962.95 -7262962.73 0.0088 0.0022
 Neptune -24598-09-17 01:40 J -7262737.63 -7262737.43 -7262737.21 0.0088 0.0023
 Neptune -24597-04-29 14:09 J -7262512.11 -7262511.91 -7262511.69 0.0088 0.0025
 Neptune -24597-12-11 02:52 J -7262286.59 -7262286.38 -7262286.17 0.0088 0.0026
 Neptune -24596-07-24 15:35 J -7262061.06 -7262060.85 -7262060.64 0.0088 0.0027
 Jupiter -24596-12-31 04:19 J -7261901.46 -7261901.32 -7261901.18 0.0533 0.0387
 Neptune -24595-03-07 03:50 J -7261835.53 -7261835.34 -7261835.12 0.0088 0.0029
 Jupiter -24595-08-25 12:43 J -7261664.17 -7261663.97 -7261663.77 0.0528 0.0075
 Neptune -24595-10-18 16:33 J -7261610.01 -7261609.81 -7261609.59 0.0088 0.0030
 Jupiter -24594-04-19 12:14 J -7261427.03 -7261426.99 -7261426.93 0.0520 0.0503
 Neptune -24594-06-01 05:16 J -7261384.47 -7261384.28 -7261384.06 0.0088 0.0031
 Neptune -24593-01-12 18:14 J -7261158.94 -7261158.74 -7261158.53 0.0088 0.0032
 Neptune -24593-08-25 06:57 J -7260933.41 -7260933.21 -7260933.01 0.0088 0.0033
 Saturn -24592-04-05 04:04 J -7260710.46 -7260710.33 -7260710.20 0.0266 0.0207
 Neptune -24592-04-07 19:11 J -7260707.88 -7260707.70 -7260707.48 0.0088 0.0035
 Neptune -24592-11-19 08:09 J -7260482.35 -7260482.16 -7260481.95 0.0088 0.0035
 Saturn -24592-11-20 04:19 J -7260481.51 -7260481.32 -7260481.12 0.0267 0.0091
 Neptune -24591-07-02 21:07 J -7260256.81 -7260256.62 -7260256.41 0.0088 0.0036
 Saturn -24591-07-07 06:43 J -7260252.43 -7260252.22 -7260252.01 0.0269 0.0030
 Neptune -24590-02-13 09:50 J -7260031.28 -7260031.09 -7260030.88 0.0088 0.0038
 Saturn -24590-02-21 10:33 J -7260023.23 -7260023.06 -7260022.88 0.0270 0.0154
 Neptune -24590-09-26 22:33 J -7259805.74 -7259805.56 -7259805.35 0.0088 0.0039
 Neptune -24589-05-09 11:31 J -7259580.21 -7259580.02 -7259579.82 0.0088 0.0039

Jupiter -24589-06-21 11:31 J -7259537.21 -7259537.02 -7259536.82 0.0496 0.0151
 Neptune -24589-12-21 00:14 J -7259354.68 -7259354.49 -7259354.29 0.0088 0.0040
 Jupiter -24588-02-13 07:26 J -7259300.37 -7259300.19 -7259300.01 0.0501 0.0249
 Neptune -24588-08-03 13:11 J -7259129.14 -7259128.95 -7259128.75 0.0088 0.0041
 Neptune -24587-03-17 01:55 J -7258903.60 -7258903.42 -7258903.22 0.0088 0.0042
 Mars -24587-08-29 00:28 J -7258738.56 -7258738.48 -7258738.40 0.1700 0.1488
 Neptune -24587-10-28 14:38 J -7258678.07 -7258677.89 -7258677.68 0.0088 0.0044
 Uranus -24586-06-03 14:38 J -7258459.98 -7258459.89 -7258459.76 0.0146 0.0126
 Neptune -24586-06-11 03:35 J -7258452.53 -7258452.35 -7258452.15 0.0088 0.0044
 Uranus -24585-01-16 02:52 J -7258233.53 -7258233.38 -7258233.21 0.0145 0.0097
 Neptune -24585-01-22 16:19 J -7258226.99 -7258226.82 -7258226.61 0.0088 0.0046
 Mars -24585-06-27 20:09 J -7258069.82 -7258069.66 -7258069.51 0.1682 0.0708
 Uranus -24585-08-29 15:07 J -7258007.06 -7258006.87 -7258006.68 0.0145 0.0068
 Neptune -24585-09-04 05:02 J -7258001.46 -7258001.29 -7258001.08 0.0088 0.0047
 Uranus -24584-04-13 03:07 J -7257780.58 -7257780.37 -7257780.16 0.0145 0.0040
 Neptune -24584-04-17 17:59 J -7257775.92 -7257775.75 -7257775.55 0.0088 0.0047
 Jupiter -24584-09-04 19:55 J -7257635.72 -7257635.67 -7257635.61 0.0535 0.0513
 Uranus -24584-11-25 15:07 J -7257554.09 -7257553.87 -7257553.65 0.0145 0.0011
 Neptune -24584-11-29 07:11 J -7257550.38 -7257550.20 -7257550.01 0.0088 0.0048
 Jupiter -24583-04-30 07:26 J -7257398.39 -7257398.19 -7257397.99 0.0530 0.0051
 Uranus -24583-07-10 03:07 J -7257327.58 -7257327.37 -7257327.15 0.0144 0.0018
 Neptune -24583-07-12 20:09 J -7257324.84 -7257324.66 -7257324.47 0.0088 0.0049
 Jupiter -24583-12-23 10:04 J -7257161.21 -7257161.08 -7257160.95 0.0523 0.0393
 Uranus -24582-02-21 14:52 J -7257101.07 -7257100.88 -7257100.66 0.0144 0.0047
 Neptune -24582-02-23 09:07 J -7257099.29 -7257099.12 -7257098.93 0.0088 0.0049
 Mars -24582-04-08 01:11 J -7257055.60 -7257055.45 -7257055.30 0.1825 0.0986
 Uranus -24582-10-06 02:52 J -7256874.56 -7256874.38 -7256874.18 0.0144 0.0074
 Neptune -24582-10-06 21:50 J -7256873.75 -7256873.59 -7256873.39 0.0088 0.0050
 Neptune -24581-05-19 10:47 J -7256648.21 -7256648.05 -7256647.85 0.0088 0.0051
 Uranus -24581-05-19 14:38 J -7256648.03 -7256647.89 -7256647.73 0.0144 0.0102 *

Neptune	-24581-12-30 23:59 J	-7256422.67	-7256422.50	-7256422.31	0.0088	0.0052
Uranus	-24580-01-01 02:38 J	-7256421.48	-7256421.39	-7256421.30	0.0143	0.0129
Neptune	-24580-08-13 12:57 J	-7256197.12	-7256196.96	-7256196.77	0.0088	0.0053
Neptune	-24579-03-27 01:55 J	-7255971.58	-7255971.42	-7255971.22	0.0088	0.0053
Neptune	-24579-11-07 15:21 J	-7255746.03	-7255745.86	-7255745.68	0.0088	0.0053
Saturn	-24578-02-08 03:21 J	-7255653.39	-7255653.36	-7255653.31	0.0295	0.0290
Neptune	-24578-06-21 04:19 J	-7255520.48	-7255520.32	-7255520.13	0.0088	0.0054
Saturn	-24578-09-26 05:16 J	-7255423.47	-7255423.28	-7255423.09	0.0294	0.0128
Neptune	-24577-02-01 17:45 J	-7255294.93	-7255294.76	-7255294.59	0.0088	0.0055
Jupiter	-24577-02-25 10:47 J	-7255271.22	-7255271.05	-7255270.87	0.0494	0.0256
Saturn	-24577-05-13 04:33 J	-7255193.51	-7255193.31	-7255193.09	0.0292	0.0033
Neptune	-24577-09-14 06:28 J	-7255069.39	-7255069.23	-7255069.04	0.0088	0.0055
Jupiter	-24577-10-19 04:19 J	-7255034.52	-7255034.32	-7255034.12	0.0500	0.0137
Saturn	-24577-12-29 01:40 J	-7254963.59	-7254963.43	-7254963.27	0.0290	0.0186
Neptune	-24576-04-27 19:55 J	-7254843.84	-7254843.67	-7254843.50	0.0088	0.0056
Neptune	-24576-12-09 08:38 J	-7254618.29	-7254618.14	-7254617.95	0.0088	0.0057
Neptune	-24575-07-22 22:19 J	-7254392.74	-7254392.57	-7254392.40	0.0088	0.0056
Neptune	-24574-03-05 11:02 J	-7254167.19	-7254167.04	-7254166.85	0.0088	0.0058
Neptune	-24574-10-17 00:28 J	-7253941.64	-7253941.48	-7253941.30	0.0088	0.0057
Neptune	-24573-05-29 13:11 J	-7253716.09	-7253715.95	-7253715.76	0.0088	0.0058
Neptune	-24572-01-10 02:38 J	-7253490.54	-7253490.39	-7253490.21	0.0088	0.0058
Neptune	-24572-08-23 16:04 J	-7253264.99	-7253264.83	-7253264.65	0.0088	0.0058
Jupiter	-24571-01-03 02:38 J	-7253132.58	-7253132.39	-7253132.20	0.0532	0.0178
Neptune	-24571-04-06 05:31 J	-7253039.44	-7253039.27	-7253039.10	0.0088	0.0059
Jupiter	-24571-08-28 07:55 J	-7252895.34	-7252895.17	-7252895.00	0.0525	0.0278
Neptune	-24571-11-17 18:14 J	-7252813.88	-7252813.74	-7252813.55	0.0088	0.0059
Neptune	-24570-07-01 07:40 J	-7252588.33	-7252588.18	-7252588.00	0.0088	0.0059
Neptune	-24569-02-11 20:52 J	-7252362.78	-7252362.63	-7252362.45	0.0088	0.0059
Neptune	-24569-09-24 10:19 J	-7252137.22	-7252137.07	-7252136.89	0.0088	0.0059
Neptune	-24568-05-07 23:45 J	-7251911.67	-7251911.51	-7251911.34	0.0088	0.0059

Neptune -24568-12-19 13:11 J -7251686.11 -7251685.95 -7251685.78 0.0088 0.0059
 Neptune -24567-08-02 02:38 J -7251460.55 -7251460.39 -7251460.22 0.0088 0.0059
 Neptune -24566-03-15 16:04 J -7251234.99 -7251234.83 -7251234.66 0.0088 0.0059
 Neptune -24566-10-27 05:31 J -7251009.43 -7251009.27 -7251009.10 0.0088 0.0059
 Jupiter -24566-10-31 10:04 J -7251005.21 -7251005.08 -7251004.93 0.0493 0.0359
 Neptune -24565-06-08 18:43 J -7250783.87 -7250783.72 -7250783.54 0.0088 0.0060
 Jupiter -24565-06-24 01:11 J -7250768.65 -7250768.45 -7250768.24 0.0498 0.0027
 Neptune -24564-01-20 08:09 J -7250558.31 -7250558.16 -7250557.98 0.0088 0.0059
 Jupiter -24564-02-16 00:28 J -7250531.58 -7250531.48 -7250531.37 0.0504 0.0429
 Neptune -24564-09-02 21:50 J -7250332.74 -7250332.59 -7250332.41 0.0088 0.0059
 Neptune -24563-04-16 11:16 J -7250107.18 -7250107.03 -7250106.85 0.0088 0.0059
 Saturn -24563-10-16 05:16 J -7249924.42 -7249924.28 -7249924.13 0.0266 0.0192
 Neptune -24563-11-28 00:28 J -7249881.62 -7249881.48 -7249881.29 0.0088 0.0059
 Saturn -24562-06-02 05:45 J -7249695.46 -7249695.26 -7249695.06 0.0268 0.0075
 Neptune -24562-07-11 14:23 J -7249656.06 -7249655.90 -7249655.73 0.0088 0.0058
 Saturn -24561-01-17 07:40 J -7249466.39 -7249466.18 -7249465.97 0.0269 0.0046
 Neptune -24561-02-22 03:50 J -7249430.50 -7249430.34 -7249430.16 0.0088 0.0058
 Saturn -24561-09-02 11:31 J -7249237.18 -7249237.02 -7249236.85 0.0271 0.0171
 Neptune -24561-10-04 17:02 J -7249204.94 -7249204.79 -7249204.60 0.0088 0.0058
 Neptune -24560-05-18 06:57 J -7248979.37 -7248979.21 -7248979.04 0.0088 0.0058
 Jupiter -24560-09-07 21:35 J -7248866.77 -7248866.60 -7248866.44 0.0533 0.0305
 Neptune -24560-12-29 20:09 J -7248753.81 -7248753.66 -7248753.47 0.0088 0.0058
 Jupiter -24559-05-03 05:16 J -7248629.47 -7248629.28 -7248629.09 0.0527 0.0158
 Neptune -24559-08-12 09:35 J -7248528.25 -7248528.10 -7248527.91 0.0088 0.0057
 Neptune -24558-03-25 23:31 J -7248302.68 -7248302.52 -7248302.34 0.0088 0.0056
 Neptune -24558-11-06 12:43 J -7248077.12 -7248076.97 -7248076.77 0.0088 0.0057
 Neptune -24557-06-19 02:38 J -7247851.56 -7247851.39 -7247851.21 0.0088 0.0055
 Neptune -24556-01-30 15:50 J -7247625.99 -7247625.84 -7247625.64 0.0088 0.0056
 Neptune -24556-09-13 05:59 J -7247400.42 -7247400.25 -7247400.07 0.0088 0.0054
 Neptune -24555-04-26 19:26 J -7247174.85 -7247174.69 -7247174.50 0.0088 0.0054

Neptune -24555-12-08 09:07 J -7246949.29 -7246949.12 -7246948.93 0.0088 0.0053
 Jupiter -24554-07-06 11:16 J -7246739.10 -7246739.03 -7246738.95 0.0492 0.0456
 Neptune -24554-07-21 23:02 J -7246723.72 -7246723.54 -7246723.36 0.0088 0.0053
 Jupiter -24553-02-28 00:28 J -7246502.68 -7246502.48 -7246502.27 0.0497 0.0083
 Neptune -24553-03-03 12:14 J -7246498.15 -7246497.99 -7246497.79 0.0088 0.0053
 Mars -24553-06-26 15:50 J -7246383.00 -7246382.84 -7246382.67 0.1690 0.0322
 Neptune -24553-10-15 02:09 J -7246272.58 -7246272.41 -7246272.21 0.0088 0.0052
 Jupiter -24553-10-21 21:50 J -7246265.75 -7246265.59 -7246265.43 0.0503 0.0320
 Neptune -24552-05-28 16:04 J -7246047.01 -7246046.83 -7246046.64 0.0088 0.0051
 Neptune -24551-01-09 05:31 J -7245821.44 -7245821.27 -7245821.07 0.0088 0.0050
 Neptune -24551-08-22 19:11 J -7245595.87 -7245595.70 -7245595.49 0.0088 0.0050
 Neptune -24550-04-05 09:07 J -7245370.30 -7245370.12 -7245369.92 0.0088 0.0048
 Neptune -24550-11-16 23:02 J -7245144.73 -7245144.54 -7245144.35 0.0088 0.0047
 Neptune -24549-06-29 12:43 J -7244919.16 -7244918.97 -7244918.78 0.0088 0.0047
 Saturn -24549-08-20 05:02 J -7244867.37 -7244867.29 -7244867.21 0.0295 0.0273
 Mars -24548-02-02 08:38 J -7244701.29 -7244701.14 -7244700.98 0.1838 0.0983
 Neptune -24548-02-10 01:55 J -7244693.59 -7244693.42 -7244693.21 0.0088 0.0046
 Saturn -24548-04-07 06:43 J -7244637.41 -7244637.22 -7244637.02 0.0294 0.0111
 Jupiter -24548-05-13 13:55 J -7244601.04 -7244600.92 -7244600.81 0.0534 0.0433
 Neptune -24548-09-23 15:50 J -7244468.02 -7244467.84 -7244467.63 0.0088 0.0045
 Saturn -24548-11-23 06:14 J -7244407.45 -7244407.24 -7244407.03 0.0292 0.0050
 Jupiter -24547-01-05 23:16 J -7244363.73 -7244363.53 -7244363.33 0.0528 0.0029
 Neptune -24547-05-07 05:31 J -7244242.45 -7244242.27 -7244242.06 0.0088 0.0045
 Saturn -24547-07-11 03:07 J -7244177.51 -7244177.37 -7244177.21 0.0290 0.0204
 Jupiter -24547-08-30 23:45 J -7244126.60 -7244126.51 -7244126.42 0.0521 0.0462
 Neptune -24547-12-18 19:11 J -7244016.88 -7244016.70 -7244016.49 0.0088 0.0044
 Neptune -24546-08-01 08:52 J -7243791.31 -7243791.13 -7243790.92 0.0088 0.0043
 Neptune -24545-03-13 22:33 J -7243565.74 -7243565.56 -7243565.34 0.0088 0.0042
 Neptune -24545-10-25 12:28 J -7243340.17 -7243339.98 -7243339.77 0.0088 0.0040
 Neptune -24544-06-08 02:09 J -7243114.60 -7243114.41 -7243114.19 0.0088 0.0039

Neptune	-24543-01-19 15:50 J	-7242889.03	-7242888.84	-7242888.62	0.0088	0.0038
Neptune	-24543-09-02 05:31 J	-7242663.45	-7242663.27	-7242663.05	0.0088	0.0038
Uranus	-24543-10-20 05:31 J	-7242615.38	-7242615.27	-7242615.16	0.0133	0.0113
Neptune	-24542-04-15 19:40 J	-7242437.88	-7242437.68	-7242437.47	0.0088	0.0036
Uranus	-24542-06-03 10:19 J	-7242389.21	-7242389.07	-7242388.89	0.0133	0.0093
Jupiter	-24542-11-02 23:16 J	-7242236.72	-7242236.53	-7242236.34	0.0496	0.0190
Neptune	-24542-11-27 09:35 J	-7242212.31	-7242212.10	-7242211.89	0.0088	0.0035
Uranus	-24541-01-15 16:19 J	-7242163.00	-7242162.82	-7242162.63	0.0133	0.0070
Jupiter	-24541-06-26 18:28 J	-7241999.91	-7241999.73	-7241999.54	0.0501	0.0209
Neptune	-24541-07-09 23:02 J	-7241986.74	-7241986.54	-7241986.32	0.0088	0.0034
Uranus	-24541-08-28 21:35 J	-7241936.80	-7241936.60	-7241936.39	0.0133	0.0048
Neptune	-24540-02-20 12:57 J	-7241761.16	-7241760.96	-7241760.74	0.0088	0.0032
Uranus	-24540-04-12 02:52 J	-7241710.58	-7241710.38	-7241710.16	0.0134	0.0026
Neptune	-24540-10-04 02:38 J	-7241535.58	-7241535.39	-7241535.16	0.0088	0.0032
Uranus	-24540-11-24 08:38 J	-7241484.36	-7241484.14	-7241483.92	0.0134	0.0003
Neptune	-24539-05-17 16:33 J	-7241310.01	-7241309.81	-7241309.59	0.0088	0.0030
Uranus	-24539-07-08 14:09 J	-7241258.12	-7241257.91	-7241257.69	0.0134	0.0020
Neptune	-24539-12-29 06:28 J	-7241084.44	-7241084.23	-7241084.01	0.0088	0.0029
Uranus	-24538-02-19 19:55 J	-7241031.88	-7241031.67	-7241031.46	0.0134	0.0042
Neptune	-24538-08-11 20:09 J	-7240858.87	-7240858.66	-7240858.44	0.0088	0.0028
Uranus	-24538-10-04 01:11 J	-7240805.62	-7240805.45	-7240805.24	0.0134	0.0066
Neptune	-24537-03-24 09:50 J	-7240633.29	-7240633.09	-7240632.87	0.0088	0.0027
Uranus	-24537-05-17 06:57 J	-7240579.36	-7240579.21	-7240579.03	0.0135	0.0088
Neptune	-24537-11-04 23:45 J	-7240407.72	-7240407.51	-7240407.29	0.0088	0.0025
Uranus	-24537-12-29 12:43 J	-7240353.07	-7240352.97	-7240352.83	0.0135	0.0111
Neptune	-24536-06-18 13:40 J	-7240182.15	-7240181.93	-7240181.71	0.0088	0.0024
Uranus	-24536-08-12 18:43 J	-7240126.74	-7240126.72	-7240126.67	0.0135	0.0133
Jupiter	-24536-09-10 17:31 J	-7240097.96	-7240097.77	-7240097.57	0.0530	0.0099
Neptune	-24535-01-30 03:07 J	-7239956.58	-7239956.37	-7239956.14	0.0088	0.0023
Jupiter	-24535-05-05 20:38 J	-7239860.79	-7239860.64	-7239860.49	0.0523	0.0348

Neptune -24535-09-12 16:47 J -7239731.01 -7239730.80 -7239730.57 0.0088 0.0022
 Neptune -24534-04-26 06:43 J -7239505.44 -7239505.22 -7239505.00 0.0088 0.0020
 Neptune -24534-12-07 20:23 J -7239279.86 -7239279.65 -7239279.42 0.0088 0.0019
 Saturn -24533-04-27 10:47 J -7239138.20 -7239138.05 -7239137.88 0.0266 0.0173
 Neptune -24533-07-20 10:04 J -7239054.30 -7239054.08 -7239053.86 0.0088 0.0017
 Saturn -24533-12-12 11:31 J -7238909.22 -7238909.02 -7238908.81 0.0267 0.0056
 Neptune -24532-03-02 23:31 J -7238828.73 -7238828.52 -7238828.29 0.0088 0.0017
 Saturn -24532-07-29 14:09 J -7238680.11 -7238679.91 -7238679.70 0.0269 0.0066
 Neptune -24532-10-14 13:40 J -7238603.15 -7238602.93 -7238602.71 0.0089 0.0015
 Saturn -24531-03-15 18:28 J -7238450.88 -7238450.73 -7238450.58 0.0271 0.0191
 Neptune -24531-05-28 03:07 J -7238377.58 -7238377.37 -7238377.14 0.0089 0.0014
 Neptune -24530-01-08 17:02 J -7238152.01 -7238151.79 -7238151.56 0.0089 0.0012
 Jupiter -24530-07-08 22:19 J -7237970.73 -7237970.57 -7237970.40 0.0494 0.0293
 Neptune -24530-08-22 06:43 J -7237926.44 -7237926.22 -7237925.99 0.0089 0.0011
 Jupiter -24529-03-01 15:07 J -7237734.07 -7237733.87 -7237733.66 0.0499 0.0097
 Neptune -24529-04-03 20:23 J -7237700.87 -7237700.65 -7237700.42 0.0089 0.0009
 Jupiter -24529-10-24 16:04 J -7237496.86 -7237496.83 -7237496.80 0.0506 0.0499
 Neptune -24529-11-15 10:19 J -7237475.29 -7237475.07 -7237474.84 0.0089 0.0008
 Neptune -24528-06-28 23:59 J -7237249.72 -7237249.50 -7237249.27 0.0089 0.0007
 Neptune -24527-02-09 13:40 J -7237024.15 -7237023.93 -7237023.70 0.0089 0.0005
 Neptune -24527-09-23 03:35 J -7236798.58 -7236798.35 -7236798.13 0.0089 0.0004
 Neptune -24526-05-06 17:16 J -7236573.01 -7236572.78 -7236572.56 0.0089 0.0002
 Neptune -24526-12-18 06:57 J -7236347.43 -7236347.21 -7236346.98 0.0089 0.0001
 Neptune -24525-07-30 20:38 J -7236121.86 -7236121.64 -7236121.42 0.0089 0.0001
 Neptune -24524-03-13 10:19 J -7235896.30 -7235896.07 -7235895.85 0.0089 0.0002
 Jupiter -24524-05-16 10:33 J -7235832.24 -7235832.06 -7235831.88 0.0532 0.0228
 Neptune -24524-10-24 23:59 J -7235670.72 -7235670.50 -7235670.28 0.0089 0.0003
 Jupiter -24523-01-08 16:33 J -7235594.99 -7235594.81 -7235594.63 0.0526 0.0230
 Neptune -24523-06-07 13:40 J -7235445.16 -7235444.93 -7235444.71 0.0089 0.0005
 Neptune -24522-01-19 03:07 J -7235219.59 -7235219.37 -7235219.14 0.0089 0.0006

Neptune -24522-09-01 16:33 J -7234994.02 -7234993.81 -7234993.58 0.0089 0.0008
 Neptune -24521-04-14 06:14 J -7234768.46 -7234768.24 -7234768.02 0.0089 0.0009
 Mars -24521-06-25 11:59 J -7234696.10 -7234696.00 -7234695.90 0.1697 0.1366
 Neptune -24521-11-25 19:55 J -7234542.89 -7234542.67 -7234542.45 0.0089 0.0010
 Neptune -24520-07-09 09:21 J -7234317.32 -7234317.11 -7234316.88 0.0089 0.0012
 Neptune -24519-02-19 22:47 J -7234091.76 -7234091.55 -7234091.32 0.0089 0.0013
 Saturn -24519-03-02 14:09 J -7234081.02 -7234080.91 -7234080.79 0.0295 0.0246
 Mars -24519-04-25 08:09 J -7234027.31 -7234027.16 -7234027.01 0.1680 0.0807
 Neptune -24519-10-03 12:28 J -7233866.20 -7233865.98 -7233865.76 0.0089 0.0014
 Saturn -24519-10-18 15:35 J -7233851.05 -7233850.85 -7233850.65 0.0294 0.0084
 Jupiter -24518-03-13 22:33 J -7233704.68 -7233704.56 -7233704.44 0.0493 0.0393
 Neptune -24518-05-17 02:09 J -7233640.63 -7233640.41 -7233640.19 0.0089 0.0015
 Saturn -24518-06-05 14:38 J -7233621.10 -7233620.89 -7233620.69 0.0292 0.0076
 Jupiter -24518-11-05 12:57 J -7233468.17 -7233467.96 -7233467.76 0.0497 0.0015
 Neptune -24518-12-28 15:35 J -7233415.06 -7233414.85 -7233414.63 0.0089 0.0017
 Saturn -24517-01-21 11:02 J -7233391.16 -7233391.04 -7233390.91 0.0290 0.0228
 Jupiter -24517-06-29 11:02 J -7233231.17 -7233231.04 -7233230.91 0.0503 0.0389
 Neptune -24517-08-10 05:02 J -7233189.50 -7233189.29 -7233189.06 0.0089 0.0018
 Mars -24516-02-02 05:16 J -7233013.44 -7233013.28 -7233013.11 0.1828 0.0728
 Neptune -24516-03-23 18:43 J -7232963.94 -7232963.72 -7232963.50 0.0089 0.0019
 Neptune -24516-11-04 07:55 J -7232738.37 -7232738.17 -7232737.94 0.0089 0.0021
 Neptune -24515-06-17 21:35 J -7232512.81 -7232512.60 -7232512.38 0.0089 0.0022
 Neptune -24514-01-29 11:16 J -7232287.24 -7232287.03 -7232286.81 0.0089 0.0023
 Neptune -24514-09-12 00:43 J -7232061.68 -7232061.47 -7232061.25 0.0089 0.0024
 Neptune -24513-04-24 14:09 J -7231836.12 -7231835.91 -7231835.69 0.0089 0.0025
 Neptune -24513-12-06 03:21 J -7231610.55 -7231610.36 -7231610.13 0.0089 0.0027
 Jupiter -24512-01-19 04:04 J -7231566.47 -7231566.33 -7231566.17 0.0534 0.0355
 Neptune -24512-07-19 16:47 J -7231384.99 -7231384.80 -7231384.57 0.0089 0.0028
 Jupiter -24512-09-13 13:11 J -7231329.15 -7231328.95 -7231328.76 0.0528 0.0108
 Neptune -24511-03-02 06:14 J -7231159.44 -7231159.24 -7231159.02 0.0089 0.0029

Neptune -24511-10-13 19:40 J -7230933.88 -7230933.68 -7230933.47 0.0089 0.0030
 Neptune -24510-05-27 08:52 J -7230708.33 -7230708.13 -7230707.91 0.0089 0.0031
 Neptune -24509-01-07 22:19 J -7230482.77 -7230482.57 -7230482.35 0.0089 0.0033
 Neptune -24509-08-20 11:45 J -7230257.21 -7230257.01 -7230256.80 0.0089 0.0033
 Neptune -24508-04-03 00:57 J -7230031.66 -7230031.46 -7230031.25 0.0089 0.0034
 Neptune -24508-11-14 14:09 J -7229806.11 -7229805.91 -7229805.70 0.0089 0.0036
 Neptune -24507-06-28 03:35 J -7229580.55 -7229580.35 -7229580.15 0.0089 0.0037
 Jupiter -24507-11-16 22:19 J -7229438.57 -7229438.57 -7229438.55 0.0492 0.0491
 Neptune -24506-02-08 16:47 J -7229355.00 -7229354.80 -7229354.60 0.0089 0.0038
 Jupiter -24506-07-11 10:33 J -7229202.26 -7229202.06 -7229201.85 0.0496 0.0123
 Neptune -24506-09-22 05:59 J -7229129.45 -7229129.25 -7229129.05 0.0089 0.0039
 Jupiter -24505-03-04 06:28 J -7228965.40 -7228965.23 -7228965.05 0.0502 0.0276
 Neptune -24505-05-04 19:11 J -7228903.90 -7228903.70 -7228903.50 0.0089 0.0040
 Neptune -24505-12-16 08:23 J -7228678.34 -7228678.15 -7228677.95 0.0089 0.0040
 Neptune -24504-07-29 21:35 J -7228452.79 -7228452.60 -7228452.40 0.0089 0.0041
 Pluto -24504-10-03 20:09 J -7228386.73 -7228386.66 -7228386.54 0.0064 0.0057
 Saturn -24504-11-07 13:11 J -7228352.11 -7228351.95 -7228351.77 0.0266 0.0157
 Neptune -24503-03-12 10:33 J -7228227.24 -7228227.06 -7228226.85 0.0089 0.0043
 Pluto -24503-05-17 00:14 J -7228161.68 -7228161.49 -7228161.27 0.0064 0.0020
 Saturn -24503-06-24 14:23 J -7228123.11 -7228122.90 -7228122.69 0.0268 0.0038
 Neptune -24503-10-23 23:45 J -7228001.69 -7228001.51 -7228001.31 0.0089 0.0043
 Pluto -24503-12-28 03:50 J -7227936.53 -7227936.34 -7227936.11 0.0065 0.0018
 Uranus -24502-01-31 18:28 J -7227901.77 -7227901.73 -7227901.66 0.0146 0.0141
 Saturn -24502-02-08 16:47 J -7227894.00 -7227893.80 -7227893.60 0.0269 0.0085
 Neptune -24502-06-06 12:43 J -7227776.14 -7227775.97 -7227775.76 0.0089 0.0045
 Pluto -24502-08-10 07:40 J -7227711.28 -7227711.18 -7227711.05 0.0065 0.0055
 Uranus -24502-09-15 06:57 J -7227675.35 -7227675.21 -7227675.07 0.0145 0.0112
 Saturn -24502-09-25 21:07 J -7227664.75 -7227664.62 -7227664.49 0.0271 0.0210
 Neptune -24501-01-18 01:55 J -7227550.59 -7227550.42 -7227550.21 0.0089 0.0046
 Uranus -24501-04-28 18:43 J -7227448.89 -7227448.72 -7227448.53 0.0145 0.0084

Neptune -24501-08-30 15:21 J -7227325.04 -7227324.86 -7227324.66 0.0089 0.0046
 Jupiter -24501-09-23 22:04 J -7227300.67 -7227300.58 -7227300.49 0.0535 0.0479
 Uranus -24501-12-11 06:57 J -7227222.41 -7227222.21 -7227222.01 0.0145 0.0055
 Neptune -24500-04-13 04:19 J -7227099.49 -7227099.32 -7227099.12 0.0089 0.0047
 Jupiter -24500-05-19 09:21 J -7227063.31 -7227063.11 -7227062.91 0.0530 0.0017
 Uranus -24500-07-25 19:11 J -7226995.91 -7226995.70 -7226995.49 0.0145 0.0026
 Neptune -24500-11-24 17:16 J -7226873.95 -7226873.78 -7226873.58 0.0089 0.0047
 Jupiter -24499-01-11 11:31 J -7226826.13 -7226826.02 -7226825.90 0.0523 0.0423
 Uranus -24499-03-09 07:11 J -7226769.42 -7226769.20 -7226768.98 0.0145 0.0003
 Neptune -24499-07-08 06:14 J -7226648.40 -7226648.24 -7226648.03 0.0089 0.0048
 Uranus -24499-10-21 19:11 J -7226542.91 -7226542.70 -7226542.49 0.0144 0.0032
 Neptune -24498-02-18 19:40 J -7226422.86 -7226422.68 -7226422.49 0.0089 0.0049
 Uranus -24498-06-05 06:57 J -7226316.40 -7226316.21 -7226316.00 0.0144 0.0060
 Neptune -24498-10-02 08:23 J -7226197.31 -7226197.15 -7226196.95 0.0089 0.0050
 Uranus -24497-01-17 18:57 J -7226089.87 -7226089.71 -7226089.53 0.0144 0.0088
 Neptune -24497-05-14 21:50 J -7225971.77 -7225971.59 -7225971.41 0.0089 0.0050
 Uranus -24497-08-31 06:57 J -7225863.33 -7225863.21 -7225863.08 0.0144 0.0116
 Neptune -24497-12-26 10:19 J -7225746.23 -7225746.07 -7225745.87 0.0089 0.0051
 Uranus -24496-04-14 18:43 J -7225636.72 -7225636.72 -7225636.71 0.0143 0.0143
 Neptune -24496-08-08 23:16 J -7225520.69 -7225520.53 -7225520.33 0.0089 0.0051
 Neptune -24495-03-22 12:14 J -7225295.15 -7225294.99 -7225294.80 0.0089 0.0052
 Neptune -24495-11-03 00:57 J -7225069.62 -7225069.46 -7225069.26 0.0089 0.0052
 Jupiter -24494-03-16 10:19 J -7224936.25 -7224936.07 -7224935.88 0.0495 0.0228
 Neptune -24494-06-16 13:55 J -7224844.08 -7224843.92 -7224843.73 0.0089 0.0053
 Jupiter -24494-11-08 04:19 J -7224699.52 -7224699.32 -7224699.12 0.0500 0.0167
 Neptune -24493-01-28 03:21 J -7224618.54 -7224618.36 -7224618.19 0.0089 0.0053
 Neptune -24493-09-09 15:50 J -7224393.00 -7224392.84 -7224392.65 0.0089 0.0053
 Neptune -24492-04-23 04:47 J -7224167.47 -7224167.30 -7224167.12 0.0089 0.0054
 Moon -24492-04-28 23:59 J -7224161.64 -7224161.50 -7224161.36 0.2720 0.0917
 Earth -24492-04-29 00:57 J -7224161.60 -7224161.46 -7224161.32 0.2713 0.1242 *

Neptune	-24492-12-04 17:16 J	-7223941.93	-7223941.78	-7223941.59	0.0089	0.0055
Neptune	-24491-07-18 06:14 J	-7223716.39	-7223716.24	-7223716.05	0.0089	0.0055
Neptune	-24490-02-28 19:26 J	-7223490.85	-7223490.69	-7223490.51	0.0089	0.0055
Saturn	-24490-09-12 15:50 J	-7223294.96	-7223294.84	-7223294.69	0.0295	0.0230
Neptune	-24490-10-12 08:23 J	-7223265.32	-7223265.15	-7223264.98	0.0089	0.0055
Saturn	-24489-04-29 17:31 J	-7223064.98	-7223064.77	-7223064.57	0.0293	0.0067
Neptune	-24489-05-24 20:52 J	-7223039.79	-7223039.63	-7223039.44	0.0089	0.0055
Saturn	-24489-12-15 16:19 J	-7222835.01	-7222834.82	-7222834.61	0.0291	0.0094
Neptune	-24488-01-05 09:35 J	-7222814.25	-7222814.10	-7222813.91	0.0089	0.0056
Jupiter	-24488-01-22 03:07 J	-7222797.56	-7222797.37	-7222797.18	0.0531	0.0146
Saturn	-24488-08-02 12:43 J	-7222605.07	-7222604.97	-7222604.85	0.0290	0.0246
Neptune	-24488-08-18 22:33 J	-7222588.72	-7222588.56	-7222588.38	0.0089	0.0056
Jupiter	-24488-09-16 06:57 J	-7222560.36	-7222560.21	-7222560.04	0.0524	0.0305
Neptune	-24487-04-01 11:16 J	-7222363.18	-7222363.03	-7222362.84	0.0089	0.0056
Mars	-24487-04-24 03:21 J	-7222340.53	-7222340.36	-7222340.19	0.1687	0.0209
Neptune	-24487-11-13 00:14 J	-7222137.65	-7222137.49	-7222137.31	0.0089	0.0056
Neptune	-24486-06-26 12:57 J	-7221912.12	-7221911.96	-7221911.79	0.0089	0.0056
Neptune	-24485-02-07 01:40 J	-7221686.59	-7221686.43	-7221686.25	0.0089	0.0056
Neptune	-24485-09-19 14:23 J	-7221461.06	-7221460.90	-7221460.73	0.0089	0.0056
Earth	-24484-04-26 15:21 J	-7221241.92	-7221241.86	-7221241.79	0.2713	0.2451
Moon	-24484-04-26 18:43 J	-7221241.83	-7221241.72	-7221241.61	0.2719	0.1793 *
Neptune	-24484-05-03 02:52 J	-7221235.54	-7221235.38	-7221235.20	0.0089	0.0056
Neptune	-24484-12-14 15:21 J	-7221010.02	-7221009.86	-7221009.68	0.0089	0.0056
Neptune	-24483-07-28 04:04 J	-7220784.49	-7220784.33	-7220784.15	0.0089	0.0056
Jupiter	-24483-11-19 09:21 J	-7220670.26	-7220670.11	-7220669.95	0.0494	0.0331
Mars	-24483-11-30 11:59 J	-7220659.13	-7220659.00	-7220658.87	0.1841	0.1273
Neptune	-24482-03-10 16:47 J	-7220558.96	-7220558.80	-7220558.62	0.0089	0.0055
Jupiter	-24482-07-14 01:26 J	-7220433.64	-7220433.44	-7220433.23	0.0499	0.0057
Neptune	-24482-10-22 05:16 J	-7220333.44	-7220333.28	-7220333.10	0.0089	0.0055
Jupiter	-24481-03-07 01:40 J	-7220196.51	-7220196.43	-7220196.34	0.0505	0.0458

Neptune	-24481-06-03 17:45 J	-7220107.92	-7220107.76	-7220107.58	0.0089	0.0055
Neptune	-24480-01-15 06:43 J	-7219882.39	-7219882.22	-7219882.05	0.0089	0.0055
Neptune	-24480-08-28 18:57 J	-7219656.87	-7219656.71	-7219656.53	0.0089	0.0055
Neptune	-24479-04-11 07:26 J	-7219431.34	-7219431.19	-7219431.00	0.0089	0.0055
Neptune	-24479-11-22 19:55 J	-7219205.82	-7219205.67	-7219205.48	0.0089	0.0055
Neptune	-24478-07-06 08:52 J	-7218980.30	-7218980.13	-7218979.96	0.0089	0.0054
Neptune	-24477-02-16 21:07 J	-7218754.78	-7218754.62	-7218754.43	0.0089	0.0054
Jupiter	-24477-09-26 20:09 J	-7218531.83	-7218531.66	-7218531.49	0.0532	0.0275
Neptune	-24477-09-29 09:35 J	-7218529.25	-7218529.10	-7218528.91	0.0089	0.0053
Neptune	-24476-05-12 22:19 J	-7218303.73	-7218303.57	-7218303.39	0.0089	0.0053
Jupiter	-24476-05-22 02:38 J	-7218294.57	-7218294.39	-7218294.20	0.0526	0.0184
Neptune	-24476-12-24 10:33 J	-7218078.21	-7218078.06	-7218077.86	0.0089	0.0053
Neptune	-24475-08-06 23:16 J	-7217852.69	-7217852.53	-7217852.34	0.0089	0.0052
Saturn	-24475-10-03 19:55 J	-7217794.73	-7217794.67	-7217794.60	0.0265	0.0251
Neptune	-24474-03-20 11:45 J	-7217627.17	-7217627.01	-7217626.82	0.0089	0.0051
Saturn	-24474-05-20 19:26 J	-7217565.86	-7217565.69	-7217565.50	0.0267	0.0137
Neptune	-24474-11-01 00:28 J	-7217401.65	-7217401.48	-7217401.30	0.0089	0.0050
Saturn	-24473-01-04 20:38 J	-7217336.85	-7217336.64	-7217336.42	0.0268	0.0018
Neptune	-24473-06-13 12:28 J	-7217176.14	-7217175.98	-7217175.78	0.0089	0.0051
Saturn	-24473-08-20 23:31 J	-7217107.71	-7217107.52	-7217107.32	0.0269	0.0106
Neptune	-24472-01-25 01:11 J	-7216950.62	-7216950.45	-7216950.26	0.0089	0.0049
Saturn	-24472-04-07 04:19 J	-7216878.43	-7216878.32	-7216878.21	0.0271	0.0231
Neptune	-24472-09-07 13:40 J	-7216725.10	-7216724.93	-7216724.75	0.0089	0.0049
Neptune	-24471-04-21 01:55 J	-7216499.59	-7216499.42	-7216499.22	0.0089	0.0048
Jupiter	-24471-07-25 09:21 J	-7216404.20	-7216404.11	-7216404.00	0.0493	0.0429
Neptune	-24471-12-02 14:23 J	-7216274.07	-7216273.90	-7216273.71	0.0089	0.0047
Jupiter	-24470-03-18 23:16 J	-7216167.74	-7216167.53	-7216167.32	0.0497	0.0053
Neptune	-24470-07-16 02:52 J	-7216048.56	-7216048.38	-7216048.19	0.0089	0.0047
Jupiter	-24470-11-10 20:52 J	-7215930.78	-7215930.63	-7215930.48	0.0503	0.0348
Neptune	-24469-02-26 14:52 J	-7215823.05	-7215822.88	-7215822.68	0.0089	0.0047

Neptune	-24469-10-09 03:21 J	-7215597.53	-7215597.36	-7215597.16	0.0089	0.0045
Neptune	-24468-05-22 15:50 J	-7215372.02	-7215371.84	-7215371.65	0.0089	0.0044
Neptune	-24467-01-03 04:19 J	-7215146.51	-7215146.32	-7215146.13	0.0089	0.0044
Neptune	-24467-08-16 16:19 J	-7214920.99	-7214920.82	-7214920.62	0.0089	0.0043
Neptune	-24466-03-30 04:47 J	-7214695.48	-7214695.30	-7214695.10	0.0089	0.0042
Neptune	-24466-11-10 17:16 J	-7214469.96	-7214469.78	-7214469.58	0.0089	0.0041
Jupiter	-24465-06-01 11:31 J	-7214266.15	-7214266.02	-7214265.89	0.0534	0.0404
Neptune	-24465-06-23 05:31 J	-7214244.45	-7214244.27	-7214244.07	0.0089	0.0040
Jupiter	-24464-01-24 21:07 J	-7214028.82	-7214028.62	-7214028.42	0.0528	0.0059
Neptune	-24464-02-03 17:59 J	-7214018.94	-7214018.75	-7214018.55	0.0089	0.0039
Neptune	-24464-09-17 06:14 J	-7213793.42	-7213793.24	-7213793.04	0.0089	0.0039
Jupiter	-24464-09-18 21:50 J	-7213791.66	-7213791.59	-7213791.52	0.0521	0.0488
Neptune	-24463-04-30 18:57 J	-7213567.90	-7213567.71	-7213567.51	0.0089	0.0037
Neptune	-24463-12-12 07:11 J	-7213342.39	-7213342.20	-7213342.00	0.0089	0.0036
Neptune	-24462-07-25 19:26 J	-7213116.88	-7213116.69	-7213116.48	0.0089	0.0036
Neptune	-24461-03-07 07:55 J	-7212891.37	-7212891.17	-7212890.97	0.0089	0.0034
Neptune	-24461-10-18 20:09 J	-7212665.85	-7212665.66	-7212665.46	0.0089	0.0033
Saturn	-24460-03-25 02:52 J	-7212508.54	-7212508.38	-7212508.23	0.0295	0.0200
Neptune	-24460-06-01 08:23 J	-7212440.34	-7212440.15	-7212439.94	0.0089	0.0032
Saturn	-24460-11-10 03:35 J	-7212278.56	-7212278.35	-7212278.14	0.0293	0.0037
Neptune	-24459-01-12 20:38 J	-7212214.83	-7212214.64	-7212214.43	0.0089	0.0031
Uranus	-24459-06-19 14:23 J	-7212056.96	-7212056.90	-7212056.80	0.0133	0.0124
Saturn	-24459-06-28 01:55 J	-7212048.60	-7212048.42	-7212048.22	0.0291	0.0122
Neptune	-24459-08-26 08:52 J	-7211989.32	-7211989.13	-7211988.92	0.0089	0.0031
Jupiter	-24459-11-21 21:50 J	-7211901.79	-7211901.59	-7211901.39	0.0495	0.0161
Uranus	-24458-01-31 19:55 J	-7211830.79	-7211830.67	-7211830.51	0.0133	0.0102
Saturn	-24458-02-12 22:04 J	-7211818.64	-7211818.58	-7211818.50	0.0289	0.0272
Neptune	-24458-04-08 21:21 J	-7211763.81	-7211763.61	-7211763.40	0.0089	0.0029
Jupiter	-24458-07-16 16:47 J	-7211664.99	-7211664.80	-7211664.62	0.0501	0.0236
Uranus	-24458-09-15 01:26 J	-7211604.60	-7211604.44	-7211604.25	0.0133	0.0080

Neptune	-24458-11-20 09:35 J	-7211538.30	-7211538.10	-7211537.89	0.0089	0.0028
Uranus	-24457-04-28 06:57 J	-7211378.40	-7211378.21	-7211378.01	0.0133	0.0058
Neptune	-24457-07-02 21:50 J	-7211312.79	-7211312.59	-7211312.38	0.0089	0.0027
Uranus	-24457-12-10 12:28 J	-7211152.18	-7211151.98	-7211151.76	0.0133	0.0035
Neptune	-24456-02-13 10:04 J	-7211087.28	-7211087.08	-7211086.87	0.0089	0.0026
Uranus	-24456-07-24 18:14 J	-7210925.96	-7210925.74	-7210925.53	0.0134	0.0013
Neptune	-24456-09-26 22:19 J	-7210861.77	-7210861.57	-7210861.35	0.0089	0.0025
Uranus	-24455-03-07 23:45 J	-7210699.73	-7210699.51	-7210699.29	0.0134	0.0010
Mars	-24455-04-22 23:02 J	-7210653.65	-7210653.54	-7210653.42	0.1695	0.1242
Neptune	-24455-05-10 10:47 J	-7210636.25	-7210636.05	-7210635.83	0.0089	0.0024
Uranus	-24455-10-20 05:02 J	-7210473.49	-7210473.29	-7210473.07	0.0134	0.0033
Neptune	-24455-12-21 23:16 J	-7210410.74	-7210410.53	-7210410.32	0.0089	0.0022
Uranus	-24454-06-03 10:47 J	-7210247.24	-7210247.05	-7210246.85	0.0134	0.0056
Neptune	-24454-08-04 11:31 J	-7210185.23	-7210185.02	-7210184.81	0.0089	0.0021
Uranus	-24453-01-15 16:33 J	-7210020.98	-7210020.81	-7210020.62	0.0135	0.0078
Jupiter	-24453-02-05 03:35 J	-7210000.37	-7210000.35	-7210000.31	0.0535	0.0528
Mars	-24453-02-20 19:40 J	-7209984.82	-7209984.68	-7209984.54	0.1678	0.0914
Neptune	-24453-03-16 23:45 J	-7209959.72	-7209959.51	-7209959.30	0.0089	0.0020
Uranus	-24453-08-28 22:19 J	-7209794.70	-7209794.57	-7209794.42	0.0135	0.0101
Jupiter	-24453-09-29 16:04 J	-7209763.02	-7209762.83	-7209762.63	0.0530	0.0069
Neptune	-24453-10-28 11:59 J	-7209734.20	-7209734.00	-7209733.78	0.0089	0.0019
Uranus	-24452-04-12 03:50 J	-7209568.40	-7209568.34	-7209568.24	0.0135	0.0124
Jupiter	-24452-05-24 19:40 J	-7209525.81	-7209525.68	-7209525.54	0.0524	0.0378
Neptune	-24452-06-11 00:28 J	-7209508.69	-7209508.48	-7209508.26	0.0089	0.0018
Neptune	-24451-01-22 12:57 J	-7209283.17	-7209282.96	-7209282.75	0.0089	0.0016
Neptune	-24451-09-05 01:11 J	-7209057.66	-7209057.45	-7209057.23	0.0089	0.0015
Mars	-24451-11-30 08:52 J	-7208971.30	-7208971.13	-7208970.95	0.1831	0.0451
Neptune	-24450-04-18 13:40 J	-7208832.14	-7208831.93	-7208831.71	0.0089	0.0014
Neptune	-24450-11-30 01:55 J	-7208606.62	-7208606.42	-7208606.20	0.0089	0.0013
Neptune	-24449-07-12 14:23 J	-7208381.11	-7208380.90	-7208380.68	0.0089	0.0011

Neptune -24448-02-23 02:52 J -7208155.60 -7208155.38 -7208155.17 0.0089 0.0010
 Neptune -24448-10-06 15:07 J -7207930.08 -7207929.87 -7207929.65 0.0089 0.0009
 Neptune -24447-05-20 03:35 J -7207704.56 -7207704.35 -7207704.13 0.0089 0.0008
 Jupiter -24447-07-27 20:23 J -7207635.82 -7207635.65 -7207635.47 0.0494 0.0266
 Neptune -24447-12-31 15:50 J -7207479.05 -7207478.84 -7207478.62 0.0089 0.0007
 Jupiter -24446-03-21 12:57 J -7207399.16 -7207398.96 -7207398.76 0.0499 0.0124
 Neptune -24446-08-14 04:19 J -7207253.54 -7207253.32 -7207253.10 0.0089 0.0005
 Neptune -24445-03-26 16:33 J -7207028.02 -7207027.81 -7207027.59 0.0089 0.0004
 Saturn -24445-04-14 23:45 J -7207008.61 -7207008.51 -7207008.41 0.0266 0.0233
 Neptune -24445-11-07 05:02 J -7206802.51 -7206802.29 -7206802.08 0.0089 0.0003
 Saturn -24445-11-29 23:16 J -7206779.72 -7206779.53 -7206779.34 0.0267 0.0118
 Neptune -24444-06-20 17:31 J -7206576.99 -7206576.77 -7206576.56 0.0089 0.0002
 Saturn -24444-07-17 00:28 J -7206550.69 -7206550.48 -7206550.26 0.0268 0.0005
 Neptune -24443-02-01 05:45 J -7206351.48 -7206351.26 -7206351.04 0.0089 0.0001
 Saturn -24443-03-03 03:21 J -7206321.54 -7206321.36 -7206321.17 0.0270 0.0125
 Neptune -24443-09-14 18:14 J -7206125.96 -7206125.74 -7206125.53 0.0089 0.0002
 Saturn -24443-10-18 08:09 J -7206092.23 -7206092.16 -7206092.07 0.0272 0.0251
 Neptune -24442-04-28 06:28 J -7205900.44 -7205900.23 -7205900.01 0.0089 0.0003
 Neptune -24442-12-09 18:57 J -7205674.93 -7205674.71 -7205674.49 0.0089 0.0004
 Jupiter -24441-06-04 11:16 J -7205497.22 -7205497.03 -7205496.85 0.0532 0.0195
 Neptune -24441-07-22 07:11 J -7205449.41 -7205449.20 -7205448.97 0.0089 0.0006
 Jupiter -24440-01-27 17:02 J -7205259.96 -7205259.79 -7205259.61 0.0526 0.0261
 Neptune -24440-03-04 19:40 J -7205223.89 -7205223.68 -7205223.46 0.0089 0.0007
 Neptune -24440-10-16 08:09 J -7204998.37 -7204998.16 -7204997.94 0.0089 0.0008
 Neptune -24439-05-29 20:52 J -7204772.84 -7204772.63 -7204772.41 0.0089 0.0009
 Neptune -24438-01-10 09:21 J -7204547.32 -7204547.11 -7204546.89 0.0089 0.0010
 Neptune -24438-08-23 21:50 J -7204321.80 -7204321.59 -7204321.37 0.0089 0.0011
 Neptune -24437-04-05 10:19 J -7204096.28 -7204096.07 -7204095.85 0.0089 0.0013
 Neptune -24437-11-16 22:47 J -7203870.76 -7203870.55 -7203870.33 0.0089 0.0014
 Neptune -24436-06-30 11:16 J -7203645.23 -7203645.03 -7203644.80 0.0088 0.0016

Neptune -24435-02-10 23:59 J -7203419.71 -7203419.50 -7203419.28 0.0088 0.0016
 Jupiter -24435-04-01 20:38 J -7203369.77 -7203369.64 -7203369.50 0.0493 0.0367
 Neptune -24435-09-24 12:28 J -7203194.19 -7203193.98 -7203193.76 0.0088 0.0018
 Jupiter -24435-11-24 11:16 J -7203133.24 -7203133.03 -7203132.82 0.0498 0.0014
 Neptune -24434-05-08 00:57 J -7202968.67 -7202968.46 -7202968.24 0.0088 0.0019
 Jupiter -24434-07-19 09:50 J -7202896.20 -7202896.09 -7202895.97 0.0504 0.0415
 Neptune -24434-12-19 13:40 J -7202743.14 -7202742.93 -7202742.72 0.0088 0.0020
 Neptune -24433-08-01 02:09 J -7202517.62 -7202517.41 -7202517.20 0.0088 0.0021
 Neptune -24432-03-14 14:23 J -7202292.10 -7202291.90 -7202291.67 0.0088 0.0023
 Neptune -24432-10-26 03:07 J -7202066.57 -7202066.37 -7202066.15 0.0088 0.0023
 Neptune -24431-06-08 15:50 J -7201841.04 -7201840.84 -7201840.62 0.0088 0.0024
 Saturn -24431-10-05 05:59 J -7201722.40 -7201722.25 -7201722.07 0.0294 0.0182
 Neptune -24430-01-20 04:19 J -7201615.52 -7201615.32 -7201615.10 0.0088 0.0026
 Saturn -24430-05-23 06:57 J -7201492.42 -7201492.21 -7201492.00 0.0293 0.0019
 Neptune -24430-09-02 17:02 J -7201389.99 -7201389.79 -7201389.58 0.0088 0.0027
 Saturn -24429-01-08 05:16 J -7201262.46 -7201262.28 -7201262.09 0.0291 0.0140
 Jupiter -24429-02-08 04:33 J -7201231.47 -7201231.31 -7201231.15 0.0533 0.0322
 Neptune -24429-04-15 05:31 J -7201164.47 -7201164.27 -7201164.05 0.0088 0.0028
 Jupiter -24429-10-02 12:14 J -7200994.18 -7200993.99 -7200993.79 0.0527 0.0138
 Neptune -24429-11-26 18:14 J -7200938.94 -7200938.74 -7200938.53 0.0088 0.0029
 Neptune -24428-07-10 06:43 J -7200713.41 -7200713.22 -7200712.99 0.0088 0.0031
 Neptune -24427-02-20 19:40 J -7200487.88 -7200487.68 -7200487.47 0.0088 0.0031
 Neptune -24427-10-04 08:09 J -7200262.35 -7200262.16 -7200261.94 0.0088 0.0033
 Neptune -24426-05-17 21:07 J -7200036.81 -7200036.62 -7200036.41 0.0088 0.0033
 Neptune -24426-12-29 09:50 J -7199811.28 -7199811.09 -7199810.88 0.0088 0.0034
 Neptune -24425-08-10 22:33 J -7199585.75 -7199585.56 -7199585.34 0.0088 0.0035
 Neptune -24424-03-24 11:16 J -7199360.21 -7199360.03 -7199359.81 0.0088 0.0037
 Neptune -24424-11-05 00:14 J -7199134.68 -7199134.49 -7199134.28 0.0088 0.0037
 Jupiter -24424-12-05 19:40 J -7199103.74 -7199103.68 -7199103.61 0.0493 0.0466
 Neptune -24423-06-18 13:26 J -7198909.14 -7198908.94 -7198908.74 0.0088 0.0038

Jupiter -24423-07-30 08:52 J -7198867.33 -7198867.13 -7198866.92 0.0497 0.0095
 Neptune -24422-01-30 02:09 J -7198683.60 -7198683.41 -7198683.21 0.0088 0.0039
 Jupiter -24422-03-24 05:45 J -7198630.42 -7198630.26 -7198630.09 0.0502 0.0305
 Neptune -24422-09-12 14:52 J -7198458.07 -7198457.88 -7198457.67 0.0088 0.0040
 Mars -24421-02-19 14:38 J -7198298.06 -7198297.89 -7198297.72 0.1685 0.0096
 Neptune -24421-04-25 03:35 J -7198232.53 -7198232.35 -7198232.14 0.0088 0.0040
 Neptune -24421-12-06 16:19 J -7198007.00 -7198006.82 -7198006.61 0.0088 0.0042
 Neptune -24420-07-20 05:16 J -7197781.45 -7197781.28 -7197781.07 0.0088 0.0043
 Neptune -24419-03-02 18:43 J -7197555.92 -7197555.72 -7197555.53 0.0088 0.0043
 Neptune -24419-10-14 07:26 J -7197330.38 -7197330.19 -7197330.00 0.0088 0.0043
 Uranus -24418-05-15 11:16 J -7197117.12 -7197117.03 -7197116.91 0.0146 0.0127
 Neptune -24418-05-27 20:09 J -7197104.84 -7197104.66 -7197104.46 0.0088 0.0044
 Jupiter -24418-10-13 20:38 J -7196965.74 -7196965.64 -7196965.53 0.0534 0.0449
 Uranus -24418-12-27 23:31 J -7196890.67 -7196890.52 -7196890.36 0.0145 0.0098
 Neptune -24417-01-08 08:52 J -7196879.30 -7196879.13 -7196878.92 0.0088 0.0045
 Jupiter -24417-06-07 06:43 J -7196728.41 -7196728.22 -7196728.02 0.0529 0.0017
 Uranus -24417-08-10 11:31 J -7196664.20 -7196664.02 -7196663.82 0.0145 0.0069
 Neptune -24417-08-20 22:19 J -7196653.76 -7196653.57 -7196653.38 0.0088 0.0046
 Mars -24417-09-26 14:52 J -7196616.97 -7196616.88 -7196616.78 0.1844 0.1565
 Jupiter -24416-01-30 07:55 J -7196491.27 -7196491.17 -7196491.06 0.0522 0.0445
 Uranus -24416-03-24 23:45 J -7196437.71 -7196437.51 -7196437.30 0.0145 0.0040
 Neptune -24416-04-03 11:02 J -7196428.22 -7196428.04 -7196427.84 0.0088 0.0046
 Saturn -24416-10-26 05:31 J -7196222.39 -7196222.27 -7196222.15 0.0266 0.0214
 Uranus -24416-11-06 11:59 J -7196211.22 -7196211.00 -7196210.79 0.0145 0.0011
 Neptune -24416-11-14 23:45 J -7196202.68 -7196202.51 -7196202.30 0.0088 0.0048
 Saturn -24415-06-12 05:31 J -7195993.46 -7195993.27 -7195993.06 0.0267 0.0098
 Uranus -24415-06-20 23:59 J -7195984.71 -7195984.50 -7195984.28 0.0144 0.0018
 Neptune -24415-06-28 13:11 J -7195977.13 -7195976.95 -7195976.76 0.0088 0.0048
 Pluto -24415-08-28 17:16 J -7195915.98 -7195915.78 -7195915.57 0.0080 0.0034
 Saturn -24414-01-27 07:26 J -7195764.40 -7195764.19 -7195763.98 0.0268 0.0023

Uranus	-24414-02-02 11:59 J	-7195758.20	-7195758.00	-7195757.79	0.0144	0.0047
Neptune	-24414-02-09 02:09 J	-7195751.58	-7195751.41	-7195751.21	0.0088	0.0048
Pluto	-24414-04-11 04:19 J	-7195690.51	-7195690.32	-7195690.12	0.0080	0.0041
Saturn	-24414-09-13 10:33 J	-7195535.23	-7195535.06	-7195534.88	0.0270	0.0147
Uranus	-24414-09-16 23:45 J	-7195531.68	-7195531.51	-7195531.31	0.0144	0.0075
Neptune	-24414-09-22 15:35 J	-7195526.04	-7195525.85	-7195525.67	0.0088	0.0049
Uranus	-24413-04-30 11:45 J	-7195305.15	-7195305.01	-7195304.85	0.0144	0.0103
Neptune	-24413-05-05 04:19 J	-7195300.49	-7195300.32	-7195300.12	0.0088	0.0049
Uranus	-24413-12-12 23:31 J	-7195078.60	-7195078.52	-7195078.42	0.0143	0.0131
Neptune	-24413-12-16 17:16 J	-7195074.94	-7195074.78	-7195074.58	0.0088	0.0050
Neptune	-24412-07-30 06:43 J	-7194849.39	-7194849.22	-7194849.02	0.0088	0.0050
Neptune	-24411-03-12 20:09 J	-7194623.84	-7194623.66	-7194623.48	0.0088	0.0050
Jupiter	-24411-04-04 07:40 J	-7194601.37	-7194601.18	-7194600.99	0.0495	0.0200
Neptune	-24411-10-24 08:52 J	-7194398.29	-7194398.13	-7194397.93	0.0088	0.0052
Jupiter	-24411-11-27 01:55 J	-7194364.61	-7194364.42	-7194364.23	0.0500	0.0195
Neptune	-24410-06-06 22:19 J	-7194172.74	-7194172.57	-7194172.38	0.0088	0.0051
Neptune	-24409-01-18 11:16 J	-7193947.19	-7193947.03	-7193946.83	0.0088	0.0052
Neptune	-24409-08-31 00:43 J	-7193721.64	-7193721.47	-7193721.28	0.0088	0.0052
Neptune	-24408-04-13 13:55 J	-7193496.09	-7193495.92	-7193495.73	0.0088	0.0052
Neptune	-24408-11-25 02:52 J	-7193270.54	-7193270.38	-7193270.18	0.0088	0.0053
Neptune	-24407-07-08 16:04 J	-7193044.99	-7193044.83	-7193044.63	0.0088	0.0054
Neptune	-24406-02-19 05:31 J	-7192819.43	-7192819.27	-7192819.08	0.0088	0.0053
Neptune	-24406-10-02 18:57 J	-7192593.88	-7192593.71	-7192593.53	0.0088	0.0053
Jupiter	-24405-02-10 23:31 J	-7192462.72	-7192462.52	-7192462.33	0.0531	0.0118
Neptune	-24405-05-15 08:09 J	-7192368.33	-7192368.16	-7192367.98	0.0088	0.0054
Jupiter	-24405-10-05 03:50 J	-7192225.49	-7192225.34	-7192225.19	0.0524	0.0331
Neptune	-24405-12-26 21:07 J	-7192142.78	-7192142.62	-7192142.43	0.0088	0.0054
Neptune	-24404-08-09 10:33 J	-7191917.22	-7191917.06	-7191916.87	0.0088	0.0054
Neptune	-24403-03-22 23:59 J	-7191691.66	-7191691.50	-7191691.31	0.0088	0.0054
Neptune	-24403-11-03 13:11 J	-7191466.11	-7191465.95	-7191465.76	0.0088	0.0054

Neptune -24402-06-17 02:38 J -7191240.55 -7191240.39 -7191240.20 0.0088 0.0054
 Neptune -24401-01-28 16:04 J -7191014.99 -7191014.83 -7191014.64 0.0088 0.0054
 Saturn -24401-04-16 17:45 J -7190935.94 -7190935.76 -7190935.58 0.0294 0.0151
 Neptune -24401-09-10 05:31 J -7190789.43 -7190789.27 -7190789.08 0.0088 0.0054
 Saturn -24401-12-02 17:59 J -7190705.96 -7190705.75 -7190705.54 0.0293 0.0012
 Neptune -24400-04-23 18:57 J -7190563.87 -7190563.71 -7190563.52 0.0088 0.0054
 Saturn -24400-07-20 15:50 J -7190476.01 -7190475.84 -7190475.67 0.0291 0.0169
 Neptune -24400-12-05 08:23 J -7190338.31 -7190338.15 -7190337.96 0.0088 0.0054
 Jupiter -24400-12-08 07:11 J -7190335.36 -7190335.20 -7190335.04 0.0494 0.0303
 Neptune -24399-07-18 21:50 J -7190112.75 -7190112.59 -7190112.39 0.0088 0.0054
 Jupiter -24399-08-01 22:47 J -7190098.75 -7190098.55 -7190098.34 0.0498 0.0085
 Neptune -24398-03-01 11:45 J -7189887.19 -7189887.01 -7189886.83 0.0088 0.0053
 Jupiter -24398-03-26 22:47 J -7189861.61 -7189861.55 -7189861.49 0.0505 0.0482
 Neptune -24398-10-13 00:57 J -7189661.62 -7189661.46 -7189661.27 0.0088 0.0053
 Neptune -24397-05-25 14:23 J -7189436.06 -7189435.90 -7189435.71 0.0088 0.0053
 Neptune -24396-01-06 03:50 J -7189210.50 -7189210.34 -7189210.15 0.0088 0.0053
 Neptune -24396-08-19 17:45 J -7188984.94 -7188984.76 -7188984.58 0.0088 0.0053
 Neptune -24395-04-02 07:11 J -7188759.37 -7188759.20 -7188759.01 0.0088 0.0052
 Earth -24395-10-29 09:07 J -7188549.25 -7188549.12 -7188548.99 0.2620 0.1530
 Moon -24395-10-29 10:33 J -7188549.17 -7188549.06 -7188548.95 0.2626 0.1792 *
 Neptune -24395-11-13 20:23 J -7188533.81 -7188533.65 -7188533.45 0.0088 0.0052
 Neptune -24394-06-27 09:50 J -7188308.25 -7188308.09 -7188307.89 0.0088 0.0052
 Jupiter -24394-10-16 17:02 J -7188196.97 -7188196.79 -7188196.61 0.0533 0.0246
 Neptune -24393-02-07 23:31 J -7188082.69 -7188082.52 -7188082.33 0.0088 0.0051
 Jupiter -24393-06-09 23:59 J -7187959.67 -7187959.50 -7187959.31 0.0527 0.0213
 Neptune -24393-09-20 12:57 J -7187857.12 -7187856.96 -7187856.76 0.0088 0.0051
 Neptune -24392-05-04 02:52 J -7187631.56 -7187631.38 -7187631.19 0.0088 0.0050
 Neptune -24392-12-15 16:04 J -7187406.00 -7187405.83 -7187405.63 0.0088 0.0050
 Neptune -24391-07-29 05:59 J -7187180.43 -7187180.25 -7187180.06 0.0088 0.0049
 Neptune -24390-03-11 19:11 J -7186954.87 -7186954.70 -7186954.49 0.0088 0.0050

Neptune -24390-10-23 09:07 J -7186729.30 -7186729.12 -7186728.92 0.0088 0.0048
 Mars -24389-02-18 10:19 J -7186611.19 -7186611.07 -7186610.94 0.1692 0.1123
 Neptune -24389-06-04 22:33 J -7186503.73 -7186503.56 -7186503.35 0.0088 0.0048
 Neptune -24388-01-16 12:14 J -7186278.16 -7186277.99 -7186277.78 0.0088 0.0048
 Jupiter -24388-08-13 06:28 J -7186069.34 -7186069.23 -7186069.11 0.0493 0.0404
 Neptune -24388-08-30 02:23 J -7186052.59 -7186052.40 -7186052.21 0.0088 0.0046
 Mars -24388-12-18 07:26 J -7185942.32 -7185942.19 -7185942.06 0.1676 0.1015
 Jupiter -24387-04-06 20:09 J -7185832.87 -7185832.66 -7185832.46 0.0497 0.0029
 Neptune -24387-04-12 15:50 J -7185827.02 -7185826.84 -7185826.64 0.0088 0.0046
 Earth -24387-10-27 01:11 J -7185629.57 -7185629.45 -7185629.33 0.2620 0.1722
 Moon -24387-10-27 05:59 J -7185629.39 -7185629.25 -7185629.10 0.2623 0.0975 *
 Neptune -24387-11-24 05:31 J -7185601.45 -7185601.27 -7185601.06 0.0088 0.0045
 Jupiter -24387-11-29 17:16 J -7185595.91 -7185595.78 -7185595.64 0.0503 0.0372
 Saturn -24386-05-08 10:19 J -7185436.20 -7185436.07 -7185435.92 0.0266 0.0195
 Neptune -24386-07-07 19:26 J -7185375.88 -7185375.69 -7185375.49 0.0088 0.0044
 Saturn -24386-12-23 10:33 J -7185207.26 -7185207.06 -7185206.85 0.0267 0.0078
 Neptune -24385-02-18 08:38 J -7185150.31 -7185150.14 -7185149.92 0.0088 0.0045
 Saturn -24385-08-08 12:28 J -7184978.19 -7184977.98 -7184977.77 0.0269 0.0044
 Mars -24385-09-26 13:11 J -7184929.13 -7184928.95 -7184928.77 0.1834 0.0189
 Neptune -24385-09-30 22:47 J -7184924.74 -7184924.55 -7184924.34 0.0088 0.0043
 Saturn -24384-03-25 15:35 J -7184749.01 -7184748.85 -7184748.67 0.0270 0.0168
 Neptune -24384-05-14 12:28 J -7184699.16 -7184698.98 -7184698.77 0.0088 0.0043
 Neptune -24384-12-26 02:23 J -7184473.59 -7184473.40 -7184473.20 0.0088 0.0041
 Neptune -24383-08-08 16:04 J -7184248.03 -7184247.83 -7184247.63 0.0088 0.0041
 Neptune -24382-03-22 05:31 J -7184022.46 -7184022.27 -7184022.06 0.0088 0.0040
 Jupiter -24382-06-21 10:47 J -7183931.19 -7183931.05 -7183930.91 0.0534 0.0373
 Neptune -24382-11-02 19:11 J -7183796.88 -7183796.70 -7183796.48 0.0088 0.0040
 Jupiter -24381-02-13 20:23 J -7183693.84 -7183693.65 -7183693.45 0.0528 0.0090
 Neptune -24381-06-15 08:52 J -7183571.31 -7183571.13 -7183570.91 0.0088 0.0039
 Jupiter -24381-10-07 20:52 J -7183456.65 -7183456.63 -7183456.59 0.0521 0.0515

Neptune -24380-01-26 22:47 J -7183345.75 -7183345.55 -7183345.34 0.0088 0.0037
 Neptune -24380-09-09 12:28 J -7183120.17 -7183119.98 -7183119.76 0.0088 0.0037
 Neptune -24379-04-23 02:09 J -7182894.60 -7182894.41 -7182894.19 0.0088 0.0036
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 Neptune -24378-07-18 05:45 J -7182443.46 -7182443.26 -7182443.04 0.0088 0.0033
 Neptune -24377-02-28 19:26 J -7182217.89 -7182217.69 -7182217.47 0.0088 0.0033
 Neptune -24377-10-11 09:21 J -7181992.31 -7181992.11 -7181991.89 0.0088 0.0032
 Neptune -24376-05-24 23:16 J -7181766.74 -7181766.53 -7181766.31 0.0088 0.0030
 Jupiter -24376-12-10 18:43 J -7181566.91 -7181566.72 -7181566.51 0.0496 0.0135
 Neptune -24375-01-05 12:57 J -7181541.16 -7181540.96 -7181540.74 0.0088 0.0029
 Jupiter -24375-08-04 14:09 J -7181330.09 -7181329.91 -7181329.74 0.0501 0.0262
 Neptune -24375-08-19 02:38 J -7181315.59 -7181315.39 -7181315.17 0.0088 0.0029
 Uranus -24375-10-01 05:16 J -7181272.38 -7181272.28 -7181272.15 0.0133 0.0112
 Neptune -24374-04-01 16:33 J -7181090.02 -7181089.81 -7181089.59 0.0088 0.0027
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 Neptune -24374-11-13 06:14 J -7180864.44 -7180864.24 -7180864.01 0.0088 0.0027
 Uranus -24374-12-27 16:33 J -7180820.00 -7180819.81 -7180819.62 0.0133 0.0068
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 Neptune -24372-02-06 10:04 J -7180413.29 -7180413.08 -7180412.86 0.0088 0.0024
 Saturn -24372-03-11 20:09 J -7180379.68 -7180379.66 -7180379.64 0.0295 0.0293
 Uranus -24372-03-24 03:35 J -7180367.57 -7180367.35 -7180367.14 0.0134 0.0023
 Neptune -24372-09-19 23:59 J -7180187.72 -7180187.50 -7180187.28 0.0088 0.0023
 Saturn -24372-10-27 22:19 J -7180149.76 -7180149.57 -7180149.38 0.0294 0.0130
 Uranus -24372-11-05 09:07 J -7180141.34 -7180141.12 -7180140.90 0.0134 0.0000
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 Saturn -24371-06-14 22:19 J -7179919.78 -7179919.57 -7179919.36 0.0292 0.0032
 Uranus -24371-06-19 14:38 J -7179915.10 -7179914.89 -7179914.67 0.0134 0.0023
 Neptune -24371-12-15 03:21 J -7179736.57 -7179736.36 -7179736.13 0.0088 0.0021
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Uranus -24370-01-31 20:09 J -7179688.85 -7179688.66 -7179688.44 0.0134 0.0046
 Jupiter -24370-02-24 03:35 J -7179665.42 -7179665.35 -7179665.27 0.0534 0.0496
 Neptune -24370-07-28 17:02 J -7179511.00 -7179510.79 -7179510.56 0.0088 0.0020
 Uranus -24370-09-15 01:55 J -7179462.60 -7179462.42 -7179462.22 0.0134 0.0069
 Jupiter -24370-10-19 15:21 J -7179428.06 -7179427.86 -7179427.66 0.0530 0.0038
 Neptune -24369-03-10 06:43 J -7179285.43 -7179285.22 -7179284.99 0.0088 0.0019
 Uranus -24369-04-28 07:26 J -7179236.33 -7179236.19 -7179236.01 0.0135 0.0092
 Jupiter -24369-06-12 17:31 J -7179190.89 -7179190.77 -7179190.64 0.0523 0.0403
 Neptune -24369-10-21 20:52 J -7179059.85 -7179059.63 -7179059.41 0.0088 0.0017
 Uranus -24369-12-10 13:26 J -7179010.04 -7179009.94 -7179009.82 0.0135 0.0114
 Neptune -24368-06-04 10:33 J -7178834.28 -7178834.06 -7178833.84 0.0088 0.0016
 Neptune -24367-01-15 23:59 J -7178608.71 -7178608.50 -7178608.27 0.0089 0.0015
 Neptune -24367-08-29 13:40 J -7178383.14 -7178382.93 -7178382.70 0.0089 0.0014
 Neptune -24366-04-12 03:21 J -7178157.57 -7178157.36 -7178157.13 0.0089 0.0012
 Neptune -24366-11-23 17:16 J -7177932.00 -7177931.78 -7177931.55 0.0089 0.0011
 Neptune -24365-07-06 06:57 J -7177706.43 -7177706.21 -7177705.98 0.0089 0.0010
 Neptune -24364-02-16 20:38 J -7177480.86 -7177480.64 -7177480.41 0.0089 0.0008
 Jupiter -24364-08-15 16:47 J -7177300.97 -7177300.80 -7177300.61 0.0495 0.0241
 Neptune -24364-09-30 10:19 J -7177255.29 -7177255.07 -7177254.84 0.0089 0.0007
 Jupiter -24363-04-09 10:19 J -7177064.26 -7177064.07 -7177063.87 0.0500 0.0152
 Neptune -24363-05-14 00:14 J -7177029.72 -7177029.49 -7177029.27 0.0089 0.0006
 Neptune -24363-12-25 13:55 J -7176804.14 -7176803.92 -7176803.70 0.0089 0.0005
 Neptune -24362-08-08 03:35 J -7176578.57 -7176578.35 -7176578.13 0.0089 0.0003
 Neptune -24361-03-20 17:16 J -7176353.00 -7176352.78 -7176352.56 0.0089 0.0002
 Neptune -24361-11-01 06:57 J -7176127.43 -7176127.21 -7176126.98 0.0089 0.0002
 Neptune -24360-06-14 20:52 J -7175901.86 -7175901.63 -7175901.41 0.0089 0.0001
 Neptune -24359-01-26 10:19 J -7175676.29 -7175676.07 -7175675.84 0.0089 0.0003
 Neptune -24359-09-08 23:59 J -7175450.72 -7175450.50 -7175450.27 0.0089 0.0003
 Neptune -24358-04-22 13:40 J -7175225.15 -7175224.93 -7175224.71 0.0089 0.0004
 Jupiter -24358-06-24 08:38 J -7175162.33 -7175162.14 -7175161.95 0.0531 0.0166

Neptune -24358-12-04 03:21 J -7174999.58 -7174999.36 -7174999.14 0.0089 0.0005
 Jupiter -24357-02-16 13:40 J -7174925.10 -7174924.93 -7174924.76 0.0525 0.0286
 Neptune -24357-07-16 16:47 J -7174774.02 -7174773.80 -7174773.57 0.0089 0.0007
 Saturn -24357-11-17 16:04 J -7174649.99 -7174649.83 -7174649.67 0.0266 0.0176
 Neptune -24356-02-27 06:28 J -7174548.45 -7174548.23 -7174548.01 0.0089 0.0008
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 Neptune -24356-10-10 19:55 J -7174322.89 -7174322.67 -7174322.45 0.0089 0.0009
 Mars -24356-12-17 02:23 J -7174255.57 -7174255.40 -7174255.23 0.1682 0.0033
 Saturn -24355-02-18 18:57 J -7174191.91 -7174191.71 -7174191.50 0.0269 0.0064
 Neptune -24355-05-24 09:35 J -7174097.32 -7174097.10 -7174096.88 0.0089 0.0010
 Saturn -24355-10-05 22:33 J -7173962.70 -7173962.56 -7173962.39 0.0270 0.0190
 Neptune -24354-01-04 23:02 J -7173871.76 -7173871.54 -7173871.31 0.0089 0.0012
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 Neptune -24353-03-31 01:55 J -7173420.63 -7173420.42 -7173420.19 0.0089 0.0014
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 Jupiter -24352-04-20 16:33 J -7173034.96 -7173034.81 -7173034.66 0.0493 0.0341
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 Neptune -24350-05-02 21:21 J -7172292.82 -7172292.61 -7172292.38 0.0089 0.0020
 Neptune -24350-12-14 11:02 J -7172067.25 -7172067.04 -7172066.82 0.0089 0.0021
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 Neptune -24348-03-09 13:55 J -7171616.13 -7171615.92 -7171615.70 0.0089 0.0023
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 Neptune -24347-06-03 16:47 J -7171165.00 -7171164.80 -7171164.58 0.0089 0.0025
 Neptune -24346-01-15 06:28 J -7170939.44 -7170939.23 -7170939.02 0.0089 0.0026
 Jupiter -24346-02-26 23:31 J -7170896.68 -7170896.52 -7170896.35 0.0533 0.0296

Neptune -24346-08-28 19:40 J -7170713.88 -7170713.68 -7170713.46 0.0089 0.0027
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 Neptune -24345-04-10 09:07 J -7170488.33 -7170488.12 -7170487.91 0.0089 0.0028
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 Saturn -24343-09-22 08:52 J -7169593.22 -7169593.13 -7169593.02 0.0295 0.0262
 Neptune -24343-09-29 14:09 J -7169586.10 -7169585.91 -7169585.69 0.0089 0.0032
 Saturn -24342-05-10 10:47 J -7169363.24 -7169363.05 -7169362.84 0.0294 0.0098
 Neptune -24342-05-13 03:21 J -7169360.55 -7169360.36 -7169360.14 0.0089 0.0033
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 Saturn -24341-08-12 07:40 J -7168903.32 -7168903.18 -7168903.04 0.0290 0.0218
 Jupiter -24341-12-24 17:02 J -7168768.88 -7168768.79 -7168768.70 0.0492 0.0438
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 Jupiter -24340-08-18 05:45 J -7168532.46 -7168532.26 -7168532.05 0.0496 0.0067
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 Jupiter -24339-04-12 02:09 J -7168295.56 -7168295.41 -7168295.25 0.0502 0.0331
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 Neptune -24337-04-20 12:57 J -7167556.14 -7167555.96 -7167555.75 0.0089 0.0040
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 Neptune -24335-02-26 04:33 J -7166879.49 -7166879.31 -7166879.11 0.0089 0.0042
 Neptune -24335-10-09 17:45 J -7166653.95 -7166653.76 -7166653.56 0.0089 0.0043
 Jupiter -24335-11-01 15:50 J -7166630.96 -7166630.84 -7166630.72 0.0534 0.0424
 Uranus -24334-01-12 17:45 J -7166558.80 -7166558.76 -7166558.69 0.0146 0.0140
 Neptune -24334-05-23 06:43 J -7166428.40 -7166428.22 -7166428.02 0.0089 0.0043

Jupiter -24334-06-27 02:38 J -7166393.59 -7166393.39 -7166393.19 0.0529 0.0039
 Uranus -24334-08-27 06:14 J -7166332.38 -7166332.24 -7166332.10 0.0146 0.0111
 Neptune -24333-01-03 19:40 J -7166202.85 -7166202.68 -7166202.47 0.0089 0.0044
 Jupiter -24333-02-19 04:19 J -7166156.40 -7166156.32 -7166156.23 0.0522 0.0471
 Uranus -24333-04-09 17:59 J -7166105.92 -7166105.75 -7166105.56 0.0145 0.0082
 Neptune -24333-08-16 08:52 J -7165977.31 -7165977.13 -7165976.93 0.0089 0.0045
 Uranus -24333-11-22 06:14 J -7165879.44 -7165879.24 -7165879.03 0.0145 0.0053
 Neptune -24332-03-29 21:35 J -7165751.77 -7165751.60 -7165751.39 0.0089 0.0046
 Uranus -24332-07-06 18:43 J -7165652.94 -7165652.72 -7165652.51 0.0145 0.0024
 Neptune -24332-11-10 10:47 J -7165526.23 -7165526.05 -7165525.85 0.0089 0.0046
 Uranus -24331-02-18 06:43 J -7165426.44 -7165426.22 -7165426.00 0.0145 0.0005
 Neptune -24331-06-23 23:31 J -7165300.69 -7165300.52 -7165300.32 0.0089 0.0046
 Uranus -24331-10-02 18:43 J -7165199.93 -7165199.72 -7165199.51 0.0144 0.0034
 Neptune -24330-02-04 12:43 J -7165075.15 -7165074.97 -7165074.77 0.0089 0.0047
 Uranus -24330-05-17 06:28 J -7164973.42 -7164973.23 -7164973.02 0.0144 0.0063
 Neptune -24330-09-18 01:26 J -7164849.61 -7164849.44 -7164849.24 0.0089 0.0047
 Uranus -24330-12-29 18:28 J -7164746.89 -7164746.73 -7164746.56 0.0144 0.0091
 Neptune -24329-04-30 14:23 J -7164624.07 -7164623.90 -7164623.71 0.0089 0.0048
 Uranus -24329-08-12 06:14 J -7164520.34 -7164520.24 -7164520.10 0.0144 0.0120
 Neptune -24329-12-12 03:35 J -7164398.54 -7164398.35 -7164398.17 0.0089 0.0048
 Jupiter -24328-04-23 03:50 J -7164266.53 -7164266.34 -7164266.15 0.0495 0.0175
 Neptune -24328-07-25 16:04 J -7164173.00 -7164172.83 -7164172.64 0.0089 0.0048
 Jupiter -24328-12-15 21:35 J -7164029.78 -7164029.60 -7164029.41 0.0500 0.0218
 Neptune -24327-03-08 05:02 J -7163947.46 -7163947.29 -7163947.10 0.0089 0.0049
 Saturn -24327-05-30 22:04 J -7163863.75 -7163863.58 -7163863.40 0.0266 0.0155
 Neptune -24327-10-19 17:31 J -7163721.93 -7163721.77 -7163721.56 0.0089 0.0050
 Saturn -24326-01-14 22:47 J -7163634.76 -7163634.55 -7163634.34 0.0268 0.0036
 Neptune -24326-06-02 06:28 J -7163496.39 -7163496.23 -7163496.03 0.0089 0.0050
 Saturn -24326-09-01 00:57 J -7163405.66 -7163405.46 -7163405.26 0.0269 0.0087
 Neptune -24325-01-13 19:26 J -7163270.86 -7163270.69 -7163270.50 0.0089 0.0050

Saturn -24325-04-17 04:47 J -7163176.42 -7163176.30 -7163176.16 0.0271 0.0212
 Neptune -24325-08-26 08:23 J -7163045.32 -7163045.15 -7163044.96 0.0089 0.0050
 Neptune -24324-04-08 21:21 J -7162819.79 -7162819.61 -7162819.43 0.0089 0.0050
 Neptune -24324-11-20 09:35 J -7162594.26 -7162594.10 -7162593.90 0.0089 0.0051
 Mars -24324-12-15 21:35 J -7162568.73 -7162568.60 -7162568.46 0.1689 0.1005
 Neptune -24323-07-03 22:33 J -7162368.72 -7162368.56 -7162368.37 0.0089 0.0050
 Neptune -24322-02-14 11:31 J -7162143.19 -7162143.02 -7162142.83 0.0089 0.0050
 Jupiter -24322-03-01 21:35 J -7162127.79 -7162127.60 -7162127.40 0.0531 0.0089
 Neptune -24322-09-28 00:14 J -7161917.66 -7161917.49 -7161917.30 0.0089 0.0050
 Mars -24322-10-15 19:11 J -7161899.82 -7161899.70 -7161899.57 0.1673 0.1117
 Jupiter -24322-10-25 02:09 J -7161890.55 -7161890.41 -7161890.27 0.0524 0.0358
 Neptune -24321-05-10 12:57 J -7161692.13 -7161691.96 -7161691.77 0.0089 0.0050
 Neptune -24321-12-22 01:26 J -7161466.60 -7161466.44 -7161466.24 0.0089 0.0051
 Neptune -24320-08-04 14:09 J -7161241.07 -7161240.91 -7161240.72 0.0089 0.0051
 Neptune -24319-03-18 02:52 J -7161015.54 -7161015.38 -7161015.18 0.0089 0.0051
 Mars -24319-07-24 16:33 J -7160886.99 -7160886.81 -7160886.63 0.1838 0.0089
 Neptune -24319-10-29 15:35 J -7160790.02 -7160789.85 -7160789.66 0.0089 0.0050
 Neptune -24318-06-12 04:04 J -7160564.49 -7160564.33 -7160564.14 0.0089 0.0051
 Neptune -24317-01-23 16:33 J -7160338.97 -7160338.81 -7160338.61 0.0089 0.0051
 Neptune -24317-09-05 05:16 J -7160113.44 -7160113.28 -7160113.09 0.0089 0.0050
 Jupiter -24317-12-27 03:07 J -7160000.54 -7160000.37 -7160000.20 0.0494 0.0278
 Neptune -24316-04-18 18:14 J -7159887.92 -7159887.74 -7159887.56 0.0089 0.0050
 Jupiter -24316-08-20 18:57 J -7159763.91 -7159763.71 -7159763.50 0.0499 0.0109
 Neptune -24316-11-30 06:28 J -7159662.40 -7159662.23 -7159662.04 0.0089 0.0050
 Jupiter -24315-04-14 19:11 J -7159526.70 -7159526.70 -7159526.70 0.0505 0.0505
 Neptune -24315-07-13 18:57 J -7159436.88 -7159436.71 -7159436.52 0.0089 0.0050
 Neptune -24314-02-24 07:26 J -7159211.35 -7159211.19 -7159210.99 0.0089 0.0050
 Neptune -24314-10-07 19:55 J -7158985.83 -7158985.67 -7158985.47 0.0089 0.0049
 Saturn -24313-04-03 14:38 J -7158807.00 -7158806.89 -7158806.75 0.0295 0.0240
 Neptune -24313-05-20 08:38 J -7158760.31 -7158760.14 -7158759.95 0.0089 0.0049

Saturn -24313-11-19 16:19 J -7158577.02 -7158576.82 -7158576.61 0.0293 0.0076
 Neptune -24313-12-31 20:52 J -7158534.79 -7158534.63 -7158534.43 0.0089 0.0049
 Saturn -24312-07-07 15:21 J -7158347.05 -7158346.86 -7158346.65 0.0291 0.0085
 Neptune -24312-08-14 09:21 J -7158309.27 -7158309.11 -7158308.91 0.0089 0.0049
 Saturn -24311-02-22 12:14 J -7158117.10 -7158116.99 -7158116.86 0.0290 0.0238
 Neptune -24311-03-27 22:19 J -7158083.74 -7158083.57 -7158083.38 0.0089 0.0048
 Jupiter -24311-11-04 15:50 J -7157862.02 -7157861.84 -7157861.65 0.0532 0.0215
 Neptune -24311-11-08 10:33 J -7157858.22 -7157858.06 -7157857.86 0.0089 0.0048
 Neptune -24310-06-21 23:16 J -7157632.70 -7157632.53 -7157632.34 0.0089 0.0047
 Jupiter -24310-06-29 22:19 J -7157624.75 -7157624.57 -7157624.39 0.0526 0.0240
 Neptune -24309-02-02 11:45 J -7157407.18 -7157407.01 -7157406.82 0.0089 0.0046
 Neptune -24309-09-15 00:28 J -7157181.66 -7157181.48 -7157181.29 0.0089 0.0046
 Neptune -24308-04-28 12:43 J -7156956.14 -7156955.97 -7156955.77 0.0089 0.0045
 Neptune -24308-12-10 01:11 J -7156730.63 -7156730.45 -7156730.25 0.0089 0.0045
 Neptune -24307-07-23 13:26 J -7156505.11 -7156504.94 -7156504.74 0.0089 0.0044
 Neptune -24306-03-06 02:09 J -7156279.59 -7156279.41 -7156279.22 0.0089 0.0043
 Neptune -24306-10-17 14:38 J -7156054.08 -7156053.89 -7156053.70 0.0089 0.0043
 Neptune -24305-05-30 02:38 J -7155828.56 -7155828.39 -7155828.18 0.0089 0.0043
 Jupiter -24305-09-01 01:55 J -7155734.55 -7155734.42 -7155734.29 0.0493 0.0379
 Neptune -24304-01-10 15:07 J -7155603.05 -7155602.87 -7155602.67 0.0089 0.0042
 Jupiter -24304-04-25 16:04 J -7155498.04 -7155497.83 -7155497.62 0.0497 0.0004
 Neptune -24304-08-24 03:21 J -7155377.54 -7155377.36 -7155377.15 0.0089 0.0041
 Jupiter -24304-12-18 14:09 J -7155261.03 -7155260.91 -7155260.78 0.0504 0.0397
 Neptune -24303-04-06 15:50 J -7155152.02 -7155151.84 -7155151.63 0.0089 0.0041
 Neptune -24303-11-18 04:19 J -7154926.50 -7154926.32 -7154926.12 0.0089 0.0040
 Neptune -24302-07-01 16:19 J -7154700.99 -7154700.82 -7154700.61 0.0089 0.0040
 Neptune -24301-02-12 04:47 J -7154475.48 -7154475.30 -7154475.09 0.0089 0.0038
 Neptune -24301-09-24 17:16 J -7154249.97 -7154249.78 -7154249.58 0.0089 0.0037
 Neptune -24300-05-08 05:45 J -7154024.45 -7154024.26 -7154024.06 0.0089 0.0036
 Neptune -24300-12-19 18:14 J -7153798.94 -7153798.74 -7153798.54 0.0089 0.0035

Jupiter -24299-07-10 08:23 J -7153596.30 -7153596.15 -7153596.00 0.0533 0.0343
 Neptune -24299-08-02 06:14 J -7153573.42 -7153573.24 -7153573.03 0.0089 0.0035
 Jupiter -24298-03-04 17:16 J -7153358.97 -7153358.78 -7153358.58 0.0528 0.0117
 Neptune -24298-03-15 18:43 J -7153347.91 -7153347.72 -7153347.51 0.0089 0.0034
 Saturn -24298-04-26 03:35 J -7153306.41 -7153306.35 -7153306.28 0.0266 0.0251
 Neptune -24298-10-27 06:57 J -7153122.39 -7153122.21 -7153121.99 0.0089 0.0033
 Saturn -24298-12-11 03:07 J -7153077.55 -7153077.37 -7153077.18 0.0267 0.0136
 Neptune -24297-06-08 19:26 J -7152896.88 -7152896.69 -7152896.48 0.0089 0.0032
 Saturn -24297-07-27 04:19 J -7152848.53 -7152848.32 -7152848.10 0.0268 0.0017
 Neptune -24296-01-20 07:40 J -7152671.37 -7152671.18 -7152670.96 0.0089 0.0032
 Saturn -24296-03-13 07:11 J -7152619.39 -7152619.20 -7152619.01 0.0269 0.0107
 Neptune -24296-09-02 20:09 J -7152445.85 -7152445.66 -7152445.45 0.0089 0.0030
 Saturn -24296-10-28 11:45 J -7152390.12 -7152390.01 -7152389.90 0.0271 0.0232
 Neptune -24295-04-16 08:38 J -7152220.34 -7152220.14 -7152219.93 0.0089 0.0029
 Neptune -24295-11-27 21:07 J -7151994.82 -7151994.62 -7151994.42 0.0089 0.0028
 Neptune -24294-07-11 09:21 J -7151769.32 -7151769.11 -7151768.91 0.0089 0.0027
 Neptune -24293-02-21 21:35 J -7151543.81 -7151543.60 -7151543.39 0.0089 0.0026
 Jupiter -24293-05-07 02:23 J -7151468.45 -7151468.40 -7151468.35 0.0492 0.0475
 Neptune -24293-10-04 09:50 J -7151318.29 -7151318.09 -7151317.88 0.0089 0.0025
 Jupiter -24293-12-29 14:23 J -7151232.11 -7151231.90 -7151231.70 0.0496 0.0108
 Neptune -24292-05-17 22:19 J -7151092.78 -7151092.57 -7151092.36 0.0089 0.0024
 Jupiter -24292-08-23 09:50 J -7150995.25 -7150995.09 -7150994.91 0.0501 0.0289
 Neptune -24292-12-29 10:33 J -7150867.27 -7150867.06 -7150866.85 0.0089 0.0023
 Uranus -24291-05-31 15:21 J -7150713.93 -7150713.86 -7150713.76 0.0133 0.0122
 Neptune -24291-08-11 22:47 J -7150641.76 -7150641.55 -7150641.34 0.0089 0.0022
 Uranus -24290-01-12 20:52 J -7150487.76 -7150487.63 -7150487.47 0.0133 0.0100
 Neptune -24290-03-25 11:02 J -7150416.25 -7150416.04 -7150415.83 0.0089 0.0021
 Uranus -24290-08-27 02:38 J -7150261.57 -7150261.39 -7150261.21 0.0133 0.0078
 Mars -24290-10-14 13:55 J -7150213.09 -7150212.92 -7150212.75 0.1680 0.0132
 Neptune -24290-11-05 23:16 J -7150190.74 -7150190.53 -7150190.32 0.0089 0.0020

Uranus	-24289-04-09 07:55 J	-7150035.36	-7150035.17	-7150034.96	0.0133	0.0055
Neptune	-24289-06-18 11:31 J	-7149965.23	-7149965.02	-7149964.81	0.0089	0.0019
Uranus	-24289-11-21 13:26 J	-7149809.14	-7149808.94	-7149808.72	0.0134	0.0033
Neptune	-24288-01-29 23:45 J	-7149739.72	-7149739.51	-7149739.29	0.0089	0.0018
Uranus	-24288-07-05 19:11 J	-7149582.91	-7149582.70	-7149582.48	0.0134	0.0010
Neptune	-24288-09-12 11:59 J	-7149514.21	-7149514.00	-7149513.78	0.0089	0.0017
Uranus	-24287-02-17 00:57 J	-7149356.68	-7149356.46	-7149356.24	0.0134	0.0013
Jupiter	-24287-03-14 21:50 J	-7149330.68	-7149330.59	-7149330.50	0.0534	0.0472
Neptune	-24287-04-26 00:28 J	-7149288.69	-7149288.48	-7149288.26	0.0089	0.0016
Mars	-24287-07-24 13:26 J	-7149199.02	-7149198.94	-7149198.86	0.1828	0.1608
Uranus	-24287-10-01 06:28 J	-7149130.44	-7149130.23	-7149130.02	0.0134	0.0036
Jupiter	-24287-11-07 09:35 J	-7149093.30	-7149093.10	-7149092.90	0.0530	0.0012
Neptune	-24287-12-07 12:43 J	-7149063.17	-7149062.97	-7149062.75	0.0089	0.0015
Uranus	-24286-05-15 11:59 J	-7148904.19	-7148904.00	-7148903.80	0.0134	0.0059
Jupiter	-24286-07-02 12:14 J	-7148856.10	-7148855.99	-7148855.87	0.0523	0.0426
Neptune	-24286-07-21 00:57 J	-7148837.66	-7148837.46	-7148837.24	0.0089	0.0014
Uranus	-24286-12-27 17:31 J	-7148677.92	-7148677.77	-7148677.58	0.0135	0.0083
Neptune	-24285-03-02 13:26 J	-7148612.15	-7148611.94	-7148611.72	0.0089	0.0013
Uranus	-24285-08-09 23:31 J	-7148451.65	-7148451.52	-7148451.38	0.0135	0.0105
Neptune	-24285-10-14 01:40 J	-7148386.64	-7148386.43	-7148386.21	0.0089	0.0012
Uranus	-24284-03-24 05:16 J	-7148225.34	-7148225.28	-7148225.21	0.0135	0.0128
Neptune	-24284-05-27 14:23 J	-7148161.11	-7148160.90	-7148160.68	0.0089	0.0010
Saturn	-24284-10-15 03:35 J	-7148020.49	-7148020.35	-7148020.19	0.0295	0.0207
Neptune	-24283-01-08 02:38 J	-7147935.60	-7147935.39	-7147935.17	0.0089	0.0009
Saturn	-24283-06-02 04:47 J	-7147790.50	-7147790.30	-7147790.08	0.0293	0.0044
Neptune	-24283-08-21 15:07 J	-7147710.09	-7147709.87	-7147709.66	0.0089	0.0008
Saturn	-24282-01-18 03:50 J	-7147560.53	-7147560.34	-7147560.14	0.0292	0.0117
Neptune	-24282-04-04 03:21 J	-7147484.57	-7147484.36	-7147484.14	0.0089	0.0007
Saturn	-24282-09-04 23:59 J	-7147330.56	-7147330.50	-7147330.41	0.0290	0.0269
Neptune	-24282-11-15 15:50 J	-7147259.06	-7147258.84	-7147258.63	0.0089	0.0006

Neptune -24281-06-28 04:04 J -7147033.54 -7147033.33 -7147033.11 0.0089 0.0005
 Jupiter -24281-09-03 13:40 J -7146966.11 -7146965.93 -7146965.74 0.0494 0.0213
 Neptune -24280-02-08 16:33 J -7146808.03 -7146807.81 -7146807.60 0.0089 0.0004
 Jupiter -24280-04-28 06:57 J -7146729.41 -7146729.21 -7146729.02 0.0499 0.0178
 Neptune -24280-09-22 04:47 J -7146582.51 -7146582.30 -7146582.08 0.0089 0.0002
 Neptune -24279-05-05 17:16 J -7146357.00 -7146356.78 -7146356.56 0.0089 0.0001
 Neptune -24279-12-17 05:45 J -7146131.48 -7146131.26 -7146131.05 0.0089 0.0002
 Neptune -24278-07-30 17:59 J -7145905.97 -7145905.75 -7145905.53 0.0089 0.0001
 Neptune -24277-03-12 06:14 J -7145680.45 -7145680.24 -7145680.02 0.0089 0.0002
 Neptune -24277-10-23 18:43 J -7145454.94 -7145454.72 -7145454.50 0.0089 0.0003
 Neptune -24276-06-06 07:11 J -7145229.41 -7145229.20 -7145228.98 0.0089 0.0005
 Neptune -24275-01-17 19:40 J -7145003.90 -7145003.68 -7145003.46 0.0089 0.0006
 Jupiter -24275-07-13 02:52 J -7144827.57 -7144827.38 -7144827.18 0.0532 0.0141
 Neptune -24275-08-31 08:09 J -7144778.38 -7144778.16 -7144777.95 0.0089 0.0007
 Jupiter -24274-03-07 08:38 J -7144590.29 -7144590.14 -7144589.97 0.0525 0.0311
 Neptune -24274-04-13 20:23 J -7144552.86 -7144552.65 -7144552.43 0.0089 0.0008
 Neptune -24274-11-25 08:52 J -7144327.34 -7144327.13 -7144326.91 0.0089 0.0009
 Neptune -24273-07-07 21:21 J -7144101.82 -7144101.61 -7144101.38 0.0089 0.0011
 Neptune -24272-02-18 10:04 J -7143876.29 -7143876.08 -7143875.86 0.0088 0.0011
 Neptune -24272-10-01 22:33 J -7143650.77 -7143650.56 -7143650.34 0.0088 0.0013
 Neptune -24271-05-15 11:16 J -7143425.25 -7143425.03 -7143424.82 0.0088 0.0014
 Neptune -24271-12-26 23:45 J -7143199.72 -7143199.51 -7143199.29 0.0088 0.0015
 Neptune -24270-08-09 12:14 J -7142974.20 -7142973.99 -7142973.77 0.0088 0.0016
 Neptune -24269-03-22 00:43 J -7142748.68 -7142748.47 -7142748.25 0.0088 0.0017
 Jupiter -24269-05-09 12:43 J -7142700.13 -7142699.97 -7142699.81 0.0493 0.0317
 Neptune -24269-11-02 13:26 J -7142523.15 -7142522.94 -7142522.73 0.0088 0.0018
 Saturn -24269-11-05 09:50 J -7142520.18 -7142520.09 -7142519.98 0.0266 0.0230
 Jupiter -24268-01-01 03:07 J -7142463.57 -7142463.37 -7142463.16 0.0498 0.0067
 Neptune -24268-06-16 02:09 J -7142297.62 -7142297.41 -7142297.20 0.0088 0.0019
 Saturn -24268-06-22 09:50 J -7142291.28 -7142291.09 -7142290.90 0.0267 0.0114

Jupiter -24268-08-26 01:55 J -7142226.50 -7142226.42 -7142226.34 0.0504 0.0462
 Neptune -24267-01-27 14:23 J -7142072.10 -7142071.90 -7142071.67 0.0088 0.0021
 Saturn -24267-02-06 11:02 J -7142062.25 -7142062.04 -7142061.83 0.0268 0.0007
 Neptune -24267-09-10 02:52 J -7141846.58 -7141846.38 -7141846.15 0.0088 0.0022
 Saturn -24267-09-23 13:40 J -7141833.11 -7141832.93 -7141832.74 0.0270 0.0130
 Neptune -24266-04-23 15:35 J -7141621.05 -7141620.85 -7141620.63 0.0088 0.0022
 Saturn -24266-05-10 18:14 J -7141603.80 -7141603.74 -7141603.66 0.0271 0.0256
 Neptune -24266-12-05 04:04 J -7141395.53 -7141395.33 -7141395.11 0.0088 0.0023
 Neptune -24265-07-17 16:47 J -7141170.00 -7141169.80 -7141169.58 0.0088 0.0024
 Neptune -24264-02-28 05:31 J -7140944.47 -7140944.27 -7140944.05 0.0088 0.0025
 Neptune -24264-10-11 17:59 J -7140718.95 -7140718.75 -7140718.53 0.0088 0.0026
 Jupiter -24263-03-17 20:52 J -7140561.80 -7140561.63 -7140561.45 0.0533 0.0268
 Neptune -24263-05-25 06:57 J -7140493.42 -7140493.21 -7140493.00 0.0088 0.0027
 Jupiter -24263-11-10 05:16 J -7140324.47 -7140324.28 -7140324.09 0.0527 0.0191
 Neptune -24262-01-05 19:40 J -7140267.89 -7140267.68 -7140267.47 0.0088 0.0028
 Neptune -24262-08-19 08:23 J -7140042.36 -7140042.15 -7140041.94 0.0088 0.0029
 Neptune -24261-03-31 21:07 J -7139816.83 -7139816.62 -7139816.41 0.0088 0.0030
 Neptune -24261-11-12 09:50 J -7139591.29 -7139591.09 -7139590.88 0.0088 0.0030
 Neptune -24260-06-25 22:33 J -7139365.75 -7139365.56 -7139365.34 0.0088 0.0032
 Neptune -24259-02-06 11:31 J -7139140.22 -7139140.02 -7139139.81 0.0088 0.0032
 Neptune -24259-09-20 00:14 J -7138914.69 -7138914.49 -7138914.28 0.0088 0.0033
 Neptune -24258-05-03 12:57 J -7138689.15 -7138688.96 -7138688.75 0.0088 0.0034
 Mars -24258-10-13 09:21 J -7138526.25 -7138526.11 -7138525.97 0.1687 0.0892
 Pluto -24258-11-02 08:52 J -7138506.28 -7138506.13 -7138505.94 0.0064 0.0039
 Neptune -24258-12-15 01:55 J -7138463.62 -7138463.42 -7138463.21 0.0088 0.0035
 Jupiter -24257-01-13 12:28 J -7138434.08 -7138433.98 -7138433.86 0.0492 0.0415
 Pluto -24257-06-14 12:57 J -7138281.17 -7138280.96 -7138280.74 0.0065 0.0002
 Neptune -24257-07-27 14:52 J -7138238.07 -7138237.88 -7138237.67 0.0088 0.0035
 Jupiter -24257-09-06 01:26 J -7138197.65 -7138197.44 -7138197.23 0.0496 0.0043
 Pluto -24256-01-25 16:19 J -7138055.98 -7138055.82 -7138055.62 0.0065 0.0036

Neptune -24256-03-10 03:35 J -7138012.54 -7138012.35 -7138012.14 0.0088 0.0037
 Jupiter -24256-04-30 21:50 J -7137960.73 -7137960.59 -7137960.44 0.0502 0.0354
 Mars -24256-08-12 06:57 J -7137857.32 -7137857.21 -7137857.09 0.1671 0.1217
 Neptune -24256-10-21 16:19 J -7137787.00 -7137786.82 -7137786.60 0.0088 0.0038
 Neptune -24255-06-04 05:31 J -7137561.47 -7137561.27 -7137561.07 0.0088 0.0038
 Neptune -24254-01-15 18:14 J -7137335.93 -7137335.74 -7137335.53 0.0088 0.0039
 Saturn -24254-04-27 10:33 J -7137234.23 -7137234.06 -7137233.90 0.0294 0.0183
 Neptune -24254-08-29 06:57 J -7137110.39 -7137110.21 -7137109.99 0.0088 0.0040
 Saturn -24254-12-13 11:16 J -7137004.24 -7137004.03 -7137003.82 0.0293 0.0021
 Neptune -24253-04-10 19:55 J -7136884.85 -7136884.67 -7136884.46 0.0088 0.0040
 Mars -24253-05-20 20:52 J -7136844.81 -7136844.63 -7136844.46 0.1841 0.0357
 Saturn -24253-07-30 09:35 J -7136774.28 -7136774.10 -7136773.91 0.0291 0.0138
 Neptune -24253-11-22 08:52 J -7136659.31 -7136659.13 -7136658.92 0.0088 0.0041
 Saturn -24252-03-17 05:31 J -7136544.27 -7136544.27 -7136544.25 0.0289 0.0288
 Neptune -24252-07-05 21:50 J -7136433.77 -7136433.59 -7136433.38 0.0088 0.0041
 Jupiter -24252-11-20 14:38 J -7136296.03 -7136295.89 -7136295.76 0.0534 0.0392
 Neptune -24251-02-16 11:02 J -7136208.23 -7136208.04 -7136207.84 0.0088 0.0042
 Jupiter -24251-07-16 00:57 J -7136058.66 -7136058.46 -7136058.26 0.0529 0.0069
 Neptune -24251-09-29 23:45 J -7135982.69 -7135982.51 -7135982.30 0.0088 0.0042
 Jupiter -24250-03-10 02:09 J -7135821.47 -7135821.41 -7135821.35 0.0522 0.0495
 Uranus -24250-04-26 13:26 J -7135774.04 -7135773.94 -7135773.82 0.0146 0.0124
 Neptune -24250-05-13 12:28 J -7135757.15 -7135756.98 -7135756.76 0.0088 0.0044
 Uranus -24250-12-09 01:40 J -7135547.59 -7135547.43 -7135547.26 0.0145 0.0095
 Neptune -24250-12-25 01:40 J -7135531.61 -7135531.43 -7135531.22 0.0088 0.0044
 Earth -24249-04-29 01:26 J -7135405.57 -7135405.44 -7135405.30 0.2713 0.1263
 Moon -24249-04-29 04:47 J -7135405.43 -7135405.30 -7135405.16 0.2707 0.1555 *
 Uranus -24249-07-22 13:40 J -7135321.11 -7135320.93 -7135320.72 0.0145 0.0066
 Neptune -24249-08-06 14:52 J -7135306.06 -7135305.88 -7135305.67 0.0088 0.0044
 Uranus -24248-03-06 02:09 J -7135094.62 -7135094.41 -7135094.20 0.0145 0.0036
 Neptune -24248-03-20 04:04 J -7135080.51 -7135080.33 -7135080.13 0.0088 0.0044

Uranus	-24248-10-18 14:09 J	-7134868.12	-7134867.91	-7134867.69	0.0145	0.0008
Neptune	-24248-10-31 17:02 J	-7134854.97	-7134854.79	-7134854.58	0.0088	0.0045
Uranus	-24247-06-02 02:09 J	-7134641.62	-7134641.41	-7134641.19	0.0145	0.0022
Neptune	-24247-06-14 06:14 J	-7134629.42	-7134629.24	-7134629.04	0.0088	0.0045
Uranus	-24246-01-14 14:09 J	-7134415.11	-7134414.91	-7134414.70	0.0144	0.0051
Neptune	-24246-01-25 19:40 J	-7134403.87	-7134403.68	-7134403.49	0.0088	0.0046
Uranus	-24246-08-29 01:55 J	-7134188.59	-7134188.42	-7134188.22	0.0144	0.0080
Neptune	-24246-09-08 08:23 J	-7134178.32	-7134178.15	-7134177.94	0.0088	0.0047
Uranus	-24245-04-11 13:55 J	-7133962.05	-7133961.92	-7133961.77	0.0144	0.0108
Neptune	-24245-04-20 21:50 J	-7133952.77	-7133952.59	-7133952.39	0.0088	0.0046
Jupiter	-24245-05-11 23:02 J	-7133931.74	-7133931.54	-7133931.34	0.0495	0.0150
Uranus	-24245-11-24 01:55 J	-7133735.49	-7133735.42	-7133735.35	0.0143	0.0136
Neptune	-24245-12-02 10:47 J	-7133727.22	-7133727.05	-7133726.84	0.0088	0.0047
Jupiter	-24244-01-03 17:31 J	-7133694.95	-7133694.77	-7133694.59	0.0501	0.0244
Neptune	-24244-07-16 00:14 J	-7133501.67	-7133501.49	-7133501.29	0.0088	0.0047
Neptune	-24243-02-26 13:26 J	-7133276.11	-7133275.94	-7133275.74	0.0088	0.0047
Neptune	-24243-10-10 02:52 J	-7133050.56	-7133050.38	-7133050.19	0.0088	0.0047
Neptune	-24242-05-23 15:35 J	-7132825.02	-7132824.85	-7132824.64	0.0088	0.0048
Neptune	-24241-01-04 04:47 J	-7132599.46	-7132599.30	-7132599.09	0.0088	0.0049
Earth	-24241-04-26 15:50 J	-7132485.90	-7132485.84	-7132485.77	0.2713	0.2439
Neptune	-24241-08-16 18:28 J	-7132373.91	-7132373.73	-7132373.53	0.0088	0.0048
Neptune	-24240-03-30 07:40 J	-7132148.35	-7132148.18	-7132147.98	0.0088	0.0048
Jupiter	-24240-07-26 06:14 J	-7132030.28	-7132030.24	-7132030.19	0.0535	0.0517
Neptune	-24240-11-10 21:07 J	-7131922.80	-7131922.62	-7131922.43	0.0088	0.0048
Jupiter	-24239-03-20 19:11 J	-7131792.90	-7131792.70	-7131792.51	0.0530	0.0060
Saturn	-24239-05-18 14:09 J	-7131734.03	-7131733.91	-7131733.78	0.0266	0.0212
Neptune	-24239-06-24 10:19 J	-7131697.25	-7131697.07	-7131696.88	0.0088	0.0048
Jupiter	-24239-11-12 22:33 J	-7131555.69	-7131555.56	-7131555.42	0.0524	0.0383
Saturn	-24238-01-02 14:09 J	-7131505.10	-7131504.91	-7131504.71	0.0267	0.0095
Neptune	-24238-02-04 23:45 J	-7131471.70	-7131471.51	-7131471.32	0.0088	0.0048

Saturn -24238-08-19 15:50 J -7131276.05 -7131275.84 -7131275.63 0.0268 0.0026
 Neptune -24238-09-18 13:11 J -7131246.14 -7131245.95 -7131245.76 0.0088 0.0049
 Saturn -24237-04-04 18:57 J -7131046.88 -7131046.71 -7131046.53 0.0270 0.0150
 Neptune -24237-05-01 01:55 J -7131020.58 -7131020.42 -7131020.21 0.0088 0.0050
 Neptune -24237-12-12 15:21 J -7130795.02 -7130794.86 -7130794.65 0.0088 0.0049
 Neptune -24236-07-26 05:16 J -7130569.46 -7130569.28 -7130569.09 0.0088 0.0048
 Neptune -24235-03-08 18:43 J -7130343.90 -7130343.72 -7130343.53 0.0088 0.0048
 Neptune -24235-10-20 08:09 J -7130118.34 -7130118.16 -7130117.97 0.0088 0.0048
 Neptune -24234-06-02 21:21 J -7129892.78 -7129892.61 -7129892.41 0.0088 0.0048
 Neptune -24233-01-14 10:47 J -7129667.22 -7129667.05 -7129666.85 0.0088 0.0048
 Jupiter -24233-01-15 22:19 J -7129665.74 -7129665.57 -7129665.39 0.0494 0.0252
 Neptune -24233-08-27 00:28 J -7129441.65 -7129441.48 -7129441.28 0.0088 0.0048
 Jupiter -24233-09-08 14:52 J -7129429.08 -7129428.88 -7129428.68 0.0499 0.0136
 Neptune -24232-04-09 13:55 J -7129216.09 -7129215.92 -7129215.71 0.0088 0.0048
 Neptune -24232-11-21 03:50 J -7128990.53 -7128990.34 -7128990.15 0.0088 0.0047
 Neptune -24231-07-04 17:02 J -7128764.97 -7128764.79 -7128764.59 0.0088 0.0048
 Neptune -24230-02-15 06:28 J -7128539.40 -7128539.23 -7128539.02 0.0088 0.0047
 Neptune -24230-09-28 20:09 J -7128313.83 -7128313.66 -7128313.45 0.0088 0.0047
 Neptune -24229-05-11 09:50 J -7128088.27 -7128088.09 -7128087.89 0.0088 0.0047
 Neptune -24229-12-22 23:16 J -7127862.71 -7127862.53 -7127862.33 0.0088 0.0046
 Neptune -24228-08-05 12:43 J -7127637.14 -7127636.97 -7127636.76 0.0088 0.0046
 Jupiter -24228-11-23 09:35 J -7127527.28 -7127527.10 -7127526.91 0.0532 0.0191
 Neptune -24227-03-19 02:23 J -7127411.58 -7127411.40 -7127411.19 0.0088 0.0046
 Jupiter -24227-07-18 16:19 J -7127289.99 -7127289.82 -7127289.65 0.0526 0.0264
 Neptune -24227-10-30 15:50 J -7127186.01 -7127185.84 -7127185.63 0.0088 0.0045
 Neptune -24226-06-13 05:45 J -7126960.45 -7126960.26 -7126960.06 0.0088 0.0044
 Neptune -24225-01-24 18:57 J -7126734.89 -7126734.71 -7126734.50 0.0088 0.0044
 Neptune -24225-09-06 09:07 J -7126509.32 -7126509.12 -7126508.92 0.0088 0.0043
 Saturn -24225-11-06 22:47 J -7126447.72 -7126447.55 -7126447.36 0.0294 0.0151
 Neptune -24224-04-19 22:19 J -7126283.75 -7126283.57 -7126283.36 0.0088 0.0044

Saturn -24224-06-24 23:31 J -7126217.73 -7126217.52 -7126217.31 0.0293 0.0013
 Mars -24224-08-11 01:40 J -7126170.60 -7126170.43 -7126170.26 0.1678 0.0233
 Neptune -24224-12-01 12:14 J -7126058.18 -7126057.99 -7126057.79 0.0088 0.0043
 Saturn -24223-02-09 21:35 J -7125987.76 -7125987.60 -7125987.42 0.0291 0.0170
 Neptune -24223-07-15 01:40 J -7125832.61 -7125832.43 -7125832.22 0.0088 0.0042
 Neptune -24222-02-25 15:35 J -7125607.05 -7125606.85 -7125606.65 0.0088 0.0041
 Jupiter -24222-09-20 23:02 J -7125399.68 -7125399.54 -7125399.40 0.0493 0.0353
 Neptune -24222-10-09 05:02 J -7125381.47 -7125381.29 -7125381.07 0.0088 0.0041
 Jupiter -24221-05-14 12:57 J -7125163.17 -7125162.96 -7125162.75 0.0497 0.0027
 Mars -24221-05-20 17:31 J -7125156.89 -7125156.77 -7125156.65 0.1831 0.1345
 Neptune -24221-05-21 18:57 J -7125155.90 -7125155.71 -7125155.50 0.0088 0.0040
 Neptune -24220-01-02 08:52 J -7124930.33 -7124930.13 -7124929.93 0.0088 0.0039
 Jupiter -24220-01-06 10:33 J -7124926.17 -7124926.06 -7124925.95 0.0503 0.0422
 Neptune -24220-08-15 22:19 J -7124704.76 -7124704.57 -7124704.36 0.0088 0.0039
 Neptune -24219-03-29 11:59 J -7124479.19 -7124479.00 -7124478.78 0.0088 0.0038
 Neptune -24219-11-10 01:55 J -7124253.61 -7124253.42 -7124253.21 0.0088 0.0037
 Neptune -24218-06-23 15:50 J -7124028.05 -7124027.84 -7124027.64 0.0088 0.0037
 Neptune -24217-02-04 05:02 J -7123802.48 -7123802.29 -7123802.07 0.0088 0.0037
 Neptune -24217-09-16 18:57 J -7123576.90 -7123576.71 -7123576.49 0.0088 0.0036
 Neptune -24216-04-30 08:52 J -7123351.33 -7123351.13 -7123350.92 0.0088 0.0034
 Jupiter -24216-07-29 01:55 J -7123261.58 -7123261.42 -7123261.26 0.0534 0.0320
 Neptune -24216-12-11 22:33 J -7123125.76 -7123125.56 -7123125.34 0.0088 0.0034
 Jupiter -24215-03-23 11:31 J -7123024.21 -7123024.02 -7123023.83 0.0528 0.0141
 Neptune -24215-07-25 12:28 J -7122900.19 -7122899.98 -7122899.78 0.0088 0.0033
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 Jupiter -24210-05-26 22:33 J -7121133.63 -7121133.56 -7121133.47 0.0492 0.0451
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 Saturn -24210-11-28 20:38 J -7120947.78 -7120947.64 -7120947.48 0.0266 0.0190
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 Jupiter -24192-08-01 01:40 J -7114492.62 -7114492.43 -7114492.23 0.0531 0.0110

Mars -24192-08-09 20:38 J -7114483.79 -7114483.64 -7114483.49 0.1685 0.0778
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 Moon -24152-10-29 12:43 J -7099793.10 -7099792.97 -7099792.84 0.2614 0.1633 *
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 Neptune -24151-10-15 06:28 J -7099442.41 -7099442.23 -7099442.04 0.0089 0.0044
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Saturn -24149-03-23 09:07 J -7098917.32 -7098917.12 -7098916.92 0.0269 0.0090
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 Neptune -24148-11-15 20:52 J -7098314.80 -7098314.63 -7098314.43 0.0089 0.0044
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 Neptune -24146-02-09 22:04 J -7097863.76 -7097863.58 -7097863.39 0.0089 0.0042
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 Neptune -24145-12-17 11:16 J -7097187.21 -7097187.03 -7097186.82 0.0089 0.0042
 Neptune -24144-07-30 23:45 J -7096961.69 -7096961.51 -7096961.30 0.0089 0.0041
 Jupiter -24144-08-06 13:55 J -7096955.08 -7096954.92 -7096954.75 0.0526 0.0291
 Moon -24144-10-27 00:14 J -7096873.61 -7096873.49 -7096873.37 0.2615 0.1797
 Earth -24144-10-27 03:21 J -7096873.49 -7096873.36 -7096873.22 0.2620 0.1434 *
 Neptune -24143-03-13 12:28 J -7096736.16 -7096735.98 -7096735.78 0.0089 0.0041
 Neptune -24143-10-25 00:43 J -7096510.65 -7096510.47 -7096510.26 0.0089 0.0040
 Neptune -24142-06-07 13:26 J -7096285.13 -7096284.94 -7096284.74 0.0089 0.0039
 Neptune -24141-01-19 01:26 J -7096059.62 -7096059.44 -7096059.23 0.0089 0.0040
 Neptune -24141-08-31 14:09 J -7095834.10 -7095833.91 -7095833.71 0.0089 0.0038
 Neptune -24140-04-14 02:23 J -7095608.58 -7095608.40 -7095608.19 0.0089 0.0038
 Neptune -24140-11-25 14:52 J -7095383.06 -7095382.88 -7095382.67 0.0089 0.0037
 Neptune -24139-07-09 03:21 J -7095157.55 -7095157.36 -7095157.16 0.0089 0.0037
 Jupiter -24139-10-09 19:26 J -7095064.85 -7095064.69 -7095064.54 0.0493 0.0328
 Neptune -24138-02-19 15:21 J -7094932.04 -7094931.86 -7094931.65 0.0089 0.0037
 Jupiter -24138-06-03 08:52 J -7094828.33 -7094828.13 -7094827.92 0.0497 0.0052
 Neptune -24138-10-03 03:50 J -7094706.53 -7094706.34 -7094706.13 0.0089 0.0036
 Jupiter -24137-01-26 06:28 J -7094591.32 -7094591.23 -7094591.13 0.0503 0.0445
 Neptune -24137-05-15 16:04 J -7094481.01 -7094480.83 -7094480.62 0.0089 0.0035
 Saturn -24137-10-24 22:04 J -7094318.70 -7094318.58 -7094318.45 0.0295 0.0236

Neptune -24137-12-27 04:33 J -7094255.50 -7094255.31 -7094255.10 0.0089 0.0034
 Saturn -24136-06-11 23:45 J -7094088.71 -7094088.51 -7094088.30 0.0293 0.0073
 Neptune -24136-08-09 16:47 J -7094029.99 -7094029.80 -7094029.59 0.0089 0.0034
 Saturn -24135-01-27 23:31 J -7093858.72 -7093858.52 -7093858.32 0.0292 0.0089
 Neptune -24135-03-23 05:31 J -7093804.47 -7093804.27 -7093804.07 0.0089 0.0033
 Saturn -24135-09-14 20:23 J -7093628.75 -7093628.65 -7093628.53 0.0290 0.0243
 Neptune -24135-11-03 17:31 J -7093578.96 -7093578.77 -7093578.56 0.0089 0.0032
 Neptune -24134-06-17 05:45 J -7093353.45 -7093353.26 -7093353.05 0.0089 0.0031
 Neptune -24133-01-28 18:14 J -7093127.94 -7093127.74 -7093127.53 0.0089 0.0030
 Jupiter -24133-08-17 01:26 J -7092926.61 -7092926.44 -7092926.27 0.0534 0.0288
 Neptune -24133-09-10 06:43 J -7092902.43 -7092902.22 -7092902.02 0.0089 0.0030
 Jupiter -24132-04-11 10:47 J -7092689.24 -7092689.05 -7092688.86 0.0528 0.0172
 Neptune -24132-04-23 18:57 J -7092676.90 -7092676.71 -7092676.50 0.0089 0.0029
 Neptune -24132-12-05 07:11 J -7092451.39 -7092451.20 -7092450.98 0.0089 0.0028
 Neptune -24131-07-18 19:40 J -7092225.88 -7092225.68 -7092225.47 0.0089 0.0027
 Neptune -24130-03-01 07:55 J -7092000.37 -7092000.17 -7091999.95 0.0089 0.0026
 Neptune -24130-10-12 20:23 J -7091774.85 -7091774.65 -7091774.44 0.0089 0.0025
 Neptune -24129-05-25 08:52 J -7091549.34 -7091549.13 -7091548.92 0.0089 0.0024
 Neptune -24128-01-05 20:52 J -7091323.82 -7091323.63 -7091323.41 0.0089 0.0024
 Neptune -24128-08-19 09:21 J -7091098.31 -7091098.11 -7091097.90 0.0089 0.0023
 Neptune -24127-04-01 21:35 J -7090872.80 -7090872.60 -7090872.38 0.0089 0.0022
 Jupiter -24127-06-14 18:28 J -7090798.82 -7090798.73 -7090798.62 0.0492 0.0426
 Neptune -24127-11-13 09:50 J -7090647.29 -7090647.09 -7090646.87 0.0089 0.0021
 Jupiter -24126-02-06 06:28 J -7090562.44 -7090562.23 -7090562.02 0.0496 0.0057
 Mars -24126-06-07 08:23 J -7090441.30 -7090441.15 -7090440.99 0.1683 0.0667
 Neptune -24126-06-26 22:19 J -7090421.78 -7090421.57 -7090421.36 0.0089 0.0020
 Jupiter -24126-10-01 02:09 J -7090325.56 -7090325.41 -7090325.25 0.0502 0.0338
 Neptune -24125-02-07 10:33 J -7090196.27 -7090196.06 -7090195.85 0.0089 0.0019
 Neptune -24125-09-19 22:47 J -7089970.76 -7089970.55 -7089970.34 0.0089 0.0018
 Mars -24124-04-06 06:57 J -7089772.29 -7089772.21 -7089772.12 0.1667 0.1408

Neptune	-24124-05-03 11:16 J	-7089745.24	-7089745.03	-7089744.82	0.0089	0.0017
Neptune	-24124-12-14 23:31 J	-7089519.73	-7089519.52	-7089519.31	0.0089	0.0016
Uranus	-24123-05-12 16:33 J	-7089370.89	-7089370.81	-7089370.71	0.0133	0.0120
Neptune	-24123-07-28 11:31 J	-7089294.22	-7089294.02	-7089293.80	0.0089	0.0016
Uranus	-24123-12-24 21:50 J	-7089144.72	-7089144.59	-7089144.42	0.0133	0.0098
Neptune	-24122-03-10 23:45 J	-7089068.71	-7089068.51	-7089068.28	0.0089	0.0015
Uranus	-24122-08-08 03:35 J	-7088918.52	-7088918.35	-7088918.16	0.0133	0.0075
Neptune	-24122-10-22 12:14 J	-7088843.20	-7088842.99	-7088842.77	0.0089	0.0014
Saturn	-24122-11-16 09:07 J	-7088818.18	-7088818.12	-7088818.04	0.0266	0.0250
Mars	-24121-01-13 03:07 J	-7088760.53	-7088760.37	-7088760.22	0.1847	0.0926
Uranus	-24121-03-21 09:07 J	-7088692.32	-7088692.12	-7088691.91	0.0133	0.0052
Jupiter	-24121-04-21 17:59 J	-7088660.87	-7088660.75	-7088660.62	0.0535	0.0413
Neptune	-24121-06-04 00:43 J	-7088617.68	-7088617.47	-7088617.25	0.0089	0.0012
Saturn	-24121-07-02 08:38 J	-7088589.32	-7088589.14	-7088588.95	0.0267	0.0135
Uranus	-24121-11-02 14:38 J	-7088466.10	-7088465.89	-7088465.68	0.0133	0.0030
Jupiter	-24121-12-15 05:31 J	-7088423.46	-7088423.27	-7088423.07	0.0530	0.0050
Neptune	-24120-01-15 12:57 J	-7088392.17	-7088391.96	-7088391.74	0.0089	0.0012
Saturn	-24120-02-16 09:21 J	-7088360.32	-7088360.11	-7088359.90	0.0268	0.0016
Uranus	-24120-06-16 20:09 J	-7088239.88	-7088239.66	-7088239.44	0.0134	0.0007
Jupiter	-24120-08-09 07:55 J	-7088186.24	-7088186.17	-7088186.08	0.0523	0.0478
Neptune	-24120-08-29 01:26 J	-7088166.65	-7088166.44	-7088166.22	0.0089	0.0010
Saturn	-24120-10-03 11:45 J	-7088131.20	-7088131.01	-7088130.82	0.0269	0.0107
Uranus	-24119-01-29 01:40 J	-7088013.64	-7088013.43	-7088013.21	0.0134	0.0017
Neptune	-24119-04-11 13:40 J	-7087941.14	-7087940.93	-7087940.71	0.0089	0.0010
Saturn	-24119-05-20 15:35 J	-7087901.94	-7087901.85	-7087901.73	0.0271	0.0233
Uranus	-24119-09-12 06:57 J	-7087787.40	-7087787.21	-7087786.99	0.0134	0.0040
Neptune	-24119-11-23 02:09 J	-7087715.62	-7087715.41	-7087715.19	0.0089	0.0008
Uranus	-24118-04-26 12:43 J	-7087561.16	-7087560.97	-7087560.77	0.0134	0.0063
Neptune	-24118-07-06 14:38 J	-7087490.11	-7087489.89	-7087489.67	0.0089	0.0007
Uranus	-24118-12-08 18:14 J	-7087334.90	-7087334.74	-7087334.57	0.0135	0.0086

Neptune -24117-02-17 02:52 J -7087264.59 -7087264.38 -7087264.16 0.0089 0.0007
 Uranus -24117-07-21 23:59 J -7087108.62 -7087108.50 -7087108.37 0.0135 0.0109
 Neptune -24117-09-29 15:21 J -7087039.08 -7087038.86 -7087038.64 0.0089 0.0005
 Uranus -24116-03-05 05:45 J -7086882.29 -7086882.26 -7086882.21 0.0135 0.0132
 Neptune -24116-05-13 03:50 J -7086813.55 -7086813.34 -7086813.12 0.0089 0.0004
 Neptune -24116-12-24 16:19 J -7086588.04 -7086587.82 -7086587.61 0.0089 0.0004
 Neptune -24115-08-07 04:33 J -7086362.53 -7086362.31 -7086362.09 0.0089 0.0002
 Jupiter -24115-10-12 06:14 J -7086296.44 -7086296.24 -7086296.04 0.0495 0.0161
 Neptune -24114-03-20 16:47 J -7086137.01 -7086136.80 -7086136.58 0.0089 0.0001
 Jupiter -24114-06-05 23:45 J -7086059.70 -7086059.51 -7086059.33 0.0500 0.0230
 Neptune -24114-11-01 05:16 J -7085911.50 -7085911.28 -7085911.07 0.0089 0.0001
 Neptune -24113-06-13 17:45 J -7085685.98 -7085685.76 -7085685.54 0.0089 0.0001
 Neptune -24112-01-25 05:59 J -7085460.46 -7085460.25 -7085460.03 0.0089 0.0002
 Neptune -24112-09-07 18:28 J -7085234.95 -7085234.73 -7085234.52 0.0089 0.0003
 Neptune -24111-04-21 06:43 J -7085009.43 -7085009.22 -7085009.00 0.0089 0.0004
 Neptune -24111-12-02 19:11 J -7084783.92 -7084783.70 -7084783.48 0.0089 0.0005
 Neptune -24110-07-16 07:40 J -7084558.40 -7084558.18 -7084557.97 0.0089 0.0006
 Neptune -24109-02-26 19:55 J -7084332.88 -7084332.67 -7084332.45 0.0089 0.0007
 Jupiter -24109-08-19 20:38 J -7084157.84 -7084157.64 -7084157.44 0.0531 0.0084
 Neptune -24109-10-09 08:23 J -7084107.37 -7084107.15 -7084106.93 0.0089 0.0008
 Jupiter -24108-04-14 01:55 J -7083920.56 -7083920.42 -7083920.27 0.0525 0.0362
 Neptune -24108-05-22 21:07 J -7083881.84 -7083881.62 -7083881.41 0.0089 0.0009
 Neptune -24107-01-03 09:35 J -7083656.32 -7083656.10 -7083655.89 0.0088 0.0010
 Saturn -24107-05-07 07:55 J -7083532.32 -7083532.17 -7083532.01 0.0295 0.0206
 Neptune -24107-08-16 22:04 J -7083430.80 -7083430.58 -7083430.37 0.0088 0.0011
 Saturn -24107-12-23 09:50 J -7083302.30 -7083302.09 -7083301.88 0.0294 0.0041
 Neptune -24106-03-30 10:33 J -7083205.28 -7083205.06 -7083204.85 0.0088 0.0012
 Saturn -24106-08-10 09:07 J -7083072.31 -7083072.12 -7083071.92 0.0292 0.0120
 Neptune -24106-11-10 23:02 J -7082979.76 -7082979.54 -7082979.33 0.0088 0.0013
 Saturn -24105-03-27 05:59 J -7082842.31 -7082842.25 -7082842.17 0.0290 0.0273

Neptune	-24105-06-23 11:45 J	-7082754.23	-7082754.01	-7082753.80	0.0088	0.0014
Neptune	-24104-02-04 00:14 J	-7082528.70	-7082528.49	-7082528.27	0.0088	0.0015
Neptune	-24104-09-17 12:43 J	-7082303.18	-7082302.97	-7082302.75	0.0088	0.0016
Neptune	-24103-05-01 01:11 J	-7082077.66	-7082077.45	-7082077.23	0.0088	0.0017
Jupiter	-24103-06-17 06:43 J	-7082030.39	-7082030.22	-7082030.04	0.0493	0.0263
Neptune	-24103-12-12 13:55 J	-7081852.13	-7081851.92	-7081851.71	0.0088	0.0018
Jupiter	-24102-02-08 21:50 J	-7081793.79	-7081793.59	-7081793.39	0.0498	0.0121
Neptune	-24102-07-26 02:23 J	-7081626.61	-7081626.40	-7081626.18	0.0088	0.0019
Neptune	-24101-03-07 14:52 J	-7081401.08	-7081400.88	-7081400.66	0.0088	0.0020
Neptune	-24101-10-19 03:35 J	-7081175.56	-7081175.35	-7081175.13	0.0088	0.0020
Neptune	-24100-06-01 16:04 J	-7080950.03	-7080949.83	-7080949.60	0.0088	0.0022
Neptune	-24099-01-13 04:47 J	-7080724.50	-7080724.30	-7080724.08	0.0088	0.0022
Neptune	-24099-08-26 17:16 J	-7080498.98	-7080498.78	-7080498.56	0.0088	0.0023
Neptune	-24098-04-09 06:14 J	-7080273.45	-7080273.24	-7080273.03	0.0088	0.0024
Neptune	-24098-11-20 18:43 J	-7080047.93	-7080047.72	-7080047.50	0.0088	0.0025
Jupiter	-24097-04-24 13:26 J	-7079892.12	-7079891.94	-7079891.76	0.0533	0.0213
Neptune	-24097-07-03 07:26 J	-7079822.39	-7079822.19	-7079821.97	0.0088	0.0026
Jupiter	-24097-12-17 21:21 J	-7079654.78	-7079654.61	-7079654.43	0.0527	0.0244
Neptune	-24096-02-13 20:09 J	-7079596.86	-7079596.66	-7079596.44	0.0088	0.0027
Neptune	-24096-09-27 08:52 J	-7079371.33	-7079371.13	-7079370.91	0.0088	0.0027
Neptune	-24095-05-10 21:35 J	-7079145.80	-7079145.60	-7079145.38	0.0088	0.0028
Neptune	-24095-12-22 10:33 J	-7078920.27	-7078920.06	-7078919.85	0.0088	0.0029
Mars	-24094-06-06 03:50 J	-7078754.35	-7078754.34	-7078754.33	0.1690	0.1683
Neptune	-24094-08-04 23:16 J	-7078694.73	-7078694.53	-7078694.31	0.0088	0.0030
Neptune	-24093-03-17 11:59 J	-7078469.19	-7078469.00	-7078468.78	0.0088	0.0031
Neptune	-24093-10-29 00:57 J	-7078243.66	-7078243.46	-7078243.24	0.0088	0.0031
Mars	-24092-04-05 01:26 J	-7078085.60	-7078085.44	-7078085.28	0.1673	0.0435
Saturn	-24092-05-28 15:21 J	-7078031.95	-7078031.86	-7078031.74	0.0265	0.0229
Neptune	-24092-06-11 13:55 J	-7078018.12	-7078017.92	-7078017.70	0.0088	0.0032
Saturn	-24091-01-12 14:38 J	-7077803.07	-7077802.89	-7077802.69	0.0266	0.0114

Neptune -24091-01-23 02:52 J -7077792.58 -7077792.38 -7077792.17 0.0088 0.0032
 Jupiter -24091-02-20 06:43 J -7077764.36 -7077764.22 -7077764.08 0.0492 0.0364
 Saturn -24091-08-29 15:35 J -7077574.06 -7077573.85 -7077573.64 0.0268 0.0007
 Neptune -24091-09-05 15:35 J -7077567.04 -7077566.85 -7077566.63 0.0088 0.0033
 Jupiter -24091-10-14 19:26 J -7077527.90 -7077527.69 -7077527.49 0.0496 0.0014
 Saturn -24090-04-15 17:45 J -7077344.94 -7077344.76 -7077344.57 0.0269 0.0130
 Neptune -24090-04-19 04:33 J -7077341.51 -7077341.31 -7077341.10 0.0088 0.0033
 Jupiter -24090-06-08 15:35 J -7077290.96 -7077290.85 -7077290.72 0.0502 0.0405
 Neptune -24090-11-30 17:16 J -7077115.97 -7077115.78 -7077115.56 0.0088 0.0034
 Saturn -24090-11-30 22:04 J -7077115.64 -7077115.58 -7077115.50 0.0271 0.0255 *
 Mars -24089-01-13 00:43 J -7077072.63 -7077072.47 -7077072.31 0.1838 0.0803
 Neptune -24089-07-13 06:43 J -7076890.42 -7076890.22 -7076890.02 0.0088 0.0035
 Neptune -24088-02-23 19:26 J -7076664.88 -7076664.69 -7076664.48 0.0088 0.0035
 Neptune -24088-10-07 08:09 J -7076439.35 -7076439.16 -7076438.94 0.0088 0.0036
 Neptune -24087-05-20 21:07 J -7076213.81 -7076213.62 -7076213.41 0.0088 0.0037
 Neptune -24086-01-01 10:04 J -7075988.27 -7075988.08 -7075987.87 0.0088 0.0037
 Neptune -24086-08-14 23:16 J -7075762.72 -7075762.53 -7075762.32 0.0088 0.0037
 Jupiter -24086-12-29 06:14 J -7075626.39 -7075626.24 -7075626.08 0.0534 0.0341
 Neptune -24085-03-27 11:59 J -7075537.18 -7075537.00 -7075536.78 0.0088 0.0039
 Jupiter -24085-08-22 17:02 J -7075388.98 -7075388.79 -7075388.59 0.0529 0.0122
 Neptune -24085-11-08 01:11 J -7075311.64 -7075311.45 -7075311.24 0.0088 0.0039
 Neptune -24084-06-21 14:09 J -7075086.10 -7075085.91 -7075085.70 0.0088 0.0039
 Neptune -24083-02-02 03:21 J -7074860.55 -7074860.36 -7074860.15 0.0088 0.0039
 Neptune -24083-09-15 16:19 J -7074635.00 -7074634.82 -7074634.61 0.0088 0.0040
 Uranus -24082-04-07 16:19 J -7074430.92 -7074430.82 -7074430.68 0.0146 0.0121
 Neptune -24082-04-29 05:31 J -7074409.46 -7074409.27 -7074409.06 0.0088 0.0040
 Uranus -24082-11-20 04:33 J -7074204.46 -7074204.31 -7074204.13 0.0146 0.0092
 Neptune -24082-12-10 18:43 J -7074183.91 -7074183.72 -7074183.52 0.0088 0.0040
 Uranus -24081-07-03 17:16 J -7073977.97 -7073977.78 -7073977.58 0.0145 0.0062
 Neptune -24081-07-23 07:40 J -7073958.36 -7073958.18 -7073957.96 0.0088 0.0041

Uranus	-24080-02-15 05:31 J	-7073751.48	-7073751.27	-7073751.06	0.0145	0.0032
Neptune	-24080-03-05 21:07 J	-7073732.81	-7073732.62	-7073732.41	0.0088	0.0041
Uranus	-24080-09-29 17:31 J	-7073524.98	-7073524.77	-7073524.55	0.0145	0.0003
Neptune	-24080-10-17 10:19 J	-7073507.26	-7073507.07	-7073506.86	0.0088	0.0041
Jupiter	-24080-10-26 07:11 J	-7073498.26	-7073498.20	-7073498.12	0.0491	0.0460
Uranus	-24079-05-14 05:31 J	-7073298.48	-7073298.27	-7073298.05	0.0145	0.0027
Neptune	-24079-05-30 23:16 J	-7073281.71	-7073281.53	-7073281.32	0.0088	0.0042
Jupiter	-24079-06-19 17:59 J	-7073261.96	-7073261.75	-7073261.55	0.0495	0.0095
Uranus	-24079-12-26 17:31 J	-7073071.97	-7073071.77	-7073071.56	0.0144	0.0056
Neptune	-24078-01-11 12:28 J	-7073056.16	-7073055.98	-7073055.77	0.0088	0.0042
Jupiter	-24078-02-11 11:59 J	-7073025.16	-7073025.00	-7073024.83	0.0500	0.0296
Uranus	-24078-08-10 05:31 J	-7072845.44	-7072845.27	-7072845.09	0.0144	0.0085
Neptune	-24078-08-25 01:55 J	-7072830.60	-7072830.42	-7072830.21	0.0088	0.0042
Saturn	-24078-11-17 14:09 J	-7072746.07	-7072745.91	-7072745.74	0.0295	0.0184
Uranus	-24077-03-23 17:16 J	-7072618.90	-7072618.78	-7072618.64	0.0144	0.0114
Neptune	-24077-04-06 15:21 J	-7072605.05	-7072604.86	-7072604.66	0.0088	0.0042
Saturn	-24077-07-04 15:50 J	-7072516.05	-7072515.84	-7072515.63	0.0293	0.0020
Uranus	-24077-11-05 05:16 J	-7072392.31	-7072392.28	-7072392.25	0.0144	0.0142
Neptune	-24077-11-18 04:47 J	-7072379.50	-7072379.30	-7072379.11	0.0088	0.0042
Saturn	-24076-02-19 14:52 J	-7072286.06	-7072285.88	-7072285.69	0.0291	0.0140
Neptune	-24076-07-01 17:31 J	-7072153.95	-7072153.77	-7072153.56	0.0088	0.0043
Neptune	-24075-02-12 06:57 J	-7071928.39	-7071928.21	-7071928.00	0.0088	0.0043
Neptune	-24075-09-25 20:09 J	-7071702.84	-7071702.66	-7071702.45	0.0088	0.0043
Neptune	-24074-05-09 09:21 J	-7071477.29	-7071477.11	-7071476.90	0.0088	0.0044
Jupiter	-24074-09-02 23:59 J	-7071360.60	-7071360.50	-7071360.40	0.0535	0.0463
Neptune	-24074-12-20 22:47 J	-7071251.73	-7071251.55	-7071251.35	0.0088	0.0043
Jupiter	-24073-04-27 13:11 J	-7071123.15	-7071122.95	-7071122.75	0.0531	0.0002
Neptune	-24073-08-02 12:14 J	-7071026.18	-7071025.99	-7071025.79	0.0088	0.0043
Jupiter	-24073-12-20 17:16 J	-7070885.89	-7070885.78	-7070885.67	0.0524	0.0436
Neptune	-24072-03-16 01:26 J	-7070800.62	-7070800.44	-7070800.23	0.0088	0.0044

Neptune	-24072-10-27 14:52 J	-7070575.07	-7070574.88	-7070574.68	0.0088	0.0043
Neptune	-24071-06-10 04:04 J	-7070349.51	-7070349.33	-7070349.12	0.0088	0.0043
Neptune	-24070-01-21 17:31 J	-7070123.95	-7070123.77	-7070123.56	0.0088	0.0043
Neptune	-24070-09-04 06:57 J	-7069898.39	-7069898.21	-7069898.00	0.0088	0.0044
Neptune	-24069-04-16 20:23 J	-7069672.83	-7069672.65	-7069672.44	0.0088	0.0044
Neptune	-24069-11-28 09:50 J	-7069447.27	-7069447.09	-7069446.88	0.0088	0.0043
Neptune	-24068-07-11 23:16 J	-7069221.71	-7069221.53	-7069221.32	0.0088	0.0043
Neptune	-24067-02-22 13:11 J	-7068996.14	-7068995.95	-7068995.75	0.0088	0.0043
Jupiter	-24067-02-22 16:33 J	-7068996.00	-7068995.81	-7068995.62	0.0494	0.0200 *
Neptune	-24067-10-06 02:38 J	-7068770.58	-7068770.39	-7068770.19	0.0088	0.0042
Jupiter	-24067-10-17 08:38 J	-7068759.33	-7068759.14	-7068758.94	0.0499	0.0188
Neptune	-24066-05-19 16:04 J	-7068545.02	-7068544.83	-7068544.62	0.0088	0.0042
Neptune	-24066-12-31 05:31 J	-7068319.45	-7068319.27	-7068319.06	0.0088	0.0042
Neptune	-24065-08-12 18:57 J	-7068093.89	-7068093.71	-7068093.49	0.0088	0.0042
Neptune	-24064-03-26 08:52 J	-7067868.32	-7067868.13	-7067867.93	0.0088	0.0041
Neptune	-24064-11-06 22:19 J	-7067642.76	-7067642.57	-7067642.36	0.0088	0.0041
Neptune	-24063-06-20 11:45 J	-7067417.20	-7067417.01	-7067416.80	0.0088	0.0041
Saturn	-24063-12-08 16:19 J	-7067245.94	-7067245.82	-7067245.69	0.0266	0.0214
Neptune	-24062-02-01 01:26 J	-7067191.63	-7067191.44	-7067191.23	0.0088	0.0040
Saturn	-24062-07-25 15:50 J	-7067017.03	-7067016.84	-7067016.64	0.0267	0.0098
Neptune	-24062-09-14 15:07 J	-7066966.06	-7066965.87	-7066965.66	0.0088	0.0040
Jupiter	-24061-01-01 07:11 J	-7066857.39	-7066857.20	-7066857.00	0.0532	0.0129
Saturn	-24061-03-10 16:47 J	-7066788.01	-7066787.80	-7066787.59	0.0268	0.0023
Neptune	-24061-04-27 04:33 J	-7066740.50	-7066740.31	-7066740.09	0.0088	0.0040
Jupiter	-24061-08-25 13:40 J	-7066620.08	-7066619.93	-7066619.77	0.0526	0.0322
Saturn	-24061-10-25 19:11 J	-7066558.87	-7066558.70	-7066558.52	0.0270	0.0146
Neptune	-24061-12-08 18:14 J	-7066514.93	-7066514.74	-7066514.53	0.0088	0.0039
Mars	-24060-04-03 20:09 J	-7066398.82	-7066398.66	-7066398.50	0.1680	0.0555
Neptune	-24060-07-22 07:40 J	-7066289.37	-7066289.18	-7066288.97	0.0088	0.0039
Neptune	-24059-03-04 21:21 J	-7066063.80	-7066063.61	-7066063.40	0.0088	0.0039

Neptune -24059-10-16 11:02 J -7065838.23 -7065838.04 -7065837.83 0.0088 0.0038
 Mars -24058-02-01 18:57 J -7065729.78 -7065729.71 -7065729.64 0.1665 0.1501
 Neptune -24058-05-30 00:43 J -7065612.66 -7065612.47 -7065612.26 0.0088 0.0038
 Neptune -24057-01-10 14:09 J -7065387.10 -7065386.91 -7065386.69 0.0088 0.0037
 Neptune -24057-08-23 04:04 J -7065161.52 -7065161.33 -7065161.11 0.0088 0.0036
 Neptune -24056-04-05 17:45 J -7064935.95 -7064935.76 -7064935.54 0.0088 0.0036
 Jupiter -24056-10-28 17:16 J -7064729.94 -7064729.78 -7064729.61 0.0493 0.0300
 Mars -24056-11-09 05:45 J -7064718.39 -7064718.26 -7064718.13 0.1850 0.1222
 Neptune -24056-11-17 07:26 J -7064710.38 -7064710.19 -7064709.97 0.0088 0.0036
 Jupiter -24055-06-22 07:26 J -7064493.40 -7064493.19 -7064492.99 0.0497 0.0081
 Neptune -24055-06-30 21:21 J -7064484.81 -7064484.61 -7064484.40 0.0088 0.0035
 Neptune -24054-02-11 10:47 J -7064259.24 -7064259.05 -7064258.83 0.0088 0.0034
 Jupiter -24054-02-14 05:31 J -7064256.34 -7064256.27 -7064256.20 0.0503 0.0474
 Neptune -24054-09-25 00:57 J -7064033.66 -7064033.46 -7064033.25 0.0088 0.0033
 Neptune -24053-05-07 14:52 J -7063808.09 -7063807.88 -7063807.67 0.0088 0.0033
 Neptune -24053-12-19 04:19 J -7063582.52 -7063582.32 -7063582.10 0.0088 0.0032
 Neptune -24052-08-01 17:59 J -7063356.95 -7063356.75 -7063356.53 0.0088 0.0032
 Neptune -24051-03-15 07:55 J -7063131.38 -7063131.17 -7063130.95 0.0088 0.0031
 Neptune -24051-10-26 21:35 J -7062905.80 -7062905.60 -7062905.38 0.0088 0.0030
 Neptune -24050-06-09 11:16 J -7062680.23 -7062680.03 -7062679.80 0.0088 0.0030
 Jupiter -24050-09-05 21:21 J -7062591.78 -7062591.61 -7062591.43 0.0533 0.0262
 Neptune -24049-01-21 01:11 J -7062454.66 -7062454.45 -7062454.23 0.0088 0.0028
 Jupiter -24049-04-30 06:28 J -7062354.41 -7062354.23 -7062354.04 0.0528 0.0198
 Neptune -24049-09-02 14:52 J -7062229.09 -7062228.88 -7062228.66 0.0088 0.0028
 Neptune -24048-04-16 04:33 J -7062003.52 -7062003.31 -7062003.09 0.0088 0.0027
 Saturn -24048-05-29 22:19 J -7061959.74 -7061959.57 -7061959.38 0.0295 0.0156
 Neptune -24048-11-27 18:14 J -7061777.94 -7061777.74 -7061777.51 0.0088 0.0026
 Saturn -24047-01-14 23:59 J -7061729.71 -7061729.50 -7061729.29 0.0294 0.0011
 Neptune -24047-07-11 07:55 J -7061552.37 -7061552.17 -7061551.94 0.0088 0.0026
 Saturn -24047-09-01 22:47 J -7061499.71 -7061499.55 -7061499.37 0.0292 0.0170

Neptune -24046-02-21 21:50 J -7061326.80 -7061326.59 -7061326.37 0.0088 0.0025
 Neptune -24046-10-05 11:45 J -7061101.23 -7061101.01 -7061100.79 0.0088 0.0024
 Neptune -24045-05-18 01:11 J -7060875.65 -7060875.45 -7060875.22 0.0088 0.0023
 Neptune -24045-12-29 15:07 J -7060650.08 -7060649.87 -7060649.64 0.0088 0.0022
 Jupiter -24044-07-03 18:43 J -7060463.84 -7060463.72 -7060463.60 0.0492 0.0398
 Neptune -24044-08-12 04:47 J -7060424.51 -7060424.30 -7060424.07 0.0088 0.0021
 Jupiter -24043-02-25 06:57 J -7060227.42 -7060227.21 -7060227.00 0.0496 0.0027
 Neptune -24043-03-25 18:28 J -7060198.94 -7060198.73 -7060198.50 0.0088 0.0021
 Jupiter -24043-10-20 02:38 J -7059990.53 -7059990.39 -7059990.25 0.0501 0.0367
 Neptune -24043-11-06 08:38 J -7059973.36 -7059973.14 -7059972.92 0.0088 0.0019
 Neptune -24042-06-19 22:19 J -7059747.78 -7059747.57 -7059747.34 0.0088 0.0019
 Neptune -24041-01-31 12:14 J -7059522.21 -7059521.99 -7059521.77 0.0088 0.0018
 Neptune -24041-09-13 01:55 J -7059296.64 -7059296.42 -7059296.19 0.0088 0.0017
 Neptune -24040-04-26 15:50 J -7059071.06 -7059070.84 -7059070.62 0.0088 0.0016
 Neptune -24040-12-08 05:31 J -7058845.49 -7058845.27 -7058845.04 0.0088 0.0015
 Uranus -24039-01-10 02:09 J -7058812.44 -7058812.41 -7058812.36 0.0133 0.0130
 Neptune -24039-07-21 19:26 J -7058619.91 -7058619.69 -7058619.47 0.0088 0.0014
 Uranus -24039-08-24 07:26 J -7058586.30 -7058586.19 -7058586.05 0.0133 0.0108
 Neptune -24038-03-04 09:07 J -7058394.34 -7058394.12 -7058393.90 0.0089 0.0013
 Uranus -24038-04-07 12:57 J -7058360.12 -7058359.96 -7058359.79 0.0133 0.0085
 Jupiter -24038-05-11 13:11 J -7058326.08 -7058325.95 -7058325.81 0.0534 0.0390
 Neptune -24038-10-15 22:47 J -7058168.77 -7058168.55 -7058168.32 0.0089 0.0012
 Uranus -24038-11-19 18:28 J -7058133.92 -7058133.73 -7058133.54 0.0133 0.0063
 Jupiter -24037-01-04 00:43 J -7058088.66 -7058088.47 -7058088.27 0.0530 0.0074
 Neptune -24037-05-28 12:43 J -7057943.20 -7057942.97 -7057942.75 0.0089 0.0011
 Uranus -24037-07-02 23:31 J -7057907.71 -7057907.52 -7057907.30 0.0133 0.0041
 Jupiter -24037-08-28 03:35 J -7057851.40 -7057851.35 -7057851.29 0.0523 0.0501
 Neptune -24036-01-09 02:23 J -7057717.63 -7057717.40 -7057717.18 0.0089 0.0010
 Uranus -24036-02-14 05:16 J -7057681.49 -7057681.28 -7057681.06 0.0133 0.0017
 Neptune -24036-08-22 15:50 J -7057492.06 -7057491.84 -7057491.61 0.0089 0.0009

Uranus	-24036-09-28 10:47 J	-7057455.27	-7057455.05	-7057454.84	0.0134	0.0006
Neptune	-24035-04-05 05:31 J	-7057266.49	-7057266.27	-7057266.04	0.0089	0.0008
Uranus	-24035-05-12 15:50 J	-7057229.04	-7057228.84	-7057228.62	0.0134	0.0030
Neptune	-24035-11-16 19:26 J	-7057040.92	-7057040.69	-7057040.47	0.0089	0.0007
Uranus	-24035-12-24 21:21 J	-7057002.80	-7057002.61	-7057002.40	0.0134	0.0053
Neptune	-24034-06-30 09:07 J	-7056815.35	-7056815.12	-7056814.90	0.0089	0.0006
Uranus	-24034-08-08 03:07 J	-7056776.54	-7056776.37	-7056776.19	0.0134	0.0076
Neptune	-24033-02-10 22:33 J	-7056589.78	-7056589.56	-7056589.33	0.0089	0.0006
Uranus	-24033-03-21 08:52 J	-7056550.28	-7056550.13	-7056549.99	0.0135	0.0099
Saturn	-24033-06-19 22:04 J	-7056459.72	-7056459.58	-7056459.43	0.0265	0.0193
Neptune	-24033-09-23 12:14 J	-7056364.21	-7056363.99	-7056363.76	0.0089	0.0004
Uranus	-24033-11-02 14:09 J	-7056323.99	-7056323.91	-7056323.81	0.0135	0.0122
Saturn	-24032-02-03 21:35 J	-7056230.80	-7056230.60	-7056230.40	0.0266	0.0076
Neptune	-24032-05-07 01:55 J	-7056138.64	-7056138.42	-7056138.19	0.0089	0.0003
Saturn	-24032-09-20 22:33 J	-7056001.77	-7056001.56	-7056001.35	0.0268	0.0045
Jupiter	-24032-10-31 05:31 J	-7055961.47	-7055961.27	-7055961.06	0.0494	0.0133
Neptune	-24032-12-18 15:50 J	-7055913.07	-7055912.84	-7055912.62	0.0089	0.0002
Saturn	-24031-05-08 00:57 J	-7055772.62	-7055772.46	-7055772.29	0.0269	0.0169
Jupiter	-24031-06-24 22:33 J	-7055724.73	-7055724.56	-7055724.38	0.0499	0.0258
Neptune	-24031-08-01 05:31 J	-7055687.50	-7055687.27	-7055687.05	0.0089	0.0002
Neptune	-24030-03-14 18:57 J	-7055461.93	-7055461.71	-7055461.48	0.0089	0.0002
Neptune	-24030-10-26 08:52 J	-7055236.36	-7055236.13	-7055235.91	0.0089	0.0001
Neptune	-24029-06-07 22:33 J	-7055010.78	-7055010.56	-7055010.34	0.0089	0.0002
Neptune	-24028-01-19 12:14 J	-7054785.21	-7054784.99	-7054784.77	0.0089	0.0003
Mars	-24028-04-02 15:07 J	-7054711.93	-7054711.87	-7054711.81	0.1687	0.1561
Neptune	-24028-09-02 01:55 J	-7054559.65	-7054559.42	-7054559.20	0.0089	0.0004
Neptune	-24027-04-15 15:21 J	-7054334.08	-7054333.86	-7054333.63	0.0089	0.0005
Neptune	-24027-11-27 05:16 J	-7054108.50	-7054108.28	-7054108.06	0.0089	0.0006
Jupiter	-24026-01-14 05:02 J	-7054060.34	-7054060.29	-7054060.23	0.0536	0.0514
Mars	-24026-01-31 12:57 J	-7054043.12	-7054042.96	-7054042.80	0.1671	0.0540

Neptune -24026-07-10 18:43 J -7053882.94 -7053882.72 -7053882.49 0.0089 0.0007
 Jupiter -24026-09-08 19:26 J -7053822.89 -7053822.69 -7053822.49 0.0532 0.0054
 Neptune -24025-02-21 08:23 J -7053657.37 -7053657.15 -7053656.93 0.0089 0.0008
 Jupiter -24025-05-03 01:11 J -7053585.58 -7053585.45 -7053585.32 0.0525 0.0391
 Neptune -24025-10-03 21:50 J -7053431.81 -7053431.59 -7053431.37 0.0089 0.0009
 Neptune -24024-05-17 11:16 J -7053206.25 -7053206.03 -7053205.80 0.0089 0.0010
 Mars -24024-11-09 03:50 J -7053030.52 -7053030.34 -7053030.17 0.1841 0.0522
 Neptune -24024-12-29 00:57 J -7052980.68 -7052980.46 -7052980.24 0.0089 0.0011
 Neptune -24023-08-11 14:23 J -7052755.12 -7052754.90 -7052754.67 0.0089 0.0012
 Neptune -24022-03-25 03:50 J -7052529.56 -7052529.34 -7052529.12 0.0089 0.0013
 Neptune -24022-11-05 17:16 J -7052303.99 -7052303.78 -7052303.55 0.0089 0.0014
 Neptune -24021-06-18 06:57 J -7052078.43 -7052078.21 -7052077.99 0.0089 0.0014
 Neptune -24020-01-29 20:23 J -7051852.87 -7051852.65 -7051852.43 0.0089 0.0015
 Jupiter -24020-07-06 05:16 J -7051695.46 -7051695.28 -7051695.10 0.0493 0.0236
 Neptune -24020-09-12 09:50 J -7051627.31 -7051627.09 -7051626.87 0.0089 0.0016
 Jupiter -24019-02-27 20:09 J -7051458.86 -7051458.66 -7051458.46 0.0498 0.0148
 Neptune -24019-04-25 23:16 J -7051401.75 -7051401.53 -7051401.31 0.0089 0.0017
 Neptune -24019-12-07 12:43 J -7051176.18 -7051175.97 -7051175.75 0.0089 0.0018
 Saturn -24019-12-10 04:19 J -7051173.51 -7051173.32 -7051173.13 0.0295 0.0133
 Neptune -24018-07-21 02:09 J -7050950.62 -7050950.41 -7050950.19 0.0089 0.0019
 Saturn -24018-07-28 05:31 J -7050943.48 -7050943.27 -7050943.06 0.0293 0.0031
 Neptune -24017-03-02 15:35 J -7050725.06 -7050724.85 -7050724.63 0.0089 0.0020
 Saturn -24017-03-14 04:04 J -7050713.49 -7050713.33 -7050713.17 0.0291 0.0189
 Neptune -24017-10-14 04:47 J -7050499.50 -7050499.30 -7050499.07 0.0089 0.0021
 Neptune -24016-05-27 18:28 J -7050273.94 -7050273.73 -7050273.51 0.0089 0.0021
 Neptune -24015-01-08 07:55 J -7050048.38 -7050048.17 -7050047.95 0.0089 0.0022
 Neptune -24015-08-21 21:21 J -7049822.82 -7049822.61 -7049822.39 0.0089 0.0023
 Neptune -24014-04-04 10:33 J -7049597.26 -7049597.06 -7049596.84 0.0089 0.0024
 Jupiter -24014-05-14 14:38 J -7049557.08 -7049556.89 -7049556.70 0.0533 0.0179
 Neptune -24014-11-15 23:59 J -7049371.71 -7049371.50 -7049371.28 0.0089 0.0025

Jupiter -24013-01-06 22:33 J -7049319.73 -7049319.56 -7049319.39 0.0527 0.0277
 Neptune -24013-06-28 13:11 J -7049146.15 -7049145.95 -7049145.73 0.0089 0.0025
 Neptune -24012-02-09 02:38 J -7048920.59 -7048920.39 -7048920.17 0.0089 0.0026
 Pluto -24012-04-19 18:43 J -7048850.81 -7048850.72 -7048850.58 0.0064 0.0055
 Neptune -24012-09-22 15:35 J -7048695.04 -7048694.85 -7048694.62 0.0089 0.0027
 Pluto -24012-11-30 22:47 J -7048625.75 -7048625.55 -7048625.33 0.0064 0.0018
 Neptune -24011-05-06 05:02 J -7048469.49 -7048469.29 -7048469.08 0.0089 0.0027
 Pluto -24011-07-14 02:38 J -7048400.59 -7048400.39 -7048400.18 0.0065 0.0020
 Neptune -24011-12-17 18:14 J -7048243.94 -7048243.74 -7048243.52 0.0089 0.0028
 Pluto -24010-02-24 05:59 J -7048175.32 -7048175.25 -7048175.13 0.0065 0.0058
 Neptune -24010-07-31 07:11 J -7048018.39 -7048018.20 -7048017.97 0.0089 0.0030
 Neptune -24009-03-12 20:38 J -7047792.84 -7047792.64 -7047792.43 0.0089 0.0029
 Neptune -24009-10-24 09:35 J -7047567.30 -7047567.10 -7047566.88 0.0089 0.0030
 Jupiter -24008-03-11 04:47 J -7047429.45 -7047429.30 -7047429.15 0.0492 0.0337
 Neptune -24008-06-06 23:02 J -7047341.75 -7047341.54 -7047341.34 0.0089 0.0031
 Jupiter -24008-11-02 17:45 J -7047192.97 -7047192.76 -7047192.55 0.0497 0.0041
 Neptune -24007-01-18 11:59 J -7047116.20 -7047116.00 -7047115.79 0.0089 0.0031
 Jupiter -24007-06-27 14:38 J -7046955.99 -7046955.89 -7046955.79 0.0503 0.0433
 Neptune -24007-09-01 00:57 J -7046890.65 -7046890.46 -7046890.24 0.0089 0.0032
 Neptune -24006-04-14 14:09 J -7046665.11 -7046664.91 -7046664.70 0.0089 0.0033
 Moon -24006-04-29 21:07 J -7046649.76 -7046649.62 -7046649.48 0.2718 0.1051
 Earth -24006-04-30 01:55 J -7046649.56 -7046649.42 -7046649.28 0.2713 0.1265 *
 Neptune -24006-11-26 03:07 J -7046439.56 -7046439.37 -7046439.15 0.0089 0.0033
 Neptune -24005-07-08 16:33 J -7046214.01 -7046213.81 -7046213.61 0.0089 0.0034
 Neptune -24004-02-19 05:31 J -7045988.46 -7045988.27 -7045988.06 0.0089 0.0034
 Neptune -24004-10-02 18:43 J -7045762.92 -7045762.72 -7045762.52 0.0089 0.0035
 Saturn -24004-12-30 22:04 J -7045673.73 -7045673.58 -7045673.42 0.0266 0.0179
 Neptune -24003-05-16 07:26 J -7045537.38 -7045537.19 -7045536.97 0.0089 0.0036
 Saturn -24003-08-16 21:35 J -7045444.81 -7045444.60 -7045444.40 0.0267 0.0062
 Neptune -24003-12-27 20:38 J -7045311.83 -7045311.64 -7045311.43 0.0089 0.0036

Jupiter -24002-01-17 08:09 J -7045291.32 -7045291.16 -7045290.99 0.0534 0.0306
 Saturn -24002-04-02 22:33 J -7045215.77 -7045215.56 -7045215.35 0.0268 0.0059
 Neptune -24002-08-10 09:35 J -7045086.29 -7045086.10 -7045085.89 0.0089 0.0036
 Jupiter -24002-09-11 18:28 J -7045053.92 -7045053.73 -7045053.53 0.0529 0.0156
 Saturn -24002-11-18 01:26 J -7044986.60 -7044986.44 -7044986.29 0.0270 0.0183
 Neptune -24001-03-22 22:33 J -7044860.74 -7044860.56 -7044860.35 0.0089 0.0037
 Neptune -24001-11-03 11:45 J -7044635.21 -7044635.01 -7044634.81 0.0089 0.0037

24TH MILLENNIUM BCE

This is a list of transits of Venus in the 24th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	-24000-06-17 00:28 J	-7044409.67	-7044409.48	-7044409.27	0.0089	0.0037		
Neptune	-23999-01-28 13:26 J	-7044184.13	-7044183.94	-7044183.73	0.0089	0.0038		
Neptune	-23999-09-11 02:23 J	-7043958.59	-7043958.40	-7043958.20	0.0089	0.0038		
Uranus	-23999-12-05 21:35 J	-7043872.66	-7043872.60	-7043872.50	0.0146	0.0135		
Neptune	-23998-04-24 15:07 J	-7043733.06	-7043732.87	-7043732.66	0.0089	0.0038		
Moon	-23998-04-27 15:07 J	-7043729.93	-7043729.87	-7043729.80	0.2721	0.2419		
Earth	-23998-04-27 16:19 J	-7043729.89	-7043729.82	-7043729.76	0.2713	0.2455	*	
Uranus	-23998-07-20 10:04 J	-7043646.21	-7043646.08	-7043645.91	0.0146	0.0106		
Neptune	-23998-12-06 03:50 J	-7043507.52	-7043507.34	-7043507.13	0.0089	0.0039		
Uranus	-23997-03-02 22:33 J	-7043419.74	-7043419.56	-7043419.37	0.0146	0.0076		
Neptune	-23997-07-18 16:47 J	-7043281.99	-7043281.80	-7043281.60	0.0089	0.0039		
Uranus	-23997-10-15 10:47 J	-7043193.25	-7043193.05	-7043192.83	0.0145	0.0046		

Jupiter -23997-11-14 06:28 J -7043163.32 -7043163.23 -7043163.13 0.0492 0.0432
 Neptune -23996-03-01 05:59 J -7043056.45 -7043056.25 -7043056.06 0.0089 0.0039
 Uranus -23996-05-29 23:16 J -7042966.75 -7042966.53 -7042966.32 0.0145 0.0016
 Jupiter -23996-07-08 17:31 J -7042926.97 -7042926.77 -7042926.56 0.0495 0.0065
 Neptune -23996-10-12 18:14 J -7042830.92 -7042830.74 -7042830.53 0.0089 0.0040
 Uranus -23995-01-11 11:16 J -7042740.24 -7042740.03 -7042739.81 0.0145 0.0014
 Jupiter -23995-03-02 12:14 J -7042690.15 -7042689.99 -7042689.83 0.0501 0.0327
 Neptune -23995-05-26 07:11 J -7042605.39 -7042605.20 -7042605.00 0.0089 0.0039
 Uranus -23995-08-25 23:16 J -7042513.73 -7042513.53 -7042513.31 0.0145 0.0044
 Neptune -23994-01-06 19:55 J -7042379.86 -7042379.67 -7042379.47 0.0089 0.0040
 Mars -23994-01-30 07:26 J -7042356.35 -7042356.19 -7042356.02 0.1678 0.0443
 Uranus -23994-04-09 11:31 J -7042287.21 -7042287.02 -7042286.83 0.0144 0.0073
 Neptune -23994-08-20 08:38 J -7042154.32 -7042154.14 -7042153.93 0.0089 0.0040
 Uranus -23994-11-21 23:02 J -7042060.68 -7042060.54 -7042060.37 0.0144 0.0102
 Neptune -23993-04-01 21:35 J -7041928.79 -7041928.60 -7041928.40 0.0089 0.0040
 Uranus -23993-07-05 11:02 J -7041834.11 -7041834.04 -7041833.93 0.0144 0.0131
 Neptune -23993-11-13 10:19 J -7041703.26 -7041703.07 -7041702.87 0.0089 0.0040
 Mars -23993-11-29 06:43 J -7041687.26 -7041687.22 -7041687.17 0.1663 0.1596
 Neptune -23992-06-26 23:02 J -7041477.73 -7041477.54 -7041477.34 0.0089 0.0040
 Neptune -23991-02-07 11:59 J -7041252.19 -7041252.00 -7041251.81 0.0089 0.0040
 Neptune -23991-09-21 00:43 J -7041026.66 -7041026.47 -7041026.28 0.0089 0.0040
 Jupiter -23991-09-21 21:50 J -7041025.70 -7041025.59 -7041025.48 0.0535 0.0436
 Neptune -23990-05-04 13:26 J -7040801.14 -7040800.94 -7040800.75 0.0089 0.0040
 Jupiter -23990-05-17 10:19 J -7040788.27 -7040788.07 -7040787.87 0.0530 0.0026
 Mars -23990-09-06 08:38 J -7040676.25 -7040676.14 -7040676.04 0.1853 0.1519
 Saturn -23990-11-04 06:43 J -7040617.30 -7040617.22 -7040617.15 0.0296 0.0275
 Neptune -23990-12-16 01:40 J -7040575.61 -7040575.43 -7040575.22 0.0089 0.0040
 Jupiter -23989-01-09 13:55 J -7040551.01 -7040550.92 -7040550.82 0.0524 0.0460
 Saturn -23989-06-21 10:04 J -7040387.28 -7040387.08 -7040386.88 0.0295 0.0108
 Neptune -23989-07-28 14:38 J -7040350.08 -7040349.89 -7040349.69 0.0089 0.0040

Saturn -23988-02-06 11:16 J -7040157.24 -7040157.03 -7040156.82 0.0293 0.0057
 Neptune -23988-03-11 03:21 J -7040124.55 -7040124.36 -7040124.16 0.0089 0.0040
 Saturn -23988-09-24 09:35 J -7039927.23 -7039927.10 -7039926.94 0.0292 0.0216
 Neptune -23988-10-22 16:04 J -7039899.02 -7039898.83 -7039898.63 0.0089 0.0040
 Neptune -23987-06-05 04:33 J -7039673.50 -7039673.31 -7039673.11 0.0089 0.0040
 Neptune -23986-01-16 17:02 J -7039447.98 -7039447.79 -7039447.59 0.0089 0.0039
 Neptune -23986-08-30 05:31 J -7039222.45 -7039222.27 -7039222.06 0.0089 0.0039
 Neptune -23985-04-11 17:59 J -7038996.93 -7038996.75 -7038996.54 0.0089 0.0040
 Neptune -23985-11-23 06:28 J -7038771.41 -7038771.23 -7038771.02 0.0089 0.0040
 Jupiter -23984-03-13 18:14 J -7038660.94 -7038660.74 -7038660.55 0.0494 0.0169
 Neptune -23984-07-06 19:26 J -7038545.89 -7038545.69 -7038545.50 0.0089 0.0039
 Jupiter -23984-11-05 10:33 J -7038424.24 -7038424.06 -7038423.87 0.0499 0.0220
 Neptune -23983-02-17 07:40 J -7038320.36 -7038320.18 -7038319.97 0.0089 0.0039
 Neptune -23983-09-30 20:09 J -7038094.84 -7038094.66 -7038094.45 0.0089 0.0038
 Neptune -23982-05-14 08:38 J -7037869.32 -7037869.14 -7037868.93 0.0089 0.0038
 Neptune -23982-12-25 21:21 J -7037643.81 -7037643.61 -7037643.41 0.0089 0.0038
 Neptune -23981-08-07 09:35 J -7037418.29 -7037418.10 -7037417.89 0.0089 0.0037
 Neptune -23980-03-20 22:04 J -7037192.76 -7037192.58 -7037192.37 0.0089 0.0037
 Neptune -23980-11-01 10:47 J -7036967.24 -7036967.05 -7036966.85 0.0089 0.0037
 Neptune -23979-06-14 23:02 J -7036741.72 -7036741.54 -7036741.33 0.0089 0.0036
 Jupiter -23978-01-20 03:50 J -7036522.54 -7036522.34 -7036522.15 0.0532 0.0103
 Neptune -23978-01-26 11:31 J -7036516.21 -7036516.02 -7036515.81 0.0089 0.0036
 Neptune -23978-09-08 23:59 J -7036290.69 -7036290.50 -7036290.29 0.0089 0.0036
 Jupiter -23978-09-14 10:04 J -7036285.23 -7036285.08 -7036284.93 0.0526 0.0346
 Neptune -23977-04-21 12:28 J -7036065.16 -7036064.98 -7036064.77 0.0089 0.0035
 Neptune -23977-12-03 01:11 J -7035839.65 -7035839.45 -7035839.25 0.0089 0.0034
 Neptune -23976-07-16 13:26 J -7035614.13 -7035613.94 -7035613.73 0.0089 0.0034
 Neptune -23975-02-27 01:55 J -7035388.61 -7035388.42 -7035388.21 0.0089 0.0034
 Neptune -23975-10-10 14:09 J -7035163.10 -7035162.91 -7035162.70 0.0089 0.0033
 Neptune -23974-05-24 02:38 J -7034937.58 -7034937.39 -7034937.18 0.0089 0.0033

Saturn -23974-07-13 03:07 J -7034887.53 -7034887.37 -7034887.20 0.0265 0.0158
 Neptune -23973-01-04 14:52 J -7034712.07 -7034711.88 -7034711.67 0.0089 0.0032
 Saturn -23973-02-27 02:38 J -7034658.60 -7034658.39 -7034658.18 0.0266 0.0041
 Neptune -23973-08-17 03:21 J -7034486.56 -7034486.36 -7034486.15 0.0089 0.0031
 Saturn -23973-10-13 03:50 J -7034429.54 -7034429.34 -7034429.14 0.0268 0.0080
 Jupiter -23973-11-16 17:59 J -7034394.92 -7034394.75 -7034394.58 0.0493 0.0271
 Neptune -23972-03-30 15:35 J -7034261.04 -7034260.85 -7034260.64 0.0089 0.0031
 Saturn -23972-05-30 06:28 J -7034200.36 -7034200.23 -7034200.08 0.0270 0.0205
 Jupiter -23972-07-11 07:55 J -7034158.37 -7034158.17 -7034157.97 0.0497 0.0111
 Neptune -23972-11-11 04:04 J -7034035.53 -7034035.33 -7034035.12 0.0089 0.0030
 Jupiter -23971-03-05 05:45 J -7033921.27 -7033921.26 -7033921.24 0.0503 0.0501
 Neptune -23971-06-24 16:04 J -7033810.02 -7033809.83 -7033809.61 0.0089 0.0030
 Neptune -23970-02-05 04:33 J -7033584.51 -7033584.31 -7033584.10 0.0089 0.0029
 Neptune -23970-09-18 16:47 J -7033359.00 -7033358.80 -7033358.59 0.0089 0.0029
 Neptune -23969-05-01 05:02 J -7033133.48 -7033133.29 -7033133.07 0.0089 0.0029
 Neptune -23969-12-12 17:31 J -7032907.97 -7032907.77 -7032907.56 0.0089 0.0027
 Neptune -23968-07-26 05:59 J -7032682.46 -7032682.25 -7032682.04 0.0089 0.0026
 Neptune -23967-03-08 17:59 J -7032456.94 -7032456.75 -7032456.53 0.0089 0.0026
 Jupiter -23967-09-24 21:07 J -7032256.79 -7032256.62 -7032256.43 0.0533 0.0231
 Neptune -23967-10-20 06:28 J -7032231.43 -7032231.23 -7032231.02 0.0089 0.0025
 Jupiter -23966-05-20 06:28 J -7032019.41 -7032019.23 -7032019.05 0.0528 0.0229
 Neptune -23966-06-02 18:57 J -7032005.92 -7032005.71 -7032005.50 0.0089 0.0024
 Neptune -23965-01-14 07:11 J -7031780.40 -7031780.20 -7031779.99 0.0089 0.0023
 Neptune -23965-08-26 19:26 J -7031554.89 -7031554.69 -7031554.47 0.0089 0.0023
 Neptune -23964-04-09 07:55 J -7031329.37 -7031329.17 -7031328.96 0.0089 0.0022
 Neptune -23964-11-20 20:09 J -7031103.86 -7031103.66 -7031103.44 0.0089 0.0021
 Neptune -23963-07-04 08:38 J -7030878.35 -7030878.14 -7030877.93 0.0089 0.0020
 Mars -23962-01-29 02:38 J -7030669.48 -7030669.39 -7030669.31 0.1685 0.1447
 Neptune -23962-02-14 20:38 J -7030652.84 -7030652.64 -7030652.42 0.0089 0.0020
 Neptune -23962-09-28 08:52 J -7030427.33 -7030427.13 -7030426.91 0.0089 0.0019

Neptune -23961-05-10 21:21 J -7030201.81 -7030201.61 -7030201.39 0.0089 0.0018
 Jupiter -23961-07-22 18:28 J -7030128.86 -7030128.73 -7030128.59 0.0492 0.0370
 Mars -23961-11-28 00:57 J -7030000.61 -7030000.46 -7030000.30 0.1669 0.0637
 Neptune -23961-12-22 09:50 J -7029976.30 -7029976.09 -7029975.88 0.0089 0.0017
 Jupiter -23960-03-16 06:28 J -7029892.44 -7029892.23 -7029892.02 0.0496 0.0005
 Saturn -23960-05-16 11:59 J -7029831.10 -7029831.00 -7029830.88 0.0296 0.0253
 Neptune -23960-08-04 22:04 J -7029750.79 -7029750.58 -7029750.37 0.0089 0.0016
 Jupiter -23960-11-08 01:55 J -7029655.54 -7029655.42 -7029655.29 0.0501 0.0395
 Saturn -23959-01-01 15:21 J -7029601.06 -7029600.86 -7029600.66 0.0295 0.0086
 Neptune -23959-03-18 10:04 J -7029525.28 -7029525.08 -7029524.86 0.0089 0.0016
 Saturn -23959-08-19 16:04 J -7029371.03 -7029370.83 -7029370.62 0.0293 0.0078
 Neptune -23959-10-29 22:19 J -7029299.77 -7029299.57 -7029299.35 0.0089 0.0015
 Saturn -23958-04-06 14:23 J -7029141.02 -7029140.90 -7029140.78 0.0291 0.0234
 Neptune -23958-06-12 10:47 J -7029074.26 -7029074.05 -7029073.83 0.0089 0.0014
 Mars -23958-09-06 07:40 J -7028988.36 -7028988.18 -7028988.00 0.1844 0.0252
 Neptune -23957-01-23 23:02 J -7028848.75 -7028848.54 -7028848.32 0.0089 0.0013
 Neptune -23957-09-05 11:16 J -7028623.24 -7028623.03 -7028622.81 0.0089 0.0012
 Neptune -23956-04-18 23:45 J -7028397.72 -7028397.51 -7028397.30 0.0089 0.0011
 Neptune -23956-11-30 11:59 J -7028172.21 -7028172.00 -7028171.78 0.0089 0.0010
 Uranus -23955-04-23 17:45 J -7028027.84 -7028027.76 -7028027.64 0.0133 0.0118
 Jupiter -23955-05-30 15:21 J -7027991.01 -7027990.86 -7027990.71 0.0535 0.0355
 Neptune -23955-07-14 00:14 J -7027946.70 -7027946.49 -7027946.27 0.0089 0.0010
 Uranus -23955-12-05 23:16 J -7027801.67 -7027801.53 -7027801.37 0.0133 0.0095
 Jupiter -23954-01-23 03:07 J -7027753.56 -7027753.37 -7027753.17 0.0530 0.0108
 Neptune -23954-02-24 12:28 J -7027721.19 -7027720.98 -7027720.76 0.0089 0.0009
 Uranus -23954-07-20 04:47 J -7027575.48 -7027575.30 -7027575.11 0.0133 0.0072
 Neptune -23954-10-08 00:57 J -7027495.67 -7027495.46 -7027495.24 0.0089 0.0008
 Uranus -23953-03-02 10:04 J -7027349.27 -7027349.08 -7027348.87 0.0133 0.0050
 Neptune -23953-05-20 13:26 J -7027270.15 -7027269.94 -7027269.72 0.0089 0.0007
 Uranus -23953-10-14 15:35 J -7027123.07 -7027122.85 -7027122.64 0.0133 0.0026

Neptune	-23952-01-01 01:55 J	-7027044.64	-7027044.42	-7027044.20	0.0089	0.0006
Uranus	-23952-05-28 20:52 J	-7026896.85	-7026896.63	-7026896.41	0.0133	0.0003
Neptune	-23952-08-14 14:09 J	-7026819.12	-7026818.91	-7026818.69	0.0089	0.0005
Uranus	-23951-01-10 02:23 J	-7026670.62	-7026670.40	-7026670.18	0.0134	0.0020
Neptune	-23951-03-28 02:38 J	-7026593.61	-7026593.39	-7026593.17	0.0089	0.0004
Uranus	-23951-08-24 07:40 J	-7026444.38	-7026444.18	-7026443.97	0.0134	0.0043
Neptune	-23951-11-08 14:52 J	-7026368.09	-7026367.88	-7026367.66	0.0089	0.0004
Uranus	-23950-04-07 12:57 J	-7026218.14	-7026217.96	-7026217.76	0.0134	0.0067
Neptune	-23950-06-22 03:21 J	-7026142.57	-7026142.36	-7026142.14	0.0089	0.0003
Uranus	-23950-11-19 18:28 J	-7025991.88	-7025991.73	-7025991.56	0.0134	0.0090
Neptune	-23949-02-02 15:50 J	-7025917.06	-7025916.84	-7025916.62	0.0089	0.0001
Jupiter	-23949-03-27 19:11 J	-7025862.76	-7025862.70	-7025862.64	0.0491	0.0465
Uranus	-23949-07-02 23:59 J	-7025765.60	-7025765.50	-7025765.37	0.0135	0.0113
Neptune	-23949-09-15 04:19 J	-7025691.54	-7025691.32	-7025691.11	0.0089	0.0002
Jupiter	-23949-11-19 05:16 J	-7025626.49	-7025626.28	-7025626.08	0.0495	0.0103
Neptune	-23948-04-28 16:33 J	-7025466.02	-7025465.81	-7025465.59	0.0089	0.0001
Jupiter	-23948-07-13 22:33 J	-7025389.73	-7025389.56	-7025389.39	0.0500	0.0287
Neptune	-23948-12-10 05:02 J	-7025240.51	-7025240.29	-7025240.07	0.0089	0.0001
Neptune	-23947-07-23 17:16 J	-7025014.99	-7025014.78	-7025014.56	0.0089	0.0002
Neptune	-23946-03-06 05:45 J	-7024789.48	-7024789.26	-7024789.04	0.0089	0.0003
Neptune	-23946-10-17 17:59 J	-7024563.96	-7024563.75	-7024563.53	0.0089	0.0004
Neptune	-23945-05-30 06:43 J	-7024338.44	-7024338.22	-7024338.00	0.0089	0.0005
Saturn	-23945-06-07 04:04 J	-7024330.36	-7024330.33	-7024330.27	0.0264	0.0259
Neptune	-23944-01-10 18:57 J	-7024112.92	-7024112.71	-7024112.49	0.0089	0.0006
Saturn	-23944-01-22 02:23 J	-7024101.57	-7024101.40	-7024101.22	0.0266	0.0145
Neptune	-23944-08-24 07:26 J	-7023887.41	-7023887.19	-7023886.97	0.0089	0.0007
Saturn	-23944-09-08 01:55 J	-7023872.63	-7023872.42	-7023872.21	0.0267	0.0027
Jupiter	-23943-02-02 08:23 J	-7023725.23	-7023725.15	-7023725.06	0.0535	0.0478
Neptune	-23943-04-06 19:40 J	-7023661.89	-7023661.68	-7023661.46	0.0088	0.0008
Saturn	-23943-04-25 02:52 J	-7023643.57	-7023643.38	-7023643.18	0.0268	0.0095

Jupiter -23943-09-27 22:33 J -7023487.76 -7023487.56 -7023487.36 0.0531 0.0019
 Neptune -23943-11-18 08:09 J -7023436.37 -7023436.16 -7023435.94 0.0088 0.0009
 Saturn -23943-12-10 05:45 J -7023414.38 -7023414.26 -7023414.13 0.0270 0.0219
 Jupiter -23942-05-23 03:35 J -7023250.47 -7023250.35 -7023250.24 0.0525 0.0423
 Neptune -23942-07-01 20:52 J -7023210.84 -7023210.63 -7023210.41 0.0088 0.0009
 Neptune -23941-02-12 09:21 J -7022985.32 -7022985.11 -7022984.89 0.0088 0.0010
 Neptune -23941-09-24 21:50 J -7022759.80 -7022759.59 -7022759.37 0.0088 0.0011
 Neptune -23940-05-08 10:33 J -7022534.28 -7022534.06 -7022533.84 0.0088 0.0012
 Neptune -23940-12-19 23:02 J -7022308.75 -7022308.54 -7022308.32 0.0088 0.0013
 Neptune -23939-08-02 11:31 J -7022083.23 -7022083.02 -7022082.80 0.0088 0.0014
 Neptune -23938-03-16 00:14 J -7021857.70 -7021857.49 -7021857.27 0.0088 0.0014
 Neptune -23938-10-27 12:43 J -7021632.18 -7021631.97 -7021631.75 0.0088 0.0015
 Neptune -23937-06-09 01:40 J -7021406.65 -7021406.43 -7021406.22 0.0088 0.0016
 Jupiter -23937-07-25 05:59 J -7021360.44 -7021360.25 -7021360.06 0.0494 0.0205
 Neptune -23936-01-20 14:09 J -7021181.12 -7021180.91 -7021180.69 0.0088 0.0017
 Jupiter -23936-03-18 21:21 J -7021123.80 -7021123.61 -7021123.41 0.0498 0.0181
 Neptune -23936-09-03 02:38 J -7020955.60 -7020955.39 -7020955.17 0.0088 0.0017
 Neptune -23935-04-16 15:07 J -7020730.08 -7020729.87 -7020729.65 0.0088 0.0018
 Neptune -23935-11-28 03:35 J -7020504.55 -7020504.35 -7020504.12 0.0088 0.0020
 Neptune -23934-07-11 16:33 J -7020279.02 -7020278.81 -7020278.59 0.0088 0.0020
 Neptune -23933-02-22 05:16 J -7020053.49 -7020053.28 -7020053.07 0.0088 0.0020
 Neptune -23933-10-04 17:45 J -7019827.97 -7019827.76 -7019827.54 0.0088 0.0021
 Neptune -23932-05-18 06:14 J -7019602.44 -7019602.24 -7019602.02 0.0088 0.0022
 Neptune -23932-12-29 19:11 J -7019376.91 -7019376.70 -7019376.49 0.0088 0.0023
 Jupiter -23931-06-02 13:26 J -7019222.13 -7019221.94 -7019221.75 0.0532 0.0150
 Neptune -23931-08-12 07:40 J -7019151.38 -7019151.18 -7019150.96 0.0088 0.0024
 Saturn -23931-11-26 16:19 J -7019044.95 -7019044.82 -7019044.69 0.0296 0.0231
 Jupiter -23930-01-25 20:38 J -7018984.80 -7018984.64 -7018984.47 0.0527 0.0303
 Neptune -23930-03-25 20:23 J -7018925.85 -7018925.65 -7018925.43 0.0088 0.0024
 Saturn -23930-07-14 19:26 J -7018814.89 -7018814.69 -7018814.48 0.0295 0.0063

Neptune -23930-11-06 09:07 J -7018700.32 -7018700.12 -7018699.90 0.0088 0.0025
 Saturn -23929-02-29 20:23 J -7018584.85 -7018584.65 -7018584.45 0.0293 0.0102
 Neptune -23929-06-18 22:04 J -7018474.78 -7018474.58 -7018474.36 0.0088 0.0026
 Saturn -23929-10-16 18:43 J -7018354.81 -7018354.72 -7018354.62 0.0291 0.0258
 Mars -23929-11-26 19:26 J -7018313.86 -7018313.69 -7018313.53 0.1676 0.0339
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 Neptune -23928-09-12 23:31 J -7018023.71 -7018023.52 -7018023.29 0.0088 0.0027
 Neptune -23927-04-26 12:28 J -7017798.18 -7017797.98 -7017797.76 0.0088 0.0027
 Neptune -23927-12-08 01:11 J -7017572.65 -7017572.45 -7017572.23 0.0088 0.0028
 Neptune -23926-07-21 14:23 J -7017347.10 -7017346.90 -7017346.68 0.0088 0.0029
 Neptune -23925-03-03 03:21 J -7017121.56 -7017121.36 -7017121.15 0.0088 0.0029
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 Neptune -23924-05-28 05:02 J -7016670.49 -7016670.29 -7016670.07 0.0088 0.0030
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 Pluto -23923-03-14 14:09 J -7016380.12 -7016379.91 -7016379.70 0.0080 0.0031
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 Neptune -23920-09-22 23:45 J -7015091.71 -7015091.51 -7015091.30 0.0088 0.0034
 Jupiter -23919-02-05 06:14 J -7014956.41 -7014956.24 -7014956.07 0.0534 0.0278
 Neptune -23919-05-06 12:43 J -7014866.17 -7014865.97 -7014865.76 0.0088 0.0034
 Jupiter -23919-09-30 15:50 J -7014719.02 -7014718.84 -7014718.65 0.0529 0.0183
 Neptune -23919-12-18 01:40 J -7014640.62 -7014640.43 -7014640.21 0.0088 0.0035

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 Neptune -23917-03-13 04:04 J -7014189.53 -7014189.33 -7014189.12 0.0088 0.0035
 Neptune -23917-10-24 17:16 J -7013963.98 -7013963.78 -7013963.57 0.0088 0.0035
 Neptune -23916-06-07 05:59 J -7013738.43 -7013738.25 -7013738.03 0.0088 0.0036
 Saturn -23916-12-18 08:38 J -7013544.22 -7013544.14 -7013544.05 0.0264 0.0239
 Neptune -23915-01-18 19:11 J -7013512.89 -7013512.70 -7013512.48 0.0088 0.0037
 Saturn -23915-08-04 06:57 J -7013315.39 -7013315.21 -7013315.02 0.0265 0.0125
 Neptune -23915-09-01 08:38 J -7013287.33 -7013287.14 -7013286.93 0.0088 0.0036
 Uranus -23914-03-19 15:21 J -7013087.98 -7013087.86 -7013087.74 0.0146 0.0120
 Saturn -23914-03-21 06:43 J -7013086.44 -7013086.22 -7013086.01 0.0266 0.0009
 Neptune -23914-04-14 22:04 J -7013061.78 -7013061.58 -7013061.37 0.0088 0.0036
 Uranus -23914-11-01 03:21 J -7012861.51 -7012861.36 -7012861.18 0.0146 0.0091
 Saturn -23914-11-05 07:40 J -7012857.36 -7012857.18 -7012856.98 0.0268 0.0115
 Neptune -23914-11-26 11:02 J -7012836.23 -7012836.04 -7012835.82 0.0088 0.0037
 Jupiter -23914-12-04 08:09 J -7012828.28 -7012828.16 -7012828.04 0.0492 0.0403
 Uranus -23913-06-14 15:50 J -7012635.03 -7012634.84 -7012634.63 0.0145 0.0061
 Saturn -23913-06-21 10:47 J -7012628.13 -7012628.05 -7012627.94 0.0270 0.0239
 Neptune -23913-07-09 00:14 J -7012610.68 -7012610.49 -7012610.27 0.0088 0.0037
 Jupiter -23913-07-27 19:26 J -7012591.90 -7012591.69 -7012591.49 0.0495 0.0034
 Uranus -23912-01-27 04:19 J -7012408.53 -7012408.32 -7012408.11 0.0145 0.0030
 Neptune -23912-02-19 13:40 J -7012385.12 -7012384.93 -7012384.72 0.0088 0.0037
 Jupiter -23912-03-21 13:40 J -7012355.06 -7012354.93 -7012354.78 0.0501 0.0358
 Uranus -23912-09-10 16:19 J -7012182.03 -7012181.82 -7012181.60 0.0145 0.0003
 Neptune -23912-10-03 02:52 J -7012159.57 -7012159.38 -7012159.16 0.0088 0.0037
 Uranus -23911-04-25 04:19 J -7011955.53 -7011955.32 -7011955.10 0.0145 0.0030
 Neptune -23911-05-16 16:19 J -7011934.02 -7011933.82 -7011933.61 0.0088 0.0037
 Uranus -23911-12-07 16:33 J -7011729.01 -7011728.81 -7011728.61 0.0145 0.0059
 Neptune -23911-12-28 05:31 J -7011708.46 -7011708.27 -7011708.06 0.0088 0.0037
 Uranus -23910-07-22 04:33 J -7011502.47 -7011502.31 -7011502.13 0.0144 0.0089
 Neptune -23910-08-10 19:11 J -7011482.90 -7011482.70 -7011482.50 0.0088 0.0037

Uranus -23909-03-04 16:33 J -7011275.93 -7011275.81 -7011275.68 0.0144 0.0117
 Neptune -23909-03-23 08:09 J -7011257.35 -7011257.16 -7011256.95 0.0088 0.0038
 Moon -23909-10-29 10:19 J -7011037.17 -7011037.07 -7011036.98 0.2624 0.2023
 Earth -23909-10-29 13:55 J -7011037.02 -7011036.92 -7011036.83 0.2620 0.2098 *
 Neptune -23909-11-03 21:21 J -7011031.80 -7011031.61 -7011031.39 0.0088 0.0038
 Neptune -23908-06-17 10:33 J -7010806.24 -7010806.06 -7010805.84 0.0088 0.0038
 Jupiter -23908-10-10 22:19 J -7010690.69 -7010690.57 -7010690.43 0.0535 0.0405
 Neptune -23907-01-28 23:59 J -7010580.69 -7010580.50 -7010580.29 0.0088 0.0038
 Jupiter -23907-06-05 11:02 J -7010453.24 -7010453.04 -7010452.84 0.0531 0.0059
 Neptune -23907-09-11 13:26 J -7010355.13 -7010354.94 -7010354.73 0.0088 0.0038
 Jupiter -23906-01-28 14:52 J -7010215.94 -7010215.88 -7010215.80 0.0524 0.0490
 Neptune -23906-04-25 02:52 J -7010129.57 -7010129.38 -7010129.17 0.0088 0.0038
 Neptune -23906-12-06 16:04 J -7009904.02 -7009903.83 -7009903.61 0.0088 0.0038
 Neptune -23905-07-19 05:31 J -7009678.46 -7009678.27 -7009678.05 0.0088 0.0038
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 Neptune -23904-10-13 08:52 J -7009227.34 -7009227.13 -7009226.93 0.0088 0.0038
 Neptune -23903-05-26 22:04 J -7009001.78 -7009001.58 -7009001.37 0.0088 0.0037
 Neptune -23902-01-07 11:31 J -7008776.21 -7008776.02 -7008775.81 0.0088 0.0037
 Neptune -23902-08-21 01:11 J -7008550.65 -7008550.45 -7008550.24 0.0088 0.0037
 Jupiter -23901-04-01 18:57 J -7008325.91 -7008325.71 -7008325.51 0.0494 0.0138
 Neptune -23901-04-02 14:38 J -7008325.08 -7008324.89 -7008324.67 0.0088 0.0037
 Saturn -23901-06-07 20:38 J -7008258.78 -7008258.64 -7008258.48 0.0296 0.0210
 Earth -23901-10-27 05:59 J -7008117.40 -7008117.25 -7008117.11 0.2620 0.1129
 Moon -23901-10-27 06:28 J -7008117.36 -7008117.23 -7008117.10 0.2626 0.1312 *
 Neptune -23901-11-14 04:04 J -7008099.52 -7008099.33 -7008099.11 0.0088 0.0037
 Jupiter -23901-11-24 11:02 J -7008089.21 -7008089.04 -7008088.85 0.0499 0.0250
 Saturn -23900-01-23 23:45 J -7008028.72 -7008028.51 -7008028.30 0.0295 0.0043
 Neptune -23900-06-27 17:59 J -7007873.96 -7007873.75 -7007873.55 0.0088 0.0037
 Saturn -23900-09-11 00:14 J -7007798.68 -7007798.49 -7007798.29 0.0293 0.0121
 Neptune -23899-02-08 07:26 J -7007648.39 -7007648.19 -7007647.98 0.0088 0.0036

Saturn -23899-04-28 22:04 J -7007568.63 -7007568.58 -7007568.50 0.0291 0.0276
 Neptune -23899-09-21 20:52 J -7007422.82 -7007422.63 -7007422.41 0.0088 0.0036
 Neptune -23898-05-05 10:33 J -7007197.26 -7007197.06 -7007196.85 0.0088 0.0036
 Neptune -23898-12-17 00:14 J -7006971.69 -7006971.49 -7006971.28 0.0088 0.0036
 Neptune -23897-07-29 13:40 J -7006746.13 -7006745.93 -7006745.72 0.0088 0.0035
 Mars -23897-11-25 14:09 J -7006627.01 -7006626.91 -7006626.81 0.1682 0.1332
 Neptune -23896-03-12 03:07 J -7006520.56 -7006520.37 -7006520.15 0.0088 0.0035
 Jupiter -23896-06-15 15:21 J -7006424.89 -7006424.86 -7006424.82 0.0536 0.0526
 Neptune -23896-10-23 17:02 J -7006295.00 -7006294.79 -7006294.58 0.0088 0.0035
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 Neptune -23895-06-06 06:28 J -7006069.43 -7006069.23 -7006069.02 0.0088 0.0034
 Mars -23895-09-25 12:57 J -7005958.12 -7005957.96 -7005957.81 0.1667 0.0735
 Jupiter -23895-10-03 13:11 J -7005950.08 -7005949.95 -7005949.81 0.0526 0.0381
 Neptune -23894-01-17 19:55 J -7005843.87 -7005843.67 -7005843.45 0.0088 0.0034
 Neptune -23894-08-31 09:35 J -7005618.30 -7005618.10 -7005617.88 0.0088 0.0034
 Neptune -23893-04-12 23:16 J -7005392.73 -7005392.53 -7005392.31 0.0088 0.0033
 Neptune -23893-11-24 12:57 J -7005167.16 -7005166.96 -7005166.75 0.0088 0.0033
 Mars -23892-07-03 10:33 J -7004946.24 -7004946.06 -7004945.88 0.1847 0.0035
 Neptune -23892-07-08 02:23 J -7004941.60 -7004941.40 -7004941.18 0.0088 0.0032
 Neptune -23891-02-18 16:19 J -7004716.03 -7004715.82 -7004715.61 0.0088 0.0032
 Neptune -23891-10-02 05:59 J -7004490.45 -7004490.25 -7004490.03 0.0088 0.0031
 Neptune -23890-05-15 19:55 J -7004264.88 -7004264.67 -7004264.46 0.0088 0.0031
 Jupiter -23890-12-06 18:28 J -7004059.91 -7004059.73 -7004059.55 0.0493 0.0242
 Neptune -23890-12-27 09:21 J -7004039.31 -7004039.11 -7004038.89 0.0088 0.0030
 Jupiter -23889-07-30 08:38 J -7003823.34 -7003823.14 -7003822.94 0.0497 0.0142
 Neptune -23889-08-08 23:16 J -7003813.74 -7003813.53 -7003813.32 0.0088 0.0029
 Neptune -23888-03-22 12:43 J -7003588.17 -7003587.97 -7003587.75 0.0088 0.0029
 Neptune -23888-11-03 02:38 J -7003362.59 -7003362.39 -7003362.17 0.0088 0.0028
 Neptune -23887-06-16 16:19 J -7003137.02 -7003136.82 -7003136.60 0.0088 0.0028
 Neptune -23886-01-28 05:59 J -7002911.45 -7002911.25 -7002911.02 0.0088 0.0028

Saturn -23886-06-30 07:40 J -7002758.28 -7002758.18 -7002758.07 0.0264 0.0227
 Neptune -23886-09-10 19:55 J -7002685.88 -7002685.67 -7002685.45 0.0088 0.0027
 Saturn -23885-02-14 05:45 J -7002529.44 -7002529.26 -7002529.06 0.0265 0.0113
 Neptune -23885-04-23 09:35 J -7002460.30 -7002460.10 -7002459.87 0.0088 0.0026
 Saturn -23885-09-30 05:31 J -7002300.49 -7002300.27 -7002300.06 0.0267 0.0008
 Neptune -23885-12-04 23:31 J -7002234.73 -7002234.52 -7002234.30 0.0088 0.0025
 Saturn -23884-05-17 06:28 J -7002071.41 -7002071.23 -7002071.04 0.0268 0.0128
 Neptune -23884-07-18 13:11 J -7002009.16 -7002008.95 -7002008.73 0.0088 0.0025
 Jupiter -23884-10-14 01:26 J -7001921.63 -7001921.44 -7001921.26 0.0533 0.0192
 Saturn -23883-01-01 09:35 J -7001842.17 -7001842.10 -7001842.03 0.0270 0.0252
 Neptune -23883-03-01 02:38 J -7001783.59 -7001783.39 -7001783.16 0.0088 0.0025
 Jupiter -23883-06-08 10:04 J -7001684.25 -7001684.08 -7001683.91 0.0528 0.0264
 Neptune -23883-10-12 16:33 J -7001558.01 -7001557.81 -7001557.58 0.0088 0.0024
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 Neptune -23881-01-06 19:55 J -7001106.87 -7001106.67 -7001106.44 0.0088 0.0023
 Neptune -23881-08-19 09:50 J -7000881.30 -7000881.09 -7000880.87 0.0088 0.0021
 Neptune -23880-04-01 23:31 J -7000655.73 -7000655.52 -7000655.29 0.0088 0.0021
 Neptune -23880-11-13 13:26 J -7000430.15 -7000429.94 -7000429.72 0.0088 0.0020
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 Neptune -23878-02-07 16:47 J -6999979.01 -6999978.80 -6999978.57 0.0088 0.0018
 Jupiter -23878-08-11 20:09 J -6999793.81 -6999793.66 -6999793.51 0.0492 0.0339
 Neptune -23878-09-21 06:43 J -6999753.44 -6999753.22 -6999752.99 0.0088 0.0017
 Jupiter -23877-04-04 08:38 J -6999557.35 -6999557.14 -6999556.93 0.0496 0.0036
 Neptune -23877-05-03 20:38 J -6999527.86 -6999527.64 -6999527.42 0.0088 0.0016
 Jupiter -23877-11-27 04:47 J -6999320.41 -6999320.30 -6999320.19 0.0502 0.0427
 Neptune -23877-12-15 10:19 J -6999302.28 -6999302.07 -6999301.84 0.0088 0.0016
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 Neptune -23874-06-05 17:45 J -6998399.98 -6998399.76 -6998399.54 0.0088 0.0012

Neptune -23873-01-17 07:26 J -6998174.41 -6998174.19 -6998173.96 0.0088 0.0012
 Neptune -23873-08-29 21:07 J -6997948.84 -6997948.62 -6997948.39 0.0089 0.0011
 Neptune -23872-04-12 11:02 J -6997723.26 -6997723.04 -6997722.82 0.0089 0.0010
 Jupiter -23872-06-18 16:04 J -6997655.99 -6997655.83 -6997655.67 0.0534 0.0324
 Neptune -23872-11-24 00:43 J -6997497.69 -6997497.47 -6997497.24 0.0089 0.0009
 Saturn -23872-12-18 23:02 J -6997472.69 -6997472.54 -6997472.37 0.0296 0.0191
 Uranus -23872-12-22 04:33 J -6997469.36 -6997469.31 -6997469.23 0.0132 0.0127
 Jupiter -23871-02-11 02:52 J -6997418.58 -6997418.38 -6997418.19 0.0529 0.0138
 Neptune -23871-07-07 14:23 J -6997272.12 -6997271.90 -6997271.67 0.0089 0.0009
 Uranus -23871-08-05 09:50 J -6997243.21 -6997243.09 -6997242.94 0.0133 0.0105
 Saturn -23871-08-06 02:23 J -6997242.61 -6997242.40 -6997242.19 0.0295 0.0022
 Neptune -23870-02-18 04:04 J -6997046.55 -6997046.33 -6997046.10 0.0089 0.0008
 Uranus -23870-03-19 15:07 J -6997017.03 -6997016.87 -6997016.68 0.0133 0.0082
 Saturn -23870-03-24 03:07 J -6997012.56 -6997012.37 -6997012.19 0.0293 0.0142
 Neptune -23870-10-01 17:45 J -6996820.98 -6996820.76 -6996820.53 0.0089 0.0007
 Uranus -23870-10-31 20:23 J -6996790.83 -6996790.65 -6996790.44 0.0133 0.0059
 Neptune -23869-05-14 07:40 J -6996595.41 -6996595.18 -6996594.96 0.0089 0.0006
 Uranus -23869-06-14 01:55 J -6996564.63 -6996564.42 -6996564.21 0.0133 0.0036
 Neptune -23869-12-25 21:21 J -6996369.84 -6996369.61 -6996369.39 0.0089 0.0005
 Uranus -23868-01-26 07:26 J -6996338.41 -6996338.19 -6996337.97 0.0133 0.0013
 Neptune -23868-08-08 10:47 J -6996144.27 -6996144.05 -6996143.82 0.0089 0.0005
 Uranus -23868-09-09 12:43 J -6996112.19 -6996111.97 -6996111.75 0.0134 0.0011
 Neptune -23867-03-22 00:28 J -6995918.70 -6995918.48 -6995918.25 0.0089 0.0004
 Uranus -23867-04-23 17:59 J -6995885.96 -6995885.75 -6995885.54 0.0134 0.0034
 Neptune -23867-11-02 14:23 J -6995693.13 -6995692.90 -6995692.68 0.0089 0.0002
 Uranus -23867-12-05 23:31 J -6995659.71 -6995659.52 -6995659.32 0.0134 0.0057
 Jupiter -23866-04-16 21:50 J -6995527.68 -6995527.59 -6995527.50 0.0492 0.0436
 Neptune -23866-06-16 04:04 J -6995467.56 -6995467.33 -6995467.11 0.0089 0.0001
 Uranus -23866-07-20 04:47 J -6995433.46 -6995433.30 -6995433.12 0.0134 0.0081
 Jupiter -23866-12-09 08:38 J -6995291.34 -6995291.14 -6995290.93 0.0495 0.0070

Neptune	-23865-01-27 17:45 J	-6995241.99	-6995241.76	-6995241.54	0.0089	0.0001
Uranus	-23865-03-02 10:33 J	-6995207.19	-6995207.06	-6995206.92	0.0134	0.0104
Jupiter	-23865-08-02 02:38 J	-6995054.54	-6995054.39	-6995054.23	0.0500	0.0321
Neptune	-23865-09-09 07:11 J	-6995016.42	-6995016.20	-6995015.97	0.0089	0.0002
Uranus	-23865-10-14 16:04 J	-6994980.89	-6994980.83	-6994980.75	0.0135	0.0127
Neptune	-23864-04-22 20:52 J	-6994790.85	-6994790.63	-6994790.40	0.0089	0.0002
Neptune	-23864-12-04 10:47 J	-6994565.27	-6994565.05	-6994564.83	0.0089	0.0002
Neptune	-23863-07-18 00:28 J	-6994339.70	-6994339.48	-6994339.26	0.0089	0.0003
Mars	-23863-09-24 06:57 J	-6994271.38	-6994271.21	-6994271.04	0.1673	0.0231
Neptune	-23862-02-28 14:09 J	-6994114.14	-6994113.91	-6994113.69	0.0089	0.0004
Neptune	-23862-10-12 03:35 J	-6993888.57	-6993888.35	-6993888.12	0.0089	0.0005
Neptune	-23861-05-24 17:16 J	-6993663.00	-6993662.78	-6993662.56	0.0089	0.0006
Neptune	-23860-01-05 06:57 J	-6993437.43	-6993437.21	-6993436.99	0.0089	0.0006
Jupiter	-23860-02-21 07:40 J	-6993390.28	-6993390.18	-6993390.06	0.0535	0.0450
Mars	-23860-07-03 08:38 J	-6993258.21	-6993258.14	-6993258.07	0.1838	0.1685
Neptune	-23860-08-18 20:38 J	-6993211.87	-6993211.64	-6993211.42	0.0089	0.0007
Jupiter	-23860-10-16 21:07 J	-6993152.82	-6993152.62	-6993152.42	0.0531	0.0016
Neptune	-23859-04-01 10:04 J	-6992986.30	-6992986.08	-6992985.86	0.0089	0.0008
Jupiter	-23859-06-11 01:26 J	-6992915.54	-6992915.44	-6992915.33	0.0525	0.0448
Neptune	-23859-11-12 23:31 J	-6992760.74	-6992760.52	-6992760.29	0.0089	0.0009
Neptune	-23858-06-26 12:57 J	-6992535.17	-6992534.96	-6992534.73	0.0089	0.0010
Neptune	-23857-02-07 02:23 J	-6992309.61	-6992309.40	-6992309.17	0.0089	0.0011
Neptune	-23857-09-19 16:04 J	-6992084.05	-6992083.83	-6992083.61	0.0089	0.0011
Saturn	-23856-01-09 11:45 J	-6991972.14	-6991972.01	-6991971.88	0.0264	0.0208
Neptune	-23856-05-03 05:31 J	-6991858.49	-6991858.27	-6991858.05	0.0089	0.0012
Saturn	-23856-08-26 09:50 J	-6991743.28	-6991743.09	-6991742.89	0.0265	0.0093
Neptune	-23856-12-14 18:57 J	-6991632.93	-6991632.71	-6991632.49	0.0089	0.0013
Saturn	-23855-04-12 09:35 J	-6991514.31	-6991514.10	-6991513.89	0.0266	0.0026
Neptune	-23855-07-28 08:23 J	-6991407.36	-6991407.15	-6991406.93	0.0089	0.0014
Saturn	-23855-11-27 10:47 J	-6991285.22	-6991285.05	-6991284.87	0.0268	0.0148

Neptune -23854-03-10 21:50 J -6991181.81 -6991181.59 -6991181.37 0.0089 0.0014
 Jupiter -23854-08-14 08:23 J -6991025.34 -6991025.15 -6991024.96 0.0494 0.0173
 Neptune -23854-10-22 11:16 J -6990956.25 -6990956.03 -6990955.81 0.0089 0.0015
 Jupiter -23853-04-06 23:45 J -6990788.69 -6990788.51 -6990788.31 0.0498 0.0214
 Neptune -23853-06-04 00:28 J -6990730.69 -6990730.48 -6990730.25 0.0089 0.0016
 Neptune -23852-01-15 13:55 J -6990505.12 -6990504.92 -6990504.69 0.0089 0.0017
 Neptune -23852-08-29 03:21 J -6990279.57 -6990279.36 -6990279.13 0.0089 0.0018
 Neptune -23851-04-11 16:47 J -6990054.01 -6990053.80 -6990053.58 0.0089 0.0018
 Neptune -23851-11-23 06:14 J -6989828.45 -6989828.24 -6989828.02 0.0089 0.0019
 Neptune -23850-07-06 19:40 J -6989602.89 -6989602.68 -6989602.46 0.0089 0.0020
 Neptune -23849-02-17 09:07 J -6989377.33 -6989377.12 -6989376.90 0.0089 0.0020
 Neptune -23849-09-29 22:19 J -6989151.78 -6989151.57 -6989151.35 0.0089 0.0021
 Neptune -23848-05-13 11:31 J -6988926.22 -6988926.02 -6988925.79 0.0089 0.0022
 Jupiter -23848-06-21 14:52 J -6988887.08 -6988886.88 -6988886.69 0.0532 0.0116
 Neptune -23848-12-25 01:11 J -6988700.66 -6988700.45 -6988700.23 0.0089 0.0022
 Jupiter -23847-02-13 22:19 J -6988649.72 -6988649.57 -6988649.42 0.0527 0.0335
 Neptune -23847-08-07 14:23 J -6988475.11 -6988474.90 -6988474.68 0.0089 0.0023
 Neptune -23846-03-21 03:35 J -6988249.56 -6988249.35 -6988249.13 0.0089 0.0024
 Neptune -23846-11-01 16:47 J -6988024.01 -6988023.80 -6988023.58 0.0089 0.0024
 Neptune -23845-06-14 05:45 J -6987798.46 -6987798.26 -6987798.03 0.0089 0.0025
 Neptune -23844-01-25 19:11 J -6987572.90 -6987572.70 -6987572.48 0.0089 0.0025
 Neptune -23844-09-08 08:09 J -6987347.36 -6987347.16 -6987346.94 0.0089 0.0027
 Neptune -23843-04-21 21:35 J -6987121.81 -6987121.60 -6987121.39 0.0089 0.0026
 Neptune -23843-12-03 10:33 J -6986896.26 -6986896.06 -6986895.84 0.0089 0.0027
 Jupiter -23842-04-19 08:52 J -6986759.30 -6986759.13 -6986758.96 0.0493 0.0275
 Saturn -23842-07-01 04:19 J -6986686.50 -6986686.32 -6986686.15 0.0296 0.0168
 Neptune -23842-07-16 23:45 J -6986670.72 -6986670.51 -6986670.30 0.0089 0.0028
 Jupiter -23842-12-11 22:04 J -6986522.78 -6986522.58 -6986522.37 0.0497 0.0105
 Saturn -23841-02-16 06:57 J -6986456.42 -6986456.21 -6986456.00 0.0295 0.0003
 Neptune -23841-02-27 12:43 J -6986445.16 -6986444.97 -6986444.75 0.0089 0.0028

Jupiter	-23841-08-04 19:11 J	-6986285.74	-6986285.70	-6986285.66	0.0503	0.0493
Saturn	-23841-10-03 07:11 J	-6986226.37	-6986226.20	-6986226.02	0.0293	0.0162
Neptune	-23841-10-10 01:55 J	-6986219.62	-6986219.42	-6986219.21	0.0089	0.0029
Neptune	-23840-05-23 14:52 J	-6985994.08	-6985993.88	-6985993.66	0.0089	0.0029
Neptune	-23839-01-04 04:04 J	-6985768.53	-6985768.33	-6985768.11	0.0089	0.0030
Neptune	-23839-08-17 17:02 J	-6985542.98	-6985542.79	-6985542.57	0.0089	0.0030
Neptune	-23838-03-31 06:14 J	-6985317.44	-6985317.24	-6985317.03	0.0089	0.0030
Neptune	-23838-11-11 19:26 J	-6985091.90	-6985091.69	-6985091.48	0.0089	0.0031
Neptune	-23837-06-24 08:09 J	-6984866.35	-6984866.16	-6984865.94	0.0089	0.0031
Neptune	-23836-02-04 21:21 J	-6984640.80	-6984640.61	-6984640.39	0.0089	0.0032
Jupiter	-23836-02-24 09:21 J	-6984621.29	-6984621.11	-6984620.93	0.0534	0.0241
Neptune	-23836-09-18 10:33 J	-6984415.26	-6984415.06	-6984414.85	0.0089	0.0032
Jupiter	-23836-10-19 19:26 J	-6984383.87	-6984383.69	-6984383.50	0.0529	0.0219
Neptune	-23835-05-01 23:16 J	-6984189.72	-6984189.53	-6984189.32	0.0089	0.0032
Neptune	-23835-12-13 12:14 J	-6983964.19	-6983963.99	-6983963.78	0.0089	0.0032
Neptune	-23834-07-27 01:11 J	-6983738.65	-6983738.45	-6983738.24	0.0089	0.0033
Neptune	-23833-03-08 13:55 J	-6983513.10	-6983512.92	-6983512.70	0.0089	0.0034
Neptune	-23833-10-20 02:52 J	-6983287.57	-6983287.38	-6983287.17	0.0089	0.0033
Neptune	-23832-06-02 15:50 J	-6983062.04	-6983061.84	-6983061.63	0.0089	0.0033
Neptune	-23831-01-14 04:33 J	-6982836.50	-6982836.31	-6982836.10	0.0089	0.0034
Neptune	-23831-08-27 17:31 J	-6982610.97	-6982610.77	-6982610.57	0.0089	0.0034
Mars	-23831-09-23 01:55 J	-6982584.54	-6982584.42	-6982584.31	0.1680	0.1224
Uranus	-23831-11-16 21:21 J	-6982529.68	-6982529.61	-6982529.51	0.0146	0.0134
Jupiter	-23831-12-23 09:07 J	-6982493.25	-6982493.12	-6982492.98	0.0492	0.0374
Neptune	-23830-04-10 05:59 J	-6982385.44	-6982385.25	-6982385.03	0.0089	0.0034
Uranus	-23830-07-01 09:50 J	-6982303.23	-6982303.09	-6982302.93	0.0146	0.0104
Jupiter	-23830-08-16 20:38 J	-6982256.85	-6982256.64	-6982256.43	0.0495	0.0002
Neptune	-23830-11-21 18:43 J	-6982159.91	-6982159.72	-6982159.50	0.0089	0.0035
Uranus	-23829-02-12 22:19 J	-6982076.75	-6982076.57	-6982076.38	0.0146	0.0074
Jupiter	-23829-04-09 15:21 J	-6982019.98	-6982019.86	-6982019.72	0.0501	0.0388

Neptune -23829-07-04 07:26 J -6981934.37 -6981934.19 -6981933.97 0.0089 0.0035
 Mars -23829-07-23 00:57 J -6981915.61 -6981915.46 -6981915.32 0.1665 0.0831
 Uranus -23829-09-26 10:33 J -6981850.26 -6981850.06 -6981849.85 0.0145 0.0044
 Neptune -23828-02-14 20:23 J -6981708.84 -6981708.65 -6981708.44 0.0089 0.0035
 Uranus -23828-05-10 22:47 J -6981623.77 -6981623.55 -6981623.34 0.0145 0.0014
 Neptune -23828-09-28 09:07 J -6981483.31 -6981483.12 -6981482.91 0.0089 0.0035
 Uranus -23828-12-23 10:47 J -6981397.26 -6981397.05 -6981396.83 0.0145 0.0017
 Neptune -23827-05-11 21:50 J -6981257.78 -6981257.59 -6981257.38 0.0089 0.0035
 Saturn -23827-07-22 10:19 J -6981186.20 -6981186.07 -6981185.92 0.0264 0.0196
 Uranus -23827-08-06 22:47 J -6981170.74 -6981170.55 -6981170.33 0.0145 0.0047
 Neptune -23827-12-23 10:33 J -6981032.25 -6981032.06 -6981031.85 0.0089 0.0035
 Saturn -23826-03-08 08:38 J -6980957.34 -6980957.14 -6980956.94 0.0265 0.0080
 Uranus -23826-03-21 10:47 J -6980944.22 -6980944.05 -6980943.85 0.0145 0.0077
 Mars -23826-04-30 14:23 J -6980904.07 -6980903.90 -6980903.72 0.1850 0.0310
 Neptune -23826-08-05 23:16 J -6980806.72 -6980806.53 -6980806.32 0.0089 0.0035
 Saturn -23826-10-23 08:09 J -6980728.36 -6980728.16 -6980727.94 0.0267 0.0040
 Uranus -23826-11-02 22:47 J -6980717.68 -6980717.55 -6980717.39 0.0144 0.0106
 Neptune -23825-03-18 12:14 J -6980581.19 -6980580.99 -6980580.79 0.0089 0.0035
 Saturn -23825-06-08 09:35 J -6980499.27 -6980499.10 -6980498.93 0.0268 0.0161
 Uranus -23825-06-16 10:47 J -6980491.12 -6980491.05 -6980490.96 0.0144 0.0134
 Neptune -23825-10-30 00:57 J -6980355.66 -6980355.46 -6980355.26 0.0089 0.0035
 Jupiter -23825-10-30 03:07 J -6980355.51 -6980355.37 -6980355.22 0.0535 0.0367 *
 Neptune -23824-06-12 13:26 J -6980130.13 -6980129.94 -6980129.73 0.0089 0.0035
 Jupiter -23824-06-24 15:35 J -6980118.05 -6980117.85 -6980117.65 0.0530 0.0096
 Neptune -23823-01-24 02:09 J -6979904.60 -6979904.41 -6979904.20 0.0089 0.0035
 Jupiter -23823-02-16 18:57 J -6979880.72 -6979880.71 -6979880.69 0.0523 0.0522
 Neptune -23823-09-06 14:52 J -6979679.08 -6979678.88 -6979678.68 0.0089 0.0034
 Neptune -23822-04-20 03:21 J -6979453.55 -6979453.36 -6979453.15 0.0089 0.0035
 Neptune -23822-12-01 15:50 J -6979228.03 -6979227.84 -6979227.63 0.0089 0.0035
 Neptune -23821-07-14 04:19 J -6979002.50 -6979002.32 -6979002.10 0.0089 0.0035

Neptune	-23820-02-24 17:02 J	-6978776.98	-6978776.79	-6978776.58	0.0089	0.0034
Neptune	-23820-10-08 05:31 J	-6978551.46	-6978551.27	-6978551.06	0.0089	0.0034
Neptune	-23819-05-21 18:14 J	-6978325.94	-6978325.74	-6978325.54	0.0089	0.0034
Jupiter	-23819-08-28 11:31 J	-6978227.08	-6978227.02	-6978226.96	0.0491	0.0467
Neptune	-23818-01-02 06:28 J	-6978100.42	-6978100.23	-6978100.02	0.0089	0.0034
Jupiter	-23818-04-21 21:21 J	-6977990.81	-6977990.61	-6977990.41	0.0494	0.0106
Neptune	-23818-08-15 18:57 J	-6977874.90	-6977874.71	-6977874.50	0.0089	0.0034
Jupiter	-23818-12-14 14:09 J	-6977754.08	-6977753.91	-6977753.74	0.0499	0.0283
Neptune	-23817-03-28 07:26 J	-6977649.38	-6977649.19	-6977648.97	0.0089	0.0034
Neptune	-23817-11-08 19:55 J	-6977423.86	-6977423.67	-6977423.46	0.0089	0.0033
Neptune	-23816-06-22 08:38 J	-6977198.34	-6977198.14	-6977197.94	0.0089	0.0033
Neptune	-23815-02-02 20:52 J	-6976972.82	-6976972.63	-6976972.42	0.0089	0.0032
Neptune	-23815-09-16 09:07 J	-6976747.30	-6976747.12	-6976746.90	0.0089	0.0033
Neptune	-23814-04-29 22:04 J	-6976521.78	-6976521.58	-6976521.38	0.0089	0.0032
Neptune	-23814-12-11 10:19 J	-6976296.27	-6976296.07	-6976295.86	0.0089	0.0031
Jupiter	-23813-07-04 17:45 J	-6976089.83	-6976089.76	-6976089.68	0.0535	0.0493
Neptune	-23813-07-23 22:33 J	-6976070.75	-6976070.56	-6976070.34	0.0089	0.0031
Saturn	-23812-01-10 05:02 J	-6975900.47	-6975900.29	-6975900.10	0.0296	0.0151
Jupiter	-23812-02-27 07:55 J	-6975852.37	-6975852.17	-6975851.97	0.0531	0.0035
Neptune	-23812-03-06 11:16 J	-6975845.23	-6975845.03	-6975844.82	0.0089	0.0031
Saturn	-23812-08-28 07:55 J	-6975670.38	-6975670.17	-6975669.95	0.0295	0.0019
Neptune	-23812-10-17 23:31 J	-6975619.71	-6975619.52	-6975619.30	0.0089	0.0031
Jupiter	-23812-10-22 13:11 J	-6975615.07	-6975614.95	-6975614.82	0.0525	0.0408
Saturn	-23811-04-15 08:23 J	-6975440.31	-6975440.15	-6975439.98	0.0293	0.0181
Neptune	-23811-05-31 11:59 J	-6975394.19	-6975394.00	-6975393.79	0.0089	0.0030
Neptune	-23810-01-12 00:28 J	-6975168.68	-6975168.48	-6975168.27	0.0089	0.0029
Neptune	-23810-08-25 12:43 J	-6974943.16	-6974942.97	-6974942.75	0.0089	0.0029
Neptune	-23809-04-07 01:26 J	-6974717.64	-6974717.44	-6974717.23	0.0089	0.0028
Neptune	-23809-11-18 13:40 J	-6974492.12	-6974491.93	-6974491.72	0.0089	0.0028
Neptune	-23808-07-02 02:09 J	-6974266.61	-6974266.41	-6974266.20	0.0089	0.0027

Neptune	-23807-02-12 14:09 J	-6974041.10	-6974040.91	-6974040.69	0.0089	0.0028
Neptune	-23807-09-26 02:52 J	-6973815.59	-6973815.38	-6973815.18	0.0089	0.0026
Jupiter	-23807-12-25 21:50 J	-6973724.78	-6973724.59	-6973724.40	0.0494	0.0209
Neptune	-23806-05-09 15:07 J	-6973590.07	-6973589.87	-6973589.66	0.0089	0.0026
Jupiter	-23806-08-19 12:57 J	-6973488.15	-6973487.96	-6973487.76	0.0498	0.0176
Neptune	-23806-12-21 03:35 J	-6973364.56	-6973364.35	-6973364.15	0.0089	0.0025
Neptune	-23805-08-02 15:35 J	-6973139.05	-6973138.85	-6973138.63	0.0089	0.0025
Neptune	-23804-03-16 04:04 J	-6972913.53	-6972913.33	-6972913.12	0.0089	0.0024
Neptune	-23804-10-27 16:04 J	-6972688.02	-6972687.83	-6972687.61	0.0089	0.0024
Neptune	-23803-06-10 04:33 J	-6972462.51	-6972462.31	-6972462.10	0.0089	0.0023
Neptune	-23802-01-21 16:47 J	-6972237.00	-6972236.80	-6972236.58	0.0089	0.0023
Neptune	-23802-09-04 05:02 J	-6972011.49	-6972011.29	-6972011.07	0.0089	0.0022
Neptune	-23801-04-16 17:45 J	-6971785.97	-6971785.76	-6971785.55	0.0089	0.0021
Jupiter	-23801-11-02 00:57 J	-6971586.65	-6971586.46	-6971586.27	0.0532	0.0162
Neptune	-23801-11-28 05:45 J	-6971560.46	-6971560.26	-6971560.04	0.0089	0.0021
Jupiter	-23800-06-27 08:52 J	-6971349.29	-6971349.13	-6971348.96	0.0527	0.0291
Neptune	-23800-07-11 18:14 J	-6971334.95	-6971334.74	-6971334.53	0.0089	0.0020
Neptune	-23799-02-22 06:28 J	-6971109.43	-6971109.23	-6971109.01	0.0089	0.0020
Neptune	-23799-10-05 18:43 J	-6970883.92	-6970883.72	-6970883.50	0.0089	0.0019
Neptune	-23798-05-19 07:26 J	-6970658.40	-6970658.19	-6970657.98	0.0089	0.0018
Neptune	-23798-12-30 19:26 J	-6970432.89	-6970432.69	-6970432.47	0.0089	0.0018
Saturn	-23797-02-01 14:23 J	-6970400.05	-6970399.90	-6970399.74	0.0264	0.0178
Mars	-23797-07-21 18:57 J	-6970228.88	-6970228.71	-6970228.54	0.1671	0.0133
Neptune	-23797-08-12 07:55 J	-6970207.38	-6970207.17	-6970206.95	0.0089	0.0017
Saturn	-23797-09-17 12:43 J	-6970171.17	-6970170.97	-6970170.76	0.0265	0.0062
Neptune	-23796-03-25 20:09 J	-6969981.87	-6969981.66	-6969981.44	0.0089	0.0016
Saturn	-23796-05-04 12:28 J	-6969942.19	-6969941.98	-6969941.77	0.0266	0.0058
Neptune	-23796-11-06 08:38 J	-6969756.35	-6969756.14	-6969755.93	0.0089	0.0015
Saturn	-23796-12-19 13:55 J	-6969713.07	-6969712.92	-6969712.76	0.0268	0.0180
Neptune	-23795-06-19 20:38 J	-6969530.84	-6969530.64	-6969530.42	0.0089	0.0015

Jupiter -23795-08-30 22:19 J -6969458.72 -6969458.57 -6969458.40 0.0493 0.0309
 Neptune -23794-01-31 09:07 J -6969305.33 -6969305.12 -6969304.91 0.0089 0.0014
 Jupiter -23794-04-24 11:16 J -6969222.23 -6969222.03 -6969221.82 0.0496 0.0069
 Mars -23794-04-30 12:14 J -6969216.10 -6969215.99 -6969215.87 0.1841 0.1414
 Neptune -23794-09-13 21:21 J -6969079.82 -6969079.61 -6969079.39 0.0089 0.0013
 Jupiter -23794-12-17 07:26 J -6968985.27 -6968985.19 -6968985.10 0.0502 0.0458
 Neptune -23793-04-26 09:35 J -6968854.31 -6968854.10 -6968853.88 0.0089 0.0013
 Neptune -23793-12-07 22:04 J -6968628.79 -6968628.58 -6968628.37 0.0089 0.0012
 Neptune -23792-07-21 10:19 J -6968403.29 -6968403.07 -6968402.86 0.0089 0.0011
 Neptune -23791-03-03 22:19 J -6968177.78 -6968177.57 -6968177.35 0.0089 0.0011
 Neptune -23791-10-15 10:33 J -6967952.27 -6967952.06 -6967951.84 0.0089 0.0010
 Neptune -23790-05-28 23:16 J -6967726.75 -6967726.53 -6967726.32 0.0089 0.0009
 Neptune -23789-01-09 11:31 J -6967501.24 -6967501.02 -6967500.80 0.0089 0.0008
 Jupiter -23789-07-07 17:31 J -6967320.94 -6967320.77 -6967320.60 0.0534 0.0289
 Neptune -23789-08-21 23:45 J -6967275.72 -6967275.51 -6967275.29 0.0089 0.0007
 Jupiter -23788-03-02 04:33 J -6967083.50 -6967083.31 -6967083.12 0.0529 0.0172
 Neptune -23788-04-04 11:59 J -6967050.21 -6967050.00 -6967049.78 0.0089 0.0007
 Neptune -23788-11-16 00:28 J -6966824.70 -6966824.48 -6966824.27 0.0089 0.0006
 Uranus -23787-04-04 21:07 J -6966684.71 -6966684.62 -6966684.49 0.0133 0.0114
 Neptune -23787-06-29 12:43 J -6966599.18 -6966598.97 -6966598.75 0.0089 0.0005
 Uranus -23787-11-17 02:38 J -6966458.54 -6966458.39 -6966458.22 0.0133 0.0091
 Neptune -23786-02-10 01:11 J -6966373.67 -6966373.45 -6966373.23 0.0089 0.0004
 Uranus -23786-07-01 07:55 J -6966232.35 -6966232.17 -6966231.97 0.0133 0.0068
 Neptune -23786-09-23 13:26 J -6966148.15 -6966147.94 -6966147.72 0.0089 0.0004
 Uranus -23785-02-12 13:26 J -6966006.14 -6966005.94 -6966005.73 0.0133 0.0045
 Neptune -23785-05-06 01:55 J -6965922.63 -6965922.42 -6965922.20 0.0089 0.0003
 Uranus -23785-09-25 18:43 J -6965779.93 -6965779.72 -6965779.50 0.0133 0.0022
 Neptune -23785-12-17 14:23 J -6965697.12 -6965696.90 -6965696.68 0.0089 0.0002
 Uranus -23784-05-10 00:14 J -6965553.71 -6965553.49 -6965553.27 0.0133 0.0002
 Neptune -23784-07-31 02:38 J -6965471.60 -6965471.39 -6965471.17 0.0089 0.0002

Uranus	-23784-12-22 05:31 J	-6965327.48	-6965327.27	-6965327.05	0.0134	0.0025
Neptune	-23783-03-13 15:07 J	-6965246.09	-6965245.87	-6965245.65	0.0089	0.0001
Jupiter	-23783-05-05 23:45 J	-6965192.63	-6965192.51	-6965192.40	0.0492	0.0405
Saturn	-23783-07-23 10:04 J	-6965114.26	-6965114.08	-6965113.88	0.0296	0.0129
Uranus	-23783-08-05 11:02 J	-6965101.24	-6965101.04	-6965100.83	0.0134	0.0048
Neptune	-23783-10-25 03:21 J	-6965020.57	-6965020.36	-6965020.14	0.0089	0.0002
Jupiter	-23783-12-28 10:19 J	-6964956.28	-6964956.07	-6964955.86	0.0495	0.0038
Saturn	-23782-03-10 12:43 J	-6964884.18	-6964883.97	-6964883.76	0.0295	0.0040
Uranus	-23782-03-19 16:19 J	-6964874.99	-6964874.82	-6964874.62	0.0134	0.0072
Neptune	-23782-06-07 16:04 J	-6964795.05	-6964794.83	-6964794.62	0.0089	0.0002
Jupiter	-23782-08-22 04:19 J	-6964719.47	-6964719.32	-6964719.17	0.0500	0.0351
Saturn	-23782-10-26 12:43 J	-6964654.12	-6964653.97	-6964653.81	0.0293	0.0201
Uranus	-23782-10-31 21:50 J	-6964648.73	-6964648.59	-6964648.42	0.0134	0.0095
Neptune	-23781-01-19 04:19 J	-6964569.53	-6964569.32	-6964569.10	0.0089	0.0002
Uranus	-23781-06-14 03:21 J	-6964422.44	-6964422.36	-6964422.24	0.0135	0.0119
Neptune	-23781-08-31 16:33 J	-6964344.02	-6964343.81	-6964343.59	0.0089	0.0004
Neptune	-23780-04-14 05:02 J	-6964118.51	-6964118.29	-6964118.07	0.0089	0.0004
Neptune	-23780-11-25 17:16 J	-6963892.99	-6963892.78	-6963892.56	0.0089	0.0005
Neptune	-23779-07-09 05:45 J	-6963667.47	-6963667.26	-6963667.04	0.0089	0.0006
Neptune	-23778-02-19 18:14 J	-6963441.95	-6963441.74	-6963441.52	0.0088	0.0006
Neptune	-23778-10-03 06:43 J	-6963216.44	-6963216.22	-6963216.00	0.0088	0.0007
Jupiter	-23777-03-12 10:47 J	-6963055.17	-6963055.05	-6963054.92	0.0535	0.0414
Neptune	-23777-05-15 19:11 J	-6962990.92	-6962990.70	-6962990.48	0.0088	0.0007
Jupiter	-23777-11-05 00:28 J	-6962817.68	-6962817.48	-6962817.28	0.0531	0.0049
Neptune	-23777-12-27 07:40 J	-6962765.40	-6962765.18	-6962764.96	0.0088	0.0008
Jupiter	-23776-06-30 05:02 J	-6962580.36	-6962580.29	-6962580.21	0.0525	0.0482
Neptune	-23776-08-09 20:09 J	-6962539.88	-6962539.66	-6962539.44	0.0088	0.0009
Neptune	-23775-03-23 08:38 J	-6962314.36	-6962314.14	-6962313.92	0.0088	0.0010
Neptune	-23775-11-03 21:07 J	-6962088.83	-6962088.62	-6962088.40	0.0088	0.0011
Neptune	-23774-06-17 09:50 J	-6961863.30	-6961863.09	-6961862.87	0.0088	0.0011

Neptune -23773-01-28 22:33 J -6961637.78 -6961637.56 -6961637.34 0.0088 0.0012
 Neptune -23773-09-10 11:02 J -6961412.25 -6961412.04 -6961411.82 0.0088 0.0013
 Neptune -23772-04-23 23:31 J -6961186.73 -6961186.52 -6961186.30 0.0088 0.0013
 Neptune -23772-12-05 11:59 J -6960961.20 -6960961.00 -6960960.77 0.0088 0.0015
 Neptune -23771-07-19 00:57 J -6960735.67 -6960735.46 -6960735.24 0.0088 0.0015
 Jupiter -23771-09-02 09:50 J -6960690.29 -6960690.09 -6960689.89 0.0494 0.0142
 Neptune -23770-03-01 13:26 J -6960510.15 -6960509.94 -6960509.72 0.0088 0.0016
 Jupiter -23770-04-27 01:26 J -6960453.62 -6960453.44 -6960453.25 0.0499 0.0244
 Neptune -23770-10-13 01:55 J -6960284.62 -6960284.42 -6960284.19 0.0088 0.0017
 Neptune -23769-05-25 14:52 J -6960059.10 -6960058.88 -6960058.66 0.0088 0.0017
 Neptune -23768-01-06 03:21 J -6959833.57 -6959833.36 -6959833.14 0.0088 0.0017
 Saturn -23768-08-13 13:11 J -6959614.11 -6959613.95 -6959613.78 0.0264 0.0165
 Neptune -23768-08-19 15:50 J -6959608.04 -6959607.84 -6959607.61 0.0088 0.0019
 Saturn -23767-03-30 11:31 J -6959385.23 -6959385.02 -6959384.81 0.0265 0.0048
 Neptune -23767-04-02 04:47 J -6959382.51 -6959382.30 -6959382.09 0.0088 0.0018
 Neptune -23767-11-13 17:16 J -6959156.99 -6959156.78 -6959156.56 0.0088 0.0019
 Saturn -23767-11-14 11:16 J -6959156.24 -6959156.03 -6959155.83 0.0267 0.0072
 Pluto -23766-05-19 07:26 J -6958970.34 -6958970.19 -6958969.98 0.0064 0.0037
 Neptune -23766-06-27 06:14 J -6958931.45 -6958931.24 -6958931.02 0.0088 0.0020
 Saturn -23766-07-01 12:43 J -6958927.11 -6958926.97 -6958926.82 0.0268 0.0194
 Jupiter -23766-11-16 03:50 J -6958789.34 -6958789.34 -6958789.32 0.0536 0.0535
 Pluto -23766-12-30 11:45 J -6958745.23 -6958745.01 -6958744.79 0.0064 0.0001
 Neptune -23765-02-07 18:57 J -6958705.92 -6958705.71 -6958705.49 0.0088 0.0020
 Jupiter -23765-07-10 19:40 J -6958551.88 -6958551.68 -6958551.48 0.0532 0.0077
 Mars -23765-07-20 13:26 J -6958542.06 -6958541.94 -6958541.81 0.1678 0.1115
 Pluto -23765-08-11 15:07 J -6958520.03 -6958519.87 -6958519.68 0.0065 0.0039
 Neptune -23765-09-20 07:26 J -6958480.39 -6958480.19 -6958479.97 0.0088 0.0021
 Jupiter -23764-03-05 02:38 J -6958314.52 -6958314.39 -6958314.24 0.0526 0.0371
 Neptune -23764-05-03 20:23 J -6958254.86 -6958254.65 -6958254.44 0.0088 0.0021
 Neptune -23764-12-15 08:52 J -6958029.33 -6958029.13 -6958028.90 0.0088 0.0023

Earth -23763-04-30 02:09 J -6957893.55 -6957893.41 -6957893.27 0.2713 0.1266
 Moon -23763-04-30 07:55 J -6957893.30 -6957893.17 -6957893.03 0.2712 0.1490 *
 Mars -23763-05-20 12:57 J -6957873.10 -6957872.96 -6957872.82 0.1663 0.0923
 Neptune -23763-07-28 22:04 J -6957803.79 -6957803.58 -6957803.36 0.0088 0.0023
 Neptune -23762-03-11 10:47 J -6957578.25 -6957578.05 -6957577.83 0.0088 0.0023
 Neptune -23762-10-22 23:31 J -6957352.72 -6957352.52 -6957352.29 0.0088 0.0024
 Neptune -23761-06-04 12:28 J -6957127.18 -6957126.98 -6957126.76 0.0088 0.0024
 Neptune -23760-01-16 01:11 J -6956901.64 -6956901.45 -6956901.22 0.0088 0.0026
 Mars -23760-02-24 17:02 J -6956861.96 -6956861.79 -6956861.62 0.1852 0.0605
 Neptune -23760-08-29 14:23 J -6956676.11 -6956675.90 -6956675.68 0.0088 0.0025
 Neptune -23759-04-12 03:07 J -6956450.57 -6956450.37 -6956450.14 0.0088 0.0026
 Jupiter -23759-05-08 11:02 J -6956424.22 -6956424.04 -6956423.86 0.0493 0.0243
 Neptune -23759-11-23 16:04 J -6956225.03 -6956224.83 -6956224.61 0.0088 0.0026
 Jupiter -23759-12-31 00:57 J -6956187.66 -6956187.46 -6956187.26 0.0497 0.0138
 Neptune -23758-07-07 05:16 J -6955999.48 -6955999.28 -6955999.06 0.0088 0.0027
 Neptune -23757-02-17 18:14 J -6955773.94 -6955773.74 -6955773.52 0.0088 0.0027
 Neptune -23757-09-30 07:11 J -6955548.41 -6955548.20 -6955547.98 0.0088 0.0027
 Neptune -23756-05-13 19:55 J -6955322.87 -6955322.67 -6955322.45 0.0088 0.0028
 Neptune -23756-12-25 08:52 J -6955097.33 -6955097.13 -6955096.91 0.0088 0.0028
 Earth -23755-04-27 16:19 J -6954973.88 -6954973.82 -6954973.76 0.2713 0.2482
 Moon -23755-04-27 19:26 J -6954973.80 -6954973.69 -6954973.57 0.2707 0.1990 *
 Neptune -23755-08-07 22:19 J -6954871.78 -6954871.57 -6954871.36 0.0088 0.0028
 Neptune -23754-03-21 11:02 J -6954646.24 -6954646.04 -6954645.82 0.0088 0.0029
 Saturn -23754-06-17 05:45 J -6954558.32 -6954558.26 -6954558.19 0.0297 0.0282
 Neptune -23754-11-02 00:14 J -6954420.70 -6954420.49 -6954420.28 0.0088 0.0029
 Saturn -23753-02-02 10:33 J -6954328.25 -6954328.06 -6954327.85 0.0296 0.0113
 Jupiter -23753-03-15 11:31 J -6954286.20 -6954286.02 -6954285.83 0.0533 0.0207
 Neptune -23753-06-14 12:57 J -6954195.16 -6954194.96 -6954194.74 0.0088 0.0030
 Saturn -23753-09-19 13:26 J -6954098.15 -6954097.94 -6954097.73 0.0295 0.0057
 Jupiter -23753-11-07 20:23 J -6954048.82 -6954048.65 -6954048.47 0.0528 0.0249

Neptune	-23752-01-26 02:09 J	-6953969.61	-6953969.41	-6953969.19	0.0088	0.0030
Saturn	-23752-05-07 13:40 J	-6953868.07	-6953867.93	-6953867.79	0.0293	0.0219
Neptune	-23752-09-08 15:21 J	-6953744.06	-6953743.86	-6953743.65	0.0088	0.0030
Neptune	-23751-04-22 04:33 J	-6953518.52	-6953518.31	-6953518.10	0.0088	0.0030
Neptune	-23751-12-03 17:16 J	-6953292.97	-6953292.78	-6953292.56	0.0088	0.0031
Neptune	-23750-07-17 06:43 J	-6953067.42	-6953067.22	-6953067.00	0.0088	0.0031
Neptune	-23749-02-27 19:55 J	-6952841.87	-6952841.67	-6952841.45	0.0088	0.0031
Neptune	-23749-10-10 09:07 J	-6952616.32	-6952616.12	-6952615.90	0.0088	0.0031
Neptune	-23748-05-23 22:04 J	-6952390.77	-6952390.58	-6952390.36	0.0088	0.0032
Neptune	-23747-01-04 11:16 J	-6952165.22	-6952165.03	-6952164.80	0.0088	0.0032
Jupiter	-23747-01-11 11:45 J	-6952158.16	-6952158.01	-6952157.86	0.0493	0.0343
Neptune	-23747-08-18 00:57 J	-6951939.66	-6951939.46	-6951939.25	0.0088	0.0032
Jupiter	-23747-09-05 00:14 J	-6951921.69	-6951921.49	-6951921.28	0.0496	0.0034
Uranus	-23746-02-28 17:59 J	-6951744.87	-6951744.75	-6951744.61	0.0146	0.0117
Neptune	-23746-03-31 14:09 J	-6951714.11	-6951713.91	-6951713.69	0.0088	0.0032
Jupiter	-23746-04-29 19:55 J	-6951684.77	-6951684.67	-6951684.55	0.0502	0.0422
Uranus	-23746-10-13 06:14 J	-6951518.41	-6951518.24	-6951518.06	0.0146	0.0087
Neptune	-23746-11-12 03:35 J	-6951488.55	-6951488.35	-6951488.14	0.0088	0.0032
Uranus	-23745-05-26 18:28 J	-6951291.92	-6951291.73	-6951291.52	0.0146	0.0057
Neptune	-23745-06-24 16:47 J	-6951263.00	-6951262.80	-6951262.59	0.0088	0.0032
Uranus	-23744-01-08 06:43 J	-6951065.43	-6951065.22	-6951065.00	0.0145	0.0026
Neptune	-23744-02-05 05:59 J	-6951037.45	-6951037.25	-6951037.03	0.0088	0.0033
Uranus	-23744-08-22 18:57 J	-6950838.93	-6950838.71	-6950838.49	0.0145	0.0004
Neptune	-23744-09-18 19:26 J	-6950811.89	-6950811.69	-6950811.48	0.0088	0.0032
Uranus	-23743-04-06 06:57 J	-6950612.42	-6950612.21	-6950612.00	0.0145	0.0034
Neptune	-23743-05-02 08:52 J	-6950586.34	-6950586.13	-6950585.92	0.0088	0.0032
Uranus	-23743-11-18 18:43 J	-6950385.90	-6950385.72	-6950385.51	0.0145	0.0065
Neptune	-23743-12-13 21:50 J	-6950360.78	-6950360.59	-6950360.37	0.0088	0.0033
Uranus	-23742-07-03 07:11 J	-6950159.37	-6950159.20	-6950159.04	0.0144	0.0094
Neptune	-23742-07-27 11:31 J	-6950135.23	-6950135.02	-6950134.81	0.0088	0.0032

Jupiter -23742-11-19 03:50 J -6950020.49 -6950020.34 -6950020.18 0.0534 0.0334
 Uranus -23741-02-14 18:43 J -6949932.81 -6949932.72 -6949932.59 0.0144 0.0123
 Neptune -23741-03-09 00:57 J -6949909.67 -6949909.46 -6949909.25 0.0088 0.0033
 Jupiter -23741-07-13 15:07 J -6949783.06 -6949782.87 -6949782.68 0.0529 0.0126
 Neptune -23741-10-20 13:55 J -6949684.11 -6949683.92 -6949683.70 0.0088 0.0033
 Neptune -23740-06-03 03:35 J -6949458.56 -6949458.35 -6949458.14 0.0088 0.0032
 Neptune -23739-01-14 17:02 J -6949233.00 -6949232.79 -6949232.59 0.0088 0.0032
 Saturn -23739-07-09 20:09 J -6949056.69 -6949056.66 -6949056.63 0.0263 0.0260
 Neptune -23739-08-28 06:28 J -6949007.44 -6949007.23 -6949007.02 0.0088 0.0032
 Saturn -23738-02-23 17:16 J -6948827.95 -6948827.78 -6948827.60 0.0264 0.0147
 Neptune -23738-04-10 19:55 J -6948781.87 -6948781.67 -6948781.46 0.0088 0.0032
 Saturn -23738-10-10 15:50 J -6948599.05 -6948598.84 -6948598.63 0.0265 0.0030
 Neptune -23738-11-22 09:21 J -6948556.31 -6948556.11 -6948555.90 0.0088 0.0032
 Saturn -23737-05-26 15:35 J -6948370.04 -6948369.85 -6948369.64 0.0267 0.0091
 Neptune -23737-07-04 22:47 J -6948330.75 -6948330.55 -6948330.34 0.0088 0.0032
 Saturn -23736-01-10 17:16 J -6948140.90 -6948140.78 -6948140.65 0.0268 0.0213
 Neptune -23736-02-15 12:14 J -6948105.19 -6948104.99 -6948104.77 0.0088 0.0032
 Jupiter -23736-09-16 13:11 J -6947892.04 -6947891.95 -6947891.86 0.0492 0.0438
 Neptune -23736-09-29 01:40 J -6947879.62 -6947879.43 -6947879.20 0.0088 0.0032
 Jupiter -23735-05-10 23:31 J -6947655.72 -6947655.52 -6947655.31 0.0495 0.0073
 Neptune -23735-05-12 15:21 J -6947654.06 -6947653.86 -6947653.64 0.0088 0.0032
 Neptune -23735-12-24 05:02 J -6947428.49 -6947428.29 -6947428.07 0.0088 0.0031
 Jupiter -23734-01-02 16:47 J -6947418.96 -6947418.80 -6947418.64 0.0500 0.0315
 Neptune -23734-08-06 18:43 J -6947202.93 -6947202.72 -6947202.51 0.0088 0.0031
 Neptune -23733-03-19 08:09 J -6946977.36 -6946977.16 -6946976.94 0.0088 0.0031
 Neptune -23733-10-30 21:35 J -6946751.79 -6946751.60 -6946751.37 0.0088 0.0031
 Neptune -23732-06-13 11:31 J -6946526.23 -6946526.02 -6946525.81 0.0088 0.0030
 Neptune -23731-01-25 00:57 J -6946300.66 -6946300.46 -6946300.24 0.0088 0.0030
 Mars -23731-05-19 06:43 J -6946186.39 -6946186.22 -6946186.05 0.1669 0.0047
 Neptune -23731-09-07 14:38 J -6946075.09 -6946074.89 -6946074.67 0.0088 0.0030

Neptune -23730-04-21 04:33 J -6945849.52 -6945849.31 -6945849.10 0.0088 0.0030
 Jupiter -23730-07-24 18:57 J -6945754.81 -6945754.71 -6945754.61 0.0535 0.0460
 Neptune -23730-12-02 17:59 J -6945623.96 -6945623.75 -6945623.53 0.0088 0.0029
 Jupiter -23729-03-18 09:07 J -6945517.32 -6945517.12 -6945516.92 0.0531 0.0006
 Neptune -23729-07-15 07:26 J -6945398.39 -6945398.19 -6945397.97 0.0088 0.0029
 Jupiter -23729-11-10 14:38 J -6945279.99 -6945279.89 -6945279.78 0.0525 0.0439
 Mars -23728-02-24 15:07 J -6945174.01 -6945173.87 -6945173.73 0.1844 0.1130
 Neptune -23728-02-25 20:52 J -6945172.83 -6945172.63 -6945172.40 0.0088 0.0029
 Neptune -23728-10-09 10:47 J -6944947.25 -6944947.05 -6944946.83 0.0088 0.0028
 Neptune -23727-05-23 00:14 J -6944721.69 -6944721.49 -6944721.26 0.0088 0.0029
 Neptune -23726-01-03 14:09 J -6944496.12 -6944495.91 -6944495.69 0.0088 0.0028
 Neptune -23726-08-17 03:35 J -6944270.55 -6944270.35 -6944270.12 0.0088 0.0028
 Neptune -23725-03-29 17:16 J -6944044.98 -6944044.78 -6944044.55 0.0088 0.0027
 Neptune -23725-11-10 07:11 J -6943819.41 -6943819.20 -6943818.98 0.0088 0.0026
 Saturn -23725-12-27 11:59 J -6943772.09 -6943772.00 -6943771.89 0.0297 0.0259
 Neptune -23724-06-23 20:38 J -6943593.84 -6943593.64 -6943593.41 0.0088 0.0027
 Saturn -23724-08-14 16:33 J -6943542.01 -6943541.81 -6943541.61 0.0296 0.0089
 Jupiter -23723-01-13 23:31 J -6943389.72 -6943389.52 -6943389.33 0.0494 0.0177
 Neptune -23723-02-04 10:33 J -6943368.27 -6943368.06 -6943367.83 0.0088 0.0025
 Saturn -23723-04-01 18:43 J -6943311.92 -6943311.72 -6943311.51 0.0294 0.0079
 Jupiter -23723-09-07 14:23 J -6943153.08 -6943152.90 -6943152.71 0.0498 0.0208
 Neptune -23723-09-18 00:14 J -6943142.69 -6943142.49 -6943142.26 0.0088 0.0026
 Saturn -23723-11-17 18:28 J -6943081.84 -6943081.73 -6943081.60 0.0293 0.0240
 Neptune -23722-05-01 14:09 J -6942917.11 -6942916.91 -6942916.68 0.0088 0.0025
 Neptune -23722-12-13 03:50 J -6942691.54 -6942691.34 -6942691.11 0.0088 0.0024
 Neptune -23721-07-25 17:45 J -6942465.97 -6942465.76 -6942465.54 0.0088 0.0023
 Neptune -23720-03-08 07:40 J -6942240.40 -6942240.18 -6942239.96 0.0088 0.0023
 Neptune -23720-10-19 21:21 J -6942014.82 -6942014.61 -6942014.38 0.0088 0.0022
 Neptune -23719-06-02 11:16 J -6941789.25 -6941789.03 -6941788.81 0.0088 0.0022
 Neptune -23718-01-14 00:43 J -6941563.68 -6941563.47 -6941563.24 0.0088 0.0022

Neptune -23718-08-27 14:38 J -6941338.11 -6941337.89 -6941337.67 0.0088 0.0020
 Jupiter -23718-11-22 03:50 J -6941251.54 -6941251.34 -6941251.15 0.0533 0.0125
 Neptune -23717-04-09 04:04 J -6941112.53 -6941112.33 -6941112.10 0.0088 0.0021
 Jupiter -23717-07-16 11:59 J -6941014.15 -6941014.00 -6941013.84 0.0527 0.0327
 Neptune -23717-11-20 17:59 J -6940886.96 -6940886.75 -6940886.52 0.0088 0.0020
 Neptune -23716-07-04 07:55 J -6940661.39 -6940661.17 -6940660.95 0.0088 0.0019
 Neptune -23715-02-14 21:21 J -6940435.82 -6940435.61 -6940435.38 0.0088 0.0018
 Neptune -23715-09-28 11:16 J -6940210.25 -6940210.03 -6940209.81 0.0088 0.0017
 Neptune -23714-05-12 01:11 J -6939984.67 -6939984.45 -6939984.23 0.0088 0.0017
 Neptune -23714-12-23 14:38 J -6939759.10 -6939758.89 -6939758.66 0.0088 0.0017
 Neptune -23713-08-05 04:19 J -6939533.53 -6939533.32 -6939533.09 0.0088 0.0016
 Neptune -23712-03-18 18:14 J -6939307.96 -6939307.74 -6939307.52 0.0088 0.0015
 Jupiter -23712-09-18 23:31 J -6939123.68 -6939123.52 -6939123.34 0.0493 0.0279
 Neptune -23712-10-30 07:55 J -6939082.38 -6939082.17 -6939081.94 0.0088 0.0015
 Jupiter -23711-05-13 12:28 J -6938887.18 -6938886.98 -6938886.77 0.0496 0.0100
 Neptune -23711-06-12 21:50 J -6938856.81 -6938856.59 -6938856.36 0.0088 0.0014
 Jupiter -23710-01-05 08:52 J -6938650.17 -6938650.13 -6938650.08 0.0502 0.0487
 Neptune -23710-01-24 11:45 J -6938631.23 -6938631.01 -6938630.79 0.0088 0.0013
 Neptune -23710-09-07 01:11 J -6938405.66 -6938405.45 -6938405.22 0.0088 0.0013
 Saturn -23709-01-19 19:55 J -6938270.74 -6938270.67 -6938270.59 0.0263 0.0247
 Neptune -23709-04-19 15:07 J -6938180.09 -6938179.87 -6938179.64 0.0088 0.0012
 Saturn -23709-09-04 17:02 J -6938041.97 -6938041.79 -6938041.61 0.0264 0.0133
 Neptune -23709-12-01 05:02 J -6937954.51 -6937954.29 -6937954.06 0.0088 0.0011
 Saturn -23708-04-21 15:21 J -6937813.07 -6937812.86 -6937812.65 0.0265 0.0016
 Neptune -23708-07-14 18:57 J -6937728.94 -6937728.71 -6937728.49 0.0089 0.0010
 Saturn -23708-12-06 15:07 J -6937584.06 -6937583.87 -6937583.67 0.0267 0.0105
 Neptune -23707-02-25 08:23 J -6937503.36 -6937503.15 -6937502.92 0.0089 0.0010
 Saturn -23707-07-23 16:47 J -6937354.90 -6937354.80 -6937354.68 0.0268 0.0228
 Neptune -23707-10-08 22:19 J -6937277.79 -6937277.57 -6937277.34 0.0089 0.0009
 Neptune -23706-05-22 12:14 J -6937052.22 -6937051.99 -6937051.77 0.0089 0.0008

Jupiter -23706-07-27 22:04 J -6936985.76 -6936985.58 -6936985.41 0.0534 0.0251
 Neptune -23705-01-03 01:55 J -6936826.64 -6936826.42 -6936826.20 0.0089 0.0007
 Jupiter -23705-03-21 08:52 J -6936748.32 -6936748.13 -6936747.95 0.0529 0.0208
 Neptune -23705-08-15 15:21 J -6936601.08 -6936600.86 -6936600.63 0.0089 0.0007
 Neptune -23704-03-29 05:16 J -6936375.51 -6936375.28 -6936375.06 0.0089 0.0006
 Neptune -23704-11-09 18:57 J -6936149.93 -6936149.71 -6936149.48 0.0089 0.0005
 Uranus -23704-12-03 08:38 J -6936126.21 -6936126.14 -6936126.05 0.0133 0.0123
 Neptune -23703-06-23 08:38 J -6935924.36 -6935924.14 -6935923.91 0.0089 0.0004
 Uranus -23703-07-17 14:09 J -6935900.05 -6935899.91 -6935899.76 0.0133 0.0100
 Neptune -23702-02-03 22:19 J -6935698.79 -6935698.57 -6935698.35 0.0089 0.0003
 Uranus -23702-02-28 19:26 J -6935673.86 -6935673.69 -6935673.51 0.0133 0.0077
 Neptune -23702-09-17 11:59 J -6935473.23 -6935473.00 -6935472.78 0.0089 0.0003
 Uranus -23702-10-13 00:28 J -6935447.67 -6935447.48 -6935447.27 0.0133 0.0054
 Neptune -23701-04-30 01:26 J -6935247.66 -6935247.44 -6935247.21 0.0089 0.0003
 Uranus -23701-05-26 05:45 J -6935221.46 -6935221.26 -6935221.04 0.0133 0.0032
 Neptune -23701-12-11 15:21 J -6935022.08 -6935021.86 -6935021.64 0.0089 0.0001
 Uranus -23700-01-07 11:31 J -6934995.24 -6934995.02 -6934994.80 0.0133 0.0008
 Jupiter -23700-05-25 01:11 J -6934857.58 -6934857.45 -6934857.31 0.0492 0.0375
 Neptune -23700-07-25 05:02 J -6934796.52 -6934796.29 -6934796.07 0.0089 0.0001
 Uranus -23700-08-21 16:47 J -6934769.01 -6934768.80 -6934768.58 0.0134 0.0016
 Jupiter -23699-01-16 12:28 J -6934621.19 -6934620.98 -6934620.77 0.0495 0.0005
 Neptune -23699-03-07 18:43 J -6934570.95 -6934570.72 -6934570.50 0.0089 0.0002
 Uranus -23699-04-04 22:04 J -6934542.78 -6934542.58 -6934542.37 0.0134 0.0040
 Mars -23699-05-18 01:26 J -6934499.58 -6934499.44 -6934499.31 0.1676 0.1009
 Jupiter -23699-09-10 06:57 J -6934384.34 -6934384.21 -6934384.07 0.0501 0.0384
 Neptune -23699-10-19 08:23 J -6934345.38 -6934345.15 -6934344.93 0.0089 0.0002
 Uranus -23699-11-17 03:21 J -6934316.54 -6934316.36 -6934316.15 0.0134 0.0063
 Neptune -23698-06-01 21:50 J -6934119.81 -6934119.59 -6934119.36 0.0089 0.0003
 Uranus -23698-07-01 09:07 J -6934090.28 -6934090.12 -6934089.95 0.0134 0.0086
 Neptune -23697-01-13 11:45 J -6933894.23 -6933894.01 -6933893.79 0.0089 0.0003

Uranus	-23697-02-12 14:38 J	-6933864.00	-6933863.89	-6933863.75	0.0134	0.0110
Mars	-23697-03-17 00:57 J	-6933830.59	-6933830.46	-6933830.33	0.1661	0.1020
Neptune	-23697-08-26 01:11 J	-6933668.67	-6933668.45	-6933668.22	0.0089	0.0004
Uranus	-23697-09-25 20:09 J	-6933637.66	-6933637.66	-6933637.61	0.0135	0.0134
Neptune	-23696-04-08 14:52 J	-6933443.10	-6933442.88	-6933442.65	0.0089	0.0004
Neptune	-23696-11-20 04:47 J	-6933217.53	-6933217.30	-6933217.08	0.0089	0.0005
Neptune	-23695-07-03 18:14 J	-6932991.96	-6932991.74	-6932991.51	0.0089	0.0006
Saturn	-23695-07-09 12:14 J	-6932986.11	-6932985.99	-6932985.87	0.0297	0.0244
Mars	-23695-12-22 19:55 J	-6932819.83	-6932819.67	-6932819.51	0.1856	0.0895
Neptune	-23694-02-14 07:55 J	-6932766.39	-6932766.17	-6932765.95	0.0089	0.0006
Saturn	-23694-02-24 16:47 J	-6932756.01	-6932755.80	-6932755.59	0.0296	0.0072
Jupiter	-23694-04-01 13:55 J	-6932720.06	-6932719.92	-6932719.78	0.0534	0.0378
Neptune	-23694-09-27 21:21 J	-6932540.83	-6932540.61	-6932540.38	0.0089	0.0007
Saturn	-23694-10-12 19:11 J	-6932525.90	-6932525.70	-6932525.50	0.0295	0.0096
Jupiter	-23694-11-25 02:09 J	-6932482.61	-6932482.41	-6932482.22	0.0530	0.0082
Neptune	-23693-05-10 10:47 J	-6932315.26	-6932315.05	-6932314.82	0.0089	0.0008
Saturn	-23693-05-29 19:11 J	-6932295.80	-6932295.70	-6932295.60	0.0293	0.0257
Jupiter	-23693-07-19 05:31 J	-6932245.31	-6932245.27	-6932245.22	0.0524	0.0508
Neptune	-23693-12-22 00:43 J	-6932089.69	-6932089.47	-6932089.25	0.0089	0.0008
Neptune	-23692-08-04 14:09 J	-6931864.13	-6931863.91	-6931863.69	0.0089	0.0009
Neptune	-23691-03-18 03:21 J	-6931638.57	-6931638.36	-6931638.13	0.0089	0.0010
Neptune	-23691-10-29 17:02 J	-6931413.01	-6931412.79	-6931412.57	0.0089	0.0010
Neptune	-23690-06-12 06:28 J	-6931187.45	-6931187.23	-6931187.01	0.0089	0.0011
Neptune	-23689-01-23 19:55 J	-6930961.89	-6930961.67	-6930961.45	0.0089	0.0012
Neptune	-23689-09-05 09:21 J	-6930736.33	-6930736.11	-6930735.89	0.0089	0.0012
Jupiter	-23688-01-28 02:09 J	-6930591.46	-6930591.41	-6930591.35	0.0492	0.0471
Neptune	-23688-04-18 22:33 J	-6930510.77	-6930510.56	-6930510.33	0.0089	0.0013
Jupiter	-23688-09-21 12:14 J	-6930355.19	-6930354.99	-6930354.79	0.0495	0.0110
Neptune	-23688-11-30 11:59 J	-6930285.21	-6930285.00	-6930284.77	0.0089	0.0014
Jupiter	-23687-05-16 05:02 J	-6930118.46	-6930118.29	-6930118.11	0.0499	0.0277

Neptune	-23687-07-14 01:40 J	-6930059.65	-6930059.43	-6930059.21	0.0089	0.0014
Neptune	-23686-02-24 14:52 J	-6929834.09	-6929833.88	-6929833.65	0.0089	0.0015
Neptune	-23686-10-08 04:04 J	-6929608.53	-6929608.33	-6929608.10	0.0089	0.0016
Neptune	-23685-05-20 17:45 J	-6929382.98	-6929382.76	-6929382.54	0.0089	0.0016
Neptune	-23684-01-01 06:57 J	-6929157.41	-6929157.21	-6929156.98	0.0089	0.0017
Neptune	-23684-08-14 20:38 J	-6928931.86	-6928931.64	-6928931.42	0.0089	0.0017
Neptune	-23683-03-28 09:50 J	-6928706.30	-6928706.09	-6928705.87	0.0089	0.0018
Neptune	-23683-11-08 23:16 J	-6928480.75	-6928480.53	-6928480.32	0.0089	0.0018
Jupiter	-23683-12-05 05:16 J	-6928454.34	-6928454.28	-6928454.21	0.0535	0.0502
Neptune	-23682-06-22 12:14 J	-6928255.19	-6928254.99	-6928254.76	0.0089	0.0020
Jupiter	-23682-07-30 19:40 J	-6928216.88	-6928216.68	-6928216.48	0.0531	0.0045
Neptune	-23681-02-03 01:55 J	-6928029.64	-6928029.42	-6928029.21	0.0089	0.0020
Jupiter	-23681-03-24 01:40 J	-6927979.55	-6927979.43	-6927979.30	0.0526	0.0397
Neptune	-23681-09-15 14:52 J	-6927804.08	-6927803.88	-6927803.66	0.0089	0.0020
Neptune	-23680-04-29 04:19 J	-6927578.54	-6927578.32	-6927578.11	0.0089	0.0021
Saturn	-23680-07-31 23:31 J	-6927484.61	-6927484.52	-6927484.40	0.0263	0.0230
Neptune	-23680-12-10 17:16 J	-6927352.98	-6927352.78	-6927352.56	0.0089	0.0021
Saturn	-23679-03-17 21:07 J	-6927255.81	-6927255.62	-6927255.43	0.0264	0.0115
Neptune	-23679-07-24 06:43 J	-6927127.44	-6927127.22	-6927127.01	0.0089	0.0022
Saturn	-23679-11-01 19:55 J	-6927026.88	-6927026.67	-6927026.46	0.0265	0.0004
Neptune	-23678-03-06 19:40 J	-6926901.89	-6926901.68	-6926901.46	0.0089	0.0022
Saturn	-23678-06-18 20:09 J	-6926797.85	-6926797.66	-6926797.47	0.0267	0.0124
Pluto	-23678-08-30 17:02 J	-6926724.87	-6926724.79	-6926724.69	0.0080	0.0073
Neptune	-23678-10-18 08:52 J	-6926676.34	-6926676.13	-6926675.92	0.0089	0.0023
Saturn	-23677-02-02 22:04 J	-6926568.66	-6926568.58	-6926568.50	0.0268	0.0247
Pluto	-23677-04-12 04:19 J	-6926499.54	-6926499.32	-6926499.09	0.0080	0.0004
Neptune	-23677-05-30 21:50 J	-6926450.80	-6926450.59	-6926450.37	0.0089	0.0023
Pluto	-23677-11-23 14:52 J	-6926273.91	-6926273.88	-6926273.79	0.0080	0.0077
Neptune	-23676-01-11 11:02 J	-6926225.25	-6926225.04	-6926224.82	0.0089	0.0023
Jupiter	-23676-05-27 12:14 J	-6926089.18	-6926088.99	-6926088.80	0.0493	0.0212

Neptune -23676-08-24 23:59 J -6925999.70 -6925999.50 -6925999.28 0.0089 0.0024
 Jupiter -23675-01-19 02:38 J -6925852.58 -6925852.39 -6925852.19 0.0498 0.0171
 Neptune -23675-04-07 12:57 J -6925774.16 -6925773.96 -6925773.74 0.0089 0.0025
 Neptune -23675-11-19 01:55 J -6925548.62 -6925548.42 -6925548.20 0.0089 0.0025
 Neptune -23674-07-02 15:07 J -6925323.07 -6925322.87 -6925322.65 0.0089 0.0025
 Neptune -23673-02-13 04:19 J -6925097.52 -6925097.32 -6925097.10 0.0089 0.0026
 Neptune -23673-09-25 17:16 J -6924871.98 -6924871.78 -6924871.56 0.0089 0.0026
 Neptune -23672-05-09 06:14 J -6924646.44 -6924646.24 -6924646.02 0.0089 0.0026
 Neptune -23672-12-20 19:26 J -6924420.90 -6924420.69 -6924420.48 0.0089 0.0026
 Neptune -23671-08-03 08:09 J -6924195.35 -6924195.16 -6924194.94 0.0089 0.0027
 Neptune -23670-03-16 21:21 J -6923969.81 -6923969.61 -6923969.39 0.0089 0.0027
 Jupiter -23670-04-04 12:14 J -6923951.18 -6923950.99 -6923950.80 0.0533 0.0173
 Neptune -23670-10-28 10:19 J -6923744.27 -6923744.07 -6923743.86 0.0089 0.0027
 Jupiter -23670-11-27 21:07 J -6923713.78 -6923713.62 -6923713.45 0.0528 0.0281
 Neptune -23669-06-09 23:16 J -6923518.73 -6923518.53 -6923518.32 0.0089 0.0028
 Neptune -23668-01-21 11:59 J -6923293.19 -6923293.00 -6923292.78 0.0089 0.0028
 Neptune -23668-09-04 00:57 J -6923067.66 -6923067.46 -6923067.24 0.0089 0.0028
 Neptune -23667-04-17 13:55 J -6922842.12 -6922841.92 -6922841.71 0.0089 0.0028
 Neptune -23667-11-29 02:38 J -6922616.59 -6922616.39 -6922616.18 0.0089 0.0029
 Neptune -23666-07-12 15:35 J -6922391.05 -6922390.85 -6922390.64 0.0089 0.0029
 Earth -23666-10-30 16:04 J -6922280.89 -6922280.83 -6922280.76 0.2619 0.2371
 Saturn -23665-01-19 19:40 J -6922199.82 -6922199.68 -6922199.53 0.0297 0.0219
 Neptune -23665-02-23 04:33 J -6922165.52 -6922165.31 -6922165.10 0.0089 0.0029
 Mars -23665-03-15 18:43 J -6922143.89 -6922143.72 -6922143.55 0.1667 0.0080
 Saturn -23665-09-05 23:45 J -6921969.71 -6921969.51 -6921969.29 0.0296 0.0048
 Neptune -23665-10-05 17:02 J -6921939.99 -6921939.79 -6921939.57 0.0089 0.0029
 Jupiter -23664-01-30 12:57 J -6921823.12 -6921822.96 -6921822.80 0.0492 0.0312
 Saturn -23664-04-24 01:40 J -6921739.62 -6921739.43 -6921739.23 0.0294 0.0120
 Neptune -23664-05-19 05:45 J -6921714.46 -6921714.26 -6921714.05 0.0089 0.0029
 Jupiter -23664-09-24 01:26 J -6921586.65 -6921586.44 -6921586.24 0.0496 0.0064

Saturn	-23664-12-10 01:26 J	-6921509.50	-6921509.44	-6921509.38	0.0292	0.0280
Neptune	-23664-12-30 18:28 J	-6921488.93	-6921488.73	-6921488.52	0.0089	0.0029
Jupiter	-23663-05-18 20:52 J	-6921349.71	-6921349.63	-6921349.54	0.0501	0.0450
Neptune	-23663-08-13 07:11 J	-6921263.39	-6921263.20	-6921262.98	0.0089	0.0030
Uranus	-23663-10-29 02:38 J	-6921186.47	-6921186.39	-6921186.27	0.0146	0.0130
Mars	-23663-12-22 18:43 J	-6921131.88	-6921131.72	-6921131.57	0.1847	0.0854
Neptune	-23662-03-26 20:09 J	-6921037.86	-6921037.66	-6921037.45	0.0089	0.0029
Uranus	-23662-06-12 15:07 J	-6920960.02	-6920959.87	-6920959.70	0.0146	0.0099
Neptune	-23662-11-07 08:52 J	-6920812.33	-6920812.13	-6920811.92	0.0089	0.0029
Uranus	-23661-01-25 03:21 J	-6920733.54	-6920733.36	-6920733.16	0.0146	0.0069
Neptune	-23661-06-19 21:21 J	-6920586.80	-6920586.61	-6920586.39	0.0089	0.0030
Uranus	-23661-09-07 15:50 J	-6920507.05	-6920506.84	-6920506.63	0.0146	0.0038
Neptune	-23660-01-31 10:19 J	-6920361.27	-6920361.07	-6920360.86	0.0089	0.0029
Uranus	-23660-04-22 03:50 J	-6920280.55	-6920280.34	-6920280.12	0.0145	0.0008
Neptune	-23660-09-13 22:47 J	-6920135.74	-6920135.55	-6920135.33	0.0089	0.0030
Uranus	-23660-12-04 15:50 J	-6920054.05	-6920053.84	-6920053.62	0.0145	0.0024
Neptune	-23659-04-27 11:31 J	-6919910.21	-6919910.02	-6919909.81	0.0089	0.0030
Uranus	-23659-07-19 04:19 J	-6919827.52	-6919827.32	-6919827.12	0.0145	0.0053
Jupiter	-23659-12-08 05:31 J	-6919685.44	-6919685.27	-6919685.11	0.0534	0.0299
Neptune	-23659-12-09 00:14 J	-6919684.69	-6919684.49	-6919684.28	0.0089	0.0029
Uranus	-23658-03-02 16:19 J	-6919601.00	-6919600.82	-6919600.64	0.0145	0.0083
Neptune	-23658-07-22 12:57 J	-6919459.16	-6919458.96	-6919458.75	0.0089	0.0029
Jupiter	-23658-08-02 17:02 J	-6919447.97	-6919447.79	-6919447.60	0.0530	0.0162
Uranus	-23658-10-15 04:04 J	-6919374.46	-6919374.33	-6919374.19	0.0144	0.0113
Earth	-23658-10-28 08:38 J	-6919361.30	-6919361.14	-6919360.99	0.2620	0.0840
Moon	-23658-10-28 11:02 J	-6919361.21	-6919361.04	-6919360.87	0.2614	0.0311 *
Neptune	-23657-03-04 01:40 J	-6919233.63	-6919233.43	-6919233.22	0.0089	0.0029
Uranus	-23657-05-28 15:35 J	-6919147.86	-6919147.85	-6919147.79	0.0144	0.0142
Neptune	-23657-10-15 14:09 J	-6919008.10	-6919007.91	-6919007.69	0.0089	0.0030
Neptune	-23656-05-29 02:52 J	-6918782.58	-6918782.38	-6918782.17	0.0089	0.0029

Neptune	-23655-01-09 15:21 J	-6918557.06	-6918556.86	-6918556.65	0.0089	0.0029
Neptune	-23655-08-23 03:50 J	-6918331.53	-6918331.34	-6918331.12	0.0089	0.0029
Neptune	-23654-04-05 16:47 J	-6918106.00	-6918105.80	-6918105.60	0.0089	0.0029
Neptune	-23654-11-17 05:16 J	-6917880.48	-6917880.28	-6917880.08	0.0089	0.0029
Neptune	-23653-06-29 17:31 J	-6917654.97	-6917654.77	-6917654.56	0.0089	0.0029
Jupiter	-23653-10-05 13:55 J	-6917557.03	-6917556.92	-6917556.81	0.0492	0.0409
Neptune	-23652-02-10 05:59 J	-6917429.45	-6917429.25	-6917429.04	0.0089	0.0028
Jupiter	-23652-05-29 23:59 J	-6917320.70	-6917320.50	-6917320.29	0.0495	0.0043
Neptune	-23652-09-23 18:28 J	-6917203.93	-6917203.73	-6917203.52	0.0089	0.0028
Jupiter	-23651-01-21 17:16 J	-6917083.93	-6917083.78	-6917083.63	0.0500	0.0344
Neptune	-23651-05-07 06:57 J	-6916978.41	-6916978.21	-6916978.00	0.0089	0.0028
Neptune	-23651-12-18 19:26 J	-6916752.89	-6916752.69	-6916752.48	0.0089	0.0028
Saturn	-23650-02-11 00:43 J	-6916698.59	-6916698.47	-6916698.35	0.0264	0.0215
Neptune	-23650-08-01 07:55 J	-6916527.37	-6916527.17	-6916526.96	0.0089	0.0027
Saturn	-23650-09-27 21:50 J	-6916469.78	-6916469.59	-6916469.39	0.0264	0.0100
Neptune	-23649-03-13 20:23 J	-6916301.85	-6916301.65	-6916301.44	0.0089	0.0027
Saturn	-23649-05-13 20:23 J	-6916240.86	-6916240.65	-6916240.43	0.0266	0.0019
Neptune	-23649-10-25 08:38 J	-6916076.33	-6916076.14	-6916075.92	0.0089	0.0027
Saturn	-23649-12-28 20:23 J	-6916011.82	-6916011.65	-6916011.46	0.0267	0.0140
Neptune	-23648-06-07 21:21 J	-6915850.82	-6915850.61	-6915850.41	0.0089	0.0027
Saturn	-23648-08-14 22:19 J	-6915782.60	-6915782.57	-6915782.52	0.0269	0.0263
Neptune	-23647-01-19 09:35 J	-6915625.30	-6915625.10	-6915624.89	0.0089	0.0026
Jupiter	-23647-08-12 22:47 J	-6915419.67	-6915419.55	-6915419.43	0.0535	0.0424
Neptune	-23647-09-01 21:50 J	-6915399.78	-6915399.59	-6915399.37	0.0089	0.0026
Jupiter	-23646-04-07 12:57 J	-6915182.16	-6915181.96	-6915181.76	0.0531	0.0038
Neptune	-23646-04-15 10:19 J	-6915174.26	-6915174.07	-6915173.85	0.0089	0.0026
Neptune	-23646-11-26 23:02 J	-6914948.74	-6914948.54	-6914948.33	0.0089	0.0025
Jupiter	-23646-11-30 17:59 J	-6914944.83	-6914944.75	-6914944.66	0.0525	0.0471
Neptune	-23645-07-09 11:16 J	-6914723.23	-6914723.03	-6914722.82	0.0089	0.0025
Neptune	-23644-02-19 23:45 J	-6914497.71	-6914497.51	-6914497.30	0.0089	0.0025

Neptune	-23644-10-03 11:59 J	-6914272.20	-6914272.00	-6914271.78	0.0089	0.0024
Neptune	-23643-05-17 00:28 J	-6914046.68	-6914046.48	-6914046.27	0.0089	0.0024
Neptune	-23643-12-28 12:57 J	-6913821.17	-6913820.96	-6913820.75	0.0089	0.0023
Neptune	-23642-08-11 00:57 J	-6913595.65	-6913595.46	-6913595.24	0.0089	0.0024
Neptune	-23641-03-23 13:40 J	-6913370.14	-6913369.93	-6913369.72	0.0089	0.0023
Neptune	-23641-11-04 01:40 J	-6913144.63	-6913144.43	-6913144.21	0.0089	0.0023
Jupiter	-23640-02-02 00:43 J	-6913054.67	-6913054.47	-6913054.28	0.0494	0.0146
Neptune	-23640-06-17 13:55 J	-6912919.12	-6912918.92	-6912918.70	0.0089	0.0022
Jupiter	-23640-09-26 16:04 J	-6912818.01	-6912817.83	-6912817.64	0.0498	0.0239
Neptune	-23639-01-29 02:23 J	-6912693.61	-6912693.40	-6912693.19	0.0089	0.0021
Neptune	-23639-09-11 14:23 J	-6912468.10	-6912467.90	-6912467.68	0.0089	0.0021
Neptune	-23638-04-25 03:07 J	-6912242.58	-6912242.37	-6912242.16	0.0089	0.0020
Neptune	-23638-12-06 15:07 J	-6912017.07	-6912016.87	-6912016.65	0.0089	0.0020
Neptune	-23637-07-19 03:35 J	-6911791.56	-6911791.35	-6911791.14	0.0089	0.0019
Neptune	-23636-03-01 15:35 J	-6911566.05	-6911565.85	-6911565.63	0.0089	0.0019
Saturn	-23636-07-31 20:38 J	-6911413.79	-6911413.64	-6911413.48	0.0297	0.0202
Neptune	-23636-10-13 04:04 J	-6911340.54	-6911340.33	-6911340.12	0.0089	0.0018
Saturn	-23635-03-19 00:43 J	-6911183.68	-6911183.47	-6911183.26	0.0296	0.0031
Neptune	-23635-05-26 16:19 J	-6911115.02	-6911114.82	-6911114.60	0.0089	0.0018
Saturn	-23635-11-04 02:38 J	-6910953.57	-6910953.39	-6910953.20	0.0294	0.0137
Jupiter	-23635-12-11 05:45 J	-6910916.46	-6910916.26	-6910916.06	0.0532	0.0090
Neptune	-23634-01-07 04:47 J	-6910889.51	-6910889.30	-6910889.09	0.0089	0.0017
Jupiter	-23634-08-05 12:43 J	-6910679.11	-6910678.97	-6910678.82	0.0526	0.0356
Neptune	-23634-08-20 16:47 J	-6910664.00	-6910663.80	-6910663.58	0.0089	0.0017
Mars	-23633-03-14 12:57 J	-6910457.10	-6910456.96	-6910456.81	0.1673	0.0901
Neptune	-23633-04-02 05:16 J	-6910438.48	-6910438.28	-6910438.06	0.0089	0.0016
Neptune	-23633-11-13 17:45 J	-6910212.97	-6910212.76	-6910212.55	0.0089	0.0015
Neptune	-23632-06-27 05:59 J	-6909987.46	-6909987.25	-6909987.03	0.0089	0.0015
Mars	-23631-01-12 12:57 J	-6909788.09	-6909787.96	-6909787.84	0.1659	0.1110
Neptune	-23631-02-07 18:28 J	-6909761.95	-6909761.73	-6909761.52	0.0089	0.0014

Neptune	-23631-09-21 06:28 J	-6909536.43	-6909536.23	-6909536.01	0.0089	0.0014
Neptune	-23630-05-04 19:11 J	-6909310.92	-6909310.70	-6909310.49	0.0089	0.0013
Neptune	-23630-12-16 07:11 J	-6909085.40	-6909085.20	-6909084.98	0.0089	0.0013
Neptune	-23629-07-28 19:40 J	-6908859.90	-6908859.68	-6908859.47	0.0089	0.0012
Jupiter	-23629-10-08 00:28 J	-6908788.66	-6908788.48	-6908788.30	0.0493	0.0248
Mars	-23629-10-18 22:19 J	-6908777.71	-6908777.57	-6908777.43	0.1858	0.1197
Neptune	-23628-03-11 07:55 J	-6908634.39	-6908634.17	-6908633.96	0.0089	0.0011
Jupiter	-23628-06-01 14:23 J	-6908552.10	-6908551.90	-6908551.70	0.0497	0.0132
Neptune	-23628-10-22 19:55 J	-6908408.88	-6908408.67	-6908408.45	0.0089	0.0011
Neptune	-23627-06-05 08:38 J	-6908183.36	-6908183.14	-6908182.93	0.0089	0.0010
Neptune	-23626-01-16 20:38 J	-6907957.85	-6907957.64	-6907957.42	0.0089	0.0010
Neptune	-23626-08-30 08:52 J	-6907732.34	-6907732.13	-6907731.91	0.0089	0.0009
Neptune	-23625-04-11 21:21 J	-6907506.83	-6907506.61	-6907506.40	0.0089	0.0008
Neptune	-23625-11-23 09:35 J	-6907281.31	-6907281.10	-6907280.88	0.0089	0.0008
Neptune	-23624-07-06 21:50 J	-6907055.80	-6907055.59	-6907055.37	0.0089	0.0007
Neptune	-23623-02-17 10:04 J	-6906830.29	-6906830.08	-6906829.86	0.0089	0.0007
Jupiter	-23623-08-15 22:19 J	-6906650.75	-6906650.57	-6906650.38	0.0533	0.0219
Neptune	-23623-09-30 22:33 J	-6906604.78	-6906604.56	-6906604.35	0.0089	0.0006
Jupiter	-23622-04-10 07:55 J	-6906413.35	-6906413.17	-6906412.99	0.0528	0.0236
Neptune	-23622-05-14 11:02 J	-6906379.26	-6906379.04	-6906378.82	0.0089	0.0005
Neptune	-23622-12-25 23:16 J	-6906153.74	-6906153.53	-6906153.31	0.0089	0.0005
Neptune	-23621-08-07 11:45 J	-6905928.23	-6905928.01	-6905927.80	0.0089	0.0004
Saturn	-23621-08-23 05:02 J	-6905912.43	-6905912.29	-6905912.15	0.0264	0.0197
Neptune	-23620-03-20 23:59 J	-6905702.71	-6905702.50	-6905702.28	0.0089	0.0003
Saturn	-23620-04-09 02:23 J	-6905683.59	-6905683.40	-6905683.19	0.0264	0.0082
Uranus	-23620-08-02 20:38 J	-6905567.65	-6905567.64	-6905567.61	0.0133	0.0132
Neptune	-23620-11-01 12:28 J	-6905477.20	-6905476.98	-6905476.76	0.0089	0.0002
Saturn	-23620-11-24 01:26 J	-6905454.65	-6905454.44	-6905454.23	0.0266	0.0038
Uranus	-23619-03-17 01:55 J	-6905341.54	-6905341.42	-6905341.29	0.0133	0.0109
Neptune	-23619-06-15 00:57 J	-6905251.68	-6905251.46	-6905251.24	0.0089	0.0002

Saturn	-23619-07-11 02:09 J	-6905225.58	-6905225.41	-6905225.24	0.0267	0.0159
Uranus	-23619-10-29 07:11 J	-6905115.36	-6905115.20	-6905115.03	0.0133	0.0086
Neptune	-23618-01-26 13:26 J	-6905026.16	-6905025.94	-6905025.72	0.0089	0.0001
Uranus	-23618-06-12 12:28 J	-6904889.17	-6904888.98	-6904888.78	0.0133	0.0063
Neptune	-23618-09-09 01:40 J	-6904800.64	-6904800.43	-6904800.21	0.0089	0.0001
Uranus	-23617-01-24 17:45 J	-6904662.96	-6904662.76	-6904662.54	0.0133	0.0040
Neptune	-23617-04-21 14:09 J	-6904575.13	-6904574.91	-6904574.69	0.0089	0.0001
Jupiter	-23617-06-13 01:11 J	-6904522.59	-6904522.45	-6904522.30	0.0492	0.0346
Uranus	-23617-09-06 23:16 J	-6904436.75	-6904436.53	-6904436.31	0.0133	0.0017
Neptune	-23617-12-03 02:23 J	-6904349.61	-6904349.40	-6904349.18	0.0089	0.0002
Jupiter	-23616-02-04 12:57 J	-6904286.17	-6904285.96	-6904285.75	0.0496	0.0027
Uranus	-23616-04-21 04:33 J	-6904210.53	-6904210.31	-6904210.09	0.0133	0.0007
Neptune	-23616-07-16 14:52 J	-6904124.10	-6904123.88	-6904123.66	0.0089	0.0002
Jupiter	-23616-09-29 07:55 J	-6904049.28	-6904049.17	-6904049.05	0.0501	0.0414
Uranus	-23616-12-03 09:50 J	-6903984.30	-6903984.09	-6903983.87	0.0134	0.0031
Neptune	-23615-02-27 03:21 J	-6903898.58	-6903898.36	-6903898.15	0.0089	0.0002
Uranus	-23615-07-17 15:21 J	-6903758.05	-6903757.86	-6903757.66	0.0134	0.0054
Neptune	-23615-10-10 15:35 J	-6903673.06	-6903672.85	-6903672.63	0.0088	0.0003
Uranus	-23614-02-28 20:52 J	-6903531.80	-6903531.63	-6903531.44	0.0134	0.0078
Neptune	-23614-05-24 04:19 J	-6903447.54	-6903447.32	-6903447.11	0.0088	0.0004
Uranus	-23614-10-13 02:23 J	-6903305.53	-6903305.40	-6903305.25	0.0134	0.0102
Neptune	-23613-01-04 16:33 J	-6903222.03	-6903221.81	-6903221.59	0.0088	0.0004
Uranus	-23613-05-26 08:09 J	-6903079.23	-6903079.16	-6903079.08	0.0134	0.0125
Neptune	-23613-08-17 05:02 J	-6902996.51	-6902996.29	-6902996.08	0.0088	0.0005
Neptune	-23612-03-30 17:16 J	-6902770.99	-6902770.78	-6902770.56	0.0088	0.0005
Neptune	-23612-11-11 05:45 J	-6902545.48	-6902545.26	-6902545.04	0.0088	0.0006
Jupiter	-23611-04-20 13:26 J	-6902385.09	-6902384.94	-6902384.79	0.0534	0.0346
Neptune	-23611-06-24 18:28 J	-6902319.95	-6902319.73	-6902319.52	0.0088	0.0007
Jupiter	-23611-12-14 01:40 J	-6902147.62	-6902147.43	-6902147.24	0.0530	0.0114
Neptune	-23610-02-05 06:57 J	-6902094.43	-6902094.21	-6902093.99	0.0088	0.0007

Neptune	-23610-09-18 19:11 J	-6901868.91	-6901868.70	-6901868.48	0.0088	0.0008
Neptune	-23609-05-01 07:55 J	-6901643.39	-6901643.17	-6901642.95	0.0088	0.0009
Neptune	-23609-12-12 20:23 J	-6901417.87	-6901417.65	-6901417.43	0.0088	0.0009
Neptune	-23608-07-26 09:07 J	-6901192.34	-6901192.12	-6901191.91	0.0088	0.0010
Neptune	-23607-03-08 21:35 J	-6900966.82	-6900966.60	-6900966.38	0.0088	0.0010
Neptune	-23607-10-20 10:04 J	-6900741.29	-6900741.08	-6900740.86	0.0088	0.0011
Saturn	-23606-02-11 05:02 J	-6900627.45	-6900627.29	-6900627.11	0.0297	0.0175
Neptune	-23606-06-02 22:47 J	-6900515.76	-6900515.55	-6900515.33	0.0088	0.0012
Saturn	-23606-09-29 08:52 J	-6900397.34	-6900397.13	-6900396.91	0.0296	0.0008
Neptune	-23605-01-14 11:31 J	-6900290.24	-6900290.02	-6900289.80	0.0088	0.0012
Jupiter	-23605-02-17 02:38 J	-6900256.47	-6900256.39	-6900256.29	0.0492	0.0441
Saturn	-23605-05-16 10:19 J	-6900167.23	-6900167.07	-6900166.88	0.0294	0.0164
Neptune	-23605-08-26 23:59 J	-6900064.71	-6900064.50	-6900064.28	0.0088	0.0013
Jupiter	-23605-10-10 12:28 J	-6900020.18	-6900019.98	-6900019.77	0.0494	0.0079
Neptune	-23604-04-09 12:28 J	-6899839.19	-6899838.98	-6899838.75	0.0088	0.0014
Jupiter	-23604-06-04 05:02 J	-6899783.45	-6899783.29	-6899783.13	0.0499	0.0307
Neptune	-23604-11-21 01:11 J	-6899613.66	-6899613.45	-6899613.23	0.0088	0.0014
Neptune	-23603-07-04 13:55 J	-6899388.13	-6899387.92	-6899387.69	0.0088	0.0015
Neptune	-23602-02-15 02:38 J	-6899162.60	-6899162.39	-6899162.17	0.0088	0.0015
Neptune	-23602-09-28 15:21 J	-6898937.07	-6898936.86	-6898936.64	0.0088	0.0015
Neptune	-23601-05-11 03:50 J	-6898711.55	-6898711.34	-6898711.12	0.0088	0.0016
Neptune	-23601-12-22 16:33 J	-6898486.02	-6898485.81	-6898485.59	0.0088	0.0017
Neptune	-23600-08-05 05:16 J	-6898260.49	-6898260.28	-6898260.06	0.0088	0.0017
Jupiter	-23600-12-24 05:16 J	-6898119.37	-6898119.28	-6898119.18	0.0535	0.0471
Mars	-23599-01-11 06:28 J	-6898101.40	-6898101.23	-6898101.06	0.1665	0.0168
Neptune	-23599-03-18 18:14 J	-6898034.96	-6898034.74	-6898034.53	0.0088	0.0018
Jupiter	-23599-08-18 20:09 J	-6897881.86	-6897881.66	-6897881.46	0.0532	0.0011
Neptune	-23599-10-30 06:43 J	-6897809.43	-6897809.22	-6897809.00	0.0088	0.0018
Jupiter	-23598-04-13 02:52 J	-6897644.50	-6897644.38	-6897644.27	0.0526	0.0428
Neptune	-23598-06-12 19:40 J	-6897583.89	-6897583.68	-6897583.46	0.0088	0.0018

Neptune -23597-01-24 08:23 J -6897358.36 -6897358.15 -6897357.93 0.0088 0.0019
 Neptune -23597-09-05 21:21 J -6897132.83 -6897132.61 -6897132.40 0.0088 0.0019
 Mars -23597-10-18 21:21 J -6897089.78 -6897089.61 -6897089.44 0.1850 0.0565
 Neptune -23596-04-19 09:50 J -6896907.29 -6896907.09 -6896906.86 0.0088 0.0020
 Neptune -23596-11-30 22:47 J -6896681.76 -6896681.55 -6896681.33 0.0088 0.0021
 Neptune -23595-07-14 11:45 J -6896456.21 -6896456.01 -6896455.78 0.0088 0.0021
 Neptune -23594-02-25 00:57 J -6896230.67 -6896230.46 -6896230.24 0.0088 0.0021
 Neptune -23594-10-08 13:55 J -6896005.13 -6896004.92 -6896004.71 0.0088 0.0021
 Neptune -23593-05-21 02:38 J -6895779.60 -6895779.39 -6895779.17 0.0088 0.0022
 Jupiter -23593-06-15 11:45 J -6895754.20 -6895754.01 -6895753.81 0.0493 0.0184
 Neptune -23592-01-01 15:35 J -6895554.06 -6895553.85 -6895553.63 0.0088 0.0022
 Jupiter -23592-02-07 02:09 J -6895517.60 -6895517.41 -6895517.22 0.0498 0.0199
 Neptune -23592-08-15 04:33 J -6895328.51 -6895328.31 -6895328.08 0.0088 0.0023
 Saturn -23591-03-05 06:57 J -6895126.36 -6895126.21 -6895126.06 0.0264 0.0181
 Neptune -23591-03-28 17:31 J -6895102.97 -6895102.77 -6895102.54 0.0088 0.0023
 Saturn -23591-10-20 04:33 J -6894897.52 -6894897.31 -6894897.11 0.0265 0.0065
 Neptune -23591-11-09 06:43 J -6894877.43 -6894877.22 -6894877.00 0.0088 0.0023
 Saturn -23590-06-06 03:21 J -6894668.56 -6894668.36 -6894668.15 0.0266 0.0055
 Neptune -23590-06-22 19:26 J -6894651.89 -6894651.69 -6894651.46 0.0088 0.0024
 Saturn -23589-01-21 03:50 J -6894439.50 -6894439.34 -6894439.18 0.0267 0.0177
 Neptune -23589-02-03 08:38 J -6894426.35 -6894426.14 -6894425.92 0.0088 0.0024
 Neptune -23589-09-15 21:35 J -6894200.80 -6894200.60 -6894200.38 0.0088 0.0024
 Neptune -23588-04-29 10:47 J -6893975.26 -6893975.05 -6893974.84 0.0088 0.0024
 Neptune -23588-12-10 23:31 J -6893749.72 -6893749.52 -6893749.29 0.0088 0.0025
 Jupiter -23587-04-23 14:52 J -6893616.08 -6893615.88 -6893615.69 0.0533 0.0137
 Neptune -23587-07-24 12:43 J -6893524.17 -6893523.97 -6893523.74 0.0088 0.0026
 Jupiter -23587-12-16 23:31 J -6893378.67 -6893378.52 -6893378.36 0.0528 0.0314
 Neptune -23586-03-07 01:55 J -6893298.62 -6893298.42 -6893298.20 0.0088 0.0025
 Neptune -23586-10-18 15:07 J -6893073.08 -6893072.87 -6893072.65 0.0088 0.0026
 Neptune -23585-05-31 04:04 J -6892847.53 -6892847.33 -6892847.11 0.0088 0.0026

Neptune	-23584-01-11 17:16 J	-6892621.99	-6892621.78	-6892621.56	0.0088	0.0026
Neptune	-23584-08-25 06:43 J	-6892396.43	-6892396.22	-6892396.00	0.0088	0.0026
Neptune	-23583-04-07 19:55 J	-6892170.88	-6892170.67	-6892170.45	0.0088	0.0026
Neptune	-23583-11-19 08:52 J	-6891945.33	-6891945.13	-6891944.90	0.0088	0.0027
Neptune	-23582-07-02 22:04 J	-6891719.78	-6891719.58	-6891719.35	0.0088	0.0027
Neptune	-23581-02-13 11:31 J	-6891494.22	-6891494.02	-6891493.80	0.0088	0.0027
Jupiter	-23581-02-19 12:57 J	-6891488.13	-6891487.96	-6891487.79	0.0493	0.0283
Neptune	-23581-09-26 00:57 J	-6891268.67	-6891268.46	-6891268.24	0.0088	0.0027
Jupiter	-23581-10-13 01:26 J	-6891251.64	-6891251.44	-6891251.23	0.0496	0.0094
Neptune	-23580-05-09 14:09 J	-6891043.11	-6891042.91	-6891042.69	0.0088	0.0027
Jupiter	-23580-06-06 21:21 J	-6891014.66	-6891014.61	-6891014.54	0.0502	0.0479
Neptune	-23580-12-21 03:35 J	-6890817.56	-6890817.35	-6890817.13	0.0088	0.0027
Uranus	-23579-06-28 11:59 J	-6890628.04	-6890628.00	-6890627.93	0.0146	0.0142
Neptune	-23579-08-03 17:02 J	-6890592.00	-6890591.79	-6890591.57	0.0088	0.0027
Uranus	-23578-02-10 00:14 J	-6890401.61	-6890401.49	-6890401.33	0.0146	0.0112
Neptune	-23578-03-17 06:14 J	-6890366.44	-6890366.24	-6890366.02	0.0088	0.0027
Uranus	-23578-09-24 12:28 J	-6890175.14	-6890174.98	-6890174.78	0.0146	0.0081
Neptune	-23578-10-28 19:40 J	-6890140.89	-6890140.68	-6890140.46	0.0088	0.0027
Uranus	-23577-05-08 00:57 J	-6889948.66	-6889948.46	-6889948.25	0.0146	0.0050
Neptune	-23577-06-10 08:52 J	-6889915.34	-6889915.13	-6889914.91	0.0088	0.0027
Saturn	-23577-08-23 06:57 J	-6889841.38	-6889841.21	-6889841.02	0.0297	0.0158
Uranus	-23577-12-20 13:11 J	-6889722.17	-6889721.95	-6889721.74	0.0146	0.0019
Neptune	-23576-01-21 22:19 J	-6889689.78	-6889689.57	-6889689.36	0.0088	0.0027
Saturn	-23576-04-10 10:47 J	-6889611.26	-6889611.05	-6889610.84	0.0295	0.0014
Uranus	-23576-08-04 01:26 J	-6889495.66	-6889495.44	-6889495.22	0.0145	0.0011
Neptune	-23576-09-04 11:45 J	-6889464.22	-6889464.01	-6889463.79	0.0088	0.0027
Saturn	-23576-11-26 12:14 J	-6889381.15	-6889380.99	-6889380.82	0.0294	0.0180
Jupiter	-23576-12-27 07:26 J	-6889350.37	-6889350.19	-6889350.02	0.0533	0.0264
Uranus	-23575-03-18 13:26 J	-6889269.14	-6889268.94	-6889268.73	0.0145	0.0042
Neptune	-23575-04-18 01:11 J	-6889238.66	-6889238.45	-6889238.24	0.0088	0.0027

Jupiter -23575-08-21 17:45 J -6889112.94 -6889112.76 -6889112.57 0.0529 0.0193
 Uranus -23575-10-31 01:26 J -6889042.62 -6889042.44 -6889042.24 0.0145 0.0072
 Neptune -23575-11-29 14:23 J -6889013.11 -6889012.90 -6889012.68 0.0088 0.0027
 Uranus -23574-06-14 13:40 J -6888816.08 -6888815.93 -6888815.78 0.0145 0.0102
 Neptune -23574-07-13 03:50 J -6888787.55 -6888787.34 -6888787.12 0.0088 0.0027
 Uranus -23573-01-27 01:26 J -6888589.52 -6888589.44 -6888589.34 0.0144 0.0131
 Neptune -23573-02-23 17:16 J -6888561.99 -6888561.78 -6888561.56 0.0088 0.0027
 Neptune -23573-10-06 06:43 J -6888336.43 -6888336.22 -6888336.00 0.0088 0.0027
 Neptune -23572-05-19 20:09 J -6888110.87 -6888110.66 -6888110.44 0.0088 0.0027
 Neptune -23572-12-31 09:35 J -6887885.31 -6887885.10 -6887884.88 0.0088 0.0027
 Neptune -23571-08-13 23:02 J -6887659.74 -6887659.54 -6887659.31 0.0088 0.0027
 Neptune -23570-03-27 12:28 J -6887434.18 -6887433.98 -6887433.75 0.0088 0.0027
 Jupiter -23570-10-25 12:43 J -6887222.09 -6887221.97 -6887221.83 0.0492 0.0382
 Neptune -23570-11-08 02:23 J -6887208.61 -6887208.40 -6887208.19 0.0088 0.0027
 Jupiter -23569-06-17 23:59 J -6886985.71 -6886985.50 -6886985.29 0.0496 0.0012
 Neptune -23569-06-20 15:50 J -6886983.05 -6886982.84 -6886982.62 0.0088 0.0026
 Neptune -23568-02-01 05:16 J -6886757.49 -6886757.28 -6886757.06 0.0088 0.0026
 Jupiter -23568-02-09 18:14 J -6886748.87 -6886748.74 -6886748.60 0.0501 0.0375
 Neptune -23568-09-14 18:57 J -6886531.91 -6886531.71 -6886531.48 0.0088 0.0026
 Mars -23567-01-10 00:43 J -6886414.62 -6886414.47 -6886414.32 0.1671 0.0793
 Neptune -23567-04-28 08:38 J -6886306.35 -6886306.14 -6886305.92 0.0088 0.0026
 Neptune -23567-12-09 22:04 J -6886080.78 -6886080.58 -6886080.35 0.0088 0.0026
 Neptune -23566-07-23 11:59 J -6885855.22 -6885855.00 -6885854.79 0.0088 0.0025
 Mars -23566-11-10 00:57 J -6885745.57 -6885745.46 -6885745.34 0.1658 0.1203
 Neptune -23565-03-05 01:26 J -6885629.65 -6885629.44 -6885629.22 0.0088 0.0025
 Neptune -23565-10-16 15:07 J -6885404.08 -6885403.87 -6885403.65 0.0088 0.0025
 Neptune -23564-05-30 04:33 J -6885178.51 -6885178.31 -6885178.08 0.0088 0.0025
 Jupiter -23564-08-31 23:16 J -6885084.67 -6885084.53 -6885084.40 0.0534 0.0390
 Neptune -23563-01-10 18:14 J -6884952.95 -6884952.74 -6884952.52 0.0088 0.0025
 Jupiter -23563-04-26 11:59 J -6884847.20 -6884847.00 -6884846.81 0.0530 0.0069

Mars -23563-08-16 00:43 J -6884735.57 -6884735.47 -6884735.36 0.1861 0.1498
 Neptune -23563-08-24 07:55 J -6884727.38 -6884727.17 -6884726.95 0.0088 0.0024
 Jupiter -23563-12-19 16:04 J -6884609.89 -6884609.83 -6884609.77 0.0524 0.0495
 Neptune -23562-04-06 21:21 J -6884501.81 -6884501.61 -6884501.38 0.0088 0.0024
 Saturn -23562-09-15 11:31 J -6884340.17 -6884340.02 -6884339.84 0.0264 0.0163
 Neptune -23562-11-18 11:16 J -6884276.24 -6884276.03 -6884275.81 0.0088 0.0023
 Saturn -23561-05-01 09:35 J -6884111.31 -6884111.10 -6884110.89 0.0265 0.0046
 Neptune -23561-07-01 00:43 J -6884050.68 -6884050.47 -6884050.24 0.0088 0.0023
 Saturn -23561-12-16 08:52 J -6883882.33 -6883882.13 -6883881.93 0.0266 0.0074
 Neptune -23560-02-11 14:23 J -6883825.11 -6883824.90 -6883824.68 0.0088 0.0023
 Saturn -23560-08-02 09:50 J -6883653.23 -6883653.09 -6883652.95 0.0267 0.0196
 Neptune -23560-09-25 04:19 J -6883599.53 -6883599.32 -6883599.10 0.0088 0.0022
 Neptune -23559-05-08 17:59 J -6883373.96 -6883373.75 -6883373.53 0.0088 0.0022
 Neptune -23559-12-20 07:26 J -6883148.39 -6883148.19 -6883147.96 0.0088 0.0023
 Jupiter -23558-06-30 13:55 J -6882955.96 -6882955.92 -6882955.86 0.0492 0.0475
 Neptune -23558-08-02 21:21 J -6882922.82 -6882922.61 -6882922.39 0.0088 0.0021
 Jupiter -23557-02-21 23:31 J -6882719.72 -6882719.52 -6882719.32 0.0494 0.0116
 Neptune -23557-03-15 11:02 J -6882697.25 -6882697.04 -6882696.81 0.0088 0.0021
 Jupiter -23557-10-15 15:35 J -6882483.03 -6882482.85 -6882482.68 0.0499 0.0269
 Neptune -23557-10-27 00:57 J -6882471.67 -6882471.46 -6882471.23 0.0088 0.0021
 Neptune -23556-06-09 14:38 J -6882246.10 -6882245.89 -6882245.66 0.0088 0.0020
 Neptune -23555-01-21 04:33 J -6882020.53 -6882020.31 -6882020.09 0.0088 0.0020
 Neptune -23555-09-03 18:14 J -6881794.95 -6881794.74 -6881794.51 0.0088 0.0019
 Neptune -23554-04-17 08:09 J -6881569.38 -6881569.16 -6881568.94 0.0088 0.0019
 Neptune -23554-11-28 21:50 J -6881343.80 -6881343.59 -6881343.36 0.0088 0.0018
 Neptune -23553-07-11 11:45 J -6881118.23 -6881118.01 -6881117.79 0.0088 0.0018
 Neptune -23552-02-22 01:26 J -6880892.66 -6880892.44 -6880892.22 0.0088 0.0017
 Jupiter -23552-05-06 12:28 J -6880819.02 -6880818.98 -6880818.92 0.0535 0.0516
 Neptune -23552-10-05 15:21 J -6880667.08 -6880666.86 -6880666.64 0.0088 0.0017
 Jupiter -23552-12-30 03:50 J -6880581.53 -6880581.34 -6880581.14 0.0532 0.0061

Neptune -23551-05-19 05:02 J -6880441.51 -6880441.29 -6880441.07 0.0088 0.0016
 Jupiter -23551-08-24 11:02 J -6880344.17 -6880344.04 -6880343.90 0.0526 0.0384
 Neptune -23551-12-30 18:28 J -6880215.94 -6880215.73 -6880215.49 0.0088 0.0017
 Neptune -23550-08-13 08:23 J -6879990.37 -6879990.15 -6879989.92 0.0088 0.0015
 Neptune -23549-03-25 22:04 J -6879764.80 -6879764.58 -6879764.35 0.0088 0.0015
 Neptune -23549-11-06 11:59 J -6879539.22 -6879539.00 -6879538.77 0.0088 0.0014
 Neptune -23548-06-20 01:55 J -6879313.65 -6879313.42 -6879313.20 0.0088 0.0014
 Neptune -23547-01-31 15:21 J -6879088.07 -6879087.86 -6879087.63 0.0088 0.0014
 Saturn -23547-03-05 17:16 J -6879054.97 -6879054.78 -6879054.58 0.0297 0.0128
 Neptune -23547-09-14 05:16 J -6878862.50 -6878862.28 -6878862.06 0.0088 0.0013
 Saturn -23547-10-21 20:38 J -6878824.85 -6878824.64 -6878824.43 0.0296 0.0044
 Neptune -23546-04-27 18:57 J -6878636.93 -6878636.71 -6878636.48 0.0088 0.0012
 Saturn -23546-06-08 21:35 J -6878594.74 -6878594.60 -6878594.44 0.0294 0.0209
 Jupiter -23546-10-27 23:45 J -6878453.69 -6878453.51 -6878453.32 0.0493 0.0218
 Neptune -23546-12-09 08:52 J -6878411.35 -6878411.13 -6878410.91 0.0088 0.0011
 Jupiter -23545-06-20 13:26 J -6878217.14 -6878216.94 -6878216.74 0.0497 0.0162
 Neptune -23545-07-21 22:33 J -6878185.78 -6878185.56 -6878185.33 0.0088 0.0011
 Neptune -23544-03-04 12:14 J -6877960.21 -6877959.99 -6877959.76 0.0088 0.0011
 Neptune -23544-10-16 02:09 J -6877734.63 -6877734.41 -6877734.18 0.0088 0.0010
 Neptune -23543-05-29 15:50 J -6877509.05 -6877508.84 -6877508.61 0.0089 0.0010
 Neptune -23542-01-10 05:45 J -6877283.48 -6877283.26 -6877283.03 0.0089 0.0009
 Neptune -23542-08-23 19:26 J -6877057.91 -6877057.69 -6877057.46 0.0089 0.0008
 Neptune -23541-04-05 09:21 J -6876832.33 -6876832.11 -6876831.89 0.0089 0.0007
 Neptune -23541-11-16 23:16 J -6876606.76 -6876606.53 -6876606.31 0.0089 0.0007
 Neptune -23540-06-30 12:57 J -6876381.18 -6876380.96 -6876380.74 0.0089 0.0006
 Jupiter -23540-09-03 21:07 J -6876315.81 -6876315.62 -6876315.43 0.0533 0.0187
 Neptune -23539-02-11 02:38 J -6876155.62 -6876155.39 -6876155.17 0.0089 0.0006
 Jupiter -23539-04-29 06:57 J -6876078.38 -6876078.21 -6876078.03 0.0528 0.0268
 Neptune -23539-09-24 16:19 J -6875930.05 -6875929.82 -6875929.60 0.0089 0.0005
 Neptune -23538-05-08 05:45 J -6875704.48 -6875704.26 -6875704.03 0.0089 0.0005

Neptune	-23538-12-19 19:40 J	-6875478.90	-6875478.68	-6875478.46	0.0089	0.0004
Neptune	-23537-08-01 09:07 J	-6875253.34	-6875253.12	-6875252.89	0.0089	0.0004
Neptune	-23536-03-14 22:47 J	-6875027.77	-6875027.55	-6875027.32	0.0089	0.0003
Neptune	-23536-10-26 12:28 J	-6874802.20	-6874801.98	-6874801.75	0.0089	0.0002
Uranus	-23536-11-14 12:43 J	-6874783.04	-6874782.97	-6874782.85	0.0132	0.0119
Neptune	-23535-06-09 02:09 J	-6874576.63	-6874576.41	-6874576.18	0.0089	0.0002
Uranus	-23535-06-28 17:59 J	-6874556.88	-6874556.75	-6874556.58	0.0133	0.0096
Neptune	-23534-01-20 15:50 J	-6874351.06	-6874350.84	-6874350.61	0.0089	0.0001
Uranus	-23534-02-09 23:45 J	-6874330.69	-6874330.51	-6874330.33	0.0133	0.0072
Jupiter	-23534-07-02 23:59 J	-6874187.66	-6874187.50	-6874187.34	0.0492	0.0319
Neptune	-23534-09-03 05:31 J	-6874125.50	-6874125.27	-6874125.05	0.0089	0.0001
Uranus	-23534-09-24 04:47 J	-6874104.50	-6874104.30	-6874104.09	0.0133	0.0049
Mars	-23534-11-08 18:43 J	-6874058.88	-6874058.72	-6874058.55	0.1663	0.0266
Jupiter	-23533-02-24 11:31 J	-6873951.23	-6873951.02	-6873950.82	0.0496	0.0055
Neptune	-23533-04-15 18:57 J	-6873899.93	-6873899.71	-6873899.48	0.0089	0.0002
Uranus	-23533-05-07 10:04 J	-6873878.29	-6873878.08	-6873877.86	0.0133	0.0026
Saturn	-23533-08-10 17:59 J	-6873782.77	-6873782.75	-6873782.70	0.0263	0.0259
Jupiter	-23533-10-18 06:14 J	-6873714.33	-6873714.24	-6873714.14	0.0501	0.0439
Neptune	-23533-11-27 08:52 J	-6873674.35	-6873674.13	-6873673.91	0.0089	0.0001
Uranus	-23533-12-19 15:35 J	-6873652.07	-6873651.85	-6873651.63	0.0133	0.0002
Saturn	-23532-03-27 14:52 J	-6873554.05	-6873553.88	-6873553.69	0.0264	0.0145
Neptune	-23532-07-10 22:33 J	-6873448.79	-6873448.56	-6873448.34	0.0089	0.0002
Uranus	-23532-08-02 20:52 J	-6873425.84	-6873425.63	-6873425.41	0.0133	0.0021
Saturn	-23532-11-11 12:57 J	-6873325.17	-6873324.96	-6873324.75	0.0265	0.0028
Neptune	-23531-02-21 11:59 J	-6873223.22	-6873223.00	-6873222.77	0.0089	0.0003
Uranus	-23531-03-17 02:23 J	-6873199.61	-6873199.40	-6873199.20	0.0134	0.0045
Saturn	-23531-06-28 12:28 J	-6873096.18	-6873095.98	-6873095.78	0.0266	0.0093
Mars	-23531-08-16 00:57 J	-6873047.64	-6873047.46	-6873047.29	0.1852	0.0291
Neptune	-23531-10-05 01:40 J	-6872997.65	-6872997.43	-6872997.21	0.0089	0.0003
Uranus	-23531-10-29 07:26 J	-6872973.36	-6872973.19	-6872972.99	0.0134	0.0069

Saturn	-23530-02-12 13:11 J	-6872867.07	-6872866.95	-6872866.82	0.0268	0.0216
Neptune	-23530-05-18 15:21 J	-6872772.08	-6872771.86	-6872771.64	0.0089	0.0004
Uranus	-23530-06-12 13:11 J	-6872747.10	-6872746.95	-6872746.79	0.0134	0.0092
Neptune	-23530-12-30 05:02 J	-6872546.51	-6872546.29	-6872546.07	0.0089	0.0004
Uranus	-23529-01-24 18:43 J	-6872520.81	-6872520.72	-6872520.60	0.0134	0.0116
Neptune	-23529-08-11 18:28 J	-6872320.95	-6872320.73	-6872320.50	0.0089	0.0005
Neptune	-23528-03-25 07:55 J	-6872095.38	-6872095.17	-6872094.94	0.0089	0.0006
Jupiter	-23528-05-09 14:23 J	-6872050.06	-6872049.90	-6872049.74	0.0534	0.0313
Neptune	-23528-11-05 21:35 J	-6871869.82	-6871869.60	-6871869.37	0.0089	0.0006
Jupiter	-23527-01-02 02:38 J	-6871812.58	-6871812.39	-6871812.20	0.0530	0.0147
Neptune	-23527-06-19 11:02 J	-6871644.25	-6871644.04	-6871643.81	0.0089	0.0007
Neptune	-23526-01-31 00:43 J	-6871418.69	-6871418.47	-6871418.25	0.0089	0.0007
Neptune	-23526-09-13 14:09 J	-6871193.13	-6871192.91	-6871192.69	0.0089	0.0008
Neptune	-23525-04-26 03:35 J	-6870967.57	-6870967.35	-6870967.13	0.0089	0.0008
Neptune	-23525-12-07 17:02 J	-6870742.01	-6870741.79	-6870741.56	0.0089	0.0009
Neptune	-23524-07-21 06:28 J	-6870516.45	-6870516.23	-6870516.00	0.0089	0.0010
Neptune	-23523-03-03 19:55 J	-6870290.89	-6870290.67	-6870290.45	0.0089	0.0010
Neptune	-23523-10-15 09:21 J	-6870065.33	-6870065.11	-6870064.89	0.0089	0.0011
Jupiter	-23522-03-08 01:26 J	-6869921.55	-6869921.44	-6869921.33	0.0492	0.0414
Neptune	-23522-05-28 22:33 J	-6869839.77	-6869839.56	-6869839.33	0.0089	0.0011
Jupiter	-23522-10-30 11:16 J	-6869685.24	-6869685.03	-6869684.83	0.0495	0.0051
Neptune	-23521-01-09 11:59 J	-6869614.21	-6869614.00	-6869613.77	0.0089	0.0012
Jupiter	-23521-06-23 03:50 J	-6869448.49	-6869448.34	-6869448.18	0.0500	0.0335
Neptune	-23521-08-22 01:26 J	-6869388.65	-6869388.44	-6869388.21	0.0089	0.0012
Pluto	-23521-11-03 17:16 J	-6869314.88	-6869314.78	-6869314.63	0.0064	0.0052
Neptune	-23520-04-04 14:38 J	-6869163.10	-6869162.89	-6869162.66	0.0089	0.0013
Moon	-23520-04-29 20:52 J	-6869137.78	-6869137.63	-6869137.48	0.2712	0.0923
Earth	-23520-04-30 02:23 J	-6869137.54	-6869137.40	-6869137.26	0.2714	0.1251 *
Pluto	-23520-06-16 21:21 J	-6869089.81	-6869089.61	-6869089.39	0.0064	0.0016
Neptune	-23520-11-16 04:19 J	-6868937.54	-6868937.32	-6868937.10	0.0089	0.0013

Pluto -23519-01-28 00:57 J -6868864.65 -6868864.46 -6868864.25 0.0065 0.0022
 Neptune -23519-06-29 17:31 J -6868711.98 -6868711.77 -6868711.54 0.0089 0.0014
 Pluto -23519-09-10 05:02 J -6868639.38 -6868639.29 -6868639.21 0.0065 0.0059
 Saturn -23518-01-28 15:21 J -6868498.92 -6868498.86 -6868498.78 0.0297 0.0281
 Neptune -23518-02-10 06:57 J -6868486.42 -6868486.21 -6868485.98 0.0089 0.0014
 Saturn -23518-09-15 20:38 J -6868268.84 -6868268.64 -6868268.44 0.0296 0.0109
 Neptune -23518-09-23 20:09 J -6868260.87 -6868260.66 -6868260.43 0.0089 0.0015
 Saturn -23517-05-02 23:45 J -6868038.72 -6868038.51 -6868038.30 0.0295 0.0062
 Neptune -23517-05-06 09:35 J -6868035.31 -6868035.10 -6868034.88 0.0089 0.0015
 Neptune -23517-12-17 22:47 J -6867809.75 -6867809.55 -6867809.32 0.0089 0.0017
 Saturn -23517-12-19 00:43 J -6867808.60 -6867808.47 -6867808.33 0.0293 0.0226
 Jupiter -23516-01-12 06:43 J -6867784.33 -6867784.22 -6867784.10 0.0535 0.0437
 Neptune -23516-07-31 12:14 J -6867584.20 -6867583.99 -6867583.76 0.0089 0.0016
 Jupiter -23516-09-06 20:38 J -6867546.84 -6867546.64 -6867546.44 0.0531 0.0023
 Neptune -23515-03-14 01:40 J -6867358.64 -6867358.43 -6867358.21 0.0089 0.0016
 Jupiter -23515-05-02 02:09 J -6867309.51 -6867309.41 -6867309.31 0.0525 0.0455
 Neptune -23515-10-25 14:38 J -6867133.09 -6867132.89 -6867132.66 0.0089 0.0017
 Neptune -23514-06-08 04:04 J -6866907.54 -6866907.33 -6866907.11 0.0089 0.0017
 Neptune -23513-01-19 17:02 J -6866681.99 -6866681.79 -6866681.56 0.0089 0.0018
 Neptune -23513-09-01 06:14 J -6866456.44 -6866456.24 -6866456.01 0.0089 0.0019
 Neptune -23512-04-14 19:26 J -6866230.90 -6866230.69 -6866230.47 0.0089 0.0019
 Earth -23512-04-27 16:33 J -6866217.87 -6866217.81 -6866217.75 0.2713 0.2493
 Neptune -23512-11-26 08:23 J -6866005.35 -6866005.15 -6866004.93 0.0089 0.0019
 Neptune -23511-07-09 21:35 J -6865779.81 -6865779.60 -6865779.38 0.0089 0.0019
 Neptune -23510-02-20 10:47 J -6865554.26 -6865554.05 -6865553.83 0.0089 0.0020
 Jupiter -23510-07-05 09:50 J -6865419.29 -6865419.09 -6865418.89 0.0494 0.0155
 Neptune -23510-10-03 23:45 J -6865328.72 -6865328.51 -6865328.29 0.0089 0.0020
 Jupiter -23509-02-27 01:11 J -6865182.64 -6865182.45 -6865182.27 0.0498 0.0228
 Neptune -23509-05-16 12:43 J -6865103.17 -6865102.97 -6865102.75 0.0089 0.0021
 Neptune -23509-12-28 01:55 J -6864877.63 -6864877.42 -6864877.20 0.0089 0.0021

Neptune	-23508-08-10 14:52 J	-6864652.08	-6864651.88	-6864651.66	0.0089	0.0021
Neptune	-23507-03-24 03:50 J	-6864426.54	-6864426.34	-6864426.12	0.0089	0.0022
Neptune	-23507-11-04 17:02 J	-6864201.00	-6864200.79	-6864200.58	0.0089	0.0021
Neptune	-23506-06-18 05:59 J	-6863975.46	-6863975.25	-6863975.03	0.0089	0.0022
Neptune	-23505-01-29 18:57 J	-6863749.91	-6863749.71	-6863749.49	0.0089	0.0022
Neptune	-23505-09-11 07:55 J	-6863524.37	-6863524.17	-6863523.95	0.0089	0.0023
Neptune	-23504-04-24 20:52 J	-6863298.83	-6863298.63	-6863298.41	0.0089	0.0023
Jupiter	-23504-05-12 13:40 J	-6863281.13	-6863280.93	-6863280.74	0.0532	0.0106
Neptune	-23504-12-06 09:50 J	-6863073.30	-6863073.09	-6863072.87	0.0089	0.0023
Jupiter	-23503-01-04 21:07 J	-6863043.76	-6863043.62	-6863043.46	0.0527	0.0341
Saturn	-23503-02-20 22:47 J	-6862996.62	-6862996.55	-6862996.45	0.0263	0.0241
Neptune	-23503-07-19 22:33 J	-6862847.76	-6862847.56	-6862847.34	0.0089	0.0023
Saturn	-23503-10-07 20:09 J	-6862767.84	-6862767.66	-6862767.47	0.0264	0.0126
Neptune	-23502-03-02 11:45 J	-6862622.21	-6862622.01	-6862621.79	0.0089	0.0023
Saturn	-23502-05-24 18:28 J	-6862538.94	-6862538.73	-6862538.52	0.0265	0.0009
Neptune	-23502-10-14 00:28 J	-6862396.68	-6862396.48	-6862396.26	0.0089	0.0024
Mars	-23502-11-07 12:43 J	-6862372.13	-6862371.97	-6862371.82	0.1669	0.0692
Saturn	-23501-01-08 18:14 J	-6862309.93	-6862309.74	-6862309.55	0.0266	0.0113
Neptune	-23501-05-26 13:26 J	-6862171.15	-6862170.94	-6862170.73	0.0089	0.0023
Saturn	-23501-08-24 19:26 J	-6862080.78	-6862080.69	-6862080.59	0.0268	0.0236
Neptune	-23500-01-07 02:09 J	-6861945.62	-6861945.41	-6861945.20	0.0089	0.0024
Neptune	-23500-08-20 15:07 J	-6861720.08	-6861719.87	-6861719.66	0.0089	0.0024
Mars	-23500-09-06 13:26 J	-6861703.05	-6861702.94	-6861702.84	0.1656	0.1288
Neptune	-23499-04-03 03:50 J	-6861494.55	-6861494.34	-6861494.13	0.0089	0.0024
Neptune	-23499-11-14 16:19 J	-6861269.02	-6861268.82	-6861268.60	0.0089	0.0024
Jupiter	-23498-03-10 10:04 J	-6861153.25	-6861153.08	-6861152.90	0.0493	0.0255
Neptune	-23498-06-28 05:02 J	-6861043.49	-6861043.29	-6861043.07	0.0089	0.0024
Jupiter	-23498-11-01 23:16 J	-6860916.73	-6860916.53	-6860916.33	0.0497	0.0123
Neptune	-23497-02-08 17:45 J	-6860817.96	-6860817.76	-6860817.54	0.0089	0.0025
Mars	-23497-06-12 03:35 J	-6860693.40	-6860693.35	-6860693.31	0.1863	0.1792

Neptune	-23497-09-21 06:28 J	-6860592.43	-6860592.23	-6860592.01	0.0089	0.0024
Neptune	-23496-05-04 19:11 J	-6860366.90	-6860366.70	-6860366.49	0.0089	0.0024
Neptune	-23496-12-16 07:55 J	-6860141.38	-6860141.17	-6860140.96	0.0089	0.0024
Neptune	-23495-07-29 20:23 J	-6859915.85	-6859915.65	-6859915.43	0.0089	0.0025
Uranus	-23495-10-10 07:26 J	-6859843.29	-6859843.19	-6859843.06	0.0146	0.0125
Neptune	-23494-03-12 09:21 J	-6859690.31	-6859690.11	-6859689.90	0.0089	0.0024
Uranus	-23494-05-24 20:09 J	-6859616.83	-6859616.66	-6859616.50	0.0146	0.0094
Neptune	-23494-10-23 22:04 J	-6859464.79	-6859464.58	-6859464.37	0.0089	0.0024
Uranus	-23493-01-06 08:09 J	-6859390.34	-6859390.16	-6859389.95	0.0146	0.0063
Neptune	-23493-06-05 10:33 J	-6859239.26	-6859239.06	-6859238.85	0.0089	0.0024
Uranus	-23493-08-19 20:38 J	-6859163.85	-6859163.64	-6859163.42	0.0146	0.0032
Jupiter	-23492-01-15 04:19 J	-6859015.50	-6859015.32	-6859015.15	0.0533	0.0236
Neptune	-23492-01-16 23:16 J	-6859013.74	-6859013.53	-6859013.32	0.0089	0.0024
Uranus	-23492-04-03 08:52 J	-6858937.34	-6858937.13	-6858936.91	0.0146	0.0003
Neptune	-23492-08-30 11:45 J	-6858788.21	-6858788.01	-6858787.79	0.0089	0.0025
Jupiter	-23492-09-09 14:38 J	-6858778.06	-6858777.89	-6858777.70	0.0529	0.0221
Uranus	-23492-11-15 21:07 J	-6858710.83	-6858710.62	-6858710.40	0.0145	0.0030
Neptune	-23491-04-13 00:28 J	-6858562.68	-6858562.48	-6858562.26	0.0089	0.0025
Uranus	-23491-06-30 09:35 J	-6858484.30	-6858484.10	-6858483.90	0.0145	0.0060
Neptune	-23491-11-24 13:11 J	-6858337.15	-6858336.95	-6858336.74	0.0089	0.0024
Uranus	-23490-02-11 21:21 J	-6858257.76	-6858257.61	-6858257.42	0.0145	0.0091
Neptune	-23490-07-08 01:40 J	-6858111.63	-6858111.43	-6858111.21	0.0089	0.0024
Uranus	-23490-09-26 09:21 J	-6858031.21	-6858031.11	-6858030.97	0.0144	0.0121
Neptune	-23489-02-18 14:09 J	-6857886.11	-6857885.91	-6857885.69	0.0089	0.0024
Saturn	-23489-08-10 02:52 J	-6857712.48	-6857712.38	-6857712.25	0.0298	0.0250
Neptune	-23489-10-01 02:38 J	-6857660.58	-6857660.39	-6857660.17	0.0089	0.0024
Saturn	-23488-03-28 07:55 J	-6857482.37	-6857482.17	-6857481.96	0.0297	0.0077
Neptune	-23488-05-14 15:21 J	-6857435.06	-6857434.86	-6857434.65	0.0089	0.0024
Saturn	-23488-11-13 10:47 J	-6857252.25	-6857252.05	-6857251.85	0.0295	0.0093
Neptune	-23488-12-26 03:50 J	-6857209.55	-6857209.34	-6857209.13	0.0089	0.0024

Saturn -23487-07-01 11:16 J -6857022.12 -6857022.03 -6857021.92 0.0294 0.0256
 Neptune -23487-08-08 16:19 J -6856984.03 -6856983.82 -6856983.61 0.0089 0.0023
 Jupiter -23487-11-13 11:16 J -6856887.17 -6856887.03 -6856886.89 0.0492 0.0353
 Neptune -23486-03-22 04:47 J -6856758.50 -6856758.30 -6856758.08 0.0089 0.0023
 Jupiter -23486-07-07 22:04 J -6856650.78 -6856650.58 -6856650.37 0.0495 0.0019
 Neptune -23486-11-02 17:16 J -6856532.98 -6856532.78 -6856532.57 0.0089 0.0023
 Jupiter -23485-02-29 16:04 J -6856413.95 -6856413.83 -6856413.70 0.0500 0.0401
 Neptune -23485-06-15 05:31 J -6856307.47 -6856307.27 -6856307.05 0.0089 0.0023
 Neptune -23484-01-26 17:59 J -6856081.95 -6856081.75 -6856081.54 0.0089 0.0023
 Neptune -23484-09-09 06:28 J -6855856.43 -6855856.23 -6855856.02 0.0089 0.0023
 Neptune -23483-04-22 18:57 J -6855630.91 -6855630.71 -6855630.49 0.0089 0.0023
 Neptune -23483-12-04 07:26 J -6855405.39 -6855405.19 -6855404.98 0.0089 0.0022
 Neptune -23482-07-17 19:40 J -6855179.88 -6855179.68 -6855179.46 0.0089 0.0022
 Neptune -23481-02-28 08:23 J -6854954.36 -6854954.15 -6854953.94 0.0089 0.0022
 Jupiter -23481-09-19 19:55 J -6854749.81 -6854749.67 -6854749.52 0.0534 0.0362
 Neptune -23481-10-10 20:38 J -6854728.84 -6854728.64 -6854728.43 0.0089 0.0021
 Jupiter -23480-05-15 09:07 J -6854512.31 -6854512.12 -6854511.92 0.0531 0.0098
 Neptune -23480-05-24 09:07 J -6854503.33 -6854503.12 -6854502.91 0.0089 0.0021
 Neptune -23479-01-04 21:21 J -6854277.81 -6854277.61 -6854277.39 0.0089 0.0021
 Jupiter -23479-01-07 13:40 J -6854274.93 -6854274.93 -6854274.91 0.0524 0.0523
 Neptune -23479-08-18 10:04 J -6854052.29 -6854052.08 -6854051.87 0.0089 0.0020
 Neptune -23478-03-31 22:19 J -6853826.77 -6853826.57 -6853826.35 0.0089 0.0020
 Neptune -23478-11-12 10:47 J -6853601.26 -6853601.05 -6853600.84 0.0089 0.0020
 Neptune -23477-06-24 23:16 J -6853375.74 -6853375.53 -6853375.32 0.0089 0.0020
 Neptune -23476-02-05 11:16 J -6853150.23 -6853150.03 -6853149.81 0.0089 0.0020
 Neptune -23476-09-18 23:45 J -6852924.72 -6852924.51 -6852924.30 0.0089 0.0019
 Neptune -23475-05-02 12:14 J -6852699.20 -6852698.99 -6852698.78 0.0089 0.0018
 Jupiter -23475-07-19 11:59 J -6852621.08 -6852621.00 -6852620.91 0.0491 0.0449
 Neptune -23475-12-14 00:28 J -6852473.69 -6852473.48 -6852473.27 0.0089 0.0018
 Jupiter -23474-03-12 20:52 J -6852384.83 -6852384.63 -6852384.42 0.0494 0.0090

Neptune -23474-07-27 12:43 J -6852248.18 -6852247.97 -6852247.75 0.0089 0.0018
 Saturn -23474-09-03 03:50 J -6852210.45 -6852210.34 -6852210.22 0.0263 0.0221
 Jupiter -23474-11-04 12:43 J -6852148.14 -6852147.97 -6852147.80 0.0499 0.0294
 Neptune -23473-03-09 00:57 J -6852022.67 -6852022.46 -6852022.24 0.0089 0.0017
 Saturn -23473-04-19 00:57 J -6851981.65 -6851981.46 -6851981.27 0.0264 0.0106
 Neptune -23473-10-20 13:11 J -6851797.16 -6851796.95 -6851796.73 0.0089 0.0017
 Saturn -23473-12-03 23:16 J -6851752.74 -6851752.53 -6851752.32 0.0265 0.0013
 Neptune -23472-06-03 01:26 J -6851571.64 -6851571.44 -6851571.22 0.0089 0.0017
 Saturn -23472-07-20 23:02 J -6851523.72 -6851523.54 -6851523.35 0.0267 0.0134
 Neptune -23471-01-14 13:55 J -6851346.13 -6851345.92 -6851345.71 0.0089 0.0016
 Saturn -23471-03-07 00:14 J -6851294.54 -6851294.49 -6851294.42 0.0268 0.0257
 Neptune -23471-08-28 01:55 J -6851120.62 -6851120.42 -6851120.20 0.0089 0.0016
 Neptune -23470-04-10 14:23 J -6850895.11 -6850894.90 -6850894.68 0.0089 0.0016
 Mars -23470-11-06 06:57 J -6850685.23 -6850685.21 -6850685.19 0.1676 0.1660
 Neptune -23470-11-22 02:38 J -6850669.60 -6850669.39 -6850669.17 0.0089 0.0015
 Jupiter -23469-05-25 11:59 J -6850484.08 -6850484.00 -6850483.91 0.0535 0.0486
 Neptune -23469-07-04 14:52 J -6850444.09 -6850443.88 -6850443.66 0.0089 0.0015
 Jupiter -23468-01-18 03:35 J -6850246.55 -6850246.35 -6850246.15 0.0532 0.0028
 Neptune -23468-02-15 03:21 J -6850218.57 -6850218.36 -6850218.15 0.0089 0.0014
 Mars -23468-09-05 06:43 J -6850016.39 -6850016.22 -6850016.05 0.1661 0.0357
 Jupiter -23468-09-12 10:47 J -6850009.17 -6850009.05 -6850008.93 0.0526 0.0413
 Neptune -23468-09-28 15:21 J -6849993.06 -6849992.86 -6849992.64 0.0089 0.0014
 Neptune -23467-05-12 04:04 J -6849767.54 -6849767.33 -6849767.12 0.0089 0.0013
 Neptune -23467-12-23 16:19 J -6849542.03 -6849541.82 -6849541.60 0.0089 0.0013
 Neptune -23466-08-06 04:47 J -6849316.52 -6849316.30 -6849316.09 0.0089 0.0012
 Neptune -23465-03-18 16:47 J -6849091.01 -6849090.80 -6849090.58 0.0089 0.0012
 Mars -23465-06-12 03:35 J -6849005.53 -6849005.35 -6849005.17 0.1855 0.0013
 Neptune -23465-10-30 05:16 J -6848865.49 -6848865.28 -6848865.07 0.0089 0.0011
 Neptune -23464-06-12 17:31 J -6848639.98 -6848639.77 -6848639.55 0.0089 0.0011
 Neptune -23463-01-24 05:45 J -6848414.47 -6848414.26 -6848414.04 0.0089 0.0010

Neptune -23463-09-06 17:59 J -6848188.96 -6848188.75 -6848188.53 0.0089 0.0010
 Jupiter -23463-11-15 21:07 J -6848118.81 -6848118.62 -6848118.43 0.0493 0.0192
 Neptune -23462-04-20 06:28 J -6847963.45 -6847963.23 -6847963.02 0.0089 0.0009
 Jupiter -23462-07-10 10:47 J -6847882.24 -6847882.05 -6847881.86 0.0497 0.0188
 Neptune -23462-12-01 18:43 J -6847737.94 -6847737.72 -6847737.51 0.0089 0.0009
 Neptune -23461-07-14 06:43 J -6847512.43 -6847512.22 -6847512.00 0.0089 0.0009
 Neptune -23460-02-24 19:11 J -6847286.92 -6847286.70 -6847286.49 0.0089 0.0008
 Neptune -23460-10-08 07:11 J -6847061.41 -6847061.20 -6847060.98 0.0089 0.0008
 Saturn -23459-02-20 08:09 J -6846926.29 -6846926.16 -6846926.01 0.0297 0.0228
 Neptune -23459-05-21 19:55 J -6846835.89 -6846835.67 -6846835.46 0.0089 0.0007
 Saturn -23459-10-08 12:57 J -6846696.17 -6846695.96 -6846695.75 0.0296 0.0056
 Neptune -23458-01-02 07:55 J -6846610.38 -6846610.17 -6846609.95 0.0089 0.0007
 Saturn -23458-05-26 15:21 J -6846466.05 -6846465.86 -6846465.66 0.0295 0.0113
 Neptune -23458-08-15 20:23 J -6846384.87 -6846384.65 -6846384.44 0.0089 0.0006
 Saturn -23457-01-11 15:50 J -6846235.91 -6846235.84 -6846235.77 0.0293 0.0275
 Neptune -23457-03-28 08:23 J -6846159.36 -6846159.15 -6846158.93 0.0089 0.0006
 Jupiter -23457-09-22 21:21 J -6845980.81 -6845980.61 -6845980.42 0.0533 0.0154
 Neptune -23457-11-08 20:52 J -6845933.84 -6845933.63 -6845933.41 0.0089 0.0005
 Jupiter -23456-05-18 06:14 J -6845743.40 -6845743.24 -6845743.08 0.0528 0.0297
 Neptune -23456-06-22 09:21 J -6845708.33 -6845708.11 -6845707.89 0.0089 0.0004
 Neptune -23455-02-02 21:35 J -6845482.81 -6845482.60 -6845482.38 0.0089 0.0004
 Neptune -23455-09-16 10:04 J -6845257.30 -6845257.08 -6845256.86 0.0089 0.0003
 Neptune -23454-04-29 22:33 J -6845031.78 -6845031.56 -6845031.35 0.0089 0.0003
 Neptune -23454-12-11 10:47 J -6844806.26 -6844806.05 -6844805.83 0.0089 0.0002
 Neptune -23453-07-23 23:16 J -6844580.75 -6844580.53 -6844580.31 0.0089 0.0001
 Neptune -23452-03-06 11:31 J -6844355.23 -6844355.02 -6844354.80 0.0089 0.0002
 Uranus -23452-07-15 00:28 J -6844224.52 -6844224.48 -6844224.40 0.0132 0.0128
 Neptune -23452-10-17 23:59 J -6844129.72 -6844129.50 -6844129.28 0.0088 0.0001
 Uranus -23451-02-26 05:45 J -6843998.38 -6843998.26 -6843998.11 0.0132 0.0105
 Neptune -23451-05-31 12:28 J -6843904.19 -6843903.98 -6843903.76 0.0088 0.0002

Jupiter	-23451-07-21 20:09 J	-6843852.83	-6843852.66	-6843852.49	0.0493	0.0293
Uranus	-23451-10-10 11:02 J	-6843772.20	-6843772.04	-6843771.86	0.0133	0.0082
Neptune	-23450-01-12 00:57 J	-6843678.68	-6843678.46	-6843678.24	0.0088	0.0001
Jupiter	-23450-03-15 08:23 J	-6843616.35	-6843616.15	-6843615.94	0.0496	0.0081
Uranus	-23450-05-24 16:04 J	-6843546.01	-6843545.83	-6843545.62	0.0133	0.0059
Neptune	-23450-08-25 13:11 J	-6843453.16	-6843452.95	-6843452.73	0.0088	0.0003
Jupiter	-23450-11-07 04:04 J	-6843379.40	-6843379.33	-6843379.25	0.0502	0.0466
Uranus	-23449-01-05 21:35 J	-6843319.80	-6843319.60	-6843319.38	0.0133	0.0035
Neptune	-23449-04-07 01:40 J	-6843227.65	-6843227.43	-6843227.21	0.0088	0.0002
Uranus	-23449-08-19 02:52 J	-6843093.59	-6843093.38	-6843093.16	0.0133	0.0012
Neptune	-23449-11-18 14:09 J	-6843002.13	-6843001.91	-6843001.70	0.0088	0.0003
Uranus	-23448-04-02 08:23 J	-6842867.37	-6842867.15	-6842866.94	0.0133	0.0012
Neptune	-23448-07-02 02:38 J	-6842776.61	-6842776.39	-6842776.17	0.0088	0.0003
Uranus	-23448-11-14 13:40 J	-6842641.14	-6842640.93	-6842640.72	0.0133	0.0036
Neptune	-23447-02-12 15:07 J	-6842551.09	-6842550.87	-6842550.65	0.0088	0.0003
Uranus	-23447-06-28 18:57 J	-6842414.90	-6842414.71	-6842414.51	0.0134	0.0060
Neptune	-23447-09-26 03:21 J	-6842325.57	-6842325.36	-6842325.14	0.0088	0.0004
Uranus	-23446-02-10 00:43 J	-6842188.64	-6842188.47	-6842188.30	0.0134	0.0083
Neptune	-23446-05-09 15:50 J	-6842100.05	-6842099.84	-6842099.62	0.0088	0.0005
Uranus	-23446-09-24 05:45 J	-6841962.37	-6841962.26	-6841962.11	0.0134	0.0107
Neptune	-23446-12-21 04:19 J	-6841874.54	-6841874.32	-6841874.10	0.0088	0.0005
Uranus	-23445-05-07 11:31 J	-6841736.06	-6841736.02	-6841735.96	0.0134	0.0131
Jupiter	-23445-05-28 13:11 J	-6841715.12	-6841714.95	-6841714.78	0.0534	0.0281
Neptune	-23445-08-02 16:47 J	-6841649.01	-6841648.80	-6841648.58	0.0088	0.0006
Jupiter	-23444-01-21 00:14 J	-6841477.67	-6841477.49	-6841477.30	0.0529	0.0176
Saturn	-23444-03-15 08:23 J	-6841424.27	-6841424.15	-6841424.01	0.0264	0.0203
Neptune	-23444-03-16 05:16 J	-6841423.49	-6841423.28	-6841423.06	0.0088	0.0006
Neptune	-23444-10-27 17:59 J	-6841197.97	-6841197.75	-6841197.54	0.0088	0.0007
Saturn	-23444-10-30 06:14 J	-6841195.44	-6841195.24	-6841195.04	0.0265	0.0087
Neptune	-23443-06-10 06:28 J	-6840972.44	-6840972.23	-6840972.01	0.0088	0.0007

Saturn	-23443-06-16 05:02 J	-6840966.50	-6840966.29	-6840966.08	0.0266	0.0033
Neptune	-23442-01-21 19:11 J	-6840746.92	-6840746.70	-6840746.48	0.0088	0.0007
Saturn	-23442-01-31 05:02 J	-6840737.45	-6840737.29	-6840737.11	0.0267	0.0155
Neptune	-23442-09-04 07:40 J	-6840521.40	-6840521.18	-6840520.96	0.0088	0.0008
Neptune	-23441-04-16 20:09 J	-6840295.87	-6840295.66	-6840295.44	0.0088	0.0009
Neptune	-23441-11-28 08:52 J	-6840070.35	-6840070.13	-6840069.91	0.0088	0.0009
Neptune	-23440-07-11 21:35 J	-6839844.81	-6839844.60	-6839844.38	0.0088	0.0010
Neptune	-23439-02-22 10:19 J	-6839619.29	-6839619.07	-6839618.85	0.0088	0.0010
Jupiter	-23439-03-26 21:07 J	-6839586.74	-6839586.62	-6839586.49	0.0492	0.0389
Neptune	-23439-10-05 23:02 J	-6839393.76	-6839393.54	-6839393.32	0.0088	0.0010
Jupiter	-23439-11-18 07:26 J	-6839350.40	-6839350.19	-6839349.98	0.0495	0.0024
Neptune	-23438-05-19 11:31 J	-6839168.23	-6839168.02	-6839167.80	0.0088	0.0011
Jupiter	-23438-07-13 00:43 J	-6839113.61	-6839113.47	-6839113.33	0.0500	0.0362
Neptune	-23438-12-31 00:14 J	-6838942.71	-6838942.49	-6838942.27	0.0088	0.0011
Neptune	-23437-08-12 12:57 J	-6838717.18	-6838716.96	-6838716.74	0.0088	0.0012
Neptune	-23436-03-26 01:26 J	-6838491.65	-6838491.44	-6838491.21	0.0088	0.0012
Mars	-23436-09-04 00:14 J	-6838329.64	-6838329.49	-6838329.33	0.1667	0.0590
Neptune	-23436-11-06 14:23 J	-6838266.12	-6838265.90	-6838265.69	0.0088	0.0013
Neptune	-23435-06-20 02:52 J	-6838040.59	-6838040.38	-6838040.15	0.0088	0.0013
Neptune	-23434-01-31 15:50 J	-6837815.06	-6837814.84	-6837814.62	0.0088	0.0013
Mars	-23434-07-05 01:40 J	-6837660.53	-6837660.43	-6837660.34	0.1654	0.1375
Neptune	-23434-09-14 04:19 J	-6837589.53	-6837589.32	-6837589.10	0.0088	0.0014
Jupiter	-23433-02-01 02:23 J	-6837449.53	-6837449.40	-6837449.27	0.0535	0.0410
Neptune	-23433-04-26 17:02 J	-6837364.00	-6837363.79	-6837363.57	0.0088	0.0014
Mars	-23433-06-12 02:38 J	-6837317.44	-6837317.39	-6837317.33	0.1847	0.1741
Jupiter	-23433-09-25 16:19 J	-6837212.02	-6837211.82	-6837211.62	0.0531	0.0049
Neptune	-23433-12-08 05:45 J	-6837138.47	-6837138.26	-6837138.04	0.0088	0.0015
Jupiter	-23432-05-20 21:50 J	-6836974.67	-6836974.59	-6836974.51	0.0525	0.0480
Neptune	-23432-07-21 18:43 J	-6836912.93	-6836912.72	-6836912.50	0.0088	0.0015
Pluto	-23432-09-28 10:19 J	-6836844.26	-6836844.07	-6836843.84	0.0080	0.0030

Neptune -23431-03-04 07:40 J -6836687.40 -6836687.18 -6836686.96 0.0088 0.0015
 Pluto -23431-05-11 21:35 J -6836618.78 -6836618.60 -6836618.41 0.0080 0.0045
 Neptune -23431-10-15 20:09 J -6836461.86 -6836461.66 -6836461.43 0.0088 0.0017
 Neptune -23430-05-29 09:07 J -6836236.33 -6836236.12 -6836235.90 0.0088 0.0016
 Saturn -23430-09-02 21:07 J -6836139.78 -6836139.62 -6836139.46 0.0297 0.0195
 Neptune -23429-01-09 22:04 J -6836010.79 -6836010.58 -6836010.36 0.0088 0.0017
 Saturn -23429-04-20 01:11 J -6835909.66 -6835909.45 -6835909.23 0.0296 0.0024
 Neptune -23429-08-22 11:02 J -6835785.25 -6835785.04 -6835784.82 0.0088 0.0017
 Saturn -23429-12-06 03:35 J -6835679.53 -6835679.35 -6835679.17 0.0295 0.0147
 Neptune -23428-04-04 23:59 J -6835559.71 -6835559.50 -6835559.28 0.0088 0.0017
 Neptune -23428-11-16 12:57 J -6835334.17 -6835333.96 -6835333.74 0.0088 0.0017
 Jupiter -23428-11-29 22:47 J -6835320.58 -6835320.55 -6835320.51 0.0492 0.0483
 Neptune -23427-06-30 01:55 J -6835108.63 -6835108.42 -6835108.20 0.0088 0.0018
 Jupiter -23427-07-24 07:26 J -6835084.39 -6835084.19 -6835083.99 0.0494 0.0127
 Neptune -23426-02-10 14:52 J -6834883.09 -6834882.88 -6834882.66 0.0088 0.0018
 Jupiter -23426-03-17 22:19 J -6834847.75 -6834847.57 -6834847.39 0.0498 0.0255
 Neptune -23426-09-24 03:50 J -6834657.55 -6834657.34 -6834657.12 0.0088 0.0018
 Neptune -23425-05-06 16:33 J -6834432.01 -6834431.81 -6834431.58 0.0088 0.0019
 Neptune -23425-12-18 05:45 J -6834206.47 -6834206.26 -6834206.04 0.0088 0.0019
 Neptune -23424-07-31 18:57 J -6833980.92 -6833980.71 -6833980.49 0.0088 0.0019
 Neptune -23423-03-14 08:09 J -6833755.38 -6833755.16 -6833754.95 0.0088 0.0019
 Neptune -23423-10-25 20:52 J -6833529.84 -6833529.63 -6833529.41 0.0088 0.0020
 Moon -23423-10-30 13:40 J -6833525.04 -6833524.93 -6833524.82 0.2618 0.1931
 Neptune -23422-06-08 09:50 J -6833304.30 -6833304.09 -6833303.87 0.0088 0.0020
 Jupiter -23422-10-06 16:47 J -6833183.81 -6833183.80 -6833183.78 0.0535 0.0534
 Neptune -23421-01-19 23:02 J -6833078.76 -6833078.54 -6833078.32 0.0088 0.0020
 Jupiter -23421-05-31 09:07 J -6832946.32 -6832946.12 -6832945.92 0.0532 0.0079
 Neptune -23421-09-01 12:14 J -6832853.21 -6832852.99 -6832852.77 0.0088 0.0020
 Jupiter -23420-01-23 17:16 J -6832708.92 -6832708.78 -6832708.63 0.0527 0.0367
 Neptune -23420-04-15 00:57 J -6832627.66 -6832627.46 -6832627.23 0.0088 0.0021

Neptune	-23420-11-26 14:09 J	-6832402.11	-6832401.91	-6832401.68	0.0088	0.0021
Neptune	-23419-07-10 03:21 J	-6832176.57	-6832176.36	-6832176.13	0.0088	0.0021
Neptune	-23418-02-20 16:33 J	-6831951.02	-6831950.81	-6831950.58	0.0088	0.0021
Neptune	-23418-10-04 05:59 J	-6831725.47	-6831725.25	-6831725.03	0.0088	0.0021
Neptune	-23417-05-16 19:11 J	-6831499.92	-6831499.70	-6831499.48	0.0088	0.0021
Neptune	-23417-12-28 08:09 J	-6831274.36	-6831274.16	-6831273.93	0.0088	0.0022
Neptune	-23416-08-10 21:35 J	-6831048.80	-6831048.60	-6831048.37	0.0088	0.0022
Neptune	-23415-03-24 11:02 J	-6830823.25	-6830823.04	-6830822.82	0.0088	0.0022
Jupiter	-23415-03-29 06:57 J	-6830818.39	-6830818.21	-6830818.02	0.0493	0.0230
Saturn	-23415-09-25 14:38 J	-6830638.04	-6830637.89	-6830637.74	0.0264	0.0182
Moon	-23415-10-28 06:57 J	-6830605.35	-6830605.21	-6830605.07	0.2623	0.1086
Earth	-23415-10-28 11:16 J	-6830605.18	-6830605.03	-6830604.87	0.2619	0.0517 *
Neptune	-23415-11-05 00:14 J	-6830597.70	-6830597.49	-6830597.26	0.0088	0.0022
Jupiter	-23415-11-20 19:40 J	-6830581.88	-6830581.68	-6830581.48	0.0496	0.0147
Saturn	-23414-05-12 12:14 J	-6830409.20	-6830408.99	-6830408.79	0.0265	0.0065
Neptune	-23414-06-18 13:26 J	-6830372.14	-6830371.94	-6830371.71	0.0088	0.0022
Saturn	-23414-12-27 11:02 J	-6830180.25	-6830180.04	-6830179.84	0.0266	0.0055
Neptune	-23413-01-30 02:52 J	-6830146.59	-6830146.38	-6830146.16	0.0088	0.0022
Saturn	-23413-08-12 11:02 J	-6829951.19	-6829951.04	-6829950.87	0.0267	0.0177
Neptune	-23413-09-11 16:19 J	-6829921.03	-6829920.82	-6829920.59	0.0088	0.0022
Neptune	-23412-04-25 05:45 J	-6829695.47	-6829695.26	-6829695.04	0.0088	0.0022
Neptune	-23412-12-06 19:11 J	-6829469.91	-6829469.70	-6829469.48	0.0088	0.0022
Uranus	-23411-06-09 13:55 J	-6829284.98	-6829284.92	-6829284.85	0.0146	0.0139
Neptune	-23411-07-20 08:23 J	-6829244.36	-6829244.15	-6829243.93	0.0088	0.0022
Uranus	-23410-01-22 02:09 J	-6829058.54	-6829058.41	-6829058.25	0.0146	0.0108
Neptune	-23410-03-02 21:50 J	-6829018.80	-6829018.59	-6829018.37	0.0088	0.0022
Uranus	-23410-09-05 14:23 J	-6828832.07	-6828831.90	-6828831.70	0.0146	0.0078
Neptune	-23410-10-14 11:16 J	-6828793.24	-6828793.03	-6828792.81	0.0088	0.0022
Jupiter	-23409-02-04 02:23 J	-6828680.58	-6828680.40	-6828680.21	0.0534	0.0206
Uranus	-23409-04-19 02:52 J	-6828605.58	-6828605.38	-6828605.17	0.0146	0.0046

Neptune -23409-05-27 00:28 J -6828567.69 -6828567.48 -6828567.25 0.0088 0.0023
 Jupiter -23409-09-28 13:11 J -6828443.12 -6828442.95 -6828442.77 0.0529 0.0250
 Uranus -23409-12-01 15:21 J -6828379.08 -6828378.86 -6828378.64 0.0146 0.0015
 Neptune -23408-01-07 13:55 J -6828342.13 -6828341.92 -6828341.69 0.0088 0.0022
 Uranus -23408-07-16 03:50 J -6828152.55 -6828152.34 -6828152.12 0.0145 0.0016
 Neptune -23408-08-21 03:35 J -6828116.56 -6828116.35 -6828116.13 0.0088 0.0022
 Uranus -23407-02-27 16:04 J -6827926.03 -6827925.83 -6827925.62 0.0145 0.0047
 Neptune -23407-04-03 17:02 J -6827891.00 -6827890.79 -6827890.57 0.0088 0.0022
 Uranus -23407-10-12 04:04 J -6827699.50 -6827699.33 -6827699.13 0.0145 0.0078
 Neptune -23407-11-15 06:28 J -6827665.44 -6827665.23 -6827665.01 0.0088 0.0022
 Uranus -23406-05-26 16:19 J -6827472.95 -6827472.82 -6827472.66 0.0145 0.0108
 Neptune -23406-06-28 19:40 J -6827439.88 -6827439.68 -6827439.45 0.0088 0.0022
 Uranus -23405-01-08 04:33 J -6827246.36 -6827246.31 -6827246.24 0.0144 0.0138
 Neptune -23405-02-09 09:21 J -6827214.32 -6827214.11 -6827213.89 0.0088 0.0022
 Neptune -23405-09-21 23:02 J -6826988.75 -6826988.54 -6826988.32 0.0088 0.0022
 Neptune -23404-05-05 12:28 J -6826763.19 -6826762.98 -6826762.75 0.0088 0.0022
 Mars -23404-09-02 18:43 J -6826642.78 -6826642.72 -6826642.66 0.1674 0.1557
 Jupiter -23404-12-02 07:26 J -6826552.34 -6826552.19 -6826552.03 0.0492 0.0329
 Neptune -23404-12-17 01:55 J -6826537.62 -6826537.42 -6826537.19 0.0088 0.0022
 Jupiter -23403-07-26 18:28 J -6826315.94 -6826315.73 -6826315.52 0.0495 0.0042
 Neptune -23403-07-30 15:50 J -6826312.06 -6826311.84 -6826311.62 0.0088 0.0021
 Neptune -23402-03-13 05:31 J -6826086.49 -6826086.27 -6826086.05 0.0088 0.0021
 Jupiter -23402-03-20 12:28 J -6826079.08 -6826078.98 -6826078.87 0.0501 0.0424
 Mars -23402-07-03 18:57 J -6825973.87 -6825973.71 -6825973.54 0.1660 0.0450
 Neptune -23402-10-24 18:57 J -6825860.92 -6825860.71 -6825860.48 0.0088 0.0021
 Neptune -23401-06-06 08:38 J -6825635.35 -6825635.14 -6825634.92 0.0088 0.0021
 Neptune -23400-01-17 22:04 J -6825409.79 -6825409.58 -6825409.35 0.0088 0.0021
 Saturn -23400-03-15 03:07 J -6825353.54 -6825353.37 -6825353.20 0.0297 0.0172
 Neptune -23400-08-31 11:45 J -6825184.22 -6825184.01 -6825183.78 0.0088 0.0021
 Saturn -23400-10-31 06:57 J -6825123.42 -6825123.21 -6825122.99 0.0295 0.0006

Mars -23399-04-09 07:11 J -6824963.38 -6824963.20 -6824963.02 0.1858 0.0277
 Neptune -23399-04-14 01:40 J -6824958.65 -6824958.43 -6824958.21 0.0088 0.0020
 Saturn -23399-06-18 08:52 J -6824893.30 -6824893.13 -6824892.95 0.0294 0.0167
 Neptune -23399-11-25 15:07 J -6824733.08 -6824732.87 -6824732.64 0.0088 0.0021
 Neptune -23398-07-09 04:47 J -6824507.52 -6824507.30 -6824507.08 0.0088 0.0020
 Jupiter -23398-10-09 19:26 J -6824414.84 -6824414.69 -6824414.53 0.0534 0.0330
 Neptune -23397-02-19 18:14 J -6824281.95 -6824281.74 -6824281.51 0.0088 0.0020
 Jupiter -23397-06-03 08:09 J -6824177.36 -6824177.16 -6824176.97 0.0530 0.0129
 Neptune -23397-10-02 07:55 J -6824056.38 -6824056.17 -6824055.94 0.0088 0.0020
 Neptune -23396-05-15 21:50 J -6823830.81 -6823830.59 -6823830.37 0.0088 0.0019
 Neptune -23396-12-27 11:16 J -6823605.24 -6823605.03 -6823604.80 0.0088 0.0020
 Neptune -23395-08-10 00:57 J -6823379.67 -6823379.46 -6823379.23 0.0088 0.0019
 Neptune -23394-03-23 14:23 J -6823154.10 -6823153.90 -6823153.66 0.0088 0.0020
 Neptune -23394-11-04 04:19 J -6822928.53 -6822928.32 -6822928.09 0.0088 0.0019
 Neptune -23393-06-16 17:59 J -6822702.96 -6822702.75 -6822702.52 0.0088 0.0018
 Neptune -23392-01-28 07:40 J -6822477.39 -6822477.18 -6822476.95 0.0088 0.0018
 Jupiter -23392-08-07 06:57 J -6822286.31 -6822286.21 -6822286.11 0.0492 0.0425
 Neptune -23392-09-10 21:35 J -6822251.82 -6822251.60 -6822251.38 0.0088 0.0017
 Jupiter -23391-03-31 16:33 J -6822050.02 -6822049.81 -6822049.61 0.0495 0.0064
 Neptune -23391-04-24 11:16 J -6822026.24 -6822026.03 -6822025.80 0.0088 0.0017
 Jupiter -23391-11-23 08:52 J -6821813.29 -6821813.13 -6821812.97 0.0499 0.0320
 Neptune -23391-12-06 01:11 J -6821800.67 -6821800.45 -6821800.23 0.0088 0.0017
 Neptune -23390-07-19 14:52 J -6821575.10 -6821574.88 -6821574.66 0.0088 0.0016
 Neptune -23389-03-01 04:33 J -6821349.53 -6821349.31 -6821349.08 0.0088 0.0016
 Neptune -23389-10-12 18:28 J -6821123.95 -6821123.73 -6821123.50 0.0088 0.0016
 Neptune -23388-05-26 08:09 J -6820898.37 -6820898.16 -6820897.93 0.0088 0.0016
 Neptune -23387-01-06 21:50 J -6820672.80 -6820672.59 -6820672.36 0.0088 0.0016
 Neptune -23387-08-20 11:45 J -6820447.23 -6820447.01 -6820446.79 0.0088 0.0015
 Neptune -23386-04-03 01:26 J -6820221.66 -6820221.44 -6820221.21 0.0088 0.0014
 Jupiter -23386-06-14 10:47 J -6820149.16 -6820149.05 -6820148.95 0.0535 0.0455

Neptune -23386-11-14 15:21 J -6819996.08 -6819995.86 -6819995.64 0.0088 0.0014
 Jupiter -23385-02-07 01:26 J -6819911.64 -6819911.44 -6819911.24 0.0531 0.0004
 Saturn -23385-04-06 19:11 J -6819851.86 -6819851.70 -6819851.53 0.0264 0.0163
 Neptune -23385-06-27 05:02 J -6819770.51 -6819770.29 -6819770.06 0.0088 0.0013
 Jupiter -23385-10-01 07:40 J -6819674.29 -6819674.18 -6819674.07 0.0526 0.0438
 Saturn -23385-11-21 17:02 J -6819622.99 -6819622.79 -6819622.58 0.0265 0.0046
 Neptune -23384-02-07 18:43 J -6819544.94 -6819544.72 -6819544.49 0.0088 0.0013
 Saturn -23384-07-08 16:33 J -6819394.01 -6819393.81 -6819393.61 0.0266 0.0075
 Neptune -23384-09-21 08:23 J -6819319.37 -6819319.15 -6819318.92 0.0088 0.0013
 Saturn -23383-02-22 17:02 J -6819164.92 -6819164.79 -6819164.64 0.0267 0.0197
 Neptune -23383-05-04 22:04 J -6819093.80 -6819093.58 -6819093.35 0.0088 0.0013
 Neptune -23383-12-16 11:59 J -6818868.22 -6818868.00 -6818867.78 0.0088 0.0012
 Neptune -23382-07-30 01:40 J -6818642.65 -6818642.43 -6818642.21 0.0088 0.0011
 Neptune -23381-03-11 15:21 J -6818417.08 -6818416.86 -6818416.63 0.0088 0.0011
 Neptune -23381-10-23 05:16 J -6818191.50 -6818191.28 -6818191.06 0.0088 0.0010
 Neptune -23380-06-05 18:57 J -6817965.93 -6817965.71 -6817965.48 0.0088 0.0010
 Jupiter -23380-12-04 16:19 J -6817784.01 -6817783.82 -6817783.62 0.0494 0.0166
 Neptune -23379-01-17 08:38 J -6817740.36 -6817740.14 -6817739.91 0.0088 0.0010
 Jupiter -23379-07-29 06:28 J -6817547.41 -6817547.23 -6817547.04 0.0498 0.0215
 Neptune -23379-08-30 22:19 J -6817514.78 -6817514.57 -6817514.34 0.0088 0.0010
 Neptune -23378-04-13 12:14 J -6817289.21 -6817288.99 -6817288.76 0.0089 0.0009
 Neptune -23378-11-25 02:09 J -6817063.63 -6817063.41 -6817063.18 0.0089 0.0008
 Neptune -23377-07-07 15:50 J -6816838.06 -6816837.84 -6816837.61 0.0089 0.0008
 Neptune -23376-02-18 05:31 J -6816612.48 -6816612.27 -6816612.04 0.0089 0.0008
 Neptune -23376-10-01 19:26 J -6816386.91 -6816386.69 -6816386.46 0.0089 0.0007
 Neptune -23375-05-15 09:07 J -6816161.34 -6816161.12 -6816160.89 0.0089 0.0007
 Neptune -23375-12-26 23:02 J -6815935.76 -6815935.54 -6815935.31 0.0089 0.0006
 Neptune -23374-08-09 12:43 J -6815710.19 -6815709.97 -6815709.74 0.0089 0.0005
 Jupiter -23374-10-12 15:35 J -6815646.04 -6815645.85 -6815645.65 0.0533 0.0129
 Neptune -23373-03-22 02:23 J -6815484.62 -6815484.40 -6815484.17 0.0089 0.0005

Jupiter -23373-06-06 00:43 J -6815408.63 -6815408.47 -6815408.31 0.0528 0.0321
 Neptune -23373-11-02 16:04 J -6815259.05 -6815258.83 -6815258.60 0.0089 0.0005
 Neptune -23372-06-16 05:59 J -6815033.48 -6815033.25 -6815033.03 0.0089 0.0004
 Neptune -23371-01-27 19:26 J -6814807.91 -6814807.69 -6814807.46 0.0089 0.0004
 Neptune -23371-09-10 09:07 J -6814582.34 -6814582.12 -6814581.89 0.0089 0.0003
 Saturn -23371-09-25 16:19 J -6814567.01 -6814566.82 -6814566.63 0.0297 0.0137
 Neptune -23370-04-23 22:47 J -6814356.77 -6814356.55 -6814356.33 0.0089 0.0002
 Saturn -23370-05-13 20:09 J -6814336.87 -6814336.66 -6814336.45 0.0296 0.0035
 Mars -23370-07-02 12:43 J -6814287.14 -6814286.97 -6814286.81 0.1665 0.0495
 Neptune -23370-12-05 12:28 J -6814131.20 -6814130.98 -6814130.75 0.0089 0.0002
 Saturn -23370-12-29 21:50 J -6814106.75 -6814106.59 -6814106.44 0.0294 0.0202
 Neptune -23369-07-18 02:09 J -6813905.63 -6813905.41 -6813905.18 0.0089 0.0002
 Neptune -23368-02-28 15:50 J -6813680.06 -6813679.84 -6813679.62 0.0089 0.0001
 Mars -23368-05-01 14:09 J -6813617.99 -6813617.91 -6813617.83 0.1653 0.1456
 Jupiter -23368-08-09 17:16 J -6813517.95 -6813517.78 -6813517.61 0.0493 0.0266
 Neptune -23368-10-12 05:16 J -6813454.50 -6813454.28 -6813454.05 0.0089 0.0002
 Uranus -23368-10-26 17:31 J -6813439.87 -6813439.77 -6813439.65 0.0132 0.0113
 Jupiter -23367-04-03 05:16 J -6813281.48 -6813281.28 -6813281.07 0.0496 0.0109
 Mars -23367-04-09 05:59 J -6813275.35 -6813275.25 -6813275.14 0.1849 0.1464
 Neptune -23367-05-25 18:57 J -6813228.93 -6813228.71 -6813228.48 0.0089 0.0002
 Uranus -23367-06-09 22:47 J -6813213.70 -6813213.55 -6813213.38 0.0132 0.0090
 Jupiter -23367-11-26 00:28 J -6813044.51 -6813044.48 -6813044.43 0.0501 0.0491
 Neptune -23366-01-06 08:52 J -6813003.36 -6813003.13 -6813002.91 0.0089 0.0002
 Uranus -23366-01-22 04:04 J -6812987.51 -6812987.33 -6812987.13 0.0132 0.0067
 Neptune -23366-08-19 22:19 J -6812777.79 -6812777.57 -6812777.34 0.0089 0.0001
 Uranus -23366-09-05 09:21 J -6812761.31 -6812761.11 -6812760.90 0.0133 0.0044
 Neptune -23365-04-01 11:59 J -6812552.22 -6812552.00 -6812551.78 0.0089 0.0002
 Uranus -23365-04-18 14:38 J -6812535.10 -6812534.89 -6812534.67 0.0133 0.0020
 Neptune -23365-11-13 01:40 J -6812326.65 -6812326.43 -6812326.21 0.0089 0.0002
 Uranus -23365-11-30 19:55 J -6812308.89 -6812308.67 -6812308.45 0.0133 0.0004

Neptune	-23364-06-26 15:21 J	-6812101.09	-6812100.86	-6812100.64	0.0089	0.0003
Uranus	-23364-07-15 01:11 J	-6812082.66	-6812082.45	-6812082.23	0.0133	0.0027
Neptune	-23363-02-07 04:47 J	-6811875.52	-6811875.30	-6811875.07	0.0089	0.0004
Uranus	-23363-02-26 06:28 J	-6811856.42	-6811856.23	-6811856.02	0.0133	0.0051
Neptune	-23363-09-20 18:28 J	-6811649.95	-6811649.73	-6811649.51	0.0089	0.0004
Uranus	-23363-10-10 11:59 J	-6811630.17	-6811630.00	-6811629.81	0.0134	0.0075
Neptune	-23362-05-04 07:55 J	-6811424.39	-6811424.17	-6811423.95	0.0089	0.0004
Uranus	-23362-05-24 17:16 J	-6811403.91	-6811403.78	-6811403.62	0.0134	0.0099
Jupiter	-23362-06-17 07:11 J	-6811380.37	-6811380.20	-6811380.02	0.0534	0.0257
Neptune	-23362-12-15 21:35 J	-6811198.82	-6811198.60	-6811198.38	0.0089	0.0004
Uranus	-23361-01-05 22:47 J	-6811177.62	-6811177.55	-6811177.45	0.0134	0.0122
Jupiter	-23361-02-09 18:57 J	-6811142.89	-6811142.71	-6811142.52	0.0530	0.0201
Neptune	-23361-07-28 11:02 J	-6810973.26	-6810973.04	-6810972.81	0.0089	0.0005
Neptune	-23360-03-11 00:28 J	-6810747.70	-6810747.48	-6810747.26	0.0089	0.0005
Neptune	-23360-10-22 13:55 J	-6810522.14	-6810521.92	-6810521.70	0.0089	0.0006
Neptune	-23359-06-05 03:21 J	-6810296.58	-6810296.36	-6810296.14	0.0089	0.0006
Neptune	-23358-01-16 16:47 J	-6810071.02	-6810070.80	-6810070.57	0.0089	0.0007
Neptune	-23358-08-30 06:14 J	-6809845.46	-6809845.24	-6809845.02	0.0089	0.0007
Neptune	-23357-04-11 19:26 J	-6809619.90	-6809619.69	-6809619.46	0.0089	0.0008
Neptune	-23357-11-23 08:52 J	-6809394.35	-6809394.13	-6809393.90	0.0089	0.0008
Saturn	-23356-03-03 04:47 J	-6809294.34	-6809294.30	-6809294.24	0.0263	0.0255
Jupiter	-23356-04-14 17:45 J	-6809251.90	-6809251.76	-6809251.63	0.0492	0.0365
Neptune	-23356-07-06 22:19 J	-6809168.79	-6809168.57	-6809168.35	0.0089	0.0009
Saturn	-23356-10-18 01:55 J	-6809065.60	-6809065.42	-6809065.24	0.0264	0.0141
Jupiter	-23356-12-07 03:35 J	-6809015.56	-6809015.35	-6809015.14	0.0495	0.0006
Neptune	-23355-02-17 11:45 J	-6808943.23	-6808943.01	-6808942.79	0.0089	0.0009
Saturn	-23355-06-03 23:45 J	-6808836.71	-6808836.51	-6808836.29	0.0265	0.0024
Jupiter	-23355-07-31 20:09 J	-6808778.78	-6808778.66	-6808778.52	0.0500	0.0385
Neptune	-23355-10-01 01:11 J	-6808717.67	-6808717.45	-6808717.23	0.0089	0.0010
Saturn	-23354-01-18 23:02 J	-6808607.73	-6808607.54	-6808607.34	0.0266	0.0098

Neptune -23354-05-14 14:23 J -6808492.12 -6808491.90 -6808491.68 0.0089 0.0010
 Saturn -23354-09-04 23:45 J -6808378.62 -6808378.51 -6808378.39 0.0267 0.0220
 Neptune -23354-12-26 03:50 J -6808266.56 -6808266.34 -6808266.12 0.0089 0.0010
 Neptune -23353-08-07 17:02 J -6808041.00 -6808040.79 -6808040.56 0.0089 0.0011
 Neptune -23352-03-21 06:28 J -6807815.45 -6807815.23 -6807815.01 0.0089 0.0011
 Neptune -23352-11-01 19:40 J -6807589.90 -6807589.68 -6807589.46 0.0089 0.0011
 Neptune -23351-06-15 08:52 J -6807364.34 -6807364.13 -6807363.90 0.0089 0.0012
 Neptune -23350-01-26 22:19 J -6807138.78 -6807138.57 -6807138.35 0.0089 0.0012
 Jupiter -23350-02-19 23:16 J -6807114.66 -6807114.53 -6807114.39 0.0535 0.0383
 Neptune -23350-09-09 11:45 J -6806913.23 -6806913.01 -6806912.79 0.0089 0.0013
 Jupiter -23350-10-15 13:40 J -6806877.13 -6806876.93 -6806876.73 0.0531 0.0077
 Neptune -23349-04-22 00:43 J -6806687.68 -6806687.47 -6806687.25 0.0089 0.0013
 Jupiter -23349-06-08 19:11 J -6806639.74 -6806639.70 -6806639.64 0.0525 0.0505
 Neptune -23349-12-03 13:55 J -6806462.13 -6806461.92 -6806461.70 0.0089 0.0013
 Neptune -23348-07-17 03:21 J -6806236.58 -6806236.36 -6806236.15 0.0089 0.0014
 Neptune -23347-02-27 16:19 J -6806011.03 -6806010.82 -6806010.60 0.0089 0.0014
 Neptune -23347-10-11 05:31 J -6805785.48 -6805785.27 -6805785.05 0.0089 0.0014
 Neptune -23346-05-24 18:28 J -6805559.94 -6805559.73 -6805559.51 0.0089 0.0015
 Neptune -23345-01-05 07:26 J -6805334.39 -6805334.19 -6805333.96 0.0089 0.0016
 Neptune -23345-08-17 20:38 J -6805108.85 -6805108.64 -6805108.42 0.0089 0.0015
 Jupiter -23345-12-18 18:28 J -6804985.79 -6804985.73 -6804985.65 0.0491 0.0460
 Neptune -23344-03-31 09:50 J -6804883.31 -6804883.09 -6804882.87 0.0089 0.0015
 Jupiter -23344-08-12 03:07 J -6804749.58 -6804749.37 -6804749.17 0.0494 0.0103
 Neptune -23344-11-11 22:47 J -6804657.76 -6804657.55 -6804657.33 0.0089 0.0016
 Jupiter -23343-04-05 17:45 J -6804512.93 -6804512.76 -6804512.58 0.0498 0.0279
 Neptune -23343-06-25 11:45 J -6804432.22 -6804432.01 -6804431.79 0.0089 0.0016
 Neptune -23342-02-06 00:57 J -6804206.67 -6804206.46 -6804206.24 0.0089 0.0016
 Saturn -23342-08-20 18:28 J -6804010.78 -6804010.73 -6804010.67 0.0297 0.0285
 Neptune -23342-09-19 13:55 J -6803981.13 -6803980.92 -6803980.70 0.0089 0.0017
 Saturn -23341-04-06 23:45 J -6803780.71 -6803780.51 -6803780.31 0.0296 0.0113

Neptune -23341-05-02 02:52 J -6803755.59 -6803755.38 -6803755.16 0.0089 0.0017
 Saturn -23341-11-23 03:07 J -6803550.58 -6803550.37 -6803550.16 0.0295 0.0058
 Neptune -23341-12-13 15:35 J -6803530.05 -6803529.85 -6803529.62 0.0089 0.0018
 Saturn -23340-07-11 04:04 J -6803320.46 -6803320.33 -6803320.18 0.0293 0.0224
 Neptune -23340-07-27 04:47 J -6803304.51 -6803304.30 -6803304.08 0.0089 0.0017
 Neptune -23339-03-09 17:59 J -6803078.96 -6803078.75 -6803078.54 0.0089 0.0017
 Neptune -23339-10-21 06:57 J -6802853.42 -6802853.21 -6802853.00 0.0089 0.0018
 Jupiter -23339-10-25 15:50 J -6802848.91 -6802848.84 -6802848.78 0.0535 0.0503
 Neptune -23338-06-03 19:55 J -6802627.89 -6802627.67 -6802627.46 0.0089 0.0018
 Jupiter -23338-06-20 07:55 J -6802611.37 -6802611.17 -6802610.97 0.0532 0.0047
 Mars -23338-07-01 06:43 J -6802600.30 -6802600.22 -6802600.14 0.1671 0.1451
 Neptune -23337-01-15 08:38 J -6802402.35 -6802402.14 -6802401.92 0.0089 0.0018
 Jupiter -23337-02-12 15:35 J -6802373.98 -6802373.85 -6802373.72 0.0527 0.0395
 Neptune -23337-08-27 21:35 J -6802176.81 -6802176.60 -6802176.38 0.0089 0.0018
 Neptune -23336-04-10 10:33 J -6801951.27 -6801951.06 -6801950.84 0.0089 0.0018
 Mars -23336-04-30 07:11 J -6801931.36 -6801931.20 -6801931.03 0.1658 0.0538
 Neptune -23336-11-21 23:16 J -6801725.74 -6801725.53 -6801725.31 0.0089 0.0018
 Neptune -23335-07-05 12:14 J -6801500.20 -6801499.99 -6801499.78 0.0089 0.0018
 Neptune -23334-02-16 00:57 J -6801274.67 -6801274.46 -6801274.24 0.0089 0.0019
 Neptune -23334-09-29 13:55 J -6801049.13 -6801048.92 -6801048.71 0.0089 0.0019
 Mars -23333-02-04 09:21 J -6800921.28 -6800921.11 -6800920.94 0.1861 0.0580
 Neptune -23333-05-12 02:23 J -6800823.61 -6800823.40 -6800823.18 0.0089 0.0019
 Neptune -23333-12-23 15:07 J -6800598.08 -6800597.87 -6800597.65 0.0089 0.0019
 Jupiter -23332-04-17 01:26 J -6800483.62 -6800483.44 -6800483.24 0.0493 0.0207
 Neptune -23332-08-06 03:50 J -6800372.55 -6800372.34 -6800372.12 0.0089 0.0019
 Jupiter -23332-12-09 14:38 J -6800247.08 -6800246.89 -6800246.69 0.0497 0.0173
 Neptune -23331-03-19 16:33 J -6800147.01 -6800146.81 -6800146.59 0.0089 0.0019
 Neptune -23331-10-31 05:16 J -6799921.49 -6799921.28 -6799921.06 0.0089 0.0019
 Neptune -23330-06-13 17:59 J -6799695.96 -6799695.75 -6799695.54 0.0089 0.0019
 Neptune -23329-01-25 06:28 J -6799470.43 -6799470.23 -6799470.01 0.0089 0.0020

Neptune	-23329-09-06 19:11 J	-6799244.90	-6799244.70	-6799244.48	0.0089	0.0020
Neptune	-23328-04-20 07:55 J	-6799019.37	-6799019.17	-6799018.95	0.0089	0.0020
Neptune	-23328-12-01 20:38 J	-6798793.85	-6798793.64	-6798793.43	0.0089	0.0019
Neptune	-23327-07-15 09:07 J	-6798568.32	-6798568.12	-6798567.90	0.0089	0.0020
Saturn	-23327-09-13 08:38 J	-6798508.21	-6798508.14	-6798508.04	0.0264	0.0238
Uranus	-23327-09-21 07:40 J	-6798500.29	-6798500.18	-6798500.06	0.0146	0.0123
Jupiter	-23326-02-23 00:28 J	-6798345.67	-6798345.48	-6798345.29	0.0533	0.0175
Neptune	-23326-02-25 21:50 J	-6798342.79	-6798342.59	-6798342.37	0.0089	0.0020
Saturn	-23326-04-30 05:59 J	-6798279.43	-6798279.25	-6798279.06	0.0264	0.0123
Uranus	-23326-05-05 19:40 J	-6798273.83	-6798273.68	-6798273.49	0.0146	0.0093
Neptune	-23326-10-09 10:33 J	-6798117.27	-6798117.06	-6798116.84	0.0089	0.0019
Jupiter	-23326-10-18 10:19 J	-6798108.23	-6798108.07	-6798107.90	0.0528	0.0278
Saturn	-23326-12-15 04:19 J	-6798050.53	-6798050.32	-6798050.11	0.0265	0.0004
Uranus	-23326-12-18 08:09 J	-6798047.34	-6798047.16	-6798046.95	0.0146	0.0061
Neptune	-23325-05-21 23:02 J	-6797891.74	-6797891.54	-6797891.32	0.0089	0.0020
Saturn	-23325-07-31 04:04 J	-6797821.52	-6797821.33	-6797821.14	0.0266	0.0118
Uranus	-23325-07-31 20:52 J	-6797820.84	-6797820.63	-6797820.41	0.0146	0.0030
Neptune	-23324-01-02 11:45 J	-6797666.22	-6797666.01	-6797665.80	0.0089	0.0019
Uranus	-23324-03-15 09:21 J	-6797594.32	-6797594.11	-6797593.89	0.0146	0.0003
Saturn	-23324-03-17 05:16 J	-6797592.37	-6797592.28	-6797592.19	0.0268	0.0240
Neptune	-23324-08-16 00:14 J	-6797440.70	-6797440.49	-6797440.27	0.0089	0.0019
Uranus	-23324-10-27 21:35 J	-6797367.80	-6797367.60	-6797367.38	0.0145	0.0034
Neptune	-23323-03-29 12:57 J	-6797215.17	-6797214.96	-6797214.75	0.0089	0.0019
Uranus	-23323-06-11 10:04 J	-6797141.27	-6797141.08	-6797140.88	0.0145	0.0064
Neptune	-23323-11-10 01:26 J	-6796989.65	-6796989.44	-6796989.23	0.0089	0.0019
Uranus	-23322-01-23 22:04 J	-6796914.73	-6796914.58	-6796914.40	0.0145	0.0095
Neptune	-23322-06-23 13:40 J	-6796764.13	-6796763.93	-6796763.71	0.0089	0.0020
Uranus	-23322-09-07 10:33 J	-6796688.16	-6796688.06	-6796687.94	0.0145	0.0125
Neptune	-23321-02-04 02:09 J	-6796538.61	-6796538.41	-6796538.19	0.0089	0.0019
Neptune	-23321-09-16 14:38 J	-6796313.09	-6796312.89	-6796312.67	0.0089	0.0019

Jupiter -23321-12-21 02:09 J -6796217.57 -6796217.41 -6796217.24 0.0492 0.0305
 Neptune -23320-04-30 03:21 J -6796087.57 -6796087.36 -6796087.15 0.0089 0.0019
 Jupiter -23320-08-14 13:40 J -6795981.14 -6795980.93 -6795980.72 0.0496 0.0068
 Neptune -23320-12-11 15:35 J -6795862.05 -6795861.85 -6795861.63 0.0089 0.0019
 Jupiter -23319-04-08 08:09 J -6795744.25 -6795744.16 -6795744.07 0.0501 0.0451
 Neptune -23319-07-25 04:04 J -6795636.54 -6795636.33 -6795636.12 0.0089 0.0018
 Neptune -23318-03-07 16:33 J -6795411.02 -6795410.81 -6795410.60 0.0089 0.0018
 Neptune -23318-10-19 04:47 J -6795185.50 -6795185.30 -6795185.08 0.0089 0.0018
 Neptune -23317-05-31 17:02 J -6794959.99 -6794959.79 -6794959.57 0.0089 0.0019
 Neptune -23316-01-12 05:31 J -6794734.47 -6794734.27 -6794734.05 0.0089 0.0018
 Neptune -23316-08-25 17:59 J -6794508.96 -6794508.75 -6794508.54 0.0089 0.0018
 Neptune -23315-04-08 06:28 J -6794283.44 -6794283.23 -6794283.01 0.0089 0.0018
 Jupiter -23315-10-28 13:11 J -6794080.10 -6794079.95 -6794079.78 0.0534 0.0307
 Neptune -23315-11-19 18:57 J -6794057.92 -6794057.71 -6794057.50 0.0089 0.0017
 Jupiter -23314-06-23 01:55 J -6793842.61 -6793842.42 -6793842.23 0.0530 0.0152
 Neptune -23314-07-03 07:11 J -6793832.41 -6793832.20 -6793831.98 0.0089 0.0017
 Neptune -23313-02-13 19:26 J -6793606.89 -6793606.69 -6793606.47 0.0089 0.0017
 Neptune -23313-09-26 08:09 J -6793381.37 -6793381.16 -6793380.95 0.0089 0.0016
 Saturn -23312-03-02 06:57 J -6793224.31 -6793224.21 -6793224.08 0.0298 0.0252
 Neptune -23312-05-09 20:38 J -6793155.85 -6793155.64 -6793155.43 0.0089 0.0016
 Saturn -23312-10-18 12:14 J -6792994.19 -6792993.99 -6792993.78 0.0297 0.0078
 Neptune -23312-12-21 08:52 J -6792930.34 -6792930.13 -6792929.91 0.0089 0.0016
 Saturn -23311-06-05 15:21 J -6792764.06 -6792763.86 -6792763.66 0.0295 0.0093
 Neptune -23311-08-03 21:07 J -6792704.83 -6792704.62 -6792704.40 0.0089 0.0016
 Saturn -23310-01-21 16:19 J -6792533.91 -6792533.82 -6792533.71 0.0294 0.0257
 Neptune -23310-03-17 09:35 J -6792479.31 -6792479.10 -6792478.89 0.0089 0.0015
 Neptune -23310-10-28 21:50 J -6792253.80 -6792253.59 -6792253.37 0.0089 0.0015
 Neptune -23309-06-10 10:04 J -6792028.29 -6792028.08 -6792027.86 0.0089 0.0015
 Jupiter -23309-08-26 04:04 J -6791951.45 -6791951.33 -6791951.21 0.0492 0.0400
 Neptune -23308-01-21 22:19 J -6791802.78 -6791802.57 -6791802.35 0.0089 0.0015

Jupiter -23308-04-19 13:26 J -6791715.14 -6791714.94 -6791714.73 0.0494 0.0038
 Neptune -23308-09-04 10:47 J -6791577.26 -6791577.05 -6791576.84 0.0089 0.0014
 Jupiter -23308-12-12 05:31 J -6791478.42 -6791478.27 -6791478.12 0.0499 0.0346
 Neptune -23307-04-17 23:02 J -6791351.75 -6791351.54 -6791351.32 0.0089 0.0014
 Neptune -23307-11-29 11:16 J -6791126.24 -6791126.03 -6791125.81 0.0089 0.0014
 Neptune -23306-07-12 23:31 J -6790900.73 -6790900.52 -6790900.30 0.0089 0.0014
 Neptune -23305-02-23 11:45 J -6790675.22 -6790675.01 -6790674.79 0.0089 0.0013
 Neptune -23305-10-05 23:59 J -6790449.71 -6790449.50 -6790449.28 0.0089 0.0013
 Mars -23304-04-29 00:28 J -6790244.64 -6790244.48 -6790244.31 0.1663 0.0399
 Neptune -23304-05-19 12:28 J -6790224.19 -6790223.98 -6790223.76 0.0089 0.0013
 Neptune -23304-12-31 00:43 J -6789998.68 -6789998.47 -6789998.25 0.0089 0.0012
 Jupiter -23303-07-03 03:50 J -6789814.45 -6789814.34 -6789814.22 0.0535 0.0433
 Neptune -23303-08-13 12:57 J -6789773.17 -6789772.96 -6789772.74 0.0089 0.0012
 Jupiter -23302-02-25 18:57 J -6789576.91 -6789576.71 -6789576.51 0.0532 0.0027
 Mars -23302-02-27 02:23 J -6789575.46 -6789575.40 -6789575.34 0.1651 0.1541
 Neptune -23302-03-27 01:11 J -6789547.66 -6789547.45 -6789547.23 0.0089 0.0012
 Jupiter -23302-10-21 01:40 J -6789339.52 -6789339.43 -6789339.33 0.0526 0.0461
 Neptune -23302-11-07 13:40 J -6789322.14 -6789321.93 -6789321.71 0.0089 0.0011
 Mars -23301-02-04 08:38 J -6789233.28 -6789233.14 -6789233.00 0.1852 0.1174
 Neptune -23301-06-20 01:55 J -6789096.63 -6789096.42 -6789096.20 0.0089 0.0011
 Neptune -23300-01-31 14:09 J -6788871.12 -6788870.91 -6788870.69 0.0089 0.0011
 Neptune -23300-09-14 02:38 J -6788645.60 -6788645.39 -6788645.17 0.0089 0.0010
 Neptune -23299-04-27 15:07 J -6788420.08 -6788419.87 -6788419.65 0.0089 0.0010
 Neptune -23299-12-09 03:21 J -6788194.57 -6788194.36 -6788194.14 0.0089 0.0009
 Neptune -23298-07-22 15:35 J -6787969.06 -6787968.85 -6787968.63 0.0089 0.0009
 Neptune -23297-03-04 03:50 J -6787743.55 -6787743.34 -6787743.12 0.0089 0.0009
 Saturn -23297-03-25 15:21 J -6787721.97 -6787721.86 -6787721.73 0.0264 0.0216
 Neptune -23297-10-15 16:04 J -6787518.04 -6787517.83 -6787517.61 0.0089 0.0009
 Saturn -23297-11-09 12:43 J -6787493.16 -6787492.97 -6787492.77 0.0264 0.0100
 Jupiter -23297-12-23 12:43 J -6787449.17 -6787448.97 -6787448.77 0.0493 0.0142

Neptune -23296-05-29 04:33 J -6787292.52 -6787292.31 -6787292.09 0.0089 0.0008
 Saturn -23296-06-26 11:16 J -6787264.24 -6787264.03 -6787263.81 0.0265 0.0020
 Jupiter -23296-08-17 02:23 J -6787212.58 -6787212.40 -6787212.22 0.0497 0.0239
 Neptune -23295-01-09 16:47 J -6787067.01 -6787066.80 -6787066.58 0.0089 0.0008
 Saturn -23295-02-10 11:02 J -6787035.21 -6787035.04 -6787034.86 0.0267 0.0141
 Neptune -23295-08-23 05:02 J -6786841.50 -6786841.29 -6786841.07 0.0089 0.0007
 Saturn -23295-09-27 12:14 J -6786806.02 -6786805.99 -6786805.95 0.0268 0.0264
 Neptune -23294-04-05 17:16 J -6786615.99 -6786615.78 -6786615.56 0.0089 0.0007
 Neptune -23294-11-17 05:31 J -6786390.48 -6786390.27 -6786390.05 0.0089 0.0007
 Neptune -23293-06-29 17:59 J -6786164.97 -6786164.75 -6786164.53 0.0089 0.0006
 Neptune -23292-02-10 06:14 J -6785939.45 -6785939.24 -6785939.02 0.0089 0.0005
 Neptune -23292-09-23 18:28 J -6785713.94 -6785713.73 -6785713.51 0.0089 0.0005
 Neptune -23291-05-07 06:57 J -6785488.43 -6785488.21 -6785487.99 0.0089 0.0005
 Jupiter -23291-10-31 12:14 J -6785311.18 -6785310.99 -6785310.79 0.0533 0.0102
 Neptune -23291-12-18 19:11 J -6785262.91 -6785262.70 -6785262.48 0.0089 0.0004
 Jupiter -23290-06-25 21:35 J -6785073.74 -6785073.60 -6785073.44 0.0528 0.0348
 Neptune -23290-08-01 07:26 J -6785037.40 -6785037.19 -6785036.97 0.0089 0.0005
 Neptune -23289-03-13 19:55 J -6784811.89 -6784811.67 -6784811.45 0.0089 0.0003
 Neptune -23289-10-25 08:09 J -6784586.37 -6784586.16 -6784585.94 0.0089 0.0004
 Neptune -23288-06-07 20:52 J -6784360.85 -6784360.63 -6784360.41 0.0089 0.0003
 Neptune -23287-01-19 09:21 J -6784135.33 -6784135.11 -6784134.90 0.0088 0.0003
 Neptune -23287-09-01 21:35 J -6783909.82 -6783909.60 -6783909.38 0.0088 0.0002
 Neptune -23286-04-15 09:50 J -6783684.30 -6783684.09 -6783683.87 0.0088 0.0002
 Neptune -23286-11-26 22:19 J -6783458.79 -6783458.57 -6783458.35 0.0088 0.0001
 Neptune -23285-07-09 10:47 J -6783233.27 -6783233.05 -6783232.83 0.0088 0.0001
 Jupiter -23285-08-28 12:57 J -6783183.14 -6783182.96 -6783182.78 0.0492 0.0243
 Neptune -23284-02-19 23:16 J -6783007.75 -6783007.53 -6783007.31 0.0088 0.0000
 Jupiter -23284-04-22 00:43 J -6782946.67 -6782946.47 -6782946.27 0.0496 0.0132
 Uranus -23284-06-26 05:59 J -6782881.31 -6782881.25 -6782881.15 0.0132 0.0123
 Neptune -23284-10-03 11:31 J -6782782.23 -6782782.02 -6782781.80 0.0088 0.0002

Uranus	-23283-02-07 11:16 J	-6782655.16	-6782655.03	-6782654.87	0.0132	0.0100
Neptune	-23283-05-16 23:59 J	-6782556.71	-6782556.50	-6782556.28	0.0088	0.0002
Saturn	-23283-09-12 15:07 J	-6782438.00	-6782437.87	-6782437.72	0.0297	0.0226
Uranus	-23283-09-21 16:47 J	-6782428.98	-6782428.80	-6782428.62	0.0132	0.0076
Neptune	-23283-12-28 12:28 J	-6782331.20	-6782330.98	-6782330.76	0.0088	0.0001
Saturn	-23282-04-30 19:55 J	-6782207.88	-6782207.67	-6782207.46	0.0296	0.0054
Uranus	-23282-05-05 21:50 J	-6782202.78	-6782202.59	-6782202.38	0.0133	0.0053
Neptune	-23282-08-11 00:57 J	-6782105.68	-6782105.46	-6782105.25	0.0088	0.0002
Saturn	-23282-12-16 22:47 J	-6781977.74	-6781977.55	-6781977.35	0.0295	0.0116
Uranus	-23282-12-18 03:21 J	-6781976.57	-6781976.36	-6781976.14	0.0133	0.0029
Neptune	-23281-03-23 13:11 J	-6781880.17	-6781879.95	-6781879.73	0.0088	0.0002
Uranus	-23281-07-31 08:38 J	-6781750.35	-6781750.14	-6781749.92	0.0133	0.0006
Saturn	-23281-08-02 23:02 J	-6781747.59	-6781747.54	-6781747.47	0.0293	0.0279
Neptune	-23281-11-04 01:40 J	-6781654.65	-6781654.43	-6781654.21	0.0088	0.0002
Uranus	-23280-03-14 13:55 J	-6781524.13	-6781523.92	-6781523.70	0.0133	0.0019
Neptune	-23280-06-17 14:09 J	-6781429.12	-6781428.91	-6781428.69	0.0088	0.0004
Uranus	-23280-10-26 19:11 J	-6781297.90	-6781297.70	-6781297.49	0.0133	0.0043
Neptune	-23279-01-29 02:38 J	-6781203.60	-6781203.39	-6781203.17	0.0088	0.0004
Uranus	-23279-06-10 00:28 J	-6781071.66	-6781071.48	-6781071.28	0.0133	0.0067
Jupiter	-23279-07-06 05:45 J	-6781045.43	-6781045.26	-6781045.07	0.0534	0.0226
Neptune	-23279-09-11 15:07 J	-6780978.09	-6780977.87	-6780977.65	0.0088	0.0004
Uranus	-23278-01-22 05:59 J	-6780845.40	-6780845.25	-6780845.08	0.0134	0.0091
Jupiter	-23278-02-28 17:31 J	-6780807.95	-6780807.77	-6780807.59	0.0529	0.0231
Neptune	-23278-04-25 03:35 J	-6780752.57	-6780752.35	-6780752.13	0.0088	0.0004
Uranus	-23278-09-05 11:31 J	-6780619.12	-6780619.02	-6780618.90	0.0134	0.0114
Neptune	-23278-12-06 16:04 J	-6780527.04	-6780526.83	-6780526.61	0.0088	0.0005
Earth	-23277-04-30 02:23 J	-6780381.54	-6780381.40	-6780381.26	0.2713	0.1222
Moon	-23277-04-30 06:14 J	-6780381.35	-6780381.24	-6780381.12	0.2718	0.1712 *
Neptune	-23277-07-19 04:47 J	-6780301.52	-6780301.30	-6780301.08	0.0088	0.0005
Neptune	-23276-03-01 17:31 J	-6780075.99	-6780075.77	-6780075.55	0.0088	0.0005

Neptune -23276-10-13 05:59 J -6779850.47 -6779850.25 -6779850.03 0.0088 0.0006
 Neptune -23275-05-26 18:43 J -6779624.94 -6779624.72 -6779624.50 0.0088 0.0006
 Pluto -23275-12-03 05:59 J -6779434.42 -6779434.25 -6779434.06 0.0064 0.0036
 Neptune -23274-01-07 07:11 J -6779399.41 -6779399.20 -6779398.98 0.0088 0.0007
 Pluto -23274-07-16 09:50 J -6779209.31 -6779209.09 -6779208.87 0.0064 0.0001
 Neptune -23274-08-20 19:55 J -6779173.89 -6779173.67 -6779173.45 0.0088 0.0007
 Pluto -23273-02-26 12:57 J -6778984.11 -6778983.96 -6778983.76 0.0065 0.0039
 Neptune -23273-04-02 08:38 J -6778948.36 -6778948.14 -6778947.92 0.0088 0.0007
 Jupiter -23273-05-03 11:59 J -6778917.14 -6778917.00 -6778916.85 0.0492 0.0342
 Neptune -23273-11-13 21:07 J -6778722.83 -6778722.62 -6778722.40 0.0088 0.0008
 Jupiter -23273-12-25 22:19 J -6778680.78 -6778680.57 -6778680.36 0.0495 0.0026
 Mars -23272-04-27 18:43 J -6778557.81 -6778557.72 -6778557.62 0.1669 0.1353
 Neptune -23272-06-27 09:50 J -6778497.30 -6778497.09 -6778496.86 0.0088 0.0009
 Jupiter -23272-08-19 15:35 J -6778443.96 -6778443.85 -6778443.72 0.0500 0.0409
 Neptune -23271-02-07 22:47 J -6778271.77 -6778271.55 -6778271.33 0.0088 0.0008
 Neptune -23271-09-21 11:16 J -6778046.24 -6778046.03 -6778045.81 0.0088 0.0009
 Mars -23270-02-25 19:11 J -6777888.85 -6777888.70 -6777888.54 0.1656 0.0633
 Neptune -23270-05-04 23:59 J -6777820.72 -6777820.50 -6777820.28 0.0088 0.0009
 Neptune -23270-12-16 12:43 J -6777595.19 -6777594.97 -6777594.75 0.0088 0.0009
 Earth -23269-04-27 16:04 J -6777461.88 -6777461.83 -6777461.78 0.2713 0.2565
 Moon -23269-04-27 21:35 J -6777461.72 -6777461.60 -6777461.47 0.2713 0.1656
 Neptune -23269-07-29 01:26 J -6777369.65 -6777369.44 -6777369.22 0.0088 0.0010
 Neptune -23268-03-11 14:09 J -6777144.12 -6777143.91 -6777143.69 0.0088 0.0010
 Saturn -23268-10-05 18:43 J -6776935.85 -6776935.72 -6776935.58 0.0264 0.0198
 Neptune -23268-10-23 02:52 J -6776918.59 -6776918.38 -6776918.16 0.0088 0.0010
 Mars -23268-12-01 11:59 J -6776879.15 -6776879.00 -6776878.84 0.1863 0.0877
 Jupiter -23267-03-10 21:50 J -6776779.74 -6776779.59 -6776779.44 0.0535 0.0352
 Saturn -23267-05-22 16:19 J -6776707.02 -6776706.82 -6776706.62 0.0265 0.0082
 Neptune -23267-06-05 15:35 J -6776693.06 -6776692.85 -6776692.62 0.0088 0.0011
 Jupiter -23267-11-03 11:31 J -6776542.21 -6776542.02 -6776541.82 0.0531 0.0107

Saturn -23266-01-06 14:52 J -6776478.09 -6776477.88 -6776477.67 0.0266 0.0038
 Neptune -23266-01-17 04:19 J -6776467.53 -6776467.32 -6776467.09 0.0088 0.0011
 Saturn -23266-08-23 14:52 J -6776249.05 -6776248.88 -6776248.71 0.0267 0.0160
 Neptune -23266-08-30 17:16 J -6776242.00 -6776241.78 -6776241.56 0.0088 0.0011
 Neptune -23265-04-12 06:14 J -6776016.46 -6776016.24 -6776016.02 0.0088 0.0011
 Neptune -23265-11-23 18:57 J -6775790.93 -6775790.71 -6775790.49 0.0088 0.0012
 Neptune -23264-07-07 07:55 J -6775565.38 -6775565.17 -6775564.94 0.0088 0.0012
 Neptune -23263-02-17 20:52 J -6775339.84 -6775339.63 -6775339.41 0.0088 0.0012
 Neptune -23263-10-01 09:35 J -6775114.31 -6775114.10 -6775113.87 0.0088 0.0014
 Neptune -23262-05-14 22:33 J -6774888.77 -6774888.56 -6774888.33 0.0088 0.0013
 Neptune -23262-12-26 11:45 J -6774663.23 -6774663.01 -6774662.79 0.0088 0.0013
 Jupiter -23261-01-07 13:26 J -6774651.03 -6774650.94 -6774650.84 0.0492 0.0436
 Neptune -23261-08-08 00:57 J -6774437.68 -6774437.46 -6774437.24 0.0088 0.0013
 Jupiter -23261-08-30 22:19 J -6774414.77 -6774414.57 -6774414.36 0.0494 0.0077
 Neptune -23260-03-21 13:40 J -6774212.14 -6774211.93 -6774211.70 0.0088 0.0014
 Jupiter -23260-04-24 13:40 J -6774178.10 -6774177.93 -6774177.77 0.0498 0.0305
 Neptune -23260-11-02 02:52 J -6773986.60 -6773986.38 -6773986.16 0.0088 0.0014
 Neptune -23259-06-15 15:50 J -6773761.06 -6773760.84 -6773760.62 0.0088 0.0014
 Neptune -23258-01-27 04:47 J -6773535.51 -6773535.30 -6773535.08 0.0088 0.0014
 Neptune -23258-09-09 17:59 J -6773309.97 -6773309.75 -6773309.53 0.0088 0.0014
 Neptune -23257-04-22 06:57 J -6773084.43 -6773084.21 -6773083.99 0.0088 0.0015
 Neptune -23257-12-03 19:55 J -6772858.88 -6772858.67 -6772858.44 0.0088 0.0015
 Neptune -23256-07-17 09:07 J -6772633.34 -6772633.12 -6772632.90 0.0088 0.0015
 Jupiter -23256-11-13 09:50 J -6772514.17 -6772514.09 -6772514.00 0.0535 0.0481
 Neptune -23255-02-27 22:19 J -6772407.79 -6772407.57 -6772407.35 0.0088 0.0015
 Jupiter -23255-07-09 01:40 J -6772276.63 -6772276.43 -6772276.23 0.0532 0.0025
 Neptune -23255-10-11 11:02 J -6772182.25 -6772182.04 -6772181.81 0.0088 0.0016
 Jupiter -23254-03-03 09:35 J -6772039.22 -6772039.10 -6772038.98 0.0527 0.0418
 Neptune -23254-05-25 00:14 J -6771956.70 -6771956.49 -6771956.26 0.0088 0.0016
 Neptune -23253-01-05 13:26 J -6771731.16 -6771730.94 -6771730.72 0.0088 0.0016

Saturn -23253-03-25 03:21 J -6771651.52 -6771651.36 -6771651.20 0.0297 0.0192
 Neptune -23253-08-18 02:38 J -6771505.60 -6771505.39 -6771505.16 0.0088 0.0016
 Saturn -23253-11-10 07:55 J -6771421.38 -6771421.17 -6771420.95 0.0296 0.0020
 Neptune -23252-03-31 16:04 J -6771280.05 -6771279.83 -6771279.61 0.0088 0.0016
 Saturn -23252-06-28 10:19 J -6771191.24 -6771191.07 -6771190.88 0.0295 0.0151
 Neptune -23252-11-12 05:16 J -6771054.50 -6771054.28 -6771054.06 0.0088 0.0016
 Neptune -23251-06-25 18:28 J -6770828.95 -6770828.73 -6770828.51 0.0088 0.0016
 Neptune -23250-02-06 07:26 J -6770603.40 -6770603.19 -6770602.96 0.0088 0.0017
 Neptune -23250-09-19 20:52 J -6770377.84 -6770377.63 -6770377.40 0.0088 0.0017
 Neptune -23249-05-02 10:04 J -6770152.29 -6770152.08 -6770151.85 0.0088 0.0017
 Jupiter -23249-05-05 23:02 J -6770148.73 -6770148.54 -6770148.34 0.0493 0.0179
 Neptune -23249-12-13 23:31 J -6769926.73 -6769926.52 -6769926.29 0.0088 0.0017
 Jupiter -23249-12-28 12:14 J -6769912.18 -6769911.99 -6769911.80 0.0497 0.0200
 Neptune -23248-07-27 12:57 J -6769701.17 -6769700.96 -6769700.74 0.0088 0.0017
 Neptune -23247-03-10 02:09 J -6769475.62 -6769475.41 -6769475.18 0.0088 0.0017
 Neptune -23247-10-21 15:35 J -6769250.06 -6769249.85 -6769249.62 0.0088 0.0017
 Neptune -23246-06-04 05:02 J -6769024.51 -6769024.29 -6769024.07 0.0088 0.0017
 Neptune -23245-01-15 18:14 J -6768798.95 -6768798.74 -6768798.51 0.0088 0.0017
 Neptune -23245-08-28 07:55 J -6768573.39 -6768573.17 -6768572.95 0.0088 0.0017
 Neptune -23244-04-10 21:07 J -6768347.83 -6768347.62 -6768347.39 0.0088 0.0017
 Neptune -23244-11-22 10:33 J -6768122.28 -6768122.06 -6768121.84 0.0088 0.0017
 Jupiter -23243-03-13 17:45 J -6768010.95 -6768010.76 -6768010.57 0.0533 0.0152
 Uranus -23243-05-21 15:07 J -6767941.93 -6767941.87 -6767941.78 0.0146 0.0137
 Neptune -23243-07-05 23:59 J -6767896.72 -6767896.50 -6767896.28 0.0088 0.0017
 Jupiter -23243-11-06 04:04 J -6767773.49 -6767773.33 -6767773.16 0.0529 0.0300
 Uranus -23242-01-03 03:35 J -6767715.49 -6767715.35 -6767715.19 0.0146 0.0106
 Neptune -23242-02-16 13:11 J -6767671.16 -6767670.95 -6767670.72 0.0088 0.0018
 Uranus -23242-08-17 16:04 J -6767489.01 -6767488.83 -6767488.63 0.0146 0.0074
 Neptune -23242-09-30 02:52 J -6767445.60 -6767445.38 -6767445.16 0.0088 0.0017
 Uranus -23241-03-31 04:33 J -6767262.51 -6767262.31 -6767262.09 0.0146 0.0043

Neptune	-23241-05-12 16:19 J	-6767220.04	-6767219.82	-6767219.60	0.0088	0.0017
Uranus	-23241-11-12 17:02 J	-6767036.00	-6767035.79	-6767035.57	0.0146	0.0012
Neptune	-23241-12-24 05:45 J	-6766994.48	-6766994.26	-6766994.04	0.0088	0.0017
Uranus	-23240-06-27 05:31 J	-6766809.48	-6766809.27	-6766809.05	0.0146	0.0021
Neptune	-23240-08-06 19:11 J	-6766768.92	-6766768.70	-6766768.47	0.0088	0.0017
Uranus	-23239-02-08 17:59 J	-6766582.95	-6766582.75	-6766582.54	0.0145	0.0051
Neptune	-23239-03-20 08:38 J	-6766543.35	-6766543.14	-6766542.91	0.0088	0.0017
Uranus	-23239-09-23 06:14 J	-6766356.41	-6766356.24	-6766356.05	0.0145	0.0082
Neptune	-23239-10-31 22:19 J	-6766317.79	-6766317.57	-6766317.35	0.0088	0.0017
Mars	-23238-02-24 12:43 J	-6766202.14	-6766201.97	-6766201.80	0.1661	0.0303
Saturn	-23238-04-18 01:26 J	-6766149.60	-6766149.44	-6766149.28	0.0264	0.0176
Uranus	-23238-05-07 18:28 J	-6766129.86	-6766129.73	-6766129.59	0.0145	0.0113
Neptune	-23238-06-14 11:45 J	-6766092.22	-6766092.01	-6766091.78	0.0088	0.0017
Saturn	-23238-12-02 22:47 J	-6765920.75	-6765920.55	-6765920.34	0.0264	0.0059
Uranus	-23238-12-20 06:43 J	-6765903.24	-6765903.22	-6765903.18	0.0145	0.0143
Jupiter	-23237-01-09 23:16 J	-6765882.70	-6765882.53	-6765882.36	0.0492	0.0279
Neptune	-23237-01-26 01:26 J	-6765866.66	-6765866.44	-6765866.22	0.0088	0.0017
Saturn	-23237-07-18 21:50 J	-6765691.80	-6765691.59	-6765691.39	0.0266	0.0061
Jupiter	-23237-09-02 10:19 J	-6765646.28	-6765646.07	-6765645.87	0.0495	0.0093
Neptune	-23237-09-07 15:07 J	-6765641.09	-6765640.87	-6765640.64	0.0088	0.0017
Mars	-23237-12-24 14:38 J	-6765532.91	-6765532.89	-6765532.86	0.1649	0.1627
Saturn	-23236-03-04 21:50 J	-6765462.74	-6765462.59	-6765462.43	0.0267	0.0183
Neptune	-23236-04-21 04:33 J	-6765415.52	-6765415.31	-6765415.08	0.0088	0.0017
Jupiter	-23236-04-27 04:19 J	-6765409.38	-6765409.32	-6765409.25	0.0500	0.0473
Mars	-23236-12-01 11:45 J	-6765191.17	-6765191.01	-6765190.85	0.1855	0.0890
Neptune	-23236-12-02 18:14 J	-6765189.95	-6765189.74	-6765189.51	0.0088	0.0017
Neptune	-23235-07-16 08:09 J	-6764964.38	-6764964.16	-6764963.94	0.0088	0.0017
Neptune	-23234-02-26 21:35 J	-6764738.82	-6764738.60	-6764738.37	0.0088	0.0016
Neptune	-23234-10-10 11:16 J	-6764513.24	-6764513.03	-6764512.80	0.0088	0.0017
Neptune	-23233-05-23 00:57 J	-6764287.67	-6764287.46	-6764287.23	0.0088	0.0016

Neptune -23232-01-03 14:38 J -6764062.11 -6764061.89 -6764061.66 0.0088 0.0016
 Neptune -23232-08-17 04:04 J -6763836.54 -6763836.33 -6763836.10 0.0088 0.0016
 Jupiter -23232-11-16 09:50 J -6763745.26 -6763745.09 -6763744.92 0.0535 0.0280
 Neptune -23231-03-30 17:45 J -6763610.97 -6763610.76 -6763610.53 0.0088 0.0016
 Jupiter -23231-07-11 22:47 J -6763507.73 -6763507.55 -6763507.36 0.0530 0.0180
 Neptune -23231-11-11 07:40 J -6763385.40 -6763385.18 -6763384.96 0.0088 0.0015
 Neptune -23230-06-24 21:07 J -6763159.83 -6763159.62 -6763159.39 0.0088 0.0016
 Neptune -23229-02-05 10:47 J -6762934.27 -6762934.05 -6762933.82 0.0088 0.0015
 Neptune -23229-09-18 00:28 J -6762708.69 -6762708.48 -6762708.25 0.0088 0.0015
 Neptune -23228-05-01 14:09 J -6762483.12 -6762482.91 -6762482.68 0.0088 0.0015
 Neptune -23228-12-13 04:04 J -6762257.55 -6762257.33 -6762257.11 0.0088 0.0015
 Neptune -23227-07-26 17:45 J -6762031.98 -6762031.76 -6762031.54 0.0088 0.0014
 Neptune -23226-03-09 07:26 J -6761806.41 -6761806.19 -6761805.97 0.0088 0.0014
 Jupiter -23226-09-15 00:14 J -6761616.62 -6761616.49 -6761616.36 0.0492 0.0377
 Neptune -23226-10-20 21:07 J -6761580.83 -6761580.62 -6761580.39 0.0088 0.0014
 Jupiter -23225-05-08 09:21 J -6761380.32 -6761380.11 -6761379.90 0.0494 0.0013
 Neptune -23225-06-02 10:47 J -6761355.26 -6761355.05 -6761354.81 0.0088 0.0015
 Jupiter -23225-12-31 01:11 J -6761143.58 -6761143.45 -6761143.31 0.0499 0.0369
 Neptune -23224-01-14 00:43 J -6761129.69 -6761129.47 -6761129.24 0.0088 0.0014
 Neptune -23224-08-27 14:23 J -6760904.11 -6760903.90 -6760903.67 0.0088 0.0014
 Saturn -23224-10-05 11:16 J -6760865.21 -6760865.03 -6760864.86 0.0297 0.0167
 Neptune -23223-04-10 04:19 J -6760678.54 -6760678.32 -6760678.09 0.0088 0.0013
 Saturn -23223-05-23 15:21 J -6760635.07 -6760634.86 -6760634.64 0.0296 0.0006
 Neptune -23223-11-21 18:14 J -6760452.96 -6760452.74 -6760452.52 0.0088 0.0013
 Saturn -23222-01-08 17:45 J -6760404.93 -6760404.76 -6760404.59 0.0294 0.0173
 Neptune -23222-07-05 07:55 J -6760227.39 -6760227.17 -6760226.94 0.0088 0.0013
 Neptune -23221-02-15 21:35 J -6760001.82 -6760001.60 -6760001.37 0.0088 0.0012
 Neptune -23221-09-28 11:31 J -6759776.24 -6759776.02 -6759775.79 0.0088 0.0012
 Neptune -23220-05-12 01:26 J -6759550.67 -6759550.44 -6759550.22 0.0088 0.0012
 Jupiter -23220-07-22 02:38 J -6759479.52 -6759479.39 -6759479.26 0.0535 0.0403

Neptune -23220-12-23 15:07 J -6759325.09 -6759324.87 -6759324.65 0.0088 0.0011
 Jupiter -23219-03-16 17:59 J -6759241.95 -6759241.75 -6759241.55 0.0532 0.0058
 Neptune -23219-08-06 04:33 J -6759099.52 -6759099.31 -6759099.08 0.0088 0.0012
 Jupiter -23219-11-09 00:43 J -6759004.54 -6759004.47 -6759004.40 0.0526 0.0489
 Neptune -23218-03-19 18:28 J -6758873.95 -6758873.73 -6758873.51 0.0088 0.0011
 Neptune -23218-10-31 08:23 J -6758648.38 -6758648.15 -6758647.93 0.0088 0.0011
 Neptune -23217-06-12 22:04 J -6758422.80 -6758422.58 -6758422.36 0.0088 0.0010
 Neptune -23216-01-24 11:45 J -6758197.23 -6758197.01 -6758196.79 0.0088 0.0010
 Neptune -23216-09-07 01:26 J -6757971.66 -6757971.44 -6757971.22 0.0088 0.0010
 Neptune -23215-04-20 15:07 J -6757746.09 -6757745.87 -6757745.64 0.0088 0.0009
 Neptune -23215-12-02 05:02 J -6757520.52 -6757520.29 -6757520.07 0.0089 0.0009
 Jupiter -23214-05-21 00:14 J -6757350.54 -6757350.49 -6757350.43 0.0491 0.0471
 Neptune -23214-07-15 18:43 J -6757294.94 -6757294.72 -6757294.50 0.0089 0.0009
 Jupiter -23213-01-12 07:55 J -6757114.37 -6757114.17 -6757113.97 0.0493 0.0117
 Neptune -23213-02-26 08:23 J -6757069.37 -6757069.15 -6757068.93 0.0089 0.0008
 Jupiter -23213-09-04 22:04 J -6756877.75 -6756877.58 -6756877.40 0.0498 0.0264
 Neptune -23213-10-08 22:19 J -6756843.80 -6756843.57 -6756843.35 0.0089 0.0008
 Neptune -23212-05-22 11:59 J -6756618.22 -6756618.00 -6756617.78 0.0089 0.0007
 Neptune -23211-01-03 01:40 J -6756392.65 -6756392.43 -6756392.20 0.0089 0.0007
 Neptune -23211-08-16 15:35 J -6756167.08 -6756166.85 -6756166.63 0.0089 0.0007
 Neptune -23210-03-30 05:16 J -6755941.50 -6755941.28 -6755941.06 0.0089 0.0006
 Neptune -23210-11-10 18:57 J -6755715.93 -6755715.71 -6755715.48 0.0089 0.0007
 Neptune -23209-06-23 08:52 J -6755490.35 -6755490.13 -6755489.91 0.0089 0.0006
 Saturn -23209-10-28 03:35 J -6755363.51 -6755363.35 -6755363.18 0.0264 0.0159
 Neptune -23208-02-03 22:33 J -6755264.78 -6755264.56 -6755264.34 0.0089 0.0005
 Jupiter -23208-03-26 18:14 J -6755213.78 -6755213.74 -6755213.71 0.0535 0.0525
 Saturn -23208-06-14 01:26 J -6755134.65 -6755134.44 -6755134.23 0.0265 0.0042
 Neptune -23208-09-17 12:14 J -6755039.21 -6755038.99 -6755038.77 0.0089 0.0005
 Jupiter -23208-11-19 11:16 J -6754976.23 -6754976.03 -6754975.83 0.0533 0.0069
 Saturn -23207-01-29 00:14 J -6754905.69 -6754905.49 -6754905.28 0.0266 0.0079

Neptune -23207-05-01 01:55 J -6754813.64 -6754813.42 -6754813.20 0.0089 0.0005
 Jupiter -23207-07-14 20:09 J -6754738.80 -6754738.66 -6754738.52 0.0527 0.0376
 Saturn -23207-09-15 00:28 J -6754676.61 -6754676.48 -6754676.33 0.0267 0.0202
 Neptune -23207-12-12 15:35 J -6754588.07 -6754587.85 -6754587.62 0.0089 0.0005
 Mars -23206-02-23 06:28 J -6754515.34 -6754515.23 -6754515.12 0.1667 0.1247
 Neptune -23206-07-26 05:16 J -6754362.50 -6754362.28 -6754362.05 0.0089 0.0004
 Neptune -23205-03-07 18:57 J -6754136.94 -6754136.71 -6754136.49 0.0089 0.0004
 Neptune -23205-10-19 08:23 J -6753911.37 -6753911.15 -6753910.92 0.0089 0.0004
 Mars -23205-12-23 07:40 J -6753846.34 -6753846.18 -6753846.03 0.1654 0.0718
 Neptune -23204-06-01 22:04 J -6753685.80 -6753685.58 -6753685.35 0.0089 0.0003
 Neptune -23203-01-13 11:45 J -6753460.23 -6753460.01 -6753459.78 0.0089 0.0003
 Neptune -23203-08-27 01:26 J -6753234.66 -6753234.44 -6753234.22 0.0089 0.0002
 Neptune -23202-04-09 14:52 J -6753009.10 -6753008.88 -6753008.65 0.0089 0.0002
 Jupiter -23202-09-17 08:52 J -6752848.32 -6752848.13 -6752847.95 0.0493 0.0217
 Mars -23202-09-28 14:23 J -6752837.04 -6752836.90 -6752836.76 0.1866 0.1181
 Neptune -23202-11-21 04:47 J -6752783.53 -6752783.30 -6752783.08 0.0089 0.0002
 Jupiter -23201-05-10 21:07 J -6752611.82 -6752611.62 -6752611.42 0.0496 0.0159
 Neptune -23201-07-03 18:14 J -6752557.96 -6752557.74 -6752557.51 0.0089 0.0002
 Neptune -23200-02-14 07:55 J -6752332.39 -6752332.17 -6752331.95 0.0089 0.0001
 Uranus -23200-02-23 19:11 J -6752322.73 -6752322.70 -6752322.67 0.0132 0.0131
 Neptune -23200-09-27 21:21 J -6752106.83 -6752106.61 -6752106.38 0.0089 0.0002
 Uranus -23200-10-08 00:14 J -6752096.61 -6752096.49 -6752096.36 0.0132 0.0108
 Neptune -23199-05-11 11:02 J -6751881.26 -6751881.04 -6751880.81 0.0089 0.0001
 Uranus -23199-05-22 05:16 J -6751870.44 -6751870.28 -6751870.10 0.0132 0.0085
 Neptune -23199-12-23 00:43 J -6751655.69 -6751655.47 -6751655.24 0.0089 0.0002
 Uranus -23198-01-03 10:47 J -6751644.24 -6751644.05 -6751643.85 0.0133 0.0061
 Neptune -23198-08-05 14:23 J -6751430.12 -6751429.90 -6751429.68 0.0089 0.0001
 Uranus -23198-08-17 16:04 J -6751418.03 -6751417.83 -6751417.62 0.0133 0.0037
 Neptune -23197-03-18 04:04 J -6751204.56 -6751204.33 -6751204.11 0.0089 0.0002
 Uranus -23197-03-30 21:21 J -6751191.82 -6751191.61 -6751191.39 0.0133 0.0014

Neptune	-23197-10-29 17:31 J	-6750978.99	-6750978.77	-6750978.55	0.0089	0.0002
Uranus	-23197-11-12 02:38 J	-6750965.60	-6750965.39	-6750965.17	0.0133	0.0011
Neptune	-23196-06-12 06:57 J	-6750753.43	-6750753.21	-6750752.98	0.0089	0.0003
Uranus	-23196-06-26 07:55 J	-6750739.37	-6750739.17	-6750738.95	0.0133	0.0035
Jupiter	-23196-07-25 00:28 J	-6750710.66	-6750710.48	-6750710.29	0.0534	0.0202
Neptune	-23195-01-23 20:38 J	-6750527.86	-6750527.64	-6750527.42	0.0089	0.0003
Uranus	-23195-02-07 13:26 J	-6750513.13	-6750512.94	-6750512.74	0.0133	0.0058
Jupiter	-23195-03-19 11:59 J	-6750473.17	-6750473.00	-6750472.83	0.0529	0.0254
Neptune	-23195-09-06 10:04 J	-6750302.30	-6750302.08	-6750301.85	0.0089	0.0003
Uranus	-23195-09-21 18:28 J	-6750286.88	-6750286.73	-6750286.54	0.0134	0.0083
Saturn	-23194-04-17 21:35 J	-6750078.79	-6750078.60	-6750078.41	0.0297	0.0136
Neptune	-23194-04-19 23:31 J	-6750076.74	-6750076.52	-6750076.30	0.0089	0.0003
Uranus	-23194-05-06 00:14 J	-6750060.62	-6750060.49	-6750060.36	0.0134	0.0106
Neptune	-23194-12-01 12:57 J	-6749851.18	-6749850.96	-6749850.73	0.0089	0.0004
Saturn	-23194-12-04 01:40 J	-6749848.64	-6749848.43	-6749848.21	0.0296	0.0038
Uranus	-23194-12-18 05:31 J	-6749834.31	-6749834.27	-6749834.21	0.0134	0.0130
Neptune	-23193-07-14 02:23 J	-6749625.62	-6749625.40	-6749625.17	0.0089	0.0004
Saturn	-23193-07-21 03:50 J	-6749618.49	-6749618.34	-6749618.19	0.0295	0.0205
Neptune	-23192-02-24 16:04 J	-6749400.06	-6749399.83	-6749399.61	0.0089	0.0004
Neptune	-23192-10-08 05:16 J	-6749174.50	-6749174.28	-6749174.06	0.0089	0.0004
Neptune	-23191-05-21 18:43 J	-6748948.94	-6748948.72	-6748948.50	0.0089	0.0005
Neptune	-23190-01-02 08:09 J	-6748723.38	-6748723.16	-6748722.94	0.0089	0.0005
Jupiter	-23190-05-23 10:19 J	-6748582.22	-6748582.07	-6748581.90	0.0492	0.0316
Neptune	-23190-08-15 21:21 J	-6748497.83	-6748497.61	-6748497.38	0.0089	0.0006
Jupiter	-23189-01-14 20:52 J	-6748345.84	-6748345.63	-6748345.42	0.0495	0.0055
Neptune	-23189-03-28 10:47 J	-6748272.27	-6748272.05	-6748271.83	0.0089	0.0006
Jupiter	-23189-09-07 14:09 J	-6748109.00	-6748108.91	-6748108.80	0.0500	0.0436
Neptune	-23189-11-08 23:59 J	-6748046.72	-6748046.50	-6748046.28	0.0089	0.0006
Neptune	-23188-06-22 13:26 J	-6747821.16	-6747820.94	-6747820.72	0.0089	0.0007
Neptune	-23187-02-03 02:52 J	-6747595.60	-6747595.38	-6747595.16	0.0089	0.0007

Neptune -23187-09-16 16:04 J -6747370.05 -6747369.83 -6747369.61 0.0089 0.0007
 Pluto -23186-03-16 12:43 J -6747189.03 -6747188.97 -6747188.86 0.0080 0.0075
 Neptune -23186-04-30 05:16 J -6747144.49 -6747144.28 -6747144.05 0.0089 0.0008
 Pluto -23186-10-28 00:43 J -6746963.70 -6746963.47 -6746963.24 0.0080 0.0001
 Neptune -23186-12-11 18:43 J -6746918.94 -6746918.72 -6746918.50 0.0089 0.0008
 Pluto -23185-06-09 11:02 J -6746738.09 -6746738.04 -6746737.93 0.0080 0.0075
 Neptune -23185-07-24 07:55 J -6746693.38 -6746693.17 -6746692.94 0.0089 0.0008
 Neptune -23184-03-06 21:21 J -6746467.83 -6746467.61 -6746467.39 0.0089 0.0008
 Jupiter -23184-03-29 15:35 J -6746445.00 -6746444.85 -6746444.69 0.0534 0.0330
 Neptune -23184-10-18 10:33 J -6746242.28 -6746242.06 -6746241.84 0.0089 0.0009
 Jupiter -23184-11-22 05:16 J -6746207.47 -6746207.28 -6746207.08 0.0531 0.0131
 Neptune -23183-05-31 23:45 J -6746016.73 -6746016.51 -6746016.29 0.0089 0.0009
 Neptune -23182-01-12 12:57 J -6745791.18 -6745790.96 -6745790.74 0.0089 0.0009
 Neptune -23182-08-26 02:09 J -6745565.63 -6745565.41 -6745565.19 0.0089 0.0009
 Neptune -23181-04-07 15:07 J -6745340.08 -6745339.87 -6745339.65 0.0089 0.0010
 Neptune -23181-11-19 04:04 J -6745114.54 -6745114.33 -6745114.10 0.0089 0.0011
 Neptune -23180-07-02 17:16 J -6744888.99 -6744888.78 -6744888.56 0.0089 0.0010
 Saturn -23180-09-23 12:57 J -6744806.01 -6744805.96 -6744805.89 0.0263 0.0252
 Neptune -23179-02-13 06:28 J -6744663.44 -6744663.23 -6744663.01 0.0089 0.0011
 Saturn -23179-05-10 09:35 J -6744577.27 -6744577.10 -6744576.91 0.0264 0.0138
 Neptune -23179-09-26 19:26 J -6744437.90 -6744437.69 -6744437.47 0.0089 0.0011
 Saturn -23179-12-25 07:26 J -6744348.40 -6744348.19 -6744347.98 0.0265 0.0020
 Jupiter -23178-01-26 11:31 J -6744316.12 -6744316.02 -6744315.90 0.0491 0.0412
 Neptune -23178-05-10 08:23 J -6744212.36 -6744212.15 -6744211.93 0.0089 0.0011
 Saturn -23178-08-11 06:28 J -6744119.42 -6744119.23 -6744119.03 0.0266 0.0101
 Jupiter -23178-09-19 20:09 J -6744079.87 -6744079.66 -6744079.45 0.0494 0.0050
 Neptune -23178-12-21 21:21 J -6743986.82 -6743986.61 -6743986.39 0.0089 0.0011
 Saturn -23177-03-27 06:57 J -6743890.32 -6743890.21 -6743890.09 0.0267 0.0223
 Jupiter -23177-05-13 11:02 J -6743843.19 -6743843.04 -6743842.88 0.0498 0.0330
 Neptune -23177-08-03 10:33 J -6743761.28 -6743761.06 -6743760.84 0.0089 0.0011

Neptune	-23176-03-16 23:31 J	-6743535.73	-6743535.52	-6743535.30	0.0089	0.0012
Neptune	-23176-10-28 12:14 J	-6743310.19	-6743309.99	-6743309.76	0.0089	0.0013
Neptune	-23175-06-11 01:26 J	-6743084.66	-6743084.44	-6743084.22	0.0089	0.0012
Neptune	-23174-01-22 14:23 J	-6742859.11	-6742858.90	-6742858.68	0.0089	0.0012
Neptune	-23174-09-05 03:21 J	-6742633.57	-6742633.36	-6742633.14	0.0089	0.0012
Neptune	-23173-04-17 16:19 J	-6742408.03	-6742407.82	-6742407.60	0.0089	0.0013
Neptune	-23173-11-29 05:16 J	-6742182.50	-6742182.28	-6742182.07	0.0089	0.0013
Jupiter	-23173-12-02 06:28 J	-6742179.33	-6742179.23	-6742179.12	0.0535	0.0455
Mars	-23173-12-22 00:43 J	-6742159.64	-6742159.47	-6742159.30	0.1659	0.0211
Neptune	-23172-07-12 17:59 J	-6741956.96	-6741956.75	-6741956.53	0.0089	0.0013
Jupiter	-23172-07-27 23:02 J	-6741941.74	-6741941.54	-6741941.34	0.0532	0.0007
Earth	-23172-10-28 14:09 J	-6741849.07	-6741848.91	-6741848.75	0.2620	0.0225
Moon	-23172-10-28 19:40 J	-6741848.84	-6741848.68	-6741848.52	0.2619	0.0172 *
Neptune	-23171-02-23 06:57 J	-6741731.42	-6741731.21	-6741730.98	0.0089	0.0014
Jupiter	-23171-03-22 07:11 J	-6741704.30	-6741704.20	-6741704.09	0.0527	0.0444
Neptune	-23171-10-06 19:55 J	-6741505.88	-6741505.67	-6741505.45	0.0089	0.0013
Neptune	-23170-05-20 08:38 J	-6741280.35	-6741280.14	-6741279.92	0.0089	0.0014
Mars	-23170-09-28 14:23 J	-6741149.07	-6741148.90	-6741148.73	0.1858	0.0597
Neptune	-23170-12-31 21:35 J	-6741054.81	-6741054.60	-6741054.38	0.0089	0.0013
Neptune	-23169-08-13 10:19 J	-6740829.28	-6740829.07	-6740828.85	0.0089	0.0014
Neptune	-23168-03-26 23:16 J	-6740603.74	-6740603.53	-6740603.31	0.0089	0.0014
Neptune	-23168-11-07 11:59 J	-6740378.21	-6740378.00	-6740377.79	0.0089	0.0014
Neptune	-23167-06-21 00:28 J	-6740152.69	-6740152.48	-6740152.26	0.0089	0.0014
Neptune	-23166-02-01 13:11 J	-6739927.16	-6739926.95	-6739926.73	0.0089	0.0014
Jupiter	-23166-05-25 19:55 J	-6739813.86	-6739813.67	-6739813.47	0.0493	0.0154
Neptune	-23166-09-15 01:55 J	-6739701.63	-6739701.42	-6739701.20	0.0089	0.0014
Jupiter	-23165-01-17 08:52 J	-6739577.32	-6739577.13	-6739576.94	0.0497	0.0225
Saturn	-23165-03-11 23:02 J	-6739522.59	-6739522.54	-6739522.47	0.0298	0.0285
Neptune	-23165-04-27 14:38 J	-6739476.10	-6739475.89	-6739475.67	0.0089	0.0014
Saturn	-23165-10-28 05:02 J	-6739292.49	-6739292.29	-6739292.09	0.0297	0.0111

Neptune -23165-12-09 03:21 J -6739250.57 -6739250.36 -6739250.14 0.0089 0.0014
 Saturn -23164-06-15 08:52 J -6739062.34 -6739062.13 -6739061.92 0.0295 0.0062
 Neptune -23164-07-22 15:50 J -6739025.05 -6739024.84 -6739024.62 0.0089 0.0015
 Saturn -23163-01-31 10:33 J -6738832.19 -6738832.06 -6738831.92 0.0294 0.0228
 Neptune -23163-03-05 04:47 J -6738799.51 -6738799.30 -6738799.09 0.0089 0.0014
 Neptune -23163-10-16 17:16 J -6738573.99 -6738573.78 -6738573.56 0.0089 0.0015
 Neptune -23162-05-30 05:59 J -6738348.46 -6738348.25 -6738348.04 0.0089 0.0014
 Neptune -23161-01-10 18:28 J -6738122.94 -6738122.73 -6738122.51 0.0089 0.0015
 Neptune -23161-08-23 07:11 J -6737897.41 -6737897.20 -6737896.98 0.0089 0.0015
 Jupiter -23160-04-01 17:16 J -6737675.97 -6737675.78 -6737675.58 0.0534 0.0120
 Neptune -23160-04-05 19:55 J -6737671.88 -6737671.67 -6737671.45 0.0089 0.0015
 Neptune -23160-11-17 08:38 J -6737446.35 -6737446.14 -6737445.93 0.0089 0.0014
 Jupiter -23160-11-25 03:50 J -6737438.49 -6737438.34 -6737438.18 0.0529 0.0331
 Neptune -23159-06-30 21:07 J -6737220.83 -6737220.62 -6737220.40 0.0089 0.0015
 Uranus -23159-09-02 11:59 J -6737157.12 -6737157.00 -6737156.86 0.0146 0.0118
 Neptune -23158-02-11 09:50 J -6736995.30 -6736995.09 -6736994.88 0.0089 0.0014
 Uranus -23158-04-17 00:14 J -6736930.65 -6736930.49 -6736930.30 0.0146 0.0088
 Neptune -23158-09-24 22:19 J -6736769.78 -6736769.57 -6736769.35 0.0089 0.0014
 Uranus -23158-11-29 12:57 J -6736704.16 -6736703.96 -6736703.75 0.0146 0.0056
 Neptune -23157-05-07 10:47 J -6736544.26 -6736544.05 -6736543.83 0.0089 0.0015
 Uranus -23157-07-13 01:40 J -6736477.64 -6736477.43 -6736477.21 0.0146 0.0024
 Neptune -23157-12-18 23:16 J -6736318.74 -6736318.53 -6736318.31 0.0089 0.0015
 Uranus -23156-02-24 14:09 J -6736251.13 -6736250.91 -6736250.69 0.0146 0.0008
 Neptune -23156-08-01 11:45 J -6736093.22 -6736093.01 -6736092.79 0.0089 0.0014
 Uranus -23156-10-09 02:23 J -6736024.60 -6736024.40 -6736024.18 0.0145 0.0039
 Neptune -23155-03-15 00:14 J -6735867.69 -6735867.49 -6735867.27 0.0089 0.0015
 Uranus -23155-05-23 14:38 J -6735798.07 -6735797.89 -6735797.69 0.0145 0.0071
 Neptune -23155-10-26 12:43 J -6735642.18 -6735641.97 -6735641.75 0.0089 0.0014
 Uranus -23154-01-05 02:52 J -6735571.52 -6735571.38 -6735571.21 0.0145 0.0101
 Jupiter -23154-01-28 19:26 J -6735547.86 -6735547.69 -6735547.51 0.0492 0.0255

Neptune -23154-06-09 01:11 J -6735416.66 -6735416.45 -6735416.24 0.0089 0.0014
 Uranus -23154-08-19 15:07 J -6735344.94 -6735344.87 -6735344.77 0.0145 0.0132
 Jupiter -23154-09-22 06:43 J -6735311.42 -6735311.22 -6735311.02 0.0496 0.0119
 Neptune -23153-01-20 13:26 J -6735191.14 -6735190.94 -6735190.72 0.0089 0.0015
 Jupiter -23153-05-16 01:11 J -6735074.46 -6735074.45 -6735074.43 0.0501 0.0498
 Neptune -23153-09-02 01:55 J -6734965.63 -6734965.42 -6734965.20 0.0089 0.0014
 Neptune -23152-04-15 14:23 J -6734740.10 -6734739.90 -6734739.68 0.0089 0.0014
 Neptune -23152-11-27 02:52 J -6734514.59 -6734514.38 -6734514.16 0.0089 0.0014
 Neptune -23151-07-10 15:07 J -6734289.07 -6734288.87 -6734288.65 0.0089 0.0014
 Neptune -23150-02-21 03:36 J -6734063.56 -6734063.35 -6734063.13 0.0089 0.0014
 Saturn -23150-04-05 14:09 J -6734019.99 -6734019.91 -6734019.81 0.0263 0.0237
 Neptune -23150-10-04 16:04 J -6733838.04 -6733837.83 -6733837.62 0.0089 0.0014
 Saturn -23150-11-20 10:48 J -6733791.23 -6733791.05 -6733790.86 0.0264 0.0122
 Neptune -23149-05-17 04:33 J -6733612.52 -6733612.31 -6733612.10 0.0089 0.0013
 Saturn -23149-07-06 08:52 J -6733562.34 -6733562.13 -6733561.92 0.0265 0.0004
 Jupiter -23149-12-05 09:50 J -6733410.26 -6733410.09 -6733409.91 0.0534 0.0248
 Neptune -23149-12-28 16:48 J -6733387.01 -6733386.80 -6733386.58 0.0089 0.0013
 Saturn -23148-02-20 07:55 J -6733333.36 -6733333.17 -6733332.98 0.0266 0.0118
 Jupiter -23148-07-30 22:33 J -6733172.74 -6733172.56 -6733172.37 0.0530 0.0212
 Neptune -23148-08-11 05:16 J -6733161.49 -6733161.28 -6733161.07 0.0089 0.0013
 Saturn -23148-10-07 08:23 J -6733104.23 -6733104.15 -6733104.05 0.0267 0.0241
 Neptune -23147-03-24 17:45 J -6732935.97 -6732935.76 -6732935.55 0.0089 0.0013
 Neptune -23147-11-05 06:00 J -6732710.46 -6732710.25 -6732710.03 0.0089 0.0013
 Neptune -23146-06-18 18:14 J -6732484.94 -6732484.74 -6732484.52 0.0089 0.0013
 Neptune -23145-01-30 06:43 J -6732259.43 -6732259.22 -6732259.00 0.0089 0.0013
 Neptune -23145-09-11 19:11 J -6732033.91 -6732033.70 -6732033.49 0.0089 0.0012
 Neptune -23144-04-25 07:40 J -6731808.39 -6731808.18 -6731807.97 0.0089 0.0012
 Neptune -23144-12-06 19:55 J -6731582.88 -6731582.67 -6731582.46 0.0089 0.0012
 Neptune -23143-07-20 08:09 J -6731357.37 -6731357.16 -6731356.95 0.0089 0.0012
 Jupiter -23143-10-03 21:21 J -6731281.75 -6731281.61 -6731281.47 0.0492 0.0351

Neptune -23142-03-02 20:23 J -6731131.86 -6731131.65 -6731131.44 0.0089 0.0012
 Jupiter -23142-05-28 06:43 J -6731045.42 -6731045.22 -6731045.01 0.0494 0.0017
 Neptune -23142-10-14 08:38 J -6730906.35 -6730906.14 -6730905.92 0.0089 0.0012
 Jupiter -23141-01-19 23:16 J -6730808.66 -6730808.53 -6730808.41 0.0499 0.0397
 Neptune -23141-05-26 21:07 J -6730680.84 -6730680.62 -6730680.41 0.0089 0.0011
 Mars -23141-12-20 18:28 J -6730472.85 -6730472.73 -6730472.60 0.1665 0.1148
 Neptune -23140-01-07 09:21 J -6730455.33 -6730455.11 -6730454.90 0.0089 0.0011
 Neptune -23140-08-20 21:21 J -6730229.82 -6730229.61 -6730229.39 0.0089 0.0011
 Neptune -23139-04-03 09:36 J -6730004.31 -6730004.10 -6730003.88 0.0089 0.0011
 Mars -23139-10-20 19:55 J -6729803.82 -6729803.67 -6729803.53 0.1653 0.0809
 Neptune -23139-11-14 21:50 J -6729778.79 -6729778.59 -6729778.37 0.0089 0.0011
 Neptune -23138-06-28 10:19 J -6729553.29 -6729553.07 -6729552.86 0.0089 0.0010
 Neptune -23137-02-08 22:33 J -6729327.78 -6729327.56 -6729327.35 0.0089 0.0010
 Jupiter -23137-08-09 22:48 J -6729144.69 -6729144.55 -6729144.41 0.0535 0.0379
 Neptune -23137-09-21 10:48 J -6729102.26 -6729102.05 -6729101.83 0.0089 0.0010
 Jupiter -23136-04-04 13:26 J -6728907.13 -6728906.94 -6728906.74 0.0531 0.0084
 Neptune -23136-05-04 23:16 J -6728876.74 -6728876.53 -6728876.32 0.0089 0.0010
 Mars -23136-07-25 16:33 J -6728794.92 -6728794.81 -6728794.70 0.1868 0.1486
 Saturn -23136-09-22 07:26 J -6728736.28 -6728736.19 -6728736.07 0.0298 0.0257
 Jupiter -23136-11-27 19:55 J -6728669.71 -6728669.67 -6728669.62 0.0526 0.0511
 Neptune -23136-12-16 11:31 J -6728651.23 -6728651.02 -6728650.80 0.0089 0.0009
 Saturn -23135-05-10 13:26 J -6728506.14 -6728505.94 -6728505.73 0.0297 0.0081
 Neptune -23135-07-29 23:45 J -6728425.72 -6728425.51 -6728425.29 0.0089 0.0009
 Saturn -23135-12-26 17:16 J -6728275.98 -6728275.78 -6728275.57 0.0296 0.0092
 Neptune -23134-03-12 12:00 J -6728200.21 -6728200.00 -6728199.78 0.0089 0.0009
 Saturn -23134-08-13 18:57 J -6728045.81 -6728045.71 -6728045.61 0.0294 0.0258
 Neptune -23134-10-24 00:14 J -6727974.70 -6727974.49 -6727974.27 0.0089 0.0009
 Neptune -23133-06-05 12:43 J -6727749.18 -6727748.97 -6727748.75 0.0089 0.0009
 Neptune -23132-01-17 01:11 J -6727523.67 -6727523.45 -6727523.24 0.0089 0.0008
 Neptune -23132-08-30 13:26 J -6727298.15 -6727297.94 -6727297.72 0.0089 0.0008

Neptune -23131-04-13 01:40 J -6727072.64 -6727072.43 -6727072.21 0.0089 0.0008
 Jupiter -23131-06-08 23:45 J -6727015.60 -6727015.51 -6727015.43 0.0492 0.0446
 Neptune -23131-11-24 13:55 J -6726847.13 -6726846.92 -6726846.70 0.0089 0.0007
 Jupiter -23130-01-31 07:40 J -6726779.39 -6726779.18 -6726778.98 0.0494 0.0088
 Neptune -23130-07-08 02:23 J -6726621.62 -6726621.40 -6726621.19 0.0089 0.0007
 Jupiter -23130-09-24 22:04 J -6726542.75 -6726542.58 -6726542.41 0.0498 0.0293
 Neptune -23129-02-18 14:38 J -6726396.11 -6726395.89 -6726395.68 0.0089 0.0007
 Neptune -23129-10-01 02:52 J -6726170.60 -6726170.38 -6726170.17 0.0089 0.0006
 Neptune -23128-05-14 15:07 J -6725945.08 -6725944.87 -6725944.65 0.0089 0.0007
 Neptune -23128-12-26 03:36 J -6725719.57 -6725719.35 -6725719.14 0.0089 0.0006
 Neptune -23127-08-08 15:50 J -6725494.06 -6725493.84 -6725493.63 0.0089 0.0006
 Neptune -23126-03-22 03:50 J -6725268.55 -6725268.34 -6725268.12 0.0089 0.0006
 Neptune -23126-11-02 16:19 J -6725043.04 -6725042.82 -6725042.60 0.0089 0.0005
 Jupiter -23125-04-14 13:11 J -6724879.01 -6724878.95 -6724878.88 0.0535 0.0502
 Neptune -23125-06-15 04:48 J -6724817.52 -6724817.30 -6724817.08 0.0089 0.0005
 Jupiter -23125-12-08 06:00 J -6724641.45 -6724641.25 -6724641.05 0.0533 0.0045
 Neptune -23124-01-26 17:02 J -6724592.00 -6724591.79 -6724591.57 0.0089 0.0005
 Jupiter -23124-08-02 14:52 J -6724404.00 -6724403.88 -6724403.75 0.0528 0.0399
 Neptune -23124-09-09 05:31 J -6724366.49 -6724366.27 -6724366.06 0.0089 0.0004
 Neptune -23123-04-22 17:45 J -6724140.97 -6724140.76 -6724140.54 0.0088 0.0004
 Neptune -23123-12-04 06:14 J -6723915.46 -6723915.24 -6723915.02 0.0088 0.0003
 Neptune -23122-07-17 18:43 J -6723689.94 -6723689.72 -6723689.50 0.0088 0.0003
 Neptune -23121-02-28 06:57 J -6723464.42 -6723464.21 -6723463.99 0.0088 0.0004
 Neptune -23121-10-10 19:26 J -6723238.90 -6723238.69 -6723238.47 0.0088 0.0003
 Saturn -23121-10-15 19:40 J -6723233.79 -6723233.68 -6723233.56 0.0263 0.0216
 Neptune -23120-05-24 08:09 J -6723013.38 -6723013.16 -6723012.95 0.0088 0.0003
 Saturn -23120-06-01 16:33 J -6723005.00 -6723004.81 -6723004.61 0.0264 0.0101
 Neptune -23119-01-04 20:23 J -6722787.86 -6722787.65 -6722787.43 0.0088 0.0002
 Saturn -23119-01-16 14:23 J -6722776.11 -6722775.90 -6722775.69 0.0265 0.0018
 Neptune -23119-08-18 08:52 J -6722562.35 -6722562.13 -6722561.91 0.0088 0.0002

Saturn	-23119-09-02 13:40 J	-6722547.11	-6722546.93	-6722546.75	0.0266	0.0139
Jupiter	-23119-10-06 07:55 J	-6722513.36	-6722513.17	-6722512.98	0.0493	0.0190
Neptune	-23118-03-31 21:07 J	-6722336.83	-6722336.62	-6722336.40	0.0088	0.0002
Saturn	-23118-04-19 14:09 J	-6722317.94	-6722317.91	-6722317.86	0.0267	0.0262
Jupiter	-23118-05-30 19:55 J	-6722276.86	-6722276.67	-6722276.48	0.0496	0.0187
Neptune	-23118-11-12 09:36 J	-6722111.31	-6722111.10	-6722110.88	0.0088	0.0002
Neptune	-23117-06-24 22:19 J	-6721885.79	-6721885.57	-6721885.35	0.0088	0.0001
Neptune	-23116-02-05 10:48 J	-6721660.27	-6721660.05	-6721659.84	0.0088	0.0002
Uranus	-23116-06-07 13:11 J	-6721538.04	-6721537.95	-6721537.84	0.0132	0.0116
Neptune	-23116-09-18 23:02 J	-6721434.76	-6721434.54	-6721434.32	0.0088	0.0001
Uranus	-23115-01-19 18:28 J	-6721311.87	-6721311.73	-6721311.56	0.0132	0.0093
Neptune	-23115-05-02 11:31 J	-6721209.24	-6721209.02	-6721208.80	0.0088	0.0000
Uranus	-23115-09-02 23:45 J	-6721085.69	-6721085.51	-6721085.31	0.0132	0.0070
Neptune	-23115-12-14 00:00 J	-6720983.72	-6720983.50	-6720983.28	0.0088	0.0001
Uranus	-23114-04-17 05:16 J	-6720859.49	-6720859.28	-6720859.08	0.0133	0.0046
Neptune	-23114-07-27 12:28 J	-6720758.20	-6720757.98	-6720757.76	0.0088	0.0001
Uranus	-23114-11-29 10:33 J	-6720633.28	-6720633.06	-6720632.84	0.0133	0.0022
Neptune	-23113-03-09 00:57 J	-6720532.68	-6720532.46	-6720532.24	0.0088	0.0001
Uranus	-23113-07-12 15:50 J	-6720407.06	-6720406.84	-6720406.62	0.0133	0.0002
Jupiter	-23113-08-12 22:33 J	-6720375.75	-6720375.56	-6720375.37	0.0534	0.0173
Neptune	-23113-10-20 13:26 J	-6720307.16	-6720306.94	-6720306.72	0.0088	0.0001
Uranus	-23112-02-23 21:07 J	-6720180.83	-6720180.62	-6720180.40	0.0133	0.0026
Jupiter	-23112-04-07 10:19 J	-6720138.23	-6720138.07	-6720137.90	0.0530	0.0283
Neptune	-23112-06-03 02:09 J	-6720081.63	-6720081.41	-6720081.20	0.0088	0.0002
Uranus	-23112-10-08 02:23 J	-6719954.59	-6719954.40	-6719954.19	0.0133	0.0050
Neptune	-23111-01-14 14:38 J	-6719856.11	-6719855.89	-6719855.67	0.0088	0.0002
Uranus	-23111-05-22 07:26 J	-6719728.35	-6719728.19	-6719727.99	0.0134	0.0075
Neptune	-23111-08-28 03:07 J	-6719630.59	-6719630.37	-6719630.15	0.0088	0.0002
Uranus	-23110-01-03 13:26 J	-6719502.09	-6719501.94	-6719501.80	0.0134	0.0098
Neptune	-23110-04-10 15:36 J	-6719405.06	-6719404.85	-6719404.63	0.0088	0.0003

Uranus	-23110-08-17 18:28 J	-6719275.80	-6719275.73	-6719275.63	0.0134	0.0122
Neptune	-23110-11-22 04:19 J	-6719179.54	-6719179.32	-6719179.10	0.0088	0.0003
Neptune	-23109-07-04 17:16 J	-6718954.00	-6718953.78	-6718953.57	0.0088	0.0004
Neptune	-23108-02-15 05:45 J	-6718728.48	-6718728.26	-6718728.04	0.0088	0.0003
Neptune	-23108-09-28 18:28 J	-6718502.95	-6718502.73	-6718502.51	0.0088	0.0004
Neptune	-23107-05-12 06:57 J	-6718277.43	-6718277.21	-6718276.99	0.0088	0.0004
Jupiter	-23107-06-11 08:38 J	-6718247.30	-6718247.14	-6718246.97	0.0492	0.0289
Mars	-23107-10-19 13:11 J	-6718117.12	-6718116.95	-6718116.78	0.1658	0.0117
Neptune	-23107-12-23 19:40 J	-6718051.90	-6718051.68	-6718051.46	0.0088	0.0004
Jupiter	-23106-02-02 18:57 J	-6718010.92	-6718010.71	-6718010.51	0.0495	0.0082
Saturn	-23106-04-04 14:23 J	-6717950.03	-6717949.90	-6717949.77	0.0298	0.0232
Neptune	-23106-08-06 08:23 J	-6717826.37	-6717826.15	-6717825.93	0.0088	0.0005
Jupiter	-23106-09-27 12:00 J	-6717774.07	-6717774.00	-6717773.92	0.0500	0.0460
Saturn	-23106-11-20 19:55 J	-6717719.88	-6717719.67	-6717719.46	0.0297	0.0058
Neptune	-23105-03-18 21:07 J	-6717600.84	-6717600.62	-6717600.40	0.0088	0.0005
Saturn	-23105-07-07 23:16 J	-6717489.72	-6717489.53	-6717489.33	0.0295	0.0114
Neptune	-23105-10-30 09:50 J	-6717375.31	-6717375.09	-6717374.87	0.0088	0.0005
Saturn	-23104-02-23 00:28 J	-6717259.53	-6717259.48	-6717259.40	0.0293	0.0279
Neptune	-23104-06-12 22:33 J	-6717149.78	-6717149.56	-6717149.34	0.0088	0.0005
Mars	-23104-07-25 17:31 J	-6717106.94	-6717106.77	-6717106.59	0.1860	0.0318
Neptune	-23103-01-24 11:16 J	-6716924.25	-6716924.03	-6716923.81	0.0088	0.0005
Neptune	-23103-09-07 00:00 J	-6716698.72	-6716698.50	-6716698.28	0.0088	0.0006
Neptune	-23102-04-20 12:43 J	-6716473.19	-6716472.97	-6716472.75	0.0088	0.0006
Neptune	-23102-12-02 01:26 J	-6716247.66	-6716247.44	-6716247.22	0.0088	0.0006
Jupiter	-23101-04-17 15:50 J	-6716110.00	-6716109.84	-6716109.67	0.0535	0.0298
Neptune	-23101-07-14 14:09 J	-6716022.12	-6716021.91	-6716021.68	0.0088	0.0007
Jupiter	-23101-12-11 06:00 J	-6715872.44	-6715872.25	-6715872.06	0.0531	0.0164
Neptune	-23100-02-25 03:07 J	-6715796.59	-6715796.37	-6715796.15	0.0088	0.0007
Neptune	-23100-10-08 15:50 J	-6715571.06	-6715570.84	-6715570.62	0.0088	0.0007
Neptune	-23099-05-22 04:33 J	-6715345.53	-6715345.31	-6715345.08	0.0088	0.0008

Neptune	-23098-01-02 17:31 J	-6715119.99	-6715119.77	-6715119.55	0.0088	0.0008
Neptune	-23098-08-16 06:28 J	-6714894.45	-6714894.23	-6714894.00	0.0088	0.0008
Neptune	-23097-03-28 19:26 J	-6714668.91	-6714668.69	-6714668.47	0.0088	0.0008
Neptune	-23097-11-09 08:23 J	-6714443.37	-6714443.15	-6714442.93	0.0088	0.0008
Neptune	-23096-06-22 21:21 J	-6714217.83	-6714217.61	-6714217.39	0.0088	0.0008
Neptune	-23095-02-03 10:19 J	-6713992.29	-6713992.07	-6713991.84	0.0088	0.0009
Jupiter	-23095-02-14 09:21 J	-6713981.24	-6713981.11	-6713980.98	0.0491	0.0386
Neptune	-23095-09-16 23:16 J	-6713766.74	-6713766.53	-6713766.30	0.0088	0.0009
Jupiter	-23095-10-08 17:45 J	-6713744.97	-6713744.76	-6713744.55	0.0494	0.0024
Neptune	-23094-04-30 12:28 J	-6713541.20	-6713540.98	-6713540.76	0.0088	0.0009
Jupiter	-23094-06-02 08:52 J	-6713508.27	-6713508.13	-6713507.98	0.0498	0.0357
Neptune	-23094-12-12 01:26 J	-6713315.66	-6713315.44	-6713315.22	0.0088	0.0009
Neptune	-23093-07-24 14:38 J	-6713090.11	-6713089.89	-6713089.67	0.0088	0.0009
Neptune	-23092-03-07 03:36 J	-6712864.57	-6712864.35	-6712864.13	0.0088	0.0010
Neptune	-23092-10-18 16:33 J	-6712639.03	-6712638.81	-6712638.58	0.0088	0.0010
Saturn	-23091-04-27 19:55 J	-6712447.80	-6712447.67	-6712447.53	0.0263	0.0202
Neptune	-23091-06-01 05:31 J	-6712413.48	-6712413.27	-6712413.04	0.0088	0.0010
Saturn	-23091-12-12 16:33 J	-6712219.00	-6712218.81	-6712218.61	0.0264	0.0086
Neptune	-23090-01-12 18:43 J	-6712187.94	-6712187.72	-6712187.50	0.0088	0.0010
Saturn	-23090-07-29 14:38 J	-6711990.10	-6711989.89	-6711989.68	0.0265	0.0033
Neptune	-23090-08-26 07:55 J	-6711962.39	-6711962.17	-6711961.95	0.0088	0.0010
Jupiter	-23090-12-22 08:09 J	-6711844.28	-6711844.16	-6711844.04	0.0535	0.0422
Saturn	-23089-03-14 13:55 J	-6711761.09	-6711760.92	-6711760.75	0.0266	0.0155
Neptune	-23089-04-07 20:52 J	-6711736.84	-6711736.63	-6711736.40	0.0088	0.0011
Jupiter	-23089-08-16 00:14 J	-6711606.69	-6711606.49	-6711606.29	0.0532	0.0039
Neptune	-23089-11-19 10:04 J	-6711511.30	-6711511.08	-6711510.86	0.0088	0.0011
Jupiter	-23088-04-10 08:09 J	-6711369.24	-6711369.16	-6711369.07	0.0527	0.0474
Neptune	-23088-07-02 23:02 J	-6711285.75	-6711285.54	-6711285.31	0.0088	0.0011
Neptune	-23087-02-13 12:14 J	-6711060.20	-6711059.99	-6711059.76	0.0088	0.0011
Neptune	-23087-09-27 01:40 J	-6710834.65	-6710834.43	-6710834.21	0.0088	0.0011

Neptune	-23086-05-10 14:52 J	-6710609.10	-6710608.88	-6710608.66	0.0088	0.0011
Neptune	-23086-12-22 04:04 J	-6710383.55	-6710383.33	-6710383.11	0.0088	0.0011
Neptune	-23085-08-03 17:31 J	-6710157.99	-6710157.77	-6710157.55	0.0088	0.0011
Neptune	-23084-03-17 06:28 J	-6709932.44	-6709932.23	-6709932.00	0.0088	0.0012
Jupiter	-23084-10-20 11:45 J	-6709715.05	-6709715.01	-6709714.96	0.0491	0.0478
Neptune	-23084-10-28 19:55 J	-6709706.89	-6709706.67	-6709706.44	0.0088	0.0012
Neptune	-23083-06-11 09:07 J	-6709481.33	-6709481.12	-6709480.89	0.0088	0.0012
Jupiter	-23083-06-13 18:43 J	-6709478.92	-6709478.72	-6709478.52	0.0493	0.0125
Neptune	-23082-01-22 22:33 J	-6709255.78	-6709255.56	-6709255.33	0.0088	0.0012
Jupiter	-23082-02-05 07:55 J	-6709242.34	-6709242.17	-6709241.99	0.0497	0.0254
Neptune	-23082-09-05 12:00 J	-6709030.21	-6709030.00	-6709029.77	0.0088	0.0012
Neptune	-23081-04-18 01:26 J	-6708804.65	-6708804.44	-6708804.21	0.0088	0.0012
Neptune	-23081-11-29 14:52 J	-6708579.10	-6708578.88	-6708578.66	0.0088	0.0012
Neptune	-23080-07-13 04:19 J	-6708353.54	-6708353.32	-6708353.10	0.0088	0.0012
Neptune	-23079-02-23 17:31 J	-6708127.99	-6708127.77	-6708127.54	0.0088	0.0012
Neptune	-23079-10-07 07:11 J	-6707902.42	-6707902.20	-6707901.98	0.0088	0.0012
Neptune	-23078-05-20 20:23 J	-6707676.87	-6707676.65	-6707676.42	0.0088	0.0012
Neptune	-23077-01-01 09:50 J	-6707451.31	-6707451.09	-6707450.87	0.0088	0.0012
Jupiter	-23077-04-20 14:23 J	-6707341.09	-6707340.90	-6707340.70	0.0533	0.0094
Neptune	-23077-08-13 23:16 J	-6707225.75	-6707225.53	-6707225.30	0.0088	0.0012
Saturn	-23077-10-14 20:23 J	-6707163.79	-6707163.65	-6707163.48	0.0298	0.0207
Jupiter	-23077-12-14 00:28 J	-6707103.63	-6707103.48	-6707103.33	0.0528	0.0356
Neptune	-23076-03-27 12:43 J	-6707000.19	-6706999.97	-6706999.74	0.0088	0.0012
Saturn	-23076-06-02 02:23 J	-6706933.62	-6706933.40	-6706933.19	0.0297	0.0031
Neptune	-23076-11-08 02:09 J	-6706774.63	-6706774.41	-6706774.18	0.0088	0.0013
Saturn	-23075-01-18 06:00 J	-6706703.43	-6706703.25	-6706703.06	0.0296	0.0142
Uranus	-23075-05-02 22:04 J	-6706598.66	-6706598.58	-6706598.46	0.0146	0.0131
Neptune	-23075-06-21 15:36 J	-6706549.07	-6706548.85	-6706548.63	0.0088	0.0012
Mars	-23075-10-18 06:43 J	-6706430.35	-6706430.22	-6706430.09	0.1663	0.1050
Uranus	-23075-12-15 11:02 J	-6706372.20	-6706372.04	-6706371.88	0.0146	0.0099

Neptune	-23074-02-02 04:48 J	-6706323.51	-6706323.30	-6706323.07	0.0088	0.0013
Uranus	-23074-07-29 23:31 J	-6706145.71	-6706145.52	-6706145.33	0.0146	0.0067
Neptune	-23074-09-15 18:28 J	-6706097.94	-6706097.73	-6706097.50	0.0088	0.0013
Uranus	-23073-03-12 11:45 J	-6705919.21	-6705919.01	-6705918.79	0.0146	0.0036
Neptune	-23073-04-28 08:09 J	-6705872.38	-6705872.16	-6705871.93	0.0088	0.0013
Mars	-23073-08-17 08:09 J	-6705761.30	-6705761.16	-6705761.01	0.1651	0.0891
Uranus	-23073-10-25 00:28 J	-6705692.70	-6705692.48	-6705692.26	0.0146	0.0004
Neptune	-23073-12-09 21:36 J	-6705646.81	-6705646.60	-6705646.37	0.0088	0.0013
Uranus	-23072-06-08 12:57 J	-6705466.18	-6705465.96	-6705465.75	0.0146	0.0028
Neptune	-23072-07-23 11:02 J	-6705421.25	-6705421.04	-6705420.81	0.0088	0.0013
Uranus	-23071-01-21 00:57 J	-6705239.65	-6705239.46	-6705239.25	0.0145	0.0060
Jupiter	-23071-02-16 20:23 J	-6705212.83	-6705212.65	-6705212.47	0.0493	0.0226
Neptune	-23071-03-06 00:57 J	-6705195.68	-6705195.46	-6705195.24	0.0088	0.0013
Uranus	-23071-09-04 13:26 J	-6705013.11	-6705012.94	-6705012.77	0.0145	0.0091
Jupiter	-23071-10-11 07:55 J	-6704976.36	-6704976.17	-6704975.97	0.0496	0.0150
Neptune	-23071-10-17 14:38 J	-6704970.11	-6704969.89	-6704969.67	0.0088	0.0012
Uranus	-23070-04-19 01:40 J	-6704786.54	-6704786.43	-6704786.31	0.0145	0.0121
Mars	-23070-05-22 19:11 J	-6704752.75	-6704752.70	-6704752.65	0.1870	0.1781
Neptune	-23070-05-31 04:19 J	-6704744.55	-6704744.32	-6704744.10	0.0088	0.0013
Neptune	-23069-01-11 17:45 J	-6704518.98	-6704518.76	-6704518.53	0.0088	0.0012
Neptune	-23069-08-24 07:26 J	-6704293.41	-6704293.19	-6704292.96	0.0088	0.0012
Neptune	-23068-04-06 21:07 J	-6704067.84	-6704067.62	-6704067.40	0.0088	0.0012
Neptune	-23068-11-18 10:48 J	-6703842.27	-6703842.05	-6703841.83	0.0088	0.0012
Neptune	-23067-07-02 00:14 J	-6703616.71	-6703616.49	-6703616.26	0.0088	0.0012
Neptune	-23066-02-12 13:55 J	-6703391.14	-6703390.92	-6703390.69	0.0088	0.0012
Neptune	-23066-09-26 03:36 J	-6703165.57	-6703165.35	-6703165.12	0.0088	0.0012
Jupiter	-23066-12-25 06:14 J	-6703075.42	-6703075.24	-6703075.06	0.0534	0.0222
Neptune	-23065-05-08 17:16 J	-6702940.00	-6702939.78	-6702939.55	0.0088	0.0012
Jupiter	-23065-08-18 18:28 J	-6702837.91	-6702837.73	-6702837.55	0.0530	0.0236
Neptune	-23065-12-20 06:57 J	-6702714.43	-6702714.21	-6702713.98	0.0088	0.0012

Neptune	-23064-08-02 20:23 J	-6702488.87	-6702488.65	-6702488.42	0.0088	0.0012
Neptune	-23063-03-16 10:04 J	-6702263.30	-6702263.08	-6702262.85	0.0088	0.0012
Neptune	-23063-10-28 00:00 J	-6702037.72	-6702037.50	-6702037.28	0.0088	0.0012
Neptune	-23062-06-10 13:40 J	-6701812.15	-6701811.93	-6701811.71	0.0088	0.0012
Saturn	-23062-11-08 00:28 J	-6701661.62	-6701661.48	-6701661.32	0.0263	0.0182
Neptune	-23061-01-22 03:21 J	-6701586.58	-6701586.36	-6701586.14	0.0088	0.0011
Saturn	-23061-06-23 21:36 J	-6701432.80	-6701432.60	-6701432.39	0.0264	0.0066
Neptune	-23061-09-03 17:02 J	-6701361.01	-6701360.79	-6701360.57	0.0088	0.0011
Saturn	-23060-02-07 19:26 J	-6701203.89	-6701203.69	-6701203.48	0.0265	0.0054
Neptune	-23060-04-17 06:43 J	-6701135.44	-6701135.22	-6701134.99	0.0088	0.0011
Saturn	-23060-09-24 18:43 J	-6700974.87	-6700974.72	-6700974.56	0.0266	0.0175
Jupiter	-23060-10-22 21:36 J	-6700946.75	-6700946.60	-6700946.44	0.0492	0.0323
Neptune	-23060-11-28 20:23 J	-6700909.87	-6700909.65	-6700909.42	0.0088	0.0011
Jupiter	-23059-06-16 06:57 J	-6700710.41	-6700710.21	-6700710.00	0.0494	0.0047
Neptune	-23059-07-12 10:04 J	-6700684.30	-6700684.08	-6700683.85	0.0088	0.0011
Jupiter	-23058-02-07 23:16 J	-6700473.64	-6700473.53	-6700473.42	0.0499	0.0424
Neptune	-23058-02-23 00:00 J	-6700458.72	-6700458.50	-6700458.28	0.0088	0.0011
Neptune	-23058-10-06 13:55 J	-6700233.14	-6700232.92	-6700232.70	0.0088	0.0011
Neptune	-23057-05-19 03:36 J	-6700007.57	-6700007.35	-6700007.12	0.0088	0.0011
Neptune	-23057-12-30 17:16 J	-6699781.99	-6699781.78	-6699781.55	0.0088	0.0011
Neptune	-23056-08-13 07:11 J	-6699556.42	-6699556.20	-6699555.98	0.0088	0.0010
Neptune	-23055-03-26 20:52 J	-6699330.85	-6699330.63	-6699330.40	0.0088	0.0010
Neptune	-23055-11-07 10:48 J	-6699105.27	-6699105.05	-6699104.82	0.0088	0.0010
Neptune	-23054-06-21 00:43 J	-6698879.70	-6698879.47	-6698879.25	0.0088	0.0010
Jupiter	-23054-08-29 21:36 J	-6698809.74	-6698809.60	-6698809.44	0.0535	0.0349
Neptune	-23053-02-01 14:23 J	-6698654.13	-6698653.90	-6698653.68	0.0088	0.0009
Jupiter	-23053-04-23 12:43 J	-6698572.16	-6698571.97	-6698571.77	0.0532	0.0114
Neptune	-23053-09-14 03:50 J	-6698428.55	-6698428.34	-6698428.11	0.0088	0.0010
Neptune	-23052-04-27 17:45 J	-6698202.98	-6698202.76	-6698202.53	0.0088	0.0009
Neptune	-23052-12-09 07:26 J	-6697977.41	-6697977.19	-6697976.96	0.0088	0.0009

Neptune	-23051-07-22 21:21 J	-6697751.84	-6697751.61	-6697751.39	0.0088	0.0009
Neptune	-23050-03-05 10:48 J	-6697526.27	-6697526.05	-6697525.82	0.0088	0.0009
Neptune	-23050-10-17 00:43 J	-6697300.69	-6697300.47	-6697300.24	0.0088	0.0008
Neptune	-23049-05-29 14:23 J	-6697075.12	-6697074.90	-6697074.67	0.0089	0.0008
Neptune	-23048-01-10 04:19 J	-6696849.55	-6696849.32	-6696849.10	0.0089	0.0008
Jupiter	-23048-06-27 23:16 J	-6696680.63	-6696680.53	-6696680.42	0.0491	0.0418
Neptune	-23048-08-23 18:00 J	-6696623.97	-6696623.75	-6696623.53	0.0089	0.0008
Jupiter	-23047-02-19 06:57 J	-6696444.41	-6696444.21	-6696444.00	0.0493	0.0059
Neptune	-23047-04-06 07:40 J	-6696398.40	-6696398.18	-6696397.95	0.0089	0.0007
Saturn	-23047-04-27 02:52 J	-6696377.54	-6696377.38	-6696377.21	0.0298	0.0183
Jupiter	-23047-10-13 21:07 J	-6696207.77	-6696207.62	-6696207.46	0.0498	0.0320
Neptune	-23047-11-17 21:36 J	-6696172.82	-6696172.60	-6696172.38	0.0089	0.0007
Saturn	-23047-12-13 08:23 J	-6696147.37	-6696147.15	-6696146.94	0.0297	0.0009
Neptune	-23046-07-01 11:16 J	-6695947.25	-6695947.03	-6695946.80	0.0089	0.0007
Saturn	-23046-07-31 11:31 J	-6695917.19	-6695917.02	-6695916.84	0.0295	0.0163
Neptune	-23045-02-12 01:11 J	-6695721.68	-6695721.45	-6695721.23	0.0089	0.0007
Neptune	-23045-09-24 14:52 J	-6695496.11	-6695495.88	-6695495.66	0.0089	0.0007
Neptune	-23044-05-08 04:33 J	-6695270.53	-6695270.31	-6695270.08	0.0089	0.0006
Neptune	-23044-12-19 18:28 J	-6695044.95	-6695044.73	-6695044.51	0.0089	0.0006
Neptune	-23043-08-02 08:09 J	-6694819.38	-6694819.16	-6694818.94	0.0089	0.0006
Neptune	-23042-03-15 21:50 J	-6694593.81	-6694593.59	-6694593.37	0.0089	0.0006
Jupiter	-23042-05-04 14:09 J	-6694544.00	-6694543.91	-6694543.81	0.0536	0.0471
Neptune	-23042-10-27 11:31 J	-6694368.24	-6694368.02	-6694367.79	0.0089	0.0005
Jupiter	-23042-12-28 07:26 J	-6694306.39	-6694306.19	-6694305.99	0.0533	0.0011
Neptune	-23041-06-09 01:11 J	-6694142.67	-6694142.45	-6694142.22	0.0089	0.0005
Mars	-23041-08-16 01:11 J	-6694074.62	-6694074.45	-6694074.28	0.1656	0.0047
Jupiter	-23041-08-21 16:33 J	-6694068.91	-6694068.81	-6694068.69	0.0528	0.0432
Neptune	-23040-01-20 14:52 J	-6693917.10	-6693916.88	-6693916.65	0.0089	0.0005
Neptune	-23040-09-03 04:33 J	-6693691.53	-6693691.31	-6693691.09	0.0089	0.0005
Neptune	-23039-04-16 18:00 J	-6693465.97	-6693465.75	-6693465.52	0.0089	0.0005

Neptune	-23039-11-28 07:55 J	-6693240.39	-6693240.17	-6693239.95	0.0089	0.0004
Mars	-23038-05-22 20:09 J	-6693064.84	-6693064.66	-6693064.48	0.1863	0.0023
Neptune	-23038-07-11 21:36 J	-6693014.83	-6693014.60	-6693014.38	0.0089	0.0004
Neptune	-23037-02-22 11:02 J	-6692789.26	-6692789.04	-6692788.82	0.0089	0.0004
Neptune	-23037-10-05 00:28 J	-6692563.70	-6692563.48	-6692563.25	0.0089	0.0004
Neptune	-23036-05-18 14:09 J	-6692338.13	-6692337.91	-6692337.69	0.0089	0.0003
Jupiter	-23036-10-25 06:57 J	-6692178.41	-6692178.21	-6692178.02	0.0493	0.0162
Neptune	-23036-12-30 03:50 J	-6692112.56	-6692112.34	-6692112.12	0.0089	0.0003
Jupiter	-23035-06-18 18:57 J	-6691941.89	-6691941.71	-6691941.52	0.0496	0.0215
Neptune	-23035-08-12 17:31 J	-6691887.00	-6691886.77	-6691886.55	0.0089	0.0003
Neptune	-23034-03-26 06:57 J	-6691661.43	-6691661.21	-6691660.99	0.0089	0.0002
Moon	-23034-05-01 00:28 J	-6691625.65	-6691625.48	-6691625.32	0.2707	0.0708
Earth	-23034-05-01 02:09 J	-6691625.55	-6691625.41	-6691625.27	0.2714	0.1187 *
Neptune	-23034-11-06 20:38 J	-6691435.87	-6691435.64	-6691435.42	0.0089	0.0002
Neptune	-23033-06-19 10:04 J	-6691210.30	-6691210.08	-6691209.85	0.0089	0.0002
Neptune	-23032-01-30 23:45 J	-6690984.73	-6690984.51	-6690984.29	0.0089	0.0002
Uranus	-23032-02-05 01:55 J	-6690979.47	-6690979.42	-6690979.33	0.0132	0.0125
Saturn	-23032-05-20 00:14 J	-6690875.64	-6690875.49	-6690875.32	0.0263	0.0168
Neptune	-23032-09-13 13:26 J	-6690759.17	-6690758.94	-6690758.72	0.0089	0.0002
Uranus	-23032-09-19 07:26 J	-6690753.32	-6690753.19	-6690753.04	0.0132	0.0102
Saturn	-23031-01-03 21:07 J	-6690646.83	-6690646.62	-6690646.41	0.0264	0.0052
Neptune	-23031-04-27 02:52 J	-6690533.60	-6690533.38	-6690533.16	0.0089	0.0001
Uranus	-23031-05-03 12:28 J	-6690527.14	-6690526.98	-6690526.79	0.0132	0.0079
Saturn	-23031-08-20 18:57 J	-6690417.91	-6690417.71	-6690417.50	0.0265	0.0068
Neptune	-23031-12-08 16:33 J	-6690308.03	-6690307.81	-6690307.59	0.0089	0.0001
Uranus	-23031-12-15 18:00 J	-6690300.94	-6690300.75	-6690300.54	0.0133	0.0054
Saturn	-23030-04-06 18:00 J	-6690188.88	-6690188.75	-6690188.59	0.0266	0.0190
Neptune	-23030-07-22 06:00 J	-6690082.47	-6690082.25	-6690082.03	0.0089	0.0001
Uranus	-23030-07-29 23:16 J	-6690074.74	-6690074.53	-6690074.31	0.0133	0.0031
Jupiter	-23030-09-02 01:11 J	-6690040.64	-6690040.45	-6690040.25	0.0534	0.0137

Neptune -23029-03-03 19:26 J -6689856.91 -6689856.69 -6689856.47 0.0089 0.0001
 Uranus -23029-03-12 04:33 J -6689848.52 -6689848.31 -6689848.09 0.0133 0.0007
 Jupiter -23029-04-26 12:43 J -6689803.13 -6689802.97 -6689802.81 0.0529 0.0317
 Pluto -23029-05-20 13:55 J -6689779.00 -6689778.92 -6689778.80 0.0064 0.0057
 Neptune -23029-10-15 08:52 J -6689631.35 -6689631.13 -6689630.91 0.0089 0.0001
 Uranus -23029-10-24 09:50 J -6689622.30 -6689622.09 -6689621.87 0.0133 0.0018
 Pluto -23029-12-31 18:00 J -6689553.95 -6689553.75 -6689553.54 0.0064 0.0021
 Neptune -23028-05-28 22:19 J -6689405.79 -6689405.57 -6689405.35 0.0089 0.0000
 Uranus -23028-06-07 14:52 J -6689396.08 -6689395.88 -6689395.66 0.0133 0.0042
 Pluto -23028-08-13 21:36 J -6689328.80 -6689328.60 -6689328.38 0.0065 0.0016
 Neptune -23027-01-09 11:45 J -6689180.23 -6689180.01 -6689179.78 0.0089 0.0002
 Uranus -23027-01-19 20:09 J -6689169.83 -6689169.66 -6689169.45 0.0133 0.0067
 Pluto -23027-03-27 00:57 J -6689103.55 -6689103.46 -6689103.31 0.0065 0.0054
 Neptune -23027-08-23 01:11 J -6688954.67 -6688954.45 -6688954.23 0.0089 0.0001
 Uranus -23027-09-03 01:40 J -6688943.58 -6688943.43 -6688943.26 0.0134 0.0090
 Neptune -23026-04-05 14:23 J -6688729.12 -6688728.90 -6688728.67 0.0089 0.0002
 Uranus -23026-04-17 06:57 J -6688717.31 -6688717.21 -6688717.09 0.0134 0.0114
 Earth -23026-04-28 16:04 J -6688705.87 -6688705.83 -6688705.79 0.2713 0.2594
 Neptune -23026-11-17 03:50 J -6688503.56 -6688503.34 -6688503.12 0.0089 0.0001
 Neptune -23025-06-29 17:16 J -6688278.00 -6688277.78 -6688277.56 0.0089 0.0002
 Neptune -23024-02-10 06:43 J -6688052.44 -6688052.22 -6688052.00 0.0089 0.0002
 Jupiter -23024-06-30 08:38 J -6687912.31 -6687912.14 -6687911.96 0.0492 0.0261
 Neptune -23024-09-23 19:55 J -6687826.89 -6687826.67 -6687826.45 0.0089 0.0002
 Jupiter -23023-02-21 19:11 J -6687675.90 -6687675.70 -6687675.50 0.0495 0.0112
 Neptune -23023-05-07 09:07 J -6687601.34 -6687601.12 -6687600.89 0.0089 0.0003
 Jupiter -23023-10-16 12:57 J -6687439.00 -6687438.96 -6687438.92 0.0500 0.0490
 Neptune -23023-12-18 22:33 J -6687375.78 -6687375.56 -6687375.34 0.0089 0.0003
 Neptune -23022-08-01 12:00 J -6687150.22 -6687150.00 -6687149.78 0.0089 0.0003
 Neptune -23021-03-14 01:11 J -6686924.67 -6686924.45 -6686924.23 0.0089 0.0003
 Neptune -23021-10-25 14:23 J -6686699.12 -6686698.90 -6686698.68 0.0089 0.0004

Neptune	-23020-06-08 03:36 J	-6686473.56	-6686473.35	-6686473.12	0.0089	0.0004
Neptune	-23019-01-19 17:02 J	-6686248.01	-6686247.79	-6686247.57	0.0089	0.0004
Neptune	-23019-09-02 06:28 J	-6686022.45	-6686022.23	-6686022.01	0.0089	0.0004
Neptune	-23018-04-15 19:40 J	-6685796.90	-6685796.68	-6685796.46	0.0089	0.0004
Jupiter	-23018-05-07 15:07 J	-6685775.04	-6685774.87	-6685774.70	0.0534	0.0269
Saturn	-23018-11-07 06:57 J	-6685591.39	-6685591.21	-6685591.03	0.0298	0.0161
Neptune	-23018-11-27 08:52 J	-6685571.35	-6685571.13	-6685570.91	0.0089	0.0005
Jupiter	-23018-12-31 04:19 J	-6685537.51	-6685537.32	-6685537.13	0.0530	0.0191
Saturn	-23017-06-24 12:28 J	-6685361.19	-6685360.98	-6685360.77	0.0297	0.0016
Neptune	-23017-07-09 22:04 J	-6685345.80	-6685345.58	-6685345.36	0.0089	0.0005
Saturn	-23016-02-09 15:50 J	-6685131.00	-6685130.84	-6685130.67	0.0296	0.0188
Neptune	-23016-02-20 11:16 J	-6685120.25	-6685120.03	-6685119.81	0.0089	0.0005
Neptune	-23016-10-04 00:28 J	-6684894.70	-6684894.48	-6684894.26	0.0089	0.0005
Neptune	-23015-05-17 13:26 J	-6684669.16	-6684668.94	-6684668.72	0.0089	0.0005
Neptune	-23015-12-29 02:38 J	-6684443.61	-6684443.39	-6684443.17	0.0089	0.0005
Neptune	-23014-08-11 15:36 J	-6684218.07	-6684217.85	-6684217.63	0.0089	0.0006
Neptune	-23013-03-24 04:33 J	-6683992.52	-6683992.31	-6683992.08	0.0089	0.0007
Neptune	-23013-11-04 17:45 J	-6683766.98	-6683766.76	-6683766.54	0.0089	0.0006
Jupiter	-23012-03-05 10:48 J	-6683646.19	-6683646.05	-6683645.91	0.0492	0.0358
Neptune	-23012-06-18 06:43 J	-6683541.44	-6683541.22	-6683541.00	0.0089	0.0006
Jupiter	-23012-10-27 19:55 J	-6683409.88	-6683409.67	-6683409.46	0.0494	0.0010
Neptune	-23011-01-29 19:40 J	-6683315.89	-6683315.68	-6683315.46	0.0089	0.0007
Jupiter	-23011-06-21 11:31 J	-6683173.14	-6683173.02	-6683172.89	0.0499	0.0389
Neptune	-23011-09-12 08:38 J	-6683090.35	-6683090.14	-6683089.92	0.0089	0.0007
Neptune	-23010-04-25 21:36 J	-6682864.81	-6682864.60	-6682864.38	0.0089	0.0007
Neptune	-23010-12-07 10:33 J	-6682639.27	-6682639.06	-6682638.84	0.0089	0.0007
Neptune	-23009-07-19 23:31 J	-6682413.73	-6682413.52	-6682413.30	0.0089	0.0007
Mars	-23009-08-14 18:28 J	-6682387.87	-6682387.73	-6682387.59	0.1662	0.0950
Neptune	-23008-03-02 12:43 J	-6682188.19	-6682187.97	-6682187.75	0.0089	0.0007
Neptune	-23008-10-14 01:40 J	-6681962.65	-6681962.43	-6681962.22	0.0089	0.0008

Neptune -23007-05-27 14:23 J -6681737.11 -6681736.90 -6681736.68 0.0089 0.0008

Mars -23007-06-14 20:38 J -6681718.78 -6681718.64 -6681718.50 0.1649 0.0975

Neptune -23006-01-08 03:21 J -6681511.57 -6681511.36 -6681511.14 0.0089 0.0008

Jupiter -23006-01-10 06:14 J -6681509.37 -6681509.24 -6681509.10 0.0535 0.0395

Mars -23006-05-22 20:23 J -6681376.70 -6681376.65 -6681376.60 0.1855 0.1785

Neptune -23006-08-21 16:19 J -6681286.04 -6681285.82 -6681285.60 0.0089 0.0008

Jupiter -23006-09-04 21:36 J -6681271.80 -6681271.60 -6681271.40 0.0532 0.0066

Neptune -23005-04-03 05:16 J -6681060.50 -6681060.28 -6681060.06 0.0089 0.0008

Jupiter -23005-04-29 05:02 J -6681034.35 -6681034.29 -6681034.22 0.0526 0.0498

Neptune -23005-11-14 18:00 J -6680834.96 -6680834.75 -6680834.53 0.0089 0.0008

Neptune -23004-06-28 06:57 J -6680609.43 -6680609.21 -6680608.99 0.0089 0.0008

Neptune -23003-02-08 19:40 J -6680383.89 -6680383.68 -6680383.46 0.0089 0.0009

Neptune -23003-09-22 08:38 J -6680158.36 -6680158.14 -6680157.93 0.0089 0.0009

Saturn -23003-11-30 04:33 J -6680089.49 -6680089.31 -6680089.14 0.0263 0.0149

Neptune -23002-05-05 21:07 J -6679932.83 -6679932.62 -6679932.40 0.0089 0.0009

Saturn -23002-07-17 01:26 J -6679860.65 -6679860.44 -6679860.23 0.0264 0.0032

Neptune -23002-12-17 09:50 J -6679707.30 -6679707.09 -6679706.87 0.0089 0.0009

Saturn -23001-03-01 23:16 J -6679631.73 -6679631.53 -6679631.33 0.0265 0.0087

Neptune -23001-07-29 22:33 J -6679481.77 -6679481.56 -6679481.34 0.0089 0.0009

Saturn -23001-10-16 22:33 J -6679402.68 -6679402.56 -6679402.42 0.0266 0.0209

Jupiter -23001-11-08 12:43 J -6679380.04 -6679379.97 -6679379.88 0.0492 0.0451

23RD MILLENNIUM BCE

This is a list of transits of Venus in the 23rd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
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TRANSIT

TIME

Neptune	-23000-03-12 11:16 J	-6679256.24	-6679256.03	-6679255.81	0.0089	0.0010
Jupiter	-23000-07-02 20:09 J	-6679143.86	-6679143.66	-6679143.46	0.0493	0.0095
Neptune	-23000-10-24 00:00 J	-6679030.71	-6679030.50	-6679030.28	0.0089	0.0009
Jupiter	-22999-02-24 09:36 J	-6678907.27	-6678907.10	-6678906.93	0.0497	0.0284
Neptune	-22999-06-06 12:43 J	-6678805.19	-6678804.97	-6678804.76	0.0089	0.0009
Neptune	-22998-01-18 01:11 J	-6678579.66	-6678579.45	-6678579.23	0.0089	0.0010
Neptune	-22998-08-31 13:55 J	-6678354.13	-6678353.92	-6678353.70	0.0089	0.0010
Neptune	-22997-04-13 02:38 J	-6678128.60	-6678128.39	-6678128.17	0.0089	0.0010
Neptune	-22997-11-24 15:21 J	-6677903.08	-6677902.86	-6677902.65	0.0089	0.0010
Neptune	-22996-07-08 03:50 J	-6677677.56	-6677677.34	-6677677.12	0.0089	0.0010
Neptune	-22995-02-18 16:19 J	-6677452.03	-6677451.82	-6677451.60	0.0089	0.0010
Jupiter	-22995-09-14 20:52 J	-6677243.67	-6677243.63	-6677243.58	0.0535	0.0518
Neptune	-22995-10-02 05:02 J	-6677226.50	-6677226.29	-6677226.07	0.0089	0.0010
Jupiter	-22994-05-10 14:38 J	-6677006.09	-6677005.89	-6677005.69	0.0533	0.0061
Neptune	-22994-05-15 17:31 J	-6677000.98	-6677000.77	-6677000.55	0.0089	0.0010
Neptune	-22994-12-27 06:14 J	-6676775.45	-6676775.24	-6676775.02	0.0089	0.0010
Jupiter	-22993-01-03 00:57 J	-6676768.60	-6676768.46	-6676768.33	0.0528	0.0387
Neptune	-22993-08-08 18:43 J	-6676549.93	-6676549.72	-6676549.50	0.0089	0.0010
Neptune	-22992-03-22 07:26 J	-6676324.40	-6676324.19	-6676323.97	0.0089	0.0010
Neptune	-22992-11-02 19:55 J	-6676098.88	-6676098.67	-6676098.45	0.0089	0.0010
Uranus	-22992-12-31 06:43 J	-6676040.24	-6676040.22	-6676040.16	0.0147	0.0144
Neptune	-22991-06-16 08:23 J	-6675873.36	-6675873.15	-6675872.93	0.0089	0.0010
Uranus	-22991-08-14 19:26 J	-6675813.82	-6675813.69	-6675813.54	0.0146	0.0112
Neptune	-22990-01-27 20:52 J	-6675647.84	-6675647.63	-6675647.41	0.0089	0.0010
Uranus	-22990-03-29 07:55 J	-6675587.34	-6675587.17	-6675586.98	0.0146	0.0080
Neptune	-22990-09-10 09:21 J	-6675422.32	-6675422.11	-6675421.89	0.0089	0.0010
Uranus	-22990-11-10 20:23 J	-6675360.85	-6675360.65	-6675360.44	0.0146	0.0049
Neptune	-22989-04-22 21:50 J	-6675196.80	-6675196.59	-6675196.37	0.0089	0.0010

Uranus	-22989-06-24 09:07 J	-6675134.33	-6675134.12	-6675133.90	0.0146	0.0016
Neptune	-22989-12-04 10:19 J	-6674971.28	-6674971.07	-6674970.85	0.0089	0.0010
Uranus	-22988-02-05 21:36 J	-6674907.82	-6674907.60	-6674907.38	0.0146	0.0016
Jupiter	-22988-03-07 21:07 J	-6674877.81	-6674877.62	-6674877.43	0.0492	0.0196
Saturn	-22988-05-19 12:28 J	-6674805.17	-6674804.98	-6674804.79	0.0298	0.0138
Neptune	-22988-07-17 22:48 J	-6674745.77	-6674745.55	-6674745.34	0.0089	0.0010
Uranus	-22988-09-20 09:50 J	-6674681.29	-6674681.09	-6674680.88	0.0146	0.0047
Jupiter	-22988-10-30 08:23 J	-6674641.34	-6674641.15	-6674640.96	0.0496	0.0180
Saturn	-22987-01-04 17:45 J	-6674574.97	-6674574.76	-6674574.55	0.0297	0.0038
Neptune	-22987-02-28 11:02 J	-6674520.25	-6674520.04	-6674519.82	0.0089	0.0010
Uranus	-22987-05-04 22:19 J	-6674454.75	-6674454.57	-6674454.39	0.0145	0.0079
Saturn	-22987-08-22 20:52 J	-6674344.78	-6674344.63	-6674344.48	0.0295	0.0209
Neptune	-22987-10-11 23:31 J	-6674294.73	-6674294.52	-6674294.30	0.0089	0.0010
Uranus	-22987-12-17 10:19 J	-6674228.20	-6674228.07	-6674227.92	0.0145	0.0110
Neptune	-22986-05-25 12:00 J	-6674069.21	-6674069.00	-6674068.79	0.0089	0.0010
Uranus	-22986-07-31 22:33 J	-6674001.59	-6674001.56	-6674001.50	0.0145	0.0141
Neptune	-22985-01-06 00:14 J	-6673843.70	-6673843.49	-6673843.27	0.0089	0.0010
Neptune	-22985-08-18 12:43 J	-6673618.18	-6673617.97	-6673617.75	0.0089	0.0010
Neptune	-22984-04-01 01:11 J	-6673392.66	-6673392.45	-6673392.23	0.0089	0.0010
Neptune	-22984-11-12 13:26 J	-6673167.15	-6673166.94	-6673166.72	0.0089	0.0010
Neptune	-22983-06-26 01:55 J	-6672941.63	-6672941.42	-6672941.20	0.0089	0.0010
Jupiter	-22982-01-13 08:23 J	-6672740.33	-6672740.15	-6672739.96	0.0534	0.0187
Neptune	-22982-02-06 14:09 J	-6672716.12	-6672715.91	-6672715.69	0.0089	0.0010
Jupiter	-22982-09-07 21:07 J	-6672502.79	-6672502.62	-6672502.45	0.0530	0.0271
Neptune	-22982-09-20 02:38 J	-6672490.60	-6672490.39	-6672490.17	0.0089	0.0010
Neptune	-22981-05-02 15:07 J	-6672265.08	-6672264.87	-6672264.65	0.0089	0.0010
Neptune	-22981-12-14 03:36 J	-6672039.56	-6672039.35	-6672039.13	0.0089	0.0010
Neptune	-22980-07-27 15:50 J	-6671814.05	-6671813.84	-6671813.62	0.0089	0.0010
Neptune	-22979-03-10 04:19 J	-6671588.53	-6671588.32	-6671588.10	0.0089	0.0010
Neptune	-22979-10-21 16:33 J	-6671363.02	-6671362.81	-6671362.59	0.0089	0.0010

Neptune -22978-06-04 05:02 J -6671137.50 -6671137.29 -6671137.07 0.0089 0.0010
 Neptune -22977-01-15 17:16 J -6670911.99 -6670911.78 -6670911.56 0.0089 0.0010
 Neptune -22977-08-28 05:45 J -6670686.48 -6670686.26 -6670686.05 0.0089 0.0009
 Jupiter -22977-11-10 21:50 J -6670611.75 -6670611.59 -6670611.43 0.0492 0.0295
 Neptune -22976-04-10 18:00 J -6670460.96 -6670460.75 -6670460.53 0.0089 0.0009
 Jupiter -22976-07-05 07:11 J -6670375.40 -6670375.20 -6670374.99 0.0495 0.0075
 Neptune -22976-11-22 06:14 J -6670235.45 -6670235.24 -6670235.02 0.0089 0.0009
 Jupiter -22975-02-26 23:45 J -6670138.60 -6670138.51 -6670138.43 0.0499 0.0453
 Mars -22975-06-13 13:40 J -6670032.10 -6670031.93 -6670031.76 0.1654 0.0067
 Neptune -22975-07-05 18:28 J -6670009.94 -6670009.73 -6670009.51 0.0089 0.0009
 Neptune -22974-02-16 06:43 J -6669784.43 -6669784.22 -6669784.00 0.0089 0.0009
 Neptune -22974-09-29 18:57 J -6669558.92 -6669558.71 -6669558.49 0.0089 0.0009
 Saturn -22974-10-26 07:55 J -6669532.23 -6669532.17 -6669532.11 0.0262 0.0250
 Neptune -22973-05-12 07:26 J -6669333.40 -6669333.19 -6669332.97 0.0089 0.0009
 Saturn -22973-06-11 03:36 J -6669303.52 -6669303.35 -6669303.16 0.0263 0.0136
 Neptune -22973-12-23 19:40 J -6669107.89 -6669107.68 -6669107.46 0.0089 0.0009
 Saturn -22972-01-26 00:28 J -6669074.69 -6669074.48 -6669074.27 0.0264 0.0019
 Mars -22972-03-18 23:16 J -6669022.70 -6669022.53 -6669022.35 0.1865 0.0263
 Neptune -22972-08-06 07:55 J -6668882.38 -6668882.17 -6668881.95 0.0089 0.0009
 Saturn -22972-09-11 22:04 J -6668845.77 -6668845.58 -6668845.38 0.0265 0.0102
 Neptune -22971-03-19 20:09 J -6668656.87 -6668656.66 -6668656.44 0.0089 0.0009
 Saturn -22971-04-28 21:21 J -6668616.71 -6668616.61 -6668616.49 0.0266 0.0223
 Jupiter -22971-09-18 01:40 J -6668474.59 -6668474.43 -6668474.27 0.0535 0.0312
 Neptune -22971-10-31 08:23 J -6668431.36 -6668431.15 -6668430.93 0.0089 0.0009
 Jupiter -22970-05-13 16:19 J -6668237.01 -6668236.82 -6668236.62 0.0531 0.0151
 Neptune -22970-06-13 20:52 J -6668205.84 -6668205.63 -6668205.41 0.0089 0.0008
 Neptune -22969-01-25 09:21 J -6667980.33 -6667980.11 -6667979.90 0.0089 0.0008
 Neptune -22969-09-06 21:36 J -6667754.82 -6667754.60 -6667754.39 0.0089 0.0008
 Neptune -22968-04-20 09:50 J -6667529.30 -6667529.09 -6667528.87 0.0089 0.0008
 Neptune -22968-12-01 22:19 J -6667303.79 -6667303.57 -6667303.36 0.0089 0.0008

Neptune	-22967-07-15 10:33 J	-6667078.27	-6667078.06	-6667077.84	0.0089	0.0008
Neptune	-22966-02-25 22:48 J	-6666852.76	-6666852.55	-6666852.33	0.0089	0.0007
Neptune	-22966-10-09 11:02 J	-6666627.25	-6666627.04	-6666626.82	0.0089	0.0008
Neptune	-22965-05-21 23:31 J	-6666401.73	-6666401.52	-6666401.30	0.0089	0.0007
Jupiter	-22965-07-17 00:14 J	-6666345.61	-6666345.49	-6666345.36	0.0491	0.0390
Neptune	-22964-01-02 12:00 J	-6666176.22	-6666176.00	-6666175.79	0.0089	0.0007
Jupiter	-22964-03-10 08:23 J	-6666109.36	-6666109.15	-6666108.94	0.0494	0.0028
Neptune	-22964-08-16 00:14 J	-6665950.71	-6665950.49	-6665950.28	0.0089	0.0007
Jupiter	-22964-11-01 22:48 J	-6665872.69	-6665872.55	-6665872.39	0.0498	0.0352
Neptune	-22963-03-29 12:14 J	-6665725.20	-6665724.99	-6665724.77	0.0089	0.0007
Neptune	-22963-11-10 00:43 J	-6665499.69	-6665499.47	-6665499.26	0.0089	0.0007
Neptune	-22962-06-23 12:57 J	-6665274.17	-6665273.96	-6665273.74	0.0089	0.0007
Neptune	-22961-02-04 01:11 J	-6665048.66	-6665048.45	-6665048.23	0.0089	0.0007
Neptune	-22961-09-16 13:26 J	-6664823.15	-6664822.94	-6664822.72	0.0089	0.0007
Neptune	-22960-04-30 01:55 J	-6664597.64	-6664597.42	-6664597.20	0.0089	0.0006
Neptune	-22960-12-11 14:09 J	-6664372.12	-6664371.91	-6664371.69	0.0089	0.0006
Saturn	-22959-04-13 07:40 J	-6664249.20	-6664249.18	-6664249.14	0.0299	0.0295
Jupiter	-22959-05-23 15:36 J	-6664208.96	-6664208.85	-6664208.74	0.0535	0.0440
Neptune	-22959-07-25 02:23 J	-6664146.61	-6664146.40	-6664146.18	0.0089	0.0006
Saturn	-22959-11-29 15:07 J	-6664019.07	-6664018.87	-6664018.68	0.0298	0.0117
Jupiter	-22958-01-16 07:40 J	-6663971.38	-6663971.18	-6663970.98	0.0532	0.0020
Neptune	-22958-03-07 14:52 J	-6663921.10	-6663920.88	-6663920.66	0.0089	0.0005
Saturn	-22958-07-17 20:23 J	-6663788.86	-6663788.65	-6663788.44	0.0297	0.0059
Jupiter	-22958-09-10 15:50 J	-6663733.93	-6663733.84	-6663733.74	0.0527	0.0458
Neptune	-22958-10-19 03:07 J	-6663695.58	-6663695.37	-6663695.15	0.0088	0.0005
Saturn	-22957-03-03 23:31 J	-6663558.64	-6663558.52	-6663558.38	0.0296	0.0231
Neptune	-22957-05-31 15:36 J	-6663470.06	-6663469.85	-6663469.63	0.0088	0.0005
Neptune	-22956-01-12 04:04 J	-6663244.54	-6663244.33	-6663244.11	0.0088	0.0005
Neptune	-22956-08-25 16:33 J	-6663019.03	-6663018.81	-6663018.59	0.0088	0.0005
Neptune	-22955-04-08 04:48 J	-6662793.51	-6662793.30	-6662793.08	0.0088	0.0004

Neptune	-22955-11-19 17:16 J	-6662568.00	-6662567.78	-6662567.56	0.0088	0.0004
Neptune	-22954-07-03 05:45 J	-6662342.47	-6662342.26	-6662342.04	0.0088	0.0005
Neptune	-22953-02-13 18:14 J	-6662116.95	-6662116.74	-6662116.52	0.0088	0.0004
Jupiter	-22953-03-22 02:23 J	-6662079.43	-6662079.40	-6662079.36	0.0492	0.0484
Neptune	-22953-09-26 06:43 J	-6661891.44	-6661891.22	-6661891.00	0.0088	0.0003
Jupiter	-22953-11-13 09:36 J	-6661843.30	-6661843.10	-6661842.90	0.0493	0.0130
Neptune	-22952-05-09 19:11 J	-6661665.92	-6661665.70	-6661665.48	0.0088	0.0003
Jupiter	-22952-07-07 22:19 J	-6661606.74	-6661606.57	-6661606.38	0.0497	0.0249
Neptune	-22952-12-21 07:40 J	-6661440.40	-6661440.18	-6661439.97	0.0088	0.0003
Neptune	-22951-08-03 20:09 J	-6661214.88	-6661214.66	-6661214.45	0.0088	0.0003
Neptune	-22950-03-17 08:23 J	-6660989.36	-6660989.15	-6660988.93	0.0088	0.0003
Neptune	-22950-10-28 20:52 J	-6660763.84	-6660763.63	-6660763.41	0.0088	0.0003
Neptune	-22949-06-10 09:36 J	-6660538.32	-6660538.10	-6660537.88	0.0088	0.0003
Neptune	-22948-01-21 22:04 J	-6660312.80	-6660312.58	-6660312.36	0.0088	0.0002
Uranus	-22948-05-19 19:55 J	-6660194.78	-6660194.67	-6660194.54	0.0132	0.0111
Neptune	-22948-09-04 10:33 J	-6660087.28	-6660087.06	-6660086.85	0.0088	0.0003
Uranus	-22947-01-01 00:57 J	-6659968.60	-6659968.46	-6659968.28	0.0132	0.0088
Neptune	-22947-04-17 22:48 J	-6659861.76	-6659861.55	-6659861.33	0.0088	0.0003
Uranus	-22947-08-15 06:28 J	-6659742.42	-6659742.23	-6659742.03	0.0132	0.0063
Jupiter	-22947-09-21 00:14 J	-6659705.68	-6659705.49	-6659705.29	0.0533	0.0108
Neptune	-22947-11-29 11:31 J	-6659636.24	-6659636.02	-6659635.80	0.0088	0.0002
Uranus	-22946-03-29 11:31 J	-6659516.22	-6659516.02	-6659515.80	0.0133	0.0040
Jupiter	-22946-05-16 11:02 J	-6659468.19	-6659468.04	-6659467.89	0.0529	0.0343
Neptune	-22946-07-13 00:14 J	-6659410.71	-6659410.49	-6659410.27	0.0088	0.0002
Uranus	-22946-11-10 16:48 J	-6659290.01	-6659289.80	-6659289.58	0.0133	0.0016
Neptune	-22945-02-23 12:43 J	-6659185.19	-6659184.97	-6659184.75	0.0088	0.0001
Uranus	-22945-06-23 22:04 J	-6659063.80	-6659063.58	-6659063.36	0.0133	0.0009
Neptune	-22945-10-06 01:11 J	-6658959.66	-6658959.45	-6658959.23	0.0088	0.0002
Uranus	-22944-02-05 03:21 J	-6658837.57	-6658837.36	-6658837.14	0.0133	0.0033
Saturn	-22944-05-07 11:45 J	-6658746.11	-6658746.01	-6658745.91	0.0262	0.0232

Neptune	-22944-05-19 13:55 J	-6658734.14	-6658733.92	-6658733.70	0.0088	0.0001
Uranus	-22944-09-19 08:23 J	-6658611.34	-6658611.15	-6658610.94	0.0133	0.0057
Saturn	-22944-12-22 07:26 J	-6658517.38	-6658517.19	-6658517.00	0.0263	0.0117
Neptune	-22944-12-31 02:38 J	-6658508.61	-6658508.39	-6658508.17	0.0088	0.0001
Uranus	-22943-05-03 13:26 J	-6658385.10	-6658384.94	-6658384.75	0.0133	0.0082
Mars	-22943-06-12 06:57 J	-6658345.35	-6658345.21	-6658345.06	0.1660	0.0859
Saturn	-22943-08-08 04:19 J	-6658288.53	-6658288.32	-6658288.11	0.0263	0.0001
Neptune	-22943-08-13 15:21 J	-6658283.08	-6658282.86	-6658282.64	0.0088	0.0001
Uranus	-22943-12-15 18:43 J	-6658158.83	-6658158.72	-6658158.57	0.0134	0.0106
Saturn	-22942-03-25 02:09 J	-6658059.59	-6658059.41	-6658059.22	0.0265	0.0120
Neptune	-22942-03-27 03:50 J	-6658057.55	-6658057.34	-6658057.12	0.0088	0.0002
Uranus	-22942-07-30 00:00 J	-6657932.53	-6657932.50	-6657932.43	0.0134	0.0130
Neptune	-22942-11-07 16:33 J	-6657832.03	-6657831.81	-6657831.59	0.0088	0.0001
Saturn	-22942-11-09 01:26 J	-6657830.51	-6657830.44	-6657830.34	0.0266	0.0242
Mars	-22941-04-11 09:21 J	-6657676.24	-6657676.11	-6657675.98	0.1648	0.1054
Neptune	-22941-06-20 05:31 J	-6657606.49	-6657606.27	-6657606.05	0.0088	0.0001
Jupiter	-22941-07-19 10:48 J	-6657577.23	-6657577.05	-6657576.87	0.0492	0.0230
Neptune	-22940-01-31 18:14 J	-6657380.96	-6657380.74	-6657380.52	0.0088	0.0002
Jupiter	-22940-03-12 21:36 J	-6657340.80	-6657340.60	-6657340.40	0.0495	0.0144
Mars	-22940-03-18 23:16 J	-6657334.63	-6657334.53	-6657334.43	0.1858	0.1500
Pluto	-22940-04-14 03:36 J	-6657308.54	-6657308.35	-6657308.15	0.0080	0.0041
Neptune	-22940-09-14 06:43 J	-6657155.44	-6657155.22	-6657155.00	0.0088	0.0002
Pluto	-22940-11-25 14:38 J	-6657083.08	-6657082.89	-6657082.67	0.0080	0.0034
Neptune	-22939-04-27 19:26 J	-6656929.91	-6656929.69	-6656929.47	0.0088	0.0001
Neptune	-22939-12-09 08:09 J	-6656704.38	-6656704.16	-6656703.94	0.0088	0.0001
Neptune	-22938-07-22 21:07 J	-6656478.84	-6656478.62	-6656478.40	0.0088	0.0001
Neptune	-22937-03-04 09:50 J	-6656253.31	-6656253.09	-6656252.87	0.0088	0.0001
Neptune	-22937-10-15 22:33 J	-6656027.78	-6656027.56	-6656027.34	0.0088	0.0002
Neptune	-22936-05-29 11:16 J	-6655802.25	-6655802.03	-6655801.81	0.0088	0.0002
Neptune	-22935-01-10 00:00 J	-6655576.72	-6655576.50	-6655576.28	0.0088	0.0002

Jupiter -22935-05-26 16:04 J -6655440.01 -6655439.83 -6655439.65 0.0534 0.0235
 Neptune -22935-08-23 12:57 J -6655351.18 -6655350.96 -6655350.74 0.0088 0.0002
 Jupiter -22934-01-19 05:16 J -6655202.45 -6655202.28 -6655202.09 0.0531 0.0225
 Neptune -22934-04-06 01:40 J -6655125.65 -6655125.43 -6655125.21 0.0088 0.0003
 Neptune -22934-11-17 14:38 J -6654900.11 -6654899.89 -6654899.67 0.0088 0.0003
 Neptune -22933-06-30 03:36 J -6654674.58 -6654674.35 -6654674.13 0.0088 0.0003
 Neptune -22932-02-10 16:19 J -6654449.04 -6654448.82 -6654448.60 0.0088 0.0003
 Neptune -22932-09-24 05:16 J -6654223.50 -6654223.28 -6654223.06 0.0088 0.0003
 Neptune -22931-05-07 18:14 J -6653997.96 -6653997.74 -6653997.52 0.0088 0.0003
 Neptune -22931-12-19 07:11 J -6653772.42 -6653772.20 -6653771.98 0.0088 0.0004
 Neptune -22930-08-01 20:23 J -6653546.87 -6653546.65 -6653546.43 0.0088 0.0004
 Saturn -22930-10-24 13:26 J -6653463.02 -6653462.94 -6653462.85 0.0299 0.0272
 Neptune -22929-03-14 09:21 J -6653321.33 -6653321.11 -6653320.89 0.0088 0.0004
 Jupiter -22929-03-24 12:28 J -6653311.13 -6653310.98 -6653310.83 0.0492 0.0327
 Saturn -22929-06-10 20:09 J -6653232.86 -6653232.66 -6653232.45 0.0298 0.0095
 Neptune -22929-10-25 22:19 J -6653095.79 -6653095.57 -6653095.35 0.0088 0.0004
 Moon -22929-10-28 11:31 J -6653093.18 -6653093.02 -6653092.86 0.2618 0.0106
 Earth -22929-10-28 17:02 J -6653092.95 -6653092.79 -6653092.63 0.2619 0.0110 *
 Jupiter -22929-11-15 21:21 J -6653074.81 -6653074.61 -6653074.40 0.0494 0.0040
 Saturn -22928-01-27 01:26 J -6653002.65 -6653002.44 -6653002.24 0.0297 0.0082
 Neptune -22928-06-08 11:16 J -6652870.25 -6652870.03 -6652869.81 0.0088 0.0004
 Jupiter -22928-07-10 12:57 J -6652838.07 -6652837.96 -6652837.85 0.0499 0.0418
 Saturn -22928-09-14 04:04 J -6652772.43 -6652772.33 -6652772.21 0.0295 0.0251
 Neptune -22927-01-20 00:14 J -6652644.71 -6652644.49 -6652644.26 0.0088 0.0005
 Neptune -22927-09-02 13:26 J -6652419.16 -6652418.94 -6652418.72 0.0088 0.0005
 Neptune -22926-04-16 02:23 J -6652193.62 -6652193.40 -6652193.17 0.0088 0.0005
 Neptune -22926-11-27 15:36 J -6651968.07 -6651967.85 -6651967.63 0.0088 0.0005
 Neptune -22925-07-10 04:33 J -6651742.53 -6651742.31 -6651742.08 0.0088 0.0005
 Neptune -22924-02-20 17:45 J -6651516.98 -6651516.76 -6651516.54 0.0088 0.0005
 Neptune -22924-10-04 06:43 J -6651291.44 -6651291.22 -6651290.99 0.0088 0.0006

Jupiter -22923-01-29 08:52 J -6651174.27 -6651174.13 -6651173.98 0.0535 0.0360
 Neptune -22923-05-17 19:40 J -6651065.89 -6651065.68 -6651065.45 0.0088 0.0006
 Jupiter -22923-09-24 00:43 J -6650936.66 -6650936.47 -6650936.27 0.0532 0.0103
 Neptune -22923-12-29 08:52 J -6650840.35 -6650840.13 -6650839.90 0.0088 0.0006
 Neptune -22922-08-11 22:19 J -6650614.79 -6650614.57 -6650614.35 0.0088 0.0006
 Neptune -22921-03-24 11:31 J -6650389.25 -6650389.02 -6650388.80 0.0088 0.0006
 Neptune -22921-11-05 00:28 J -6650163.70 -6650163.48 -6650163.25 0.0088 0.0006
 Neptune -22920-06-18 13:40 J -6649938.15 -6649937.93 -6649937.70 0.0088 0.0006
 Neptune -22919-01-30 02:52 J -6649712.60 -6649712.38 -6649712.15 0.0088 0.0007
 Neptune -22919-09-12 16:19 J -6649487.04 -6649486.82 -6649486.59 0.0088 0.0007
 Neptune -22918-04-26 05:45 J -6649261.48 -6649261.26 -6649261.04 0.0088 0.0007
 Jupiter -22918-11-28 13:55 J -6649045.02 -6649044.92 -6649044.81 0.0491 0.0423
 Neptune -22918-12-07 18:57 J -6649035.93 -6649035.71 -6649035.48 0.0088 0.0007
 Neptune -22917-07-20 08:23 J -6648810.37 -6648810.15 -6648809.93 0.0088 0.0007
 Jupiter -22917-07-21 21:07 J -6648808.82 -6648808.62 -6648808.41 0.0493 0.0065
 Neptune -22916-03-02 21:36 J -6648584.82 -6648584.60 -6648584.37 0.0088 0.0007
 Jupiter -22916-03-15 10:33 J -6648572.21 -6648572.06 -6648571.89 0.0497 0.0315
 Neptune -22916-10-14 11:02 J -6648359.26 -6648359.04 -6648358.81 0.0088 0.0007
 Neptune -22915-05-28 00:28 J -6648133.70 -6648133.48 -6648133.26 0.0088 0.0007
 Saturn -22915-11-17 10:33 J -6647960.16 -6647960.06 -6647959.94 0.0262 0.0219
 Neptune -22914-01-08 13:55 J -6647908.15 -6647907.92 -6647907.70 0.0088 0.0007
 Saturn -22914-07-04 06:28 J -6647731.42 -6647731.23 -6647731.03 0.0263 0.0104
 Neptune -22914-08-22 03:21 J -6647682.58 -6647682.36 -6647682.14 0.0088 0.0007
 Saturn -22913-02-18 03:21 J -6647502.58 -6647502.36 -6647502.15 0.0264 0.0015
 Neptune -22913-04-03 16:48 J -6647457.02 -6647456.80 -6647456.58 0.0088 0.0007
 Saturn -22913-10-04 01:11 J -6647273.63 -6647273.45 -6647273.27 0.0265 0.0134
 Neptune -22913-11-15 06:00 J -6647231.47 -6647231.25 -6647231.02 0.0088 0.0008
 Saturn -22912-05-21 00:28 J -6647044.54 -6647044.48 -6647044.42 0.0266 0.0256
 Neptune -22912-06-28 19:26 J -6647005.91 -6647005.69 -6647005.46 0.0088 0.0008
 Jupiter -22912-10-04 01:26 J -6646908.52 -6646908.44 -6646908.35 0.0535 0.0483

Neptune -22911-02-09 08:52 J -6646780.35 -6646780.13 -6646779.90 0.0088 0.0008
 Jupiter -22911-05-29 19:11 J -6646670.90 -6646670.70 -6646670.50 0.0533 0.0024
 Neptune -22911-09-22 22:19 J -6646554.79 -6646554.57 -6646554.34 0.0088 0.0008
 Jupiter -22910-01-22 05:02 J -6646433.41 -6646433.29 -6646433.17 0.0528 0.0421
 Neptune -22910-05-06 11:45 J -6646329.23 -6646329.01 -6646328.78 0.0088 0.0008
 Neptune -22910-12-18 01:11 J -6646103.67 -6646103.45 -6646103.22 0.0088 0.0008
 Mars -22909-04-10 02:09 J -6645989.58 -6645989.41 -6645989.24 0.1653 0.0155
 Neptune -22909-07-30 14:38 J -6645878.11 -6645877.89 -6645877.66 0.0088 0.0008
 Neptune -22908-03-13 04:19 J -6645652.54 -6645652.32 -6645652.10 0.0088 0.0008
 Neptune -22908-10-24 17:45 J -6645426.98 -6645426.76 -6645426.53 0.0088 0.0008
 Uranus -22907-04-14 03:21 J -6645255.46 -6645255.36 -6645255.24 0.0147 0.0126
 Neptune -22907-06-07 07:26 J -6645201.41 -6645201.19 -6645200.97 0.0088 0.0008
 Uranus -22907-11-26 16:04 J -6645028.99 -6645028.83 -6645028.66 0.0146 0.0094
 Mars -22906-01-14 01:26 J -6644980.61 -6644980.44 -6644980.27 0.1868 0.0564
 Neptune -22906-01-18 20:52 J -6644975.85 -6644975.63 -6644975.40 0.0088 0.0008
 Uranus -22906-07-11 04:48 J -6644802.49 -6644802.30 -6644802.10 0.0146 0.0062
 Neptune -22906-09-01 10:33 J -6644750.28 -6644750.06 -6644749.83 0.0088 0.0008
 Uranus -22905-02-22 17:31 J -6644575.99 -6644575.77 -6644575.56 0.0146 0.0030
 Jupiter -22905-03-26 23:02 J -6644542.74 -6644542.54 -6644542.35 0.0493 0.0164
 Neptune -22905-04-14 00:14 J -6644524.71 -6644524.49 -6644524.26 0.0088 0.0008
 Uranus -22905-10-06 05:45 J -6644349.47 -6644349.26 -6644349.04 0.0146 0.0004
 Jupiter -22905-11-18 10:48 J -6644306.24 -6644306.05 -6644305.86 0.0496 0.0212
 Neptune -22905-11-25 13:55 J -6644299.14 -6644298.92 -6644298.70 0.0088 0.0008
 Uranus -22904-05-20 18:14 J -6644122.95 -6644122.74 -6644122.53 0.0146 0.0035
 Neptune -22904-07-09 03:21 J -6644073.58 -6644073.36 -6644073.13 0.0088 0.0009
 Uranus -22903-01-02 06:28 J -6643896.42 -6643896.23 -6643896.03 0.0146 0.0067
 Neptune -22903-02-19 17:02 J -6643848.01 -6643847.79 -6643847.56 0.0088 0.0009
 Uranus -22903-08-16 18:43 J -6643669.86 -6643669.72 -6643669.54 0.0145 0.0098
 Neptune -22903-10-03 06:57 J -6643622.44 -6643622.21 -6643621.99 0.0088 0.0009
 Uranus -22902-03-31 06:57 J -6643443.29 -6643443.21 -6643443.10 0.0145 0.0130

Neptune	-22902-05-16 20:38 J	-6643396.87	-6643396.64	-6643396.42	0.0088	0.0009
Neptune	-22902-12-28 10:04 J	-6643171.30	-6643171.08	-6643170.85	0.0088	0.0009
Neptune	-22901-08-09 23:45 J	-6642945.73	-6642945.51	-6642945.28	0.0088	0.0009
Neptune	-22900-03-23 13:26 J	-6642720.16	-6642719.94	-6642719.71	0.0088	0.0009
Saturn	-22900-05-05 13:40 J	-6642677.02	-6642676.93	-6642676.81	0.0299	0.0256
Neptune	-22900-11-04 03:07 J	-6642494.59	-6642494.37	-6642494.14	0.0088	0.0009
Saturn	-22900-12-21 21:07 J	-6642446.82	-6642446.62	-6642446.41	0.0298	0.0077
Jupiter	-22899-02-01 10:19 J	-6642405.26	-6642405.07	-6642404.87	0.0533	0.0154
Neptune	-22899-06-17 16:48 J	-6642269.02	-6642268.80	-6642268.57	0.0088	0.0009
Saturn	-22899-08-09 02:23 J	-6642216.60	-6642216.40	-6642216.20	0.0297	0.0100
Jupiter	-22899-09-26 21:50 J	-6642167.75	-6642167.59	-6642167.42	0.0529	0.0301
Neptune	-22898-01-29 06:14 J	-6642043.45	-6642043.24	-6642043.01	0.0088	0.0009
Saturn	-22898-03-27 05:31 J	-6641986.35	-6641986.27	-6641986.18	0.0295	0.0270
Neptune	-22898-09-11 20:09 J	-6641817.88	-6641817.66	-6641817.44	0.0088	0.0009
Neptune	-22897-04-24 09:50 J	-6641592.31	-6641592.09	-6641591.87	0.0088	0.0009
Neptune	-22897-12-05 23:31 J	-6641366.75	-6641366.52	-6641366.30	0.0088	0.0009
Neptune	-22896-07-19 12:57 J	-6641141.18	-6641140.96	-6641140.73	0.0088	0.0009
Neptune	-22895-03-02 02:38 J	-6640915.61	-6640915.39	-6640915.16	0.0088	0.0009
Neptune	-22895-10-13 16:33 J	-6640690.03	-6640689.81	-6640689.58	0.0088	0.0009
Neptune	-22894-05-27 06:14 J	-6640464.46	-6640464.24	-6640464.01	0.0088	0.0009
Jupiter	-22894-12-01 00:28 J	-6640276.66	-6640276.48	-6640276.31	0.0493	0.0265
Neptune	-22893-01-07 20:09 J	-6640238.89	-6640238.66	-6640238.44	0.0088	0.0009
Jupiter	-22893-07-24 10:48 J	-6640040.25	-6640040.05	-6640039.84	0.0495	0.0109
Neptune	-22893-08-20 09:50 J	-6640013.32	-6640013.09	-6640012.87	0.0088	0.0009
Jupiter	-22892-03-18 04:19 J	-6639803.37	-6639803.32	-6639803.28	0.0500	0.0485
Neptune	-22892-04-02 23:31 J	-6639787.74	-6639787.52	-6639787.30	0.0088	0.0009
Neptune	-22892-11-14 13:26 J	-6639562.17	-6639561.94	-6639561.72	0.0088	0.0009
Neptune	-22891-06-28 03:07 J	-6639336.59	-6639336.37	-6639336.14	0.0088	0.0008
Neptune	-22890-02-08 16:48 J	-6639111.02	-6639110.80	-6639110.57	0.0088	0.0009
Neptune	-22890-09-22 06:43 J	-6638885.45	-6638885.22	-6638885.00	0.0088	0.0008

Neptune	-22889-05-04 20:23 J	-6638659.87	-6638659.65	-6638659.42	0.0088	0.0008
Neptune	-22889-12-16 10:04 J	-6638434.30	-6638434.08	-6638433.85	0.0088	0.0009
Neptune	-22888-07-29 23:45 J	-6638208.73	-6638208.51	-6638208.28	0.0088	0.0009
Jupiter	-22888-10-07 02:23 J	-6638139.57	-6638139.40	-6638139.23	0.0534	0.0280
Neptune	-22887-03-12 13:26 J	-6637983.16	-6637982.94	-6637982.71	0.0088	0.0009
Jupiter	-22887-06-01 15:50 J	-6637902.03	-6637901.84	-6637901.65	0.0531	0.0179
Neptune	-22887-10-24 03:21 J	-6637757.58	-6637757.36	-6637757.13	0.0088	0.0008
Neptune	-22886-06-06 17:02 J	-6637532.01	-6637531.79	-6637531.56	0.0088	0.0008
Neptune	-22885-01-18 06:43 J	-6637306.44	-6637306.22	-6637305.99	0.0088	0.0008
Saturn	-22885-05-29 14:23 J	-6637174.03	-6637173.90	-6637173.76	0.0262	0.0201
Neptune	-22885-08-30 20:23 J	-6637080.87	-6637080.65	-6637080.42	0.0089	0.0008
Saturn	-22884-01-13 10:04 J	-6636945.27	-6636945.08	-6636944.88	0.0263	0.0086
Neptune	-22884-04-13 10:19 J	-6636855.30	-6636855.07	-6636854.85	0.0089	0.0008
Saturn	-22884-08-30 06:57 J	-6636716.42	-6636716.21	-6636716.00	0.0263	0.0032
Neptune	-22884-11-25 00:00 J	-6636629.72	-6636629.50	-6636629.27	0.0089	0.0008
Saturn	-22883-04-16 04:48 J	-6636487.46	-6636487.30	-6636487.12	0.0265	0.0153
Neptune	-22883-07-08 13:40 J	-6636404.15	-6636403.93	-6636403.70	0.0089	0.0008
Neptune	-22882-02-19 03:21 J	-6636178.58	-6636178.36	-6636178.13	0.0089	0.0008
Jupiter	-22882-08-06 02:09 J	-6636010.54	-6636010.41	-6636010.26	0.0492	0.0360
Neptune	-22882-10-02 17:02 J	-6635953.01	-6635952.79	-6635952.56	0.0089	0.0008
Jupiter	-22881-03-29 11:02 J	-6635774.25	-6635774.04	-6635773.83	0.0494	0.0006
Neptune	-22881-05-15 06:43 J	-6635727.44	-6635727.22	-6635726.99	0.0089	0.0008
Jupiter	-22881-11-21 01:40 J	-6635537.55	-6635537.43	-6635537.29	0.0498	0.0384
Neptune	-22881-12-26 20:38 J	-6635501.86	-6635501.64	-6635501.41	0.0089	0.0007
Neptune	-22880-08-09 10:19 J	-6635276.29	-6635276.07	-6635275.84	0.0089	0.0007
Neptune	-22879-03-23 00:00 J	-6635050.72	-6635050.50	-6635050.27	0.0089	0.0007
Neptune	-22879-11-03 13:55 J	-6634825.14	-6634824.92	-6634824.70	0.0089	0.0007
Neptune	-22878-06-17 03:36 J	-6634599.57	-6634599.35	-6634599.12	0.0089	0.0007
Neptune	-22877-01-28 17:31 J	-6634374.00	-6634373.77	-6634373.55	0.0089	0.0007
Mars	-22877-04-08 19:11 J	-6634302.85	-6634302.70	-6634302.55	0.1658	0.0765

Neptune -22877-09-10 06:57 J -6634148.43 -6634148.21 -6634147.98 0.0089 0.0007
 Neptune -22876-04-23 20:38 J -6633922.86 -6633922.64 -6633922.41 0.0089 0.0007
 Jupiter -22876-06-11 17:02 J -6633873.92 -6633873.79 -6633873.66 0.0535 0.0406
 Neptune -22876-12-05 10:33 J -6633697.28 -6633697.06 -6633696.83 0.0089 0.0006
 Jupiter -22875-02-04 09:07 J -6633636.31 -6633636.12 -6633635.92 0.0532 0.0057
 Mars -22875-02-06 21:36 J -6633633.72 -6633633.60 -6633633.47 0.1647 0.1139
 Neptune -22875-07-19 00:14 J -6633471.71 -6633471.49 -6633471.26 0.0089 0.0006
 Jupiter -22875-09-29 17:31 J -6633398.84 -6633398.77 -6633398.69 0.0527 0.0489
 Mars -22874-01-14 01:40 J -6633292.57 -6633292.43 -6633292.30 0.1860 0.1206
 Neptune -22874-03-01 13:55 J -6633246.14 -6633245.92 -6633245.70 0.0089 0.0006
 Neptune -22874-10-13 03:36 J -6633020.58 -6633020.35 -6633020.13 0.0089 0.0006
 Neptune -22873-05-25 17:02 J -6632795.01 -6632794.79 -6632794.56 0.0089 0.0006
 Neptune -22872-01-06 06:43 J -6632569.44 -6632569.22 -6632568.99 0.0089 0.0006
 Neptune -22872-08-19 20:23 J -6632343.87 -6632343.65 -6632343.43 0.0089 0.0005
 Neptune -22871-04-02 09:50 J -6632118.31 -6632118.09 -6632117.86 0.0089 0.0006
 Neptune -22871-11-13 23:31 J -6631892.74 -6631892.52 -6631892.30 0.0089 0.0005
 Saturn -22871-11-15 19:55 J -6631890.80 -6631890.67 -6631890.53 0.0299 0.0232
 Jupiter -22870-04-11 04:33 J -6631744.38 -6631744.31 -6631744.23 0.0492 0.0453
 Neptune -22870-06-27 13:11 J -6631667.17 -6631666.95 -6631666.73 0.0089 0.0005
 Saturn -22870-07-04 02:38 J -6631660.60 -6631660.39 -6631660.18 0.0298 0.0054
 Jupiter -22870-12-03 11:31 J -6631508.22 -6631508.02 -6631507.81 0.0493 0.0098
 Neptune -22869-02-08 02:52 J -6631441.61 -6631441.38 -6631441.16 0.0089 0.0005
 Saturn -22869-02-19 07:40 J -6631430.37 -6631430.18 -6631429.99 0.0297 0.0123
 Jupiter -22869-07-27 00:14 J -6631271.66 -6631271.49 -6631271.31 0.0497 0.0280
 Neptune -22869-09-20 16:19 J -6631216.04 -6631215.82 -6631215.60 0.0089 0.0005
 Saturn -22869-10-06 10:19 J -6631200.10 -6631200.07 -6631200.03 0.0295 0.0291
 Neptune -22868-05-04 05:45 J -6630990.48 -6630990.26 -6630990.03 0.0089 0.0005
 Neptune -22868-12-15 19:26 J -6630764.91 -6630764.69 -6630764.46 0.0089 0.0005
 Neptune -22867-07-29 09:07 J -6630539.34 -6630539.12 -6630538.90 0.0089 0.0004
 Neptune -22866-03-11 22:33 J -6630313.78 -6630313.56 -6630313.33 0.0089 0.0005

Neptune	-22866-10-23 12:14 J	-6630088.21	-6630087.99	-6630087.77	0.0089	0.0004
Neptune	-22865-06-05 01:40 J	-6629862.65	-6629862.43	-6629862.20	0.0089	0.0004
Neptune	-22864-01-16 15:21 J	-6629637.08	-6629636.86	-6629636.64	0.0089	0.0004
Uranus	-22864-01-17 08:23 J	-6629636.23	-6629636.15	-6629636.05	0.0132	0.0119
Jupiter	-22864-02-14 08:52 J	-6629608.16	-6629608.13	-6629608.09	0.0535	0.0527
Neptune	-22864-08-30 04:48 J	-6629411.52	-6629411.30	-6629411.08	0.0089	0.0004
Uranus	-22864-08-31 13:26 J	-6629410.08	-6629409.94	-6629409.78	0.0132	0.0096
Jupiter	-22864-10-10 03:21 J	-6629370.56	-6629370.36	-6629370.16	0.0534	0.0070
Neptune	-22863-04-12 18:14 J	-6629185.96	-6629185.74	-6629185.52	0.0089	0.0003
Uranus	-22863-04-14 18:43 J	-6629183.90	-6629183.72	-6629183.53	0.0132	0.0072
Jupiter	-22863-06-04 14:09 J	-6629133.04	-6629132.91	-6629132.76	0.0529	0.0379
Neptune	-22863-11-24 07:40 J	-6628960.40	-6628960.18	-6628959.96	0.0089	0.0003
Uranus	-22863-11-26 23:45 J	-6628957.70	-6628957.51	-6628957.30	0.0132	0.0049
Neptune	-22862-07-07 21:07 J	-6628734.84	-6628734.62	-6628734.40	0.0089	0.0003
Uranus	-22862-07-11 05:02 J	-6628731.50	-6628731.29	-6628731.07	0.0133	0.0025
Neptune	-22861-02-18 10:33 J	-6628509.28	-6628509.06	-6628508.83	0.0089	0.0003
Uranus	-22861-02-22 10:19 J	-6628505.29	-6628505.07	-6628504.85	0.0133	0.0001
Neptune	-22861-10-01 00:00 J	-6628283.72	-6628283.50	-6628283.28	0.0089	0.0003
Uranus	-22861-10-05 15:21 J	-6628279.07	-6628278.86	-6628278.64	0.0133	0.0024
Neptune	-22860-05-14 13:11 J	-6628058.17	-6628057.95	-6628057.72	0.0089	0.0003
Uranus	-22860-05-19 20:23 J	-6628052.85	-6628052.65	-6628052.44	0.0133	0.0048
Neptune	-22860-12-26 02:38 J	-6627832.61	-6627832.39	-6627832.17	0.0089	0.0003
Uranus	-22859-01-01 01:40 J	-6627826.61	-6627826.43	-6627826.24	0.0133	0.0073
Neptune	-22859-08-08 16:04 J	-6627607.05	-6627606.83	-6627606.61	0.0089	0.0002
Uranus	-22859-08-15 06:57 J	-6627600.36	-6627600.21	-6627600.06	0.0133	0.0097
Neptune	-22858-03-22 05:16 J	-6627381.50	-6627381.28	-6627381.06	0.0089	0.0002
Uranus	-22858-03-29 12:00 J	-6627374.08	-6627374.00	-6627373.90	0.0134	0.0121
Jupiter	-22858-08-08 12:14 J	-6627242.18	-6627241.99	-6627241.80	0.0492	0.0199
Neptune	-22858-11-02 18:28 J	-6627155.95	-6627155.73	-6627155.51	0.0089	0.0002
Jupiter	-22857-03-31 23:02 J	-6627005.73	-6627005.54	-6627005.34	0.0495	0.0176

Neptune	-22857-06-15 07:55 J	-6626930.39	-6626930.17	-6626929.95	0.0089	0.0002
Neptune	-22856-01-26 21:07 J	-6626704.84	-6626704.62	-6626704.39	0.0089	0.0003
Neptune	-22856-09-09 10:33 J	-6626479.28	-6626479.06	-6626478.84	0.0089	0.0002
Saturn	-22856-12-09 13:40 J	-6626388.08	-6626387.93	-6626387.79	0.0262	0.0188
Neptune	-22855-04-22 23:45 J	-6626253.73	-6626253.51	-6626253.29	0.0089	0.0001
Saturn	-22855-07-26 09:21 J	-6626159.31	-6626159.11	-6626158.91	0.0263	0.0073
Neptune	-22855-12-04 12:57 J	-6626028.18	-6626027.96	-6626027.74	0.0089	0.0001
Saturn	-22854-03-12 06:00 J	-6625930.45	-6625930.25	-6625930.04	0.0264	0.0046
Neptune	-22854-07-18 02:09 J	-6625802.63	-6625802.41	-6625802.19	0.0089	0.0002
Saturn	-22854-10-27 03:50 J	-6625701.49	-6625701.34	-6625701.17	0.0265	0.0167
Neptune	-22853-02-28 15:36 J	-6625577.07	-6625576.85	-6625576.63	0.0089	0.0001
Neptune	-22853-10-11 04:48 J	-6625351.52	-6625351.30	-6625351.08	0.0089	0.0000
Neptune	-22852-05-24 18:00 J	-6625125.97	-6625125.75	-6625125.53	0.0089	0.0001
Jupiter	-22852-06-14 21:07 J	-6625104.81	-6625104.62	-6625104.43	0.0534	0.0197
Neptune	-22851-01-05 07:11 J	-6624900.42	-6624900.20	-6624899.98	0.0089	0.0000
Jupiter	-22851-02-07 10:19 J	-6624867.25	-6624867.07	-6624866.90	0.0530	0.0261
Neptune	-22851-08-18 20:23 J	-6624674.87	-6624674.65	-6624674.43	0.0089	0.0000
Neptune	-22850-04-01 09:36 J	-6624449.32	-6624449.10	-6624448.88	0.0089	0.0002
Neptune	-22850-11-12 22:33 J	-6624223.78	-6624223.56	-6624223.34	0.0089	0.0000
Neptune	-22849-06-25 11:31 J	-6623998.23	-6623998.02	-6623997.80	0.0089	0.0002
Neptune	-22848-02-06 00:43 J	-6623772.69	-6623772.47	-6623772.25	0.0089	0.0001
Neptune	-22848-09-19 13:40 J	-6623547.14	-6623546.93	-6623546.71	0.0089	0.0002
Neptune	-22847-05-03 02:38 J	-6623321.61	-6623321.39	-6623321.17	0.0089	0.0002
Neptune	-22847-12-14 15:36 J	-6623096.06	-6623095.85	-6623095.63	0.0089	0.0002
Jupiter	-22846-04-13 14:23 J	-6622976.06	-6622975.90	-6622975.73	0.0492	0.0297
Neptune	-22846-07-28 04:33 J	-6622870.52	-6622870.31	-6622870.09	0.0089	0.0003
Jupiter	-22846-12-05 23:45 J	-6622739.71	-6622739.51	-6622739.30	0.0495	0.0073
Neptune	-22845-03-09 17:45 J	-6622644.98	-6622644.76	-6622644.54	0.0089	0.0002
Jupiter	-22845-07-29 15:50 J	-6622502.93	-6622502.84	-6622502.75	0.0499	0.0449
Neptune	-22845-10-21 06:43 J	-6622419.44	-6622419.22	-6622419.00	0.0089	0.0002

Neptune	-22844-06-03 19:40 J	-6622193.90	-6622193.68	-6622193.47	0.0089	0.0003
Neptune	-22843-01-15 08:38 J	-6621968.36	-6621968.14	-6621967.93	0.0089	0.0003
Mars	-22843-02-05 14:09 J	-6621947.08	-6621946.91	-6621946.74	0.1651	0.0245
Neptune	-22843-08-28 21:36 J	-6621742.82	-6621742.60	-6621742.39	0.0089	0.0003
Neptune	-22842-04-11 10:19 J	-6621517.28	-6621517.07	-6621516.85	0.0089	0.0003
Neptune	-22842-11-22 23:16 J	-6621291.75	-6621291.53	-6621291.31	0.0089	0.0003
Saturn	-22841-05-27 20:09 J	-6621104.81	-6621104.66	-6621104.51	0.0299	0.0216
Neptune	-22841-07-05 12:14 J	-6621066.21	-6621065.99	-6621065.77	0.0089	0.0003
Mars	-22841-11-10 03:50 J	-6620938.50	-6620938.34	-6620938.18	0.1870	0.0862
Saturn	-22840-01-13 03:07 J	-6620874.58	-6620874.37	-6620874.16	0.0298	0.0037
Neptune	-22840-02-16 01:11 J	-6620840.67	-6620840.45	-6620840.23	0.0089	0.0003
Jupiter	-22840-02-17 12:14 J	-6620839.14	-6620838.99	-6620838.83	0.0534	0.0324
Saturn	-22840-08-31 08:09 J	-6620644.34	-6620644.16	-6620643.97	0.0297	0.0140
Neptune	-22840-09-29 14:09 J	-6620615.13	-6620614.91	-6620614.69	0.0089	0.0003
Jupiter	-22840-10-13 02:52 J	-6620601.58	-6620601.38	-6620601.19	0.0531	0.0136
Neptune	-22839-05-13 02:52 J	-6620389.59	-6620389.38	-6620389.16	0.0089	0.0003
Neptune	-22839-12-24 15:50 J	-6620164.06	-6620163.84	-6620163.63	0.0089	0.0004
Neptune	-22838-08-07 04:33 J	-6619938.53	-6619938.31	-6619938.09	0.0089	0.0004
Neptune	-22837-03-19 17:31 J	-6619712.99	-6619712.77	-6619712.55	0.0089	0.0004
Neptune	-22837-10-31 06:14 J	-6619487.46	-6619487.24	-6619487.02	0.0089	0.0004
Neptune	-22836-06-13 18:57 J	-6619261.93	-6619261.71	-6619261.49	0.0089	0.0004
Neptune	-22835-01-25 07:40 J	-6619036.40	-6619036.18	-6619035.96	0.0089	0.0004
Neptune	-22835-09-07 20:23 J	-6618810.87	-6618810.65	-6618810.43	0.0089	0.0004
Jupiter	-22835-12-17 15:50 J	-6618709.96	-6618709.84	-6618709.72	0.0492	0.0393
Neptune	-22834-04-21 09:07 J	-6618585.34	-6618585.12	-6618584.90	0.0089	0.0004
Jupiter	-22834-08-11 00:14 J	-6618473.70	-6618473.49	-6618473.28	0.0494	0.0031
Neptune	-22834-12-02 21:50 J	-6618359.81	-6618359.59	-6618359.38	0.0089	0.0005
Jupiter	-22833-04-03 14:52 J	-6618237.03	-6618236.88	-6618236.73	0.0498	0.0348
Neptune	-22833-07-15 10:19 J	-6618134.28	-6618134.07	-6618133.85	0.0089	0.0005
Neptune	-22832-02-25 23:02 J	-6617908.76	-6617908.54	-6617908.32	0.0089	0.0005

Neptune	-22832-10-09 11:31 J	-6617683.23	-6617683.02	-6617682.80	0.0089	0.0006
Neptune	-22831-05-23 00:14 J	-6617457.71	-6617457.49	-6617457.27	0.0089	0.0005
Neptune	-22830-01-03 12:43 J	-6617232.18	-6617231.97	-6617231.75	0.0089	0.0005
Neptune	-22830-08-17 01:26 J	-6617006.65	-6617006.44	-6617006.22	0.0089	0.0005
Neptune	-22829-03-29 14:09 J	-6616781.12	-6616780.91	-6616780.69	0.0089	0.0005
Jupiter	-22829-10-23 03:36 J	-6616573.46	-6616573.35	-6616573.24	0.0534	0.0448
Neptune	-22829-11-10 02:52 J	-6616555.60	-6616555.38	-6616555.17	0.0089	0.0006
Jupiter	-22828-06-17 19:55 J	-6616335.87	-6616335.67	-6616335.47	0.0532	0.0010
Neptune	-22828-06-23 15:21 J	-6616330.08	-6616329.86	-6616329.64	0.0089	0.0006
Neptune	-22827-02-04 03:50 J	-6616104.55	-6616104.34	-6616104.12	0.0089	0.0006
Jupiter	-22827-02-10 04:33 J	-6616098.41	-6616098.31	-6616098.20	0.0527	0.0448
Neptune	-22827-09-17 16:33 J	-6615879.03	-6615878.81	-6615878.60	0.0089	0.0006
Neptune	-22826-05-01 05:02 J	-6615653.50	-6615653.29	-6615653.07	0.0089	0.0006
Saturn	-22826-06-21 17:02 J	-6615601.94	-6615601.79	-6615601.62	0.0262	0.0171
Neptune	-22826-12-12 17:31 J	-6615427.98	-6615427.77	-6615427.55	0.0089	0.0007
Saturn	-22825-02-05 13:11 J	-6615373.16	-6615372.95	-6615372.75	0.0263	0.0055
Neptune	-22825-07-25 06:00 J	-6615202.46	-6615202.25	-6615202.03	0.0089	0.0007
Saturn	-22825-09-21 09:50 J	-6615144.29	-6615144.09	-6615143.88	0.0263	0.0064
Neptune	-22824-03-07 18:43 J	-6614976.94	-6614976.72	-6614976.51	0.0089	0.0006
Saturn	-22824-05-08 07:55 J	-6614915.31	-6614915.17	-6614915.01	0.0265	0.0185
Neptune	-22824-10-19 07:11 J	-6614751.42	-6614751.20	-6614750.99	0.0089	0.0006
Uranus	-22824-12-12 08:09 J	-6614697.19	-6614697.16	-6614697.08	0.0147	0.0142
Neptune	-22823-06-01 19:26 J	-6614525.90	-6614525.69	-6614525.47	0.0089	0.0007
Uranus	-22823-07-26 21:07 J	-6614470.75	-6614470.62	-6614470.47	0.0147	0.0110
Jupiter	-22823-08-22 18:14 J	-6614443.77	-6614443.74	-6614443.70	0.0492	0.0485
Neptune	-22822-01-13 07:55 J	-6614300.38	-6614300.17	-6614299.95	0.0089	0.0006
Uranus	-22822-03-10 09:36 J	-6614244.27	-6614244.10	-6614243.91	0.0146	0.0078
Jupiter	-22822-04-16 01:11 J	-6614207.65	-6614207.45	-6614207.25	0.0493	0.0132
Neptune	-22822-08-26 20:23 J	-6614074.87	-6614074.65	-6614074.44	0.0089	0.0006
Uranus	-22822-10-22 22:04 J	-6614017.78	-6614017.58	-6614017.36	0.0146	0.0046

Jupiter	-22822-12-08 13:26 J	-6613971.12	-6613970.94	-6613970.76	0.0496	0.0245
Neptune	-22821-04-08 08:52 J	-6613849.34	-6613849.13	-6613848.91	0.0089	0.0007
Uranus	-22821-06-05 10:48 J	-6613791.26	-6613791.05	-6613790.83	0.0146	0.0013
Neptune	-22821-11-19 21:07 J	-6613623.83	-6613623.62	-6613623.40	0.0089	0.0007
Uranus	-22820-01-17 23:16 J	-6613564.74	-6613564.53	-6613564.31	0.0146	0.0020
Neptune	-22820-07-03 09:36 J	-6613398.32	-6613398.10	-6613397.89	0.0089	0.0007
Uranus	-22820-09-01 11:31 J	-6613338.21	-6613338.02	-6613337.81	0.0146	0.0052
Neptune	-22819-02-13 21:50 J	-6613172.80	-6613172.59	-6613172.37	0.0089	0.0007
Uranus	-22819-04-16 00:00 J	-6613111.67	-6613111.50	-6613111.32	0.0146	0.0084
Neptune	-22819-09-27 10:19 J	-6612947.29	-6612947.07	-6612946.86	0.0089	0.0007
Uranus	-22819-11-28 12:00 J	-6612885.11	-6612885.00	-6612884.85	0.0145	0.0116
Neptune	-22818-05-10 22:48 J	-6612721.76	-6612721.55	-6612721.33	0.0089	0.0007
Neptune	-22818-12-22 11:02 J	-6612496.25	-6612496.04	-6612495.82	0.0089	0.0007
Neptune	-22817-08-03 23:31 J	-6612270.74	-6612270.52	-6612270.31	0.0089	0.0007
Jupiter	-22816-02-20 12:00 J	-6612070.20	-6612070.00	-6612069.81	0.0533	0.0117
Neptune	-22816-03-17 11:45 J	-6612045.22	-6612045.01	-6612044.79	0.0089	0.0007
Jupiter	-22816-10-15 23:31 J	-6611832.67	-6611832.52	-6611832.37	0.0529	0.0334
Neptune	-22816-10-29 00:14 J	-6611819.70	-6611819.49	-6611819.27	0.0089	0.0007
Neptune	-22815-06-11 12:43 J	-6611594.19	-6611593.97	-6611593.76	0.0089	0.0007
Neptune	-22814-01-23 00:57 J	-6611368.67	-6611368.46	-6611368.24	0.0089	0.0007
Neptune	-22814-09-05 13:26 J	-6611143.16	-6611142.94	-6611142.73	0.0089	0.0007
Neptune	-22813-04-18 01:55 J	-6610917.64	-6610917.42	-6610917.21	0.0089	0.0007
Neptune	-22813-11-29 14:09 J	-6610692.12	-6610691.91	-6610691.69	0.0089	0.0007
Neptune	-22812-07-13 02:23 J	-6610466.61	-6610466.40	-6610466.18	0.0089	0.0007
Saturn	-22812-12-08 01:55 J	-6610318.57	-6610318.42	-6610318.25	0.0299	0.0193
Mars	-22811-02-04 07:11 J	-6610260.35	-6610260.20	-6610260.04	0.1656	0.0674
Neptune	-22811-02-23 14:38 J	-6610241.10	-6610240.89	-6610240.67	0.0089	0.0008
Saturn	-22811-07-26 08:38 J	-6610088.35	-6610088.14	-6610087.92	0.0298	0.0014
Neptune	-22811-10-07 03:07 J	-6610015.59	-6610015.37	-6610015.16	0.0089	0.0007
Jupiter	-22811-12-20 02:23 J	-6609941.58	-6609941.40	-6609941.22	0.0492	0.0232

Saturn	-22810-03-13 13:26 J	-6609858.12	-6609857.94	-6609857.76	0.0297	0.0163
Neptune	-22810-05-20 15:36 J	-6609790.07	-6609789.85	-6609789.64	0.0089	0.0007
Jupiter	-22810-08-13 12:57 J	-6609705.16	-6609704.96	-6609704.76	0.0495	0.0141
Mars	-22810-12-05 10:19 J	-6609591.19	-6609591.07	-6609590.96	0.1645	0.1220
Neptune	-22809-01-01 03:50 J	-6609564.56	-6609564.34	-6609564.13	0.0089	0.0007
Neptune	-22809-08-13 15:50 J	-6609339.05	-6609338.84	-6609338.62	0.0089	0.0008
Mars	-22809-11-10 04:19 J	-6609250.47	-6609250.32	-6609250.16	0.1863	0.0919
Neptune	-22808-03-27 04:19 J	-6609113.54	-6609113.32	-6609113.11	0.0089	0.0007
Neptune	-22808-11-07 16:33 J	-6608888.03	-6608887.81	-6608887.60	0.0089	0.0007
Neptune	-22807-06-21 04:48 J	-6608662.51	-6608662.30	-6608662.08	0.0089	0.0007
Neptune	-22806-02-01 17:02 J	-6608437.00	-6608436.79	-6608436.57	0.0089	0.0008
Neptune	-22806-09-15 05:16 J	-6608211.49	-6608211.28	-6608211.06	0.0089	0.0008
Neptune	-22805-04-27 17:45 J	-6607985.97	-6607985.76	-6607985.54	0.0089	0.0007
Jupiter	-22805-10-26 04:48 J	-6607804.47	-6607804.30	-6607804.12	0.0534	0.0244
Neptune	-22805-12-09 06:00 J	-6607760.46	-6607760.25	-6607760.03	0.0089	0.0008
Jupiter	-22804-06-20 18:43 J	-6607566.90	-6607566.72	-6607566.53	0.0531	0.0216
Neptune	-22804-07-22 18:14 J	-6607534.95	-6607534.74	-6607534.52	0.0089	0.0008
Neptune	-22803-03-05 06:28 J	-6607309.44	-6607309.23	-6607309.01	0.0089	0.0008
Neptune	-22803-10-16 18:57 J	-6607083.92	-6607083.71	-6607083.49	0.0089	0.0007
Neptune	-22802-05-30 07:26 J	-6606858.40	-6606858.19	-6606857.97	0.0089	0.0007
Neptune	-22801-01-10 19:40 J	-6606632.89	-6606632.68	-6606632.46	0.0089	0.0008
Neptune	-22801-08-23 08:09 J	-6606407.37	-6606407.16	-6606406.94	0.0089	0.0007
Neptune	-22800-04-05 20:23 J	-6606181.86	-6606181.65	-6606181.43	0.0089	0.0007
Neptune	-22800-11-17 08:38 J	-6605956.35	-6605956.14	-6605955.92	0.0089	0.0008
Neptune	-22799-06-30 21:07 J	-6605730.83	-6605730.62	-6605730.40	0.0089	0.0007
Jupiter	-22799-08-25 03:50 J	-6605675.49	-6605675.34	-6605675.18	0.0492	0.0330
Neptune	-22798-02-11 09:21 J	-6605505.32	-6605505.11	-6605504.89	0.0089	0.0008
Jupiter	-22798-04-18 12:28 J	-6605439.19	-6605438.98	-6605438.77	0.0494	0.0036
Neptune	-22798-09-24 21:50 J	-6605279.81	-6605279.59	-6605279.38	0.0089	0.0007
Jupiter	-22798-12-11 03:21 J	-6605202.47	-6605202.36	-6605202.24	0.0498	0.0413

Neptune	-22797-05-07 10:04 J	-6605054.29	-6605054.08	-6605053.86	0.0089	0.0007
Neptune	-22797-12-18 22:19 J	-6604828.78	-6604828.57	-6604828.35	0.0089	0.0008
Saturn	-22797-12-31 17:02 J	-6604815.95	-6604815.79	-6604815.62	0.0262	0.0157
Neptune	-22796-08-01 10:48 J	-6604603.27	-6604603.05	-6604602.84	0.0089	0.0007
Saturn	-22796-08-17 12:43 J	-6604587.17	-6604586.97	-6604586.76	0.0263	0.0041
Neptune	-22795-03-14 23:02 J	-6604377.76	-6604377.54	-6604377.32	0.0089	0.0007
Saturn	-22795-04-03 09:36 J	-6604358.30	-6604358.10	-6604357.90	0.0264	0.0079
Neptune	-22795-10-26 11:16 J	-6604152.24	-6604152.03	-6604151.81	0.0089	0.0007
Saturn	-22795-11-18 07:26 J	-6604129.32	-6604129.19	-6604129.04	0.0265	0.0200
Neptune	-22794-06-08 23:45 J	-6603926.72	-6603926.51	-6603926.29	0.0089	0.0007
Neptune	-22793-01-20 12:14 J	-6603701.21	-6603700.99	-6603700.78	0.0089	0.0007
Jupiter	-22793-06-30 21:50 J	-6603538.73	-6603538.59	-6603538.45	0.0535	0.0368
Neptune	-22793-09-02 00:28 J	-6603475.70	-6603475.48	-6603475.26	0.0088	0.0007
Jupiter	-22792-02-23 13:55 J	-6603301.11	-6603300.92	-6603300.72	0.0532	0.0094
Neptune	-22792-04-15 12:43 J	-6603250.18	-6603249.97	-6603249.75	0.0088	0.0007
Jupiter	-22792-10-18 21:50 J	-6603063.60	-6603063.59	-6603063.56	0.0527	0.0523
Neptune	-22792-11-27 01:11 J	-6603024.67	-6603024.45	-6603024.23	0.0088	0.0007
Moon	-22791-05-01 00:57 J	-6602869.59	-6602869.46	-6602869.33	0.2720	0.1343
Earth	-22791-05-01 01:55 J	-6602869.56	-6602869.42	-6602869.27	0.2713	0.1138 *
Neptune	-22791-07-10 13:40 J	-6602799.15	-6602798.93	-6602798.71	0.0088	0.0006
Neptune	-22790-02-21 02:09 J	-6602573.63	-6602573.41	-6602573.19	0.0088	0.0006
Neptune	-22790-10-04 14:23 J	-6602348.11	-6602347.90	-6602347.68	0.0088	0.0007
Neptune	-22789-05-17 02:52 J	-6602122.59	-6602122.38	-6602122.16	0.0088	0.0007
Neptune	-22789-12-28 15:21 J	-6601897.07	-6601896.86	-6601896.64	0.0088	0.0007
Neptune	-22788-08-11 03:50 J	-6601671.55	-6601671.34	-6601671.12	0.0088	0.0006
Neptune	-22787-03-24 16:19 J	-6601446.04	-6601445.82	-6601445.60	0.0088	0.0006
Jupiter	-22787-04-30 06:14 J	-6601409.33	-6601409.24	-6601409.13	0.0492	0.0424
Neptune	-22787-11-05 04:48 J	-6601220.52	-6601220.30	-6601220.08	0.0088	0.0006
Jupiter	-22787-12-22 13:40 J	-6601173.14	-6601172.93	-6601172.73	0.0493	0.0066
Neptune	-22786-06-18 17:16 J	-6600994.99	-6600994.78	-6600994.56	0.0088	0.0006

Jupiter -22786-08-16 02:52 J -6600936.54 -6600936.38 -6600936.22 0.0497 0.0312
 Neptune -22785-01-30 05:45 J -6600769.47 -6600769.26 -6600769.04 0.0088 0.0006
 Neptune -22785-09-11 18:14 J -6600543.95 -6600543.74 -6600543.52 0.0088 0.0006
 Neptune -22784-04-25 06:43 J -6600318.44 -6600318.22 -6600318.00 0.0088 0.0006
 Neptune -22784-12-06 19:11 J -6600092.92 -6600092.70 -6600092.48 0.0088 0.0005
 Earth -22783-04-28 15:21 J -6599949.88 -6599949.86 -6599949.84 0.2713 0.2681
 Moon -22783-04-28 18:43 J -6599949.77 -6599949.72 -6599949.67 0.2718 0.2542
 Pluto -22783-06-18 23:45 J -6599898.63 -6599898.51 -6599898.35 0.0064 0.0049
 Neptune -22783-07-20 07:40 J -6599867.39 -6599867.18 -6599866.96 0.0088 0.0006
 Pluto -22782-01-30 03:50 J -6599673.55 -6599673.34 -6599673.13 0.0064 0.0012
 Neptune -22782-03-02 20:09 J -6599641.87 -6599641.66 -6599641.44 0.0088 0.0006
 Saturn -22782-06-20 01:55 J -6599532.58 -6599532.42 -6599532.24 0.0299 0.0177
 Pluto -22782-09-12 07:26 J -6599448.38 -6599448.19 -6599447.98 0.0065 0.0025
 Neptune -22782-10-14 08:38 J -6599416.35 -6599416.14 -6599415.92 0.0088 0.0005
 Saturn -22781-02-05 08:52 J -6599302.34 -6599302.13 -6599301.91 0.0298 0.0007
 Jupiter -22781-03-05 13:11 J -6599273.03 -6599272.95 -6599272.87 0.0535 0.0491
 Pluto -22781-04-24 10:48 J -6599223.08 -6599223.05 -6599222.96 0.0065 0.0063
 Neptune -22781-05-26 21:07 J -6599190.83 -6599190.62 -6599190.39 0.0088 0.0006
 Uranus -22781-09-16 21:07 J -6599077.67 -6599077.62 -6599077.57 0.0132 0.0128
 Saturn -22781-09-22 13:55 J -6599072.09 -6599071.92 -6599071.75 0.0297 0.0179
 Jupiter -22781-10-29 06:14 J -6599035.44 -6599035.24 -6599035.04 0.0533 0.0036
 Neptune -22780-01-07 09:50 J -6598965.31 -6598965.09 -6598964.87 0.0088 0.0005
 Uranus -22780-05-01 01:55 J -6598851.54 -6598851.42 -6598851.27 0.0132 0.0105
 Jupiter -22780-06-23 15:50 J -6598797.96 -6598797.84 -6598797.71 0.0528 0.0409
 Neptune -22780-08-20 22:19 J -6598739.79 -6598739.57 -6598739.35 0.0088 0.0005
 Uranus -22780-12-13 07:11 J -6598625.36 -6598625.20 -6598625.02 0.0132 0.0081
 Mars -22779-02-03 00:43 J -6598573.51 -6598573.47 -6598573.43 0.1661 0.1596
 Neptune -22779-04-03 10:48 J -6598514.26 -6598514.05 -6598513.83 0.0088 0.0005
 Uranus -22779-07-27 12:28 J -6598399.17 -6598398.98 -6598398.78 0.0132 0.0057
 Neptune -22779-11-14 23:31 J -6598288.74 -6598288.52 -6598288.30 0.0088 0.0004

Uranus	-22778-03-10 17:31 J	-6598172.97	-6598172.77	-6598172.55	0.0132	0.0033
Neptune	-22778-06-28 12:14 J	-6598063.21	-6598062.99	-6598062.77	0.0088	0.0005
Uranus	-22778-10-22 22:33 J	-6597946.77	-6597946.56	-6597946.33	0.0133	0.0010
Mars	-22778-12-04 02:52 J	-6597904.55	-6597904.38	-6597904.21	0.1649	0.0324
Neptune	-22777-02-09 00:57 J	-6597837.68	-6597837.46	-6597837.24	0.0088	0.0004
Uranus	-22777-06-05 03:50 J	-6597720.56	-6597720.34	-6597720.12	0.0133	0.0015
Neptune	-22777-09-21 13:40 J	-6597612.15	-6597611.93	-6597611.71	0.0088	0.0004
Uranus	-22776-01-17 08:52 J	-6597494.33	-6597494.13	-6597493.91	0.0133	0.0040
Neptune	-22776-05-05 02:09 J	-6597386.63	-6597386.41	-6597386.19	0.0088	0.0004
Uranus	-22776-08-31 13:55 J	-6597268.10	-6597267.92	-6597267.72	0.0133	0.0064
Neptune	-22776-12-16 14:52 J	-6597161.10	-6597160.88	-6597160.66	0.0088	0.0004
Uranus	-22775-04-14 18:57 J	-6597041.86	-6597041.71	-6597041.53	0.0133	0.0089
Neptune	-22775-07-30 03:50 J	-6596935.56	-6596935.34	-6596935.12	0.0088	0.0004
Jupiter	-22775-08-27 14:09 J	-6596907.10	-6596906.91	-6596906.71	0.0493	0.0167
Mars	-22775-09-07 06:00 J	-6596896.39	-6596896.25	-6596896.11	0.1872	0.1170
Uranus	-22775-11-27 00:14 J	-6596815.59	-6596815.49	-6596815.36	0.0133	0.0113
Neptune	-22774-03-12 16:33 J	-6596710.03	-6596709.81	-6596709.59	0.0088	0.0004
Jupiter	-22774-04-21 02:09 J	-6596670.60	-6596670.41	-6596670.22	0.0496	0.0209
Neptune	-22774-10-24 05:16 J	-6596484.50	-6596484.28	-6596484.06	0.0088	0.0003
Neptune	-22773-06-05 18:00 J	-6596258.97	-6596258.75	-6596258.53	0.0088	0.0003
Neptune	-22772-01-17 06:43 J	-6596033.44	-6596033.22	-6596033.00	0.0088	0.0003
Neptune	-22772-08-30 19:26 J	-6595807.91	-6595807.69	-6595807.47	0.0088	0.0003
Neptune	-22771-04-13 08:09 J	-6595582.38	-6595582.16	-6595581.94	0.0088	0.0003
Neptune	-22771-11-24 21:07 J	-6595356.84	-6595356.62	-6595356.40	0.0088	0.0003
Neptune	-22770-07-08 09:50 J	-6595131.31	-6595131.09	-6595130.87	0.0088	0.0003
Neptune	-22769-02-18 22:48 J	-6594905.77	-6594905.55	-6594905.33	0.0088	0.0003
Jupiter	-22769-07-03 22:33 J	-6594769.75	-6594769.56	-6594769.37	0.0533	0.0162
Neptune	-22769-10-01 11:31 J	-6594680.24	-6594680.02	-6594679.80	0.0088	0.0002
Jupiter	-22768-02-26 10:19 J	-6594532.23	-6594532.07	-6594531.90	0.0529	0.0292
Neptune	-22768-05-15 00:14 J	-6594454.71	-6594454.49	-6594454.27	0.0088	0.0002

Saturn	-22768-11-27 01:11 J	-6594258.49	-6594258.45	-6594258.39	0.0262	0.0254
Neptune	-22768-12-26 13:11 J	-6594229.17	-6594228.95	-6594228.73	0.0088	0.0002
Saturn	-22767-07-13 20:23 J	-6594029.81	-6594029.65	-6594029.46	0.0262	0.0140
Neptune	-22767-08-09 02:09 J	-6594003.63	-6594003.41	-6594003.19	0.0088	0.0002
Saturn	-22766-02-27 16:48 J	-6593801.01	-6593800.80	-6593800.59	0.0263	0.0023
Neptune	-22766-03-22 15:07 J	-6593778.09	-6593777.87	-6593777.65	0.0088	0.0002
Saturn	-22766-10-14 13:40 J	-6593572.12	-6593571.93	-6593571.73	0.0264	0.0097
Neptune	-22766-11-03 04:04 J	-6593552.55	-6593552.33	-6593552.11	0.0088	0.0002
Saturn	-22765-05-30 11:45 J	-6593343.12	-6593343.01	-6593342.88	0.0265	0.0218
Neptune	-22765-06-15 17:02 J	-6593327.01	-6593326.79	-6593326.57	0.0088	0.0002
Neptune	-22764-01-27 06:00 J	-6593101.47	-6593101.25	-6593101.03	0.0088	0.0001
Neptune	-22764-09-09 19:11 J	-6592875.93	-6592875.70	-6592875.48	0.0088	0.0002
Neptune	-22763-04-23 08:09 J	-6592650.38	-6592650.16	-6592649.94	0.0088	0.0001
Jupiter	-22763-05-02 15:36 J	-6592641.02	-6592640.85	-6592640.68	0.0493	0.0266
Neptune	-22763-12-04 21:07 J	-6592424.84	-6592424.62	-6592424.40	0.0088	0.0001
Jupiter	-22763-12-25 01:40 J	-6592404.63	-6592404.43	-6592404.23	0.0495	0.0105
Neptune	-22762-07-18 10:19 J	-6592199.29	-6592199.07	-6592198.85	0.0088	0.0001
Jupiter	-22762-08-18 18:14 J	-6592167.79	-6592167.74	-6592167.69	0.0499	0.0481
Neptune	-22761-02-28 23:16 J	-6591973.75	-6591973.53	-6591973.30	0.0088	0.0002
Neptune	-22761-10-11 12:28 J	-6591748.20	-6591747.98	-6591747.76	0.0088	0.0001
Neptune	-22760-05-25 01:26 J	-6591522.66	-6591522.44	-6591522.22	0.0088	0.0001
Neptune	-22759-01-05 14:38 J	-6591297.12	-6591296.89	-6591296.67	0.0088	0.0001
Neptune	-22759-08-19 03:50 J	-6591071.56	-6591071.34	-6591071.12	0.0088	0.0000
Neptune	-22758-04-01 17:02 J	-6590846.02	-6590845.79	-6590845.57	0.0088	0.0001
Neptune	-22758-11-13 06:00 J	-6590620.47	-6590620.25	-6590620.03	0.0088	0.0001
Jupiter	-22757-03-08 13:26 J	-6590504.11	-6590503.94	-6590503.77	0.0534	0.0290
Neptune	-22757-06-25 18:57 J	-6590394.93	-6590394.71	-6590394.48	0.0088	0.0002
Jupiter	-22757-11-01 03:50 J	-6590266.53	-6590266.34	-6590266.15	0.0531	0.0170
Neptune	-22756-02-06 08:09 J	-6590169.38	-6590169.16	-6590168.93	0.0088	0.0002
Neptune	-22756-09-19 21:36 J	-6589943.83	-6589943.60	-6589943.38	0.0088	0.0002

Neptune	-22755-05-03 10:48 J	-6589718.28	-6589718.05	-6589717.83	0.0088	0.0002
Neptune	-22755-12-15 00:00 J	-6589492.73	-6589492.50	-6589492.28	0.0088	0.0002
Neptune	-22754-07-28 13:11 J	-6589267.17	-6589266.95	-6589266.73	0.0088	0.0001
Neptune	-22753-03-10 02:23 J	-6589041.62	-6589041.40	-6589041.17	0.0088	0.0002
Neptune	-22753-10-21 15:50 J	-6588816.07	-6588815.84	-6588815.62	0.0088	0.0002
Saturn	-22753-12-30 09:36 J	-6588746.28	-6588746.10	-6588745.92	0.0299	0.0150
Neptune	-22752-06-04 05:02 J	-6588590.51	-6588590.29	-6588590.07	0.0088	0.0002
Saturn	-22752-08-17 15:50 J	-6588516.05	-6588515.84	-6588515.62	0.0298	0.0030
Jupiter	-22751-01-05 17:31 J	-6588374.91	-6588374.77	-6588374.63	0.0492	0.0362
Neptune	-22751-01-15 18:14 J	-6588364.96	-6588364.74	-6588364.51	0.0088	0.0003
Saturn	-22751-04-04 20:09 J	-6588285.80	-6588285.66	-6588285.50	0.0297	0.0205
Neptune	-22751-08-29 07:55 J	-6588139.40	-6588139.17	-6588138.95	0.0088	0.0002
Jupiter	-22751-08-30 01:55 J	-6588138.63	-6588138.42	-6588138.21	0.0494	0.0002
Neptune	-22750-04-11 21:07 J	-6587913.84	-6587913.62	-6587913.39	0.0088	0.0003
Jupiter	-22750-04-23 16:19 J	-6587901.95	-6587901.82	-6587901.69	0.0498	0.0379
Neptune	-22750-11-23 10:33 J	-6587688.28	-6587688.06	-6587687.83	0.0088	0.0002
Neptune	-22749-07-06 00:00 J	-6587462.73	-6587462.50	-6587462.28	0.0088	0.0003
Neptune	-22748-02-16 13:11 J	-6587237.17	-6587236.95	-6587236.72	0.0088	0.0003
Neptune	-22748-09-30 02:52 J	-6587011.60	-6587011.38	-6587011.16	0.0088	0.0003
Neptune	-22747-05-13 16:19 J	-6586786.05	-6586785.82	-6586785.60	0.0088	0.0003
Neptune	-22747-12-25 05:31 J	-6586560.49	-6586560.27	-6586560.04	0.0088	0.0004
Neptune	-22746-08-07 18:57 J	-6586334.93	-6586334.71	-6586334.48	0.0088	0.0004
Jupiter	-22746-11-12 05:02 J	-6586238.41	-6586238.29	-6586238.16	0.0535	0.0414
Mars	-22746-12-02 19:40 J	-6586217.84	-6586217.68	-6586217.52	0.1654	0.0583
Neptune	-22745-03-20 08:23 J	-6586109.37	-6586109.15	-6586108.92	0.0088	0.0004
Jupiter	-22745-07-06 21:50 J	-6586000.79	-6586000.59	-6586000.39	0.0533	0.0046
Neptune	-22745-10-31 21:50 J	-6585883.81	-6585883.59	-6585883.36	0.0088	0.0004
Jupiter	-22744-03-01 06:57 J	-6585763.28	-6585763.21	-6585763.13	0.0528	0.0482
Neptune	-22744-06-14 11:16 J	-6585658.25	-6585658.03	-6585657.80	0.0088	0.0004
Mars	-22744-10-01 22:48 J	-6585548.65	-6585548.55	-6585548.45	0.1644	0.1299

Neptune -22743-01-26 00:43 J -6585432.69 -6585432.47 -6585432.24 0.0088 0.0004
 Mars -22743-09-07 06:43 J -6585208.39 -6585208.22 -6585208.05 0.1865 0.0623
 Neptune -22743-09-08 14:23 J -6585207.13 -6585206.90 -6585206.68 0.0088 0.0004
 Neptune -22742-04-22 03:50 J -6584981.56 -6584981.34 -6584981.11 0.0088 0.0004
 Neptune -22742-12-03 17:16 J -6584756.00 -6584755.78 -6584755.55 0.0088 0.0004
 Neptune -22741-07-16 06:43 J -6584530.44 -6584530.22 -6584529.99 0.0088 0.0005
 Neptune -22740-02-26 20:23 J -6584304.87 -6584304.65 -6584304.43 0.0088 0.0004
 Jupiter -22740-09-10 19:26 J -6584108.76 -6584108.69 -6584108.61 0.0492 0.0456
 Neptune -22740-10-10 10:04 J -6584079.30 -6584079.08 -6584078.85 0.0088 0.0005
 Uranus -22739-03-26 03:21 J -6583912.45 -6583912.36 -6583912.23 0.0147 0.0125
 Jupiter -22739-05-05 02:09 J -6583872.61 -6583872.41 -6583872.21 0.0493 0.0101
 Neptune -22739-05-23 23:45 J -6583853.74 -6583853.51 -6583853.29 0.0088 0.0005
 Uranus -22739-11-07 16:04 J -6583685.99 -6583685.83 -6583685.65 0.0146 0.0092
 Jupiter -22739-12-27 14:23 J -6583636.07 -6583635.90 -6583635.73 0.0496 0.0275
 Neptune -22738-01-04 13:11 J -6583628.17 -6583627.95 -6583627.72 0.0088 0.0005
 Saturn -22738-06-09 02:23 J -6583472.48 -6583472.40 -6583472.31 0.0262 0.0239
 Uranus -22738-06-22 04:48 J -6583459.49 -6583459.30 -6583459.10 0.0146 0.0060
 Neptune -22738-08-18 02:52 J -6583402.60 -6583402.38 -6583402.15 0.0088 0.0005
 Saturn -22737-01-23 21:36 J -6583243.79 -6583243.60 -6583243.42 0.0262 0.0124
 Uranus -22737-02-03 17:16 J -6583232.99 -6583232.78 -6583232.56 0.0146 0.0028
 Neptune -22737-03-30 16:33 J -6583177.03 -6583176.81 -6583176.58 0.0088 0.0005
 Saturn -22737-09-08 17:31 J -6583014.99 -6583014.77 -6583014.56 0.0263 0.0009
 Uranus -22737-09-17 05:45 J -6583006.47 -6583006.26 -6583006.04 0.0146 0.0005
 Neptune -22737-11-11 06:14 J -6582951.46 -6582951.24 -6582951.01 0.0088 0.0005
 Saturn -22736-04-25 14:09 J -6582786.09 -6582785.91 -6582785.71 0.0264 0.0113
 Uranus -22736-05-01 18:00 J -6582779.95 -6582779.75 -6582779.53 0.0146 0.0038
 Neptune -22736-06-24 19:55 J -6582725.89 -6582725.67 -6582725.44 0.0088 0.0005
 Saturn -22736-12-10 12:14 J -6582557.07 -6582556.99 -6582556.88 0.0265 0.0234
 Uranus -22736-12-14 06:14 J -6582553.42 -6582553.24 -6582553.04 0.0146 0.0070
 Neptune -22735-02-05 09:36 J -6582500.33 -6582500.10 -6582499.88 0.0088 0.0005

Uranus	-22735-07-28 18:43 J	-6582326.86	-6582326.72	-6582326.55	0.0145	0.0102
Neptune	-22735-09-18 23:16 J	-6582274.75	-6582274.53	-6582274.30	0.0088	0.0005
Uranus	-22734-03-12 06:57 J	-6582100.28	-6582100.21	-6582100.11	0.0145	0.0133
Neptune	-22734-05-02 12:57 J	-6582049.18	-6582048.96	-6582048.73	0.0088	0.0006
Jupiter	-22734-07-17 21:07 J	-6581972.62	-6581972.62	-6581972.61	0.0535	0.0535
Neptune	-22734-12-14 02:38 J	-6581823.62	-6581823.39	-6581823.17	0.0088	0.0006
Jupiter	-22733-03-11 16:04 J	-6581735.03	-6581734.83	-6581734.63	0.0534	0.0080
Neptune	-22733-07-26 16:04 J	-6581598.05	-6581597.83	-6581597.60	0.0088	0.0006
Jupiter	-22733-11-04 03:21 J	-6581497.50	-6581497.36	-6581497.21	0.0529	0.0370
Neptune	-22732-03-09 05:45 J	-6581372.48	-6581372.26	-6581372.03	0.0088	0.0006
Neptune	-22732-10-20 19:40 J	-6581146.91	-6581146.68	-6581146.46	0.0088	0.0006
Neptune	-22731-06-03 09:21 J	-6580921.34	-6580921.11	-6580920.89	0.0088	0.0006
Neptune	-22730-01-14 22:48 J	-6580695.77	-6580695.55	-6580695.32	0.0088	0.0007
Neptune	-22730-08-28 12:28 J	-6580470.20	-6580469.98	-6580469.75	0.0088	0.0007
Neptune	-22729-04-10 02:09 J	-6580244.63	-6580244.41	-6580244.18	0.0088	0.0007
Neptune	-22729-11-21 16:04 J	-6580019.05	-6580018.83	-6580018.61	0.0088	0.0006
Neptune	-22728-07-05 05:45 J	-6579793.48	-6579793.26	-6579793.03	0.0088	0.0007
Jupiter	-22727-01-08 03:36 J	-6579606.53	-6579606.35	-6579606.16	0.0492	0.0201
Neptune	-22727-02-15 19:26 J	-6579567.91	-6579567.69	-6579567.46	0.0088	0.0007
Jupiter	-22727-09-01 14:23 J	-6579370.09	-6579369.90	-6579369.70	0.0495	0.0173
Neptune	-22727-09-29 09:21 J	-6579342.34	-6579342.11	-6579341.89	0.0088	0.0007
Neptune	-22726-05-12 23:02 J	-6579116.76	-6579116.54	-6579116.31	0.0088	0.0007
Neptune	-22726-12-24 12:43 J	-6578891.19	-6578890.97	-6578890.74	0.0088	0.0007
Neptune	-22725-08-06 02:38 J	-6578665.61	-6578665.39	-6578665.17	0.0088	0.0007
Neptune	-22724-03-19 16:19 J	-6578440.04	-6578439.82	-6578439.59	0.0088	0.0007
Neptune	-22724-10-31 06:14 J	-6578214.46	-6578214.24	-6578214.01	0.0088	0.0007
Neptune	-22723-06-13 19:55 J	-6577988.89	-6577988.67	-6577988.44	0.0088	0.0008
Saturn	-22723-07-12 09:50 J	-6577960.28	-6577960.09	-6577959.90	0.0299	0.0135
Neptune	-22722-01-25 09:50 J	-6577763.31	-6577763.09	-6577762.87	0.0088	0.0007
Saturn	-22722-02-27 16:19 J	-6577730.03	-6577729.82	-6577729.61	0.0298	0.0045

Neptune -22722-09-07 23:31 J -6577537.74 -6577537.52 -6577537.30 0.0088 0.0007
 Saturn -22722-10-15 20:52 J -6577499.77 -6577499.63 -6577499.49 0.0297 0.0220
 Jupiter -22722-11-15 08:09 J -6577469.34 -6577469.16 -6577468.97 0.0534 0.0207
 Neptune -22721-04-20 13:11 J -6577312.17 -6577311.95 -6577311.72 0.0088 0.0007
 Jupiter -22721-07-09 20:52 J -6577231.80 -6577231.63 -6577231.45 0.0530 0.0250
 Neptune -22721-12-02 03:07 J -6577086.60 -6577086.37 -6577086.15 0.0088 0.0007
 Neptune -22720-07-15 16:48 J -6576861.03 -6576860.80 -6576860.58 0.0088 0.0008
 Neptune -22719-02-26 06:28 J -6576635.46 -6576635.23 -6576635.01 0.0089 0.0008
 Neptune -22719-10-09 20:09 J -6576409.88 -6576409.66 -6576409.44 0.0089 0.0008
 Neptune -22718-05-23 09:50 J -6576184.31 -6576184.09 -6576183.87 0.0089 0.0008
 Neptune -22717-01-03 23:31 J -6575958.74 -6575958.52 -6575958.29 0.0089 0.0008
 Neptune -22717-08-16 13:11 J -6575733.17 -6575732.95 -6575732.72 0.0089 0.0008
 Neptune -22716-03-30 02:52 J -6575507.60 -6575507.38 -6575507.15 0.0089 0.0008
 Jupiter -22716-09-13 04:19 J -6575340.49 -6575340.32 -6575340.16 0.0493 0.0301
 Neptune -22716-11-10 16:48 J -6575282.03 -6575281.80 -6575281.58 0.0089 0.0008
 Jupiter -22715-05-07 13:55 J -6575104.13 -6575103.92 -6575103.72 0.0495 0.0068
 Neptune -22715-06-24 06:28 J -6575056.45 -6575056.23 -6575056.01 0.0089 0.0008
 Jupiter -22715-12-30 06:00 J -6574867.34 -6574867.25 -6574867.16 0.0499 0.0445
 Neptune -22714-02-04 20:09 J -6574830.88 -6574830.66 -6574830.44 0.0089 0.0008
 Neptune -22714-09-18 09:50 J -6574605.31 -6574605.09 -6574604.87 0.0089 0.0008
 Mars -22714-12-01 13:11 J -6574531.02 -6574530.95 -6574530.88 0.1660 0.1502
 Neptune -22713-04-30 23:31 J -6574379.74 -6574379.52 -6574379.29 0.0089 0.0008
 Neptune -22713-12-12 13:26 J -6574154.16 -6574153.94 -6574153.72 0.0089 0.0008
 Neptune -22712-07-26 03:07 J -6573928.59 -6573928.37 -6573928.15 0.0089 0.0008
 Mars -22712-09-30 15:07 J -6573862.04 -6573861.87 -6573861.71 0.1648 0.0413
 Neptune -22711-03-08 16:48 J -6573703.02 -6573702.80 -6573702.58 0.0089 0.0008
 Neptune -22711-10-20 06:28 J -6573477.45 -6573477.23 -6573477.01 0.0089 0.0008
 Neptune -22710-06-02 20:09 J -6573251.88 -6573251.66 -6573251.44 0.0089 0.0008
 Jupiter -22710-07-20 23:45 J -6573203.67 -6573203.51 -6573203.36 0.0534 0.0333
 Neptune -22709-01-14 09:50 J -6573026.31 -6573026.09 -6573025.86 0.0089 0.0008

Jupiter -22709-03-14 14:38 J -6572966.09 -6572965.89 -6572965.70 0.0531 0.0126
 Mars -22709-07-04 07:55 J -6572854.28 -6572854.17 -6572854.06 0.1875 0.1479
 Neptune -22709-08-26 23:31 J -6572800.74 -6572800.52 -6572800.30 0.0089 0.0008
 Saturn -22709-12-19 05:45 J -6572686.36 -6572686.26 -6572686.15 0.0262 0.0222
 Neptune -22708-04-09 12:57 J -6572575.18 -6572574.96 -6572574.73 0.0089 0.0008
 Saturn -22708-08-05 01:11 J -6572457.64 -6572457.45 -6572457.26 0.0262 0.0107
 Neptune -22708-11-21 02:38 J -6572349.61 -6572349.39 -6572349.16 0.0089 0.0008
 Saturn -22707-03-21 21:21 J -6572228.82 -6572228.61 -6572228.39 0.0263 0.0012
 Neptune -22707-07-04 16:19 J -6572124.04 -6572123.82 -6572123.59 0.0089 0.0008
 Saturn -22707-11-05 18:43 J -6571999.90 -6571999.72 -6571999.53 0.0264 0.0131
 Neptune -22706-02-15 06:00 J -6571898.47 -6571898.25 -6571898.03 0.0089 0.0008
 Saturn -22706-06-22 17:16 J -6571770.83 -6571770.78 -6571770.71 0.0265 0.0252
 Neptune -22706-09-28 19:26 J -6571672.91 -6571672.69 -6571672.47 0.0089 0.0008
 Neptune -22705-05-11 08:52 J -6571447.35 -6571447.13 -6571446.90 0.0089 0.0008
 Neptune -22705-12-22 22:33 J -6571221.78 -6571221.56 -6571221.33 0.0089 0.0008
 Jupiter -22704-05-19 06:00 J -6571074.37 -6571074.25 -6571074.12 0.0492 0.0395
 Neptune -22704-08-05 12:00 J -6570996.21 -6570996.00 -6570995.77 0.0089 0.0008
 Jupiter -22703-01-10 14:09 J -6570838.12 -6570837.91 -6570837.71 0.0494 0.0035
 Neptune -22703-03-19 01:40 J -6570770.65 -6570770.43 -6570770.21 0.0089 0.0008
 Jupiter -22703-09-04 04:04 J -6570601.48 -6570601.33 -6570601.18 0.0498 0.0344
 Neptune -22703-10-30 15:07 J -6570545.09 -6570544.87 -6570544.64 0.0089 0.0008
 Neptune -22702-06-13 04:48 J -6570319.52 -6570319.30 -6570319.08 0.0089 0.0007
 Neptune -22701-01-24 18:28 J -6570093.95 -6570093.73 -6570093.51 0.0089 0.0007
 Neptune -22701-09-06 07:55 J -6569868.39 -6569868.17 -6569867.95 0.0089 0.0007
 Neptune -22700-04-19 21:21 J -6569642.83 -6569642.61 -6569642.39 0.0089 0.0007
 Neptune -22700-12-01 11:02 J -6569417.26 -6569417.04 -6569416.82 0.0089 0.0007
 Neptune -22699-07-15 00:28 J -6569191.70 -6569191.48 -6569191.25 0.0089 0.0007
 Neptune -22698-02-25 14:09 J -6568966.13 -6568965.91 -6568965.69 0.0089 0.0007
 Jupiter -22698-03-25 13:11 J -6568938.04 -6568937.95 -6568937.84 0.0534 0.0459
 Neptune -22698-10-09 03:36 J -6568740.57 -6568740.35 -6568740.13 0.0089 0.0007

Jupiter -22698-11-18 06:28 J -6568700.43 -6568700.23 -6568700.03 0.0533 0.0005
 Neptune -22697-05-21 16:48 J -6568515.01 -6568514.80 -6568514.57 0.0089 0.0007
 Jupiter -22697-07-12 16:04 J -6568462.94 -6568462.83 -6568462.72 0.0528 0.0440
 Uranus -22697-12-29 14:38 J -6568292.98 -6568292.89 -6568292.76 0.0132 0.0114
 Neptune -22696-01-02 06:28 J -6568289.45 -6568289.23 -6568289.01 0.0089 0.0007
 Uranus -22696-08-12 19:55 J -6568066.81 -6568066.67 -6568066.50 0.0132 0.0090
 Neptune -22696-08-15 19:55 J -6568063.89 -6568063.67 -6568063.45 0.0089 0.0007
 Uranus -22695-03-27 00:57 J -6567840.63 -6567840.46 -6567840.25 0.0132 0.0067
 Neptune -22695-03-29 09:07 J -6567838.34 -6567838.12 -6567837.89 0.0089 0.0007
 Uranus -22695-11-08 06:14 J -6567614.44 -6567614.24 -6567614.02 0.0132 0.0042
 Neptune -22695-11-09 22:33 J -6567612.78 -6567612.56 -6567612.34 0.0089 0.0007
 Pluto -22694-05-13 13:26 J -6567428.14 -6567427.94 -6567427.71 0.0080 0.0028
 Saturn -22694-06-06 10:33 J -6567404.12 -6567404.06 -6567404.00 0.0300 0.0287
 Uranus -22694-06-22 11:31 J -6567388.24 -6567388.02 -6567387.80 0.0133 0.0018
 Neptune -22694-06-23 11:45 J -6567387.22 -6567387.01 -6567386.78 0.0089 0.0007
 Pluto -22694-12-25 00:28 J -6567202.64 -6567202.48 -6567202.28 0.0080 0.0047
 Saturn -22693-01-22 18:14 J -6567173.94 -6567173.74 -6567173.54 0.0299 0.0107
 Uranus -22693-02-03 16:48 J -6567162.02 -6567161.80 -6567161.58 0.0133 0.0007
 Neptune -22693-02-04 01:11 J -6567161.67 -6567161.45 -6567161.22 0.0089 0.0007 *
 Saturn -22693-09-09 00:14 J -6566943.69 -6566943.49 -6566943.28 0.0298 0.0073
 Neptune -22693-09-16 14:38 J -6566936.11 -6566935.89 -6566935.67 0.0089 0.0006
 Uranus -22693-09-16 21:50 J -6566935.80 -6566935.59 -6566935.38 0.0133 0.0031 *
 Jupiter -22692-01-22 08:38 J -6566808.16 -6566808.14 -6566808.11 0.0492 0.0487
 Saturn -22692-04-27 04:19 J -6566713.43 -6566713.32 -6566713.20 0.0297 0.0247
 Neptune -22692-04-30 03:50 J -6566710.56 -6566710.34 -6566710.12 0.0089 0.0006
 Uranus -22692-05-01 02:52 J -6566709.57 -6566709.38 -6566709.18 0.0133 0.0055
 Jupiter -22692-09-15 15:07 J -6566572.07 -6566571.87 -6566571.67 0.0493 0.0135
 Neptune -22692-12-11 17:02 J -6566485.01 -6566484.79 -6566484.57 0.0089 0.0006
 Uranus -22692-12-13 07:55 J -6566483.33 -6566483.17 -6566482.98 0.0133 0.0080
 Jupiter -22691-05-10 02:52 J -6566335.56 -6566335.38 -6566335.20 0.0496 0.0240

Neptune	-22691-07-25 06:28 J	-6566259.45	-6566259.23	-6566259.01	0.0089	0.0006
Uranus	-22691-07-27 13:11 J	-6566257.07	-6566256.95	-6566256.80	0.0133	0.0104
Neptune	-22690-03-07 19:40 J	-6566033.90	-6566033.68	-6566033.46	0.0089	0.0006
Uranus	-22690-03-10 18:28 J	-6566030.77	-6566030.73	-6566030.66	0.0134	0.0129
Neptune	-22690-10-19 08:52 J	-6565808.35	-6565808.13	-6565807.91	0.0089	0.0006
Neptune	-22689-05-31 22:04 J	-6565582.79	-6565582.58	-6565582.35	0.0089	0.0006
Neptune	-22688-01-12 11:31 J	-6565357.24	-6565357.02	-6565356.80	0.0089	0.0005
Neptune	-22688-08-26 00:43 J	-6565131.69	-6565131.47	-6565131.25	0.0089	0.0005
Neptune	-22687-04-08 13:55 J	-6564906.14	-6564905.92	-6564905.70	0.0089	0.0005
Neptune	-22687-11-20 03:07 J	-6564680.59	-6564680.37	-6564680.15	0.0089	0.0005
Neptune	-22686-07-03 16:19 J	-6564455.04	-6564454.82	-6564454.60	0.0089	0.0005
Jupiter	-22686-07-23 23:02 J	-6564434.73	-6564434.54	-6564434.34	0.0534	0.0128
Earth	-22686-10-29 19:55 J	-6564336.83	-6564336.67	-6564336.51	0.2620	0.0411
Moon	-22686-10-30 00:14 J	-6564336.64	-6564336.49	-6564336.34	0.2624	0.0506 *
Neptune	-22685-02-14 05:31 J	-6564229.48	-6564229.27	-6564229.04	0.0089	0.0005
Jupiter	-22685-03-17 11:31 J	-6564197.18	-6564197.02	-6564196.86	0.0530	0.0325
Neptune	-22685-09-26 18:43 J	-6564003.94	-6564003.72	-6564003.50	0.0089	0.0005
Neptune	-22684-05-10 07:55 J	-6563778.39	-6563778.17	-6563777.95	0.0089	0.0005
Neptune	-22684-12-21 20:52 J	-6563552.85	-6563552.63	-6563552.41	0.0089	0.0005
Neptune	-22683-08-04 10:04 J	-6563327.30	-6563327.08	-6563326.86	0.0089	0.0004
Neptune	-22682-03-17 23:02 J	-6563101.75	-6563101.54	-6563101.32	0.0089	0.0005
Neptune	-22682-10-29 12:00 J	-6562876.21	-6562876.00	-6562875.78	0.0089	0.0004
Neptune	-22681-06-11 00:57 J	-6562650.67	-6562650.46	-6562650.24	0.0089	0.0004
Neptune	-22680-01-22 13:55 J	-6562425.13	-6562424.92	-6562424.69	0.0089	0.0005
Jupiter	-22680-05-21 15:50 J	-6562306.02	-6562305.84	-6562305.66	0.0492	0.0236
Neptune	-22680-09-05 03:07 J	-6562199.59	-6562199.37	-6562199.16	0.0089	0.0004
Mars	-22680-09-29 08:09 J	-6562175.32	-6562175.16	-6562175.00	0.1653	0.0495
Jupiter	-22679-01-13 01:40 J	-6562069.63	-6562069.43	-6562069.23	0.0495	0.0135
Neptune	-22679-04-18 15:50 J	-6561974.05	-6561973.84	-6561973.62	0.0089	0.0004
Saturn	-22679-07-01 07:40 J	-6561900.30	-6561900.18	-6561900.04	0.0262	0.0206

Neptune -22679-11-30 04:48 J -6561748.52 -6561748.30 -6561748.08 0.0089 0.0003
 Saturn -22678-02-15 03:07 J -6561671.57 -6561671.37 -6561671.17 0.0262 0.0090
 Neptune -22678-07-13 17:45 J -6561522.98 -6561522.76 -6561522.54 0.0089 0.0003
 Mars -22678-07-30 11:16 J -6561506.12 -6561506.03 -6561505.94 0.1643 0.1380
 Saturn -22678-10-01 23:16 J -6561442.74 -6561442.53 -6561442.32 0.0263 0.0028
 Moon -22678-10-27 18:28 J -6561416.84 -6561416.73 -6561416.62 0.2620 0.1934
 Neptune -22677-02-24 06:43 J -6561297.43 -6561297.22 -6561297.00 0.0089 0.0003
 Saturn -22677-05-17 20:23 J -6561213.82 -6561213.65 -6561213.47 0.0264 0.0148
 Mars -22677-07-04 09:50 J -6561166.27 -6561166.09 -6561165.92 0.1867 0.0337
 Neptune -22677-10-06 19:40 J -6561071.90 -6561071.68 -6561071.46 0.0089 0.0003
 Neptune -22676-05-20 08:23 J -6560846.36 -6560846.15 -6560845.93 0.0089 0.0003
 Neptune -22676-12-31 21:21 J -6560620.83 -6560620.61 -6560620.39 0.0089 0.0002
 Neptune -22675-08-14 10:19 J -6560395.29 -6560395.07 -6560394.85 0.0089 0.0002
 Neptune -22674-03-27 23:16 J -6560169.75 -6560169.53 -6560169.31 0.0089 0.0002
 Jupiter -22674-03-28 16:19 J -6560169.00 -6560168.82 -6560168.64 0.0534 0.0254
 Neptune -22674-11-08 12:00 J -6559944.21 -6559944.00 -6559943.78 0.0089 0.0003
 Jupiter -22674-11-21 06:43 J -6559931.40 -6559931.22 -6559931.03 0.0531 0.0206
 Neptune -22673-06-21 00:57 J -6559718.68 -6559718.46 -6559718.24 0.0089 0.0002
 Neptune -22672-02-01 13:40 J -6559493.14 -6559492.93 -6559492.71 0.0089 0.0002
 Neptune -22672-09-15 02:38 J -6559267.61 -6559267.39 -6559267.18 0.0089 0.0002
 Neptune -22671-04-28 15:21 J -6559042.08 -6559041.86 -6559041.64 0.0089 0.0001
 Neptune -22671-12-10 04:04 J -6558816.55 -6558816.33 -6558816.12 0.0089 0.0002
 Neptune -22670-07-23 16:48 J -6558591.02 -6558590.80 -6558590.59 0.0089 0.0002
 Neptune -22669-03-05 05:31 J -6558365.49 -6558365.27 -6558365.05 0.0089 0.0001
 Neptune -22669-10-16 18:14 J -6558139.96 -6558139.74 -6558139.53 0.0089 0.0002
 Jupiter -22668-01-24 17:45 J -6558039.91 -6558039.76 -6558039.61 0.0492 0.0333
 Neptune -22668-05-30 06:43 J -6557914.44 -6557914.22 -6557914.00 0.0089 0.0000
 Jupiter -22668-09-18 02:23 J -6557803.61 -6557803.40 -6557803.20 0.0494 0.0033
 Neptune -22667-01-10 19:26 J -6557688.91 -6557688.69 -6557688.48 0.0089 0.0002
 Jupiter -22667-05-12 17:02 J -6557566.91 -6557566.79 -6557566.67 0.0498 0.0408

Neptune	-22667-08-24 07:55 J	-6557463.38	-6557463.17	-6557462.95	0.0089	0.0001
Neptune	-22666-04-06 20:38 J	-6557237.85	-6557237.64	-6557237.42	0.0089	0.0001
Neptune	-22666-11-18 09:21 J	-6557012.33	-6557012.11	-6557011.90	0.0089	0.0001
Neptune	-22665-06-30 21:50 J	-6556786.81	-6556786.59	-6556786.37	0.0089	0.0001
Saturn	-22665-12-16 12:28 J	-6556618.06	-6556617.98	-6556617.88	0.0299	0.0269
Neptune	-22664-02-11 10:19 J	-6556561.28	-6556561.07	-6556560.85	0.0089	0.0002
Saturn	-22664-08-03 20:09 J	-6556387.86	-6556387.66	-6556387.46	0.0298	0.0089
Neptune	-22664-09-24 23:02 J	-6556335.76	-6556335.54	-6556335.32	0.0089	0.0001
Saturn	-22663-03-22 01:55 J	-6556157.62	-6556157.42	-6556157.21	0.0298	0.0091
Neptune	-22663-05-08 11:45 J	-6556110.23	-6556110.01	-6556109.80	0.0089	0.0001
Saturn	-22663-11-07 06:00 J	-6555927.34	-6555927.25	-6555927.15	0.0296	0.0263
Jupiter	-22663-12-01 08:23 J	-6555903.30	-6555903.15	-6555903.01	0.0534	0.0378
Neptune	-22663-12-20 00:14 J	-6555884.71	-6555884.49	-6555884.27	0.0089	0.0001
Jupiter	-22662-07-27 00:00 J	-6555665.70	-6555665.50	-6555665.30	0.0532	0.0082
Neptune	-22662-08-02 12:43 J	-6555659.18	-6555658.97	-6555658.75	0.0089	0.0002
Neptune	-22661-03-15 01:26 J	-6555433.65	-6555433.44	-6555433.22	0.0089	0.0002
Jupiter	-22661-03-20 07:55 J	-6555428.21	-6555428.17	-6555428.12	0.0527	0.0511
Neptune	-22661-10-26 14:09 J	-6555208.13	-6555207.91	-6555207.70	0.0089	0.0002
Neptune	-22660-06-09 02:38 J	-6554982.61	-6554982.39	-6554982.18	0.0089	0.0002
Neptune	-22659-01-20 15:07 J	-6554757.09	-6554756.87	-6554756.66	0.0089	0.0002
Neptune	-22659-09-03 03:36 J	-6554531.57	-6554531.35	-6554531.13	0.0089	0.0002
Neptune	-22658-04-16 16:04 J	-6554306.04	-6554305.83	-6554305.61	0.0089	0.0003
Neptune	-22658-11-28 04:33 J	-6554080.52	-6554080.31	-6554080.09	0.0089	0.0003
Neptune	-22657-07-10 17:02 J	-6553855.00	-6553854.79	-6553854.57	0.0089	0.0003
Jupiter	-22657-09-29 18:00 J	-6553773.84	-6553773.75	-6553773.64	0.0492	0.0429
Neptune	-22656-02-21 05:31 J	-6553629.49	-6553629.27	-6553629.06	0.0089	0.0003
Jupiter	-22656-05-24 01:40 J	-6553537.64	-6553537.43	-6553537.23	0.0494	0.0071
Neptune	-22656-10-04 18:00 J	-6553403.97	-6553403.75	-6553403.54	0.0089	0.0003
Uranus	-22656-11-23 10:19 J	-6553354.13	-6553354.07	-6553353.99	0.0147	0.0139
Jupiter	-22655-01-15 14:52 J	-6553301.04	-6553300.88	-6553300.71	0.0497	0.0306

Neptune	-22655-05-18 06:28 J	-6553178.45	-6553178.23	-6553178.02	0.0089	0.0004
Uranus	-22655-07-07 23:02 J	-6553127.68	-6553127.54	-6553127.39	0.0147	0.0107
Neptune	-22655-12-29 18:43 J	-6552952.93	-6552952.72	-6552952.50	0.0089	0.0003
Uranus	-22654-02-19 11:16 J	-6552901.20	-6552901.03	-6552900.83	0.0146	0.0075
Neptune	-22654-08-12 06:57 J	-6552727.42	-6552727.21	-6552726.99	0.0089	0.0005
Uranus	-22654-10-03 23:45 J	-6552674.71	-6552674.51	-6552674.29	0.0146	0.0042
Neptune	-22653-03-24 19:26 J	-6552501.90	-6552501.69	-6552501.47	0.0089	0.0004
Uranus	-22653-05-17 12:14 J	-6552448.20	-6552447.99	-6552447.77	0.0146	0.0010
Neptune	-22653-11-05 07:55 J	-6552276.38	-6552276.17	-6552275.95	0.0089	0.0004
Uranus	-22653-12-30 00:43 J	-6552221.69	-6552221.47	-6552221.26	0.0146	0.0023
Neptune	-22652-06-18 20:09 J	-6552050.87	-6552050.66	-6552050.44	0.0089	0.0005
Uranus	-22652-08-13 12:57 J	-6551995.15	-6551994.96	-6551994.75	0.0146	0.0056
Neptune	-22651-01-30 08:38 J	-6551825.36	-6551825.14	-6551824.92	0.0089	0.0004
Uranus	-22651-03-28 01:11 J	-6551768.61	-6551768.45	-6551768.26	0.0146	0.0088
Jupiter	-22651-08-05 23:02 J	-6551637.60	-6551637.54	-6551637.47	0.0534	0.0500
Neptune	-22651-09-12 21:07 J	-6551599.84	-6551599.62	-6551599.41	0.0089	0.0005
Uranus	-22651-11-09 13:26 J	-6551542.05	-6551541.94	-6551541.80	0.0145	0.0120
Jupiter	-22650-03-31 16:48 J	-6551400.00	-6551399.80	-6551399.60	0.0532	0.0046
Neptune	-22650-04-26 09:36 J	-6551374.32	-6551374.10	-6551373.88	0.0089	0.0005
Jupiter	-22650-11-24 02:38 J	-6551162.51	-6551162.39	-6551162.25	0.0528	0.0398
Neptune	-22650-12-07 21:50 J	-6551148.80	-6551148.59	-6551148.37	0.0089	0.0005
Saturn	-22649-01-11 11:31 J	-6551114.16	-6551114.02	-6551113.87	0.0262	0.0188
Neptune	-22649-07-20 10:19 J	-6550923.28	-6550923.07	-6550922.85	0.0089	0.0005
Saturn	-22649-08-27 06:57 J	-6550885.40	-6550885.21	-6550885.00	0.0262	0.0073
Neptune	-22648-03-02 22:33 J	-6550697.77	-6550697.56	-6550697.34	0.0089	0.0006
Saturn	-22648-04-13 03:36 J	-6550656.56	-6550656.35	-6550656.14	0.0263	0.0047
Mars	-22648-09-28 01:11 J	-6550488.54	-6550488.45	-6550488.36	0.1658	0.1407
Neptune	-22648-10-14 11:02 J	-6550472.25	-6550472.04	-6550471.82	0.0089	0.0005
Saturn	-22648-11-28 01:11 J	-6550427.61	-6550427.45	-6550427.29	0.0264	0.0167
Neptune	-22647-05-27 23:31 J	-6550246.73	-6550246.52	-6550246.30	0.0089	0.0005

Neptune -22646-01-08 11:45 J -6550021.22 -6550021.01 -6550020.79 0.0089 0.0006
 Mars -22646-07-29 03:36 J -6549819.51 -6549819.35 -6549819.18 0.1647 0.0494
 Neptune -22646-08-22 00:14 J -6549795.71 -6549795.49 -6549795.28 0.0089 0.0006
 Neptune -22645-04-03 12:28 J -6549570.19 -6549569.98 -6549569.76 0.0089 0.0006
 Neptune -22645-11-15 00:43 J -6549344.68 -6549344.47 -6549344.25 0.0089 0.0006
 Jupiter -22644-01-27 02:23 J -6549271.59 -6549271.40 -6549271.20 0.0493 0.0172
 Neptune -22644-06-28 13:11 J -6549119.17 -6549118.95 -6549118.74 0.0089 0.0006
 Jupiter -22644-09-20 13:55 J -6549035.10 -6549034.92 -6549034.73 0.0496 0.0204
 Neptune -22643-02-09 01:26 J -6548893.66 -6548893.44 -6548893.23 0.0089 0.0006
 Mars -22643-05-01 10:33 J -6548812.11 -6548812.06 -6548812.00 0.1876 0.1776
 Neptune -22643-09-22 13:40 J -6548668.14 -6548667.93 -6548667.71 0.0089 0.0006
 Neptune -22642-05-06 01:55 J -6548442.63 -6548442.42 -6548442.20 0.0089 0.0007
 Neptune -22642-12-17 14:23 J -6548217.11 -6548216.90 -6548216.68 0.0089 0.0007
 Neptune -22641-07-30 02:38 J -6547991.61 -6547991.39 -6547991.18 0.0089 0.0007
 Neptune -22640-03-12 14:52 J -6547766.10 -6547765.88 -6547765.67 0.0089 0.0007
 Neptune -22640-10-24 03:07 J -6547540.58 -6547540.37 -6547540.15 0.0089 0.0007
 Neptune -22639-06-06 15:36 J -6547315.07 -6547314.85 -6547314.63 0.0089 0.0007
 Jupiter -22639-12-04 06:57 J -6547134.40 -6547134.21 -6547134.02 0.0534 0.0175
 Neptune -22638-01-18 03:50 J -6547089.55 -6547089.34 -6547089.12 0.0089 0.0007
 Jupiter -22638-07-29 19:40 J -6546896.84 -6546896.68 -6546896.50 0.0530 0.0281
 Neptune -22638-08-31 16:04 J -6546864.04 -6546863.83 -6546863.61 0.0089 0.0007
 Neptune -22637-04-13 04:19 J -6546638.53 -6546638.32 -6546638.10 0.0089 0.0008
 Neptune -22637-11-24 16:48 J -6546413.01 -6546412.80 -6546412.58 0.0089 0.0007
 Neptune -22636-07-08 05:02 J -6546187.50 -6546187.29 -6546187.07 0.0089 0.0008
 Neptune -22635-02-18 17:31 J -6545961.98 -6545961.77 -6545961.55 0.0089 0.0008
 Saturn -22635-06-28 22:04 J -6545831.69 -6545831.58 -6545831.44 0.0299 0.0241
 Neptune -22635-10-02 05:45 J -6545736.47 -6545736.26 -6545736.04 0.0089 0.0008
 Saturn -22634-02-14 05:45 J -6545601.47 -6545601.26 -6545601.05 0.0299 0.0059
 Neptune -22634-05-15 18:14 J -6545510.95 -6545510.74 -6545510.52 0.0089 0.0008
 Saturn -22634-10-02 11:16 J -6545371.22 -6545371.03 -6545370.83 0.0298 0.0120

Neptune	-22634-12-27 06:43 J	-6545285.44	-6545285.22	-6545285.01	0.0089	0.0008
Saturn	-22633-05-19 14:52 J	-6545140.90	-6545140.88	-6545140.84	0.0296	0.0292
Neptune	-22633-08-08 18:57 J	-6545059.93	-6545059.71	-6545059.49	0.0089	0.0008
Jupiter	-22633-10-02 04:04 J	-6545005.50	-6545005.33	-6545005.15	0.0492	0.0270
Neptune	-22632-03-22 07:11 J	-6544834.41	-6544834.20	-6544833.98	0.0089	0.0008
Jupiter	-22632-05-26 13:40 J	-6544769.13	-6544768.93	-6544768.73	0.0495	0.0100
Neptune	-22632-11-02 19:26 J	-6544608.90	-6544608.69	-6544608.47	0.0089	0.0008
Jupiter	-22631-01-18 05:16 J	-6544532.33	-6544532.28	-6544532.21	0.0499	0.0474
Neptune	-22631-06-16 07:55 J	-6544383.38	-6544383.17	-6544382.95	0.0089	0.0008
Neptune	-22630-01-27 20:09 J	-6544157.87	-6544157.66	-6544157.44	0.0089	0.0009
Neptune	-22630-09-10 08:23 J	-6543932.36	-6543932.15	-6543931.93	0.0089	0.0009
Neptune	-22629-04-22 20:52 J	-6543706.84	-6543706.63	-6543706.41	0.0089	0.0008
Neptune	-22629-12-04 09:07 J	-6543481.33	-6543481.12	-6543480.90	0.0089	0.0009
Neptune	-22628-07-17 21:36 J	-6543255.81	-6543255.60	-6543255.38	0.0089	0.0008
Neptune	-22627-02-28 09:50 J	-6543030.30	-6543030.09	-6543029.87	0.0089	0.0009
Jupiter	-22627-08-08 22:33 J	-6542868.73	-6542868.56	-6542868.40	0.0534	0.0302
Neptune	-22627-10-11 22:19 J	-6542804.79	-6542804.57	-6542804.35	0.0088	0.0008
Jupiter	-22626-04-03 13:55 J	-6542631.11	-6542630.92	-6542630.73	0.0532	0.0158
Neptune	-22626-05-25 10:48 J	-6542579.27	-6542579.05	-6542578.83	0.0088	0.0009
Neptune	-22625-01-05 23:16 J	-6542353.75	-6542353.53	-6542353.32	0.0088	0.0009
Neptune	-22625-08-18 11:31 J	-6542128.23	-6542128.02	-6542127.80	0.0088	0.0009
Neptune	-22624-04-01 00:00 J	-6541902.72	-6541902.50	-6541902.28	0.0088	0.0009
Neptune	-22624-11-12 12:28 J	-6541677.20	-6541676.98	-6541676.76	0.0088	0.0009
Neptune	-22623-06-26 01:11 J	-6541451.67	-6541451.45	-6541451.23	0.0088	0.0009
Neptune	-22622-02-06 13:40 J	-6541226.15	-6541225.93	-6541225.71	0.0088	0.0009
Neptune	-22622-09-20 02:09 J	-6541000.63	-6541000.41	-6541000.20	0.0088	0.0009
Neptune	-22621-05-02 14:23 J	-6540775.11	-6540774.90	-6540774.68	0.0088	0.0009
Jupiter	-22621-06-07 05:31 J	-6540739.40	-6540739.27	-6540739.13	0.0492	0.0367
Neptune	-22621-12-14 02:52 J	-6540549.59	-6540549.38	-6540549.16	0.0088	0.0009
Jupiter	-22620-01-29 13:11 J	-6540503.16	-6540502.95	-6540502.74	0.0494	0.0008

Saturn	-22620-07-23 14:38 J	-6540328.04	-6540327.89	-6540327.73	0.0262	0.0171
Neptune	-22620-07-27 15:36 J	-6540324.07	-6540323.85	-6540323.63	0.0088	0.0009
Jupiter	-22620-09-23 02:52 J	-6540266.51	-6540266.38	-6540266.24	0.0497	0.0371
Saturn	-22619-03-09 10:19 J	-6540099.28	-6540099.07	-6540098.86	0.0262	0.0054
Neptune	-22619-03-10 04:04 J	-6540098.55	-6540098.33	-6540098.11	0.0088	0.0009
Neptune	-22619-10-21 16:33 J	-6539873.03	-6539872.81	-6539872.59	0.0088	0.0009
Saturn	-22619-10-24 06:43 J	-6539870.42	-6539870.22	-6539870.01	0.0263	0.0065
Neptune	-22618-06-04 05:02 J	-6539647.50	-6539647.29	-6539647.07	0.0088	0.0009
Saturn	-22618-06-10 04:19 J	-6539641.47	-6539641.32	-6539641.17	0.0264	0.0186
Neptune	-22617-01-15 17:31 J	-6539421.98	-6539421.77	-6539421.55	0.0088	0.0009
Neptune	-22617-08-28 06:00 J	-6539196.46	-6539196.25	-6539196.03	0.0088	0.0009
Neptune	-22616-04-10 18:28 J	-6538970.94	-6538970.73	-6538970.51	0.0088	0.0009
Neptune	-22616-11-22 07:11 J	-6538745.42	-6538745.20	-6538744.98	0.0088	0.0009
Jupiter	-22615-04-13 14:23 J	-6538603.01	-6538602.90	-6538602.77	0.0535	0.0426
Neptune	-22615-07-05 19:55 J	-6538519.89	-6538519.67	-6538519.45	0.0088	0.0009
Jupiter	-22615-12-07 07:55 J	-6538365.37	-6538365.17	-6538364.97	0.0533	0.0034
Neptune	-22614-02-16 08:23 J	-6538294.36	-6538294.15	-6538293.93	0.0088	0.0009
Mars	-22614-07-27 20:23 J	-6538132.81	-6538132.65	-6538132.48	0.1651	0.0407
Jupiter	-22614-08-01 17:31 J	-6538127.85	-6538127.77	-6538127.68	0.0528	0.0471
Neptune	-22614-09-29 20:52 J	-6538068.84	-6538068.63	-6538068.41	0.0088	0.0009
Neptune	-22613-05-12 09:36 J	-6537843.32	-6537843.10	-6537842.88	0.0088	0.0008
Uranus	-22613-08-29 03:21 J	-6537734.42	-6537734.36	-6537734.27	0.0132	0.0123
Neptune	-22613-12-23 22:19 J	-6537617.79	-6537617.57	-6537617.35	0.0088	0.0009
Uranus	-22612-04-12 08:23 J	-6537508.28	-6537508.15	-6537507.99	0.0132	0.0100
Mars	-22612-05-27 00:00 J	-6537463.58	-6537463.50	-6537463.43	0.1641	0.1456
Neptune	-22612-08-06 11:02 J	-6537392.26	-6537392.04	-6537391.82	0.0088	0.0008
Uranus	-22612-11-24 13:40 J	-6537282.10	-6537281.93	-6537281.74	0.0132	0.0075
Neptune	-22611-03-19 23:45 J	-6537166.73	-6537166.51	-6537166.29	0.0088	0.0008
Mars	-22611-05-01 12:14 J	-6537124.17	-6537123.99	-6537123.81	0.1870	0.0038
Uranus	-22611-07-08 18:57 J	-6537055.90	-6537055.71	-6537055.50	0.0132	0.0051

Neptune	-22611-10-31 12:28 J	-6536941.20	-6536940.98	-6536940.76	0.0088	0.0008
Uranus	-22610-02-20 00:14 J	-6536829.70	-6536829.49	-6536829.27	0.0133	0.0027
Neptune	-22610-06-14 01:11 J	-6536715.67	-6536715.45	-6536715.23	0.0088	0.0008
Uranus	-22610-10-04 05:31 J	-6536603.49	-6536603.27	-6536603.05	0.0133	0.0003
Neptune	-22609-01-25 13:55 J	-6536490.14	-6536489.92	-6536489.70	0.0088	0.0008
Jupiter	-22609-02-11 07:40 J	-6536473.24	-6536473.18	-6536473.10	0.0492	0.0460
Uranus	-22609-05-17 10:33 J	-6536377.27	-6536377.06	-6536376.84	0.0133	0.0022
Neptune	-22609-09-07 02:38 J	-6536264.61	-6536264.39	-6536264.17	0.0088	0.0008
Jupiter	-22609-10-04 14:09 J	-6536237.11	-6536236.91	-6536236.71	0.0493	0.0107
Uranus	-22609-12-29 15:36 J	-6536151.04	-6536150.85	-6536150.63	0.0133	0.0047
Neptune	-22608-04-20 15:21 J	-6536039.08	-6536038.86	-6536038.64	0.0088	0.0008
Jupiter	-22608-05-29 01:55 J	-6536000.59	-6536000.42	-6536000.24	0.0496	0.0269
Uranus	-22608-08-12 20:52 J	-6535924.80	-6535924.63	-6535924.44	0.0133	0.0072
Neptune	-22608-12-02 04:04 J	-6535813.55	-6535813.33	-6535813.11	0.0088	0.0008
Uranus	-22607-03-27 01:55 J	-6535698.55	-6535698.42	-6535698.25	0.0133	0.0097
Neptune	-22607-07-15 17:02 J	-6535588.01	-6535587.79	-6535587.57	0.0088	0.0008
Uranus	-22607-11-08 07:11 J	-6535472.27	-6535472.20	-6535472.09	0.0133	0.0121
Neptune	-22606-02-26 05:45 J	-6535362.48	-6535362.26	-6535362.04	0.0088	0.0008
Neptune	-22606-10-09 18:28 J	-6535136.95	-6535136.73	-6535136.51	0.0088	0.0008
Saturn	-22605-01-09 01:26 J	-6535045.57	-6535045.44	-6535045.28	0.0299	0.0221
Neptune	-22605-05-22 07:11 J	-6534911.42	-6534911.20	-6534910.98	0.0088	0.0008
Saturn	-22605-08-26 08:52 J	-6534815.35	-6534815.13	-6534814.92	0.0298	0.0040
Neptune	-22604-01-02 19:55 J	-6534685.88	-6534685.67	-6534685.44	0.0088	0.0008
Saturn	-22604-04-13 14:09 J	-6534585.10	-6534584.91	-6534584.72	0.0297	0.0138
Neptune	-22604-08-16 08:52 J	-6534460.35	-6534460.13	-6534459.90	0.0088	0.0008
Neptune	-22603-03-29 21:50 J	-6534234.81	-6534234.59	-6534234.37	0.0088	0.0007
Jupiter	-22603-08-12 00:57 J	-6534099.66	-6534099.46	-6534099.27	0.0533	0.0092
Neptune	-22603-11-10 10:33 J	-6534009.28	-6534009.06	-6534008.84	0.0088	0.0007
Jupiter	-22602-04-06 12:14 J	-6533862.13	-6533861.99	-6533861.84	0.0529	0.0357
Neptune	-22602-06-23 23:31 J	-6533783.74	-6533783.52	-6533783.30	0.0088	0.0007

Neptune	-22601-02-04 12:14 J	-6533558.21	-6533557.99	-6533557.76	0.0088	0.0007
Neptune	-22601-09-17 01:11 J	-6533332.67	-6533332.45	-6533332.23	0.0088	0.0007
Neptune	-22600-04-30 14:09 J	-6533107.13	-6533106.91	-6533106.69	0.0088	0.0007
Neptune	-22600-12-12 03:07 J	-6532881.59	-6532881.37	-6532881.15	0.0088	0.0007
Neptune	-22599-07-25 16:04 J	-6532656.04	-6532655.83	-6532655.60	0.0088	0.0007
Neptune	-22598-03-08 05:16 J	-6532430.50	-6532430.28	-6532430.06	0.0088	0.0006
Neptune	-22598-10-19 18:14 J	-6532204.96	-6532204.74	-6532204.52	0.0088	0.0006
Neptune	-22597-06-01 07:11 J	-6531979.42	-6531979.20	-6531978.98	0.0088	0.0006
Jupiter	-22597-06-09 13:26 J	-6531971.12	-6531970.94	-6531970.75	0.0493	0.0209
Neptune	-22596-01-12 20:23 J	-6531753.87	-6531753.65	-6531753.43	0.0088	0.0006
Jupiter	-22596-02-01 00:14 J	-6531734.69	-6531734.49	-6531734.30	0.0496	0.0165
Neptune	-22596-08-26 09:36 J	-6531528.32	-6531528.10	-6531527.88	0.0088	0.0006
Neptune	-22595-04-08 22:33 J	-6531302.78	-6531302.56	-6531302.33	0.0088	0.0006
Neptune	-22595-11-20 11:45 J	-6531077.23	-6531077.01	-6531076.79	0.0088	0.0005
Neptune	-22594-07-04 00:43 J	-6530851.69	-6530851.47	-6530851.24	0.0088	0.0005
Neptune	-22593-02-14 13:55 J	-6530626.14	-6530625.92	-6530625.70	0.0088	0.0005
Neptune	-22593-09-27 03:07 J	-6530400.59	-6530400.37	-6530400.15	0.0088	0.0005
Neptune	-22592-05-10 16:04 J	-6530175.05	-6530174.83	-6530174.60	0.0088	0.0005
Neptune	-22592-12-22 05:16 J	-6529949.50	-6529949.28	-6529949.06	0.0088	0.0005
Jupiter	-22591-04-16 16:33 J	-6529833.99	-6529833.81	-6529833.62	0.0534	0.0220
Neptune	-22591-08-04 18:28 J	-6529723.95	-6529723.73	-6529723.50	0.0088	0.0005
Jupiter	-22591-12-10 05:45 J	-6529596.43	-6529596.26	-6529596.07	0.0530	0.0237
Saturn	-22590-02-02 18:28 J	-6529541.89	-6529541.73	-6529541.55	0.0262	0.0154
Neptune	-22590-03-18 07:40 J	-6529498.40	-6529498.18	-6529497.95	0.0088	0.0004
Saturn	-22590-09-19 14:38 J	-6529313.10	-6529312.89	-6529312.68	0.0263	0.0035
Neptune	-22590-10-29 20:52 J	-6529272.85	-6529272.63	-6529272.41	0.0088	0.0004
Saturn	-22589-05-05 11:16 J	-6529084.23	-6529084.03	-6529083.83	0.0263	0.0084
Neptune	-22589-06-11 10:04 J	-6529047.30	-6529047.08	-6529046.86	0.0088	0.0004
Saturn	-22589-12-20 09:21 J	-6528855.24	-6528855.11	-6528854.98	0.0264	0.0205
Neptune	-22588-01-22 23:16 J	-6528821.75	-6528821.53	-6528821.31	0.0088	0.0004

Neptune	-22588-09-05 12:43 J	-6528596.19	-6528595.97	-6528595.75	0.0088	0.0004
Neptune	-22587-04-19 01:55 J	-6528370.64	-6528370.42	-6528370.19	0.0088	0.0004
Neptune	-22587-11-30 15:21 J	-6528145.09	-6528144.86	-6528144.64	0.0088	0.0003
Neptune	-22586-07-14 04:33 J	-6527919.53	-6527919.31	-6527919.08	0.0088	0.0003
Jupiter	-22585-02-13 14:52 J	-6527705.04	-6527704.88	-6527704.72	0.0492	0.0306
Neptune	-22585-02-24 18:00 J	-6527693.97	-6527693.75	-6527693.53	0.0088	0.0003
Jupiter	-22585-10-07 00:00 J	-6527468.70	-6527468.50	-6527468.29	0.0495	0.0062
Neptune	-22585-10-07 07:26 J	-6527468.41	-6527468.19	-6527467.96	0.0088	0.0003 *
Neptune	-22584-05-20 20:52 J	-6527242.85	-6527242.63	-6527242.41	0.0088	0.0002
Jupiter	-22584-05-31 15:07 J	-6527231.96	-6527231.87	-6527231.76	0.0499	0.0438
Neptune	-22583-01-01 10:19 J	-6527017.30	-6527017.07	-6527016.85	0.0088	0.0002
Neptune	-22583-08-14 23:45 J	-6526791.73	-6526791.51	-6526791.29	0.0088	0.0002
Neptune	-22582-03-28 13:11 J	-6526566.18	-6526565.95	-6526565.73	0.0088	0.0002
Mars	-22582-07-26 13:26 J	-6526446.05	-6526445.94	-6526445.84	0.1656	0.1313
Neptune	-22582-11-09 02:38 J	-6526340.62	-6526340.39	-6526340.17	0.0088	0.0002
Neptune	-22581-06-21 16:04 J	-6526115.06	-6526114.83	-6526114.61	0.0088	0.0002
Neptune	-22580-02-02 05:16 J	-6525889.50	-6525889.28	-6525889.05	0.0088	0.0002
Mars	-22580-05-25 16:04 J	-6525776.99	-6525776.83	-6525776.67	0.1645	0.0575
Neptune	-22580-09-15 18:57 J	-6525663.93	-6525663.71	-6525663.48	0.0088	0.0001
Jupiter	-22580-12-20 05:31 J	-6525568.41	-6525568.27	-6525568.11	0.0534	0.0349
Neptune	-22579-04-29 08:23 J	-6525438.37	-6525438.15	-6525437.92	0.0088	0.0001
Mars	-22579-05-01 13:11 J	-6525435.98	-6525435.95	-6525435.91	0.1863	0.1817
Jupiter	-22579-08-14 21:21 J	-6525330.81	-6525330.61	-6525330.41	0.0532	0.0111
Neptune	-22579-12-10 21:50 J	-6525212.81	-6525212.59	-6525212.36	0.0088	0.0001
Neptune	-22578-07-24 11:16 J	-6524987.25	-6524987.03	-6524986.80	0.0088	0.0000
Neptune	-22577-03-06 00:43 J	-6524761.69	-6524761.47	-6524761.24	0.0088	0.0001
Neptune	-22577-10-17 14:23 J	-6524536.13	-6524535.90	-6524535.68	0.0088	0.0001
Neptune	-22576-05-31 03:50 J	-6524310.56	-6524310.34	-6524310.11	0.0088	0.0001
Saturn	-22576-07-21 12:57 J	-6524259.12	-6524258.96	-6524258.79	0.0299	0.0188
Neptune	-22575-01-11 17:16 J	-6524085.00	-6524084.78	-6524084.55	0.0088	0.0002

Saturn	-22575-03-08 19:55 J	-6524028.88	-6524028.67	-6524028.46	0.0299	0.0007
Neptune	-22575-08-25 06:57 J	-6523859.43	-6523859.21	-6523858.99	0.0088	0.0001
Saturn	-22575-10-25 01:11 J	-6523798.63	-6523798.45	-6523798.28	0.0297	0.0171
Neptune	-22574-04-07 20:38 J	-6523633.87	-6523633.64	-6523633.42	0.0088	0.0002
Jupiter	-22574-10-19 17:02 J	-6523438.90	-6523438.79	-6523438.66	0.0492	0.0401
Neptune	-22574-11-19 10:04 J	-6523408.30	-6523408.08	-6523407.85	0.0088	0.0002
Jupiter	-22573-06-12 00:28 J	-6523202.69	-6523202.48	-6523202.27	0.0494	0.0041
Neptune	-22573-07-01 23:45 J	-6523182.74	-6523182.51	-6523182.29	0.0088	0.0001
Jupiter	-22572-02-03 13:26 J	-6522966.09	-6522965.94	-6522965.78	0.0497	0.0335
Neptune	-22572-02-12 13:26 J	-6522957.17	-6522956.94	-6522956.72	0.0088	0.0002
Neptune	-22572-09-26 03:07 J	-6522731.59	-6522731.37	-6522731.14	0.0088	0.0002
Uranus	-22571-03-07 08:23 J	-6522569.26	-6522569.15	-6522569.02	0.0147	0.0120
Neptune	-22571-05-09 16:48 J	-6522506.03	-6522505.80	-6522505.58	0.0088	0.0002
Uranus	-22571-10-19 20:38 J	-6522342.80	-6522342.64	-6522342.45	0.0146	0.0088
Neptune	-22571-12-21 06:28 J	-6522280.46	-6522280.23	-6522280.01	0.0088	0.0002
Uranus	-22570-06-03 09:21 J	-6522116.31	-6522116.11	-6522115.91	0.0146	0.0055
Neptune	-22570-08-03 19:55 J	-6522054.89	-6522054.67	-6522054.44	0.0088	0.0003
Uranus	-22569-01-15 21:36 J	-6521889.81	-6521889.60	-6521889.38	0.0146	0.0022
Neptune	-22569-03-16 09:36 J	-6521829.32	-6521829.10	-6521828.87	0.0088	0.0003
Uranus	-22569-08-29 10:04 J	-6521663.30	-6521663.08	-6521662.86	0.0146	0.0011
Neptune	-22569-10-27 23:31 J	-6521603.75	-6521603.52	-6521603.30	0.0088	0.0003
Uranus	-22568-04-12 22:19 J	-6521436.78	-6521436.57	-6521436.36	0.0146	0.0043
Neptune	-22568-06-10 12:57 J	-6521378.18	-6521377.96	-6521377.73	0.0088	0.0004
Jupiter	-22568-08-24 20:09 J	-6521302.75	-6521302.66	-6521302.57	0.0535	0.0473
Uranus	-22568-11-25 10:19 J	-6521210.24	-6521210.07	-6521209.87	0.0146	0.0076
Neptune	-22567-01-22 02:38 J	-6521152.61	-6521152.39	-6521152.16	0.0088	0.0003
Jupiter	-22567-04-19 13:55 J	-6521065.12	-6521064.92	-6521064.72	0.0533	0.0019
Uranus	-22567-07-09 22:48 J	-6520983.68	-6520983.55	-6520983.39	0.0145	0.0108
Neptune	-22567-09-04 16:19 J	-6520927.05	-6520926.82	-6520926.60	0.0088	0.0003
Jupiter	-22567-12-13 00:28 J	-6520827.59	-6520827.48	-6520827.36	0.0529	0.0427

Uranus	-22566-02-21 11:02 J	-6520757.08	-6520757.04	-6520756.97	0.0145	0.0139
Neptune	-22566-04-18 06:00 J	-6520701.48	-6520701.25	-6520701.03	0.0088	0.0004
Neptune	-22566-11-29 19:40 J	-6520475.91	-6520475.68	-6520475.46	0.0088	0.0004
Neptune	-22565-07-12 09:07 J	-6520250.34	-6520250.12	-6520249.89	0.0088	0.0005
Neptune	-22564-02-22 22:48 J	-6520024.77	-6520024.55	-6520024.32	0.0088	0.0004
Neptune	-22564-10-06 12:43 J	-6519799.20	-6519798.97	-6519798.75	0.0088	0.0005
Neptune	-22563-05-20 02:09 J	-6519573.63	-6519573.41	-6519573.18	0.0088	0.0006
Neptune	-22563-12-31 15:50 J	-6519348.06	-6519347.84	-6519347.61	0.0088	0.0006
Neptune	-22562-08-14 05:31 J	-6519122.49	-6519122.27	-6519122.04	0.0088	0.0006
Saturn	-22562-12-30 03:50 J	-6518984.40	-6518984.34	-6518984.27	0.0262	0.0248
Jupiter	-22561-02-16 00:43 J	-6518936.67	-6518936.47	-6518936.27	0.0493	0.0144
Neptune	-22561-03-26 19:26 J	-6518896.92	-6518896.69	-6518896.47	0.0088	0.0005
Saturn	-22561-08-14 23:02 J	-6518755.72	-6518755.54	-6518755.36	0.0262	0.0133
Jupiter	-22561-10-09 11:45 J	-6518700.19	-6518700.01	-6518699.82	0.0496	0.0230
Neptune	-22561-11-07 09:21 J	-6518671.34	-6518671.11	-6518670.89	0.0088	0.0006
Saturn	-22560-03-31 18:57 J	-6518526.92	-6518526.71	-6518526.50	0.0263	0.0016
Neptune	-22560-06-20 23:02 J	-6518445.77	-6518445.54	-6518445.32	0.0088	0.0006
Saturn	-22560-11-15 15:36 J	-6518298.04	-6518297.85	-6518297.65	0.0264	0.0104
Neptune	-22559-02-01 12:43 J	-6518220.19	-6518219.97	-6518219.74	0.0088	0.0006
Saturn	-22559-07-02 13:40 J	-6518069.03	-6518068.93	-6518068.81	0.0265	0.0226
Neptune	-22559-09-15 02:23 J	-6517994.62	-6517994.40	-6517994.17	0.0088	0.0006
Neptune	-22558-04-28 16:04 J	-6517769.05	-6517768.83	-6517768.60	0.0088	0.0007
Neptune	-22558-12-10 06:00 J	-6517543.47	-6517543.25	-6517543.02	0.0088	0.0007
Neptune	-22557-07-22 19:40 J	-6517317.90	-6517317.68	-6517317.45	0.0088	0.0007
Neptune	-22556-03-05 09:21 J	-6517092.33	-6517092.11	-6517091.88	0.0088	0.0007
Neptune	-22556-10-16 23:16 J	-6516866.75	-6516866.53	-6516866.30	0.0088	0.0007
Jupiter	-22556-12-23 06:43 J	-6516799.41	-6516799.22	-6516799.03	0.0534	0.0143
Neptune	-22555-05-30 12:57 J	-6516641.18	-6516640.96	-6516640.73	0.0088	0.0007
Jupiter	-22555-08-17 19:40 J	-6516561.84	-6516561.68	-6516561.52	0.0530	0.0311
Neptune	-22554-01-11 02:38 J	-6516415.61	-6516415.39	-6516415.16	0.0088	0.0008

Neptune	-22554-08-24 16:19 J	-6516190.04	-6516189.82	-6516189.59	0.0089	0.0008
Neptune	-22553-04-06 06:00 J	-6515964.47	-6515964.25	-6515964.02	0.0089	0.0008
Neptune	-22553-11-17 19:55 J	-6515738.89	-6515738.67	-6515738.45	0.0089	0.0008
Neptune	-22552-07-01 09:36 J	-6515513.32	-6515513.10	-6515512.88	0.0089	0.0008
Neptune	-22551-02-11 23:02 J	-6515287.75	-6515287.54	-6515287.31	0.0089	0.0009
Neptune	-22551-09-25 12:43 J	-6515062.19	-6515061.97	-6515061.74	0.0089	0.0009
Neptune	-22550-05-09 02:38 J	-6514836.61	-6514836.39	-6514836.17	0.0089	0.0008
Jupiter	-22550-10-22 01:55 J	-6514670.60	-6514670.42	-6514670.24	0.0492	0.0243
Neptune	-22550-12-20 16:19 J	-6514611.04	-6514610.82	-6514610.59	0.0089	0.0009
Jupiter	-22549-06-14 11:16 J	-6514434.23	-6514434.03	-6514433.83	0.0495	0.0126
Neptune	-22549-08-02 06:00 J	-6514385.47	-6514385.25	-6514385.02	0.0089	0.0009
Jupiter	-22548-02-06 03:07 J	-6514197.37	-6514197.37	-6514197.36	0.0499	0.0499
Neptune	-22548-03-15 19:40 J	-6514159.90	-6514159.68	-6514159.45	0.0089	0.0009
Earth	-22548-05-01 01:26 J	-6514113.59	-6514113.44	-6514113.30	0.2713	0.1065
Moon	-22548-05-01 05:02 J	-6514113.43	-6514113.29	-6514113.14	0.2708	0.1378 *
Mars	-22548-05-24 08:52 J	-6514090.30	-6514090.13	-6514089.96	0.1650	0.0320
Neptune	-22548-10-27 09:36 J	-6513934.32	-6513934.10	-6513933.88	0.0089	0.0009
Neptune	-22547-06-09 23:16 J	-6513708.75	-6513708.53	-6513708.31	0.0089	0.0009
Neptune	-22546-01-21 12:57 J	-6513483.18	-6513482.96	-6513482.73	0.0089	0.0009
Saturn	-22546-01-31 18:00 J	-6513472.92	-6513472.75	-6513472.57	0.0299	0.0167
Mars	-22546-03-24 12:28 J	-6513421.04	-6513420.98	-6513420.92	0.1640	0.1536
Neptune	-22546-09-04 02:38 J	-6513257.61	-6513257.39	-6513257.16	0.0089	0.0010
Saturn	-22546-09-19 00:43 J	-6513242.68	-6513242.47	-6513242.26	0.0298	0.0014
Mars	-22545-02-26 15:07 J	-6513082.05	-6513081.87	-6513081.69	0.1872	0.0251
Neptune	-22545-04-16 16:19 J	-6513032.04	-6513031.82	-6513031.59	0.0089	0.0010
Saturn	-22545-05-06 05:31 J	-6513012.43	-6513012.27	-6513012.10	0.0297	0.0191
Neptune	-22545-11-28 06:14 J	-6512806.46	-6512806.24	-6512806.02	0.0089	0.0010
Neptune	-22544-07-11 19:55 J	-6512580.89	-6512580.67	-6512580.45	0.0089	0.0010
Jupiter	-22544-08-27 23:31 J	-6512533.69	-6512533.52	-6512533.35	0.0534	0.0267
Neptune	-22543-02-22 09:36 J	-6512355.32	-6512355.10	-6512354.88	0.0089	0.0010

Jupiter -22543-04-22 14:09 J -6512296.10 -6512295.91 -6512295.73 0.0531 0.0192
 Neptune -22543-10-05 23:02 J -6512129.76 -6512129.54 -6512129.31 0.0089 0.0010
 Neptune -22542-05-19 12:43 J -6511904.19 -6511903.97 -6511903.75 0.0089 0.0010
 Neptune -22542-12-31 02:23 J -6511678.62 -6511678.40 -6511678.18 0.0089 0.0010
 Neptune -22541-08-12 16:04 J -6511453.05 -6511452.83 -6511452.61 0.0089 0.0010
 Neptune -22540-03-26 05:31 J -6511227.49 -6511227.27 -6511227.05 0.0089 0.0010
 Moon -22540-04-28 13:40 J -6511193.99 -6511193.93 -6511193.87 0.2706 0.2510
 Neptune -22540-11-06 18:57 J -6511001.93 -6511001.71 -6511001.48 0.0089 0.0011
 Neptune -22539-06-20 08:23 J -6510776.36 -6510776.15 -6510775.92 0.0089 0.0011
 Neptune -22538-01-31 22:04 J -6510550.79 -6510550.58 -6510550.35 0.0089 0.0011
 Jupiter -22538-06-27 01:26 J -6510404.58 -6510404.44 -6510404.29 0.0492 0.0343
 Neptune -22538-09-14 11:31 J -6510325.23 -6510325.02 -6510324.79 0.0089 0.0011
 Jupiter -22537-02-18 09:50 J -6510168.30 -6510168.09 -6510167.89 0.0494 0.0024
 Neptune -22537-04-27 00:57 J -6510099.67 -6510099.46 -6510099.23 0.0089 0.0011
 Pluto -22537-07-17 08:23 J -6510018.28 -6510018.15 -6510017.97 0.0064 0.0045
 Jupiter -22537-10-12 00:14 J -6509931.61 -6509931.49 -6509931.36 0.0498 0.0399
 Neptune -22537-12-08 14:38 J -6509874.10 -6509873.89 -6509873.66 0.0089 0.0011
 Pluto -22536-02-27 12:43 J -6509793.19 -6509792.97 -6509792.76 0.0064 0.0008
 Neptune -22536-07-22 04:19 J -6509648.54 -6509648.32 -6509648.10 0.0089 0.0011
 Pluto -22536-10-10 16:19 J -6509568.01 -6509567.82 -6509567.62 0.0065 0.0029
 Neptune -22535-03-04 17:45 J -6509422.98 -6509422.76 -6509422.54 0.0089 0.0011
 Neptune -22535-10-16 07:11 J -6509197.42 -6509197.20 -6509196.97 0.0089 0.0011
 Neptune -22534-05-29 20:38 J -6508971.85 -6508971.64 -6508971.41 0.0089 0.0011
 Neptune -22533-01-10 10:19 J -6508746.29 -6508746.07 -6508745.85 0.0089 0.0011
 Neptune -22533-08-22 23:45 J -6508520.72 -6508520.51 -6508520.28 0.0089 0.0011
 Neptune -22532-04-05 13:11 J -6508295.16 -6508294.95 -6508294.73 0.0089 0.0011
 Jupiter -22532-05-02 14:23 J -6508268.03 -6508267.90 -6508267.76 0.0534 0.0393
 Saturn -22532-07-11 07:55 J -6508198.27 -6508198.17 -6508198.07 0.0262 0.0231
 Neptune -22532-11-17 02:38 J -6508069.60 -6508069.39 -6508069.17 0.0089 0.0011
 Jupiter -22532-12-26 06:43 J -6508030.42 -6508030.22 -6508030.02 0.0532 0.0066

Saturn	-22531-02-25 03:21 J	-6507969.55	-6507969.36	-6507969.17	0.0263	0.0115
Neptune	-22531-06-30 16:04 J	-6507844.04	-6507843.83	-6507843.61	0.0089	0.0011
Jupiter	-22531-08-20 15:21 J	-6507792.92	-6507792.86	-6507792.80	0.0527	0.0497
Saturn	-22531-10-11 23:31 J	-6507740.73	-6507740.52	-6507740.31	0.0263	0.0004
Neptune	-22530-02-11 05:31 J	-6507618.48	-6507618.27	-6507618.04	0.0089	0.0011
Saturn	-22530-05-28 20:38 J	-6507511.82	-6507511.64	-6507511.45	0.0264	0.0124
Neptune	-22530-09-24 18:57 J	-6507392.93	-6507392.71	-6507392.49	0.0089	0.0011
Saturn	-22529-01-12 18:57 J	-6507282.78	-6507282.71	-6507282.62	0.0265	0.0245
Neptune	-22529-05-07 08:09 J	-6507167.37	-6507167.16	-6507166.94	0.0089	0.0011
Uranus	-22529-12-10 21:21 J	-6506949.72	-6506949.61	-6506949.47	0.0132	0.0108
Neptune	-22529-12-18 21:36 J	-6506941.82	-6506941.60	-6506941.38	0.0089	0.0011
Uranus	-22528-07-25 02:23 J	-6506723.55	-6506723.40	-6506723.21	0.0132	0.0085
Neptune	-22528-08-01 10:48 J	-6506716.26	-6506716.05	-6506715.82	0.0089	0.0011
Uranus	-22527-03-08 07:55 J	-6506497.36	-6506497.17	-6506496.97	0.0132	0.0060
Neptune	-22527-03-15 00:00 J	-6506490.71	-6506490.50	-6506490.27	0.0089	0.0012
Uranus	-22527-10-20 12:57 J	-6506271.17	-6506270.96	-6506270.75	0.0133	0.0036
Neptune	-22527-10-26 13:26 J	-6506265.16	-6506264.94	-6506264.72	0.0089	0.0011
Jupiter	-22526-03-02 03:21 J	-6506138.45	-6506138.36	-6506138.27	0.0492	0.0436
Uranus	-22526-06-03 18:14 J	-6506044.96	-6506044.74	-6506044.52	0.0133	0.0011
Neptune	-22526-06-09 02:38 J	-6506039.61	-6506039.39	-6506039.17	0.0089	0.0011
Jupiter	-22526-10-24 10:04 J	-6505902.28	-6505902.08	-6505901.87	0.0493	0.0081
Uranus	-22525-01-15 23:31 J	-6505818.74	-6505818.52	-6505818.30	0.0133	0.0014
Neptune	-22525-01-20 16:04 J	-6505814.05	-6505813.83	-6505813.61	0.0089	0.0011
Jupiter	-22525-06-16 22:33 J	-6505665.72	-6505665.56	-6505665.39	0.0497	0.0297
Uranus	-22525-08-29 04:33 J	-6505592.51	-6505592.31	-6505592.09	0.0133	0.0038
Neptune	-22525-09-02 05:16 J	-6505588.50	-6505588.28	-6505588.06	0.0089	0.0010
Uranus	-22524-04-12 09:36 J	-6505366.28	-6505366.10	-6505365.90	0.0133	0.0063
Neptune	-22524-04-15 18:28 J	-6505362.95	-6505362.73	-6505362.51	0.0089	0.0010
Uranus	-22524-11-24 14:52 J	-6505140.03	-6505139.88	-6505139.70	0.0133	0.0088
Neptune	-22524-11-27 07:40 J	-6505137.40	-6505137.18	-6505136.96	0.0089	0.0010

Uranus	-22523-07-08 20:23 J	-6504913.76	-6504913.65	-6504913.53	0.0133	0.0112
Neptune	-22523-07-10 20:52 J	-6504911.85	-6504911.63	-6504911.41	0.0089	0.0010
Neptune	-22522-02-21 10:04 J	-6504686.29	-6504686.08	-6504685.86	0.0089	0.0010
Neptune	-22522-10-04 23:16 J	-6504460.74	-6504460.53	-6504460.31	0.0089	0.0010
Neptune	-22521-05-17 12:28 J	-6504235.20	-6504234.98	-6504234.76	0.0089	0.0010
Neptune	-22521-12-29 01:40 J	-6504009.65	-6504009.43	-6504009.21	0.0089	0.0010
Jupiter	-22520-01-05 02:23 J	-6504002.44	-6504002.40	-6504002.35	0.0534	0.0518
Neptune	-22520-08-11 14:52 J	-6503784.10	-6503783.88	-6503783.66	0.0089	0.0010
Jupiter	-22520-08-30 20:52 J	-6503764.83	-6503764.63	-6503764.43	0.0533	0.0065
Neptune	-22519-03-25 04:04 J	-6503558.55	-6503558.33	-6503558.11	0.0089	0.0010
Jupiter	-22519-04-25 08:09 J	-6503527.29	-6503527.16	-6503527.02	0.0529	0.0383
Neptune	-22519-11-05 17:16 J	-6503333.00	-6503332.78	-6503332.57	0.0089	0.0010
Neptune	-22518-06-19 06:14 J	-6503107.46	-6503107.24	-6503107.02	0.0089	0.0010
Neptune	-22517-01-30 19:26 J	-6502881.91	-6502881.69	-6502881.47	0.0089	0.0009
Saturn	-22517-08-13 06:14 J	-6502686.43	-6502686.24	-6502686.05	0.0299	0.0132
Neptune	-22517-09-12 08:23 J	-6502656.37	-6502656.15	-6502655.93	0.0089	0.0009
Saturn	-22516-03-31 12:43 J	-6502456.18	-6502455.97	-6502455.76	0.0298	0.0049
Neptune	-22516-04-25 21:21 J	-6502430.83	-6502430.61	-6502430.39	0.0089	0.0009
Mars	-22516-05-23 01:40 J	-6502403.54	-6502403.43	-6502403.31	0.1654	0.1226
Saturn	-22516-11-16 17:16 J	-6502225.92	-6502225.78	-6502225.64	0.0297	0.0225
Neptune	-22516-12-07 10:19 J	-6502205.29	-6502205.07	-6502204.85	0.0089	0.0009
Neptune	-22515-07-20 23:16 J	-6501979.74	-6501979.53	-6501979.31	0.0089	0.0009
Neptune	-22514-03-03 12:28 J	-6501754.20	-6501753.98	-6501753.76	0.0089	0.0009
Mars	-22514-03-23 04:48 J	-6501734.45	-6501734.30	-6501734.14	0.1644	0.0656
Jupiter	-22514-06-29 11:31 J	-6501636.21	-6501636.02	-6501635.83	0.0493	0.0181
Neptune	-22514-10-15 01:11 J	-6501528.66	-6501528.45	-6501528.23	0.0089	0.0009
Jupiter	-22513-02-20 22:04 J	-6501399.78	-6501399.58	-6501399.39	0.0495	0.0193
Mars	-22513-02-26 15:36 J	-6501393.95	-6501393.85	-6501393.74	0.1865	0.1525
Neptune	-22513-05-27 14:09 J	-6501303.13	-6501302.91	-6501302.69	0.0089	0.0008
Neptune	-22512-01-08 03:07 J	-6501077.59	-6501077.37	-6501077.15	0.0089	0.0008

Neptune	-22512-08-21 15:50 J	-6500852.05	-6500851.84	-6500851.61	0.0089	0.0009
Neptune	-22511-04-04 04:48 J	-6500626.51	-6500626.30	-6500626.07	0.0089	0.0009
Neptune	-22511-11-15 17:45 J	-6500400.97	-6500400.76	-6500400.54	0.0089	0.0008
Neptune	-22510-06-29 06:43 J	-6500175.44	-6500175.22	-6500175.00	0.0089	0.0008
Neptune	-22509-02-09 19:40 J	-6499949.90	-6499949.68	-6499949.46	0.0089	0.0007
Neptune	-22509-09-22 08:23 J	-6499724.36	-6499724.15	-6499723.93	0.0089	0.0008
Jupiter	-22508-05-05 12:00 J	-6499499.18	-6499499.00	-6499498.81	0.0534	0.0193
Neptune	-22508-05-05 21:21 J	-6499498.82	-6499498.61	-6499498.39	0.0089	0.0007 *
Neptune	-22508-12-17 10:04 J	-6499273.29	-6499273.08	-6499272.86	0.0089	0.0007
Jupiter	-22508-12-29 01:40 J	-6499261.60	-6499261.43	-6499261.25	0.0531	0.0264
Neptune	-22507-07-30 23:02 J	-6499047.76	-6499047.54	-6499047.32	0.0089	0.0007
Neptune	-22506-03-13 12:00 J	-6498822.22	-6498822.00	-6498821.78	0.0089	0.0006
Neptune	-22506-10-25 00:43 J	-6498596.69	-6498596.47	-6498596.25	0.0089	0.0006
Neptune	-22505-06-06 13:26 J	-6498371.16	-6498370.94	-6498370.72	0.0089	0.0006
Neptune	-22504-01-18 02:09 J	-6498145.63	-6498145.41	-6498145.19	0.0089	0.0006
Neptune	-22504-08-31 14:52 J	-6497920.10	-6497919.88	-6497919.66	0.0089	0.0006
Neptune	-22503-04-14 03:36 J	-6497694.56	-6497694.35	-6497694.13	0.0089	0.0005
Neptune	-22503-11-25 16:19 J	-6497469.04	-6497468.82	-6497468.61	0.0089	0.0005
Saturn	-22502-01-21 13:11 J	-6497412.07	-6497411.95	-6497411.82	0.0262	0.0210
Jupiter	-22502-03-04 12:28 J	-6497370.15	-6497369.98	-6497369.81	0.0492	0.0280
Neptune	-22502-07-09 04:48 J	-6497243.51	-6497243.30	-6497243.08	0.0089	0.0005
Saturn	-22502-09-07 08:38 J	-6497183.33	-6497183.14	-6497182.94	0.0262	0.0094
Jupiter	-22502-10-26 20:52 J	-6497133.83	-6497133.63	-6497133.42	0.0494	0.0088
Neptune	-22501-02-19 17:31 J	-6497017.99	-6497017.77	-6497017.55	0.0089	0.0005
Saturn	-22501-04-23 04:48 J	-6496954.51	-6496954.30	-6496954.09	0.0263	0.0025
Jupiter	-22501-06-19 11:45 J	-6496897.08	-6496897.01	-6496896.93	0.0498	0.0461
Neptune	-22501-10-02 06:00 J	-6496792.46	-6496792.25	-6496792.03	0.0089	0.0005
Saturn	-22501-12-08 02:09 J	-6496725.59	-6496725.41	-6496725.24	0.0264	0.0145
Neptune	-22500-05-15 18:43 J	-6496566.94	-6496566.72	-6496566.50	0.0089	0.0004
Neptune	-22500-12-27 07:11 J	-6496341.41	-6496341.20	-6496340.98	0.0089	0.0004

Neptune	-22499-08-09 19:40 J	-6496115.89	-6496115.68	-6496115.46	0.0089	0.0005
Neptune	-22498-03-23 08:38 J	-6495890.36	-6495890.14	-6495889.93	0.0089	0.0004
Neptune	-22498-11-03 21:07 J	-6495664.84	-6495664.62	-6495664.40	0.0089	0.0003
Neptune	-22497-06-16 09:36 J	-6495439.32	-6495439.10	-6495438.88	0.0089	0.0003
Jupiter	-22496-01-08 03:50 J	-6495233.50	-6495233.34	-6495233.18	0.0535	0.0320
Neptune	-22496-01-27 22:04 J	-6495213.79	-6495213.58	-6495213.36	0.0089	0.0003
Jupiter	-22496-09-02 19:40 J	-6494995.87	-6494995.68	-6494995.48	0.0532	0.0142
Neptune	-22496-09-10 10:48 J	-6494988.27	-6494988.05	-6494987.84	0.0089	0.0003
Neptune	-22495-04-23 23:31 J	-6494762.74	-6494762.52	-6494762.31	0.0089	0.0002
Neptune	-22495-12-05 12:00 J	-6494537.22	-6494537.00	-6494536.79	0.0089	0.0002
Neptune	-22494-07-19 00:28 J	-6494311.70	-6494311.48	-6494311.26	0.0089	0.0002
Neptune	-22493-02-29 12:57 J	-6494086.17	-6494085.96	-6494085.74	0.0089	0.0001
Neptune	-22493-10-12 01:26 J	-6493860.65	-6493860.44	-6493860.22	0.0089	0.0001
Neptune	-22492-05-25 13:55 J	-6493635.13	-6493634.92	-6493634.70	0.0089	0.0001
Neptune	-22491-01-06 02:23 J	-6493409.62	-6493409.40	-6493409.19	0.0089	0.0001
Neptune	-22491-08-19 14:52 J	-6493184.10	-6493183.88	-6493183.67	0.0089	0.0001
Jupiter	-22491-11-07 13:55 J	-6493104.05	-6493103.92	-6493103.79	0.0492	0.0377
Neptune	-22490-04-02 03:21 J	-6492958.58	-6492958.36	-6492958.15	0.0089	0.0001
Jupiter	-22490-07-01 20:52 J	-6492867.83	-6492867.63	-6492867.42	0.0493	0.0018
Neptune	-22490-11-13 15:36 J	-6492733.06	-6492732.85	-6492732.63	0.0089	0.0002
Jupiter	-22489-02-23 09:50 J	-6492631.22	-6492631.09	-6492630.94	0.0497	0.0359
Neptune	-22489-06-26 04:04 J	-6492507.55	-6492507.33	-6492507.12	0.0089	0.0001
Neptune	-22488-02-06 16:19 J	-6492282.03	-6492281.82	-6492281.60	0.0089	0.0001
Saturn	-22488-07-08 05:16 J	-6492130.32	-6492130.28	-6492130.22	0.0299	0.0289
Neptune	-22488-09-20 04:48 J	-6492056.52	-6492056.30	-6492056.09	0.0089	0.0001
Uranus	-22488-11-04 17:16 J	-6492010.87	-6492010.78	-6492010.69	0.0147	0.0133
Saturn	-22487-02-23 12:57 J	-6491900.16	-6491899.96	-6491899.76	0.0298	0.0108
Neptune	-22487-05-03 17:16 J	-6491831.00	-6491830.78	-6491830.56	0.0089	0.0001
Uranus	-22487-06-19 05:31 J	-6491784.42	-6491784.27	-6491784.11	0.0146	0.0101
Saturn	-22487-10-11 18:57 J	-6491669.91	-6491669.71	-6491669.50	0.0297	0.0072

Neptune -22487-12-15 05:31 J -6491605.48 -6491605.27 -6491605.05 0.0089 0.0003
 Uranus -22486-01-31 17:45 J -6491557.94 -6491557.76 -6491557.56 0.0146 0.0068
 Saturn -22486-05-29 23:16 J -6491439.64 -6491439.53 -6491439.41 0.0296 0.0246
 Neptune -22486-07-28 18:00 J -6491379.97 -6491379.75 -6491379.54 0.0089 0.0002
 Uranus -22486-09-15 06:14 J -6491331.45 -6491331.24 -6491331.03 0.0146 0.0035
 Neptune -22485-03-10 06:14 J -6491154.45 -6491154.24 -6491154.02 0.0089 0.0003
 Uranus -22485-04-28 18:28 J -6491104.94 -6491104.73 -6491104.51 0.0146 0.0003
 Jupiter -22485-09-12 19:55 J -6490967.78 -6490967.67 -6490967.55 0.0535 0.0441
 Neptune -22485-10-21 18:43 J -6490928.94 -6490928.72 -6490928.50 0.0089 0.0002
 Uranus -22485-12-11 06:43 J -6490878.43 -6490878.22 -6490878.00 0.0146 0.0030
 Jupiter -22484-05-08 13:40 J -6490730.13 -6490729.93 -6490729.73 0.0533 0.0021
 Neptune -22484-06-04 07:11 J -6490703.42 -6490703.20 -6490702.99 0.0089 0.0003
 Uranus -22484-07-25 19:11 J -6490651.89 -6490651.70 -6490651.50 0.0146 0.0063
 Jupiter -22484-12-31 23:31 J -6490492.62 -6490492.52 -6490492.42 0.0528 0.0456
 Neptune -22483-01-15 19:26 J -6490477.90 -6490477.69 -6490477.47 0.0089 0.0003
 Uranus -22483-03-09 07:11 J -6490425.35 -6490425.20 -6490425.02 0.0145 0.0096
 Neptune -22483-08-29 07:55 J -6490252.38 -6490252.17 -6490251.95 0.0089 0.0003
 Uranus -22483-10-21 19:26 J -6490198.78 -6490198.69 -6490198.57 0.0145 0.0127
 Mars -22482-03-21 21:21 J -6490047.78 -6490047.61 -6490047.44 0.1648 0.0236
 Neptune -22482-04-11 20:23 J -6490026.86 -6490026.65 -6490026.43 0.0089 0.0003
 Neptune -22482-11-23 08:52 J -6489801.35 -6489801.13 -6489800.92 0.0089 0.0004
 Neptune -22481-07-05 21:07 J -6489575.83 -6489575.62 -6489575.40 0.0089 0.0004
 Mars -22480-01-19 00:57 J -6489378.48 -6489378.46 -6489378.43 0.1639 0.1612
 Neptune -22480-02-16 09:21 J -6489350.32 -6489350.11 -6489349.89 0.0089 0.0005
 Neptune -22480-09-29 21:50 J -6489124.80 -6489124.59 -6489124.37 0.0089 0.0004
 Mars -22480-12-23 16:48 J -6489039.97 -6489039.80 -6489039.63 0.1874 0.0563
 Neptune -22479-05-13 10:19 J -6488899.28 -6488899.07 -6488898.85 0.0089 0.0005
 Jupiter -22479-07-13 13:40 J -6488837.98 -6488837.93 -6488837.87 0.0492 0.0471
 Neptune -22479-12-24 22:33 J -6488673.77 -6488673.56 -6488673.34 0.0089 0.0005
 Jupiter -22478-03-06 19:55 J -6488601.87 -6488601.67 -6488601.47 0.0493 0.0119

Neptune -22478-08-07 11:02 J -6488448.26 -6488448.04 -6488447.83 0.0089 0.0005
 Jupiter -22478-10-29 07:26 J -6488365.37 -6488365.19 -6488365.01 0.0496 0.0256
 Neptune -22477-03-19 23:02 J -6488222.75 -6488222.54 -6488222.32 0.0089 0.0006
 Neptune -22477-10-31 11:31 J -6487997.24 -6487997.02 -6487996.81 0.0089 0.0006
 Neptune -22476-06-13 23:45 J -6487771.72 -6487771.51 -6487771.29 0.0089 0.0006
 Neptune -22475-01-25 12:14 J -6487546.21 -6487545.99 -6487545.78 0.0089 0.0006
 Neptune -22475-09-08 00:28 J -6487320.70 -6487320.48 -6487320.26 0.0089 0.0006
 Neptune -22474-04-21 12:43 J -6487095.18 -6487094.97 -6487094.75 0.0089 0.0007
 Neptune -22474-12-03 01:11 J -6486869.67 -6486869.45 -6486869.24 0.0089 0.0007
 Neptune -22473-07-15 13:26 J -6486644.16 -6486643.94 -6486643.73 0.0089 0.0007
 Saturn -22473-08-02 17:16 J -6486625.92 -6486625.78 -6486625.64 0.0263 0.0192
 Jupiter -22472-01-11 05:31 J -6486464.47 -6486464.27 -6486464.07 0.0533 0.0110
 Neptune -22472-02-26 01:40 J -6486418.64 -6486418.43 -6486418.21 0.0089 0.0007
 Saturn -22472-03-19 12:57 J -6486397.16 -6486396.96 -6486396.76 0.0263 0.0075
 Jupiter -22472-09-05 17:31 J -6486226.92 -6486226.77 -6486226.62 0.0529 0.0340
 Neptune -22472-10-09 13:55 J -6486193.13 -6486192.92 -6486192.70 0.0089 0.0008
 Saturn -22472-11-03 09:21 J -6486168.31 -6486168.11 -6486167.90 0.0263 0.0045
 Neptune -22471-05-23 02:38 J -6485967.61 -6485967.39 -6485967.18 0.0089 0.0008
 Saturn -22471-06-20 07:11 J -6485939.37 -6485939.20 -6485939.04 0.0264 0.0166
 Neptune -22470-01-03 14:52 J -6485742.09 -6485741.88 -6485741.66 0.0089 0.0008
 Neptune -22470-08-17 03:07 J -6485516.58 -6485516.37 -6485516.15 0.0089 0.0009
 Neptune -22469-03-29 15:36 J -6485291.06 -6485290.85 -6485290.63 0.0089 0.0008
 Neptune -22469-11-10 03:50 J -6485065.55 -6485065.34 -6485065.12 0.0089 0.0009
 Neptune -22468-06-23 16:33 J -6484840.03 -6484839.81 -6484839.60 0.0089 0.0009
 Neptune -22467-02-04 04:48 J -6484614.51 -6484614.30 -6484614.08 0.0089 0.0009
 Neptune -22467-09-17 17:02 J -6484389.00 -6484388.79 -6484388.57 0.0089 0.0009
 Jupiter -22467-11-09 20:52 J -6484335.82 -6484335.63 -6484335.45 0.0493 0.0219
 Neptune -22466-05-01 05:31 J -6484163.49 -6484163.27 -6484163.05 0.0089 0.0009
 Jupiter -22466-07-04 06:43 J -6484099.42 -6484099.22 -6484099.02 0.0495 0.0153
 Neptune -22466-12-12 17:45 J -6483937.97 -6483937.76 -6483937.54 0.0089 0.0010

Neptune	-22465-07-25 06:14 J	-6483712.46	-6483712.24	-6483712.03	0.0089	0.0010
Neptune	-22464-03-07 18:28 J	-6483486.94	-6483486.73	-6483486.51	0.0089	0.0010
Neptune	-22464-10-19 06:43 J	-6483261.43	-6483261.22	-6483261.00	0.0089	0.0010
Neptune	-22463-06-01 19:11 J	-6483035.91	-6483035.70	-6483035.48	0.0089	0.0011
Neptune	-22462-01-13 07:40 J	-6482810.39	-6482810.18	-6482809.96	0.0089	0.0010
Neptune	-22462-08-26 19:55 J	-6482584.88	-6482584.67	-6482584.45	0.0089	0.0011
Neptune	-22461-04-08 08:23 J	-6482359.37	-6482359.15	-6482358.94	0.0088	0.0011
Jupiter	-22461-09-15 18:14 J	-6482198.91	-6482198.74	-6482198.56	0.0534	0.0242
Neptune	-22461-11-19 20:38 J	-6482133.85	-6482133.64	-6482133.42	0.0088	0.0011
Jupiter	-22460-05-11 08:52 J	-6481961.32	-6481961.13	-6481960.95	0.0531	0.0217
Neptune	-22460-07-03 09:07 J	-6481908.33	-6481908.12	-6481907.90	0.0088	0.0011
Neptune	-22459-02-13 21:36 J	-6481682.81	-6481682.60	-6481682.38	0.0088	0.0011
Neptune	-22459-09-27 10:04 J	-6481457.30	-6481457.08	-6481456.86	0.0088	0.0011
Saturn	-22458-01-18 18:43 J	-6481343.84	-6481343.72	-6481343.61	0.0299	0.0254
Neptune	-22458-05-10 22:33 J	-6481231.78	-6481231.56	-6481231.34	0.0088	0.0011
Saturn	-22458-09-06 01:55 J	-6481113.62	-6481113.42	-6481113.21	0.0299	0.0073
Neptune	-22458-12-22 11:02 J	-6481006.26	-6481006.04	-6481005.82	0.0088	0.0011
Saturn	-22457-04-23 07:40 J	-6480883.37	-6480883.18	-6480882.97	0.0298	0.0108
Neptune	-22457-08-03 23:31 J	-6480780.73	-6480780.52	-6480780.30	0.0088	0.0012
Saturn	-22457-12-09 11:45 J	-6480653.06	-6480653.01	-6480652.93	0.0297	0.0282
Neptune	-22456-03-17 12:00 J	-6480555.21	-6480555.00	-6480554.78	0.0088	0.0012
Neptune	-22456-10-29 00:14 J	-6480329.69	-6480329.49	-6480329.26	0.0088	0.0013
Neptune	-22455-06-11 12:57 J	-6480104.17	-6480103.96	-6480103.74	0.0088	0.0012
Jupiter	-22455-07-15 22:48 J	-6480069.70	-6480069.55	-6480069.39	0.0492	0.0317
Neptune	-22454-01-23 01:26 J	-6479878.65	-6479878.44	-6479878.21	0.0088	0.0013
Jupiter	-22454-03-09 06:57 J	-6479833.41	-6479833.21	-6479833.00	0.0494	0.0050
Neptune	-22454-09-05 13:55 J	-6479653.13	-6479652.92	-6479652.69	0.0088	0.0013
Jupiter	-22454-10-31 21:21 J	-6479596.72	-6479596.61	-6479596.50	0.0498	0.0424
Neptune	-22453-04-18 02:23 J	-6479427.61	-6479427.40	-6479427.18	0.0088	0.0013
Neptune	-22453-11-29 15:07 J	-6479202.09	-6479201.87	-6479201.65	0.0088	0.0012

Neptune -22452-07-13 03:50 J -6478976.56 -6478976.34 -6478976.12 0.0088 0.0012
 Neptune -22451-02-23 16:19 J -6478751.04 -6478750.82 -6478750.60 0.0088 0.0012
 Neptune -22451-10-07 04:48 J -6478525.52 -6478525.30 -6478525.08 0.0088 0.0013
 Mars -22450-03-20 13:55 J -6478361.04 -6478360.92 -6478360.79 0.1653 0.1131
 Neptune -22450-05-20 17:16 J -6478299.99 -6478299.78 -6478299.56 0.0088 0.0013
 Neptune -22449-01-01 06:00 J -6478074.47 -6478074.25 -6478074.04 0.0088 0.0013
 Jupiter -22449-05-21 08:23 J -6477933.29 -6477933.15 -6477933.00 0.0534 0.0370
 Neptune -22449-08-13 18:28 J -6477848.94 -6477848.73 -6477848.51 0.0088 0.0013
 Jupiter -22448-01-14 00:57 J -6477695.65 -6477695.46 -6477695.26 0.0532 0.0092
 Mars -22448-01-17 17:16 J -6477691.94 -6477691.78 -6477691.63 0.1642 0.0739
 Neptune -22448-03-27 06:57 J -6477623.42 -6477623.21 -6477622.99 0.0088 0.0013
 Pluto -22448-06-10 22:33 J -6477547.78 -6477547.56 -6477547.34 0.0080 0.0019
 Jupiter -22448-09-08 10:04 J -6477458.10 -6477458.08 -6477458.05 0.0528 0.0521
 Neptune -22448-11-07 19:40 J -6477397.89 -6477397.68 -6477397.46 0.0088 0.0013
 Mars -22448-12-23 17:45 J -6477351.89 -6477351.76 -6477351.63 0.1868 0.1220
 Pluto -22447-01-22 09:07 J -6477322.26 -6477322.12 -6477321.94 0.0080 0.0055
 Neptune -22447-06-21 08:23 J -6477172.36 -6477172.15 -6477171.93 0.0088 0.0013
 Neptune -22446-02-01 21:07 J -6476946.83 -6476946.62 -6476946.40 0.0088 0.0013
 Neptune -22446-09-15 09:36 J -6476721.31 -6476721.10 -6476720.87 0.0088 0.0013
 Neptune -22445-04-27 22:19 J -6476495.78 -6476495.57 -6476495.34 0.0088 0.0013
 Uranus -22445-08-10 09:36 J -6476391.19 -6476391.10 -6476390.99 0.0132 0.0118
 Neptune -22445-12-09 11:02 J -6476270.25 -6476270.04 -6476269.81 0.0088 0.0013
 Uranus -22444-03-24 14:38 J -6476165.03 -6476164.89 -6476164.72 0.0132 0.0094
 Neptune -22444-07-23 00:00 J -6476044.71 -6476044.50 -6476044.27 0.0088 0.0013
 Uranus -22444-11-05 19:40 J -6475938.85 -6475938.68 -6475938.48 0.0132 0.0070
 Saturn -22443-02-12 23:31 J -6475839.68 -6475839.52 -6475839.36 0.0262 0.0170
 Neptune -22443-03-05 12:43 J -6475819.18 -6475818.97 -6475818.74 0.0088 0.0014
 Jupiter -22443-03-21 00:28 J -6475803.59 -6475803.48 -6475803.37 0.0492 0.0412
 Uranus -22443-06-20 01:11 J -6475712.65 -6475712.45 -6475712.24 0.0132 0.0045
 Saturn -22443-09-29 19:11 J -6475610.90 -6475610.70 -6475610.49 0.0263 0.0053

Neptune	-22443-10-17 01:40 J	-6475593.65	-6475593.43	-6475593.21	0.0088	0.0013
Moon	-22443-10-29 20:38 J	-6475580.81	-6475580.64	-6475580.48	0.2614	0.0621
Earth	-22443-10-29 23:02 J	-6475580.69	-6475580.54	-6475580.38	0.2620	0.0746 *
Jupiter	-22443-11-12 06:43 J	-6475567.42	-6475567.22	-6475567.01	0.0493	0.0055
Uranus	-22442-02-01 06:28 J	-6475486.45	-6475486.23	-6475486.01	0.0133	0.0020
Saturn	-22442-05-16 15:36 J	-6475382.05	-6475381.85	-6475381.64	0.0263	0.0068
Neptune	-22442-05-30 14:23 J	-6475368.11	-6475367.90	-6475367.68	0.0088	0.0013
Jupiter	-22442-07-06 18:43 J	-6475330.88	-6475330.72	-6475330.56	0.0496	0.0320
Uranus	-22442-09-15 11:45 J	-6475260.23	-6475260.01	-6475259.79	0.0133	0.0005
Saturn	-22442-12-31 13:11 J	-6475153.09	-6475152.95	-6475152.79	0.0264	0.0188
Neptune	-22441-01-11 03:07 J	-6475142.58	-6475142.37	-6475142.15	0.0088	0.0013
Uranus	-22441-04-28 16:48 J	-6475034.01	-6475033.80	-6475033.58	0.0133	0.0029
Neptune	-22441-08-23 16:04 J	-6474917.04	-6474916.83	-6474916.61	0.0088	0.0013
Uranus	-22441-12-10 21:50 J	-6474807.78	-6474807.59	-6474807.38	0.0133	0.0054
Neptune	-22440-04-06 04:48 J	-6474691.51	-6474691.30	-6474691.07	0.0088	0.0013
Uranus	-22440-07-25 03:21 J	-6474581.53	-6474581.36	-6474581.18	0.0133	0.0078
Neptune	-22440-11-17 17:31 J	-6474465.98	-6474465.77	-6474465.54	0.0088	0.0013
Uranus	-22439-03-08 08:23 J	-6474355.27	-6474355.15	-6474355.00	0.0133	0.0104
Neptune	-22439-07-01 06:28 J	-6474240.44	-6474240.23	-6474240.00	0.0088	0.0013
Uranus	-22439-10-20 13:55 J	-6474128.97	-6474128.92	-6474128.85	0.0134	0.0128
Neptune	-22438-02-11 19:26 J	-6474014.91	-6474014.69	-6474014.47	0.0088	0.0012
Neptune	-22438-09-25 08:23 J	-6473789.37	-6473789.15	-6473788.93	0.0088	0.0012
Jupiter	-22437-01-24 23:02 J	-6473667.61	-6473667.54	-6473667.46	0.0535	0.0493
Neptune	-22437-05-07 21:07 J	-6473563.84	-6473563.62	-6473563.40	0.0088	0.0012
Jupiter	-22437-09-18 18:00 J	-6473429.95	-6473429.75	-6473429.55	0.0533	0.0037
Neptune	-22437-12-19 10:04 J	-6473338.30	-6473338.08	-6473337.86	0.0088	0.0012
Jupiter	-22436-05-14 05:31 J	-6473192.39	-6473192.27	-6473192.14	0.0529	0.0410
Neptune	-22436-08-01 23:02 J	-6473112.76	-6473112.54	-6473112.32	0.0088	0.0012
Neptune	-22435-03-15 12:00 J	-6472887.22	-6472887.00	-6472886.78	0.0088	0.0012
Neptune	-22435-10-27 00:43 J	-6472661.68	-6472661.47	-6472661.24	0.0088	0.0012

Earth	-22435-10-27 16:04 J	-6472660.90	-6472660.83	-6472660.77	0.2620	0.2382
Neptune	-22434-06-09 13:40 J	-6472436.14	-6472435.93	-6472435.70	0.0088	0.0012
Neptune	-22433-01-21 02:38 J	-6472210.60	-6472210.39	-6472210.16	0.0088	0.0012
Neptune	-22433-09-02 15:50 J	-6471985.05	-6471984.84	-6471984.61	0.0088	0.0012
Neptune	-22432-04-16 05:02 J	-6471759.51	-6471759.29	-6471759.07	0.0088	0.0011
Neptune	-22432-11-27 18:00 J	-6471533.97	-6471533.75	-6471533.53	0.0088	0.0011
Neptune	-22431-07-11 07:11 J	-6471308.42	-6471308.20	-6471307.98	0.0088	0.0011
Jupiter	-22431-07-18 07:11 J	-6471301.39	-6471301.20	-6471301.00	0.0493	0.0157
Neptune	-22430-02-21 20:09 J	-6471082.87	-6471082.66	-6471082.43	0.0088	0.0011
Jupiter	-22430-03-11 17:31 J	-6471064.95	-6471064.77	-6471064.58	0.0495	0.0217
Neptune	-22430-10-05 09:21 J	-6470857.33	-6470857.11	-6470856.89	0.0088	0.0011
Neptune	-22429-05-17 22:19 J	-6470631.78	-6470631.57	-6470631.34	0.0088	0.0011
Saturn	-22429-07-31 02:38 J	-6470557.53	-6470557.39	-6470557.25	0.0299	0.0228
Neptune	-22429-12-29 11:31 J	-6470406.24	-6470406.02	-6470405.79	0.0088	0.0011
Saturn	-22428-03-18 09:50 J	-6470327.30	-6470327.09	-6470326.88	0.0298	0.0047
Neptune	-22428-08-12 00:57 J	-6470180.68	-6470180.46	-6470180.24	0.0088	0.0010
Saturn	-22428-11-03 15:07 J	-6470097.05	-6470096.87	-6470096.67	0.0297	0.0132
Neptune	-22427-03-25 13:55 J	-6469955.14	-6469954.92	-6469954.69	0.0088	0.0010
Neptune	-22427-11-06 03:07 J	-6469729.59	-6469729.37	-6469729.15	0.0088	0.0010
Neptune	-22426-06-19 16:04 J	-6469504.05	-6469503.83	-6469503.60	0.0088	0.0010
Neptune	-22425-01-31 05:16 J	-6469278.50	-6469278.28	-6469278.05	0.0088	0.0010
Jupiter	-22425-05-24 11:02 J	-6469164.23	-6469164.04	-6469163.85	0.0534	0.0161
Neptune	-22425-09-12 18:43 J	-6469052.94	-6469052.72	-6469052.50	0.0088	0.0009
Jupiter	-22424-01-17 00:28 J	-6468926.65	-6468926.48	-6468926.32	0.0530	0.0295
Neptune	-22424-04-26 07:55 J	-6468827.39	-6468827.17	-6468826.95	0.0088	0.0009
Neptune	-22424-12-07 20:52 J	-6468601.85	-6468601.63	-6468601.40	0.0088	0.0009
Neptune	-22423-07-21 10:04 J	-6468376.30	-6468376.08	-6468375.85	0.0088	0.0009
Neptune	-22422-03-03 23:31 J	-6468150.74	-6468150.52	-6468150.30	0.0088	0.0008
Neptune	-22422-10-15 12:43 J	-6467925.19	-6467924.97	-6467924.74	0.0088	0.0008
Neptune	-22421-05-28 02:09 J	-6467699.64	-6467699.41	-6467699.19	0.0088	0.0008

Neptune	-22420-01-08 15:21 J	-6467474.08	-6467473.86	-6467473.63	0.0088	0.0008
Neptune	-22420-08-22 04:48 J	-6467248.52	-6467248.30	-6467248.07	0.0088	0.0008
Jupiter	-22419-03-23 06:43 J	-6467035.40	-6467035.22	-6467035.05	0.0492	0.0257
Neptune	-22419-04-04 18:14 J	-6467022.96	-6467022.74	-6467022.51	0.0088	0.0007
Jupiter	-22419-11-14 15:36 J	-6466799.05	-6466798.85	-6466798.65	0.0495	0.0112
Neptune	-22419-11-16 07:40 J	-6466797.40	-6466797.18	-6466796.96	0.0088	0.0007
Neptune	-22418-06-29 20:52 J	-6466571.85	-6466571.63	-6466571.40	0.0088	0.0007
Jupiter	-22418-07-09 06:57 J	-6466562.25	-6466562.21	-6466562.16	0.0499	0.0485
Neptune	-22417-02-10 10:19 J	-6466346.29	-6466346.07	-6466345.84	0.0088	0.0007
Neptune	-22417-09-23 00:00 J	-6466120.72	-6466120.50	-6466120.28	0.0088	0.0006
Mars	-22416-01-16 09:36 J	-6466005.27	-6466005.10	-6466004.93	0.1647	0.0146
Neptune	-22416-05-06 13:26 J	-6465895.16	-6465894.94	-6465894.72	0.0088	0.0006
Neptune	-22416-12-18 02:52 J	-6465669.61	-6465669.38	-6465669.16	0.0088	0.0006
Neptune	-22415-07-31 16:04 J	-6465444.05	-6465443.83	-6465443.60	0.0088	0.0006
Neptune	-22414-03-14 05:45 J	-6465218.49	-6465218.26	-6465218.04	0.0088	0.0005
Saturn	-22414-08-26 03:07 J	-6465053.53	-6465053.37	-6465053.19	0.0263	0.0152
Mars	-22414-10-20 19:11 J	-6464997.86	-6464997.70	-6464997.54	0.1877	0.0862
Neptune	-22414-10-25 19:11 J	-6464992.92	-6464992.70	-6464992.47	0.0088	0.0005
Jupiter	-22413-01-28 02:23 J	-6464898.57	-6464898.40	-6464898.23	0.0534	0.0288
Saturn	-22413-04-10 23:02 J	-6464824.74	-6464824.54	-6464824.33	0.0263	0.0034
Neptune	-22413-06-07 08:38 J	-6464767.36	-6464767.14	-6464766.91	0.0088	0.0005
Jupiter	-22413-09-21 17:45 J	-6464660.95	-6464660.76	-6464660.57	0.0531	0.0172
Saturn	-22413-11-25 19:55 J	-6464595.87	-6464595.67	-6464595.47	0.0264	0.0087
Neptune	-22412-01-18 22:04 J	-6464541.80	-6464541.58	-6464541.35	0.0088	0.0004
Saturn	-22412-07-12 18:14 J	-6464366.87	-6464366.74	-6464366.61	0.0265	0.0208
Neptune	-22412-09-01 11:31 J	-6464316.24	-6464316.02	-6464315.79	0.0088	0.0004
Neptune	-22411-04-15 01:11 J	-6464090.68	-6464090.45	-6464090.23	0.0088	0.0004
Neptune	-22411-11-26 14:38 J	-6463865.11	-6463864.89	-6463864.67	0.0088	0.0003
Neptune	-22410-07-10 04:04 J	-6463639.55	-6463639.33	-6463639.10	0.0088	0.0003
Neptune	-22409-02-20 17:31 J	-6463413.99	-6463413.77	-6463413.54	0.0088	0.0003

Neptune	-22409-10-03 07:26 J	-6463188.42	-6463188.19	-6463187.97	0.0088	0.0003
Neptune	-22408-05-16 20:52 J	-6462962.85	-6462962.63	-6462962.40	0.0088	0.0003
Jupiter	-22408-11-26 08:09 J	-6462769.30	-6462769.16	-6462769.02	0.0492	0.0354
Neptune	-22408-12-28 10:33 J	-6462737.29	-6462737.06	-6462736.84	0.0088	0.0002
Jupiter	-22407-07-20 15:36 J	-6462533.05	-6462532.85	-6462532.64	0.0494	0.0014
Neptune	-22407-08-11 00:14 J	-6462511.72	-6462511.49	-6462511.27	0.0088	0.0002
Jupiter	-22406-03-14 05:16 J	-6462296.41	-6462296.28	-6462296.15	0.0497	0.0385
Neptune	-22406-03-24 13:40 J	-6462286.15	-6462285.93	-6462285.70	0.0088	0.0002
Neptune	-22406-11-05 03:36 J	-6462060.58	-6462060.35	-6462060.13	0.0088	0.0001
Neptune	-22405-06-17 17:16 J	-6461835.01	-6461834.78	-6461834.56	0.0088	0.0001
Neptune	-22404-01-29 06:43 J	-6461609.44	-6461609.22	-6461608.99	0.0088	0.0002
Uranus	-22404-07-05 01:55 J	-6461452.42	-6461452.42	-6461452.39	0.0147	0.0147
Neptune	-22404-09-11 20:38 J	-6461383.87	-6461383.64	-6461383.42	0.0088	0.0001
Uranus	-22403-02-16 14:23 J	-6461226.03	-6461225.90	-6461225.76	0.0147	0.0114
Neptune	-22403-04-25 10:19 J	-6461158.30	-6461158.07	-6461157.85	0.0088	0.0001
Uranus	-22403-10-01 02:38 J	-6460999.56	-6460999.39	-6460999.20	0.0146	0.0081
Neptune	-22403-12-07 00:00 J	-6460932.73	-6460932.50	-6460932.28	0.0088	0.0001
Uranus	-22402-05-15 15:07 J	-6460773.07	-6460772.87	-6460772.67	0.0146	0.0048
Neptune	-22402-07-20 13:26 J	-6460707.16	-6460706.94	-6460706.71	0.0088	0.0002
Jupiter	-22402-10-02 14:09 J	-6460633.03	-6460632.91	-6460632.78	0.0534	0.0418
Uranus	-22402-12-28 03:21 J	-6460546.57	-6460546.36	-6460546.14	0.0146	0.0016
Neptune	-22401-03-02 03:07 J	-6460481.59	-6460481.37	-6460481.14	0.0088	0.0002
Jupiter	-22401-05-27 07:26 J	-6460395.39	-6460395.19	-6460394.99	0.0532	0.0043
Uranus	-22401-08-10 15:50 J	-6460320.05	-6460319.84	-6460319.62	0.0146	0.0018
Neptune	-22401-10-13 17:02 J	-6460256.02	-6460255.79	-6460255.57	0.0088	0.0002
Jupiter	-22400-01-19 17:16 J	-6460157.85	-6460157.78	-6460157.69	0.0528	0.0479
Uranus	-22400-03-25 04:19 J	-6460093.53	-6460093.32	-6460093.12	0.0146	0.0050
Neptune	-22400-05-27 06:43 J	-6460030.45	-6460030.22	-6460030.00	0.0088	0.0002
Uranus	-22400-11-06 16:19 J	-6459866.99	-6459866.82	-6459866.63	0.0146	0.0083
Neptune	-22399-01-07 20:09 J	-6459804.88	-6459804.66	-6459804.43	0.0088	0.0003

Saturn	-22399-02-10 15:36 J	-6459771.01	-6459770.85	-6459770.69	0.0299	0.0192
Uranus	-22399-06-21 04:33 J	-6459640.43	-6459640.31	-6459640.16	0.0145	0.0115
Neptune	-22399-08-21 09:50 J	-6459579.31	-6459579.09	-6459578.86	0.0088	0.0003
Saturn	-22399-09-28 22:33 J	-6459540.77	-6459540.56	-6459540.34	0.0299	0.0011
Neptune	-22398-04-03 23:31 J	-6459353.74	-6459353.52	-6459353.29	0.0088	0.0003
Saturn	-22398-05-17 03:50 J	-6459310.51	-6459310.34	-6459310.16	0.0298	0.0168
Neptune	-22398-11-15 13:11 J	-6459128.17	-6459127.95	-6459127.72	0.0088	0.0004
Neptune	-22397-06-28 02:52 J	-6458902.60	-6458902.38	-6458902.15	0.0088	0.0004
Neptune	-22396-02-08 16:33 J	-6458677.03	-6458676.81	-6458676.58	0.0088	0.0004
Jupiter	-22396-08-01 10:33 J	-6458503.13	-6458503.06	-6458502.96	0.0492	0.0448
Neptune	-22396-09-22 06:14 J	-6458451.46	-6458451.24	-6458451.01	0.0088	0.0005
Jupiter	-22395-03-25 16:48 J	-6458267.00	-6458266.80	-6458266.59	0.0493	0.0094
Neptune	-22395-05-05 20:09 J	-6458225.89	-6458225.66	-6458225.44	0.0088	0.0005
Jupiter	-22395-11-17 04:19 J	-6458030.49	-6458030.32	-6458030.15	0.0496	0.0283
Neptune	-22395-12-17 09:50 J	-6458000.31	-6458000.09	-6457999.86	0.0088	0.0005
Neptune	-22394-07-30 23:31 J	-6457774.74	-6457774.52	-6457774.29	0.0088	0.0005
Neptune	-22393-03-12 13:11 J	-6457549.17	-6457548.95	-6457548.72	0.0088	0.0006
Neptune	-22393-10-24 03:07 J	-6457323.59	-6457323.37	-6457323.14	0.0088	0.0006
Neptune	-22392-06-06 16:48 J	-6457098.02	-6457097.80	-6457097.57	0.0088	0.0007
Neptune	-22391-01-18 06:43 J	-6456872.44	-6456872.22	-6456872.00	0.0088	0.0006
Neptune	-22391-08-31 20:23 J	-6456646.87	-6456646.65	-6456646.43	0.0088	0.0007
Neptune	-22390-04-14 10:04 J	-6456421.30	-6456421.08	-6456420.85	0.0088	0.0007
Neptune	-22390-11-25 23:45 J	-6456195.73	-6456195.51	-6456195.28	0.0088	0.0008
Jupiter	-22389-01-30 22:48 J	-6456129.75	-6456129.55	-6456129.35	0.0533	0.0087
Neptune	-22389-07-08 13:40 J	-6455970.15	-6455969.93	-6455969.71	0.0088	0.0008
Jupiter	-22389-09-24 11:16 J	-6455892.18	-6455892.03	-6455891.89	0.0530	0.0363
Neptune	-22388-02-19 03:07 J	-6455744.59	-6455744.37	-6455744.14	0.0089	0.0008
Neptune	-22388-10-02 16:48 J	-6455519.02	-6455518.80	-6455518.57	0.0089	0.0009
Neptune	-22387-05-16 06:28 J	-6455293.45	-6455293.23	-6455293.00	0.0089	0.0009
Neptune	-22387-12-27 20:23 J	-6455067.88	-6455067.65	-6455067.43	0.0089	0.0009

Neptune -22386-08-10 09:50 J -6454842.31 -6454842.09 -6454841.86 0.0089 0.0009
 Neptune -22385-03-22 23:31 J -6454616.74 -6454616.52 -6454616.29 0.0089 0.0009
 Saturn -22385-07-21 14:23 J -6454495.96 -6454495.90 -6454495.82 0.0262 0.0245
 Neptune -22385-11-03 13:11 J -6454391.17 -6454390.95 -6454390.72 0.0089 0.0010
 Mars -22384-01-15 02:23 J -6454318.54 -6454318.40 -6454318.27 0.1651 0.1044
 Saturn -22384-03-07 09:50 J -6454267.27 -6454267.09 -6454266.90 0.0262 0.0129
 Neptune -22384-06-17 03:07 J -6454165.60 -6454165.37 -6454165.15 0.0089 0.0010
 Saturn -22384-10-22 06:00 J -6454038.46 -6454038.25 -6454038.04 0.0263 0.0011
 Jupiter -22384-11-28 17:31 J -6454000.96 -6454000.77 -6454000.58 0.0492 0.0194
 Neptune -22383-01-28 16:33 J -6453940.03 -6453939.81 -6453939.58 0.0089 0.0010
 Saturn -22383-06-08 02:52 J -6453809.57 -6453809.38 -6453809.19 0.0264 0.0110
 Jupiter -22383-07-23 02:52 J -6453764.57 -6453764.38 -6453764.19 0.0495 0.0177
 Neptune -22383-09-11 06:14 J -6453714.46 -6453714.24 -6453714.01 0.0089 0.0010
 Mars -22383-11-15 06:00 J -6453649.40 -6453649.25 -6453649.10 0.1641 0.0817
 Saturn -22382-01-23 00:57 J -6453580.56 -6453580.46 -6453580.36 0.0265 0.0231
 Neptune -22382-04-24 19:55 J -6453488.89 -6453488.67 -6453488.44 0.0089 0.0011
 Mars -22382-10-20 20:23 J -6453309.81 -6453309.65 -6453309.50 0.1870 0.0930
 Neptune -22382-12-06 09:50 J -6453263.31 -6453263.09 -6453262.87 0.0089 0.0011
 Neptune -22381-07-18 23:31 J -6453037.74 -6453037.52 -6453037.30 0.0089 0.0011
 Neptune -22380-03-01 12:57 J -6452812.17 -6452811.96 -6452811.73 0.0089 0.0012
 Neptune -22380-10-13 02:38 J -6452586.60 -6452586.39 -6452586.16 0.0089 0.0012
 Neptune -22379-05-26 16:19 J -6452361.03 -6452360.82 -6452360.59 0.0089 0.0012
 Neptune -22378-01-07 06:14 J -6452135.46 -6452135.24 -6452135.02 0.0089 0.0012
 Neptune -22378-08-20 19:55 J -6451909.89 -6451909.67 -6451909.45 0.0089 0.0012
 Jupiter -22378-10-05 14:23 J -6451864.08 -6451863.90 -6451863.72 0.0534 0.0216
 Neptune -22377-04-02 09:21 J -6451684.33 -6451684.11 -6451683.88 0.0089 0.0013
 Jupiter -22377-05-30 05:16 J -6451626.46 -6451626.28 -6451626.10 0.0531 0.0244
 Neptune -22377-11-13 23:02 J -6451458.76 -6451458.54 -6451458.32 0.0089 0.0013
 Neptune -22376-06-27 12:43 J -6451233.19 -6451232.97 -6451232.75 0.0089 0.0013
 Neptune -22375-02-08 02:23 J -6451007.62 -6451007.40 -6451007.18 0.0089 0.0013

Neptune	-22375-09-21 15:50 J	-6450782.06	-6450781.84	-6450781.62	0.0089	0.0013
Neptune	-22374-05-05 05:02 J	-6450556.50	-6450556.29	-6450556.06	0.0089	0.0014
Neptune	-22374-12-16 18:43 J	-6450330.93	-6450330.72	-6450330.49	0.0089	0.0014
Neptune	-22373-07-29 08:23 J	-6450105.36	-6450105.15	-6450104.92	0.0089	0.0014
Neptune	-22372-03-11 21:50 J	-6449879.80	-6449879.59	-6449879.36	0.0089	0.0014
Jupiter	-22372-08-03 18:28 J	-6449734.89	-6449734.73	-6449734.56	0.0492	0.0293
Neptune	-22372-10-23 11:16 J	-6449654.24	-6449654.03	-6449653.80	0.0089	0.0014
Jupiter	-22371-03-28 02:23 J	-6449498.60	-6449498.40	-6449498.19	0.0494	0.0074
Neptune	-22371-06-06 00:57 J	-6449428.68	-6449428.46	-6449428.24	0.0089	0.0014
Jupiter	-22371-11-19 16:19 J	-6449261.90	-6449261.82	-6449261.72	0.0498	0.0447
Neptune	-22370-01-17 14:38 J	-6449203.11	-6449202.89	-6449202.67	0.0089	0.0014
Saturn	-22370-08-24 00:14 J	-6448984.66	-6448984.49	-6448984.30	0.0299	0.0166
Neptune	-22370-08-31 04:04 J	-6448977.55	-6448977.33	-6448977.11	0.0089	0.0014
Saturn	-22369-04-10 07:11 J	-6448754.41	-6448754.20	-6448753.99	0.0298	0.0016
Neptune	-22369-04-12 17:31 J	-6448751.99	-6448751.77	-6448751.55	0.0089	0.0014
Neptune	-22369-11-24 06:57 J	-6448526.43	-6448526.21	-6448525.99	0.0089	0.0015
Saturn	-22369-11-26 12:14 J	-6448524.15	-6448523.99	-6448523.83	0.0297	0.0193
Neptune	-22368-07-07 20:23 J	-6448300.86	-6448300.65	-6448300.42	0.0089	0.0015
Neptune	-22367-02-18 10:04 J	-6448075.30	-6448075.08	-6448074.86	0.0089	0.0015
Neptune	-22367-10-01 23:31 J	-6447849.74	-6447849.52	-6447849.30	0.0089	0.0015
Neptune	-22366-05-15 12:57 J	-6447624.18	-6447623.96	-6447623.74	0.0089	0.0015
Jupiter	-22366-06-10 06:43 J	-6447598.37	-6447598.22	-6447598.06	0.0535	0.0340
Neptune	-22366-12-27 02:23 J	-6447398.61	-6447398.40	-6447398.18	0.0089	0.0015
Jupiter	-22365-02-02 23:31 J	-6447360.71	-6447360.52	-6447360.32	0.0532	0.0123
Neptune	-22365-08-08 15:50 J	-6447173.05	-6447172.84	-6447172.62	0.0089	0.0015
Neptune	-22364-03-22 05:16 J	-6446947.50	-6446947.28	-6446947.06	0.0089	0.0015
Neptune	-22364-11-02 18:28 J	-6446721.94	-6446721.73	-6446721.51	0.0089	0.0015
Neptune	-22363-06-16 07:55 J	-6446496.39	-6446496.17	-6446495.95	0.0089	0.0015
Neptune	-22362-01-27 21:07 J	-6446270.83	-6446270.62	-6446270.40	0.0089	0.0016
Neptune	-22362-09-10 10:33 J	-6446045.28	-6446045.06	-6446044.84	0.0089	0.0015

Uranus	-22361-04-09 21:07 J	-6445832.66	-6445832.62	-6445832.55	0.0132	0.0127
Neptune	-22361-04-22 23:45 J	-6445819.73	-6445819.51	-6445819.29	0.0089	0.0015
Uranus	-22361-11-22 02:23 J	-6445606.53	-6445606.40	-6445606.26	0.0132	0.0103
Neptune	-22361-12-04 12:57 J	-6445594.18	-6445593.96	-6445593.74	0.0089	0.0015
Jupiter	-22360-04-08 18:28 J	-6445468.85	-6445468.73	-6445468.60	0.0492	0.0391
Uranus	-22360-07-06 07:26 J	-6445380.35	-6445380.19	-6445380.00	0.0132	0.0079
Neptune	-22360-07-18 02:09 J	-6445368.62	-6445368.41	-6445368.19	0.0089	0.0015
Jupiter	-22360-12-01 00:57 J	-6445232.66	-6445232.46	-6445232.25	0.0493	0.0032
Uranus	-22359-02-17 12:57 J	-6445154.16	-6445153.96	-6445153.76	0.0132	0.0054
Neptune	-22359-02-28 15:21 J	-6445143.07	-6445142.86	-6445142.64	0.0089	0.0016
Jupiter	-22359-07-25 13:26 J	-6444996.09	-6444995.94	-6444995.79	0.0497	0.0344
Uranus	-22359-10-01 18:00 J	-6444927.96	-6444927.75	-6444927.53	0.0132	0.0030
Neptune	-22359-10-12 04:33 J	-6444917.52	-6444917.31	-6444917.09	0.0089	0.0016
Uranus	-22358-05-15 23:16 J	-6444701.75	-6444701.53	-6444701.31	0.0133	0.0005
Neptune	-22358-05-25 17:45 J	-6444691.97	-6444691.76	-6444691.54	0.0089	0.0015
Uranus	-22358-12-28 04:33 J	-6444475.52	-6444475.31	-6444475.09	0.0133	0.0020
Neptune	-22357-01-06 06:57 J	-6444466.42	-6444466.21	-6444465.99	0.0089	0.0016
Uranus	-22357-08-10 09:50 J	-6444249.30	-6444249.09	-6444248.88	0.0133	0.0044
Neptune	-22357-08-18 20:09 J	-6444240.87	-6444240.66	-6444240.44	0.0089	0.0015
Uranus	-22356-03-24 14:52 J	-6444023.06	-6444022.88	-6444022.68	0.0133	0.0069
Neptune	-22356-04-01 09:21 J	-6444015.32	-6444015.11	-6444014.89	0.0089	0.0015
Uranus	-22356-11-05 19:55 J	-6443796.80	-6443796.67	-6443796.50	0.0133	0.0095
Neptune	-22356-11-12 22:33 J	-6443789.77	-6443789.56	-6443789.34	0.0089	0.0015
Saturn	-22355-01-31 18:00 J	-6443709.85	-6443709.75	-6443709.65	0.0263	0.0227
Uranus	-22355-06-20 01:26 J	-6443570.53	-6443570.44	-6443570.33	0.0133	0.0119
Neptune	-22355-06-26 11:31 J	-6443564.22	-6443564.02	-6443563.79	0.0089	0.0016
Saturn	-22355-09-17 13:11 J	-6443481.14	-6443480.95	-6443480.75	0.0263	0.0111
Neptune	-22354-02-07 00:57 J	-6443338.67	-6443338.46	-6443338.24	0.0089	0.0015
Jupiter	-22354-02-12 21:36 J	-6443332.69	-6443332.60	-6443332.50	0.0535	0.0464
Saturn	-22354-05-04 09:21 J	-6443252.32	-6443252.11	-6443251.90	0.0263	0.0009

Neptune -22354-09-20 13:55 J -6443113.12 -6443112.92 -6443112.69 0.0089 0.0016
 Jupiter -22354-10-08 16:04 J -6443095.03 -6443094.83 -6443094.63 0.0533 0.0010
 Saturn -22354-12-19 06:28 J -6443023.41 -6443023.23 -6443023.05 0.0264 0.0129
 Neptune -22353-05-03 03:07 J -6442887.58 -6442887.37 -6442887.15 0.0089 0.0015
 Jupiter -22353-06-02 03:07 J -6442857.48 -6442857.37 -6442857.26 0.0529 0.0438
 Saturn -22353-08-04 04:48 J -6442794.36 -6442794.30 -6442794.23 0.0265 0.0251
 Neptune -22353-12-14 16:19 J -6442662.04 -6442661.82 -6442661.60 0.0089 0.0015
 Neptune -22352-07-28 05:16 J -6442436.49 -6442436.28 -6442436.06 0.0089 0.0015
 Neptune -22351-03-10 18:28 J -6442210.94 -6442210.73 -6442210.51 0.0089 0.0014
 Neptune -22351-10-22 07:26 J -6441985.40 -6441985.19 -6441984.97 0.0089 0.0014
 Mars -22351-11-13 22:19 J -6441962.74 -6441962.57 -6441962.40 0.1645 0.0065
 Neptune -22350-06-04 20:09 J -6441759.87 -6441759.66 -6441759.43 0.0089 0.0015
 Neptune -22349-01-16 09:07 J -6441534.32 -6441534.12 -6441533.89 0.0089 0.0015
 Neptune -22349-08-28 22:19 J -6441308.78 -6441308.57 -6441308.35 0.0089 0.0014
 Jupiter -22349-12-12 20:23 J -6441202.68 -6441202.65 -6441202.61 0.0492 0.0483
 Neptune -22348-04-11 11:16 J -6441083.25 -6441083.03 -6441082.81 0.0089 0.0014
 Jupiter -22348-08-06 01:55 J -6440966.62 -6440966.42 -6440966.22 0.0493 0.0132
 Mars -22348-08-16 20:52 J -6440955.76 -6440955.63 -6440955.49 0.1878 0.1172
 Neptune -22348-11-23 00:00 J -6440857.71 -6440857.50 -6440857.28 0.0089 0.0014
 Jupiter -22347-03-30 12:43 J -6440730.15 -6440729.97 -6440729.79 0.0496 0.0242
 Neptune -22347-07-06 12:57 J -6440632.17 -6440631.96 -6440631.74 0.0089 0.0013
 Neptune -22346-02-17 01:55 J -6440406.63 -6440406.42 -6440406.20 0.0089 0.0013
 Neptune -22346-09-30 14:38 J -6440181.10 -6440180.89 -6440180.67 0.0089 0.0013
 Neptune -22345-05-13 03:36 J -6439955.57 -6439955.35 -6439955.13 0.0089 0.0013
 Neptune -22345-12-24 16:19 J -6439730.03 -6439729.82 -6439729.60 0.0089 0.0013
 Neptune -22344-08-07 05:16 J -6439504.49 -6439504.28 -6439504.06 0.0089 0.0012
 Neptune -22343-03-20 18:14 J -6439278.95 -6439278.74 -6439278.52 0.0089 0.0012
 Neptune -22343-11-01 06:57 J -6439053.42 -6439053.21 -6439052.99 0.0089 0.0012
 Jupiter -22342-06-13 04:48 J -6438829.49 -6438829.30 -6438829.10 0.0534 0.0139
 Neptune -22342-06-14 19:55 J -6438827.89 -6438827.67 -6438827.46 0.0089 0.0012

Neptune -22341-01-26 08:38 J -6438602.35 -6438602.14 -6438601.92 0.0089 0.0012
 Jupiter -22341-02-05 18:14 J -6438591.90 -6438591.74 -6438591.58 0.0530 0.0317
 Neptune -22341-09-07 21:21 J -6438376.82 -6438376.61 -6438376.39 0.0089 0.0012
 Saturn -22340-03-05 12:43 J -6438198.16 -6438197.97 -6438197.77 0.0299 0.0130
 Neptune -22340-04-21 10:19 J -6438151.28 -6438151.07 -6438150.85 0.0089 0.0011
 Saturn -22340-10-21 19:26 J -6437967.90 -6437967.69 -6437967.48 0.0298 0.0052
 Neptune -22340-12-02 23:02 J -6437925.75 -6437925.54 -6437925.32 0.0089 0.0011
 Saturn -22339-06-09 00:28 J -6437737.62 -6437737.48 -6437737.35 0.0297 0.0229
 Neptune -22339-07-16 11:45 J -6437700.22 -6437700.01 -6437699.79 0.0089 0.0011
 Neptune -22338-02-27 00:28 J -6437474.69 -6437474.48 -6437474.26 0.0089 0.0010
 Neptune -22338-10-10 13:11 J -6437249.16 -6437248.95 -6437248.73 0.0089 0.0010
 Neptune -22337-05-23 01:55 J -6437023.64 -6437023.42 -6437023.21 0.0089 0.0010
 Neptune -22336-01-03 14:23 J -6436798.11 -6436797.90 -6436797.68 0.0089 0.0009
 Jupiter -22336-04-11 03:50 J -6436700.52 -6436700.34 -6436700.15 0.0492 0.0232
 Neptune -22336-08-17 02:52 J -6436572.59 -6436572.38 -6436572.16 0.0089 0.0010
 Jupiter -22336-12-03 12:57 J -6436464.16 -6436463.96 -6436463.76 0.0495 0.0139
 Neptune -22335-03-30 15:50 J -6436347.06 -6436346.84 -6436346.62 0.0089 0.0009
 Neptune -22335-11-11 04:19 J -6436121.53 -6436121.32 -6436121.10 0.0089 0.0009
 Neptune -22334-06-24 16:48 J -6435896.01 -6435895.80 -6435895.58 0.0089 0.0009
 Neptune -22333-02-05 05:31 J -6435670.49 -6435670.27 -6435670.05 0.0089 0.0008
 Neptune -22333-09-17 18:00 J -6435444.96 -6435444.75 -6435444.53 0.0089 0.0008
 Neptune -22332-05-01 06:43 J -6435219.43 -6435219.22 -6435219.00 0.0089 0.0007
 Neptune -22332-12-12 19:11 J -6434993.91 -6434993.70 -6434993.48 0.0089 0.0007
 Neptune -22331-07-26 07:55 J -6434768.39 -6434768.17 -6434767.96 0.0089 0.0007
 Jupiter -22330-02-15 19:26 J -6434563.87 -6434563.69 -6434563.52 0.0534 0.0267
 Neptune -22330-03-08 20:23 J -6434542.86 -6434542.65 -6434542.43 0.0089 0.0006
 Jupiter -22330-10-11 10:48 J -6434326.23 -6434326.05 -6434325.86 0.0532 0.0194
 Neptune -22330-10-20 08:52 J -6434317.34 -6434317.13 -6434316.91 0.0089 0.0007
 Neptune -22329-06-01 21:36 J -6434091.82 -6434091.60 -6434091.38 0.0089 0.0006
 Neptune -22328-01-13 10:04 J -6433866.29 -6433866.08 -6433865.86 0.0089 0.0005

Neptune	-22328-08-26 22:33 J	-6433640.77	-6433640.56	-6433640.34	0.0089	0.0005
Neptune	-22327-04-09 11:16 J	-6433415.24	-6433415.03	-6433414.81	0.0089	0.0005
Neptune	-22327-11-20 23:45 J	-6433189.72	-6433189.51	-6433189.29	0.0089	0.0004
Neptune	-22326-07-04 12:14 J	-6432964.21	-6432963.99	-6432963.78	0.0089	0.0004
Saturn	-22326-08-14 00:28 J	-6432923.61	-6432923.48	-6432923.35	0.0262	0.0205
Neptune	-22325-02-15 00:28 J	-6432738.69	-6432738.48	-6432738.26	0.0089	0.0004
Saturn	-22325-03-29 19:40 J	-6432694.87	-6432694.68	-6432694.47	0.0262	0.0089
Neptune	-22325-09-27 12:57 J	-6432513.17	-6432512.96	-6432512.74	0.0089	0.0003
Saturn	-22325-11-13 16:04 J	-6432466.04	-6432465.83	-6432465.62	0.0263	0.0031
Jupiter	-22325-12-15 05:02 J	-6432434.43	-6432434.29	-6432434.13	0.0492	0.0330
Neptune	-22324-05-11 01:40 J	-6432287.65	-6432287.43	-6432287.22	0.0089	0.0003
Saturn	-22324-06-30 13:26 J	-6432237.11	-6432236.94	-6432236.77	0.0264	0.0152
Jupiter	-22324-08-08 12:28 J	-6432198.19	-6432197.98	-6432197.77	0.0493	0.0035
Neptune	-22324-12-22 13:55 J	-6432062.13	-6432061.92	-6432061.70	0.0089	0.0003
Jupiter	-22323-04-02 01:26 J	-6431961.55	-6431961.44	-6431961.32	0.0497	0.0408
Neptune	-22323-08-05 02:23 J	-6431836.62	-6431836.40	-6431836.19	0.0089	0.0002
Neptune	-22322-03-18 14:38 J	-6431611.10	-6431610.89	-6431610.67	0.0089	0.0002
Neptune	-22322-10-30 03:07 J	-6431385.59	-6431385.37	-6431385.15	0.0089	0.0001
Neptune	-22321-06-11 15:21 J	-6431160.07	-6431159.86	-6431159.64	0.0089	0.0002
Neptune	-22320-01-23 03:50 J	-6430934.56	-6430934.34	-6430934.12	0.0089	0.0000
Neptune	-22320-09-05 16:04 J	-6430709.04	-6430708.83	-6430708.61	0.0089	0.0002
Uranus	-22320-10-16 19:55 J	-6430667.75	-6430667.67	-6430667.55	0.0147	0.0130
Neptune	-22319-04-19 04:33 J	-6430483.52	-6430483.31	-6430483.09	0.0089	0.0002
Uranus	-22319-05-31 08:23 J	-6430441.30	-6430441.15	-6430440.98	0.0146	0.0097
Jupiter	-22319-10-21 09:50 J	-6430298.22	-6430298.09	-6430297.95	0.0535	0.0394
Mars	-22319-11-12 14:38 J	-6430276.02	-6430275.89	-6430275.75	0.1649	0.0955
Neptune	-22319-11-30 17:02 J	-6430258.00	-6430257.79	-6430257.57	0.0089	0.0001
Uranus	-22318-01-12 20:52 J	-6430214.82	-6430214.63	-6430214.43	0.0146	0.0064
Jupiter	-22318-06-16 03:36 J	-6430060.55	-6430060.35	-6430060.15	0.0533	0.0069
Neptune	-22318-07-14 05:16 J	-6430032.49	-6430032.28	-6430032.06	0.0089	0.0002

Uranus	-22318-08-27 09:21 J	-6429988.32	-6429988.11	-6429987.90	0.0146	0.0031
Jupiter	-22317-02-08 14:09 J	-6429822.97	-6429822.91	-6429822.85	0.0528	0.0504
Neptune	-22317-02-24 17:45 J	-6429806.98	-6429806.76	-6429806.54	0.0089	0.0002
Uranus	-22317-04-09 21:36 J	-6429761.81	-6429761.60	-6429761.38	0.0146	0.0004
Mars	-22317-09-11 18:28 J	-6429606.87	-6429606.73	-6429606.59	0.1640	0.0897
Neptune	-22317-10-07 06:14 J	-6429581.46	-6429581.24	-6429581.03	0.0089	0.0002
Uranus	-22317-11-22 10:04 J	-6429535.29	-6429535.08	-6429534.87	0.0146	0.0035
Neptune	-22316-05-20 18:43 J	-6429355.94	-6429355.72	-6429355.50	0.0089	0.0002
Uranus	-22316-07-06 22:19 J	-6429308.75	-6429308.57	-6429308.37	0.0146	0.0069
Mars	-22316-08-16 22:19 J	-6429267.74	-6429267.57	-6429267.40	0.1872	0.0627
Neptune	-22315-01-01 06:57 J	-6429130.42	-6429130.21	-6429129.99	0.0089	0.0003
Uranus	-22315-02-18 10:48 J	-6429082.20	-6429082.05	-6429081.89	0.0145	0.0101
Neptune	-22315-08-14 19:26 J	-6428904.91	-6428904.69	-6428904.48	0.0089	0.0003
Uranus	-22315-10-02 22:48 J	-6428855.61	-6428855.55	-6428855.44	0.0145	0.0134
Neptune	-22314-03-28 07:40 J	-6428679.39	-6428679.18	-6428678.96	0.0089	0.0004
Neptune	-22314-11-08 20:09 J	-6428453.88	-6428453.66	-6428453.45	0.0089	0.0004
Neptune	-22313-06-21 08:23 J	-6428228.36	-6428228.15	-6428227.93	0.0089	0.0004
Jupiter	-22313-08-20 06:57 J	-6428168.31	-6428168.21	-6428168.11	0.0492	0.0425
Neptune	-22312-02-01 20:38 J	-6428002.85	-6428002.64	-6428002.42	0.0089	0.0005
Jupiter	-22312-04-13 12:43 J	-6427932.17	-6427931.97	-6427931.76	0.0493	0.0069
Neptune	-22312-09-15 09:07 J	-6427777.34	-6427777.12	-6427776.91	0.0089	0.0005
Jupiter	-22312-12-05 23:45 J	-6427695.67	-6427695.51	-6427695.34	0.0496	0.0306
Saturn	-22311-01-28 13:11 J	-6427642.00	-6427641.95	-6427641.87	0.0299	0.0285
Neptune	-22311-04-28 21:21 J	-6427551.82	-6427551.61	-6427551.39	0.0089	0.0006
Saturn	-22311-09-15 21:07 J	-6427411.81	-6427411.62	-6427411.41	0.0299	0.0104
Neptune	-22311-12-10 09:36 J	-6427326.31	-6427326.10	-6427325.88	0.0089	0.0006
Saturn	-22310-05-04 03:36 J	-6427181.55	-6427181.35	-6427181.14	0.0298	0.0078
Neptune	-22310-07-23 22:04 J	-6427100.80	-6427100.58	-6427100.37	0.0089	0.0006
Saturn	-22310-12-20 08:23 J	-6426951.26	-6426951.15	-6426951.04	0.0296	0.0253
Neptune	-22309-03-05 10:19 J	-6426875.29	-6426875.07	-6426874.86	0.0089	0.0006

Neptune	-22309-10-16 22:33 J	-6426649.77	-6426649.56	-6426649.34	0.0089	0.0007
Neptune	-22308-05-30 11:02 J	-6426424.25	-6426424.04	-6426423.82	0.0089	0.0007
Neptune	-22307-01-10 23:16 J	-6426198.74	-6426198.53	-6426198.31	0.0089	0.0007
Jupiter	-22307-06-26 01:26 J	-6426032.49	-6426032.44	-6426032.38	0.0535	0.0514
Neptune	-22307-08-24 11:31 J	-6425973.23	-6425973.02	-6425972.80	0.0089	0.0008
Jupiter	-22306-02-18 21:21 J	-6425794.81	-6425794.61	-6425794.41	0.0534	0.0057
Neptune	-22306-04-07 00:00 J	-6425747.72	-6425747.50	-6425747.29	0.0089	0.0008
Jupiter	-22306-10-14 09:50 J	-6425557.22	-6425557.09	-6425556.96	0.0530	0.0393
Neptune	-22306-11-18 12:14 J	-6425522.20	-6425521.99	-6425521.77	0.0089	0.0008
Moon	-22305-04-30 19:55 J	-6425357.83	-6425357.67	-6425357.52	0.2717	0.0288
Earth	-22305-05-01 00:57 J	-6425357.60	-6425357.46	-6425357.31	0.2713	0.1020 *
Neptune	-22305-07-01 00:43 J	-6425296.68	-6425296.47	-6425296.25	0.0089	0.0009
Neptune	-22304-02-11 13:11 J	-6425071.17	-6425070.95	-6425070.74	0.0089	0.0009
Neptune	-22304-09-25 01:26 J	-6424845.65	-6424845.44	-6424845.22	0.0089	0.0009
Neptune	-22303-05-08 13:55 J	-6424620.13	-6424619.92	-6424619.70	0.0089	0.0010
Neptune	-22303-12-20 02:23 J	-6424394.62	-6424394.40	-6424394.19	0.0089	0.0010
Neptune	-22302-08-02 14:38 J	-6424169.10	-6424168.89	-6424168.67	0.0089	0.0010
Neptune	-22301-03-15 02:52 J	-6423943.59	-6423943.38	-6423943.16	0.0089	0.0011
Neptune	-22301-10-26 15:21 J	-6423718.07	-6423717.86	-6423717.64	0.0089	0.0011
Jupiter	-22301-12-17 12:00 J	-6423666.19	-6423666.00	-6423665.80	0.0492	0.0172
Neptune	-22300-06-09 03:50 J	-6423492.55	-6423492.34	-6423492.12	0.0089	0.0012
Jupiter	-22300-08-10 21:36 J	-6423429.78	-6423429.60	-6423429.40	0.0495	0.0202
Neptune	-22299-01-20 16:19 J	-6423267.03	-6423266.82	-6423266.60	0.0089	0.0012
Neptune	-22299-09-03 04:33 J	-6423041.52	-6423041.31	-6423041.09	0.0089	0.0012
Neptune	-22298-04-16 16:48 J	-6422816.01	-6422815.80	-6422815.58	0.0089	0.0013
Neptune	-22298-11-28 05:16 J	-6422590.49	-6422590.28	-6422590.06	0.0089	0.0013
Neptune	-22297-07-10 17:45 J	-6422364.97	-6422364.76	-6422364.54	0.0089	0.0013
Neptune	-22296-02-21 06:14 J	-6422139.45	-6422139.24	-6422139.02	0.0089	0.0013
Saturn	-22296-02-23 03:07 J	-6422137.51	-6422137.37	-6422137.22	0.0262	0.0188
Neptune	-22296-10-04 18:28 J	-6421913.94	-6421913.73	-6421913.51	0.0088	0.0013

Saturn -22296-10-09 22:48 J -6421908.76 -6421908.55 -6421908.35 0.0263 0.0070
 Neptune -22295-05-18 06:57 J -6421688.42 -6421688.21 -6421687.99 0.0088 0.0014
 Saturn -22295-05-26 18:57 J -6421679.92 -6421679.71 -6421679.50 0.0263 0.0050
 Jupiter -22295-10-24 13:11 J -6421529.13 -6421528.95 -6421528.76 0.0534 0.0185
 Neptune -22295-12-29 19:26 J -6421462.90 -6421462.69 -6421462.47 0.0088 0.0014
 Saturn -22294-01-10 16:04 J -6421450.98 -6421450.83 -6421450.66 0.0264 0.0171
 Jupiter -22294-06-19 03:36 J -6421291.51 -6421291.35 -6421291.17 0.0531 0.0274
 Neptune -22294-08-12 07:40 J -6421237.39 -6421237.18 -6421236.96 0.0088 0.0014
 Neptune -22293-03-24 20:09 J -6421011.87 -6421011.66 -6421011.44 0.0088 0.0015
 Neptune -22293-11-05 08:38 J -6420786.35 -6420786.14 -6420785.92 0.0088 0.0015
 Neptune -22292-06-18 21:21 J -6420560.82 -6420560.61 -6420560.39 0.0088 0.0015
 Neptune -22291-01-30 09:50 J -6420335.30 -6420335.09 -6420334.87 0.0088 0.0015
 Pluto -22291-08-15 15:36 J -6420137.97 -6420137.85 -6420137.67 0.0064 0.0046
 Neptune -22291-09-12 22:19 J -6420109.78 -6420109.57 -6420109.35 0.0088 0.0015
 Pluto -22290-03-28 19:55 J -6419912.88 -6419912.67 -6419912.45 0.0064 0.0009
 Neptune -22290-04-26 10:48 J -6419884.26 -6419884.05 -6419883.83 0.0088 0.0016
 Pluto -22290-11-08 23:16 J -6419687.71 -6419687.53 -6419687.32 0.0065 0.0029
 Neptune -22290-12-07 23:31 J -6419658.73 -6419658.52 -6419658.30 0.0088 0.0015
 Neptune -22289-07-20 12:14 J -6419433.21 -6419432.99 -6419432.78 0.0088 0.0016
 Jupiter -22289-08-22 13:55 J -6419400.09 -6419399.92 -6419399.75 0.0492 0.0270
 Neptune -22288-03-03 00:28 J -6419207.68 -6419207.48 -6419207.25 0.0088 0.0017
 Jupiter -22288-04-15 22:04 J -6419163.78 -6419163.58 -6419163.38 0.0494 0.0099
 Neptune -22288-10-14 13:11 J -6418982.16 -6418981.95 -6418981.73 0.0088 0.0016
 Jupiter -22288-12-08 12:28 J -6418927.04 -6418926.98 -6418926.92 0.0498 0.0472
 Neptune -22287-05-28 01:40 J -6418756.64 -6418756.43 -6418756.21 0.0088 0.0016
 Neptune -22286-01-08 14:23 J -6418531.11 -6418530.90 -6418530.68 0.0088 0.0016
 Neptune -22286-08-22 02:52 J -6418305.59 -6418305.38 -6418305.16 0.0088 0.0017
 Neptune -22285-04-03 15:36 J -6418080.07 -6418079.85 -6418079.64 0.0088 0.0017
 Mars -22285-09-10 10:33 J -6417920.24 -6417920.06 -6417919.89 0.1644 0.0052
 Neptune -22285-11-15 03:50 J -6417854.54 -6417854.34 -6417854.11 0.0088 0.0017

Neptune -22284-06-28 16:33 J -6417629.02 -6417628.81 -6417628.59 0.0088 0.0017
 Neptune -22283-02-09 05:16 J -6417403.49 -6417403.28 -6417403.06 0.0088 0.0017
 Jupiter -22283-06-29 01:26 J -6417263.60 -6417263.44 -6417263.28 0.0534 0.0317
 Neptune -22283-09-22 17:45 J -6417177.97 -6417177.76 -6417177.54 0.0088 0.0017
 Jupiter -22282-02-21 17:45 J -6417025.95 -6417025.76 -6417025.56 0.0532 0.0146
 Neptune -22282-05-06 06:28 J -6416952.44 -6416952.23 -6416952.01 0.0088 0.0017
 Mars -22282-06-13 22:48 J -6416913.66 -6416913.55 -6416913.45 0.1880 0.1484
 Saturn -22282-08-11 00:28 J -6416855.59 -6416855.48 -6416855.36 0.0299 0.0252
 Neptune -22282-12-17 18:57 J -6416726.92 -6416726.71 -6416726.49 0.0088 0.0017
 Saturn -22281-03-28 08:23 J -6416625.36 -6416625.15 -6416624.94 0.0299 0.0070
 Neptune -22281-07-30 07:55 J -6416501.38 -6416501.17 -6416500.95 0.0088 0.0017
 Saturn -22281-11-13 14:38 J -6416395.08 -6416394.89 -6416394.69 0.0298 0.0112
 Neptune -22280-03-12 20:38 J -6416275.85 -6416275.64 -6416275.42 0.0088 0.0017
 Saturn -22280-07-01 19:11 J -6416164.74 -6416164.70 -6416164.64 0.0297 0.0287
 Neptune -22280-10-24 09:21 J -6416050.32 -6416050.11 -6416049.89 0.0088 0.0017
 Neptune -22279-06-06 22:04 J -6415824.79 -6415824.58 -6415824.36 0.0088 0.0017
 Neptune -22278-01-18 10:48 J -6415599.26 -6415599.05 -6415598.83 0.0088 0.0017
 Neptune -22278-08-31 23:45 J -6415373.73 -6415373.51 -6415373.30 0.0088 0.0018
 Neptune -22277-04-13 12:28 J -6415148.20 -6415147.98 -6415147.76 0.0088 0.0018
 Jupiter -22277-04-27 16:04 J -6415133.96 -6415133.83 -6415133.68 0.0492 0.0367
 Uranus -22277-07-22 13:26 J -6415048.03 -6415047.94 -6415047.81 0.0132 0.0113
 Neptune -22277-11-25 00:57 J -6414922.66 -6414922.46 -6414922.23 0.0088 0.0018
 Jupiter -22277-12-19 23:02 J -6414897.74 -6414897.54 -6414897.33 0.0493 0.0011
 Uranus -22276-03-05 18:43 J -6414821.87 -6414821.72 -6414821.54 0.0132 0.0089
 Neptune -22276-07-08 13:55 J -6414697.12 -6414696.92 -6414696.69 0.0088 0.0018
 Jupiter -22276-08-13 11:45 J -6414661.15 -6414661.01 -6414660.88 0.0497 0.0371
 Uranus -22276-10-18 00:00 J -6414595.68 -6414595.50 -6414595.30 0.0132 0.0064
 Neptune -22275-02-19 02:52 J -6414471.59 -6414471.38 -6414471.16 0.0088 0.0018
 Uranus -22275-06-01 05:16 J -6414369.49 -6414369.28 -6414369.07 0.0132 0.0040
 Neptune -22275-10-02 15:36 J -6414246.06 -6414245.85 -6414245.62 0.0088 0.0018

Uranus	-22274-01-13 10:33 J	-6414143.27	-6414143.06	-6414142.84	0.0132	0.0015
Neptune	-22274-05-16 04:19 J	-6414020.53	-6414020.32	-6414020.09	0.0088	0.0018
Uranus	-22274-08-27 15:50 J	-6413917.06	-6413916.84	-6413916.62	0.0133	0.0010
Neptune	-22274-12-27 17:16 J	-6413794.99	-6413794.78	-6413794.56	0.0088	0.0018
Uranus	-22273-04-09 20:52 J	-6413690.83	-6413690.63	-6413690.41	0.0133	0.0035
Neptune	-22273-08-09 06:28 J	-6413569.45	-6413569.23	-6413569.01	0.0088	0.0017
Uranus	-22273-11-22 01:55 J	-6413464.60	-6413464.42	-6413464.21	0.0133	0.0060
Neptune	-22272-03-22 18:57 J	-6413343.91	-6413343.71	-6413343.48	0.0088	0.0018
Uranus	-22272-07-06 07:26 J	-6413238.35	-6413238.19	-6413238.02	0.0133	0.0084
Neptune	-22272-11-03 08:09 J	-6413118.38	-6413118.16	-6413117.94	0.0088	0.0017
Uranus	-22271-02-17 12:43 J	-6413012.08	-6413011.97	-6413011.83	0.0133	0.0109
Jupiter	-22271-03-03 15:21 J	-6412997.97	-6412997.86	-6412997.75	0.0534	0.0443
Neptune	-22271-06-16 20:52 J	-6412892.84	-6412892.63	-6412892.41	0.0088	0.0017
Jupiter	-22271-10-27 09:36 J	-6412760.30	-6412760.10	-6412759.90	0.0533	0.0018
Neptune	-22270-01-28 09:50 J	-6412667.31	-6412667.09	-6412666.87	0.0088	0.0017
Jupiter	-22270-06-21 20:38 J	-6412522.73	-6412522.64	-6412522.54	0.0529	0.0459
Neptune	-22270-09-10 22:48 J	-6412441.76	-6412441.55	-6412441.33	0.0088	0.0017
Neptune	-22269-04-23 11:45 J	-6412216.22	-6412216.01	-6412215.79	0.0088	0.0017
Neptune	-22269-12-05 00:43 J	-6411990.68	-6411990.47	-6411990.25	0.0088	0.0017
Neptune	-22268-07-18 13:40 J	-6411765.14	-6411764.93	-6411764.70	0.0088	0.0017
Neptune	-22267-03-01 02:38 J	-6411539.60	-6411539.39	-6411539.16	0.0088	0.0017
Saturn	-22267-09-05 09:21 J	-6411351.27	-6411351.11	-6411350.94	0.0262	0.0165
Neptune	-22267-10-12 15:50 J	-6411314.05	-6411313.84	-6411313.62	0.0088	0.0017
Saturn	-22266-04-22 04:48 J	-6411122.50	-6411122.30	-6411122.09	0.0262	0.0048
Neptune	-22266-05-26 04:48 J	-6411088.51	-6411088.30	-6411088.07	0.0088	0.0017
Saturn	-22266-12-07 01:11 J	-6410893.65	-6410893.45	-6410893.24	0.0263	0.0072
Jupiter	-22265-01-01 18:14 J	-6410867.81	-6410867.74	-6410867.67	0.0492	0.0460
Neptune	-22265-01-06 18:00 J	-6410862.96	-6410862.75	-6410862.53	0.0088	0.0016
Saturn	-22265-07-22 22:48 J	-6410664.69	-6410664.55	-6410664.40	0.0264	0.0193
Neptune	-22265-08-19 07:11 J	-6410637.41	-6410637.20	-6410636.97	0.0088	0.0016

Jupiter -22265-08-24 23:45 J -6410631.71 -6410631.51 -6410631.31 0.0493 0.0106
 Neptune -22264-04-01 20:23 J -6410411.86 -6410411.65 -6410411.43 0.0088 0.0016
 Jupiter -22264-04-18 10:04 J -6410395.25 -6410395.08 -6410394.90 0.0495 0.0268
 Neptune -22264-11-13 09:36 J -6410186.32 -6410186.10 -6410185.88 0.0088 0.0016
 Neptune -22263-06-26 22:33 J -6409960.77 -6409960.56 -6409960.33 0.0088 0.0016
 Neptune -22262-02-07 11:45 J -6409735.22 -6409735.01 -6409734.78 0.0088 0.0016
 Neptune -22262-09-21 01:11 J -6409509.67 -6409509.45 -6409509.23 0.0088 0.0015
 Neptune -22261-05-03 14:09 J -6409284.12 -6409283.91 -6409283.68 0.0088 0.0015
 Neptune -22261-12-15 03:21 J -6409058.57 -6409058.36 -6409058.13 0.0088 0.0015
 Neptune -22260-07-28 16:33 J -6408833.02 -6408832.81 -6408832.58 0.0088 0.0015
 Neptune -22259-03-11 06:00 J -6408607.47 -6408607.25 -6408607.03 0.0088 0.0014
 Jupiter -22259-07-02 01:11 J -6408494.64 -6408494.45 -6408494.25 0.0534 0.0111
 Neptune -22259-10-22 19:11 J -6408381.92 -6408381.70 -6408381.48 0.0088 0.0014
 Jupiter -22258-02-24 15:07 J -6408257.02 -6408256.87 -6408256.72 0.0531 0.0344
 Neptune -22258-06-05 08:09 J -6408156.37 -6408156.16 -6408155.93 0.0088 0.0014
 Neptune -22257-01-16 21:21 J -6407930.82 -6407930.61 -6407930.38 0.0088 0.0014
 Neptune -22257-08-29 11:02 J -6407705.26 -6407705.04 -6407704.82 0.0088 0.0013
 Neptune -22256-04-12 00:14 J -6407479.71 -6407479.49 -6407479.27 0.0088 0.0013
 Neptune -22256-11-23 13:26 J -6407254.16 -6407253.94 -6407253.71 0.0088 0.0013
 Neptune -22255-07-07 02:52 J -6407028.60 -6407028.38 -6407028.16 0.0088 0.0012
 Neptune -22254-02-17 16:04 J -6406803.05 -6406802.83 -6406802.60 0.0088 0.0012
 Neptune -22254-10-01 05:31 J -6406577.48 -6406577.27 -6406577.04 0.0088 0.0012
 Jupiter -22253-04-30 00:43 J -6406365.66 -6406365.47 -6406365.28 0.0492 0.0207
 Neptune -22253-05-13 18:57 J -6406351.92 -6406351.71 -6406351.48 0.0088 0.0012
 Mars -22253-09-09 03:07 J -6406233.51 -6406233.37 -6406233.23 0.1648 0.0867
 Jupiter -22253-12-22 09:21 J -6406129.30 -6406129.11 -6406128.91 0.0494 0.0164
 Neptune -22253-12-25 08:38 J -6406126.37 -6406126.14 -6406125.92 0.0088 0.0011
 Saturn -22252-02-20 09:07 J -6406069.25 -6406069.12 -6406068.97 0.0299 0.0225
 Neptune -22252-08-07 21:50 J -6405900.81 -6405900.59 -6405900.36 0.0088 0.0011
 Saturn -22252-10-08 16:48 J -6405839.01 -6405838.80 -6405838.59 0.0299 0.0043

Neptune	-22251-03-21 11:16 J	-6405675.24	-6405675.03	-6405674.80	0.0088	0.0011
Saturn	-22251-05-26 22:48 J	-6405608.73	-6405608.55	-6405608.36	0.0298	0.0138
Mars	-22251-07-10 06:57 J	-6405564.34	-6405564.21	-6405564.07	0.1639	0.0977
Neptune	-22251-11-02 00:57 J	-6405449.68	-6405449.46	-6405449.24	0.0088	0.0010
Mars	-22250-06-14 01:11 J	-6405225.63	-6405225.45	-6405225.28	0.1874	0.0340
Neptune	-22250-06-15 14:23 J	-6405224.12	-6405223.90	-6405223.68	0.0088	0.0010
Neptune	-22249-01-27 03:36 J	-6404998.56	-6404998.35	-6404998.12	0.0088	0.0010
Neptune	-22249-09-08 17:16 J	-6404773.00	-6404772.78	-6404772.55	0.0088	0.0009
Neptune	-22248-04-22 06:43 J	-6404547.44	-6404547.22	-6404546.99	0.0088	0.0009
Neptune	-22248-12-03 20:23 J	-6404321.88	-6404321.65	-6404321.43	0.0088	0.0008
Jupiter	-22247-03-06 18:14 J	-6404228.92	-6404228.74	-6404228.56	0.0535	0.0237
Neptune	-22247-07-17 09:36 J	-6404096.32	-6404096.10	-6404095.87	0.0088	0.0008
Jupiter	-22247-10-30 10:04 J	-6403991.26	-6403991.08	-6403990.90	0.0532	0.0225
Neptune	-22246-02-27 23:02 J	-6403870.76	-6403870.54	-6403870.31	0.0088	0.0008
Neptune	-22246-10-11 12:43 J	-6403645.19	-6403644.97	-6403644.74	0.0088	0.0007
Neptune	-22245-05-24 02:09 J	-6403419.63	-6403419.41	-6403419.18	0.0088	0.0007
Neptune	-22244-01-04 15:50 J	-6403194.07	-6403193.84	-6403193.62	0.0088	0.0006
Neptune	-22244-08-18 05:16 J	-6402968.50	-6402968.28	-6402968.06	0.0088	0.0006
Neptune	-22243-03-31 18:43 J	-6402742.94	-6402742.72	-6402742.49	0.0088	0.0006
Neptune	-22243-11-12 08:23 J	-6402517.37	-6402517.15	-6402516.92	0.0088	0.0005
Neptune	-22242-06-25 22:04 J	-6402291.81	-6402291.58	-6402291.36	0.0088	0.0005
Jupiter	-22241-01-04 00:57 J	-6402099.62	-6402099.46	-6402099.30	0.0492	0.0307
Neptune	-22241-02-06 11:31 J	-6402066.24	-6402066.02	-6402065.79	0.0088	0.0005
Jupiter	-22241-08-27 08:09 J	-6401863.36	-6401863.16	-6401862.95	0.0494	0.0061
Neptune	-22241-09-19 01:11 J	-6401840.67	-6401840.45	-6401840.22	0.0088	0.0004
Jupiter	-22240-04-20 21:36 J	-6401626.70	-6401626.60	-6401626.50	0.0497	0.0433
Neptune	-22240-05-02 14:52 J	-6401615.10	-6401614.88	-6401614.65	0.0088	0.0004
Neptune	-22240-12-14 04:33 J	-6401389.53	-6401389.31	-6401389.08	0.0088	0.0003
Neptune	-22239-07-27 18:14 J	-6401163.97	-6401163.74	-6401163.52	0.0088	0.0003
Neptune	-22238-03-10 07:55 J	-6400938.40	-6400938.17	-6400937.95	0.0088	0.0002

Neptune	-22238-10-21 21:36 J	-6400712.82	-6400712.60	-6400712.37	0.0088	0.0003
Saturn	-22237-03-17 11:16 J	-6400565.20	-6400565.03	-6400564.85	0.0262	0.0149
Neptune	-22237-06-03 11:16 J	-6400487.25	-6400487.03	-6400486.80	0.0088	0.0002
Saturn	-22237-11-01 06:43 J	-6400336.42	-6400336.22	-6400336.00	0.0263	0.0031
Neptune	-22236-01-15 00:57 J	-6400261.68	-6400261.46	-6400261.23	0.0088	0.0001
Uranus	-22236-06-16 01:11 J	-6400109.45	-6400109.45	-6400109.41	0.0147	0.0146
Saturn	-22236-06-18 03:07 J	-6400107.56	-6400107.37	-6400107.16	0.0263	0.0091
Neptune	-22236-08-28 14:38 J	-6400036.12	-6400035.89	-6400035.67	0.0088	0.0001
Jupiter	-22236-11-09 09:36 J	-6399963.24	-6399963.10	-6399962.95	0.0535	0.0363
Uranus	-22235-01-28 13:40 J	-6399883.05	-6399882.93	-6399882.78	0.0147	0.0113
Saturn	-22235-02-02 00:43 J	-6399878.59	-6399878.47	-6399878.34	0.0264	0.0211
Neptune	-22235-04-11 04:19 J	-6399810.55	-6399810.32	-6399810.10	0.0088	0.0000
Jupiter	-22235-07-05 03:21 J	-6399725.56	-6399725.36	-6399725.16	0.0533	0.0101
Uranus	-22235-09-12 02:09 J	-6399656.59	-6399656.41	-6399656.23	0.0146	0.0080
Neptune	-22235-11-22 18:00 J	-6399584.97	-6399584.75	-6399584.52	0.0088	0.0001
Uranus	-22234-04-26 14:09 J	-6399430.10	-6399429.91	-6399429.69	0.0146	0.0048
Neptune	-22234-07-06 07:40 J	-6399359.41	-6399359.18	-6399358.96	0.0088	0.0001
Uranus	-22234-12-09 02:52 J	-6399203.59	-6399203.38	-6399203.16	0.0146	0.0014
Neptune	-22233-02-16 21:07 J	-6399133.84	-6399133.62	-6399133.39	0.0088	0.0003
Uranus	-22233-07-22 15:21 J	-6398977.07	-6398976.86	-6398976.64	0.0146	0.0020
Neptune	-22233-09-29 11:02 J	-6398908.27	-6398908.04	-6398907.82	0.0088	0.0002
Uranus	-22232-03-06 03:50 J	-6398750.54	-6398750.34	-6398750.13	0.0146	0.0053
Neptune	-22232-05-13 00:43 J	-6398682.70	-6398682.47	-6398682.25	0.0088	0.0002
Uranus	-22232-10-18 16:04 J	-6398523.99	-6398523.83	-6398523.64	0.0146	0.0086
Neptune	-22232-12-24 14:23 J	-6398457.13	-6398456.90	-6398456.68	0.0088	0.0003
Uranus	-22231-06-02 04:19 J	-6398297.43	-6398297.32	-6398297.18	0.0145	0.0118
Neptune	-22231-08-07 03:50 J	-6398231.56	-6398231.34	-6398231.11	0.0088	0.0004
Neptune	-22230-03-20 17:31 J	-6398005.99	-6398005.77	-6398005.54	0.0088	0.0004
Jupiter	-22230-09-09 03:21 J	-6397833.47	-6397833.36	-6397833.24	0.0492	0.0401
Neptune	-22230-11-01 07:26 J	-6397780.41	-6397780.19	-6397779.96	0.0088	0.0004

Jupiter -22229-05-02 09:21 J -6397597.32 -6397597.11 -6397596.90 0.0493 0.0043
 Neptune -22229-06-13 21:07 J -6397554.84 -6397554.62 -6397554.39 0.0088 0.0005
 Jupiter -22229-12-24 20:52 J -6397360.78 -6397360.63 -6397360.47 0.0496 0.0332
 Neptune -22228-01-25 10:48 J -6397329.27 -6397329.05 -6397328.82 0.0088 0.0005
 Neptune -22228-09-08 00:28 J -6397103.70 -6397103.48 -6397103.25 0.0088 0.0006
 Neptune -22227-04-21 14:23 J -6396878.12 -6396877.90 -6396877.68 0.0088 0.0006
 Neptune -22227-12-03 04:04 J -6396652.55 -6396652.33 -6396652.10 0.0088 0.0007
 Neptune -22226-07-16 18:00 J -6396426.97 -6396426.75 -6396426.53 0.0088 0.0006
 Neptune -22225-02-27 07:40 J -6396201.40 -6396201.18 -6396200.95 0.0088 0.0007
 Neptune -22225-10-09 21:21 J -6395975.83 -6395975.61 -6395975.38 0.0088 0.0008
 Neptune -22224-05-23 11:16 J -6395750.25 -6395750.03 -6395749.81 0.0088 0.0008
 Jupiter -22224-07-14 21:50 J -6395697.67 -6395697.59 -6395697.52 0.0534 0.0491
 Neptune -22223-01-04 00:57 J -6395524.68 -6395524.46 -6395524.23 0.0088 0.0008
 Jupiter -22223-03-09 16:48 J -6395460.00 -6395459.80 -6395459.60 0.0533 0.0034
 Neptune -22223-08-17 14:38 J -6395299.11 -6395298.89 -6395298.67 0.0089 0.0009
 Saturn -22223-09-02 17:31 J -6395282.92 -6395282.77 -6395282.60 0.0299 0.0197
 Jupiter -22223-11-02 05:02 J -6395222.41 -6395222.29 -6395222.17 0.0529 0.0415
 Neptune -22222-03-31 04:19 J -6395073.54 -6395073.32 -6395073.10 0.0089 0.0009
 Saturn -22222-04-21 01:26 J -6395052.65 -6395052.44 -6395052.22 0.0299 0.0013
 Neptune -22222-11-11 18:00 J -6394847.97 -6394847.75 -6394847.52 0.0089 0.0010
 Saturn -22222-12-07 07:26 J -6394822.35 -6394822.19 -6394822.01 0.0298 0.0169
 Neptune -22221-06-24 07:55 J -6394622.40 -6394622.17 -6394621.95 0.0089 0.0010
 Neptune -22220-02-04 21:21 J -6394396.83 -6394396.61 -6394396.38 0.0089 0.0010
 Neptune -22220-09-18 11:02 J -6394171.26 -6394171.04 -6394170.82 0.0089 0.0011
 Neptune -22219-05-02 00:43 J -6393945.69 -6393945.47 -6393945.25 0.0089 0.0011
 Mars -22219-07-08 23:16 J -6393877.70 -6393877.53 -6393877.36 0.1643 0.0101
 Neptune -22219-12-13 14:23 J -6393720.12 -6393719.90 -6393719.67 0.0089 0.0012
 Neptune -22218-07-27 04:04 J -6393494.55 -6393494.33 -6393494.11 0.0089 0.0012
 Jupiter -22217-01-06 11:02 J -6393331.23 -6393331.04 -6393330.84 0.0493 0.0144
 Neptune -22217-03-08 17:31 J -6393268.98 -6393268.77 -6393268.54 0.0089 0.0013

Jupiter -22217-08-29 21:07 J -6393094.80 -6393094.62 -6393094.43 0.0495 0.0230
 Neptune -22217-10-20 07:11 J -6393043.41 -6393043.20 -6393042.97 0.0089 0.0013
 Mars -22216-04-10 01:11 J -6392871.51 -6392871.45 -6392871.40 0.1882 0.1784
 Neptune -22216-06-02 21:07 J -6392817.84 -6392817.62 -6392817.40 0.0089 0.0013
 Neptune -22215-01-14 10:33 J -6392592.27 -6392592.06 -6392591.83 0.0089 0.0014
 Neptune -22215-08-28 00:14 J -6392366.70 -6392366.49 -6392366.26 0.0089 0.0014
 Neptune -22214-04-10 14:09 J -6392141.13 -6392140.91 -6392140.69 0.0089 0.0014
 Neptune -22214-11-22 03:36 J -6391915.56 -6391915.35 -6391915.12 0.0089 0.0015
 Neptune -22213-07-04 17:31 J -6391689.99 -6391689.77 -6391689.55 0.0089 0.0015
 Neptune -22212-02-15 07:11 J -6391464.42 -6391464.20 -6391463.98 0.0089 0.0015
 Neptune -22212-09-28 20:38 J -6391238.85 -6391238.64 -6391238.41 0.0089 0.0015
 Jupiter -22212-11-12 07:55 J -6391194.36 -6391194.17 -6391193.98 0.0534 0.0162
 Neptune -22211-05-12 10:04 J -6391013.29 -6391013.08 -6391012.85 0.0089 0.0016
 Jupiter -22211-07-07 22:04 J -6390956.74 -6390956.58 -6390956.41 0.0531 0.0296
 Neptune -22211-12-24 00:00 J -6390787.72 -6390787.50 -6390787.28 0.0089 0.0016
 Neptune -22210-08-06 13:40 J -6390562.15 -6390561.93 -6390561.71 0.0089 0.0016
 Neptune -22209-03-19 02:52 J -6390336.59 -6390336.38 -6390336.15 0.0089 0.0017
 Neptune -22209-10-30 16:19 J -6390111.03 -6390110.82 -6390110.59 0.0089 0.0017
 Saturn -22208-02-10 22:04 J -6390007.65 -6390007.58 -6390007.50 0.0262 0.0243
 Neptune -22208-06-13 06:00 J -6389885.46 -6389885.25 -6389885.03 0.0089 0.0017
 Saturn -22208-09-27 17:02 J -6389778.97 -6389778.79 -6389778.60 0.0262 0.0127
 Neptune -22207-01-24 19:40 J -6389659.90 -6389659.68 -6389659.46 0.0089 0.0017
 Saturn -22207-05-14 12:28 J -6389550.19 -6389549.98 -6389549.77 0.0262 0.0010
 Neptune -22207-09-07 09:07 J -6389434.34 -6389434.12 -6389433.90 0.0089 0.0017
 Saturn -22207-12-29 08:52 J -6389321.32 -6389321.13 -6389320.93 0.0263 0.0111
 Neptune -22206-04-20 22:19 J -6389208.78 -6389208.57 -6389208.34 0.0089 0.0018
 Saturn -22206-08-15 06:28 J -6389092.32 -6389092.23 -6389092.12 0.0264 0.0232
 Jupiter -22206-09-11 12:43 J -6389065.15 -6389064.97 -6389064.79 0.0492 0.0243
 Neptune -22206-12-02 12:00 J -6388983.21 -6388983.00 -6388982.78 0.0089 0.0018
 Jupiter -22205-05-04 20:52 J -6388828.83 -6388828.63 -6388828.43 0.0494 0.0126

Neptune	-22205-07-15 01:26 J	-6388757.65	-6388757.44	-6388757.22	0.0089	0.0018
Jupiter	-22205-12-27 10:48 J	-6388592.05	-6388592.05	-6388592.03	0.0498	0.0497
Neptune	-22204-02-25 15:07 J	-6388532.09	-6388531.87	-6388531.66	0.0089	0.0018
Neptune	-22204-10-09 04:19 J	-6388306.53	-6388306.32	-6388306.10	0.0089	0.0019
Neptune	-22203-05-22 17:45 J	-6388080.97	-6388080.76	-6388080.54	0.0089	0.0019
Neptune	-22202-01-03 07:11 J	-6387855.40	-6387855.20	-6387854.97	0.0089	0.0019
Pluto	-22202-07-10 02:38 J	-6387667.60	-6387667.39	-6387667.18	0.0080	0.0029
Neptune	-22202-08-16 20:52 J	-6387629.84	-6387629.63	-6387629.41	0.0089	0.0019
Pluto	-22201-02-20 13:26 J	-6387442.11	-6387441.94	-6387441.74	0.0080	0.0045
Neptune	-22201-03-29 10:19 J	-6387404.29	-6387404.07	-6387403.85	0.0089	0.0019
Neptune	-22201-11-09 23:45 J	-6387178.73	-6387178.51	-6387178.30	0.0089	0.0019
Neptune	-22200-06-23 13:11 J	-6386953.17	-6386952.95	-6386952.74	0.0089	0.0019
Jupiter	-22200-07-17 22:33 J	-6386928.73	-6386928.56	-6386928.39	0.0535	0.0290
Earth	-22200-10-30 02:09 J	-6386824.55	-6386824.41	-6386824.26	0.2620	0.1057
Moon	-22200-10-30 02:09 J	-6386824.54	-6386824.41	-6386824.28	0.2626	0.1219 *
Neptune	-22199-02-04 02:38 J	-6386727.60	-6386727.39	-6386727.17	0.0089	0.0020
Jupiter	-22199-03-12 15:21 J	-6386691.04	-6386690.86	-6386690.67	0.0532	0.0174
Neptune	-22199-09-17 15:50 J	-6386502.05	-6386501.84	-6386501.62	0.0089	0.0020
Neptune	-22198-05-01 05:02 J	-6386276.49	-6386276.29	-6386276.06	0.0089	0.0020
Neptune	-22198-12-12 18:28 J	-6386050.94	-6386050.73	-6386050.51	0.0089	0.0020
Neptune	-22197-07-25 07:40 J	-6385825.38	-6385825.18	-6385824.95	0.0089	0.0020
Neptune	-22196-03-07 21:07 J	-6385599.83	-6385599.62	-6385599.40	0.0089	0.0020
Neptune	-22196-10-19 10:19 J	-6385374.28	-6385374.07	-6385373.85	0.0089	0.0020
Neptune	-22195-06-01 23:31 J	-6385148.73	-6385148.52	-6385148.30	0.0089	0.0020
Neptune	-22194-01-13 12:43 J	-6384923.17	-6384922.97	-6384922.75	0.0089	0.0021
Jupiter	-22194-05-17 14:09 J	-6384799.05	-6384798.91	-6384798.75	0.0492	0.0341
Neptune	-22194-08-27 01:55 J	-6384697.62	-6384697.42	-6384697.20	0.0089	0.0021
Jupiter	-22193-01-08 20:52 J	-6384562.84	-6384562.63	-6384562.42	0.0493	0.0023
Saturn	-22193-03-15 01:40 J	-6384496.60	-6384496.43	-6384496.25	0.0299	0.0169
Uranus	-22193-03-22 00:57 J	-6384489.52	-6384489.46	-6384489.37	0.0132	0.0123

Neptune	-22193-04-08 15:07 J	-6384472.07	-6384471.87	-6384471.65	0.0089	0.0021
Jupiter	-22193-09-01 09:07 J	-6384326.24	-6384326.12	-6384325.99	0.0497	0.0396
Saturn	-22193-10-31 09:07 J	-6384266.33	-6384266.12	-6384265.91	0.0299	0.0014
Uranus	-22193-11-03 06:00 J	-6384263.37	-6384263.25	-6384263.09	0.0132	0.0099
Neptune	-22193-11-20 04:19 J	-6384246.53	-6384246.32	-6384246.10	0.0089	0.0020
Uranus	-22192-06-17 11:31 J	-6384037.19	-6384037.02	-6384036.83	0.0132	0.0074
Saturn	-22192-06-18 14:38 J	-6384036.04	-6384035.89	-6384035.72	0.0297	0.0194
Neptune	-22192-07-03 17:31 J	-6384020.98	-6384020.77	-6384020.55	0.0089	0.0020
Earth	-22192-10-27 19:26 J	-6383904.79	-6383904.69	-6383904.60	0.2620	0.2047
Moon	-22192-10-27 23:02 J	-6383904.66	-6383904.54	-6383904.41	0.2625	0.1462 *
Uranus	-22191-01-29 17:02 J	-6383810.99	-6383810.79	-6383810.59	0.0132	0.0050
Neptune	-22191-02-14 06:43 J	-6383795.42	-6383795.22	-6383795.00	0.0089	0.0021
Uranus	-22191-09-12 22:04 J	-6383584.79	-6383584.58	-6383584.36	0.0132	0.0025
Neptune	-22191-09-27 19:55 J	-6383569.88	-6383569.67	-6383569.45	0.0089	0.0020
Uranus	-22190-04-27 03:21 J	-6383358.58	-6383358.36	-6383358.14	0.0132	0.0002
Neptune	-22190-05-11 09:07 J	-6383344.33	-6383344.12	-6383343.90	0.0089	0.0020
Uranus	-22190-12-09 08:38 J	-6383132.35	-6383132.14	-6383131.92	0.0133	0.0025
Neptune	-22190-12-22 22:04 J	-6383118.78	-6383118.58	-6383118.35	0.0089	0.0021
Uranus	-22189-07-22 13:55 J	-6382906.12	-6382905.92	-6382905.71	0.0133	0.0050
Neptune	-22189-08-04 11:16 J	-6382893.23	-6382893.03	-6382892.81	0.0089	0.0021
Uranus	-22188-03-05 19:11 J	-6382679.87	-6382679.70	-6382679.51	0.0133	0.0075
Neptune	-22188-03-18 00:28 J	-6382667.68	-6382667.48	-6382667.25	0.0089	0.0021
Jupiter	-22188-03-22 14:38 J	-6382663.01	-6382662.89	-6382662.76	0.0535	0.0413
Uranus	-22188-10-18 00:14 J	-6382453.62	-6382453.49	-6382453.33	0.0133	0.0100
Neptune	-22188-10-29 13:40 J	-6382442.14	-6382441.93	-6382441.71	0.0089	0.0020
Jupiter	-22188-11-15 09:36 J	-6382425.30	-6382425.10	-6382424.91	0.0533	0.0052
Uranus	-22187-06-01 05:45 J	-6382227.33	-6382227.26	-6382227.18	0.0133	0.0125
Neptune	-22187-06-12 02:38 J	-6382216.59	-6382216.39	-6382216.16	0.0089	0.0020
Mars	-22187-07-07 15:36 J	-6382191.00	-6382190.85	-6382190.70	0.1647	0.0782
Jupiter	-22187-07-10 20:52 J	-6382187.70	-6382187.63	-6382187.55	0.0529	0.0490

Neptune	-22186-01-23 16:04 J	-6381991.04	-6381990.83	-6381990.62	0.0089	0.0020
Neptune	-22186-09-06 05:02 J	-6381765.50	-6381765.29	-6381765.07	0.0089	0.0020
Neptune	-22185-04-18 18:00 J	-6381539.96	-6381539.75	-6381539.53	0.0089	0.0020
Mars	-22185-05-06 19:55 J	-6381521.80	-6381521.67	-6381521.54	0.1638	0.1050
Neptune	-22185-11-30 06:57 J	-6381314.42	-6381314.21	-6381313.99	0.0089	0.0019
Mars	-22184-04-10 03:07 J	-6381183.54	-6381183.37	-6381183.19	0.1876	0.0061
Neptune	-22184-07-13 19:55 J	-6381088.88	-6381088.67	-6381088.45	0.0089	0.0019
Neptune	-22183-02-24 08:52 J	-6380863.34	-6380863.13	-6380862.91	0.0089	0.0019
Neptune	-22183-10-07 21:36 J	-6380637.80	-6380637.60	-6380637.37	0.0089	0.0020
Jupiter	-22182-01-20 15:21 J	-6380532.94	-6380532.86	-6380532.76	0.0492	0.0437
Neptune	-22182-05-21 10:48 J	-6380412.26	-6380412.05	-6380411.84	0.0089	0.0019
Jupiter	-22182-09-13 20:52 J	-6380296.83	-6380296.63	-6380296.43	0.0493	0.0081
Neptune	-22181-01-01 23:31 J	-6380186.73	-6380186.52	-6380186.30	0.0089	0.0019
Jupiter	-22181-05-07 07:11 J	-6380060.36	-6380060.20	-6380060.03	0.0495	0.0294
Neptune	-22181-08-14 12:14 J	-6379961.19	-6379960.99	-6379960.77	0.0089	0.0019
Neptune	-22180-03-28 01:11 J	-6379735.65	-6379735.45	-6379735.23	0.0089	0.0019
Neptune	-22180-11-08 14:23 J	-6379510.12	-6379509.90	-6379509.69	0.0089	0.0018
Neptune	-22179-06-22 02:52 J	-6379284.58	-6379284.38	-6379284.16	0.0089	0.0018
Saturn	-22179-08-23 22:48 J	-6379221.64	-6379221.55	-6379221.44	0.0262	0.0228
Neptune	-22178-02-02 15:50 J	-6379059.05	-6379058.84	-6379058.62	0.0089	0.0017
Saturn	-22178-04-09 17:45 J	-6378992.95	-6378992.76	-6378992.57	0.0262	0.0112
Neptune	-22178-09-16 04:33 J	-6378833.51	-6378833.31	-6378833.09	0.0089	0.0017
Saturn	-22178-11-24 13:26 J	-6378764.15	-6378763.94	-6378763.73	0.0263	0.0009
Neptune	-22177-04-28 17:31 J	-6378607.98	-6378607.77	-6378607.55	0.0089	0.0017
Saturn	-22177-07-10 09:50 J	-6378535.27	-6378535.09	-6378534.90	0.0263	0.0128
Jupiter	-22177-11-25 06:00 J	-6378397.26	-6378397.25	-6378397.25	0.0535	0.0534
Neptune	-22177-12-10 06:14 J	-6378382.45	-6378382.24	-6378382.02	0.0089	0.0017
Saturn	-22176-02-24 07:11 J	-6378306.25	-6378306.20	-6378306.12	0.0264	0.0250
Jupiter	-22176-07-21 02:23 J	-6378159.60	-6378159.40	-6378159.20	0.0534	0.0078
Neptune	-22176-07-23 18:57 J	-6378156.91	-6378156.71	-6378156.49	0.0089	0.0017

Neptune -22175-03-06 07:55 J -6377931.38 -6377931.17 -6377930.95 0.0089 0.0016
 Jupiter -22175-03-15 15:50 J -6377921.97 -6377921.84 -6377921.70 0.0530 0.0376
 Neptune -22175-10-17 20:52 J -6377705.85 -6377705.63 -6377705.42 0.0089 0.0016
 Neptune -22174-05-31 09:21 J -6377480.32 -6377480.11 -6377479.89 0.0089 0.0016
 Neptune -22173-01-11 22:04 J -6377254.79 -6377254.58 -6377254.36 0.0089 0.0015
 Neptune -22173-08-24 10:48 J -6377029.26 -6377029.05 -6377028.83 0.0089 0.0015
 Neptune -22172-04-06 23:31 J -6376803.72 -6376803.52 -6376803.30 0.0089 0.0015
 Neptune -22172-11-18 12:14 J -6376578.20 -6376577.99 -6376577.77 0.0089 0.0014
 Neptune -22171-07-02 00:57 J -6376352.67 -6376352.46 -6376352.25 0.0089 0.0014
 Neptune -22170-02-12 13:26 J -6376127.15 -6376126.94 -6376126.72 0.0089 0.0013
 Jupiter -22170-05-19 22:33 J -6376030.75 -6376030.56 -6376030.37 0.0492 0.0181
 Neptune -22170-09-26 02:09 J -6375901.62 -6375901.41 -6375901.20 0.0089 0.0013
 Jupiter -22169-01-11 07:40 J -6375794.37 -6375794.18 -6375793.99 0.0495 0.0192
 Neptune -22169-05-08 14:38 J -6375676.10 -6375675.89 -6375675.67 0.0089 0.0013
 Neptune -22169-12-20 03:07 J -6375450.58 -6375450.37 -6375450.15 0.0089 0.0012
 Neptune -22168-08-02 15:50 J -6375225.05 -6375224.84 -6375224.63 0.0089 0.0012
 Neptune -22167-03-16 04:19 J -6374999.53 -6374999.32 -6374999.10 0.0089 0.0012
 Neptune -22167-10-27 16:48 J -6374774.01 -6374773.80 -6374773.58 0.0089 0.0011
 Neptune -22166-06-10 05:31 J -6374548.49 -6374548.27 -6374548.06 0.0089 0.0010
 Neptune -22165-01-21 18:00 J -6374322.96 -6374322.75 -6374322.54 0.0089 0.0010
 Neptune -22165-09-03 06:28 J -6374097.44 -6374097.23 -6374097.01 0.0089 0.0010
 Jupiter -22164-03-25 15:36 J -6373894.03 -6373893.85 -6373893.66 0.0534 0.0210
 Neptune -22164-04-16 19:11 J -6373871.91 -6373871.70 -6373871.48 0.0089 0.0009
 Saturn -22164-09-25 08:23 J -6373710.33 -6373710.15 -6373709.96 0.0299 0.0143
 Jupiter -22164-11-18 06:43 J -6373656.39 -6373656.22 -6373656.04 0.0531 0.0250
 Neptune -22164-11-28 07:40 J -6373646.39 -6373646.18 -6373645.96 0.0089 0.0009
 Saturn -22163-05-13 16:04 J -6373480.04 -6373479.83 -6373479.62 0.0299 0.0042
 Neptune -22163-07-11 20:09 J -6373420.87 -6373420.66 -6373420.44 0.0089 0.0009
 Saturn -22163-12-29 21:50 J -6373249.72 -6373249.59 -6373249.44 0.0298 0.0222
 Neptune -22162-02-22 08:38 J -6373195.35 -6373195.14 -6373194.92 0.0089 0.0008

Neptune	-22162-10-05 21:21 J	-6372969.83	-6372969.61	-6372969.40	0.0089	0.0008
Neptune	-22161-05-18 09:50 J	-6372744.30	-6372744.09	-6372743.87	0.0089	0.0007
Neptune	-22161-12-29 22:19 J	-6372518.78	-6372518.57	-6372518.35	0.0089	0.0007
Neptune	-22160-08-12 10:48 J	-6372293.26	-6372293.05	-6372292.83	0.0089	0.0006
Neptune	-22159-03-25 23:16 J	-6372067.74	-6372067.53	-6372067.31	0.0089	0.0006
Neptune	-22159-11-06 11:45 J	-6371842.23	-6371842.01	-6371841.80	0.0089	0.0005
Jupiter	-22158-01-23 00:43 J	-6371764.63	-6371764.47	-6371764.30	0.0492	0.0280
Neptune	-22158-06-20 00:00 J	-6371616.71	-6371616.50	-6371616.28	0.0089	0.0005
Jupiter	-22158-09-16 08:52 J	-6371528.34	-6371528.13	-6371527.93	0.0494	0.0089
Neptune	-22157-01-31 12:28 J	-6371391.20	-6371390.98	-6371390.76	0.0089	0.0004
Jupiter	-22157-05-09 22:19 J	-6371291.63	-6371291.57	-6371291.48	0.0498	0.0462
Neptune	-22157-09-13 00:43 J	-6371165.68	-6371165.47	-6371165.25	0.0089	0.0005
Neptune	-22156-04-26 13:26 J	-6370940.16	-6370939.94	-6370939.73	0.0089	0.0003
Neptune	-22156-12-08 01:40 J	-6370714.64	-6370714.43	-6370714.21	0.0089	0.0003
Neptune	-22155-07-21 14:09 J	-6370489.13	-6370488.91	-6370488.70	0.0089	0.0002
Neptune	-22154-03-04 02:23 J	-6370263.61	-6370263.40	-6370263.18	0.0089	0.0002
Neptune	-22154-10-15 14:52 J	-6370038.10	-6370037.88	-6370037.67	0.0089	0.0002
Mars	-22153-05-05 11:45 J	-6369835.18	-6369835.01	-6369834.84	0.1641	0.0181
Neptune	-22153-05-28 03:21 J	-6369812.58	-6369812.36	-6369812.15	0.0089	0.0001
Jupiter	-22153-11-28 06:00 J	-6369628.40	-6369628.25	-6369628.09	0.0534	0.0338
Neptune	-22152-01-08 15:36 J	-6369587.06	-6369586.85	-6369586.63	0.0089	0.0002
Mars	-22152-04-10 05:02 J	-6369495.32	-6369495.29	-6369495.25	0.1870	0.1826
Jupiter	-22152-07-23 23:02 J	-6369390.73	-6369390.54	-6369390.34	0.0532	0.0126
Neptune	-22152-08-22 04:04 J	-6369361.55	-6369361.33	-6369361.11	0.0089	0.0000
Uranus	-22152-09-27 18:28 J	-6369324.81	-6369324.73	-6369324.61	0.0146	0.0130
Neptune	-22151-04-04 16:33 J	-6369136.03	-6369135.81	-6369135.60	0.0089	0.0001
Uranus	-22151-05-12 06:43 J	-6369098.36	-6369098.22	-6369098.04	0.0146	0.0097
Neptune	-22151-11-16 04:48 J	-6368910.51	-6368910.30	-6368910.08	0.0089	0.0002
Uranus	-22151-12-24 19:11 J	-6368871.88	-6368871.70	-6368871.49	0.0146	0.0063
Neptune	-22150-06-29 17:16 J	-6368684.99	-6368684.78	-6368684.56	0.0089	0.0002

Uranus	-22150-08-08 07:40 J	-6368645.38	-6368645.18	-6368644.96	0.0146	0.0030
Neptune	-22149-02-10 05:45 J	-6368459.48	-6368459.26	-6368459.05	0.0089	0.0002
Saturn	-22149-03-05 03:50 J	-6368435.46	-6368435.34	-6368435.21	0.0261	0.0208
Uranus	-22149-03-21 20:23 J	-6368418.87	-6368418.65	-6368418.44	0.0146	0.0004
Neptune	-22149-09-22 18:00 J	-6368233.96	-6368233.75	-6368233.53	0.0089	0.0003
Saturn	-22149-10-19 22:33 J	-6368206.75	-6368206.56	-6368206.35	0.0262	0.0092
Uranus	-22149-11-03 08:38 J	-6368192.35	-6368192.14	-6368191.93	0.0146	0.0037
Neptune	-22148-05-06 06:28 J	-6368008.44	-6368008.23	-6368008.01	0.0089	0.0004
Saturn	-22148-06-05 18:28 J	-6367977.94	-6367977.73	-6367977.52	0.0262	0.0028
Uranus	-22148-06-17 20:52 J	-6367965.81	-6367965.63	-6367965.43	0.0146	0.0070
Neptune	-22148-12-17 18:57 J	-6367782.93	-6367782.71	-6367782.49	0.0089	0.0004
Saturn	-22147-01-20 14:52 J	-6367749.05	-6367748.88	-6367748.70	0.0263	0.0148
Uranus	-22147-01-30 09:21 J	-6367739.26	-6367739.11	-6367738.95	0.0145	0.0103
Neptune	-22147-07-31 07:11 J	-6367557.41	-6367557.20	-6367556.98	0.0089	0.0004
Uranus	-22147-09-13 21:21 J	-6367512.67	-6367512.61	-6367512.51	0.0145	0.0136
Jupiter	-22147-09-28 03:07 J	-6367498.50	-6367498.37	-6367498.24	0.0492	0.0375
Neptune	-22146-03-13 19:26 J	-6367331.90	-6367331.69	-6367331.47	0.0089	0.0005
Jupiter	-22146-05-22 09:21 J	-6367262.32	-6367262.11	-6367261.90	0.0493	0.0014
Neptune	-22146-10-25 07:55 J	-6367106.39	-6367106.17	-6367105.96	0.0089	0.0005
Jupiter	-22145-01-13 20:52 J	-6367025.77	-6367025.63	-6367025.49	0.0496	0.0360
Neptune	-22145-06-06 20:23 J	-6366880.87	-6366880.65	-6366880.44	0.0089	0.0006
Neptune	-22144-01-18 08:38 J	-6366655.35	-6366655.14	-6366654.92	0.0089	0.0006
Neptune	-22144-08-31 20:52 J	-6366429.84	-6366429.63	-6366429.41	0.0089	0.0007
Neptune	-22143-04-14 09:21 J	-6366204.33	-6366204.11	-6366203.90	0.0089	0.0007
Neptune	-22143-11-25 21:21 J	-6365978.82	-6365978.61	-6365978.39	0.0089	0.0008
Neptune	-22142-07-09 09:50 J	-6365753.30	-6365753.09	-6365752.87	0.0089	0.0008
Neptune	-22141-02-19 22:04 J	-6365527.79	-6365527.58	-6365527.36	0.0089	0.0009
Jupiter	-22141-08-02 20:09 J	-6365362.76	-6365362.66	-6365362.56	0.0535	0.0463
Neptune	-22141-10-02 10:33 J	-6365302.28	-6365302.06	-6365301.85	0.0089	0.0009
Jupiter	-22140-03-28 15:21 J	-6365125.06	-6365124.86	-6365124.66	0.0533	0.0011

Neptune -22140-05-15 22:48 J -6365076.76 -6365076.55 -6365076.33 0.0089 0.0010
 Jupiter -22140-11-21 03:50 J -6364887.44 -6364887.34 -6364887.23 0.0530 0.0444
 Neptune -22140-12-27 11:16 J -6364851.24 -6364851.03 -6364850.81 0.0089 0.0010
 Neptune -22139-08-09 23:31 J -6364625.73 -6364625.52 -6364625.30 0.0089 0.0011
 Neptune -22138-03-23 12:00 J -6364400.21 -6364400.00 -6364399.78 0.0089 0.0011
 Neptune -22138-11-04 00:14 J -6364174.70 -6364174.49 -6364174.27 0.0089 0.0012
 Neptune -22137-06-16 12:57 J -6363949.17 -6363948.96 -6363948.74 0.0089 0.0012
 Neptune -22136-01-28 01:26 J -6363723.66 -6363723.44 -6363723.23 0.0089 0.0012
 Neptune -22136-09-10 13:40 J -6363498.14 -6363497.93 -6363497.71 0.0089 0.0013
 Neptune -22135-04-24 02:09 J -6363272.63 -6363272.41 -6363272.20 0.0089 0.0013
 Jupiter -22135-06-03 05:31 J -6363232.33 -6363232.27 -6363232.21 0.0492 0.0468
 Neptune -22135-12-05 14:23 J -6363047.11 -6363046.90 -6363046.68 0.0089 0.0013
 Jupiter -22134-01-25 10:19 J -6362996.27 -6362996.07 -6362995.87 0.0492 0.0116
 Saturn -22134-04-07 15:07 J -6362924.07 -6362923.87 -6362923.67 0.0299 0.0118
 Neptune -22134-07-19 02:52 J -6362821.59 -6362821.38 -6362821.16 0.0089 0.0014
 Jupiter -22134-09-18 20:09 J -6362759.83 -6362759.66 -6362759.48 0.0495 0.0258
 Saturn -22134-11-23 22:19 J -6362693.77 -6362693.57 -6362693.36 0.0299 0.0066
 Neptune -22133-02-29 15:07 J -6362596.08 -6362595.87 -6362595.65 0.0089 0.0015
 Saturn -22133-07-11 03:50 J -6362463.45 -6362463.34 -6362463.21 0.0297 0.0245
 Neptune -22133-10-12 03:36 J -6362370.56 -6362370.35 -6362370.13 0.0089 0.0015
 Neptune -22132-05-25 16:04 J -6362145.04 -6362144.83 -6362144.61 0.0089 0.0015
 Neptune -22131-01-06 04:19 J -6361919.52 -6361919.32 -6361919.10 0.0089 0.0016
 Neptune -22131-08-19 16:48 J -6361694.01 -6361693.80 -6361693.58 0.0089 0.0016
 Neptune -22130-04-02 05:02 J -6361468.49 -6361468.29 -6361468.07 0.0089 0.0016
 Neptune -22130-11-13 17:31 J -6361242.98 -6361242.77 -6361242.55 0.0088 0.0017
 Neptune -22129-06-26 06:14 J -6361017.45 -6361017.24 -6361017.02 0.0088 0.0017
 Jupiter -22129-12-01 08:23 J -6360859.34 -6360859.15 -6360858.95 0.0534 0.0128
 Neptune -22128-02-06 18:28 J -6360791.93 -6360791.73 -6360791.51 0.0088 0.0017
 Jupiter -22128-07-26 23:16 J -6360621.69 -6360621.53 -6360621.37 0.0531 0.0330
 Neptune -22128-09-20 06:57 J -6360566.42 -6360566.21 -6360565.99 0.0088 0.0018

Neptune	-22127-05-03 19:26 J	-6360340.90	-6360340.69	-6360340.47	0.0088	0.0018
Neptune	-22127-12-15 07:55 J	-6360115.38	-6360115.17	-6360114.95	0.0088	0.0018
Neptune	-22126-07-28 20:23 J	-6359889.85	-6359889.65	-6359889.42	0.0088	0.0019
Neptune	-22125-03-10 09:07 J	-6359664.33	-6359664.12	-6359663.90	0.0088	0.0019
Neptune	-22125-10-21 21:36 J	-6359438.81	-6359438.60	-6359438.38	0.0088	0.0019
Neptune	-22124-06-04 10:19 J	-6359213.28	-6359213.07	-6359212.85	0.0088	0.0019
Neptune	-22123-01-15 22:48 J	-6358987.76	-6358987.55	-6358987.33	0.0088	0.0020
Neptune	-22123-08-29 11:31 J	-6358762.23	-6358762.02	-6358761.81	0.0088	0.0020
Jupiter	-22123-09-30 11:16 J	-6358730.22	-6358730.03	-6358729.85	0.0492	0.0217
Neptune	-22122-04-11 23:45 J	-6358536.71	-6358536.51	-6358536.28	0.0088	0.0021
Jupiter	-22122-05-24 19:11 J	-6358493.89	-6358493.70	-6358493.50	0.0494	0.0154
Neptune	-22122-11-23 12:28 J	-6358311.18	-6358310.98	-6358310.76	0.0088	0.0020
Mars	-22121-05-04 04:19 J	-6358148.48	-6358148.32	-6358148.17	0.1645	0.0699
Neptune	-22121-07-06 01:26 J	-6358085.65	-6358085.44	-6358085.23	0.0088	0.0020
Neptune	-22120-02-16 13:55 J	-6357860.13	-6357859.92	-6357859.70	0.0088	0.0021
Saturn	-22120-09-15 03:50 J	-6357649.47	-6357649.34	-6357649.19	0.0262	0.0194
Neptune	-22120-09-30 02:23 J	-6357634.61	-6357634.40	-6357634.18	0.0088	0.0021
Mars	-22119-03-04 08:09 J	-6357479.28	-6357479.16	-6357479.03	0.1637	0.1131
Saturn	-22119-05-01 22:48 J	-6357420.75	-6357420.55	-6357420.35	0.0262	0.0076
Neptune	-22119-05-13 14:52 J	-6357409.08	-6357408.88	-6357408.66	0.0088	0.0021
Saturn	-22119-12-16 18:14 J	-6357191.95	-6357191.74	-6357191.53	0.0263	0.0043
Neptune	-22119-12-25 03:36 J	-6357183.56	-6357183.35	-6357183.13	0.0088	0.0021
Mars	-22118-02-05 05:45 J	-6357141.44	-6357141.26	-6357141.08	0.1878	0.0261
Saturn	-22118-08-02 14:52 J	-6356963.04	-6356962.88	-6356962.72	0.0263	0.0164
Neptune	-22118-08-07 16:19 J	-6356958.03	-6356957.82	-6356957.60	0.0088	0.0022
Neptune	-22117-03-20 05:02 J	-6356732.50	-6356732.29	-6356732.07	0.0088	0.0022
Jupiter	-22117-08-06 00:57 J	-6356593.64	-6356593.46	-6356593.28	0.0535	0.0255
Neptune	-22117-10-31 17:31 J	-6356506.97	-6356506.77	-6356506.55	0.0088	0.0022
Jupiter	-22116-03-31 17:45 J	-6356355.95	-6356355.76	-6356355.58	0.0532	0.0209
Neptune	-22116-06-14 06:14 J	-6356281.44	-6356281.24	-6356281.02	0.0088	0.0022

Neptune	-22115-01-25 18:57 J	-6356055.92	-6356055.71	-6356055.49	0.0088	0.0022
Neptune	-22115-09-08 07:40 J	-6355830.39	-6355830.18	-6355829.96	0.0088	0.0022
Neptune	-22114-04-21 20:23 J	-6355604.86	-6355604.65	-6355604.43	0.0088	0.0022
Neptune	-22114-12-03 09:07 J	-6355379.32	-6355379.12	-6355378.90	0.0088	0.0023
Neptune	-22113-07-15 22:19 J	-6355153.78	-6355153.57	-6355153.36	0.0088	0.0022
Neptune	-22112-02-26 11:02 J	-6354928.25	-6354928.04	-6354927.82	0.0088	0.0022
Neptune	-22112-10-09 23:31 J	-6354702.72	-6354702.52	-6354702.29	0.0088	0.0023
Neptune	-22111-05-23 12:28 J	-6354477.18	-6354476.98	-6354476.76	0.0088	0.0023
Jupiter	-22111-06-05 13:40 J	-6354464.09	-6354463.93	-6354463.77	0.0492	0.0314
Neptune	-22110-01-04 01:11 J	-6354251.65	-6354251.45	-6354251.22	0.0088	0.0023
Jupiter	-22110-01-27 20:23 J	-6354227.85	-6354227.65	-6354227.44	0.0493	0.0052
Neptune	-22110-08-17 14:09 J	-6354026.11	-6354025.91	-6354025.68	0.0088	0.0023
Jupiter	-22110-09-21 09:07 J	-6353991.22	-6353991.12	-6353991.01	0.0497	0.0425
Neptune	-22109-03-30 03:07 J	-6353800.57	-6353800.37	-6353800.14	0.0088	0.0023
Uranus	-22109-07-03 17:16 J	-6353704.89	-6353704.78	-6353704.65	0.0132	0.0109
Neptune	-22109-11-10 16:04 J	-6353575.04	-6353574.83	-6353574.61	0.0088	0.0023
Uranus	-22108-02-14 22:48 J	-6353478.71	-6353478.55	-6353478.38	0.0132	0.0085
Neptune	-22108-06-24 04:48 J	-6353349.50	-6353349.30	-6353349.07	0.0088	0.0023
Uranus	-22108-09-29 04:04 J	-6353252.52	-6353252.33	-6353252.13	0.0132	0.0060
Neptune	-22107-02-04 17:45 J	-6353123.96	-6353123.76	-6353123.54	0.0088	0.0023
Uranus	-22107-05-13 09:21 J	-6353026.32	-6353026.11	-6353025.89	0.0132	0.0035
Neptune	-22107-09-18 06:43 J	-6352898.43	-6352898.22	-6352898.00	0.0088	0.0023
Uranus	-22107-12-25 14:52 J	-6352800.10	-6352799.88	-6352799.66	0.0132	0.0010
Neptune	-22106-05-01 19:26 J	-6352672.89	-6352672.69	-6352672.46	0.0088	0.0023
Uranus	-22106-08-08 20:09 J	-6352573.88	-6352573.66	-6352573.44	0.0133	0.0015
Neptune	-22106-12-13 08:38 J	-6352447.35	-6352447.14	-6352446.92	0.0088	0.0022
Saturn	-22105-03-01 10:33 J	-6352368.13	-6352368.06	-6352367.98	0.0300	0.0279
Uranus	-22105-03-22 01:11 J	-6352347.65	-6352347.45	-6352347.23	0.0133	0.0041
Jupiter	-22105-04-10 14:23 J	-6352328.04	-6352327.90	-6352327.76	0.0534	0.0384
Neptune	-22105-07-25 21:21 J	-6352221.81	-6352221.61	-6352221.38	0.0088	0.0023

Saturn	-22105-10-17 19:26 J	-6352137.89	-6352137.69	-6352137.49	0.0300	0.0094
Uranus	-22105-11-03 06:28 J	-6352121.41	-6352121.23	-6352121.03	0.0133	0.0066
Jupiter	-22105-12-04 08:09 J	-6352090.36	-6352090.16	-6352089.96	0.0533	0.0079
Neptune	-22104-03-08 10:33 J	-6351996.27	-6351996.06	-6351995.84	0.0088	0.0022
Saturn	-22104-06-05 02:52 J	-6351907.58	-6351907.38	-6351907.18	0.0299	0.0090
Uranus	-22104-06-17 12:00 J	-6351895.15	-6351895.00	-6351894.84	0.0133	0.0091
Jupiter	-22104-07-29 18:43 J	-6351852.76	-6351852.72	-6351852.67	0.0528	0.0514
Neptune	-22104-10-19 23:31 J	-6351770.73	-6351770.52	-6351770.30	0.0088	0.0022
Saturn	-22103-01-21 08:38 J	-6351677.22	-6351677.14	-6351677.04	0.0298	0.0269
Uranus	-22103-01-29 17:16 J	-6351668.88	-6351668.78	-6351668.66	0.0133	0.0116
Neptune	-22103-06-02 12:14 J	-6351545.19	-6351544.99	-6351544.77	0.0088	0.0022
Neptune	-22102-01-14 01:11 J	-6351319.65	-6351319.45	-6351319.22	0.0088	0.0022
Neptune	-22102-08-27 14:23 J	-6351094.10	-6351093.90	-6351093.67	0.0088	0.0022
Neptune	-22101-04-09 03:36 J	-6350868.56	-6350868.35	-6350868.13	0.0088	0.0022
Neptune	-22101-11-20 16:33 J	-6350643.02	-6350642.81	-6350642.58	0.0088	0.0022
Neptune	-22100-07-04 05:45 J	-6350417.47	-6350417.26	-6350417.04	0.0088	0.0021
Jupiter	-22099-02-08 15:50 J	-6350197.94	-6350197.84	-6350197.72	0.0492	0.0411
Neptune	-22099-02-14 18:57 J	-6350191.92	-6350191.71	-6350191.49	0.0088	0.0021
Neptune	-22099-09-28 08:09 J	-6349966.37	-6349966.16	-6349965.94	0.0088	0.0021
Jupiter	-22099-10-02 22:04 J	-6349961.78	-6349961.58	-6349961.37	0.0493	0.0051
Neptune	-22098-05-11 21:07 J	-6349740.83	-6349740.62	-6349740.39	0.0088	0.0021
Jupiter	-22098-05-27 09:21 J	-6349725.27	-6349725.11	-6349724.95	0.0496	0.0324
Neptune	-22098-12-23 10:19 J	-6349515.28	-6349515.07	-6349514.85	0.0088	0.0021
Neptune	-22097-08-04 23:45 J	-6349289.73	-6349289.51	-6349289.29	0.0088	0.0020
Neptune	-22096-03-18 12:57 J	-6349064.18	-6349063.96	-6349063.74	0.0088	0.0020
Neptune	-22096-10-30 01:55 J	-6348838.63	-6348838.42	-6348838.19	0.0088	0.0020
Neptune	-22095-06-12 15:07 J	-6348613.08	-6348612.87	-6348612.65	0.0088	0.0020
Neptune	-22094-01-24 04:04 J	-6348387.53	-6348387.33	-6348387.10	0.0088	0.0020
Neptune	-22094-09-06 17:45 J	-6348161.97	-6348161.76	-6348161.54	0.0088	0.0019
Jupiter	-22094-12-15 04:33 J	-6348062.37	-6348062.31	-6348062.25	0.0534	0.0507

Neptune -22093-04-19 06:57 J -6347936.42 -6347936.21 -6347935.99 0.0088 0.0019
 Jupiter -22093-08-09 00:00 J -6347824.70 -6347824.50 -6347824.30 0.0533 0.0050
 Neptune -22093-11-30 19:55 J -6347710.87 -6347710.67 -6347710.44 0.0088 0.0019
 Jupiter -22092-04-03 12:57 J -6347587.09 -6347586.96 -6347586.83 0.0530 0.0400
 Neptune -22092-07-14 09:21 J -6347485.32 -6347485.11 -6347484.89 0.0088 0.0018
 Neptune -22091-02-24 22:33 J -6347259.77 -6347259.56 -6347259.33 0.0088 0.0018
 Neptune -22091-10-08 11:45 J -6347034.22 -6347034.01 -6347033.78 0.0088 0.0018
 Saturn -22090-03-28 07:55 J -6346863.32 -6346863.17 -6346863.01 0.0261 0.0175
 Neptune -22090-05-22 01:26 J -6346808.66 -6346808.44 -6346808.22 0.0088 0.0017
 Saturn -22090-11-12 02:52 J -6346634.59 -6346634.38 -6346634.18 0.0262 0.0057
 Neptune -22089-01-02 14:38 J -6346583.11 -6346582.89 -6346582.67 0.0088 0.0017
 Mars -22089-05-02 20:52 J -6346461.68 -6346461.63 -6346461.59 0.1650 0.1585
 Saturn -22089-06-27 22:33 J -6346405.77 -6346405.56 -6346405.36 0.0262 0.0062
 Neptune -22089-08-15 03:50 J -6346357.55 -6346357.34 -6346357.11 0.0088 0.0017
 Saturn -22088-02-11 18:57 J -6346176.86 -6346176.71 -6346176.56 0.0263 0.0182
 Neptune -22088-03-28 17:31 J -6346131.99 -6346131.77 -6346131.55 0.0088 0.0016
 Neptune -22088-11-09 06:43 J -6345906.43 -6345906.22 -6345905.99 0.0088 0.0016
 Mars -22087-03-03 00:28 J -6345792.65 -6345792.48 -6345792.31 0.1640 0.0262
 Jupiter -22087-06-07 23:31 J -6345695.72 -6345695.52 -6345695.32 0.0493 0.0151
 Neptune -22087-06-22 20:23 J -6345680.87 -6345680.65 -6345680.43 0.0088 0.0015
 Jupiter -22086-01-30 08:38 J -6345459.32 -6345459.14 -6345458.95 0.0495 0.0223
 Neptune -22086-02-03 09:36 J -6345455.31 -6345455.10 -6345454.87 0.0088 0.0015
 Mars -22086-02-05 06:57 J -6345453.31 -6345453.21 -6345453.10 0.1872 0.1526
 Neptune -22086-09-16 23:16 J -6345229.75 -6345229.53 -6345229.30 0.0088 0.0015
 Neptune -22085-04-29 12:43 J -6345004.18 -6345003.97 -6345003.74 0.0088 0.0014
 Neptune -22085-12-11 02:09 J -6344778.62 -6344778.41 -6344778.18 0.0088 0.0014
 Neptune -22084-07-24 15:50 J -6344553.06 -6344552.84 -6344552.62 0.0088 0.0013
 Neptune -22083-03-07 05:02 J -6344327.50 -6344327.29 -6344327.06 0.0088 0.0013
 Neptune -22083-10-18 18:57 J -6344101.94 -6344101.71 -6344101.49 0.0088 0.0012
 Neptune -22082-06-01 08:09 J -6343876.37 -6343876.16 -6343875.93 0.0088 0.0012

Neptune -22081-01-12 21:50 J -6343650.81 -6343650.59 -6343650.37 0.0088 0.0011
 Jupiter -22081-04-13 15:21 J -6343559.05 -6343558.86 -6343558.67 0.0534 0.0178
 Neptune -22081-08-25 11:16 J -6343425.25 -6343425.03 -6343424.80 0.0088 0.0011
 Jupiter -22081-12-07 06:28 J -6343321.39 -6343321.23 -6343321.06 0.0531 0.0283
 Neptune -22080-04-08 00:43 J -6343199.69 -6343199.47 -6343199.24 0.0088 0.0011
 Neptune -22080-11-19 14:23 J -6342974.12 -6342973.90 -6342973.68 0.0088 0.0010
 Neptune -22079-07-03 03:50 J -6342748.56 -6342748.34 -6342748.11 0.0088 0.0010
 Neptune -22078-02-13 17:16 J -6342523.00 -6342522.78 -6342522.55 0.0088 0.0009
 Neptune -22078-09-27 06:57 J -6342297.43 -6342297.21 -6342296.98 0.0088 0.0009
 Neptune -22077-05-09 20:38 J -6342071.86 -6342071.64 -6342071.41 0.0088 0.0008
 Neptune -22077-12-21 10:19 J -6341846.30 -6341846.07 -6341845.85 0.0088 0.0007
 Neptune -22076-08-03 23:45 J -6341620.73 -6341620.51 -6341620.28 0.0088 0.0007
 Saturn -22076-09-11 17:02 J -6341581.90 -6341581.79 -6341581.67 0.0300 0.0255
 Jupiter -22075-02-11 01:26 J -6341429.62 -6341429.44 -6341429.26 0.0492 0.0250
 Neptune -22075-03-17 13:26 J -6341395.16 -6341394.94 -6341394.72 0.0088 0.0006
 Saturn -22075-04-30 01:40 J -6341351.64 -6341351.43 -6341351.23 0.0299 0.0070
 Jupiter -22075-10-05 09:07 J -6341193.32 -6341193.12 -6341192.92 0.0494 0.0119
 Neptune -22075-10-29 03:07 J -6341169.59 -6341169.37 -6341169.14 0.0088 0.0006
 Saturn -22075-12-16 08:38 J -6341121.33 -6341121.14 -6341120.93 0.0299 0.0115
 Jupiter -22074-05-29 22:33 J -6340956.59 -6340956.56 -6340956.52 0.0497 0.0489
 Neptune -22074-06-11 16:48 J -6340944.02 -6340943.80 -6340943.57 0.0088 0.0006
 Saturn -22074-08-03 14:09 J -6340890.94 -6340890.91 -6340890.87 0.0297 0.0292
 Neptune -22073-01-23 06:28 J -6340718.45 -6340718.23 -6340718.00 0.0088 0.0005
 Neptune -22073-09-04 20:09 J -6340492.88 -6340492.66 -6340492.43 0.0088 0.0004
 Neptune -22072-04-18 09:50 J -6340267.31 -6340267.09 -6340266.86 0.0088 0.0004
 Neptune -22072-11-29 23:31 J -6340041.74 -6340041.52 -6340041.29 0.0088 0.0004
 Neptune -22071-07-13 13:11 J -6339816.17 -6339815.95 -6339815.72 0.0088 0.0003
 Neptune -22070-02-24 02:52 J -6339590.60 -6339590.38 -6339590.15 0.0088 0.0002
 Neptune -22070-10-07 16:33 J -6339365.03 -6339364.81 -6339364.58 0.0088 0.0002
 Jupiter -22070-12-18 07:26 J -6339293.35 -6339293.19 -6339293.02 0.0535 0.0304

Neptune	-22069-05-20 06:14 J	-6339139.46	-6339139.24	-6339139.01	0.0088	0.0002
Jupiter	-22069-08-12 00:57 J	-6339055.65	-6339055.46	-6339055.27	0.0533	0.0161
Neptune	-22069-12-31 19:55 J	-6338913.89	-6338913.67	-6338913.44	0.0088	0.0001
Uranus	-22068-05-28 01:26 J	-6338766.45	-6338766.44	-6338766.38	0.0146	0.0145
Neptune	-22068-08-14 09:36 J	-6338688.33	-6338688.10	-6338687.88	0.0088	0.0000
Uranus	-22067-01-09 13:55 J	-6338540.05	-6338539.92	-6338539.77	0.0146	0.0112
Neptune	-22067-03-27 23:16 J	-6338462.76	-6338462.53	-6338462.31	0.0088	0.0001
Uranus	-22067-08-24 02:09 J	-6338313.58	-6338313.41	-6338313.21	0.0146	0.0079
Neptune	-22067-11-08 12:57 J	-6338237.18	-6338236.96	-6338236.73	0.0088	0.0001
Uranus	-22066-04-07 14:38 J	-6338087.09	-6338086.89	-6338086.68	0.0146	0.0045
Neptune	-22066-06-22 02:38 J	-6338011.61	-6338011.39	-6338011.16	0.0088	0.0002
Uranus	-22066-11-20 03:07 J	-6337860.58	-6337860.37	-6337860.15	0.0146	0.0012
Neptune	-22065-02-02 16:19 J	-6337786.05	-6337785.82	-6337785.60	0.0088	0.0003
Uranus	-22065-07-03 15:36 J	-6337634.06	-6337633.85	-6337633.63	0.0146	0.0022
Neptune	-22065-09-15 06:00 J	-6337560.48	-6337560.25	-6337560.03	0.0088	0.0003
Uranus	-22064-02-15 03:50 J	-6337407.53	-6337407.34	-6337407.13	0.0146	0.0056
Neptune	-22064-04-28 19:26 J	-6337334.91	-6337334.69	-6337334.46	0.0088	0.0004
Uranus	-22064-09-29 16:04 J	-6337180.99	-6337180.83	-6337180.65	0.0146	0.0089
Jupiter	-22064-10-17 03:07 J	-6337163.51	-6337163.37	-6337163.22	0.0492	0.0348
Neptune	-22064-12-10 09:21 J	-6337109.33	-6337109.11	-6337108.89	0.0088	0.0004
Uranus	-22063-05-14 04:19 J	-6336954.42	-6336954.32	-6336954.19	0.0145	0.0121
Jupiter	-22063-06-10 09:07 J	-6336927.33	-6336927.12	-6336926.91	0.0493	0.0016
Neptune	-22063-07-23 23:02 J	-6336883.76	-6336883.54	-6336883.32	0.0088	0.0005
Jupiter	-22062-02-01 20:38 J	-6336690.76	-6336690.64	-6336690.51	0.0496	0.0389
Neptune	-22062-03-06 12:43 J	-6336658.19	-6336657.97	-6336657.75	0.0088	0.0005
Earth	-22062-05-02 00:14 J	-6336601.64	-6336601.49	-6336601.34	0.2713	0.0913
Moon	-22062-05-02 06:14 J	-6336601.35	-6336601.24	-6336601.13	0.2713	0.1932 *
Neptune	-22062-10-18 02:23 J	-6336432.62	-6336432.40	-6336432.17	0.0088	0.0006
Neptune	-22061-05-30 16:19 J	-6336207.05	-6336206.82	-6336206.60	0.0088	0.0006
Saturn	-22061-10-07 07:26 J	-6336077.35	-6336077.19	-6336077.02	0.0261	0.0161

Neptune	-22060-01-11 06:00 J	-6335981.47	-6335981.25	-6335981.02	0.0088	0.0007
Saturn	-22060-05-24 02:09 J	-6335848.61	-6335848.41	-6335848.20	0.0262	0.0044
Neptune	-22060-08-24 19:40 J	-6335755.90	-6335755.68	-6335755.45	0.0088	0.0008
Saturn	-22059-01-07 21:36 J	-6335619.79	-6335619.60	-6335619.39	0.0262	0.0077
Neptune	-22059-04-07 09:21 J	-6335530.33	-6335530.11	-6335529.88	0.0088	0.0008
Saturn	-22059-08-24 18:00 J	-6335390.88	-6335390.75	-6335390.60	0.0263	0.0197
Neptune	-22059-11-18 23:16 J	-6335304.75	-6335304.53	-6335304.31	0.0088	0.0009
Neptune	-22058-07-02 12:57 J	-6335079.18	-6335078.96	-6335078.73	0.0089	0.0009
Jupiter	-22058-08-22 23:31 J	-6335027.63	-6335027.52	-6335027.40	0.0535	0.0428
Neptune	-22057-02-13 02:38 J	-6334853.61	-6334853.39	-6334853.17	0.0089	0.0010
Jupiter	-22057-04-16 18:57 J	-6334789.91	-6334789.71	-6334789.51	0.0533	0.0036
Neptune	-22057-09-25 16:04 J	-6334628.04	-6334627.83	-6334627.60	0.0089	0.0011
Jupiter	-22057-12-10 07:11 J	-6334552.28	-6334552.20	-6334552.12	0.0529	0.0478
Neptune	-22056-05-09 06:00 J	-6334402.47	-6334402.25	-6334402.03	0.0089	0.0011
Neptune	-22056-12-20 19:40 J	-6334176.90	-6334176.68	-6334176.46	0.0089	0.0011
Mars	-22055-03-01 16:33 J	-6334105.97	-6334105.81	-6334105.65	0.1644	0.0614
Neptune	-22055-08-03 09:21 J	-6333951.33	-6333951.11	-6333950.89	0.0089	0.0012
Neptune	-22054-03-16 22:48 J	-6333725.77	-6333725.55	-6333725.32	0.0089	0.0013
Moon	-22054-04-29 17:16 J	-6333681.83	-6333681.78	-6333681.72	0.2707	0.2525
Neptune	-22054-10-28 12:28 J	-6333500.20	-6333499.98	-6333499.75	0.0089	0.0013
Mars	-22054-12-30 20:52 J	-6333436.74	-6333436.63	-6333436.52	0.1636	0.1205
Neptune	-22053-06-10 02:09 J	-6333274.63	-6333274.41	-6333274.18	0.0089	0.0013
Mars	-22053-12-02 07:11 J	-6333099.37	-6333099.20	-6333099.03	0.1880	0.0578
Neptune	-22052-01-21 15:50 J	-6333049.06	-6333048.84	-6333048.61	0.0089	0.0014
Jupiter	-22052-06-22 06:00 J	-6332897.33	-6332897.25	-6332897.15	0.0492	0.0441
Neptune	-22052-09-04 05:16 J	-6332823.49	-6332823.28	-6332823.05	0.0089	0.0015
Jupiter	-22051-02-13 11:02 J	-6332661.24	-6332661.04	-6332660.83	0.0493	0.0086
Neptune	-22051-04-17 19:11 J	-6332597.92	-6332597.70	-6332597.48	0.0089	0.0015
Jupiter	-22051-10-07 21:21 J	-6332424.78	-6332424.61	-6332424.44	0.0495	0.0288
Neptune	-22051-11-29 08:38 J	-6332372.35	-6332372.14	-6332371.91	0.0089	0.0016

Neptune	-22050-07-12 22:33 J	-6332146.78	-6332146.56	-6332146.34	0.0089	0.0016
Neptune	-22049-02-23 12:14 J	-6331921.21	-6331920.99	-6331920.77	0.0089	0.0016
Neptune	-22049-10-06 01:40 J	-6331695.64	-6331695.43	-6331695.20	0.0089	0.0017
Neptune	-22048-05-19 15:36 J	-6331470.07	-6331469.85	-6331469.63	0.0089	0.0017
Neptune	-22048-12-31 05:02 J	-6331244.50	-6331244.29	-6331244.06	0.0089	0.0018
Neptune	-22047-08-13 18:57 J	-6331018.93	-6331018.71	-6331018.49	0.0089	0.0018
Saturn	-22046-03-24 18:57 J	-6330795.83	-6330795.71	-6330795.57	0.0300	0.0236
Neptune	-22046-03-27 08:23 J	-6330793.36	-6330793.15	-6330792.93	0.0089	0.0018
Neptune	-22046-11-07 22:04 J	-6330567.79	-6330567.58	-6330567.36	0.0089	0.0019
Saturn	-22046-11-10 03:50 J	-6330565.55	-6330565.34	-6330565.13	0.0300	0.0050
Jupiter	-22046-12-21 09:21 J	-6330524.31	-6330524.11	-6330523.91	0.0533	0.0096
Neptune	-22045-06-20 11:45 J	-6330342.23	-6330342.01	-6330341.79	0.0089	0.0019
Saturn	-22045-06-27 11:16 J	-6330335.22	-6330335.03	-6330334.84	0.0299	0.0135
Jupiter	-22045-08-14 23:02 J	-6330286.69	-6330286.54	-6330286.39	0.0530	0.0358
Pluto	-22045-09-12 21:50 J	-6330257.71	-6330257.59	-6330257.43	0.0064	0.0049
Neptune	-22044-02-01 01:11 J	-6330116.66	-6330116.45	-6330116.22	0.0089	0.0020
Pluto	-22044-04-26 01:55 J	-6330032.63	-6330032.42	-6330032.20	0.0064	0.0013
Neptune	-22044-09-14 14:52 J	-6329891.09	-6329890.88	-6329890.66	0.0089	0.0020
Pluto	-22044-12-07 05:31 J	-6329807.46	-6329807.27	-6329807.06	0.0065	0.0024
Neptune	-22043-04-28 04:19 J	-6329665.53	-6329665.32	-6329665.10	0.0089	0.0020
Pluto	-22043-07-20 08:52 J	-6329582.17	-6329582.13	-6329582.03	0.0065	0.0061
Neptune	-22043-12-09 17:45 J	-6329439.97	-6329439.76	-6329439.53	0.0089	0.0021
Neptune	-22042-07-23 07:26 J	-6329214.40	-6329214.19	-6329213.97	0.0089	0.0021
Neptune	-22041-03-04 20:52 J	-6328988.84	-6328988.63	-6328988.41	0.0089	0.0021
Neptune	-22041-10-16 10:04 J	-6328763.28	-6328763.08	-6328762.85	0.0089	0.0022
Neptune	-22040-05-29 23:45 J	-6328537.72	-6328537.51	-6328537.29	0.0089	0.0022
Jupiter	-22040-10-19 12:57 J	-6328395.15	-6328394.96	-6328394.77	0.0493	0.0186
Neptune	-22039-01-10 13:26 J	-6328312.16	-6328311.94	-6328311.73	0.0089	0.0022
Jupiter	-22039-06-12 21:50 J	-6328158.78	-6328158.59	-6328158.39	0.0495	0.0187
Neptune	-22039-08-24 02:38 J	-6328086.60	-6328086.39	-6328086.17	0.0089	0.0023

Neptune	-22038-04-06 16:04 J	-6327861.04	-6327860.83	-6327860.61	0.0089	0.0023
Neptune	-22038-11-18 05:31 J	-6327635.48	-6327635.27	-6327635.05	0.0089	0.0023
Neptune	-22037-06-30 18:57 J	-6327409.92	-6327409.71	-6327409.49	0.0089	0.0023
Neptune	-22036-02-11 08:38 J	-6327184.35	-6327184.14	-6327183.93	0.0089	0.0024
Neptune	-22036-09-24 21:50 J	-6326958.80	-6326958.59	-6326958.37	0.0089	0.0024
Neptune	-22035-05-08 11:16 J	-6326733.24	-6326733.03	-6326732.81	0.0089	0.0024
Neptune	-22035-12-20 00:43 J	-6326507.68	-6326507.47	-6326507.25	0.0089	0.0024
Neptune	-22034-08-02 14:09 J	-6326282.12	-6326281.91	-6326281.69	0.0089	0.0024
Jupiter	-22034-08-26 00:43 J	-6326258.65	-6326258.47	-6326258.29	0.0534	0.0225
Neptune	-22033-03-15 03:36 J	-6326056.56	-6326056.35	-6326056.14	0.0089	0.0025
Jupiter	-22033-04-19 16:19 J	-6326020.99	-6326020.82	-6326020.64	0.0531	0.0237
Neptune	-22033-10-26 16:33 J	-6325831.01	-6325830.81	-6325830.58	0.0089	0.0026
Neptune	-22032-06-09 06:00 J	-6325605.45	-6325605.25	-6325605.03	0.0089	0.0025
Saturn	-22032-09-02 16:33 J	-6325519.83	-6325519.81	-6325519.77	0.0261	0.0258
Neptune	-22031-01-20 19:26 J	-6325379.89	-6325379.69	-6325379.47	0.0089	0.0025
Saturn	-22031-04-19 10:48 J	-6325291.22	-6325291.05	-6325290.87	0.0261	0.0143
Neptune	-22031-09-03 08:38 J	-6325154.34	-6325154.14	-6325153.92	0.0089	0.0025
Saturn	-22031-12-04 05:45 J	-6325062.47	-6325062.26	-6325062.05	0.0261	0.0026
Neptune	-22030-04-16 21:50 J	-6324928.79	-6324928.59	-6324928.37	0.0089	0.0025
Saturn	-22030-07-21 01:26 J	-6324833.64	-6324833.44	-6324833.25	0.0262	0.0095
Neptune	-22030-11-28 11:02 J	-6324703.24	-6324703.04	-6324702.82	0.0089	0.0025
Saturn	-22029-03-05 21:36 J	-6324604.71	-6324604.60	-6324604.47	0.0263	0.0215
Neptune	-22029-07-11 00:14 J	-6324477.69	-6324477.49	-6324477.27	0.0089	0.0025
Neptune	-22028-02-21 13:26 J	-6324252.14	-6324251.94	-6324251.72	0.0089	0.0026
Jupiter	-22028-06-24 15:07 J	-6324129.04	-6324128.87	-6324128.70	0.0492	0.0284
Neptune	-22028-10-05 02:38 J	-6324026.59	-6324026.39	-6324026.17	0.0089	0.0026
Jupiter	-22027-02-15 22:33 J	-6323892.77	-6323892.56	-6323892.36	0.0494	0.0084
Neptune	-22027-05-18 15:50 J	-6323801.05	-6323800.84	-6323800.63	0.0089	0.0025
Jupiter	-22027-10-10 11:31 J	-6323656.10	-6323656.02	-6323655.94	0.0497	0.0456
Neptune	-22027-12-30 05:02 J	-6323575.50	-6323575.29	-6323575.08	0.0089	0.0025

Neptune	-22026-08-12 18:00 J	-6323349.95	-6323349.75	-6323349.53	0.0089	0.0026
Uranus	-22025-03-03 04:48 J	-6323146.39	-6323146.30	-6323146.21	0.0132	0.0119
Neptune	-22025-03-25 07:11 J	-6323124.40	-6323124.20	-6323123.98	0.0089	0.0026
Uranus	-22025-10-15 09:50 J	-6322920.23	-6322920.09	-6322919.92	0.0132	0.0095
Neptune	-22025-11-05 20:23 J	-6322898.86	-6322898.65	-6322898.44	0.0089	0.0025
Uranus	-22024-05-29 15:07 J	-6322694.04	-6322693.87	-6322693.67	0.0132	0.0071
Neptune	-22024-06-19 09:21 J	-6322673.31	-6322673.11	-6322672.89	0.0089	0.0026
Uranus	-22023-01-10 20:52 J	-6322467.83	-6322467.63	-6322467.42	0.0132	0.0045
Neptune	-22023-01-30 22:33 J	-6322447.76	-6322447.56	-6322447.34	0.0089	0.0026
Mars	-22023-02-28 08:52 J	-6322419.20	-6322419.13	-6322419.06	0.1648	0.1491
Uranus	-22023-08-25 02:23 J	-6322241.62	-6322241.40	-6322241.19	0.0133	0.0020
Neptune	-22023-09-13 11:45 J	-6322222.21	-6322222.01	-6322221.79	0.0089	0.0025
Uranus	-22022-04-08 07:40 J	-6322015.40	-6322015.18	-6322014.96	0.0133	0.0005
Neptune	-22022-04-27 00:43 J	-6321996.67	-6321996.47	-6321996.25	0.0089	0.0025
Jupiter	-22022-04-30 15:07 J	-6321993.02	-6321992.87	-6321992.72	0.0534	0.0351
Uranus	-22022-11-20 12:43 J	-6321789.17	-6321788.97	-6321788.75	0.0133	0.0031
Neptune	-22022-12-08 13:40 J	-6321771.13	-6321770.93	-6321770.71	0.0089	0.0026
Jupiter	-22022-12-24 08:52 J	-6321755.32	-6321755.13	-6321754.93	0.0533	0.0113
Mars	-22022-12-29 12:43 J	-6321750.13	-6321749.97	-6321749.80	0.1639	0.0345
Uranus	-22021-07-03 18:00 J	-6321562.94	-6321562.75	-6321562.54	0.0133	0.0056
Neptune	-22021-07-21 02:52 J	-6321545.58	-6321545.38	-6321545.16	0.0089	0.0025
Mars	-22021-12-02 08:38 J	-6321411.27	-6321411.14	-6321411.00	0.1874	0.1215
Uranus	-22020-02-14 23:31 J	-6321336.68	-6321336.52	-6321336.34	0.0133	0.0081
Neptune	-22020-03-03 16:19 J	-6321320.03	-6321319.82	-6321319.61	0.0089	0.0025
Uranus	-22020-09-29 04:33 J	-6321110.42	-6321110.31	-6321110.16	0.0133	0.0107
Neptune	-22020-10-15 05:02 J	-6321094.49	-6321094.29	-6321094.07	0.0089	0.0025
Uranus	-22019-05-13 09:50 J	-6320884.11	-6320884.09	-6320884.03	0.0133	0.0132
Neptune	-22019-05-28 18:00 J	-6320868.95	-6320868.75	-6320868.53	0.0089	0.0025
Neptune	-22018-01-09 06:57 J	-6320643.41	-6320643.21	-6320643.00	0.0089	0.0024
Neptune	-22018-08-22 19:40 J	-6320417.88	-6320417.68	-6320417.46	0.0089	0.0025

Neptune -22017-04-04 08:38 J -6320192.33 -6320192.14 -6320191.91 0.0089 0.0025
 Saturn -22017-10-04 00:43 J -6320009.61 -6320009.47 -6320009.31 0.0300 0.0212
 Neptune -22017-11-15 21:50 J -6319966.80 -6319966.59 -6319966.38 0.0089 0.0024
 Jupiter -22016-02-27 17:45 J -6319862.89 -6319862.76 -6319862.63 0.0492 0.0379
 Saturn -22016-05-22 09:21 J -6319779.32 -6319779.11 -6319778.90 0.0300 0.0026
 Neptune -22016-06-29 10:33 J -6319741.26 -6319741.06 -6319740.84 0.0089 0.0024
 Jupiter -22016-10-21 23:45 J -6319626.72 -6319626.51 -6319626.31 0.0493 0.0021
 Saturn -22015-01-07 16:19 J -6319548.99 -6319548.82 -6319548.63 0.0299 0.0159
 Neptune -22015-02-09 23:16 J -6319515.73 -6319515.53 -6319515.31 0.0089 0.0024
 Jupiter -22015-06-15 10:33 J -6319390.20 -6319390.06 -6319389.91 0.0496 0.0355
 Neptune -22015-09-23 12:14 J -6319290.19 -6319289.99 -6319289.77 0.0089 0.0023
 Neptune -22014-05-07 01:11 J -6319064.66 -6319064.45 -6319064.24 0.0089 0.0023
 Neptune -22014-12-18 13:55 J -6318839.13 -6318838.92 -6318838.71 0.0089 0.0022
 Neptune -22013-07-31 02:38 J -6318613.59 -6318613.39 -6318613.17 0.0089 0.0022
 Neptune -22012-03-13 15:50 J -6318388.05 -6318387.84 -6318387.63 0.0089 0.0022
 Neptune -22012-10-25 04:33 J -6318162.52 -6318162.31 -6318162.10 0.0089 0.0021
 Neptune -22011-06-07 17:02 J -6317936.99 -6317936.79 -6317936.57 0.0089 0.0022
 Jupiter -22010-01-03 06:28 J -6317727.31 -6317727.23 -6317727.13 0.0534 0.0474
 Neptune -22010-01-19 05:45 J -6317711.46 -6317711.26 -6317711.03 0.0089 0.0022
 Jupiter -22010-08-29 02:23 J -6317489.60 -6317489.40 -6317489.20 0.0534 0.0016
 Neptune -22010-09-01 18:43 J -6317485.92 -6317485.72 -6317485.50 0.0089 0.0021
 Neptune -22009-04-14 07:40 J -6317260.39 -6317260.18 -6317259.96 0.0089 0.0020
 Jupiter -22009-04-22 15:50 J -6317251.95 -6317251.84 -6317251.73 0.0530 0.0435
 Neptune -22009-11-25 20:38 J -6317034.86 -6317034.64 -6317034.43 0.0089 0.0020
 Neptune -22008-07-09 09:07 J -6316809.33 -6316809.12 -6316808.90 0.0089 0.0020
 Neptune -22007-02-19 21:50 J -6316583.79 -6316583.59 -6316583.37 0.0089 0.0019
 Neptune -22007-10-03 10:33 J -6316358.27 -6316358.06 -6316357.84 0.0089 0.0019
 Neptune -22006-05-16 23:16 J -6316132.74 -6316132.53 -6316132.32 0.0089 0.0018
 Neptune -22006-12-28 12:00 J -6315907.21 -6315907.00 -6315906.79 0.0089 0.0018
 Neptune -22005-08-10 00:28 J -6315681.69 -6315681.48 -6315681.26 0.0089 0.0017

Jupiter -22005-11-02 20:09 J -6315596.71 -6315596.66 -6315596.60 0.0492 0.0473
 Neptune -22004-03-23 12:57 J -6315456.16 -6315455.96 -6315455.73 0.0089 0.0018
 Jupiter -22004-06-27 00:28 J -6315360.68 -6315360.48 -6315360.28 0.0492 0.0121
 Neptune -22004-11-04 01:40 J -6315230.64 -6315230.43 -6315230.21 0.0089 0.0017
 Jupiter -22003-02-18 09:50 J -6315124.27 -6315124.09 -6315123.91 0.0495 0.0252
 Neptune -22003-06-17 14:09 J -6315005.12 -6315004.91 -6315004.69 0.0089 0.0016
 Neptune -22002-01-29 02:38 J -6314779.59 -6314779.39 -6314779.17 0.0089 0.0016
 Saturn -22002-03-15 15:50 J -6314733.90 -6314733.84 -6314733.77 0.0261 0.0245
 Neptune -22002-09-11 15:07 J -6314554.07 -6314553.87 -6314553.64 0.0089 0.0016
 Saturn -22002-10-30 09:50 J -6314505.26 -6314505.09 -6314504.90 0.0261 0.0130
 Neptune -22001-04-24 04:04 J -6314328.54 -6314328.33 -6314328.12 0.0089 0.0014
 Saturn -22001-06-15 04:48 J -6314276.51 -6314276.30 -6314276.09 0.0262 0.0011
 Neptune -22001-12-05 16:19 J -6314103.02 -6314102.82 -6314102.59 0.0089 0.0015

22ND MILLENNIUM BCE

This is a list of transits of Venus in the 22nd millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-22000-01-30 00:14 J	-6314047.68	-6314047.49	-6314047.30	0.0262	0.0108		
Neptune	-22000-07-19 05:02 J	-6313877.50	-6313877.29	-6313877.07	0.0089	0.0013		
Saturn	-22000-09-15 20:23 J	-6313818.74	-6313818.65	-6313818.54	0.0263	0.0229		
Neptune	-21999-03-01 17:31 J	-6313651.98	-6313651.77	-6313651.55	0.0089	0.0013		
Neptune	-21999-10-13 06:00 J	-6313426.46	-6313426.25	-6313426.03	0.0089	0.0013		
Jupiter	-21998-05-03 19:40 J	-6313223.87	-6313223.68	-6313223.48	0.0534	0.0140		

Neptune -21998-05-26 18:28 J -6313200.93 -6313200.73 -6313200.51 0.0089 0.0013
 Jupiter -21998-12-27 10:48 J -6312986.20 -6312986.05 -6312985.88 0.0531 0.0319
 Neptune -21997-01-07 07:11 J -6312975.41 -6312975.20 -6312974.98 0.0089 0.0011
 Neptune -21997-08-19 19:40 J -6312749.89 -6312749.68 -6312749.46 0.0089 0.0011
 Neptune -21996-04-02 08:23 J -6312524.37 -6312524.15 -6312523.94 0.0089 0.0010
 Neptune -21996-11-13 20:52 J -6312298.85 -6312298.63 -6312298.42 0.0089 0.0010
 Neptune -21995-06-27 09:07 J -6312073.33 -6312073.12 -6312072.90 0.0089 0.0009
 Neptune -21994-02-07 21:36 J -6311847.81 -6311847.60 -6311847.38 0.0089 0.0009
 Neptune -21994-09-21 10:04 J -6311622.29 -6311622.08 -6311621.86 0.0089 0.0008
 Neptune -21993-05-03 22:48 J -6311396.77 -6311396.55 -6311396.34 0.0089 0.0007
 Neptune -21993-12-15 11:02 J -6311171.25 -6311171.04 -6311170.82 0.0089 0.0007
 Jupiter -21992-03-02 03:07 J -6311094.55 -6311094.37 -6311094.18 0.0492 0.0220
 Neptune -21992-07-28 23:31 J -6310945.74 -6310945.52 -6310945.31 0.0089 0.0006
 Jupiter -21992-10-24 11:02 J -6310858.24 -6310858.04 -6310857.84 0.0494 0.0151
 Neptune -21991-03-11 11:45 J -6310720.22 -6310720.01 -6310719.79 0.0089 0.0006
 Neptune -21991-10-23 00:14 J -6310494.71 -6310494.49 -6310494.28 0.0089 0.0005
 Neptune -21990-06-05 12:43 J -6310269.19 -6310268.97 -6310268.76 0.0089 0.0004
 Mars -21990-12-28 05:02 J -6310063.45 -6310063.29 -6310063.13 0.1643 0.0527
 Neptune -21989-01-17 00:57 J -6310043.67 -6310043.46 -6310043.24 0.0089 0.0004
 Neptune -21989-08-29 13:26 J -6309818.16 -6309817.94 -6309817.73 0.0089 0.0004
 Neptune -21988-04-12 01:40 J -6309592.64 -6309592.43 -6309592.21 0.0089 0.0003
 Mars -21988-10-27 09:36 J -6309394.21 -6309394.10 -6309394.00 0.1635 0.1284
 Neptune -21988-11-23 14:09 J -6309367.13 -6309366.91 -6309366.70 0.0089 0.0002
 Saturn -21987-04-16 01:26 J -6309223.59 -6309223.44 -6309223.27 0.0300 0.0195
 Neptune -21987-07-07 02:23 J -6309141.61 -6309141.40 -6309141.18 0.0089 0.0001
 Mars -21987-09-29 09:21 J -6309057.26 -6309057.11 -6309056.95 0.1882 0.0881
 Saturn -21987-12-02 10:19 J -6308993.28 -6308993.07 -6308992.85 0.0300 0.0008
 Jupiter -21986-01-06 10:19 J -6308958.24 -6308958.07 -6308957.90 0.0534 0.0269
 Neptune -21986-02-17 14:38 J -6308916.10 -6308915.89 -6308915.67 0.0089 0.0003
 Saturn -21986-07-20 17:31 J -6308762.93 -6308762.77 -6308762.59 0.0299 0.0177

Jupiter	-21986-09-01 02:38 J	-6308720.57	-6308720.39	-6308720.20	0.0532	0.0193
Neptune	-21986-10-01 03:07 J	-6308690.58	-6308690.37	-6308690.15	0.0089	0.0001
Neptune	-21985-05-13 15:36 J	-6308465.06	-6308464.85	-6308464.63	0.0089	0.0002
Neptune	-21985-12-25 04:04 J	-6308239.54	-6308239.33	-6308239.11	0.0089	0.0001
Neptune	-21984-08-07 16:33 J	-6308014.03	-6308013.81	-6308013.60	0.0089	0.0002
Uranus	-21984-09-08 22:04 J	-6307981.68	-6307981.58	-6307981.46	0.0146	0.0125
Neptune	-21983-03-21 04:48 J	-6307788.51	-6307788.30	-6307788.08	0.0089	0.0002
Uranus	-21983-04-23 10:19 J	-6307755.23	-6307755.07	-6307754.89	0.0146	0.0092
Neptune	-21983-11-01 17:16 J	-6307563.00	-6307562.78	-6307562.57	0.0089	0.0003
Uranus	-21983-12-05 22:33 J	-6307528.75	-6307528.56	-6307528.35	0.0146	0.0059
Neptune	-21982-06-15 05:45 J	-6307337.48	-6307337.26	-6307337.05	0.0089	0.0004
Uranus	-21982-07-20 11:16 J	-6307302.25	-6307302.03	-6307301.82	0.0146	0.0025
Neptune	-21981-01-26 18:00 J	-6307111.96	-6307111.75	-6307111.53	0.0089	0.0004
Uranus	-21981-03-02 23:31 J	-6307075.74	-6307075.52	-6307075.30	0.0146	0.0008
Neptune	-21981-09-08 06:28 J	-6306886.45	-6306886.23	-6306886.02	0.0089	0.0005
Uranus	-21981-10-15 11:31 J	-6306849.22	-6306849.02	-6306848.80	0.0146	0.0042
Jupiter	-21981-11-05 04:48 J	-6306828.45	-6306828.30	-6306828.14	0.0493	0.0319
Neptune	-21980-04-21 18:43 J	-6306660.93	-6306660.72	-6306660.50	0.0089	0.0006
Uranus	-21980-05-29 23:45 J	-6306622.69	-6306622.51	-6306622.31	0.0146	0.0075
Jupiter	-21980-06-29 12:00 J	-6306592.21	-6306592.00	-6306591.79	0.0494	0.0048
Neptune	-21980-12-03 07:11 J	-6306435.42	-6306435.20	-6306434.99	0.0089	0.0006
Uranus	-21979-01-11 12:00 J	-6306396.14	-6306396.00	-6306395.85	0.0145	0.0108
Jupiter	-21979-02-21 00:28 J	-6306355.58	-6306355.48	-6306355.37	0.0497	0.0422
Neptune	-21979-07-16 19:26 J	-6306209.90	-6306209.69	-6306209.47	0.0089	0.0007
Uranus	-21979-08-26 00:14 J	-6306169.53	-6306169.49	-6306169.43	0.0145	0.0140
Neptune	-21978-02-27 07:40 J	-6305984.39	-6305984.18	-6305983.96	0.0089	0.0007
Neptune	-21978-10-10 20:09 J	-6305758.88	-6305758.66	-6305758.45	0.0089	0.0008
Neptune	-21977-05-23 08:23 J	-6305533.36	-6305533.15	-6305532.93	0.0089	0.0009
Neptune	-21976-01-03 20:52 J	-6305307.84	-6305307.63	-6305307.41	0.0089	0.0009
Neptune	-21976-08-17 09:07 J	-6305082.33	-6305082.12	-6305081.90	0.0089	0.0010

Neptune -21975-03-30 21:21 J -6304856.82 -6304856.61 -6304856.39 0.0089 0.0010
 Jupiter -21975-09-11 01:26 J -6304692.57 -6304692.44 -6304692.31 0.0534 0.0395
 Neptune -21975-11-11 09:50 J -6304631.30 -6304631.09 -6304630.87 0.0089 0.0011
 Jupiter -21974-05-06 19:26 J -6304454.89 -6304454.69 -6304454.49 0.0533 0.0068
 Neptune -21974-06-24 22:04 J -6304405.78 -6304405.58 -6304405.35 0.0089 0.0012
 Jupiter -21974-12-30 06:28 J -6304217.29 -6304217.23 -6304217.17 0.0529 0.0504
 Neptune -21973-02-05 10:48 J -6304180.27 -6304180.05 -6304179.84 0.0089 0.0012
 Neptune -21973-09-17 23:02 J -6303954.75 -6303954.54 -6303954.32 0.0089 0.0012
 Saturn -21973-09-24 18:28 J -6303947.81 -6303947.73 -6303947.62 0.0261 0.0229
 Neptune -21972-05-01 11:31 J -6303729.23 -6303729.02 -6303728.80 0.0089 0.0013
 Saturn -21972-05-11 12:57 J -6303719.15 -6303718.96 -6303718.77 0.0261 0.0113
 Neptune -21972-12-12 23:45 J -6303503.72 -6303503.51 -6303503.29 0.0089 0.0014
 Saturn -21972-12-26 07:40 J -6303490.39 -6303490.18 -6303489.97 0.0261 0.0008
 Neptune -21971-07-26 12:14 J -6303278.20 -6303277.99 -6303277.77 0.0089 0.0014
 Saturn -21971-08-12 03:07 J -6303261.54 -6303261.37 -6303261.17 0.0262 0.0126
 Neptune -21970-03-09 00:43 J -6303052.68 -6303052.47 -6303052.25 0.0089 0.0015
 Saturn -21970-03-28 23:45 J -6303032.57 -6303032.51 -6303032.43 0.0263 0.0246
 Neptune -21970-10-20 12:57 J -6302827.16 -6302826.96 -6302826.73 0.0089 0.0016
 Neptune -21969-06-02 01:40 J -6302601.64 -6302601.43 -6302601.21 0.0089 0.0016
 Jupiter -21969-07-11 07:40 J -6302562.29 -6302562.18 -6302562.07 0.0493 0.0412
 Neptune -21968-01-13 14:09 J -6302376.12 -6302375.91 -6302375.69 0.0089 0.0016
 Jupiter -21968-03-04 13:26 J -6302326.15 -6302325.94 -6302325.74 0.0493 0.0053
 Neptune -21968-08-27 02:38 J -6302150.60 -6302150.39 -6302150.18 0.0089 0.0017
 Jupiter -21968-10-27 00:00 J -6302089.65 -6302089.50 -6302089.34 0.0496 0.0322
 Neptune -21967-04-09 14:52 J -6301925.09 -6301924.88 -6301924.66 0.0089 0.0017
 Neptune -21967-11-21 03:21 J -6301699.57 -6301699.36 -6301699.15 0.0089 0.0018
 Neptune -21966-07-04 15:50 J -6301474.05 -6301473.84 -6301473.62 0.0089 0.0018
 Neptune -21965-02-15 04:19 J -6301248.53 -6301248.32 -6301248.10 0.0089 0.0019
 Neptune -21965-09-27 16:33 J -6301023.01 -6301022.81 -6301022.59 0.0089 0.0019
 Neptune -21964-05-11 05:02 J -6300797.50 -6300797.29 -6300797.07 0.0088 0.0020

Neptune	-21964-12-22 17:16 J	-6300571.98	-6300571.78	-6300571.55	0.0088	0.0021
Jupiter	-21963-05-16 14:52 J	-6300426.92	-6300426.88	-6300426.83	0.0534	0.0518
Neptune	-21963-08-05 06:00 J	-6300346.46	-6300346.25	-6300346.03	0.0088	0.0021
Jupiter	-21962-01-09 10:48 J	-6300189.25	-6300189.05	-6300188.85	0.0534	0.0061
Neptune	-21962-03-18 18:28 J	-6300120.94	-6300120.73	-6300120.52	0.0088	0.0021
Jupiter	-21962-09-04 00:28 J	-6299951.61	-6299951.48	-6299951.34	0.0530	0.0391
Neptune	-21962-10-30 06:43 J	-6299895.42	-6299895.22	-6299895.00	0.0088	0.0022
Neptune	-21961-06-11 19:40 J	-6299669.89	-6299669.68	-6299669.47	0.0088	0.0022
Neptune	-21960-01-23 07:55 J	-6299444.37	-6299444.17	-6299443.95	0.0088	0.0022
Neptune	-21960-09-05 20:38 J	-6299218.85	-6299218.64	-6299218.43	0.0088	0.0022
Neptune	-21959-04-19 08:52 J	-6298993.33	-6298993.13	-6298992.91	0.0088	0.0023
Neptune	-21959-11-30 21:36 J	-6298767.80	-6298767.60	-6298767.38	0.0088	0.0023
Neptune	-21958-07-14 10:33 J	-6298542.27	-6298542.06	-6298541.85	0.0088	0.0024
Saturn	-21958-10-27 06:57 J	-6298437.37	-6298437.21	-6298437.02	0.0300	0.0172
Mars	-21958-12-26 21:21 J	-6298376.69	-6298376.61	-6298376.52	0.1647	0.1407
Neptune	-21957-02-24 22:48 J	-6298316.75	-6298316.55	-6298316.32	0.0088	0.0025
Saturn	-21957-06-13 15:36 J	-6298207.06	-6298206.85	-6298206.63	0.0300	0.0017
Neptune	-21957-10-07 11:31 J	-6298091.22	-6298091.02	-6298090.80	0.0088	0.0024
Earth	-21957-10-30 05:31 J	-6298068.40	-6298068.27	-6298068.13	0.2620	0.1404
Moon	-21957-10-30 08:23 J	-6298068.29	-6298068.15	-6298068.01	0.2615	0.1342 *
Jupiter	-21957-11-07 15:21 J	-6298060.06	-6298059.86	-6298059.67	0.0493	0.0154
Saturn	-21956-01-29 22:48 J	-6297976.71	-6297976.55	-6297976.39	0.0299	0.0200
Neptune	-21956-05-21 00:14 J	-6297865.70	-6297865.49	-6297865.28	0.0088	0.0024
Jupiter	-21956-07-02 00:00 J	-6297823.68	-6297823.50	-6297823.31	0.0495	0.0219
Pluto	-21956-08-07 06:43 J	-6297787.41	-6297787.22	-6297787.02	0.0080	0.0038
Mars	-21956-10-26 01:40 J	-6297707.60	-6297707.43	-6297707.27	0.1638	0.0423
Neptune	-21955-01-01 12:28 J	-6297640.17	-6297639.98	-6297639.75	0.0088	0.0026
Pluto	-21955-03-20 17:45 J	-6297561.95	-6297561.76	-6297561.55	0.0080	0.0035
Neptune	-21955-08-15 01:11 J	-6297414.65	-6297414.45	-6297414.23	0.0088	0.0026
Mars	-21955-09-29 11:16 J	-6297369.19	-6297369.03	-6297368.88	0.1876	0.0919

Neptune	-21954-03-28 13:55 J	-6297189.12	-6297188.92	-6297188.70	0.0088	0.0026
Neptune	-21954-11-09 02:38 J	-6296963.59	-6296963.39	-6296963.17	0.0088	0.0026
Neptune	-21953-06-21 15:07 J	-6296738.07	-6296737.87	-6296737.65	0.0088	0.0026
Neptune	-21952-02-02 03:50 J	-6296512.54	-6296512.34	-6296512.12	0.0088	0.0026
Neptune	-21952-09-15 16:33 J	-6296287.01	-6296286.81	-6296286.59	0.0088	0.0026
Neptune	-21951-04-29 05:16 J	-6296061.49	-6296061.28	-6296061.07	0.0088	0.0026
Jupiter	-21951-09-14 03:21 J	-6295923.54	-6295923.36	-6295923.17	0.0534	0.0188
Neptune	-21951-12-10 18:00 J	-6295835.96	-6295835.75	-6295835.54	0.0088	0.0027
Jupiter	-21950-05-09 19:26 J	-6295685.86	-6295685.69	-6295685.52	0.0532	0.0274
Neptune	-21950-07-24 06:28 J	-6295610.42	-6295610.23	-6295610.00	0.0088	0.0028
Neptune	-21949-03-05 19:26 J	-6295384.89	-6295384.69	-6295384.47	0.0088	0.0027
Neptune	-21949-10-17 08:09 J	-6295159.36	-6295159.16	-6295158.95	0.0088	0.0027
Moon	-21949-10-27 20:52 J	-6295148.75	-6295148.63	-6295148.51	0.2615	0.1851
Earth	-21949-10-27 22:33 J	-6295148.67	-6295148.56	-6295148.44	0.2621	0.1714 *
Neptune	-21948-05-30 20:52 J	-6294933.83	-6294933.63	-6294933.42	0.0088	0.0027
Neptune	-21947-01-11 09:36 J	-6294708.30	-6294708.10	-6294707.88	0.0088	0.0027
Neptune	-21947-08-24 22:33 J	-6294482.76	-6294482.56	-6294482.34	0.0088	0.0028
Neptune	-21946-04-07 11:31 J	-6294257.23	-6294257.02	-6294256.81	0.0088	0.0028
Neptune	-21946-11-19 00:00 J	-6294031.69	-6294031.50	-6294031.27	0.0088	0.0028
Neptune	-21945-07-01 12:57 J	-6293806.15	-6293805.96	-6293805.73	0.0088	0.0028
Jupiter	-21945-07-13 17:02 J	-6293793.97	-6293793.79	-6293793.62	0.0492	0.0253
Neptune	-21944-02-12 01:55 J	-6293580.62	-6293580.42	-6293580.20	0.0088	0.0028
Jupiter	-21944-03-07 00:14 J	-6293557.69	-6293557.49	-6293557.29	0.0494	0.0115
Neptune	-21944-09-25 14:52 J	-6293355.08	-6293354.88	-6293354.66	0.0088	0.0028
Jupiter	-21944-10-29 13:11 J	-6293320.99	-6293320.95	-6293320.91	0.0497	0.0485
Saturn	-21943-04-06 17:45 J	-6293161.86	-6293161.76	-6293161.63	0.0261	0.0216
Neptune	-21943-05-09 03:50 J	-6293129.54	-6293129.34	-6293129.12	0.0088	0.0028
Saturn	-21943-11-21 12:00 J	-6292933.19	-6292933.00	-6292932.80	0.0261	0.0099
Neptune	-21943-12-20 16:33 J	-6292904.01	-6292903.81	-6292903.59	0.0088	0.0028
Saturn	-21942-07-08 06:57 J	-6292704.42	-6292704.21	-6292704.00	0.0262	0.0020

Neptune	-21942-08-03 05:45 J	-6292678.46	-6292678.26	-6292678.04	0.0088	0.0028
Uranus	-21942-11-01 15:07 J	-6292587.89	-6292587.87	-6292587.81	0.0132	0.0131
Saturn	-21941-02-22 02:23 J	-6292475.58	-6292475.40	-6292475.22	0.0262	0.0140
Neptune	-21941-03-15 18:43 J	-6292452.92	-6292452.72	-6292452.50	0.0088	0.0028
Uranus	-21941-06-14 20:38 J	-6292361.76	-6292361.64	-6292361.49	0.0132	0.0106
Saturn	-21941-10-07 22:33 J	-6292246.58	-6292246.56	-6292246.52	0.0263	0.0260
Neptune	-21941-10-27 07:26 J	-6292227.38	-6292227.19	-6292226.96	0.0088	0.0028
Uranus	-21940-01-27 02:23 J	-6292135.57	-6292135.40	-6292135.22	0.0132	0.0081
Neptune	-21940-06-09 20:23 J	-6292001.85	-6292001.65	-6292001.43	0.0088	0.0028
Uranus	-21940-09-10 07:40 J	-6291909.37	-6291909.18	-6291908.97	0.0132	0.0056
Neptune	-21939-01-21 09:21 J	-6291776.31	-6291776.11	-6291775.89	0.0088	0.0028
Uranus	-21939-04-24 12:57 J	-6291683.16	-6291682.96	-6291682.74	0.0133	0.0031
Jupiter	-21939-05-19 19:55 J	-6291657.83	-6291657.67	-6291657.50	0.0535	0.0314
Neptune	-21939-09-03 22:19 J	-6291550.76	-6291550.57	-6291550.34	0.0088	0.0028
Uranus	-21939-12-06 18:28 J	-6291456.94	-6291456.73	-6291456.51	0.0133	0.0006
Jupiter	-21938-01-12 13:55 J	-6291420.11	-6291419.92	-6291419.73	0.0533	0.0151
Neptune	-21938-04-17 11:45 J	-6291325.22	-6291325.01	-6291324.80	0.0088	0.0027
Uranus	-21938-07-20 23:45 J	-6291230.72	-6291230.51	-6291230.29	0.0133	0.0021
Neptune	-21938-11-29 00:28 J	-6291099.68	-6291099.48	-6291099.26	0.0088	0.0027
Uranus	-21937-03-03 05:02 J	-6291004.48	-6291004.29	-6291004.07	0.0133	0.0046
Neptune	-21937-07-11 13:40 J	-6290874.14	-6290873.93	-6290873.72	0.0088	0.0027
Uranus	-21937-10-15 10:19 J	-6290778.24	-6290778.07	-6290777.87	0.0133	0.0071
Neptune	-21936-02-22 02:38 J	-6290648.60	-6290648.39	-6290648.17	0.0088	0.0027
Uranus	-21936-05-29 15:36 J	-6290551.99	-6290551.85	-6290551.69	0.0133	0.0097
Neptune	-21936-10-05 15:36 J	-6290423.05	-6290422.85	-6290422.63	0.0088	0.0027
Uranus	-21935-01-10 21:07 J	-6290325.70	-6290325.62	-6290325.52	0.0133	0.0122
Neptune	-21935-05-19 04:33 J	-6290197.51	-6290197.31	-6290197.08	0.0088	0.0027
Neptune	-21935-12-30 17:45 J	-6289971.96	-6289971.76	-6289971.53	0.0088	0.0027
Neptune	-21934-08-13 07:26 J	-6289746.40	-6289746.19	-6289745.98	0.0088	0.0026
Jupiter	-21933-03-18 19:55 J	-6289527.81	-6289527.67	-6289527.52	0.0492	0.0349

Neptune	-21933-03-25 20:23 J	-6289520.86	-6289520.65	-6289520.43	0.0088	0.0026
Neptune	-21933-11-06 09:36 J	-6289295.31	-6289295.10	-6289294.88	0.0088	0.0026
Jupiter	-21933-11-10 01:55 J	-6289291.63	-6289291.42	-6289291.21	0.0493	0.0014
Neptune	-21932-06-19 22:33 J	-6289069.76	-6289069.56	-6289069.33	0.0088	0.0026
Jupiter	-21932-07-04 13:11 J	-6289055.07	-6289054.95	-6289054.82	0.0496	0.0387
Neptune	-21931-01-31 12:00 J	-6288844.21	-6288844.00	-6288843.78	0.0088	0.0025
Neptune	-21931-09-14 01:11 J	-6288618.65	-6288618.45	-6288618.23	0.0088	0.0025
Neptune	-21930-04-27 14:23 J	-6288393.10	-6288392.90	-6288392.67	0.0088	0.0025
Neptune	-21930-12-09 03:50 J	-6288167.55	-6288167.34	-6288167.12	0.0088	0.0024
Neptune	-21929-07-21 17:02 J	-6287942.00	-6287941.79	-6287941.57	0.0088	0.0024
Neptune	-21928-03-04 06:14 J	-6287716.45	-6287716.24	-6287716.02	0.0088	0.0024
Saturn	-21928-05-08 06:57 J	-6287651.39	-6287651.21	-6287651.03	0.0300	0.0155
Neptune	-21928-10-15 19:26 J	-6287490.90	-6287490.69	-6287490.47	0.0088	0.0024
Saturn	-21928-12-24 15:36 J	-6287421.06	-6287420.85	-6287420.64	0.0300	0.0032
Jupiter	-21927-01-22 10:48 J	-6287392.15	-6287392.05	-6287391.93	0.0534	0.0438
Neptune	-21927-05-29 08:38 J	-6287265.35	-6287265.14	-6287264.91	0.0088	0.0023
Saturn	-21927-08-11 22:48 J	-6287190.69	-6287190.55	-6287190.40	0.0299	0.0216
Jupiter	-21927-09-17 05:45 J	-6287154.46	-6287154.26	-6287154.06	0.0533	0.0024
Neptune	-21926-01-09 21:50 J	-6287039.79	-6287039.59	-6287039.36	0.0088	0.0023
Jupiter	-21926-05-12 17:45 J	-6286916.85	-6286916.76	-6286916.67	0.0529	0.0466
Neptune	-21926-08-23 11:31 J	-6286814.24	-6286814.02	-6286813.80	0.0088	0.0022
Neptune	-21925-04-05 00:43 J	-6286588.68	-6286588.47	-6286588.25	0.0088	0.0022
Neptune	-21925-11-16 13:40 J	-6286363.13	-6286362.93	-6286362.70	0.0088	0.0022
Neptune	-21924-06-30 03:07 J	-6286137.58	-6286137.37	-6286137.14	0.0088	0.0021
Mars	-21924-10-24 17:45 J	-6286020.93	-6286020.76	-6286020.60	0.1641	0.0448
Neptune	-21923-02-10 16:19 J	-6285912.02	-6285911.82	-6285911.59	0.0088	0.0021
Neptune	-21923-09-24 06:14 J	-6285686.46	-6285686.24	-6285686.02	0.0088	0.0020
Neptune	-21922-05-07 19:26 J	-6285460.90	-6285460.69	-6285460.46	0.0088	0.0020
Mars	-21922-08-24 22:04 J	-6285351.67	-6285351.58	-6285351.48	0.1634	0.1358
Jupiter	-21922-11-22 21:21 J	-6285261.69	-6285261.61	-6285261.52	0.0493	0.0445

Neptune -21922-12-19 08:52 J -6285235.34 -6285235.13 -6285234.90 0.0088 0.0019
 Jupiter -21921-07-16 02:52 J -6285025.58 -6285025.38 -6285025.17 0.0493 0.0089
 Mars -21921-07-26 11:02 J -6285015.18 -6285015.04 -6285014.91 0.1883 0.1195
 Neptune -21921-07-31 22:19 J -6285009.78 -6285009.57 -6285009.34 0.0088 0.0019
 Jupiter -21920-03-09 13:11 J -6284789.11 -6284788.95 -6284788.78 0.0496 0.0286
 Neptune -21920-03-14 11:45 J -6284784.22 -6284784.01 -6284783.78 0.0088 0.0018
 Neptune -21920-10-26 01:11 J -6284558.66 -6284558.45 -6284558.22 0.0088 0.0018
 Neptune -21919-06-08 14:52 J -6284333.10 -6284332.88 -6284332.66 0.0088 0.0017
 Neptune -21918-01-20 04:19 J -6284107.53 -6284107.32 -6284107.09 0.0088 0.0017
 Neptune -21918-09-02 18:00 J -6283881.97 -6283881.75 -6283881.53 0.0088 0.0016
 Neptune -21917-04-15 07:26 J -6283656.41 -6283656.19 -6283655.96 0.0088 0.0016
 Neptune -21917-11-26 20:52 J -6283430.84 -6283430.63 -6283430.40 0.0088 0.0015
 Neptune -21916-07-10 10:19 J -6283205.28 -6283205.07 -6283204.84 0.0088 0.0015
 Neptune -21915-02-20 23:45 J -6282979.72 -6282979.51 -6282979.28 0.0088 0.0014
 Jupiter -21915-05-22 21:36 J -6282888.79 -6282888.60 -6282888.40 0.0533 0.0105
 Neptune -21915-10-04 13:40 J -6282754.15 -6282753.93 -6282753.71 0.0088 0.0013
 Jupiter -21914-01-15 11:31 J -6282651.17 -6282651.02 -6282650.87 0.0530 0.0349
 Neptune -21914-05-18 02:52 J -6282528.59 -6282528.38 -6282528.15 0.0088 0.0014
 Saturn -21914-10-17 20:38 J -6282375.77 -6282375.64 -6282375.50 0.0261 0.0199
 Neptune -21914-12-29 16:33 J -6282303.03 -6282302.81 -6282302.58 0.0088 0.0012
 Saturn -21913-06-02 14:52 J -6282147.08 -6282146.88 -6282146.68 0.0261 0.0082
 Neptune -21913-08-11 06:00 J -6282077.47 -6282077.25 -6282077.02 0.0088 0.0012
 Saturn -21912-01-17 09:36 J -6281918.30 -6281918.10 -6281917.89 0.0261 0.0037
 Neptune -21912-03-24 19:26 J -6281851.90 -6281851.69 -6281851.46 0.0088 0.0012
 Saturn -21912-09-03 05:02 J -6281689.45 -6281689.29 -6281689.11 0.0262 0.0157
 Neptune -21912-11-05 09:21 J -6281626.33 -6281626.11 -6281625.89 0.0088 0.0010
 Neptune -21911-06-18 22:48 J -6281400.77 -6281400.55 -6281400.32 0.0088 0.0010
 Neptune -21910-01-30 12:28 J -6281175.20 -6281174.98 -6281174.76 0.0088 0.0009
 Neptune -21910-09-13 02:09 J -6280949.63 -6280949.41 -6280949.19 0.0088 0.0008
 Jupiter -21909-03-21 05:02 J -6280759.48 -6280759.29 -6280759.10 0.0493 0.0187

Neptune	-21909-04-25 15:36 J	-6280724.07	-6280723.85	-6280723.62	0.0088	0.0008
Jupiter	-21909-11-12 13:40 J	-6280523.12	-6280522.93	-6280522.74	0.0495	0.0185
Neptune	-21909-12-07 05:31 J	-6280498.50	-6280498.27	-6280498.05	0.0088	0.0007
Neptune	-21908-07-20 18:57 J	-6280272.93	-6280272.71	-6280272.48	0.0088	0.0007
Neptune	-21907-03-03 08:38 J	-6280047.36	-6280047.14	-6280046.91	0.0088	0.0006
Neptune	-21907-10-14 22:33 J	-6279821.78	-6279821.56	-6279821.33	0.0088	0.0005
Neptune	-21906-05-28 12:14 J	-6279596.21	-6279595.99	-6279595.76	0.0088	0.0005
Neptune	-21905-01-09 01:55 J	-6279370.64	-6279370.42	-6279370.19	0.0088	0.0004
Neptune	-21905-08-21 15:36 J	-6279145.07	-6279144.85	-6279144.62	0.0088	0.0003
Neptune	-21904-04-04 05:16 J	-6278919.50	-6278919.28	-6278919.05	0.0088	0.0003
Neptune	-21904-11-15 19:11 J	-6278693.93	-6278693.70	-6278693.48	0.0088	0.0002
Jupiter	-21903-01-25 12:14 J	-6278623.17	-6278622.99	-6278622.81	0.0534	0.0234
Neptune	-21903-06-29 08:38 J	-6278468.36	-6278468.14	-6278467.91	0.0088	0.0003
Jupiter	-21903-09-20 04:19 J	-6278385.49	-6278385.32	-6278385.13	0.0532	0.0229
Neptune	-21902-02-09 22:19 J	-6278242.79	-6278242.57	-6278242.34	0.0088	0.0002
Neptune	-21902-09-23 12:00 J	-6278017.22	-6278017.00	-6278016.77	0.0088	0.0001
Neptune	-21901-05-06 01:40 J	-6277791.65	-6277791.43	-6277791.20	0.0088	0.0002
Neptune	-21901-12-17 15:21 J	-6277566.08	-6277565.86	-6277565.63	0.0088	0.0002
Uranus	-21900-05-09 06:28 J	-6277423.28	-6277423.23	-6277423.15	0.0146	0.0140
Neptune	-21900-07-31 05:02 J	-6277340.51	-6277340.29	-6277340.06	0.0088	0.0002
Uranus	-21900-12-21 18:43 J	-6277196.86	-6277196.72	-6277196.56	0.0146	0.0106
Neptune	-21899-03-13 18:43 J	-6277114.94	-6277114.72	-6277114.50	0.0088	0.0003
Uranus	-21899-08-05 06:57 J	-6276970.38	-6276970.21	-6276970.01	0.0146	0.0074
Neptune	-21899-10-25 08:23 J	-6276889.37	-6276889.15	-6276888.92	0.0088	0.0004
Saturn	-21899-11-18 12:43 J	-6276865.16	-6276864.97	-6276864.77	0.0300	0.0131
Uranus	-21898-03-19 19:26 J	-6276743.89	-6276743.69	-6276743.48	0.0146	0.0040
Neptune	-21898-06-07 22:19 J	-6276663.80	-6276663.57	-6276663.35	0.0088	0.0005
Saturn	-21898-07-06 21:07 J	-6276634.82	-6276634.62	-6276634.40	0.0300	0.0058
Uranus	-21898-11-01 07:40 J	-6276517.39	-6276517.18	-6276516.96	0.0146	0.0007
Jupiter	-21898-11-25 07:26 J	-6276493.36	-6276493.19	-6276493.02	0.0492	0.0286

Neptune	-21897-01-19 12:00 J	-6276438.23	-6276438.00	-6276437.78	0.0088	0.0005
Saturn	-21897-02-22 04:04 J	-6276404.45	-6276404.33	-6276404.20	0.0299	0.0241
Uranus	-21897-06-14 19:55 J	-6276290.88	-6276290.67	-6276290.45	0.0146	0.0028
Jupiter	-21897-07-18 14:23 J	-6276257.10	-6276256.90	-6276256.70	0.0494	0.0082
Neptune	-21897-09-01 01:26 J	-6276212.66	-6276212.44	-6276212.21	0.0088	0.0006
Uranus	-21896-01-27 08:09 J	-6276064.35	-6276064.16	-6276063.96	0.0146	0.0061
Jupiter	-21896-03-12 02:52 J	-6276020.46	-6276020.38	-6276020.30	0.0497	0.0453
Neptune	-21896-04-14 15:21 J	-6275987.09	-6275986.86	-6275986.64	0.0088	0.0007
Uranus	-21896-09-10 20:23 J	-6275837.81	-6275837.65	-6275837.48	0.0145	0.0094
Neptune	-21896-11-26 05:02 J	-6275761.51	-6275761.29	-6275761.06	0.0088	0.0008
Uranus	-21895-04-25 08:23 J	-6275611.24	-6275611.15	-6275611.04	0.0145	0.0127
Neptune	-21895-07-09 18:57 J	-6275535.94	-6275535.71	-6275535.49	0.0088	0.0008
Neptune	-21894-02-20 08:38 J	-6275310.36	-6275310.14	-6275309.92	0.0088	0.0009
Neptune	-21894-10-03 22:19 J	-6275084.79	-6275084.57	-6275084.35	0.0088	0.0009
Neptune	-21893-05-16 12:00 J	-6274859.22	-6274859.00	-6274858.77	0.0088	0.0010
Neptune	-21893-12-28 01:40 J	-6274633.64	-6274633.43	-6274633.20	0.0089	0.0011
Neptune	-21892-08-10 15:21 J	-6274408.07	-6274407.86	-6274407.63	0.0089	0.0012
Jupiter	-21892-09-30 03:50 J	-6274357.49	-6274357.34	-6274357.19	0.0534	0.0359
Mars	-21892-10-23 09:50 J	-6274334.19	-6274334.09	-6274333.99	0.1645	0.1320
Neptune	-21891-03-24 05:16 J	-6274182.51	-6274182.28	-6274182.06	0.0089	0.0012
Jupiter	-21891-05-25 22:04 J	-6274119.77	-6274119.58	-6274119.38	0.0533	0.0105
Neptune	-21891-11-04 18:43 J	-6273956.93	-6273956.72	-6273956.49	0.0089	0.0013
Neptune	-21890-06-18 08:23 J	-6273731.36	-6273731.15	-6273730.92	0.0089	0.0014
Mars	-21890-08-23 14:09 J	-6273665.08	-6273664.91	-6273664.75	0.1637	0.0502
Neptune	-21889-01-29 22:19 J	-6273505.79	-6273505.57	-6273505.35	0.0089	0.0014
Mars	-21889-07-26 12:43 J	-6273327.14	-6273326.97	-6273326.80	0.1878	0.0610
Neptune	-21889-09-11 11:45 J	-6273280.23	-6273280.01	-6273279.79	0.0089	0.0015
Neptune	-21888-04-25 01:26 J	-6273054.66	-6273054.44	-6273054.22	0.0089	0.0015
Neptune	-21888-12-06 15:07 J	-6272829.09	-6272828.87	-6272828.65	0.0089	0.0016
Neptune	-21887-07-20 04:33 J	-6272603.52	-6272603.31	-6272603.08	0.0089	0.0017

Neptune -21886-03-02 18:14 J -6272377.95 -6272377.74 -6272377.51 0.0089 0.0017
 Jupiter -21886-07-31 09:50 J -6272227.22 -6272227.09 -6272226.96 0.0492 0.0382
 Neptune -21886-10-14 07:40 J -6272152.39 -6272152.18 -6272151.95 0.0089 0.0018
 Jupiter -21885-03-23 15:21 J -6271991.07 -6271990.86 -6271990.66 0.0493 0.0021
 Neptune -21885-05-26 21:36 J -6271926.82 -6271926.60 -6271926.38 0.0089 0.0018
 Jupiter -21885-11-15 01:55 J -6271754.57 -6271754.42 -6271754.28 0.0496 0.0352
 Neptune -21884-01-07 11:02 J -6271701.25 -6271701.04 -6271700.81 0.0089 0.0019
 Saturn -21884-04-28 20:09 J -6271589.79 -6271589.66 -6271589.50 0.0261 0.0186
 Neptune -21884-08-21 00:57 J -6271475.68 -6271475.46 -6271475.24 0.0089 0.0019
 Saturn -21884-12-13 14:38 J -6271361.10 -6271360.89 -6271360.69 0.0261 0.0069
 Neptune -21883-04-03 14:23 J -6271250.11 -6271249.90 -6271249.68 0.0089 0.0020
 Saturn -21883-07-30 09:07 J -6271132.32 -6271132.12 -6271131.91 0.0261 0.0051
 Neptune -21883-11-15 04:04 J -6271024.54 -6271024.33 -6271024.11 0.0089 0.0020
 Saturn -21882-03-16 04:33 J -6270903.46 -6270903.31 -6270903.14 0.0262 0.0171
 Neptune -21882-06-28 17:31 J -6270798.97 -6270798.77 -6270798.54 0.0089 0.0021
 Neptune -21881-02-09 07:26 J -6270573.41 -6270573.19 -6270572.97 0.0089 0.0021
 Neptune -21881-09-21 20:52 J -6270347.84 -6270347.63 -6270347.41 0.0089 0.0022
 Neptune -21880-05-05 10:33 J -6270122.27 -6270122.06 -6270121.84 0.0089 0.0022
 Jupiter -21880-06-04 19:40 J -6270091.76 -6270091.68 -6270091.59 0.0534 0.0482
 Neptune -21880-12-17 00:00 J -6269896.70 -6269896.50 -6269896.27 0.0089 0.0023
 Jupiter -21879-01-28 15:50 J -6269854.04 -6269853.84 -6269853.64 0.0534 0.0021
 Neptune -21879-07-30 13:55 J -6269671.14 -6269670.92 -6269670.71 0.0089 0.0023
 Jupiter -21879-09-23 05:16 J -6269616.39 -6269616.28 -6269616.15 0.0530 0.0428
 Neptune -21878-03-13 03:07 J -6269445.57 -6269445.37 -6269445.15 0.0089 0.0024
 Neptune -21878-10-24 16:48 J -6269220.01 -6269219.80 -6269219.59 0.0089 0.0024
 Neptune -21877-06-06 06:00 J -6268994.45 -6268994.25 -6268994.02 0.0089 0.0025
 Neptune -21876-01-17 19:40 J -6268768.88 -6268768.68 -6268768.46 0.0089 0.0025
 Neptune -21876-08-31 09:21 J -6268543.32 -6268543.11 -6268542.90 0.0089 0.0025
 Neptune -21875-04-13 22:33 J -6268317.77 -6268317.56 -6268317.34 0.0089 0.0026
 Neptune -21875-11-25 12:00 J -6268092.21 -6268092.00 -6268091.78 0.0089 0.0026

Jupiter -21874-04-05 12:43 J -6267961.01 -6267960.97 -6267960.91 0.0492 0.0475
 Neptune -21874-07-09 01:11 J -6267866.64 -6267866.45 -6267866.22 0.0089 0.0027
 Jupiter -21874-11-27 17:31 J -6267724.97 -6267724.77 -6267724.57 0.0493 0.0122
 Neptune -21873-02-19 14:52 J -6267641.08 -6267640.88 -6267640.66 0.0089 0.0027
 Jupiter -21873-07-21 02:23 J -6267488.57 -6267488.40 -6267488.22 0.0495 0.0251
 Neptune -21873-10-02 04:19 J -6267415.52 -6267415.32 -6267415.10 0.0089 0.0027
 Neptune -21872-05-15 17:45 J -6267189.97 -6267189.76 -6267189.55 0.0089 0.0028
 Neptune -21872-12-27 06:57 J -6266964.40 -6266964.21 -6266963.98 0.0089 0.0029
 Neptune -21871-08-09 20:38 J -6266738.84 -6266738.64 -6266738.42 0.0089 0.0028
 Neptune -21870-03-23 10:04 J -6266513.29 -6266513.08 -6266512.87 0.0089 0.0028
 Neptune -21870-11-03 23:16 J -6266287.73 -6266287.53 -6266287.31 0.0089 0.0029
 Saturn -21869-05-30 12:43 J -6266079.17 -6266078.97 -6266078.77 0.0300 0.0115
 Neptune -21869-06-16 12:43 J -6266062.17 -6266061.97 -6266061.75 0.0089 0.0029
 Saturn -21868-01-15 21:07 J -6265848.82 -6265848.62 -6265848.41 0.0300 0.0073
 Neptune -21868-01-28 02:09 J -6265836.61 -6265836.41 -6265836.19 0.0089 0.0029
 Saturn -21868-09-03 04:04 J -6265618.43 -6265618.33 -6265618.22 0.0299 0.0256
 Neptune -21868-09-10 15:36 J -6265611.05 -6265610.85 -6265610.63 0.0089 0.0029
 Jupiter -21868-10-03 07:40 J -6265588.37 -6265588.18 -6265587.99 0.0533 0.0149
 Neptune -21867-04-24 05:02 J -6265385.50 -6265385.29 -6265385.08 0.0089 0.0030
 Jupiter -21867-05-28 22:19 J -6265350.73 -6265350.57 -6265350.40 0.0531 0.0309
 Neptune -21867-12-05 18:00 J -6265159.94 -6265159.75 -6265159.53 0.0089 0.0030
 Neptune -21866-07-19 07:26 J -6264934.39 -6264934.19 -6264933.97 0.0089 0.0030
 Neptune -21865-02-29 20:52 J -6264708.83 -6264708.63 -6264708.42 0.0089 0.0030
 Neptune -21865-10-12 10:04 J -6264483.28 -6264483.08 -6264482.87 0.0089 0.0030
 Neptune -21864-05-25 23:16 J -6264257.73 -6264257.53 -6264257.32 0.0089 0.0030
 Neptune -21863-01-06 12:28 J -6264032.18 -6264031.98 -6264031.77 0.0089 0.0031
 Neptune -21863-08-20 01:40 J -6263806.63 -6263806.43 -6263806.22 0.0089 0.0031
 Neptune -21862-04-02 14:52 J -6263581.08 -6263580.88 -6263580.67 0.0089 0.0031
 Jupiter -21862-08-02 18:28 J -6263458.92 -6263458.73 -6263458.55 0.0493 0.0222
 Neptune -21862-11-14 04:04 J -6263355.53 -6263355.33 -6263355.12 0.0089 0.0031

Jupiter	-21861-03-26 02:38 J	-6263222.59	-6263222.39	-6263222.19	0.0494	0.0149
Neptune	-21861-06-26 17:02 J	-6263129.99	-6263129.79	-6263129.58	0.0089	0.0031
Neptune	-21860-02-07 06:28 J	-6262904.44	-6262904.23	-6262904.03	0.0089	0.0031
Neptune	-21860-09-20 19:26 J	-6262678.89	-6262678.69	-6262678.48	0.0089	0.0031
Neptune	-21859-05-04 08:23 J	-6262453.35	-6262453.15	-6262452.94	0.0089	0.0031
Neptune	-21859-12-15 21:36 J	-6262227.80	-6262227.60	-6262227.39	0.0089	0.0031
Neptune	-21858-07-29 10:33 J	-6262002.26	-6262002.06	-6262001.85	0.0089	0.0031
Mars	-21858-08-22 06:00 J	-6261978.42	-6261978.25	-6261978.09	0.1640	0.0364
Uranus	-21857-02-13 07:26 J	-6261803.28	-6261803.19	-6261803.08	0.0132	0.0116
Neptune	-21857-03-10 23:45 J	-6261776.71	-6261776.51	-6261776.30	0.0089	0.0031
Uranus	-21857-09-26 12:43 J	-6261577.11	-6261576.97	-6261576.80	0.0132	0.0092
Neptune	-21857-10-22 12:43 J	-6261551.16	-6261550.97	-6261550.75	0.0089	0.0031
Uranus	-21856-05-10 18:14 J	-6261350.92	-6261350.74	-6261350.54	0.0132	0.0066
Neptune	-21856-06-05 01:40 J	-6261325.62	-6261325.43	-6261325.21	0.0089	0.0031
Jupiter	-21856-06-07 23:02 J	-6261322.71	-6261322.54	-6261322.37	0.0533	0.0277
Mars	-21856-06-21 10:48 J	-6261309.13	-6261309.05	-6261308.97	0.1633	0.1432
Uranus	-21856-12-22 23:31 J	-6261124.71	-6261124.52	-6261124.30	0.0132	0.0042
Neptune	-21855-01-16 14:52 J	-6261100.07	-6261099.88	-6261099.66	0.0089	0.0030
Jupiter	-21855-01-31 15:36 J	-6261085.04	-6261084.85	-6261084.67	0.0532	0.0186
Mars	-21855-05-23 12:43 J	-6260973.08	-6260972.97	-6260972.87	0.1885	0.1507
Uranus	-21855-08-06 05:16 J	-6260898.50	-6260898.28	-6260898.06	0.0133	0.0016
Neptune	-21855-08-30 03:50 J	-6260874.53	-6260874.34	-6260874.12	0.0089	0.0030
Saturn	-21855-11-08 22:48 J	-6260803.70	-6260803.55	-6260803.38	0.0261	0.0169
Uranus	-21854-03-20 10:33 J	-6260672.28	-6260672.06	-6260671.84	0.0133	0.0010
Neptune	-21854-04-12 17:16 J	-6260648.99	-6260648.78	-6260648.58	0.0089	0.0030
Saturn	-21854-06-25 17:31 J	-6260574.98	-6260574.77	-6260574.57	0.0261	0.0052
Uranus	-21854-11-01 15:50 J	-6260446.05	-6260445.84	-6260445.63	0.0133	0.0035
Neptune	-21854-11-24 06:00 J	-6260423.45	-6260423.25	-6260423.04	0.0089	0.0030
Saturn	-21853-02-09 12:14 J	-6260346.19	-6260345.99	-6260345.78	0.0261	0.0068
Uranus	-21853-06-14 20:52 J	-6260219.82	-6260219.63	-6260219.43	0.0133	0.0061

Neptune	-21853-07-06 18:57 J	-6260197.91	-6260197.71	-6260197.50	0.0089	0.0029
Saturn	-21853-09-25 07:55 J	-6260117.31	-6260117.17	-6260117.02	0.0262	0.0188
Uranus	-21852-01-27 02:09 J	-6259993.56	-6259993.41	-6259993.23	0.0133	0.0086
Neptune	-21852-02-17 07:55 J	-6259972.37	-6259972.17	-6259971.96	0.0089	0.0029
Uranus	-21852-09-10 07:26 J	-6259767.29	-6259767.19	-6259767.06	0.0133	0.0112
Neptune	-21852-09-30 20:38 J	-6259746.83	-6259746.64	-6259746.42	0.0089	0.0029
Neptune	-21851-05-14 09:36 J	-6259521.30	-6259521.10	-6259520.89	0.0089	0.0029
Neptune	-21851-12-25 22:19 J	-6259295.77	-6259295.57	-6259295.35	0.0089	0.0029
Jupiter	-21850-04-07 20:52 J	-6259192.79	-6259192.63	-6259192.48	0.0493	0.0319
Neptune	-21850-08-08 11:02 J	-6259070.23	-6259070.04	-6259069.82	0.0089	0.0029
Jupiter	-21850-11-30 03:36 J	-6258956.55	-6258956.35	-6258956.14	0.0494	0.0048
Neptune	-21849-03-21 00:14 J	-6258844.69	-6258844.49	-6258844.28	0.0089	0.0028
Jupiter	-21849-07-23 15:50 J	-6258719.95	-6258719.84	-6258719.74	0.0497	0.0420
Neptune	-21849-11-01 12:57 J	-6258619.16	-6258618.96	-6258618.75	0.0089	0.0028
Neptune	-21848-06-15 01:40 J	-6258393.63	-6258393.43	-6258393.22	0.0089	0.0027
Neptune	-21847-01-26 14:38 J	-6258168.10	-6258167.89	-6258167.68	0.0089	0.0027
Neptune	-21847-09-09 03:21 J	-6257942.56	-6257942.36	-6257942.15	0.0089	0.0026
Neptune	-21846-04-22 16:04 J	-6257717.03	-6257716.83	-6257716.61	0.0089	0.0026
Neptune	-21846-12-04 05:02 J	-6257491.50	-6257491.29	-6257491.08	0.0089	0.0026
Neptune	-21845-07-16 17:31 J	-6257265.97	-6257265.77	-6257265.55	0.0089	0.0026
Jupiter	-21844-02-10 12:43 J	-6257057.10	-6257056.97	-6257056.84	0.0534	0.0403
Neptune	-21844-02-27 06:14 J	-6257040.43	-6257040.24	-6257040.02	0.0089	0.0025
Jupiter	-21844-10-06 07:11 J	-6256819.40	-6256819.20	-6256819.00	0.0533	0.0059
Neptune	-21844-10-10 19:11 J	-6256814.90	-6256814.70	-6256814.49	0.0089	0.0024
Neptune	-21843-05-24 07:40 J	-6256589.37	-6256589.18	-6256588.96	0.0089	0.0025
Jupiter	-21843-05-31 19:11 J	-6256581.77	-6256581.70	-6256581.64	0.0529	0.0499
Neptune	-21842-01-04 20:38 J	-6256363.85	-6256363.64	-6256363.43	0.0089	0.0024
Neptune	-21842-08-18 09:07 J	-6256138.32	-6256138.12	-6256137.90	0.0089	0.0024
Neptune	-21841-03-30 22:04 J	-6255912.78	-6255912.58	-6255912.36	0.0089	0.0023
Neptune	-21841-11-11 10:33 J	-6255687.26	-6255687.06	-6255686.84	0.0089	0.0023

Saturn	-21840-04-24 09:50 J	-6255523.17	-6255523.09	-6255523.01	0.0301	0.0277
Neptune	-21840-06-24 23:16 J	-6255461.73	-6255461.53	-6255461.31	0.0089	0.0022
Saturn	-21840-12-10 19:11 J	-6255292.90	-6255292.70	-6255292.49	0.0300	0.0089
Neptune	-21839-02-05 11:45 J	-6255236.21	-6255236.01	-6255235.79	0.0089	0.0022
Saturn	-21839-07-29 03:36 J	-6255062.55	-6255062.35	-6255062.15	0.0300	0.0099
Neptune	-21839-09-19 00:28 J	-6255010.68	-6255010.48	-6255010.26	0.0089	0.0021
Jupiter	-21839-12-11 23:31 J	-6254926.62	-6254926.52	-6254926.40	0.0493	0.0414
Saturn	-21838-03-16 10:19 J	-6254832.14	-6254832.07	-6254832.00	0.0299	0.0281
Neptune	-21838-05-02 13:11 J	-6254785.16	-6254784.95	-6254784.73	0.0089	0.0020
Jupiter	-21838-08-05 05:16 J	-6254690.49	-6254690.28	-6254690.08	0.0493	0.0055
Neptune	-21838-12-14 01:40 J	-6254559.63	-6254559.43	-6254559.21	0.0089	0.0020
Jupiter	-21837-03-28 15:21 J	-6254454.02	-6254453.86	-6254453.70	0.0495	0.0319
Neptune	-21837-07-26 14:23 J	-6254334.11	-6254333.90	-6254333.69	0.0089	0.0019
Neptune	-21836-03-09 02:52 J	-6254108.59	-6254108.38	-6254108.17	0.0089	0.0018
Neptune	-21836-10-20 15:21 J	-6253883.07	-6253882.86	-6253882.64	0.0089	0.0018
Neptune	-21835-06-03 03:50 J	-6253657.55	-6253657.34	-6253657.12	0.0089	0.0017
Neptune	-21834-01-14 16:19 J	-6253432.03	-6253431.82	-6253431.60	0.0089	0.0017
Neptune	-21834-08-28 04:48 J	-6253206.50	-6253206.30	-6253206.08	0.0089	0.0016
Neptune	-21833-04-09 17:31 J	-6252980.98	-6252980.77	-6252980.55	0.0089	0.0015
Jupiter	-21833-10-16 03:21 J	-6252791.39	-6252791.36	-6252791.32	0.0534	0.0525
Neptune	-21833-11-21 06:00 J	-6252755.46	-6252755.25	-6252755.03	0.0089	0.0015
Jupiter	-21832-06-10 23:45 J	-6252553.71	-6252553.51	-6252553.31	0.0534	0.0069
Neptune	-21832-07-04 18:28 J	-6252529.94	-6252529.73	-6252529.51	0.0089	0.0014
Jupiter	-21831-02-03 13:55 J	-6252316.05	-6252315.92	-6252315.78	0.0531	0.0385
Neptune	-21831-02-15 06:57 J	-6252304.42	-6252304.21	-6252303.99	0.0089	0.0013
Neptune	-21831-09-28 19:40 J	-6252078.90	-6252078.68	-6252078.47	0.0089	0.0013
Neptune	-21830-05-12 08:09 J	-6251853.37	-6251853.16	-6251852.94	0.0089	0.0012
Neptune	-21830-12-23 20:38 J	-6251627.85	-6251627.64	-6251627.42	0.0089	0.0012
Neptune	-21829-08-05 09:07 J	-6251402.33	-6251402.12	-6251401.90	0.0089	0.0011
Neptune	-21828-03-18 21:36 J	-6251176.81	-6251176.60	-6251176.38	0.0089	0.0010

Neptune	-21828-10-30 10:04 J	-6250951.29	-6250951.08	-6250950.86	0.0089	0.0009
Neptune	-21827-06-12 22:33 J	-6250725.77	-6250725.56	-6250725.34	0.0089	0.0008
Neptune	-21826-01-24 10:48 J	-6250500.26	-6250500.05	-6250499.83	0.0089	0.0008
Jupiter	-21826-04-10 06:43 J	-6250424.42	-6250424.22	-6250424.03	0.0493	0.0156
Mars	-21826-08-20 22:19 J	-6250291.68	-6250291.57	-6250291.46	0.1644	0.1235
Neptune	-21826-09-06 23:16 J	-6250274.74	-6250274.53	-6250274.31	0.0089	0.0007
Jupiter	-21826-12-02 15:07 J	-6250188.06	-6250187.87	-6250187.69	0.0494	0.0216
Neptune	-21825-04-19 11:45 J	-6250049.22	-6250049.01	-6250048.79	0.0089	0.0007
Saturn	-21825-05-20 23:31 J	-6250017.68	-6250017.52	-6250017.35	0.0261	0.0154
Neptune	-21825-12-01 00:14 J	-6249823.71	-6249823.49	-6249823.28	0.0089	0.0006
Saturn	-21824-01-04 17:45 J	-6249788.97	-6249788.76	-6249788.55	0.0261	0.0036
Mars	-21824-06-20 02:38 J	-6249622.55	-6249622.39	-6249622.23	0.1636	0.0581
Neptune	-21824-07-14 12:28 J	-6249598.19	-6249597.98	-6249597.76	0.0089	0.0005
Saturn	-21824-08-21 12:28 J	-6249560.18	-6249559.98	-6249559.78	0.0261	0.0083
Neptune	-21823-02-25 00:57 J	-6249372.68	-6249372.46	-6249372.25	0.0089	0.0004
Saturn	-21823-04-07 08:09 J	-6249331.29	-6249331.16	-6249331.03	0.0262	0.0203
Mars	-21823-05-23 15:36 J	-6249285.03	-6249284.85	-6249284.68	0.1880	0.0320
Neptune	-21823-10-08 13:11 J	-6249147.16	-6249146.95	-6249146.73	0.0089	0.0003
Neptune	-21822-05-22 01:40 J	-6248921.64	-6248921.43	-6248921.21	0.0089	0.0003
Neptune	-21821-01-02 14:09 J	-6248696.13	-6248695.91	-6248695.70	0.0089	0.0002
Neptune	-21821-08-15 02:23 J	-6248470.61	-6248470.40	-6248470.18	0.0089	0.0001
Jupiter	-21820-02-13 16:33 J	-6248288.00	-6248287.81	-6248287.62	0.0534	0.0195
Neptune	-21820-03-28 14:52 J	-6248245.10	-6248244.88	-6248244.67	0.0089	0.0001
Jupiter	-21820-10-09 08:52 J	-6248050.30	-6248050.13	-6248049.96	0.0532	0.0267
Neptune	-21820-11-09 03:07 J	-6248019.58	-6248019.37	-6248019.15	0.0089	0.0001
Moon	-21819-05-01 17:45 J	-6247845.92	-6247845.76	-6247845.60	0.2711	0.0114
Earth	-21819-05-01 23:45 J	-6247845.67	-6247845.51	-6247845.36	0.2713	0.0864 *
Neptune	-21819-06-22 15:36 J	-6247794.06	-6247793.85	-6247793.63	0.0089	0.0001
Neptune	-21818-02-03 04:04 J	-6247568.55	-6247568.33	-6247568.12	0.0089	0.0002
Neptune	-21818-09-16 16:19 J	-6247343.03	-6247342.82	-6247342.60	0.0089	0.0003

Neptune	-21817-04-29 04:48 J	-6247117.51	-6247117.30	-6247117.08	0.0089	0.0004
Neptune	-21817-12-10 17:16 J	-6246892.00	-6246891.78	-6246891.56	0.0089	0.0004
Neptune	-21816-07-24 05:31 J	-6246666.48	-6246666.27	-6246666.05	0.0089	0.0005
Uranus	-21816-08-21 01:40 J	-6246638.53	-6246638.43	-6246638.30	0.0146	0.0121
Neptune	-21815-03-06 17:45 J	-6246440.97	-6246440.76	-6246440.54	0.0089	0.0006
Uranus	-21815-04-04 13:55 J	-6246412.08	-6246411.92	-6246411.74	0.0146	0.0088
Neptune	-21815-10-18 06:14 J	-6246215.45	-6246215.24	-6246215.02	0.0089	0.0006
Uranus	-21815-11-17 02:23 J	-6246185.60	-6246185.40	-6246185.20	0.0146	0.0054
Jupiter	-21815-12-14 09:07 J	-6246158.30	-6246158.12	-6246157.95	0.0492	0.0255
Neptune	-21814-05-31 18:43 J	-6245989.93	-6245989.72	-6245989.50	0.0089	0.0007
Uranus	-21814-07-01 14:38 J	-6245959.10	-6245958.89	-6245958.67	0.0146	0.0021
Jupiter	-21814-08-07 16:04 J	-6245922.02	-6245921.83	-6245921.62	0.0494	0.0115
Neptune	-21813-01-12 06:57 J	-6245764.42	-6245764.21	-6245763.99	0.0089	0.0008
Uranus	-21813-02-13 02:52 J	-6245732.59	-6245732.38	-6245732.16	0.0146	0.0014
Jupiter	-21813-03-31 05:02 J	-6245685.33	-6245685.29	-6245685.24	0.0497	0.0484
Neptune	-21813-08-24 19:11 J	-6245538.91	-6245538.70	-6245538.48	0.0089	0.0009
Uranus	-21813-09-26 15:07 J	-6245506.07	-6245505.87	-6245505.66	0.0146	0.0047
Neptune	-21812-04-07 07:40 J	-6245313.39	-6245313.18	-6245312.96	0.0089	0.0009
Uranus	-21812-05-11 03:07 J	-6245279.54	-6245279.37	-6245279.18	0.0146	0.0080
Neptune	-21812-11-18 19:55 J	-6245087.88	-6245087.67	-6245087.45	0.0089	0.0010
Uranus	-21812-12-23 15:07 J	-6245052.99	-6245052.87	-6245052.72	0.0145	0.0114
Neptune	-21811-07-02 08:23 J	-6244862.36	-6244862.15	-6244861.93	0.0089	0.0011
Saturn	-21811-11-04 10:04 J	-6244737.18	-6244737.08	-6244736.97	0.0300	0.0261
Neptune	-21810-02-12 20:38 J	-6244636.85	-6244636.64	-6244636.42	0.0089	0.0011
Saturn	-21810-06-22 19:26 J	-6244506.90	-6244506.69	-6244506.48	0.0300	0.0074
Neptune	-21810-09-26 09:07 J	-6244411.34	-6244411.12	-6244410.91	0.0089	0.0012
Saturn	-21809-02-08 03:36 J	-6244276.54	-6244276.35	-6244276.15	0.0300	0.0115
Neptune	-21809-05-08 21:21 J	-6244185.82	-6244185.61	-6244185.39	0.0089	0.0013
Saturn	-21809-09-25 10:33 J	-6244046.09	-6244046.06	-6244046.04	0.0299	0.0296
Jupiter	-21809-10-19 08:23 J	-6244022.31	-6244022.15	-6244021.99	0.0534	0.0321

Neptune -21809-12-20 09:50 J -6243960.30 -6243960.09 -6243959.88 0.0089 0.0013
 Jupiter -21808-06-14 01:40 J -6243784.62 -6243784.43 -6243784.24 0.0532 0.0142
 Neptune -21808-08-02 22:04 J -6243734.79 -6243734.58 -6243734.36 0.0089 0.0014
 Neptune -21807-03-16 10:19 J -6243509.28 -6243509.07 -6243508.85 0.0089 0.0015
 Neptune -21807-10-27 22:48 J -6243283.76 -6243283.55 -6243283.33 0.0089 0.0015
 Neptune -21806-06-10 11:31 J -6243058.23 -6243058.02 -6243057.81 0.0089 0.0016
 Neptune -21805-01-21 23:45 J -6242832.71 -6242832.51 -6242832.29 0.0089 0.0017
 Neptune -21805-09-03 12:14 J -6242607.20 -6242606.99 -6242606.77 0.0089 0.0017
 Neptune -21804-04-17 00:43 J -6242381.68 -6242381.47 -6242381.26 0.0089 0.0018
 Neptune -21804-11-28 12:57 J -6242156.16 -6242155.96 -6242155.74 0.0089 0.0019
 Neptune -21803-07-12 01:40 J -6241930.64 -6241930.43 -6241930.21 0.0089 0.0019
 Jupiter -21803-08-19 09:50 J -6241892.23 -6241892.09 -6241891.95 0.0493 0.0353
 Neptune -21802-02-22 14:09 J -6241705.12 -6241704.91 -6241704.70 0.0089 0.0020
 Jupiter -21802-04-12 16:19 J -6241656.03 -6241655.82 -6241655.61 0.0494 0.0012
 Neptune -21802-10-06 02:23 J -6241479.60 -6241479.40 -6241479.18 0.0089 0.0021
 Jupiter -21802-12-05 04:04 J -6241419.46 -6241419.33 -6241419.20 0.0496 0.0385
 Neptune -21801-05-18 15:07 J -6241254.08 -6241253.87 -6241253.66 0.0089 0.0021
 Neptune -21801-12-30 03:21 J -6241028.56 -6241028.36 -6241028.14 0.0089 0.0022
 Neptune -21800-08-12 15:36 J -6240803.05 -6240802.85 -6240802.62 0.0089 0.0023
 Neptune -21799-03-26 04:19 J -6240577.53 -6240577.32 -6240577.11 0.0089 0.0023
 Pluto -21799-10-12 02:52 J -6240377.45 -6240377.38 -6240377.25 0.0064 0.0057
 Neptune -21799-11-06 16:33 J -6240352.01 -6240351.81 -6240351.59 0.0088 0.0024
 Pluto -21798-05-25 06:57 J -6240152.40 -6240152.21 -6240151.99 0.0064 0.0022
 Neptune -21798-06-20 05:16 J -6240126.48 -6240126.28 -6240126.06 0.0088 0.0024
 Pluto -21797-01-05 10:48 J -6239927.25 -6239927.05 -6239926.83 0.0064 0.0016
 Neptune -21797-01-31 17:45 J -6239900.96 -6239900.76 -6239900.54 0.0088 0.0024
 Jupiter -21797-06-23 23:16 J -6239756.64 -6239756.53 -6239756.42 0.0533 0.0444
 Pluto -21797-08-17 14:38 J -6239702.01 -6239701.89 -6239701.76 0.0065 0.0052
 Neptune -21797-09-13 06:14 J -6239675.45 -6239675.24 -6239675.03 0.0088 0.0025
 Jupiter -21796-02-16 18:00 J -6239518.95 -6239518.75 -6239518.55 0.0533 0.0019

Saturn	-21796-04-16 08:23 J	-6239460.19	-6239460.15	-6239460.10	0.0261	0.0254
Neptune	-21796-04-26 18:28 J	-6239449.93	-6239449.73	-6239449.51	0.0088	0.0026
Jupiter	-21796-10-12 06:14 J	-6239281.33	-6239281.24	-6239281.14	0.0529	0.0459
Saturn	-21796-12-01 02:23 J	-6239231.58	-6239231.40	-6239231.22	0.0261	0.0137
Neptune	-21796-12-08 07:11 J	-6239224.41	-6239224.20	-6239223.99	0.0088	0.0026
Saturn	-21795-07-17 20:52 J	-6239002.84	-6239002.63	-6239002.42	0.0261	0.0019
Neptune	-21795-07-21 19:40 J	-6238998.88	-6238998.68	-6238998.46	0.0088	0.0027
Saturn	-21794-03-03 16:04 J	-6238774.03	-6238773.83	-6238773.64	0.0262	0.0101
Neptune	-21794-03-04 08:23 J	-6238773.35	-6238773.15	-6238772.94	0.0088	0.0027
Neptune	-21794-10-15 20:52 J	-6238547.83	-6238547.63	-6238547.41	0.0088	0.0027
Saturn	-21794-10-18 11:31 J	-6238545.12	-6238545.02	-6238544.89	0.0262	0.0222
Neptune	-21793-05-28 09:36 J	-6238322.30	-6238322.10	-6238321.89	0.0088	0.0027
Neptune	-21792-01-08 22:19 J	-6238096.78	-6238096.57	-6238096.36	0.0088	0.0028
Mars	-21792-06-18 18:43 J	-6237935.89	-6237935.72	-6237935.55	0.1639	0.0284
Neptune	-21792-08-22 10:48 J	-6237871.25	-6237871.05	-6237870.83	0.0088	0.0028
Neptune	-21791-04-04 23:31 J	-6237645.72	-6237645.52	-6237645.31	0.0088	0.0029
Jupiter	-21791-04-24 12:28 J	-6237626.07	-6237625.98	-6237625.90	0.0493	0.0446
Neptune	-21791-11-16 12:00 J	-6237420.20	-6237420.00	-6237419.78	0.0088	0.0029
Jupiter	-21791-12-16 17:45 J	-6237389.96	-6237389.76	-6237389.56	0.0493	0.0090
Mars	-21790-04-18 23:45 J	-6237266.57	-6237266.51	-6237266.44	0.1632	0.1502
Neptune	-21790-06-30 00:57 J	-6237194.66	-6237194.46	-6237194.25	0.0088	0.0029
Jupiter	-21790-08-10 03:50 J	-6237153.51	-6237153.34	-6237153.17	0.0495	0.0285
Neptune	-21789-02-10 13:40 J	-6236969.14	-6236968.93	-6236968.72	0.0088	0.0030
Mars	-21789-03-19 14:38 J	-6236930.93	-6236930.89	-6236930.84	0.1886	0.1809
Neptune	-21789-09-23 02:09 J	-6236743.61	-6236743.41	-6236743.20	0.0088	0.0030
Neptune	-21788-05-06 14:38 J	-6236518.08	-6236517.89	-6236517.67	0.0088	0.0031
Neptune	-21788-12-18 03:36 J	-6236292.56	-6236292.35	-6236292.15	0.0088	0.0031
Neptune	-21787-07-31 16:04 J	-6236067.02	-6236066.83	-6236066.61	0.0088	0.0031
Neptune	-21786-03-14 04:48 J	-6235841.49	-6235841.30	-6235841.08	0.0088	0.0032
Neptune	-21786-10-25 17:31 J	-6235615.97	-6235615.77	-6235615.56	0.0088	0.0032

Neptune -21785-06-07 06:28 J -6235390.44 -6235390.23 -6235390.03 0.0088 0.0032
 Jupiter -21785-10-22 08:23 J -6235253.34 -6235253.15 -6235252.95 0.0533 0.0115
 Neptune -21784-01-18 18:43 J -6235164.91 -6235164.72 -6235164.50 0.0088 0.0032
 Jupiter -21784-06-16 23:02 J -6235015.69 -6235015.54 -6235015.39 0.0531 0.0342
 Neptune -21784-09-01 07:40 J -6234939.38 -6234939.18 -6234938.97 0.0088 0.0032
 Neptune -21783-04-14 20:23 J -6234713.84 -6234713.65 -6234713.44 0.0088 0.0032
 Neptune -21783-11-26 09:21 J -6234488.31 -6234488.11 -6234487.90 0.0088 0.0032
 Neptune -21782-07-09 22:19 J -6234262.78 -6234262.57 -6234262.37 0.0088 0.0032
 Neptune -21781-02-20 10:48 J -6234037.24 -6234037.05 -6234036.83 0.0088 0.0033
 Saturn -21781-05-16 18:00 J -6233950.88 -6233950.75 -6233950.61 0.0301 0.0234
 Neptune -21781-10-02 23:31 J -6233811.71 -6233811.52 -6233811.30 0.0088 0.0033
 Saturn -21780-01-02 03:21 J -6233720.57 -6233720.36 -6233720.15 0.0300 0.0045
 Neptune -21780-05-16 12:28 J -6233586.17 -6233585.98 -6233585.76 0.0088 0.0033
 Saturn -21780-08-20 11:16 J -6233490.21 -6233490.03 -6233489.84 0.0300 0.0143
 Neptune -21780-12-28 01:26 J -6233360.64 -6233360.44 -6233360.23 0.0088 0.0033
 Neptune -21779-08-10 14:23 J -6233135.09 -6233134.90 -6233134.68 0.0088 0.0033
 Jupiter -21779-08-21 19:55 J -6233123.86 -6233123.67 -6233123.48 0.0493 0.0190
 Neptune -21778-03-24 03:21 J -6232909.55 -6232909.36 -6232909.14 0.0088 0.0033
 Jupiter -21778-04-15 04:04 J -6232887.52 -6232887.33 -6232887.13 0.0494 0.0183
 Neptune -21778-11-04 16:19 J -6232684.01 -6232683.82 -6232683.61 0.0088 0.0033
 Neptune -21777-06-17 05:16 J -6232458.48 -6232458.28 -6232458.07 0.0088 0.0033
 Neptune -21776-01-28 18:00 J -6232232.94 -6232232.75 -6232232.53 0.0088 0.0033
 Neptune -21776-09-11 07:11 J -6232007.40 -6232007.20 -6232006.99 0.0088 0.0033
 Neptune -21775-04-24 20:09 J -6231781.86 -6231781.66 -6231781.45 0.0088 0.0033
 Neptune -21775-12-06 08:52 J -6231556.32 -6231556.13 -6231555.91 0.0088 0.0033
 Neptune -21774-07-19 22:04 J -6231330.78 -6231330.58 -6231330.37 0.0088 0.0033
 Uranus -21774-10-13 17:02 J -6231244.84 -6231244.79 -6231244.73 0.0132 0.0127
 Neptune -21773-03-01 11:02 J -6231105.24 -6231105.04 -6231104.82 0.0088 0.0033
 Uranus -21773-05-26 22:19 J -6231018.70 -6231018.57 -6231018.42 0.0132 0.0103
 Jupiter -21773-06-26 23:45 J -6230987.68 -6230987.51 -6230987.33 0.0534 0.0243

Neptune	-21773-10-12 23:45 J	-6230879.70	-6230879.51	-6230879.28	0.0088	0.0033
Uranus	-21772-01-08 03:50 J	-6230792.51	-6230792.34	-6230792.15	0.0132	0.0078
Jupiter	-21772-02-19 16:48 J	-6230749.98	-6230749.80	-6230749.62	0.0532	0.0221
Neptune	-21772-05-26 13:11 J	-6230654.16	-6230653.95	-6230653.74	0.0088	0.0032
Uranus	-21772-08-22 09:07 J	-6230566.31	-6230566.12	-6230565.91	0.0132	0.0053
Neptune	-21771-01-07 02:09 J	-6230428.61	-6230428.41	-6230428.20	0.0088	0.0032
Uranus	-21771-04-05 14:38 J	-6230340.10	-6230339.89	-6230339.67	0.0132	0.0027
Neptune	-21771-08-20 15:07 J	-6230203.06	-6230202.87	-6230202.65	0.0088	0.0032
Uranus	-21771-11-17 19:55 J	-6230113.89	-6230113.67	-6230113.45	0.0133	0.0001
Neptune	-21770-04-03 04:19 J	-6229977.52	-6229977.32	-6229977.10	0.0088	0.0032
Uranus	-21770-07-02 01:11 J	-6229887.67	-6229887.45	-6229887.23	0.0133	0.0024
Neptune	-21770-11-14 17:16 J	-6229751.97	-6229751.78	-6229751.56	0.0088	0.0032
Uranus	-21769-02-13 06:14 J	-6229661.43	-6229661.24	-6229661.02	0.0133	0.0050
Neptune	-21769-06-27 06:43 J	-6229526.43	-6229526.22	-6229526.01	0.0088	0.0031
Uranus	-21769-09-26 11:31 J	-6229435.19	-6229435.02	-6229434.83	0.0133	0.0075
Neptune	-21768-02-07 19:40 J	-6229300.88	-6229300.68	-6229300.47	0.0088	0.0031
Uranus	-21768-05-10 16:48 J	-6229208.93	-6229208.80	-6229208.65	0.0133	0.0101
Neptune	-21768-09-21 08:52 J	-6229075.33	-6229075.13	-6229074.91	0.0088	0.0031
Uranus	-21768-12-22 22:19 J	-6228982.64	-6228982.57	-6228982.50	0.0133	0.0126
Jupiter	-21767-04-26 21:50 J	-6228857.75	-6228857.59	-6228857.42	0.0492	0.0289
Neptune	-21767-05-04 22:04 J	-6228849.78	-6228849.58	-6228849.36	0.0088	0.0031
Saturn	-21767-10-27 10:04 J	-6228674.16	-6228674.08	-6228673.99	0.0261	0.0238
Neptune	-21767-12-16 11:31 J	-6228624.23	-6228624.02	-6228623.81	0.0088	0.0030
Jupiter	-21767-12-19 04:33 J	-6228621.52	-6228621.31	-6228621.11	0.0493	0.0078
Saturn	-21766-06-13 04:19 J	-6228445.51	-6228445.32	-6228445.14	0.0261	0.0121
Neptune	-21766-07-30 00:43 J	-6228398.68	-6228398.47	-6228398.26	0.0088	0.0030
Jupiter	-21766-08-12 16:19 J	-6228384.90	-6228384.82	-6228384.73	0.0497	0.0449
Saturn	-21765-01-27 22:33 J	-6228216.77	-6228216.56	-6228216.35	0.0261	0.0002
Neptune	-21765-03-11 13:40 J	-6228173.12	-6228172.93	-6228172.70	0.0088	0.0030
Saturn	-21765-09-12 17:16 J	-6227987.96	-6227987.78	-6227987.59	0.0262	0.0118

Neptune -21765-10-23 03:21 J -6227947.57 -6227947.36 -6227947.15 0.0088 0.0029
 Saturn -21764-04-29 13:11 J -6227759.04 -6227758.95 -6227758.86 0.0262 0.0238
 Neptune -21764-06-05 16:19 J -6227722.02 -6227721.82 -6227721.60 0.0088 0.0029
 Neptune -21763-01-17 05:31 J -6227496.47 -6227496.27 -6227496.05 0.0088 0.0029
 Neptune -21763-08-30 19:11 J -6227270.91 -6227270.70 -6227270.49 0.0088 0.0028
 Neptune -21762-04-13 08:23 J -6227045.36 -6227045.15 -6227044.93 0.0088 0.0028
 Neptune -21762-11-24 21:50 J -6226819.80 -6226819.59 -6226819.38 0.0088 0.0027
 Jupiter -21761-03-01 15:50 J -6226721.98 -6226721.84 -6226721.69 0.0534 0.0368
 Neptune -21761-07-07 10:48 J -6226594.25 -6226594.05 -6226593.83 0.0088 0.0027
 Jupiter -21761-10-25 10:33 J -6226484.26 -6226484.06 -6226483.86 0.0533 0.0097
 Neptune -21760-02-18 00:00 J -6226368.70 -6226368.50 -6226368.27 0.0088 0.0027
 Mars -21760-06-17 10:48 J -6226249.17 -6226249.05 -6226248.93 0.1643 0.1151
 Neptune -21760-10-01 13:40 J -6226143.14 -6226142.93 -6226142.71 0.0088 0.0026
 Neptune -21759-05-15 02:52 J -6225917.58 -6225917.38 -6225917.16 0.0088 0.0026
 Neptune -21759-12-26 16:19 J -6225692.03 -6225691.82 -6225691.60 0.0088 0.0025
 Mars -21758-04-17 15:36 J -6225580.00 -6225579.85 -6225579.69 0.1635 0.0652
 Neptune -21758-08-09 05:31 J -6225466.47 -6225466.27 -6225466.04 0.0088 0.0025
 Mars -21757-03-19 17:16 J -6225242.96 -6225242.78 -6225242.60 0.1881 0.0012
 Neptune -21757-03-21 18:57 J -6225240.92 -6225240.71 -6225240.48 0.0088 0.0024
 Neptune -21757-11-02 08:23 J -6225015.35 -6225015.15 -6225014.92 0.0088 0.0024
 Neptune -21756-06-15 21:50 J -6224789.80 -6224789.59 -6224789.36 0.0088 0.0023
 Jupiter -21756-12-31 00:28 J -6224591.61 -6224591.48 -6224591.35 0.0493 0.0384
 Neptune -21755-01-27 11:31 J -6224564.24 -6224564.02 -6224563.80 0.0088 0.0022
 Jupiter -21755-08-24 06:00 J -6224355.45 -6224355.25 -6224355.04 0.0493 0.0024
 Neptune -21755-09-10 00:57 J -6224338.67 -6224338.46 -6224338.23 0.0088 0.0022
 Jupiter -21754-04-17 16:19 J -6224118.96 -6224118.82 -6224118.67 0.0496 0.0350
 Neptune -21754-04-23 14:38 J -6224113.11 -6224112.89 -6224112.67 0.0088 0.0021
 Neptune -21754-12-05 03:50 J -6223887.54 -6223887.34 -6223887.11 0.0088 0.0021
 Neptune -21753-07-17 17:31 J -6223661.98 -6223661.77 -6223661.55 0.0088 0.0020
 Neptune -21752-02-28 07:11 J -6223436.42 -6223436.20 -6223435.98 0.0088 0.0019

Neptune	-21752-10-11 20:38 J	-6223210.85	-6223210.64	-6223210.41	0.0088	0.0019
Saturn	-21752-11-26 19:55 J	-6223164.82	-6223164.67	-6223164.52	0.0300	0.0216
Neptune	-21751-05-25 10:19 J	-6222985.29	-6222985.07	-6222984.85	0.0088	0.0018
Saturn	-21751-07-15 05:02 J	-6222934.51	-6222934.29	-6222934.08	0.0300	0.0028
Neptune	-21750-01-05 23:45 J	-6222759.72	-6222759.51	-6222759.28	0.0088	0.0018
Saturn	-21750-03-02 12:43 J	-6222704.14	-6222703.97	-6222703.78	0.0299	0.0160
Neptune	-21750-08-19 13:11 J	-6222534.16	-6222533.95	-6222533.72	0.0088	0.0017
Jupiter	-21750-11-05 07:26 J	-6222456.26	-6222456.19	-6222456.10	0.0533	0.0488
Neptune	-21749-04-01 02:52 J	-6222308.60	-6222308.38	-6222308.16	0.0088	0.0016
Jupiter	-21749-06-30 03:07 J	-6222218.57	-6222218.37	-6222218.16	0.0533	0.0032
Neptune	-21749-11-12 16:33 J	-6222083.03	-6222082.81	-6222082.59	0.0088	0.0015
Jupiter	-21748-02-22 16:33 J	-6221980.93	-6221980.81	-6221980.69	0.0530	0.0419
Neptune	-21748-06-26 06:00 J	-6221857.47	-6221857.25	-6221857.03	0.0088	0.0015
Neptune	-21747-02-06 19:26 J	-6221631.91	-6221631.69	-6221631.46	0.0088	0.0014
Neptune	-21747-09-20 09:07 J	-6221406.34	-6221406.12	-6221405.89	0.0088	0.0013
Neptune	-21746-05-03 22:48 J	-6221180.77	-6221180.55	-6221180.33	0.0088	0.0012
Neptune	-21746-12-15 12:14 J	-6220955.21	-6220954.99	-6220954.76	0.0088	0.0012
Neptune	-21745-07-28 01:40 J	-6220729.64	-6220729.43	-6220729.20	0.0088	0.0011
Neptune	-21744-03-10 15:21 J	-6220504.08	-6220503.86	-6220503.63	0.0088	0.0010
Jupiter	-21744-09-05 00:57 J	-6220325.50	-6220325.46	-6220325.41	0.0493	0.0480
Neptune	-21744-10-22 05:16 J	-6220278.50	-6220278.28	-6220278.06	0.0088	0.0009
Jupiter	-21743-04-29 06:00 J	-6220089.45	-6220089.25	-6220089.05	0.0493	0.0126
Neptune	-21743-06-04 18:57 J	-6220052.94	-6220052.71	-6220052.49	0.0088	0.0009
Jupiter	-21743-12-21 15:21 J	-6219853.04	-6219852.86	-6219852.68	0.0495	0.0248
Neptune	-21742-01-16 08:23 J	-6219827.37	-6219827.15	-6219826.92	0.0088	0.0008
Neptune	-21742-08-29 22:04 J	-6219601.80	-6219601.58	-6219601.35	0.0088	0.0007
Neptune	-21741-04-11 11:45 J	-6219376.23	-6219376.01	-6219375.78	0.0088	0.0006
Neptune	-21741-11-23 01:40 J	-6219150.66	-6219150.43	-6219150.21	0.0088	0.0005
Neptune	-21740-07-06 15:21 J	-6218925.09	-6218924.86	-6218924.64	0.0088	0.0005
Neptune	-21739-02-17 05:02 J	-6218699.52	-6218699.29	-6218699.07	0.0088	0.0004

Neptune -21739-09-30 18:43 J -6218473.94 -6218473.72 -6218473.49 0.0088 0.0003
 Neptune -21738-05-14 08:23 J -6218248.37 -6218248.15 -6218247.92 0.0088 0.0002
 Neptune -21738-12-25 22:04 J -6218022.80 -6218022.58 -6218022.35 0.0088 0.0002
 Jupiter -21737-03-04 18:57 J -6217952.90 -6217952.71 -6217952.52 0.0533 0.0158
 Saturn -21737-05-08 12:57 J -6217888.06 -6217887.96 -6217887.84 0.0261 0.0221
 Neptune -21737-08-07 11:45 J -6217797.24 -6217797.01 -6217796.79 0.0088 0.0001
 Jupiter -21737-10-28 09:50 J -6217715.25 -6217715.09 -6217714.92 0.0531 0.0300
 Saturn -21737-12-23 07:26 J -6217659.38 -6217659.19 -6217659.00 0.0261 0.0104
 Neptune -21736-03-21 01:26 J -6217571.67 -6217571.44 -6217571.22 0.0088 0.0001
 Saturn -21736-08-09 01:55 J -6217430.63 -6217430.42 -6217430.21 0.0261 0.0016
 Neptune -21736-11-01 15:07 J -6217346.09 -6217345.87 -6217345.64 0.0088 0.0001
 Saturn -21735-03-25 21:07 J -6217201.80 -6217201.62 -6217201.44 0.0262 0.0136
 Neptune -21735-06-15 04:48 J -6217120.52 -6217120.30 -6217120.07 0.0088 0.0002
 Saturn -21735-11-09 17:02 J -6216972.82 -6216972.79 -6216972.73 0.0262 0.0256
 Neptune -21734-01-26 18:28 J -6216894.96 -6216894.73 -6216894.51 0.0088 0.0003
 Neptune -21734-09-09 07:55 J -6216669.39 -6216669.17 -6216668.94 0.0088 0.0004
 Neptune -21733-04-21 21:36 J -6216443.82 -6216443.60 -6216443.37 0.0088 0.0005
 Neptune -21733-12-03 11:31 J -6216218.25 -6216218.02 -6216217.80 0.0088 0.0005
 Uranus -21732-04-20 06:28 J -6216080.28 -6216080.23 -6216080.15 0.0146 0.0138
 Neptune -21732-07-17 01:11 J -6215992.68 -6215992.45 -6215992.23 0.0088 0.0006
 Uranus -21732-12-02 18:57 J -6215853.86 -6215853.71 -6215853.56 0.0146 0.0105
 Jupiter -21731-01-02 07:40 J -6215823.36 -6215823.18 -6215822.99 0.0493 0.0225
 Neptune -21731-02-27 14:52 J -6215767.11 -6215766.88 -6215766.66 0.0088 0.0007
 Uranus -21731-07-17 07:11 J -6215627.38 -6215627.20 -6215627.00 0.0146 0.0071
 Jupiter -21731-08-26 15:50 J -6215587.04 -6215586.84 -6215586.64 0.0494 0.0146
 Neptune -21731-10-11 04:33 J -6215541.53 -6215541.31 -6215541.09 0.0088 0.0007
 Uranus -21730-02-28 19:26 J -6215400.89 -6215400.69 -6215400.47 0.0146 0.0038
 Neptune -21730-05-24 18:14 J -6215315.96 -6215315.74 -6215315.51 0.0088 0.0008
 Uranus -21730-10-13 07:40 J -6215174.39 -6215174.18 -6215173.96 0.0146 0.0004
 Neptune -21729-01-05 07:55 J -6215090.39 -6215090.17 -6215089.94 0.0088 0.0009

Uranus	-21729-05-26 19:55 J	-6214947.88	-6214947.67	-6214947.46	0.0146	0.0030
Neptune	-21729-08-17 21:50 J	-6214864.82	-6214864.59	-6214864.37	0.0088	0.0010
Uranus	-21728-01-08 08:09 J	-6214721.35	-6214721.16	-6214720.97	0.0146	0.0064
Neptune	-21728-03-31 11:16 J	-6214639.25	-6214639.03	-6214638.80	0.0088	0.0011
Uranus	-21728-08-22 20:09 J	-6214494.81	-6214494.66	-6214494.49	0.0146	0.0098
Neptune	-21728-11-12 01:11 J	-6214413.67	-6214413.45	-6214413.22	0.0089	0.0012
Uranus	-21727-04-06 08:23 J	-6214268.23	-6214268.15	-6214268.05	0.0145	0.0131
Neptune	-21727-06-25 14:52 J	-6214188.09	-6214187.88	-6214187.65	0.0089	0.0013
Neptune	-21726-02-06 04:33 J	-6213962.52	-6213962.31	-6213962.08	0.0089	0.0013
Mars	-21726-04-16 07:26 J	-6213893.36	-6213893.19	-6213893.02	0.1638	0.0205
Neptune	-21726-09-19 18:28 J	-6213736.95	-6213736.73	-6213736.51	0.0089	0.0014
Jupiter	-21726-11-08 08:09 J	-6213687.33	-6213687.16	-6213686.99	0.0533	0.0288
Mars	-21725-03-19 19:40 J	-6213554.72	-6213554.68	-6213554.63	0.1876	0.1812
Neptune	-21725-05-02 07:55 J	-6213511.38	-6213511.17	-6213510.94	0.0089	0.0015
Jupiter	-21725-07-03 01:11 J	-6213449.64	-6213449.45	-6213449.26	0.0532	0.0176
Neptune	-21725-12-13 21:50 J	-6213285.81	-6213285.59	-6213285.37	0.0089	0.0015
Mars	-21724-02-13 12:28 J	-6213224.02	-6213223.98	-6213223.94	0.1632	0.1577
Neptune	-21724-07-27 11:31 J	-6213060.24	-6213060.02	-6213059.80	0.0089	0.0016
Neptune	-21723-03-10 00:57 J	-6212834.67	-6212834.46	-6212834.23	0.0089	0.0017
Neptune	-21723-10-21 14:38 J	-6212609.10	-6212608.89	-6212608.67	0.0089	0.0018
Neptune	-21722-06-04 04:04 J	-6212383.54	-6212383.33	-6212383.10	0.0089	0.0019
Saturn	-21722-06-09 04:33 J	-6212378.47	-6212378.31	-6212378.14	0.0301	0.0187
Neptune	-21721-01-15 18:00 J	-6212157.96	-6212157.75	-6212157.53	0.0089	0.0019
Saturn	-21721-01-25 13:40 J	-6212148.14	-6212147.93	-6212147.72	0.0300	0.0002
Neptune	-21721-08-28 07:26 J	-6211932.40	-6211932.19	-6211931.96	0.0089	0.0020
Saturn	-21721-09-11 21:21 J	-6211917.77	-6211917.61	-6211917.44	0.0300	0.0190
Neptune	-21720-04-10 20:52 J	-6211706.83	-6211706.63	-6211706.40	0.0089	0.0021
Jupiter	-21720-09-07 10:19 J	-6211557.22	-6211557.07	-6211556.91	0.0493	0.0323
Neptune	-21720-11-22 10:48 J	-6211481.26	-6211481.05	-6211480.83	0.0089	0.0021
Jupiter	-21719-05-01 17:02 J	-6211321.00	-6211320.79	-6211320.59	0.0494	0.0044

Neptune -21719-07-06 00:28 J -6211255.69 -6211255.48 -6211255.26 0.0089 0.0022
 Jupiter -21719-12-24 04:19 J -6211084.42 -6211084.32 -6211084.20 0.0496 0.0416
 Neptune -21718-02-16 13:55 J -6211030.12 -6211029.92 -6211029.69 0.0089 0.0023
 Neptune -21718-09-30 03:36 J -6210804.56 -6210804.35 -6210804.13 0.0089 0.0023
 Neptune -21717-05-12 17:16 J -6210578.99 -6210578.78 -6210578.56 0.0089 0.0024
 Neptune -21717-12-24 06:43 J -6210353.42 -6210353.22 -6210352.99 0.0089 0.0025
 Neptune -21716-08-06 20:38 J -6210127.85 -6210127.64 -6210127.42 0.0089 0.0025
 Neptune -21715-03-20 10:04 J -6209902.28 -6209902.08 -6209901.86 0.0089 0.0026
 Neptune -21715-10-31 23:45 J -6209676.72 -6209676.51 -6209676.29 0.0089 0.0026
 Neptune -21714-06-14 13:11 J -6209451.15 -6209450.95 -6209450.73 0.0089 0.0027
 Jupiter -21714-07-13 22:19 J -6209421.69 -6209421.57 -6209421.44 0.0534 0.0414
 Moon -21714-10-31 04:33 J -6209312.43 -6209312.31 -6209312.18 0.2624 0.1549
 Earth -21714-10-31 09:07 J -6209312.24 -6209312.12 -6209312.00 0.2620 0.1731 *
 Neptune -21713-01-26 03:07 J -6209225.58 -6209225.37 -6209225.16 0.0089 0.0027
 Jupiter -21713-03-07 17:45 J -6209183.96 -6209183.76 -6209183.56 0.0533 0.0050
 Neptune -21713-09-07 16:19 J -6209000.02 -6208999.82 -6208999.60 0.0089 0.0028
 Jupiter -21713-10-31 06:14 J -6208946.31 -6208946.24 -6208946.16 0.0530 0.0490
 Neptune -21712-04-21 06:00 J -6208774.46 -6208774.25 -6208774.04 0.0089 0.0028
 Neptune -21712-12-02 19:26 J -6208548.89 -6208548.69 -6208548.47 0.0089 0.0029
 Neptune -21711-07-16 09:07 J -6208323.33 -6208323.12 -6208322.91 0.0089 0.0029
 Neptune -21710-02-26 22:19 J -6208097.77 -6208097.57 -6208097.35 0.0089 0.0030
 Pluto -21710-09-05 07:40 J -6207907.30 -6207907.18 -6207907.01 0.0080 0.0061
 Neptune -21710-10-10 11:45 J -6207872.21 -6207872.01 -6207871.79 0.0089 0.0031
 Pluto -21709-04-17 19:26 J -6207681.91 -6207681.69 -6207681.47 0.0080 0.0013
 Neptune -21709-05-23 00:57 J -6207646.65 -6207646.46 -6207646.24 0.0089 0.0031
 Neptune -21708-01-03 14:38 J -6207421.09 -6207420.89 -6207420.67 0.0089 0.0031
 Jupiter -21708-05-13 12:43 J -6207291.07 -6207290.97 -6207290.86 0.0493 0.0418
 Neptune -21708-08-17 03:50 J -6207195.53 -6207195.34 -6207195.12 0.0089 0.0032
 Saturn -21708-11-18 16:04 J -6207101.95 -6207101.83 -6207101.69 0.0261 0.0203
 Jupiter -21707-01-04 17:45 J -6207054.97 -6207054.76 -6207054.56 0.0493 0.0060

Neptune	-21707-03-30 17:16 J	-6206969.97	-6206969.78	-6206969.56	0.0089	0.0032
Saturn	-21707-07-05 10:19 J	-6206873.26	-6206873.07	-6206872.86	0.0261	0.0086
Jupiter	-21707-08-29 03:21 J	-6206818.51	-6206818.36	-6206818.20	0.0495	0.0314
Neptune	-21707-11-11 06:43 J	-6206744.42	-6206744.22	-6206744.01	0.0089	0.0032
Saturn	-21706-02-19 05:02 J	-6206644.50	-6206644.29	-6206644.08	0.0261	0.0034
Neptune	-21706-06-24 19:55 J	-6206518.86	-6206518.67	-6206518.45	0.0089	0.0033
Saturn	-21706-10-06 00:00 J	-6206415.66	-6206415.50	-6206415.32	0.0262	0.0154
Moon	-21706-10-29 01:11 J	-6206392.56	-6206392.45	-6206392.33	0.2627	0.1717
Earth	-21706-10-29 02:09 J	-6206392.54	-6206392.41	-6206392.27	0.2621	0.1356 *
Neptune	-21705-02-05 09:36 J	-6206293.30	-6206293.10	-6206292.89	0.0089	0.0033
Neptune	-21705-09-17 23:02 J	-6206067.74	-6206067.54	-6206067.33	0.0089	0.0033
Neptune	-21704-05-01 12:28 J	-6205842.19	-6205841.98	-6205841.78	0.0089	0.0034
Neptune	-21704-12-13 01:26 J	-6205616.63	-6205616.44	-6205616.22	0.0089	0.0034
Neptune	-21703-07-26 14:52 J	-6205391.07	-6205390.88	-6205390.66	0.0089	0.0034
Neptune	-21702-03-09 04:33 J	-6205165.51	-6205165.31	-6205165.11	0.0089	0.0034
Neptune	-21702-10-20 17:45 J	-6204939.96	-6204939.76	-6204939.55	0.0089	0.0035
Jupiter	-21702-11-11 10:19 J	-6204918.27	-6204918.07	-6204917.87	0.0534	0.0079
Neptune	-21701-06-02 06:43 J	-6204714.40	-6204714.22	-6204714.00	0.0089	0.0036
Jupiter	-21701-07-06 01:11 J	-6204680.59	-6204680.45	-6204680.31	0.0531	0.0376
Neptune	-21700-01-13 20:09 J	-6204488.85	-6204488.66	-6204488.44	0.0089	0.0036
Neptune	-21700-08-27 09:36 J	-6204263.30	-6204263.10	-6204262.89	0.0089	0.0035
Neptune	-21699-04-09 22:48 J	-6204037.75	-6204037.55	-6204037.34	0.0089	0.0035
Neptune	-21699-11-21 12:00 J	-6203812.20	-6203812.00	-6203811.79	0.0089	0.0036
Neptune	-21698-07-05 01:11 J	-6203586.65	-6203586.45	-6203586.25	0.0089	0.0036
Neptune	-21697-02-15 14:23 J	-6203361.10	-6203360.90	-6203360.69	0.0089	0.0036
Neptune	-21697-09-28 03:36 J	-6203135.55	-6203135.35	-6203135.15	0.0089	0.0036
Neptune	-21696-05-11 16:19 J	-6202910.01	-6202909.82	-6202909.60	0.0089	0.0036
Jupiter	-21696-09-09 19:40 J	-6202788.88	-6202788.68	-6202788.49	0.0493	0.0161
Neptune	-21696-12-23 05:45 J	-6202684.46	-6202684.26	-6202684.06	0.0089	0.0036
Jupiter	-21695-05-04 03:50 J	-6202552.53	-6202552.34	-6202552.15	0.0494	0.0211

Neptune	-21695-08-05 18:57 J	-6202458.91	-6202458.71	-6202458.51	0.0089	0.0036
Neptune	-21694-03-19 08:09 J	-6202233.36	-6202233.16	-6202232.96	0.0089	0.0036
Mars	-21694-04-14 23:31 J	-6202206.64	-6202206.52	-6202206.39	0.1641	0.1070
Neptune	-21694-10-30 21:07 J	-6202007.82	-6202007.62	-6202007.42	0.0089	0.0036
Neptune	-21693-06-12 10:04 J	-6201782.28	-6201782.08	-6201781.88	0.0089	0.0036
Saturn	-21693-12-19 08:09 J	-6201592.33	-6201592.16	-6201591.98	0.0300	0.0167
Neptune	-21692-01-23 23:16 J	-6201556.73	-6201556.53	-6201556.33	0.0089	0.0036
Mars	-21692-02-12 04:04 J	-6201537.49	-6201537.33	-6201537.18	0.1634	0.0733
Saturn	-21692-08-06 17:02 J	-6201362.01	-6201361.79	-6201361.58	0.0300	0.0022
Neptune	-21692-09-06 12:14 J	-6201331.18	-6201330.99	-6201330.78	0.0089	0.0036
Mars	-21691-01-14 19:40 J	-6201200.85	-6201200.68	-6201200.50	0.1883	0.0287
Saturn	-21691-03-25 00:28 J	-6201131.63	-6201131.48	-6201131.33	0.0299	0.0208
Neptune	-21691-04-20 01:11 J	-6201105.64	-6201105.45	-6201105.24	0.0089	0.0036
Neptune	-21691-12-01 14:09 J	-6200880.10	-6200879.91	-6200879.70	0.0089	0.0036
Neptune	-21690-07-15 03:07 J	-6200654.56	-6200654.37	-6200654.15	0.0089	0.0036
Jupiter	-21690-07-17 02:38 J	-6200652.57	-6200652.39	-6200652.20	0.0533	0.0204
Uranus	-21689-01-25 07:55 J	-6200460.26	-6200460.17	-6200460.04	0.0132	0.0114
Neptune	-21689-02-25 16:19 J	-6200429.01	-6200428.82	-6200428.61	0.0089	0.0035
Jupiter	-21689-03-10 18:43 J	-6200414.89	-6200414.72	-6200414.54	0.0531	0.0258
Uranus	-21689-09-07 13:26 J	-6200234.09	-6200233.94	-6200233.77	0.0132	0.0089
Neptune	-21689-10-08 05:31 J	-6200203.47	-6200203.27	-6200203.07	0.0089	0.0035
Uranus	-21688-04-21 18:57 J	-6200007.90	-6200007.71	-6200007.52	0.0132	0.0064
Neptune	-21688-05-21 18:28 J	-6199977.93	-6199977.73	-6199977.53	0.0089	0.0035
Uranus	-21688-12-04 00:14 J	-6199781.70	-6199781.49	-6199781.28	0.0132	0.0038
Neptune	-21687-01-02 07:11 J	-6199752.39	-6199752.20	-6199751.99	0.0089	0.0035
Uranus	-21687-07-18 05:31 J	-6199555.49	-6199555.27	-6199555.05	0.0132	0.0013
Neptune	-21687-08-15 20:09 J	-6199526.85	-6199526.66	-6199526.45	0.0089	0.0034
Uranus	-21686-03-01 10:48 J	-6199329.26	-6199329.05	-6199328.83	0.0133	0.0013
Neptune	-21686-03-29 09:21 J	-6199301.31	-6199301.11	-6199300.91	0.0089	0.0034
Uranus	-21686-10-13 15:50 J	-6199103.04	-6199102.84	-6199102.62	0.0133	0.0039

Neptune	-21686-11-09 22:04 J	-6199075.77	-6199075.58	-6199075.37	0.0089	0.0034
Uranus	-21685-05-26 21:07 J	-6198876.80	-6198876.62	-6198876.42	0.0133	0.0064
Neptune	-21685-06-22 10:48 J	-6198850.24	-6198850.05	-6198849.84	0.0089	0.0034
Uranus	-21684-01-08 02:38 J	-6198650.55	-6198650.39	-6198650.23	0.0133	0.0089
Neptune	-21684-02-02 23:31 J	-6198624.70	-6198624.52	-6198624.30	0.0089	0.0034
Jupiter	-21684-05-15 19:11 J	-6198522.86	-6198522.70	-6198522.52	0.0493	0.0262
Uranus	-21684-08-22 07:26 J	-6198424.28	-6198424.19	-6198424.06	0.0133	0.0116
Neptune	-21684-09-16 12:28 J	-6198399.17	-6198398.98	-6198398.77	0.0089	0.0033
Jupiter	-21683-01-07 02:38 J	-6198286.59	-6198286.39	-6198286.18	0.0494	0.0108
Neptune	-21683-04-30 01:11 J	-6198173.64	-6198173.45	-6198173.23	0.0089	0.0033
Jupiter	-21683-08-31 15:36 J	-6198049.90	-6198049.85	-6198049.79	0.0497	0.0479
Neptune	-21683-12-11 14:09 J	-6197948.11	-6197947.91	-6197947.70	0.0089	0.0032
Neptune	-21682-07-25 02:52 J	-6197722.57	-6197722.38	-6197722.17	0.0089	0.0031
Neptune	-21681-03-06 15:36 J	-6197497.04	-6197496.85	-6197496.63	0.0089	0.0031
Neptune	-21681-10-18 04:33 J	-6197271.51	-6197271.31	-6197271.10	0.0089	0.0030
Neptune	-21680-05-31 17:02 J	-6197045.98	-6197045.79	-6197045.57	0.0089	0.0030
Neptune	-21679-01-12 06:00 J	-6196820.45	-6196820.25	-6196820.04	0.0089	0.0030
Neptune	-21679-08-25 18:28 J	-6196594.92	-6196594.73	-6196594.51	0.0089	0.0030
Jupiter	-21678-03-21 17:45 J	-6196386.91	-6196386.76	-6196386.60	0.0533	0.0331
Neptune	-21678-04-08 07:40 J	-6196369.38	-6196369.18	-6196368.97	0.0089	0.0029
Saturn	-21678-05-31 19:40 J	-6196315.82	-6196315.68	-6196315.53	0.0261	0.0185
Jupiter	-21678-11-14 11:31 J	-6196149.22	-6196149.02	-6196148.83	0.0532	0.0132
Neptune	-21678-11-19 20:09 J	-6196143.85	-6196143.66	-6196143.44	0.0089	0.0028
Saturn	-21677-01-15 13:55 J	-6196087.12	-6196086.92	-6196086.71	0.0261	0.0067
Neptune	-21677-07-02 08:52 J	-6195918.33	-6195918.13	-6195917.91	0.0089	0.0028
Saturn	-21677-08-31 08:38 J	-6195858.34	-6195858.14	-6195857.93	0.0262	0.0053
Neptune	-21676-02-12 21:36 J	-6195692.80	-6195692.60	-6195692.38	0.0089	0.0027
Saturn	-21676-04-17 04:19 J	-6195629.48	-6195629.32	-6195629.17	0.0262	0.0173
Neptune	-21676-09-26 10:19 J	-6195467.27	-6195467.07	-6195466.86	0.0089	0.0027
Neptune	-21675-05-09 23:16 J	-6195241.74	-6195241.53	-6195241.32	0.0089	0.0026

Neptune	-21675-12-21 11:31 J	-6195016.21	-6195016.02	-6195015.80	0.0089	0.0026
Neptune	-21674-08-04 00:14 J	-6194790.69	-6194790.49	-6194790.27	0.0089	0.0025
Neptune	-21673-03-16 12:43 J	-6194565.16	-6194564.97	-6194564.75	0.0089	0.0025
Neptune	-21673-10-28 01:26 J	-6194339.64	-6194339.44	-6194339.22	0.0089	0.0023
Jupiter	-21672-01-18 21:21 J	-6194256.74	-6194256.61	-6194256.46	0.0493	0.0358
Neptune	-21672-06-10 13:55 J	-6194114.12	-6194113.92	-6194113.70	0.0089	0.0023
Jupiter	-21672-09-12 03:50 J	-6194020.55	-6194020.34	-6194020.14	0.0494	0.0009
Neptune	-21671-01-22 02:23 J	-6193888.60	-6193888.40	-6193888.18	0.0089	0.0022
Jupiter	-21671-05-06 14:52 J	-6193784.01	-6193783.88	-6193783.75	0.0496	0.0380
Neptune	-21671-09-04 14:52 J	-6193663.08	-6193662.88	-6193662.66	0.0089	0.0022
Neptune	-21670-04-18 03:36 J	-6193437.55	-6193437.35	-6193437.13	0.0089	0.0021
Neptune	-21670-11-29 16:19 J	-6193212.03	-6193211.82	-6193211.61	0.0089	0.0020
Neptune	-21669-07-12 04:33 J	-6192986.51	-6192986.31	-6192986.09	0.0089	0.0019
Neptune	-21668-02-22 17:02 J	-6192761.00	-6192760.79	-6192760.57	0.0089	0.0018
Neptune	-21668-10-06 05:31 J	-6192535.47	-6192535.27	-6192535.05	0.0089	0.0018
Neptune	-21667-05-19 18:00 J	-6192309.95	-6192309.75	-6192309.53	0.0089	0.0017
Jupiter	-21667-11-24 06:00 J	-6192121.35	-6192121.25	-6192121.15	0.0533	0.0458
Neptune	-21667-12-31 06:28 J	-6192084.43	-6192084.23	-6192084.01	0.0089	0.0017
Jupiter	-21666-07-20 01:26 J	-6191883.65	-6191883.44	-6191883.24	0.0533	0.0011
Neptune	-21666-08-13 19:11 J	-6191858.91	-6191858.70	-6191858.49	0.0089	0.0015
Jupiter	-21665-03-13 14:23 J	-6191646.00	-6191645.90	-6191645.79	0.0530	0.0449
Neptune	-21665-03-26 07:40 J	-6191633.39	-6191633.18	-6191632.96	0.0089	0.0015
Neptune	-21665-11-06 20:09 J	-6191407.87	-6191407.66	-6191407.44	0.0089	0.0014
Neptune	-21664-06-20 08:38 J	-6191182.35	-6191182.14	-6191181.92	0.0089	0.0013
Neptune	-21663-01-31 21:07 J	-6190956.83	-6190956.62	-6190956.41	0.0089	0.0012
Saturn	-21663-07-01 18:43 J	-6190805.90	-6190805.72	-6190805.52	0.0300	0.0134
Neptune	-21663-09-14 09:36 J	-6190731.31	-6190731.10	-6190730.89	0.0089	0.0011
Saturn	-21662-02-17 03:36 J	-6190575.56	-6190575.35	-6190575.14	0.0300	0.0056
Neptune	-21662-04-27 22:04 J	-6190505.79	-6190505.58	-6190505.36	0.0089	0.0011
Saturn	-21662-10-05 10:48 J	-6190345.17	-6190345.05	-6190344.92	0.0299	0.0241

Neptune	-21662-12-09 10:33 J	-6190280.27	-6190280.06	-6190279.84	0.0089	0.0010
Neptune	-21661-07-21 22:48 J	-6190054.76	-6190054.55	-6190054.33	0.0089	0.0009
Jupiter	-21661-09-24 00:28 J	-6189990.55	-6189990.48	-6189990.40	0.0493	0.0452
Mars	-21660-02-10 19:55 J	-6189850.84	-6189850.67	-6189850.50	0.1637	0.0126
Neptune	-21660-03-04 11:16 J	-6189829.24	-6189829.03	-6189828.81	0.0089	0.0008
Jupiter	-21660-05-18 05:31 J	-6189754.48	-6189754.27	-6189754.07	0.0493	0.0096
Neptune	-21660-10-15 23:45 J	-6189603.73	-6189603.51	-6189603.30	0.0089	0.0007
Jupiter	-21659-01-09 14:38 J	-6189518.06	-6189517.89	-6189517.72	0.0495	0.0278
Mars	-21659-01-14 21:36 J	-6189512.70	-6189512.60	-6189512.49	0.1878	0.1507
Neptune	-21659-05-29 12:14 J	-6189378.21	-6189377.99	-6189377.78	0.0089	0.0006
Neptune	-21658-01-10 00:28 J	-6189152.69	-6189152.48	-6189152.26	0.0089	0.0006
Neptune	-21658-08-23 12:57 J	-6188927.18	-6188926.96	-6188926.75	0.0089	0.0005
Neptune	-21657-04-05 01:11 J	-6188701.66	-6188701.45	-6188701.23	0.0089	0.0004
Neptune	-21657-11-16 13:40 J	-6188476.15	-6188475.93	-6188475.72	0.0089	0.0003
Neptune	-21656-06-30 01:55 J	-6188250.63	-6188250.42	-6188250.20	0.0089	0.0002
Neptune	-21655-02-10 14:23 J	-6188025.12	-6188024.90	-6188024.69	0.0089	0.0002
Neptune	-21655-09-24 02:38 J	-6187799.60	-6187799.39	-6187799.17	0.0089	0.0001
Jupiter	-21654-03-24 16:33 J	-6187618.00	-6187617.81	-6187617.61	0.0533	0.0128
Neptune	-21654-05-07 15:07 J	-6187574.08	-6187573.87	-6187573.65	0.0089	0.0002
Jupiter	-21654-11-17 07:55 J	-6187380.32	-6187380.17	-6187380.01	0.0531	0.0330
Neptune	-21654-12-19 03:36 J	-6187348.57	-6187348.35	-6187348.13	0.0089	0.0001
Neptune	-21653-07-31 15:50 J	-6187123.05	-6187122.84	-6187122.62	0.0089	0.0003
Neptune	-21652-03-14 04:19 J	-6186897.54	-6186897.32	-6186897.10	0.0089	0.0003
Neptune	-21652-10-25 16:48 J	-6186672.02	-6186671.80	-6186671.59	0.0089	0.0004
Neptune	-21651-06-08 05:16 J	-6186446.49	-6186446.28	-6186446.06	0.0089	0.0005
Neptune	-21650-01-19 17:31 J	-6186220.98	-6186220.77	-6186220.55	0.0089	0.0006
Neptune	-21650-09-02 06:00 J	-6185995.46	-6185995.25	-6185995.03	0.0089	0.0006
Neptune	-21649-04-14 18:28 J	-6185769.95	-6185769.73	-6185769.52	0.0089	0.0007
Neptune	-21649-11-26 06:43 J	-6185544.43	-6185544.22	-6185544.00	0.0089	0.0008
Saturn	-21649-12-10 23:45 J	-6185529.66	-6185529.51	-6185529.34	0.0261	0.0166

Jupiter -21648-01-21 06:43 J -6185488.41 -6185488.22 -6185488.03 0.0493 0.0197
 Neptune -21648-07-09 19:11 J -6185318.92 -6185318.70 -6185318.49 0.0089 0.0009
 Saturn -21648-07-27 18:14 J -6185300.94 -6185300.74 -6185300.53 0.0261 0.0047
 Uranus -21648-08-01 22:33 J -6185295.66 -6185295.56 -6185295.43 0.0146 0.0123
 Jupiter -21648-09-14 14:23 J -6185252.09 -6185251.90 -6185251.70 0.0494 0.0174
 Neptune -21647-02-20 07:26 J -6185093.40 -6185093.19 -6185092.97 0.0089 0.0010
 Saturn -21647-03-13 12:57 J -6185072.16 -6185071.96 -6185071.75 0.0261 0.0073
 Uranus -21647-03-16 10:33 J -6185069.21 -6185069.06 -6185068.87 0.0146 0.0089
 Neptune -21647-10-03 19:40 J -6184867.89 -6184867.68 -6184867.46 0.0089 0.0011
 Saturn -21647-10-28 08:23 J -6184843.28 -6184843.15 -6184843.00 0.0262 0.0193
 Uranus -21647-10-28 22:48 J -6184842.74 -6184842.55 -6184842.34 0.0146 0.0056
 Neptune -21646-05-17 08:09 J -6184642.37 -6184642.16 -6184641.94 0.0089 0.0012
 Uranus -21646-06-12 11:16 J -6184616.24 -6184616.03 -6184615.82 0.0146 0.0021
 Neptune -21646-12-28 20:23 J -6184416.85 -6184416.65 -6184416.42 0.0089 0.0013
 Uranus -21645-01-24 23:31 J -6184389.74 -6184389.52 -6184389.31 0.0146 0.0013
 Neptune -21645-08-10 08:52 J -6184191.34 -6184191.13 -6184190.91 0.0089 0.0013
 Uranus -21645-09-07 11:31 J -6184163.22 -6184163.02 -6184162.81 0.0146 0.0047
 Neptune -21644-03-23 21:07 J -6183965.83 -6183965.62 -6183965.40 0.0089 0.0014
 Uranus -21644-04-21 23:31 J -6183936.69 -6183936.52 -6183936.33 0.0146 0.0081
 Neptune -21644-11-04 09:36 J -6183740.31 -6183740.10 -6183739.89 0.0089 0.0015
 Uranus -21644-12-04 11:31 J -6183710.14 -6183710.02 -6183709.87 0.0145 0.0114
 Neptune -21643-06-17 22:04 J -6183514.79 -6183514.58 -6183514.36 0.0089 0.0016
 Jupiter -21643-11-27 07:55 J -6183352.34 -6183352.17 -6183351.99 0.0534 0.0256
 Neptune -21642-01-29 10:19 J -6183289.27 -6183289.07 -6183288.85 0.0089 0.0017
 Jupiter -21642-07-23 01:26 J -6183114.62 -6183114.44 -6183114.25 0.0532 0.0209
 Neptune -21642-09-11 22:48 J -6183063.76 -6183063.55 -6183063.33 0.0089 0.0017
 Neptune -21641-04-24 11:16 J -6182838.24 -6182838.03 -6182837.82 0.0089 0.0018
 Neptune -21641-12-05 23:31 J -6182612.73 -6182612.52 -6182612.30 0.0089 0.0019
 Neptune -21640-07-19 12:00 J -6182387.20 -6182387.00 -6182386.78 0.0089 0.0020
 Neptune -21639-03-02 00:14 J -6182161.69 -6182161.49 -6182161.26 0.0089 0.0021

Neptune -21639-10-13 12:57 J -6181936.17 -6181935.96 -6181935.74 0.0089 0.0021
 Neptune -21638-05-27 01:26 J -6181710.64 -6181710.44 -6181710.22 0.0089 0.0022
 Neptune -21637-01-07 13:55 J -6181485.12 -6181484.92 -6181484.70 0.0089 0.0022
 Neptune -21637-08-20 02:09 J -6181259.61 -6181259.41 -6181259.19 0.0089 0.0024
 Jupiter -21637-09-26 08:52 J -6181222.29 -6181222.13 -6181221.97 0.0493 0.0295
 Neptune -21636-04-02 14:52 J -6181034.09 -6181033.88 -6181033.67 0.0089 0.0024
 Jupiter -21636-05-20 15:07 J -6180986.08 -6180985.87 -6180985.67 0.0493 0.0071
 Neptune -21636-11-14 03:07 J -6180808.57 -6180808.37 -6180808.15 0.0089 0.0025
 Jupiter -21635-01-12 02:38 J -6180749.48 -6180749.39 -6180749.30 0.0496 0.0442
 Neptune -21635-06-27 15:36 J -6180583.04 -6180582.85 -6180582.63 0.0089 0.0026
 Neptune -21634-02-08 04:19 J -6180357.52 -6180357.32 -6180357.11 0.0089 0.0026
 Saturn -21634-05-26 14:09 J -6180249.91 -6180249.91 -6180249.89 0.0300 0.0300
 Neptune -21634-09-21 16:33 J -6180132.01 -6180131.81 -6180131.59 0.0089 0.0027
 Saturn -21633-01-11 23:45 J -6180019.71 -6180019.51 -6180019.31 0.0300 0.0112
 Neptune -21633-05-04 04:48 J -6179906.49 -6179906.30 -6179906.08 0.0088 0.0028
 Saturn -21633-08-29 08:09 J -6179789.37 -6179789.16 -6179788.96 0.0299 0.0077
 Neptune -21633-12-15 17:31 J -6179680.97 -6179680.77 -6179680.56 0.0088 0.0028
 Saturn -21632-04-16 14:52 J -6179558.97 -6179558.88 -6179558.77 0.0299 0.0261
 Neptune -21632-07-29 06:00 J -6179455.45 -6179455.25 -6179455.03 0.0088 0.0028
 Neptune -21631-03-11 18:43 J -6179229.93 -6179229.72 -6179229.51 0.0088 0.0029
 Jupiter -21631-08-02 00:00 J -6179086.64 -6179086.50 -6179086.35 0.0534 0.0379
 Neptune -21631-10-23 06:57 J -6179004.41 -6179004.21 -6179003.99 0.0088 0.0030
 Jupiter -21630-03-27 18:57 J -6178848.91 -6178848.71 -6178848.51 0.0533 0.0085
 Neptune -21630-06-05 19:40 J -6178778.88 -6178778.68 -6178778.47 0.0088 0.0030
 Jupiter -21630-11-20 06:43 J -6178611.24 -6178611.22 -6178611.18 0.0529 0.0522
 Neptune -21629-01-17 08:09 J -6178553.36 -6178553.16 -6178552.95 0.0088 0.0030
 Neptune -21629-08-29 20:23 J -6178327.84 -6178327.65 -6178327.43 0.0088 0.0032
 Mars -21628-02-09 12:00 J -6178164.14 -6178164.00 -6178163.87 0.1640 0.0985
 Neptune -21628-04-12 09:07 J -6178102.31 -6178102.12 -6178101.91 0.0088 0.0032
 Neptune -21628-11-23 21:36 J -6177876.79 -6177876.60 -6177876.38 0.0088 0.0032

Neptune -21627-07-07 10:33 J -6177651.25 -6177651.06 -6177650.85 0.0088 0.0033
 Mars -21627-12-10 16:48 J -6177494.95 -6177494.80 -6177494.65 0.1633 0.0804
 Neptune -21626-02-17 23:02 J -6177425.73 -6177425.54 -6177425.32 0.0088 0.0033
 Neptune -21626-10-01 11:45 J -6177200.20 -6177200.01 -6177199.80 0.0088 0.0034
 Mars -21626-11-11 20:52 J -6177158.80 -6177158.63 -6177158.46 0.1885 0.0606
 Neptune -21625-05-14 00:28 J -6176974.68 -6176974.48 -6176974.27 0.0088 0.0034
 Jupiter -21625-06-01 08:38 J -6176956.26 -6176956.14 -6176956.02 0.0493 0.0394
 Neptune -21625-12-25 12:57 J -6176749.15 -6176748.96 -6176748.74 0.0088 0.0034
 Jupiter -21624-01-23 14:09 J -6176720.12 -6176719.91 -6176719.71 0.0493 0.0033
 Neptune -21624-08-08 01:55 J -6176523.61 -6176523.42 -6176523.21 0.0088 0.0035
 Jupiter -21624-09-17 00:28 J -6176483.62 -6176483.48 -6176483.32 0.0496 0.0342
 Neptune -21623-03-21 14:23 J -6176298.09 -6176297.90 -6176297.68 0.0088 0.0035
 Neptune -21623-11-02 03:07 J -6176072.56 -6176072.37 -6176072.16 0.0088 0.0036
 Neptune -21622-06-15 16:04 J -6175847.03 -6175846.83 -6175846.63 0.0088 0.0036
 Neptune -21621-01-27 04:33 J -6175621.50 -6175621.31 -6175621.10 0.0088 0.0036
 Neptune -21621-09-08 17:16 J -6175395.97 -6175395.78 -6175395.57 0.0088 0.0036
 Neptune -21620-04-22 06:00 J -6175170.44 -6175170.25 -6175170.04 0.0088 0.0037
 Neptune -21620-12-03 18:28 J -6174944.91 -6174944.73 -6174944.51 0.0088 0.0037
 Jupiter -21619-04-06 14:38 J -6174820.95 -6174820.89 -6174820.82 0.0533 0.0501
 Saturn -21619-06-23 03:36 J -6174743.51 -6174743.35 -6174743.17 0.0262 0.0148
 Neptune -21619-07-17 07:26 J -6174719.37 -6174719.19 -6174718.97 0.0088 0.0037
 Jupiter -21619-11-30 10:33 J -6174583.26 -6174583.06 -6174582.86 0.0533 0.0044
 Saturn -21618-02-06 22:19 J -6174514.78 -6174514.57 -6174514.36 0.0262 0.0028
 Neptune -21618-02-27 20:23 J -6174493.84 -6174493.65 -6174493.44 0.0088 0.0037
 Jupiter -21618-07-26 00:28 J -6174345.61 -6174345.48 -6174345.36 0.0530 0.0407
 Saturn -21618-09-23 17:16 J -6174285.98 -6174285.78 -6174285.58 0.0262 0.0092
 Neptune -21618-10-11 09:07 J -6174268.31 -6174268.12 -6174267.91 0.0088 0.0037
 Saturn -21617-05-09 12:57 J -6174057.08 -6174056.96 -6174056.83 0.0262 0.0213
 Neptune -21617-05-23 22:04 J -6174042.78 -6174042.58 -6174042.38 0.0088 0.0038
 Neptune -21616-01-04 10:19 J -6173817.25 -6173817.07 -6173816.85 0.0088 0.0039

Neptune	-21616-08-17 23:31 J	-6173591.71	-6173591.52	-6173591.31	0.0088	0.0038
Neptune	-21615-03-31 12:28 J	-6173366.17	-6173365.98	-6173365.77	0.0088	0.0038
Neptune	-21615-11-12 01:26 J	-6173140.63	-6173140.44	-6173140.23	0.0088	0.0038
Neptune	-21614-06-25 14:09 J	-6172915.09	-6172914.91	-6172914.70	0.0088	0.0039
Jupiter	-21613-02-05 10:48 J	-6172690.07	-6172690.05	-6172690.01	0.0493	0.0487
Neptune	-21613-02-06 03:07 J	-6172689.55	-6172689.37	-6172689.16	0.0088	0.0039
Neptune	-21613-09-18 16:19 J	-6172464.01	-6172463.82	-6172463.62	0.0088	0.0038
Jupiter	-21613-09-28 15:36 J	-6172454.05	-6172453.85	-6172453.65	0.0493	0.0134
Neptune	-21612-05-02 05:16 J	-6172238.47	-6172238.28	-6172238.08	0.0088	0.0038
Jupiter	-21612-05-23 00:28 J	-6172217.66	-6172217.48	-6172217.30	0.0495	0.0240
Neptune	-21612-12-13 18:14 J	-6172012.93	-6172012.74	-6172012.54	0.0088	0.0038
Neptune	-21611-07-27 07:11 J	-6171787.39	-6171787.20	-6171786.99	0.0088	0.0038
Neptune	-21610-03-09 20:09 J	-6171561.85	-6171561.66	-6171561.45	0.0088	0.0039
Neptune	-21610-10-21 09:07 J	-6171336.31	-6171336.12	-6171335.91	0.0088	0.0038
Neptune	-21609-06-02 22:04 J	-6171110.77	-6171110.58	-6171110.37	0.0088	0.0038
Neptune	-21608-01-14 11:02 J	-6170885.23	-6170885.04	-6170884.83	0.0088	0.0038
Neptune	-21608-08-28 00:14 J	-6170659.68	-6170659.49	-6170659.28	0.0088	0.0038
Neptune	-21607-04-10 13:11 J	-6170434.14	-6170433.95	-6170433.73	0.0088	0.0038
Jupiter	-21607-08-04 23:16 J	-6170317.72	-6170317.53	-6170317.34	0.0533	0.0177
Neptune	-21607-11-22 02:38 J	-6170208.59	-6170208.39	-6170208.19	0.0088	0.0037
Jupiter	-21606-03-30 15:21 J	-6170080.03	-6170079.86	-6170079.69	0.0531	0.0285
Neptune	-21606-07-05 15:21 J	-6169983.05	-6169982.86	-6169982.65	0.0088	0.0037
Uranus	-21606-09-24 17:02 J	-6169901.84	-6169901.79	-6169901.71	0.0132	0.0126
Neptune	-21605-02-16 04:19 J	-6169757.51	-6169757.32	-6169757.11	0.0088	0.0037
Uranus	-21605-05-07 22:48 J	-6169675.69	-6169675.55	-6169675.41	0.0132	0.0101
Neptune	-21605-09-28 17:31 J	-6169531.96	-6169531.77	-6169531.56	0.0088	0.0037
Saturn	-21605-12-06 02:23 J	-6169463.50	-6169463.40	-6169463.30	0.0300	0.0265
Uranus	-21605-12-20 04:04 J	-6169449.50	-6169449.33	-6169449.14	0.0132	0.0075
Neptune	-21604-05-12 06:28 J	-6169306.42	-6169306.23	-6169306.01	0.0088	0.0037
Saturn	-21604-07-24 11:31 J	-6169233.22	-6169233.02	-6169232.81	0.0300	0.0077

Uranus	-21604-08-03 09:36 J	-6169223.30	-6169223.10	-6169222.90	0.0132	0.0050
Neptune	-21604-12-23 19:55 J	-6169080.87	-6169080.67	-6169080.46	0.0088	0.0036
Saturn	-21603-03-11 19:55 J	-6169002.87	-6169002.67	-6169002.47	0.0300	0.0112
Uranus	-21603-03-17 14:38 J	-6168997.10	-6168996.89	-6168996.66	0.0132	0.0025
Neptune	-21603-08-06 09:07 J	-6168855.32	-6168855.12	-6168854.91	0.0088	0.0036
Saturn	-21603-10-28 02:38 J	-6168772.41	-6168772.39	-6168772.35	0.0299	0.0296
Uranus	-21603-10-29 20:09 J	-6168770.88	-6168770.66	-6168770.44	0.0133	0.0002
Neptune	-21602-03-19 22:04 J	-6168629.77	-6168629.58	-6168629.36	0.0088	0.0036
Uranus	-21602-06-13 01:11 J	-6168544.66	-6168544.45	-6168544.23	0.0133	0.0027
Neptune	-21602-10-31 11:31 J	-6168404.22	-6168404.02	-6168403.81	0.0088	0.0035
Uranus	-21601-01-25 06:28 J	-6168318.42	-6168318.23	-6168318.02	0.0133	0.0053
Jupiter	-21601-06-03 17:45 J	-6168187.94	-6168187.76	-6168187.58	0.0493	0.0234
Neptune	-21601-06-13 00:28 J	-6168178.67	-6168178.48	-6168178.26	0.0088	0.0035
Uranus	-21601-09-07 11:31 J	-6168092.17	-6168092.02	-6168091.82	0.0133	0.0079
Neptune	-21600-01-24 13:40 J	-6167953.12	-6167952.93	-6167952.71	0.0088	0.0035
Jupiter	-21600-01-26 00:57 J	-6167951.66	-6167951.46	-6167951.26	0.0494	0.0137
Uranus	-21600-04-21 17:02 J	-6167865.91	-6167865.79	-6167865.65	0.0133	0.0104
Neptune	-21600-09-07 03:21 J	-6167727.56	-6167727.36	-6167727.15	0.0088	0.0034
Uranus	-21600-12-03 22:19 J	-6167639.61	-6167639.57	-6167639.51	0.0133	0.0130
Neptune	-21599-04-20 16:33 J	-6167502.01	-6167501.81	-6167501.59	0.0088	0.0034
Neptune	-21599-12-02 06:00 J	-6167276.46	-6167276.25	-6167276.04	0.0088	0.0033
Neptune	-21598-07-15 18:57 J	-6167050.90	-6167050.71	-6167050.49	0.0088	0.0033
Neptune	-21597-02-26 08:09 J	-6166825.35	-6166825.16	-6166824.94	0.0088	0.0033
Neptune	-21597-10-08 21:50 J	-6166599.79	-6166599.59	-6166599.38	0.0088	0.0032
Neptune	-21596-05-22 10:48 J	-6166374.24	-6166374.05	-6166373.82	0.0088	0.0032
Neptune	-21595-01-03 00:14 J	-6166148.69	-6166148.49	-6166148.27	0.0088	0.0031
Jupiter	-21595-04-09 13:40 J	-6166052.10	-6166051.93	-6166051.77	0.0533	0.0305
Neptune	-21595-08-16 13:26 J	-6165923.13	-6165922.94	-6165922.71	0.0088	0.0031
Jupiter	-21595-12-03 07:26 J	-6165814.38	-6165814.19	-6165814.00	0.0532	0.0160
Mars	-21595-12-09 08:38 J	-6165808.31	-6165808.14	-6165807.97	0.1636	0.0048

Neptune	-21594-03-30 02:52 J	-6165697.58	-6165697.38	-6165697.16	0.0088	0.0030
Neptune	-21594-11-10 16:33 J	-6165472.02	-6165471.81	-6165471.60	0.0088	0.0029
Mars	-21594-11-11 23:02 J	-6165470.68	-6165470.54	-6165470.41	0.1880	0.1193
Neptune	-21593-06-23 05:31 J	-6165246.47	-6165246.27	-6165246.05	0.0088	0.0029
Neptune	-21592-02-03 18:57 J	-6165020.91	-6165020.71	-6165020.49	0.0088	0.0028
Neptune	-21592-09-17 08:23 J	-6164795.35	-6164795.15	-6164794.92	0.0088	0.0028
Neptune	-21591-04-30 21:50 J	-6164569.79	-6164569.59	-6164569.36	0.0088	0.0027
Neptune	-21591-12-12 11:31 J	-6164344.23	-6164344.02	-6164343.80	0.0088	0.0026
Saturn	-21590-05-19 14:23 J	-6164185.96	-6164185.90	-6164185.81	0.0261	0.0245
Neptune	-21590-07-26 00:43 J	-6164118.67	-6164118.47	-6164118.24	0.0088	0.0026
Saturn	-21589-01-03 08:52 J	-6163957.31	-6163957.13	-6163956.94	0.0261	0.0127
Jupiter	-21589-02-07 19:40 J	-6163921.83	-6163921.68	-6163921.53	0.0493	0.0332
Neptune	-21589-03-07 14:09 J	-6163893.11	-6163892.91	-6163892.68	0.0088	0.0025
Saturn	-21589-08-19 03:21 J	-6163728.57	-6163728.36	-6163728.15	0.0261	0.0009
Jupiter	-21589-10-01 01:26 J	-6163685.65	-6163685.44	-6163685.23	0.0493	0.0033
Neptune	-21589-10-19 04:04 J	-6163667.54	-6163667.33	-6163667.11	0.0088	0.0024
Saturn	-21588-04-04 22:19 J	-6163499.75	-6163499.57	-6163499.37	0.0262	0.0114
Jupiter	-21588-05-25 12:00 J	-6163449.11	-6163449.00	-6163448.88	0.0496	0.0405
Neptune	-21588-06-01 17:16 J	-6163441.98	-6163441.78	-6163441.55	0.0088	0.0024
Saturn	-21588-11-19 18:14 J	-6163270.83	-6163270.74	-6163270.64	0.0262	0.0234
Neptune	-21587-01-13 06:57 J	-6163216.42	-6163216.21	-6163215.99	0.0088	0.0023
Neptune	-21587-08-26 20:38 J	-6162990.85	-6162990.64	-6162990.42	0.0088	0.0022
Neptune	-21586-04-09 10:19 J	-6162765.29	-6162765.07	-6162764.85	0.0088	0.0021
Neptune	-21586-11-20 23:31 J	-6162539.72	-6162539.52	-6162539.29	0.0088	0.0021
Neptune	-21585-07-03 13:11 J	-6162314.16	-6162313.95	-6162313.72	0.0088	0.0020
Neptune	-21584-02-14 02:38 J	-6162088.60	-6162088.39	-6162088.16	0.0088	0.0020
Neptune	-21584-09-27 16:33 J	-6161863.03	-6161862.81	-6161862.59	0.0088	0.0018
Jupiter	-21584-12-13 03:50 J	-6161786.45	-6161786.34	-6161786.22	0.0534	0.0431
Neptune	-21583-05-11 06:14 J	-6161637.46	-6161637.24	-6161637.02	0.0088	0.0017
Jupiter	-21583-08-07 23:45 J	-6161548.71	-6161548.51	-6161548.31	0.0533	0.0033

Neptune -21583-12-22 19:40 J -6161411.90 -6161411.68 -6161411.46 0.0088 0.0017
 Jupiter -21582-04-02 13:26 J -6161311.03 -6161310.94 -6161310.86 0.0530 0.0477
 Neptune -21582-08-05 09:07 J -6161186.34 -6161186.12 -6161185.89 0.0088 0.0016
 Neptune -21581-03-17 22:33 J -6160960.77 -6160960.56 -6160960.33 0.0088 0.0015
 Neptune -21581-10-29 12:14 J -6160735.20 -6160734.99 -6160734.76 0.0088 0.0015
 Neptune -21580-06-12 01:55 J -6160509.63 -6160509.42 -6160509.19 0.0088 0.0013
 Neptune -21579-01-23 15:36 J -6160284.07 -6160283.85 -6160283.62 0.0088 0.0012
 Neptune -21579-09-06 05:16 J -6160058.50 -6160058.28 -6160058.06 0.0088 0.0011
 Neptune -21578-04-19 18:57 J -6159832.93 -6159832.71 -6159832.49 0.0088 0.0011
 Jupiter -21578-10-13 21:50 J -6159655.69 -6159655.59 -6159655.49 0.0493 0.0427
 Neptune -21578-12-01 08:38 J -6159607.36 -6159607.14 -6159606.92 0.0088 0.0010
 Jupiter -21577-06-06 02:23 J -6159419.61 -6159419.40 -6159419.20 0.0493 0.0069
 Neptune -21577-07-13 22:04 J -6159381.80 -6159381.58 -6159381.35 0.0088 0.0009
 Jupiter -21576-01-28 11:16 J -6159183.18 -6159183.03 -6159182.86 0.0495 0.0304
 Neptune -21576-02-24 11:45 J -6159156.23 -6159156.01 -6159155.78 0.0088 0.0008
 Earth -21576-05-01 22:33 J -6159089.71 -6159089.56 -6159089.41 0.2712 0.0741
 Moon -21576-05-02 03:07 J -6159089.50 -6159089.37 -6159089.24 0.2717 0.1327 *
 Neptune -21576-10-08 01:40 J -6158930.65 -6158930.43 -6158930.20 0.0088 0.0007
 Neptune -21575-05-21 15:21 J -6158705.08 -6158704.86 -6158704.63 0.0088 0.0006
 Saturn -21575-06-18 09:21 J -6158677.23 -6158677.11 -6158676.97 0.0300 0.0241
 Neptune -21574-01-02 05:02 J -6158479.51 -6158479.29 -6158479.06 0.0088 0.0006
 Saturn -21574-02-03 18:43 J -6158446.93 -6158446.72 -6158446.51 0.0300 0.0052
 Neptune -21574-08-15 18:43 J -6158253.94 -6158253.72 -6158253.49 0.0088 0.0005
 Saturn -21574-09-22 02:38 J -6158216.58 -6158216.39 -6158216.20 0.0299 0.0136
 Neptune -21573-03-28 08:38 J -6158028.37 -6158028.14 -6158027.92 0.0088 0.0004
 Neptune -21573-11-08 22:19 J -6157802.79 -6157802.57 -6157802.34 0.0088 0.0003
 Neptune -21572-06-22 12:00 J -6157577.22 -6157577.00 -6157576.77 0.0088 0.0002
 Neptune -21571-02-03 01:40 J -6157351.65 -6157351.43 -6157351.20 0.0088 0.0002
 Jupiter -21571-04-12 16:48 J -6157283.00 -6157282.80 -6157282.61 0.0533 0.0093
 Neptune -21571-09-16 15:21 J -6157126.08 -6157125.86 -6157125.63 0.0088 0.0001

Jupiter -21571-12-06 07:40 J -6157045.32 -6157045.18 -6157045.03 0.0531 0.0363
 Neptune -21570-04-30 05:02 J -6156900.51 -6156900.29 -6156900.06 0.0088 0.0002
 Neptune -21570-12-11 18:43 J -6156674.94 -6156674.72 -6156674.49 0.0088 0.0003
 Neptune -21569-07-24 08:23 J -6156449.37 -6156449.15 -6156448.92 0.0088 0.0004
 Neptune -21568-03-06 22:04 J -6156223.81 -6156223.58 -6156223.36 0.0088 0.0004
 Neptune -21568-10-18 11:45 J -6155998.23 -6155998.01 -6155997.78 0.0088 0.0005
 Neptune -21567-06-01 01:26 J -6155772.66 -6155772.44 -6155772.21 0.0088 0.0006
 Neptune -21566-01-12 15:07 J -6155547.09 -6155546.87 -6155546.64 0.0088 0.0007
 Neptune -21566-08-26 04:33 J -6155321.52 -6155321.31 -6155321.08 0.0088 0.0009
 Jupiter -21565-02-10 01:40 J -6155153.62 -6155153.43 -6155153.23 0.0493 0.0173
 Neptune -21565-04-07 18:14 J -6155095.95 -6155095.74 -6155095.51 0.0088 0.0010
 Jupiter -21565-10-03 09:50 J -6154917.28 -6154917.09 -6154916.90 0.0494 0.0200
 Neptune -21565-11-19 08:09 J -6154870.38 -6154870.16 -6154869.93 0.0088 0.0010
 Uranus -21564-04-01 02:38 J -6154737.43 -6154737.39 -6154737.31 0.0146 0.0140
 Neptune -21564-07-02 22:04 J -6154644.81 -6154644.58 -6154644.36 0.0088 0.0011
 Uranus -21564-11-13 14:52 J -6154511.02 -6154510.88 -6154510.72 0.0146 0.0107
 Neptune -21563-02-13 11:45 J -6154419.24 -6154419.01 -6154418.79 0.0089 0.0012
 Uranus -21563-06-28 03:21 J -6154284.55 -6154284.36 -6154284.17 0.0146 0.0072
 Neptune -21563-09-27 01:11 J -6154193.67 -6154193.45 -6154193.22 0.0089 0.0013
 Mars -21563-12-08 00:28 J -6154121.62 -6154121.48 -6154121.33 0.1639 0.0904
 Uranus -21562-02-09 15:21 J -6154058.06 -6154057.86 -6154057.65 0.0146 0.0038
 Neptune -21562-05-10 14:52 J -6153968.09 -6153967.88 -6153967.65 0.0089 0.0014
 Uranus -21562-09-24 03:36 J -6153831.57 -6153831.35 -6153831.14 0.0146 0.0005
 Neptune -21562-12-22 04:48 J -6153742.52 -6153742.30 -6153742.08 0.0089 0.0015
 Uranus -21561-05-07 15:36 J -6153605.06 -6153604.85 -6153604.64 0.0146 0.0030
 Neptune -21561-08-03 18:28 J -6153516.95 -6153516.73 -6153516.51 0.0089 0.0015
 Mars -21561-10-07 05:16 J -6153452.42 -6153452.28 -6153452.13 0.1632 0.0883
 Saturn -21561-11-28 18:14 J -6153399.84 -6153399.74 -6153399.63 0.0262 0.0226
 Uranus -21561-12-20 03:36 J -6153378.54 -6153378.35 -6153378.15 0.0146 0.0064
 Neptune -21560-03-17 07:55 J -6153291.38 -6153291.17 -6153290.94 0.0089 0.0017

Saturn	-21560-07-15 12:57 J	-6153171.15	-6153170.96	-6153170.77	0.0262	0.0107
Uranus	-21560-08-03 15:36 J	-6153151.99	-6153151.85	-6153151.67	0.0145	0.0098
Mars	-21560-09-07 23:16 J	-6153116.69	-6153116.53	-6153116.38	0.1886	0.0907
Neptune	-21560-10-28 21:36 J	-6153065.81	-6153065.60	-6153065.37	0.0089	0.0018
Jupiter	-21560-12-16 07:40 J	-6153017.36	-6153017.18	-6153017.00	0.0533	0.0222
Saturn	-21559-03-01 07:40 J	-6152942.39	-6152942.18	-6152941.97	0.0262	0.0013
Uranus	-21559-03-18 03:50 J	-6152925.42	-6152925.34	-6152925.24	0.0145	0.0131
Neptune	-21559-06-11 11:31 J	-6152840.23	-6152840.02	-6152839.80	0.0089	0.0018
Jupiter	-21559-08-11 00:28 J	-6152779.66	-6152779.48	-6152779.30	0.0532	0.0241
Saturn	-21559-10-16 02:52 J	-6152713.56	-6152713.38	-6152713.19	0.0262	0.0134
Neptune	-21558-01-23 01:11 J	-6152614.66	-6152614.45	-6152614.23	0.0089	0.0019
Saturn	-21558-06-01 23:02 J	-6152484.58	-6152484.54	-6152484.49	0.0263	0.0255
Neptune	-21558-09-05 14:52 J	-6152389.10	-6152388.88	-6152388.66	0.0089	0.0020
Neptune	-21557-04-18 04:19 J	-6152163.53	-6152163.32	-6152163.10	0.0089	0.0021
Neptune	-21557-11-29 18:00 J	-6151937.96	-6151937.75	-6151937.52	0.0089	0.0022
Neptune	-21556-07-13 07:26 J	-6151712.39	-6151712.19	-6151711.96	0.0089	0.0023
Neptune	-21555-02-23 21:21 J	-6151486.82	-6151486.61	-6151486.39	0.0089	0.0023
Neptune	-21555-10-07 10:48 J	-6151261.26	-6151261.05	-6151260.83	0.0089	0.0024
Neptune	-21554-05-21 00:14 J	-6151035.69	-6151035.49	-6151035.26	0.0089	0.0025
Jupiter	-21554-10-16 03:21 J	-6150887.52	-6150887.36	-6150887.18	0.0493	0.0272
Neptune	-21553-01-01 13:55 J	-6150810.12	-6150809.92	-6150809.69	0.0089	0.0026
Jupiter	-21553-06-08 10:19 J	-6150651.28	-6150651.07	-6150650.87	0.0494	0.0098
Neptune	-21553-08-14 03:36 J	-6150584.56	-6150584.35	-6150584.13	0.0089	0.0026
Jupiter	-21552-01-30 22:04 J	-6150414.64	-6150414.58	-6150414.50	0.0497	0.0469
Neptune	-21552-03-27 17:02 J	-6150358.99	-6150358.79	-6150358.57	0.0089	0.0027
Pluto	-21552-06-22 10:33 J	-6150272.22	-6150272.06	-6150271.86	0.0064	0.0035
Neptune	-21552-11-08 06:28 J	-6150133.42	-6150133.23	-6150133.00	0.0089	0.0028
Pluto	-21551-02-02 14:38 J	-6150047.11	-6150046.89	-6150046.67	0.0064	0.0001
Neptune	-21551-06-21 20:23 J	-6149907.86	-6149907.65	-6149907.43	0.0089	0.0028
Pluto	-21551-09-15 18:14 J	-6149821.91	-6149821.74	-6149821.56	0.0065	0.0038

Neptune	-21550-02-02 10:04 J	-6149682.29	-6149682.08	-6149681.86	0.0089	0.0029
Neptune	-21550-09-15 23:31 J	-6149456.72	-6149456.52	-6149456.30	0.0089	0.0030
Neptune	-21549-04-28 13:11 J	-6149231.16	-6149230.95	-6149230.74	0.0089	0.0030
Neptune	-21549-12-10 02:38 J	-6149005.58	-6149005.39	-6149005.17	0.0089	0.0031
Neptune	-21548-07-23 16:19 J	-6148780.02	-6148779.82	-6148779.60	0.0089	0.0032
Jupiter	-21548-08-20 19:26 J	-6148751.83	-6148751.69	-6148751.53	0.0533	0.0355
Neptune	-21547-03-06 06:00 J	-6148554.45	-6148554.25	-6148554.04	0.0089	0.0032
Jupiter	-21547-04-15 14:09 J	-6148514.11	-6148513.91	-6148513.71	0.0532	0.0111
Neptune	-21547-10-17 19:11 J	-6148328.89	-6148328.70	-6148328.48	0.0089	0.0033
Neptune	-21546-05-31 09:07 J	-6148103.33	-6148103.12	-6148102.92	0.0089	0.0033
Saturn	-21546-12-29 22:04 J	-6147890.73	-6147890.58	-6147890.41	0.0300	0.0205
Neptune	-21545-01-11 22:19 J	-6147877.76	-6147877.57	-6147877.35	0.0089	0.0034
Saturn	-21545-08-16 07:11 J	-6147660.41	-6147660.20	-6147659.99	0.0300	0.0015
Neptune	-21545-08-24 11:45 J	-6147652.20	-6147652.01	-6147651.79	0.0089	0.0035
Saturn	-21544-04-03 14:52 J	-6147430.05	-6147429.88	-6147429.70	0.0300	0.0173
Neptune	-21544-04-07 01:11 J	-6147426.64	-6147426.45	-6147426.24	0.0089	0.0035
Neptune	-21544-11-18 14:52 J	-6147201.08	-6147200.88	-6147200.68	0.0089	0.0036
Neptune	-21543-07-02 04:04 J	-6146975.52	-6146975.33	-6146975.12	0.0089	0.0036
Neptune	-21542-02-12 17:45 J	-6146749.96	-6146749.76	-6146749.56	0.0089	0.0036
Jupiter	-21542-06-21 06:14 J	-6146621.38	-6146621.24	-6146621.11	0.0493	0.0369
Neptune	-21542-09-26 06:43 J	-6146524.41	-6146524.22	-6146524.00	0.0089	0.0037
Jupiter	-21541-02-12 11:31 J	-6146385.22	-6146385.02	-6146384.81	0.0493	0.0013
Neptune	-21541-05-08 20:09 J	-6146298.85	-6146298.66	-6146298.45	0.0089	0.0037
Jupiter	-21541-10-05 21:50 J	-6146148.72	-6146148.59	-6146148.45	0.0496	0.0369
Neptune	-21541-12-20 09:21 J	-6146073.29	-6146073.11	-6146072.89	0.0089	0.0038
Neptune	-21540-08-02 23:02 J	-6145847.73	-6145847.54	-6145847.33	0.0089	0.0038
Neptune	-21539-03-16 12:28 J	-6145622.17	-6145621.98	-6145621.78	0.0089	0.0038
Neptune	-21539-10-28 01:26 J	-6145396.62	-6145396.44	-6145396.22	0.0089	0.0039
Neptune	-21538-06-10 14:52 J	-6145171.06	-6145170.88	-6145170.67	0.0089	0.0039
Neptune	-21537-01-22 04:33 J	-6144945.50	-6144945.31	-6144945.11	0.0089	0.0039

Neptune -21537-09-03 18:00 J -6144719.95 -6144719.75 -6144719.55 0.0089 0.0040
 Neptune -21536-04-17 06:57 J -6144494.39 -6144494.21 -6144494.00 0.0089 0.0040
 Jupiter -21536-04-25 08:52 J -6144486.21 -6144486.13 -6144486.04 0.0533 0.0479
 Neptune -21536-11-28 20:09 J -6144268.84 -6144268.66 -6144268.45 0.0089 0.0041
 Jupiter -21536-12-19 05:02 J -6144248.50 -6144248.29 -6144248.09 0.0533 0.0022
 Neptune -21535-07-12 09:36 J -6144043.29 -6144043.10 -6144042.89 0.0089 0.0040
 Jupiter -21535-08-13 18:57 J -6144010.82 -6144010.71 -6144010.59 0.0530 0.0432
 Neptune -21534-02-22 23:02 J -6143817.73 -6143817.54 -6143817.34 0.0089 0.0041
 Neptune -21534-10-06 12:14 J -6143592.18 -6143591.99 -6143591.79 0.0089 0.0041
 Neptune -21533-05-19 01:11 J -6143366.63 -6143366.45 -6143366.24 0.0089 0.0041
 Neptune -21533-12-30 14:23 J -6143141.08 -6143140.90 -6143140.69 0.0089 0.0041
 Neptune -21532-08-13 03:36 J -6142915.53 -6142915.35 -6142915.14 0.0089 0.0041
 Neptune -21531-03-26 16:48 J -6142689.98 -6142689.80 -6142689.60 0.0089 0.0041
 Saturn -21531-06-11 00:28 J -6142613.60 -6142613.48 -6142613.35 0.0261 0.0204
 Neptune -21531-11-07 05:45 J -6142464.44 -6142464.26 -6142464.05 0.0089 0.0041
 Saturn -21530-01-25 18:57 J -6142384.91 -6142384.71 -6142384.51 0.0261 0.0085
 Jupiter -21530-02-24 08:23 J -6142355.21 -6142355.15 -6142355.08 0.0493 0.0463
 Neptune -21530-06-20 18:43 J -6142238.90 -6142238.72 -6142238.51 0.0089 0.0042
 Saturn -21530-09-11 13:40 J -6142156.14 -6142155.93 -6142155.72 0.0262 0.0035
 Jupiter -21530-10-18 12:43 J -6142119.17 -6142118.97 -6142118.77 0.0493 0.0108
 Neptune -21529-02-01 07:55 J -6142013.35 -6142013.17 -6142012.96 0.0089 0.0042
 Saturn -21529-04-27 08:52 J -6141927.29 -6141927.13 -6141926.95 0.0262 0.0156
 Jupiter -21529-06-10 20:52 J -6141882.80 -6141882.63 -6141882.45 0.0495 0.0265
 Neptune -21529-09-13 20:52 J -6141787.80 -6141787.63 -6141787.42 0.0089 0.0042
 Mars -21529-10-05 21:21 J -6141765.78 -6141765.61 -6141765.44 0.1635 0.0033
 Neptune -21528-04-27 10:04 J -6141562.26 -6141562.08 -6141561.87 0.0089 0.0041
 Mars -21528-09-08 01:26 J -6141428.60 -6141428.44 -6141428.28 0.1882 0.0896
 Neptune -21528-12-08 23:02 J -6141336.72 -6141336.54 -6141336.33 0.0089 0.0041
 Neptune -21527-07-22 12:14 J -6141111.18 -6141110.99 -6141110.79 0.0089 0.0041
 Neptune -21526-03-05 01:26 J -6140885.63 -6140885.44 -6140885.24 0.0089 0.0041

Neptune	-21526-10-16 14:23 J	-6140660.09	-6140659.90	-6140659.70	0.0089	0.0040
Neptune	-21525-05-29 03:07 J	-6140434.55	-6140434.37	-6140434.16	0.0089	0.0041
Neptune	-21524-01-09 16:04 J	-6140209.01	-6140208.83	-6140208.62	0.0089	0.0041
Neptune	-21524-08-23 05:02 J	-6139983.46	-6139983.29	-6139983.08	0.0089	0.0041
Jupiter	-21524-08-23 20:09 J	-6139982.85	-6139982.66	-6139982.46	0.0534	0.0148
Neptune	-21523-04-05 18:28 J	-6139757.92	-6139757.73	-6139757.53	0.0089	0.0040
Jupiter	-21523-04-18 12:43 J	-6139745.13	-6139744.97	-6139744.81	0.0532	0.0313
Neptune	-21523-11-17 07:11 J	-6139532.38	-6139532.20	-6139531.99	0.0089	0.0040
Neptune	-21522-06-30 20:09 J	-6139306.84	-6139306.66	-6139306.45	0.0089	0.0039
Uranus	-21521-01-06 08:09 J	-6139117.27	-6139117.16	-6139117.04	0.0132	0.0113
Neptune	-21521-02-11 09:21 J	-6139081.30	-6139081.11	-6139080.91	0.0089	0.0039
Uranus	-21521-08-19 13:26 J	-6138891.09	-6138890.94	-6138890.76	0.0132	0.0087
Neptune	-21521-09-23 22:04 J	-6138855.77	-6138855.58	-6138855.38	0.0089	0.0039
Uranus	-21520-04-02 18:57 J	-6138664.90	-6138664.71	-6138664.51	0.0132	0.0062
Neptune	-21520-05-07 10:48 J	-6138630.23	-6138630.05	-6138629.84	0.0089	0.0039
Uranus	-21520-11-15 00:14 J	-6138438.70	-6138438.49	-6138438.27	0.0133	0.0036
Neptune	-21520-12-19 00:00 J	-6138404.70	-6138404.50	-6138404.31	0.0089	0.0038
Uranus	-21519-06-29 05:31 J	-6138212.48	-6138212.27	-6138212.04	0.0133	0.0011
Neptune	-21519-08-01 12:28 J	-6138179.17	-6138178.98	-6138178.77	0.0089	0.0038
Uranus	-21518-02-10 11:02 J	-6137986.26	-6137986.04	-6137985.82	0.0133	0.0016
Neptune	-21518-03-15 01:11 J	-6137953.63	-6137953.45	-6137953.23	0.0089	0.0038
Jupiter	-21518-06-23 13:55 J	-6137853.10	-6137852.92	-6137852.73	0.0493	0.0209
Uranus	-21518-09-24 16:04 J	-6137760.02	-6137759.83	-6137759.61	0.0133	0.0042
Neptune	-21518-10-26 14:09 J	-6137728.10	-6137727.91	-6137727.70	0.0089	0.0037
Jupiter	-21517-02-14 20:52 J	-6137616.82	-6137616.63	-6137616.43	0.0494	0.0162
Uranus	-21517-05-07 21:36 J	-6137533.78	-6137533.60	-6137533.41	0.0133	0.0067
Neptune	-21517-06-08 02:38 J	-6137502.57	-6137502.39	-6137502.17	0.0089	0.0037
Uranus	-21517-12-20 02:52 J	-6137307.53	-6137307.38	-6137307.22	0.0133	0.0093
Neptune	-21516-01-19 15:36 J	-6137277.04	-6137276.85	-6137276.64	0.0089	0.0036
Saturn	-21516-07-11 06:43 J	-6137104.39	-6137104.22	-6137104.05	0.0300	0.0178

Uranus	-21516-08-03 08:23 J	-6137081.24	-6137081.15	-6137081.05	0.0133	0.0119
Neptune	-21516-09-02 04:19 J	-6137051.51	-6137051.32	-6137051.11	0.0089	0.0035
Saturn	-21515-02-26 15:21 J	-6136874.07	-6136873.86	-6136873.65	0.0300	0.0011
Neptune	-21515-04-15 17:16 J	-6136825.97	-6136825.78	-6136825.57	0.0089	0.0035
Saturn	-21515-10-14 22:48 J	-6136643.70	-6136643.55	-6136643.39	0.0299	0.0198
Neptune	-21515-11-27 05:45 J	-6136600.45	-6136600.26	-6136600.05	0.0089	0.0035
Neptune	-21514-07-10 18:28 J	-6136374.92	-6136374.73	-6136374.52	0.0089	0.0034
Neptune	-21513-02-21 07:11 J	-6136149.39	-6136149.20	-6136148.98	0.0089	0.0033
Neptune	-21513-10-03 19:55 J	-6135923.86	-6135923.67	-6135923.45	0.0089	0.0033
Jupiter	-21512-04-28 12:14 J	-6135717.15	-6135716.99	-6135716.81	0.0534	0.0274
Neptune	-21512-05-17 08:52 J	-6135698.33	-6135698.13	-6135697.92	0.0089	0.0032
Jupiter	-21512-12-22 06:28 J	-6135479.42	-6135479.23	-6135479.05	0.0532	0.0193
Neptune	-21512-12-28 21:21 J	-6135472.80	-6135472.61	-6135472.39	0.0089	0.0032
Neptune	-21511-08-11 10:19 J	-6135247.27	-6135247.07	-6135246.86	0.0089	0.0030
Neptune	-21510-03-24 22:48 J	-6135021.74	-6135021.55	-6135021.33	0.0089	0.0030
Neptune	-21510-11-05 11:31 J	-6134796.21	-6134796.02	-6134795.80	0.0089	0.0030
Neptune	-21509-06-18 00:14 J	-6134570.69	-6134570.49	-6134570.28	0.0089	0.0029
Neptune	-21508-01-29 12:57 J	-6134345.16	-6134344.96	-6134344.75	0.0089	0.0028
Neptune	-21508-09-12 01:26 J	-6134119.64	-6134119.44	-6134119.23	0.0089	0.0027
Neptune	-21507-04-25 14:09 J	-6133894.11	-6133893.91	-6133893.70	0.0089	0.0026
Neptune	-21507-12-07 02:38 J	-6133668.59	-6133668.39	-6133668.17	0.0089	0.0026
Jupiter	-21506-02-26 13:55 J	-6133587.08	-6133586.92	-6133586.76	0.0493	0.0310
Neptune	-21506-07-20 15:21 J	-6133443.07	-6133442.86	-6133442.65	0.0089	0.0025
Jupiter	-21506-10-20 19:40 J	-6133350.88	-6133350.68	-6133350.47	0.0493	0.0057
Neptune	-21505-03-02 03:36 J	-6133217.55	-6133217.35	-6133217.13	0.0089	0.0024
Jupiter	-21505-06-13 06:43 J	-6133114.32	-6133114.22	-6133114.12	0.0496	0.0429
Neptune	-21505-10-13 16:04 J	-6132992.02	-6132991.83	-6132991.61	0.0089	0.0024
Neptune	-21504-05-27 04:48 J	-6132766.50	-6132766.30	-6132766.08	0.0089	0.0022
Neptune	-21503-01-07 17:16 J	-6132540.98	-6132540.78	-6132540.56	0.0089	0.0022
Neptune	-21503-08-21 05:45 J	-6132315.46	-6132315.26	-6132315.04	0.0089	0.0021

Neptune -21502-04-03 18:28 J -6132089.94 -6132089.73 -6132089.52 0.0089 0.0020
 Neptune -21502-11-15 06:43 J -6131864.42 -6131864.22 -6131864.00 0.0089 0.0019
 Saturn -21502-12-22 04:04 J -6131827.47 -6131827.33 -6131827.18 0.0262 0.0185
 Neptune -21501-06-27 19:11 J -6131638.90 -6131638.70 -6131638.48 0.0089 0.0018
 Saturn -21501-08-06 22:33 J -6131598.76 -6131598.56 -6131598.35 0.0262 0.0066
 Jupiter -21500-01-01 02:52 J -6131451.51 -6131451.38 -6131451.24 0.0534 0.0400
 Neptune -21500-02-08 07:40 J -6131413.39 -6131413.18 -6131412.96 0.0089 0.0017
 Saturn -21500-03-23 17:31 J -6131369.97 -6131369.77 -6131369.56 0.0262 0.0056
 Jupiter -21500-08-26 22:19 J -6131213.77 -6131213.57 -6131213.37 0.0533 0.0065
 Neptune -21500-09-21 20:09 J -6131187.87 -6131187.66 -6131187.44 0.0089 0.0016
 Saturn -21500-11-07 13:11 J -6131141.10 -6131140.95 -6131140.79 0.0262 0.0177
 Jupiter -21499-04-21 11:16 J -6130976.08 -6130976.03 -6130975.97 0.0529 0.0506
 Neptune -21499-05-05 08:52 J -6130962.34 -6130962.13 -6130961.91 0.0089 0.0015
 Neptune -21499-12-16 21:21 J -6130736.82 -6130736.61 -6130736.39 0.0089 0.0014
 Neptune -21498-07-30 09:50 J -6130511.30 -6130511.09 -6130510.88 0.0089 0.0013
 Neptune -21497-03-11 22:19 J -6130285.78 -6130285.57 -6130285.36 0.0089 0.0013
 Mars -21497-10-04 13:11 J -6130079.10 -6130078.95 -6130078.80 0.1638 0.0825
 Neptune -21497-10-23 10:48 J -6130060.26 -6130060.05 -6130059.84 0.0089 0.0012
 Neptune -21496-06-05 23:02 J -6129834.74 -6129834.54 -6129834.31 0.0089 0.0012
 Neptune -21495-01-17 11:31 J -6129609.23 -6129609.02 -6129608.80 0.0089 0.0010
 Mars -21495-08-04 18:14 J -6129409.88 -6129409.74 -6129409.60 0.1632 0.0954
 Neptune -21495-08-31 00:00 J -6129383.71 -6129383.50 -6129383.28 0.0089 0.0009
 Jupiter -21495-11-01 15:50 J -6129320.95 -6129320.84 -6129320.72 0.0493 0.0406
 Neptune -21494-04-13 12:28 J -6129158.19 -6129157.98 -6129157.76 0.0089 0.0008
 Jupiter -21494-06-25 20:38 J -6129084.84 -6129084.64 -6129084.43 0.0493 0.0046
 Mars -21494-07-06 00:43 J -6129074.61 -6129074.47 -6129074.34 0.1887 0.1222
 Neptune -21494-11-25 00:43 J -6128932.68 -6128932.47 -6128932.25 0.0089 0.0007
 Jupiter -21493-02-17 06:14 J -6128848.39 -6128848.24 -6128848.09 0.0495 0.0329
 Neptune -21493-07-07 13:11 J -6128707.16 -6128706.95 -6128706.73 0.0089 0.0006
 Neptune -21492-02-18 01:26 J -6128481.65 -6128481.44 -6128481.22 0.0089 0.0005

Neptune	-21492-10-01 13:55 J	-6128256.14	-6128255.92	-6128255.71	0.0089	0.0004
Neptune	-21491-05-15 02:23 J	-6128030.62	-6128030.40	-6128030.18	0.0089	0.0003
Neptune	-21491-12-26 14:38 J	-6127805.10	-6127804.89	-6127804.67	0.0089	0.0002
Neptune	-21490-08-09 02:52 J	-6127579.59	-6127579.38	-6127579.16	0.0089	0.0002
Neptune	-21489-03-21 15:21 J	-6127354.08	-6127353.86	-6127353.65	0.0089	0.0001
Jupiter	-21489-09-05 14:23 J	-6127185.92	-6127185.90	-6127185.87	0.0533	0.0527
Neptune	-21489-11-02 03:36 J	-6127128.56	-6127128.35	-6127128.13	0.0089	0.0002
Jupiter	-21488-05-01 11:02 J	-6126948.24	-6126948.04	-6126947.84	0.0533	0.0069
Neptune	-21488-06-15 16:04 J	-6126903.04	-6126902.83	-6126902.61	0.0089	0.0002
Jupiter	-21488-12-25 01:40 J	-6126710.56	-6126710.43	-6126710.29	0.0531	0.0387
Neptune	-21487-01-27 04:33 J	-6126677.53	-6126677.31	-6126677.10	0.0089	0.0003
Neptune	-21487-09-09 16:48 J	-6126452.01	-6126451.80	-6126451.58	0.0089	0.0004
Saturn	-21486-01-21 19:40 J	-6126317.86	-6126317.68	-6126317.48	0.0300	0.0141
Neptune	-21486-04-23 05:16 J	-6126226.49	-6126226.28	-6126226.06	0.0089	0.0005
Saturn	-21486-09-09 04:33 J	-6126087.52	-6126087.31	-6126087.10	0.0300	0.0049
Neptune	-21486-12-04 17:45 J	-6126000.98	-6126000.76	-6126000.55	0.0089	0.0006
Saturn	-21485-04-26 11:45 J	-6125857.13	-6125857.01	-6125856.87	0.0299	0.0235
Neptune	-21485-07-17 06:00 J	-6125775.46	-6125775.25	-6125775.03	0.0089	0.0007
Neptune	-21484-02-27 18:28 J	-6125549.95	-6125549.73	-6125549.52	0.0089	0.0008
Neptune	-21484-10-11 06:43 J	-6125324.43	-6125324.22	-6125324.00	0.0089	0.0009
Neptune	-21483-05-24 19:11 J	-6125098.91	-6125098.70	-6125098.48	0.0089	0.0010
Neptune	-21482-01-05 07:40 J	-6124873.39	-6124873.18	-6124872.96	0.0089	0.0011
Jupiter	-21482-02-28 22:48 J	-6124818.75	-6124818.55	-6124818.35	0.0493	0.0147
Neptune	-21482-08-18 19:55 J	-6124647.88	-6124647.67	-6124647.45	0.0089	0.0012
Jupiter	-21482-10-23 06:57 J	-6124582.40	-6124582.21	-6124582.03	0.0494	0.0227
Neptune	-21481-03-31 08:09 J	-6124422.37	-6124422.16	-6124421.94	0.0089	0.0013
Neptune	-21481-11-11 20:38 J	-6124196.85	-6124196.64	-6124196.42	0.0089	0.0014
Neptune	-21480-06-25 09:07 J	-6123971.33	-6123971.12	-6123970.90	0.0089	0.0015
Uranus	-21480-07-13 21:07 J	-6123952.73	-6123952.62	-6123952.49	0.0146	0.0123
Neptune	-21479-02-05 21:21 J	-6123745.82	-6123745.61	-6123745.39	0.0089	0.0016

Uranus	-21479-02-25 09:21 J	-6123726.28	-6123726.11	-6123725.94	0.0146	0.0089
Neptune	-21479-09-19 09:36 J	-6123520.30	-6123520.10	-6123519.88	0.0089	0.0017
Uranus	-21479-10-09 21:07 J	-6123499.81	-6123499.62	-6123499.41	0.0146	0.0055
Neptune	-21478-05-02 22:04 J	-6123294.79	-6123294.58	-6123294.36	0.0089	0.0017
Uranus	-21478-05-24 09:07 J	-6123273.33	-6123273.12	-6123272.90	0.0146	0.0021
Neptune	-21478-12-14 10:33 J	-6123069.27	-6123069.06	-6123068.85	0.0089	0.0018
Uranus	-21477-01-05 21:21 J	-6123046.83	-6123046.61	-6123046.40	0.0146	0.0014
Neptune	-21477-07-26 23:02 J	-6122843.75	-6122843.54	-6122843.33	0.0089	0.0019
Uranus	-21477-08-19 09:21 J	-6122820.31	-6122820.11	-6122819.90	0.0146	0.0048
Jupiter	-21476-01-04 00:57 J	-6122682.64	-6122682.46	-6122682.27	0.0533	0.0200
Neptune	-21476-03-09 11:16 J	-6122618.24	-6122618.03	-6122617.82	0.0089	0.0020
Uranus	-21476-04-02 21:21 J	-6122593.78	-6122593.61	-6122593.42	0.0146	0.0082
Jupiter	-21476-08-29 17:45 J	-6122444.93	-6122444.76	-6122444.58	0.0532	0.0264
Neptune	-21476-10-20 23:31 J	-6122392.72	-6122392.52	-6122392.30	0.0089	0.0021
Uranus	-21476-11-15 09:07 J	-6122367.23	-6122367.12	-6122366.97	0.0145	0.0116
Neptune	-21475-06-03 12:14 J	-6122167.20	-6122166.99	-6122166.78	0.0089	0.0022
Neptune	-21474-01-15 00:28 J	-6121941.68	-6121941.48	-6121941.26	0.0089	0.0023
Neptune	-21474-08-28 12:57 J	-6121716.16	-6121715.96	-6121715.74	0.0089	0.0024
Neptune	-21473-04-10 01:11 J	-6121490.64	-6121490.45	-6121490.23	0.0089	0.0025
Neptune	-21473-11-21 13:40 J	-6121265.12	-6121264.93	-6121264.71	0.0089	0.0026
Saturn	-21472-07-03 10:33 J	-6121041.21	-6121041.06	-6121040.89	0.0261	0.0163
Neptune	-21472-07-05 02:38 J	-6121039.59	-6121039.39	-6121039.18	0.0089	0.0026
Neptune	-21471-02-15 15:07 J	-6120814.07	-6120813.87	-6120813.66	0.0089	0.0027
Saturn	-21471-02-17 05:16 J	-6120812.49	-6120812.28	-6120812.07	0.0261	0.0043
Neptune	-21471-09-29 03:21 J	-6120588.55	-6120588.36	-6120588.14	0.0089	0.0028
Saturn	-21471-10-04 00:14 J	-6120583.69	-6120583.49	-6120583.29	0.0262	0.0078
Earth	-21471-10-31 12:28 J	-6120556.08	-6120555.98	-6120555.89	0.2620	0.2058
Moon	-21471-10-31 17:31 J	-6120555.77	-6120555.77	-6120555.76	0.2621	0.2615
Jupiter	-21471-11-04 00:14 J	-6120552.66	-6120552.49	-6120552.31	0.0493	0.0248
Neptune	-21470-05-12 15:50 J	-6120363.03	-6120362.84	-6120362.62	0.0089	0.0029

Saturn	-21470-05-20 19:40 J	-6120354.80	-6120354.68	-6120354.53	0.0262	0.0200
Jupiter	-21470-06-28 06:43 J	-6120316.42	-6120316.22	-6120316.02	0.0494	0.0123
Neptune	-21470-12-24 04:33 J	-6120137.51	-6120137.31	-6120137.10	0.0088	0.0029
Jupiter	-21469-02-19 18:14 J	-6120079.76	-6120079.74	-6120079.71	0.0496	0.0491
Neptune	-21469-08-05 17:02 J	-6119911.99	-6119911.79	-6119911.58	0.0088	0.0030
Neptune	-21468-03-19 05:16 J	-6119686.47	-6119686.28	-6119686.06	0.0088	0.0031
Neptune	-21468-10-30 17:45 J	-6119460.95	-6119460.76	-6119460.54	0.0088	0.0032
Neptune	-21467-06-13 06:43 J	-6119235.42	-6119235.22	-6119235.02	0.0088	0.0032
Neptune	-21466-01-24 18:57 J	-6119009.90	-6119009.71	-6119009.50	0.0088	0.0033
Neptune	-21466-09-07 07:26 J	-6118784.38	-6118784.19	-6118783.98	0.0088	0.0033
Neptune	-21465-04-19 20:09 J	-6118558.86	-6118558.66	-6118558.46	0.0088	0.0034
Jupiter	-21465-09-08 15:07 J	-6118417.02	-6118416.87	-6118416.71	0.0534	0.0329
Neptune	-21465-12-01 08:23 J	-6118333.34	-6118333.15	-6118332.94	0.0088	0.0035
Jupiter	-21464-05-04 10:04 J	-6118179.27	-6118179.08	-6118178.88	0.0533	0.0139
Neptune	-21464-07-14 20:52 J	-6118107.81	-6118107.63	-6118107.41	0.0088	0.0036
Neptune	-21463-02-25 09:50 J	-6117882.29	-6117882.09	-6117881.89	0.0088	0.0036
Pluto	-21463-05-16 19:55 J	-6117801.89	-6117801.67	-6117801.44	0.0080	0.0012
Mars	-21463-08-03 10:04 J	-6117723.25	-6117723.08	-6117722.91	0.1634	0.0111
Neptune	-21463-10-08 22:04 J	-6117656.76	-6117656.58	-6117656.36	0.0088	0.0037
Earth	-21463-10-29 05:45 J	-6117636.41	-6117636.26	-6117636.12	0.2621	0.1034
Moon	-21463-10-29 09:21 J	-6117636.28	-6117636.11	-6117635.95	0.2617	0.0413 *
Pluto	-21463-12-28 06:28 J	-6117576.35	-6117576.23	-6117576.06	0.0080	0.0061
Neptune	-21462-05-22 11:02 J	-6117431.24	-6117431.04	-6117430.84	0.0088	0.0037
Mars	-21462-07-06 02:52 J	-6117386.55	-6117386.38	-6117386.21	0.1883	0.0584
Neptune	-21461-01-02 23:16 J	-6117205.71	-6117205.53	-6117205.32	0.0088	0.0038
Neptune	-21461-08-15 12:28 J	-6116980.18	-6116979.98	-6116979.79	0.0088	0.0038
Neptune	-21460-03-29 00:43 J	-6116754.65	-6116754.47	-6116754.26	0.0088	0.0039
Neptune	-21460-11-09 13:40 J	-6116529.12	-6116528.93	-6116528.73	0.0088	0.0039
Neptune	-21459-06-23 02:09 J	-6116303.59	-6116303.41	-6116303.20	0.0088	0.0039
Jupiter	-21459-07-10 02:09 J	-6116286.55	-6116286.41	-6116286.26	0.0493	0.0346

Neptune -21458-02-03 15:07 J -6116078.06 -6116077.87 -6116077.67 0.0088 0.0040
 Jupiter -21458-03-03 07:11 J -6116050.40 -6116050.20 -6116049.99 0.0493 0.0020
 Neptune -21458-09-17 03:36 J -6115852.53 -6115852.35 -6115852.14 0.0088 0.0040
 Jupiter -21458-10-25 17:02 J -6115813.91 -6115813.79 -6115813.66 0.0495 0.0392
 Neptune -21457-04-29 16:19 J -6115627.01 -6115626.82 -6115626.62 0.0088 0.0040
 Saturn -21457-08-03 05:02 J -6115531.48 -6115531.29 -6115531.09 0.0300 0.0112
 Neptune -21457-12-11 04:48 J -6115401.48 -6115401.30 -6115401.09 0.0088 0.0041
 Saturn -21456-03-21 13:26 J -6115301.14 -6115300.94 -6115300.73 0.0299 0.0077
 Neptune -21456-07-24 17:45 J -6115175.94 -6115175.76 -6115175.55 0.0088 0.0041
 Saturn -21456-11-06 20:23 J -6115070.74 -6115070.65 -6115070.54 0.0299 0.0262
 Neptune -21455-03-07 06:43 J -6114950.41 -6114950.22 -6114950.02 0.0088 0.0041
 Neptune -21455-10-18 19:26 J -6114724.88 -6114724.69 -6114724.49 0.0088 0.0042
 Neptune -21454-06-01 07:55 J -6114499.35 -6114499.17 -6114498.97 0.0088 0.0042
 Neptune -21453-01-12 20:38 J -6114273.82 -6114273.64 -6114273.44 0.0088 0.0042
 Jupiter -21453-05-14 06:28 J -6114151.33 -6114151.23 -6114151.12 0.0534 0.0452
 Neptune -21453-08-25 09:36 J -6114048.29 -6114048.10 -6114047.90 0.0088 0.0042
 Jupiter -21452-01-07 03:07 J -6113913.57 -6113913.37 -6113913.17 0.0533 0.0013
 Neptune -21452-04-07 22:33 J -6113822.75 -6113822.56 -6113822.37 0.0088 0.0043
 Jupiter -21452-09-01 17:16 J -6113675.87 -6113675.78 -6113675.68 0.0530 0.0462
 Neptune -21452-11-19 10:48 J -6113597.22 -6113597.05 -6113596.84 0.0088 0.0044
 Neptune -21451-07-02 23:45 J -6113371.69 -6113371.51 -6113371.30 0.0088 0.0043
 Neptune -21450-02-13 12:43 J -6113146.15 -6113145.97 -6113145.77 0.0088 0.0043
 Neptune -21450-09-27 01:40 J -6112920.61 -6112920.43 -6112920.23 0.0088 0.0043
 Neptune -21449-05-09 14:38 J -6112695.08 -6112694.89 -6112694.69 0.0088 0.0043
 Neptune -21449-12-21 03:21 J -6112469.54 -6112469.36 -6112469.16 0.0088 0.0044
 Neptune -21448-08-03 16:33 J -6112243.99 -6112243.81 -6112243.61 0.0088 0.0044
 Jupiter -21447-03-15 02:38 J -6112020.48 -6112020.39 -6112020.30 0.0493 0.0443
 Neptune -21447-03-17 05:31 J -6112018.45 -6112018.27 -6112018.07 0.0088 0.0044
 Neptune -21447-10-28 18:28 J -6111792.92 -6111792.73 -6111792.53 0.0088 0.0044
 Jupiter -21447-11-06 06:43 J -6111784.43 -6111784.22 -6111784.02 0.0493 0.0086

Neptune -21446-06-11 07:26 J -6111567.38 -6111567.19 -6111566.99 0.0088 0.0043
 Jupiter -21446-06-30 14:52 J -6111548.04 -6111547.88 -6111547.70 0.0495 0.0289
 Neptune -21445-01-22 20:23 J -6111341.84 -6111341.65 -6111341.45 0.0088 0.0043
 Neptune -21445-09-04 09:36 J -6111116.29 -6111116.10 -6111115.90 0.0088 0.0043
 Neptune -21444-04-17 22:33 J -6110890.74 -6110890.56 -6110890.36 0.0088 0.0043
 Neptune -21444-11-29 11:31 J -6110665.20 -6110665.02 -6110664.82 0.0088 0.0043
 Saturn -21443-05-29 19:40 J -6110483.68 -6110483.68 -6110483.67 0.0262 0.0262
 Neptune -21443-07-13 00:28 J -6110439.66 -6110439.48 -6110439.27 0.0088 0.0043
 Saturn -21442-01-13 14:09 J -6110255.09 -6110254.91 -6110254.74 0.0262 0.0143
 Neptune -21442-02-23 13:26 J -6110214.12 -6110213.94 -6110213.73 0.0088 0.0043
 Saturn -21442-08-30 08:38 J -6110026.35 -6110026.14 -6110025.93 0.0262 0.0023
 Neptune -21442-10-07 02:23 J -6109988.57 -6109988.40 -6109988.19 0.0088 0.0043
 Saturn -21441-04-15 03:36 J -6109797.54 -6109797.35 -6109797.15 0.0262 0.0099
 Neptune -21441-05-19 15:50 J -6109763.03 -6109762.84 -6109762.64 0.0088 0.0042
 Jupiter -21441-09-11 18:43 J -6109647.92 -6109647.72 -6109647.52 0.0534 0.0117
 Saturn -21441-11-29 23:31 J -6109568.63 -6109568.52 -6109568.40 0.0263 0.0220
 Neptune -21441-12-31 04:48 J -6109537.49 -6109537.30 -6109537.10 0.0088 0.0042
 Jupiter -21440-05-07 10:33 J -6109410.21 -6109410.06 -6109409.90 0.0531 0.0343
 Neptune -21440-08-13 18:00 J -6109311.94 -6109311.75 -6109311.55 0.0088 0.0042
 Neptune -21439-03-27 06:57 J -6109086.39 -6109086.21 -6109086.00 0.0088 0.0042
 Neptune -21439-11-07 20:23 J -6108860.85 -6108860.65 -6108860.45 0.0088 0.0041
 Neptune -21438-06-21 09:07 J -6108635.30 -6108635.12 -6108634.91 0.0088 0.0041
 Uranus -21438-09-05 17:02 J -6108558.85 -6108558.79 -6108558.71 0.0132 0.0125
 Neptune -21437-02-01 22:19 J -6108409.75 -6108409.57 -6108409.36 0.0088 0.0041
 Uranus -21437-04-18 22:19 J -6108332.70 -6108332.57 -6108332.41 0.0132 0.0100
 Neptune -21437-09-14 12:00 J -6108184.20 -6108184.00 -6108183.80 0.0088 0.0040
 Uranus -21437-12-01 03:50 J -6108106.51 -6108106.34 -6108106.15 0.0132 0.0074
 Neptune -21436-04-28 00:57 J -6107958.65 -6107958.46 -6107958.25 0.0088 0.0040
 Uranus -21436-07-15 09:21 J -6107880.31 -6107880.11 -6107879.90 0.0133 0.0048
 Neptune -21436-12-09 14:09 J -6107733.09 -6107732.91 -6107732.70 0.0088 0.0040

Uranus	-21435-02-26 14:52 J	-6107654.10	-6107653.88	-6107653.66	0.0133	0.0022
Jupiter	-21435-07-12 08:09 J	-6107518.35	-6107518.16	-6107517.97	0.0493	0.0187
Neptune	-21435-07-23 03:36 J	-6107507.54	-6107507.35	-6107507.14	0.0088	0.0039
Uranus	-21435-10-10 20:09 J	-6107427.88	-6107427.66	-6107427.44	0.0133	0.0004
Jupiter	-21434-03-05 15:21 J	-6107282.05	-6107281.86	-6107281.67	0.0494	0.0186
Neptune	-21434-03-05 16:48 J	-6107281.99	-6107281.80	-6107281.59	0.0088	0.0039 *
Uranus	-21434-05-25 01:26 J	-6107201.65	-6107201.44	-6107201.22	0.0133	0.0030
Neptune	-21434-10-17 06:14 J	-6107056.43	-6107056.24	-6107056.03	0.0088	0.0038
Uranus	-21433-01-06 06:57 J	-6106975.40	-6106975.21	-6106975.01	0.0133	0.0056
Neptune	-21433-05-29 19:26 J	-6106830.88	-6106830.69	-6106830.48	0.0088	0.0038
Uranus	-21433-08-19 12:14 J	-6106749.15	-6106748.99	-6106748.81	0.0133	0.0082
Neptune	-21432-01-10 08:52 J	-6106605.32	-6106605.13	-6106604.92	0.0088	0.0037
Uranus	-21432-04-02 18:00 J	-6106522.88	-6106522.75	-6106522.63	0.0133	0.0108
Neptune	-21432-08-23 22:04 J	-6106379.77	-6106379.58	-6106379.36	0.0088	0.0037
Neptune	-21431-04-06 11:31 J	-6106154.21	-6106154.02	-6106153.80	0.0088	0.0036
Mars	-21431-08-02 01:40 J	-6106036.58	-6106036.43	-6106036.28	0.1637	0.0743
Neptune	-21431-11-18 00:43 J	-6105928.66	-6105928.47	-6105928.25	0.0088	0.0036
Neptune	-21430-07-01 14:09 J	-6105703.10	-6105702.91	-6105702.69	0.0088	0.0035
Neptune	-21429-02-12 03:36 J	-6105477.55	-6105477.35	-6105477.14	0.0088	0.0034
Jupiter	-21429-05-17 06:28 J	-6105382.40	-6105382.23	-6105382.05	0.0533	0.0252
Mars	-21429-06-01 06:57 J	-6105367.34	-6105367.21	-6105367.08	0.1631	0.1028
Neptune	-21429-09-24 16:48 J	-6105251.99	-6105251.80	-6105251.57	0.0088	0.0034
Jupiter	-21428-01-10 00:00 J	-6105144.68	-6105144.50	-6105144.31	0.0532	0.0215
Mars	-21428-05-02 02:23 J	-6105032.50	-6105032.40	-6105032.29	0.1889	0.1532
Neptune	-21428-05-08 06:28 J	-6105026.43	-6105026.23	-6105026.01	0.0088	0.0033
Saturn	-21428-06-28 08:09 J	-6104975.25	-6104975.16	-6104975.05	0.0300	0.0265
Neptune	-21428-12-19 19:55 J	-6104800.87	-6104800.67	-6104800.46	0.0088	0.0032
Saturn	-21427-02-13 17:31 J	-6104744.97	-6104744.77	-6104744.56	0.0300	0.0076
Neptune	-21427-08-02 09:21 J	-6104575.32	-6104575.11	-6104574.90	0.0088	0.0031
Saturn	-21427-10-02 01:55 J	-6104514.62	-6104514.42	-6104514.22	0.0300	0.0114

Neptune	-21426-03-15 22:19 J	-6104349.76	-6104349.57	-6104349.34	0.0088	0.0031
Saturn	-21426-05-20 08:38 J	-6104284.14	-6104284.14	-6104284.11	0.0299	0.0298
Neptune	-21426-10-27 12:00 J	-6104124.20	-6104124.00	-6104123.78	0.0088	0.0030
Neptune	-21425-06-09 01:40 J	-6103898.64	-6103898.43	-6103898.22	0.0088	0.0029
Neptune	-21424-01-20 15:07 J	-6103673.08	-6103672.87	-6103672.66	0.0088	0.0028
Neptune	-21424-09-03 04:19 J	-6103447.52	-6103447.32	-6103447.09	0.0088	0.0028
Jupiter	-21423-03-17 10:33 J	-6103252.22	-6103252.06	-6103251.88	0.0493	0.0287
Neptune	-21423-04-16 18:00 J	-6103221.96	-6103221.75	-6103221.53	0.0088	0.0027
Jupiter	-21423-11-08 16:48 J	-6103016.00	-6103015.80	-6103015.60	0.0494	0.0083
Neptune	-21423-11-28 07:26 J	-6102996.39	-6102996.19	-6102995.96	0.0088	0.0027
Jupiter	-21422-07-03 03:50 J	-6102779.42	-6102779.34	-6102779.26	0.0496	0.0454
Neptune	-21422-07-11 21:07 J	-6102770.83	-6102770.62	-6102770.40	0.0088	0.0025
Neptune	-21421-02-22 10:48 J	-6102545.27	-6102545.05	-6102544.84	0.0088	0.0024
Neptune	-21421-10-05 00:14 J	-6102319.70	-6102319.49	-6102319.26	0.0088	0.0024
Neptune	-21420-05-18 13:40 J	-6102094.13	-6102093.93	-6102093.70	0.0088	0.0024
Neptune	-21420-12-30 03:21 J	-6101868.57	-6101868.36	-6101868.13	0.0088	0.0022
Neptune	-21419-08-12 16:48 J	-6101643.00	-6101642.80	-6101642.57	0.0088	0.0022
Neptune	-21418-03-26 06:28 J	-6101417.44	-6101417.23	-6101417.00	0.0088	0.0020
Neptune	-21418-11-06 20:09 J	-6101191.87	-6101191.66	-6101191.43	0.0088	0.0019
Jupiter	-21417-01-20 19:55 J	-6101116.80	-6101116.67	-6101116.52	0.0533	0.0380
Neptune	-21417-06-19 09:50 J	-6100966.31	-6100966.09	-6100965.87	0.0088	0.0018
Jupiter	-21417-09-14 15:21 J	-6100879.06	-6100878.86	-6100878.66	0.0533	0.0086
Neptune	-21416-01-30 23:16 J	-6100740.74	-6100740.53	-6100740.30	0.0088	0.0017
Jupiter	-21416-05-10 04:19 J	-6100641.34	-6100641.32	-6100641.30	0.0530	0.0527
Neptune	-21416-09-13 12:57 J	-6100515.18	-6100514.96	-6100514.73	0.0088	0.0016
Neptune	-21415-04-27 02:38 J	-6100289.61	-6100289.39	-6100289.17	0.0088	0.0015
Neptune	-21415-12-08 16:04 J	-6100064.05	-6100063.83	-6100063.60	0.0088	0.0014
Neptune	-21414-07-22 05:45 J	-6099838.48	-6099838.26	-6099838.04	0.0088	0.0013
Saturn	-21414-12-10 02:09 J	-6099697.49	-6099697.41	-6099697.33	0.0262	0.0239
Neptune	-21413-03-03 19:11 J	-6099612.92	-6099612.70	-6099612.47	0.0088	0.0012

Saturn	-21413-07-25 20:38 J	-6099468.83	-6099468.64	-6099468.46	0.0261	0.0121
Neptune	-21413-10-15 09:07 J	-6099387.34	-6099387.12	-6099386.90	0.0088	0.0011
Saturn	-21412-03-11 15:07 J	-6099240.08	-6099239.87	-6099239.66	0.0261	0.0005
Neptune	-21412-05-28 22:48 J	-6099161.77	-6099161.55	-6099161.33	0.0088	0.0010
Saturn	-21412-10-26 10:19 J	-6099011.25	-6099011.07	-6099010.88	0.0262	0.0121
Jupiter	-21412-11-20 12:43 J	-6098986.09	-6098985.97	-6098985.84	0.0493	0.0384
Neptune	-21411-01-09 12:14 J	-6098936.21	-6098935.99	-6098935.76	0.0088	0.0010
Saturn	-21411-06-12 06:14 J	-6098782.31	-6098782.24	-6098782.15	0.0262	0.0242
Jupiter	-21411-07-14 17:31 J	-6098749.98	-6098749.77	-6098749.56	0.0493	0.0021
Neptune	-21411-08-23 01:55 J	-6098710.64	-6098710.42	-6098710.19	0.0088	0.0008
Jupiter	-21410-03-08 02:38 J	-6098513.53	-6098513.39	-6098513.24	0.0495	0.0353
Neptune	-21410-04-05 15:36 J	-6098485.07	-6098484.85	-6098484.62	0.0088	0.0007
Neptune	-21410-11-17 05:31 J	-6098259.49	-6098259.27	-6098259.04	0.0088	0.0006
Neptune	-21409-06-29 19:11 J	-6098033.92	-6098033.70	-6098033.47	0.0088	0.0005
Neptune	-21408-02-10 08:52 J	-6097808.35	-6097808.13	-6097807.90	0.0088	0.0004
Neptune	-21408-09-23 22:33 J	-6097582.78	-6097582.56	-6097582.33	0.0088	0.0003
Neptune	-21407-05-07 12:28 J	-6097357.21	-6097356.98	-6097356.76	0.0088	0.0002
Neptune	-21407-12-19 02:09 J	-6097131.63	-6097131.41	-6097131.19	0.0088	0.0001
Neptune	-21406-08-01 15:50 J	-6096906.07	-6096905.84	-6096905.62	0.0088	0.0000
Jupiter	-21406-09-25 09:21 J	-6096851.17	-6096851.11	-6096851.04	0.0533	0.0504
Neptune	-21405-03-14 05:31 J	-6096680.50	-6096680.27	-6096680.05	0.0088	0.0001
Jupiter	-21405-05-20 06:28 J	-6096613.43	-6096613.23	-6096613.03	0.0534	0.0044
Neptune	-21405-10-25 19:11 J	-6096454.92	-6096454.70	-6096454.47	0.0088	0.0003
Jupiter	-21404-01-12 21:36 J	-6096375.72	-6096375.60	-6096375.47	0.0531	0.0412
Neptune	-21404-06-08 08:52 J	-6096229.35	-6096229.13	-6096228.90	0.0088	0.0004
Neptune	-21403-01-19 22:33 J	-6096003.78	-6096003.56	-6096003.33	0.0088	0.0005
Neptune	-21403-09-02 12:14 J	-6095778.21	-6095777.99	-6095777.76	0.0088	0.0006
Neptune	-21402-04-16 01:55 J	-6095552.64	-6095552.42	-6095552.20	0.0088	0.0007
Neptune	-21402-11-27 15:36 J	-6095327.07	-6095326.85	-6095326.62	0.0088	0.0008
Neptune	-21401-07-10 05:16 J	-6095101.50	-6095101.28	-6095101.05	0.0088	0.0009

Neptune -21400-02-20 18:57 J -6094875.93 -6094875.71 -6094875.48 0.0088 0.0010
 Jupiter -21400-07-26 15:07 J -6094719.92 -6094719.87 -6094719.82 0.0493 0.0477
 Neptune -21400-10-04 08:38 J -6094650.36 -6094650.14 -6094649.91 0.0088 0.0011
 Jupiter -21399-03-19 18:43 J -6094483.92 -6094483.72 -6094483.52 0.0493 0.0123
 Neptune -21399-05-17 22:19 J -6094424.79 -6094424.57 -6094424.34 0.0088 0.0012
 Mars -21399-07-31 17:45 J -6094349.79 -6094349.76 -6094349.72 0.1640 0.1602
 Jupiter -21399-11-11 02:09 J -6094247.58 -6094247.41 -6094247.23 0.0494 0.0251
 Neptune -21399-12-29 12:14 J -6094199.21 -6094198.99 -6094198.77 0.0089 0.0013
 Saturn -21398-01-08 18:14 J -6094188.87 -6094188.74 -6094188.61 0.0300 0.0236
 Neptune -21398-08-12 01:55 J -6093973.64 -6093973.42 -6093973.20 0.0089 0.0014
 Saturn -21398-08-27 03:07 J -6093958.58 -6093958.37 -6093958.16 0.0300 0.0047
 Neptune -21397-03-24 15:36 J -6093748.07 -6093747.85 -6093747.63 0.0089 0.0015
 Saturn -21397-04-13 11:02 J -6093728.22 -6093728.04 -6093727.85 0.0299 0.0142
 Mars -21397-05-30 22:48 J -6093680.72 -6093680.55 -6093680.38 0.1633 0.0188
 Neptune -21397-11-05 05:02 J -6093522.50 -6093522.29 -6093522.06 0.0089 0.0017
 Uranus -21396-03-13 04:04 J -6093394.39 -6093394.33 -6093394.25 0.0146 0.0138
 Mars -21396-05-02 05:31 J -6093344.44 -6093344.27 -6093344.09 0.1884 0.0292
 Neptune -21396-06-18 18:57 J -6093296.92 -6093296.71 -6093296.48 0.0089 0.0017
 Uranus -21396-10-25 16:04 J -6093167.97 -6093167.83 -6093167.67 0.0146 0.0104
 Neptune -21395-01-30 08:38 J -6093071.35 -6093071.14 -6093070.91 0.0089 0.0018
 Uranus -21395-06-09 04:04 J -6092941.51 -6092941.33 -6092941.13 0.0146 0.0070
 Neptune -21395-09-12 22:19 J -6092845.78 -6092845.57 -6092845.34 0.0089 0.0019
 Uranus -21394-01-21 16:04 J -6092715.03 -6092714.83 -6092714.61 0.0146 0.0036
 Neptune -21394-04-26 12:14 J -6092620.21 -6092619.99 -6092619.77 0.0089 0.0020
 Uranus -21394-09-05 04:04 J -6092488.54 -6092488.33 -6092488.11 0.0146 0.0004
 Neptune -21394-12-08 01:55 J -6092394.63 -6092394.42 -6092394.20 0.0089 0.0021
 Jupiter -21393-01-23 22:48 J -6092347.74 -6092347.55 -6092347.36 0.0534 0.0171
 Uranus -21393-04-18 16:04 J -6092262.04 -6092261.83 -6092261.61 0.0146 0.0033
 Neptune -21393-07-20 15:36 J -6092169.06 -6092168.85 -6092168.63 0.0089 0.0022
 Jupiter -21393-09-17 15:50 J -6092110.00 -6092109.84 -6092109.67 0.0532 0.0294

Uranus	-21393-12-01 04:04 J	-6092035.52	-6092035.33	-6092035.13	0.0146	0.0067
Neptune	-21392-03-03 05:16 J	-6091943.49	-6091943.28	-6091943.06	0.0089	0.0023
Uranus	-21392-07-15 16:04 J	-6091808.97	-6091808.83	-6091808.66	0.0145	0.0101
Neptune	-21392-10-14 18:43 J	-6091717.93	-6091717.72	-6091717.50	0.0089	0.0024
Uranus	-21391-02-27 04:04 J	-6091582.40	-6091582.33	-6091582.23	0.0145	0.0134
Neptune	-21391-05-28 08:23 J	-6091492.36	-6091492.15	-6091491.93	0.0089	0.0025
Neptune	-21390-01-08 22:04 J	-6091266.79	-6091266.58	-6091266.36	0.0089	0.0026
Neptune	-21390-08-22 11:31 J	-6091041.22	-6091041.02	-6091040.80	0.0089	0.0027
Neptune	-21389-04-04 00:57 J	-6090815.66	-6090815.46	-6090815.24	0.0089	0.0028
Neptune	-21389-11-15 14:38 J	-6090590.09	-6090589.89	-6090589.67	0.0089	0.0029
Neptune	-21388-06-29 04:04 J	-6090364.52	-6090364.33	-6090364.10	0.0089	0.0030
Jupiter	-21388-11-22 18:43 J	-6090217.90	-6090217.72	-6090217.54	0.0492	0.0226
Neptune	-21387-02-09 18:00 J	-6090138.96	-6090138.75	-6090138.54	0.0089	0.0030
Jupiter	-21387-07-17 00:57 J	-6089981.66	-6089981.46	-6089981.26	0.0494	0.0145
Neptune	-21387-09-23 07:26 J	-6089913.39	-6089913.19	-6089912.98	0.0089	0.0031
Neptune	-21386-05-06 20:52 J	-6089687.83	-6089687.63	-6089687.41	0.0089	0.0032
Neptune	-21386-12-18 10:33 J	-6089462.26	-6089462.06	-6089461.84	0.0089	0.0033
Neptune	-21385-07-31 00:14 J	-6089236.69	-6089236.49	-6089236.28	0.0089	0.0033
Neptune	-21384-03-13 13:40 J	-6089011.13	-6089010.93	-6089010.72	0.0089	0.0034
Saturn	-21384-06-21 05:16 J	-6088911.39	-6088911.28	-6088911.17	0.0262	0.0221
Neptune	-21384-10-25 03:07 J	-6088785.56	-6088785.37	-6088785.15	0.0089	0.0035
Saturn	-21383-02-04 23:31 J	-6088682.71	-6088682.52	-6088682.33	0.0262	0.0102
Neptune	-21383-06-07 16:33 J	-6088560.00	-6088559.81	-6088559.59	0.0089	0.0036
Saturn	-21383-09-21 18:14 J	-6088453.95	-6088453.74	-6088453.53	0.0262	0.0019
Neptune	-21382-01-19 06:28 J	-6088334.43	-6088334.23	-6088334.02	0.0089	0.0036
Saturn	-21382-05-08 13:11 J	-6088225.12	-6088224.95	-6088224.77	0.0262	0.0140
Neptune	-21382-09-01 19:55 J	-6088108.86	-6088108.67	-6088108.46	0.0089	0.0037
Jupiter	-21382-09-28 13:40 J	-6088082.09	-6088081.93	-6088081.76	0.0534	0.0300
Saturn	-21382-12-23 09:07 J	-6087996.13	-6087996.12	-6087996.09	0.0263	0.0262
Neptune	-21381-04-14 09:07 J	-6087883.30	-6087883.12	-6087882.90	0.0089	0.0038

Jupiter -21381-05-23 08:38 J -6087844.33 -6087844.14 -6087843.95 0.0533 0.0169
 Neptune -21381-11-25 22:48 J -6087657.74 -6087657.55 -6087657.34 0.0089 0.0038
 Neptune -21380-07-09 12:14 J -6087432.18 -6087431.99 -6087431.78 0.0089 0.0039
 Neptune -21379-02-20 01:55 J -6087206.61 -6087206.42 -6087206.22 0.0089 0.0039
 Neptune -21379-10-03 15:07 J -6086981.05 -6086980.87 -6086980.66 0.0089 0.0040
 Neptune -21378-05-17 04:48 J -6086755.50 -6086755.30 -6086755.10 0.0089 0.0040
 Neptune -21378-12-28 18:00 J -6086529.94 -6086529.75 -6086529.54 0.0089 0.0041
 Neptune -21377-08-10 07:40 J -6086304.38 -6086304.18 -6086303.99 0.0089 0.0042
 Neptune -21376-03-23 20:38 J -6086078.82 -6086078.64 -6086078.43 0.0089 0.0042
 Jupiter -21376-07-28 20:52 J -6085951.78 -6085951.63 -6085951.48 0.0493 0.0324
 Neptune -21376-11-04 10:04 J -6085853.27 -6085853.08 -6085852.88 0.0089 0.0043
 Jupiter -21375-03-22 02:09 J -6085715.62 -6085715.41 -6085715.21 0.0493 0.0043
 Neptune -21375-06-17 23:16 J -6085627.71 -6085627.53 -6085627.33 0.0089 0.0043
 Jupiter -21375-11-13 12:14 J -6085479.10 -6085478.99 -6085478.87 0.0496 0.0416
 Neptune -21374-01-29 12:43 J -6085402.15 -6085401.97 -6085401.77 0.0089 0.0043
 Neptune -21374-09-12 02:09 J -6085176.60 -6085176.41 -6085176.21 0.0089 0.0044
 Neptune -21373-04-24 15:07 J -6084951.04 -6084950.87 -6084950.66 0.0089 0.0044
 Neptune -21373-12-06 04:33 J -6084725.49 -6084725.31 -6084725.11 0.0089 0.0045
 Neptune -21372-07-19 18:00 J -6084499.93 -6084499.75 -6084499.55 0.0089 0.0045
 Neptune -21371-03-02 07:11 J -6084274.37 -6084274.20 -6084273.99 0.0089 0.0045
 Neptune -21371-10-13 20:38 J -6084048.82 -6084048.64 -6084048.44 0.0089 0.0045
 Neptune -21370-05-27 09:50 J -6083823.27 -6083823.09 -6083822.89 0.0089 0.0046
 Jupiter -21370-06-03 01:26 J -6083816.55 -6083816.44 -6083816.32 0.0533 0.0430
 Neptune -21369-01-07 23:16 J -6083597.71 -6083597.53 -6083597.33 0.0089 0.0046
 Jupiter -21369-01-26 21:21 J -6083578.81 -6083578.61 -6083578.40 0.0533 0.0037
 Saturn -21369-07-21 05:31 J -6083402.43 -6083402.27 -6083402.11 0.0300 0.0202
 Neptune -21369-08-20 12:14 J -6083372.16 -6083371.99 -6083371.78 0.0089 0.0046
 Jupiter -21369-09-20 11:16 J -6083341.11 -6083341.03 -6083340.95 0.0530 0.0483
 Saturn -21368-03-08 14:38 J -6083172.11 -6083171.89 -6083171.68 0.0300 0.0013
 Neptune -21368-04-03 01:40 J -6083146.61 -6083146.43 -6083146.23 0.0089 0.0046

Saturn	-21368-10-24 22:33 J	-6082941.73	-6082941.56	-6082941.39	0.0300	0.0177
Neptune	-21368-11-14 14:52 J	-6082921.06	-6082920.88	-6082920.68	0.0089	0.0046
Neptune	-21367-06-28 04:04 J	-6082695.51	-6082695.33	-6082695.13	0.0089	0.0046
Neptune	-21366-02-08 17:16 J	-6082469.96	-6082469.78	-6082469.58	0.0089	0.0046
Neptune	-21366-09-22 06:14 J	-6082244.41	-6082244.24	-6082244.04	0.0089	0.0047
Neptune	-21365-05-04 19:26 J	-6082018.87	-6082018.69	-6082018.49	0.0089	0.0047
Mars	-21365-05-29 14:38 J	-6081994.05	-6081993.89	-6081993.74	0.1636	0.0670
Neptune	-21365-12-16 08:23 J	-6081793.32	-6081793.15	-6081792.95	0.0089	0.0047
Jupiter	-21364-04-02 23:31 J	-6081685.62	-6081685.52	-6081685.41	0.0493	0.0422
Neptune	-21364-07-29 21:36 J	-6081567.78	-6081567.60	-6081567.41	0.0089	0.0046
Jupiter	-21364-11-25 04:04 J	-6081449.54	-6081449.33	-6081449.13	0.0493	0.0060
Neptune	-21363-03-12 10:33 J	-6081342.23	-6081342.06	-6081341.86	0.0089	0.0047
Mars	-21363-03-29 19:55 J	-6081324.79	-6081324.67	-6081324.54	0.1630	0.1099
Jupiter	-21363-07-19 12:43 J	-6081213.12	-6081212.97	-6081212.81	0.0495	0.0314
Neptune	-21363-10-23 23:31 J	-6081116.69	-6081116.52	-6081116.31	0.0089	0.0047
Mars	-21362-02-27 04:19 J	-6080990.36	-6080990.32	-6080990.28	0.1889	0.1835
Neptune	-21362-06-06 12:28 J	-6080891.15	-6080890.98	-6080890.77	0.0089	0.0047
Neptune	-21361-01-18 01:26 J	-6080665.60	-6080665.44	-6080665.23	0.0089	0.0047
Neptune	-21361-08-30 14:52 J	-6080440.06	-6080439.88	-6080439.69	0.0089	0.0046
Neptune	-21360-04-13 03:50 J	-6080214.52	-6080214.34	-6080214.14	0.0089	0.0046
Neptune	-21360-11-24 16:48 J	-6079988.98	-6079988.80	-6079988.60	0.0089	0.0045
Neptune	-21359-07-08 05:31 J	-6079763.44	-6079763.27	-6079763.06	0.0089	0.0046
Neptune	-21358-02-18 18:43 J	-6079537.89	-6079537.72	-6079537.52	0.0089	0.0045
Jupiter	-21358-10-01 12:00 J	-6079313.20	-6079313.00	-6079312.80	0.0533	0.0096
Neptune	-21358-10-02 07:55 J	-6079312.35	-6079312.17	-6079311.98	0.0089	0.0045
Neptune	-21357-05-14 20:38 J	-6079086.82	-6079086.64	-6079086.44	0.0089	0.0045
Jupiter	-21357-05-26 03:36 J	-6079075.49	-6079075.35	-6079075.20	0.0531	0.0364
Neptune	-21357-12-26 09:21 J	-6078861.28	-6078861.11	-6078860.90	0.0089	0.0045
Neptune	-21356-08-08 22:33 J	-6078635.74	-6078635.56	-6078635.36	0.0089	0.0044
Neptune	-21355-03-22 11:31 J	-6078410.20	-6078410.02	-6078409.82	0.0089	0.0043

Neptune -21355-11-03 00:28 J -6078184.66 -6078184.48 -6078184.28 0.0089 0.0043
 Saturn -21354-01-01 11:02 J -6078125.16 -6078125.04 -6078124.89 0.0261 0.0200
 Neptune -21354-06-16 13:11 J -6077959.13 -6077958.95 -6077958.75 0.0089 0.0042
 Saturn -21354-08-18 05:31 J -6077896.46 -6077896.27 -6077896.07 0.0261 0.0080
 Uranus -21354-12-18 07:40 J -6077774.28 -6077774.18 -6077774.05 0.0132 0.0112
 Neptune -21353-01-28 02:09 J -6077733.60 -6077733.41 -6077733.22 0.0089 0.0042
 Saturn -21353-04-03 00:14 J -6077667.70 -6077667.49 -6077667.28 0.0261 0.0041
 Uranus -21353-07-31 13:11 J -6077548.10 -6077547.95 -6077547.77 0.0132 0.0086
 Neptune -21353-09-09 14:38 J -6077508.07 -6077507.89 -6077507.68 0.0089 0.0042
 Saturn -21353-11-17 19:26 J -6077438.85 -6077438.69 -6077438.52 0.0262 0.0162
 Uranus -21352-03-14 18:43 J -6077321.91 -6077321.72 -6077321.52 0.0133 0.0060
 Neptune -21352-04-23 03:50 J -6077282.53 -6077282.34 -6077282.15 0.0089 0.0041
 Jupiter -21352-07-31 05:31 J -6077183.46 -6077183.27 -6077183.07 0.0493 0.0162
 Uranus -21352-10-27 00:14 J -6077095.70 -6077095.49 -6077095.28 0.0133 0.0034
 Neptune -21352-12-04 16:19 J -6077057.00 -6077056.82 -6077056.62 0.0089 0.0040
 Jupiter -21351-03-24 12:43 J -6076947.16 -6076946.97 -6076946.78 0.0494 0.0212
 Uranus -21351-06-10 05:31 J -6076869.48 -6076869.27 -6076869.05 0.0133 0.0008
 Neptune -21351-07-18 05:02 J -6076831.47 -6076831.29 -6076831.09 0.0089 0.0040
 Uranus -21350-01-22 11:02 J -6076643.25 -6076643.04 -6076642.82 0.0133 0.0018
 Neptune -21350-02-28 17:45 J -6076605.94 -6076605.76 -6076605.55 0.0089 0.0039
 Uranus -21350-09-05 16:33 J -6076417.02 -6076416.81 -6076416.60 0.0133 0.0044
 Neptune -21350-10-12 06:28 J -6076380.41 -6076380.23 -6076380.02 0.0089 0.0039
 Uranus -21349-04-18 21:50 J -6076190.77 -6076190.59 -6076190.40 0.0133 0.0070
 Neptune -21349-05-24 19:26 J -6076154.89 -6076154.69 -6076154.50 0.0089 0.0038
 Uranus -21349-12-01 03:07 J -6075964.51 -6075964.37 -6075964.21 0.0133 0.0097
 Neptune -21348-01-05 07:40 J -6075929.36 -6075929.18 -6075928.97 0.0089 0.0038
 Uranus -21348-07-15 08:38 J -6075738.21 -6075738.14 -6075738.04 0.0133 0.0122
 Neptune -21348-08-18 20:38 J -6075703.83 -6075703.64 -6075703.44 0.0089 0.0037
 Neptune -21347-04-01 09:36 J -6075478.30 -6075478.10 -6075477.90 0.0089 0.0036
 Neptune -21347-11-12 21:50 J -6075252.77 -6075252.59 -6075252.38 0.0089 0.0036

Jupiter -21346-06-06 01:55 J -6075047.60 -6075047.42 -6075047.23 0.0534 0.0227
 Neptune -21346-06-26 10:33 J -6075027.25 -6075027.06 -6075026.85 0.0089 0.0035
 Jupiter -21345-01-29 20:09 J -6074809.84 -6074809.66 -6074809.48 0.0532 0.0241
 Neptune -21345-02-06 23:16 J -6074801.72 -6074801.53 -6074801.32 0.0089 0.0034
 Neptune -21345-09-19 11:45 J -6074576.19 -6074576.01 -6074575.79 0.0089 0.0034
 Neptune -21344-05-03 00:43 J -6074350.66 -6074350.47 -6074350.26 0.0089 0.0032
 Neptune -21344-12-14 13:26 J -6074125.14 -6074124.94 -6074124.73 0.0089 0.0031
 Neptune -21343-07-28 01:55 J -6073899.61 -6073899.42 -6073899.21 0.0089 0.0031
 Neptune -21342-03-10 14:38 J -6073674.09 -6073673.89 -6073673.68 0.0089 0.0030
 Neptune -21342-10-22 02:52 J -6073448.57 -6073448.38 -6073448.16 0.0089 0.0030
 Neptune -21341-06-03 15:36 J -6073223.04 -6073222.85 -6073222.63 0.0089 0.0028
 Neptune -21340-01-15 04:04 J -6072997.52 -6072997.33 -6072997.11 0.0089 0.0027
 Jupiter -21340-04-05 07:11 J -6072917.37 -6072917.20 -6072917.02 0.0493 0.0263
 Neptune -21340-08-28 16:33 J -6072772.00 -6072771.81 -6072771.59 0.0089 0.0027
 Jupiter -21340-11-27 12:57 J -6072681.16 -6072680.96 -6072680.75 0.0493 0.0108
 Saturn -21339-01-31 14:38 J -6072616.06 -6072615.89 -6072615.71 0.0300 0.0174
 Neptune -21339-04-11 05:16 J -6072546.48 -6072546.28 -6072546.07 0.0089 0.0025
 Jupiter -21339-07-21 23:45 J -6072444.56 -6072444.51 -6072444.46 0.0496 0.0477
 Saturn -21339-09-18 23:31 J -6072385.73 -6072385.52 -6072385.30 0.0300 0.0018
 Neptune -21339-11-22 17:45 J -6072320.96 -6072320.76 -6072320.54 0.0089 0.0024
 Saturn -21338-05-07 07:26 J -6072155.34 -6072155.19 -6072155.04 0.0299 0.0205
 Neptune -21338-07-06 06:14 J -6072095.44 -6072095.24 -6072095.03 0.0089 0.0023
 Neptune -21337-02-16 18:43 J -6071869.93 -6071869.72 -6071869.51 0.0089 0.0022
 Neptune -21337-09-29 07:11 J -6071644.41 -6071644.20 -6071643.99 0.0089 0.0021
 Neptune -21336-05-12 19:40 J -6071418.88 -6071418.68 -6071418.46 0.0089 0.0021
 Neptune -21336-12-24 08:09 J -6071193.36 -6071193.16 -6071192.94 0.0089 0.0020
 Neptune -21335-08-06 20:38 J -6070967.85 -6070967.64 -6070967.42 0.0089 0.0019
 Jupiter -21334-02-08 17:45 J -6070781.91 -6070781.76 -6070781.61 0.0534 0.0352
 Neptune -21334-03-20 09:07 J -6070742.33 -6070742.12 -6070741.90 0.0089 0.0018
 Jupiter -21334-10-04 13:26 J -6070544.13 -6070543.94 -6070543.74 0.0533 0.0117

Neptune -21334-10-31 21:36 J -6070516.81 -6070516.60 -6070516.38 0.0089 0.0016
 Moon -21333-05-01 18:57 J -6070333.88 -6070333.71 -6070333.55 0.2706 0.0515
 Earth -21333-05-01 21:36 J -6070333.75 -6070333.60 -6070333.44 0.2712 0.0656 *
 Mars -21333-05-28 06:28 J -6070307.29 -6070307.23 -6070307.17 0.1639 0.1521
 Neptune -21333-06-13 10:04 J -6070291.29 -6070291.08 -6070290.86 0.0089 0.0016
 Neptune -21332-01-24 22:33 J -6070065.77 -6070065.56 -6070065.34 0.0089 0.0014
 Neptune -21332-09-07 11:02 J -6069840.25 -6069840.04 -6069839.82 0.0089 0.0013
 Mars -21331-03-28 11:45 J -6069638.18 -6069638.01 -6069637.84 0.1632 0.0258
 Neptune -21331-04-20 23:31 J -6069614.73 -6069614.52 -6069614.30 0.0089 0.0013
 Neptune -21331-12-02 12:00 J -6069389.21 -6069389.00 -6069388.78 0.0089 0.0011
 Mars -21330-02-27 07:11 J -6069302.38 -6069302.20 -6069302.02 0.1886 0.0044
 Neptune -21330-07-16 00:28 J -6069163.69 -6069163.48 -6069163.26 0.0089 0.0010
 Neptune -21329-02-26 12:57 J -6068938.18 -6068937.96 -6068937.75 0.0089 0.0009
 Neptune -21329-10-09 01:11 J -6068712.66 -6068712.45 -6068712.23 0.0089 0.0008
 Jupiter -21329-12-09 08:09 J -6068651.30 -6068651.16 -6068651.02 0.0493 0.0362
 Neptune -21328-05-22 13:55 J -6068487.14 -6068486.92 -6068486.71 0.0089 0.0007
 Jupiter -21328-08-02 12:43 J -6068415.18 -6068414.97 -6068414.76 0.0493 0.0003
 Neptune -21327-01-03 02:09 J -6068261.62 -6068261.41 -6068261.19 0.0089 0.0006
 Jupiter -21327-03-26 21:50 J -6068178.72 -6068178.59 -6068178.45 0.0495 0.0376
 Neptune -21327-08-16 14:23 J -6068036.11 -6068035.90 -6068035.68 0.0089 0.0005
 Neptune -21326-03-30 02:52 J -6067810.59 -6067810.38 -6067810.16 0.0089 0.0004
 Neptune -21326-11-10 15:07 J -6067585.08 -6067584.87 -6067584.65 0.0089 0.0003
 Neptune -21325-06-23 03:36 J -6067359.56 -6067359.35 -6067359.13 0.0089 0.0002
 Saturn -21325-07-13 13:26 J -6067339.08 -6067338.94 -6067338.78 0.0262 0.0182
 Neptune -21324-02-03 16:04 J -6067134.05 -6067133.83 -6067133.62 0.0089 0.0001
 Saturn -21324-02-27 07:55 J -6067110.38 -6067110.17 -6067109.97 0.0262 0.0062
 Neptune -21324-09-17 04:19 J -6066908.53 -6066908.32 -6066908.10 0.0089 0.0001
 Saturn -21324-10-14 02:23 J -6066881.60 -6066881.40 -6066881.19 0.0262 0.0059
 Neptune -21323-04-30 16:48 J -6066683.02 -6066682.80 -6066682.58 0.0089 0.0002
 Saturn -21323-05-30 21:50 J -6066652.74 -6066652.59 -6066652.44 0.0262 0.0181

Jupiter -21323-10-14 08:23 J -6066516.23 -6066516.15 -6066516.05 0.0534 0.0477
 Neptune -21323-12-12 05:02 J -6066457.50 -6066457.29 -6066457.07 0.0089 0.0004
 Jupiter -21322-06-09 05:45 J -6066278.47 -6066278.26 -6066278.06 0.0534 0.0016
 Neptune -21322-07-25 17:31 J -6066231.99 -6066231.77 -6066231.56 0.0089 0.0004
 Jupiter -21321-02-01 20:38 J -6066040.74 -6066040.64 -6066040.52 0.0531 0.0442
 Neptune -21321-03-07 05:45 J -6066006.47 -6066006.26 -6066006.04 0.0089 0.0005
 Neptune -21321-10-18 18:14 J -6065780.96 -6065780.74 -6065780.53 0.0089 0.0006
 Neptune -21320-06-01 06:43 J -6065555.43 -6065555.22 -6065555.00 0.0089 0.0008
 Neptune -21319-01-12 19:11 J -6065329.92 -6065329.70 -6065329.49 0.0089 0.0009
 Neptune -21319-08-26 07:26 J -6065104.40 -6065104.19 -6065103.97 0.0089 0.0010
 Neptune -21318-04-08 19:55 J -6064878.88 -6064878.67 -6064878.46 0.0089 0.0011
 Neptune -21318-11-20 08:09 J -6064653.37 -6064653.16 -6064652.94 0.0089 0.0012
 Neptune -21317-07-02 20:38 J -6064427.85 -6064427.64 -6064427.42 0.0089 0.0013
 Jupiter -21317-08-14 10:48 J -6064385.12 -6064385.05 -6064384.97 0.0493 0.0456
 Neptune -21316-02-13 09:07 J -6064202.33 -6064202.12 -6064201.91 0.0089 0.0014
 Jupiter -21316-04-07 14:23 J -6064149.10 -6064148.90 -6064148.69 0.0493 0.0100
 Neptune -21316-09-26 21:36 J -6063976.82 -6063976.60 -6063976.39 0.0089 0.0015
 Jupiter -21316-11-29 22:19 J -6063912.74 -6063912.57 -6063912.40 0.0494 0.0275
 Neptune -21315-05-10 09:50 J -6063751.30 -6063751.09 -6063750.87 0.0089 0.0016
 Neptune -21315-12-21 22:04 J -6063525.79 -6063525.58 -6063525.36 0.0089 0.0018
 Neptune -21314-08-04 10:19 J -6063300.27 -6063300.07 -6063299.85 0.0089 0.0019
 Neptune -21313-03-16 22:33 J -6063074.76 -6063074.56 -6063074.33 0.0089 0.0020
 Neptune -21313-10-28 11:02 J -6062849.24 -6062849.04 -6062848.82 0.0089 0.0021
 Neptune -21312-06-10 23:31 J -6062623.72 -6062623.52 -6062623.30 0.0089 0.0022
 Uranus -21312-06-24 23:16 J -6062609.64 -6062609.53 -6062609.39 0.0146 0.0120
 Neptune -21311-01-22 12:00 J -6062398.20 -6062398.00 -6062397.78 0.0089 0.0022
 Uranus -21311-02-06 11:16 J -6062383.20 -6062383.03 -6062382.85 0.0146 0.0085
 Neptune -21311-09-05 00:14 J -6062172.69 -6062172.49 -6062172.27 0.0089 0.0024
 Uranus -21311-09-20 23:16 J -6062156.73 -6062156.53 -6062156.32 0.0146 0.0051
 Jupiter -21310-02-11 18:14 J -6062012.93 -6062012.74 -6062012.54 0.0533 0.0148

Neptune -21310-04-18 12:28 J -6061947.18 -6061946.98 -6061946.76 0.0089 0.0025
 Uranus -21310-05-05 11:16 J -6061930.24 -6061930.03 -6061929.81 0.0146 0.0017
 Saturn -21310-08-14 00:00 J -6061829.68 -6061829.50 -6061829.31 0.0300 0.0143
 Jupiter -21310-10-07 11:02 J -6061775.20 -6061775.04 -6061774.88 0.0532 0.0317
 Neptune -21310-11-30 00:57 J -6061721.66 -6061721.46 -6061721.24 0.0089 0.0026
 Uranus -21310-12-17 23:16 J -6061703.75 -6061703.53 -6061703.32 0.0146 0.0018
 Saturn -21309-03-31 09:07 J -6061599.33 -6061599.12 -6061598.91 0.0300 0.0049
 Neptune -21309-07-12 13:26 J -6061496.13 -6061495.94 -6061495.72 0.0089 0.0027
 Uranus -21309-07-31 11:16 J -6061477.22 -6061477.03 -6061476.82 0.0146 0.0052
 Saturn -21309-11-16 16:48 J -6061368.92 -6061368.80 -6061368.66 0.0300 0.0238
 Neptune -21308-02-23 02:09 J -6061270.62 -6061270.41 -6061270.20 0.0089 0.0027
 Uranus -21308-03-14 23:31 J -6061250.69 -6061250.52 -6061250.35 0.0145 0.0086
 Neptune -21308-10-06 14:38 J -6061045.10 -6061044.89 -6061044.68 0.0089 0.0028
 Uranus -21308-10-27 11:16 J -6061024.14 -6061024.03 -6061023.90 0.0145 0.0120
 Neptune -21307-05-20 03:07 J -6060819.58 -6060819.37 -6060819.16 0.0089 0.0029
 Neptune -21307-12-31 15:21 J -6060594.05 -6060593.86 -6060593.64 0.0089 0.0030
 Pluto -21306-07-21 12:57 J -6060392.07 -6060391.96 -6060391.83 0.0064 0.0052
 Neptune -21306-08-14 03:50 J -6060368.53 -6060368.34 -6060368.13 0.0089 0.0031
 Pluto -21305-03-02 16:48 J -6060167.01 -6060166.80 -6060166.59 0.0064 0.0017
 Neptune -21305-03-26 16:19 J -6060143.01 -6060142.82 -6060142.61 0.0089 0.0032
 Pluto -21305-10-13 20:23 J -6059941.85 -6059941.65 -6059941.44 0.0064 0.0020
 Neptune -21305-11-07 04:48 J -6059917.49 -6059917.30 -6059917.09 0.0089 0.0033
 Jupiter -21305-12-11 16:48 J -6059882.99 -6059882.80 -6059882.61 0.0493 0.0201
 Pluto -21304-05-26 23:45 J -6059716.58 -6059716.51 -6059716.37 0.0065 0.0057
 Neptune -21304-06-20 17:31 J -6059691.96 -6059691.77 -6059691.56 0.0088 0.0033
 Jupiter -21304-08-04 23:31 J -6059646.71 -6059646.52 -6059646.32 0.0494 0.0173
 Neptune -21303-02-01 05:45 J -6059466.44 -6059466.26 -6059466.04 0.0088 0.0035
 Neptune -21303-09-14 18:28 J -6059240.92 -6059240.73 -6059240.52 0.0088 0.0035
 Neptune -21302-04-28 06:57 J -6059015.40 -6059015.21 -6059015.00 0.0088 0.0036
 Neptune -21302-12-09 19:26 J -6058789.88 -6058789.69 -6058789.48 0.0088 0.0036

Neptune	-21301-07-22 07:55 J	-6058564.35	-6058564.17	-6058563.96	0.0088	0.0038
Neptune	-21300-03-04 20:38 J	-6058338.83	-6058338.64	-6058338.44	0.0088	0.0038
Neptune	-21300-10-16 09:07 J	-6058113.31	-6058113.12	-6058112.92	0.0088	0.0039
Mars	-21299-03-27 03:07 J	-6057951.52	-6057951.37	-6057951.21	0.1635	0.0591
Neptune	-21299-05-29 21:21 J	-6057887.79	-6057887.61	-6057887.40	0.0088	0.0040
Jupiter	-21299-10-17 08:23 J	-6057747.32	-6057747.15	-6057746.98	0.0533	0.0277
Neptune	-21298-01-10 10:19 J	-6057662.26	-6057662.07	-6057661.87	0.0088	0.0040
Mars	-21298-02-27 10:04 J	-6057614.13	-6057614.08	-6057614.02	0.1882	0.1791
Jupiter	-21298-06-12 02:38 J	-6057509.58	-6057509.39	-6057509.20	0.0532	0.0191
Neptune	-21298-08-23 22:48 J	-6057436.74	-6057436.55	-6057436.35	0.0088	0.0041
Mars	-21297-01-25 08:23 J	-6057282.26	-6057282.15	-6057282.03	0.1630	0.1174
Neptune	-21297-04-05 11:02 J	-6057211.21	-6057211.04	-6057210.83	0.0088	0.0042
Neptune	-21297-11-17 00:00 J	-6056985.69	-6056985.50	-6056985.30	0.0088	0.0042
Neptune	-21296-06-30 12:28 J	-6056760.15	-6056759.98	-6056759.77	0.0088	0.0043
Saturn	-21295-01-23 19:11 J	-6056552.86	-6056552.70	-6056552.53	0.0261	0.0160
Neptune	-21295-02-11 01:11 J	-6056534.63	-6056534.45	-6056534.24	0.0088	0.0043
Saturn	-21295-09-09 13:26 J	-6056324.14	-6056323.94	-6056323.73	0.0261	0.0041
Neptune	-21295-09-24 13:55 J	-6056309.10	-6056308.92	-6056308.72	0.0088	0.0044
Saturn	-21294-04-26 08:09 J	-6056095.36	-6056095.16	-6056094.96	0.0261	0.0081
Neptune	-21294-05-08 02:23 J	-6056083.57	-6056083.40	-6056083.19	0.0088	0.0044
Saturn	-21294-12-11 03:21 J	-6055866.49	-6055866.36	-6055866.22	0.0262	0.0202
Neptune	-21294-12-19 15:21 J	-6055858.04	-6055857.86	-6055857.66	0.0088	0.0044
Neptune	-21293-08-01 04:04 J	-6055632.50	-6055632.33	-6055632.12	0.0088	0.0045
Jupiter	-21293-08-16 18:57 J	-6055616.87	-6055616.71	-6055616.54	0.0493	0.0300
Neptune	-21292-03-14 16:48 J	-6055406.97	-6055406.80	-6055406.59	0.0088	0.0046
Jupiter	-21292-04-10 00:28 J	-6055380.68	-6055380.48	-6055380.27	0.0493	0.0070
Neptune	-21292-10-26 05:45 J	-6055181.44	-6055181.26	-6055181.07	0.0088	0.0046
Jupiter	-21292-12-02 10:19 J	-6055144.15	-6055144.07	-6055143.97	0.0496	0.0442
Neptune	-21291-06-08 18:14 J	-6054955.91	-6054955.74	-6054955.54	0.0088	0.0046
Neptune	-21290-01-20 07:11 J	-6054730.38	-6054730.20	-6054730.01	0.0088	0.0046

Neptune	-21290-09-02 19:40 J	-6054504.84	-6054504.68	-6054504.47	0.0088	0.0048
Neptune	-21289-04-15 08:38 J	-6054279.31	-6054279.14	-6054278.94	0.0088	0.0047
Neptune	-21289-11-26 21:36 J	-6054053.78	-6054053.60	-6054053.41	0.0088	0.0047
Neptune	-21288-07-10 10:33 J	-6053828.24	-6053828.06	-6053827.87	0.0088	0.0048
Neptune	-21287-02-20 23:02 J	-6053602.71	-6053602.54	-6053602.34	0.0088	0.0048
Jupiter	-21287-06-21 21:50 J	-6053481.72	-6053481.59	-6053481.46	0.0533	0.0404
Neptune	-21287-10-04 11:45 J	-6053377.18	-6053377.01	-6053376.81	0.0088	0.0048
Jupiter	-21286-02-14 18:00 J	-6053243.95	-6053243.75	-6053243.55	0.0533	0.0064
Neptune	-21286-05-18 00:43 J	-6053151.65	-6053151.47	-6053151.28	0.0088	0.0048
Jupiter	-21286-10-10 08:09 J	-6053006.21	-6053006.16	-6053006.10	0.0530	0.0509
Neptune	-21286-12-29 13:26 J	-6052926.11	-6052925.94	-6052925.74	0.0088	0.0049
Neptune	-21285-08-11 02:38 J	-6052700.57	-6052700.39	-6052700.20	0.0088	0.0048
Neptune	-21284-03-24 15:36 J	-6052475.03	-6052474.85	-6052474.66	0.0088	0.0049
Neptune	-21284-11-05 04:04 J	-6052249.50	-6052249.33	-6052249.13	0.0088	0.0049
Neptune	-21283-06-18 17:02 J	-6052023.96	-6052023.79	-6052023.59	0.0088	0.0049
Neptune	-21282-01-30 06:00 J	-6051798.42	-6051798.25	-6051798.05	0.0088	0.0049
Neptune	-21282-09-12 18:57 J	-6051572.87	-6051572.71	-6051572.51	0.0088	0.0049
Jupiter	-21281-04-21 21:21 J	-6051350.73	-6051350.61	-6051350.49	0.0493	0.0396
Neptune	-21281-04-25 07:55 J	-6051347.33	-6051347.17	-6051346.97	0.0088	0.0049
Neptune	-21281-12-06 20:52 J	-6051121.79	-6051121.63	-6051121.42	0.0088	0.0049
Jupiter	-21281-12-14 01:26 J	-6051114.64	-6051114.44	-6051114.23	0.0493	0.0036
Saturn	-21280-02-23 08:52 J	-6051043.33	-6051043.13	-6051042.93	0.0300	0.0114
Neptune	-21280-07-20 10:04 J	-6050896.25	-6050896.08	-6050895.88	0.0088	0.0049
Jupiter	-21280-08-07 10:04 J	-6050878.23	-6050878.08	-6050877.93	0.0495	0.0340
Saturn	-21280-10-11 17:31 J	-6050812.97	-6050812.77	-6050812.56	0.0300	0.0078
Neptune	-21279-03-02 23:31 J	-6050670.70	-6050670.52	-6050670.34	0.0088	0.0048
Saturn	-21279-05-30 01:11 J	-6050582.54	-6050582.45	-6050582.35	0.0299	0.0264
Neptune	-21279-10-14 12:28 J	-6050445.16	-6050444.98	-6050444.79	0.0088	0.0048
Neptune	-21278-05-28 01:26 J	-6050219.62	-6050219.44	-6050219.25	0.0088	0.0048
Neptune	-21277-01-08 14:23 J	-6049994.08	-6049993.90	-6049993.71	0.0088	0.0048

Neptune	-21277-08-21 03:21 J	-6049768.53	-6049768.36	-6049768.16	0.0088	0.0048
Neptune	-21276-04-03 16:19 J	-6049542.98	-6049542.82	-6049542.61	0.0088	0.0048
Neptune	-21276-11-15 05:45 J	-6049317.44	-6049317.26	-6049317.07	0.0088	0.0047
Jupiter	-21275-02-24 12:43 J	-6049215.99	-6049215.97	-6049215.93	0.0533	0.0526
Neptune	-21275-06-28 18:43 J	-6049091.90	-6049091.72	-6049091.52	0.0088	0.0047
Jupiter	-21275-10-20 10:33 J	-6048978.26	-6048978.06	-6048977.86	0.0534	0.0066
Neptune	-21274-02-09 07:40 J	-6048866.35	-6048866.18	-6048865.98	0.0088	0.0047
Jupiter	-21274-06-15 02:52 J	-6048740.51	-6048740.38	-6048740.24	0.0532	0.0395
Neptune	-21274-09-22 21:07 J	-6048640.80	-6048640.62	-6048640.43	0.0088	0.0046
Neptune	-21273-05-05 10:04 J	-6048415.26	-6048415.08	-6048414.88	0.0088	0.0046
Neptune	-21273-12-16 23:02 J	-6048189.71	-6048189.54	-6048189.33	0.0088	0.0046
Neptune	-21272-07-30 12:28 J	-6047964.16	-6047963.98	-6047963.78	0.0088	0.0045
Neptune	-21271-03-13 01:26 J	-6047738.61	-6047738.44	-6047738.23	0.0088	0.0045
Neptune	-21271-10-24 14:52 J	-6047513.06	-6047512.88	-6047512.68	0.0088	0.0044
Neptune	-21270-06-07 04:04 J	-6047287.51	-6047287.33	-6047287.13	0.0088	0.0044
Uranus	-21270-08-17 16:19 J	-6047215.89	-6047215.82	-6047215.74	0.0132	0.0124
Jupiter	-21270-12-26 23:02 J	-6047084.55	-6047084.54	-6047084.53	0.0493	0.0492
Neptune	-21269-01-18 17:31 J	-6047061.96	-6047061.77	-6047061.57	0.0088	0.0043
Uranus	-21269-03-30 21:21 J	-6046989.73	-6046989.61	-6046989.44	0.0132	0.0099
Jupiter	-21269-08-19 02:09 J	-6046848.60	-6046848.41	-6046848.21	0.0492	0.0138
Neptune	-21269-08-31 06:43 J	-6046836.40	-6046836.22	-6046836.01	0.0088	0.0043
Uranus	-21269-11-12 02:52 J	-6046763.55	-6046763.38	-6046763.18	0.0132	0.0073
Jupiter	-21268-04-12 09:07 J	-6046612.30	-6046612.12	-6046611.93	0.0494	0.0237
Neptune	-21268-04-13 20:09 J	-6046610.85	-6046610.66	-6046610.45	0.0088	0.0042
Uranus	-21268-06-26 08:23 J	-6046537.34	-6046537.15	-6046536.93	0.0133	0.0047
Neptune	-21268-11-25 09:21 J	-6046385.29	-6046385.11	-6046384.90	0.0088	0.0042
Uranus	-21267-02-07 14:09 J	-6046311.12	-6046310.91	-6046310.69	0.0133	0.0020
Mars	-21267-03-25 19:11 J	-6046264.77	-6046264.70	-6046264.62	0.1638	0.1441
Neptune	-21267-07-08 22:48 J	-6046159.74	-6046159.55	-6046159.35	0.0088	0.0041
Uranus	-21267-09-21 19:40 J	-6046084.90	-6046084.68	-6046084.46	0.0133	0.0006

Neptune	-21266-02-19 12:14 J	-6045934.19	-6045933.99	-6045933.79	0.0088	0.0040
Uranus	-21266-05-06 00:57 J	-6045858.67	-6045858.46	-6045858.24	0.0133	0.0032
Saturn	-21266-08-05 20:38 J	-6045766.81	-6045766.64	-6045766.46	0.0261	0.0144
Neptune	-21266-10-03 01:26 J	-6045708.62	-6045708.44	-6045708.22	0.0088	0.0040
Uranus	-21266-12-18 06:28 J	-6045632.42	-6045632.23	-6045632.03	0.0133	0.0058
Mars	-21265-01-24 00:00 J	-6045595.67	-6045595.50	-6045595.33	0.1632	0.0336
Saturn	-21265-03-21 14:52 J	-6045538.09	-6045537.88	-6045537.67	0.0261	0.0024
Neptune	-21265-05-15 14:52 J	-6045483.07	-6045482.88	-6045482.67	0.0088	0.0039
Uranus	-21265-07-31 12:00 J	-6045406.16	-6045406.00	-6045405.83	0.0133	0.0084
Saturn	-21265-11-05 09:21 J	-6045309.30	-6045309.11	-6045308.91	0.0262	0.0098
Mars	-21265-12-24 09:36 J	-6045260.28	-6045260.10	-6045259.92	0.1887	0.0317
Neptune	-21265-12-27 04:33 J	-6045257.51	-6045257.31	-6045257.11	0.0088	0.0038
Uranus	-21264-03-14 17:31 J	-6045179.88	-6045179.77	-6045179.64	0.0133	0.0111
Saturn	-21264-06-22 04:48 J	-6045080.41	-6045080.30	-6045080.18	0.0262	0.0219
Neptune	-21264-08-09 17:31 J	-6045031.96	-6045031.77	-6045031.55	0.0088	0.0038
Neptune	-21263-03-23 06:57 J	-6044806.40	-6044806.21	-6044805.99	0.0088	0.0037
Jupiter	-21263-06-25 02:23 J	-6044712.59	-6044712.40	-6044712.21	0.0534	0.0194
Neptune	-21263-11-03 20:38 J	-6044580.84	-6044580.64	-6044580.43	0.0088	0.0036
Jupiter	-21262-02-17 20:23 J	-6044474.82	-6044474.65	-6044474.47	0.0532	0.0274
Neptune	-21262-06-17 10:04 J	-6044355.29	-6044355.08	-6044354.88	0.0088	0.0035
Neptune	-21261-01-28 23:02 J	-6044129.73	-6044129.54	-6044129.32	0.0088	0.0035
Neptune	-21261-09-10 12:43 J	-6043904.17	-6043903.97	-6043903.75	0.0088	0.0034
Neptune	-21260-04-24 02:09 J	-6043678.61	-6043678.41	-6043678.19	0.0088	0.0033
Neptune	-21260-12-05 15:36 J	-6043453.05	-6043452.85	-6043452.63	0.0088	0.0032
Neptune	-21259-07-19 05:02 J	-6043227.49	-6043227.29	-6043227.07	0.0088	0.0031
Neptune	-21258-03-01 18:43 J	-6043001.93	-6043001.72	-6043001.51	0.0088	0.0030
Neptune	-21258-10-13 08:23 J	-6042776.36	-6042776.15	-6042775.94	0.0088	0.0029
Jupiter	-21257-04-24 04:33 J	-6042582.49	-6042582.31	-6042582.13	0.0493	0.0238
Neptune	-21257-05-25 21:50 J	-6042550.80	-6042550.59	-6042550.37	0.0088	0.0029
Jupiter	-21257-12-16 10:19 J	-6042346.26	-6042346.07	-6042345.87	0.0493	0.0134

Neptune	-21256-01-06 11:31 J	-6042325.23	-6042325.02	-6042324.81	0.0088	0.0027
Neptune	-21256-08-20 00:43 J	-6042099.67	-6042099.47	-6042099.24	0.0088	0.0027
Neptune	-21255-04-02 14:38 J	-6041874.10	-6041873.89	-6041873.67	0.0088	0.0026
Neptune	-21255-11-14 04:19 J	-6041648.53	-6041648.32	-6041648.10	0.0088	0.0025
Neptune	-21254-06-27 18:00 J	-6041422.97	-6041422.75	-6041422.54	0.0088	0.0024
Neptune	-21253-02-08 07:26 J	-6041197.40	-6041197.19	-6041196.97	0.0088	0.0023
Neptune	-21253-09-20 21:07 J	-6040971.83	-6040971.62	-6040971.40	0.0088	0.0022
Neptune	-21252-05-04 10:48 J	-6040746.27	-6040746.05	-6040745.83	0.0088	0.0020
Neptune	-21252-12-16 00:14 J	-6040520.70	-6040520.49	-6040520.26	0.0088	0.0020
Saturn	-21251-01-18 06:14 J	-6040487.32	-6040487.24	-6040487.16	0.0300	0.0277
Jupiter	-21251-02-27 15:21 J	-6040447.02	-6040446.86	-6040446.70	0.0533	0.0326
Neptune	-21251-07-29 13:55 J	-6040295.14	-6040294.92	-6040294.70	0.0088	0.0018
Saturn	-21251-09-05 15:50 J	-6040257.04	-6040256.84	-6040256.63	0.0300	0.0087
Jupiter	-21251-10-23 10:19 J	-6040209.26	-6040209.07	-6040208.88	0.0533	0.0142
Neptune	-21250-03-12 03:21 J	-6040069.57	-6040069.36	-6040069.13	0.0088	0.0017
Saturn	-21250-04-24 00:57 J	-6040026.66	-6040026.46	-6040026.26	0.0300	0.0106
Neptune	-21250-10-23 17:02 J	-6039844.00	-6039843.79	-6039843.56	0.0088	0.0017
Saturn	-21250-12-10 08:52 J	-6039796.17	-6039796.13	-6039796.09	0.0300	0.0293
Neptune	-21249-06-05 06:43 J	-6039618.43	-6039618.22	-6039617.99	0.0088	0.0015
Neptune	-21248-01-16 20:09 J	-6039392.87	-6039392.66	-6039392.42	0.0088	0.0015
Neptune	-21248-08-30 10:04 J	-6039167.30	-6039167.08	-6039166.86	0.0088	0.0013
Neptune	-21247-04-12 23:31 J	-6038941.74	-6038941.52	-6038941.29	0.0088	0.0012
Neptune	-21247-11-24 13:26 J	-6038716.16	-6038715.94	-6038715.72	0.0088	0.0010
Neptune	-21246-07-08 02:52 J	-6038490.60	-6038490.38	-6038490.15	0.0088	0.0010
Jupiter	-21246-12-29 06:43 J	-6038316.36	-6038316.22	-6038316.07	0.0493	0.0337
Neptune	-21245-02-18 16:33 J	-6038265.03	-6038264.81	-6038264.58	0.0088	0.0008
Jupiter	-21245-08-21 12:14 J	-6038080.20	-6038079.99	-6038079.78	0.0493	0.0031
Neptune	-21245-10-01 06:14 J	-6038039.46	-6038039.24	-6038039.01	0.0088	0.0007
Jupiter	-21244-04-14 22:04 J	-6037843.70	-6037843.58	-6037843.46	0.0495	0.0405
Neptune	-21244-05-14 20:09 J	-6037813.89	-6037813.66	-6037813.44	0.0088	0.0006

Neptune	-21244-12-26 09:50 J	-6037588.31	-6037588.09	-6037587.87	0.0088	0.0005
Neptune	-21243-08-08 23:31 J	-6037362.75	-6037362.52	-6037362.30	0.0088	0.0003
Neptune	-21242-03-22 13:11 J	-6037137.17	-6037136.95	-6037136.73	0.0088	0.0002
Neptune	-21242-11-03 03:07 J	-6036911.60	-6036911.37	-6036911.15	0.0088	0.0001
Neptune	-21241-06-15 16:48 J	-6036686.02	-6036685.80	-6036685.57	0.0088	0.0000
Neptune	-21240-01-27 06:28 J	-6036460.45	-6036460.23	-6036460.00	0.0088	0.0001
Neptune	-21240-09-09 20:09 J	-6036234.89	-6036234.66	-6036234.44	0.0088	0.0003
Jupiter	-21240-11-02 05:02 J	-6036181.39	-6036181.29	-6036181.18	0.0533	0.0452
Neptune	-21239-04-23 09:50 J	-6036009.31	-6036009.09	-6036008.87	0.0088	0.0004
Jupiter	-21239-06-28 01:26 J	-6035943.64	-6035943.44	-6035943.24	0.0533	0.0013
Neptune	-21239-12-04 23:31 J	-6035783.74	-6035783.52	-6035783.29	0.0088	0.0005
Jupiter	-21238-02-20 15:50 J	-6035705.93	-6035705.84	-6035705.74	0.0531	0.0465
Neptune	-21238-07-18 13:11 J	-6035558.17	-6035557.95	-6035557.72	0.0088	0.0006
Neptune	-21237-02-29 02:52 J	-6035332.60	-6035332.38	-6035332.16	0.0088	0.0007
Saturn	-21237-07-01 07:40 J	-6035209.25	-6035209.18	-6035209.10	0.0261	0.0242
Neptune	-21237-10-11 16:33 J	-6035107.03	-6035106.81	-6035106.59	0.0088	0.0009
Saturn	-21236-02-15 01:40 J	-6034980.61	-6034980.43	-6034980.24	0.0261	0.0123
Neptune	-21236-05-25 06:14 J	-6034881.46	-6034881.24	-6034881.02	0.0088	0.0010
Saturn	-21236-10-01 19:55 J	-6034751.88	-6034751.67	-6034751.46	0.0261	0.0004
Neptune	-21235-01-05 19:55 J	-6034655.89	-6034655.67	-6034655.45	0.0089	0.0011
Saturn	-21235-05-18 14:23 J	-6034523.09	-6034522.90	-6034522.71	0.0261	0.0118
Neptune	-21235-08-19 09:21 J	-6034430.33	-6034430.11	-6034429.88	0.0089	0.0012
Saturn	-21234-01-02 09:36 J	-6034294.18	-6034294.10	-6034294.01	0.0262	0.0239
Neptune	-21234-04-01 23:02 J	-6034204.76	-6034204.54	-6034204.31	0.0089	0.0013
Jupiter	-21234-09-03 09:36 J	-6034050.19	-6034050.10	-6034050.00	0.0493	0.0432
Neptune	-21234-11-13 12:43 J	-6033979.18	-6033978.97	-6033978.74	0.0089	0.0015
Mars	-21233-01-22 15:50 J	-6033909.00	-6033908.84	-6033908.68	0.1634	0.0512
Jupiter	-21233-04-26 13:55 J	-6033814.13	-6033813.92	-6033813.72	0.0493	0.0071
Neptune	-21233-06-26 02:38 J	-6033753.61	-6033753.39	-6033753.17	0.0089	0.0016
Jupiter	-21233-12-18 21:50 J	-6033577.75	-6033577.59	-6033577.42	0.0494	0.0304

Mars	-21233-12-24 12:00 J	-6033572.11	-6033572.00	-6033571.89	0.1883	0.1481
Neptune	-21232-02-06 16:19 J	-6033528.04	-6033527.82	-6033527.60	0.0089	0.0017
Neptune	-21232-09-20 06:00 J	-6033302.47	-6033302.25	-6033302.03	0.0089	0.0018
Mars	-21232-11-21 21:21 J	-6033239.71	-6033239.61	-6033239.50	0.1629	0.1246
Neptune	-21231-05-03 19:40 J	-6033076.90	-6033076.68	-6033076.46	0.0089	0.0019
Neptune	-21231-12-15 09:07 J	-6032851.32	-6032851.12	-6032850.89	0.0089	0.0021
Neptune	-21230-07-28 23:02 J	-6032625.75	-6032625.54	-6032625.32	0.0089	0.0021
Neptune	-21229-03-10 12:28 J	-6032400.18	-6032399.98	-6032399.75	0.0089	0.0023
Neptune	-21229-10-22 02:23 J	-6032174.61	-6032174.40	-6032174.18	0.0089	0.0023
Uranus	-21228-02-22 04:48 J	-6032051.36	-6032051.30	-6032051.21	0.0146	0.0136
Neptune	-21228-06-04 16:04 J	-6031949.04	-6031948.83	-6031948.61	0.0089	0.0025
Uranus	-21228-10-06 16:48 J	-6031824.94	-6031824.80	-6031824.64	0.0146	0.0102
Moon	-21228-10-31 11:31 J	-6031800.15	-6031800.02	-6031799.90	0.2618	0.1692
Earth	-21228-10-31 16:04 J	-6031799.89	-6031799.83	-6031799.77	0.2621	0.2414
Neptune	-21227-01-16 05:45 J	-6031723.46	-6031723.26	-6031723.04	0.0089	0.0026
Jupiter	-21227-03-02 16:04 J	-6031678.03	-6031677.83	-6031677.63	0.0534	0.0118
Uranus	-21227-05-21 04:48 J	-6031598.48	-6031598.30	-6031598.10	0.0146	0.0068
Neptune	-21227-08-29 19:26 J	-6031497.90	-6031497.69	-6031497.47	0.0089	0.0027
Jupiter	-21227-10-26 08:52 J	-6031440.28	-6031440.13	-6031439.97	0.0532	0.0346
Uranus	-21226-01-02 17:02 J	-6031372.00	-6031371.79	-6031371.58	0.0146	0.0033
Neptune	-21226-04-12 08:52 J	-6031272.33	-6031272.13	-6031271.90	0.0089	0.0028
Uranus	-21226-08-17 05:02 J	-6031145.51	-6031145.29	-6031145.07	0.0146	0.0002
Neptune	-21226-11-23 22:33 J	-6031046.76	-6031046.56	-6031046.33	0.0089	0.0029
Uranus	-21225-03-30 17:02 J	-6030919.00	-6030918.79	-6030918.58	0.0146	0.0036
Neptune	-21225-07-06 12:14 J	-6030821.19	-6030820.99	-6030820.77	0.0089	0.0030
Uranus	-21225-11-12 05:16 J	-6030692.47	-6030692.28	-6030692.09	0.0146	0.0070
Neptune	-21224-02-17 01:55 J	-6030595.62	-6030595.42	-6030595.20	0.0089	0.0031
Uranus	-21224-06-26 17:02 J	-6030465.93	-6030465.79	-6030465.63	0.0145	0.0104
Neptune	-21224-09-30 15:21 J	-6030370.06	-6030369.86	-6030369.64	0.0089	0.0032
Uranus	-21223-02-08 05:02 J	-6030239.34	-6030239.29	-6030239.21	0.0145	0.0138

Neptune	-21223-05-14 05:02 J	-6030144.49	-6030144.29	-6030144.08	0.0089	0.0033
Neptune	-21223-12-25 18:28 J	-6029918.92	-6029918.73	-6029918.51	0.0089	0.0034
Saturn	-21222-07-31 13:55 J	-6029701.03	-6029700.92	-6029700.80	0.0300	0.0251
Neptune	-21222-08-08 08:09 J	-6029693.35	-6029693.16	-6029692.94	0.0089	0.0035
Jupiter	-21222-12-31 15:36 J	-6029548.04	-6029547.85	-6029547.65	0.0493	0.0173
Saturn	-21221-03-17 23:31 J	-6029470.73	-6029470.52	-6029470.31	0.0300	0.0059
Neptune	-21221-03-20 21:36 J	-6029467.79	-6029467.60	-6029467.38	0.0089	0.0036
Jupiter	-21221-08-23 22:19 J	-6029311.76	-6029311.57	-6029311.38	0.0494	0.0201
Neptune	-21221-11-01 11:31 J	-6029242.22	-6029242.02	-6029241.82	0.0089	0.0036
Saturn	-21221-11-03 08:09 J	-6029240.35	-6029240.16	-6029239.96	0.0300	0.0133
Neptune	-21220-06-15 00:57 J	-6029016.66	-6029016.46	-6029016.25	0.0089	0.0037
Moon	-21220-10-29 04:19 J	-6028880.45	-6028880.32	-6028880.18	0.2623	0.1231
Earth	-21220-10-29 09:21 J	-6028880.26	-6028880.11	-6028879.95	0.2621	0.0672 *
Neptune	-21219-01-26 14:23 J	-6028791.09	-6028790.90	-6028790.69	0.0089	0.0038
Neptune	-21219-09-09 03:50 J	-6028565.52	-6028565.34	-6028565.12	0.0089	0.0039
Neptune	-21218-04-22 17:16 J	-6028339.96	-6028339.78	-6028339.56	0.0089	0.0040
Neptune	-21218-12-04 07:11 J	-6028114.39	-6028114.20	-6028114.00	0.0089	0.0040
Pluto	-21217-06-13 16:33 J	-6027921.96	-6027921.81	-6027921.63	0.0080	0.0054
Neptune	-21217-07-16 20:38 J	-6027888.82	-6027888.64	-6027888.43	0.0089	0.0041
Pluto	-21216-01-25 03:50 J	-6027696.55	-6027696.34	-6027696.11	0.0080	0.0020
Neptune	-21216-02-27 10:04 J	-6027663.26	-6027663.08	-6027662.87	0.0089	0.0042
Neptune	-21216-10-10 23:31 J	-6027437.70	-6027437.52	-6027437.31	0.0089	0.0043
Jupiter	-21216-11-05 07:55 J	-6027412.35	-6027412.17	-6027411.99	0.0534	0.0246
Neptune	-21215-05-24 13:11 J	-6027212.13	-6027211.95	-6027211.75	0.0089	0.0043
Jupiter	-21215-07-01 02:38 J	-6027174.57	-6027174.39	-6027174.21	0.0533	0.0224
Neptune	-21214-01-05 02:38 J	-6026986.57	-6026986.39	-6026986.18	0.0089	0.0044
Neptune	-21214-08-18 16:04 J	-6026761.00	-6026760.83	-6026760.62	0.0089	0.0045
Neptune	-21213-03-31 05:31 J	-6026535.45	-6026535.27	-6026535.07	0.0089	0.0046
Neptune	-21213-11-11 18:43 J	-6026309.89	-6026309.72	-6026309.51	0.0089	0.0046
Neptune	-21212-06-25 08:23 J	-6026084.33	-6026084.15	-6026083.95	0.0089	0.0046

Neptune	-21211-02-05 21:36 J	-6025858.77	-6025858.60	-6025858.39	0.0089	0.0047
Neptune	-21211-09-19 11:02 J	-6025633.21	-6025633.04	-6025632.84	0.0089	0.0048
Neptune	-21210-05-03 00:14 J	-6025407.66	-6025407.49	-6025407.29	0.0089	0.0048
Jupiter	-21210-09-05 17:16 J	-6025281.95	-6025281.78	-6025281.61	0.0493	0.0274
Neptune	-21210-12-14 13:40 J	-6025182.10	-6025181.93	-6025181.73	0.0089	0.0048
Jupiter	-21209-04-28 22:33 J	-6025045.76	-6025045.56	-6025045.36	0.0493	0.0096
Neptune	-21209-07-27 02:52 J	-6024956.55	-6024956.38	-6024956.18	0.0089	0.0049
Jupiter	-21209-12-21 08:23 J	-6024809.21	-6024809.15	-6024809.08	0.0496	0.0467
Neptune	-21208-03-09 16:19 J	-6024730.99	-6024730.82	-6024730.62	0.0089	0.0049
Neptune	-21208-10-21 05:45 J	-6024505.44	-6024505.26	-6024505.07	0.0089	0.0049
Saturn	-21207-01-11 08:38 J	-6024423.24	-6024423.14	-6024423.03	0.0261	0.0227
Neptune	-21207-06-03 18:43 J	-6024279.89	-6024279.72	-6024279.52	0.0089	0.0050
Saturn	-21207-08-28 02:23 J	-6024194.59	-6024194.40	-6024194.21	0.0261	0.0108
Neptune	-21206-01-15 08:09 J	-6024054.33	-6024054.16	-6024053.97	0.0089	0.0050
Saturn	-21206-04-13 20:23 J	-6023965.86	-6023965.65	-6023965.44	0.0261	0.0013
Neptune	-21206-08-28 21:36 J	-6023828.77	-6023828.60	-6023828.41	0.0089	0.0050
Saturn	-21206-11-28 14:52 J	-6023737.06	-6023736.88	-6023736.70	0.0261	0.0134
Neptune	-21205-04-10 10:48 J	-6023603.22	-6023603.05	-6023602.86	0.0089	0.0051
Saturn	-21205-07-14 10:19 J	-6023508.11	-6023508.07	-6023508.02	0.0262	0.0256
Neptune	-21205-11-21 23:45 J	-6023377.67	-6023377.51	-6023377.31	0.0089	0.0051
Neptune	-21204-07-05 12:57 J	-6023152.12	-6023151.96	-6023151.76	0.0089	0.0052
Jupiter	-21204-07-10 23:16 J	-6023146.67	-6023146.53	-6023146.38	0.0534	0.0373
Neptune	-21203-02-16 02:23 J	-6022926.56	-6022926.40	-6022926.20	0.0089	0.0052
Jupiter	-21203-03-05 19:40 J	-6022908.87	-6022908.68	-6022908.48	0.0533	0.0098
Neptune	-21203-09-29 15:36 J	-6022701.01	-6022700.85	-6022700.65	0.0089	0.0052
Neptune	-21202-05-13 04:48 J	-6022475.47	-6022475.30	-6022475.11	0.0089	0.0052
Neptune	-21202-12-24 18:00 J	-6022249.92	-6022249.75	-6022249.56	0.0089	0.0052
Mars	-21201-01-21 07:40 J	-6022222.27	-6022222.18	-6022222.08	0.1637	0.1359
Neptune	-21201-08-06 07:11 J	-6022024.37	-6022024.20	-6022024.01	0.0089	0.0052
Neptune	-21200-03-19 20:23 J	-6021798.82	-6021798.65	-6021798.46	0.0089	0.0052

Neptune -21200-10-31 09:36 J -6021573.28 -6021573.10 -6021572.92 0.0089 0.0052
 Mars -21200-11-20 13:11 J -6021553.12 -6021552.95 -6021552.79 0.1631 0.0406
 Neptune -21199-06-13 22:33 J -6021347.73 -6021347.56 -6021347.38 0.0089 0.0052
 Mars -21199-10-21 10:48 J -6021218.22 -6021218.05 -6021217.88 0.1888 0.0633
 Neptune -21198-01-25 11:31 J -6021122.19 -6021122.02 -6021121.83 0.0089 0.0052
 Jupiter -21198-05-11 19:55 J -6021015.80 -6021015.67 -6021015.53 0.0493 0.0371
 Neptune -21198-09-08 00:28 J -6020896.65 -6020896.48 -6020896.29 0.0089 0.0052
 Jupiter -21197-01-03 00:14 J -6020779.69 -6020779.49 -6020779.28 0.0493 0.0011
 Neptune -21197-04-20 13:26 J -6020671.10 -6020670.94 -6020670.75 0.0089 0.0052
 Jupiter -21197-08-26 09:07 J -6020543.25 -6020543.12 -6020542.98 0.0495 0.0368
 Neptune -21197-12-02 02:23 J -6020445.56 -6020445.40 -6020445.21 0.0089 0.0051
 Neptune -21196-07-15 15:07 J -6020220.02 -6020219.87 -6020219.67 0.0089 0.0052
 Neptune -21195-02-26 04:33 J -6019994.48 -6019994.31 -6019994.12 0.0089 0.0051
 Neptune -21195-10-09 17:31 J -6019768.94 -6019768.77 -6019768.58 0.0089 0.0051
 Neptune -21194-05-23 06:14 J -6019543.40 -6019543.24 -6019543.04 0.0089 0.0051
 Neptune -21193-01-03 19:11 J -6019317.86 -6019317.70 -6019317.50 0.0089 0.0050
 Neptune -21193-08-16 08:23 J -6019092.32 -6019092.15 -6019091.96 0.0089 0.0050
 Saturn -21192-02-09 18:28 J -6018914.86 -6018914.73 -6018914.58 0.0300 0.0228
 Jupiter -21192-03-15 12:43 J -6018881.04 -6018880.97 -6018880.90 0.0533 0.0498
 Neptune -21192-03-29 21:21 J -6018866.78 -6018866.61 -6018866.42 0.0089 0.0049
 Saturn -21192-09-28 04:33 J -6018684.53 -6018684.31 -6018684.10 0.0301 0.0035
 Jupiter -21192-11-08 09:36 J -6018643.30 -6018643.10 -6018642.90 0.0533 0.0036
 Neptune -21192-11-10 10:33 J -6018641.24 -6018641.06 -6018640.88 0.0089 0.0049
 Saturn -21191-05-16 13:26 J -6018454.12 -6018453.94 -6018453.75 0.0300 0.0158
 Neptune -21191-06-23 23:16 J -6018415.71 -6018415.53 -6018415.34 0.0089 0.0048
 Jupiter -21191-07-04 00:57 J -6018405.58 -6018405.46 -6018405.34 0.0531 0.0421
 Neptune -21190-02-04 12:00 J -6018190.17 -6018190.00 -6018189.80 0.0089 0.0048
 Neptune -21190-09-18 01:11 J -6017964.63 -6017964.45 -6017964.26 0.0089 0.0048
 Neptune -21189-04-30 13:55 J -6017739.09 -6017738.92 -6017738.72 0.0089 0.0047
 Neptune -21189-12-12 02:52 J -6017513.56 -6017513.38 -6017513.19 0.0089 0.0047

Neptune	-21188-07-25 15:21 J	-6017288.03	-6017287.86	-6017287.66	0.0089	0.0047
Neptune	-21187-03-08 04:19 J	-6017062.49	-6017062.32	-6017062.12	0.0089	0.0046
Neptune	-21187-10-19 17:02 J	-6016836.96	-6016836.79	-6016836.59	0.0089	0.0045
Jupiter	-21186-01-14 22:04 J	-6016749.63	-6016749.58	-6016749.51	0.0494	0.0468
Neptune	-21186-06-02 05:45 J	-6016611.43	-6016611.26	-6016611.06	0.0089	0.0045
Jupiter	-21186-09-08 02:23 J	-6016513.60	-6016513.40	-6016513.20	0.0493	0.0109
Uranus	-21186-11-29 06:14 J	-6016431.35	-6016431.24	-6016431.12	0.0132	0.0110
Neptune	-21185-01-13 18:28 J	-6016385.91	-6016385.73	-6016385.53	0.0089	0.0044
Jupiter	-21185-05-01 10:19 J	-6016277.25	-6016277.07	-6016276.90	0.0494	0.0267
Uranus	-21185-07-12 11:45 J	-6016205.17	-6016205.01	-6016204.84	0.0132	0.0085
Neptune	-21185-08-26 06:57 J	-6016160.38	-6016160.21	-6016160.00	0.0089	0.0044
Uranus	-21184-02-23 17:16 J	-6015978.97	-6015978.78	-6015978.58	0.0132	0.0059
Neptune	-21184-04-08 19:55 J	-6015934.84	-6015934.67	-6015934.46	0.0089	0.0043
Uranus	-21184-10-07 22:33 J	-6015752.77	-6015752.56	-6015752.34	0.0132	0.0033
Neptune	-21184-11-20 08:52 J	-6015709.32	-6015709.13	-6015708.93	0.0089	0.0041
Uranus	-21183-05-22 04:04 J	-6015526.55	-6015526.33	-6015526.11	0.0133	0.0007
Neptune	-21183-07-03 21:36 J	-6015483.79	-6015483.60	-6015483.41	0.0089	0.0041
Uranus	-21182-01-03 09:36 J	-6015300.31	-6015300.10	-6015299.88	0.0133	0.0020
Neptune	-21182-02-14 09:50 J	-6015258.26	-6015258.09	-6015257.88	0.0089	0.0041
Uranus	-21182-08-17 15:07 J	-6015074.08	-6015073.87	-6015073.66	0.0133	0.0046
Neptune	-21182-09-27 22:33 J	-6015032.74	-6015032.56	-6015032.35	0.0089	0.0040
Uranus	-21181-03-30 20:23 J	-6014847.83	-6014847.65	-6014847.46	0.0133	0.0072
Neptune	-21181-05-10 11:31 J	-6014807.21	-6014807.02	-6014806.82	0.0089	0.0039
Uranus	-21181-11-12 01:55 J	-6014621.56	-6014621.42	-6014621.27	0.0133	0.0098
Neptune	-21181-12-22 00:14 J	-6014581.68	-6014581.49	-6014581.29	0.0089	0.0038
Uranus	-21180-06-26 07:11 J	-6014395.26	-6014395.20	-6014395.11	0.0133	0.0125
Jupiter	-21180-07-14 00:28 J	-6014377.68	-6014377.48	-6014377.29	0.0533	0.0166
Neptune	-21180-08-04 12:57 J	-6014356.16	-6014355.96	-6014355.76	0.0089	0.0037
Jupiter	-21179-03-08 17:31 J	-6014139.93	-6014139.77	-6014139.60	0.0532	0.0299
Neptune	-21179-03-18 01:40 J	-6014130.63	-6014130.43	-6014130.23	0.0089	0.0036

Neptune -21179-10-29 13:55 J -6013905.10 -6013904.92 -6013904.70 0.0089 0.0036
 Neptune -21178-06-12 02:38 J -6013679.58 -6013679.39 -6013679.18 0.0089 0.0034
 Saturn -21178-07-24 12:28 J -6013637.09 -6013636.98 -6013636.84 0.0261 0.0208
 Neptune -21177-01-23 15:21 J -6013454.05 -6013453.86 -6013453.65 0.0089 0.0033
 Saturn -21177-03-09 06:28 J -6013408.42 -6013408.23 -6013408.03 0.0261 0.0089
 Neptune -21177-09-05 03:50 J -6013228.53 -6013228.34 -6013228.12 0.0089 0.0033
 Saturn -21177-10-24 00:43 J -6013179.68 -6013179.47 -6013179.26 0.0261 0.0032
 Neptune -21176-04-18 16:33 J -6013003.00 -6013002.81 -6013002.59 0.0089 0.0032
 Saturn -21176-06-09 19:11 J -6012950.86 -6012950.70 -6012950.53 0.0261 0.0153
 Neptune -21176-11-30 05:16 J -6012777.48 -6012777.28 -6012777.07 0.0089 0.0030
 Neptune -21175-07-13 17:45 J -6012551.96 -6012551.76 -6012551.55 0.0089 0.0029
 Neptune -21174-02-24 06:14 J -6012326.44 -6012326.24 -6012326.03 0.0089 0.0028
 Jupiter -21174-05-14 04:33 J -6012247.49 -6012247.31 -6012247.12 0.0493 0.0209
 Neptune -21174-10-07 18:43 J -6012100.92 -6012100.72 -6012100.51 0.0089 0.0027
 Jupiter -21173-01-05 11:02 J -6012011.23 -6012011.04 -6012010.85 0.0494 0.0165
 Neptune -21173-05-20 07:11 J -6011875.39 -6011875.20 -6011874.98 0.0089 0.0026
 Neptune -21173-12-31 19:40 J -6011649.88 -6011649.68 -6011649.46 0.0089 0.0025
 Neptune -21172-08-14 08:09 J -6011424.36 -6011424.16 -6011423.94 0.0089 0.0024
 Neptune -21171-03-27 20:52 J -6011198.84 -6011198.63 -6011198.42 0.0089 0.0023
 Neptune -21171-11-08 09:07 J -6010973.32 -6010973.12 -6010972.90 0.0089 0.0022
 Neptune -21170-06-21 21:36 J -6010747.81 -6010747.60 -6010747.39 0.0089 0.0021
 Neptune -21169-02-02 10:04 J -6010522.29 -6010522.08 -6010521.87 0.0089 0.0019
 Neptune -21169-09-14 22:19 J -6010296.77 -6010296.57 -6010296.35 0.0089 0.0019
 Jupiter -21168-03-18 14:23 J -6010112.07 -6010111.90 -6010111.73 0.0533 0.0296
 Neptune -21168-04-28 11:02 J -6010071.25 -6010071.04 -6010070.82 0.0089 0.0017
 Jupiter -21168-11-11 09:21 J -6009874.30 -6009874.11 -6009873.92 0.0533 0.0174
 Mars -21168-11-19 04:48 J -6009866.47 -6009866.30 -6009866.14 0.1633 0.0437
 Neptune -21168-12-09 23:16 J -6009845.73 -6009845.53 -6009845.31 0.0089 0.0017
 Neptune -21167-07-23 11:45 J -6009620.21 -6009620.01 -6009619.79 0.0089 0.0015
 Mars -21167-10-21 13:11 J -6009530.09 -6009529.95 -6009529.81 0.1885 0.1168

Neptune -21166-03-06 00:28 J -6009394.70 -6009394.48 -6009394.27 0.0089 0.0014
 Mars -21166-09-19 10:04 J -6009197.17 -6009197.08 -6009196.98 0.1629 0.1318
 Neptune -21166-10-17 12:43 J -6009169.18 -6009168.97 -6009168.75 0.0089 0.0013
 Neptune -21165-05-30 01:26 J -6008943.65 -6008943.44 -6008943.23 0.0089 0.0011
 Neptune -21164-01-10 13:40 J -6008718.14 -6008717.93 -6008717.71 0.0089 0.0010
 Neptune -21164-08-24 02:09 J -6008492.62 -6008492.41 -6008492.19 0.0089 0.0009
 Neptune -21163-04-06 14:38 J -6008267.10 -6008266.89 -6008266.67 0.0089 0.0008
 Saturn -21163-08-23 01:26 J -6008128.59 -6008128.44 -6008128.27 0.0301 0.0202
 Neptune -21163-11-18 03:07 J -6008041.59 -6008041.37 -6008041.16 0.0089 0.0007
 Jupiter -21162-01-17 07:11 J -6007981.36 -6007981.20 -6007981.04 0.0493 0.0308
 Saturn -21162-04-10 11:16 J -6007898.24 -6007898.03 -6007897.81 0.0301 0.0009
 Neptune -21162-07-01 15:21 J -6007816.07 -6007815.86 -6007815.64 0.0089 0.0005
 Jupiter -21162-09-10 12:28 J -6007745.19 -6007744.98 -6007744.78 0.0493 0.0062
 Saturn -21162-11-26 20:09 J -6007667.83 -6007667.66 -6007667.49 0.0300 0.0183
 Neptune -21161-02-12 03:36 J -6007590.56 -6007590.35 -6007590.13 0.0089 0.0005
 Jupiter -21161-05-03 21:50 J -6007508.68 -6007508.59 -6007508.48 0.0495 0.0433
 Neptune -21161-09-24 16:04 J -6007365.05 -6007364.83 -6007364.61 0.0089 0.0003
 Neptune -21160-05-08 04:33 J -6007139.53 -6007139.31 -6007139.09 0.0089 0.0001
 Neptune -21160-12-19 16:48 J -6006914.01 -6006913.80 -6006913.58 0.0089 0.0002
 Neptune -21159-08-02 05:16 J -6006688.50 -6006688.28 -6006688.07 0.0089 0.0002
 Neptune -21158-03-15 17:31 J -6006462.99 -6006462.77 -6006462.56 0.0089 0.0002
 Neptune -21158-10-27 05:45 J -6006237.47 -6006237.26 -6006237.04 0.0089 0.0004
 Neptune -21157-06-08 18:14 J -6006011.95 -6006011.74 -6006011.52 0.0089 0.0005
 Jupiter -21157-11-21 05:31 J -6005846.39 -6005846.27 -6005846.15 0.0533 0.0421
 Neptune -21156-01-20 06:43 J -6005786.44 -6005786.22 -6005786.01 0.0089 0.0006
 Jupiter -21156-07-17 02:23 J -6005608.60 -6005608.40 -6005608.20 0.0533 0.0048
 Neptune -21156-09-02 18:57 J -6005560.92 -6005560.71 -6005560.49 0.0089 0.0007
 Jupiter -21155-03-11 17:31 J -6005370.84 -6005370.77 -6005370.70 0.0531 0.0497
 Neptune -21155-04-16 07:11 J -6005335.41 -6005335.20 -6005334.98 0.0089 0.0009
 Neptune -21155-11-27 19:40 J -6005109.89 -6005109.68 -6005109.46 0.0089 0.0010

Neptune	-21154-07-11 08:09 J	-6004884.37	-6004884.16	-6004883.94	0.0089	0.0011
Neptune	-21153-02-21 20:38 J	-6004658.85	-6004658.64	-6004658.43	0.0089	0.0012
Neptune	-21153-10-04 09:07 J	-6004433.34	-6004433.12	-6004432.91	0.0089	0.0013
Neptune	-21152-05-17 21:21 J	-6004207.82	-6004207.61	-6004207.39	0.0089	0.0015
Neptune	-21152-12-29 09:50 J	-6003982.30	-6003982.09	-6003981.87	0.0089	0.0016
Neptune	-21151-08-11 22:04 J	-6003756.78	-6003756.58	-6003756.36	0.0089	0.0017
Jupiter	-21151-09-22 09:36 J	-6003715.21	-6003715.10	-6003714.99	0.0493	0.0405
Neptune	-21150-03-25 10:33 J	-6003531.27	-6003531.06	-6003530.84	0.0089	0.0018
Jupiter	-21150-05-16 13:26 J	-6003479.15	-6003478.94	-6003478.74	0.0493	0.0043
Neptune	-21150-11-05 23:02 J	-6003305.75	-6003305.54	-6003305.33	0.0089	0.0019
Jupiter	-21149-01-07 21:07 J	-6003242.76	-6003242.62	-6003242.46	0.0494	0.0332
Neptune	-21149-06-18 11:16 J	-6003080.23	-6003080.03	-6003079.81	0.0089	0.0021
Neptune	-21148-01-29 23:45 J	-6002854.71	-6002854.51	-6002854.29	0.0089	0.0022
Saturn	-21148-02-02 12:57 J	-6002851.09	-6002850.96	-6002850.81	0.0261	0.0193
Neptune	-21148-09-12 12:00 J	-6002629.20	-6002629.00	-6002628.78	0.0089	0.0023
Saturn	-21148-09-19 06:43 J	-6002622.42	-6002622.22	-6002622.01	0.0261	0.0073
Neptune	-21147-04-26 00:28 J	-6002403.68	-6002403.48	-6002403.27	0.0089	0.0024
Saturn	-21147-05-06 00:43 J	-6002393.68	-6002393.47	-6002393.27	0.0261	0.0048
Neptune	-21147-12-07 12:57 J	-6002178.17	-6002177.96	-6002177.75	0.0089	0.0025
Saturn	-21147-12-20 19:11 J	-6002164.86	-6002164.70	-6002164.54	0.0261	0.0169
Neptune	-21146-07-21 01:26 J	-6001952.65	-6001952.44	-6001952.23	0.0089	0.0026
Neptune	-21145-03-02 13:40 J	-6001727.13	-6001726.93	-6001726.72	0.0089	0.0027
Neptune	-21145-10-14 02:09 J	-6001501.61	-6001501.41	-6001501.20	0.0089	0.0028
Jupiter	-21144-03-21 18:57 J	-6001342.91	-6001342.71	-6001342.51	0.0534	0.0082
Neptune	-21144-05-27 14:38 J	-6001276.09	-6001275.89	-6001275.68	0.0089	0.0029
Uranus	-21144-06-05 20:23 J	-6001266.75	-6001266.65	-6001266.51	0.0146	0.0121
Jupiter	-21144-11-14 11:45 J	-6001105.14	-6001105.01	-6001104.86	0.0532	0.0381
Neptune	-21143-01-08 02:52 J	-6001050.57	-6001050.38	-6001050.17	0.0089	0.0030
Uranus	-21143-01-18 08:23 J	-6001040.31	-6001040.15	-6001039.96	0.0146	0.0086
Neptune	-21143-08-21 15:07 J	-6000825.06	-6000824.87	-6000824.65	0.0089	0.0032

Uranus	-21143-09-01 20:38 J	-6000813.84	-6000813.64	-6000813.43	0.0146	0.0051
Neptune	-21142-04-04 03:36 J	-6000599.54	-6000599.35	-6000599.13	0.0089	0.0033
Uranus	-21142-04-16 08:38 J	-6000587.35	-6000587.14	-6000586.92	0.0146	0.0017
Neptune	-21142-11-15 16:04 J	-6000374.01	-6000373.83	-6000373.61	0.0089	0.0034
Uranus	-21142-11-28 20:52 J	-6000360.84	-6000360.63	-6000360.41	0.0146	0.0018
Neptune	-21141-06-28 04:48 J	-6000148.49	-6000148.30	-6000148.09	0.0089	0.0035
Uranus	-21141-07-12 09:07 J	-6000134.32	-6000134.12	-6000133.91	0.0146	0.0053
Neptune	-21140-02-08 17:16 J	-5999922.96	-5999922.78	-5999922.56	0.0089	0.0036
Uranus	-21140-02-23 20:52 J	-5999907.78	-5999907.63	-5999907.44	0.0145	0.0088
Neptune	-21140-09-22 05:45 J	-5999697.44	-5999697.26	-5999697.05	0.0088	0.0036
Uranus	-21140-10-08 09:07 J	-5999681.23	-5999681.12	-5999680.99	0.0145	0.0121
Neptune	-21139-05-05 18:28 J	-5999471.92	-5999471.73	-5999471.53	0.0088	0.0037
Neptune	-21139-12-17 06:57 J	-5999246.40	-5999246.21	-5999246.01	0.0088	0.0038
Jupiter	-21138-01-19 15:50 J	-5999213.04	-5999212.84	-5999212.64	0.0493	0.0144
Neptune	-21138-07-30 19:40 J	-5999020.87	-5999020.68	-5999020.48	0.0088	0.0039
Jupiter	-21138-09-12 22:48 J	-5998976.74	-5998976.55	-5998976.37	0.0494	0.0230
Neptune	-21137-03-12 07:55 J	-5998795.35	-5998795.17	-5998794.96	0.0088	0.0040
Neptune	-21137-10-23 20:23 J	-5998569.83	-5998569.65	-5998569.44	0.0088	0.0041
Neptune	-21136-06-06 08:52 J	-5998344.31	-5998344.13	-5998343.92	0.0088	0.0042
Mars	-21136-11-17 20:23 J	-5998179.75	-5998179.65	-5998179.54	0.1636	0.1280
Neptune	-21135-01-17 21:21 J	-5998118.78	-5998118.61	-5998118.40	0.0088	0.0043
Neptune	-21135-08-31 10:19 J	-5997893.26	-5997893.07	-5997892.88	0.0088	0.0043
Neptune	-21134-04-13 22:33 J	-5997667.74	-5997667.56	-5997667.36	0.0088	0.0044
Mars	-21134-09-18 01:40 J	-5997510.60	-5997510.43	-5997510.27	0.1630	0.0483
Neptune	-21134-11-25 11:02 J	-5997442.21	-5997442.04	-5997441.84	0.0088	0.0045
Saturn	-21133-03-04 03:50 J	-5997342.51	-5997342.34	-5997342.17	0.0301	0.0182
Neptune	-21133-07-07 23:45 J	-5997216.68	-5997216.51	-5997216.31	0.0088	0.0045
Mars	-21133-08-17 13:11 J	-5997176.11	-5997175.95	-5997175.80	0.1889	0.0931
Saturn	-21133-10-20 13:40 J	-5997112.14	-5997111.93	-5997111.71	0.0301	0.0012
Jupiter	-21133-11-24 09:07 J	-5997077.31	-5997077.12	-5997076.94	0.0533	0.0213

Neptune	-21132-02-18 12:28 J	-5996991.16	-5996990.98	-5996990.79	0.0088	0.0046
Saturn	-21132-06-07 22:33 J	-5996881.71	-5996881.56	-5996881.39	0.0300	0.0205
Jupiter	-21132-07-20 02:52 J	-5996839.56	-5996839.38	-5996839.20	0.0532	0.0255
Neptune	-21132-10-02 00:43 J	-5996765.64	-5996765.47	-5996765.27	0.0088	0.0047
Neptune	-21131-05-15 13:11 J	-5996540.11	-5996539.95	-5996539.74	0.0088	0.0048
Neptune	-21131-12-27 02:09 J	-5996314.59	-5996314.41	-5996314.22	0.0088	0.0047
Neptune	-21130-08-09 14:38 J	-5996089.05	-5996088.89	-5996088.69	0.0088	0.0049
Neptune	-21129-03-22 03:36 J	-5995863.52	-5995863.35	-5995863.16	0.0088	0.0049
Neptune	-21129-11-02 16:04 J	-5995637.99	-5995637.83	-5995637.63	0.0088	0.0049
Neptune	-21128-06-16 05:02 J	-5995412.46	-5995412.29	-5995412.10	0.0088	0.0050
Neptune	-21127-01-27 17:31 J	-5995186.93	-5995186.77	-5995186.57	0.0088	0.0051
Neptune	-21127-09-10 06:28 J	-5994961.40	-5994961.23	-5994961.04	0.0088	0.0051
Jupiter	-21127-09-24 17:45 J	-5994946.93	-5994946.76	-5994946.58	0.0493	0.0245
Neptune	-21126-04-23 18:57 J	-5994735.87	-5994735.71	-5994735.51	0.0088	0.0052
Jupiter	-21126-05-19 00:00 J	-5994710.70	-5994710.50	-5994710.30	0.0494	0.0128
Neptune	-21126-12-05 07:55 J	-5994510.34	-5994510.17	-5994509.98	0.0088	0.0052
Neptune	-21125-07-17 20:38 J	-5994284.80	-5994284.64	-5994284.44	0.0088	0.0052
Neptune	-21124-02-28 09:36 J	-5994059.27	-5994059.10	-5994058.91	0.0088	0.0052
Neptune	-21124-10-11 22:19 J	-5993833.74	-5993833.57	-5993833.38	0.0088	0.0053
Neptune	-21123-05-25 10:48 J	-5993608.20	-5993608.05	-5993607.85	0.0088	0.0053
Neptune	-21122-01-05 23:45 J	-5993382.67	-5993382.51	-5993382.32	0.0088	0.0053
Neptune	-21122-08-19 12:43 J	-5993157.13	-5993156.97	-5993156.78	0.0088	0.0053
Neptune	-21121-04-01 01:40 J	-5992931.60	-5992931.43	-5992931.25	0.0088	0.0053
Jupiter	-21121-07-29 23:45 J	-5992811.67	-5992811.51	-5992811.36	0.0533	0.0341
Neptune	-21121-11-12 14:38 J	-5992706.06	-5992705.89	-5992705.71	0.0088	0.0054
Jupiter	-21120-03-24 18:57 J	-5992573.90	-5992573.71	-5992573.51	0.0532	0.0128
Neptune	-21120-06-26 02:52 J	-5992480.53	-5992480.38	-5992480.18	0.0088	0.0055
Neptune	-21119-02-06 15:50 J	-5992254.99	-5992254.84	-5992254.65	0.0088	0.0054
Saturn	-21119-08-15 16:19 J	-5992064.96	-5992064.82	-5992064.65	0.0261	0.0175
Neptune	-21119-09-20 04:48 J	-5992029.45	-5992029.30	-5992029.11	0.0088	0.0054

Saturn	-21118-04-01 10:19 J	-5991836.28	-5991836.07	-5991835.87	0.0261	0.0055
Neptune	-21118-05-03 17:45 J	-5991803.92	-5991803.76	-5991803.57	0.0088	0.0054
Saturn	-21118-11-16 04:19 J	-5991607.53	-5991607.32	-5991607.12	0.0261	0.0066
Neptune	-21118-12-15 06:43 J	-5991578.38	-5991578.22	-5991578.03	0.0088	0.0054
Saturn	-21117-07-01 22:48 J	-5991378.69	-5991378.55	-5991378.40	0.0261	0.0187
Neptune	-21117-07-27 19:55 J	-5991352.83	-5991352.67	-5991352.49	0.0088	0.0054
Neptune	-21116-03-10 08:52 J	-5991127.29	-5991127.13	-5991126.94	0.0088	0.0054
Neptune	-21116-10-21 21:50 J	-5990901.75	-5990901.59	-5990901.40	0.0088	0.0054
Jupiter	-21115-05-30 20:38 J	-5990680.79	-5990680.64	-5990680.49	0.0494	0.0343
Neptune	-21115-06-04 10:48 J	-5990676.21	-5990676.05	-5990675.86	0.0088	0.0054
Neptune	-21114-01-15 23:45 J	-5990450.67	-5990450.51	-5990450.32	0.0088	0.0054
Jupiter	-21114-01-22 01:40 J	-5990444.64	-5990444.43	-5990444.23	0.0493	0.0026
Neptune	-21114-08-29 12:57 J	-5990225.12	-5990224.96	-5990224.77	0.0088	0.0054
Jupiter	-21114-09-15 11:02 J	-5990208.16	-5990208.04	-5990207.92	0.0495	0.0400
Neptune	-21113-04-11 02:23 J	-5989999.57	-5989999.40	-5989999.22	0.0088	0.0053
Neptune	-21113-11-22 15:21 J	-5989774.03	-5989773.86	-5989773.68	0.0088	0.0053
Neptune	-21112-07-06 04:19 J	-5989548.48	-5989548.32	-5989548.13	0.0088	0.0053
Neptune	-21111-02-16 17:16 J	-5989322.94	-5989322.78	-5989322.58	0.0088	0.0053
Neptune	-21111-09-30 06:57 J	-5989097.39	-5989097.21	-5989097.03	0.0088	0.0052
Neptune	-21110-05-13 19:40 J	-5988871.84	-5988871.68	-5988871.49	0.0088	0.0052
Neptune	-21110-12-25 08:38 J	-5988646.30	-5988646.14	-5988645.94	0.0088	0.0052
Jupiter	-21109-04-03 12:57 J	-5988546.05	-5988545.96	-5988545.86	0.0533	0.0467
Neptune	-21109-08-06 22:19 J	-5988420.75	-5988420.57	-5988420.39	0.0088	0.0051
Jupiter	-21109-11-27 09:50 J	-5988308.29	-5988308.09	-5988307.89	0.0533	0.0009
Neptune	-21108-03-20 11:02 J	-5988195.20	-5988195.04	-5988194.84	0.0088	0.0051
Jupiter	-21108-07-23 01:26 J	-5988070.54	-5988070.44	-5988070.34	0.0531	0.0453
Neptune	-21108-11-01 00:00 J	-5987969.66	-5987969.50	-5987969.29	0.0088	0.0051
Neptune	-21107-06-14 13:26 J	-5987744.11	-5987743.94	-5987743.75	0.0088	0.0050
Neptune	-21106-01-26 02:23 J	-5987518.56	-5987518.40	-5987518.20	0.0088	0.0050
Neptune	-21106-09-08 16:04 J	-5987293.01	-5987292.83	-5987292.64	0.0088	0.0049

Neptune	-21105-04-21 05:02 J	-5987067.46	-5987067.29	-5987067.09	0.0088	0.0049
Neptune	-21105-12-02 18:28 J	-5986841.91	-5986841.73	-5986841.53	0.0088	0.0048
Neptune	-21104-07-16 07:55 J	-5986616.36	-5986616.17	-5986615.98	0.0088	0.0047
Saturn	-21104-09-14 09:50 J	-5986556.26	-5986556.09	-5986555.90	0.0301	0.0157
Jupiter	-21103-02-02 23:45 J	-5986414.60	-5986414.51	-5986414.42	0.0494	0.0438
Neptune	-21103-02-26 20:52 J	-5986390.80	-5986390.63	-5986390.42	0.0088	0.0047
Saturn	-21103-05-02 19:55 J	-5986325.89	-5986325.67	-5986325.46	0.0301	0.0038
Jupiter	-21103-09-27 03:50 J	-5986178.55	-5986178.34	-5986178.14	0.0493	0.0077
Neptune	-21103-10-10 10:33 J	-5986165.24	-5986165.06	-5986164.86	0.0088	0.0046
Saturn	-21103-12-19 04:33 J	-5986095.44	-5986095.31	-5986095.17	0.0300	0.0230
Jupiter	-21102-05-21 11:16 J	-5985942.19	-5985942.03	-5985941.86	0.0494	0.0299
Neptune	-21102-05-24 00:00 J	-5985939.69	-5985939.50	-5985939.31	0.0088	0.0045
Uranus	-21102-07-29 14:09 J	-5985872.97	-5985872.91	-5985872.82	0.0132	0.0124
Mars	-21102-09-16 17:31 J	-5985823.94	-5985823.77	-5985823.61	0.1632	0.0363
Neptune	-21101-01-04 12:57 J	-5985714.13	-5985713.96	-5985713.75	0.0088	0.0045
Uranus	-21101-03-11 19:40 J	-5985646.82	-5985646.68	-5985646.52	0.0132	0.0098
Neptune	-21101-08-17 02:38 J	-5985488.58	-5985488.39	-5985488.19	0.0088	0.0044
Mars	-21101-08-17 15:36 J	-5985488.01	-5985487.85	-5985487.69	0.1886	0.0870
Uranus	-21101-10-24 01:11 J	-5985420.63	-5985420.45	-5985420.26	0.0132	0.0072
Neptune	-21100-03-30 16:04 J	-5985263.02	-5985262.83	-5985262.63	0.0088	0.0043
Uranus	-21100-06-07 06:43 J	-5985194.42	-5985194.22	-5985194.01	0.0132	0.0045
Mars	-21100-07-16 22:48 J	-5985154.63	-5985154.55	-5985154.46	0.1628	0.1390
Neptune	-21100-11-11 05:02 J	-5985037.46	-5985037.29	-5985037.07	0.0088	0.0043
Uranus	-21099-01-19 12:14 J	-5984968.20	-5984967.99	-5984967.77	0.0132	0.0020
Neptune	-21099-06-24 18:28 J	-5984811.91	-5984811.73	-5984811.51	0.0088	0.0042
Uranus	-21099-09-02 17:45 J	-5984741.98	-5984741.76	-5984741.54	0.0133	0.0008
Neptune	-21098-02-05 07:55 J	-5984586.35	-5984586.17	-5984585.96	0.0088	0.0041
Uranus	-21098-04-16 23:02 J	-5984515.74	-5984515.54	-5984515.32	0.0133	0.0034
Neptune	-21098-09-18 21:36 J	-5984360.79	-5984360.60	-5984360.39	0.0088	0.0040
Uranus	-21098-11-29 04:33 J	-5984289.50	-5984289.31	-5984289.11	0.0133	0.0060

Neptune	-21097-05-01 11:02 J	-5984135.23	-5984135.04	-5984134.83	0.0088	0.0039
Uranus	-21097-07-12 10:04 J	-5984063.24	-5984063.08	-5984062.91	0.0133	0.0086
Jupiter	-21097-08-02 01:55 J	-5984042.61	-5984042.42	-5984042.22	0.0534	0.0131
Neptune	-21097-12-13 00:28 J	-5983909.68	-5983909.48	-5983909.27	0.0088	0.0038
Uranus	-21096-02-23 15:36 J	-5983836.96	-5983836.85	-5983836.73	0.0133	0.0112
Jupiter	-21096-03-27 19:40 J	-5983804.83	-5983804.68	-5983804.52	0.0532	0.0335
Neptune	-21096-07-26 13:55 J	-5983684.12	-5983683.92	-5983683.72	0.0088	0.0037
Neptune	-21095-03-09 03:07 J	-5983458.56	-5983458.37	-5983458.16	0.0088	0.0037
Neptune	-21095-10-20 16:48 J	-5983233.00	-5983232.80	-5983232.59	0.0088	0.0035
Neptune	-21094-06-03 06:14 J	-5983007.44	-5983007.24	-5983007.03	0.0088	0.0034
Neptune	-21093-01-14 19:40 J	-5982781.88	-5982781.68	-5982781.47	0.0088	0.0033
Neptune	-21093-08-27 09:07 J	-5982556.32	-5982556.12	-5982555.90	0.0088	0.0033
Neptune	-21092-04-09 22:48 J	-5982330.76	-5982330.55	-5982330.34	0.0088	0.0031
Neptune	-21092-11-21 12:14 J	-5982105.19	-5982104.99	-5982104.77	0.0088	0.0030
Jupiter	-21091-06-02 05:31 J	-5981912.46	-5981912.27	-5981912.08	0.0493	0.0179
Neptune	-21091-07-05 01:40 J	-5981879.63	-5981879.43	-5981879.21	0.0088	0.0029
Jupiter	-21090-01-24 11:45 J	-5981676.20	-5981676.01	-5981675.82	0.0494	0.0195
Neptune	-21090-02-15 15:21 J	-5981654.07	-5981653.86	-5981653.64	0.0088	0.0028
Earth	-21090-05-02 20:38 J	-5981577.80	-5981577.64	-5981577.49	0.2712	0.0540
Moon	-21090-05-02 20:38 J	-5981577.79	-5981577.64	-5981577.49	0.2718	0.0206 *
Neptune	-21090-09-29 05:02 J	-5981428.50	-5981428.29	-5981428.07	0.0088	0.0027
Saturn	-21089-02-25 16:19 J	-5981278.97	-5981278.82	-5981278.65	0.0261	0.0161
Neptune	-21089-05-11 18:28 J	-5981202.93	-5981202.73	-5981202.50	0.0088	0.0026
Saturn	-21089-10-11 10:04 J	-5981050.29	-5981050.08	-5981049.88	0.0261	0.0041
Neptune	-21089-12-23 08:09 J	-5980977.37	-5980977.16	-5980976.94	0.0088	0.0025
Saturn	-21088-05-28 03:50 J	-5980821.54	-5980821.34	-5980821.14	0.0261	0.0080
Neptune	-21088-08-05 21:36 J	-5980751.80	-5980751.60	-5980751.37	0.0088	0.0024
Saturn	-21087-01-11 22:04 J	-5980592.71	-5980592.58	-5980592.44	0.0261	0.0202
Neptune	-21087-03-19 11:31 J	-5980526.24	-5980526.02	-5980525.80	0.0088	0.0022
Neptune	-21087-10-31 01:11 J	-5980300.66	-5980300.45	-5980300.23	0.0088	0.0021

Neptune	-21086-06-13 14:52 J	-5980075.10	-5980074.88	-5980074.66	0.0088	0.0020
Neptune	-21085-01-25 04:19 J	-5979849.53	-5979849.32	-5979849.09	0.0088	0.0019
Jupiter	-21085-04-06 18:14 J	-5979776.91	-5979776.74	-5979776.56	0.0534	0.0259
Neptune	-21085-09-06 17:45 J	-5979623.97	-5979623.76	-5979623.53	0.0088	0.0019
Jupiter	-21085-11-30 13:26 J	-5979539.12	-5979538.94	-5979538.75	0.0533	0.0212
Neptune	-21084-04-20 07:40 J	-5979398.40	-5979398.18	-5979397.96	0.0088	0.0016
Neptune	-21084-12-01 21:21 J	-5979172.83	-5979172.61	-5979172.39	0.0088	0.0015
Neptune	-21083-07-15 10:48 J	-5978947.26	-5978947.05	-5978946.82	0.0088	0.0014
Neptune	-21082-02-26 00:28 J	-5978721.70	-5978721.48	-5978721.25	0.0088	0.0013
Neptune	-21082-10-09 14:09 J	-5978496.13	-5978495.91	-5978495.68	0.0088	0.0012
Neptune	-21081-05-22 03:50 J	-5978270.56	-5978270.34	-5978270.11	0.0088	0.0010
Neptune	-21080-01-02 17:31 J	-5978044.99	-5978044.77	-5978044.54	0.0088	0.0009
Neptune	-21080-08-16 07:11 J	-5977819.42	-5977819.20	-5977818.98	0.0088	0.0008
Jupiter	-21079-02-05 08:38 J	-5977646.31	-5977646.14	-5977645.98	0.0493	0.0278
Neptune	-21079-03-29 20:52 J	-5977593.85	-5977593.63	-5977593.41	0.0088	0.0006
Jupiter	-21079-09-29 13:40 J	-5977410.13	-5977409.93	-5977409.72	0.0493	0.0093
Neptune	-21079-11-10 10:33 J	-5977368.28	-5977368.06	-5977367.83	0.0088	0.0006
Jupiter	-21078-05-23 23:31 J	-5977173.58	-5977173.52	-5977173.44	0.0496	0.0464
Neptune	-21078-06-24 00:28 J	-5977142.71	-5977142.48	-5977142.26	0.0088	0.0004
Neptune	-21077-02-04 14:09 J	-5976917.14	-5976916.91	-5976916.69	0.0088	0.0002
Neptune	-21077-09-17 03:50 J	-5976691.56	-5976691.34	-5976691.12	0.0088	0.0001
Neptune	-21076-04-30 17:31 J	-5976465.99	-5976465.77	-5976465.54	0.0088	0.0001
Neptune	-21076-12-12 07:26 J	-5976240.42	-5976240.19	-5976239.97	0.0088	0.0002
Neptune	-21075-07-25 21:07 J	-5976014.84	-5976014.62	-5976014.39	0.0088	0.0003
Neptune	-21074-03-08 10:48 J	-5975789.27	-5975789.05	-5975788.82	0.0088	0.0004
Saturn	-21074-03-27 11:16 J	-5975770.22	-5975770.03	-5975769.84	0.0301	0.0139
Neptune	-21074-10-20 00:43 J	-5975563.70	-5975563.47	-5975563.25	0.0088	0.0006
Saturn	-21074-11-12 21:07 J	-5975539.83	-5975539.62	-5975539.41	0.0301	0.0056
Jupiter	-21074-12-11 08:38 J	-5975511.27	-5975511.14	-5975511.00	0.0533	0.0386
Neptune	-21073-06-01 14:09 J	-5975338.13	-5975337.91	-5975337.68	0.0088	0.0008

Saturn	-21073-06-30 06:14 J	-5975309.36	-5975309.24	-5975309.12	0.0300	0.0248
Jupiter	-21073-08-05 04:33 J	-5975273.51	-5975273.31	-5975273.11	0.0533	0.0082
Neptune	-21072-01-13 04:04 J	-5975112.55	-5975112.33	-5975112.11	0.0088	0.0008
Jupiter	-21072-03-30 18:28 J	-5975035.74	-5975035.73	-5975035.70	0.0530	0.0527
Neptune	-21072-08-26 17:45 J	-5974886.99	-5974886.76	-5974886.54	0.0088	0.0010
Neptune	-21071-04-09 07:11 J	-5974661.42	-5974661.20	-5974660.97	0.0088	0.0011
Neptune	-21071-11-20 20:52 J	-5974435.84	-5974435.63	-5974435.40	0.0089	0.0013
Neptune	-21070-07-04 10:48 J	-5974210.27	-5974210.05	-5974209.83	0.0089	0.0014
Mars	-21070-09-15 09:07 J	-5974137.23	-5974137.12	-5974137.00	0.1635	0.1203
Neptune	-21069-02-15 00:28 J	-5973984.70	-5973984.48	-5973984.26	0.0089	0.0015
Neptune	-21069-09-27 13:55 J	-5973759.13	-5973758.92	-5973758.69	0.0089	0.0016
Neptune	-21068-05-11 03:36 J	-5973533.56	-5973533.35	-5973533.13	0.0089	0.0017
Mars	-21068-07-15 14:38 J	-5973468.05	-5973467.89	-5973467.73	0.1630	0.0552
Jupiter	-21068-10-11 10:19 J	-5973380.20	-5973380.07	-5973379.94	0.0494	0.0377
Neptune	-21068-12-22 17:16 J	-5973307.99	-5973307.78	-5973307.55	0.0089	0.0019
Jupiter	-21067-06-04 15:07 J	-5973144.08	-5973143.87	-5973143.66	0.0494	0.0011
Mars	-21067-06-14 14:23 J	-5973134.03	-5973133.90	-5973133.76	0.1890	0.1245
Neptune	-21067-08-05 07:11 J	-5973082.42	-5973082.20	-5973081.98	0.0089	0.0020
Jupiter	-21066-01-27 00:00 J	-5972907.63	-5972907.50	-5972907.36	0.0495	0.0365
Neptune	-21066-03-18 20:23 J	-5972856.85	-5972856.65	-5972856.42	0.0089	0.0022
Neptune	-21066-10-30 10:19 J	-5972631.28	-5972631.07	-5972630.85	0.0089	0.0023
Neptune	-21065-06-12 00:00 J	-5972405.71	-5972405.50	-5972405.28	0.0089	0.0024
Neptune	-21064-01-23 13:55 J	-5972180.13	-5972179.92	-5972179.70	0.0089	0.0025
Neptune	-21064-09-06 03:36 J	-5971954.56	-5971954.35	-5971954.14	0.0089	0.0026
Neptune	-21063-04-19 17:16 J	-5971728.99	-5971728.78	-5971728.57	0.0089	0.0027
Neptune	-21063-12-01 06:43 J	-5971503.42	-5971503.22	-5971502.99	0.0089	0.0029
Neptune	-21062-07-14 20:23 J	-5971277.85	-5971277.65	-5971277.43	0.0089	0.0030
Jupiter	-21062-08-15 23:16 J	-5971245.58	-5971245.53	-5971245.46	0.0532	0.0508
Neptune	-21061-02-25 10:04 J	-5971052.28	-5971052.08	-5971051.86	0.0089	0.0031
Jupiter	-21061-04-09 20:23 J	-5971007.85	-5971007.65	-5971007.45	0.0533	0.0047

Neptune -21061-10-07 23:45 J -5970826.71 -5970826.51 -5970826.29 0.0089 0.0032
 Jupiter -21061-12-03 12:00 J -5970770.13 -5970770.00 -5970769.88 0.0531 0.0411
 Uranus -21060-02-02 23:31 J -5970708.57 -5970708.52 -5970708.44 0.0146 0.0139
 Neptune -21060-05-21 13:26 J -5970601.14 -5970600.94 -5970600.73 0.0089 0.0033
 Saturn -21060-09-06 19:11 J -5970492.87 -5970492.70 -5970492.52 0.0261 0.0143
 Uranus -21060-09-17 11:31 J -5970482.16 -5970482.02 -5970481.86 0.0146 0.0105
 Neptune -21059-01-02 03:07 J -5970375.57 -5970375.37 -5970375.16 0.0089 0.0034
 Pluto -21059-03-31 16:19 J -5970286.96 -5970286.82 -5970286.63 0.0064 0.0043
 Saturn -21059-04-23 12:57 J -5970264.17 -5970263.96 -5970263.75 0.0260 0.0023
 Uranus -21059-05-01 23:31 J -5970255.70 -5970255.52 -5970255.32 0.0146 0.0071
 Neptune -21059-08-15 16:48 J -5970150.00 -5970149.80 -5970149.59 0.0089 0.0035
 Pluto -21059-11-11 20:23 J -5970061.86 -5970061.65 -5970061.43 0.0064 0.0007
 Saturn -21059-12-08 06:43 J -5970035.41 -5970035.22 -5970035.02 0.0260 0.0098
 Uranus -21059-12-14 11:31 J -5970029.22 -5970029.02 -5970028.80 0.0146 0.0036
 Neptune -21058-03-29 06:14 J -5969924.44 -5969924.24 -5969924.03 0.0089 0.0036
 Pluto -21058-06-25 00:28 J -5969836.67 -5969836.48 -5969836.29 0.0065 0.0030
 Saturn -21058-07-25 01:11 J -5969806.55 -5969806.45 -5969806.32 0.0261 0.0219
 Uranus -21058-07-29 00:00 J -5969802.71 -5969802.50 -5969802.28 0.0146 0.0001
 Neptune -21058-11-09 19:40 J -5969698.87 -5969698.68 -5969698.47 0.0089 0.0037
 Uranus -21057-03-11 12:14 J -5969576.20 -5969575.99 -5969575.78 0.0146 0.0034
 Neptune -21057-06-22 09:21 J -5969473.31 -5969473.11 -5969472.91 0.0089 0.0038
 Uranus -21057-10-24 00:00 J -5969349.68 -5969349.50 -5969349.30 0.0146 0.0069
 Neptune -21056-02-02 22:48 J -5969247.74 -5969247.55 -5969247.34 0.0089 0.0039
 Uranus -21056-06-07 12:00 J -5969123.14 -5969123.00 -5969122.84 0.0145 0.0103
 Jupiter -21056-06-16 13:11 J -5969114.00 -5969113.95 -5969113.88 0.0494 0.0472
 Neptune -21056-09-16 12:14 J -5969022.18 -5969021.99 -5969021.78 0.0089 0.0040
 Uranus -21055-01-20 00:00 J -5968896.55 -5968896.50 -5968896.41 0.0145 0.0137
 Jupiter -21055-02-07 17:16 J -5968877.98 -5968877.78 -5968877.57 0.0493 0.0113
 Neptune -21055-04-30 01:40 J -5968796.61 -5968796.43 -5968796.22 0.0089 0.0041
 Jupiter -21055-10-02 00:57 J -5968641.63 -5968641.46 -5968641.28 0.0494 0.0264

Neptune	-21055-12-11 15:21 J	-5968571.05	-5968570.86	-5968570.65	0.0089	0.0042
Neptune	-21054-07-25 04:48 J	-5968345.48	-5968345.30	-5968345.09	0.0089	0.0043
Neptune	-21053-03-06 18:14 J	-5968119.92	-5968119.74	-5968119.53	0.0089	0.0044
Neptune	-21053-10-18 07:40 J	-5967894.35	-5967894.18	-5967893.97	0.0089	0.0045
Neptune	-21052-05-31 21:36 J	-5967668.79	-5967668.60	-5967668.41	0.0089	0.0045
Neptune	-21051-01-12 11:02 J	-5967443.22	-5967443.04	-5967442.84	0.0089	0.0046
Neptune	-21051-08-26 00:28 J	-5967217.65	-5967217.48	-5967217.28	0.0089	0.0047
Neptune	-21050-04-08 13:55 J	-5966992.09	-5966991.92	-5966991.72	0.0089	0.0048
Neptune	-21050-11-20 03:36 J	-5966766.53	-5966766.35	-5966766.16	0.0089	0.0048
Jupiter	-21050-12-14 10:19 J	-5966742.26	-5966742.07	-5966741.88	0.0533	0.0178
Neptune	-21049-07-02 16:48 J	-5966540.97	-5966540.80	-5966540.60	0.0089	0.0050
Jupiter	-21049-08-08 04:04 J	-5966504.49	-5966504.33	-5966504.16	0.0532	0.0290
Neptune	-21048-02-13 06:14 J	-5966315.40	-5966315.24	-5966315.04	0.0089	0.0050
Neptune	-21048-09-26 20:09 J	-5966089.84	-5966089.66	-5966089.48	0.0089	0.0050
Neptune	-21047-05-10 09:07 J	-5965864.29	-5965864.12	-5965863.92	0.0089	0.0051
Neptune	-21047-12-21 22:19 J	-5965638.73	-5965638.57	-5965638.37	0.0089	0.0053
Neptune	-21046-08-04 12:00 J	-5965413.17	-5965413.00	-5965412.81	0.0089	0.0052
Neptune	-21045-03-17 01:11 J	-5965187.61	-5965187.45	-5965187.26	0.0089	0.0053
Saturn	-21045-10-06 16:33 J	-5964984.01	-5964983.81	-5964983.61	0.0301	0.0114
Neptune	-21045-10-28 14:38 J	-5964962.06	-5964961.89	-5964961.70	0.0089	0.0053
Saturn	-21044-05-25 02:23 J	-5964753.61	-5964753.40	-5964753.20	0.0301	0.0081
Neptune	-21044-06-11 03:36 J	-5964736.50	-5964736.35	-5964736.15	0.0089	0.0055
Jupiter	-21044-10-13 20:09 J	-5964611.85	-5964611.66	-5964611.48	0.0493	0.0212
Saturn	-21043-01-10 11:02 J	-5964523.12	-5964523.04	-5964522.94	0.0301	0.0273
Neptune	-21043-01-22 17:16 J	-5964510.94	-5964510.78	-5964510.59	0.0089	0.0054
Jupiter	-21043-06-07 02:09 J	-5964375.60	-5964375.41	-5964375.21	0.0494	0.0162
Neptune	-21043-09-05 06:43 J	-5964285.39	-5964285.22	-5964285.04	0.0089	0.0055
Neptune	-21042-04-18 19:40 J	-5964059.84	-5964059.68	-5964059.49	0.0089	0.0055
Neptune	-21042-11-30 09:07 J	-5963834.28	-5963834.12	-5963833.94	0.0089	0.0055
Neptune	-21041-07-12 22:33 J	-5963608.73	-5963608.56	-5963608.39	0.0089	0.0056

Neptune	-21040-02-23 11:31 J	-5963383.17	-5963383.02	-5963382.83	0.0089	0.0056
Neptune	-21040-10-07 00:43 J	-5963157.62	-5963157.47	-5963157.28	0.0089	0.0057
Neptune	-21039-05-20 14:09 J	-5962932.07	-5962931.91	-5962931.73	0.0089	0.0056
Neptune	-21038-01-01 03:21 J	-5962706.52	-5962706.36	-5962706.18	0.0089	0.0057
Neptune	-21038-08-14 16:48 J	-5962480.96	-5962480.80	-5962480.63	0.0089	0.0057
Jupiter	-21038-08-19 01:40 J	-5962476.59	-5962476.43	-5962476.26	0.0533	0.0307
Neptune	-21037-03-27 05:45 J	-5962255.41	-5962255.26	-5962255.07	0.0089	0.0057
Jupiter	-21037-04-12 21:36 J	-5962238.79	-5962238.60	-5962238.41	0.0533	0.0165
Neptune	-21037-11-07 18:57 J	-5962029.86	-5962029.71	-5962029.53	0.0089	0.0057
Neptune	-21036-06-21 07:55 J	-5961804.31	-5961804.17	-5961803.98	0.0089	0.0058
Mars	-21036-07-14 06:14 J	-5961781.41	-5961781.24	-5961781.07	0.1631	0.0287
Neptune	-21035-02-01 21:21 J	-5961578.76	-5961578.61	-5961578.43	0.0089	0.0057
Mars	-21035-06-14 17:02 J	-5961445.96	-5961445.79	-5961445.62	0.1887	0.0557
Neptune	-21035-09-15 10:19 J	-5961353.22	-5961353.07	-5961352.88	0.0089	0.0058
Neptune	-21034-04-28 23:16 J	-5961127.67	-5961127.53	-5961127.34	0.0089	0.0058
Mars	-21034-05-14 11:45 J	-5961112.08	-5961112.01	-5961111.93	0.1628	0.1457
Neptune	-21034-12-10 12:14 J	-5960902.13	-5960901.99	-5960901.80	0.0089	0.0058
Neptune	-21033-07-23 01:55 J	-5960676.59	-5960676.42	-5960676.25	0.0089	0.0057
Neptune	-21032-03-05 14:52 J	-5960451.04	-5960450.88	-5960450.71	0.0089	0.0057
Jupiter	-21032-06-18 22:33 J	-5960345.71	-5960345.56	-5960345.40	0.0493	0.0312
Neptune	-21032-10-17 03:36 J	-5960225.50	-5960225.35	-5960225.17	0.0089	0.0057
Jupiter	-21031-02-10 03:21 J	-5960109.56	-5960109.36	-5960109.16	0.0493	0.0057
Neptune	-21031-05-30 16:33 J	-5959999.96	-5959999.81	-5959999.63	0.0089	0.0056
Saturn	-21031-08-03 01:40 J	-5959935.49	-5959935.43	-5959935.37	0.0261	0.0248
Jupiter	-21031-10-04 12:43 J	-5959873.07	-5959872.97	-5959872.87	0.0495	0.0429
Neptune	-21030-01-11 05:16 J	-5959774.43	-5959774.28	-5959774.09	0.0089	0.0057
Saturn	-21030-03-19 18:57 J	-5959706.89	-5959706.71	-5959706.52	0.0260	0.0129
Neptune	-21030-08-24 18:43 J	-5959548.89	-5959548.72	-5959548.55	0.0089	0.0056
Saturn	-21030-11-03 12:28 J	-5959478.19	-5959477.98	-5959477.77	0.0260	0.0009
Neptune	-21029-04-06 07:26 J	-5959323.34	-5959323.19	-5959323.00	0.0089	0.0056

Saturn	-21029-06-19 06:14 J	-5959249.42	-5959249.24	-5959249.04	0.0261	0.0113
Neptune	-21029-11-17 20:23 J	-5959097.81	-5959097.65	-5959097.46	0.0089	0.0055
Saturn	-21028-02-03 00:43 J	-5959020.56	-5959020.47	-5959020.37	0.0261	0.0233
Neptune	-21028-07-01 09:21 J	-5958872.27	-5958872.11	-5958871.93	0.0089	0.0055
Neptune	-21027-02-11 22:19 J	-5958646.73	-5958646.57	-5958646.38	0.0089	0.0054
Neptune	-21027-09-25 11:31 J	-5958421.19	-5958421.02	-5958420.85	0.0089	0.0054
Jupiter	-21026-04-23 17:45 J	-5958210.88	-5958210.76	-5958210.65	0.0533	0.0430
Neptune	-21026-05-09 00:14 J	-5958195.65	-5958195.49	-5958195.31	0.0089	0.0053
Jupiter	-21026-12-17 14:38 J	-5957973.09	-5957972.89	-5957972.69	0.0533	0.0038
Neptune	-21026-12-20 12:43 J	-5957970.12	-5957969.97	-5957969.77	0.0089	0.0054
Neptune	-21025-08-02 01:55 J	-5957744.58	-5957744.42	-5957744.23	0.0089	0.0053
Jupiter	-21025-08-11 06:14 J	-5957735.32	-5957735.24	-5957735.17	0.0531	0.0489
Neptune	-21024-03-15 15:07 J	-5957519.04	-5957518.87	-5957518.69	0.0089	0.0052
Neptune	-21024-10-27 03:36 J	-5957293.51	-5957293.35	-5957293.15	0.0089	0.0052
Neptune	-21023-06-09 16:33 J	-5957067.98	-5957067.81	-5957067.62	0.0089	0.0051
Neptune	-21022-01-21 05:02 J	-5956842.45	-5956842.29	-5956842.09	0.0089	0.0051
Neptune	-21022-09-03 18:00 J	-5956616.92	-5956616.75	-5956616.55	0.0089	0.0050
Neptune	-21021-04-16 06:57 J	-5956391.38	-5956391.21	-5956391.02	0.0089	0.0049
Neptune	-21021-11-27 19:26 J	-5956165.85	-5956165.69	-5956165.49	0.0089	0.0049
Jupiter	-21020-02-22 01:40 J	-5956079.53	-5956079.43	-5956079.30	0.0494	0.0409
Neptune	-21020-07-11 08:09 J	-5955940.33	-5955940.16	-5955939.96	0.0089	0.0048
Jupiter	-21020-10-16 05:45 J	-5955843.46	-5955843.26	-5955843.05	0.0493	0.0046
Neptune	-21019-02-21 21:07 J	-5955714.80	-5955714.62	-5955714.43	0.0089	0.0046
Jupiter	-21019-06-09 13:40 J	-5955607.08	-5955606.93	-5955606.78	0.0494	0.0330
Neptune	-21019-10-05 09:50 J	-5955489.27	-5955489.09	-5955488.90	0.0089	0.0046
Neptune	-21018-05-18 22:33 J	-5955263.74	-5955263.56	-5955263.37	0.0089	0.0045
Uranus	-21018-11-10 04:19 J	-5955088.43	-5955088.32	-5955088.19	0.0132	0.0110
Neptune	-21018-12-30 10:48 J	-5955038.22	-5955038.05	-5955037.84	0.0089	0.0045
Uranus	-21017-06-23 09:50 J	-5954862.25	-5954862.09	-5954861.91	0.0132	0.0084
Neptune	-21017-08-11 23:31 J	-5954812.69	-5954812.52	-5954812.32	0.0089	0.0043

Uranus	-21016-02-04 15:21 J	-5954636.04	-5954635.86	-5954635.65	0.0132	0.0059
Neptune	-21016-03-25 12:14 J	-5954587.16	-5954586.99	-5954586.78	0.0089	0.0043
Saturn	-21016-08-31 06:14 J	-5954428.28	-5954428.24	-5954428.18	0.0300	0.0291
Uranus	-21016-09-18 21:07 J	-5954409.83	-5954409.62	-5954409.40	0.0132	0.0032
Neptune	-21016-11-06 00:57 J	-5954361.64	-5954361.46	-5954361.26	0.0089	0.0041
Saturn	-21015-04-18 16:33 J	-5954198.01	-5954197.81	-5954197.60	0.0301	0.0098
Uranus	-21015-05-03 02:38 J	-5954183.61	-5954183.39	-5954183.17	0.0132	0.0005
Neptune	-21015-06-19 13:26 J	-5954136.12	-5954135.94	-5954135.73	0.0089	0.0041
Saturn	-21015-12-05 02:38 J	-5953967.59	-5953967.39	-5953967.19	0.0301	0.0097
Uranus	-21015-12-15 08:09 J	-5953957.38	-5953957.16	-5953956.94	0.0133	0.0021
Neptune	-21014-01-31 02:09 J	-5953910.59	-5953910.41	-5953910.21	0.0089	0.0040
Saturn	-21014-07-23 11:16 J	-5953737.07	-5953737.03	-5953736.96	0.0300	0.0289
Uranus	-21014-07-29 13:26 J	-5953731.13	-5953730.94	-5953730.72	0.0133	0.0048
Jupiter	-21014-08-22 06:00 J	-5953707.45	-5953707.25	-5953707.05	0.0533	0.0093
Neptune	-21014-09-13 14:52 J	-5953685.07	-5953684.88	-5953684.68	0.0089	0.0038
Uranus	-21013-03-11 19:11 J	-5953504.88	-5953504.70	-5953504.52	0.0133	0.0074
Jupiter	-21013-04-15 22:33 J	-5953469.70	-5953469.56	-5953469.41	0.0531	0.0370
Neptune	-21013-04-26 03:36 J	-5953459.54	-5953459.35	-5953459.14	0.0089	0.0038
Uranus	-21013-10-24 00:43 J	-5953278.61	-5953278.47	-5953278.33	0.0133	0.0100
Neptune	-21013-12-07 16:19 J	-5953234.01	-5953233.82	-5953233.62	0.0089	0.0036
Uranus	-21012-06-07 05:31 J	-5953052.31	-5953052.27	-5953052.18	0.0133	0.0127
Neptune	-21012-07-21 04:48 J	-5953008.49	-5953008.30	-5953008.09	0.0089	0.0035
Neptune	-21011-03-03 17:16 J	-5952782.96	-5952782.78	-5952782.57	0.0089	0.0035
Neptune	-21011-10-15 06:00 J	-5952557.44	-5952557.25	-5952557.04	0.0089	0.0033
Neptune	-21010-05-28 18:28 J	-5952331.92	-5952331.73	-5952331.51	0.0089	0.0033
Neptune	-21009-01-09 06:57 J	-5952106.40	-5952106.21	-5952105.99	0.0089	0.0032
Neptune	-21009-08-21 19:55 J	-5951880.88	-5951880.67	-5951880.47	0.0089	0.0030
Neptune	-21008-04-04 08:23 J	-5951655.35	-5951655.15	-5951654.94	0.0089	0.0029
Jupiter	-21008-06-21 06:57 J	-5951577.40	-5951577.21	-5951577.01	0.0494	0.0148
Neptune	-21008-11-15 20:38 J	-5951429.83	-5951429.64	-5951429.42	0.0089	0.0028

Jupiter -21007-02-12 14:23 J -5951341.09 -5951340.90 -5951340.72 0.0494 0.0229
 Neptune -21007-06-29 09:07 J -5951204.32 -5951204.12 -5951203.90 0.0089 0.0026
 Neptune -21006-02-09 21:36 J -5950978.80 -5950978.60 -5950978.39 0.0089 0.0025
 Neptune -21006-09-23 10:19 J -5950753.28 -5950753.07 -5950752.87 0.0089 0.0024
 Neptune -21005-05-05 22:48 J -5950527.76 -5950527.55 -5950527.34 0.0089 0.0022
 Neptune -21005-12-17 11:02 J -5950302.24 -5950302.04 -5950301.82 0.0089 0.0021
 Mars -21004-07-12 21:50 J -5950094.71 -5950094.59 -5950094.47 0.1634 0.1124
 Neptune -21004-07-30 23:31 J -5950076.72 -5950076.52 -5950076.30 0.0089 0.0020
 Neptune -21003-03-13 12:00 J -5949851.21 -5949851.00 -5949850.79 0.0089 0.0019
 Neptune -21003-10-25 00:28 J -5949625.69 -5949625.48 -5949625.27 0.0089 0.0017
 Jupiter -21002-04-26 21:21 J -5949441.79 -5949441.61 -5949441.42 0.0533 0.0221
 Mars -21002-05-13 03:21 J -5949425.51 -5949425.36 -5949425.20 0.1629 0.0624
 Neptune -21002-06-07 12:57 J -5949400.17 -5949399.96 -5949399.74 0.0089 0.0016
 Jupiter -21002-12-20 15:07 J -5949204.04 -5949203.87 -5949203.69 0.0532 0.0247
 Neptune -21001-01-19 01:11 J -5949174.65 -5949174.45 -5949174.23 0.0089 0.0016
 Saturn -21001-02-13 03:50 J -5949149.43 -5949149.34 -5949149.24 0.0261 0.0232
 Mars -21001-04-10 16:19 J -5949091.92 -5949091.82 -5949091.72 0.1891 0.1552
 Neptune -21001-08-31 13:55 J -5948949.13 -5948948.92 -5948948.71 0.0089 0.0013
 Saturn -21001-09-28 21:21 J -5948920.80 -5948920.61 -5948920.42 0.0260 0.0112

21ST MILLENNIUM BCE

This is a list of transits of Venus in the 21st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							

Neptune	-21000-04-14 02:23 J	-5948723.61	-5948723.40	-5948723.18	0.0089	0.0012
Saturn	-21000-05-15 14:52 J	-5948692.09	-5948691.88	-5948691.67	0.0260	0.0010
Neptune	-21000-11-25 14:38 J	-5948498.09	-5948497.89	-5948497.67	0.0089	0.0012
Saturn	-21000-12-30 08:38 J	-5948463.31	-5948463.14	-5948462.95	0.0260	0.0130
Neptune	-20999-07-09 03:21 J	-5948272.58	-5948272.36	-5948272.15	0.0089	0.0010
Saturn	-20999-08-16 03:21 J	-5948234.41	-5948234.36	-5948234.30	0.0261	0.0250
Neptune	-20998-02-19 15:36 J	-5948047.06	-5948046.85	-5948046.63	0.0089	0.0008
Neptune	-20998-10-03 04:04 J	-5947821.54	-5947821.33	-5947821.11	0.0089	0.0007
Neptune	-20997-05-15 16:33 J	-5947596.02	-5947595.81	-5947595.59	0.0089	0.0006
Neptune	-20997-12-27 05:02 J	-5947370.50	-5947370.29	-5947370.07	0.0089	0.0004
Jupiter	-20996-02-24 09:50 J	-5947311.27	-5947311.09	-5947310.91	0.0494	0.0247
Neptune	-20996-08-09 17:16 J	-5947144.99	-5947144.78	-5947144.56	0.0089	0.0003
Jupiter	-20996-10-18 15:50 J	-5947075.04	-5947074.84	-5947074.64	0.0494	0.0127
Neptune	-20995-03-23 05:45 J	-5946919.48	-5946919.26	-5946919.05	0.0089	0.0002
Neptune	-20995-11-03 18:00 J	-5946693.96	-5946693.75	-5946693.53	0.0089	0.0001
Neptune	-20994-06-17 06:28 J	-5946468.44	-5946468.23	-5946468.01	0.0089	0.0002
Neptune	-20993-01-28 18:43 J	-5946242.93	-5946242.72	-5946242.50	0.0089	0.0003
Neptune	-20993-09-10 07:11 J	-5946017.42	-5946017.20	-5946016.99	0.0089	0.0004
Neptune	-20992-04-23 19:26 J	-5945791.90	-5945791.69	-5945791.47	0.0089	0.0006
Neptune	-20992-12-05 07:40 J	-5945566.39	-5945566.18	-5945565.96	0.0089	0.0007
Neptune	-20991-07-18 20:09 J	-5945340.87	-5945340.66	-5945340.44	0.0089	0.0008
Jupiter	-20991-12-30 10:48 J	-5945176.20	-5945176.05	-5945175.89	0.0533	0.0351
Neptune	-20990-03-01 08:23 J	-5945115.36	-5945115.15	-5945114.93	0.0089	0.0010
Jupiter	-20990-08-25 06:28 J	-5944938.43	-5944938.23	-5944938.03	0.0533	0.0119
Neptune	-20990-10-12 20:52 J	-5944889.85	-5944889.63	-5944889.42	0.0089	0.0011
Neptune	-20989-05-25 09:21 J	-5944664.32	-5944664.11	-5944663.89	0.0089	0.0012
Neptune	-20988-01-05 21:36 J	-5944438.81	-5944438.60	-5944438.38	0.0089	0.0014
Neptune	-20988-08-19 10:04 J	-5944213.29	-5944213.08	-5944212.87	0.0089	0.0015
Neptune	-20987-04-01 22:19 J	-5943987.78	-5943987.57	-5943987.35	0.0089	0.0016
Neptune	-20987-11-13 10:33 J	-5943762.26	-5943762.06	-5943761.83	0.0089	0.0018

Saturn	-20986-03-13 12:00 J	-5943642.09	-5943642.00	-5943641.89	0.0301	0.0267
Neptune	-20986-06-26 23:16 J	-5943536.73	-5943536.53	-5943536.31	0.0089	0.0019
Saturn	-20986-10-29 22:33 J	-5943411.77	-5943411.56	-5943411.36	0.0301	0.0073
Neptune	-20985-02-07 11:45 J	-5943311.22	-5943311.01	-5943310.80	0.0089	0.0020
Saturn	-20985-06-16 08:09 J	-5943181.35	-5943181.16	-5943180.96	0.0301	0.0123
Neptune	-20985-09-20 00:14 J	-5943085.70	-5943085.49	-5943085.28	0.0089	0.0021
Jupiter	-20985-10-30 12:57 J	-5943045.10	-5943044.96	-5943044.81	0.0494	0.0345
Neptune	-20984-05-03 12:14 J	-5942860.19	-5942859.99	-5942859.77	0.0089	0.0023
Jupiter	-20984-06-23 17:45 J	-5942808.97	-5942808.76	-5942808.55	0.0493	0.0024
Neptune	-20984-12-15 00:43 J	-5942634.67	-5942634.47	-5942634.25	0.0089	0.0024
Jupiter	-20983-02-15 02:38 J	-5942572.51	-5942572.39	-5942572.27	0.0495	0.0398
Neptune	-20983-07-28 13:11 J	-5942409.15	-5942408.95	-5942408.74	0.0089	0.0025
Neptune	-20982-03-11 01:26 J	-5942183.64	-5942183.44	-5942183.22	0.0089	0.0027
Neptune	-20982-10-22 13:40 J	-5941958.12	-5941957.93	-5941957.71	0.0089	0.0028
Neptune	-20981-06-04 02:23 J	-5941732.60	-5941732.40	-5941732.19	0.0089	0.0029
Neptune	-20980-01-15 14:52 J	-5941507.08	-5941506.88	-5941506.67	0.0089	0.0030
Neptune	-20980-08-29 03:07 J	-5941281.57	-5941281.37	-5941281.16	0.0089	0.0031
Neptune	-20979-04-11 15:21 J	-5941056.05	-5941055.86	-5941055.65	0.0089	0.0032
Jupiter	-20979-09-04 01:40 J	-5940910.52	-5940910.43	-5940910.34	0.0532	0.0474
Neptune	-20979-11-23 03:36 J	-5940830.53	-5940830.35	-5940830.13	0.0089	0.0034
Jupiter	-20978-04-29 22:48 J	-5940672.75	-5940672.55	-5940672.35	0.0533	0.0010
Neptune	-20978-07-06 16:19 J	-5940605.01	-5940604.82	-5940604.61	0.0089	0.0035
Jupiter	-20978-12-23 14:52 J	-5940434.99	-5940434.88	-5940434.77	0.0531	0.0447
Neptune	-20977-02-17 04:48 J	-5940379.49	-5940379.30	-5940379.09	0.0089	0.0036
Neptune	-20977-09-29 17:16 J	-5940153.97	-5940153.78	-5940153.57	0.0089	0.0037
Earth	-20977-10-29 12:57 J	-5940124.12	-5940123.96	-5940123.80	0.2622	0.0340
Moon	-20977-10-29 18:14 J	-5940123.90	-5940123.74	-5940123.58	0.2623	0.0062 *
Neptune	-20976-05-13 05:45 J	-5939928.45	-5939928.26	-5939928.06	0.0089	0.0038
Uranus	-20976-05-17 15:36 J	-5939923.95	-5939923.85	-5939923.72	0.0146	0.0124
Neptune	-20976-12-24 18:14 J	-5939702.93	-5939702.74	-5939702.54	0.0088	0.0039

Uranus	-20976-12-30 04:04 J	-5939697.50	-5939697.33	-5939697.16	0.0146	0.0088
Neptune	-20975-08-07 06:43 J	-5939477.40	-5939477.22	-5939477.01	0.0088	0.0040
Uranus	-20975-08-13 15:50 J	-5939471.03	-5939470.84	-5939470.63	0.0146	0.0054
Neptune	-20974-03-20 19:26 J	-5939251.88	-5939251.69	-5939251.49	0.0088	0.0041
Uranus	-20974-03-28 04:04 J	-5939244.54	-5939244.33	-5939244.11	0.0146	0.0019
Neptune	-20974-11-01 07:55 J	-5939026.36	-5939026.17	-5939025.97	0.0088	0.0042
Uranus	-20974-11-09 16:19 J	-5939018.04	-5939017.82	-5939017.61	0.0146	0.0016
Neptune	-20973-06-13 20:23 J	-5938800.83	-5938800.65	-5938800.45	0.0088	0.0043
Uranus	-20973-06-23 04:04 J	-5938791.52	-5938791.33	-5938791.11	0.0146	0.0052
Jupiter	-20973-07-05 15:50 J	-5938778.92	-5938778.84	-5938778.74	0.0494	0.0441
Neptune	-20972-01-25 09:07 J	-5938575.30	-5938575.12	-5938574.93	0.0088	0.0044
Uranus	-20972-02-04 16:19 J	-5938564.99	-5938564.82	-5938564.64	0.0145	0.0086
Jupiter	-20972-02-26 19:40 J	-5938542.88	-5938542.68	-5938542.48	0.0493	0.0079
Saturn	-20972-08-25 03:50 J	-5938363.44	-5938363.34	-5938363.22	0.0261	0.0218
Neptune	-20972-09-07 21:36 J	-5938349.78	-5938349.60	-5938349.41	0.0088	0.0045
Uranus	-20972-09-19 04:04 J	-5938338.43	-5938338.33	-5938338.19	0.0145	0.0121
Jupiter	-20972-10-21 02:52 J	-5938306.54	-5938306.38	-5938306.21	0.0494	0.0296
Saturn	-20971-04-10 21:07 J	-5938134.81	-5938134.62	-5938134.42	0.0260	0.0098
Neptune	-20971-04-21 09:50 J	-5938124.26	-5938124.09	-5938123.89	0.0088	0.0046
Saturn	-20971-11-25 14:38 J	-5937906.10	-5937905.89	-5937905.68	0.0260	0.0023
Neptune	-20971-12-02 22:33 J	-5937898.74	-5937898.56	-5937898.36	0.0088	0.0046
Pluto	-20970-02-22 21:50 J	-5937816.79	-5937816.59	-5937816.37	0.0080	0.0031
Mars	-20970-05-11 19:11 J	-5937738.87	-5937738.70	-5937738.53	0.1631	0.0214
Saturn	-20970-07-12 08:38 J	-5937677.31	-5937677.14	-5937676.96	0.0260	0.0144
Neptune	-20970-07-16 11:02 J	-5937673.20	-5937673.04	-5937672.84	0.0088	0.0048
Pluto	-20970-10-06 09:07 J	-5937591.31	-5937591.12	-5937590.93	0.0080	0.0042
Neptune	-20969-02-26 23:31 J	-5937447.68	-5937447.52	-5937447.31	0.0088	0.0049
Mars	-20969-04-10 19:40 J	-5937403.86	-5937403.68	-5937403.50	0.1888	0.0265
Neptune	-20969-10-09 12:28 J	-5937222.16	-5937221.98	-5937221.79	0.0088	0.0049
Mars	-20968-03-11 00:28 J	-5937069.53	-5937069.48	-5937069.42	0.1627	0.1530

Neptune	-20968-05-23 00:57 J	-5936996.63	-5936996.46	-5936996.27	0.0088	0.0050
Neptune	-20967-01-03 13:11 J	-5936771.11	-5936770.95	-5936770.75	0.0088	0.0051
Neptune	-20967-08-17 01:55 J	-5936545.58	-5936545.42	-5936545.22	0.0088	0.0051
Jupiter	-20966-01-02 15:21 J	-5936407.06	-5936406.86	-5936406.67	0.0533	0.0138
Neptune	-20966-03-30 14:52 J	-5936320.05	-5936319.88	-5936319.70	0.0088	0.0052
Jupiter	-20966-08-28 09:07 J	-5936169.27	-5936169.12	-5936168.96	0.0532	0.0328
Neptune	-20966-11-11 03:07 J	-5936094.53	-5936094.37	-5936094.18	0.0088	0.0053
Neptune	-20965-06-23 15:50 J	-5935869.00	-5935868.84	-5935868.65	0.0088	0.0053
Neptune	-20964-02-04 04:48 J	-5935643.47	-5935643.30	-5935643.12	0.0088	0.0054
Neptune	-20964-09-17 17:16 J	-5935417.94	-5935417.78	-5935417.59	0.0088	0.0054
Neptune	-20963-05-01 06:14 J	-5935192.41	-5935192.24	-5935192.07	0.0088	0.0055
Neptune	-20963-12-12 18:43 J	-5934966.88	-5934966.72	-5934966.54	0.0088	0.0055
Neptune	-20962-07-26 07:55 J	-5934741.34	-5934741.17	-5934741.00	0.0088	0.0056
Neptune	-20961-03-07 20:23 J	-5934515.81	-5934515.65	-5934515.47	0.0088	0.0056
Neptune	-20961-10-19 09:21 J	-5934290.27	-5934290.11	-5934289.94	0.0088	0.0057
Jupiter	-20961-11-01 22:33 J	-5934276.75	-5934276.56	-5934276.37	0.0493	0.0180
Neptune	-20960-06-01 21:36 J	-5934064.74	-5934064.60	-5934064.41	0.0088	0.0058
Jupiter	-20960-06-26 04:33 J	-5934040.50	-5934040.31	-5934040.12	0.0494	0.0194
Neptune	-20959-01-13 10:33 J	-5933839.21	-5933839.06	-5933838.88	0.0088	0.0058
Neptune	-20959-08-26 23:16 J	-5933613.67	-5933613.53	-5933613.34	0.0088	0.0058
Neptune	-20958-04-09 12:14 J	-5933388.14	-5933387.99	-5933387.81	0.0088	0.0058
Neptune	-20958-11-21 01:11 J	-5933162.60	-5933162.45	-5933162.27	0.0088	0.0058
Neptune	-20957-07-03 14:09 J	-5932937.07	-5932936.91	-5932936.74	0.0088	0.0059
Saturn	-20957-09-22 11:45 J	-5932856.12	-5932856.01	-5932855.89	0.0300	0.0252
Neptune	-20956-02-14 02:38 J	-5932711.53	-5932711.39	-5932711.21	0.0088	0.0059
Saturn	-20956-05-10 22:04 J	-5932625.79	-5932625.58	-5932625.37	0.0301	0.0058
Neptune	-20956-09-27 15:36 J	-5932486.00	-5932485.85	-5932485.67	0.0088	0.0059
Saturn	-20956-12-27 07:55 J	-5932395.36	-5932395.17	-5932394.98	0.0301	0.0138
Neptune	-20955-05-11 04:19 J	-5932260.47	-5932260.32	-5932260.14	0.0088	0.0059
Jupiter	-20955-09-07 06:57 J	-5932141.38	-5932141.21	-5932141.03	0.0533	0.0266

Neptune	-20955-12-22 17:16 J	-5932034.93	-5932034.78	-5932034.61	0.0088	0.0059
Jupiter	-20954-05-03 01:40 J	-5931903.62	-5931903.43	-5931903.25	0.0532	0.0204
Neptune	-20954-08-05 06:14 J	-5931809.39	-5931809.24	-5931809.06	0.0088	0.0060
Neptune	-20953-03-17 19:11 J	-5931583.85	-5931583.70	-5931583.53	0.0088	0.0059
Neptune	-20953-10-29 08:09 J	-5931358.32	-5931358.16	-5931357.99	0.0088	0.0059
Neptune	-20952-06-11 20:52 J	-5931132.78	-5931132.63	-5931132.45	0.0088	0.0059
Neptune	-20951-01-23 09:50 J	-5930907.24	-5930907.09	-5930906.92	0.0088	0.0059
Neptune	-20951-09-05 23:02 J	-5930681.69	-5930681.54	-5930681.37	0.0088	0.0059
Neptune	-20950-04-19 12:00 J	-5930456.15	-5930456.00	-5930455.82	0.0088	0.0059
Neptune	-20950-12-01 00:57 J	-5930230.61	-5930230.46	-5930230.28	0.0088	0.0059
Jupiter	-20949-07-07 23:16 J	-5930010.69	-5930010.53	-5930010.35	0.0494	0.0282
Neptune	-20949-07-13 13:55 J	-5930005.07	-5930004.92	-5930004.74	0.0088	0.0059
Neptune	-20948-02-24 02:52 J	-5929779.52	-5929779.38	-5929779.19	0.0088	0.0059
Jupiter	-20948-03-01 05:02 J	-5929774.49	-5929774.29	-5929774.08	0.0494	0.0092
Neptune	-20948-10-07 16:19 J	-5929553.98	-5929553.82	-5929553.65	0.0088	0.0058
Jupiter	-20948-10-23 15:21 J	-5929537.92	-5929537.86	-5929537.78	0.0496	0.0464
Neptune	-20947-05-21 05:16 J	-5929328.43	-5929328.28	-5929328.10	0.0088	0.0058
Neptune	-20946-01-01 18:14 J	-5929102.89	-5929102.74	-5929102.55	0.0088	0.0058
Neptune	-20946-08-15 07:26 J	-5928877.34	-5928877.19	-5928877.00	0.0088	0.0058
Neptune	-20945-03-27 20:52 J	-5928651.79	-5928651.63	-5928651.45	0.0088	0.0057
Neptune	-20945-11-08 09:50 J	-5928426.25	-5928426.09	-5928425.91	0.0088	0.0057
Neptune	-20944-06-21 23:02 J	-5928200.70	-5928200.54	-5928200.36	0.0088	0.0056
Neptune	-20943-02-02 12:00 J	-5927975.16	-5927975.00	-5927974.81	0.0088	0.0056
Jupiter	-20943-05-12 22:04 J	-5927875.72	-5927875.58	-5927875.45	0.0532	0.0392
Neptune	-20943-09-16 01:40 J	-5927749.60	-5927749.43	-5927749.26	0.0088	0.0055
Jupiter	-20942-01-05 17:45 J	-5927637.96	-5927637.76	-5927637.56	0.0532	0.0076
Saturn	-20942-03-07 05:45 J	-5927577.38	-5927577.26	-5927577.12	0.0261	0.0202
Neptune	-20942-04-29 14:23 J	-5927524.05	-5927523.90	-5927523.71	0.0088	0.0055
Jupiter	-20942-08-31 07:40 J	-5927400.21	-5927400.18	-5927400.14	0.0530	0.0521
Saturn	-20942-10-21 23:16 J	-5927348.72	-5927348.53	-5927348.33	0.0260	0.0082

Neptune	-20942-12-11 03:50 J	-5927298.51	-5927298.34	-5927298.16	0.0088	0.0054
Saturn	-20941-06-06 17:02 J	-5927119.99	-5927119.79	-5927119.58	0.0260	0.0040
Neptune	-20941-07-23 16:48 J	-5927072.96	-5927072.80	-5927072.61	0.0088	0.0054
Saturn	-20940-01-21 11:02 J	-5926891.20	-5926891.04	-5926890.87	0.0260	0.0161
Neptune	-20940-03-06 06:00 J	-5926847.41	-5926847.25	-5926847.06	0.0088	0.0053
Neptune	-20940-10-17 19:11 J	-5926621.86	-5926621.70	-5926621.50	0.0088	0.0053
Neptune	-20939-05-31 08:38 J	-5926396.31	-5926396.14	-5926395.95	0.0088	0.0052
Neptune	-20938-01-11 22:04 J	-5926170.76	-5926170.58	-5926170.39	0.0088	0.0051
Mars	-20938-05-10 10:48 J	-5926052.18	-5926052.05	-5926051.92	0.1633	0.1055
Neptune	-20938-08-25 11:02 J	-5925945.20	-5925945.04	-5925944.83	0.0088	0.0051
Jupiter	-20937-03-13 02:23 J	-5925744.53	-5925744.40	-5925744.27	0.0494	0.0379
Neptune	-20937-04-07 00:28 J	-5925719.64	-5925719.48	-5925719.28	0.0088	0.0050
Jupiter	-20937-11-04 07:11 J	-5925508.41	-5925508.20	-5925507.99	0.0494	0.0011
Neptune	-20937-11-18 13:55 J	-5925494.09	-5925493.92	-5925493.72	0.0088	0.0049
Mars	-20936-03-09 16:19 J	-5925382.97	-5925382.82	-5925382.66	0.1629	0.0695
Jupiter	-20936-06-28 15:50 J	-5925271.98	-5925271.84	-5925271.70	0.0495	0.0365
Neptune	-20936-07-02 03:21 J	-5925268.53	-5925268.36	-5925268.16	0.0088	0.0048
Mars	-20935-02-05 18:14 J	-5925049.77	-5925049.74	-5925049.71	0.1892	0.1853
Neptune	-20935-02-12 17:02 J	-5925042.98	-5925042.79	-5925042.60	0.0088	0.0047
Neptune	-20935-09-26 06:14 J	-5924817.41	-5924817.24	-5924817.03	0.0088	0.0047
Neptune	-20934-05-09 19:40 J	-5924591.85	-5924591.68	-5924591.47	0.0088	0.0046
Uranus	-20934-07-10 12:28 J	-5924530.04	-5924529.98	-5924529.89	0.0132	0.0124
Neptune	-20934-12-21 09:07 J	-5924366.30	-5924366.12	-5924365.91	0.0088	0.0045
Uranus	-20933-02-21 18:14 J	-5924303.88	-5924303.74	-5924303.58	0.0132	0.0097
Neptune	-20933-08-02 22:33 J	-5924140.74	-5924140.56	-5924140.35	0.0088	0.0044
Uranus	-20933-10-05 00:00 J	-5924077.68	-5924077.50	-5924077.31	0.0132	0.0071
Neptune	-20932-03-16 12:00 J	-5923915.18	-5923915.00	-5923914.79	0.0088	0.0043
Uranus	-20932-05-19 05:31 J	-5923851.47	-5923851.27	-5923851.06	0.0132	0.0045
Neptune	-20932-10-28 01:26 J	-5923689.62	-5923689.44	-5923689.23	0.0088	0.0042
Uranus	-20932-12-31 11:16 J	-5923625.25	-5923625.03	-5923624.81	0.0133	0.0018

Jupiter	-20931-01-15 11:02 J	-5923610.09	-5923610.04	-5923609.99	0.0532	0.0516
Neptune	-20931-06-10 14:52 J	-5923464.06	-5923463.88	-5923463.67	0.0088	0.0041
Uranus	-20931-08-14 16:48 J	-5923399.02	-5923398.80	-5923398.58	0.0133	0.0009
Jupiter	-20931-09-10 08:09 J	-5923372.36	-5923372.16	-5923371.96	0.0533	0.0056
Neptune	-20930-01-22 04:19 J	-5923238.51	-5923238.32	-5923238.11	0.0088	0.0040
Uranus	-20930-03-28 22:19 J	-5923172.78	-5923172.57	-5923172.36	0.0133	0.0035
Jupiter	-20930-05-06 00:14 J	-5923134.61	-5923134.49	-5923134.36	0.0531	0.0405
Neptune	-20930-09-04 17:45 J	-5923012.95	-5923012.76	-5923012.54	0.0088	0.0039
Uranus	-20930-11-10 03:36 J	-5922946.54	-5922946.35	-5922946.15	0.0133	0.0062
Neptune	-20929-04-17 07:11 J	-5922787.39	-5922787.20	-5922786.98	0.0088	0.0038
Uranus	-20929-06-23 09:07 J	-5922720.28	-5922720.12	-5922719.95	0.0133	0.0088
Neptune	-20929-11-28 21:07 J	-5922561.83	-5922561.62	-5922561.42	0.0088	0.0037
Uranus	-20928-02-04 14:23 J	-5922493.99	-5922493.90	-5922493.77	0.0133	0.0115
Neptune	-20928-07-12 10:19 J	-5922336.27	-5922336.07	-5922335.86	0.0088	0.0035
Neptune	-20927-02-22 23:45 J	-5922110.71	-5922110.51	-5922110.30	0.0088	0.0034
Saturn	-20927-04-04 17:45 J	-5922069.90	-5922069.76	-5922069.62	0.0301	0.0226
Neptune	-20927-10-06 13:26 J	-5921885.14	-5921884.94	-5921884.72	0.0088	0.0033
Saturn	-20927-11-21 04:04 J	-5921839.54	-5921839.33	-5921839.12	0.0301	0.0031
Neptune	-20926-05-20 02:52 J	-5921659.58	-5921659.38	-5921659.16	0.0088	0.0032
Saturn	-20926-07-09 13:40 J	-5921609.11	-5921608.93	-5921608.75	0.0301	0.0165
Jupiter	-20926-11-17 05:45 J	-5921478.31	-5921478.26	-5921478.20	0.0495	0.0474
Neptune	-20926-12-31 16:19 J	-5921434.01	-5921433.82	-5921433.59	0.0088	0.0031
Jupiter	-20925-07-10 09:36 J	-5921242.30	-5921242.10	-5921241.90	0.0493	0.0113
Neptune	-20925-08-13 06:14 J	-5921208.45	-5921208.24	-5921208.03	0.0088	0.0029
Jupiter	-20924-03-03 16:48 J	-5921005.97	-5921005.80	-5921005.62	0.0494	0.0263
Neptune	-20924-03-26 19:40 J	-5920982.89	-5920982.68	-5920982.46	0.0088	0.0028
Neptune	-20924-11-07 09:21 J	-5920757.31	-5920757.11	-5920756.89	0.0088	0.0027
Neptune	-20923-06-20 22:48 J	-5920531.75	-5920531.55	-5920531.32	0.0088	0.0026
Neptune	-20922-02-01 12:43 J	-5920306.18	-5920305.97	-5920305.75	0.0088	0.0024
Neptune	-20922-09-15 02:09 J	-5920080.62	-5920080.41	-5920080.18	0.0088	0.0024

Neptune	-20921-04-27 15:50 J	-5919855.05	-5919854.84	-5919854.61	0.0088	0.0022
Neptune	-20921-12-09 05:45 J	-5919629.48	-5919629.26	-5919629.04	0.0088	0.0020
Neptune	-20920-07-22 19:11 J	-5919403.91	-5919403.70	-5919403.47	0.0088	0.0019
Neptune	-20919-03-05 08:38 J	-5919178.35	-5919178.14	-5919177.91	0.0088	0.0018
Jupiter	-20919-05-15 23:16 J	-5919106.71	-5919106.53	-5919106.34	0.0533	0.0186
Neptune	-20919-10-16 22:33 J	-5918952.78	-5918952.56	-5918952.33	0.0088	0.0016
Jupiter	-20918-01-08 17:31 J	-5918868.94	-5918868.77	-5918868.60	0.0532	0.0284
Neptune	-20918-05-30 12:14 J	-5918727.21	-5918726.99	-5918726.77	0.0088	0.0015
Neptune	-20917-01-11 01:55 J	-5918501.64	-5918501.42	-5918501.20	0.0088	0.0014
Neptune	-20917-08-23 15:21 J	-5918276.08	-5918275.86	-5918275.63	0.0088	0.0012
Neptune	-20916-04-06 05:02 J	-5918050.51	-5918050.29	-5918050.07	0.0088	0.0011
Neptune	-20916-11-17 18:43 J	-5917824.94	-5917824.72	-5917824.49	0.0088	0.0009
Neptune	-20915-07-01 08:23 J	-5917599.37	-5917599.15	-5917598.92	0.0088	0.0008
Neptune	-20914-02-11 22:04 J	-5917373.80	-5917373.58	-5917373.36	0.0088	0.0007
Neptune	-20914-09-25 11:45 J	-5917148.24	-5917148.01	-5917147.79	0.0088	0.0005
Jupiter	-20913-03-15 12:14 J	-5916976.18	-5916975.99	-5916975.81	0.0493	0.0214
Neptune	-20913-05-08 01:26 J	-5916922.67	-5916922.44	-5916922.22	0.0088	0.0004
Saturn	-20913-09-16 06:28 J	-5916791.37	-5916791.23	-5916791.08	0.0261	0.0187
Jupiter	-20913-11-06 17:45 J	-5916739.95	-5916739.76	-5916739.56	0.0494	0.0160
Neptune	-20913-12-19 15:07 J	-5916697.09	-5916696.87	-5916696.64	0.0088	0.0002
Saturn	-20912-05-02 23:45 J	-5916562.71	-5916562.51	-5916562.31	0.0260	0.0067
Neptune	-20912-08-02 04:48 J	-5916471.52	-5916471.30	-5916471.07	0.0088	0.0001
Saturn	-20912-12-17 17:16 J	-5916333.99	-5916333.78	-5916333.57	0.0260	0.0054
Neptune	-20911-03-15 18:28 J	-5916245.95	-5916245.73	-5916245.50	0.0088	0.0001
Saturn	-20911-08-03 11:16 J	-5916105.18	-5916105.03	-5916104.88	0.0260	0.0176
Neptune	-20911-10-27 08:23 J	-5916020.38	-5916020.15	-5916019.93	0.0088	0.0002
Neptune	-20910-06-09 22:04 J	-5915794.80	-5915794.58	-5915794.36	0.0088	0.0003
Neptune	-20909-01-21 11:45 J	-5915569.23	-5915569.01	-5915568.78	0.0088	0.0005
Neptune	-20909-09-03 01:26 J	-5915343.66	-5915343.44	-5915343.21	0.0088	0.0006
Neptune	-20908-04-16 15:07 J	-5915118.09	-5915117.87	-5915117.64	0.0088	0.0008

Neptune -20908-11-28 05:02 J -5914892.51 -5914892.29 -5914892.07 0.0088 0.0009
 Jupiter -20907-01-18 15:21 J -5914841.03 -5914840.86 -5914840.70 0.0533 0.0312
 Neptune -20907-07-11 18:43 J -5914666.94 -5914666.72 -5914666.50 0.0088 0.0011
 Jupiter -20907-09-13 11:02 J -5914603.23 -5914603.04 -5914602.84 0.0533 0.0159
 Neptune -20906-02-22 08:09 J -5914441.37 -5914441.16 -5914440.93 0.0088 0.0013
 Neptune -20906-10-05 22:04 J -5914215.80 -5914215.58 -5914215.36 0.0089 0.0014
 Neptune -20905-05-18 11:31 J -5913990.23 -5913990.02 -5913989.79 0.0089 0.0015
 Neptune -20905-12-30 01:11 J -5913764.66 -5913764.45 -5913764.22 0.0089 0.0017
 Mars -20904-03-08 07:55 J -5913696.34 -5913696.17 -5913696.00 0.1630 0.0146
 Neptune -20904-08-12 15:07 J -5913539.09 -5913538.87 -5913538.65 0.0089 0.0018
 Mars -20903-02-05 21:07 J -5913361.80 -5913361.62 -5913361.44 0.1889 0.0045
 Neptune -20903-03-26 04:33 J -5913313.52 -5913313.31 -5913313.09 0.0089 0.0019
 Neptune -20903-11-06 18:14 J -5913087.95 -5913087.74 -5913087.51 0.0089 0.0021
 Mars -20902-01-06 13:11 J -5913026.97 -5913026.95 -5913026.92 0.1627 0.1600
 Neptune -20902-06-20 08:09 J -5912862.38 -5912862.16 -5912861.94 0.0089 0.0022
 Jupiter -20902-11-19 15:07 J -5912710.03 -5912709.87 -5912709.71 0.0494 0.0314
 Neptune -20901-01-31 21:36 J -5912636.81 -5912636.60 -5912636.38 0.0089 0.0024
 Jupiter -20901-07-12 19:55 J -5912473.88 -5912473.67 -5912473.47 0.0493 0.0058
 Neptune -20901-09-13 11:16 J -5912411.24 -5912411.03 -5912410.81 0.0089 0.0025
 Jupiter -20900-03-06 04:48 J -5912237.40 -5912237.30 -5912237.20 0.0495 0.0429
 Neptune -20900-04-27 00:57 J -5912185.67 -5912185.46 -5912185.24 0.0089 0.0026
 Neptune -20900-12-08 14:38 J -5911960.09 -5911959.89 -5911959.67 0.0089 0.0028
 Neptune -20899-07-22 04:19 J -5911734.52 -5911734.32 -5911734.10 0.0089 0.0029
 Neptune -20898-03-04 18:14 J -5911508.95 -5911508.74 -5911508.53 0.0089 0.0030
 Saturn -20898-10-15 18:00 J -5911283.89 -5911283.75 -5911283.59 0.0300 0.0211
 Neptune -20898-10-16 07:40 J -5911283.38 -5911283.18 -5911282.96 0.0089 0.0031
 Neptune -20897-05-28 21:21 J -5911057.81 -5911057.61 -5911057.39 0.0089 0.0033
 Saturn -20897-06-02 04:19 J -5911053.54 -5911053.32 -5911053.11 0.0301 0.0015
 Neptune -20896-01-09 11:16 J -5910832.23 -5910832.03 -5910831.82 0.0089 0.0034
 Saturn -20896-01-18 13:55 J -5910823.09 -5910822.92 -5910822.75 0.0301 0.0180

Neptune -20896-08-23 00:57 J -5910606.66 -5910606.46 -5910606.25 0.0089 0.0035
 Jupiter -20896-09-23 06:57 J -5910575.32 -5910575.21 -5910575.09 0.0532 0.0435
 Neptune -20895-04-05 14:38 J -5910381.09 -5910380.89 -5910380.69 0.0089 0.0036
 Jupiter -20895-05-19 03:36 J -5910337.56 -5910337.35 -5910337.15 0.0533 0.0033
 Neptune -20895-11-17 03:50 J -5910155.52 -5910155.34 -5910155.12 0.0089 0.0038
 Jupiter -20894-01-11 18:14 J -5910099.81 -5910099.74 -5910099.65 0.0530 0.0483
 Neptune -20894-06-30 17:31 J -5909929.95 -5909929.77 -5909929.55 0.0089 0.0039
 Neptune -20893-02-11 07:26 J -5909704.38 -5909704.19 -5909703.98 0.0089 0.0040
 Neptune -20893-09-23 20:52 J -5909478.82 -5909478.63 -5909478.42 0.0089 0.0041
 Uranus -20892-01-14 21:50 J -5909365.63 -5909365.59 -5909365.52 0.0146 0.0140
 Neptune -20892-05-07 10:33 J -5909253.25 -5909253.06 -5909252.86 0.0089 0.0042
 Uranus -20892-08-29 09:50 J -5909139.23 -5909139.09 -5909138.93 0.0146 0.0105
 Neptune -20892-12-19 00:14 J -5909027.68 -5909027.49 -5909027.29 0.0089 0.0043
 Uranus -20891-04-12 21:50 J -5908912.77 -5908912.59 -5908912.39 0.0146 0.0071
 Neptune -20891-08-01 13:40 J -5908802.12 -5908801.93 -5908801.73 0.0089 0.0044
 Uranus -20891-11-25 09:50 J -5908686.29 -5908686.09 -5908685.87 0.0146 0.0036
 Neptune -20890-03-15 03:07 J -5908576.55 -5908576.37 -5908576.17 0.0089 0.0045
 Uranus -20890-07-09 22:19 J -5908459.79 -5908459.57 -5908459.36 0.0146 0.0003
 Jupiter -20890-07-25 15:50 J -5908443.95 -5908443.84 -5908443.73 0.0494 0.0412
 Neptune -20890-10-26 16:33 J -5908350.99 -5908350.81 -5908350.61 0.0089 0.0046
 Uranus -20889-02-21 10:04 J -5908233.28 -5908233.08 -5908232.86 0.0146 0.0035
 Jupiter -20889-03-17 20:23 J -5908207.86 -5908207.65 -5908207.45 0.0494 0.0048
 Neptune -20889-06-08 06:00 J -5908125.43 -5908125.25 -5908125.05 0.0089 0.0047
 Uranus -20889-10-04 22:04 J -5908006.76 -5908006.58 -5908006.38 0.0146 0.0069
 Jupiter -20889-11-09 04:33 J -5907971.46 -5907971.31 -5907971.16 0.0495 0.0330
 Neptune -20888-01-19 19:40 J -5907899.86 -5907899.68 -5907899.48 0.0089 0.0048
 Uranus -20888-05-19 09:50 J -5907780.23 -5907780.09 -5907779.93 0.0145 0.0104
 Neptune -20888-09-02 09:07 J -5907674.29 -5907674.12 -5907673.92 0.0089 0.0049
 Uranus -20888-12-31 21:50 J -5907553.64 -5907553.59 -5907553.51 0.0145 0.0138
 Neptune -20887-04-15 22:33 J -5907448.73 -5907448.56 -5907448.37 0.0089 0.0050

Neptune	-20887-11-27 12:00 J	-5907223.17	-5907223.00	-5907222.80	0.0089	0.0051
Neptune	-20886-07-11 01:26 J	-5906997.60	-5906997.44	-5906997.24	0.0089	0.0052
Neptune	-20885-02-21 15:21 J	-5906772.04	-5906771.86	-5906771.68	0.0089	0.0052
Neptune	-20885-10-04 04:33 J	-5906546.47	-5906546.31	-5906546.12	0.0089	0.0053
Neptune	-20884-05-17 18:00 J	-5906320.91	-5906320.75	-5906320.56	0.0089	0.0054
Neptune	-20884-12-29 07:26 J	-5906095.35	-5906095.19	-5906095.00	0.0089	0.0055
Jupiter	-20883-01-21 19:11 J	-5906071.90	-5906071.70	-5906071.50	0.0532	0.0098
Saturn	-20883-03-29 08:23 J	-5906005.31	-5906005.15	-5906004.99	0.0261	0.0170
Neptune	-20883-08-11 21:07 J	-5905869.78	-5905869.62	-5905869.44	0.0089	0.0055
Jupiter	-20883-09-16 11:31 J	-5905834.16	-5905834.02	-5905833.87	0.0531	0.0364
Saturn	-20883-11-13 01:55 J	-5905776.63	-5905776.42	-5905776.21	0.0261	0.0050
Neptune	-20882-03-25 10:19 J	-5905644.22	-5905644.07	-5905643.88	0.0089	0.0056
Saturn	-20882-06-29 19:40 J	-5905547.88	-5905547.68	-5905547.47	0.0260	0.0072
Neptune	-20882-11-05 23:31 J	-5905418.67	-5905418.52	-5905418.33	0.0089	0.0057
Saturn	-20881-02-13 13:55 J	-5905319.06	-5905318.92	-5905318.78	0.0261	0.0193
Neptune	-20881-06-18 13:11 J	-5905193.11	-5905192.95	-5905192.77	0.0089	0.0057
Neptune	-20880-01-30 02:23 J	-5904967.55	-5904967.40	-5904967.22	0.0089	0.0058
Neptune	-20880-09-12 15:50 J	-5904741.99	-5904741.84	-5904741.66	0.0089	0.0059
Neptune	-20879-04-26 04:48 J	-5904516.44	-5904516.30	-5904516.11	0.0089	0.0060
Neptune	-20879-12-07 18:14 J	-5904290.89	-5904290.74	-5904290.56	0.0089	0.0060
Neptune	-20878-07-21 07:26 J	-5904065.33	-5904065.19	-5904065.01	0.0089	0.0060
Jupiter	-20878-11-21 22:33 J	-5903941.75	-5903941.56	-5903941.36	0.0494	0.0149
Neptune	-20877-03-02 20:52 J	-5903839.78	-5903839.63	-5903839.45	0.0089	0.0060
Jupiter	-20877-07-15 05:31 J	-5903705.45	-5903705.27	-5903705.08	0.0494	0.0228
Neptune	-20877-10-14 10:19 J	-5903614.23	-5903614.07	-5903613.90	0.0089	0.0061
Neptune	-20876-05-27 23:02 J	-5903388.68	-5903388.54	-5903388.36	0.0089	0.0062
Neptune	-20875-01-08 12:28 J	-5903163.12	-5903162.98	-5903162.80	0.0089	0.0061
Neptune	-20875-08-22 01:55 J	-5902937.57	-5902937.42	-5902937.25	0.0089	0.0061
Neptune	-20874-04-04 15:21 J	-5902712.02	-5902711.86	-5902711.70	0.0089	0.0062
Neptune	-20874-11-16 04:04 J	-5902486.47	-5902486.33	-5902486.15	0.0089	0.0062

Neptune	-20873-06-28 17:16 J	-5902260.92	-5902260.78	-5902260.60	0.0089	0.0062
Neptune	-20872-02-09 06:28 J	-5902035.36	-5902035.23	-5902035.05	0.0089	0.0063
Mars	-20872-03-06 23:31 J	-5902009.66	-5902009.52	-5902009.39	0.1632	0.0975
Neptune	-20872-09-22 19:55 J	-5901809.81	-5901809.67	-5901809.50	0.0089	0.0062
Jupiter	-20872-09-26 08:23 J	-5901806.32	-5901806.15	-5901805.96	0.0533	0.0231
Mars	-20871-02-06 00:28 J	-5901673.54	-5901673.48	-5901673.42	0.1886	0.1767
Neptune	-20871-05-06 08:52 J	-5901584.27	-5901584.13	-5901583.96	0.0089	0.0063
Jupiter	-20871-05-22 02:52 J	-5901568.56	-5901568.38	-5901568.20	0.0532	0.0239
Neptune	-20871-12-17 22:04 J	-5901358.72	-5901358.58	-5901358.41	0.0089	0.0063
Mars	-20870-01-05 05:02 J	-5901340.44	-5901340.29	-5901340.14	0.1628	0.0769
Neptune	-20870-07-31 11:16 J	-5901133.17	-5901133.03	-5901132.86	0.0089	0.0062
Neptune	-20869-03-13 00:28 J	-5900907.62	-5900907.48	-5900907.31	0.0089	0.0062
Neptune	-20869-10-24 13:26 J	-5900682.08	-5900681.94	-5900681.77	0.0089	0.0063
Saturn	-20868-04-27 00:57 J	-5900497.63	-5900497.46	-5900497.29	0.0301	0.0183
Neptune	-20868-06-07 02:23 J	-5900456.54	-5900456.40	-5900456.22	0.0089	0.0062
Saturn	-20868-12-13 11:16 J	-5900267.24	-5900267.03	-5900266.82	0.0301	0.0013
Neptune	-20867-01-18 15:21 J	-5900230.99	-5900230.86	-5900230.68	0.0089	0.0063
Saturn	-20867-07-31 20:38 J	-5900036.79	-5900036.64	-5900036.48	0.0301	0.0208
Neptune	-20867-09-01 04:48 J	-5900005.45	-5900005.30	-5900005.14	0.0089	0.0062
Neptune	-20866-04-14 17:45 J	-5899779.91	-5899779.76	-5899779.59	0.0089	0.0062
Jupiter	-20866-07-28 01:26 J	-5899675.61	-5899675.44	-5899675.26	0.0494	0.0249
Neptune	-20866-11-26 06:28 J	-5899554.37	-5899554.23	-5899554.05	0.0089	0.0062
Jupiter	-20865-03-20 07:11 J	-5899439.39	-5899439.20	-5899439.00	0.0494	0.0126
Neptune	-20865-07-08 19:55 J	-5899328.83	-5899328.67	-5899328.51	0.0089	0.0061
Neptune	-20864-02-19 08:38 J	-5899103.29	-5899103.14	-5899102.97	0.0089	0.0061
Neptune	-20864-10-02 21:21 J	-5898877.75	-5898877.61	-5898877.43	0.0089	0.0060
Neptune	-20863-05-16 10:33 J	-5898652.22	-5898652.06	-5898651.90	0.0089	0.0060
Neptune	-20863-12-27 23:02 J	-5898426.68	-5898426.54	-5898426.36	0.0089	0.0060
Neptune	-20862-08-10 12:14 J	-5898201.14	-5898200.99	-5898200.82	0.0089	0.0059
Neptune	-20861-03-23 01:11 J	-5897975.60	-5897975.45	-5897975.27	0.0089	0.0058

Neptune	-20861-11-03 14:09 J	-5897750.07	-5897749.91	-5897749.74	0.0089	0.0058
Jupiter	-20860-05-31 23:02 J	-5897540.69	-5897540.54	-5897540.39	0.0532	0.0358
Neptune	-20860-06-17 02:38 J	-5897524.53	-5897524.39	-5897524.20	0.0089	0.0058
Jupiter	-20859-01-24 18:57 J	-5897302.90	-5897302.71	-5897302.51	0.0533	0.0112
Neptune	-20859-01-28 15:50 J	-5897299.00	-5897298.84	-5897298.66	0.0089	0.0057
Neptune	-20859-09-11 04:33 J	-5897073.46	-5897073.31	-5897073.12	0.0089	0.0056
Neptune	-20858-04-24 17:31 J	-5896847.92	-5896847.77	-5896847.58	0.0089	0.0056
Neptune	-20858-12-06 06:28 J	-5896622.39	-5896622.23	-5896622.05	0.0089	0.0055
Neptune	-20857-07-18 19:26 J	-5896396.86	-5896396.69	-5896396.51	0.0089	0.0054
Neptune	-20856-03-01 07:55 J	-5896171.33	-5896171.17	-5896170.98	0.0089	0.0054
Neptune	-20856-10-12 20:38 J	-5895945.80	-5895945.64	-5895945.45	0.0089	0.0053
Neptune	-20855-05-26 09:36 J	-5895720.27	-5895720.10	-5895719.92	0.0089	0.0052
Neptune	-20854-01-06 22:19 J	-5895494.74	-5895494.57	-5895494.39	0.0089	0.0051
Jupiter	-20854-04-02 04:19 J	-5895409.46	-5895409.32	-5895409.17	0.0494	0.0348
Neptune	-20854-08-20 11:02 J	-5895269.22	-5895269.04	-5895268.86	0.0089	0.0050
Saturn	-20854-10-09 09:36 J	-5895219.26	-5895219.10	-5895218.93	0.0261	0.0155
Jupiter	-20854-11-24 08:52 J	-5895173.34	-5895173.13	-5895172.93	0.0493	0.0022
Neptune	-20853-04-01 23:45 J	-5895043.68	-5895043.51	-5895043.32	0.0089	0.0049
Saturn	-20853-05-25 03:07 J	-5894990.57	-5894990.37	-5894990.16	0.0260	0.0034
Jupiter	-20853-07-17 17:02 J	-5894936.91	-5894936.79	-5894936.66	0.0495	0.0396
Neptune	-20853-11-13 12:28 J	-5894818.16	-5894817.98	-5894817.79	0.0089	0.0048
Saturn	-20852-01-08 20:52 J	-5894761.83	-5894761.63	-5894761.43	0.0260	0.0088
Neptune	-20852-06-27 01:11 J	-5894592.64	-5894592.45	-5894592.27	0.0089	0.0047
Saturn	-20852-08-25 14:52 J	-5894533.00	-5894532.88	-5894532.76	0.0261	0.0209
Neptune	-20851-02-07 13:40 J	-5894367.11	-5894366.93	-5894366.74	0.0089	0.0046
Neptune	-20851-09-21 02:23 J	-5894141.59	-5894141.40	-5894141.21	0.0089	0.0045
Neptune	-20850-05-04 15:07 J	-5893916.06	-5893915.87	-5893915.68	0.0089	0.0044
Uranus	-20850-10-22 03:21 J	-5893745.48	-5893745.36	-5893745.23	0.0132	0.0110
Neptune	-20850-12-16 03:36 J	-5893690.54	-5893690.35	-5893690.16	0.0089	0.0043
Uranus	-20849-06-04 08:52 J	-5893519.29	-5893519.13	-5893518.95	0.0132	0.0084

Neptune	-20849-07-28 16:04 J	-5893465.01	-5893464.83	-5893464.63	0.0089	0.0042
Uranus	-20848-01-16 14:23 J	-5893293.08	-5893292.90	-5893292.69	0.0132	0.0058
Jupiter	-20848-02-03 14:09 J	-5893274.99	-5893274.91	-5893274.82	0.0532	0.0482
Neptune	-20848-03-11 04:48 J	-5893239.49	-5893239.30	-5893239.10	0.0089	0.0041
Uranus	-20848-08-30 20:09 J	-5893066.87	-5893066.66	-5893066.44	0.0133	0.0031
Jupiter	-20848-09-29 11:45 J	-5893037.21	-5893037.01	-5893036.81	0.0533	0.0018
Neptune	-20848-10-22 17:16 J	-5893013.96	-5893013.78	-5893013.58	0.0089	0.0040
Uranus	-20847-04-14 01:55 J	-5892840.64	-5892840.42	-5892840.20	0.0133	0.0004
Earth	-20847-05-02 19:11 J	-5892821.86	-5892821.70	-5892821.54	0.2711	0.0403
Moon	-20847-05-02 22:04 J	-5892821.74	-5892821.58	-5892821.42	0.2705	0.0939 *
Jupiter	-20847-05-25 03:50 J	-5892799.44	-5892799.34	-5892799.22	0.0531	0.0443
Neptune	-20847-06-05 05:45 J	-5892788.44	-5892788.26	-5892788.05	0.0089	0.0039
Uranus	-20847-11-26 07:11 J	-5892614.41	-5892614.20	-5892613.98	0.0133	0.0023
Neptune	-20846-01-16 18:14 J	-5892562.92	-5892562.74	-5892562.53	0.0089	0.0038
Uranus	-20846-07-10 12:43 J	-5892388.17	-5892387.97	-5892387.76	0.0133	0.0050
Neptune	-20846-08-30 06:57 J	-5892337.39	-5892337.21	-5892337.00	0.0089	0.0036
Uranus	-20845-02-21 18:14 J	-5892161.91	-5892161.74	-5892161.55	0.0133	0.0077
Neptune	-20845-04-11 19:55 J	-5892111.87	-5892111.67	-5892111.47	0.0089	0.0035
Uranus	-20845-10-04 23:31 J	-5891935.64	-5891935.52	-5891935.37	0.0133	0.0103
Neptune	-20845-11-23 08:23 J	-5891886.35	-5891886.15	-5891885.95	0.0089	0.0033
Uranus	-20844-05-19 05:02 J	-5891709.33	-5891709.29	-5891709.23	0.0133	0.0130
Neptune	-20844-07-06 20:38 J	-5891660.83	-5891660.64	-5891660.42	0.0089	0.0033
Neptune	-20843-02-17 09:07 J	-5891435.31	-5891435.12	-5891434.90	0.0089	0.0031
Neptune	-20843-09-30 21:50 J	-5891209.79	-5891209.59	-5891209.38	0.0089	0.0030
Jupiter	-20843-12-06 07:11 J	-5891143.28	-5891143.20	-5891143.11	0.0494	0.0444
Neptune	-20842-05-14 10:19 J	-5890984.26	-5890984.07	-5890983.85	0.0089	0.0029
Jupiter	-20842-07-30 11:02 J	-5890907.24	-5890907.04	-5890906.84	0.0493	0.0081
Neptune	-20842-12-25 22:48 J	-5890758.75	-5890758.55	-5890758.34	0.0089	0.0027
Jupiter	-20841-03-22 18:14 J	-5890670.90	-5890670.74	-5890670.57	0.0494	0.0295
Neptune	-20841-08-07 11:16 J	-5890533.23	-5890533.03	-5890532.82	0.0089	0.0026

Neptune	-20840-03-20 23:45 J	-5890307.71	-5890307.51	-5890307.30	0.0089	0.0024
Neptune	-20840-11-01 12:00 J	-5890082.20	-5890082.00	-5890081.78	0.0089	0.0023
Neptune	-20839-06-15 00:43 J	-5889856.68	-5889856.47	-5889856.26	0.0089	0.0021
Saturn	-20839-11-07 02:23 J	-5889711.58	-5889711.40	-5889711.22	0.0300	0.0166
Mars	-20838-01-03 20:23 J	-5889653.82	-5889653.65	-5889653.48	0.1629	0.0064
Neptune	-20838-01-26 12:57 J	-5889631.16	-5889630.96	-5889630.74	0.0089	0.0020
Saturn	-20838-06-25 12:14 J	-5889481.20	-5889480.99	-5889480.77	0.0301	0.0030
Neptune	-20838-09-09 01:26 J	-5889405.65	-5889405.44	-5889405.23	0.0089	0.0019
Mars	-20838-12-03 23:31 J	-5889319.70	-5889319.52	-5889319.35	0.1890	0.0346
Saturn	-20837-02-10 21:36 J	-5889250.73	-5889250.60	-5889250.45	0.0301	0.0224
Neptune	-20837-04-21 13:55 J	-5889180.13	-5889179.92	-5889179.70	0.0089	0.0017
Neptune	-20837-12-03 02:09 J	-5888954.61	-5888954.41	-5888954.19	0.0089	0.0016
Jupiter	-20836-06-04 03:50 J	-5888771.53	-5888771.34	-5888771.14	0.0533	0.0145
Neptune	-20836-07-16 14:38 J	-5888729.10	-5888728.89	-5888728.67	0.0089	0.0015
Jupiter	-20835-01-27 21:21 J	-5888533.77	-5888533.61	-5888533.45	0.0531	0.0322
Neptune	-20835-02-27 03:07 J	-5888503.58	-5888503.37	-5888503.15	0.0089	0.0013
Neptune	-20835-10-10 15:36 J	-5888278.06	-5888277.85	-5888277.63	0.0089	0.0012
Neptune	-20834-05-24 04:04 J	-5888052.54	-5888052.33	-5888052.11	0.0089	0.0011
Neptune	-20833-01-04 16:33 J	-5887827.02	-5887826.81	-5887826.59	0.0089	0.0009
Neptune	-20833-08-17 05:02 J	-5887601.50	-5887601.29	-5887601.07	0.0089	0.0007
Neptune	-20832-03-30 17:31 J	-5887375.99	-5887375.77	-5887375.56	0.0089	0.0006
Neptune	-20832-11-11 06:00 J	-5887150.47	-5887150.25	-5887150.04	0.0089	0.0005
Neptune	-20831-06-24 18:28 J	-5886924.95	-5886924.73	-5886924.52	0.0089	0.0003
Neptune	-20830-02-05 06:43 J	-5886699.43	-5886699.22	-5886699.00	0.0089	0.0001
Jupiter	-20830-04-04 11:16 J	-5886641.22	-5886641.03	-5886640.84	0.0494	0.0185
Neptune	-20830-09-18 18:57 J	-5886473.92	-5886473.71	-5886473.49	0.0089	0.0002
Jupiter	-20830-11-26 17:45 J	-5886404.95	-5886404.76	-5886404.57	0.0494	0.0192
Neptune	-20829-05-01 07:26 J	-5886248.40	-5886248.19	-5886247.97	0.0089	0.0002
Neptune	-20829-12-12 19:55 J	-5886022.89	-5886022.67	-5886022.46	0.0089	0.0003
Neptune	-20828-07-26 08:09 J	-5885797.37	-5885797.16	-5885796.94	0.0089	0.0005

Neptune	-20827-03-08 20:23 J	-5885571.86	-5885571.65	-5885571.43	0.0089	0.0006
Neptune	-20827-10-20 08:52 J	-5885346.35	-5885346.13	-5885345.92	0.0089	0.0008
Neptune	-20826-06-02 21:21 J	-5885120.82	-5885120.61	-5885120.39	0.0089	0.0009
Neptune	-20825-01-14 09:36 J	-5884895.31	-5884895.10	-5884894.88	0.0089	0.0011
Neptune	-20825-08-26 22:04 J	-5884669.80	-5884669.58	-5884669.37	0.0089	0.0012
Saturn	-20825-09-03 18:14 J	-5884661.77	-5884661.74	-5884661.70	0.0262	0.0258
Jupiter	-20824-02-06 19:11 J	-5884505.87	-5884505.70	-5884505.52	0.0532	0.0272
Neptune	-20824-04-09 10:04 J	-5884444.28	-5884444.08	-5884443.86	0.0089	0.0014
Saturn	-20824-04-20 11:45 J	-5884433.18	-5884433.01	-5884432.82	0.0261	0.0138
Jupiter	-20824-10-02 13:55 J	-5884268.11	-5884267.92	-5884267.74	0.0532	0.0197
Neptune	-20824-11-20 22:33 J	-5884218.77	-5884218.56	-5884218.34	0.0089	0.0015
Saturn	-20824-12-05 05:31 J	-5884204.48	-5884204.27	-5884204.06	0.0261	0.0016
Neptune	-20823-07-04 11:02 J	-5883993.25	-5883993.04	-5883992.82	0.0089	0.0017
Saturn	-20823-07-21 23:31 J	-5883975.71	-5883975.52	-5883975.33	0.0261	0.0106
Neptune	-20822-02-14 23:31 J	-5883767.73	-5883767.52	-5883767.30	0.0089	0.0018
Saturn	-20822-03-07 17:31 J	-5883746.86	-5883746.77	-5883746.65	0.0261	0.0227
Neptune	-20822-09-28 12:00 J	-5883542.21	-5883542.00	-5883541.79	0.0089	0.0019
Neptune	-20821-05-11 00:14 J	-5883316.69	-5883316.49	-5883316.27	0.0089	0.0021
Neptune	-20821-12-22 12:43 J	-5883091.17	-5883090.97	-5883090.75	0.0089	0.0022
Neptune	-20820-08-05 00:57 J	-5882865.65	-5882865.46	-5882865.24	0.0089	0.0024
Neptune	-20819-03-18 13:26 J	-5882640.14	-5882639.94	-5882639.72	0.0089	0.0025
Neptune	-20819-10-30 01:40 J	-5882414.62	-5882414.43	-5882414.20	0.0089	0.0027
Jupiter	-20819-12-08 13:40 J	-5882375.10	-5882374.93	-5882374.76	0.0494	0.0285
Neptune	-20818-06-12 14:23 J	-5882189.09	-5882188.90	-5882188.68	0.0089	0.0028
Jupiter	-20818-08-01 19:11 J	-5882138.90	-5882138.70	-5882138.49	0.0494	0.0090
Neptune	-20817-01-24 02:52 J	-5881963.58	-5881963.38	-5881963.17	0.0089	0.0029
Jupiter	-20817-03-25 05:02 J	-5881902.35	-5881902.29	-5881902.21	0.0496	0.0463
Neptune	-20817-09-05 15:07 J	-5881738.06	-5881737.87	-5881737.65	0.0089	0.0031
Neptune	-20816-04-19 03:36 J	-5881512.55	-5881512.35	-5881512.14	0.0089	0.0032
Neptune	-20816-11-30 16:04 J	-5881287.03	-5881286.83	-5881286.63	0.0089	0.0033

Neptune	-20815-07-14 04:19 J	-5881061.51	-5881061.32	-5881061.11	0.0089	0.0035
Neptune	-20814-02-24 16:48 J	-5880835.99	-5880835.80	-5880835.59	0.0089	0.0036
Neptune	-20814-10-08 05:16 J	-5880610.47	-5880610.28	-5880610.08	0.0089	0.0037
Neptune	-20813-05-20 17:45 J	-5880384.95	-5880384.76	-5880384.56	0.0089	0.0038
Jupiter	-20813-10-12 07:40 J	-5880240.30	-5880240.18	-5880240.04	0.0532	0.0403
Pluto	-20813-12-09 18:43 J	-5880181.87	-5880181.72	-5880181.51	0.0064	0.0036
Neptune	-20812-01-01 06:14 J	-5880159.43	-5880159.24	-5880159.04	0.0089	0.0039
Jupiter	-20812-06-07 03:50 J	-5880002.54	-5880002.34	-5880002.14	0.0532	0.0066
Pluto	-20812-07-22 23:02 J	-5879956.76	-5879956.54	-5879956.33	0.0064	0.0001
Neptune	-20812-08-14 18:14 J	-5879933.91	-5879933.74	-5879933.53	0.0089	0.0041
Jupiter	-20811-01-30 18:28 J	-5879764.77	-5879764.73	-5879764.68	0.0530	0.0515
Pluto	-20811-03-05 02:09 J	-5879731.57	-5879731.41	-5879731.21	0.0065	0.0037
Neptune	-20811-03-28 06:43 J	-5879708.40	-5879708.22	-5879708.01	0.0089	0.0042
Neptune	-20811-11-08 19:11 J	-5879482.87	-5879482.70	-5879482.49	0.0089	0.0043
Neptune	-20810-06-22 07:55 J	-5879257.35	-5879257.17	-5879256.97	0.0088	0.0044
Neptune	-20809-02-02 20:23 J	-5879031.82	-5879031.65	-5879031.45	0.0088	0.0045
Saturn	-20809-05-19 10:19 J	-5878925.25	-5878925.07	-5878924.87	0.0301	0.0136
Neptune	-20809-09-15 09:07 J	-5878806.30	-5878806.12	-5878805.93	0.0088	0.0046
Saturn	-20808-01-04 20:38 J	-5878694.85	-5878694.64	-5878694.43	0.0301	0.0061
Uranus	-20808-04-28 17:16 J	-5878580.89	-5878580.78	-5878580.65	0.0146	0.0121
Neptune	-20808-04-28 21:36 J	-5878580.78	-5878580.60	-5878580.41	0.0088	0.0047 *
Saturn	-20808-08-23 05:45 J	-5878464.37	-5878464.26	-5878464.14	0.0301	0.0255
Neptune	-20808-12-10 10:04 J	-5878355.26	-5878355.08	-5878354.89	0.0088	0.0048
Uranus	-20808-12-11 05:16 J	-5878354.45	-5878354.28	-5878354.10	0.0146	0.0086
Neptune	-20807-07-23 22:48 J	-5878129.73	-5878129.55	-5878129.36	0.0088	0.0049
Uranus	-20807-07-25 17:31 J	-5878127.97	-5878127.77	-5878127.57	0.0146	0.0051
Jupiter	-20807-08-13 17:02 J	-5878108.92	-5878108.79	-5878108.66	0.0494	0.0382
Mars	-20806-01-02 12:14 J	-5877967.13	-5877966.99	-5877966.85	0.1631	0.0900
Neptune	-20806-03-06 11:16 J	-5877904.20	-5877904.03	-5877903.84	0.0088	0.0050
Uranus	-20806-03-09 05:31 J	-5877901.49	-5877901.27	-5877901.06	0.0146	0.0016

Jupiter -20806-04-06 21:36 J -5877872.81 -5877872.60 -5877872.39 0.0494 0.0014
 Neptune -20806-10-17 23:45 J -5877678.68 -5877678.51 -5877678.32 0.0088 0.0051
 Uranus -20806-10-21 17:31 J -5877674.99 -5877674.77 -5877674.56 0.0146 0.0019
 Jupiter -20806-11-29 05:45 J -5877636.40 -5877636.26 -5877636.12 0.0495 0.0362
 Mars -20806-12-04 01:55 J -5877631.53 -5877631.42 -5877631.30 0.1887 0.1453
 Neptune -20805-05-30 12:14 J -5877453.15 -5877452.99 -5877452.80 0.0088 0.0052
 Uranus -20805-06-04 05:16 J -5877448.48 -5877448.28 -5877448.07 0.0146 0.0054
 Mars -20805-11-01 18:00 J -5877297.90 -5877297.75 -5877297.61 0.1628 0.0841
 Neptune -20804-01-11 00:43 J -5877227.63 -5877227.47 -5877227.28 0.0088 0.0053
 Uranus -20804-01-16 17:16 J -5877221.95 -5877221.78 -5877221.61 0.0145 0.0089
 Neptune -20804-08-24 13:26 J -5877002.10 -5877001.94 -5877001.76 0.0088 0.0053
 Uranus -20804-08-31 05:02 J -5876995.39 -5876995.29 -5876995.16 0.0145 0.0124
 Neptune -20803-04-07 01:55 J -5876776.58 -5876776.42 -5876776.23 0.0088 0.0054
 Neptune -20803-11-18 14:23 J -5876551.05 -5876550.90 -5876550.71 0.0088 0.0055
 Neptune -20802-07-02 03:21 J -5876325.52 -5876325.36 -5876325.19 0.0088 0.0056
 Neptune -20801-02-12 15:50 J -5876100.00 -5876099.84 -5876099.66 0.0088 0.0057
 Jupiter -20801-06-16 21:36 J -5875974.62 -5875974.60 -5875974.57 0.0531 0.0525
 Neptune -20801-09-25 04:19 J -5875874.47 -5875874.32 -5875874.14 0.0088 0.0057
 Jupiter -20800-02-09 19:11 J -5875736.90 -5875736.70 -5875736.50 0.0533 0.0065
 Neptune -20800-05-08 16:33 J -5875648.95 -5875648.81 -5875648.62 0.0088 0.0059
 Jupiter -20800-10-05 11:45 J -5875499.14 -5875499.01 -5875498.87 0.0531 0.0398
 Neptune -20800-12-20 05:31 J -5875423.42 -5875423.27 -5875423.09 0.0088 0.0059
 Neptune -20799-08-02 18:14 J -5875197.88 -5875197.74 -5875197.56 0.0088 0.0059
 Neptune -20798-03-16 07:11 J -5874972.35 -5874972.20 -5874972.03 0.0088 0.0060
 Neptune -20798-10-27 19:40 J -5874746.82 -5874746.68 -5874746.51 0.0088 0.0060
 Neptune -20797-06-09 08:38 J -5874521.29 -5874521.14 -5874520.98 0.0088 0.0061
 Neptune -20796-01-20 21:07 J -5874295.76 -5874295.62 -5874295.45 0.0088 0.0061
 Neptune -20796-09-03 10:19 J -5874070.22 -5874070.07 -5874069.91 0.0088 0.0062
 Saturn -20795-03-16 20:38 J -5873875.71 -5873875.64 -5873875.55 0.0261 0.0240
 Neptune -20795-04-16 22:48 J -5873844.69 -5873844.55 -5873844.38 0.0088 0.0062

Jupiter	-20795-04-18 19:55 J	-5873842.72	-5873842.67	-5873842.62	0.0495	0.0478
Saturn	-20795-10-31 14:23 J	-5873647.09	-5873646.90	-5873646.71	0.0261	0.0120
Neptune	-20795-11-28 11:45 J	-5873619.16	-5873619.01	-5873618.85	0.0088	0.0063
Jupiter	-20795-12-10 23:31 J	-5873606.72	-5873606.52	-5873606.32	0.0493	0.0117
Saturn	-20794-06-17 08:09 J	-5873418.37	-5873418.16	-5873417.95	0.0260	0.0004
Neptune	-20794-07-12 00:14 J	-5873393.62	-5873393.49	-5873393.31	0.0088	0.0064
Jupiter	-20794-08-04 06:14 J	-5873370.42	-5873370.24	-5873370.07	0.0494	0.0259
Saturn	-20793-02-01 01:40 J	-5873189.61	-5873189.43	-5873189.24	0.0260	0.0123
Neptune	-20793-02-22 13:26 J	-5873168.08	-5873167.94	-5873167.78	0.0088	0.0063
Saturn	-20793-09-16 19:55 J	-5872960.73	-5872960.67	-5872960.59	0.0261	0.0244
Neptune	-20793-10-05 02:23 J	-5872942.55	-5872942.40	-5872942.25	0.0088	0.0064
Neptune	-20792-05-18 14:38 J	-5872717.01	-5872716.89	-5872716.71	0.0088	0.0065
Neptune	-20792-12-30 03:36 J	-5872491.48	-5872491.35	-5872491.18	0.0088	0.0065
Neptune	-20791-08-12 16:48 J	-5872265.94	-5872265.80	-5872265.64	0.0088	0.0064
Neptune	-20790-03-26 05:45 J	-5872040.40	-5872040.26	-5872040.10	0.0088	0.0065
Neptune	-20790-11-06 18:43 J	-5871814.87	-5871814.72	-5871814.57	0.0088	0.0065
Neptune	-20789-06-19 06:57 J	-5871589.33	-5871589.21	-5871589.03	0.0088	0.0065
Jupiter	-20789-10-15 10:33 J	-5871471.24	-5871471.06	-5871470.87	0.0533	0.0195
Neptune	-20788-01-30 19:55 J	-5871363.79	-5871363.67	-5871363.50	0.0088	0.0065
Jupiter	-20788-06-10 05:16 J	-5871233.45	-5871233.28	-5871233.11	0.0532	0.0276
Neptune	-20788-09-13 08:52 J	-5871138.25	-5871138.13	-5871137.95	0.0088	0.0066
Neptune	-20787-04-26 21:50 J	-5870912.71	-5870912.59	-5870912.42	0.0088	0.0065
Neptune	-20787-12-08 10:48 J	-5870687.17	-5870687.05	-5870686.88	0.0088	0.0065
Neptune	-20786-07-22 00:28 J	-5870461.63	-5870461.48	-5870461.33	0.0088	0.0065
Neptune	-20785-03-03 13:11 J	-5870236.09	-5870235.95	-5870235.79	0.0088	0.0064
Neptune	-20785-10-15 02:09 J	-5870010.55	-5870010.41	-5870010.25	0.0088	0.0064
Neptune	-20784-05-28 15:07 J	-5869785.01	-5869784.87	-5869784.71	0.0088	0.0064
Neptune	-20783-01-09 04:04 J	-5869559.46	-5869559.33	-5869559.16	0.0088	0.0064
Jupiter	-20783-08-16 01:55 J	-5869340.60	-5869340.42	-5869340.23	0.0494	0.0219
Neptune	-20783-08-22 17:16 J	-5869333.91	-5869333.78	-5869333.61	0.0088	0.0064

Neptune -20782-04-05 06:43 J -5869108.37 -5869108.22 -5869108.06 0.0088 0.0063
 Jupiter -20782-04-09 07:26 J -5869104.38 -5869104.19 -5869103.99 0.0494 0.0157
 Neptune -20782-11-16 19:40 J -5868882.82 -5868882.68 -5868882.51 0.0088 0.0063
 Neptune -20781-06-29 08:23 J -5868657.28 -5868657.15 -5868656.97 0.0088 0.0063
 Neptune -20780-02-09 21:50 J -5868431.73 -5868431.59 -5868431.42 0.0088 0.0062
 Neptune -20780-09-23 11:02 J -5868206.18 -5868206.04 -5868205.86 0.0088 0.0062
 Saturn -20780-11-29 13:26 J -5868139.13 -5868138.94 -5868138.74 0.0300 0.0117
 Neptune -20779-05-07 00:28 J -5867980.63 -5867980.48 -5867980.31 0.0088 0.0061
 Saturn -20779-07-17 23:31 J -5867908.73 -5867908.52 -5867908.32 0.0301 0.0080
 Neptune -20779-12-18 13:11 J -5867755.09 -5867754.95 -5867754.77 0.0088 0.0061
 Saturn -20778-03-05 08:38 J -5867678.23 -5867678.14 -5867678.06 0.0300 0.0273
 Neptune -20778-08-01 02:38 J -5867529.54 -5867529.39 -5867529.22 0.0088 0.0060
 Neptune -20777-03-13 15:36 J -5867303.99 -5867303.85 -5867303.67 0.0088 0.0060
 Jupiter -20777-06-20 02:38 J -5867205.54 -5867205.39 -5867205.22 0.0532 0.0320
 Neptune -20777-10-25 05:02 J -5867078.44 -5867078.29 -5867078.11 0.0088 0.0059
 Jupiter -20776-02-12 22:19 J -5866967.76 -5866967.57 -5866967.37 0.0532 0.0152
 Neptune -20776-06-07 18:28 J -5866852.90 -5866852.73 -5866852.57 0.0088 0.0058
 Neptune -20775-01-19 07:11 J -5866627.35 -5866627.20 -5866627.01 0.0088 0.0058
 Neptune -20775-09-01 20:38 J -5866401.79 -5866401.64 -5866401.46 0.0088 0.0057
 Neptune -20774-04-15 10:04 J -5866176.24 -5866176.08 -5866175.90 0.0088 0.0056
 Neptune -20774-11-26 22:48 J -5865950.70 -5865950.55 -5865950.35 0.0088 0.0057
 Neptune -20773-07-09 12:14 J -5865725.15 -5865724.99 -5865724.80 0.0088 0.0055
 Mars -20773-10-31 09:36 J -5865611.27 -5865611.10 -5865610.93 0.1629 0.0012
 Neptune -20772-02-20 01:40 J -5865499.59 -5865499.43 -5865499.24 0.0088 0.0054
 Mars -20772-09-30 00:43 J -5865277.63 -5865277.47 -5865277.30 0.1891 0.0661
 Neptune -20772-10-03 15:07 J -5865274.03 -5865273.87 -5865273.68 0.0088 0.0053
 Jupiter -20771-04-21 01:55 J -5865074.57 -5865074.42 -5865074.26 0.0494 0.0321
 Neptune -20771-05-17 04:33 J -5865048.48 -5865048.31 -5865048.12 0.0088 0.0052
 Jupiter -20771-12-13 06:57 J -5864838.41 -5864838.21 -5864838.00 0.0494 0.0051
 Neptune -20771-12-28 18:00 J -5864822.92 -5864822.75 -5864822.56 0.0088 0.0051

Jupiter	-20770-08-06 16:04 J	-5864601.93	-5864601.83	-5864601.72	0.0496	0.0427
Neptune	-20770-08-11 07:26 J	-5864597.37	-5864597.19	-5864597.00	0.0088	0.0050
Neptune	-20769-03-23 20:52 J	-5864371.81	-5864371.63	-5864371.44	0.0088	0.0049
Neptune	-20769-11-04 10:19 J	-5864146.25	-5864146.07	-5864145.88	0.0088	0.0048
Neptune	-20768-06-17 23:45 J	-5863920.69	-5863920.51	-5863920.32	0.0088	0.0047
Neptune	-20767-01-29 13:11 J	-5863695.14	-5863694.95	-5863694.76	0.0088	0.0046
Neptune	-20767-09-12 02:38 J	-5863469.57	-5863469.39	-5863469.19	0.0088	0.0045
Neptune	-20766-04-25 16:04 J	-5863244.01	-5863243.83	-5863243.63	0.0088	0.0044
Uranus	-20766-06-21 12:00 J	-5863187.07	-5863187.00	-5863186.91	0.0132	0.0123
Saturn	-20766-09-26 23:02 J	-5863089.63	-5863089.54	-5863089.42	0.0262	0.0224
Neptune	-20766-12-07 05:31 J	-5863018.46	-5863018.27	-5863018.07	0.0088	0.0043
Uranus	-20765-02-02 17:31 J	-5862960.90	-5862960.77	-5862960.60	0.0132	0.0097
Jupiter	-20765-02-23 17:31 J	-5862939.87	-5862939.77	-5862939.65	0.0532	0.0445
Saturn	-20765-05-12 17:02 J	-5862860.98	-5862860.79	-5862860.60	0.0261	0.0102
Neptune	-20765-07-19 18:43 J	-5862792.90	-5862792.72	-5862792.51	0.0088	0.0042
Uranus	-20765-09-15 23:31 J	-5862734.71	-5862734.52	-5862734.34	0.0132	0.0070
Jupiter	-20765-10-18 14:09 J	-5862702.11	-5862701.91	-5862701.71	0.0532	0.0022
Saturn	-20765-12-27 10:48 J	-5862632.26	-5862632.05	-5862631.84	0.0261	0.0020
Neptune	-20764-03-02 08:09 J	-5862567.34	-5862567.16	-5862566.95	0.0088	0.0041
Uranus	-20764-04-30 04:48 J	-5862508.50	-5862508.30	-5862508.08	0.0133	0.0043
Jupiter	-20764-06-13 05:16 J	-5862464.36	-5862464.28	-5862464.19	0.0530	0.0475
Saturn	-20764-08-13 04:48 J	-5862403.47	-5862403.30	-5862403.12	0.0261	0.0142
Neptune	-20764-10-13 22:04 J	-5862341.78	-5862341.58	-5862341.38	0.0088	0.0039
Uranus	-20764-12-12 10:33 J	-5862282.28	-5862282.06	-5862281.84	0.0133	0.0016
Neptune	-20763-05-27 11:31 J	-5862116.22	-5862116.02	-5862115.81	0.0088	0.0038
Uranus	-20763-07-26 16:04 J	-5862056.05	-5862055.83	-5862055.61	0.0133	0.0010
Neptune	-20762-01-08 00:43 J	-5861890.66	-5861890.47	-5861890.25	0.0088	0.0037
Uranus	-20762-03-09 21:36 J	-5861829.81	-5861829.60	-5861829.39	0.0133	0.0037
Neptune	-20762-08-21 14:09 J	-5861665.10	-5861664.91	-5861664.69	0.0088	0.0036
Uranus	-20762-10-22 02:52 J	-5861603.56	-5861603.38	-5861603.18	0.0133	0.0064

Neptune	-20761-04-03 03:50 J	-5861439.54	-5861439.34	-5861439.12	0.0088	0.0035
Uranus	-20761-06-04 08:09 J	-5861377.31	-5861377.16	-5861376.99	0.0133	0.0091
Neptune	-20761-11-14 17:31 J	-5861213.97	-5861213.77	-5861213.56	0.0088	0.0033
Uranus	-20760-01-16 13:55 J	-5861151.01	-5861150.92	-5861150.81	0.0133	0.0117
Neptune	-20760-06-28 06:57 J	-5860988.41	-5860988.21	-5860987.99	0.0088	0.0032
Jupiter	-20760-12-25 04:19 J	-5860808.42	-5860808.32	-5860808.21	0.0495	0.0418
Neptune	-20759-02-08 20:38 J	-5860762.84	-5860762.64	-5860762.42	0.0088	0.0030
Jupiter	-20759-08-18 08:52 J	-5860572.34	-5860572.13	-5860571.93	0.0494	0.0052
Neptune	-20759-09-22 10:19 J	-5860537.28	-5860537.07	-5860536.85	0.0088	0.0029
Jupiter	-20758-04-11 16:48 J	-5860335.95	-5860335.80	-5860335.65	0.0495	0.0326
Neptune	-20758-05-05 23:45 J	-5860311.71	-5860311.51	-5860311.28	0.0088	0.0028
Neptune	-20758-12-17 13:40 J	-5860086.14	-5860085.93	-5860085.71	0.0088	0.0026
Neptune	-20757-07-30 03:07 J	-5859860.58	-5859860.37	-5859860.15	0.0088	0.0025
Neptune	-20756-03-12 16:48 J	-5859635.01	-5859634.80	-5859634.58	0.0088	0.0024
Neptune	-20756-10-24 06:28 J	-5859409.44	-5859409.23	-5859409.00	0.0088	0.0022
Neptune	-20755-06-06 20:23 J	-5859183.87	-5859183.65	-5859183.43	0.0088	0.0021
Neptune	-20754-01-18 09:50 J	-5858958.30	-5858958.09	-5858957.86	0.0088	0.0019
Neptune	-20754-08-31 23:45 J	-5858732.73	-5858732.51	-5858732.29	0.0088	0.0018
Neptune	-20753-04-13 13:11 J	-5858507.16	-5858506.95	-5858506.72	0.0088	0.0016
Jupiter	-20753-06-23 03:07 J	-5858436.57	-5858436.37	-5858436.17	0.0532	0.0112
Neptune	-20753-11-25 03:07 J	-5858281.59	-5858281.37	-5858281.15	0.0088	0.0014
Jupiter	-20752-02-15 20:09 J	-5858198.80	-5858198.66	-5858198.51	0.0531	0.0354
Neptune	-20752-07-08 16:33 J	-5858056.03	-5858055.81	-5858055.58	0.0088	0.0013
Neptune	-20751-02-19 06:14 J	-5857830.46	-5857830.24	-5857830.01	0.0088	0.0011
Neptune	-20751-10-02 19:55 J	-5857604.89	-5857604.67	-5857604.44	0.0088	0.0010
Saturn	-20751-10-24 12:57 J	-5857583.03	-5857582.96	-5857582.88	0.0300	0.0278
Neptune	-20750-05-16 09:36 J	-5857379.32	-5857379.10	-5857378.87	0.0088	0.0008
Saturn	-20750-06-11 23:02 J	-5857352.74	-5857352.54	-5857352.33	0.0301	0.0084
Neptune	-20750-12-27 23:16 J	-5857153.75	-5857153.53	-5857153.30	0.0088	0.0007
Saturn	-20749-01-28 08:52 J	-5857122.33	-5857122.13	-5857121.93	0.0301	0.0113

Neptune	-20749-08-09 12:57 J	-5856928.19	-5856927.96	-5856927.74	0.0088	0.0005
Neptune	-20748-03-23 02:38 J	-5856702.62	-5856702.39	-5856702.17	0.0088	0.0004
Neptune	-20748-11-03 16:19 J	-5856477.04	-5856476.82	-5856476.59	0.0088	0.0002
Jupiter	-20747-04-23 11:16 J	-5856306.22	-5856306.03	-5856305.83	0.0494	0.0155
Neptune	-20747-06-17 06:00 J	-5856251.47	-5856251.25	-5856251.02	0.0088	0.0002
Jupiter	-20747-12-15 18:00 J	-5856069.93	-5856069.75	-5856069.57	0.0494	0.0223
Neptune	-20746-01-28 19:40 J	-5856025.90	-5856025.68	-5856025.45	0.0088	0.0002
Neptune	-20746-09-11 09:21 J	-5855800.33	-5855800.11	-5855799.88	0.0088	0.0003
Neptune	-20745-04-23 23:02 J	-5855574.76	-5855574.54	-5855574.31	0.0088	0.0005
Neptune	-20745-12-05 12:57 J	-5855349.18	-5855348.96	-5855348.73	0.0088	0.0006
Neptune	-20744-07-19 02:38 J	-5855123.61	-5855123.39	-5855123.16	0.0088	0.0008
Neptune	-20743-03-01 16:19 J	-5854898.04	-5854897.82	-5854897.59	0.0088	0.0009
Neptune	-20743-10-13 06:00 J	-5854672.47	-5854672.25	-5854672.02	0.0088	0.0011
Neptune	-20742-05-26 19:40 J	-5854446.89	-5854446.68	-5854446.45	0.0088	0.0013
Neptune	-20741-01-07 09:36 J	-5854221.32	-5854221.10	-5854220.87	0.0088	0.0014
Jupiter	-20741-02-26 17:16 J	-5854170.95	-5854170.78	-5854170.59	0.0532	0.0243
Neptune	-20741-08-19 23:02 J	-5853995.75	-5853995.54	-5853995.31	0.0089	0.0016
Jupiter	-20741-10-21 12:14 J	-5853933.17	-5853932.99	-5853932.81	0.0532	0.0228
Mars	-20741-10-30 01:11 J	-5853924.60	-5853924.45	-5853924.31	0.1631	0.0826
Neptune	-20740-04-02 12:57 J	-5853770.18	-5853769.96	-5853769.74	0.0089	0.0017
Mars	-20740-09-30 03:36 J	-5853589.50	-5853589.35	-5853589.21	0.1889	0.1139
Neptune	-20740-11-14 02:38 J	-5853544.60	-5853544.39	-5853544.17	0.0089	0.0018
Neptune	-20739-06-27 16:19 J	-5853319.03	-5853318.82	-5853318.60	0.0089	0.0020
Mars	-20739-08-30 06:43 J	-5853255.36	-5853255.22	-5853255.08	0.1627	0.0912
Neptune	-20738-02-08 05:45 J	-5853093.46	-5853093.26	-5853093.03	0.0089	0.0022
Neptune	-20738-09-21 19:40 J	-5852867.90	-5852867.68	-5852867.46	0.0089	0.0023
Neptune	-20737-05-04 09:07 J	-5852642.33	-5852642.12	-5852641.90	0.0089	0.0025
Neptune	-20737-12-15 23:02 J	-5852416.75	-5852416.54	-5852416.33	0.0089	0.0026
Saturn	-20736-04-08 02:38 J	-5852303.51	-5852303.39	-5852303.25	0.0261	0.0205
Neptune	-20736-07-29 12:28 J	-5852191.18	-5852190.98	-5852190.76	0.0089	0.0027

Saturn	-20736-11-22 20:38 J	-5852074.84	-5852074.64	-5852074.44	0.0261	0.0083
Jupiter	-20736-12-27 13:40 J	-5852040.11	-5852039.93	-5852039.76	0.0494	0.0256
Neptune	-20735-03-12 02:09 J	-5851965.62	-5851965.41	-5851965.19	0.0089	0.0029
Saturn	-20735-07-09 14:23 J	-5851846.10	-5851845.90	-5851845.69	0.0260	0.0039
Jupiter	-20735-08-20 18:57 J	-5851803.91	-5851803.71	-5851803.51	0.0494	0.0119
Neptune	-20735-10-23 15:50 J	-5851740.05	-5851739.84	-5851739.63	0.0089	0.0030
Saturn	-20734-02-23 08:23 J	-5851617.31	-5851617.15	-5851616.98	0.0261	0.0161
Jupiter	-20734-04-14 04:19 J	-5851567.34	-5851567.32	-5851567.29	0.0496	0.0490
Neptune	-20734-06-06 05:16 J	-5851514.48	-5851514.28	-5851514.06	0.0089	0.0032
Moon	-20734-10-30 12:14 J	-5851368.15	-5851367.99	-5851367.83	0.2618	0.0086
Earth	-20734-10-30 16:48 J	-5851367.96	-5851367.80	-5851367.64	0.2622	0.0037 *
Neptune	-20733-01-17 19:11 J	-5851288.90	-5851288.70	-5851288.49	0.0089	0.0033
Neptune	-20733-08-30 08:38 J	-5851063.33	-5851063.14	-5851062.92	0.0089	0.0035
Neptune	-20732-04-12 22:19 J	-5850837.76	-5850837.57	-5850837.36	0.0089	0.0036
Neptune	-20732-11-24 12:14 J	-5850612.19	-5850611.99	-5850611.78	0.0089	0.0037
Neptune	-20731-07-08 01:40 J	-5850386.62	-5850386.43	-5850386.22	0.0089	0.0039
Neptune	-20730-02-18 15:21 J	-5850161.05	-5850160.86	-5850160.65	0.0089	0.0040
Neptune	-20730-10-02 05:02 J	-5849935.48	-5849935.29	-5849935.08	0.0089	0.0041
Jupiter	-20730-11-01 08:09 J	-5849905.31	-5849905.16	-5849905.02	0.0532	0.0371
Neptune	-20729-05-14 18:57 J	-5849709.91	-5849709.71	-5849709.52	0.0089	0.0042
Jupiter	-20729-06-26 04:33 J	-5849667.51	-5849667.31	-5849667.11	0.0533	0.0101
Neptune	-20729-12-26 08:09 J	-5849484.33	-5849484.16	-5849483.95	0.0089	0.0044
Neptune	-20728-08-08 21:50 J	-5849258.77	-5849258.59	-5849258.38	0.0089	0.0045
Neptune	-20727-03-22 11:31 J	-5849033.20	-5849033.02	-5849032.82	0.0089	0.0046
Neptune	-20727-11-03 00:57 J	-5848807.64	-5848807.46	-5848807.26	0.0089	0.0047
Neptune	-20726-06-16 14:38 J	-5848582.07	-5848581.89	-5848581.70	0.0089	0.0048
Neptune	-20725-01-28 04:19 J	-5848356.50	-5848356.32	-5848356.13	0.0089	0.0049
Neptune	-20725-09-09 17:16 J	-5848130.94	-5848130.78	-5848130.57	0.0089	0.0051
Uranus	-20725-12-27 00:14 J	-5848022.54	-5848022.49	-5848022.40	0.0146	0.0138
Neptune	-20724-04-23 06:43 J	-5847905.38	-5847905.22	-5847905.02	0.0089	0.0052

Uranus	-20724-08-10 12:28 J	-5847796.12	-5847795.98	-5847795.82	0.0146	0.0102
Jupiter	-20724-09-01 16:04 J	-5847773.97	-5847773.83	-5847773.68	0.0494	0.0355
Pluto	-20724-11-02 23:45 J	-5847711.72	-5847711.51	-5847711.29	0.0080	0.0023
Neptune	-20724-12-04 20:23 J	-5847679.81	-5847679.65	-5847679.45	0.0089	0.0053
Uranus	-20723-03-25 00:28 J	-5847569.66	-5847569.48	-5847569.28	0.0146	0.0067
Jupiter	-20723-04-25 20:23 J	-5847537.85	-5847537.65	-5847537.44	0.0493	0.0017
Pluto	-20723-06-16 10:33 J	-5847486.22	-5847486.06	-5847485.87	0.0080	0.0050
Neptune	-20723-07-18 09:50 J	-5847454.25	-5847454.09	-5847453.89	0.0089	0.0054
Uranus	-20723-11-06 12:28 J	-5847343.19	-5847342.98	-5847342.76	0.0146	0.0032
Jupiter	-20723-12-18 04:33 J	-5847301.43	-5847301.31	-5847301.18	0.0495	0.0390
Neptune	-20722-02-28 23:16 J	-5847228.68	-5847228.53	-5847228.33	0.0089	0.0055
Uranus	-20722-06-21 00:28 J	-5847116.69	-5847116.48	-5847116.26	0.0146	0.0005
Neptune	-20722-10-12 13:11 J	-5847003.12	-5847002.95	-5847002.77	0.0089	0.0055
Uranus	-20721-02-02 12:28 J	-5846890.18	-5846889.98	-5846889.77	0.0146	0.0039
Saturn	-20721-05-05 17:45 J	-5846796.87	-5846796.76	-5846796.65	0.0300	0.0256
Neptune	-20721-05-25 02:38 J	-5846777.56	-5846777.39	-5846777.21	0.0089	0.0056
Uranus	-20721-09-16 00:14 J	-5846663.67	-5846663.49	-5846663.29	0.0146	0.0074
Saturn	-20721-12-22 03:50 J	-5846566.55	-5846566.34	-5846566.13	0.0300	0.0062
Neptune	-20720-01-05 16:04 J	-5846551.99	-5846551.83	-5846551.65	0.0089	0.0057
Uranus	-20720-04-30 12:14 J	-5846437.13	-5846436.99	-5846436.84	0.0145	0.0109
Saturn	-20720-08-09 13:26 J	-5846336.12	-5846335.94	-5846335.74	0.0301	0.0134
Neptune	-20720-08-19 05:31 J	-5846326.42	-5846326.27	-5846326.09	0.0089	0.0058
Uranus	-20720-12-12 23:45 J	-5846210.52	-5846210.51	-5846210.45	0.0145	0.0144
Neptune	-20719-04-01 18:57 J	-5846100.86	-5846100.71	-5846100.53	0.0089	0.0059
Neptune	-20719-11-13 08:09 J	-5845875.30	-5845875.16	-5845874.97	0.0089	0.0060
Neptune	-20718-06-26 22:04 J	-5845649.74	-5845649.58	-5845649.41	0.0089	0.0060
Jupiter	-20718-07-06 23:45 J	-5845639.58	-5845639.51	-5845639.43	0.0532	0.0491
Neptune	-20717-02-07 11:16 J	-5845424.17	-5845424.03	-5845423.85	0.0089	0.0062
Jupiter	-20717-02-29 21:21 J	-5845401.81	-5845401.61	-5845401.41	0.0533	0.0028
Neptune	-20717-09-20 00:43 J	-5845198.61	-5845198.47	-5845198.29	0.0089	0.0062

Jupiter -20717-10-24 13:26 J -5845164.05 -5845163.94 -5845163.82 0.0531 0.0434
 Neptune -20716-05-03 14:23 J -5844973.05 -5844972.90 -5844972.74 0.0089 0.0062
 Neptune -20716-12-15 03:21 J -5844747.49 -5844747.36 -5844747.18 0.0089 0.0064
 Neptune -20715-07-28 17:16 J -5844521.93 -5844521.78 -5844521.63 0.0089 0.0064
 Neptune -20714-03-11 06:14 J -5844296.37 -5844296.24 -5844296.07 0.0089 0.0065
 Neptune -20714-10-22 19:26 J -5844070.82 -5844070.69 -5844070.52 0.0089 0.0065
 Neptune -20713-06-04 08:38 J -5843845.27 -5843845.14 -5843844.97 0.0089 0.0066
 Neptune -20712-01-15 22:19 J -5843619.71 -5843619.57 -5843619.42 0.0089 0.0066
 Jupiter -20712-05-07 16:04 J -5843507.90 -5843507.83 -5843507.75 0.0495 0.0454
 Neptune -20712-08-29 11:16 J -5843394.16 -5843394.03 -5843393.86 0.0089 0.0066
 Jupiter -20712-12-29 19:55 J -5843271.87 -5843271.67 -5843271.47 0.0494 0.0090
 Neptune -20711-04-12 00:28 J -5843168.61 -5843168.48 -5843168.32 0.0089 0.0067
 Jupiter -20711-08-23 03:07 J -5843035.53 -5843035.37 -5843035.20 0.0495 0.0288
 Neptune -20711-11-23 13:55 J -5842943.06 -5842942.92 -5842942.77 0.0089 0.0067
 Neptune -20710-07-07 02:38 J -5842717.51 -5842717.39 -5842717.22 0.0089 0.0068
 Neptune -20709-02-17 16:04 J -5842491.95 -5842491.83 -5842491.66 0.0089 0.0068
 Neptune -20709-09-30 05:16 J -5842266.40 -5842266.28 -5842266.12 0.0089 0.0068
 Neptune -20708-05-13 18:28 J -5842040.86 -5842040.73 -5842040.57 0.0089 0.0068
 Neptune -20708-12-25 07:55 J -5841815.31 -5841815.17 -5841815.02 0.0089 0.0067
 Neptune -20707-08-07 21:07 J -5841589.76 -5841589.62 -5841589.47 0.0089 0.0068
 Mars -20707-08-28 22:04 J -5841568.75 -5841568.58 -5841568.41 0.1628 0.0084
 Saturn -20707-10-19 06:00 J -5841517.40 -5841517.25 -5841517.11 0.0262 0.0186
 Neptune -20706-03-21 10:19 J -5841364.20 -5841364.07 -5841363.92 0.0089 0.0068
 Saturn -20706-06-04 23:45 J -5841288.71 -5841288.51 -5841288.30 0.0261 0.0064
 Mars -20706-07-28 03:07 J -5841235.53 -5841235.37 -5841235.22 0.1892 0.0956
 Neptune -20706-11-01 23:31 J -5841138.66 -5841138.52 -5841138.37 0.0089 0.0068
 Jupiter -20706-11-04 12:28 J -5841136.18 -5841135.98 -5841135.79 0.0532 0.0157
 Saturn -20705-01-19 17:45 J -5841059.96 -5841059.76 -5841059.55 0.0261 0.0058
 Neptune -20705-06-14 12:28 J -5840913.11 -5840912.98 -5840912.83 0.0089 0.0068
 Jupiter -20705-06-29 06:00 J -5840898.41 -5840898.25 -5840898.08 0.0531 0.0311

Saturn	-20705-09-04 12:00 J	-5840831.15	-5840831.00	-5840830.85	0.0261	0.0180
Neptune	-20704-01-26 01:40 J	-5840687.56	-5840687.43	-5840687.28	0.0089	0.0068
Neptune	-20704-09-08 14:38 J	-5840462.01	-5840461.89	-5840461.73	0.0089	0.0068
Neptune	-20703-04-22 03:50 J	-5840236.47	-5840236.34	-5840236.19	0.0089	0.0067
Neptune	-20703-12-03 16:33 J	-5840010.93	-5840010.81	-5840010.64	0.0089	0.0068
Neptune	-20702-07-17 05:31 J	-5839785.39	-5839785.27	-5839785.10	0.0089	0.0068
Neptune	-20701-02-27 18:57 J	-5839559.84	-5839559.71	-5839559.56	0.0089	0.0067
Neptune	-20701-10-10 07:40 J	-5839334.31	-5839334.18	-5839334.02	0.0089	0.0067
Neptune	-20700-05-23 20:23 J	-5839108.77	-5839108.65	-5839108.48	0.0089	0.0067
Jupiter	-20700-09-03 21:50 J	-5839005.77	-5839005.59	-5839005.40	0.0494	0.0193
Neptune	-20699-01-04 09:36 J	-5838883.23	-5838883.10	-5838882.94	0.0089	0.0066
Jupiter	-20699-04-28 04:04 J	-5838769.52	-5838769.33	-5838769.13	0.0494	0.0185
Neptune	-20699-08-17 22:19 J	-5838657.70	-5838657.57	-5838657.40	0.0089	0.0066
Neptune	-20698-03-31 11:31 J	-5838432.16	-5838432.02	-5838431.86	0.0089	0.0065
Neptune	-20698-11-12 00:14 J	-5838206.62	-5838206.49	-5838206.32	0.0089	0.0065
Neptune	-20697-06-24 13:11 J	-5837981.09	-5837980.95	-5837980.79	0.0089	0.0064
Neptune	-20696-02-05 01:55 J	-5837755.55	-5837755.42	-5837755.25	0.0089	0.0064
Neptune	-20696-09-18 14:52 J	-5837530.02	-5837529.88	-5837529.71	0.0089	0.0063
Neptune	-20695-05-02 04:04 J	-5837304.48	-5837304.33	-5837304.17	0.0089	0.0062
Neptune	-20695-12-13 16:33 J	-5837078.95	-5837078.81	-5837078.63	0.0089	0.0062
Jupiter	-20694-07-10 00:28 J	-5836870.65	-5836870.48	-5836870.31	0.0532	0.0291
Neptune	-20694-07-27 05:31 J	-5836853.42	-5836853.27	-5836853.10	0.0089	0.0061
Jupiter	-20693-03-03 19:55 J	-5836632.86	-5836632.67	-5836632.48	0.0532	0.0182
Neptune	-20693-03-08 18:43 J	-5836627.88	-5836627.72	-5836627.56	0.0089	0.0060
Neptune	-20693-10-20 06:57 J	-5836402.35	-5836402.21	-5836402.02	0.0089	0.0060
Neptune	-20692-06-02 19:55 J	-5836176.82	-5836176.67	-5836176.49	0.0089	0.0059
Saturn	-20692-11-16 05:02 J	-5836010.43	-5836010.29	-5836010.14	0.0300	0.0222
Neptune	-20691-01-14 08:52 J	-5835951.29	-5835951.13	-5835950.95	0.0089	0.0057
Saturn	-20691-07-04 15:07 J	-5835780.08	-5835779.87	-5835779.66	0.0301	0.0026
Neptune	-20691-08-27 21:36 J	-5835725.75	-5835725.60	-5835725.42	0.0089	0.0057

Saturn	-20690-02-20 00:28 J	-5835549.65	-5835549.48	-5835549.29	0.0301	0.0170
Neptune	-20690-04-10 10:33 J	-5835500.22	-5835500.06	-5835499.88	0.0089	0.0056
Neptune	-20690-11-21 23:16 J	-5835274.69	-5835274.53	-5835274.35	0.0089	0.0055
Neptune	-20689-07-04 12:00 J	-5835049.17	-5835049.00	-5835048.82	0.0089	0.0054
Neptune	-20688-02-15 00:43 J	-5834823.64	-5834823.47	-5834823.29	0.0089	0.0053
Jupiter	-20688-05-10 00:43 J	-5834739.63	-5834739.47	-5834739.30	0.0494	0.0294
Neptune	-20688-09-28 13:11 J	-5834598.11	-5834597.95	-5834597.76	0.0089	0.0052
Jupiter	-20687-01-01 05:45 J	-5834503.46	-5834503.26	-5834503.05	0.0494	0.0082
Neptune	-20687-05-12 01:55 J	-5834372.59	-5834372.42	-5834372.23	0.0089	0.0051
Jupiter	-20687-08-25 15:07 J	-5834266.95	-5834266.87	-5834266.79	0.0495	0.0455
Neptune	-20687-12-23 14:38 J	-5834147.06	-5834146.89	-5834146.70	0.0089	0.0050
Neptune	-20686-08-06 03:07 J	-5833921.54	-5833921.37	-5833921.18	0.0089	0.0049
Neptune	-20685-03-18 15:50 J	-5833696.01	-5833695.84	-5833695.65	0.0089	0.0047
Neptune	-20685-10-30 04:19 J	-5833470.49	-5833470.32	-5833470.12	0.0089	0.0046
Neptune	-20684-06-12 16:48 J	-5833244.97	-5833244.80	-5833244.60	0.0089	0.0045
Neptune	-20683-01-24 05:45 J	-5833019.45	-5833019.26	-5833019.07	0.0089	0.0044
Neptune	-20683-09-06 18:14 J	-5832793.92	-5832793.74	-5832793.54	0.0089	0.0042
Jupiter	-20682-03-14 14:09 J	-5832605.04	-5832604.91	-5832604.79	0.0532	0.0419
Neptune	-20682-04-20 06:43 J	-5832568.39	-5832568.22	-5832568.01	0.0089	0.0042
Uranus	-20682-10-03 02:09 J	-5832402.52	-5832402.41	-5832402.27	0.0132	0.0109
Jupiter	-20682-11-07 10:33 J	-5832367.26	-5832367.06	-5832366.86	0.0532	0.0051
Neptune	-20682-12-01 19:11 J	-5832342.87	-5832342.70	-5832342.49	0.0089	0.0041
Uranus	-20681-05-16 07:55 J	-5832176.33	-5832176.17	-5832175.99	0.0132	0.0083
Jupiter	-20681-07-02 01:55 J	-5832129.47	-5832129.42	-5832129.35	0.0531	0.0503
Neptune	-20681-07-14 08:09 J	-5832117.35	-5832117.16	-5832116.96	0.0089	0.0039
Uranus	-20681-12-28 13:40 J	-5831950.13	-5831949.93	-5831949.73	0.0132	0.0056
Neptune	-20680-02-24 20:38 J	-5831891.83	-5831891.64	-5831891.44	0.0089	0.0037
Uranus	-20680-08-11 19:11 J	-5831723.91	-5831723.70	-5831723.48	0.0133	0.0029
Neptune	-20680-10-08 09:07 J	-5831666.30	-5831666.12	-5831665.91	0.0089	0.0036
Uranus	-20679-03-26 00:43 J	-5831497.69	-5831497.47	-5831497.25	0.0133	0.0002

Neptune	-20679-05-21 22:04 J	-5831440.78	-5831440.58	-5831440.38	0.0089	0.0035
Uranus	-20679-11-07 06:00 J	-5831271.46	-5831271.25	-5831271.03	0.0133	0.0025
Neptune	-20678-01-02 10:19 J	-5831215.26	-5831215.07	-5831214.86	0.0089	0.0034
Uranus	-20678-06-21 11:16 J	-5831045.22	-5831045.03	-5831044.82	0.0133	0.0052
Neptune	-20678-08-15 22:48 J	-5830989.74	-5830989.55	-5830989.33	0.0089	0.0032
Uranus	-20677-02-02 17:02 J	-5830818.96	-5830818.79	-5830818.61	0.0133	0.0078
Neptune	-20677-03-28 11:31 J	-5830764.22	-5830764.02	-5830763.81	0.0089	0.0030
Saturn	-20677-04-30 10:33 J	-5830731.22	-5830731.06	-5830730.89	0.0261	0.0166
Uranus	-20677-09-15 22:04 J	-5830592.69	-5830592.58	-5830592.43	0.0133	0.0106
Neptune	-20677-11-08 23:45 J	-5830538.70	-5830538.51	-5830538.29	0.0089	0.0030
Saturn	-20677-12-15 04:33 J	-5830502.52	-5830502.31	-5830502.10	0.0261	0.0044
Jupiter	-20676-01-13 03:07 J	-5830473.49	-5830473.37	-5830473.24	0.0494	0.0392
Uranus	-20676-04-30 03:50 J	-5830366.37	-5830366.34	-5830366.31	0.0133	0.0132
Neptune	-20676-06-22 12:28 J	-5830313.18	-5830312.98	-5830312.77	0.0089	0.0027
Saturn	-20676-07-31 22:33 J	-5830273.76	-5830273.56	-5830273.36	0.0261	0.0079
Jupiter	-20676-09-06 07:26 J	-5830237.40	-5830237.19	-5830236.99	0.0493	0.0024
Neptune	-20675-02-03 00:43 J	-5830087.66	-5830087.47	-5830087.25	0.0089	0.0026
Saturn	-20675-03-17 16:33 J	-5830044.93	-5830044.81	-5830044.67	0.0261	0.0201
Jupiter	-20675-04-30 14:52 J	-5830001.02	-5830000.88	-5830000.73	0.0495	0.0353
Mars	-20675-08-27 13:40 J	-5829882.08	-5829881.93	-5829881.77	0.1630	0.0750
Neptune	-20675-09-16 13:26 J	-5829862.15	-5829861.94	-5829861.73	0.0089	0.0024
Neptune	-20674-04-30 01:40 J	-5829636.62	-5829636.43	-5829636.21	0.0089	0.0023
Mars	-20674-07-28 05:31 J	-5829547.43	-5829547.27	-5829547.11	0.1889	0.0838
Neptune	-20674-12-11 14:23 J	-5829411.11	-5829410.90	-5829410.69	0.0089	0.0021
Mars	-20673-06-26 19:26 J	-5829212.83	-5829212.69	-5829212.56	0.1627	0.0985
Neptune	-20673-07-24 02:23 J	-5829185.60	-5829185.40	-5829185.17	0.0089	0.0021
Neptune	-20672-03-06 15:07 J	-5828960.08	-5828959.87	-5828959.66	0.0089	0.0018
Neptune	-20672-10-18 03:21 J	-5828734.56	-5828734.36	-5828734.14	0.0089	0.0017
Neptune	-20671-05-31 16:04 J	-5828509.04	-5828508.83	-5828508.62	0.0089	0.0015
Neptune	-20670-01-12 04:19 J	-5828283.53	-5828283.32	-5828283.10	0.0089	0.0014

Jupiter -20670-07-13 01:40 J -5828101.63 -5828101.43 -5828101.23 0.0533 0.0080
 Neptune -20670-08-25 16:48 J -5828058.01 -5828057.80 -5828057.58 0.0089 0.0012
 Jupiter -20669-03-06 19:11 J -5827863.83 -5827863.70 -5827863.56 0.0532 0.0386
 Neptune -20669-04-07 05:16 J -5827832.49 -5827832.28 -5827832.07 0.0089 0.0010
 Neptune -20669-11-18 17:31 J -5827606.98 -5827606.77 -5827606.55 0.0089 0.0009
 Neptune -20668-07-02 06:14 J -5827381.46 -5827381.24 -5827381.03 0.0089 0.0007
 Neptune -20667-02-12 18:28 J -5827155.94 -5827155.73 -5827155.51 0.0089 0.0006
 Neptune -20667-09-26 06:57 J -5826930.43 -5826930.21 -5826929.99 0.0089 0.0004
 Neptune -20666-05-09 19:26 J -5826704.90 -5826704.69 -5826704.47 0.0089 0.0003
 Neptune -20666-12-21 07:55 J -5826479.39 -5826479.17 -5826478.96 0.0089 0.0001
 Neptune -20665-08-02 20:09 J -5826253.87 -5826253.66 -5826253.44 0.0089 0.0001
 Jupiter -20665-09-18 05:45 J -5826207.29 -5826207.26 -5826207.23 0.0495 0.0488
 Neptune -20664-03-16 08:23 J -5826028.36 -5826028.15 -5826027.93 0.0089 0.0003
 Jupiter -20664-05-12 09:07 J -5825971.32 -5825971.12 -5825970.92 0.0493 0.0127
 Neptune -20664-10-27 20:52 J -5825802.84 -5825802.63 -5825802.41 0.0089 0.0004
 Jupiter -20663-01-03 15:21 J -5825735.04 -5825734.86 -5825734.68 0.0494 0.0250
 Neptune -20663-06-10 09:21 J -5825577.32 -5825577.11 -5825576.89 0.0089 0.0006
 Neptune -20662-01-21 21:50 J -5825351.81 -5825351.59 -5825351.38 0.0089 0.0007
 Saturn -20662-05-29 11:45 J -5825224.16 -5825224.01 -5825223.84 0.0300 0.0197
 Neptune -20662-09-04 09:50 J -5825126.30 -5825126.09 -5825125.87 0.0089 0.0009
 Saturn -20661-01-14 21:50 J -5824993.80 -5824993.59 -5824993.37 0.0300 0.0002
 Neptune -20661-04-16 22:19 J -5824900.78 -5824900.57 -5824900.35 0.0089 0.0010
 Saturn -20661-09-01 07:11 J -5824763.36 -5824763.20 -5824763.04 0.0300 0.0194
 Neptune -20661-11-28 10:33 J -5824675.27 -5824675.06 -5824674.84 0.0089 0.0012
 Neptune -20660-07-11 22:48 J -5824449.75 -5824449.55 -5824449.33 0.0089 0.0014
 Neptune -20659-02-22 11:16 J -5824224.24 -5824224.03 -5824223.81 0.0089 0.0015
 Neptune -20659-10-05 23:31 J -5823998.72 -5823998.52 -5823998.30 0.0089 0.0017
 Jupiter -20658-03-17 18:00 J -5823835.94 -5823835.75 -5823835.56 0.0533 0.0208
 Neptune -20658-05-19 12:14 J -5823773.21 -5823772.99 -5823772.78 0.0089 0.0018
 Jupiter -20658-11-10 12:43 J -5823598.14 -5823597.97 -5823597.79 0.0532 0.0264

Neptune	-20658-12-31 00:28 J	-5823547.69	-5823547.48	-5823547.27	0.0089	0.0020
Neptune	-20657-08-12 12:28 J	-5823322.17	-5823321.98	-5823321.75	0.0089	0.0022
Neptune	-20656-03-26 00:57 J	-5823096.66	-5823096.46	-5823096.24	0.0089	0.0023
Neptune	-20656-11-06 13:26 J	-5822871.14	-5822870.94	-5822870.72	0.0089	0.0025
Neptune	-20655-06-20 02:09 J	-5822645.61	-5822645.41	-5822645.20	0.0089	0.0026
Neptune	-20654-01-31 14:23 J	-5822420.09	-5822419.90	-5822419.68	0.0089	0.0028
Neptune	-20654-09-14 02:52 J	-5822194.58	-5822194.38	-5822194.17	0.0089	0.0029
Neptune	-20653-04-26 15:07 J	-5821969.06	-5821968.87	-5821968.65	0.0089	0.0031
Neptune	-20653-12-08 03:36 J	-5821743.54	-5821743.35	-5821743.14	0.0089	0.0032
Jupiter	-20652-01-15 08:38 J	-5821705.32	-5821705.14	-5821704.96	0.0494	0.0232
Neptune	-20652-07-21 16:19 J	-5821518.02	-5821517.82	-5821517.62	0.0089	0.0033
Jupiter	-20652-09-08 14:09 J	-5821469.10	-5821468.91	-5821468.71	0.0494	0.0145
Neptune	-20651-03-04 04:33 J	-5821292.50	-5821292.31	-5821292.10	0.0089	0.0035
Neptune	-20651-10-15 17:02 J	-5821066.98	-5821066.79	-5821066.59	0.0089	0.0036
Neptune	-20650-05-29 05:16 J	-5820841.46	-5820841.28	-5820841.07	0.0089	0.0038
Neptune	-20649-01-09 17:45 J	-5820615.94	-5820615.76	-5820615.55	0.0089	0.0039
Neptune	-20649-08-22 06:28 J	-5820390.42	-5820390.23	-5820390.04	0.0089	0.0040
Neptune	-20648-04-04 18:28 J	-5820164.91	-5820164.73	-5820164.52	0.0089	0.0042
Saturn	-20648-11-10 14:09 J	-5819945.08	-5819944.91	-5819944.74	0.0262	0.0146
Neptune	-20648-11-16 06:57 J	-5819939.39	-5819939.21	-5819939.01	0.0089	0.0043
Saturn	-20647-06-27 08:09 J	-5819716.36	-5819716.16	-5819715.95	0.0261	0.0024
Neptune	-20647-06-29 19:40 J	-5819713.86	-5819713.68	-5819713.48	0.0089	0.0044
Jupiter	-20647-11-20 08:38 J	-5819570.30	-5819570.14	-5819569.99	0.0532	0.0337
Neptune	-20646-02-10 07:55 J	-5819488.34	-5819488.17	-5819487.97	0.0089	0.0046
Saturn	-20646-02-11 02:23 J	-5819487.60	-5819487.40	-5819487.21	0.0261	0.0099
Jupiter	-20646-07-16 04:33 J	-5819332.50	-5819332.31	-5819332.12	0.0532	0.0136
Neptune	-20646-09-23 20:23 J	-5819262.82	-5819262.65	-5819262.45	0.0089	0.0047
Saturn	-20646-09-27 20:38 J	-5819258.75	-5819258.64	-5819258.53	0.0261	0.0221
Neptune	-20645-05-06 08:52 J	-5819037.30	-5819037.13	-5819036.94	0.0088	0.0048
Neptune	-20645-12-17 21:21 J	-5818811.78	-5818811.61	-5818811.42	0.0088	0.0049

Neptune	-20644-07-31 10:04 J	-5818586.25	-5818586.08	-5818585.89	0.0088	0.0050
Neptune	-20643-03-13 22:48 J	-5818360.73	-5818360.55	-5818360.37	0.0088	0.0051
Mars	-20643-08-26 05:31 J	-5818195.31	-5818195.27	-5818195.23	0.1632	0.1580
Neptune	-20643-10-25 10:48 J	-5818135.20	-5818135.05	-5818134.85	0.0088	0.0053
Neptune	-20642-06-07 23:31 J	-5817909.68	-5817909.52	-5817909.33	0.0088	0.0053
Neptune	-20641-01-19 12:00 J	-5817684.15	-5817684.00	-5817683.81	0.0088	0.0055
Mars	-20641-06-25 11:02 J	-5817526.21	-5817526.04	-5817525.87	0.1628	0.0153
Neptune	-20641-09-01 00:43 J	-5817458.62	-5817458.47	-5817458.28	0.0088	0.0055
Jupiter	-20641-09-20 10:48 J	-5817439.20	-5817439.05	-5817438.90	0.0494	0.0332
Uranus	-20640-04-09 18:00 J	-5817237.87	-5817237.75	-5817237.62	0.0146	0.0120
Neptune	-20640-04-14 13:11 J	-5817233.10	-5817232.95	-5817232.76	0.0088	0.0057
Jupiter	-20640-05-14 15:36 J	-5817203.06	-5817202.85	-5817202.65	0.0494	0.0042
Mars	-20640-05-24 04:33 J	-5817193.44	-5817193.31	-5817193.18	0.1892	0.1266
Uranus	-20640-11-22 06:00 J	-5817011.42	-5817011.25	-5817011.07	0.0146	0.0084
Neptune	-20640-11-26 01:40 J	-5817007.57	-5817007.43	-5817007.24	0.0088	0.0058
Jupiter	-20639-01-06 00:00 J	-5816966.60	-5816966.50	-5816966.38	0.0495	0.0417
Uranus	-20639-07-06 18:00 J	-5816784.94	-5816784.75	-5816784.54	0.0146	0.0049
Neptune	-20639-07-09 14:23 J	-5816782.04	-5816781.90	-5816781.71	0.0088	0.0059
Uranus	-20638-02-18 06:14 J	-5816558.46	-5816558.24	-5816558.03	0.0146	0.0014
Neptune	-20638-02-20 03:07 J	-5816556.51	-5816556.37	-5816556.19	0.0088	0.0059
Uranus	-20638-10-02 18:00 J	-5816331.96	-5816331.75	-5816331.53	0.0146	0.0022
Neptune	-20638-10-03 16:04 J	-5816330.99	-5816330.83	-5816330.67	0.0088	0.0060
Neptune	-20637-05-16 04:33 J	-5816105.46	-5816105.31	-5816105.15	0.0088	0.0061
Uranus	-20637-05-16 05:45 J	-5816105.45	-5816105.26	-5816105.05	0.0146	0.0058 *
Neptune	-20637-12-27 16:48 J	-5815879.94	-5815879.80	-5815879.63	0.0088	0.0062
Uranus	-20637-12-28 17:45 J	-5815878.92	-5815878.76	-5815878.58	0.0146	0.0093
Neptune	-20636-08-10 05:31 J	-5815654.40	-5815654.27	-5815654.10	0.0088	0.0063
Uranus	-20636-08-12 05:45 J	-5815652.35	-5815652.26	-5815652.14	0.0145	0.0127
Neptune	-20635-03-23 18:00 J	-5815428.88	-5815428.75	-5815428.57	0.0088	0.0064
Jupiter	-20635-07-25 20:09 J	-5815304.75	-5815304.66	-5815304.56	0.0531	0.0467

Neptune -20635-11-04 06:57 J -5815203.35 -5815203.21 -5815203.05 0.0088 0.0064
 Jupiter -20634-03-20 17:16 J -5815066.98 -5815066.78 -5815066.58 0.0532 0.0005
 Neptune -20634-06-17 19:26 J -5814977.82 -5814977.69 -5814977.52 0.0088 0.0064
 Jupiter -20634-11-13 09:21 J -5814829.21 -5814829.11 -5814829.01 0.0531 0.0459
 Neptune -20633-01-29 07:55 J -5814752.29 -5814752.17 -5814752.00 0.0088 0.0065
 Neptune -20633-09-10 20:52 J -5814526.76 -5814526.63 -5814526.47 0.0088 0.0066
 Saturn -20633-12-09 00:00 J -5814437.68 -5814437.50 -5814437.32 0.0300 0.0161
 Neptune -20632-04-24 09:21 J -5814301.23 -5814301.11 -5814300.94 0.0088 0.0066
 Saturn -20632-07-27 09:50 J -5814207.30 -5814207.09 -5814206.88 0.0301 0.0036
 Neptune -20632-12-05 22:19 J -5814075.70 -5814075.57 -5814075.42 0.0088 0.0067
 Saturn -20631-03-14 18:57 J -5813976.84 -5813976.71 -5813976.57 0.0301 0.0231
 Neptune -20631-07-19 11:02 J -5813850.16 -5813850.04 -5813849.88 0.0088 0.0067
 Neptune -20630-03-02 00:00 J -5813624.63 -5813624.50 -5813624.35 0.0088 0.0067
 Neptune -20630-10-13 12:28 J -5813399.10 -5813398.98 -5813398.82 0.0088 0.0068
 Neptune -20629-05-26 01:26 J -5813173.57 -5813173.44 -5813173.29 0.0088 0.0068
 Jupiter -20629-05-26 13:40 J -5813173.02 -5813172.93 -5813172.83 0.0495 0.0431
 Neptune -20628-01-06 14:23 J -5812948.03 -5812947.90 -5812947.76 0.0088 0.0069
 Jupiter -20628-01-17 17:45 J -5812936.97 -5812936.76 -5812936.56 0.0494 0.0063
 Neptune -20628-08-20 03:07 J -5812722.49 -5812722.37 -5812722.22 0.0088 0.0069
 Jupiter -20628-09-11 00:57 J -5812700.61 -5812700.46 -5812700.29 0.0495 0.0316
 Neptune -20627-04-02 16:04 J -5812496.95 -5812496.83 -5812496.68 0.0088 0.0069
 Neptune -20627-11-14 05:02 J -5812271.42 -5812271.29 -5812271.15 0.0088 0.0069
 Neptune -20626-06-27 18:00 J -5812045.88 -5812045.75 -5812045.61 0.0088 0.0070
 Neptune -20625-02-08 06:14 J -5811820.35 -5811820.24 -5811820.08 0.0088 0.0071
 Neptune -20625-09-20 19:26 J -5811594.81 -5811594.69 -5811594.54 0.0088 0.0070
 Neptune -20624-05-04 08:09 J -5811369.27 -5811369.16 -5811369.00 0.0088 0.0070
 Neptune -20624-12-15 21:07 J -5811143.73 -5811143.62 -5811143.47 0.0088 0.0070
 Neptune -20623-07-29 10:04 J -5810918.19 -5810918.08 -5810917.93 0.0088 0.0070
 Jupiter -20623-11-23 07:11 J -5810801.40 -5810801.20 -5810801.01 0.0532 0.0133
 Neptune -20622-03-11 23:02 J -5810692.65 -5810692.54 -5810692.39 0.0088 0.0070

Jupiter -20622-07-19 00:57 J -5810563.61 -5810563.46 -5810563.30 0.0532 0.0337
 Neptune -20622-10-23 11:45 J -5810467.12 -5810467.01 -5810466.85 0.0088 0.0071
 Neptune -20621-06-05 00:43 J -5810241.58 -5810241.47 -5810241.31 0.0088 0.0070
 Neptune -20620-01-16 13:40 J -5810016.04 -5810015.93 -5810015.77 0.0088 0.0070
 Neptune -20620-08-30 03:07 J -5809790.49 -5809790.37 -5809790.22 0.0088 0.0070
 Neptune -20619-04-12 16:04 J -5809564.95 -5809564.83 -5809564.68 0.0088 0.0069
 Saturn -20619-10-07 01:40 J -5809387.49 -5809387.43 -5809387.35 0.0262 0.0246
 Neptune -20619-11-24 05:02 J -5809339.41 -5809339.29 -5809339.14 0.0088 0.0069
 Saturn -20618-05-23 19:55 J -5809158.85 -5809158.67 -5809158.48 0.0261 0.0124
 Neptune -20618-07-07 18:00 J -5809113.87 -5809113.75 -5809113.59 0.0088 0.0069
 Saturn -20617-01-07 13:55 J -5808930.13 -5808929.92 -5808929.71 0.0261 0.0005
 Neptune -20617-02-18 07:26 J -5808888.32 -5808888.19 -5808888.05 0.0088 0.0068
 Saturn -20617-08-23 08:09 J -5808701.35 -5808701.16 -5808700.98 0.0261 0.0121
 Jupiter -20617-09-22 19:40 J -5808670.87 -5808670.68 -5808670.49 0.0494 0.0166
 Neptune -20617-09-30 20:23 J -5808662.77 -5808662.65 -5808662.49 0.0088 0.0068
 Saturn -20616-04-09 02:23 J -5808472.47 -5808472.40 -5808472.32 0.0261 0.0243
 Neptune -20616-05-14 09:21 J -5808437.23 -5808437.11 -5808436.95 0.0088 0.0068
 Jupiter -20616-05-17 01:26 J -5808434.62 -5808434.44 -5808434.25 0.0494 0.0211
 Neptune -20616-12-25 22:48 J -5808211.68 -5808211.55 -5808211.40 0.0088 0.0067
 Neptune -20615-08-08 11:45 J -5807986.13 -5807986.01 -5807985.84 0.0088 0.0067
 Neptune -20614-03-22 01:11 J -5807760.58 -5807760.45 -5807760.29 0.0088 0.0066
 Neptune -20614-11-02 14:09 J -5807535.04 -5807534.91 -5807534.74 0.0088 0.0066
 Neptune -20613-06-15 03:21 J -5807309.49 -5807309.36 -5807309.19 0.0088 0.0065
 Neptune -20612-01-26 16:48 J -5807083.94 -5807083.80 -5807083.64 0.0088 0.0064
 Neptune -20612-09-09 05:45 J -5806858.39 -5806858.26 -5806858.08 0.0088 0.0064
 Neptune -20611-04-22 19:11 J -5806632.84 -5806632.70 -5806632.53 0.0088 0.0063
 Jupiter -20611-07-28 21:07 J -5806535.79 -5806535.62 -5806535.44 0.0533 0.0264
 Neptune -20611-12-04 08:38 J -5806407.29 -5806407.14 -5806406.98 0.0088 0.0062
 Jupiter -20610-03-23 17:02 J -5806297.98 -5806297.79 -5806297.61 0.0532 0.0211
 Neptune -20610-07-17 21:21 J -5806181.74 -5806181.61 -5806181.43 0.0088 0.0062

Neptune -20609-02-28 10:33 J -5805956.20 -5805956.06 -5805955.87 0.0088 0.0061
 Mars -20609-06-24 02:38 J -5805839.54 -5805839.39 -5805839.23 0.1629 0.0676
 Neptune -20609-10-11 00:14 J -5805730.64 -5805730.49 -5805730.32 0.0088 0.0060
 Mars -20608-05-24 07:11 J -5805505.37 -5805505.20 -5805505.03 0.1890 0.0528
 Neptune -20608-05-24 13:26 J -5805505.09 -5805504.94 -5805504.76 0.0088 0.0059 *
 Neptune -20607-01-05 02:52 J -5805279.54 -5805279.38 -5805279.20 0.0088 0.0058
 Mars -20607-04-24 08:23 J -5805170.28 -5805170.15 -5805170.02 0.1627 0.1050
 Neptune -20607-08-18 16:04 J -5805053.98 -5805053.83 -5805053.65 0.0088 0.0057
 Neptune -20606-04-01 05:31 J -5804828.43 -5804828.27 -5804828.09 0.0088 0.0056
 Neptune -20606-11-12 18:57 J -5804602.87 -5804602.71 -5804602.53 0.0088 0.0055
 Jupiter -20605-05-28 21:21 J -5804404.77 -5804404.61 -5804404.43 0.0494 0.0269
 Neptune -20605-06-25 08:23 J -5804377.32 -5804377.15 -5804376.97 0.0088 0.0054
 Jupiter -20604-01-20 02:09 J -5804168.61 -5804168.41 -5804168.20 0.0494 0.0107
 Neptune -20604-02-05 21:36 J -5804151.76 -5804151.60 -5804151.41 0.0088 0.0053
 Moon -20604-05-02 13:26 J -5804066.10 -5804065.94 -5804065.79 0.2714 0.0225
 Earth -20604-05-02 18:00 J -5804065.91 -5804065.75 -5804065.59 0.2711 0.0280 *
 Jupiter -20604-09-13 11:16 J -5803932.07 -5803932.03 -5803931.98 0.0495 0.0479
 Neptune -20604-09-19 11:16 J -5803926.20 -5803926.03 -5803925.84 0.0088 0.0052
 Neptune -20603-05-03 00:43 J -5803700.64 -5803700.47 -5803700.28 0.0088 0.0051
 Saturn -20603-06-21 08:38 J -5803651.33 -5803651.14 -5803650.95 0.0300 0.0133
 Neptune -20603-12-14 13:55 J -5803475.08 -5803474.92 -5803474.71 0.0088 0.0050
 Saturn -20602-02-06 18:28 J -5803420.94 -5803420.73 -5803420.52 0.0300 0.0064
 Neptune -20602-07-28 03:21 J -5803249.53 -5803249.36 -5803249.15 0.0088 0.0049
 Saturn -20602-09-25 03:21 J -5803190.46 -5803190.36 -5803190.25 0.0300 0.0257
 Neptune -20601-03-09 17:16 J -5803023.97 -5803023.78 -5803023.59 0.0088 0.0047
 Neptune -20601-10-21 06:43 J -5802798.40 -5802798.22 -5802798.02 0.0088 0.0046
 Neptune -20600-06-03 19:55 J -5802572.84 -5802572.67 -5802572.46 0.0088 0.0046
 Neptune -20599-01-15 09:21 J -5802347.28 -5802347.11 -5802346.90 0.0088 0.0044
 Jupiter -20599-04-02 12:43 J -5802270.10 -5802269.97 -5802269.82 0.0532 0.0389
 Neptune -20599-08-28 23:02 J -5802121.73 -5802121.54 -5802121.33 0.0088 0.0042

Jupiter	-20599-11-26 09:50 J	-5802032.29	-5802032.09	-5802031.89	0.0533	0.0084
Neptune	-20598-04-11 12:28 J	-5801896.17	-5801895.98	-5801895.77	0.0088	0.0041
Uranus	-20598-06-02 10:19 J	-5801844.14	-5801844.07	-5801843.97	0.0132	0.0122
Neptune	-20598-11-23 01:55 J	-5801670.60	-5801670.42	-5801670.20	0.0088	0.0040
Uranus	-20597-01-14 16:04 J	-5801617.97	-5801617.83	-5801617.67	0.0132	0.0096
Neptune	-20597-07-05 15:36 J	-5801445.05	-5801444.85	-5801444.64	0.0088	0.0038
Uranus	-20597-08-27 21:21 J	-5801391.78	-5801391.61	-5801391.40	0.0132	0.0070
Neptune	-20596-02-16 04:48 J	-5801219.49	-5801219.30	-5801219.08	0.0088	0.0037
Uranus	-20596-04-11 03:07 J	-5801165.57	-5801165.37	-5801165.16	0.0132	0.0042
Neptune	-20596-09-29 18:43 J	-5800993.92	-5800993.72	-5800993.51	0.0088	0.0035
Uranus	-20596-11-23 08:38 J	-5800939.36	-5800939.14	-5800938.92	0.0132	0.0015
Neptune	-20595-05-13 07:55 J	-5800768.36	-5800768.17	-5800767.94	0.0088	0.0035
Uranus	-20595-07-07 13:55 J	-5800713.13	-5800712.92	-5800712.70	0.0133	0.0012
Neptune	-20595-12-24 21:50 J	-5800542.80	-5800542.59	-5800542.38	0.0088	0.0032
Uranus	-20594-02-18 19:26 J	-5800486.90	-5800486.69	-5800486.48	0.0133	0.0039
Neptune	-20594-08-07 11:02 J	-5800317.24	-5800317.04	-5800316.82	0.0088	0.0031
Uranus	-20594-10-03 00:28 J	-5800260.65	-5800260.48	-5800260.27	0.0133	0.0066
Jupiter	-20593-02-01 21:36 J	-5800138.73	-5800138.60	-5800138.46	0.0494	0.0371
Neptune	-20593-03-20 00:57 J	-5800091.67	-5800091.46	-5800091.25	0.0088	0.0029
Uranus	-20593-05-16 06:00 J	-5800034.40	-5800034.25	-5800034.08	0.0133	0.0092
Jupiter	-20593-09-25 01:40 J	-5799902.64	-5799902.43	-5799902.23	0.0494	0.0005
Neptune	-20593-10-31 14:23 J	-5799866.10	-5799865.90	-5799865.67	0.0088	0.0028
Uranus	-20593-12-28 11:16 J	-5799808.11	-5799808.03	-5799807.91	0.0133	0.0119
Jupiter	-20592-05-19 09:21 J	-5799666.24	-5799666.11	-5799665.98	0.0495	0.0377
Neptune	-20592-06-14 04:19 J	-5799640.53	-5799640.32	-5799640.10	0.0088	0.0026
Neptune	-20591-01-25 17:45 J	-5799414.97	-5799414.76	-5799414.54	0.0088	0.0025
Neptune	-20591-09-08 07:26 J	-5799189.40	-5799189.19	-5799188.97	0.0088	0.0023
Neptune	-20590-04-21 20:52 J	-5798963.83	-5798963.63	-5798963.40	0.0088	0.0022
Neptune	-20590-12-03 10:48 J	-5798738.26	-5798738.05	-5798737.82	0.0088	0.0020
Saturn	-20589-04-18 05:31 J	-5798601.37	-5798601.27	-5798601.16	0.0262	0.0227

Neptune -20589-07-16 00:28 J -5798512.69 -5798512.48 -5798512.26 0.0088 0.0019
 Saturn -20589-12-02 23:45 J -5798372.70 -5798372.51 -5798372.32 0.0262 0.0104
 Neptune -20588-02-26 13:55 J -5798287.13 -5798286.92 -5798286.69 0.0088 0.0018
 Saturn -20588-07-19 17:45 J -5798143.96 -5798143.76 -5798143.55 0.0261 0.0020
 Neptune -20588-10-10 03:50 J -5798061.56 -5798061.34 -5798061.11 0.0088 0.0015
 Jupiter -20588-12-06 03:07 J -5798004.42 -5798004.37 -5798004.32 0.0531 0.0513
 Saturn -20587-03-05 12:00 J -5797915.17 -5797915.00 -5797914.82 0.0261 0.0142
 Neptune -20587-05-23 17:31 J -5797835.99 -5797835.77 -5797835.54 0.0088 0.0014
 Jupiter -20587-08-01 00:57 J -5797766.66 -5797766.46 -5797766.26 0.0533 0.0048
 Neptune -20586-01-04 07:11 J -5797610.42 -5797610.20 -5797609.97 0.0088 0.0012
 Jupiter -20586-03-26 18:00 J -5797528.87 -5797528.75 -5797528.62 0.0531 0.0417
 Neptune -20586-08-17 20:52 J -5797384.85 -5797384.63 -5797384.41 0.0088 0.0010
 Neptune -20585-03-30 10:33 J -5797159.29 -5797159.06 -5797158.84 0.0088 0.0009
 Neptune -20585-11-11 00:14 J -5796933.71 -5796933.49 -5796933.26 0.0088 0.0007
 Neptune -20584-06-24 13:55 J -5796708.14 -5796707.92 -5796707.69 0.0088 0.0005
 Neptune -20583-02-05 03:36 J -5796482.58 -5796482.35 -5796482.13 0.0088 0.0003
 Neptune -20583-09-18 17:02 J -5796257.01 -5796256.79 -5796256.56 0.0088 0.0003
 Neptune -20582-05-02 06:43 J -5796031.44 -5796031.22 -5796030.99 0.0088 0.0002
 Jupiter -20582-10-07 23:45 J -5795872.57 -5795872.51 -5795872.44 0.0495 0.0468
 Neptune -20582-12-13 20:38 J -5795805.87 -5795805.64 -5795805.42 0.0088 0.0002
 Jupiter -20581-05-31 03:07 J -5795636.57 -5795636.37 -5795636.17 0.0494 0.0104
 Neptune -20581-07-26 10:19 J -5795580.30 -5795580.07 -5795579.85 0.0088 0.0003
 Jupiter -20580-01-22 09:36 J -5795400.26 -5795400.10 -5795399.92 0.0494 0.0276
 Neptune -20580-03-08 23:45 J -5795354.73 -5795354.51 -5795354.28 0.0088 0.0006
 Neptune -20580-10-20 13:40 J -5795129.15 -5795128.93 -5795128.70 0.0088 0.0007
 Neptune -20579-06-03 03:21 J -5794903.58 -5794903.36 -5794903.13 0.0088 0.0009
 Neptune -20578-01-14 17:02 J -5794678.00 -5794677.79 -5794677.56 0.0088 0.0011
 Neptune -20578-08-28 06:57 J -5794452.43 -5794452.21 -5794451.99 0.0088 0.0012
 Neptune -20577-04-09 20:38 J -5794226.86 -5794226.64 -5794226.42 0.0088 0.0013
 Mars -20577-06-22 18:00 J -5794152.81 -5794152.75 -5794152.68 0.1631 0.1503

Neptune	-20577-11-21 10:19 J	-5794001.28	-5794001.07	-5794000.84	0.0088	0.0016
Neptune	-20576-07-05 00:14 J	-5793775.71	-5793775.49	-5793775.27	0.0088	0.0017
Neptune	-20575-02-15 13:55 J	-5793550.14	-5793549.92	-5793549.70	0.0089	0.0019
Jupiter	-20575-04-05 12:57 J	-5793501.14	-5793500.96	-5793500.76	0.0532	0.0185
Mars	-20575-04-23 00:00 J	-5793483.67	-5793483.50	-5793483.33	0.1628	0.0223
Neptune	-20575-09-29 03:21 J	-5793324.57	-5793324.36	-5793324.13	0.0089	0.0021
Jupiter	-20575-11-29 07:26 J	-5793263.36	-5793263.19	-5793263.02	0.0532	0.0288
Mars	-20574-03-21 06:14 J	-5793151.33	-5793151.24	-5793151.14	0.1893	0.1571
Neptune	-20574-05-12 17:16 J	-5793098.99	-5793098.78	-5793098.56	0.0089	0.0022
Saturn	-20574-05-16 11:45 J	-5793095.06	-5793095.01	-5793094.95	0.0300	0.0289
Neptune	-20574-12-24 06:57 J	-5792873.42	-5792873.21	-5792872.99	0.0089	0.0024
Saturn	-20573-01-01 21:36 J	-5792864.80	-5792864.60	-5792864.39	0.0301	0.0095
Neptune	-20573-08-05 20:23 J	-5792647.85	-5792647.65	-5792647.42	0.0089	0.0026
Saturn	-20573-08-19 07:26 J	-5792634.39	-5792634.19	-5792633.99	0.0301	0.0102
Neptune	-20572-03-19 10:19 J	-5792422.28	-5792422.07	-5792421.85	0.0089	0.0027
Saturn	-20572-04-06 16:04 J	-5792403.85	-5792403.83	-5792403.78	0.0301	0.0296
Neptune	-20572-10-30 23:45 J	-5792196.71	-5792196.51	-5792196.29	0.0089	0.0029
Neptune	-20571-06-13 13:40 J	-5791971.14	-5791970.93	-5791970.72	0.0089	0.0030
Neptune	-20570-01-25 03:07 J	-5791745.57	-5791745.37	-5791745.15	0.0089	0.0032
Neptune	-20570-09-07 17:02 J	-5791520.00	-5791519.79	-5791519.58	0.0089	0.0033
Jupiter	-20569-02-04 05:45 J	-5791370.45	-5791370.26	-5791370.07	0.0494	0.0207
Neptune	-20569-04-20 06:14 J	-5791294.43	-5791294.24	-5791294.02	0.0089	0.0035
Jupiter	-20569-09-27 11:31 J	-5791134.22	-5791134.02	-5791133.83	0.0494	0.0171
Neptune	-20569-12-01 20:23 J	-5791068.86	-5791068.65	-5791068.45	0.0089	0.0036
Neptune	-20568-07-15 09:50 J	-5790843.28	-5790843.09	-5790842.88	0.0089	0.0038
Neptune	-20567-02-25 23:31 J	-5790617.71	-5790617.52	-5790617.31	0.0089	0.0039
Neptune	-20567-10-09 12:57 J	-5790392.14	-5790391.96	-5790391.75	0.0089	0.0041
Neptune	-20566-05-23 02:38 J	-5790166.57	-5790166.39	-5790166.18	0.0089	0.0042
Pluto	-20566-08-20 19:11 J	-5790076.86	-5790076.70	-5790076.51	0.0064	0.0037
Neptune	-20565-01-03 16:19 J	-5789941.00	-5789940.82	-5789940.61	0.0089	0.0044

Pluto -20565-04-01 23:02 J -5789851.75 -5789851.54 -5789851.32 0.0064 0.0002
 Neptune -20565-08-16 06:00 J -5789715.43 -5789715.25 -5789715.04 0.0089 0.0045
 Pluto -20565-11-13 02:23 J -5789626.56 -5789626.40 -5789626.20 0.0065 0.0035
 Neptune -20564-03-29 19:40 J -5789489.86 -5789489.68 -5789489.48 0.0089 0.0046
 Neptune -20564-11-10 09:07 J -5789264.29 -5789264.12 -5789263.91 0.0089 0.0048
 Jupiter -20564-12-09 02:09 J -5789235.57 -5789235.41 -5789235.24 0.0532 0.0316
 Neptune -20563-06-23 22:48 J -5789038.72 -5789038.55 -5789038.35 0.0089 0.0049
 Jupiter -20563-08-03 22:04 J -5788997.77 -5788997.58 -5788997.39 0.0532 0.0158
 Neptune -20562-02-04 12:43 J -5788813.15 -5788812.97 -5788812.78 0.0089 0.0050
 Neptune -20562-09-18 02:23 J -5788587.58 -5788587.40 -5788587.22 0.0089 0.0051
 Neptune -20561-04-30 15:21 J -5788362.02 -5788361.86 -5788361.66 0.0089 0.0053
 Neptune -20561-12-12 05:02 J -5788136.45 -5788136.29 -5788136.10 0.0089 0.0054
 Neptune -20560-07-25 18:43 J -5787910.88 -5787910.72 -5787910.53 0.0089 0.0055
 Saturn -20560-10-29 11:45 J -5787815.13 -5787815.01 -5787814.87 0.0262 0.0204
 Neptune -20559-03-08 08:09 J -5787685.32 -5787685.16 -5787684.97 0.0089 0.0056
 Saturn -20559-06-15 06:14 J -5787586.44 -5787586.24 -5787586.04 0.0261 0.0081
 Neptune -20559-10-19 21:36 J -5787459.76 -5787459.60 -5787459.42 0.0089 0.0057
 Saturn -20558-01-30 00:14 J -5787357.69 -5787357.49 -5787357.28 0.0261 0.0042
 Neptune -20558-06-02 11:02 J -5787234.19 -5787234.04 -5787233.86 0.0089 0.0058
 Saturn -20558-09-15 18:28 J -5787128.89 -5787128.73 -5787128.57 0.0261 0.0165
 Jupiter -20558-10-10 07:55 J -5787104.32 -5787104.17 -5787104.01 0.0494 0.0308
 Neptune -20557-01-14 00:43 J -5787008.63 -5787008.47 -5787008.30 0.0089 0.0059
 Jupiter -20557-06-02 12:28 J -5786868.19 -5786867.98 -5786867.78 0.0494 0.0067
 Neptune -20557-08-26 14:09 J -5786783.06 -5786782.91 -5786782.74 0.0089 0.0060
 Uranus -20557-12-07 21:36 J -5786679.65 -5786679.60 -5786679.52 0.0146 0.0139
 Jupiter -20556-01-24 20:38 J -5786631.73 -5786631.64 -5786631.55 0.0495 0.0441
 Neptune -20556-04-09 03:21 J -5786557.50 -5786557.36 -5786557.18 0.0089 0.0061
 Uranus -20556-07-22 09:50 J -5786453.23 -5786453.09 -5786452.93 0.0146 0.0103
 Neptune -20556-11-20 16:48 J -5786331.94 -5786331.80 -5786331.63 0.0089 0.0062
 Uranus -20555-03-05 21:50 J -5786226.77 -5786226.59 -5786226.39 0.0146 0.0068

Neptune	-20555-07-04 06:14 J	-5786106.38	-5786106.24	-5786106.07	0.0089	0.0063
Uranus	-20555-10-18 09:50 J	-5786000.30	-5786000.09	-5785999.87	0.0146	0.0032
Neptune	-20554-02-14 19:40 J	-5785880.81	-5785880.68	-5785880.51	0.0089	0.0064
Uranus	-20554-06-01 21:50 J	-5785773.80	-5785773.59	-5785773.37	0.0146	0.0004
Neptune	-20554-09-28 09:07 J	-5785655.25	-5785655.12	-5785654.95	0.0089	0.0065
Uranus	-20553-01-14 09:50 J	-5785547.30	-5785547.09	-5785546.88	0.0146	0.0039
Neptune	-20553-05-10 22:48 J	-5785429.69	-5785429.55	-5785429.39	0.0089	0.0065
Uranus	-20553-08-27 21:36 J	-5785320.77	-5785320.60	-5785320.40	0.0146	0.0075
Neptune	-20553-12-22 12:00 J	-5785204.13	-5785204.00	-5785203.83	0.0089	0.0067
Uranus	-20552-04-11 09:36 J	-5785094.23	-5785094.10	-5785093.95	0.0146	0.0110
Neptune	-20552-08-05 01:26 J	-5784978.56	-5784978.44	-5784978.28	0.0089	0.0067
Jupiter	-20552-08-13 15:36 J	-5784969.96	-5784969.85	-5784969.74	0.0532	0.0444
Uranus	-20552-11-23 21:21 J	-5784867.61	-5784867.61	-5784867.57	0.0145	0.0145
Neptune	-20551-03-18 15:21 J	-5784753.00	-5784752.86	-5784752.72	0.0089	0.0068
Jupiter	-20551-04-08 12:57 J	-5784732.16	-5784731.96	-5784731.75	0.0533	0.0030
Neptune	-20551-10-30 04:19 J	-5784527.44	-5784527.32	-5784527.16	0.0089	0.0068
Jupiter	-20551-12-02 05:31 J	-5784494.34	-5784494.27	-5784494.19	0.0531	0.0486
Neptune	-20550-06-12 17:31 J	-5784301.89	-5784301.77	-5784301.61	0.0089	0.0069
Neptune	-20549-01-24 07:11 J	-5784076.33	-5784076.20	-5784076.05	0.0089	0.0070
Neptune	-20549-09-05 20:23 J	-5783850.77	-5783850.65	-5783850.50	0.0089	0.0070
Neptune	-20548-04-19 09:50 J	-5783625.22	-5783625.09	-5783624.95	0.0089	0.0070
Neptune	-20548-11-30 22:48 J	-5783399.66	-5783399.55	-5783399.40	0.0089	0.0071
Neptune	-20547-07-14 12:00 J	-5783174.11	-5783174.00	-5783173.85	0.0089	0.0072
Neptune	-20546-02-25 01:40 J	-5782948.55	-5782948.43	-5782948.30	0.0089	0.0072
Jupiter	-20546-06-15 10:04 J	-5782838.19	-5782838.08	-5782837.96	0.0494	0.0407
Neptune	-20546-10-08 14:23 J	-5782723.00	-5782722.90	-5782722.75	0.0089	0.0073
Jupiter	-20545-02-06 13:40 J	-5782602.13	-5782601.93	-5782601.72	0.0493	0.0039
Neptune	-20545-05-21 03:36 J	-5782497.46	-5782497.35	-5782497.20	0.0089	0.0073
Jupiter	-20545-09-29 20:38 J	-5782365.79	-5782365.64	-5782365.49	0.0494	0.0339
Saturn	-20545-11-25 21:07 J	-5782308.72	-5782308.62	-5782308.51	0.0300	0.0260

Neptune -20544-01-01 17:02 J -5782271.90 -5782271.79 -5782271.65 0.0089 0.0073
 Saturn -20544-07-14 06:57 J -5782078.42 -5782078.21 -5782078.00 0.0300 0.0066
 Neptune -20544-08-15 06:28 J -5782046.35 -5782046.23 -5782046.10 0.0089 0.0073
 Saturn -20543-03-01 16:33 J -5781848.00 -5781847.81 -5781847.62 0.0300 0.0131
 Neptune -20543-03-28 19:11 J -5781820.80 -5781820.70 -5781820.55 0.0089 0.0073
 Mars -20543-04-21 15:36 J -5781797.01 -5781796.85 -5781796.69 0.1629 0.0604
 Neptune -20543-11-09 08:23 J -5781595.25 -5781595.15 -5781595.00 0.0089 0.0073
 Mars -20542-03-21 09:36 J -5781463.28 -5781463.10 -5781462.93 0.1891 0.0235
 Neptune -20542-06-22 21:36 J -5781369.71 -5781369.60 -5781369.46 0.0089 0.0073
 Neptune -20541-02-03 10:48 J -5781144.15 -5781144.05 -5781143.91 0.0089 0.0073
 Mars -20541-02-19 21:07 J -5781127.75 -5781127.62 -5781127.50 0.1627 0.1125
 Neptune -20541-09-16 00:00 J -5780918.61 -5780918.50 -5780918.36 0.0089 0.0073
 Neptune -20540-04-29 12:57 J -5780693.06 -5780692.96 -5780692.81 0.0089 0.0074
 Neptune -20540-12-11 02:09 J -5780467.51 -5780467.41 -5780467.26 0.0089 0.0073
 Jupiter -20540-12-12 05:02 J -5780466.49 -5780466.29 -5780466.09 0.0533 0.0102
 Neptune -20539-07-24 15:36 J -5780241.97 -5780241.85 -5780241.72 0.0089 0.0073
 Jupiter -20539-08-06 23:16 J -5780228.67 -5780228.53 -5780228.39 0.0532 0.0368
 Neptune -20538-03-07 04:48 J -5780016.42 -5780016.30 -5780016.17 0.0089 0.0073
 Neptune -20538-10-18 17:45 J -5779790.87 -5779790.76 -5779790.62 0.0089 0.0072
 Neptune -20537-05-31 06:28 J -5779565.33 -5779565.23 -5779565.08 0.0089 0.0073
 Neptune -20536-01-11 19:55 J -5779339.79 -5779339.67 -5779339.54 0.0089 0.0072
 Neptune -20536-08-25 08:38 J -5779114.25 -5779114.14 -5779113.99 0.0089 0.0072
 Neptune -20535-04-07 21:36 J -5778888.71 -5778888.60 -5778888.45 0.0089 0.0072
 Neptune -20535-11-19 10:48 J -5778663.17 -5778663.05 -5778662.91 0.0089 0.0071
 Neptune -20534-07-02 23:31 J -5778437.64 -5778437.52 -5778437.37 0.0089 0.0070
 Jupiter -20534-10-12 13:26 J -5778336.13 -5778335.94 -5778335.74 0.0493 0.0145
 Neptune -20533-02-13 12:43 J -5778212.10 -5778211.97 -5778211.83 0.0089 0.0070
 Jupiter -20533-06-04 19:11 J -5778099.88 -5778099.70 -5778099.51 0.0494 0.0234
 Neptune -20533-09-26 01:11 J -5777986.56 -5777986.45 -5777986.29 0.0089 0.0070
 Neptune -20532-05-09 14:23 J -5777761.03 -5777760.90 -5777760.75 0.0089 0.0069

Neptune	-20532-12-21 02:52 J	-5777535.50	-5777535.38	-5777535.22	0.0089	0.0069
Neptune	-20531-08-03 15:50 J	-5777309.96	-5777309.84	-5777309.68	0.0089	0.0068
Neptune	-20530-03-17 05:02 J	-5777084.43	-5777084.29	-5777084.14	0.0089	0.0067
Saturn	-20530-05-11 15:36 J	-5777028.98	-5777028.85	-5777028.69	0.0262	0.0185
Neptune	-20530-10-28 18:00 J	-5776858.89	-5776858.75	-5776858.60	0.0089	0.0066
Saturn	-20530-12-26 10:04 J	-5776800.29	-5776800.08	-5776799.88	0.0262	0.0061
Neptune	-20529-06-10 06:14 J	-5776633.36	-5776633.24	-5776633.07	0.0089	0.0066
Saturn	-20529-08-11 04:04 J	-5776571.53	-5776571.33	-5776571.12	0.0261	0.0063
Neptune	-20528-01-21 19:11 J	-5776407.83	-5776407.70	-5776407.53	0.0089	0.0065
Saturn	-20528-03-27 22:19 J	-5776342.71	-5776342.57	-5776342.42	0.0261	0.0186
Jupiter	-20528-08-16 19:55 J	-5776200.85	-5776200.67	-5776200.49	0.0533	0.0234
Neptune	-20528-09-04 08:09 J	-5776182.30	-5776182.16	-5776181.99	0.0089	0.0063
Jupiter	-20527-04-11 15:21 J	-5775963.03	-5775962.86	-5775962.68	0.0532	0.0242
Neptune	-20527-04-17 21:07 J	-5775956.76	-5775956.62	-5775956.45	0.0089	0.0063
Neptune	-20527-11-29 09:50 J	-5775731.23	-5775731.09	-5775730.92	0.0089	0.0062
Neptune	-20526-07-12 22:48 J	-5775505.70	-5775505.55	-5775505.39	0.0089	0.0061
Neptune	-20525-02-23 11:31 J	-5775280.17	-5775280.02	-5775279.85	0.0089	0.0060
Neptune	-20525-10-06 00:14 J	-5775054.64	-5775054.49	-5775054.32	0.0089	0.0059
Neptune	-20524-05-19 12:57 J	-5774829.11	-5774828.96	-5774828.78	0.0089	0.0058
Neptune	-20524-12-31 01:40 J	-5774603.59	-5774603.43	-5774603.25	0.0089	0.0057
Neptune	-20523-08-13 14:09 J	-5774378.06	-5774377.91	-5774377.73	0.0089	0.0056
Neptune	-20522-03-27 02:52 J	-5774152.54	-5774152.38	-5774152.19	0.0089	0.0055
Jupiter	-20522-06-17 15:21 J	-5774070.03	-5774069.86	-5774069.68	0.0494	0.0248
Neptune	-20522-11-07 15:21 J	-5773927.01	-5773926.86	-5773926.67	0.0089	0.0054
Jupiter	-20521-02-08 20:23 J	-5773833.85	-5773833.65	-5773833.45	0.0494	0.0130
Neptune	-20521-06-20 04:19 J	-5773701.49	-5773701.32	-5773701.14	0.0089	0.0052
Neptune	-20520-01-31 16:48 J	-5773475.97	-5773475.80	-5773475.61	0.0089	0.0051
Neptune	-20520-09-14 05:16 J	-5773250.45	-5773250.28	-5773250.09	0.0089	0.0049
Neptune	-20519-04-27 17:45 J	-5773024.92	-5773024.76	-5773024.56	0.0089	0.0049
Neptune	-20519-12-09 06:43 J	-5772799.40	-5772799.22	-5772799.03	0.0089	0.0047

Neptune	-20518-07-22 18:57 J	-5772573.88	-5772573.71	-5772573.51	0.0089	0.0046
Neptune	-20517-03-04 07:26 J	-5772348.36	-5772348.19	-5772347.98	0.0089	0.0045
Neptune	-20517-10-15 20:23 J	-5772122.84	-5772122.65	-5772122.46	0.0089	0.0043
Jupiter	-20516-04-21 07:26 J	-5771935.33	-5771935.19	-5771935.04	0.0532	0.0368
Neptune	-20516-05-29 08:52 J	-5771897.31	-5771897.13	-5771896.93	0.0089	0.0041
Jupiter	-20516-12-15 04:04 J	-5771697.53	-5771697.33	-5771697.13	0.0532	0.0107
Neptune	-20515-01-09 21:36 J	-5771671.79	-5771671.60	-5771671.41	0.0089	0.0040
Saturn	-20515-06-08 09:50 J	-5771522.23	-5771522.09	-5771521.94	0.0300	0.0224
Neptune	-20515-08-23 09:50 J	-5771446.27	-5771446.09	-5771445.88	0.0089	0.0039
Saturn	-20514-01-24 19:55 J	-5771291.88	-5771291.67	-5771291.46	0.0301	0.0028
Neptune	-20514-04-05 22:48 J	-5771220.75	-5771220.55	-5771220.35	0.0089	0.0037
Saturn	-20514-09-12 05:16 J	-5771061.45	-5771061.28	-5771061.10	0.0301	0.0169
Uranus	-20514-09-14 00:43 J	-5771059.58	-5771059.47	-5771059.34	0.0132	0.0109
Neptune	-20514-11-17 11:02 J	-5770995.23	-5770995.04	-5770994.83	0.0089	0.0036
Uranus	-20513-04-27 06:00 J	-5770833.41	-5770833.25	-5770833.06	0.0132	0.0082
Neptune	-20513-06-29 23:45 J	-5770769.71	-5770769.51	-5770769.31	0.0089	0.0034
Uranus	-20513-12-09 11:31 J	-5770607.20	-5770607.02	-5770606.81	0.0132	0.0056
Neptune	-20512-02-10 12:00 J	-5770544.19	-5770544.00	-5770543.79	0.0089	0.0033
Uranus	-20512-07-23 17:16 J	-5770380.99	-5770380.78	-5770380.56	0.0132	0.0028
Neptune	-20512-09-24 00:43 J	-5770318.67	-5770318.47	-5770318.26	0.0089	0.0031
Uranus	-20511-03-06 22:48 J	-5770154.77	-5770154.55	-5770154.33	0.0132	0.0002
Mars	-20511-04-20 07:11 J	-5770110.28	-5770110.20	-5770110.12	0.1631	0.1432
Neptune	-20511-05-07 13:11 J	-5770093.14	-5770092.95	-5770092.73	0.0089	0.0029
Uranus	-20511-10-19 04:04 J	-5769928.54	-5769928.33	-5769928.11	0.0133	0.0026
Neptune	-20511-12-19 01:55 J	-5769867.62	-5769867.42	-5769867.21	0.0089	0.0027
Jupiter	-20510-02-20 18:14 J	-5769803.88	-5769803.74	-5769803.60	0.0494	0.0349
Uranus	-20510-06-02 09:21 J	-5769702.31	-5769702.11	-5769701.90	0.0133	0.0053
Neptune	-20510-08-01 14:09 J	-5769642.11	-5769641.91	-5769641.70	0.0089	0.0026
Jupiter	-20510-10-14 22:33 J	-5769567.77	-5769567.56	-5769567.36	0.0494	0.0026
Uranus	-20509-01-14 14:38 J	-5769476.05	-5769475.89	-5769475.70	0.0133	0.0080

Mars -20509-02-18 12:43 J -5769441.14 -5769440.97 -5769440.80 0.1627 0.0295
 Neptune -20509-03-14 02:38 J -5769416.59 -5769416.39 -5769416.18 0.0089 0.0024
 Jupiter -20509-06-07 06:14 J -5769331.35 -5769331.24 -5769331.11 0.0495 0.0403
 Uranus -20509-08-27 19:55 J -5769249.78 -5769249.67 -5769249.52 0.0133 0.0107
 Neptune -20509-10-25 15:07 J -5769191.08 -5769190.87 -5769190.66 0.0089 0.0023
 Mars -20508-01-15 08:09 J -5769109.18 -5769109.16 -5769109.13 0.1893 0.1871
 Neptune -20508-06-08 03:21 J -5768965.56 -5768965.36 -5768965.14 0.0089 0.0022
 Neptune -20507-01-19 15:50 J -5768740.04 -5768739.84 -5768739.62 0.0089 0.0020
 Neptune -20507-09-02 04:33 J -5768514.53 -5768514.31 -5768514.10 0.0089 0.0018
 Neptune -20506-04-15 16:48 J -5768289.01 -5768288.80 -5768288.58 0.0089 0.0016
 Neptune -20506-11-27 05:16 J -5768063.49 -5768063.28 -5768063.07 0.0089 0.0014
 Neptune -20505-07-09 17:45 J -5767837.98 -5767837.76 -5767837.55 0.0089 0.0013
 Jupiter -20505-12-24 20:38 J -5767669.71 -5767669.64 -5767669.57 0.0531 0.0494
 Neptune -20504-02-20 06:00 J -5767612.46 -5767612.25 -5767612.03 0.0089 0.0011
 Jupiter -20504-08-19 18:00 J -5767431.95 -5767431.75 -5767431.55 0.0532 0.0027
 Neptune -20504-10-03 18:28 J -5767386.95 -5767386.73 -5767386.52 0.0089 0.0009
 Jupiter -20503-04-14 11:02 J -5767194.15 -5767194.04 -5767193.93 0.0531 0.0437
 Neptune -20503-05-17 06:57 J -5767161.42 -5767161.21 -5767160.99 0.0089 0.0007
 Neptune -20503-12-28 19:26 J -5766935.91 -5766935.69 -5766935.47 0.0089 0.0006
 Neptune -20502-08-11 07:40 J -5766710.39 -5766710.18 -5766709.96 0.0089 0.0004
 Neptune -20501-03-23 20:09 J -5766484.87 -5766484.66 -5766484.44 0.0089 0.0002
 Neptune -20501-11-04 08:38 J -5766259.36 -5766259.14 -5766258.92 0.0089 0.0000
 Saturn -20501-11-20 22:19 J -5766242.73 -5766242.57 -5766242.40 0.0262 0.0161
 Neptune -20500-06-17 21:07 J -5766033.83 -5766033.62 -5766033.40 0.0089 0.0002
 Saturn -20500-07-07 16:48 J -5766014.01 -5766013.80 -5766013.59 0.0261 0.0037
 Neptune -20499-01-29 09:36 J -5765808.32 -5765808.10 -5765807.88 0.0089 0.0003
 Saturn -20499-02-21 10:48 J -5765785.25 -5765785.05 -5765784.85 0.0261 0.0086
 Neptune -20499-09-11 21:50 J -5765582.80 -5765582.59 -5765582.37 0.0089 0.0005
 Saturn -20499-10-08 05:02 J -5765556.41 -5765556.29 -5765556.16 0.0261 0.0208
 Jupiter -20499-10-26 20:38 J -5765537.72 -5765537.64 -5765537.55 0.0495 0.0447

Neptune -20498-04-25 10:19 J -5765357.28 -5765357.07 -5765356.85 0.0089 0.0007
 Jupiter -20498-06-20 00:00 J -5765301.70 -5765301.50 -5765301.30 0.0494 0.0079
 Neptune -20498-12-06 22:48 J -5765131.77 -5765131.55 -5765131.34 0.0089 0.0008
 Jupiter -20497-02-11 06:14 J -5765065.39 -5765065.24 -5765065.07 0.0494 0.0301
 Neptune -20497-07-19 11:02 J -5764906.25 -5764906.04 -5764905.82 0.0089 0.0010
 Neptune -20496-03-01 23:16 J -5764680.74 -5764680.53 -5764680.31 0.0089 0.0012
 Neptune -20496-10-13 11:31 J -5764455.22 -5764455.02 -5764454.80 0.0089 0.0014
 Neptune -20495-05-27 00:14 J -5764229.70 -5764229.49 -5764229.28 0.0089 0.0015
 Neptune -20494-01-07 12:28 J -5764004.19 -5764003.98 -5764003.76 0.0089 0.0017
 Neptune -20494-08-21 00:43 J -5763778.68 -5763778.47 -5763778.25 0.0089 0.0019
 Neptune -20493-04-02 13:11 J -5763553.16 -5763552.95 -5763552.74 0.0089 0.0020
 Neptune -20493-11-14 01:26 J -5763327.65 -5763327.44 -5763327.23 0.0089 0.0022
 Jupiter -20492-04-24 07:55 J -5763166.36 -5763166.17 -5763165.98 0.0533 0.0159
 Neptune -20492-06-27 13:40 J -5763102.12 -5763101.93 -5763101.71 0.0089 0.0024
 Jupiter -20492-12-18 02:52 J -5762928.54 -5762928.38 -5762928.22 0.0532 0.0315
 Neptune -20491-02-08 02:23 J -5762876.61 -5762876.40 -5762876.19 0.0089 0.0025
 Neptune -20491-09-21 14:38 J -5762651.09 -5762650.89 -5762650.68 0.0089 0.0027
 Earth -20491-10-30 20:23 J -5762611.80 -5762611.65 -5762611.49 0.2623 0.0362
 Moon -20491-10-30 23:16 J -5762611.68 -5762611.53 -5762611.38 0.2629 0.0355 *
 Neptune -20490-05-05 02:52 J -5762425.57 -5762425.38 -5762425.16 0.0089 0.0029
 Neptune -20490-12-16 15:21 J -5762200.06 -5762199.86 -5762199.65 0.0089 0.0030
 Neptune -20489-07-29 03:50 J -5761974.54 -5761974.34 -5761974.13 0.0089 0.0032
 Neptune -20488-03-11 16:19 J -5761749.02 -5761748.82 -5761748.61 0.0089 0.0033
 Neptune -20488-10-23 04:33 J -5761523.50 -5761523.31 -5761523.10 0.0089 0.0035
 Neptune -20487-06-05 17:02 J -5761297.97 -5761297.79 -5761297.58 0.0089 0.0037
 Neptune -20486-01-17 05:31 J -5761072.45 -5761072.27 -5761072.06 0.0089 0.0038
 Jupiter -20486-02-23 01:40 J -5761035.61 -5761035.43 -5761035.23 0.0494 0.0184
 Neptune -20486-08-30 17:45 J -5760846.94 -5760846.76 -5760846.55 0.0089 0.0040
 Jupiter -20486-10-17 06:57 J -5760799.40 -5760799.21 -5760799.02 0.0494 0.0196
 Saturn -20486-12-19 20:23 J -5760735.81 -5760735.65 -5760735.48 0.0300 0.0193

Neptune -20485-04-12 06:14 J -5760621.42 -5760621.24 -5760621.03 0.0089 0.0041
 Saturn -20485-08-06 06:14 J -5760505.45 -5760505.24 -5760505.03 0.0300 0.0003
 Neptune -20485-11-23 18:57 J -5760395.90 -5760395.71 -5760395.52 0.0089 0.0042
 Saturn -20484-03-24 15:21 J -5760275.01 -5760274.86 -5760274.69 0.0301 0.0200
 Neptune -20484-07-07 07:11 J -5760170.37 -5760170.20 -5760170.00 0.0089 0.0044
 Neptune -20483-02-17 19:55 J -5759944.85 -5759944.67 -5759944.48 0.0089 0.0045
 Neptune -20483-10-01 07:55 J -5759719.34 -5759719.17 -5759718.97 0.0089 0.0047
 Moon -20483-10-28 19:26 J -5759691.80 -5759691.69 -5759691.58 0.2626 0.1896
 Neptune -20482-05-14 20:23 J -5759493.82 -5759493.65 -5759493.45 0.0089 0.0048
 Neptune -20482-12-26 09:07 J -5759268.30 -5759268.12 -5759267.94 0.0089 0.0049
 Neptune -20481-08-07 21:07 J -5759042.78 -5759042.62 -5759042.42 0.0089 0.0051
 Jupiter -20481-12-27 23:16 J -5758900.70 -5758900.53 -5758900.36 0.0533 0.0289
 Neptune -20480-03-21 09:50 J -5758817.26 -5758817.09 -5758816.90 0.0088 0.0052
 Jupiter -20480-08-22 19:40 J -5758662.87 -5758662.68 -5758662.49 0.0533 0.0189
 Neptune -20480-11-01 22:19 J -5758591.74 -5758591.57 -5758591.39 0.0088 0.0053
 Neptune -20479-06-15 10:33 J -5758366.21 -5758366.06 -5758365.87 0.0088 0.0055
 Neptune -20478-01-26 23:02 J -5758140.69 -5758140.54 -5758140.35 0.0088 0.0056
 Neptune -20478-09-09 11:45 J -5757915.16 -5757915.01 -5757914.83 0.0088 0.0057
 Mars -20477-02-17 04:19 J -5757754.48 -5757754.32 -5757754.16 0.1628 0.0531
 Neptune -20477-04-22 00:14 J -5757689.64 -5757689.49 -5757689.31 0.0088 0.0058
 Pluto -20477-07-13 23:02 J -5757606.74 -5757606.54 -5757606.31 0.0080 0.0025
 Neptune -20477-12-03 12:57 J -5757464.11 -5757463.96 -5757463.79 0.0088 0.0059
 Mars -20476-01-15 11:02 J -5757421.22 -5757421.04 -5757420.86 0.1892 0.0077
 Pluto -20476-02-24 09:50 J -5757381.25 -5757381.09 -5757380.89 0.0080 0.0048
 Neptune -20476-07-17 01:40 J -5757238.58 -5757238.43 -5757238.26 0.0088 0.0060
 Mars -20476-12-17 09:50 J -5757085.20 -5757085.09 -5757084.97 0.1626 0.1193
 Neptune -20475-02-27 14:23 J -5757013.05 -5757012.90 -5757012.74 0.0088 0.0061
 Neptune -20475-10-11 02:52 J -5756787.53 -5756787.38 -5756787.22 0.0088 0.0062
 Jupiter -20475-10-29 02:09 J -5756769.57 -5756769.41 -5756769.24 0.0494 0.0288
 Neptune -20474-05-24 15:21 J -5756562.00 -5756561.86 -5756561.70 0.0088 0.0063

Jupiter -20474-06-22 06:28 J -5756533.44 -5756533.23 -5756533.03 0.0493 0.0089
 Neptune -20473-01-05 04:04 J -5756336.47 -5756336.33 -5756336.17 0.0088 0.0064
 Jupiter -20473-02-13 14:38 J -5756296.96 -5756296.89 -5756296.82 0.0495 0.0463
 Neptune -20473-08-17 16:48 J -5756110.94 -5756110.80 -5756110.65 0.0088 0.0065
 Uranus -20472-03-21 13:11 J -5755895.06 -5755894.95 -5755894.83 0.0146 0.0123
 Neptune -20472-03-31 05:16 J -5755885.41 -5755885.28 -5755885.12 0.0088 0.0066
 Uranus -20472-11-03 00:57 J -5755668.62 -5755668.46 -5755668.27 0.0146 0.0088
 Neptune -20472-11-11 17:45 J -5755659.89 -5755659.76 -5755659.60 0.0088 0.0067
 Saturn -20471-06-03 01:55 J -5755456.59 -5755456.42 -5755456.24 0.0262 0.0141
 Uranus -20471-06-17 13:11 J -5755442.15 -5755441.95 -5755441.74 0.0146 0.0052
 Neptune -20471-06-25 06:28 J -5755434.36 -5755434.23 -5755434.07 0.0088 0.0067
 Saturn -20470-01-17 20:09 J -5755227.87 -5755227.66 -5755227.45 0.0261 0.0017
 Uranus -20470-01-30 01:11 J -5755215.66 -5755215.45 -5755215.23 0.0146 0.0016
 Neptune -20470-02-05 18:57 J -5755208.83 -5755208.71 -5755208.55 0.0088 0.0068
 Saturn -20470-09-03 14:09 J -5754999.10 -5754998.91 -5754998.72 0.0261 0.0106
 Uranus -20470-09-13 13:11 J -5754989.17 -5754988.95 -5754988.74 0.0146 0.0020
 Neptune -20470-09-19 07:55 J -5754983.30 -5754983.17 -5754983.03 0.0088 0.0069
 Saturn -20469-04-19 08:23 J -5754770.24 -5754770.15 -5754770.04 0.0261 0.0229
 Uranus -20469-04-27 00:57 J -5754762.65 -5754762.46 -5754762.25 0.0146 0.0056
 Neptune -20469-05-01 20:23 J -5754757.77 -5754757.65 -5754757.50 0.0088 0.0070
 Jupiter -20469-09-01 13:40 J -5754635.05 -5754634.93 -5754634.80 0.0532 0.0417
 Uranus -20469-12-09 12:57 J -5754536.12 -5754535.96 -5754535.79 0.0146 0.0091
 Neptune -20469-12-13 08:52 J -5754532.24 -5754532.13 -5754531.98 0.0088 0.0070
 Jupiter -20468-04-27 11:31 J -5754397.22 -5754397.02 -5754396.82 0.0533 0.0059
 Uranus -20468-07-24 00:43 J -5754309.55 -5754309.47 -5754309.34 0.0145 0.0127
 Neptune -20468-07-26 22:04 J -5754306.71 -5754306.58 -5754306.45 0.0088 0.0071
 Jupiter -20468-12-21 03:36 J -5754159.39 -5754159.35 -5754159.30 0.0531 0.0515
 Neptune -20467-03-09 10:33 J -5754081.17 -5754081.06 -5754080.92 0.0088 0.0071
 Neptune -20467-10-20 23:02 J -5753855.65 -5753855.54 -5753855.39 0.0088 0.0072
 Neptune -20466-06-03 11:45 J -5753630.12 -5753630.01 -5753629.87 0.0088 0.0073

Neptune	-20465-01-15 00:57 J	-5753404.58	-5753404.46	-5753404.34	0.0088	0.0073
Neptune	-20465-08-27 13:26 J	-5753179.04	-5753178.94	-5753178.80	0.0088	0.0073
Neptune	-20464-04-10 02:38 J	-5752953.51	-5752953.39	-5752953.27	0.0088	0.0074
Neptune	-20464-11-21 15:07 J	-5752727.97	-5752727.87	-5752727.73	0.0088	0.0074
Jupiter	-20463-07-04 04:33 J	-5752503.43	-5752503.31	-5752503.18	0.0494	0.0387
Neptune	-20463-07-05 04:04 J	-5752502.43	-5752502.33	-5752502.20	0.0088	0.0074
Neptune	-20462-02-15 17:02 J	-5752276.90	-5752276.79	-5752276.66	0.0088	0.0075
Jupiter	-20462-02-25 08:09 J	-5752267.37	-5752267.16	-5752266.96	0.0493	0.0019
Neptune	-20462-09-29 05:31 J	-5752051.36	-5752051.27	-5752051.13	0.0088	0.0075
Jupiter	-20462-10-19 15:07 J	-5752031.01	-5752030.87	-5752030.73	0.0494	0.0363
Neptune	-20461-05-11 18:28 J	-5751825.82	-5751825.73	-5751825.59	0.0088	0.0075
Neptune	-20461-12-23 07:26 J	-5751600.28	-5751600.19	-5751600.06	0.0088	0.0075
Neptune	-20460-08-05 20:38 J	-5751374.74	-5751374.64	-5751374.51	0.0088	0.0075
Neptune	-20459-03-19 09:36 J	-5751149.20	-5751149.10	-5751148.98	0.0088	0.0075
Neptune	-20459-10-30 22:33 J	-5750923.67	-5750923.56	-5750923.44	0.0088	0.0075
Neptune	-20458-06-13 11:16 J	-5750698.13	-5750698.03	-5750697.91	0.0088	0.0075
Neptune	-20457-01-25 00:14 J	-5750472.59	-5750472.49	-5750472.37	0.0088	0.0075
Neptune	-20457-09-06 13:11 J	-5750247.05	-5750246.95	-5750246.82	0.0088	0.0075
Jupiter	-20457-12-30 23:31 J	-5750131.72	-5750131.52	-5750131.32	0.0532	0.0080
Neptune	-20456-04-20 02:09 J	-5750021.51	-5750021.41	-5750021.28	0.0088	0.0075
Saturn	-20456-07-01 07:40 J	-5749949.36	-5749949.18	-5749949.00	0.0300	0.0159
Jupiter	-20456-08-25 17:16 J	-5749893.91	-5749893.78	-5749893.64	0.0531	0.0389
Neptune	-20456-12-01 14:52 J	-5749795.97	-5749795.88	-5749795.74	0.0088	0.0075
Saturn	-20455-02-16 17:31 J	-5749718.98	-5749718.77	-5749718.55	0.0301	0.0039
Neptune	-20455-07-15 03:50 J	-5749570.43	-5749570.34	-5749570.20	0.0088	0.0075
Saturn	-20455-10-05 03:07 J	-5749488.51	-5749488.37	-5749488.24	0.0301	0.0235
Neptune	-20454-02-25 17:16 J	-5749344.89	-5749344.78	-5749344.66	0.0088	0.0074
Neptune	-20454-10-09 06:00 J	-5749119.35	-5749119.25	-5749119.11	0.0088	0.0074
Neptune	-20453-05-21 18:57 J	-5748893.81	-5748893.71	-5748893.57	0.0088	0.0074
Neptune	-20452-01-02 08:23 J	-5748668.27	-5748668.15	-5748668.02	0.0088	0.0073

Neptune -20452-08-15 21:21 J -5748442.72 -5748442.61 -5748442.47 0.0088 0.0073
 Jupiter -20451-03-09 06:57 J -5748237.24 -5748237.21 -5748237.16 0.0495 0.0486
 Neptune -20451-03-29 10:19 J -5748217.17 -5748217.07 -5748216.92 0.0088 0.0073
 Jupiter -20451-10-31 10:19 J -5748001.26 -5748001.07 -5748000.87 0.0494 0.0121
 Neptune -20451-11-09 23:31 J -5747991.63 -5747991.52 -5747991.38 0.0088 0.0072
 Neptune -20450-06-23 12:28 J -5747766.08 -5747765.98 -5747765.83 0.0088 0.0072
 Jupiter -20450-06-24 16:19 J -5747764.99 -5747764.82 -5747764.64 0.0494 0.0260
 Neptune -20449-02-04 01:40 J -5747540.54 -5747540.43 -5747540.28 0.0088 0.0071
 Neptune -20449-09-16 15:21 J -5747314.98 -5747314.86 -5747314.72 0.0088 0.0070
 Neptune -20448-04-30 04:19 J -5747089.43 -5747089.32 -5747089.17 0.0088 0.0070
 Neptune -20448-12-11 17:31 J -5746863.89 -5746863.77 -5746863.61 0.0088 0.0069
 Neptune -20447-07-25 06:57 J -5746638.34 -5746638.21 -5746638.06 0.0088 0.0068
 Neptune -20446-03-07 19:40 J -5746412.79 -5746412.68 -5746412.51 0.0088 0.0068
 Neptune -20446-10-19 09:07 J -5746187.24 -5746187.12 -5746186.95 0.0088 0.0067
 Mars -20445-02-15 19:40 J -5746067.77 -5746067.68 -5746067.59 0.1630 0.1354
 Neptune -20445-05-31 22:19 J -5745961.69 -5745961.57 -5745961.40 0.0088 0.0066
 Jupiter -20445-09-04 13:11 J -5745866.13 -5745865.95 -5745865.76 0.0532 0.0213
 Neptune -20444-01-12 11:45 J -5745736.15 -5745736.01 -5745735.85 0.0088 0.0065
 Mars -20444-01-15 14:38 J -5745732.96 -5745732.89 -5745732.82 0.1890 0.1730
 Jupiter -20444-04-30 08:23 J -5745628.32 -5745628.15 -5745627.97 0.0532 0.0263
 Neptune -20444-08-26 00:57 J -5745510.59 -5745510.46 -5745510.29 0.0088 0.0065
 Mars -20444-12-16 01:26 J -5745398.60 -5745398.44 -5745398.27 0.1627 0.0368
 Neptune -20443-04-08 14:23 J -5745285.04 -5745284.90 -5745284.74 0.0088 0.0063
 Neptune -20443-11-20 03:36 J -5745059.49 -5745059.35 -5745059.18 0.0088 0.0062
 Saturn -20442-04-29 14:23 J -5744898.98 -5744898.90 -5744898.82 0.0262 0.0241
 Neptune -20442-07-03 16:48 J -5744833.95 -5744833.80 -5744833.63 0.0088 0.0061
 Saturn -20442-12-14 08:23 J -5744670.33 -5744670.15 -5744669.96 0.0261 0.0118
 Neptune -20441-02-14 06:00 J -5744608.39 -5744608.25 -5744608.07 0.0088 0.0061
 Saturn -20441-07-30 02:38 J -5744441.60 -5744441.39 -5744441.18 0.0261 0.0008
 Neptune -20441-09-26 19:40 J -5744382.83 -5744382.68 -5744382.50 0.0088 0.0059

Saturn	-20440-03-15 20:38 J	-5744212.82	-5744212.64	-5744212.46	0.0261	0.0129
Neptune	-20440-05-10 08:52 J	-5744157.28	-5744157.13	-5744156.94	0.0088	0.0058
Saturn	-20440-10-30 14:52 J	-5743983.93	-5743983.88	-5743983.82	0.0261	0.0251
Neptune	-20440-12-21 22:19 J	-5743931.72	-5743931.57	-5743931.38	0.0088	0.0057
Jupiter	-20439-07-06 12:28 J	-5743735.16	-5743734.98	-5743734.79	0.0494	0.0224
Neptune	-20439-08-04 11:31 J	-5743706.17	-5743706.02	-5743705.83	0.0088	0.0056
Jupiter	-20438-02-27 17:31 J	-5743498.97	-5743498.77	-5743498.58	0.0494	0.0155
Neptune	-20438-03-18 01:26 J	-5743480.61	-5743480.44	-5743480.26	0.0088	0.0054
Neptune	-20438-10-29 14:52 J	-5743255.05	-5743254.88	-5743254.69	0.0088	0.0053
Neptune	-20437-06-11 04:04 J	-5743029.49	-5743029.33	-5743029.13	0.0088	0.0052
Neptune	-20436-01-22 17:31 J	-5742803.93	-5742803.77	-5742803.57	0.0088	0.0051
Neptune	-20436-09-05 07:11 J	-5742578.37	-5742578.20	-5742578.00	0.0088	0.0050
Neptune	-20435-04-18 20:38 J	-5742352.81	-5742352.64	-5742352.44	0.0088	0.0048
Neptune	-20435-11-30 10:33 J	-5742127.25	-5742127.06	-5742126.87	0.0088	0.0047
Neptune	-20434-07-13 23:45 J	-5741901.69	-5741901.51	-5741901.31	0.0088	0.0045
Neptune	-20433-02-24 12:57 J	-5741676.13	-5741675.96	-5741675.74	0.0088	0.0044
Jupiter	-20433-05-10 02:23 J	-5741600.55	-5741600.40	-5741600.25	0.0532	0.0344
Neptune	-20433-10-07 02:52 J	-5741450.57	-5741450.38	-5741450.17	0.0088	0.0042
Jupiter	-20432-01-02 23:02 J	-5741362.73	-5741362.54	-5741362.34	0.0533	0.0134
Neptune	-20432-05-20 16:19 J	-5741225.00	-5741224.82	-5741224.61	0.0088	0.0041
Neptune	-20431-01-01 05:45 J	-5740999.44	-5740999.26	-5740999.04	0.0088	0.0040
Neptune	-20431-08-14 19:26 J	-5740773.89	-5740773.69	-5740773.48	0.0088	0.0038
Neptune	-20430-03-28 08:52 J	-5740548.32	-5740548.13	-5740547.92	0.0088	0.0036
Uranus	-20430-05-14 09:07 J	-5740501.20	-5740501.12	-5740501.03	0.0132	0.0122
Neptune	-20430-11-08 22:33 J	-5740322.76	-5740322.56	-5740322.34	0.0088	0.0035
Uranus	-20430-12-26 14:23 J	-5740275.03	-5740274.90	-5740274.73	0.0132	0.0096
Neptune	-20429-06-21 12:00 J	-5740097.19	-5740097.00	-5740096.78	0.0088	0.0033
Uranus	-20429-08-08 20:09 J	-5740048.84	-5740048.66	-5740048.46	0.0132	0.0068
Neptune	-20428-02-02 01:40 J	-5739871.63	-5739871.43	-5739871.21	0.0088	0.0031
Uranus	-20428-03-23 01:26 J	-5739822.64	-5739822.44	-5739822.22	0.0132	0.0042

Neptune -20428-09-15 15:21 J -5739646.07 -5739645.86 -5739645.64 0.0088 0.0030
 Uranus -20428-11-04 06:57 J -5739596.42 -5739596.21 -5739595.98 0.0132 0.0015
 Jupiter -20427-03-11 14:38 J -5739469.04 -5739468.89 -5739468.73 0.0494 0.0325
 Neptune -20427-04-29 04:48 J -5739420.50 -5739420.30 -5739420.07 0.0088 0.0028
 Uranus -20427-06-18 12:28 J -5739370.20 -5739369.98 -5739369.76 0.0133 0.0013
 Jupiter -20427-11-02 18:43 J -5739232.93 -5739232.72 -5739232.52 0.0493 0.0051
 Neptune -20427-12-10 18:28 J -5739194.93 -5739194.73 -5739194.50 0.0088 0.0027
 Saturn -20426-01-11 18:00 J -5739162.95 -5739162.75 -5739162.56 0.0300 0.0127
 Uranus -20426-01-30 18:00 J -5739143.96 -5739143.75 -5739143.54 0.0133 0.0040
 Jupiter -20426-06-27 02:09 J -5738996.51 -5738996.41 -5738996.31 0.0495 0.0427
 Neptune -20426-07-24 08:23 J -5738969.37 -5738969.15 -5738968.94 0.0088 0.0024
 Saturn -20426-08-30 03:36 J -5738932.56 -5738932.35 -5738932.14 0.0301 0.0070
 Uranus -20426-09-13 23:16 J -5738917.71 -5738917.53 -5738917.33 0.0133 0.0067
 Neptune -20425-03-05 21:36 J -5738743.80 -5738743.60 -5738743.37 0.0088 0.0024
 Saturn -20425-04-16 12:43 J -5738702.06 -5738701.97 -5738701.87 0.0301 0.0265
 Uranus -20425-04-27 04:33 J -5738691.45 -5738691.31 -5738691.14 0.0133 0.0094
 Neptune -20425-10-17 11:31 J -5738518.23 -5738518.02 -5738517.79 0.0088 0.0022
 Uranus -20425-12-09 10:04 J -5738465.16 -5738465.08 -5738464.98 0.0133 0.0121
 Neptune -20424-05-31 01:26 J -5738292.66 -5738292.44 -5738292.22 0.0088 0.0019
 Neptune -20423-01-11 15:07 J -5738067.09 -5738066.87 -5738066.65 0.0088 0.0017
 Neptune -20423-08-25 04:48 J -5737841.52 -5737841.30 -5737841.08 0.0088 0.0016
 Neptune -20422-04-07 18:14 J -5737615.95 -5737615.74 -5737615.51 0.0088 0.0014
 Neptune -20422-11-19 08:09 J -5737390.38 -5737390.16 -5737389.93 0.0088 0.0012
 Jupiter -20421-01-13 17:16 J -5737334.87 -5737334.78 -5737334.69 0.0532 0.0469
 Neptune -20421-07-01 21:50 J -5737164.81 -5737164.59 -5737164.36 0.0088 0.0011
 Jupiter -20421-09-07 15:21 J -5737097.06 -5737096.86 -5737096.66 0.0533 0.0003
 Neptune -20420-02-12 11:31 J -5736939.24 -5736939.02 -5736938.79 0.0088 0.0009
 Jupiter -20420-05-03 08:52 J -5736859.22 -5736859.13 -5736859.03 0.0532 0.0467
 Neptune -20420-09-26 01:11 J -5736713.67 -5736713.45 -5736713.23 0.0088 0.0007
 Neptune -20419-05-09 14:52 J -5736488.11 -5736487.88 -5736487.66 0.0088 0.0005

Neptune	-20419-12-21 04:33 J	-5736262.53	-5736262.31	-5736262.09	0.0088	0.0003
Neptune	-20418-08-03 18:14 J	-5736036.97	-5736036.74	-5736036.52	0.0088	0.0002
Neptune	-20417-03-16 07:40 J	-5735811.40	-5735811.18	-5735810.95	0.0088	0.0001
Neptune	-20417-10-27 21:36 J	-5735585.83	-5735585.60	-5735585.38	0.0088	0.0003
Neptune	-20416-06-10 11:16 J	-5735360.26	-5735360.03	-5735359.81	0.0088	0.0004
Jupiter	-20416-11-14 15:50 J	-5735202.93	-5735202.84	-5735202.73	0.0494	0.0427
Neptune	-20415-01-22 00:43 J	-5735134.69	-5735134.47	-5735134.24	0.0088	0.0007
Jupiter	-20415-07-08 18:57 J	-5734966.91	-5734966.71	-5734966.51	0.0493	0.0057
Neptune	-20415-09-04 14:23 J	-5734909.12	-5734908.90	-5734908.67	0.0088	0.0008
Jupiter	-20414-03-02 01:11 J	-5734730.61	-5734730.45	-5734730.30	0.0494	0.0322
Neptune	-20414-04-18 04:04 J	-5734683.55	-5734683.33	-5734683.10	0.0088	0.0010
Neptune	-20414-11-29 18:00 J	-5734457.97	-5734457.75	-5734457.53	0.0088	0.0012
Neptune	-20413-07-12 07:40 J	-5734232.40	-5734232.18	-5734231.95	0.0088	0.0013
Saturn	-20413-11-08 17:02 J	-5734112.89	-5734112.79	-5734112.67	0.0262	0.0222
Neptune	-20412-02-22 21:21 J	-5734006.83	-5734006.61	-5734006.39	0.0088	0.0015
Saturn	-20412-06-25 11:16 J	-5733884.22	-5733884.03	-5733883.83	0.0262	0.0099
Neptune	-20412-10-06 11:02 J	-5733781.26	-5733781.04	-5733780.82	0.0088	0.0017
Mars	-20412-12-14 17:02 J	-5733711.96	-5733711.79	-5733711.63	0.1628	0.0457
Saturn	-20411-02-09 05:16 J	-5733655.49	-5733655.28	-5733655.07	0.0261	0.0025
Neptune	-20411-05-20 00:43 J	-5733555.68	-5733555.47	-5733555.24	0.0089	0.0019
Saturn	-20411-09-25 23:16 J	-5733426.70	-5733426.53	-5733426.36	0.0261	0.0148
Mars	-20411-11-12 12:57 J	-5733379.13	-5733378.96	-5733378.78	0.1892	0.0379
Neptune	-20411-12-31 14:23 J	-5733330.11	-5733329.90	-5733329.67	0.0089	0.0021
Neptune	-20410-08-14 04:04 J	-5733104.54	-5733104.33	-5733104.10	0.0089	0.0023
Mars	-20410-10-14 22:33 J	-5733042.67	-5733042.56	-5733042.45	0.1626	0.1266
Neptune	-20409-03-26 18:00 J	-5732878.96	-5732878.75	-5732878.53	0.0089	0.0024
Jupiter	-20409-05-13 06:28 J	-5732831.42	-5732831.23	-5732831.03	0.0533	0.0130
Neptune	-20409-11-07 07:40 J	-5732653.39	-5732653.18	-5732652.96	0.0089	0.0026
Jupiter	-20408-01-06 01:26 J	-5732593.59	-5732593.44	-5732593.28	0.0532	0.0345
Neptune	-20408-06-20 21:21 J	-5732427.82	-5732427.61	-5732427.39	0.0089	0.0028

Neptune	-20407-02-01 10:48 J	-5732202.25	-5732202.05	-5732201.82	0.0089	0.0030
Neptune	-20407-09-15 00:43 J	-5731976.68	-5731976.47	-5731976.26	0.0089	0.0031
Neptune	-20406-04-28 14:09 J	-5731751.11	-5731750.91	-5731750.69	0.0089	0.0033
Neptune	-20406-12-10 03:50 J	-5731525.53	-5731525.34	-5731525.12	0.0089	0.0035
Neptune	-20405-07-22 17:45 J	-5731299.96	-5731299.76	-5731299.56	0.0089	0.0036
Neptune	-20404-03-05 07:11 J	-5731074.40	-5731074.20	-5731073.99	0.0089	0.0038
Neptune	-20404-10-16 20:23 J	-5730848.83	-5730848.65	-5730848.43	0.0089	0.0040
Jupiter	-20403-03-13 21:07 J	-5730700.81	-5730700.62	-5730700.43	0.0494	0.0161
Neptune	-20403-05-30 10:19 J	-5730623.26	-5730623.07	-5730622.86	0.0089	0.0041
Jupiter	-20403-11-05 02:09 J	-5730464.59	-5730464.41	-5730464.22	0.0494	0.0220
Neptune	-20402-01-11 00:00 J	-5730397.68	-5730397.50	-5730397.29	0.0089	0.0043
Neptune	-20402-08-24 13:40 J	-5730172.11	-5730171.93	-5730171.73	0.0089	0.0044
Neptune	-20401-04-06 03:07 J	-5729946.55	-5729946.37	-5729946.16	0.0089	0.0046
Neptune	-20401-11-17 17:02 J	-5729720.97	-5729720.79	-5729720.60	0.0089	0.0047
Neptune	-20400-07-01 06:28 J	-5729495.40	-5729495.23	-5729495.03	0.0089	0.0049
Neptune	-20399-02-11 20:09 J	-5729269.83	-5729269.66	-5729269.46	0.0089	0.0050
Neptune	-20399-09-25 09:36 J	-5729044.26	-5729044.10	-5729043.90	0.0089	0.0052
Neptune	-20398-05-08 23:16 J	-5728818.69	-5728818.53	-5728818.33	0.0089	0.0053
Saturn	-20398-12-06 17:45 J	-5728606.80	-5728606.76	-5728606.70	0.0299	0.0290
Neptune	-20398-12-20 13:11 J	-5728593.11	-5728592.95	-5728592.76	0.0089	0.0054
Jupiter	-20397-01-16 18:57 J	-5728565.88	-5728565.71	-5728565.53	0.0532	0.0265
Saturn	-20397-07-24 03:50 J	-5728376.54	-5728376.34	-5728376.13	0.0300	0.0095
Neptune	-20397-08-02 02:38 J	-5728367.54	-5728367.39	-5728367.20	0.0089	0.0056
Jupiter	-20397-09-10 14:52 J	-5728328.07	-5728327.88	-5728327.70	0.0532	0.0212
Saturn	-20396-03-11 13:40 J	-5728146.12	-5728145.93	-5728145.72	0.0301	0.0104
Neptune	-20396-03-15 16:19 J	-5728141.98	-5728141.82	-5728141.64	0.0089	0.0057
Neptune	-20396-10-27 06:00 J	-5727916.41	-5727916.25	-5727916.08	0.0089	0.0058
Saturn	-20396-10-27 23:02 J	-5727915.56	-5727915.54	-5727915.51	0.0301	0.0299
Neptune	-20395-06-09 19:40 J	-5727690.84	-5727690.68	-5727690.51	0.0089	0.0059
Neptune	-20394-01-21 08:52 J	-5727465.27	-5727465.13	-5727464.95	0.0089	0.0061

Neptune	-20394-09-03 22:19 J	-5727239.71	-5727239.57	-5727239.39	0.0089	0.0062
Neptune	-20393-04-16 11:45 J	-5727014.15	-5727014.01	-5727013.83	0.0089	0.0063
Neptune	-20393-11-28 01:11 J	-5726788.58	-5726788.45	-5726788.28	0.0089	0.0064
Neptune	-20392-07-11 14:52 J	-5726563.02	-5726562.88	-5726562.72	0.0089	0.0065
Jupiter	-20392-11-16 23:31 J	-5726434.69	-5726434.52	-5726434.35	0.0494	0.0264
Neptune	-20391-02-22 04:19 J	-5726337.45	-5726337.32	-5726337.16	0.0089	0.0066
Jupiter	-20391-07-11 04:04 J	-5726198.53	-5726198.33	-5726198.13	0.0494	0.0115
Neptune	-20391-10-05 17:45 J	-5726111.89	-5726111.76	-5726111.60	0.0089	0.0067
Jupiter	-20390-03-04 12:43 J	-5725961.99	-5725961.97	-5725961.93	0.0495	0.0489
Neptune	-20390-05-19 06:57 J	-5725886.33	-5725886.21	-5725886.05	0.0089	0.0068
Neptune	-20390-12-30 20:23 J	-5725660.76	-5725660.65	-5725660.49	0.0089	0.0070
Neptune	-20389-08-12 09:50 J	-5725435.20	-5725435.09	-5725434.93	0.0089	0.0070
Uranus	-20389-11-18 18:00 J	-5725336.80	-5725336.75	-5725336.69	0.0146	0.0141
Neptune	-20388-03-25 23:16 J	-5725209.64	-5725209.53	-5725209.37	0.0089	0.0071
Uranus	-20388-07-03 06:00 J	-5725110.39	-5725110.25	-5725110.10	0.0146	0.0105
Neptune	-20388-11-06 12:57 J	-5724984.08	-5724983.96	-5724983.82	0.0089	0.0071
Uranus	-20387-02-14 17:45 J	-5724883.94	-5724883.76	-5724883.56	0.0146	0.0070
Neptune	-20387-06-20 02:09 J	-5724758.52	-5724758.41	-5724758.26	0.0089	0.0073
Uranus	-20387-09-29 05:45 J	-5724657.46	-5724657.26	-5724657.04	0.0146	0.0034
Neptune	-20386-01-31 15:36 J	-5724532.95	-5724532.85	-5724532.70	0.0089	0.0073
Uranus	-20386-05-13 17:45 J	-5724430.97	-5724430.76	-5724430.54	0.0146	0.0002
Neptune	-20386-09-14 05:16 J	-5724307.39	-5724307.28	-5724307.15	0.0089	0.0074
Jupiter	-20386-09-21 08:38 J	-5724300.27	-5724300.14	-5724300.01	0.0531	0.0395
Uranus	-20386-12-26 05:31 J	-5724204.47	-5724204.27	-5724204.05	0.0146	0.0038
Neptune	-20385-04-26 18:28 J	-5724081.83	-5724081.73	-5724081.59	0.0089	0.0074
Jupiter	-20385-05-16 05:16 J	-5724062.48	-5724062.28	-5724062.08	0.0532	0.0081
Uranus	-20385-08-08 17:31 J	-5723977.94	-5723977.77	-5723977.57	0.0146	0.0074
Neptune	-20385-12-08 07:40 J	-5723856.28	-5723856.18	-5723856.04	0.0089	0.0075
Uranus	-20384-03-23 05:45 J	-5723751.40	-5723751.26	-5723751.11	0.0146	0.0109
Neptune	-20384-07-21 21:07 J	-5723630.72	-5723630.62	-5723630.49	0.0089	0.0076

Uranus	-20384-11-04 17:45 J	-5723524.79	-5723524.76	-5723524.73	0.0145	0.0144
Neptune	-20383-03-04 10:19 J	-5723405.16	-5723405.07	-5723404.93	0.0089	0.0077
Saturn	-20383-05-21 23:16 J	-5723326.66	-5723326.53	-5723326.40	0.0262	0.0200
Neptune	-20383-10-15 23:45 J	-5723179.60	-5723179.51	-5723179.38	0.0089	0.0077
Saturn	-20382-01-05 17:02 J	-5723097.98	-5723097.79	-5723097.58	0.0261	0.0077
Neptune	-20382-05-29 13:26 J	-5722954.05	-5722953.94	-5722953.83	0.0089	0.0077
Saturn	-20382-08-22 11:02 J	-5722869.25	-5722869.04	-5722868.83	0.0261	0.0047
Neptune	-20381-01-10 02:09 J	-5722728.50	-5722728.41	-5722728.28	0.0089	0.0078
Saturn	-20381-04-07 05:02 J	-5722640.45	-5722640.29	-5722640.13	0.0261	0.0170
Neptune	-20381-08-22 15:36 J	-5722502.94	-5722502.85	-5722502.73	0.0089	0.0078
Neptune	-20380-04-05 05:02 J	-5722277.39	-5722277.29	-5722277.18	0.0089	0.0078
Jupiter	-20380-07-23 02:09 J	-5722168.55	-5722168.41	-5722168.28	0.0495	0.0364
Neptune	-20380-11-16 17:45 J	-5722051.85	-5722051.76	-5722051.64	0.0089	0.0078
Mars	-20380-12-13 08:38 J	-5722025.24	-5722025.14	-5722025.04	0.1629	0.1283
Jupiter	-20379-03-16 06:00 J	-5721932.46	-5721932.25	-5721932.05	0.0494	0.0012
Neptune	-20379-06-30 06:57 J	-5721826.30	-5721826.21	-5721826.09	0.0089	0.0078
Jupiter	-20379-11-07 12:57 J	-5721696.08	-5721695.96	-5721695.83	0.0494	0.0389
Mars	-20379-11-12 15:50 J	-5721690.96	-5721690.84	-5721690.73	0.1890	0.1415
Neptune	-20378-02-10 20:09 J	-5721600.74	-5721600.66	-5721600.54	0.0089	0.0079
Neptune	-20378-09-24 09:21 J	-5721375.20	-5721375.11	-5721374.99	0.0089	0.0079
Mars	-20378-10-13 14:09 J	-5721356.07	-5721355.91	-5721355.74	0.1627	0.0443
Neptune	-20377-05-06 22:19 J	-5721149.65	-5721149.57	-5721149.45	0.0089	0.0079
Neptune	-20377-12-18 11:31 J	-5720924.11	-5720924.02	-5720923.90	0.0089	0.0079
Neptune	-20376-08-01 00:28 J	-5720698.56	-5720698.48	-5720698.36	0.0089	0.0079
Neptune	-20375-03-14 13:40 J	-5720473.01	-5720472.93	-5720472.80	0.0089	0.0079
Neptune	-20375-10-26 02:52 J	-5720247.47	-5720247.38	-5720247.26	0.0089	0.0078
Jupiter	-20374-05-26 21:07 J	-5720034.65	-5720034.62	-5720034.58	0.0531	0.0521
Neptune	-20374-06-08 15:50 J	-5720021.92	-5720021.84	-5720021.71	0.0089	0.0078
Jupiter	-20373-01-19 19:26 J	-5719796.89	-5719796.69	-5719796.49	0.0533	0.0053
Neptune	-20373-01-20 05:16 J	-5719796.38	-5719796.28	-5719796.17	0.0089	0.0078

Neptune	-20373-09-01 18:14 J	-5719570.83	-5719570.74	-5719570.62	0.0089	0.0078
Jupiter	-20373-09-13 13:26 J	-5719559.06	-5719558.94	-5719558.82	0.0532	0.0416
Neptune	-20372-04-15 07:11 J	-5719345.29	-5719345.20	-5719345.07	0.0089	0.0078
Neptune	-20372-11-26 20:09 J	-5719119.75	-5719119.66	-5719119.53	0.0089	0.0077
Neptune	-20371-07-10 09:21 J	-5718894.21	-5718894.11	-5718893.99	0.0089	0.0077
Neptune	-20370-02-20 22:19 J	-5718668.67	-5718668.57	-5718668.44	0.0089	0.0076
Neptune	-20370-10-04 11:31 J	-5718443.13	-5718443.02	-5718442.90	0.0089	0.0076
Neptune	-20369-05-17 00:00 J	-5718217.59	-5718217.50	-5718217.36	0.0089	0.0076
Neptune	-20369-12-28 13:11 J	-5717992.06	-5717991.95	-5717991.82	0.0089	0.0075
Jupiter	-20368-03-28 04:33 J	-5717902.37	-5717902.31	-5717902.23	0.0495	0.0462
Saturn	-20368-06-18 03:07 J	-5717820.46	-5717820.37	-5717820.25	0.0300	0.0261
Neptune	-20368-08-11 01:40 J	-5717766.52	-5717766.43	-5717766.28	0.0089	0.0075
Jupiter	-20368-11-19 07:40 J	-5717666.38	-5717666.18	-5717665.98	0.0494	0.0095
Saturn	-20367-02-03 13:11 J	-5717590.16	-5717589.95	-5717589.74	0.0300	0.0065
Neptune	-20367-03-24 14:52 J	-5717540.99	-5717540.88	-5717540.74	0.0089	0.0074
Jupiter	-20367-07-13 13:26 J	-5717430.10	-5717429.94	-5717429.77	0.0494	0.0286
Saturn	-20367-09-21 22:48 J	-5717359.74	-5717359.55	-5717359.35	0.0301	0.0134
Neptune	-20367-11-05 03:50 J	-5717315.45	-5717315.34	-5717315.20	0.0089	0.0073
Neptune	-20366-06-18 16:19 J	-5717089.92	-5717089.82	-5717089.67	0.0089	0.0072
Neptune	-20365-01-30 05:16 J	-5716864.39	-5716864.28	-5716864.13	0.0089	0.0071
Neptune	-20365-09-11 18:14 J	-5716638.86	-5716638.74	-5716638.59	0.0089	0.0070
Neptune	-20364-04-25 07:11 J	-5716413.32	-5716413.20	-5716413.05	0.0089	0.0070
Neptune	-20364-12-06 19:55 J	-5716187.79	-5716187.67	-5716187.52	0.0089	0.0069
Neptune	-20363-07-20 08:52 J	-5715962.26	-5715962.13	-5715961.98	0.0089	0.0068
Neptune	-20362-03-02 21:50 J	-5715736.73	-5715736.59	-5715736.45	0.0089	0.0067
Jupiter	-20362-09-24 10:48 J	-5715531.24	-5715531.05	-5715530.86	0.0533	0.0184
Neptune	-20362-10-14 10:33 J	-5715511.20	-5715511.06	-5715510.91	0.0089	0.0066
Earth	-20361-05-02 16:33 J	-5715309.97	-5715309.81	-5715309.65	0.2710	0.0146
Moon	-20361-05-02 22:19 J	-5715309.72	-5715309.57	-5715309.41	0.2710	0.0460 *
Jupiter	-20361-05-19 06:28 J	-5715293.39	-5715293.23	-5715293.06	0.0533	0.0294

Neptune	-20361-05-26 23:16 J	-5715285.67	-5715285.53	-5715285.37	0.0089	0.0065
Neptune	-20360-01-07 12:00 J	-5715060.14	-5715060.00	-5715059.84	0.0089	0.0064
Neptune	-20360-08-21 00:43 J	-5714834.61	-5714834.47	-5714834.31	0.0089	0.0063
Neptune	-20359-04-03 13:26 J	-5714609.08	-5714608.94	-5714608.77	0.0089	0.0062
Neptune	-20359-11-15 02:09 J	-5714383.55	-5714383.41	-5714383.23	0.0089	0.0061
Neptune	-20358-06-28 14:38 J	-5714158.03	-5714157.89	-5714157.70	0.0089	0.0060
Neptune	-20357-02-09 03:50 J	-5713932.50	-5713932.34	-5713932.17	0.0089	0.0058
Neptune	-20357-09-21 16:19 J	-5713706.98	-5713706.82	-5713706.64	0.0089	0.0057
Neptune	-20356-05-05 04:48 J	-5713481.45	-5713481.30	-5713481.11	0.0089	0.0056
Jupiter	-20356-07-25 08:52 J	-5713400.31	-5713400.13	-5713399.94	0.0494	0.0200
Neptune	-20356-12-16 17:16 J	-5713255.93	-5713255.78	-5713255.58	0.0089	0.0055
Jupiter	-20355-03-18 13:26 J	-5713164.13	-5713163.94	-5713163.74	0.0493	0.0180
Neptune	-20355-07-30 06:14 J	-5713030.41	-5713030.24	-5713030.06	0.0089	0.0053
Neptune	-20354-03-12 18:43 J	-5712804.88	-5712804.72	-5712804.53	0.0089	0.0051
Neptune	-20354-10-24 07:26 J	-5712579.36	-5712579.19	-5712579.00	0.0089	0.0050
Saturn	-20354-12-02 01:11 J	-5712540.59	-5712540.45	-5712540.30	0.0262	0.0183
Neptune	-20353-06-05 19:40 J	-5712353.84	-5712353.68	-5712353.48	0.0089	0.0049
Saturn	-20353-07-17 19:11 J	-5712311.90	-5712311.70	-5712311.49	0.0261	0.0059
Neptune	-20352-01-17 08:38 J	-5712128.32	-5712128.14	-5712127.95	0.0089	0.0047
Saturn	-20352-03-03 12:57 J	-5712083.16	-5712082.96	-5712082.75	0.0261	0.0065
Neptune	-20352-08-30 20:52 J	-5711902.80	-5711902.63	-5711902.43	0.0089	0.0045
Saturn	-20352-10-18 06:57 J	-5711854.35	-5711854.21	-5711854.06	0.0261	0.0188
Neptune	-20351-04-13 09:50 J	-5711677.28	-5711677.09	-5711676.90	0.0089	0.0044
Neptune	-20351-11-24 22:04 J	-5711451.76	-5711451.58	-5711451.38	0.0089	0.0042
Jupiter	-20350-05-30 01:55 J	-5711265.58	-5711265.42	-5711265.26	0.0532	0.0315
Neptune	-20350-07-08 10:48 J	-5711226.24	-5711226.05	-5711225.85	0.0089	0.0040
Jupiter	-20349-01-22 22:48 J	-5711027.74	-5711027.55	-5711027.35	0.0533	0.0165
Neptune	-20349-02-18 23:02 J	-5711000.72	-5711000.54	-5711000.33	0.0089	0.0039
Neptune	-20349-10-01 11:45 J	-5710775.20	-5710775.01	-5710774.81	0.0089	0.0037
Neptune	-20348-05-15 00:28 J	-5710549.67	-5710549.48	-5710549.27	0.0089	0.0036

Neptune	-20348-12-26 12:57 J	-5710324.15	-5710323.96	-5710323.75	0.0089	0.0034
Neptune	-20347-08-09 01:26 J	-5710098.63	-5710098.44	-5710098.23	0.0089	0.0032
Neptune	-20346-03-22 14:09 J	-5709873.11	-5709872.91	-5709872.71	0.0089	0.0031
Uranus	-20346-08-25 23:16 J	-5709716.63	-5709716.53	-5709716.38	0.0132	0.0109
Mars	-20346-10-12 06:00 J	-5709669.42	-5709669.25	-5709669.09	0.1628	0.0387
Neptune	-20346-11-03 02:23 J	-5709647.59	-5709647.40	-5709647.19	0.0089	0.0029
Uranus	-20345-04-08 05:02 J	-5709490.45	-5709490.29	-5709490.11	0.0132	0.0081
Neptune	-20345-06-15 14:52 J	-5709422.07	-5709421.88	-5709421.66	0.0089	0.0027
Mars	-20345-09-08 14:38 J	-5709337.06	-5709336.89	-5709336.73	0.1892	0.0688
Uranus	-20345-11-20 10:33 J	-5709264.25	-5709264.06	-5709263.85	0.0132	0.0054
Neptune	-20344-01-27 03:21 J	-5709196.56	-5709196.36	-5709196.14	0.0089	0.0026
Jupiter	-20344-03-30 11:31 J	-5709134.18	-5709134.02	-5709133.86	0.0494	0.0302
Uranus	-20344-07-04 16:19 J	-5709038.04	-5709037.82	-5709037.61	0.0132	0.0027
Mars	-20344-08-11 11:16 J	-5709000.13	-5709000.03	-5708999.94	0.1626	0.1337
Neptune	-20344-09-09 15:50 J	-5708971.04	-5708970.84	-5708970.63	0.0089	0.0024
Jupiter	-20344-11-21 15:21 J	-5708898.06	-5708897.86	-5708897.66	0.0493	0.0075
Uranus	-20343-02-15 21:50 J	-5708811.81	-5708811.59	-5708811.37	0.0133	0.0001
Neptune	-20343-04-23 04:19 J	-5708745.52	-5708745.32	-5708745.10	0.0089	0.0022
Jupiter	-20343-07-15 23:02 J	-5708661.62	-5708661.54	-5708661.46	0.0495	0.0451
Uranus	-20343-09-30 03:07 J	-5708585.58	-5708585.37	-5708585.15	0.0133	0.0028
Neptune	-20343-12-04 16:33 J	-5708520.01	-5708519.81	-5708519.59	0.0089	0.0021
Uranus	-20342-05-14 08:23 J	-5708359.34	-5708359.15	-5708358.94	0.0133	0.0055
Neptune	-20342-07-18 05:02 J	-5708294.50	-5708294.29	-5708294.07	0.0089	0.0018
Uranus	-20342-12-26 13:55 J	-5708133.08	-5708132.92	-5708132.74	0.0133	0.0082
Neptune	-20341-02-28 17:31 J	-5708068.98	-5708068.77	-5708068.56	0.0089	0.0016
Uranus	-20341-08-08 19:26 J	-5707906.80	-5707906.69	-5707906.55	0.0133	0.0109
Neptune	-20341-10-11 06:00 J	-5707843.47	-5707843.25	-5707843.04	0.0089	0.0015
Neptune	-20340-05-24 18:14 J	-5707617.94	-5707617.74	-5707617.52	0.0089	0.0013
Neptune	-20339-01-05 06:43 J	-5707392.43	-5707392.22	-5707392.00	0.0089	0.0011
Neptune	-20339-08-18 18:57 J	-5707166.92	-5707166.71	-5707166.49	0.0089	0.0009

Saturn	-20339-12-29 10:33 J	-5707034.19	-5707034.06	-5707033.92	0.0300	0.0234
Jupiter	-20338-02-01 14:52 J	-5706999.99	-5706999.88	-5706999.77	0.0531	0.0444
Neptune	-20338-04-01 07:26 J	-5706941.40	-5706941.19	-5706940.97	0.0089	0.0007
Saturn	-20338-08-16 20:52 J	-5706803.85	-5706803.63	-5706803.42	0.0301	0.0037
Jupiter	-20338-09-27 12:14 J	-5706762.19	-5706761.99	-5706761.79	0.0532	0.0030
Neptune	-20338-11-12 19:55 J	-5706715.89	-5706715.67	-5706715.46	0.0089	0.0005
Saturn	-20337-04-03 06:28 J	-5706573.40	-5706573.23	-5706573.04	0.0301	0.0163
Jupiter	-20337-05-22 04:48 J	-5706524.37	-5706524.30	-5706524.22	0.0531	0.0491
Neptune	-20337-06-25 08:23 J	-5706490.37	-5706490.15	-5706489.94	0.0089	0.0004
Neptune	-20336-02-05 20:38 J	-5706264.85	-5706264.64	-5706264.42	0.0089	0.0002
Neptune	-20336-09-19 09:07 J	-5706039.34	-5706039.12	-5706038.90	0.0089	0.0000
Neptune	-20335-05-02 21:36 J	-5705813.82	-5705813.60	-5705813.38	0.0089	0.0002
Neptune	-20335-12-14 10:04 J	-5705588.30	-5705588.08	-5705587.87	0.0089	0.0004
Neptune	-20334-07-27 22:19 J	-5705362.78	-5705362.57	-5705362.35	0.0089	0.0006
Neptune	-20333-03-09 10:33 J	-5705137.27	-5705137.06	-5705136.84	0.0089	0.0008
Neptune	-20333-10-20 23:02 J	-5704911.75	-5704911.54	-5704911.32	0.0089	0.0010
Jupiter	-20333-12-03 13:26 J	-5704868.05	-5704867.94	-5704867.82	0.0495	0.0404
Neptune	-20332-06-03 11:45 J	-5704686.23	-5704686.01	-5704685.80	0.0089	0.0011
Jupiter	-20332-07-27 17:31 J	-5704631.98	-5704631.77	-5704631.57	0.0494	0.0032
Neptune	-20331-01-15 00:00 J	-5704460.71	-5704460.50	-5704460.28	0.0089	0.0013
Jupiter	-20331-03-21 00:14 J	-5704395.63	-5704395.49	-5704395.34	0.0495	0.0351
Neptune	-20331-08-28 12:14 J	-5704235.20	-5704234.99	-5704234.77	0.0089	0.0015
Neptune	-20330-04-11 00:28 J	-5704009.68	-5704009.48	-5704009.26	0.0089	0.0017
Neptune	-20330-11-22 12:43 J	-5703784.17	-5703783.97	-5703783.75	0.0089	0.0019
Neptune	-20329-07-05 01:11 J	-5703558.65	-5703558.45	-5703558.23	0.0089	0.0021
Neptune	-20328-02-15 13:40 J	-5703333.13	-5703332.93	-5703332.71	0.0089	0.0022
Neptune	-20328-09-29 01:55 J	-5703107.62	-5703107.42	-5703107.20	0.0089	0.0024
Neptune	-20327-05-12 14:23 J	-5702882.10	-5702881.90	-5702881.69	0.0089	0.0026
Neptune	-20327-12-24 02:38 J	-5702656.59	-5702656.39	-5702656.17	0.0089	0.0028
Jupiter	-20326-06-02 02:23 J	-5702496.59	-5702496.40	-5702496.20	0.0532	0.0105

Neptune -20326-08-06 14:52 J -5702431.07 -5702430.88 -5702430.66 0.0089 0.0030
 Jupiter -20325-01-25 20:38 J -5702258.78 -5702258.64 -5702258.49 0.0532 0.0368
 Neptune -20325-03-19 03:21 J -5702205.55 -5702205.36 -5702205.15 0.0089 0.0031
 Neptune -20325-10-30 15:50 J -5701980.03 -5701979.84 -5701979.63 0.0089 0.0033
 Neptune -20324-06-13 04:19 J -5701754.51 -5701754.32 -5701754.11 0.0089 0.0035
 Saturn -20324-06-13 06:28 J -5701754.39 -5701754.23 -5701754.07 0.0261 0.0162 *
 Neptune -20323-01-24 17:02 J -5701528.99 -5701528.79 -5701528.59 0.0089 0.0036
 Saturn -20323-01-28 00:14 J -5701525.70 -5701525.49 -5701525.28 0.0261 0.0038
 Neptune -20323-09-07 05:02 J -5701303.47 -5701303.29 -5701303.08 0.0089 0.0038
 Saturn -20323-09-13 18:00 J -5701296.95 -5701296.75 -5701296.55 0.0260 0.0086
 Neptune -20322-04-20 17:31 J -5701077.95 -5701077.77 -5701077.56 0.0089 0.0040
 Saturn -20322-04-30 11:45 J -5701068.13 -5701068.01 -5701067.88 0.0260 0.0208
 Neptune -20322-12-02 06:14 J -5700852.43 -5700852.24 -5700852.05 0.0089 0.0041
 Neptune -20321-07-14 18:28 J -5700626.90 -5700626.73 -5700626.52 0.0089 0.0043
 Neptune -20320-02-25 07:11 J -5700401.38 -5700401.20 -5700401.01 0.0089 0.0044
 Jupiter -20320-04-01 19:40 J -5700365.87 -5700365.68 -5700365.48 0.0494 0.0134
 Neptune -20320-10-08 19:26 J -5700175.86 -5700175.69 -5700175.49 0.0089 0.0046
 Jupiter -20320-11-24 01:11 J -5700129.62 -5700129.45 -5700129.26 0.0494 0.0248
 Pluto -20319-04-30 18:28 J -5699971.88 -5699971.73 -5699971.55 0.0064 0.0042
 Neptune -20319-05-22 07:40 J -5699950.34 -5699950.18 -5699949.98 0.0089 0.0048
 Pluto -20319-12-11 22:33 J -5699746.78 -5699746.56 -5699746.35 0.0064 0.0007
 Neptune -20318-01-02 20:23 J -5699724.82 -5699724.65 -5699724.46 0.0089 0.0049
 Pluto -20318-07-25 01:55 J -5699521.60 -5699521.42 -5699521.21 0.0064 0.0030
 Neptune -20318-08-16 08:38 J -5699499.30 -5699499.14 -5699498.94 0.0089 0.0051
 Neptune -20317-03-28 21:07 J -5699273.78 -5699273.62 -5699273.43 0.0089 0.0052
 Neptune -20317-11-09 09:50 J -5699048.26 -5699048.09 -5699047.91 0.0089 0.0053
 Neptune -20316-06-22 22:04 J -5698822.73 -5698822.58 -5698822.39 0.0089 0.0055
 Neptune -20315-02-03 10:48 J -5698597.21 -5698597.05 -5698596.88 0.0088 0.0056
 Neptune -20315-09-16 22:48 J -5698371.69 -5698371.55 -5698371.36 0.0088 0.0058
 Jupiter -20314-02-04 16:04 J -5698231.01 -5698230.83 -5698230.65 0.0532 0.0237

Neptune -20314-04-30 11:16 J -5698146.17 -5698146.03 -5698145.85 0.0088 0.0059
 Jupiter -20314-09-30 12:00 J -5697993.18 -5697993.00 -5697992.82 0.0532 0.0241
 Mars -20314-10-10 21:21 J -5697982.72 -5697982.61 -5697982.50 0.1629 0.1207
 Neptune -20314-12-12 00:00 J -5697920.65 -5697920.50 -5697920.33 0.0088 0.0060
 Neptune -20313-07-24 12:43 J -5697695.12 -5697694.97 -5697694.80 0.0088 0.0061
 Mars -20313-09-08 17:16 J -5697648.92 -5697648.78 -5697648.64 0.1891 0.1101
 Neptune -20312-03-07 00:57 J -5697469.59 -5697469.46 -5697469.29 0.0088 0.0063
 Mars -20312-08-10 03:07 J -5697313.54 -5697313.37 -5697313.21 0.1626 0.0513
 Neptune -20312-10-18 13:26 J -5697244.07 -5697243.94 -5697243.77 0.0088 0.0064
 Neptune -20311-06-01 02:09 J -5697018.54 -5697018.41 -5697018.25 0.0088 0.0065
 Neptune -20310-01-12 14:38 J -5696793.02 -5696792.89 -5696792.73 0.0088 0.0066
 Neptune -20310-08-26 03:21 J -5696567.49 -5696567.36 -5696567.20 0.0088 0.0067
 Neptune -20309-04-07 16:04 J -5696341.96 -5696341.83 -5696341.68 0.0088 0.0068
 Saturn -20309-07-10 18:57 J -5696247.85 -5696247.71 -5696247.54 0.0300 0.0206
 Neptune -20309-11-19 04:33 J -5696116.43 -5696116.31 -5696116.16 0.0088 0.0069
 Jupiter -20309-12-05 22:04 J -5696099.76 -5696099.58 -5696099.40 0.0494 0.0237
 Saturn -20308-02-26 05:16 J -5696017.49 -5696017.28 -5696017.07 0.0301 0.0006
 Neptune -20308-07-02 17:16 J -5695890.90 -5695890.78 -5695890.63 0.0088 0.0070
 Jupiter -20308-07-30 02:38 J -5695863.59 -5695863.39 -5695863.19 0.0494 0.0143
 Saturn -20308-10-14 14:52 J -5695787.04 -5695786.88 -5695786.71 0.0301 0.0192
 Neptune -20307-02-13 06:00 J -5695665.37 -5695665.25 -5695665.11 0.0088 0.0071
 Neptune -20307-09-26 18:28 J -5695439.84 -5695439.73 -5695439.59 0.0088 0.0072
 Neptune -20306-05-10 06:57 J -5695214.31 -5695214.21 -5695214.07 0.0088 0.0073
 Neptune -20306-12-21 19:26 J -5694988.78 -5694988.69 -5694988.54 0.0088 0.0074
 Neptune -20305-08-03 08:09 J -5694763.25 -5694763.16 -5694763.01 0.0088 0.0075
 Uranus -20304-03-02 12:28 J -5694552.08 -5694551.98 -5694551.85 0.0146 0.0122
 Neptune -20304-03-16 21:21 J -5694537.72 -5694537.61 -5694537.49 0.0088 0.0075
 Uranus -20304-10-15 00:28 J -5694325.65 -5694325.48 -5694325.30 0.0146 0.0087
 Neptune -20304-10-28 09:36 J -5694312.19 -5694312.10 -5694311.97 0.0088 0.0076
 Uranus -20303-05-29 12:14 J -5694099.19 -5694098.99 -5694098.78 0.0146 0.0051

Neptune -20303-06-10 22:04 J -5694086.66 -5694086.58 -5694086.44 0.0088 0.0077
 Jupiter -20303-10-10 06:57 J -5693965.36 -5693965.21 -5693965.06 0.0532 0.0366
 Uranus -20302-01-11 00:14 J -5693872.70 -5693872.49 -5693872.27 0.0146 0.0015
 Neptune -20302-01-22 11:02 J -5693861.13 -5693861.04 -5693860.92 0.0088 0.0077
 Jupiter -20302-06-05 04:19 J -5693727.52 -5693727.32 -5693727.12 0.0533 0.0112
 Uranus -20302-08-25 12:14 J -5693646.20 -5693645.99 -5693645.78 0.0146 0.0021
 Neptune -20302-09-04 23:45 J -5693635.60 -5693635.51 -5693635.39 0.0088 0.0077
 Uranus -20301-04-08 00:00 J -5693419.69 -5693419.50 -5693419.29 0.0146 0.0057
 Neptune -20301-04-17 12:43 J -5693410.07 -5693409.97 -5693409.86 0.0088 0.0078
 Uranus -20301-11-20 12:00 J -5693193.16 -5693193.00 -5693192.83 0.0146 0.0093
 Neptune -20301-11-29 00:57 J -5693184.53 -5693184.46 -5693184.33 0.0088 0.0079
 Uranus -20300-07-04 23:45 J -5692966.59 -5692966.51 -5692966.39 0.0145 0.0129
 Neptune -20300-07-12 14:09 J -5692959.00 -5692958.91 -5692958.80 0.0088 0.0079
 Neptune -20299-02-23 02:38 J -5692733.46 -5692733.39 -5692733.27 0.0088 0.0079
 Neptune -20299-10-06 15:36 J -5692507.93 -5692507.85 -5692507.74 0.0088 0.0079
 Neptune -20298-05-20 04:33 J -5692282.39 -5692282.31 -5692282.21 0.0088 0.0080
 Neptune -20298-12-31 17:02 J -5692056.86 -5692056.79 -5692056.68 0.0088 0.0080
 Jupiter -20297-08-11 00:14 J -5691833.64 -5691833.49 -5691833.34 0.0494 0.0339
 Neptune -20297-08-13 06:14 J -5691831.31 -5691831.24 -5691831.13 0.0088 0.0080
 Neptune -20296-03-26 19:11 J -5691605.77 -5691605.70 -5691605.60 0.0088 0.0080
 Jupiter -20296-04-04 03:36 J -5691597.55 -5691597.35 -5691597.14 0.0493 0.0037
 Neptune -20296-11-07 08:09 J -5691380.24 -5691380.16 -5691380.06 0.0088 0.0081
 Jupiter -20296-11-26 10:19 J -5691361.17 -5691361.07 -5691360.95 0.0494 0.0414
 Neptune -20295-06-20 21:07 J -5691154.70 -5691154.62 -5691154.53 0.0088 0.0081
 Saturn -20295-12-24 07:40 J -5690968.35 -5690968.18 -5690968.00 0.0261 0.0145
 Neptune -20294-02-01 09:36 J -5690929.16 -5690929.10 -5690928.99 0.0088 0.0081
 Saturn -20294-08-10 01:26 J -5690739.65 -5690739.44 -5690739.23 0.0261 0.0021
 Neptune -20294-09-14 22:33 J -5690703.62 -5690703.56 -5690703.45 0.0088 0.0081
 Saturn -20293-03-25 18:57 J -5690510.90 -5690510.71 -5690510.51 0.0261 0.0103
 Neptune -20293-04-27 11:31 J -5690478.08 -5690478.02 -5690477.91 0.0088 0.0081

Saturn	-20293-11-09 12:43 J	-5690282.06	-5690281.97	-5690281.86	0.0261	0.0226
Neptune	-20293-12-09 00:28 J	-5690252.54	-5690252.48	-5690252.37	0.0088	0.0081
Neptune	-20292-07-22 13:55 J	-5690027.00	-5690026.92	-5690026.83	0.0088	0.0081
Neptune	-20291-03-05 02:52 J	-5689801.46	-5689801.38	-5689801.29	0.0088	0.0080
Jupiter	-20291-06-14 21:50 J	-5689699.66	-5689699.59	-5689699.52	0.0531	0.0492
Neptune	-20291-10-16 15:36 J	-5689575.92	-5689575.85	-5689575.75	0.0088	0.0080
Jupiter	-20290-02-07 20:23 J	-5689461.85	-5689461.65	-5689461.45	0.0533	0.0019
Neptune	-20290-05-30 04:19 J	-5689350.39	-5689350.32	-5689350.20	0.0088	0.0080
Jupiter	-20290-10-03 14:23 J	-5689224.00	-5689223.90	-5689223.79	0.0532	0.0449
Neptune	-20289-01-10 17:16 J	-5689124.85	-5689124.78	-5689124.66	0.0088	0.0080
Neptune	-20289-08-23 06:43 J	-5688899.30	-5688899.22	-5688899.11	0.0088	0.0079
Neptune	-20288-04-05 19:40 J	-5688673.76	-5688673.68	-5688673.57	0.0088	0.0079
Neptune	-20288-11-17 09:07 J	-5688448.22	-5688448.12	-5688448.02	0.0088	0.0078
Neptune	-20287-06-30 21:36 J	-5688222.68	-5688222.60	-5688222.48	0.0088	0.0078
Neptune	-20286-02-11 11:16 J	-5687997.13	-5687997.03	-5687996.93	0.0088	0.0077
Neptune	-20286-09-25 00:00 J	-5687771.58	-5687771.50	-5687771.37	0.0088	0.0077
Jupiter	-20285-04-16 02:52 J	-5687567.47	-5687567.38	-5687567.28	0.0495	0.0438
Neptune	-20285-05-07 13:40 J	-5687546.04	-5687545.93	-5687545.82	0.0088	0.0076
Jupiter	-20285-12-08 06:00 J	-5687331.46	-5687331.25	-5687331.05	0.0493	0.0068
Neptune	-20285-12-19 02:23 J	-5687320.49	-5687320.40	-5687320.27	0.0088	0.0076
Jupiter	-20284-08-01 11:45 J	-5687095.16	-5687095.01	-5687094.85	0.0494	0.0313
Neptune	-20284-08-01 15:50 J	-5687094.94	-5687094.84	-5687094.72	0.0088	0.0075 *
Neptune	-20283-03-15 05:16 J	-5686869.40	-5686869.28	-5686869.16	0.0088	0.0074
Neptune	-20283-10-26 18:00 J	-5686643.85	-5686643.75	-5686643.61	0.0088	0.0074
Neptune	-20282-06-09 07:26 J	-5686418.30	-5686418.19	-5686418.05	0.0088	0.0073
Neptune	-20281-01-20 20:38 J	-5686192.75	-5686192.64	-5686192.50	0.0088	0.0072
Neptune	-20281-09-02 10:04 J	-5685967.20	-5685967.08	-5685966.94	0.0088	0.0071
Neptune	-20280-04-15 23:31 J	-5685741.65	-5685741.52	-5685741.38	0.0088	0.0070
Mars	-20280-08-08 18:28 J	-5685626.90	-5685626.73	-5685626.56	0.1627	0.0311
Neptune	-20280-11-27 12:43 J	-5685516.10	-5685515.97	-5685515.83	0.0088	0.0069

Saturn	-20279-01-21 00:14 J	-5685461.66	-5685461.49	-5685461.32	0.0300	0.0181
Mars	-20279-07-06 16:48 J	-5685294.95	-5685294.80	-5685294.65	0.1893	0.0984
Neptune	-20279-07-11 01:55 J	-5685290.55	-5685290.42	-5685290.27	0.0088	0.0068
Saturn	-20279-09-08 10:33 J	-5685231.27	-5685231.06	-5685230.85	0.0301	0.0018
Jupiter	-20279-10-13 10:04 J	-5685196.28	-5685196.08	-5685195.89	0.0532	0.0155
Neptune	-20278-02-21 15:07 J	-5685065.00	-5685064.87	-5685064.72	0.0088	0.0067
Saturn	-20278-04-26 20:23 J	-5685000.79	-5685000.65	-5685000.50	0.0301	0.0217
Jupiter	-20278-06-08 04:48 J	-5684958.46	-5684958.30	-5684958.14	0.0532	0.0321
Mars	-20278-06-09 00:00 J	-5684957.58	-5684957.50	-5684957.42	0.1626	0.1408
Neptune	-20278-10-05 04:33 J	-5684839.45	-5684839.31	-5684839.16	0.0088	0.0066
Neptune	-20277-05-17 17:45 J	-5684613.90	-5684613.76	-5684613.60	0.0088	0.0065
Neptune	-20277-12-29 06:57 J	-5684388.35	-5684388.21	-5684388.04	0.0088	0.0064
Neptune	-20276-08-11 20:09 J	-5684162.80	-5684162.66	-5684162.49	0.0088	0.0063
Neptune	-20275-03-25 09:21 J	-5683937.24	-5683937.11	-5683936.93	0.0088	0.0062
Neptune	-20275-11-05 23:16 J	-5683711.69	-5683711.53	-5683711.36	0.0088	0.0060
Neptune	-20274-06-19 12:28 J	-5683486.13	-5683485.98	-5683485.80	0.0088	0.0059
Neptune	-20273-01-31 01:40 J	-5683260.58	-5683260.43	-5683260.24	0.0088	0.0058
Jupiter	-20273-08-13 07:55 J	-5683065.36	-5683065.17	-5683064.97	0.0494	0.0173
Neptune	-20273-09-12 15:36 J	-5683035.02	-5683034.85	-5683034.68	0.0088	0.0056
Jupiter	-20272-04-06 13:26 J	-5682829.12	-5682828.94	-5682828.75	0.0494	0.0209
Neptune	-20272-04-26 04:48 J	-5682809.46	-5682809.30	-5682809.11	0.0088	0.0055
Neptune	-20272-12-07 18:00 J	-5682583.90	-5682583.75	-5682583.55	0.0088	0.0054
Neptune	-20271-07-21 07:40 J	-5682358.35	-5682358.18	-5682357.99	0.0088	0.0052
Neptune	-20270-03-03 20:52 J	-5682132.79	-5682132.63	-5682132.42	0.0088	0.0052
Neptune	-20270-10-15 10:48 J	-5681907.22	-5681907.05	-5681906.85	0.0088	0.0049
Neptune	-20269-05-28 00:14 J	-5681681.66	-5681681.49	-5681681.28	0.0088	0.0048
Neptune	-20268-01-08 13:55 J	-5681456.10	-5681455.92	-5681455.72	0.0088	0.0046
Neptune	-20268-08-22 03:36 J	-5681230.54	-5681230.35	-5681230.16	0.0088	0.0045
Neptune	-20267-04-04 16:48 J	-5681004.98	-5681004.80	-5681004.59	0.0088	0.0043
Jupiter	-20267-06-18 00:14 J	-5680930.66	-5680930.49	-5680930.32	0.0532	0.0286

Neptune -20267-11-16 06:28 J -5680779.42 -5680779.23 -5680779.02 0.0088 0.0041
 Jupiter -20266-02-10 20:09 J -5680692.84 -5680692.66 -5680692.47 0.0532 0.0193
 Neptune -20266-06-29 20:09 J -5680553.86 -5680553.66 -5680553.46 0.0088 0.0040
 Saturn -20266-11-19 17:45 J -5680410.81 -5680410.76 -5680410.69 0.0262 0.0249
 Neptune -20265-02-10 09:21 J -5680328.30 -5680328.11 -5680327.89 0.0088 0.0038
 Saturn -20265-07-05 11:45 J -5680182.18 -5680182.01 -5680181.82 0.0261 0.0126
 Neptune -20265-09-22 23:02 J -5680102.73 -5680102.54 -5680102.33 0.0088 0.0036
 Saturn -20264-02-19 05:31 J -5679953.48 -5679953.27 -5679953.06 0.0261 0.0004
 Neptune -20264-05-06 12:43 J -5679877.17 -5679876.97 -5679876.76 0.0088 0.0035
 Saturn -20264-10-05 23:16 J -5679724.72 -5679724.53 -5679724.35 0.0260 0.0122
 Neptune -20264-12-18 01:55 J -5679651.61 -5679651.42 -5679651.19 0.0088 0.0033
 Saturn -20263-05-22 16:48 J -5679495.86 -5679495.80 -5679495.72 0.0260 0.0244
 Neptune -20263-07-31 15:36 J -5679426.05 -5679425.85 -5679425.63 0.0088 0.0031
 Neptune -20262-03-14 05:16 J -5679200.49 -5679200.28 -5679200.06 0.0088 0.0029
 Uranus -20262-04-25 08:38 J -5679158.22 -5679158.14 -5679158.05 0.0132 0.0121
 Neptune -20262-10-25 18:57 J -5678974.91 -5678974.71 -5678974.49 0.0088 0.0028
 Uranus -20262-12-07 14:09 J -5678932.06 -5678931.91 -5678931.75 0.0132 0.0094
 Jupiter -20261-04-18 10:33 J -5678799.22 -5678799.06 -5678798.88 0.0495 0.0275
 Neptune -20261-06-07 08:52 J -5678749.35 -5678749.13 -5678748.92 0.0088 0.0026
 Uranus -20261-07-20 19:40 J -5678705.86 -5678705.68 -5678705.48 0.0132 0.0067
 Jupiter -20261-12-10 15:07 J -5678563.07 -5678562.87 -5678562.66 0.0494 0.0106
 Neptune -20260-01-18 22:04 J -5678523.78 -5678523.58 -5678523.35 0.0088 0.0024
 Uranus -20260-03-04 01:11 J -5678479.65 -5678479.45 -5678479.23 0.0132 0.0040
 Jupiter -20260-08-03 23:16 J -5678326.57 -5678326.53 -5678326.48 0.0495 0.0481
 Neptune -20260-09-01 11:45 J -5678298.22 -5678298.01 -5678297.78 0.0088 0.0022
 Uranus -20260-10-16 06:43 J -5678253.44 -5678253.22 -5678253.00 0.0133 0.0012
 Neptune -20259-04-15 01:26 J -5678072.65 -5678072.44 -5678072.21 0.0088 0.0020
 Uranus -20259-05-30 12:14 J -5678027.21 -5678026.99 -5678026.77 0.0133 0.0015
 Neptune -20259-11-26 15:21 J -5677847.07 -5677846.86 -5677846.63 0.0088 0.0018
 Uranus -20258-01-11 17:45 J -5677800.96 -5677800.76 -5677800.55 0.0133 0.0042

Neptune	-20258-07-10 05:02 J	-5677621.50	-5677621.29	-5677621.06	0.0088	0.0016
Uranus	-20258-08-25 23:02 J	-5677574.71	-5677574.54	-5677574.34	0.0133	0.0070
Neptune	-20257-02-20 18:43 J	-5677395.94	-5677395.72	-5677395.49	0.0088	0.0014
Uranus	-20257-04-08 04:33 J	-5677348.44	-5677348.31	-5677348.15	0.0133	0.0097
Neptune	-20257-10-03 08:23 J	-5677170.37	-5677170.15	-5677169.92	0.0088	0.0013
Uranus	-20257-11-20 10:04 J	-5677122.14	-5677122.08	-5677121.99	0.0133	0.0124
Neptune	-20256-05-16 22:19 J	-5676944.79	-5676944.57	-5676944.35	0.0088	0.0011
Neptune	-20256-12-28 12:00 J	-5676719.22	-5676719.00	-5676718.78	0.0088	0.0009
Jupiter	-20255-02-20 13:26 J	-5676665.06	-5676664.94	-5676664.81	0.0531	0.0415
Neptune	-20255-08-11 01:40 J	-5676493.66	-5676493.43	-5676493.21	0.0088	0.0007
Jupiter	-20255-10-16 10:48 J	-5676427.25	-5676427.05	-5676426.85	0.0532	0.0061
Neptune	-20254-03-24 15:21 J	-5676268.09	-5676267.86	-5676267.64	0.0088	0.0005
Jupiter	-20254-06-11 03:21 J	-5676189.39	-5676189.36	-5676189.32	0.0531	0.0521
Neptune	-20254-11-05 05:02 J	-5676042.51	-5676042.29	-5676042.06	0.0088	0.0003
Neptune	-20253-06-17 18:43 J	-5675816.94	-5675816.72	-5675816.49	0.0088	0.0001
Neptune	-20252-01-29 08:23 J	-5675591.37	-5675591.15	-5675590.92	0.0088	0.0001
Neptune	-20252-09-11 22:04 J	-5675365.81	-5675365.58	-5675365.36	0.0088	0.0003
Neptune	-20251-04-25 11:31 J	-5675140.24	-5675140.02	-5675139.79	0.0088	0.0006
Neptune	-20251-12-07 01:26 J	-5674914.66	-5674914.44	-5674914.22	0.0088	0.0007
Neptune	-20250-07-20 15:07 J	-5674689.09	-5674688.87	-5674688.65	0.0088	0.0009
Saturn	-20250-08-03 07:26 J	-5674675.37	-5674675.19	-5674675.00	0.0301	0.0154
Jupiter	-20250-12-23 13:26 J	-5674533.07	-5674532.94	-5674532.80	0.0495	0.0375
Neptune	-20249-03-02 04:33 J	-5674463.52	-5674463.31	-5674463.08	0.0088	0.0012
Saturn	-20249-03-20 17:45 J	-5674444.97	-5674444.76	-5674444.55	0.0301	0.0046
Jupiter	-20249-08-15 17:16 J	-5674296.98	-5674296.78	-5674296.57	0.0494	0.0007
Neptune	-20249-10-13 18:14 J	-5674237.95	-5674237.74	-5674237.51	0.0088	0.0014
Saturn	-20249-11-06 03:21 J	-5674214.47	-5674214.36	-5674214.23	0.0301	0.0245
Jupiter	-20248-04-09 00:00 J	-5674060.63	-5674060.50	-5674060.37	0.0494	0.0380
Neptune	-20248-05-27 08:09 J	-5674012.38	-5674012.16	-5674011.94	0.0088	0.0015
Mars	-20248-08-07 10:04 J	-5673940.20	-5673940.08	-5673939.96	0.1628	0.1133

Moon	-20248-10-30 23:45 J	-5673855.67	-5673855.51	-5673855.34	0.2616	0.0678
Earth	-20248-10-31 00:28 J	-5673855.63	-5673855.48	-5673855.33	0.2623	0.0714 *
Neptune	-20247-01-07 22:04 J	-5673786.80	-5673786.58	-5673786.36	0.0088	0.0017
Mars	-20247-07-06 19:11 J	-5673606.86	-5673606.70	-5673606.54	0.1892	0.0799
Neptune	-20247-08-21 11:31 J	-5673561.23	-5673561.02	-5673560.79	0.0088	0.0019
Neptune	-20246-04-04 01:11 J	-5673335.66	-5673335.45	-5673335.23	0.0089	0.0021
Mars	-20246-06-07 15:36 J	-5673271.00	-5673270.85	-5673270.68	0.1626	0.0587
Neptune	-20246-11-15 15:07 J	-5673110.08	-5673109.87	-5673109.65	0.0089	0.0023
Neptune	-20245-06-28 04:48 J	-5672884.51	-5672884.30	-5672884.08	0.0089	0.0025
Neptune	-20244-02-08 18:28 J	-5672658.93	-5672658.73	-5672658.51	0.0089	0.0027
Neptune	-20244-09-22 08:09 J	-5672433.36	-5672433.16	-5672432.94	0.0089	0.0028
Neptune	-20243-05-05 21:36 J	-5672207.79	-5672207.60	-5672207.37	0.0089	0.0031
Jupiter	-20243-06-21 02:23 J	-5672161.60	-5672161.40	-5672161.20	0.0533	0.0071
Neptune	-20243-12-17 11:45 J	-5671982.21	-5671982.01	-5671981.80	0.0089	0.0032
Jupiter	-20242-02-13 21:07 J	-5671923.75	-5671923.62	-5671923.49	0.0532	0.0402
Neptune	-20242-07-31 01:26 J	-5671756.64	-5671756.44	-5671756.23	0.0089	0.0034
Neptune	-20241-03-12 14:52 J	-5671531.07	-5671530.88	-5671530.66	0.0089	0.0036
Neptune	-20241-10-24 04:19 J	-5671305.50	-5671305.32	-5671305.10	0.0089	0.0038
Neptune	-20240-06-06 18:00 J	-5671079.93	-5671079.75	-5671079.53	0.0089	0.0040
Earth	-20240-10-28 18:14 J	-5670935.81	-5670935.74	-5670935.67	0.2624	0.2325
Neptune	-20239-01-18 07:55 J	-5670854.36	-5670854.17	-5670853.97	0.0089	0.0041
Neptune	-20239-08-31 21:21 J	-5670628.79	-5670628.61	-5670628.40	0.0089	0.0043
Neptune	-20238-04-14 10:48 J	-5670403.23	-5670403.05	-5670402.84	0.0089	0.0045
Jupiter	-20238-08-28 16:19 J	-5670266.87	-5670266.82	-5670266.76	0.0495	0.0473
Neptune	-20238-11-26 00:43 J	-5670177.65	-5670177.47	-5670177.27	0.0089	0.0046
Jupiter	-20237-04-20 19:11 J	-5670030.90	-5670030.70	-5670030.50	0.0494	0.0106
Neptune	-20237-07-08 14:09 J	-5669952.08	-5669951.91	-5669951.71	0.0089	0.0048
Jupiter	-20237-12-13 00:14 J	-5669794.65	-5669794.49	-5669794.31	0.0494	0.0276
Neptune	-20236-02-19 03:36 J	-5669726.51	-5669726.35	-5669726.14	0.0089	0.0050
Saturn	-20236-05-31 18:43 J	-5669624.80	-5669624.72	-5669624.62	0.0262	0.0234

Neptune -20236-10-02 17:31 J -5669500.94 -5669500.77 -5669500.58 0.0089 0.0051
 Saturn -20235-01-15 12:28 J -5669396.16 -5669395.98 -5669395.78 0.0261 0.0110
 Neptune -20235-05-16 06:43 J -5669275.37 -5669275.22 -5669275.02 0.0089 0.0053
 Saturn -20235-09-01 06:00 J -5669167.46 -5669167.25 -5669167.04 0.0261 0.0014
 Neptune -20235-12-27 20:52 J -5669049.80 -5669049.63 -5669049.45 0.0089 0.0054
 Saturn -20234-04-17 23:16 J -5668938.70 -5668938.53 -5668938.35 0.0260 0.0138
 Neptune -20234-08-10 10:04 J -5668824.23 -5668824.08 -5668823.88 0.0089 0.0056
 Saturn -20234-12-02 17:02 J -5668709.79 -5668709.79 -5668709.77 0.0260 0.0260
 Neptune -20233-03-23 00:00 J -5668598.66 -5668598.50 -5668598.32 0.0089 0.0057
 Neptune -20233-11-03 13:11 J -5668373.09 -5668372.95 -5668372.76 0.0089 0.0059
 Neptune -20232-06-17 02:52 J -5668147.52 -5668147.38 -5668147.19 0.0089 0.0060
 Neptune -20231-01-28 16:48 J -5667921.95 -5667921.80 -5667921.63 0.0089 0.0061
 Jupiter -20231-02-23 18:14 J -5667895.93 -5667895.74 -5667895.55 0.0533 0.0203
 Neptune -20231-09-11 06:00 J -5667696.38 -5667696.25 -5667696.07 0.0089 0.0063
 Jupiter -20231-10-19 14:23 J -5667658.07 -5667657.90 -5667657.73 0.0533 0.0277
 Pluto -20230-03-24 19:26 J -5667501.88 -5667501.69 -5667501.49 0.0080 0.0040
 Neptune -20230-04-24 19:40 J -5667470.81 -5667470.68 -5667470.51 0.0089 0.0064
 Pluto -20230-11-05 06:14 J -5667276.43 -5667276.24 -5667276.02 0.0080 0.0033
 Neptune -20230-12-06 09:21 J -5667245.25 -5667245.11 -5667244.95 0.0089 0.0065
 Neptune -20229-07-18 23:02 J -5667019.68 -5667019.54 -5667019.39 0.0089 0.0066
 Neptune -20228-03-01 12:14 J -5666794.11 -5666793.99 -5666793.83 0.0089 0.0068
 Neptune -20228-10-13 01:40 J -5666568.55 -5666568.43 -5666568.27 0.0089 0.0069
 Neptune -20227-05-26 15:07 J -5666342.99 -5666342.87 -5666342.71 0.0089 0.0070
 Neptune -20226-01-07 04:48 J -5666117.42 -5666117.30 -5666117.15 0.0089 0.0071
 Neptune -20226-08-20 18:14 J -5665891.86 -5665891.74 -5665891.60 0.0089 0.0072
 Jupiter -20226-12-25 21:50 J -5665764.78 -5665764.59 -5665764.41 0.0494 0.0209
 Neptune -20225-04-02 07:26 J -5665666.29 -5665666.19 -5665666.04 0.0089 0.0073
 Jupiter -20225-08-18 02:23 J -5665528.59 -5665528.40 -5665528.20 0.0494 0.0172
 Neptune -20225-11-13 20:52 J -5665440.73 -5665440.63 -5665440.49 0.0089 0.0074
 Neptune -20224-06-27 10:04 J -5665215.17 -5665215.08 -5665214.94 0.0089 0.0075

Neptune	-20223-02-07 23:31 J	-5664989.61	-5664989.52	-5664989.38	0.0089	0.0076
Neptune	-20223-09-21 13:26 J	-5664764.05	-5664763.94	-5664763.82	0.0089	0.0077
Neptune	-20222-05-05 02:38 J	-5664538.49	-5664538.39	-5664538.27	0.0089	0.0077
Neptune	-20222-12-16 15:50 J	-5664312.92	-5664312.84	-5664312.72	0.0089	0.0078
Neptune	-20221-07-29 05:02 J	-5664087.36	-5664087.29	-5664087.16	0.0089	0.0080
Uranus	-20221-10-30 20:09 J	-5663993.71	-5663993.66	-5663993.57	0.0146	0.0138
Saturn	-20220-02-12 10:19 J	-5663889.26	-5663889.07	-5663888.87	0.0300	0.0133
Neptune	-20220-03-11 18:57 J	-5663861.80	-5663861.71	-5663861.60	0.0089	0.0080
Uranus	-20220-06-14 08:09 J	-5663767.30	-5663767.16	-5663767.00	0.0146	0.0103
Saturn	-20220-09-30 20:52 J	-5663658.84	-5663658.63	-5663658.42	0.0301	0.0067
Neptune	-20220-10-23 08:09 J	-5663636.24	-5663636.16	-5663636.05	0.0089	0.0080
Jupiter	-20220-10-29 08:23 J	-5663630.31	-5663630.15	-5663629.99	0.0531	0.0333
Uranus	-20219-01-26 20:09 J	-5663540.85	-5663540.66	-5663540.46	0.0146	0.0067
Saturn	-20219-05-19 06:43 J	-5663428.31	-5663428.22	-5663428.11	0.0301	0.0267
Neptune	-20219-06-05 21:50 J	-5663410.68	-5663410.59	-5663410.50	0.0089	0.0081
Jupiter	-20219-06-24 04:48 J	-5663392.49	-5663392.30	-5663392.10	0.0532	0.0145
Uranus	-20219-09-10 08:09 J	-5663314.37	-5663314.16	-5663313.95	0.0146	0.0030
Neptune	-20218-01-17 10:48 J	-5663185.12	-5663185.05	-5663184.94	0.0089	0.0082
Uranus	-20218-04-24 20:09 J	-5663087.88	-5663087.66	-5663087.45	0.0146	0.0006
Neptune	-20218-08-31 00:28 J	-5662959.56	-5662959.48	-5662959.39	0.0089	0.0082
Uranus	-20218-12-07 07:55 J	-5662861.37	-5662861.17	-5662860.96	0.0146	0.0042
Neptune	-20217-04-12 13:26 J	-5662734.00	-5662733.94	-5662733.84	0.0089	0.0082
Uranus	-20217-07-20 19:55 J	-5662634.84	-5662634.67	-5662634.48	0.0146	0.0078
Neptune	-20217-11-24 02:52 J	-5662508.45	-5662508.38	-5662508.29	0.0089	0.0083
Uranus	-20216-03-04 07:40 J	-5662408.29	-5662408.18	-5662408.03	0.0146	0.0114
Neptune	-20216-07-07 15:50 J	-5662282.90	-5662282.84	-5662282.74	0.0089	0.0083
Neptune	-20215-02-18 05:16 J	-5662057.34	-5662057.28	-5662057.19	0.0089	0.0083
Neptune	-20215-10-01 18:28 J	-5661831.79	-5661831.73	-5661831.64	0.0089	0.0084
Neptune	-20214-05-15 07:40 J	-5661606.24	-5661606.18	-5661606.09	0.0089	0.0084
Mars	-20214-06-06 07:26 J	-5661584.36	-5661584.19	-5661584.02	0.1627	0.0242

Jupiter -20214-08-30 23:31 J -5661498.67 -5661498.52 -5661498.36 0.0495 0.0312
 Neptune -20214-12-26 20:52 J -5661380.70 -5661380.63 -5661380.55 0.0089 0.0084
 Jupiter -20213-04-23 04:04 J -5661262.53 -5661262.33 -5661262.13 0.0494 0.0067
 Mars -20213-05-02 18:28 J -5661252.86 -5661252.73 -5661252.60 0.1893 0.1293
 Neptune -20213-08-08 10:04 J -5661155.15 -5661155.08 -5661155.00 0.0089 0.0084
 Jupiter -20213-12-15 12:00 J -5661026.09 -5661026.00 -5661025.91 0.0495 0.0445
 Neptune -20212-03-21 22:48 J -5660929.60 -5660929.55 -5660929.45 0.0089 0.0084
 Mars -20212-04-05 12:57 J -5660915.03 -5660914.96 -5660914.89 0.1626 0.1478
 Neptune -20212-11-02 12:28 J -5660704.05 -5660703.98 -5660703.91 0.0089 0.0084
 Neptune -20211-06-16 01:26 J -5660478.51 -5660478.44 -5660478.36 0.0089 0.0084
 Neptune -20210-01-27 14:38 J -5660252.96 -5660252.89 -5660252.81 0.0089 0.0084
 Neptune -20210-09-10 03:36 J -5660027.41 -5660027.35 -5660027.26 0.0089 0.0084
 Neptune -20209-04-22 16:33 J -5659801.87 -5659801.81 -5659801.72 0.0089 0.0084
 Neptune -20209-12-04 05:31 J -5659576.33 -5659576.27 -5659576.17 0.0089 0.0083
 Jupiter -20208-07-03 22:48 J -5659364.65 -5659364.55 -5659364.45 0.0530 0.0459
 Neptune -20208-07-17 18:57 J -5659350.79 -5659350.71 -5659350.63 0.0089 0.0083
 Jupiter -20207-02-26 20:09 J -5659126.86 -5659126.66 -5659126.46 0.0532 0.0013
 Neptune -20207-02-28 07:55 J -5659125.24 -5659125.17 -5659125.08 0.0089 0.0083
 Neptune -20207-10-11 20:38 J -5658899.70 -5658899.64 -5658899.53 0.0089 0.0083
 Jupiter -20207-10-22 12:57 J -5658889.04 -5658888.96 -5658888.87 0.0531 0.0477
 Saturn -20207-12-11 21:50 J -5658838.69 -5658838.59 -5658838.46 0.0262 0.0216
 Neptune -20206-05-25 10:04 J -5658674.16 -5658674.08 -5658673.99 0.0089 0.0082
 Saturn -20206-07-28 15:50 J -5658610.04 -5658609.84 -5658609.64 0.0261 0.0091
 Neptune -20205-01-05 22:33 J -5658448.62 -5658448.56 -5658448.45 0.0089 0.0082
 Saturn -20205-03-13 09:21 J -5658381.32 -5658381.11 -5658380.90 0.0260 0.0033
 Neptune -20205-08-18 12:00 J -5658223.08 -5658223.00 -5658222.90 0.0089 0.0081
 Saturn -20205-10-28 02:52 J -5658152.55 -5658152.38 -5658152.22 0.0260 0.0155
 Neptune -20204-04-01 00:43 J -5657997.54 -5657997.47 -5657997.35 0.0089 0.0081
 Neptune -20204-11-12 13:40 J -5657772.01 -5657771.93 -5657771.81 0.0089 0.0080
 Neptune -20203-06-26 02:52 J -5657546.48 -5657546.38 -5657546.28 0.0089 0.0079

Neptune -20202-02-06 15:21 J -5657320.94 -5657320.86 -5657320.74 0.0089 0.0079
 Jupiter -20202-05-06 02:23 J -5657232.51 -5657232.40 -5657232.28 0.0496 0.0411
 Neptune -20202-09-20 04:19 J -5657095.41 -5657095.32 -5657095.20 0.0089 0.0078
 Jupiter -20202-12-28 06:14 J -5656996.44 -5656996.24 -5656996.03 0.0494 0.0038
 Neptune -20201-05-02 17:16 J -5656869.88 -5656869.78 -5656869.66 0.0089 0.0077
 Jupiter -20201-08-20 12:57 J -5656760.10 -5656759.96 -5656759.81 0.0494 0.0345
 Neptune -20201-12-14 06:14 J -5656644.35 -5656644.24 -5656644.12 0.0089 0.0076
 Neptune -20200-07-27 18:57 J -5656418.82 -5656418.71 -5656418.59 0.0089 0.0075
 Neptune -20199-03-10 07:26 J -5656193.29 -5656193.19 -5656193.05 0.0089 0.0074
 Neptune -20199-10-21 20:09 J -5655967.76 -5655967.66 -5655967.51 0.0089 0.0074
 Neptune -20198-06-04 08:52 J -5655742.23 -5655742.13 -5655741.98 0.0089 0.0073
 Neptune -20197-01-15 22:19 J -5655516.70 -5655516.57 -5655516.44 0.0089 0.0071
 Neptune -20197-08-28 10:48 J -5655291.18 -5655291.05 -5655290.91 0.0089 0.0070
 Neptune -20196-04-10 23:45 J -5655065.64 -5655065.51 -5655065.37 0.0089 0.0069
 Jupiter -20196-11-01 09:50 J -5654861.28 -5654861.09 -5654860.89 0.0532 0.0121
 Neptune -20196-11-22 12:14 J -5654840.11 -5654839.99 -5654839.83 0.0089 0.0068
 Jupiter -20195-06-27 04:48 J -5654623.45 -5654623.30 -5654623.15 0.0532 0.0354
 Neptune -20195-07-06 00:57 J -5654614.59 -5654614.46 -5654614.30 0.0089 0.0067
 Neptune -20194-02-16 13:40 J -5654389.06 -5654388.93 -5654388.77 0.0089 0.0065
 Neptune -20194-09-30 02:52 J -5654163.53 -5654163.38 -5654163.23 0.0089 0.0064
 Neptune -20193-05-12 15:21 J -5653938.00 -5653937.86 -5653937.70 0.0089 0.0063
 Neptune -20193-12-24 03:50 J -5653712.48 -5653712.34 -5653712.17 0.0089 0.0062
 Neptune -20192-08-06 16:19 J -5653486.96 -5653486.82 -5653486.64 0.0089 0.0061
 Neptune -20191-03-20 05:16 J -5653261.43 -5653261.28 -5653261.10 0.0089 0.0059
 Saturn -20191-08-25 16:48 J -5653103.00 -5653102.80 -5653102.59 0.0301 0.0107
 Neptune -20191-10-31 17:45 J -5653035.91 -5653035.76 -5653035.58 0.0089 0.0057
 Saturn -20190-04-13 03:07 J -5652872.57 -5652872.37 -5652872.16 0.0301 0.0095
 Neptune -20190-06-14 06:28 J -5652810.39 -5652810.23 -5652810.05 0.0089 0.0056
 Jupiter -20190-09-02 09:07 J -5652730.32 -5652730.12 -5652729.92 0.0494 0.0141
 Saturn -20190-11-29 13:11 J -5652642.00 -5652641.95 -5652641.90 0.0302 0.0293

Neptune	-20189-01-25 18:57 J	-5652584.87	-5652584.71	-5652584.52	0.0089	0.0054
Jupiter	-20189-04-25 14:38 J	-5652494.07	-5652493.89	-5652493.71	0.0494	0.0241
Neptune	-20189-09-07 07:40 J	-5652359.35	-5652359.18	-5652359.00	0.0089	0.0053
Neptune	-20188-04-20 20:09 J	-5652133.82	-5652133.66	-5652133.47	0.0089	0.0051
Neptune	-20188-12-02 08:52 J	-5651908.30	-5651908.13	-5651907.94	0.0089	0.0049
Neptune	-20187-07-15 21:21 J	-5651682.78	-5651682.61	-5651682.42	0.0089	0.0048
Neptune	-20186-02-26 09:36 J	-5651457.27	-5651457.10	-5651456.90	0.0089	0.0047
Neptune	-20186-10-09 22:19 J	-5651231.74	-5651231.57	-5651231.37	0.0089	0.0045
Neptune	-20185-05-22 11:16 J	-5651006.22	-5651006.03	-5651005.84	0.0089	0.0043
Neptune	-20184-01-02 23:16 J	-5650780.70	-5650780.53	-5650780.32	0.0089	0.0042
Jupiter	-20184-07-07 00:57 J	-5650595.64	-5650595.46	-5650595.28	0.0532	0.0252
Neptune	-20184-08-16 12:00 J	-5650555.18	-5650555.00	-5650554.80	0.0089	0.0039
Jupiter	-20183-03-01 21:21 J	-5650357.78	-5650357.61	-5650357.42	0.0533	0.0229
Neptune	-20183-03-30 00:43 J	-5650329.66	-5650329.47	-5650329.27	0.0089	0.0037
Neptune	-20183-11-10 12:57 J	-5650104.14	-5650103.96	-5650103.75	0.0089	0.0036
Mars	-20182-06-04 23:02 J	-5649897.67	-5649897.54	-5649897.42	0.1628	0.1061
Neptune	-20182-06-24 01:26 J	-5649878.62	-5649878.44	-5649878.22	0.0089	0.0035
Neptune	-20181-02-04 14:09 J	-5649653.10	-5649652.91	-5649652.70	0.0089	0.0032
Mars	-20181-05-02 20:38 J	-5649564.81	-5649564.64	-5649564.46	0.1892	0.0487
Neptune	-20181-09-17 02:38 J	-5649427.58	-5649427.39	-5649427.18	0.0089	0.0030
Mars	-20180-04-04 04:48 J	-5649228.46	-5649228.30	-5649228.14	0.1626	0.0653
Neptune	-20180-04-30 15:21 J	-5649202.06	-5649201.86	-5649201.65	0.0089	0.0028
Neptune	-20180-12-12 03:50 J	-5648976.54	-5648976.34	-5648976.13	0.0089	0.0026
Neptune	-20179-07-25 16:19 J	-5648751.03	-5648750.82	-5648750.61	0.0089	0.0025
Neptune	-20178-03-08 04:48 J	-5648525.51	-5648525.30	-5648525.09	0.0089	0.0023
Jupiter	-20178-05-08 11:31 J	-5648464.19	-5648464.02	-5648463.84	0.0494	0.0245
Uranus	-20178-08-06 23:31 J	-5648373.63	-5648373.52	-5648373.37	0.0132	0.0107
Neptune	-20178-10-19 17:02 J	-5648299.99	-5648299.79	-5648299.57	0.0089	0.0021
Jupiter	-20178-12-30 15:50 J	-5648228.04	-5648227.84	-5648227.65	0.0494	0.0136
Uranus	-20177-03-20 05:02 J	-5648147.45	-5648147.29	-5648147.10	0.0132	0.0080

Neptune	-20177-06-01 05:31 J	-5648074.47	-5648074.27	-5648074.05	0.0089	0.0019
Saturn	-20177-06-22 22:33 J	-5648052.69	-5648052.56	-5648052.43	0.0261	0.0200
Uranus	-20177-11-01 10:33 J	-5647921.25	-5647921.06	-5647920.84	0.0132	0.0052
Neptune	-20176-01-12 18:00 J	-5647848.96	-5647848.75	-5647848.53	0.0089	0.0017
Saturn	-20176-02-06 16:04 J	-5647824.03	-5647823.83	-5647823.63	0.0261	0.0077
Uranus	-20176-06-15 16:19 J	-5647695.03	-5647694.82	-5647694.60	0.0132	0.0025
Neptune	-20176-08-26 06:14 J	-5647623.44	-5647623.24	-5647623.02	0.0089	0.0015
Saturn	-20176-09-23 09:07 J	-5647595.32	-5647595.12	-5647594.91	0.0260	0.0048
Uranus	-20175-01-27 22:04 J	-5647468.80	-5647468.58	-5647468.36	0.0133	0.0004
Neptune	-20175-04-08 18:43 J	-5647397.93	-5647397.72	-5647397.50	0.0089	0.0013
Saturn	-20175-05-10 02:38 J	-5647366.55	-5647366.39	-5647366.24	0.0260	0.0171
Uranus	-20175-09-11 03:21 J	-5647242.57	-5647242.36	-5647242.14	0.0133	0.0030
Neptune	-20175-11-20 07:11 J	-5647172.41	-5647172.20	-5647171.98	0.0089	0.0011
Uranus	-20174-04-25 08:38 J	-5647016.32	-5647016.14	-5647015.93	0.0133	0.0058
Neptune	-20174-07-03 19:26 J	-5646946.90	-5646946.69	-5646946.47	0.0089	0.0009
Uranus	-20174-12-07 14:09 J	-5646790.06	-5646789.91	-5646789.73	0.0133	0.0085
Neptune	-20173-02-14 07:55 J	-5646721.38	-5646721.17	-5646720.95	0.0089	0.0007
Uranus	-20173-07-20 19:55 J	-5646563.78	-5646563.67	-5646563.55	0.0133	0.0112
Neptune	-20173-09-26 20:23 J	-5646495.87	-5646495.65	-5646495.44	0.0089	0.0005
Jupiter	-20172-03-11 16:33 J	-5646329.95	-5646329.81	-5646329.67	0.0532	0.0381
Neptune	-20172-05-10 08:52 J	-5646270.35	-5646270.13	-5646269.92	0.0089	0.0003
Jupiter	-20172-11-04 14:09 J	-5646092.10	-5646091.91	-5646091.71	0.0533	0.0099
Neptune	-20172-12-21 21:07 J	-5646044.83	-5646044.62	-5646044.40	0.0089	0.0002
Neptune	-20171-08-04 09:36 J	-5645819.32	-5645819.10	-5645818.89	0.0089	0.0001
Neptune	-20170-03-17 21:50 J	-5645593.80	-5645593.59	-5645593.37	0.0089	0.0003
Neptune	-20170-10-29 10:19 J	-5645368.29	-5645368.07	-5645367.85	0.0089	0.0005
Neptune	-20169-06-10 22:48 J	-5645142.76	-5645142.55	-5645142.33	0.0089	0.0007
Neptune	-20168-01-22 11:16 J	-5644917.24	-5644917.03	-5644916.81	0.0089	0.0009
Neptune	-20168-09-04 23:31 J	-5644691.73	-5644691.52	-5644691.30	0.0089	0.0011
Neptune	-20167-04-18 12:00 J	-5644466.21	-5644466.00	-5644465.79	0.0089	0.0013

Neptune -20167-11-30 00:14 J -5644240.70 -5644240.49 -5644240.27 0.0089 0.0015
 Jupiter -20166-01-11 14:23 J -5644198.04 -5644197.90 -5644197.75 0.0495 0.0346
 Neptune -20166-07-13 12:43 J -5644015.18 -5644014.97 -5644014.75 0.0089 0.0017
 Jupiter -20166-09-04 18:14 J -5643961.94 -5643961.74 -5643961.53 0.0494 0.0033
 Neptune -20165-02-24 00:57 J -5643789.66 -5643789.46 -5643789.24 0.0089 0.0019
 Jupiter -20165-04-28 00:57 J -5643725.56 -5643725.46 -5643725.34 0.0494 0.0411
 Neptune -20165-10-06 13:11 J -5643564.15 -5643563.95 -5643563.73 0.0089 0.0021
 Neptune -20164-05-20 01:40 J -5643338.63 -5643338.43 -5643338.21 0.0089 0.0023
 Neptune -20164-12-31 13:55 J -5643113.11 -5643112.92 -5643112.70 0.0089 0.0025
 Neptune -20163-08-14 02:09 J -5642887.60 -5642887.41 -5642887.19 0.0089 0.0027
 Neptune -20162-03-27 14:52 J -5642662.09 -5642661.88 -5642661.68 0.0089 0.0028
 Saturn -20162-07-20 07:26 J -5642547.23 -5642547.19 -5642547.11 0.0300 0.0287
 Neptune -20162-11-08 03:07 J -5642436.57 -5642436.37 -5642436.16 0.0089 0.0030
 Saturn -20161-03-06 18:00 J -5642316.95 -5642316.75 -5642316.54 0.0301 0.0089
 Neptune -20161-06-20 15:36 J -5642211.05 -5642210.85 -5642210.64 0.0089 0.0032
 Saturn -20161-10-23 04:33 J -5642086.51 -5642086.31 -5642086.11 0.0301 0.0113
 Jupiter -20161-11-14 07:11 J -5642064.25 -5642064.20 -5642064.13 0.0530 0.0504
 Neptune -20160-02-01 03:50 J -5641985.53 -5641985.34 -5641985.13 0.0089 0.0034
 Jupiter -20160-07-10 05:02 J -5641826.49 -5641826.29 -5641826.09 0.0532 0.0035
 Neptune -20160-09-14 16:04 J -5641760.02 -5641759.83 -5641759.62 0.0089 0.0036
 Jupiter -20159-03-04 22:48 J -5641588.66 -5641588.55 -5641588.43 0.0531 0.0435
 Neptune -20159-04-28 04:19 J -5641534.50 -5641534.32 -5641534.11 0.0089 0.0038
 Neptune -20159-12-09 17:02 J -5641308.98 -5641308.79 -5641308.59 0.0089 0.0039
 Neptune -20158-07-23 05:16 J -5641083.46 -5641083.28 -5641083.07 0.0089 0.0041
 Neptune -20157-03-04 17:45 J -5640857.94 -5640857.76 -5640857.56 0.0089 0.0043
 Neptune -20157-10-16 06:28 J -5640632.42 -5640632.23 -5640632.04 0.0089 0.0044
 Neptune -20156-05-29 18:43 J -5640406.90 -5640406.72 -5640406.52 0.0089 0.0046
 Neptune -20155-01-10 06:57 J -5640181.37 -5640181.21 -5640181.01 0.0089 0.0048
 Neptune -20155-08-23 19:26 J -5639955.85 -5639955.69 -5639955.49 0.0089 0.0050
 Jupiter -20155-09-16 15:50 J -5639931.92 -5639931.84 -5639931.75 0.0496 0.0447

Neptune	-20154-04-06 08:09 J	-5639730.33	-5639730.16	-5639729.98	0.0089	0.0051
Jupiter	-20154-05-10 19:40 J	-5639695.88	-5639695.68	-5639695.48	0.0494	0.0074
Neptune	-20154-11-17 20:23 J	-5639504.81	-5639504.65	-5639504.46	0.0089	0.0053
Jupiter	-20153-01-02 02:09 J	-5639459.57	-5639459.41	-5639459.25	0.0495	0.0309
Neptune	-20153-06-30 09:21 J	-5639279.28	-5639279.11	-5639278.94	0.0089	0.0054
Neptune	-20152-02-10 21:21 J	-5639053.76	-5639053.61	-5639053.42	0.0089	0.0056
Neptune	-20152-09-24 10:04 J	-5638828.24	-5638828.08	-5638827.91	0.0089	0.0057
Neptune	-20151-05-07 22:19 J	-5638602.72	-5638602.57	-5638602.40	0.0088	0.0059
Neptune	-20151-12-19 11:02 J	-5638377.20	-5638377.04	-5638376.88	0.0088	0.0060
Neptune	-20150-08-01 23:16 J	-5638151.67	-5638151.53	-5638151.36	0.0088	0.0062
Neptune	-20149-03-14 11:45 J	-5637926.15	-5637926.01	-5637925.84	0.0088	0.0063
Neptune	-20149-10-26 00:00 J	-5637700.63	-5637700.50	-5637700.33	0.0088	0.0065
Jupiter	-20148-03-14 20:09 J	-5637560.85	-5637560.66	-5637560.46	0.0532	0.0167
Mars	-20148-04-02 20:09 J	-5637541.83	-5637541.66	-5637541.49	0.1627	0.0170
Neptune	-20148-06-08 12:43 J	-5637475.10	-5637474.97	-5637474.81	0.0088	0.0065
Jupiter	-20148-11-07 15:07 J	-5637323.03	-5637322.87	-5637322.71	0.0532	0.0310
Saturn	-20147-01-03 00:43 J	-5637266.60	-5637266.47	-5637266.31	0.0261	0.0184
Neptune	-20147-01-20 01:11 J	-5637249.58	-5637249.45	-5637249.29	0.0088	0.0067
Mars	-20147-02-27 19:55 J	-5637210.76	-5637210.67	-5637210.58	0.1893	0.1598
Saturn	-20147-08-19 18:28 J	-5637037.93	-5637037.73	-5637037.53	0.0261	0.0059
Neptune	-20147-09-02 13:55 J	-5637024.05	-5637023.92	-5637023.77	0.0088	0.0068
Mars	-20146-02-01 01:26 J	-5636872.49	-5636872.44	-5636872.39	0.1626	0.1549
Saturn	-20146-04-05 11:45 J	-5636809.21	-5636809.01	-5636808.81	0.0260	0.0065
Neptune	-20146-04-16 02:09 J	-5636798.53	-5636798.41	-5636798.26	0.0088	0.0069
Saturn	-20146-11-20 05:02 J	-5636580.43	-5636580.29	-5636580.14	0.0260	0.0188
Neptune	-20146-11-27 14:38 J	-5636573.00	-5636572.89	-5636572.74	0.0088	0.0071
Neptune	-20145-07-10 03:36 J	-5636347.46	-5636347.35	-5636347.21	0.0088	0.0071
Neptune	-20144-02-20 16:04 J	-5636121.93	-5636121.83	-5636121.69	0.0088	0.0073
Neptune	-20144-10-04 04:48 J	-5635896.41	-5635896.30	-5635896.17	0.0088	0.0074
Neptune	-20143-05-17 17:16 J	-5635670.88	-5635670.78	-5635670.65	0.0088	0.0075

Neptune -20143-12-29 06:00 J -5635445.35 -5635445.25 -5635445.12 0.0088 0.0076
 Jupiter -20142-01-13 22:19 J -5635429.76 -5635429.57 -5635429.38 0.0495 0.0178
 Neptune -20142-08-11 18:43 J -5635219.81 -5635219.72 -5635219.59 0.0088 0.0077
 Jupiter -20142-09-07 04:04 J -5635193.52 -5635193.33 -5635193.15 0.0494 0.0206
 Neptune -20141-03-24 07:26 J -5634994.28 -5634994.19 -5634994.07 0.0088 0.0078
 Neptune -20141-11-04 19:55 J -5634768.75 -5634768.67 -5634768.55 0.0088 0.0079
 Neptune -20140-06-18 08:38 J -5634543.22 -5634543.14 -5634543.02 0.0088 0.0079
 Neptune -20139-01-29 21:50 J -5634317.68 -5634317.59 -5634317.50 0.0088 0.0080
 Neptune -20139-09-12 10:19 J -5634092.15 -5634092.07 -5634091.98 0.0088 0.0081
 Neptune -20138-04-25 22:48 J -5633866.62 -5633866.55 -5633866.45 0.0088 0.0081
 Neptune -20138-12-07 11:16 J -5633641.09 -5633641.03 -5633640.93 0.0088 0.0082
 Neptune -20137-07-20 00:14 J -5633415.55 -5633415.49 -5633415.40 0.0088 0.0083
 Jupiter -20137-11-17 09:36 J -5633295.26 -5633295.10 -5633294.93 0.0531 0.0299
 Uranus -20136-02-11 15:36 J -5633208.97 -5633208.85 -5633208.72 0.0146 0.0119
 Neptune -20136-03-02 12:43 J -5633190.02 -5633189.97 -5633189.87 0.0088 0.0084
 Jupiter -20136-07-13 06:00 J -5633057.44 -5633057.25 -5633057.06 0.0532 0.0181
 Uranus -20136-09-26 03:36 J -5632982.53 -5632982.35 -5632982.17 0.0146 0.0083
 Neptune -20136-10-14 01:40 J -5632964.48 -5632964.43 -5632964.35 0.0088 0.0084
 Uranus -20135-05-10 15:21 J -5632756.06 -5632755.86 -5632755.65 0.0146 0.0047
 Neptune -20135-05-27 14:09 J -5632738.95 -5632738.91 -5632738.82 0.0088 0.0084
 Uranus -20135-12-23 03:21 J -5632529.57 -5632529.36 -5632529.14 0.0146 0.0010
 Neptune -20134-01-08 03:07 J -5632513.42 -5632513.37 -5632513.29 0.0088 0.0084
 Uranus -20134-08-06 15:36 J -5632303.06 -5632302.85 -5632302.64 0.0146 0.0026
 Neptune -20134-08-21 16:19 J -5632287.87 -5632287.82 -5632287.76 0.0088 0.0085
 Uranus -20133-03-20 03:36 J -5632076.54 -5632076.35 -5632076.15 0.0146 0.0062
 Neptune -20133-04-03 04:33 J -5632062.34 -5632062.31 -5632062.23 0.0088 0.0086
 Uranus -20133-11-01 15:36 J -5631850.01 -5631849.85 -5631849.69 0.0146 0.0098
 Neptune -20133-11-14 17:31 J -5631836.80 -5631836.77 -5631836.70 0.0088 0.0086
 Saturn -20132-01-29 12:57 J -5631761.05 -5631760.96 -5631760.85 0.0300 0.0262
 Uranus -20132-06-16 03:21 J -5631623.43 -5631623.36 -5631623.26 0.0145 0.0134

Neptune	-20132-06-28 06:43 J	-5631611.27	-5631611.22	-5631611.16	0.0088	0.0085
Saturn	-20132-09-16 23:31 J	-5631530.73	-5631530.52	-5631530.31	0.0301	0.0063
Neptune	-20131-02-08 19:40 J	-5631385.73	-5631385.68	-5631385.63	0.0088	0.0086
Saturn	-20131-05-05 10:04 J	-5631300.27	-5631300.08	-5631299.89	0.0302	0.0139
Jupiter	-20131-09-19 01:40 J	-5631163.60	-5631163.43	-5631163.26	0.0495	0.0280
Neptune	-20131-09-22 08:09 J	-5631160.18	-5631160.16	-5631160.09	0.0088	0.0086
Neptune	-20130-05-05 21:07 J	-5630934.65	-5630934.62	-5630934.55	0.0088	0.0086
Jupiter	-20130-05-13 06:00 J	-5630927.45	-5630927.25	-5630927.04	0.0494	0.0102
Neptune	-20130-12-17 10:04 J	-5630709.11	-5630709.08	-5630709.02	0.0088	0.0086
Jupiter	-20129-01-04 13:55 J	-5630690.97	-5630690.92	-5630690.87	0.0495	0.0478
Neptune	-20129-07-29 23:02 J	-5630483.56	-5630483.54	-5630483.48	0.0088	0.0086
Neptune	-20128-03-12 12:00 J	-5630258.03	-5630258.00	-5630257.94	0.0088	0.0086
Neptune	-20128-10-24 00:43 J	-5630032.49	-5630032.47	-5630032.40	0.0088	0.0087
Neptune	-20127-06-06 13:40 J	-5629806.95	-5629806.93	-5629806.86	0.0088	0.0086
Neptune	-20126-01-18 03:07 J	-5629581.41	-5629581.37	-5629581.32	0.0088	0.0086
Neptune	-20126-08-31 16:04 J	-5629355.87	-5629355.83	-5629355.77	0.0088	0.0085
Neptune	-20125-04-13 04:48 J	-5629130.33	-5629130.30	-5629130.22	0.0088	0.0085
Jupiter	-20125-07-23 00:14 J	-5629029.61	-5629029.49	-5629029.37	0.0531	0.0427
Neptune	-20125-11-24 17:45 J	-5628904.80	-5628904.76	-5628904.68	0.0088	0.0085
Jupiter	-20124-03-17 22:04 J	-5628791.78	-5628791.58	-5628791.38	0.0532	0.0050
Neptune	-20124-07-08 06:57 J	-5628679.26	-5628679.21	-5628679.14	0.0088	0.0084
Jupiter	-20124-11-10 15:21 J	-5628553.91	-5628553.86	-5628553.81	0.0531	0.0513
Neptune	-20123-02-18 19:40 J	-5628453.72	-5628453.68	-5628453.59	0.0088	0.0084
Neptune	-20123-10-02 09:07 J	-5628228.18	-5628228.12	-5628228.04	0.0088	0.0084
Neptune	-20122-05-15 21:50 J	-5628002.64	-5628002.59	-5628002.50	0.0088	0.0083
Neptune	-20122-12-27 11:16 J	-5627777.10	-5627777.03	-5627776.95	0.0088	0.0082
Neptune	-20121-08-09 00:00 J	-5627551.55	-5627551.50	-5627551.40	0.0088	0.0082
Neptune	-20120-03-22 13:26 J	-5627326.01	-5627325.94	-5627325.84	0.0088	0.0081
Neptune	-20120-11-03 02:52 J	-5627100.47	-5627100.38	-5627100.29	0.0088	0.0080
Jupiter	-20119-05-25 04:33 J	-5626897.43	-5626897.31	-5626897.18	0.0495	0.0381

Neptune -20119-06-16 15:21 J -5626874.92 -5626874.86 -5626874.74 0.0088 0.0080
 Jupiter -20118-01-16 08:09 J -5626661.37 -5626661.16 -5626660.96 0.0494 0.0009
 Neptune -20118-01-28 04:48 J -5626649.38 -5626649.30 -5626649.19 0.0088 0.0079
 Moon -20118-05-03 09:21 J -5626554.27 -5626554.11 -5626553.95 0.2707 0.0229
 Earth -20118-05-03 15:07 J -5626554.03 -5626553.87 -5626553.71 0.2709 0.0020 *
 Saturn -20118-07-16 01:11 J -5626480.61 -5626480.45 -5626480.29 0.0261 0.0168
 Jupiter -20118-09-09 14:23 J -5626425.02 -5626424.90 -5626424.76 0.0494 0.0376
 Neptune -20118-09-10 18:14 J -5626423.82 -5626423.74 -5626423.63 0.0088 0.0078
 Saturn -20117-02-29 18:28 J -5626251.93 -5626251.73 -5626251.52 0.0260 0.0045
 Neptune -20117-04-23 07:40 J -5626198.28 -5626198.18 -5626198.07 0.0088 0.0077
 Saturn -20117-10-15 11:31 J -5626023.21 -5626023.02 -5626022.81 0.0260 0.0080
 Neptune -20117-12-04 20:52 J -5625972.73 -5625972.63 -5625972.51 0.0088 0.0076
 Mars -20116-04-01 11:45 J -5625855.14 -5625855.01 -5625854.87 0.1628 0.0987
 Saturn -20116-06-01 04:48 J -5625794.43 -5625794.30 -5625794.16 0.0260 0.0202
 Neptune -20116-07-18 10:19 J -5625747.18 -5625747.07 -5625746.96 0.0088 0.0075
 Mars -20115-02-27 22:48 J -5625522.73 -5625522.55 -5625522.37 0.1892 0.0190
 Neptune -20115-02-28 23:31 J -5625521.64 -5625521.52 -5625521.40 0.0088 0.0074
 Neptune -20115-10-12 12:14 J -5625296.08 -5625295.99 -5625295.84 0.0088 0.0074
 Mars -20114-01-30 17:02 J -5625185.94 -5625185.79 -5625185.63 0.1626 0.0729
 Neptune -20114-05-26 02:09 J -5625070.53 -5625070.41 -5625070.28 0.0088 0.0072
 Neptune -20113-01-06 15:21 J -5624844.98 -5624844.86 -5624844.73 0.0088 0.0071
 Neptune -20113-08-19 04:33 J -5624619.43 -5624619.31 -5624619.17 0.0088 0.0070
 Jupiter -20113-11-20 14:09 J -5624526.11 -5624525.91 -5624525.71 0.0532 0.0082
 Neptune -20112-04-01 17:45 J -5624393.88 -5624393.76 -5624393.61 0.0088 0.0069
 Jupiter -20112-07-16 09:07 J -5624288.25 -5624288.12 -5624287.98 0.0532 0.0393
 Neptune -20112-11-13 06:57 J -5624168.33 -5624168.21 -5624168.05 0.0088 0.0068
 Neptune -20111-06-26 20:38 J -5623942.78 -5623942.64 -5623942.49 0.0088 0.0067
 Neptune -20110-02-07 09:36 J -5623717.23 -5623717.10 -5623716.93 0.0088 0.0066
 Neptune -20110-09-20 23:02 J -5623491.67 -5623491.54 -5623491.37 0.0088 0.0064
 Neptune -20109-05-03 12:43 J -5623266.12 -5623265.97 -5623265.81 0.0088 0.0063

Neptune	-20109-12-15 01:55 J	-5623040.57	-5623040.42	-5623040.25	0.0088	0.0061
Neptune	-20108-07-28 15:07 J	-5622815.01	-5622814.87	-5622814.69	0.0088	0.0060
Jupiter	-20107-01-28 07:55 J	-5622631.22	-5622631.17	-5622631.11	0.0496	0.0478
Neptune	-20107-03-11 04:48 J	-5622589.46	-5622589.30	-5622589.12	0.0088	0.0058
Jupiter	-20107-09-21 11:02 J	-5622395.24	-5622395.04	-5622394.84	0.0494	0.0109
Neptune	-20107-10-22 18:14 J	-5622363.89	-5622363.74	-5622363.55	0.0088	0.0057
Jupiter	-20106-05-15 16:19 J	-5622158.98	-5622158.82	-5622158.64	0.0494	0.0274
Neptune	-20106-06-05 07:55 J	-5622138.33	-5622138.17	-5622137.98	0.0088	0.0055
Neptune	-20105-01-16 21:36 J	-5621912.77	-5621912.60	-5621912.42	0.0088	0.0053
Neptune	-20105-08-29 10:48 J	-5621687.21	-5621687.05	-5621686.85	0.0088	0.0052
Neptune	-20104-04-12 00:28 J	-5621461.65	-5621461.48	-5621461.29	0.0088	0.0050
Neptune	-20104-11-23 13:55 J	-5621236.09	-5621235.92	-5621235.72	0.0088	0.0049
Neptune	-20103-07-07 03:21 J	-5621010.53	-5621010.36	-5621010.15	0.0088	0.0047
Saturn	-20103-08-11 13:26 J	-5620975.06	-5620974.94	-5620974.81	0.0300	0.0246
Neptune	-20102-02-17 17:02 J	-5620784.97	-5620784.79	-5620784.59	0.0088	0.0045
Saturn	-20102-03-30 00:00 J	-5620744.72	-5620744.50	-5620744.29	0.0301	0.0047
Neptune	-20102-10-01 06:43 J	-5620559.40	-5620559.22	-5620559.01	0.0088	0.0044
Saturn	-20102-11-15 10:19 J	-5620514.25	-5620514.07	-5620513.88	0.0301	0.0155
Neptune	-20101-05-13 20:38 J	-5620333.84	-5620333.64	-5620333.45	0.0088	0.0042
Jupiter	-20101-07-26 05:31 J	-5620260.46	-5620260.27	-5620260.08	0.0532	0.0212
Neptune	-20101-12-25 09:36 J	-5620108.28	-5620108.10	-5620107.88	0.0088	0.0040
Jupiter	-20100-03-21 00:57 J	-5620022.63	-5620022.46	-5620022.28	0.0532	0.0267
Neptune	-20100-08-07 23:16 J	-5619882.72	-5619882.53	-5619882.32	0.0088	0.0038
Neptune	-20099-03-21 12:43 J	-5619657.16	-5619656.97	-5619656.75	0.0088	0.0036
Neptune	-20099-11-02 02:23 J	-5619431.59	-5619431.40	-5619431.18	0.0088	0.0035
Neptune	-20098-06-15 16:04 J	-5619206.03	-5619205.83	-5619205.61	0.0088	0.0032
Neptune	-20097-01-27 05:45 J	-5618980.47	-5618980.26	-5618980.05	0.0088	0.0030
Neptune	-20097-09-08 19:11 J	-5618754.90	-5618754.70	-5618754.48	0.0088	0.0029
Neptune	-20096-04-22 08:52 J	-5618529.34	-5618529.13	-5618528.91	0.0088	0.0027
Neptune	-20096-12-03 22:33 J	-5618303.77	-5618303.56	-5618303.34	0.0088	0.0025

Jupiter	-20095-05-27 12:00 J	-5618129.18	-5618129.00	-5618128.81	0.0495	0.0214
Neptune	-20095-07-17 12:14 J	-5618078.21	-5618077.99	-5618077.77	0.0088	0.0023
Jupiter	-20094-01-18 17:16 J	-5617892.97	-5617892.78	-5617892.59	0.0494	0.0170
Neptune	-20094-02-28 01:55 J	-5617852.64	-5617852.42	-5617852.20	0.0088	0.0021
Uranus	-20094-04-06 08:23 J	-5617815.23	-5617815.15	-5617815.04	0.0132	0.0119
Neptune	-20094-10-11 15:36 J	-5617627.07	-5617626.85	-5617626.63	0.0088	0.0019
Uranus	-20094-11-18 13:55 J	-5617589.06	-5617588.92	-5617588.75	0.0132	0.0092
Neptune	-20093-05-24 05:16 J	-5617401.50	-5617401.28	-5617401.06	0.0088	0.0017
Uranus	-20093-07-01 19:40 J	-5617362.87	-5617362.68	-5617362.48	0.0132	0.0065
Neptune	-20092-01-04 18:57 J	-5617175.93	-5617175.71	-5617175.49	0.0088	0.0014
Uranus	-20092-02-13 01:11 J	-5617136.65	-5617136.45	-5617136.23	0.0132	0.0038
Neptune	-20092-08-18 08:38 J	-5616950.36	-5616950.14	-5616949.92	0.0088	0.0012
Uranus	-20092-09-27 06:43 J	-5616910.44	-5616910.22	-5616910.00	0.0132	0.0010
Neptune	-20091-03-31 22:19 J	-5616724.79	-5616724.57	-5616724.35	0.0088	0.0010
Uranus	-20091-05-11 12:14 J	-5616684.21	-5616683.99	-5616683.77	0.0132	0.0017
Neptune	-20091-11-12 12:00 J	-5616499.22	-5616499.00	-5616498.77	0.0088	0.0009
Uranus	-20091-12-23 17:45 J	-5616457.96	-5616457.76	-5616457.55	0.0133	0.0045
Neptune	-20090-06-26 01:55 J	-5616273.65	-5616273.42	-5616273.20	0.0088	0.0006
Uranus	-20090-08-06 23:02 J	-5616231.71	-5616231.54	-5616231.34	0.0133	0.0073
Neptune	-20089-02-06 15:36 J	-5616048.08	-5616047.85	-5616047.63	0.0088	0.0004
Uranus	-20089-03-20 04:33 J	-5616005.44	-5616005.31	-5616005.15	0.0133	0.0100
Jupiter	-20089-03-30 20:38 J	-5615994.79	-5615994.64	-5615994.48	0.0531	0.0341
Neptune	-20089-09-19 05:02 J	-5615822.51	-5615822.29	-5615822.06	0.0088	0.0003
Uranus	-20089-11-01 10:04 J	-5615779.13	-5615779.08	-5615779.00	0.0133	0.0127
Jupiter	-20089-11-23 17:02 J	-5615756.99	-5615756.79	-5615756.60	0.0532	0.0137
Saturn	-20088-01-25 03:21 J	-5615694.53	-5615694.36	-5615694.19	0.0261	0.0151
Neptune	-20088-05-02 18:43 J	-5615596.94	-5615596.72	-5615596.49	0.0088	0.0001
Saturn	-20088-09-10 20:38 J	-5615465.85	-5615465.64	-5615465.44	0.0260	0.0028
Neptune	-20088-12-14 08:38 J	-5615371.37	-5615371.14	-5615370.92	0.0088	0.0002
Saturn	-20087-04-27 13:40 J	-5615237.12	-5615236.93	-5615236.73	0.0260	0.0096

Neptune	-20087-07-27 22:04 J	-5615145.80	-5615145.58	-5615145.35	0.0088	0.0005
Saturn	-20087-12-12 06:57 J	-5615008.31	-5615008.21	-5615008.09	0.0260	0.0219
Neptune	-20086-03-10 11:45 J	-5614920.23	-5614920.01	-5614919.78	0.0088	0.0006
Neptune	-20086-10-22 01:26 J	-5614694.66	-5614694.44	-5614694.21	0.0088	0.0008
Neptune	-20085-06-03 15:07 J	-5614469.09	-5614468.87	-5614468.65	0.0088	0.0010
Neptune	-20084-01-15 04:48 J	-5614243.52	-5614243.30	-5614243.08	0.0088	0.0013
Neptune	-20084-08-28 18:28 J	-5614017.95	-5614017.73	-5614017.51	0.0088	0.0015
Jupiter	-20083-01-30 15:07 J	-5613863.03	-5613862.87	-5613862.71	0.0495	0.0315
Neptune	-20083-04-11 07:55 J	-5613792.38	-5613792.17	-5613791.94	0.0088	0.0017
Jupiter	-20083-09-23 19:40 J	-5613626.88	-5613626.68	-5613626.47	0.0494	0.0066
Neptune	-20083-11-22 21:50 J	-5613566.81	-5613566.59	-5613566.37	0.0089	0.0019
Mars	-20082-01-29 08:52 J	-5613499.30	-5613499.13	-5613498.96	0.1626	0.0096
Jupiter	-20082-05-18 03:21 J	-5613390.44	-5613390.36	-5613390.27	0.0495	0.0445
Neptune	-20082-07-06 11:31 J	-5613341.23	-5613341.02	-5613340.80	0.0089	0.0021
Neptune	-20081-02-17 01:11 J	-5613115.66	-5613115.45	-5613115.23	0.0089	0.0023
Neptune	-20081-09-29 14:52 J	-5612890.09	-5612889.88	-5612889.66	0.0089	0.0025
Mars	-20081-11-28 14:09 J	-5612829.92	-5612829.91	-5612829.90	0.1627	0.1622
Neptune	-20080-05-13 04:33 J	-5612664.52	-5612664.31	-5612664.09	0.0089	0.0027
Neptune	-20080-12-24 18:28 J	-5612438.94	-5612438.73	-5612438.51	0.0089	0.0029
Neptune	-20079-08-07 08:09 J	-5612213.36	-5612213.16	-5612212.94	0.0089	0.0031
Neptune	-20078-03-20 21:50 J	-5611987.79	-5611987.59	-5611987.38	0.0089	0.0033
Neptune	-20078-11-01 11:31 J	-5611762.22	-5611762.02	-5611761.81	0.0089	0.0035
Jupiter	-20078-12-04 09:36 J	-5611729.19	-5611729.10	-5611729.00	0.0530	0.0470
Neptune	-20077-06-14 01:11 J	-5611536.64	-5611536.45	-5611536.24	0.0089	0.0037
Jupiter	-20077-07-29 07:11 J	-5611491.41	-5611491.20	-5611491.00	0.0532	0.0009
Neptune	-20076-01-25 14:52 J	-5611311.07	-5611310.88	-5611310.67	0.0089	0.0039
Jupiter	-20076-03-24 00:43 J	-5611253.56	-5611253.47	-5611253.38	0.0531	0.0470
Neptune	-20076-09-08 04:33 J	-5611085.50	-5611085.31	-5611085.10	0.0089	0.0041
Neptune	-20075-04-21 18:00 J	-5610859.93	-5610859.75	-5610859.54	0.0089	0.0043
Neptune	-20075-12-03 08:09 J	-5610634.35	-5610634.16	-5610633.97	0.0089	0.0044

Neptune -20074-07-16 21:36 J -5610408.78 -5610408.60 -5610408.40 0.0089 0.0046
 Saturn -20073-02-21 18:43 J -5610188.86 -5610188.72 -5610188.57 0.0301 0.0221
 Neptune -20073-02-27 11:16 J -5610183.21 -5610183.03 -5610182.84 0.0089 0.0048
 Saturn -20073-10-09 05:16 J -5609958.49 -5609958.28 -5609958.07 0.0301 0.0020
 Neptune -20073-10-10 00:43 J -5609957.64 -5609957.47 -5609957.27 0.0089 0.0050
 Pluto -20072-01-08 15:07 J -5609866.96 -5609866.87 -5609866.74 0.0064 0.0055
 Neptune -20072-05-23 14:09 J -5609732.07 -5609731.91 -5609731.71 0.0089 0.0052
 Saturn -20072-05-27 15:50 J -5609728.01 -5609727.84 -5609727.67 0.0302 0.0182
 Pluto -20072-08-21 19:11 J -5609641.90 -5609641.70 -5609641.49 0.0064 0.0020
 Jupiter -20072-10-05 18:28 J -5609596.83 -5609596.73 -5609596.61 0.0496 0.0415
 Neptune -20071-01-04 04:04 J -5609506.50 -5609506.33 -5609506.14 0.0089 0.0053
 Pluto -20071-04-03 22:33 J -5609416.75 -5609416.56 -5609416.33 0.0064 0.0017
 Jupiter -20071-05-29 22:19 J -5609360.77 -5609360.57 -5609360.36 0.0494 0.0039
 Neptune -20071-08-17 17:31 J -5609280.93 -5609280.77 -5609280.58 0.0089 0.0055
 Pluto -20071-11-15 02:09 J -5609191.51 -5609191.41 -5609191.26 0.0065 0.0053
 Jupiter -20070-01-21 04:48 J -5609124.45 -5609124.30 -5609124.15 0.0494 0.0343
 Neptune -20070-03-31 06:57 J -5609055.36 -5609055.21 -5609055.02 0.0089 0.0057
 Neptune -20070-11-11 20:52 J -5608829.79 -5608829.63 -5608829.45 0.0089 0.0058
 Neptune -20069-06-24 10:19 J -5608604.22 -5608604.07 -5608603.89 0.0089 0.0060
 Neptune -20068-02-05 00:14 J -5608378.64 -5608378.49 -5608378.32 0.0089 0.0061
 Neptune -20068-09-18 13:26 J -5608153.07 -5608152.94 -5608152.76 0.0089 0.0063
 Neptune -20067-05-02 03:21 J -5607927.51 -5607927.36 -5607927.20 0.0089 0.0064
 Neptune -20067-12-13 16:48 J -5607701.93 -5607701.80 -5607701.63 0.0089 0.0066
 Neptune -20066-07-27 06:28 J -5607476.36 -5607476.23 -5607476.07 0.0089 0.0067
 Neptune -20065-03-08 19:55 J -5607250.79 -5607250.67 -5607250.51 0.0089 0.0069
 Jupiter -20065-04-02 22:33 J -5607225.76 -5607225.56 -5607225.37 0.0532 0.0129
 Neptune -20065-10-20 09:36 J -5607025.22 -5607025.10 -5607024.95 0.0089 0.0070
 Jupiter -20065-11-26 17:31 J -5606987.91 -5606987.77 -5606987.61 0.0532 0.0348
 Neptune -20064-06-02 23:02 J -5606799.65 -5606799.54 -5606799.39 0.0089 0.0071
 Neptune -20063-01-14 12:57 J -5606574.08 -5606573.96 -5606573.83 0.0089 0.0072

Neptune	-20063-08-28 01:55 J	-5606348.52	-5606348.42	-5606348.27	0.0089	0.0074
Neptune	-20062-04-10 15:21 J	-5606122.95	-5606122.86	-5606122.72	0.0089	0.0076
Neptune	-20062-11-22 05:02 J	-5605897.39	-5605897.29	-5605897.16	0.0089	0.0076
Neptune	-20061-07-04 18:28 J	-5605671.83	-5605671.73	-5605671.61	0.0089	0.0077
Neptune	-20060-02-15 07:55 J	-5605446.26	-5605446.17	-5605446.05	0.0089	0.0078
Neptune	-20060-09-28 21:21 J	-5605220.70	-5605220.61	-5605220.50	0.0089	0.0079
Saturn	-20060-12-21 09:36 J	-5605137.11	-5605137.10	-5605137.07	0.0262	0.0261
Jupiter	-20059-02-02 00:57 J	-5605094.65	-5605094.46	-5605094.26	0.0494	0.0144
Neptune	-20059-05-12 10:33 J	-5604995.14	-5604995.06	-5604994.95	0.0089	0.0080
Saturn	-20059-08-07 03:21 J	-5604908.54	-5604908.36	-5604908.18	0.0261	0.0137
Jupiter	-20059-09-26 06:14 J	-5604858.42	-5604858.24	-5604858.06	0.0494	0.0239
Neptune	-20059-12-24 00:00 J	-5604769.57	-5604769.50	-5604769.39	0.0089	0.0081
Saturn	-20058-03-23 20:38 J	-5604679.85	-5604679.64	-5604679.43	0.0260	0.0013
Neptune	-20058-08-06 13:11 J	-5604544.01	-5604543.95	-5604543.84	0.0089	0.0082
Saturn	-20058-11-07 13:40 J	-5604451.12	-5604450.93	-5604450.74	0.0260	0.0111
Neptune	-20057-03-19 02:38 J	-5604318.45	-5604318.39	-5604318.29	0.0089	0.0083
Saturn	-20057-06-23 06:43 J	-5604222.30	-5604222.22	-5604222.12	0.0260	0.0234
Neptune	-20057-10-30 16:19 J	-5604092.89	-5604092.82	-5604092.74	0.0089	0.0083
Neptune	-20056-06-13 05:31 J	-5603867.33	-5603867.27	-5603867.19	0.0089	0.0084
Neptune	-20055-01-24 18:43 J	-5603641.76	-5603641.72	-5603641.63	0.0089	0.0085
Neptune	-20055-09-07 08:23 J	-5603416.20	-5603416.15	-5603416.08	0.0089	0.0085
Neptune	-20054-04-20 21:21 J	-5603190.64	-5603190.61	-5603190.53	0.0089	0.0087
Neptune	-20054-12-02 11:02 J	-5602965.08	-5602965.04	-5602964.98	0.0089	0.0087
Jupiter	-20054-12-07 14:09 J	-5602960.09	-5602959.91	-5602959.73	0.0532	0.0260
Neptune	-20053-07-15 00:00 J	-5602739.52	-5602739.50	-5602739.43	0.0089	0.0088
Jupiter	-20053-08-01 10:48 J	-5602722.23	-5602722.05	-5602721.87	0.0532	0.0221
Uranus	-20053-10-11 21:07 J	-5602650.68	-5602650.62	-5602650.53	0.0146	0.0136
Neptune	-20052-02-25 13:40 J	-5602513.96	-5602513.93	-5602513.88	0.0089	0.0088
Uranus	-20052-05-26 09:07 J	-5602424.27	-5602424.12	-5602423.95	0.0146	0.0100
Neptune	-20052-10-09 02:38 J	-5602288.40	-5602288.39	-5602288.33	0.0089	0.0088

Uranus	-20051-01-07 21:07 J	-5602197.80	-5602197.62	-5602197.42	0.0146	0.0064
Neptune	-20051-05-22 16:04 J	-5602062.84	-5602062.83	-5602062.78	0.0089	0.0088
Uranus	-20051-08-22 09:21 J	-5601971.32	-5601971.11	-5601970.89	0.0146	0.0028
Neptune	-20050-01-03 05:16 J	-5601837.29	-5601837.28	-5601837.24	0.0089	0.0089
Mars	-20050-01-28 00:28 J	-5601812.62	-5601812.48	-5601812.34	0.1627	0.0914
Uranus	-20050-04-05 21:36 J	-5601744.82	-5601744.60	-5601744.39	0.0146	0.0009
Neptune	-20050-08-16 18:43 J	-5601611.73	-5601611.72	-5601611.69	0.0089	0.0089
Uranus	-20050-11-18 09:21 J	-5601518.30	-5601518.11	-5601517.89	0.0146	0.0046
Mars	-20050-12-26 00:28 J	-5601480.66	-5601480.48	-5601480.30	0.1893	0.0121
Neptune	-20049-03-29 07:55 J	-5601386.17	-5601386.17	-5601386.15	0.0089	0.0089
Uranus	-20049-07-01 21:36 J	-5601291.77	-5601291.60	-5601291.41	0.0146	0.0082
Neptune	-20049-11-09 20:52 J	-5601160.63	-5601160.63	-5601160.60	0.0089	0.0089
Mars	-20049-11-27 06:00 J	-5601143.39	-5601143.25	-5601143.10	0.1626	0.0797
Uranus	-20048-02-13 09:50 J	-5601065.21	-5601065.09	-5601064.96	0.0146	0.0118
Neptune	-20048-06-23 10:04 J	-5600935.08	-5600935.08	-5600935.06	0.0089	0.0089
Jupiter	-20048-10-08 04:04 J	-5600828.50	-5600828.33	-5600828.15	0.0495	0.0247
Neptune	-20047-02-03 23:16 J	-5600709.53	-5600709.53	-5600709.51	0.0089	0.0089
Jupiter	-20047-06-01 08:23 J	-5600592.34	-5600592.15	-5600591.95	0.0494	0.0135
Neptune	-20047-09-17 12:28 J	-5600483.98	-5600483.98	-5600483.96	0.0089	0.0089
Neptune	-20046-05-01 01:26 J	-5600258.44	-5600258.44	-5600258.42	0.0089	0.0089
Neptune	-20046-12-12 14:23 J	-5600032.90	-5600032.90	-5600032.87	0.0089	0.0089
Neptune	-20045-07-25 03:36 J	-5599807.36	-5599807.35	-5599807.32	0.0089	0.0089
Neptune	-20044-03-07 16:33 J	-5599581.82	-5599581.81	-5599581.77	0.0089	0.0089
Saturn	-20044-09-02 18:14 J	-5599402.89	-5599402.74	-5599402.58	0.0300	0.0206
Neptune	-20044-10-19 05:31 J	-5599356.28	-5599356.27	-5599356.22	0.0089	0.0088
Saturn	-20043-04-21 04:48 J	-5599172.51	-5599172.30	-5599172.08	0.0301	0.0006
Neptune	-20043-06-01 18:14 J	-5599130.75	-5599130.74	-5599130.67	0.0089	0.0089
Saturn	-20043-12-07 15:21 J	-5598942.02	-5598941.86	-5598941.69	0.0302	0.0197
Neptune	-20042-01-13 07:40 J	-5598905.21	-5598905.18	-5598905.13	0.0089	0.0088
Jupiter	-20042-08-12 05:45 J	-5598694.39	-5598694.26	-5598694.11	0.0531	0.0387

Neptune	-20042-08-26 20:23 J	-5598679.67	-5598679.65	-5598679.58	0.0089	0.0088
Jupiter	-20041-04-06 02:52 J	-5598456.58	-5598456.38	-5598456.18	0.0532	0.0092
Neptune	-20041-04-08 10:04 J	-5598454.12	-5598454.08	-5598454.02	0.0089	0.0087
Neptune	-20041-11-19 22:33 J	-5598228.59	-5598228.56	-5598228.48	0.0089	0.0087
Neptune	-20040-07-03 12:00 J	-5598003.05	-5598003.00	-5598002.93	0.0089	0.0086
Neptune	-20039-02-14 00:43 J	-5597777.51	-5597777.47	-5597777.39	0.0089	0.0085
Neptune	-20039-09-27 13:40 J	-5597551.98	-5597551.93	-5597551.84	0.0089	0.0085
Neptune	-20038-05-11 02:52 J	-5597326.44	-5597326.38	-5597326.30	0.0089	0.0084
Neptune	-20038-12-22 15:21 J	-5597100.91	-5597100.86	-5597100.76	0.0089	0.0083
Neptune	-20037-08-04 04:19 J	-5596875.38	-5596875.32	-5596875.22	0.0089	0.0082
Neptune	-20036-03-17 17:16 J	-5596649.85	-5596649.78	-5596649.67	0.0089	0.0082
Jupiter	-20036-06-13 04:48 J	-5596562.44	-5596562.30	-5596562.15	0.0496	0.0351
Neptune	-20036-10-29 06:00 J	-5596424.32	-5596424.25	-5596424.13	0.0089	0.0081
Jupiter	-20035-02-04 09:07 J	-5596326.32	-5596326.12	-5596325.91	0.0494	0.0029
Neptune	-20035-06-11 18:57 J	-5596198.79	-5596198.71	-5596198.60	0.0089	0.0079
Jupiter	-20035-09-28 16:33 J	-5596089.92	-5596089.81	-5596089.69	0.0495	0.0411
Neptune	-20034-01-23 07:40 J	-5595973.27	-5595973.18	-5595973.06	0.0089	0.0079
Neptune	-20034-09-05 20:23 J	-5595747.74	-5595747.65	-5595747.52	0.0089	0.0078
Neptune	-20033-04-18 09:21 J	-5595522.20	-5595522.11	-5595521.98	0.0089	0.0076
Neptune	-20033-11-29 22:04 J	-5595296.68	-5595296.58	-5595296.45	0.0089	0.0075
Neptune	-20032-07-13 11:16 J	-5595071.15	-5595071.03	-5595070.91	0.0089	0.0074
Neptune	-20031-02-23 23:45 J	-5594845.62	-5594845.51	-5594845.38	0.0089	0.0073
Neptune	-20031-10-07 12:28 J	-5594620.10	-5594619.98	-5594619.84	0.0089	0.0071
Jupiter	-20030-04-16 20:52 J	-5594428.67	-5594428.63	-5594428.57	0.0530	0.0510
Neptune	-20030-05-21 00:57 J	-5594394.57	-5594394.46	-5594394.30	0.0089	0.0071
Saturn	-20030-07-03 11:31 J	-5594351.08	-5594351.02	-5594350.94	0.0262	0.0244
Jupiter	-20030-12-10 18:28 J	-5594190.93	-5594190.73	-5594190.53	0.0532	0.0040
Neptune	-20029-01-01 14:09 J	-5594169.04	-5594168.91	-5594168.77	0.0089	0.0069
Saturn	-20029-02-17 05:16 J	-5594122.46	-5594122.28	-5594122.09	0.0261	0.0120
Jupiter	-20029-08-04 12:00 J	-5593953.11	-5593953.00	-5593952.88	0.0531	0.0430

Neptune	-20029-08-14 02:38 J	-5593943.52	-5593943.39	-5593943.24	0.0089	0.0068
Saturn	-20029-10-02 22:33 J	-5593893.77	-5593893.56	-5593893.35	0.0260	0.0005
Neptune	-20028-03-27 15:21 J	-5593717.99	-5593717.86	-5593717.70	0.0089	0.0066
Saturn	-20028-05-19 15:50 J	-5593665.02	-5593664.84	-5593664.66	0.0260	0.0128
Neptune	-20028-11-08 04:19 J	-5593492.46	-5593492.32	-5593492.17	0.0089	0.0065
Saturn	-20027-01-03 09:07 J	-5593436.17	-5593436.12	-5593436.07	0.0260	0.0250
Neptune	-20027-06-21 16:33 J	-5593266.94	-5593266.81	-5593266.64	0.0089	0.0064
Neptune	-20026-02-02 05:31 J	-5593041.42	-5593041.27	-5593041.11	0.0089	0.0062
Neptune	-20026-09-15 18:00 J	-5592815.89	-5592815.75	-5592815.58	0.0089	0.0060
Neptune	-20025-04-28 06:57 J	-5592590.37	-5592590.21	-5592590.04	0.0089	0.0058
Neptune	-20025-12-09 19:40 J	-5592364.85	-5592364.68	-5592364.51	0.0089	0.0057
Jupiter	-20024-02-16 07:55 J	-5592296.25	-5592296.17	-5592296.08	0.0496	0.0450
Neptune	-20024-07-23 07:55 J	-5592139.33	-5592139.17	-5592138.99	0.0089	0.0055
Jupiter	-20024-10-10 11:45 J	-5592060.21	-5592060.01	-5592059.80	0.0495	0.0075
Neptune	-20023-03-05 20:38 J	-5591913.81	-5591913.64	-5591913.46	0.0089	0.0053
Jupiter	-20023-06-03 18:00 J	-5591823.90	-5591823.75	-5591823.58	0.0495	0.0310
Neptune	-20023-10-17 09:21 J	-5591688.29	-5591688.11	-5591687.94	0.0089	0.0052
Neptune	-20022-05-30 21:36 J	-5591462.77	-5591462.60	-5591462.41	0.0089	0.0050
Neptune	-20021-01-11 10:04 J	-5591237.25	-5591237.08	-5591236.89	0.0089	0.0048
Neptune	-20021-08-23 22:33 J	-5591011.73	-5591011.56	-5591011.36	0.0089	0.0047
Neptune	-20020-04-06 11:16 J	-5590786.21	-5590786.03	-5590785.84	0.0089	0.0045
Neptune	-20020-11-17 23:31 J	-5590560.69	-5590560.52	-5590560.32	0.0089	0.0043
Neptune	-20019-07-01 12:00 J	-5590335.18	-5590335.00	-5590334.79	0.0089	0.0041
Neptune	-20018-02-12 00:28 J	-5590109.66	-5590109.48	-5590109.27	0.0089	0.0039
Jupiter	-20018-08-15 07:55 J	-5589925.36	-5589925.17	-5589924.97	0.0531	0.0175
Neptune	-20018-09-25 12:57 J	-5589884.14	-5589883.96	-5589883.75	0.0089	0.0038
Mars	-20018-12-26 04:04 J	-5589792.41	-5589792.33	-5589792.25	0.1892	0.1680
Jupiter	-20017-04-09 03:21 J	-5589687.53	-5589687.36	-5589687.20	0.0532	0.0304
Neptune	-20017-05-08 01:40 J	-5589658.62	-5589658.43	-5589658.22	0.0089	0.0035
Mars	-20017-11-25 21:50 J	-5589456.76	-5589456.59	-5589456.42	0.1626	0.0030

Neptune	-20017-12-19 14:09 J	-5589433.10	-5589432.91	-5589432.70	0.0089	0.0034
Neptune	-20016-08-02 02:38 J	-5589207.58	-5589207.39	-5589207.18	0.0089	0.0032
Neptune	-20015-03-15 15:07 J	-5588982.07	-5588981.87	-5588981.66	0.0089	0.0030
Neptune	-20015-10-27 03:36 J	-5588756.55	-5588756.35	-5588756.14	0.0089	0.0028
Saturn	-20014-03-16 00:00 J	-5588616.67	-5588616.50	-5588616.33	0.0301	0.0180
Neptune	-20014-06-09 16:19 J	-5588531.02	-5588530.82	-5588530.61	0.0089	0.0025
Saturn	-20014-11-01 10:33 J	-5588386.27	-5588386.06	-5588385.84	0.0302	0.0022
Neptune	-20013-01-21 04:48 J	-5588305.51	-5588305.30	-5588305.09	0.0089	0.0023
Saturn	-20013-06-18 21:07 J	-5588155.76	-5588155.62	-5588155.47	0.0302	0.0224
Neptune	-20013-09-02 17:02 J	-5588079.99	-5588079.79	-5588079.57	0.0089	0.0022
Neptune	-20012-04-16 05:31 J	-5587854.47	-5587854.27	-5587854.05	0.0089	0.0019
Jupiter	-20012-06-15 14:52 J	-5587794.07	-5587793.88	-5587793.69	0.0495	0.0180
Neptune	-20012-11-27 18:00 J	-5587628.96	-5587628.75	-5587628.54	0.0089	0.0017
Jupiter	-20011-02-06 20:09 J	-5587557.85	-5587557.66	-5587557.47	0.0494	0.0205
Neptune	-20011-07-11 06:14 J	-5587403.44	-5587403.24	-5587403.02	0.0089	0.0015
Uranus	-20011-12-04 18:00 J	-5587256.76	-5587256.75	-5587256.72	0.0132	0.0131
Neptune	-20010-02-21 18:43 J	-5587177.93	-5587177.72	-5587177.50	0.0089	0.0013
Uranus	-20010-07-18 23:31 J	-5587030.64	-5587030.52	-5587030.38	0.0132	0.0104
Neptune	-20010-10-05 06:57 J	-5586952.42	-5586952.21	-5586951.99	0.0089	0.0011
Uranus	-20009-03-01 05:02 J	-5586804.46	-5586804.29	-5586804.10	0.0132	0.0077
Neptune	-20009-05-17 19:26 J	-5586726.90	-5586726.69	-5586726.47	0.0089	0.0010
Uranus	-20009-10-13 10:19 J	-5586578.26	-5586578.07	-5586577.85	0.0132	0.0051
Neptune	-20009-12-29 07:55 J	-5586501.38	-5586501.17	-5586500.95	0.0089	0.0007
Uranus	-20008-05-27 16:04 J	-5586352.04	-5586351.83	-5586351.61	0.0132	0.0022
Neptune	-20008-08-11 20:09 J	-5586275.87	-5586275.66	-5586275.44	0.0089	0.0005
Uranus	-20007-01-08 21:50 J	-5586125.81	-5586125.59	-5586125.37	0.0132	0.0006
Neptune	-20007-03-25 08:38 J	-5586050.36	-5586050.14	-5586049.92	0.0089	0.0003
Uranus	-20007-08-23 03:07 J	-5585899.58	-5585899.37	-5585899.15	0.0132	0.0033
Neptune	-20007-11-05 20:52 J	-5585824.84	-5585824.63	-5585824.41	0.0089	0.0002
Uranus	-20006-04-06 08:38 J	-5585673.33	-5585673.14	-5585672.94	0.0132	0.0060

Jupiter -20006-04-19 22:48 J -5585659.72 -5585659.55 -5585659.39 0.0531 0.0306
 Neptune -20006-06-19 09:36 J -5585599.32 -5585599.10 -5585598.89 0.0089 0.0002
 Uranus -20006-11-18 13:40 J -5585447.08 -5585446.93 -5585446.75 0.0133 0.0088
 Jupiter -20006-12-13 19:11 J -5585421.89 -5585421.70 -5585421.51 0.0532 0.0175
 Neptune -20005-01-30 21:50 J -5585373.80 -5585373.59 -5585373.37 0.0089 0.0004
 Uranus -20005-07-01 19:11 J -5585220.79 -5585220.70 -5585220.58 0.0133 0.0115
 Neptune -20005-09-12 10:04 J -5585148.29 -5585148.08 -5585147.86 0.0089 0.0006
 Moon -20005-10-31 02:38 J -5585099.53 -5585099.39 -5585099.25 0.2630 0.1125
 Earth -20005-10-31 04:19 J -5585099.46 -5585099.32 -5585099.17 0.2624 0.1051 *
 Neptune -20004-04-25 22:33 J -5584922.77 -5584922.56 -5584922.34 0.0089 0.0008
 Neptune -20004-12-07 11:02 J -5584697.25 -5584697.04 -5584696.83 0.0089 0.0010
 Neptune -20003-07-20 23:31 J -5584471.74 -5584471.52 -5584471.31 0.0089 0.0012
 Neptune -20002-03-03 11:45 J -5584246.22 -5584246.01 -5584245.79 0.0089 0.0014
 Neptune -20002-10-15 00:14 J -5584020.70 -5584020.49 -5584020.28 0.0089 0.0016
 Neptune -20001-05-27 12:28 J -5583795.18 -5583794.98 -5583794.76 0.0089 0.0019

20TH MILLENNIUM BCE

This is a list of transits of Venus in the 20th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Neptune	-20000-01-08 00:57 J	-5583569.66	-5583569.46	-5583569.24	0.0089	0.0021		
Saturn	-20000-01-12 12:14 J	-5583565.08	-5583564.99	-5583564.88	0.0262	0.0229		
Jupiter	-20000-02-18 18:00 J	-5583527.91	-5583527.75	-5583527.58	0.0495	0.0282		
Neptune	-20000-08-21 13:11 J	-5583344.15	-5583343.95	-5583343.73	0.0089	0.0023		

Saturn	-20000-08-29 05:45 J	-5583336.45	-5583336.26	-5583336.06	0.0261	0.0105
Jupiter	-20000-10-12 22:04 J	-5583291.78	-5583291.58	-5583291.37	0.0494	0.0101
Neptune	-19999-04-04 01:40 J	-5583118.63	-5583118.43	-5583118.22	0.0089	0.0025
Saturn	-19999-04-14 23:02 J	-5583107.75	-5583107.54	-5583107.33	0.0260	0.0020
Jupiter	-19999-06-06 05:31 J	-5583055.32	-5583055.27	-5583055.21	0.0495	0.0477
Neptune	-19999-11-15 13:55 J	-5582893.11	-5582892.92	-5582892.70	0.0089	0.0027
Saturn	-19999-11-29 15:50 J	-5582879.00	-5582878.84	-5582878.65	0.0260	0.0144
Neptune	-19998-06-29 02:23 J	-5582667.59	-5582667.40	-5582667.18	0.0089	0.0029
Neptune	-19997-02-09 14:52 J	-5582442.08	-5582441.88	-5582441.67	0.0089	0.0031
Neptune	-19997-09-22 03:07 J	-5582216.56	-5582216.37	-5582216.16	0.0089	0.0033
Earth	-19997-10-28 22:04 J	-5582179.68	-5582179.58	-5582179.47	0.2625	0.1970
Moon	-19997-10-29 00:28 J	-5582179.60	-5582179.48	-5582179.36	0.2631	0.1604 *
Neptune	-19996-05-05 15:21 J	-5581991.05	-5581990.86	-5581990.65	0.0089	0.0035
Neptune	-19996-12-17 03:36 J	-5581765.53	-5581765.35	-5581765.13	0.0089	0.0037
Neptune	-19995-07-30 16:04 J	-5581540.01	-5581539.83	-5581539.62	0.0089	0.0039
Jupiter	-19995-12-23 13:40 J	-5581394.04	-5581393.93	-5581393.81	0.0531	0.0434
Neptune	-19994-03-13 04:19 J	-5581314.49	-5581314.32	-5581314.11	0.0089	0.0041
Jupiter	-19994-08-18 11:45 J	-5581156.22	-5581156.01	-5581155.81	0.0532	0.0045
Neptune	-19994-10-24 17:02 J	-5581088.97	-5581088.79	-5581088.59	0.0089	0.0042
Jupiter	-19993-04-12 05:31 J	-5580918.33	-5580918.27	-5580918.22	0.0531	0.0509
Neptune	-19993-06-06 05:31 J	-5580863.45	-5580863.27	-5580863.08	0.0089	0.0044
Neptune	-19992-01-17 17:45 J	-5580637.93	-5580637.76	-5580637.56	0.0089	0.0046
Neptune	-19992-08-31 06:14 J	-5580412.41	-5580412.24	-5580412.05	0.0089	0.0048
Neptune	-19991-04-13 18:28 J	-5580186.89	-5580186.73	-5580186.54	0.0089	0.0050
Neptune	-19991-11-25 06:43 J	-5579961.37	-5579961.22	-5579961.02	0.0089	0.0052
Neptune	-19990-07-08 19:40 J	-5579735.84	-5579735.68	-5579735.50	0.0089	0.0053
Neptune	-19989-02-19 08:09 J	-5579510.32	-5579510.16	-5579509.98	0.0089	0.0055
Neptune	-19989-10-01 20:23 J	-5579284.80	-5579284.65	-5579284.47	0.0089	0.0057
Jupiter	-19989-10-24 21:07 J	-5579261.74	-5579261.62	-5579261.49	0.0496	0.0383
Neptune	-19988-05-15 09:07 J	-5579059.28	-5579059.12	-5579058.95	0.0089	0.0058

Jupiter -19988-06-18 00:43 J -5579025.68 -5579025.47 -5579025.27 0.0494 0.0005
 Neptune -19988-12-26 21:21 J -5578833.76 -5578833.61 -5578833.44 0.0089 0.0060
 Jupiter -19987-02-09 06:57 J -5578789.34 -5578789.21 -5578789.07 0.0494 0.0377
 Neptune -19987-08-09 09:50 J -5578608.23 -5578608.09 -5578607.92 0.0088 0.0061
 Neptune -19986-03-22 22:19 J -5578382.71 -5578382.57 -5578382.40 0.0088 0.0063
 Neptune -19986-11-03 10:33 J -5578157.18 -5578157.06 -5578156.89 0.0088 0.0065
 Neptune -19985-06-15 23:16 J -5577931.66 -5577931.53 -5577931.37 0.0088 0.0066
 Saturn -19985-09-25 00:14 J -5577830.66 -5577830.49 -5577830.30 0.0300 0.0164
 Mars -19985-11-24 13:11 J -5577770.09 -5577769.95 -5577769.80 0.1627 0.0840
 Neptune -19984-01-27 11:31 J -5577706.14 -5577706.02 -5577705.85 0.0088 0.0068
 Saturn -19984-05-13 10:48 J -5577600.26 -5577600.05 -5577599.83 0.0301 0.0038
 Neptune -19984-09-10 00:14 J -5577480.61 -5577480.49 -5577480.34 0.0088 0.0069
 Mars -19984-10-22 02:38 J -5577438.57 -5577438.39 -5577438.22 0.1893 0.0419
 Pluto -19984-12-02 12:57 J -5577397.07 -5577396.96 -5577396.81 0.0080 0.0065
 Saturn -19984-12-29 21:21 J -5577369.73 -5577369.61 -5577369.47 0.0302 0.0239
 Neptune -19983-04-23 12:57 J -5577255.09 -5577254.96 -5577254.83 0.0088 0.0070
 Pluto -19983-07-16 00:28 J -5577171.70 -5577171.48 -5577171.25 0.0080 0.0008
 Mars -19983-09-24 18:43 J -5577100.87 -5577100.72 -5577100.58 0.1626 0.0870
 Neptune -19983-12-05 00:57 J -5577029.57 -5577029.46 -5577029.31 0.0088 0.0072
 Pluto -19982-02-26 11:02 J -5576946.04 -5576946.04 -5576946.00 0.0080 0.0080
 Jupiter -19982-04-23 04:04 J -5576890.53 -5576890.33 -5576890.13 0.0532 0.0087
 Neptune -19982-07-18 13:40 J -5576804.03 -5576803.93 -5576803.79 0.0088 0.0073
 Jupiter -19982-12-16 22:19 J -5576652.70 -5576652.57 -5576652.43 0.0531 0.0388
 Neptune -19981-02-29 02:23 J -5576578.51 -5576578.40 -5576578.27 0.0088 0.0074
 Neptune -19981-10-11 14:23 J -5576352.98 -5576352.90 -5576352.76 0.0088 0.0076
 Neptune -19980-05-25 03:07 J -5576127.46 -5576127.37 -5576127.24 0.0088 0.0076
 Neptune -19979-01-05 15:36 J -5575901.93 -5575901.85 -5575901.72 0.0088 0.0078
 Neptune -19979-08-19 04:33 J -5575676.40 -5575676.31 -5575676.20 0.0088 0.0078
 Neptune -19978-04-01 17:02 J -5575450.86 -5575450.79 -5575450.68 0.0088 0.0080
 Neptune -19978-11-13 05:45 J -5575225.33 -5575225.26 -5575225.16 0.0088 0.0081

Neptune	-19977-06-25 18:28 J	-5574999.80	-5574999.73	-5574999.63	0.0088	0.0082
Jupiter	-19977-06-29 21:36 J	-5574995.64	-5574995.60	-5574995.56	0.0497	0.0484
Neptune	-19976-02-06 06:57 J	-5574774.26	-5574774.21	-5574774.11	0.0088	0.0083
Jupiter	-19976-02-21 01:11 J	-5574759.65	-5574759.45	-5574759.25	0.0495	0.0112
Neptune	-19976-09-19 19:40 J	-5574548.73	-5574548.68	-5574548.59	0.0088	0.0084
Jupiter	-19976-10-15 07:11 J	-5574523.37	-5574523.20	-5574523.03	0.0495	0.0273
Neptune	-19975-05-03 08:09 J	-5574323.20	-5574323.16	-5574323.07	0.0088	0.0085
Neptune	-19975-12-14 20:52 J	-5574097.66	-5574097.63	-5574097.55	0.0088	0.0085
Neptune	-19974-07-28 10:04 J	-5573872.12	-5573872.08	-5573872.02	0.0088	0.0086
Neptune	-19973-03-09 22:33 J	-5573646.58	-5573646.56	-5573646.50	0.0088	0.0087
Neptune	-19973-10-21 11:02 J	-5573421.05	-5573421.04	-5573420.98	0.0088	0.0088
Neptune	-19972-06-04 00:14 J	-5573195.51	-5573195.49	-5573195.47	0.0088	0.0088
Neptune	-19971-01-15 12:57 J	-5572969.96	-5572969.96	-5572969.96	0.0088	0.0088
Saturn	-19971-07-25 14:09 J	-5572779.03	-5572778.91	-5572778.79	0.0262	0.0212
Jupiter	-19971-12-26 19:11 J	-5572624.88	-5572624.70	-5572624.51	0.0531	0.0218
Saturn	-19970-03-11 07:40 J	-5572550.38	-5572550.18	-5572549.98	0.0261	0.0088
Jupiter	-19970-08-21 14:38 J	-5572387.06	-5572386.89	-5572386.71	0.0531	0.0261
Saturn	-19970-10-26 00:57 J	-5572321.66	-5572321.46	-5572321.25	0.0260	0.0037
Saturn	-19969-06-10 18:14 J	-5572092.90	-5572092.74	-5572092.57	0.0260	0.0161
Uranus	-19968-01-23 12:57 J	-5571866.07	-5571865.96	-5571865.82	0.0146	0.0120
Uranus	-19968-09-07 00:57 J	-5571639.62	-5571639.46	-5571639.27	0.0146	0.0084
Uranus	-19967-04-21 13:26 J	-5571413.15	-5571412.94	-5571412.74	0.0146	0.0047
Uranus	-19967-12-04 01:26 J	-5571186.65	-5571186.44	-5571186.22	0.0146	0.0010
Uranus	-19966-07-18 13:40 J	-5570960.14	-5570959.93	-5570959.71	0.0146	0.0027
Uranus	-19965-03-01 01:55 J	-5570733.61	-5570733.42	-5570733.22	0.0146	0.0063
Uranus	-19965-10-13 13:40 J	-5570507.07	-5570506.93	-5570506.76	0.0146	0.0100
Jupiter	-19965-10-27 03:50 J	-5570493.52	-5570493.34	-5570493.15	0.0495	0.0216
Uranus	-19964-05-28 01:40 J	-5570280.49	-5570280.43	-5570280.33	0.0146	0.0136
Jupiter	-19964-06-20 09:07 J	-5570257.32	-5570257.12	-5570256.93	0.0495	0.0170
Jupiter	-19959-08-31 08:23 J	-5568359.30	-5568359.15	-5568359.00	0.0530	0.0351

Jupiter -19958-04-26 04:48 J -5568121.49 -5568121.30 -5568121.10 0.0532 0.0130
 Neptune -19957-03-29 22:04 J -5567782.58 -5567782.58 -5567782.56 0.0088 0.0088
 Neptune -19957-11-10 11:02 J -5567557.05 -5567557.04 -5567557.00 0.0088 0.0087
 Neptune -19956-06-23 23:45 J -5567331.52 -5567331.51 -5567331.45 0.0088 0.0087
 Neptune -19955-02-04 12:57 J -5567105.98 -5567105.96 -5567105.89 0.0088 0.0086
 Saturn -19955-04-07 06:14 J -5567044.43 -5567044.24 -5567044.05 0.0301 0.0137
 Neptune -19955-09-18 02:23 J -5566880.44 -5566880.40 -5566880.33 0.0088 0.0085
 Saturn -19955-11-23 16:48 J -5566814.01 -5566813.80 -5566813.59 0.0302 0.0066
 Neptune -19954-05-01 15:50 J -5566654.89 -5566654.84 -5566654.77 0.0088 0.0084
 Saturn -19954-07-12 03:07 J -5566583.46 -5566583.37 -5566583.26 0.0302 0.0267
 Neptune -19954-12-13 04:33 J -5566429.35 -5566429.31 -5566429.22 0.0088 0.0084
 Jupiter -19953-07-02 07:11 J -5566227.35 -5566227.20 -5566227.04 0.0496 0.0319
 Neptune -19953-07-25 17:45 J -5566203.81 -5566203.76 -5566203.66 0.0088 0.0083
 Jupiter -19952-02-23 11:45 J -5565991.22 -5565991.01 -5565990.81 0.0494 0.0065
 Neptune -19952-03-08 06:57 J -5565978.27 -5565978.21 -5565978.11 0.0088 0.0082
 Jupiter -19952-10-17 18:57 J -5565754.79 -5565754.71 -5565754.61 0.0495 0.0445
 Neptune -19952-10-19 20:23 J -5565752.72 -5565752.65 -5565752.54 0.0088 0.0081
 Mars -19952-10-22 05:02 J -5565750.41 -5565750.29 -5565750.16 0.1892 0.1364
 Neptune -19951-06-02 09:36 J -5565527.17 -5565527.10 -5565526.99 0.0088 0.0080
 Mars -19951-09-23 10:19 J -5565414.24 -5565414.07 -5565413.90 0.1626 0.0056
 Neptune -19950-01-13 22:48 J -5565301.62 -5565301.55 -5565301.43 0.0088 0.0079
 Neptune -19950-08-27 12:00 J -5565076.07 -5565076.00 -5565075.87 0.0088 0.0078
 Neptune -19949-04-09 01:55 J -5564850.52 -5564850.42 -5564850.31 0.0088 0.0076
 Neptune -19949-11-20 15:07 J -5564624.98 -5564624.87 -5564624.75 0.0088 0.0075
 Neptune -19948-07-04 04:04 J -5564399.43 -5564399.33 -5564399.19 0.0088 0.0074
 Neptune -19947-02-14 17:16 J -5564173.88 -5564173.78 -5564173.63 0.0088 0.0073
 Jupiter -19947-05-05 22:19 J -5564093.65 -5564093.57 -5564093.48 0.0530 0.0478
 Neptune -19947-09-28 07:11 J -5563948.33 -5563948.20 -5563948.07 0.0088 0.0071
 Jupiter -19947-12-29 19:55 J -5563855.87 -5563855.67 -5563855.47 0.0532 0.0005
 Neptune -19946-05-11 20:09 J -5563722.77 -5563722.66 -5563722.51 0.0088 0.0070

Jupiter -19946-08-24 13:40 J -5563618.02 -5563617.93 -5563617.83 0.0531 0.0466
 Neptune -19946-12-23 09:21 J -5563497.23 -5563497.11 -5563496.95 0.0088 0.0069
 Neptune -19945-08-04 22:48 J -5563271.68 -5563271.55 -5563271.39 0.0088 0.0067
 Neptune -19944-03-18 12:00 J -5563046.13 -5563046.00 -5563045.83 0.0088 0.0066
 Neptune -19944-10-30 01:40 J -5562820.57 -5562820.43 -5562820.27 0.0088 0.0064
 Neptune -19943-06-12 14:52 J -5562595.02 -5562594.88 -5562594.70 0.0088 0.0063
 Neptune -19942-01-24 04:19 J -5562369.46 -5562369.32 -5562369.14 0.0088 0.0061
 Neptune -19942-09-06 18:00 J -5562143.91 -5562143.75 -5562143.58 0.0088 0.0060
 Saturn -19941-02-04 15:36 J -5561992.99 -5561992.85 -5561992.71 0.0261 0.0196
 Jupiter -19941-03-07 10:48 J -5561961.16 -5561961.05 -5561960.95 0.0496 0.0418
 Neptune -19941-04-19 07:11 J -5561918.35 -5561918.20 -5561918.01 0.0088 0.0058
 Saturn -19941-09-20 08:52 J -5561764.32 -5561764.13 -5561763.92 0.0261 0.0072
 Jupiter -19941-10-29 14:09 J -5561725.12 -5561724.91 -5561724.71 0.0494 0.0042
 Neptune -19941-11-30 20:52 J -5561692.79 -5561692.63 -5561692.45 0.0088 0.0056
 Saturn -19940-05-07 02:09 J -5561535.61 -5561535.41 -5561535.20 0.0260 0.0054
 Jupiter -19940-06-22 19:55 J -5561488.81 -5561488.67 -5561488.52 0.0494 0.0342
 Neptune -19940-07-14 10:33 J -5561467.23 -5561467.06 -5561466.88 0.0088 0.0054
 Saturn -19940-12-21 19:11 J -5561306.84 -5561306.70 -5561306.54 0.0260 0.0177
 Neptune -19939-02-24 23:31 J -5561241.67 -5561241.52 -5561241.32 0.0088 0.0053
 Neptune -19939-10-08 13:26 J -5561016.11 -5561015.94 -5561015.74 0.0088 0.0051
 Neptune -19938-05-22 03:07 J -5560790.55 -5560790.37 -5560790.17 0.0088 0.0049
 Neptune -19937-01-02 16:33 J -5560564.99 -5560564.81 -5560564.61 0.0088 0.0047
 Neptune -19937-08-15 06:14 J -5560339.43 -5560339.24 -5560339.04 0.0088 0.0045
 Neptune -19936-03-28 19:55 J -5560113.86 -5560113.67 -5560113.47 0.0088 0.0043
 Neptune -19936-11-09 09:36 J -5559888.30 -5559888.10 -5559887.90 0.0088 0.0042
 Neptune -19935-06-22 23:16 J -5559662.73 -5559662.53 -5559662.33 0.0088 0.0040
 Jupiter -19935-09-03 11:31 J -5559590.21 -5559590.02 -5559589.82 0.0532 0.0137
 Neptune -19934-02-03 12:43 J -5559437.17 -5559436.97 -5559436.77 0.0088 0.0038
 Jupiter -19934-04-29 07:11 J -5559352.35 -5559352.20 -5559352.05 0.0532 0.0343
 Neptune -19934-09-17 01:55 J -5559211.61 -5559211.42 -5559211.20 0.0088 0.0036

Neptune	-19933-04-29 15:50 J	-5558986.05	-5558985.84	-5558985.63	0.0088	0.0034
Neptune	-19933-12-11 05:16 J	-5558760.48	-5558760.28	-5558760.06	0.0088	0.0032
Neptune	-19932-07-24 18:57 J	-5558534.92	-5558534.71	-5558534.50	0.0088	0.0030
Neptune	-19931-03-07 08:23 J	-5558309.36	-5558309.15	-5558308.93	0.0088	0.0028
Neptune	-19931-10-18 22:04 J	-5558083.79	-5558083.58	-5558083.36	0.0088	0.0025
Neptune	-19930-06-01 11:45 J	-5557858.22	-5557858.01	-5557857.79	0.0088	0.0023
Neptune	-19929-01-13 01:11 J	-5557632.66	-5557632.45	-5557632.22	0.0088	0.0022
Jupiter	-19929-07-04 16:48 J	-5557459.00	-5557458.80	-5557458.60	0.0495	0.0146
Neptune	-19929-08-25 14:52 J	-5557407.09	-5557406.88	-5557406.65	0.0088	0.0019
Jupiter	-19928-02-25 21:50 J	-5557222.77	-5557222.59	-5557222.41	0.0494	0.0238
Neptune	-19928-04-08 04:33 J	-5557181.52	-5557181.31	-5557181.08	0.0088	0.0017
Neptune	-19928-11-19 18:28 J	-5556955.95	-5556955.73	-5556955.50	0.0088	0.0015
Neptune	-19927-07-03 08:09 J	-5556730.38	-5556730.16	-5556729.93	0.0088	0.0013
Neptune	-19926-02-13 21:50 J	-5556504.81	-5556504.59	-5556504.36	0.0088	0.0010
Uranus	-19926-03-18 08:38 J	-5556472.23	-5556472.14	-5556472.02	0.0132	0.0117
Neptune	-19926-09-27 11:31 J	-5556279.24	-5556279.02	-5556278.79	0.0088	0.0008
Saturn	-19926-10-18 07:40 J	-5556258.38	-5556258.18	-5556257.98	0.0300	0.0119
Uranus	-19926-10-30 14:09 J	-5556246.06	-5556245.91	-5556245.74	0.0132	0.0090
Neptune	-19925-05-10 01:11 J	-5556053.67	-5556053.45	-5556053.22	0.0088	0.0007
Saturn	-19925-06-04 18:00 J	-5556027.95	-5556027.75	-5556027.54	0.0301	0.0083
Uranus	-19925-06-12 19:55 J	-5556019.86	-5556019.67	-5556019.48	0.0132	0.0062
Neptune	-19925-12-21 15:07 J	-5555828.09	-5555827.87	-5555827.64	0.0088	0.0004
Saturn	-19924-01-21 04:33 J	-5555797.38	-5555797.31	-5555797.24	0.0302	0.0284
Uranus	-19924-01-25 01:26 J	-5555793.65	-5555793.44	-5555793.22	0.0132	0.0035
Neptune	-19924-08-04 04:48 J	-5555602.52	-5555602.30	-5555602.07	0.0088	0.0002
Uranus	-19924-09-08 06:57 J	-5555567.43	-5555567.21	-5555566.99	0.0132	0.0007
Neptune	-19923-03-17 18:28 J	-5555376.95	-5555376.73	-5555376.50	0.0088	0.0001
Uranus	-19923-04-22 12:14 J	-5555341.20	-5555340.99	-5555340.77	0.0132	0.0020
Jupiter	-19923-05-09 03:50 J	-5555324.51	-5555324.34	-5555324.16	0.0531	0.0264
Neptune	-19923-10-29 08:09 J	-5555151.38	-5555151.16	-5555150.93	0.0088	0.0004

Uranus	-19923-12-04 17:45 J	-5555114.96	-5555114.76	-5555114.55	0.0132	0.0048
Jupiter	-19922-01-02 00:00 J	-5555086.68	-5555086.50	-5555086.32	0.0532	0.0217
Neptune	-19922-06-11 21:50 J	-5554925.81	-5554925.59	-5554925.36	0.0088	0.0006
Uranus	-19922-07-18 22:48 J	-5554888.71	-5554888.55	-5554888.35	0.0132	0.0076
Neptune	-19921-01-23 11:45 J	-5554700.24	-5554700.01	-5554699.79	0.0088	0.0008
Uranus	-19921-03-01 04:33 J	-5554662.44	-5554662.31	-5554662.17	0.0133	0.0103
Neptune	-19921-09-05 01:11 J	-5554474.67	-5554474.45	-5554474.22	0.0088	0.0010
Uranus	-19921-10-13 09:50 J	-5554436.12	-5554436.09	-5554436.04	0.0133	0.0130
Neptune	-19920-04-18 14:52 J	-5554249.10	-5554248.88	-5554248.65	0.0088	0.0012
Neptune	-19920-11-30 04:33 J	-5554023.52	-5554023.31	-5554023.08	0.0088	0.0014
Neptune	-19919-07-13 18:14 J	-5553797.95	-5553797.74	-5553797.51	0.0088	0.0016
Mars	-19919-09-22 01:55 J	-5553727.57	-5553727.42	-5553727.27	0.1627	0.0771
Neptune	-19918-02-24 07:55 J	-5553572.38	-5553572.17	-5553571.95	0.0089	0.0019
Mars	-19918-08-19 04:04 J	-5553396.50	-5553396.33	-5553396.17	0.1893	0.0724
Neptune	-19918-10-07 21:36 J	-5553346.82	-5553346.60	-5553346.38	0.0089	0.0021
Jupiter	-19917-03-09 17:02 J	-5553192.96	-5553192.79	-5553192.61	0.0495	0.0253
Neptune	-19917-05-20 11:16 J	-5553121.24	-5553121.03	-5553120.81	0.0089	0.0023
Mars	-19917-07-22 07:26 J	-5553058.33	-5553058.19	-5553058.05	0.1626	0.0941
Jupiter	-19917-10-31 21:50 J	-5552956.79	-5552956.59	-5552956.39	0.0495	0.0132
Neptune	-19916-01-01 00:57 J	-5552895.67	-5552895.46	-5552895.24	0.0089	0.0025
Neptune	-19916-08-14 14:23 J	-5552670.10	-5552669.90	-5552669.67	0.0089	0.0028
Neptune	-19915-03-28 04:04 J	-5552444.53	-5552444.33	-5552444.10	0.0089	0.0030
Neptune	-19915-11-08 17:45 J	-5552218.95	-5552218.76	-5552218.53	0.0089	0.0032
Neptune	-19914-06-22 07:40 J	-5551993.38	-5551993.18	-5551992.96	0.0089	0.0034
Neptune	-19913-02-02 21:21 J	-5551767.80	-5551767.61	-5551767.39	0.0089	0.0036
Neptune	-19913-09-15 11:02 J	-5551542.23	-5551542.04	-5551541.83	0.0089	0.0038
Neptune	-19912-04-29 00:43 J	-5551316.66	-5551316.47	-5551316.26	0.0089	0.0040
Saturn	-19912-08-16 17:16 J	-5551206.93	-5551206.78	-5551206.62	0.0262	0.0179
Neptune	-19912-12-10 14:38 J	-5551091.08	-5551090.89	-5551090.68	0.0089	0.0042
Jupiter	-19911-01-11 18:57 J	-5551058.84	-5551058.71	-5551058.57	0.0530	0.0393

Saturn	-19911-04-02 11:02 J	-5550978.25	-5550978.04	-5550977.84	0.0261	0.0053
Neptune	-19911-07-24 04:19 J	-5550865.50	-5550865.32	-5550865.12	0.0089	0.0044
Jupiter	-19911-09-06 15:50 J	-5550821.04	-5550820.84	-5550820.64	0.0531	0.0086
Saturn	-19911-11-17 04:19 J	-5550749.52	-5550749.32	-5550749.11	0.0260	0.0072
Neptune	-19910-03-06 17:45 J	-5550639.93	-5550639.76	-5550639.55	0.0089	0.0046
Saturn	-19910-07-03 21:50 J	-5550520.72	-5550520.59	-5550520.45	0.0260	0.0195
Neptune	-19910-10-18 07:26 J	-5550414.36	-5550414.19	-5550413.99	0.0089	0.0048
Neptune	-19909-05-30 20:52 J	-5550188.79	-5550188.63	-5550188.42	0.0089	0.0050
Neptune	-19908-01-11 10:33 J	-5549963.22	-5549963.06	-5549962.85	0.0089	0.0052
Neptune	-19908-08-25 00:43 J	-5549737.65	-5549737.47	-5549737.29	0.0089	0.0053
Neptune	-19907-04-07 14:09 J	-5549512.08	-5549511.91	-5549511.73	0.0089	0.0055
Neptune	-19907-11-19 03:36 J	-5549286.51	-5549286.35	-5549286.17	0.0089	0.0057
Neptune	-19906-07-02 17:02 J	-5549060.94	-5549060.79	-5549060.61	0.0089	0.0059
Jupiter	-19906-11-13 19:40 J	-5548926.82	-5548926.68	-5548926.54	0.0496	0.0355
Neptune	-19905-02-13 06:28 J	-5548835.37	-5548835.23	-5548835.04	0.0089	0.0061
Jupiter	-19905-07-07 00:00 J	-5548690.71	-5548690.50	-5548690.30	0.0495	0.0028
Neptune	-19905-09-25 20:23 J	-5548609.80	-5548609.65	-5548609.48	0.0089	0.0062
Jupiter	-19904-02-28 06:57 J	-5548454.31	-5548454.21	-5548454.09	0.0495	0.0411
Neptune	-19904-05-09 09:50 J	-5548384.23	-5548384.09	-5548383.92	0.0089	0.0064
Neptune	-19904-12-20 23:16 J	-5548158.66	-5548158.53	-5548158.36	0.0089	0.0066
Neptune	-19903-08-03 13:11 J	-5547933.08	-5547932.95	-5547932.79	0.0089	0.0067
Neptune	-19902-03-17 02:23 J	-5547707.51	-5547707.40	-5547707.23	0.0089	0.0069
Neptune	-19902-10-28 16:19 J	-5547481.94	-5547481.82	-5547481.67	0.0089	0.0070
Neptune	-19901-06-10 05:31 J	-5547256.37	-5547256.27	-5547256.11	0.0089	0.0072
Neptune	-19900-01-21 19:26 J	-5547030.80	-5547030.69	-5547030.55	0.0089	0.0073
Neptune	-19900-09-04 09:21 J	-5546805.23	-5546805.11	-5546804.99	0.0089	0.0074
Jupiter	-19900-09-16 07:40 J	-5546793.21	-5546793.18	-5546793.14	0.0529	0.0521
Neptune	-19899-04-17 22:19 J	-5546579.66	-5546579.57	-5546579.43	0.0089	0.0076
Jupiter	-19899-05-12 05:16 J	-5546555.49	-5546555.28	-5546555.08	0.0531	0.0051
Neptune	-19899-11-29 12:00 J	-5546354.09	-5546354.00	-5546353.87	0.0089	0.0077

Jupiter -19898-01-04 23:02 J -5546317.65 -5546317.54 -5546317.41 0.0531 0.0423
 Neptune -19898-07-13 01:55 J -5546128.52 -5546128.42 -5546128.31 0.0089 0.0078
 Neptune -19897-02-23 14:52 J -5545902.95 -5545902.88 -5545902.75 0.0089 0.0080
 Saturn -19897-09-11 05:02 J -5545702.34 -5545702.29 -5545702.23 0.0300 0.0288
 Neptune -19897-10-06 04:33 J -5545677.38 -5545677.31 -5545677.20 0.0089 0.0081
 Saturn -19896-04-29 15:07 J -5545472.07 -5545471.87 -5545471.66 0.0301 0.0089
 Neptune -19896-05-19 18:00 J -5545451.82 -5545451.75 -5545451.65 0.0089 0.0082
 Saturn -19896-12-16 01:40 J -5545241.62 -5545241.43 -5545241.23 0.0302 0.0114
 Neptune -19896-12-31 07:26 J -5545226.25 -5545226.19 -5545226.09 0.0089 0.0084
 Neptune -19895-08-13 20:52 J -5545000.68 -5545000.63 -5545000.54 0.0089 0.0085
 Neptune -19894-03-27 10:19 J -5544775.11 -5544775.07 -5544774.99 0.0089 0.0086
 Jupiter -19894-07-19 23:16 J -5544660.61 -5544660.53 -5544660.45 0.0497 0.0455
 Neptune -19894-11-07 23:45 J -5544549.55 -5544549.51 -5544549.44 0.0089 0.0086
 Jupiter -19893-03-12 02:52 J -5544424.58 -5544424.38 -5544424.18 0.0495 0.0079
 Neptune -19893-06-20 12:57 J -5544323.98 -5544323.96 -5544323.90 0.0089 0.0087
 Jupiter -19893-11-03 08:52 J -5544188.29 -5544188.13 -5544187.97 0.0495 0.0307
 Neptune -19892-02-01 02:23 J -5544098.41 -5544098.40 -5544098.35 0.0089 0.0088
 Neptune -19892-09-14 15:50 J -5543872.84 -5543872.84 -5543872.80 0.0089 0.0089
 Jupiter -19887-01-14 19:40 J -5542289.87 -5542289.68 -5542289.49 0.0531 0.0184
 Jupiter -19887-09-09 15:07 J -5542052.04 -5542051.87 -5542051.70 0.0532 0.0296
 Mars -19887-09-20 17:16 J -5542040.81 -5542040.78 -5542040.74 0.1627 0.1582
 Mars -19886-08-19 06:28 J -5541708.37 -5541708.23 -5541708.08 0.1893 0.1052
 Mars -19885-07-20 23:16 J -5541371.70 -5541371.53 -5541371.36 0.1626 0.0122
 Uranus -19885-09-22 17:16 J -5541307.84 -5541307.78 -5541307.70 0.0146 0.0139
 Uranus -19884-05-07 05:02 J -5541081.42 -5541081.29 -5541081.12 0.0146 0.0103
 Uranus -19884-12-19 17:31 J -5540854.96 -5540854.77 -5540854.57 0.0146 0.0066
 Uranus -19883-08-03 05:45 J -5540628.47 -5540628.26 -5540628.04 0.0146 0.0029
 Saturn -19882-02-26 19:26 J -5540420.84 -5540420.69 -5540420.51 0.0261 0.0162
 Uranus -19882-03-17 18:00 J -5540401.96 -5540401.75 -5540401.53 0.0146 0.0008
 Saturn -19882-10-13 13:11 J -5540192.15 -5540191.95 -5540191.74 0.0261 0.0036

Uranus	-19882-10-30 06:00 J	-5540175.45	-5540175.25	-5540175.04	0.0146	0.0045
Jupiter	-19882-11-16 05:31 J	-5540158.45	-5540158.27	-5540158.07	0.0495	0.0184
Saturn	-19881-05-29 06:28 J	-5539963.42	-5539963.23	-5539963.02	0.0260	0.0089
Uranus	-19881-06-12 18:14 J	-5539948.92	-5539948.74	-5539948.56	0.0146	0.0081
Jupiter	-19881-07-09 10:19 J	-5539922.25	-5539922.07	-5539921.88	0.0494	0.0202
Saturn	-19880-01-13 00:00 J	-5539734.62	-5539734.50	-5539734.38	0.0260	0.0212
Uranus	-19880-01-25 06:14 J	-5539722.36	-5539722.24	-5539722.10	0.0146	0.0118
Jupiter	-19876-09-19 10:33 J	-5538024.22	-5538024.06	-5538023.90	0.0531	0.0315
Earth	-19875-05-03 13:26 J	-5537798.10	-5537797.94	-5537797.78	0.2708	0.0153
Moon	-19875-05-03 18:00 J	-5537797.90	-5537797.75	-5537797.59	0.2714	0.0098 *
Jupiter	-19875-05-15 07:26 J	-5537786.38	-5537786.19	-5537786.00	0.0532	0.0167
Neptune	-19874-08-12 13:26 J	-5537331.94	-5537331.94	-5537331.91	0.0089	0.0089
Neptune	-19873-03-25 02:23 J	-5537106.41	-5537106.40	-5537106.35	0.0089	0.0088
Neptune	-19873-11-05 15:21 J	-5536880.89	-5536880.86	-5536880.81	0.0089	0.0088
Neptune	-19872-06-19 04:04 J	-5536655.36	-5536655.33	-5536655.26	0.0089	0.0087
Neptune	-19871-01-30 17:02 J	-5536429.84	-5536429.79	-5536429.72	0.0089	0.0086
Neptune	-19871-09-13 06:00 J	-5536204.31	-5536204.25	-5536204.18	0.0089	0.0085
Neptune	-19870-04-26 18:57 J	-5535978.78	-5535978.71	-5535978.63	0.0089	0.0084
Jupiter	-19870-07-22 08:23 J	-5535892.31	-5535892.15	-5535891.98	0.0495	0.0287
Neptune	-19870-12-08 07:26 J	-5535753.25	-5535753.19	-5535753.09	0.0089	0.0083
Jupiter	-19869-03-14 12:28 J	-5535656.18	-5535655.98	-5535655.78	0.0494	0.0097
Neptune	-19869-07-20 20:09 J	-5535527.73	-5535527.66	-5535527.56	0.0089	0.0082
Jupiter	-19869-11-05 19:40 J	-5535419.73	-5535419.68	-5535419.62	0.0495	0.0476
Neptune	-19868-03-03 08:52 J	-5535302.20	-5535302.13	-5535302.02	0.0089	0.0081
Neptune	-19868-10-14 21:36 J	-5535076.68	-5535076.60	-5535076.48	0.0089	0.0079
Saturn	-19867-03-24 07:40 J	-5534916.27	-5534916.18	-5534916.08	0.0299	0.0269
Neptune	-19867-05-28 10:48 J	-5534851.15	-5534851.05	-5534850.94	0.0089	0.0078
Saturn	-19867-11-09 17:45 J	-5534685.97	-5534685.76	-5534685.55	0.0300	0.0070
Neptune	-19866-01-08 23:16 J	-5534625.63	-5534625.53	-5534625.41	0.0089	0.0077
Saturn	-19866-06-28 04:04 J	-5534455.52	-5534455.33	-5534455.13	0.0301	0.0132

Neptune	-19866-08-22 11:45 J	-5534400.11	-5534400.01	-5534399.88	0.0089	0.0075
Neptune	-19865-04-04 00:57 J	-5534174.58	-5534174.46	-5534174.34	0.0089	0.0074
Neptune	-19865-11-15 13:26 J	-5533949.05	-5533948.94	-5533948.80	0.0089	0.0072
Jupiter	-19864-05-25 02:23 J	-5533758.51	-5533758.40	-5533758.28	0.0530	0.0440
Neptune	-19864-06-29 01:55 J	-5533723.53	-5533723.42	-5533723.27	0.0089	0.0071
Jupiter	-19863-01-18 00:00 J	-5533520.70	-5533520.50	-5533520.30	0.0532	0.0039
Neptune	-19863-02-09 14:38 J	-5533498.01	-5533497.89	-5533497.74	0.0089	0.0070
Jupiter	-19863-09-12 17:31 J	-5533282.83	-5533282.77	-5533282.71	0.0531	0.0504
Neptune	-19863-09-23 03:21 J	-5533272.48	-5533272.36	-5533272.20	0.0089	0.0068
Neptune	-19862-05-06 16:19 J	-5533046.95	-5533046.82	-5533046.66	0.0089	0.0066
Neptune	-19862-12-18 05:16 J	-5532821.43	-5532821.28	-5532821.13	0.0089	0.0065
Neptune	-19861-07-30 17:31 J	-5532595.90	-5532595.77	-5532595.60	0.0089	0.0063
Neptune	-19860-03-13 06:14 J	-5532370.38	-5532370.24	-5532370.07	0.0089	0.0062
Neptune	-19860-10-24 19:11 J	-5532144.86	-5532144.70	-5532144.54	0.0089	0.0060
Neptune	-19859-06-07 07:26 J	-5531919.34	-5531919.19	-5531919.01	0.0089	0.0058
Neptune	-19858-01-18 19:55 J	-5531693.82	-5531693.67	-5531693.48	0.0089	0.0057
Jupiter	-19858-03-27 08:23 J	-5531626.27	-5531626.15	-5531626.02	0.0496	0.0392
Neptune	-19858-09-01 08:38 J	-5531468.30	-5531468.14	-5531467.96	0.0089	0.0054
Jupiter	-19858-11-18 12:14 J	-5531390.19	-5531389.99	-5531389.78	0.0495	0.0012
Neptune	-19857-04-13 21:21 J	-5531242.77	-5531242.61	-5531242.43	0.0089	0.0052
Jupiter	-19857-07-11 18:43 J	-5531153.85	-5531153.72	-5531153.58	0.0495	0.0373
Neptune	-19857-11-25 09:50 J	-5531017.26	-5531017.09	-5531016.90	0.0089	0.0051
Neptune	-19856-07-08 22:19 J	-5530791.74	-5530791.57	-5530791.38	0.0089	0.0049
Neptune	-19855-02-19 11:02 J	-5530566.22	-5530566.04	-5530565.86	0.0089	0.0047
Neptune	-19855-10-02 23:31 J	-5530340.71	-5530340.52	-5530340.33	0.0089	0.0045
Neptune	-19854-05-16 11:45 J	-5530115.18	-5530115.01	-5530114.80	0.0089	0.0043
Neptune	-19854-12-28 00:14 J	-5529889.67	-5529889.49	-5529889.28	0.0089	0.0041
Mars	-19853-07-19 14:38 J	-5529685.04	-5529684.89	-5529684.74	0.1626	0.0696
Neptune	-19853-08-09 12:57 J	-5529664.15	-5529663.96	-5529663.76	0.0089	0.0039
Saturn	-19853-09-07 21:50 J	-5529634.76	-5529634.59	-5529634.41	0.0262	0.0143

Neptune	-19852-03-23 01:26 J	-5529438.63	-5529438.44	-5529438.24	0.0089	0.0037
Saturn	-19852-04-24 15:36 J	-5529406.06	-5529405.85	-5529405.64	0.0261	0.0017
Mars	-19852-06-15 06:14 J	-5529354.39	-5529354.24	-5529354.09	0.1893	0.1017
Jupiter	-19852-09-22 15:36 J	-5529255.05	-5529254.85	-5529254.65	0.0531	0.0095
Neptune	-19852-11-03 13:55 J	-5529213.12	-5529212.92	-5529212.72	0.0089	0.0035
Saturn	-19852-12-09 09:07 J	-5529177.31	-5529177.12	-5529176.93	0.0260	0.0108
Jupiter	-19851-05-18 09:50 J	-5529017.22	-5529017.09	-5529016.94	0.0531	0.0382
Mars	-19851-05-19 20:09 J	-5529015.80	-5529015.66	-5529015.53	0.1627	0.1011
Neptune	-19851-06-17 02:23 J	-5528987.60	-5528987.40	-5528987.19	0.0089	0.0033
Saturn	-19851-07-26 02:38 J	-5528948.48	-5528948.39	-5528948.29	0.0260	0.0231
Neptune	-19850-01-28 14:52 J	-5528762.08	-5528761.88	-5528761.67	0.0089	0.0030
Neptune	-19850-09-11 03:21 J	-5528536.56	-5528536.36	-5528536.15	0.0089	0.0028
Neptune	-19849-04-23 15:50 J	-5528311.04	-5528310.84	-5528310.63	0.0089	0.0026
Neptune	-19849-12-05 04:19 J	-5528085.52	-5528085.32	-5528085.10	0.0089	0.0024
Neptune	-19848-07-18 16:33 J	-5527860.00	-5527859.81	-5527859.59	0.0089	0.0023
Neptune	-19847-03-01 05:02 J	-5527634.49	-5527634.29	-5527634.07	0.0089	0.0020
Neptune	-19847-10-12 17:45 J	-5527408.97	-5527408.76	-5527408.55	0.0089	0.0017
Jupiter	-19847-11-30 10:48 J	-5527360.07	-5527360.05	-5527360.02	0.0497	0.0492
Neptune	-19846-05-26 06:14 J	-5527183.45	-5527183.24	-5527183.02	0.0089	0.0015
Jupiter	-19846-07-24 14:23 J	-5527124.09	-5527123.90	-5527123.70	0.0495	0.0118
Neptune	-19845-01-06 18:28 J	-5526957.94	-5526957.73	-5526957.51	0.0089	0.0013
Jupiter	-19845-03-16 20:23 J	-5526887.83	-5526887.65	-5526887.48	0.0495	0.0270
Neptune	-19845-08-19 06:57 J	-5526732.42	-5526732.21	-5526731.99	0.0089	0.0011
Neptune	-19844-04-01 19:11 J	-5526506.91	-5526506.70	-5526506.48	0.0089	0.0009
Neptune	-19844-11-13 07:40 J	-5526281.40	-5526281.18	-5526280.96	0.0089	0.0006
Neptune	-19843-06-26 20:09 J	-5526055.88	-5526055.66	-5526055.45	0.0089	0.0004
Uranus	-19843-11-15 18:43 J	-5525913.75	-5525913.72	-5525913.67	0.0132	0.0129
Neptune	-19842-02-07 08:23 J	-5525830.36	-5525830.15	-5525829.93	0.0089	0.0002
Uranus	-19842-06-30 00:14 J	-5525687.62	-5525687.49	-5525687.34	0.0132	0.0102
Neptune	-19842-09-20 20:38 J	-5525604.85	-5525604.64	-5525604.42	0.0089	0.0002

Uranus	-19841-02-11 05:45 J	-5525461.43	-5525461.26	-5525461.07	0.0132	0.0075
Neptune	-19841-05-03 09:07 J	-5525379.34	-5525379.12	-5525378.90	0.0089	0.0003
Uranus	-19841-09-24 11:31 J	-5525235.22	-5525235.02	-5525234.81	0.0132	0.0047
Neptune	-19841-12-14 21:21 J	-5525153.82	-5525153.61	-5525153.39	0.0089	0.0005
Uranus	-19840-05-08 16:48 J	-5525009.01	-5525008.80	-5525008.57	0.0132	0.0020
Jupiter	-19840-05-28 04:04 J	-5524989.51	-5524989.33	-5524989.15	0.0531	0.0232
Neptune	-19840-07-28 09:50 J	-5524928.31	-5524928.09	-5524927.88	0.0089	0.0007
Uranus	-19840-12-20 22:33 J	-5524782.78	-5524782.56	-5524782.34	0.0132	0.0008
Jupiter	-19839-01-20 23:45 J	-5524751.68	-5524751.51	-5524751.33	0.0531	0.0251
Neptune	-19839-03-10 22:04 J	-5524702.79	-5524702.58	-5524702.36	0.0089	0.0009
Uranus	-19839-08-04 04:04 J	-5524556.54	-5524556.33	-5524556.12	0.0132	0.0036
Neptune	-19839-10-22 10:19 J	-5524477.28	-5524477.07	-5524476.85	0.0089	0.0012
Uranus	-19838-03-18 09:07 J	-5524330.30	-5524330.12	-5524329.91	0.0132	0.0064
Neptune	-19838-06-04 22:48 J	-5524251.75	-5524251.55	-5524251.33	0.0089	0.0014
Saturn	-19838-10-04 16:19 J	-5524129.94	-5524129.82	-5524129.68	0.0300	0.0238
Uranus	-19838-10-30 14:38 J	-5524104.04	-5524103.89	-5524103.72	0.0133	0.0091
Neptune	-19837-01-16 11:16 J	-5524026.24	-5524026.03	-5524025.81	0.0089	0.0016
Saturn	-19837-05-22 02:23 J	-5523899.61	-5523899.40	-5523899.18	0.0301	0.0038
Uranus	-19837-06-12 19:40 J	-5523877.75	-5523877.68	-5523877.56	0.0133	0.0119
Neptune	-19837-08-28 23:45 J	-5523800.72	-5523800.51	-5523800.30	0.0089	0.0018
Saturn	-19836-01-07 12:57 J	-5523669.14	-5523668.96	-5523668.78	0.0302	0.0165
Neptune	-19836-04-11 12:00 J	-5523575.21	-5523575.00	-5523574.79	0.0089	0.0020
Neptune	-19836-11-23 00:14 J	-5523349.69	-5523349.49	-5523349.27	0.0089	0.0023
Neptune	-19835-07-06 12:43 J	-5523124.17	-5523123.97	-5523123.75	0.0089	0.0025
Neptune	-19834-02-17 01:11 J	-5522898.65	-5522898.45	-5522898.24	0.0089	0.0027
Jupiter	-19834-03-29 17:45 J	-5522857.94	-5522857.76	-5522857.58	0.0495	0.0223
Neptune	-19834-09-30 13:26 J	-5522673.13	-5522672.94	-5522672.72	0.0089	0.0029
Jupiter	-19834-11-20 22:33 J	-5522621.76	-5522621.56	-5522621.37	0.0495	0.0164
Neptune	-19833-05-13 01:55 J	-5522447.62	-5522447.42	-5522447.21	0.0089	0.0031
Neptune	-19833-12-24 14:23 J	-5522222.10	-5522221.90	-5522221.70	0.0089	0.0033

Neptune -19832-08-07 02:38 J -5521996.58 -5521996.39 -5521996.19 0.0089 0.0035
 Neptune -19831-03-20 15:07 J -5521771.07 -5521770.87 -5521770.67 0.0089 0.0037
 Neptune -19831-11-01 03:07 J -5521545.55 -5521545.37 -5521545.16 0.0089 0.0040
 Neptune -19830-06-14 15:36 J -5521320.03 -5521319.85 -5521319.64 0.0089 0.0042
 Neptune -19829-01-26 03:50 J -5521094.51 -5521094.34 -5521094.13 0.0089 0.0044
 Neptune -19829-09-07 16:04 J -5520868.99 -5520868.83 -5520868.62 0.0089 0.0046
 Jupiter -19828-01-30 18:00 J -5520723.90 -5520723.75 -5520723.60 0.0530 0.0363
 Neptune -19828-04-21 04:33 J -5520643.48 -5520643.31 -5520643.11 0.0089 0.0047
 Jupiter -19828-09-25 14:52 J -5520486.08 -5520485.88 -5520485.69 0.0532 0.0118
 Neptune -19828-12-02 17:16 J -5520417.96 -5520417.78 -5520417.60 0.0089 0.0049
 Neptune -19827-07-16 05:45 J -5520192.43 -5520192.26 -5520192.08 0.0089 0.0051
 Neptune -19826-02-26 18:00 J -5519966.91 -5519966.75 -5519966.57 0.0089 0.0053
 Neptune -19826-10-10 06:14 J -5519741.39 -5519741.24 -5519741.05 0.0089 0.0055
 Pluto -19825-05-01 14:23 J -5519537.05 -5519536.90 -5519536.69 0.0064 0.0036
 Neptune -19825-05-22 18:43 J -5519515.87 -5519515.72 -5519515.54 0.0089 0.0057
 Pluto -19825-12-12 18:43 J -5519311.94 -5519311.72 -5519311.50 0.0064 0.0000
 Neptune -19824-01-03 07:11 J -5519290.35 -5519290.20 -5519290.02 0.0089 0.0059
 Pluto -19824-07-25 22:19 J -5519086.74 -5519086.57 -5519086.38 0.0064 0.0036
 Saturn -19824-08-04 06:57 J -5519077.27 -5519077.21 -5519077.14 0.0263 0.0250
 Neptune -19824-08-16 19:26 J -5519064.82 -5519064.69 -5519064.50 0.0088 0.0061
 Saturn -19823-03-21 01:11 J -5518848.63 -5518848.45 -5518848.27 0.0261 0.0124
 Neptune -19823-03-30 08:23 J -5518839.30 -5518839.15 -5518838.99 0.0088 0.0062
 Saturn -19823-11-04 18:57 J -5518619.92 -5518619.71 -5518619.50 0.0261 0.0002
 Neptune -19823-11-10 20:38 J -5518613.77 -5518613.64 -5518613.47 0.0088 0.0064
 Jupiter -19823-12-02 20:23 J -5518591.80 -5518591.65 -5518591.49 0.0496 0.0326
 Saturn -19822-06-21 12:28 J -5518391.16 -5518390.98 -5518390.80 0.0260 0.0127
 Neptune -19822-06-24 09:07 J -5518388.24 -5518388.12 -5518387.95 0.0088 0.0066
 Jupiter -19822-07-27 00:28 J -5518355.69 -5518355.48 -5518355.28 0.0494 0.0058
 Neptune -19821-02-04 21:50 J -5518162.72 -5518162.59 -5518162.44 0.0088 0.0067
 Saturn -19821-02-05 05:45 J -5518162.30 -5518162.26 -5518162.19 0.0260 0.0250

Jupiter -19821-03-19 07:11 J -5518119.29 -5518119.20 -5518119.10 0.0495 0.0440
 Mars -19821-07-18 06:14 J -5517998.30 -5517998.24 -5517998.18 0.1627 0.1510
 Neptune -19821-09-17 10:04 J -5517937.20 -5517937.08 -5517936.92 0.0088 0.0069
 Neptune -19820-04-30 22:19 J -5517711.67 -5517711.57 -5517711.41 0.0088 0.0071
 Mars -19820-06-15 08:38 J -5517666.31 -5517666.14 -5517665.98 0.1893 0.0752
 Neptune -19820-12-12 11:02 J -5517486.15 -5517486.04 -5517485.90 0.0088 0.0072
 Mars -19819-05-18 12:00 J -5517329.17 -5517329.00 -5517328.83 0.1626 0.0192
 Neptune -19819-07-25 23:31 J -5517260.62 -5517260.52 -5517260.37 0.0088 0.0074
 Neptune -19818-03-08 12:14 J -5517035.09 -5517034.99 -5517034.86 0.0088 0.0075
 Neptune -19818-10-20 00:57 J -5516809.57 -5516809.46 -5516809.35 0.0088 0.0076
 Neptune -19817-06-01 12:57 J -5516584.04 -5516583.96 -5516583.83 0.0088 0.0078
 Jupiter -19817-10-05 07:55 J -5516458.24 -5516458.17 -5516458.09 0.0530 0.0491
 Neptune -19816-01-13 01:40 J -5516358.51 -5516358.43 -5516358.32 0.0088 0.0079
 Jupiter -19816-05-31 06:00 J -5516220.45 -5516220.25 -5516220.05 0.0532 0.0015
 Neptune -19816-08-26 14:23 J -5516132.98 -5516132.90 -5516132.80 0.0088 0.0080
 Jupiter -19815-01-24 00:28 J -5515982.58 -5515982.48 -5515982.38 0.0531 0.0458
 Neptune -19815-04-09 02:23 J -5515907.45 -5515907.40 -5515907.29 0.0088 0.0082
 Neptune -19815-11-20 15:07 J -5515681.92 -5515681.87 -5515681.77 0.0088 0.0083
 Neptune -19814-07-04 03:50 J -5515456.39 -5515456.34 -5515456.25 0.0088 0.0084
 Neptune -19813-02-14 16:33 J -5515230.85 -5515230.81 -5515230.73 0.0088 0.0085
 Neptune -19813-09-27 05:16 J -5515005.32 -5515005.28 -5515005.22 0.0088 0.0086
 Neptune -19812-05-10 17:45 J -5514779.78 -5514779.76 -5514779.70 0.0088 0.0087
 Neptune -19812-12-22 06:28 J -5514554.24 -5514554.23 -5514554.19 0.0088 0.0088
 Jupiter -19811-08-07 23:16 J -5514325.63 -5514325.53 -5514325.43 0.0496 0.0427
 Jupiter -19810-04-01 02:38 J -5514089.59 -5514089.39 -5514089.19 0.0494 0.0048
 Jupiter -19810-11-23 08:09 J -5513853.30 -5513853.16 -5513853.00 0.0494 0.0338
 Saturn -19808-04-15 21:07 J -5513343.76 -5513343.62 -5513343.47 0.0299 0.0215
 Saturn -19808-12-02 07:26 J -5513113.41 -5513113.19 -5513112.98 0.0301 0.0016
 Saturn -19807-07-20 17:31 J -5512882.93 -5512882.77 -5512882.60 0.0301 0.0187
 Jupiter -19804-02-02 22:19 J -5511954.76 -5511954.57 -5511954.37 0.0531 0.0145

Jupiter	-19804-09-28 17:45 J	-5511716.91	-5511716.76	-5511716.60	0.0531	0.0336
Uranus	-19800-01-04 11:02 J	-5510523.14	-5510523.04	-5510522.90	0.0146	0.0121
Uranus	-19800-08-18 23:31 J	-5510296.69	-5510296.52	-5510296.34	0.0146	0.0084
Uranus	-19799-04-02 11:45 J	-5510070.22	-5510070.01	-5510069.81	0.0146	0.0047
Uranus	-19799-11-14 23:45 J	-5509843.72	-5509843.51	-5509843.29	0.0146	0.0010
Jupiter	-19799-12-05 02:09 J	-5509823.60	-5509823.41	-5509823.21	0.0495	0.0158
Uranus	-19798-06-29 12:00 J	-5509617.21	-5509617.00	-5509616.79	0.0146	0.0027
Jupiter	-19798-07-29 07:26 J	-5509587.37	-5509587.19	-5509587.01	0.0495	0.0231
Uranus	-19797-02-11 00:00 J	-5509390.69	-5509390.50	-5509390.30	0.0146	0.0064
Uranus	-19797-09-24 11:45 J	-5509164.15	-5509164.01	-5509163.84	0.0146	0.0101
Uranus	-19796-05-09 00:00 J	-5508937.56	-5508937.50	-5508937.42	0.0146	0.0137
Saturn	-19794-02-14 09:50 J	-5508291.19	-5508291.09	-5508291.00	0.0263	0.0232
Saturn	-19794-10-01 03:50 J	-5508062.52	-5508062.34	-5508062.14	0.0262	0.0105
Saturn	-19793-05-16 21:50 J	-5507833.80	-5507833.59	-5507833.38	0.0261	0.0021
Jupiter	-19793-10-08 13:26 J	-5507689.12	-5507688.94	-5507688.77	0.0531	0.0278
Saturn	-19793-12-31 15:21 J	-5507605.03	-5507604.86	-5507604.68	0.0261	0.0146
Jupiter	-19792-06-03 09:36 J	-5507451.29	-5507451.10	-5507450.91	0.0531	0.0206
Neptune	-19788-06-09 17:02 J	-5505983.80	-5505983.79	-5505983.75	0.0088	0.0087
Neptune	-19787-01-21 06:14 J	-5505758.27	-5505758.24	-5505758.18	0.0088	0.0086
Mars	-19787-05-17 03:36 J	-5505642.50	-5505642.35	-5505642.19	0.1626	0.0630
Jupiter	-19787-08-10 04:33 J	-5505557.48	-5505557.31	-5505557.13	0.0495	0.0262
Neptune	-19787-09-03 19:26 J	-5505532.72	-5505532.69	-5505532.62	0.0088	0.0085
Jupiter	-19786-04-03 09:07 J	-5505321.32	-5505321.12	-5505320.92	0.0495	0.0125
Mars	-19786-04-12 08:09 J	-5505312.29	-5505312.16	-5505312.03	0.1893	0.1318
Neptune	-19786-04-17 08:52 J	-5505307.18	-5505307.13	-5505307.05	0.0088	0.0084
Neptune	-19786-11-28 21:50 J	-5505081.64	-5505081.59	-5505081.49	0.0088	0.0083
Mars	-19785-03-16 08:52 J	-5504973.25	-5504973.13	-5504973.00	0.1627	0.1083
Neptune	-19785-07-11 11:02 J	-5504856.09	-5504856.04	-5504855.93	0.0088	0.0082
Neptune	-19784-02-22 00:57 J	-5504630.55	-5504630.46	-5504630.37	0.0088	0.0080
Neptune	-19784-10-05 14:09 J	-5504404.99	-5504404.91	-5504404.80	0.0088	0.0079

Neptune	-19783-05-19 03:21 J	-5504179.44	-5504179.36	-5504179.24	0.0088	0.0078
Neptune	-19783-12-30 17:02 J	-5503953.89	-5503953.79	-5503953.68	0.0088	0.0076
Neptune	-19782-08-13 06:00 J	-5503728.35	-5503728.25	-5503728.12	0.0088	0.0075
Neptune	-19781-03-25 19:11 J	-5503502.80	-5503502.70	-5503502.55	0.0088	0.0074
Jupiter	-19781-06-13 01:26 J	-5503423.56	-5503423.44	-5503423.31	0.0530	0.0412
Neptune	-19781-11-06 08:52 J	-5503277.24	-5503277.13	-5503276.99	0.0088	0.0072
Jupiter	-19780-02-05 22:33 J	-5503185.76	-5503185.56	-5503185.36	0.0531	0.0069
Neptune	-19780-06-19 21:50 J	-5503051.69	-5503051.59	-5503051.43	0.0088	0.0071
Neptune	-19779-01-31 11:31 J	-5502826.14	-5502826.02	-5502825.87	0.0088	0.0069
Neptune	-19779-09-14 01:11 J	-5502600.59	-5502600.45	-5502600.30	0.0088	0.0067
Saturn	-19779-10-27 07:26 J	-5502557.35	-5502557.19	-5502557.01	0.0300	0.0181
Neptune	-19778-04-27 14:09 J	-5502375.03	-5502374.91	-5502374.74	0.0088	0.0066
Saturn	-19778-06-14 17:31 J	-5502326.98	-5502326.77	-5502326.55	0.0301	0.0020
Neptune	-19778-12-09 03:36 J	-5502149.48	-5502149.35	-5502149.18	0.0088	0.0064
Saturn	-19777-01-31 03:36 J	-5502096.48	-5502096.35	-5502096.20	0.0302	0.0223
Neptune	-19777-07-21 17:02 J	-5501923.93	-5501923.79	-5501923.62	0.0088	0.0063
Neptune	-19776-03-04 06:43 J	-5501698.38	-5501698.22	-5501698.05	0.0088	0.0061
Neptune	-19776-10-15 19:55 J	-5501472.81	-5501472.67	-5501472.48	0.0088	0.0059
Jupiter	-19775-04-15 07:40 J	-5501291.31	-5501291.18	-5501291.04	0.0496	0.0366
Neptune	-19775-05-29 09:36 J	-5501247.25	-5501247.10	-5501246.91	0.0088	0.0057
Jupiter	-19775-12-07 11:45 J	-5501055.22	-5501055.01	-5501054.81	0.0495	0.0020
Neptune	-19774-01-09 23:02 J	-5501021.70	-5501021.54	-5501021.35	0.0088	0.0055
Jupiter	-19774-07-31 18:14 J	-5500818.85	-5500818.74	-5500818.62	0.0495	0.0404
Neptune	-19774-08-23 12:28 J	-5500796.14	-5500795.98	-5500795.78	0.0088	0.0054
Neptune	-19773-04-05 02:09 J	-5500570.58	-5500570.41	-5500570.22	0.0088	0.0051
Neptune	-19773-11-16 15:50 J	-5500345.02	-5500344.84	-5500344.64	0.0088	0.0049
Neptune	-19772-06-30 05:16 J	-5500119.45	-5500119.28	-5500119.08	0.0088	0.0048
Neptune	-19771-02-10 18:57 J	-5499893.89	-5499893.71	-5499893.51	0.0088	0.0045
Neptune	-19771-09-24 08:38 J	-5499668.33	-5499668.14	-5499667.94	0.0088	0.0043
Neptune	-19770-05-07 22:04 J	-5499442.77	-5499442.58	-5499442.37	0.0088	0.0041

Neptune	-19770-12-19 11:31 J	-5499217.20	-5499217.02	-5499216.80	0.0088	0.0040
Neptune	-19769-08-01 01:11 J	-5498991.64	-5498991.45	-5498991.24	0.0088	0.0037
Jupiter	-19769-10-11 12:43 J	-5498920.18	-5498919.97	-5498919.77	0.0531	0.0068
Neptune	-19768-03-14 14:38 J	-5498766.08	-5498765.89	-5498765.67	0.0088	0.0035
Jupiter	-19768-06-06 06:57 J	-5498682.33	-5498682.21	-5498682.08	0.0531	0.0411
Neptune	-19768-10-26 04:33 J	-5498540.51	-5498540.31	-5498540.10	0.0088	0.0033
Neptune	-19767-06-08 18:14 J	-5498314.95	-5498314.74	-5498314.53	0.0088	0.0030
Neptune	-19766-01-20 07:40 J	-5498089.39	-5498089.18	-5498088.96	0.0088	0.0028
Neptune	-19766-09-02 21:07 J	-5497863.83	-5497863.62	-5497863.40	0.0088	0.0026
Neptune	-19765-04-15 10:33 J	-5497638.26	-5497638.06	-5497637.83	0.0088	0.0024
Saturn	-19765-08-26 13:55 J	-5497505.04	-5497504.92	-5497504.79	0.0262	0.0211
Neptune	-19765-11-27 00:28 J	-5497412.69	-5497412.48	-5497412.26	0.0088	0.0022
Saturn	-19764-04-12 08:09 J	-5497276.36	-5497276.16	-5497275.96	0.0261	0.0084
Neptune	-19764-07-10 14:09 J	-5497187.13	-5497186.91	-5497186.69	0.0088	0.0019
Saturn	-19764-11-27 01:55 J	-5497047.62	-5497047.42	-5497047.21	0.0261	0.0042
Jupiter	-19764-12-19 10:19 J	-5497025.13	-5497025.07	-5497025.00	0.0497	0.0466
Neptune	-19763-02-21 03:36 J	-5496961.56	-5496961.35	-5496961.12	0.0088	0.0017
Saturn	-19763-07-13 19:40 J	-5496818.83	-5496818.68	-5496818.51	0.0260	0.0167
Jupiter	-19763-08-12 13:55 J	-5496789.12	-5496788.92	-5496788.72	0.0495	0.0088
Neptune	-19763-10-04 17:31 J	-5496735.99	-5496735.77	-5496735.55	0.0088	0.0015
Jupiter	-19762-04-05 19:11 J	-5496552.86	-5496552.70	-5496552.53	0.0494	0.0300
Neptune	-19762-05-18 07:11 J	-5496510.42	-5496510.20	-5496509.98	0.0088	0.0012
Earth	-19762-11-01 08:23 J	-5496343.28	-5496343.15	-5496343.02	0.2624	0.1419
Moon	-19762-11-01 12:28 J	-5496343.12	-5496342.98	-5496342.85	0.2620	0.1466 *
Neptune	-19762-12-29 20:52 J	-5496284.85	-5496284.63	-5496284.41	0.0088	0.0010
Neptune	-19761-08-11 10:33 J	-5496059.28	-5496059.06	-5496058.84	0.0088	0.0008
Neptune	-19760-03-25 00:14 J	-5495833.72	-5495833.49	-5495833.27	0.0088	0.0005
Neptune	-19760-11-05 14:09 J	-5495608.14	-5495607.91	-5495607.69	0.0088	0.0004
Neptune	-19759-06-19 03:50 J	-5495382.57	-5495382.34	-5495382.12	0.0088	0.0001
Neptune	-19758-01-30 17:31 J	-5495157.00	-5495156.77	-5495156.55	0.0088	0.0002

Uranus	-19758-02-27 10:19 J	-5495129.17	-5495129.07	-5495128.95	0.0132	0.0114
Neptune	-19758-09-13 07:11 J	-5494931.43	-5494931.20	-5494930.98	0.0088	0.0004
Uranus	-19758-10-11 15:36 J	-5494903.00	-5494902.85	-5494902.67	0.0132	0.0088
Neptune	-19757-04-25 20:52 J	-5494705.85	-5494705.63	-5494705.41	0.0088	0.0006
Uranus	-19757-05-24 21:21 J	-5494676.80	-5494676.61	-5494676.41	0.0132	0.0060
Jupiter	-19757-06-16 02:52 J	-5494654.57	-5494654.38	-5494654.19	0.0531	0.0201
Neptune	-19757-12-07 10:33 J	-5494480.28	-5494480.06	-5494479.83	0.0088	0.0009
Uranus	-19756-01-06 02:52 J	-5494450.58	-5494450.38	-5494450.16	0.0132	0.0032
Jupiter	-19756-02-08 23:02 J	-5494416.71	-5494416.54	-5494416.37	0.0532	0.0284
Neptune	-19756-07-21 00:14 J	-5494254.71	-5494254.49	-5494254.26	0.0088	0.0011
Uranus	-19756-08-20 08:38 J	-5494224.36	-5494224.14	-5494223.92	0.0132	0.0004
Neptune	-19755-03-03 13:55 J	-5494029.14	-5494028.92	-5494028.69	0.0088	0.0013
Uranus	-19755-04-03 13:55 J	-5493998.13	-5493997.92	-5493997.70	0.0132	0.0024
Mars	-19755-05-15 19:11 J	-5493955.77	-5493955.70	-5493955.62	0.1627	0.1440
Neptune	-19755-10-15 03:36 J	-5493803.57	-5493803.35	-5493803.13	0.0088	0.0016
Uranus	-19755-11-15 19:11 J	-5493771.89	-5493771.70	-5493771.49	0.0132	0.0052
Mars	-19754-04-12 10:04 J	-5493624.25	-5493624.08	-5493623.90	0.1893	0.0445
Neptune	-19754-05-28 17:16 J	-5493578.00	-5493577.78	-5493577.56	0.0088	0.0018
Uranus	-19754-06-30 00:28 J	-5493545.64	-5493545.48	-5493545.29	0.0133	0.0080
Moon	-19754-10-30 02:09 J	-5493423.55	-5493423.41	-5493423.27	0.2619	0.1505
Earth	-19754-10-30 02:09 J	-5493423.53	-5493423.41	-5493423.29	0.2625	0.1623 *
Neptune	-19753-01-09 06:57 J	-5493352.42	-5493352.21	-5493351.99	0.0089	0.0020
Uranus	-19753-02-11 06:00 J	-5493319.37	-5493319.25	-5493319.11	0.0133	0.0107
Mars	-19753-03-15 00:57 J	-5493286.63	-5493286.46	-5493286.29	0.1626	0.0261
Neptune	-19753-08-21 20:38 J	-5493126.85	-5493126.64	-5493126.42	0.0089	0.0023
Neptune	-19752-04-04 10:19 J	-5492901.28	-5492901.07	-5492900.85	0.0089	0.0025
Neptune	-19752-11-15 23:45 J	-5492675.71	-5492675.51	-5492675.28	0.0089	0.0028
Jupiter	-19751-04-17 16:04 J	-5492523.01	-5492522.83	-5492522.64	0.0495	0.0195
Neptune	-19751-06-29 13:26 J	-5492450.13	-5492449.94	-5492449.71	0.0089	0.0030
Jupiter	-19751-12-09 20:38 J	-5492286.83	-5492286.64	-5492286.45	0.0494	0.0193

Neptune	-19750-02-10 03:21 J	-5492224.56	-5492224.36	-5492224.14	0.0089	0.0032
Neptune	-19750-09-23 17:02 J	-5491998.99	-5491998.79	-5491998.58	0.0089	0.0034
Neptune	-19749-05-06 06:43 J	-5491773.42	-5491773.22	-5491773.01	0.0089	0.0036
Saturn	-19749-05-08 13:55 J	-5491771.10	-5491770.92	-5491770.73	0.0300	0.0156
Neptune	-19749-12-17 20:23 J	-5491547.84	-5491547.65	-5491547.43	0.0089	0.0039
Saturn	-19749-12-25 00:00 J	-5491540.71	-5491540.50	-5491540.28	0.0301	0.0046
Neptune	-19748-07-31 10:04 J	-5491322.26	-5491322.08	-5491321.87	0.0089	0.0041
Saturn	-19748-08-12 10:04 J	-5491310.19	-5491310.08	-5491309.95	0.0301	0.0247
Neptune	-19747-03-13 23:45 J	-5491096.69	-5491096.51	-5491096.30	0.0089	0.0043
Neptune	-19747-10-25 13:26 J	-5490871.12	-5490870.94	-5490870.73	0.0089	0.0045
Neptune	-19746-06-08 03:21 J	-5490645.54	-5490645.36	-5490645.16	0.0089	0.0047
Neptune	-19745-01-19 17:02 J	-5490419.96	-5490419.79	-5490419.59	0.0089	0.0049
Jupiter	-19745-02-19 18:43 J	-5490388.88	-5490388.72	-5490388.56	0.0531	0.0330
Neptune	-19745-09-01 06:43 J	-5490194.39	-5490194.22	-5490194.03	0.0089	0.0051
Jupiter	-19745-10-14 15:50 J	-5490151.03	-5490150.84	-5490150.65	0.0532	0.0155
Neptune	-19744-04-14 20:23 J	-5489968.82	-5489968.65	-5489968.46	0.0089	0.0053
Neptune	-19744-11-26 10:04 J	-5489743.24	-5489743.08	-5489742.89	0.0089	0.0055
Neptune	-19743-07-09 23:45 J	-5489517.67	-5489517.51	-5489517.33	0.0089	0.0057
Neptune	-19742-02-20 13:26 J	-5489292.10	-5489291.94	-5489291.76	0.0089	0.0059
Neptune	-19742-10-04 02:52 J	-5489066.53	-5489066.38	-5489066.20	0.0089	0.0061
Neptune	-19741-05-16 16:19 J	-5488840.96	-5488840.82	-5488840.64	0.0089	0.0063
Neptune	-19741-12-28 06:00 J	-5488615.38	-5488615.25	-5488615.08	0.0089	0.0065
Neptune	-19740-08-10 19:55 J	-5488389.81	-5488389.67	-5488389.52	0.0089	0.0066
Jupiter	-19740-12-21 15:50 J	-5488257.00	-5488256.84	-5488256.68	0.0496	0.0302
Neptune	-19739-03-24 09:21 J	-5488164.24	-5488164.11	-5488163.96	0.0089	0.0068
Jupiter	-19739-08-14 19:55 J	-5488020.87	-5488020.67	-5488020.47	0.0494	0.0084
Neptune	-19739-11-04 22:33 J	-5487938.67	-5487938.56	-5487938.40	0.0089	0.0070
Jupiter	-19738-04-08 03:07 J	-5487784.43	-5487784.37	-5487784.30	0.0495	0.0467
Neptune	-19738-06-18 12:00 J	-5487713.10	-5487713.00	-5487712.84	0.0089	0.0072
Neptune	-19737-01-30 01:55 J	-5487487.53	-5487487.42	-5487487.28	0.0089	0.0073

Neptune -19737-09-11 15:21 J -5487261.96 -5487261.86 -5487261.72 0.0089 0.0075
 Pluto -19736-03-25 14:38 J -5487067.09 -5487066.89 -5487066.67 0.0080 0.0029
 Neptune -19736-04-25 05:02 J -5487036.39 -5487036.29 -5487036.16 0.0089 0.0076
 Pluto -19736-11-06 01:40 J -5486841.60 -5486841.43 -5486841.22 0.0080 0.0043
 Neptune -19736-12-06 18:28 J -5486810.82 -5486810.73 -5486810.60 0.0089 0.0078
 Saturn -19735-03-08 16:48 J -5486718.93 -5486718.80 -5486718.64 0.0263 0.0192
 Neptune -19735-07-20 08:09 J -5486585.24 -5486585.16 -5486585.04 0.0089 0.0079
 Saturn -19735-10-23 11:16 J -5486490.23 -5486490.03 -5486489.82 0.0262 0.0065
 Neptune -19734-03-02 21:36 J -5486359.67 -5486359.60 -5486359.49 0.0089 0.0081
 Saturn -19734-06-09 05:16 J -5486261.48 -5486261.28 -5486261.07 0.0261 0.0063
 Neptune -19734-10-14 11:16 J -5486134.10 -5486134.03 -5486133.93 0.0089 0.0082
 Jupiter -19734-10-25 09:21 J -5486123.21 -5486123.11 -5486123.01 0.0530 0.0458
 Saturn -19733-01-23 22:48 J -5486032.68 -5486032.55 -5486032.39 0.0261 0.0188
 Neptune -19733-05-27 00:57 J -5485908.53 -5485908.46 -5485908.38 0.0089 0.0083
 Jupiter -19733-06-19 06:57 J -5485885.41 -5485885.21 -5485885.00 0.0532 0.0024
 Neptune -19732-01-07 14:09 J -5485682.95 -5485682.91 -5485682.82 0.0089 0.0085
 Jupiter -19732-02-12 00:43 J -5485647.53 -5485647.47 -5485647.39 0.0531 0.0492
 Neptune -19732-08-21 03:50 J -5485457.38 -5485457.34 -5485457.27 0.0089 0.0086
 Neptune -19731-04-03 17:16 J -5485231.80 -5485231.78 -5485231.72 0.0089 0.0087
 Neptune -19731-11-15 06:43 J -5485006.23 -5485006.22 -5485006.18 0.0089 0.0088
 Jupiter -19728-08-26 18:00 J -5483990.86 -5483990.75 -5483990.63 0.0496 0.0406
 Jupiter -19727-04-19 21:50 J -5483754.80 -5483754.59 -5483754.39 0.0495 0.0025
 Jupiter -19727-12-12 03:50 J -5483518.47 -5483518.34 -5483518.20 0.0495 0.0364
 Jupiter -19721-02-22 19:26 J -5481619.89 -5481619.69 -5481619.49 0.0531 0.0118
 Mars -19721-03-13 16:19 J -5481599.98 -5481599.82 -5481599.66 0.1626 0.0556
 Jupiter -19721-10-17 14:23 J -5481382.04 -5481381.90 -5481381.75 0.0531 0.0363
 Mars -19720-02-06 09:50 J -5481270.18 -5481270.09 -5481270.00 0.1892 0.1618
 Saturn -19720-11-19 01:40 J -5480984.63 -5480984.43 -5480984.23 0.0300 0.0119
 Mars -19719-01-11 21:21 J -5480930.73 -5480930.61 -5480930.49 0.1627 0.1156
 Saturn -19719-07-07 11:45 J -5480754.22 -5480754.01 -5480753.81 0.0301 0.0083

Saturn	-19718-02-22 21:36 J	-5480523.66	-5480523.60	-5480523.52	0.0302	0.0285
Uranus	-19717-09-03 18:57 J	-5479964.77	-5479964.71	-5479964.61	0.0146	0.0137
Uranus	-19716-04-18 07:11 J	-5479738.35	-5479738.20	-5479738.03	0.0146	0.0100
Uranus	-19716-11-30 19:26 J	-5479511.88	-5479511.69	-5479511.49	0.0146	0.0063
Jupiter	-19716-12-24 00:14 J	-5479488.68	-5479488.49	-5479488.29	0.0495	0.0131
Uranus	-19715-07-15 07:40 J	-5479285.39	-5479285.18	-5479284.96	0.0146	0.0026
Jupiter	-19715-08-17 05:45 J	-5479252.43	-5479252.26	-5479252.08	0.0495	0.0259
Uranus	-19714-02-26 19:55 J	-5479058.89	-5479058.67	-5479058.46	0.0146	0.0011
Uranus	-19714-10-11 07:55 J	-5478832.37	-5478832.17	-5478831.97	0.0146	0.0048
Uranus	-19713-05-24 19:55 J	-5478605.84	-5478605.67	-5478605.49	0.0146	0.0085
Uranus	-19712-01-06 07:40 J	-5478379.28	-5478379.18	-5478379.05	0.0146	0.0122
Jupiter	-19710-10-28 08:38 J	-5477354.31	-5477354.14	-5477353.96	0.0531	0.0254
Jupiter	-19709-06-22 05:02 J	-5477116.48	-5477116.29	-5477116.11	0.0532	0.0232
Neptune	-19706-07-29 05:16 J	-5475984.28	-5475984.28	-5475984.25	0.0089	0.0089
Saturn	-19706-09-18 22:19 J	-5475932.72	-5475932.57	-5475932.40	0.0262	0.0170
Neptune	-19705-03-10 17:45 J	-5475758.76	-5475758.76	-5475758.69	0.0089	0.0089
Saturn	-19705-05-04 16:48 J	-5475704.01	-5475703.80	-5475703.60	0.0261	0.0043
Neptune	-19705-10-22 07:11 J	-5475533.24	-5475533.20	-5475533.15	0.0089	0.0087
Saturn	-19705-12-19 10:33 J	-5475475.26	-5475475.06	-5475474.86	0.0261	0.0084
Neptune	-19704-06-04 19:40 J	-5475307.72	-5475307.68	-5475307.61	0.0089	0.0086
Saturn	-19704-08-05 04:19 J	-5475246.44	-5475246.32	-5475246.19	0.0260	0.0208
Jupiter	-19704-08-29 02:52 J	-5475222.56	-5475222.38	-5475222.20	0.0495	0.0236
Neptune	-19703-01-16 08:23 J	-5475082.20	-5475082.15	-5475082.07	0.0089	0.0084
Jupiter	-19703-04-22 07:11 J	-5474986.39	-5474986.20	-5474986.00	0.0494	0.0152
Neptune	-19703-08-29 20:52 J	-5474856.68	-5474856.63	-5474856.53	0.0089	0.0084
Neptune	-19702-04-12 10:04 J	-5474631.15	-5474631.08	-5474630.98	0.0089	0.0082
Neptune	-19702-11-23 22:33 J	-5474405.63	-5474405.56	-5474405.45	0.0089	0.0081
Neptune	-19701-07-06 11:31 J	-5474180.11	-5474180.02	-5474179.91	0.0089	0.0079
Neptune	-19700-02-17 00:00 J	-5473954.59	-5473954.50	-5473954.38	0.0089	0.0078
Neptune	-19700-09-30 12:57 J	-5473729.07	-5473728.96	-5473728.84	0.0089	0.0076

Neptune	-19699-05-14 01:26 J	-5473503.54	-5473503.44	-5473503.31	0.0089	0.0075
Neptune	-19699-12-25 14:23 J	-5473278.02	-5473277.90	-5473277.77	0.0089	0.0073
Jupiter	-19698-07-02 22:04 J	-5473088.71	-5473088.58	-5473088.44	0.0530	0.0385
Neptune	-19698-08-08 02:38 J	-5473052.50	-5473052.39	-5473052.24	0.0089	0.0071
Jupiter	-19697-02-25 19:40 J	-5472850.88	-5472850.68	-5472850.48	0.0532	0.0099
Neptune	-19697-03-20 15:21 J	-5472826.98	-5472826.86	-5472826.71	0.0089	0.0070
Neptune	-19697-11-01 04:19 J	-5472601.45	-5472601.32	-5472601.17	0.0089	0.0068
Neptune	-19696-06-14 16:33 J	-5472375.93	-5472375.81	-5472375.64	0.0089	0.0066
Neptune	-19695-01-26 05:16 J	-5472150.41	-5472150.28	-5472150.11	0.0089	0.0064
Neptune	-19695-09-08 18:00 J	-5471924.89	-5471924.75	-5471924.58	0.0089	0.0063
Neptune	-19694-04-22 06:43 J	-5471699.36	-5471699.22	-5471699.05	0.0089	0.0061
Neptune	-19694-12-03 19:26 J	-5471473.84	-5471473.69	-5471473.52	0.0089	0.0059
Neptune	-19693-07-16 07:55 J	-5471248.32	-5471248.17	-5471247.99	0.0089	0.0057
Neptune	-19692-02-26 20:38 J	-5471022.81	-5471022.64	-5471022.47	0.0089	0.0055
Jupiter	-19692-05-04 05:02 J	-5470956.44	-5470956.29	-5470956.14	0.0496	0.0340
Neptune	-19692-10-10 09:07 J	-5470797.29	-5470797.12	-5470796.94	0.0089	0.0053
Jupiter	-19692-12-26 08:38 J	-5470720.34	-5470720.14	-5470719.93	0.0494	0.0045
Neptune	-19691-05-23 21:50 J	-5470571.77	-5470571.59	-5470571.41	0.0089	0.0051
Jupiter	-19691-08-19 14:52 J	-5470483.97	-5470483.88	-5470483.77	0.0495	0.0430
Saturn	-19691-10-14 00:43 J	-5470428.52	-5470428.47	-5470428.41	0.0298	0.0288
Neptune	-19690-01-04 10:04 J	-5470346.25	-5470346.08	-5470345.89	0.0089	0.0049
Saturn	-19690-06-01 10:04 J	-5470198.28	-5470198.08	-5470197.87	0.0300	0.0091
Neptune	-19690-08-17 22:33 J	-5470120.74	-5470120.56	-5470120.37	0.0089	0.0047
Saturn	-19689-01-17 19:55 J	-5469967.86	-5469967.67	-5469967.46	0.0301	0.0112
Mars	-19689-03-12 07:55 J	-5469913.26	-5469913.17	-5469913.08	0.1627	0.1367
Neptune	-19689-03-30 11:02 J	-5469895.22	-5469895.04	-5469894.84	0.0089	0.0044
Neptune	-19689-11-10 23:31 J	-5469669.70	-5469669.52	-5469669.32	0.0089	0.0042
Mars	-19688-02-06 12:28 J	-5469582.16	-5469581.98	-5469581.81	0.1893	0.0156
Neptune	-19688-06-24 11:45 J	-5469444.19	-5469444.01	-5469443.80	0.0089	0.0041
Mars	-19687-01-10 13:11 J	-5469244.12	-5469243.95	-5469243.78	0.1626	0.0336

Neptune -19687-02-05 00:14 J -5469218.67 -5469218.49 -5469218.28 0.0089 0.0038
 Neptune -19687-09-18 12:43 J -5468993.15 -5468992.97 -5468992.76 0.0089 0.0036
 Jupiter -19686-03-07 13:26 J -5468822.99 -5468822.94 -5468822.88 0.0529 0.0510
 Neptune -19686-05-02 01:26 J -5468767.63 -5468767.44 -5468767.23 0.0089 0.0034
 Jupiter -19686-10-31 11:45 J -5468585.21 -5468585.01 -5468584.80 0.0532 0.0034
 Neptune -19686-12-13 13:55 J -5468542.12 -5468541.92 -5468541.71 0.0089 0.0031
 Jupiter -19685-06-25 06:28 J -5468347.33 -5468347.23 -5468347.11 0.0531 0.0444
 Neptune -19685-07-26 02:09 J -5468316.60 -5468316.41 -5468316.19 0.0089 0.0029
 Neptune -19684-03-08 14:38 J -5468091.09 -5468090.89 -5468090.67 0.0089 0.0027
 Neptune -19684-10-20 03:21 J -5467865.57 -5467865.36 -5467865.15 0.0089 0.0025
 Neptune -19683-06-02 15:50 J -5467640.04 -5467639.84 -5467639.62 0.0089 0.0022
 Neptune -19682-01-14 04:19 J -5467414.53 -5467414.32 -5467414.10 0.0089 0.0020
 Neptune -19682-08-27 16:33 J -5467189.01 -5467188.81 -5467188.59 0.0089 0.0018
 Neptune -19681-04-09 05:16 J -5466963.49 -5466963.28 -5466963.07 0.0089 0.0015
 Neptune -19681-11-20 17:31 J -5466737.98 -5466737.77 -5466737.55 0.0089 0.0013
 Jupiter -19680-01-07 05:02 J -5466690.37 -5466690.29 -5466690.19 0.0496 0.0446
 Neptune -19680-07-04 06:00 J -5466512.46 -5466512.25 -5466512.03 0.0089 0.0011
 Jupiter -19680-08-31 08:23 J -5466454.35 -5466454.15 -5466453.95 0.0495 0.0065
 Neptune -19679-02-14 18:28 J -5466286.95 -5466286.73 -5466286.52 0.0089 0.0008
 Jupiter -19679-04-24 13:55 J -5466218.08 -5466217.92 -5466217.77 0.0495 0.0323
 Neptune -19679-09-28 06:43 J -5466061.43 -5466061.22 -5466061.00 0.0089 0.0006
 Neptune -19678-05-11 19:11 J -5465835.91 -5465835.70 -5465835.48 0.0089 0.0004
 Neptune -19678-12-23 07:40 J -5465610.40 -5465610.18 -5465609.97 0.0089 0.0001
 Neptune -19677-08-04 19:55 J -5465384.89 -5465384.67 -5465384.45 0.0089 0.0001
 Neptune -19676-03-18 08:09 J -5465159.37 -5465159.16 -5465158.94 0.0089 0.0004
 Saturn -19676-03-31 01:40 J -5465146.59 -5465146.43 -5465146.25 0.0263 0.0150
 Neptune -19676-10-29 20:38 J -5464933.86 -5464933.64 -5464933.43 0.0089 0.0006
 Saturn -19676-11-14 20:09 J -5464917.87 -5464917.66 -5464917.45 0.0262 0.0022
 Neptune -19675-06-12 09:07 J -5464708.34 -5464708.12 -5464707.91 0.0089 0.0008
 Saturn -19675-07-01 14:09 J -5464689.10 -5464688.91 -5464688.71 0.0261 0.0105

Uranus	-19675-10-27 21:07 J	-5464570.67	-5464570.62	-5464570.54	0.0132	0.0126
Neptune	-19674-01-23 21:21 J	-5464482.82	-5464482.61	-5464482.39	0.0089	0.0011
Saturn	-19674-02-15 07:55 J	-5464460.26	-5464460.17	-5464460.06	0.0261	0.0230
Uranus	-19674-06-11 02:38 J	-5464344.52	-5464344.39	-5464344.23	0.0132	0.0099
Jupiter	-19674-07-06 02:38 J	-5464319.58	-5464319.39	-5464319.20	0.0531	0.0168
Neptune	-19674-09-06 09:36 J	-5464257.31	-5464257.10	-5464256.88	0.0089	0.0013
Uranus	-19673-01-23 08:23 J	-5464118.33	-5464118.15	-5464117.96	0.0132	0.0071
Jupiter	-19673-02-28 22:33 J	-5464081.72	-5464081.56	-5464081.40	0.0532	0.0317
Neptune	-19673-04-18 22:04 J	-5464031.79	-5464031.58	-5464031.37	0.0089	0.0015
Uranus	-19673-09-05 13:55 J	-5463892.12	-5463891.92	-5463891.70	0.0132	0.0044
Neptune	-19673-11-30 10:04 J	-5463806.28	-5463806.08	-5463805.85	0.0089	0.0018
Uranus	-19672-04-19 19:26 J	-5463665.91	-5463665.69	-5463665.47	0.0132	0.0016
Neptune	-19672-07-13 22:48 J	-5463580.76	-5463580.55	-5463580.34	0.0089	0.0020
Uranus	-19672-12-02 00:57 J	-5463439.68	-5463439.46	-5463439.24	0.0132	0.0012
Neptune	-19671-02-24 11:16 J	-5463355.24	-5463355.03	-5463354.82	0.0089	0.0022
Uranus	-19671-07-16 06:00 J	-5463213.45	-5463213.25	-5463213.03	0.0132	0.0041
Neptune	-19671-10-07 23:16 J	-5463129.72	-5463129.53	-5463129.31	0.0089	0.0025
Uranus	-19670-02-27 11:45 J	-5462987.20	-5462987.01	-5462986.82	0.0133	0.0068
Neptune	-19670-05-21 11:45 J	-5462904.20	-5462904.01	-5462903.79	0.0089	0.0027
Uranus	-19670-10-11 16:48 J	-5462760.94	-5462760.80	-5462760.64	0.0133	0.0096
Neptune	-19669-01-02 00:14 J	-5462678.68	-5462678.49	-5462678.28	0.0089	0.0029
Uranus	-19669-05-24 21:50 J	-5462534.64	-5462534.59	-5462534.49	0.0133	0.0124
Neptune	-19669-08-14 12:28 J	-5462453.17	-5462452.98	-5462452.76	0.0089	0.0032
Neptune	-19668-03-28 00:57 J	-5462227.65	-5462227.46	-5462227.25	0.0089	0.0034
Jupiter	-19668-05-06 10:04 J	-5462188.26	-5462188.08	-5462187.88	0.0495	0.0173
Neptune	-19668-11-08 13:11 J	-5462002.13	-5462001.95	-5462001.74	0.0089	0.0036
Jupiter	-19668-12-28 14:52 J	-5461952.06	-5461951.88	-5461951.69	0.0494	0.0217
Neptune	-19667-06-22 01:55 J	-5461776.61	-5461776.42	-5461776.22	0.0089	0.0038
Neptune	-19666-02-02 14:23 J	-5461551.09	-5461550.90	-5461550.71	0.0089	0.0040
Neptune	-19666-09-16 02:38 J	-5461325.58	-5461325.39	-5461325.20	0.0089	0.0042

Neptune	-19665-04-28 14:38 J	-5461100.06	-5461099.89	-5461099.69	0.0089	0.0045
Neptune	-19665-12-10 02:52 J	-5460874.54	-5460874.38	-5460874.18	0.0089	0.0047
Neptune	-19664-07-23 15:21 J	-5460649.02	-5460648.86	-5460648.66	0.0089	0.0049
Neptune	-19663-03-06 03:50 J	-5460423.50	-5460423.34	-5460423.15	0.0089	0.0051
Neptune	-19663-10-17 16:04 J	-5460197.99	-5460197.83	-5460197.64	0.0089	0.0053
Jupiter	-19662-03-10 14:38 J	-5460054.05	-5460053.89	-5460053.72	0.0530	0.0306
Neptune	-19662-05-31 04:33 J	-5459972.47	-5459972.31	-5459972.13	0.0089	0.0055
Jupiter	-19662-11-03 11:16 J	-5459816.22	-5459816.03	-5459815.84	0.0531	0.0180
Neptune	-19661-01-11 16:48 J	-5459746.95	-5459746.80	-5459746.61	0.0089	0.0057
Saturn	-19661-04-25 12:28 J	-5459642.08	-5459641.98	-5459641.85	0.0299	0.0253
Neptune	-19661-08-24 05:16 J	-5459521.43	-5459521.28	-5459521.10	0.0089	0.0059
Saturn	-19661-12-11 22:33 J	-5459411.77	-5459411.56	-5459411.35	0.0300	0.0053
Neptune	-19660-04-06 17:31 J	-5459295.91	-5459295.77	-5459295.59	0.0089	0.0061
Saturn	-19660-07-30 08:23 J	-5459181.33	-5459181.15	-5459180.96	0.0301	0.0150
Neptune	-19660-11-18 06:00 J	-5459070.38	-5459070.25	-5459070.08	0.0089	0.0063
Neptune	-19659-07-01 18:57 J	-5458844.86	-5458844.71	-5458844.56	0.0088	0.0064
Neptune	-19658-02-12 07:11 J	-5458619.33	-5458619.20	-5458619.04	0.0088	0.0066
Neptune	-19658-09-25 19:26 J	-5458393.81	-5458393.69	-5458393.53	0.0088	0.0068
Neptune	-19657-05-08 07:55 J	-5458168.29	-5458168.17	-5458168.02	0.0088	0.0070
Neptune	-19657-12-19 20:52 J	-5457942.76	-5457942.63	-5457942.50	0.0088	0.0071
Jupiter	-19656-01-09 12:43 J	-5457922.13	-5457921.97	-5457921.80	0.0496	0.0279
Neptune	-19656-08-02 09:07 J	-5457717.23	-5457717.12	-5457716.98	0.0088	0.0073
Jupiter	-19656-09-02 17:16 J	-5457685.98	-5457685.78	-5457685.58	0.0495	0.0110
Mars	-19655-01-09 05:02 J	-5457557.46	-5457557.29	-5457557.13	0.1626	0.0484
Neptune	-19655-03-15 21:21 J	-5457491.70	-5457491.61	-5457491.47	0.0088	0.0075
Jupiter	-19655-04-27 00:28 J	-5457449.49	-5457449.48	-5457449.46	0.0495	0.0493
Neptune	-19655-10-27 10:19 J	-5457266.18	-5457266.07	-5457265.96	0.0088	0.0076
Neptune	-19654-06-09 22:33 J	-5457040.65	-5457040.56	-5457040.44	0.0088	0.0078
Mars	-19654-11-09 10:04 J	-5456888.19	-5456888.08	-5456887.97	0.1627	0.1228
Neptune	-19653-01-21 10:48 J	-5456815.12	-5456815.05	-5456814.93	0.0088	0.0079

Neptune	-19653-09-02 23:31 J	-5456589.59	-5456589.52	-5456589.42	0.0088	0.0081
Neptune	-19652-04-16 12:14 J	-5456364.07	-5456363.99	-5456363.91	0.0088	0.0082
Neptune	-19652-11-28 00:14 J	-5456138.54	-5456138.49	-5456138.40	0.0088	0.0084
Neptune	-19651-07-11 13:11 J	-5455913.00	-5455912.95	-5455912.88	0.0088	0.0085
Jupiter	-19651-11-13 03:36 J	-5455788.46	-5455788.35	-5455788.23	0.0529	0.0437
Neptune	-19650-02-22 01:55 J	-5455687.47	-5455687.42	-5455687.37	0.0088	0.0086
Jupiter	-19650-07-09 00:57 J	-5455550.66	-5455550.46	-5455550.25	0.0531	0.0046
Neptune	-19650-10-05 13:55 J	-5455461.93	-5455461.92	-5455461.86	0.0088	0.0087
Jupiter	-19649-03-02 18:43 J	-5455312.76	-5455312.72	-5455312.67	0.0531	0.0515
Neptune	-19649-05-18 02:52 J	-5455236.38	-5455236.38	-5455236.37	0.0088	0.0088
Saturn	-19647-02-24 13:26 J	-5454588.99	-5454588.94	-5454588.89	0.0263	0.0254
Saturn	-19647-10-11 07:55 J	-5454360.35	-5454360.17	-5454359.98	0.0262	0.0127
Saturn	-19646-05-28 02:23 J	-5454131.61	-5454131.40	-5454131.19	0.0261	0.0005
Saturn	-19645-01-11 20:09 J	-5453902.84	-5453902.66	-5453902.48	0.0261	0.0127
Saturn	-19645-08-27 13:55 J	-5453673.96	-5453673.92	-5453673.86	0.0260	0.0252
Jupiter	-19645-09-14 15:21 J	-5453655.98	-5453655.86	-5453655.73	0.0496	0.0382
Jupiter	-19644-05-08 18:57 J	-5453419.91	-5453419.71	-5453419.50	0.0495	0.0004
Jupiter	-19644-12-31 00:57 J	-5453183.58	-5453183.46	-5453183.33	0.0495	0.0390
Jupiter	-19638-03-13 14:52 J	-5451285.08	-5451284.88	-5451284.68	0.0531	0.0092
Jupiter	-19638-11-06 10:19 J	-5451047.20	-5451047.07	-5451046.93	0.0532	0.0391
Jupiter	-19633-05-20 17:31 J	-5449389.81	-5449389.77	-5449389.72	0.0497	0.0483
Uranus	-19633-12-16 16:19 J	-5449179.95	-5449179.82	-5449179.68	0.0147	0.0115
Jupiter	-19632-01-11 20:38 J	-5449153.84	-5449153.64	-5449153.44	0.0495	0.0105
Moon	-19632-05-03 08:52 J	-5449042.29	-5449042.13	-5449041.96	0.2701	0.0623
Earth	-19632-05-03 12:00 J	-5449042.16	-5449042.00	-5449041.84	0.2708	0.0299 *
Uranus	-19632-07-31 04:19 J	-5448953.49	-5448953.32	-5448953.13	0.0146	0.0078
Jupiter	-19632-09-05 01:40 J	-5448917.59	-5448917.43	-5448917.26	0.0494	0.0284
Saturn	-19632-11-05 22:33 J	-5448855.70	-5448855.56	-5448855.41	0.0299	0.0222
Uranus	-19631-03-14 16:33 J	-5448727.01	-5448726.81	-5448726.60	0.0146	0.0041
Saturn	-19631-06-24 08:09 J	-5448625.37	-5448625.16	-5448624.95	0.0300	0.0022

Uranus	-19631-10-27 04:48 J	-5448500.52	-5448500.30	-5448500.09	0.0146	0.0004
Saturn	-19630-02-09 18:00 J	-5448394.92	-5448394.75	-5448394.57	0.0301	0.0180
Uranus	-19630-06-10 16:48 J	-5448274.01	-5448273.80	-5448273.59	0.0146	0.0033
Uranus	-19629-01-23 04:48 J	-5448047.49	-5448047.30	-5448047.11	0.0146	0.0071
Uranus	-19629-09-05 16:48 J	-5447820.94	-5447820.80	-5447820.65	0.0146	0.0107
Uranus	-19628-04-20 04:33 J	-5447594.32	-5447594.31	-5447594.26	0.0146	0.0144
Jupiter	-19627-11-16 06:14 J	-5447019.42	-5447019.24	-5447019.05	0.0531	0.0224
Jupiter	-19626-07-12 03:07 J	-5446781.55	-5446781.37	-5446781.20	0.0532	0.0264
Mars	-19623-01-07 20:38 J	-5445870.74	-5445870.64	-5445870.54	0.1626	0.1295
Mars	-19623-12-04 13:55 J	-5445540.10	-5445539.92	-5445539.74	0.1893	0.0161
Mars	-19622-11-08 02:09 J	-5445201.57	-5445201.41	-5445201.24	0.1626	0.0404
Jupiter	-19621-09-16 20:52 J	-5444887.81	-5444887.63	-5444887.44	0.0495	0.0215
Neptune	-19621-10-12 20:23 J	-5444861.66	-5444861.65	-5444861.59	0.0088	0.0087
Jupiter	-19620-05-11 00:57 J	-5444651.65	-5444651.46	-5444651.27	0.0494	0.0175
Neptune	-19620-05-26 09:36 J	-5444636.12	-5444636.10	-5444636.02	0.0088	0.0086
Neptune	-19619-01-06 23:16 J	-5444410.58	-5444410.53	-5444410.46	0.0088	0.0084
Neptune	-19619-08-20 12:14 J	-5444185.04	-5444184.99	-5444184.89	0.0088	0.0083
Neptune	-19618-04-03 01:26 J	-5443959.49	-5443959.44	-5443959.33	0.0088	0.0082
Saturn	-19618-09-06 17:02 J	-5443802.88	-5443802.79	-5443802.69	0.0264	0.0234
Neptune	-19618-11-14 15:07 J	-5443733.94	-5443733.87	-5443733.76	0.0088	0.0080
Saturn	-19617-04-22 11:45 J	-5443574.20	-5443574.01	-5443573.82	0.0263	0.0106
Neptune	-19617-06-27 04:19 J	-5443508.40	-5443508.32	-5443508.20	0.0088	0.0079
Saturn	-19617-12-07 06:00 J	-5443345.46	-5443345.25	-5443345.04	0.0262	0.0022
Neptune	-19616-02-07 17:45 J	-5443282.85	-5443282.76	-5443282.64	0.0088	0.0077
Saturn	-19616-07-23 23:45 J	-5443116.67	-5443116.51	-5443116.33	0.0261	0.0150
Neptune	-19616-09-21 07:40 J	-5443057.29	-5443057.18	-5443057.07	0.0088	0.0075
Neptune	-19615-05-04 20:38 J	-5442831.74	-5442831.64	-5442831.50	0.0088	0.0074
Jupiter	-19615-07-21 20:38 J	-5442753.78	-5442753.64	-5442753.49	0.0530	0.0357
Neptune	-19615-12-16 10:04 J	-5442606.19	-5442606.08	-5442605.94	0.0088	0.0072
Jupiter	-19614-03-16 18:28 J	-5442515.92	-5442515.73	-5442515.53	0.0532	0.0130

Neptune	-19614-07-29 23:31 J	-5442380.65	-5442380.52	-5442380.38	0.0088	0.0070
Neptune	-19613-03-11 12:28 J	-5442155.10	-5442154.98	-5442154.82	0.0088	0.0069
Neptune	-19613-10-23 02:09 J	-5441929.54	-5441929.41	-5441929.25	0.0088	0.0067
Neptune	-19612-06-05 15:36 J	-5441703.98	-5441703.85	-5441703.68	0.0088	0.0065
Neptune	-19611-01-17 05:02 J	-5441478.43	-5441478.29	-5441478.12	0.0088	0.0063
Neptune	-19611-08-30 18:28 J	-5441252.88	-5441252.73	-5441252.56	0.0088	0.0061
Neptune	-19610-04-13 07:55 J	-5441027.32	-5441027.17	-5441026.99	0.0088	0.0060
Neptune	-19610-11-24 21:36 J	-5440801.76	-5440801.60	-5440801.42	0.0088	0.0057
Jupiter	-19609-05-22 22:48 J	-5440621.70	-5440621.55	-5440621.39	0.0496	0.0321
Neptune	-19609-07-07 11:02 J	-5440576.20	-5440576.04	-5440575.86	0.0088	0.0055
Jupiter	-19608-01-14 02:23 J	-5440385.60	-5440385.40	-5440385.19	0.0494	0.0067
Neptune	-19608-02-18 00:28 J	-5440350.65	-5440350.48	-5440350.29	0.0088	0.0053
Jupiter	-19608-09-07 09:07 J	-5440149.20	-5440149.12	-5440149.04	0.0495	0.0452
Neptune	-19608-10-01 14:09 J	-5440125.08	-5440124.91	-5440124.72	0.0088	0.0051
Neptune	-19607-05-15 03:36 J	-5439899.52	-5439899.35	-5439899.15	0.0088	0.0050
Neptune	-19607-12-26 17:16 J	-5439673.96	-5439673.78	-5439673.58	0.0088	0.0047
Neptune	-19606-08-09 06:43 J	-5439448.40	-5439448.22	-5439448.01	0.0088	0.0045
Neptune	-19605-03-21 20:38 J	-5439222.83	-5439222.64	-5439222.44	0.0088	0.0043
Neptune	-19605-11-02 10:19 J	-5438997.26	-5438997.07	-5438996.87	0.0088	0.0040
Neptune	-19604-06-15 23:45 J	-5438771.70	-5438771.51	-5438771.30	0.0088	0.0038
Neptune	-19603-01-27 13:11 J	-5438546.14	-5438545.95	-5438545.73	0.0088	0.0037
Jupiter	-19603-03-26 08:52 J	-5438488.20	-5438488.13	-5438488.05	0.0529	0.0489
Neptune	-19603-09-10 03:07 J	-5438320.57	-5438320.37	-5438320.16	0.0088	0.0034
Jupiter	-19603-11-19 06:43 J	-5438250.42	-5438250.22	-5438250.02	0.0531	0.0010
Neptune	-19602-04-23 16:33 J	-5438095.01	-5438094.81	-5438094.59	0.0088	0.0031
Saturn	-19602-05-19 11:02 J	-5438069.21	-5438069.04	-5438068.87	0.0299	0.0186
Jupiter	-19602-07-15 00:57 J	-5438012.55	-5438012.46	-5438012.36	0.0531	0.0467
Neptune	-19602-12-05 06:14 J	-5437869.44	-5437869.24	-5437869.02	0.0088	0.0029
Saturn	-19601-01-04 20:52 J	-5437838.84	-5437838.63	-5437838.41	0.0300	0.0016
Neptune	-19601-07-17 19:55 J	-5437643.88	-5437643.67	-5437643.45	0.0088	0.0027

Saturn	-19601-08-22 06:57 J	-5437608.36	-5437608.21	-5437608.06	0.0301	0.0219
Neptune	-19600-02-28 09:21 J	-5437418.32	-5437418.11	-5437417.88	0.0088	0.0024
Neptune	-19600-10-11 23:02 J	-5437192.75	-5437192.54	-5437192.31	0.0088	0.0022
Neptune	-19599-05-25 12:43 J	-5436967.18	-5436966.97	-5436966.74	0.0088	0.0020
Neptune	-19598-01-06 02:23 J	-5436741.62	-5436741.40	-5436741.18	0.0088	0.0017
Neptune	-19598-08-19 16:04 J	-5436516.05	-5436515.83	-5436515.61	0.0088	0.0015
Jupiter	-19597-01-27 01:26 J	-5436355.54	-5436355.44	-5436355.34	0.0497	0.0425
Neptune	-19597-04-01 05:31 J	-5436290.49	-5436290.27	-5436290.04	0.0088	0.0012
Jupiter	-19597-09-19 05:02 J	-5436119.50	-5436119.29	-5436119.09	0.0495	0.0042
Neptune	-19597-11-12 19:26 J	-5436064.91	-5436064.69	-5436064.46	0.0088	0.0010
Jupiter	-19596-05-13 10:33 J	-5435883.20	-5435883.06	-5435882.91	0.0495	0.0349
Neptune	-19596-06-26 09:07 J	-5435839.34	-5435839.12	-5435838.89	0.0088	0.0007
Neptune	-19595-02-06 22:48 J	-5435613.77	-5435613.55	-5435613.32	0.0088	0.0005
Neptune	-19595-09-20 12:28 J	-5435388.20	-5435387.98	-5435387.75	0.0088	0.0002
Neptune	-19594-05-04 02:09 J	-5435162.63	-5435162.41	-5435162.18	0.0088	0.0001
Neptune	-19594-12-15 16:04 J	-5434937.06	-5434936.83	-5434936.61	0.0088	0.0003
Neptune	-19593-07-28 05:45 J	-5434711.48	-5434711.26	-5434711.04	0.0088	0.0005
Neptune	-19592-03-10 19:26 J	-5434485.91	-5434485.69	-5434485.47	0.0088	0.0007
Neptune	-19592-10-22 09:07 J	-5434260.34	-5434260.12	-5434259.89	0.0088	0.0010
Neptune	-19591-06-04 22:48 J	-5434034.77	-5434034.55	-5434034.32	0.0088	0.0012
Jupiter	-19591-07-24 19:55 J	-5433984.86	-5433984.67	-5433984.47	0.0531	0.0148
Mars	-19591-12-04 17:16 J	-5433851.87	-5433851.78	-5433851.69	0.1893	0.1626
Neptune	-19590-01-16 12:43 J	-5433809.20	-5433808.97	-5433808.75	0.0088	0.0015
Uranus	-19590-02-08 13:40 J	-5433786.04	-5433785.93	-5433785.80	0.0132	0.0110
Jupiter	-19590-03-19 15:36 J	-5433747.00	-5433746.85	-5433746.69	0.0531	0.0339
Neptune	-19590-08-30 02:09 J	-5433583.63	-5433583.41	-5433583.19	0.0088	0.0017
Uranus	-19590-09-22 19:26 J	-5433559.86	-5433559.69	-5433559.52	0.0132	0.0083
Mars	-19590-11-06 18:00 J	-5433514.92	-5433514.75	-5433514.59	0.1626	0.0413
Neptune	-19589-04-11 15:50 J	-5433358.06	-5433357.84	-5433357.62	0.0089	0.0020
Uranus	-19589-05-06 00:28 J	-5433333.67	-5433333.48	-5433333.27	0.0132	0.0055

Neptune	-19589-11-23 05:31 J	-5433132.48	-5433132.27	-5433132.05	0.0089	0.0022
Uranus	-19589-12-18 06:14 J	-5433107.45	-5433107.24	-5433107.02	0.0132	0.0027
Saturn	-19588-03-18 23:31 J	-5433016.64	-5433016.52	-5433016.39	0.0263	0.0210
Neptune	-19588-07-06 19:11 J	-5432906.91	-5432906.70	-5432906.48	0.0089	0.0025
Uranus	-19588-08-01 11:45 J	-5432881.23	-5432881.01	-5432880.79	0.0132	0.0003
Mars	-19588-09-05 22:48 J	-5432845.65	-5432845.55	-5432845.45	0.1628	0.1299
Saturn	-19588-11-02 18:14 J	-5432787.94	-5432787.74	-5432787.54	0.0262	0.0082
Neptune	-19587-02-17 08:38 J	-5432681.34	-5432681.14	-5432680.91	0.0089	0.0028
Uranus	-19587-03-15 17:02 J	-5432655.00	-5432654.79	-5432654.58	0.0132	0.0029
Saturn	-19587-06-19 12:28 J	-5432559.19	-5432558.98	-5432558.77	0.0261	0.0045
Neptune	-19587-09-30 22:19 J	-5432455.77	-5432455.57	-5432455.35	0.0089	0.0030
Uranus	-19587-10-27 22:19 J	-5432428.77	-5432428.57	-5432428.37	0.0132	0.0057
Saturn	-19586-02-03 06:14 J	-5432330.39	-5432330.24	-5432330.08	0.0261	0.0172
Neptune	-19586-05-14 12:00 J	-5432230.20	-5432230.00	-5432229.78	0.0089	0.0032
Uranus	-19586-06-11 03:21 J	-5432202.52	-5432202.36	-5432202.18	0.0133	0.0085
Neptune	-19586-12-26 01:40 J	-5432004.62	-5432004.43	-5432004.21	0.0089	0.0035
Uranus	-19585-01-23 08:38 J	-5431976.24	-5431976.14	-5431976.01	0.0133	0.0113
Jupiter	-19585-05-25 06:57 J	-5431853.40	-5431853.21	-5431853.01	0.0495	0.0148
Neptune	-19585-08-07 15:21 J	-5431779.05	-5431778.86	-5431778.64	0.0089	0.0037
Jupiter	-19584-01-16 11:45 J	-5431617.19	-5431617.01	-5431616.83	0.0494	0.0243
Neptune	-19584-03-21 05:02 J	-5431553.48	-5431553.29	-5431553.08	0.0089	0.0039
Neptune	-19584-11-01 18:57 J	-5431327.91	-5431327.71	-5431327.51	0.0089	0.0041
Neptune	-19583-06-15 08:09 J	-5431102.33	-5431102.16	-5431101.94	0.0089	0.0044
Neptune	-19582-01-26 22:04 J	-5430876.76	-5430876.58	-5430876.37	0.0089	0.0046
Neptune	-19582-09-09 11:45 J	-5430651.18	-5430651.01	-5430650.81	0.0089	0.0048
Neptune	-19581-04-22 01:40 J	-5430425.61	-5430425.43	-5430425.24	0.0089	0.0050
Neptune	-19581-12-03 15:36 J	-5430200.03	-5430199.85	-5430199.67	0.0089	0.0052
Neptune	-19580-07-17 04:48 J	-5429974.45	-5429974.30	-5429974.10	0.0089	0.0055
Neptune	-19579-02-27 18:28 J	-5429748.88	-5429748.73	-5429748.54	0.0089	0.0057
Jupiter	-19579-03-29 09:07 J	-5429719.29	-5429719.12	-5429718.94	0.0530	0.0282

Neptune -19579-10-11 08:09 J -5429523.31 -5429523.16 -5429522.97 0.0089 0.0059
 Jupiter -19579-11-22 06:14 J -5429481.43 -5429481.24 -5429481.06 0.0532 0.0207
 Pluto -19578-01-10 07:26 J -5429432.23 -5429432.19 -5429432.10 0.0064 0.0061
 Neptune -19578-05-24 21:50 J -5429297.73 -5429297.59 -5429297.41 0.0089 0.0061
 Pluto -19578-08-23 11:16 J -5429207.22 -5429207.03 -5429206.82 0.0064 0.0026
 Neptune -19577-01-05 11:45 J -5429072.15 -5429072.01 -5429071.84 0.0089 0.0063
 Pluto -19577-04-04 15:07 J -5428982.08 -5428981.87 -5428981.65 0.0064 0.0010
 Neptune -19577-08-18 01:11 J -5428846.58 -5428846.45 -5428846.28 0.0089 0.0065
 Pluto -19577-11-15 18:43 J -5428756.86 -5428756.72 -5428756.55 0.0065 0.0046
 Neptune -19576-03-31 14:52 J -5428621.01 -5428620.88 -5428620.72 0.0089 0.0067
 Neptune -19576-11-12 04:19 J -5428395.44 -5428395.32 -5428395.16 0.0089 0.0069
 Neptune -19575-06-25 17:45 J -5428169.87 -5428169.76 -5428169.60 0.0089 0.0071
 Neptune -19574-02-06 07:55 J -5427944.29 -5427944.17 -5427944.04 0.0089 0.0072
 Neptune -19574-09-19 21:21 J -5427718.72 -5427718.61 -5427718.48 0.0089 0.0074
 Jupiter -19573-01-29 09:07 J -5427587.30 -5427587.12 -5427586.95 0.0496 0.0255
 Neptune -19573-05-02 10:33 J -5427493.15 -5427493.06 -5427492.92 0.0089 0.0076
 Jupiter -19573-09-21 12:57 J -5427351.15 -5427350.96 -5427350.76 0.0494 0.0135
 Saturn -19573-11-28 21:36 J -5427282.78 -5427282.60 -5427282.41 0.0299 0.0154
 Neptune -19573-12-14 00:14 J -5427267.58 -5427267.49 -5427267.36 0.0089 0.0078
 Saturn -19572-07-17 07:11 J -5427052.41 -5427052.20 -5427051.98 0.0300 0.0049
 Neptune -19572-07-27 14:09 J -5427042.00 -5427041.91 -5427041.80 0.0089 0.0079
 Saturn -19571-03-04 17:02 J -5426821.90 -5426821.79 -5426821.66 0.0301 0.0250
 Neptune -19571-03-10 03:21 J -5426816.43 -5426816.36 -5426816.25 0.0089 0.0081
 Neptune -19571-10-21 17:16 J -5426590.85 -5426590.78 -5426590.69 0.0089 0.0082
 Neptune -19570-06-04 06:28 J -5426365.28 -5426365.23 -5426365.14 0.0089 0.0084
 Neptune -19569-01-15 20:38 J -5426139.70 -5426139.64 -5426139.58 0.0089 0.0085
 Neptune -19569-08-28 09:36 J -5425914.12 -5425914.10 -5425914.03 0.0089 0.0087
 Neptune -19568-04-10 23:31 J -5425688.54 -5425688.52 -5425688.49 0.0089 0.0088
 Jupiter -19568-12-01 23:45 J -5425453.63 -5425453.51 -5425453.38 0.0530 0.0413
 Jupiter -19567-07-27 22:04 J -5425215.78 -5425215.58 -5425215.38 0.0532 0.0074

Jupiter	-19562-10-04 09:50 J	-5423321.22	-5423321.09	-5423320.95	0.0496	0.0362
Jupiter	-19561-05-27 12:57 J	-5423085.17	-5423084.96	-5423084.76	0.0494	0.0024
Jupiter	-19560-01-18 18:28 J	-5422848.84	-5422848.73	-5422848.61	0.0494	0.0411
Saturn	-19559-09-29 03:21 J	-5422230.50	-5422230.36	-5422230.21	0.0263	0.0190
Saturn	-19558-05-15 22:04 J	-5422001.79	-5422001.58	-5422001.38	0.0262	0.0062
Mars	-19558-11-05 09:36 J	-5421828.21	-5421828.10	-5421827.99	0.1626	0.1222
Saturn	-19558-12-30 16:04 J	-5421773.03	-5421772.83	-5421772.63	0.0262	0.0066
Saturn	-19557-08-15 09:36 J	-5421544.23	-5421544.10	-5421543.94	0.0261	0.0193
Mars	-19557-09-30 16:19 J	-5421497.99	-5421497.82	-5421497.65	0.1893	0.0453
Mars	-19556-09-04 14:38 J	-5421159.05	-5421158.89	-5421158.73	0.1627	0.0478
Jupiter	-19555-04-01 13:11 J	-5420950.16	-5420949.95	-5420949.75	0.0532	0.0063
Jupiter	-19555-11-25 08:38 J	-5420712.26	-5420712.14	-5420712.02	0.0532	0.0421
Jupiter	-19550-06-09 12:00 J	-5419055.07	-5419055.00	-5419054.93	0.0497	0.0465
Jupiter	-19549-01-31 14:52 J	-5418819.09	-5418818.88	-5418818.68	0.0495	0.0085
Uranus	-19549-08-16 00:28 J	-5418621.57	-5418621.48	-5418621.38	0.0147	0.0131
Jupiter	-19549-09-23 19:40 J	-5418582.83	-5418582.68	-5418582.51	0.0494	0.0307
Uranus	-19548-03-30 12:28 J	-5418395.13	-5418394.98	-5418394.80	0.0147	0.0094
Uranus	-19548-11-12 00:43 J	-5418168.66	-5418168.47	-5418168.27	0.0147	0.0057
Uranus	-19547-06-26 12:57 J	-5417942.17	-5417941.96	-5417941.74	0.0146	0.0019
Uranus	-19546-02-08 01:11 J	-5417715.67	-5417715.45	-5417715.24	0.0146	0.0018
Uranus	-19546-09-22 13:11 J	-5417489.15	-5417488.95	-5417488.75	0.0146	0.0056
Uranus	-19545-05-06 00:57 J	-5417262.61	-5417262.46	-5417262.28	0.0146	0.0093
Uranus	-19545-12-18 12:57 J	-5417036.04	-5417035.96	-5417035.84	0.0146	0.0130
Jupiter	-19544-12-05 01:11 J	-5416684.64	-5416684.45	-5416684.26	0.0531	0.0202
Saturn	-19543-06-11 09:07 J	-5416496.32	-5416496.12	-5416495.92	0.0300	0.0119
Jupiter	-19543-07-30 21:21 J	-5416446.78	-5416446.61	-5416446.44	0.0531	0.0287
Saturn	-19542-01-27 18:57 J	-5416265.91	-5416265.71	-5416265.50	0.0301	0.0085
Saturn	-19542-09-15 05:02 J	-5416035.35	-5416035.29	-5416035.22	0.0301	0.0287
Neptune	-19539-12-01 07:11 J	-5414862.21	-5414862.20	-5414862.15	0.0089	0.0089
Neptune	-19538-07-14 19:40 J	-5414636.70	-5414636.68	-5414636.61	0.0089	0.0087

Jupiter -19538-10-06 17:02 J -5414552.97 -5414552.79 -5414552.60 0.0495 0.0192
 Neptune -19537-02-25 08:38 J -5414411.18 -5414411.14 -5414411.06 0.0089 0.0086
 Jupiter -19537-05-29 21:36 J -5414316.78 -5414316.60 -5414316.41 0.0495 0.0200
 Neptune -19537-10-07 21:07 J -5414185.66 -5414185.62 -5414185.52 0.0089 0.0085
 Neptune -19536-05-21 10:19 J -5413960.14 -5413960.07 -5413959.98 0.0089 0.0083
 Neptune -19535-01-01 22:33 J -5413734.62 -5413734.56 -5413734.44 0.0089 0.0082
 Neptune -19535-08-15 11:31 J -5413509.10 -5413509.02 -5413508.91 0.0089 0.0079
 Neptune -19534-03-29 00:28 J -5413283.58 -5413283.48 -5413283.37 0.0089 0.0078
 Neptune -19534-11-09 12:43 J -5413058.06 -5413057.97 -5413057.83 0.0089 0.0076
 Neptune -19533-06-22 01:26 J -5412832.54 -5412832.44 -5412832.30 0.0089 0.0074
 Neptune -19532-02-02 14:09 J -5412607.02 -5412606.91 -5412606.77 0.0089 0.0073
 Jupiter -19532-08-09 14:23 J -5412419.05 -5412418.90 -5412418.74 0.0530 0.0337
 Neptune -19532-09-16 02:52 J -5412381.50 -5412381.38 -5412381.24 0.0089 0.0071
 Jupiter -19531-04-04 11:31 J -5412181.21 -5412181.02 -5412180.82 0.0531 0.0152
 Neptune -19531-04-29 15:50 J -5412155.97 -5412155.84 -5412155.70 0.0089 0.0069
 Neptune -19531-12-11 04:04 J -5411930.45 -5411930.33 -5411930.16 0.0089 0.0067
 Neptune -19530-07-24 16:48 J -5411704.93 -5411704.80 -5411704.63 0.0089 0.0065
 Neptune -19529-03-06 05:16 J -5411479.41 -5411479.28 -5411479.10 0.0089 0.0064
 Saturn -19529-04-10 10:04 J -5411444.24 -5411444.08 -5411443.92 0.0263 0.0166
 Neptune -19529-10-17 18:00 J -5411253.89 -5411253.75 -5411253.57 0.0089 0.0061
 Saturn -19529-11-25 04:19 J -5411215.52 -5411215.32 -5411215.11 0.0262 0.0039
 Neptune -19528-05-31 06:43 J -5411028.36 -5411028.22 -5411028.04 0.0089 0.0059
 Saturn -19528-07-11 22:33 J -5410986.75 -5410986.56 -5410986.36 0.0261 0.0089
 Neptune -19527-01-11 19:11 J -5410802.84 -5410802.70 -5410802.51 0.0089 0.0057
 Saturn -19527-02-25 16:19 J -5410757.93 -5410757.82 -5410757.70 0.0260 0.0215
 Neptune -19527-08-25 08:09 J -5410577.33 -5410577.16 -5410576.99 0.0089 0.0055
 Neptune -19526-04-07 20:38 J -5410351.81 -5410351.64 -5410351.46 0.0089 0.0053
 Jupiter -19526-06-11 19:26 J -5410286.85 -5410286.69 -5410286.52 0.0496 0.0298
 Neptune -19526-11-19 09:07 J -5410126.29 -5410126.12 -5410125.93 0.0089 0.0050
 Jupiter -19525-02-02 23:16 J -5410050.73 -5410050.53 -5410050.33 0.0494 0.0093

Neptune -19525-07-01 21:21 J -5409900.77 -5409900.61 -5409900.41 0.0089 0.0049
 Jupiter -19525-09-26 06:00 J -5409814.30 -5409814.25 -5409814.20 0.0495 0.0477
 Mars -19525-09-30 18:43 J -5409809.85 -5409809.72 -5409809.59 0.1893 0.1314
 Neptune -19524-02-12 09:50 J -5409675.26 -5409675.09 -5409674.89 0.0089 0.0046
 Mars -19524-09-03 06:28 J -5409472.40 -5409472.23 -5409472.06 0.1626 0.0340
 Neptune -19524-09-25 22:33 J -5409449.74 -5409449.56 -5409449.37 0.0089 0.0044
 Neptune -19523-05-09 11:02 J -5409224.22 -5409224.04 -5409223.84 0.0089 0.0041
 Neptune -19523-12-20 23:16 J -5408998.71 -5408998.53 -5408998.32 0.0089 0.0040
 Mars -19522-07-04 11:16 J -5408803.12 -5408803.03 -5408802.94 0.1628 0.1373
 Neptune -19522-08-03 11:45 J -5408773.19 -5408773.01 -5408772.80 0.0089 0.0037
 Neptune -19521-03-16 00:14 J -5408547.68 -5408547.49 -5408547.28 0.0089 0.0035
 Neptune -19521-10-27 12:43 J -5408322.16 -5408321.97 -5408321.76 0.0089 0.0032
 Jupiter -19520-04-14 03:07 J -5408153.46 -5408153.37 -5408153.27 0.0529 0.0467
 Neptune -19520-06-10 01:11 J -5408096.64 -5408096.45 -5408096.24 0.0089 0.0030
 Jupiter -19520-12-08 01:11 J -5407915.65 -5407915.45 -5407915.25 0.0532 0.0015
 Neptune -19519-01-21 13:40 J -5407871.13 -5407870.93 -5407870.72 0.0089 0.0027
 Jupiter -19519-08-02 19:55 J -5407677.74 -5407677.67 -5407677.60 0.0531 0.0492
 Neptune -19519-09-04 01:55 J -5407645.61 -5407645.42 -5407645.20 0.0089 0.0025
 Moon -19519-11-01 07:26 J -5407587.31 -5407587.19 -5407587.06 0.2627 0.1491
 Earth -19519-11-01 12:28 J -5407587.10 -5407586.98 -5407586.86 0.2625 0.1762 *
 Neptune -19518-04-17 14:23 J -5407420.10 -5407419.90 -5407419.68 0.0089 0.0023
 Neptune -19518-11-29 03:07 J -5407194.58 -5407194.37 -5407194.16 0.0089 0.0020
 Neptune -19517-07-11 15:21 J -5406969.06 -5406968.86 -5406968.64 0.0089 0.0018
 Neptune -19516-02-22 03:50 J -5406743.55 -5406743.34 -5406743.12 0.0089 0.0015
 Neptune -19516-10-05 16:19 J -5406518.03 -5406517.82 -5406517.60 0.0089 0.0013
 Neptune -19515-05-19 05:02 J -5406292.51 -5406292.29 -5406292.08 0.0089 0.0010
 Neptune -19515-12-30 17:16 J -5406066.99 -5406066.78 -5406066.56 0.0089 0.0008
 Jupiter -19514-02-14 21:50 J -5406020.70 -5406020.59 -5406020.47 0.0497 0.0402
 Saturn -19514-05-06 10:19 J -5405940.12 -5405940.07 -5405939.99 0.0298 0.0285
 Neptune -19514-08-13 05:31 J -5405841.48 -5405841.27 -5405841.05 0.0089 0.0006

Jupiter	-19514-10-09 01:11 J	-5405784.66	-5405784.45	-5405784.25	0.0495	0.0018
Saturn	-19514-12-22 19:55 J	-5405709.87	-5405709.67	-5405709.46	0.0300	0.0086
Neptune	-19513-03-25 18:00 J	-5405615.97	-5405615.75	-5405615.54	0.0089	0.0003
Jupiter	-19513-06-01 06:28 J	-5405548.36	-5405548.23	-5405548.09	0.0494	0.0373
Saturn	-19513-08-09 05:45 J	-5405479.45	-5405479.26	-5405479.06	0.0301	0.0118
Neptune	-19513-11-06 06:14 J	-5405390.45	-5405390.24	-5405390.02	0.0089	0.0001
Neptune	-19512-06-19 18:43 J	-5405164.93	-5405164.72	-5405164.50	0.0089	0.0002
Neptune	-19511-01-31 06:57 J	-5404939.42	-5404939.21	-5404938.99	0.0089	0.0005
Neptune	-19511-09-13 19:26 J	-5404713.91	-5404713.69	-5404713.48	0.0089	0.0007
Moon	-19511-10-30 04:04 J	-5404667.44	-5404667.33	-5404667.22	0.2632	0.1774
Earth	-19511-10-30 06:28 J	-5404667.37	-5404667.23	-5404667.09	0.2626	0.1247 *
Neptune	-19510-04-27 07:26 J	-5404488.39	-5404488.19	-5404487.97	0.0089	0.0010
Neptune	-19510-12-08 19:55 J	-5404262.88	-5404262.67	-5404262.45	0.0089	0.0012
Neptune	-19509-07-21 08:09 J	-5404037.37	-5404037.16	-5404036.94	0.0089	0.0015
Neptune	-19508-03-03 20:23 J	-5403811.85	-5403811.65	-5403811.43	0.0089	0.0017
Jupiter	-19508-08-12 16:19 J	-5403650.02	-5403649.82	-5403649.62	0.0531	0.0120
Neptune	-19508-10-15 08:52 J	-5403586.34	-5403586.13	-5403585.91	0.0089	0.0019
Jupiter	-19507-04-07 12:43 J	-5403412.11	-5403411.97	-5403411.82	0.0532	0.0368
Neptune	-19507-05-28 21:07 J	-5403360.82	-5403360.62	-5403360.40	0.0089	0.0022
Uranus	-19507-10-09 00:28 J	-5403227.54	-5403227.48	-5403227.38	0.0132	0.0122
Neptune	-19506-01-09 09:36 J	-5403135.30	-5403135.10	-5403134.88	0.0089	0.0024
Uranus	-19506-05-23 06:00 J	-5403001.39	-5403001.25	-5403001.08	0.0132	0.0094
Neptune	-19506-08-22 21:50 J	-5402909.79	-5402909.59	-5402909.37	0.0089	0.0027
Uranus	-19505-01-04 11:45 J	-5402775.20	-5402775.01	-5402774.82	0.0132	0.0066
Neptune	-19505-04-04 10:19 J	-5402684.27	-5402684.07	-5402683.86	0.0089	0.0029
Uranus	-19505-08-17 17:16 J	-5402548.99	-5402548.78	-5402548.57	0.0132	0.0038
Neptune	-19505-11-15 22:48 J	-5402458.75	-5402458.55	-5402458.34	0.0089	0.0031
Uranus	-19504-03-31 22:33 J	-5402322.78	-5402322.56	-5402322.34	0.0132	0.0011
Neptune	-19504-06-29 11:02 J	-5402233.22	-5402233.04	-5402232.82	0.0089	0.0034
Uranus	-19504-11-13 03:50 J	-5402096.56	-5402096.34	-5402096.12	0.0132	0.0017

Neptune	-19503-02-09 23:31 J	-5402007.71	-5402007.52	-5402007.31	0.0089	0.0036
Uranus	-19503-06-27 08:52 J	-5401870.33	-5401870.13	-5401869.92	0.0132	0.0045
Neptune	-19503-09-23 12:14 J	-5401782.19	-5401781.99	-5401781.80	0.0089	0.0038
Uranus	-19502-02-08 14:09 J	-5401644.08	-5401643.91	-5401643.71	0.0132	0.0074
Neptune	-19502-05-07 00:14 J	-5401556.67	-5401556.49	-5401556.29	0.0089	0.0041
Jupiter	-19502-06-14 01:55 J	-5401518.62	-5401518.42	-5401518.23	0.0495	0.0127
Uranus	-19502-09-22 19:40 J	-5401417.82	-5401417.68	-5401417.54	0.0133	0.0101
Neptune	-19502-12-18 12:43 J	-5401331.15	-5401330.97	-5401330.77	0.0089	0.0043
Jupiter	-19501-02-05 06:00 J	-5401282.42	-5401282.25	-5401282.07	0.0494	0.0265
Uranus	-19501-05-06 00:43 J	-5401191.51	-5401191.47	-5401191.41	0.0133	0.0129
Neptune	-19501-07-31 01:11 J	-5401105.63	-5401105.45	-5401105.26	0.0089	0.0045
Neptune	-19500-03-13 13:11 J	-5400880.11	-5400879.95	-5400879.75	0.0089	0.0048
Saturn	-19500-10-21 13:26 J	-5400658.11	-5400657.94	-5400657.76	0.0263	0.0146
Neptune	-19500-10-25 01:40 J	-5400654.60	-5400654.43	-5400654.24	0.0089	0.0050
Saturn	-19499-06-07 07:55 J	-5400429.38	-5400429.17	-5400428.96	0.0262	0.0018
Neptune	-19499-06-07 14:09 J	-5400429.07	-5400428.91	-5400428.72	0.0089	0.0052 *
Neptune	-19498-01-19 02:38 J	-5400203.55	-5400203.39	-5400203.21	0.0089	0.0054
Saturn	-19498-01-22 01:40 J	-5400200.62	-5400200.43	-5400200.24	0.0261	0.0110
Neptune	-19498-09-01 15:07 J	-5399978.04	-5399977.87	-5399977.70	0.0089	0.0056
Saturn	-19498-09-07 19:11 J	-5399971.77	-5399971.70	-5399971.60	0.0261	0.0236
Neptune	-19497-04-14 03:21 J	-5399752.52	-5399752.36	-5399752.19	0.0089	0.0058
Neptune	-19497-11-25 15:50 J	-5399527.00	-5399526.84	-5399526.68	0.0089	0.0060
Jupiter	-19496-04-17 07:11 J	-5399384.38	-5399384.20	-5399384.02	0.0531	0.0255
Neptune	-19496-07-09 03:50 J	-5399301.47	-5399301.34	-5399301.16	0.0089	0.0063
Jupiter	-19496-12-11 04:19 J	-5399146.49	-5399146.32	-5399146.13	0.0532	0.0238
Neptune	-19495-02-19 16:04 J	-5399075.95	-5399075.83	-5399075.65	0.0089	0.0065
Neptune	-19495-10-03 05:02 J	-5398850.43	-5398850.29	-5398850.14	0.0088	0.0066
Neptune	-19494-05-16 17:16 J	-5398624.91	-5398624.78	-5398624.63	0.0088	0.0068
Neptune	-19494-12-28 05:45 J	-5398399.39	-5398399.26	-5398399.12	0.0088	0.0070
Neptune	-19493-08-09 18:14 J	-5398173.86	-5398173.74	-5398173.60	0.0088	0.0072

Neptune -19492-03-23 06:28 J -5397948.33 -5397948.23 -5397948.09 0.0088 0.0074
 Mars -19492-09-01 22:19 J -5397785.69 -5397785.57 -5397785.45 0.1626 0.1152
 Neptune -19492-11-03 18:57 J -5397722.80 -5397722.71 -5397722.58 0.0088 0.0076
 Neptune -19491-06-17 07:26 J -5397497.27 -5397497.19 -5397497.06 0.0088 0.0077
 Mars -19491-07-28 18:00 J -5397455.91 -5397455.75 -5397455.59 0.1892 0.0753
 Neptune -19490-01-28 20:09 J -5397271.74 -5397271.66 -5397271.55 0.0088 0.0079
 Jupiter -19490-02-17 04:04 J -5397252.51 -5397252.33 -5397252.15 0.0495 0.0234
 Mars -19490-07-03 03:21 J -5397116.52 -5397116.36 -5397116.19 0.1627 0.0549
 Neptune -19490-09-11 08:23 J -5397046.22 -5397046.15 -5397046.04 0.0088 0.0081
 Jupiter -19490-10-11 07:40 J -5397016.37 -5397016.18 -5397015.98 0.0494 0.0158
 Pluto -19490-12-04 01:40 J -5396962.44 -5396962.43 -5396962.37 0.0080 0.0079
 Neptune -19489-04-23 20:52 J -5396820.69 -5396820.63 -5396820.53 0.0088 0.0082
 Pluto -19489-07-16 13:26 J -5396737.16 -5396736.94 -5396736.71 0.0080 0.0007
 Neptune -19489-12-05 09:36 J -5396595.16 -5396595.10 -5396595.02 0.0088 0.0084
 Pluto -19488-02-26 23:45 J -5396511.61 -5396511.51 -5396511.35 0.0080 0.0065
 Neptune -19488-07-18 22:04 J -5396369.62 -5396369.58 -5396369.50 0.0088 0.0085
 Neptune -19487-03-01 10:48 J -5396144.08 -5396144.05 -5396144.00 0.0088 0.0087
 Neptune -19487-10-12 23:02 J -5395918.54 -5395918.54 -5395918.51 0.0088 0.0088
 Saturn -19485-11-15 20:38 J -5395153.75 -5395153.64 -5395153.53 0.0299 0.0253
 Jupiter -19485-12-20 19:40 J -5395118.81 -5395118.68 -5395118.54 0.0530 0.0390
 Saturn -19484-07-04 06:14 J -5394923.45 -5394923.24 -5394923.03 0.0300 0.0053
 Jupiter -19484-08-15 17:16 J -5394880.98 -5394880.78 -5394880.58 0.0531 0.0098
 Saturn -19483-02-19 16:04 J -5394693.00 -5394692.83 -5394692.63 0.0301 0.0152
 Jupiter -19479-10-23 06:00 J -5392986.39 -5392986.25 -5392986.10 0.0496 0.0341
 Jupiter -19478-06-16 09:50 J -5392750.30 -5392750.09 -5392749.89 0.0495 0.0050
 Jupiter -19477-02-07 16:04 J -5392513.92 -5392513.83 -5392513.74 0.0495 0.0437
 Jupiter -19473-08-25 09:21 J -5390853.15 -5390853.11 -5390853.07 0.0528 0.0518
 Jupiter -19472-04-20 07:11 J -5390615.40 -5390615.20 -5390615.00 0.0531 0.0040
 Jupiter -19472-12-14 02:09 J -5390377.52 -5390377.41 -5390377.30 0.0531 0.0442
 Saturn -19471-09-17 00:57 J -5390100.51 -5390100.46 -5390100.40 0.0263 0.0252

Saturn	-19470-05-03 19:40 J	-5389871.86	-5389871.68	-5389871.49	0.0262	0.0123
Saturn	-19470-12-18 13:55 J	-5389643.13	-5389642.92	-5389642.71	0.0261	0.0005
Saturn	-19469-08-03 07:40 J	-5389414.36	-5389414.18	-5389413.99	0.0261	0.0132
Saturn	-19468-03-20 01:26 J	-5389185.47	-5389185.44	-5389185.41	0.0260	0.0257
Jupiter	-19467-06-28 08:23 J	-5388720.23	-5388720.15	-5388720.05	0.0497	0.0444
Jupiter	-19466-02-19 12:00 J	-5388484.20	-5388484.00	-5388483.80	0.0495	0.0059
Jupiter	-19466-10-13 17:02 J	-5388247.93	-5388247.79	-5388247.63	0.0494	0.0334
Uranus	-19465-11-27 19:11 J	-5387836.83	-5387836.70	-5387836.56	0.0147	0.0111
Uranus	-19464-07-12 07:26 J	-5387610.37	-5387610.19	-5387610.00	0.0147	0.0074
Uranus	-19463-02-23 19:26 J	-5387383.89	-5387383.69	-5387383.47	0.0147	0.0037
Uranus	-19463-10-08 07:40 J	-5387157.39	-5387157.18	-5387156.96	0.0147	0.0003
Uranus	-19462-05-22 19:40 J	-5386930.88	-5386930.68	-5386930.46	0.0146	0.0039
Uranus	-19461-01-04 07:55 J	-5386704.35	-5386704.17	-5386703.98	0.0146	0.0076
Uranus	-19461-08-17 20:09 J	-5386477.79	-5386477.66	-5386477.52	0.0146	0.0114
Jupiter	-19461-12-23 20:09 J	-5386349.85	-5386349.66	-5386349.46	0.0531	0.0177
Jupiter	-19460-08-18 16:33 J	-5386111.97	-5386111.81	-5386111.64	0.0532	0.0313
Mars	-19459-07-28 20:09 J	-5385767.81	-5385767.66	-5385767.51	0.1894	0.1005
Mars	-19458-07-01 19:26 J	-5385429.86	-5385429.69	-5385429.52	0.1626	0.0270
Mars	-19456-05-01 00:00 J	-5384760.57	-5384760.50	-5384760.42	0.1629	0.1441
Saturn	-19455-05-29 06:14 J	-5384367.38	-5384367.24	-5384367.09	0.0299	0.0222
Jupiter	-19455-10-25 14:09 J	-5384218.10	-5384217.91	-5384217.72	0.0495	0.0166
Saturn	-19454-01-14 16:04 J	-5384137.05	-5384136.83	-5384136.62	0.0300	0.0021
Jupiter	-19454-06-18 18:28 J	-5383981.91	-5383981.73	-5383981.55	0.0494	0.0226
Neptune	-19454-07-05 10:04 J	-5383965.08	-5383965.08	-5383965.01	0.0088	0.0087
Saturn	-19454-09-02 02:09 J	-5383906.58	-5383906.41	-5383906.24	0.0301	0.0184
Neptune	-19453-02-15 23:45 J	-5383739.55	-5383739.51	-5383739.44	0.0088	0.0085
Neptune	-19453-09-28 12:57 J	-5383514.00	-5383513.96	-5383513.87	0.0088	0.0084
Neptune	-19452-05-12 02:38 J	-5383288.45	-5383288.39	-5383288.30	0.0088	0.0082
Neptune	-19452-12-23 16:04 J	-5383062.91	-5383062.83	-5383062.73	0.0088	0.0080
Neptune	-19451-08-06 05:02 J	-5382837.36	-5382837.29	-5382837.17	0.0088	0.0079

Neptune	-19450-03-19 18:28 J	-5382611.81	-5382611.73	-5382611.60	0.0088	0.0077
Neptune	-19450-10-31 08:09 J	-5382386.26	-5382386.16	-5382386.03	0.0088	0.0075
Neptune	-19449-06-12 21:36 J	-5382160.71	-5382160.60	-5382160.47	0.0088	0.0073
Jupiter	-19449-08-28 11:02 J	-5382084.21	-5382084.04	-5382083.88	0.0530	0.0310
Neptune	-19448-01-24 11:02 J	-5381935.16	-5381935.04	-5381934.90	0.0088	0.0072
Jupiter	-19448-04-23 08:38 J	-5381846.33	-5381846.14	-5381845.95	0.0532	0.0182
Neptune	-19448-09-07 00:00 J	-5381709.61	-5381709.50	-5381709.34	0.0088	0.0070
Neptune	-19447-04-20 13:26 J	-5381484.06	-5381483.94	-5381483.78	0.0088	0.0068
Neptune	-19447-12-02 02:52 J	-5381258.51	-5381258.38	-5381258.21	0.0088	0.0066
Neptune	-19446-07-15 16:04 J	-5381032.96	-5381032.83	-5381032.65	0.0088	0.0065
Neptune	-19445-02-26 05:31 J	-5380807.40	-5380807.27	-5380807.08	0.0088	0.0062
Neptune	-19445-10-08 19:40 J	-5380581.84	-5380581.68	-5380581.51	0.0088	0.0060
Neptune	-19444-05-22 09:07 J	-5380356.28	-5380356.12	-5380355.95	0.0088	0.0057
Neptune	-19443-01-02 22:19 J	-5380130.73	-5380130.57	-5380130.38	0.0088	0.0055
Jupiter	-19443-06-30 15:50 J	-5379952.01	-5379951.84	-5379951.67	0.0496	0.0275
Neptune	-19443-08-16 11:45 J	-5379905.17	-5379905.01	-5379904.82	0.0088	0.0053
Jupiter	-19442-02-21 18:57 J	-5379715.91	-5379715.71	-5379715.51	0.0494	0.0116
Neptune	-19442-03-30 01:11 J	-5379679.61	-5379679.45	-5379679.25	0.0088	0.0051
Neptune	-19442-11-10 15:21 J	-5379454.05	-5379453.86	-5379453.67	0.0088	0.0049
Saturn	-19441-03-29 04:04 J	-5379314.42	-5379314.33	-5379314.23	0.0263	0.0233
Neptune	-19441-06-23 04:33 J	-5379228.49	-5379228.31	-5379228.10	0.0088	0.0047
Saturn	-19441-11-12 22:33 J	-5379085.74	-5379085.56	-5379085.36	0.0262	0.0104
Neptune	-19440-02-03 18:00 J	-5379002.92	-5379002.75	-5379002.54	0.0088	0.0045
Saturn	-19440-06-29 16:48 J	-5378857.00	-5378856.80	-5378856.59	0.0261	0.0025
Neptune	-19440-09-17 07:40 J	-5378777.36	-5378777.18	-5378776.97	0.0088	0.0042
Saturn	-19439-02-13 10:19 J	-5378628.23	-5378628.07	-5378627.89	0.0261	0.0152
Neptune	-19439-04-30 21:21 J	-5378551.80	-5378551.61	-5378551.40	0.0088	0.0040
Neptune	-19439-12-12 11:02 J	-5378326.23	-5378326.04	-5378325.82	0.0088	0.0037
Neptune	-19438-07-26 00:43 J	-5378100.67	-5378100.47	-5378100.26	0.0088	0.0035
Neptune	-19437-03-07 14:09 J	-5377875.11	-5377874.91	-5377874.69	0.0088	0.0032

Jupiter -19437-05-03 01:26 J -5377818.55 -5377818.44 -5377818.32 0.0530 0.0441
 Neptune -19437-10-19 04:04 J -5377649.54 -5377649.33 -5377649.11 0.0088 0.0030
 Jupiter -19437-12-27 00:00 J -5377580.70 -5377580.50 -5377580.30 0.0532 0.0046
 Neptune -19436-06-01 17:31 J -5377423.97 -5377423.77 -5377423.54 0.0088 0.0028
 Jupiter -19436-08-21 18:57 J -5377342.74 -5377342.71 -5377342.67 0.0532 0.0522
 Neptune -19435-01-13 07:26 J -5377198.41 -5377198.19 -5377197.98 0.0088 0.0025
 Neptune -19435-08-26 20:38 J -5376972.85 -5376972.64 -5376972.41 0.0088 0.0023
 Neptune -19434-04-09 10:33 J -5376747.28 -5376747.06 -5376746.84 0.0088 0.0020
 Neptune -19434-11-21 00:00 J -5376521.71 -5376521.50 -5376521.27 0.0088 0.0018
 Neptune -19433-07-03 13:55 J -5376296.14 -5376295.92 -5376295.70 0.0088 0.0015
 Neptune -19432-02-14 03:21 J -5376070.58 -5376070.36 -5376070.13 0.0088 0.0012
 Neptune -19432-09-27 17:02 J -5375845.01 -5375844.79 -5375844.56 0.0088 0.0009
 Jupiter -19431-03-05 18:14 J -5375685.87 -5375685.74 -5375685.61 0.0496 0.0379
 Neptune -19431-05-11 06:43 J -5375619.44 -5375619.22 -5375618.99 0.0088 0.0007
 Jupiter -19431-10-27 21:07 J -5375449.82 -5375449.62 -5375449.41 0.0494 0.0011
 Neptune -19431-12-22 20:23 J -5375393.87 -5375393.65 -5375393.42 0.0088 0.0005
 Jupiter -19430-06-21 02:23 J -5375213.52 -5375213.40 -5375213.28 0.0494 0.0397
 Neptune -19430-08-05 10:04 J -5375168.30 -5375168.08 -5375167.85 0.0088 0.0002
 Neptune -19429-03-17 23:45 J -5374942.73 -5374942.51 -5374942.28 0.0088 0.0001
 Neptune -19429-10-29 13:40 J -5374717.16 -5374716.93 -5374716.71 0.0088 0.0004
 Neptune -19428-06-12 03:21 J -5374491.58 -5374491.36 -5374491.13 0.0088 0.0006
 Neptune -19427-01-23 17:02 J -5374266.01 -5374265.79 -5374265.56 0.0088 0.0009
 Neptune -19427-09-06 06:43 J -5374040.44 -5374040.22 -5374039.99 0.0088 0.0011
 Neptune -19426-04-19 20:38 J -5373814.87 -5373814.64 -5373814.42 0.0088 0.0014
 Mars -19426-06-30 10:48 J -5373743.17 -5373743.05 -5373742.92 0.1626 0.1080
 Neptune -19426-12-01 10:19 J -5373589.29 -5373589.07 -5373588.85 0.0088 0.0016
 Saturn -19426-12-09 14:09 J -5373581.06 -5373580.91 -5373580.73 0.0299 0.0194
 Mars -19425-05-24 20:38 J -5373413.79 -5373413.64 -5373413.49 0.1892 0.1038
 Neptune -19425-07-14 00:00 J -5373363.71 -5373363.50 -5373363.27 0.0088 0.0019
 Saturn -19425-07-27 00:28 J -5373350.70 -5373350.48 -5373350.27 0.0300 0.0010

Jupiter -19425-08-31 13:11 J -5373315.15 -5373314.95 -5373314.75 0.0531 0.0094
 Neptune -19424-02-24 13:40 J -5373138.14 -5373137.93 -5373137.71 0.0088 0.0022
 Saturn -19424-03-14 10:33 J -5373120.20 -5373120.06 -5373119.90 0.0301 0.0215
 Jupiter -19424-04-26 08:52 J -5373077.26 -5373077.13 -5373076.99 0.0531 0.0393
 Mars -19424-04-29 16:19 J -5373073.98 -5373073.82 -5373073.66 0.1627 0.0618
 Neptune -19424-10-08 03:07 J -5372912.57 -5372912.37 -5372912.14 0.0089 0.0025
 Neptune -19423-05-21 17:02 J -5372687.00 -5372686.79 -5372686.57 0.0089 0.0027
 Neptune -19422-01-02 06:43 J -5372461.42 -5372461.22 -5372461.00 0.0089 0.0029
 Uranus -19422-01-20 16:48 J -5372442.91 -5372442.80 -5372442.65 0.0132 0.0106
 Neptune -19422-08-15 20:23 J -5372235.85 -5372235.65 -5372235.43 0.0089 0.0032
 Uranus -19422-09-03 22:19 J -5372216.74 -5372216.57 -5372216.38 0.0132 0.0078
 Neptune -19421-03-28 09:50 J -5372010.28 -5372010.09 -5372009.87 0.0089 0.0035
 Uranus -19421-04-17 03:36 J -5371990.55 -5371990.35 -5371990.14 0.0132 0.0050
 Neptune -19421-11-08 23:45 J -5371784.71 -5371784.51 -5371784.30 0.0089 0.0037
 Uranus -19421-11-29 09:07 J -5371764.34 -5371764.12 -5371763.90 0.0132 0.0022
 Neptune -19420-06-22 13:40 J -5371559.13 -5371558.93 -5371558.73 0.0089 0.0039
 Uranus -19420-07-13 14:23 J -5371538.12 -5371537.90 -5371537.68 0.0132 0.0006
 Jupiter -19420-11-08 19:55 J -5371419.72 -5371419.67 -5371419.63 0.0498 0.0484
 Neptune -19419-02-03 03:07 J -5371333.56 -5371333.37 -5371333.16 0.0089 0.0042
 Uranus -19419-02-24 19:26 J -5371311.89 -5371311.69 -5371311.47 0.0132 0.0034
 Jupiter -19419-07-02 23:02 J -5371183.74 -5371183.54 -5371183.34 0.0495 0.0101
 Neptune -19419-09-16 16:48 J -5371107.99 -5371107.80 -5371107.60 0.0089 0.0044
 Uranus -19419-10-09 00:28 J -5371085.66 -5371085.48 -5371085.27 0.0132 0.0062
 Jupiter -19418-02-24 04:04 J -5370947.49 -5370947.33 -5370947.16 0.0495 0.0292
 Neptune -19418-04-30 06:14 J -5370882.42 -5370882.24 -5370882.04 0.0089 0.0047
 Uranus -19418-05-23 06:00 J -5370859.41 -5370859.25 -5370859.09 0.0132 0.0090
 Neptune -19418-12-11 20:09 J -5370656.84 -5370656.66 -5370656.46 0.0089 0.0049
 Uranus -19417-01-04 11:02 J -5370633.12 -5370633.04 -5370632.92 0.0132 0.0118
 Neptune -19417-07-24 10:04 J -5370431.26 -5370431.08 -5370430.90 0.0089 0.0051
 Neptune -19416-03-06 23:16 J -5370205.69 -5370205.53 -5370205.33 0.0089 0.0054

Neptune	-19416-10-18 12:57 J	-5369980.11	-5369979.96	-5369979.77	0.0089	0.0056
Neptune	-19415-06-01 02:52 J	-5369754.54	-5369754.38	-5369754.20	0.0089	0.0058
Neptune	-19414-01-12 16:48 J	-5369528.96	-5369528.80	-5369528.63	0.0089	0.0060
Neptune	-19414-08-26 06:43 J	-5369303.38	-5369303.22	-5369303.07	0.0089	0.0062
Neptune	-19413-04-07 19:40 J	-5369077.81	-5369077.68	-5369077.50	0.0089	0.0065
Jupiter	-19413-05-06 03:07 J	-5369049.55	-5369049.37	-5369049.18	0.0530	0.0229
Neptune	-19413-11-19 09:21 J	-5368852.23	-5368852.11	-5368851.94	0.0089	0.0067
Jupiter	-19413-12-29 23:31 J	-5368811.69	-5368811.52	-5368811.34	0.0531	0.0262
Neptune	-19412-07-02 23:02 J	-5368626.66	-5368626.54	-5368626.38	0.0089	0.0069
Saturn	-19412-10-09 09:36 J	-5368528.21	-5368528.10	-5368527.97	0.0263	0.0211
Neptune	-19411-02-13 12:43 J	-5368401.08	-5368400.97	-5368400.81	0.0089	0.0071
Saturn	-19411-05-26 04:19 J	-5368299.52	-5368299.32	-5368299.12	0.0262	0.0082
Neptune	-19411-09-27 02:23 J	-5368175.51	-5368175.40	-5368175.26	0.0089	0.0073
Saturn	-19410-01-09 22:04 J	-5368070.78	-5368070.58	-5368070.37	0.0261	0.0046
Neptune	-19410-05-10 15:50 J	-5367949.94	-5367949.84	-5367949.70	0.0089	0.0075
Saturn	-19410-08-26 15:50 J	-5367842.00	-5367841.84	-5367841.69	0.0260	0.0173
Neptune	-19410-12-22 05:31 J	-5367724.36	-5367724.27	-5367724.14	0.0089	0.0077
Neptune	-19409-08-03 18:57 J	-5367498.78	-5367498.71	-5367498.58	0.0089	0.0079
Neptune	-19408-03-17 09:07 J	-5367273.21	-5367273.12	-5367273.02	0.0089	0.0080
Neptune	-19408-10-28 22:19 J	-5367047.64	-5367047.57	-5367047.47	0.0089	0.0082
Jupiter	-19407-03-08 01:40 J	-5366917.61	-5366917.43	-5366917.24	0.0496	0.0208
Neptune	-19407-06-11 11:45 J	-5366822.06	-5366822.01	-5366821.92	0.0089	0.0084
Jupiter	-19407-10-30 06:00 J	-5366681.44	-5366681.25	-5366681.06	0.0495	0.0186
Neptune	-19406-01-23 01:55 J	-5366596.48	-5366596.42	-5366596.37	0.0089	0.0085
Neptune	-19406-09-05 14:52 J	-5366370.90	-5366370.88	-5366370.82	0.0089	0.0087
Neptune	-19405-04-18 04:33 J	-5366145.31	-5366145.31	-5366145.28	0.0089	0.0089
Jupiter	-19401-01-09 16:04 J	-5364783.98	-5364783.83	-5364783.68	0.0530	0.0363
Jupiter	-19401-09-03 13:40 J	-5364546.13	-5364545.93	-5364545.74	0.0532	0.0126
Saturn	-19396-06-20 23:45 J	-5362794.69	-5362794.51	-5362794.33	0.0300	0.0163
Jupiter	-19396-11-11 04:19 J	-5362651.48	-5362651.32	-5362651.16	0.0496	0.0314

Saturn	-19395-02-06 09:36 J	-5362564.31	-5362564.10	-5362563.88	0.0301	0.0042
Jupiter	-19395-07-05 07:55 J	-5362415.37	-5362415.17	-5362414.97	0.0495	0.0078
Saturn	-19395-09-24 19:55 J	-5362333.79	-5362333.67	-5362333.55	0.0302	0.0246
Jupiter	-19394-02-26 13:55 J	-5362178.99	-5362178.92	-5362178.85	0.0495	0.0464
Mars	-19393-05-24 22:33 J	-5361725.73	-5361725.56	-5361725.40	0.1893	0.0710
Mars	-19392-04-28 08:09 J	-5361387.33	-5361387.16	-5361386.99	0.1626	0.0201
Mars	-19390-02-26 12:28 J	-5360718.04	-5360717.98	-5360717.92	0.1629	0.1514
Jupiter	-19390-09-14 06:28 J	-5360518.30	-5360518.23	-5360518.15	0.0529	0.0492
Earth	-19389-05-03 10:04 J	-5360286.23	-5360286.08	-5360285.92	0.2707	0.0466
Moon	-19389-05-03 10:48 J	-5360286.20	-5360286.05	-5360285.90	0.2714	0.0116 *
Jupiter	-19389-05-09 05:02 J	-5360280.50	-5360280.29	-5360280.09	0.0532	0.0014
Jupiter	-19388-01-02 00:28 J	-5360042.57	-5360042.48	-5360042.39	0.0532	0.0473
Jupiter	-19384-07-17 06:28 J	-5358385.33	-5358385.23	-5358385.11	0.0497	0.0419
Jupiter	-19383-03-10 09:21 J	-5358149.31	-5358149.11	-5358148.90	0.0495	0.0034
Jupiter	-19383-11-01 14:09 J	-5357913.05	-5357912.91	-5357912.77	0.0494	0.0358
Saturn	-19382-04-21 12:00 J	-5357742.13	-5357742.00	-5357741.85	0.0263	0.0193
Saturn	-19382-12-06 06:28 J	-5357513.43	-5357513.23	-5357513.03	0.0262	0.0064
Saturn	-19381-07-22 00:14 J	-5357284.69	-5357284.49	-5357284.28	0.0261	0.0065
Uranus	-19381-07-28 00:00 J	-5357278.59	-5357278.50	-5357278.39	0.0147	0.0130
Saturn	-19380-03-07 17:45 J	-5357055.90	-5357055.76	-5357055.62	0.0260	0.0191
Uranus	-19380-03-11 12:00 J	-5357052.15	-5357052.00	-5357051.82	0.0147	0.0093
Uranus	-19380-10-24 00:14 J	-5356825.68	-5356825.49	-5356825.29	0.0147	0.0055
Uranus	-19379-06-07 12:28 J	-5356599.19	-5356598.98	-5356598.77	0.0147	0.0017
Uranus	-19378-01-20 00:43 J	-5356372.69	-5356372.47	-5356372.26	0.0147	0.0021
Uranus	-19378-09-03 12:43 J	-5356146.16	-5356145.97	-5356145.76	0.0146	0.0058
Jupiter	-19377-01-12 20:09 J	-5356014.86	-5356014.66	-5356014.46	0.0531	0.0145
Uranus	-19377-04-17 00:57 J	-5355919.62	-5355919.46	-5355919.29	0.0146	0.0096
Jupiter	-19377-09-06 16:48 J	-5355776.94	-5355776.80	-5355776.64	0.0532	0.0346
Uranus	-19377-11-29 12:57 J	-5355693.03	-5355692.96	-5355692.86	0.0146	0.0133
Neptune	-19372-01-09 07:11 J	-5354191.20	-5354191.20	-5354191.18	0.0089	0.0089

Neptune	-19372-08-22 19:55 J	-5353965.70	-5353965.67	-5353965.62	0.0089	0.0088
Jupiter	-19372-11-13 12:00 J	-5353883.20	-5353883.00	-5353882.81	0.0495	0.0141
Neptune	-19371-04-05 08:23 J	-5353740.18	-5353740.15	-5353740.07	0.0089	0.0086
Jupiter	-19371-07-07 16:04 J	-5353647.01	-5353646.83	-5353646.65	0.0494	0.0252
Neptune	-19371-11-16 21:07 J	-5353514.67	-5353514.62	-5353514.53	0.0089	0.0085
Neptune	-19370-06-30 09:50 J	-5353289.16	-5353289.09	-5353289.00	0.0089	0.0083
Neptune	-19369-02-10 22:48 J	-5353063.64	-5353063.55	-5353063.46	0.0089	0.0081
Neptune	-19369-09-23 10:48 J	-5352838.12	-5352838.05	-5352837.92	0.0089	0.0080
Neptune	-19368-05-06 23:45 J	-5352612.60	-5352612.51	-5352612.38	0.0089	0.0078
Neptune	-19368-12-18 12:28 J	-5352387.08	-5352386.98	-5352386.85	0.0089	0.0075
Neptune	-19367-08-01 00:57 J	-5352161.56	-5352161.46	-5352161.32	0.0089	0.0074
Saturn	-19366-01-01 05:02 J	-5352008.48	-5352008.29	-5352008.10	0.0300	0.0139
Neptune	-19366-03-14 13:40 J	-5351936.04	-5351935.93	-5351935.79	0.0089	0.0072
Saturn	-19366-08-19 15:21 J	-5351778.07	-5351777.86	-5351777.65	0.0301	0.0066
Jupiter	-19366-09-17 09:50 J	-5351749.25	-5351749.09	-5351748.91	0.0530	0.0281
Neptune	-19366-10-26 02:23 J	-5351710.52	-5351710.40	-5351710.25	0.0089	0.0070
Saturn	-19365-04-06 01:26 J	-5351547.51	-5351547.44	-5351547.33	0.0302	0.0272
Jupiter	-19365-05-12 06:57 J	-5351511.40	-5351511.21	-5351511.02	0.0531	0.0211
Neptune	-19365-06-07 15:07 J	-5351485.00	-5351484.87	-5351484.72	0.0089	0.0067
Neptune	-19364-01-19 03:36 J	-5351259.48	-5351259.35	-5351259.19	0.0089	0.0065
Neptune	-19364-09-01 16:04 J	-5351033.96	-5351033.83	-5351033.66	0.0089	0.0064
Neptune	-19363-04-15 04:48 J	-5350808.44	-5350808.30	-5350808.12	0.0089	0.0061
Neptune	-19363-11-26 17:16 J	-5350582.92	-5350582.78	-5350582.59	0.0089	0.0060
Neptune	-19362-07-10 06:14 J	-5350357.40	-5350357.24	-5350357.07	0.0089	0.0057
Neptune	-19361-02-20 18:43 J	-5350131.88	-5350131.72	-5350131.54	0.0089	0.0054
Neptune	-19361-10-03 06:57 J	-5349906.36	-5349906.21	-5349906.01	0.0089	0.0053
Mars	-19360-04-27 00:00 J	-5349700.63	-5349700.50	-5349700.36	0.1626	0.1014
Neptune	-19360-05-16 19:40 J	-5349680.84	-5349680.68	-5349680.48	0.0089	0.0050
Jupiter	-19360-07-19 13:26 J	-5349617.11	-5349616.94	-5349616.76	0.0496	0.0250
Neptune	-19360-12-28 08:23 J	-5349455.32	-5349455.15	-5349454.96	0.0089	0.0047

Jupiter -19359-03-12 17:45 J -5349380.95 -5349380.76 -5349380.56 0.0495 0.0145
 Mars -19359-03-21 22:33 J -5349371.69 -5349371.56 -5349371.44 0.1891 0.1336
 Neptune -19359-08-10 20:38 J -5349229.81 -5349229.64 -5349229.44 0.0089 0.0045
 Mars -19358-02-25 04:48 J -5349031.45 -5349031.30 -5349031.14 0.1628 0.0691
 Neptune -19358-03-24 09:21 J -5349004.30 -5349004.11 -5349003.92 0.0089 0.0043
 Neptune -19358-11-04 21:36 J -5348778.78 -5348778.60 -5348778.39 0.0089 0.0040
 Neptune -19357-06-17 10:04 J -5348553.26 -5348553.08 -5348552.87 0.0089 0.0038
 Neptune -19356-01-28 22:33 J -5348327.75 -5348327.56 -5348327.35 0.0089 0.0036
 Neptune -19356-09-11 10:48 J -5348102.23 -5348102.05 -5348101.83 0.0089 0.0034
 Neptune -19355-04-24 23:31 J -5347876.71 -5347876.52 -5347876.31 0.0089 0.0030
 Neptune -19355-12-06 11:45 J -5347651.20 -5347651.01 -5347650.79 0.0089 0.0028
 Jupiter -19354-05-23 00:14 J -5347483.61 -5347483.49 -5347483.36 0.0529 0.0412
 Neptune -19354-07-20 00:28 J -5347425.69 -5347425.48 -5347425.27 0.0089 0.0025
 Jupiter -19353-01-15 21:36 J -5347245.80 -5347245.60 -5347245.40 0.0531 0.0076
 Neptune -19353-03-01 12:43 J -5347200.17 -5347199.97 -5347199.75 0.0089 0.0023
 Neptune -19353-10-13 01:11 J -5346974.65 -5346974.45 -5346974.23 0.0089 0.0020
 Saturn -19353-10-31 16:48 J -5346955.95 -5346955.80 -5346955.64 0.0263 0.0172
 Neptune -19352-05-26 13:40 J -5346749.13 -5346748.93 -5346748.71 0.0089 0.0018
 Saturn -19352-06-17 11:16 J -5346727.24 -5346727.03 -5346726.83 0.0261 0.0043
 Neptune -19351-01-07 02:09 J -5346523.61 -5346523.41 -5346523.19 0.0089 0.0015
 Saturn -19351-02-01 04:48 J -5346498.50 -5346498.30 -5346498.10 0.0261 0.0085
 Neptune -19351-08-20 14:38 J -5346298.10 -5346297.89 -5346297.67 0.0089 0.0013
 Saturn -19351-09-17 22:04 J -5346269.69 -5346269.58 -5346269.45 0.0260 0.0211
 Neptune -19350-04-03 03:07 J -5346072.58 -5346072.37 -5346072.15 0.0089 0.0010
 Neptune -19350-11-14 15:36 J -5345847.07 -5345846.85 -5345846.64 0.0089 0.0007
 Neptune -19349-06-27 04:04 J -5345621.55 -5345621.33 -5345621.11 0.0089 0.0005
 Neptune -19348-02-07 16:19 J -5345396.03 -5345395.82 -5345395.60 0.0089 0.0003
 Jupiter -19348-03-24 16:19 J -5345350.96 -5345350.82 -5345350.67 0.0497 0.0354
 Neptune -19348-09-21 04:48 J -5345170.52 -5345170.30 -5345170.08 0.0089 0.0001
 Jupiter -19348-11-15 20:09 J -5345114.87 -5345114.66 -5345114.46 0.0495 0.0037

Neptune	-19347-05-04 17:02 J	-5344945.00	-5344944.79	-5344944.57	0.0089	0.0004
Jupiter	-19347-07-10 01:55 J	-5344878.51	-5344878.42	-5344878.31	0.0495	0.0428
Neptune	-19347-12-16 05:31 J	-5344719.49	-5344719.27	-5344719.05	0.0089	0.0006
Neptune	-19346-07-29 17:45 J	-5344493.97	-5344493.76	-5344493.54	0.0089	0.0008
Neptune	-19345-03-11 06:00 J	-5344268.46	-5344268.25	-5344268.03	0.0089	0.0011
Neptune	-19345-10-22 18:14 J	-5344042.95	-5344042.74	-5344042.52	0.0089	0.0014
Neptune	-19344-06-05 06:43 J	-5343817.43	-5343817.22	-5343817.00	0.0089	0.0016
Neptune	-19343-01-16 18:57 J	-5343591.91	-5343591.71	-5343591.49	0.0089	0.0019
Neptune	-19343-08-30 07:26 J	-5343366.40	-5343366.19	-5343365.98	0.0089	0.0021
Neptune	-19342-04-12 19:26 J	-5343140.89	-5343140.69	-5343140.47	0.0089	0.0024
Jupiter	-19342-09-20 11:16 J	-5342980.23	-5342980.03	-5342979.83	0.0531	0.0062
Neptune	-19342-11-24 07:55 J	-5342915.37	-5342915.17	-5342914.96	0.0089	0.0026
Jupiter	-19341-05-15 06:43 J	-5342742.34	-5342742.22	-5342742.10	0.0531	0.0423
Neptune	-19341-07-06 20:23 J	-5342689.85	-5342689.65	-5342689.44	0.0089	0.0029
Neptune	-19340-02-17 08:52 J	-5342464.33	-5342464.13	-5342463.93	0.0089	0.0031
Neptune	-19340-09-30 20:52 J	-5342238.82	-5342238.63	-5342238.42	0.0089	0.0034
Neptune	-19339-05-14 09:21 J	-5342013.30	-5342013.11	-5342012.90	0.0089	0.0036
Uranus	-19339-09-20 04:19 J	-5341884.41	-5341884.32	-5341884.21	0.0132	0.0117
Neptune	-19339-12-25 21:36 J	-5341787.78	-5341787.60	-5341787.39	0.0089	0.0039
Uranus	-19338-05-04 09:50 J	-5341658.25	-5341658.09	-5341657.93	0.0132	0.0089
Neptune	-19338-08-08 10:04 J	-5341562.26	-5341562.08	-5341561.88	0.0089	0.0041
Uranus	-19338-12-16 15:21 J	-5341432.06	-5341431.86	-5341431.67	0.0132	0.0061
Neptune	-19337-03-20 22:19 J	-5341336.74	-5341336.57	-5341336.37	0.0089	0.0044
Saturn	-19337-07-13 12:57 J	-5341222.15	-5341221.96	-5341221.75	0.0300	0.0109
Uranus	-19337-07-29 20:23 J	-5341205.86	-5341205.65	-5341205.43	0.0132	0.0034
Neptune	-19337-11-01 10:48 J	-5341111.22	-5341111.05	-5341110.85	0.0089	0.0046
Jupiter	-19337-11-27 19:11 J	-5341084.77	-5341084.70	-5341084.62	0.0498	0.0457
Saturn	-19336-02-28 23:16 J	-5340991.73	-5340991.53	-5340991.32	0.0301	0.0097
Uranus	-19336-03-13 01:55 J	-5340979.64	-5340979.42	-5340979.20	0.0132	0.0005
Neptune	-19336-06-14 23:31 J	-5340885.70	-5340885.52	-5340885.34	0.0089	0.0048

Jupiter	-19336-07-21 22:33 J	-5340848.76	-5340848.56	-5340848.35	0.0495	0.0072
Saturn	-19336-10-17 09:50 J	-5340761.10	-5340761.09	-5340761.08	0.0302	0.0301
Uranus	-19336-10-25 06:57 J	-5340753.42	-5340753.21	-5340752.99	0.0132	0.0023
Neptune	-19335-01-26 11:31 J	-5340660.18	-5340660.02	-5340659.83	0.0089	0.0051
Jupiter	-19335-03-15 03:36 J	-5340612.50	-5340612.35	-5340612.19	0.0494	0.0322
Uranus	-19335-06-08 12:00 J	-5340527.19	-5340527.00	-5340526.78	0.0132	0.0051
Neptune	-19335-09-09 00:00 J	-5340434.66	-5340434.50	-5340434.32	0.0089	0.0053
Uranus	-19334-01-20 17:31 J	-5340300.94	-5340300.77	-5340300.59	0.0132	0.0079
Neptune	-19334-04-22 12:28 J	-5340209.15	-5340208.98	-5340208.81	0.0089	0.0055
Uranus	-19334-09-03 22:48 J	-5340074.67	-5340074.55	-5340074.42	0.0132	0.0106
Neptune	-19334-12-04 00:28 J	-5339983.63	-5339983.48	-5339983.30	0.0089	0.0058
Neptune	-19333-07-16 12:57 J	-5339758.10	-5339757.96	-5339757.78	0.0089	0.0060
Neptune	-19332-02-27 01:26 J	-5339532.58	-5339532.44	-5339532.27	0.0089	0.0062
Neptune	-19332-10-10 13:40 J	-5339307.07	-5339306.93	-5339306.77	0.0089	0.0064
Pluto	-19331-05-03 02:23 J	-5339102.48	-5339102.40	-5339102.27	0.0064	0.0056
Neptune	-19331-05-24 02:09 J	-5339081.55	-5339081.41	-5339081.26	0.0089	0.0066
Pluto	-19331-12-14 06:14 J	-5338877.43	-5338877.24	-5338877.02	0.0064	0.0021
Neptune	-19330-01-04 14:38 J	-5338856.03	-5338855.89	-5338855.75	0.0088	0.0068
Jupiter	-19330-05-26 01:55 J	-5338714.60	-5338714.42	-5338714.23	0.0531	0.0199
Pluto	-19330-07-27 10:04 J	-5338652.28	-5338652.08	-5338651.86	0.0064	0.0015
Neptune	-19330-08-18 02:52 J	-5338630.50	-5338630.38	-5338630.24	0.0088	0.0070
Jupiter	-19329-01-18 22:48 J	-5338476.71	-5338476.55	-5338476.38	0.0532	0.0295
Pluto	-19329-03-08 13:26 J	-5338427.05	-5338426.94	-5338426.78	0.0065	0.0051
Neptune	-19329-03-30 15:21 J	-5338404.98	-5338404.86	-5338404.73	0.0088	0.0072
Neptune	-19329-11-11 03:36 J	-5338179.46	-5338179.35	-5338179.22	0.0088	0.0074
Neptune	-19328-06-24 16:04 J	-5337953.93	-5337953.83	-5337953.71	0.0088	0.0076
Neptune	-19327-02-05 04:33 J	-5337728.40	-5337728.31	-5337728.20	0.0088	0.0078
Mars	-19327-03-22 00:00 J	-5337683.67	-5337683.50	-5337683.32	0.1893	0.0404
Neptune	-19327-09-18 16:48 J	-5337502.87	-5337502.80	-5337502.69	0.0088	0.0080
Mars	-19326-02-23 21:07 J	-5337344.79	-5337344.62	-5337344.45	0.1626	0.0133

Neptune	-19326-05-02 05:16 J	-5337277.35	-5337277.28	-5337277.18	0.0088	0.0082
Neptune	-19326-12-13 17:31 J	-5337051.81	-5337051.77	-5337051.67	0.0088	0.0084
Neptune	-19325-07-26 06:43 J	-5336826.27	-5336826.22	-5336826.15	0.0088	0.0085
Mars	-19325-12-24 01:11 J	-5336675.49	-5336675.45	-5336675.42	0.1630	0.1587
Neptune	-19324-03-08 18:57 J	-5336600.73	-5336600.71	-5336600.65	0.0088	0.0087
Jupiter	-19324-03-27 00:57 J	-5336582.65	-5336582.46	-5336582.27	0.0495	0.0180
Neptune	-19324-10-20 07:26 J	-5336375.19	-5336375.19	-5336375.16	0.0088	0.0088
Jupiter	-19324-11-18 04:48 J	-5336346.48	-5336346.30	-5336346.11	0.0494	0.0214
Saturn	-19323-05-13 18:43 J	-5336169.89	-5336169.72	-5336169.55	0.0262	0.0155
Saturn	-19323-12-28 12:28 J	-5335941.18	-5335940.98	-5335940.77	0.0261	0.0026
Saturn	-19322-08-14 06:00 J	-5335712.44	-5335712.25	-5335712.05	0.0261	0.0102
Saturn	-19321-03-29 23:02 J	-5335483.63	-5335483.54	-5335483.43	0.0260	0.0228
Jupiter	-19318-01-28 17:16 J	-5334448.94	-5334448.78	-5334448.62	0.0530	0.0331
Jupiter	-19318-09-23 15:07 J	-5334211.06	-5334210.87	-5334210.67	0.0532	0.0162
Jupiter	-19313-11-30 03:50 J	-5332316.51	-5332316.34	-5332316.18	0.0496	0.0286
Jupiter	-19312-07-24 07:11 J	-5332080.40	-5332080.20	-5332080.00	0.0494	0.0107
Jupiter	-19311-03-17 13:11 J	-5331843.96	-5331843.95	-5331843.93	0.0495	0.0492
Saturn	-19308-06-07 07:11 J	-5330666.25	-5330666.20	-5330666.15	0.0298	0.0288
Saturn	-19307-01-23 16:48 J	-5330436.00	-5330435.80	-5330435.59	0.0300	0.0087
Saturn	-19307-09-11 03:07 J	-5330205.56	-5330205.37	-5330205.17	0.0301	0.0119
Jupiter	-19307-10-03 07:40 J	-5330183.27	-5330183.18	-5330183.08	0.0529	0.0461
Jupiter	-19306-05-29 05:31 J	-5329945.47	-5329945.27	-5329945.07	0.0531	0.0025
Jupiter	-19305-01-22 00:00 J	-5329707.55	-5329707.50	-5329707.43	0.0531	0.0504
Jupiter	-19301-08-05 05:02 J	-5328050.41	-5328050.29	-5328050.17	0.0497	0.0393
Jupiter	-19300-03-29 08:38 J	-5327814.34	-5327814.14	-5327813.93	0.0495	0.0011
Jupiter	-19300-11-20 14:23 J	-5327578.02	-5327577.90	-5327577.77	0.0495	0.0390
Uranus	-19297-11-08 17:45 J	-5326493.89	-5326493.76	-5326493.61	0.0147	0.0111
Uranus	-19296-06-23 05:45 J	-5326267.43	-5326267.26	-5326267.06	0.0147	0.0074
Uranus	-19295-02-04 18:00 J	-5326040.95	-5326040.75	-5326040.53	0.0147	0.0036
Uranus	-19295-09-19 06:14 J	-5325814.45	-5325814.24	-5325814.02	0.0147	0.0004

Jupiter	-19294-01-31 20:23 J	-5325679.84	-5325679.65	-5325679.45	0.0530	0.0111
Mars	-19294-02-22 12:43 J	-5325658.11	-5325657.97	-5325657.83	0.1626	0.0942
Uranus	-19294-05-03 18:14 J	-5325587.94	-5325587.74	-5325587.52	0.0147	0.0041
Jupiter	-19294-09-26 15:50 J	-5325441.97	-5325441.84	-5325441.69	0.0531	0.0377
Saturn	-19294-11-23 22:04 J	-5325383.75	-5325383.58	-5325383.40	0.0262	0.0135
Uranus	-19294-12-16 06:43 J	-5325361.40	-5325361.22	-5325361.04	0.0146	0.0078
Mars	-19293-01-17 00:28 J	-5325329.56	-5325329.48	-5325329.39	0.1891	0.1626
Saturn	-19293-07-09 16:19 J	-5325155.03	-5325154.82	-5325154.61	0.0261	0.0008
Uranus	-19293-07-29 18:57 J	-5325134.83	-5325134.71	-5325134.57	0.0146	0.0115
Mars	-19293-12-22 17:31 J	-5324988.92	-5324988.77	-5324988.62	0.1628	0.0761
Saturn	-19292-02-23 09:36 J	-5324926.28	-5324926.10	-5324925.91	0.0260	0.0121
Saturn	-19292-10-10 02:38 J	-5324697.44	-5324697.39	-5324697.31	0.0260	0.0246
Jupiter	-19289-04-10 07:40 J	-5323784.19	-5323784.18	-5323784.16	0.0498	0.0495
Jupiter	-19289-12-02 11:16 J	-5323548.22	-5323548.03	-5323547.83	0.0496	0.0111
Jupiter	-19288-07-26 16:19 J	-5323311.98	-5323311.82	-5323311.65	0.0495	0.0285
Neptune	-19288-08-13 10:19 J	-5323294.08	-5323294.07	-5323294.03	0.0088	0.0087
Neptune	-19287-03-27 00:00 J	-5323068.55	-5323068.50	-5323068.45	0.0088	0.0085
Neptune	-19287-11-07 12:57 J	-5322843.00	-5322842.96	-5322842.87	0.0088	0.0084
Neptune	-19286-06-21 02:23 J	-5322617.46	-5322617.40	-5322617.30	0.0088	0.0082
Neptune	-19285-02-01 15:50 J	-5322391.91	-5322391.84	-5322391.73	0.0088	0.0080
Neptune	-19285-09-14 05:31 J	-5322166.36	-5322166.27	-5322166.16	0.0088	0.0078
Neptune	-19284-04-27 18:57 J	-5321940.81	-5321940.71	-5321940.59	0.0088	0.0076
Neptune	-19284-12-09 08:23 J	-5321715.26	-5321715.15	-5321715.03	0.0088	0.0074
Neptune	-19283-07-22 21:36 J	-5321489.71	-5321489.60	-5321489.46	0.0088	0.0072
Jupiter	-19283-10-06 09:36 J	-5321414.27	-5321414.10	-5321413.92	0.0530	0.0248
Neptune	-19282-03-05 11:02 J	-5321264.16	-5321264.04	-5321263.90	0.0088	0.0070
Jupiter	-19282-06-01 06:14 J	-5321176.41	-5321176.24	-5321176.05	0.0531	0.0245
Neptune	-19282-10-17 00:28 J	-5321038.60	-5321038.48	-5321038.32	0.0088	0.0068
Neptune	-19281-05-29 13:55 J	-5320813.05	-5320812.92	-5320812.76	0.0088	0.0066
Neptune	-19280-01-10 03:07 J	-5320587.50	-5320587.37	-5320587.19	0.0088	0.0064

Neptune	-19280-08-23 16:33 J	-5320361.95	-5320361.81	-5320361.63	0.0088	0.0062
Neptune	-19279-04-06 06:14 J	-5320136.39	-5320136.24	-5320136.06	0.0088	0.0060
Neptune	-19279-11-17 19:40 J	-5319910.83	-5319910.68	-5319910.49	0.0088	0.0058
Saturn	-19279-12-18 13:40 J	-5319880.03	-5319879.93	-5319879.83	0.0299	0.0261
Neptune	-19278-07-01 09:07 J	-5319685.27	-5319685.12	-5319684.93	0.0088	0.0055
Saturn	-19278-08-05 23:16 J	-5319649.74	-5319649.53	-5319649.32	0.0300	0.0059
Neptune	-19277-02-11 23:02 J	-5319459.72	-5319459.54	-5319459.36	0.0088	0.0052
Saturn	-19277-03-23 09:36 J	-5319419.28	-5319419.10	-5319418.91	0.0302	0.0147
Jupiter	-19277-08-07 14:23 J	-5319282.08	-5319281.90	-5319281.71	0.0496	0.0218
Neptune	-19277-09-24 12:14 J	-5319234.16	-5319233.99	-5319233.79	0.0088	0.0051
Jupiter	-19276-03-31 18:43 J	-5319045.91	-5319045.72	-5319045.53	0.0495	0.0178
Neptune	-19276-05-08 01:40 J	-5319008.60	-5319008.43	-5319008.22	0.0088	0.0048
Earth	-19276-11-01 16:33 J	-5318830.91	-5318830.81	-5318830.72	0.2626	0.2108
Neptune	-19276-12-19 15:36 J	-5318783.03	-5318782.85	-5318782.65	0.0088	0.0045
Neptune	-19275-08-02 05:02 J	-5318557.47	-5318557.29	-5318557.08	0.0088	0.0043
Neptune	-19274-03-15 18:43 J	-5318331.91	-5318331.72	-5318331.51	0.0088	0.0040
Neptune	-19274-10-27 08:23 J	-5318106.34	-5318106.15	-5318105.94	0.0088	0.0038
Neptune	-19273-06-08 22:04 J	-5317880.77	-5317880.58	-5317880.36	0.0088	0.0036
Neptune	-19272-01-20 11:31 J	-5317655.21	-5317655.02	-5317654.79	0.0088	0.0033
Neptune	-19272-09-03 01:11 J	-5317429.65	-5317429.45	-5317429.23	0.0088	0.0030
Neptune	-19271-04-16 15:07 J	-5317204.08	-5317203.87	-5317203.66	0.0088	0.0028
Jupiter	-19271-06-11 00:14 J	-5317148.63	-5317148.49	-5317148.35	0.0529	0.0381
Neptune	-19271-11-28 04:33 J	-5316978.51	-5316978.31	-5316978.08	0.0088	0.0025
Jupiter	-19270-02-03 22:04 J	-5316910.78	-5316910.58	-5316910.38	0.0531	0.0110
Neptune	-19270-07-11 18:14 J	-5316752.95	-5316752.74	-5316752.51	0.0088	0.0023
Neptune	-19269-02-22 07:55 J	-5316527.39	-5316527.17	-5316526.95	0.0088	0.0020
Neptune	-19269-10-04 21:21 J	-5316301.82	-5316301.61	-5316301.38	0.0088	0.0017
Neptune	-19268-05-18 11:02 J	-5316076.25	-5316076.04	-5316075.81	0.0088	0.0015
Earth	-19268-10-30 10:19 J	-5315911.22	-5315911.07	-5315910.92	0.2627	0.0925
Moon	-19268-10-30 14:38 J	-5315911.05	-5315910.89	-5315910.72	0.2624	0.0276 *

Neptune -19268-12-30 00:57 J -5315850.69 -5315850.46 -5315850.24 0.0088 0.0012
 Neptune -19267-08-12 14:23 J -5315625.12 -5315624.90 -5315624.68 0.0088 0.0009
 Neptune -19266-03-26 03:50 J -5315399.56 -5315399.34 -5315399.11 0.0088 0.0007
 Neptune -19266-11-06 17:45 J -5315173.98 -5315173.76 -5315173.54 0.0088 0.0004
 Jupiter -19265-04-12 17:16 J -5315015.93 -5315015.78 -5315015.62 0.0497 0.0324
 Neptune -19265-06-19 07:26 J -5314948.41 -5314948.19 -5314947.97 0.0088 0.0001
 Saturn -19265-10-19 04:33 J -5314826.37 -5314826.31 -5314826.24 0.0263 0.0249
 Jupiter -19265-12-04 20:38 J -5314779.84 -5314779.64 -5314779.44 0.0495 0.0068
 Neptune -19264-01-30 21:07 J -5314722.85 -5314722.62 -5314722.40 0.0088 0.0002
 Saturn -19264-06-04 23:02 J -5314597.72 -5314597.54 -5314597.35 0.0262 0.0119
 Jupiter -19264-07-29 02:09 J -5314543.48 -5314543.41 -5314543.33 0.0495 0.0457
 Neptune -19264-09-13 10:48 J -5314497.28 -5314497.05 -5314496.83 0.0088 0.0005
 Saturn -19263-01-19 16:48 J -5314369.01 -5314368.80 -5314368.59 0.0261 0.0010
 Neptune -19263-04-27 00:14 J -5314271.71 -5314271.49 -5314271.26 0.0088 0.0008
 Saturn -19263-09-05 09:50 J -5314140.26 -5314140.09 -5314139.90 0.0260 0.0138
 Neptune -19263-12-08 14:09 J -5314046.13 -5314045.91 -5314045.68 0.0088 0.0010
 Neptune -19262-07-22 03:50 J -5313820.56 -5313820.34 -5313820.11 0.0088 0.0013
 Mars -19261-01-17 02:38 J -5313641.57 -5313641.39 -5313641.22 0.1892 0.0120
 Neptune -19261-03-03 17:31 J -5313594.98 -5313594.77 -5313594.54 0.0088 0.0016
 Neptune -19261-10-15 07:11 J -5313369.41 -5313369.20 -5313368.97 0.0088 0.0018
 Mars -19261-12-21 09:36 J -5313302.28 -5313302.10 -5313301.93 0.1627 0.0069
 Neptune -19260-05-28 21:07 J -5313143.84 -5313143.62 -5313143.40 0.0088 0.0021
 Neptune -19259-01-09 10:48 J -5312918.26 -5312918.05 -5312917.83 0.0088 0.0023
 Jupiter -19259-02-13 15:21 J -5312882.91 -5312882.86 -5312882.81 0.0529 0.0508
 Neptune -19259-08-23 00:14 J -5312692.69 -5312692.49 -5312692.26 0.0089 0.0027
 Jupiter -19259-10-09 13:55 J -5312645.12 -5312644.92 -5312644.72 0.0531 0.0025
 Neptune -19258-04-05 14:09 J -5312467.12 -5312466.91 -5312466.69 0.0089 0.0029
 Jupiter -19258-06-04 09:36 J -5312407.19 -5312407.10 -5312407.00 0.0532 0.0460
 Neptune -19258-11-17 03:50 J -5312241.54 -5312241.34 -5312241.12 0.0089 0.0032
 Neptune -19257-06-29 17:45 J -5312015.97 -5312015.76 -5312015.55 0.0089 0.0034

Neptune	-19256-02-10 07:11 J	-5311790.39	-5311790.20	-5311789.99	0.0089	0.0037
Neptune	-19256-09-23 20:38 J	-5311564.82	-5311564.64	-5311564.42	0.0089	0.0040
Neptune	-19255-05-07 10:33 J	-5311339.25	-5311339.06	-5311338.86	0.0089	0.0042
Uranus	-19255-05-20 15:21 J	-5311325.89	-5311325.86	-5311325.79	0.0132	0.0129
Neptune	-19255-12-19 00:00 J	-5311113.67	-5311113.50	-5311113.29	0.0089	0.0045
Uranus	-19254-01-01 20:52 J	-5311099.75	-5311099.63	-5311099.47	0.0132	0.0101
Neptune	-19254-08-01 13:55 J	-5310888.10	-5310887.92	-5310887.72	0.0089	0.0047
Uranus	-19254-08-16 02:23 J	-5310873.57	-5310873.40	-5310873.20	0.0132	0.0073
Jupiter	-19254-12-17 20:09 J	-5310749.76	-5310749.66	-5310749.55	0.0497	0.0428
Neptune	-19253-03-14 03:21 J	-5310662.53	-5310662.36	-5310662.16	0.0089	0.0050
Uranus	-19253-03-29 07:40 J	-5310647.37	-5310647.18	-5310646.96	0.0132	0.0045
Jupiter	-19253-08-09 23:31 J	-5310513.73	-5310513.52	-5310513.32	0.0495	0.0040
Neptune	-19253-10-25 17:02 J	-5310436.96	-5310436.79	-5310436.60	0.0089	0.0052
Uranus	-19253-11-10 13:11 J	-5310421.17	-5310420.95	-5310420.73	0.0132	0.0017
Jupiter	-19252-04-03 04:19 J	-5310277.46	-5310277.32	-5310277.18	0.0494	0.0353
Neptune	-19252-06-08 06:28 J	-5310211.38	-5310211.23	-5310211.03	0.0089	0.0055
Uranus	-19252-06-24 18:28 J	-5310194.95	-5310194.73	-5310194.51	0.0132	0.0012
Neptune	-19251-01-19 20:23 J	-5309985.80	-5309985.65	-5309985.46	0.0089	0.0057
Uranus	-19251-02-05 23:45 J	-5309968.71	-5309968.51	-5309968.29	0.0132	0.0040
Neptune	-19251-09-02 10:19 J	-5309760.23	-5309760.07	-5309759.90	0.0089	0.0059
Uranus	-19251-09-20 04:48 J	-5309742.47	-5309742.30	-5309742.10	0.0132	0.0068
Neptune	-19250-04-15 23:31 J	-5309534.65	-5309534.52	-5309534.33	0.0089	0.0062
Uranus	-19250-05-04 10:19 J	-5309516.22	-5309516.07	-5309515.92	0.0132	0.0096
Neptune	-19250-11-27 13:26 J	-5309309.07	-5309308.94	-5309308.77	0.0089	0.0064
Uranus	-19250-12-16 15:36 J	-5309289.92	-5309289.85	-5309289.77	0.0132	0.0124
Saturn	-19249-06-29 15:07 J	-5309093.99	-5309093.87	-5309093.74	0.0299	0.0244
Neptune	-19249-07-10 03:21 J	-5309083.50	-5309083.36	-5309083.20	0.0089	0.0066
Saturn	-19248-02-15 00:57 J	-5308863.67	-5308863.46	-5308863.25	0.0300	0.0041
Neptune	-19248-02-20 17:16 J	-5308857.92	-5308857.78	-5308857.63	0.0089	0.0068
Saturn	-19248-10-03 11:16 J	-5308633.20	-5308633.03	-5308632.84	0.0301	0.0166

Neptune	-19248-10-04 06:28 J	-5308632.34	-5308632.23	-5308632.07	0.0089	0.0071
Neptune	-19247-05-17 20:09 J	-5308406.76	-5308406.66	-5308406.51	0.0089	0.0073
Jupiter	-19247-06-14 04:48 J	-5308379.49	-5308379.30	-5308379.10	0.0530	0.0160
Neptune	-19247-12-29 10:04 J	-5308181.18	-5308181.08	-5308180.94	0.0089	0.0075
Jupiter	-19246-02-07 00:57 J	-5308141.61	-5308141.46	-5308141.30	0.0531	0.0331
Neptune	-19246-08-11 23:45 J	-5307955.60	-5307955.51	-5307955.38	0.0089	0.0077
Neptune	-19245-03-24 13:26 J	-5307730.03	-5307729.94	-5307729.83	0.0089	0.0079
Neptune	-19245-11-05 02:52 J	-5307504.45	-5307504.38	-5307504.27	0.0089	0.0081
Neptune	-19244-06-18 16:33 J	-5307278.87	-5307278.81	-5307278.72	0.0089	0.0083
Neptune	-19243-01-30 06:00 J	-5307053.29	-5307053.25	-5307053.16	0.0089	0.0085
Neptune	-19243-09-12 19:26 J	-5306827.71	-5306827.69	-5306827.61	0.0089	0.0087
Pluto	-19242-03-26 20:23 J	-5306632.73	-5306632.65	-5306632.54	0.0080	0.0073
Neptune	-19242-04-26 09:36 J	-5306602.12	-5306602.10	-5306602.08	0.0089	0.0088
Pluto	-19242-11-07 08:09 J	-5306407.39	-5306407.16	-5306406.94	0.0080	0.0001
Jupiter	-19241-04-15 00:28 J	-5306247.67	-5306247.48	-5306247.28	0.0496	0.0150
Pluto	-19241-06-19 18:28 J	-5306181.81	-5306181.73	-5306181.60	0.0080	0.0071
Jupiter	-19241-12-07 05:16 J	-5306011.45	-5306011.28	-5306011.10	0.0495	0.0247
Jupiter	-19235-02-16 19:55 J	-5304113.83	-5304113.67	-5304113.50	0.0529	0.0294
Saturn	-19235-05-01 07:11 J	-5304040.29	-5304040.20	-5304040.09	0.0263	0.0231
Jupiter	-19235-10-12 16:33 J	-5303875.99	-5303875.81	-5303875.62	0.0531	0.0199
Saturn	-19235-12-16 01:40 J	-5303811.62	-5303811.43	-5303811.24	0.0262	0.0101
Saturn	-19234-08-01 19:26 J	-5303582.90	-5303582.69	-5303582.48	0.0261	0.0028
Saturn	-19233-03-17 12:43 J	-5303354.14	-5303353.97	-5303353.80	0.0260	0.0155
Jupiter	-19230-12-20 03:21 J	-5301981.53	-5301981.36	-5301981.18	0.0497	0.0256
Mars	-19229-01-17 05:16 J	-5301953.30	-5301953.28	-5301953.27	0.1893	0.1881
Jupiter	-19229-08-12 07:55 J	-5301745.37	-5301745.17	-5301744.98	0.0495	0.0141
Mars	-19229-12-20 01:26 J	-5301615.58	-5301615.44	-5301615.30	0.1626	0.0872
Mars	-19227-10-20 06:14 J	-5300946.39	-5300946.24	-5300946.09	0.1628	0.0834
Jupiter	-19224-10-22 09:07 J	-5299848.24	-5299848.12	-5299848.00	0.0528	0.0427
Jupiter	-19223-06-17 06:28 J	-5299610.43	-5299610.23	-5299610.02	0.0531	0.0062

Saturn	-19219-01-09 20:38 J	-5298307.78	-5298307.64	-5298307.49	0.0299	0.0218
Saturn	-19219-08-28 06:43 J	-5298077.44	-5298077.22	-5298077.01	0.0301	0.0014
Saturn	-19218-04-15 17:02 J	-5297846.95	-5297846.79	-5297846.62	0.0302	0.0194
Jupiter	-19218-08-25 06:43 J	-5297715.35	-5297715.22	-5297715.08	0.0497	0.0362
Jupiter	-19217-04-17 10:33 J	-5297479.26	-5297479.06	-5297478.85	0.0495	0.0033
Jupiter	-19217-12-09 16:19 J	-5297242.92	-5297242.82	-5297242.71	0.0495	0.0423
Uranus	-19213-07-09 00:57 J	-5295935.56	-5295935.46	-5295935.36	0.0147	0.0128
Uranus	-19212-02-20 12:43 J	-5295709.12	-5295708.97	-5295708.79	0.0147	0.0091
Uranus	-19212-10-05 00:57 J	-5295482.66	-5295482.46	-5295482.25	0.0147	0.0053
Jupiter	-19211-02-19 21:50 J	-5295344.79	-5295344.59	-5295344.39	0.0531	0.0075
Uranus	-19211-05-19 13:11 J	-5295256.17	-5295255.95	-5295255.74	0.0147	0.0015
Jupiter	-19211-10-15 17:31 J	-5295106.89	-5295106.77	-5295106.64	0.0532	0.0414
Uranus	-19210-01-01 01:11 J	-5295029.66	-5295029.45	-5295029.23	0.0147	0.0024
Uranus	-19210-08-15 13:26 J	-5294803.12	-5294802.94	-5294802.73	0.0147	0.0062
Uranus	-19209-03-29 01:40 J	-5294576.57	-5294576.43	-5294576.26	0.0146	0.0099
Uranus	-19209-11-10 14:09 J	-5294349.98	-5294349.91	-5294349.83	0.0146	0.0136
Jupiter	-19206-04-30 09:50 J	-5293449.15	-5293449.09	-5293449.01	0.0498	0.0465
Neptune	-19206-10-01 19:11 J	-5293294.73	-5293294.70	-5293294.65	0.0089	0.0088
Saturn	-19206-11-11 07:40 J	-5293254.29	-5293254.18	-5293254.05	0.0263	0.0215
Jupiter	-19206-12-22 13:11 J	-5293213.15	-5293212.95	-5293212.75	0.0495	0.0077
Neptune	-19205-05-14 07:40 J	-5293069.21	-5293069.18	-5293069.10	0.0089	0.0086
Saturn	-19205-06-27 02:09 J	-5293025.61	-5293025.41	-5293025.21	0.0262	0.0086
Jupiter	-19205-08-14 18:00 J	-5292976.91	-5292976.75	-5292976.60	0.0494	0.0318
Neptune	-19205-12-25 20:23 J	-5292843.70	-5292843.65	-5292843.56	0.0089	0.0084
Saturn	-19204-02-10 19:40 J	-5292796.89	-5292796.68	-5292796.47	0.0261	0.0043
Neptune	-19204-08-08 08:52 J	-5292618.19	-5292618.13	-5292618.02	0.0089	0.0083
Saturn	-19204-09-27 12:28 J	-5292568.13	-5292567.98	-5292567.81	0.0260	0.0170
Neptune	-19203-03-21 21:36 J	-5292392.67	-5292392.60	-5292392.48	0.0089	0.0081
Neptune	-19203-11-02 10:19 J	-5292167.15	-5292167.07	-5292166.95	0.0089	0.0078
Neptune	-19202-06-15 22:48 J	-5291941.64	-5291941.55	-5291941.41	0.0089	0.0077

Neptune	-19201-01-27 11:31 J	-5291716.12	-5291716.02	-5291715.88	0.0089	0.0074
Neptune	-19201-09-09 00:00 J	-5291490.60	-5291490.50	-5291490.35	0.0089	0.0072
Neptune	-19200-04-22 13:11 J	-5291265.08	-5291264.95	-5291264.81	0.0089	0.0070
Jupiter	-19200-10-25 13:11 J	-5291079.14	-5291078.95	-5291078.76	0.0530	0.0210
Neptune	-19200-12-04 01:40 J	-5291039.56	-5291039.43	-5291039.28	0.0089	0.0068
Jupiter	-19199-06-20 10:19 J	-5290841.24	-5290841.07	-5290840.90	0.0532	0.0284
Neptune	-19199-07-17 14:09 J	-5290814.04	-5290813.91	-5290813.75	0.0089	0.0065
Neptune	-19198-02-28 02:38 J	-5290588.53	-5290588.39	-5290588.22	0.0089	0.0063
Neptune	-19198-10-11 15:36 J	-5290363.01	-5290362.85	-5290362.69	0.0089	0.0061
Neptune	-19197-05-24 04:04 J	-5290137.48	-5290137.33	-5290137.16	0.0089	0.0059
Neptune	-19196-01-04 16:33 J	-5289911.96	-5289911.81	-5289911.63	0.0089	0.0056
Neptune	-19196-08-18 05:16 J	-5289686.45	-5289686.28	-5289686.10	0.0089	0.0054
Mars	-19196-11-13 04:04 J	-5289599.51	-5289599.33	-5289599.15	0.1892	0.0189
Neptune	-19195-03-31 17:45 J	-5289460.93	-5289460.76	-5289460.58	0.0089	0.0051
Mars	-19195-10-18 22:19 J	-5289259.74	-5289259.57	-5289259.39	0.1627	0.0029
Neptune	-19195-11-12 06:00 J	-5289235.41	-5289235.25	-5289235.05	0.0089	0.0049
Neptune	-19194-06-25 18:43 J	-5289009.89	-5289009.72	-5289009.53	0.0089	0.0046
Jupiter	-19194-08-27 16:19 J	-5288947.01	-5288946.82	-5288946.63	0.0496	0.0185
Neptune	-19193-02-06 06:57 J	-5288784.38	-5288784.21	-5288784.00	0.0089	0.0044
Jupiter	-19193-04-19 20:23 J	-5288710.83	-5288710.65	-5288710.46	0.0495	0.0211
Neptune	-19193-09-18 19:26 J	-5288558.87	-5288558.69	-5288558.48	0.0089	0.0042
Neptune	-19192-05-02 08:23 J	-5288333.35	-5288333.15	-5288332.96	0.0089	0.0039
Neptune	-19192-12-13 20:23 J	-5288107.83	-5288107.65	-5288107.44	0.0089	0.0036
Neptune	-19191-07-27 08:52 J	-5287882.32	-5287882.13	-5287881.92	0.0089	0.0034
Neptune	-19190-03-09 21:07 J	-5287656.81	-5287656.62	-5287656.40	0.0089	0.0031
Saturn	-19190-07-22 21:21 J	-5287521.77	-5287521.61	-5287521.45	0.0299	0.0201
Neptune	-19190-10-21 09:36 J	-5287431.29	-5287431.10	-5287430.88	0.0089	0.0029
Saturn	-19189-03-09 07:11 J	-5287291.41	-5287291.20	-5287290.98	0.0300	0.0003
Neptune	-19189-06-02 22:04 J	-5287205.77	-5287205.58	-5287205.36	0.0089	0.0026
Saturn	-19189-10-25 17:45 J	-5287060.91	-5287060.76	-5287060.61	0.0301	0.0210

Neptune -19188-01-14 10:33 J -5286980.26 -5286980.06 -5286979.84 0.0089 0.0023
 Jupiter -19188-06-30 04:48 J -5286813.45 -5286813.30 -5286813.14 0.0529 0.0341
 Neptune -19188-08-27 23:02 J -5286754.75 -5286754.54 -5286754.33 0.0089 0.0020
 Jupiter -19187-02-23 02:09 J -5286575.60 -5286575.41 -5286575.22 0.0531 0.0152
 Neptune -19187-04-10 11:16 J -5286529.23 -5286529.03 -5286528.81 0.0089 0.0018
 Neptune -19187-11-21 23:45 J -5286303.72 -5286303.51 -5286303.29 0.0089 0.0015
 Neptune -19186-07-05 12:28 J -5286078.20 -5286077.98 -5286077.77 0.0089 0.0012
 Neptune -19185-02-16 00:43 J -5285852.68 -5285852.47 -5285852.25 0.0089 0.0010
 Neptune -19185-09-28 13:11 J -5285627.16 -5285626.95 -5285626.73 0.0089 0.0007
 Neptune -19184-05-12 01:40 J -5285401.64 -5285401.43 -5285401.21 0.0089 0.0004
 Neptune -19184-12-23 14:09 J -5285176.13 -5285175.91 -5285175.70 0.0089 0.0002
 Neptune -19183-08-06 02:23 J -5284950.61 -5284950.40 -5284950.18 0.0089 0.0002
 Neptune -19182-03-19 14:52 J -5284725.10 -5284724.88 -5284724.67 0.0089 0.0004
 Jupiter -19182-05-02 17:02 J -5284680.95 -5284680.79 -5284680.63 0.0497 0.0294
 Neptune -19182-10-31 03:07 J -5284499.58 -5284499.37 -5284499.15 0.0089 0.0007
 Jupiter -19182-12-24 21:07 J -5284444.82 -5284444.62 -5284444.41 0.0495 0.0103
 Neptune -19181-06-12 15:36 J -5284274.06 -5284273.85 -5284273.63 0.0089 0.0010
 Jupiter -19181-08-17 03:50 J -5284208.36 -5284208.34 -5284208.31 0.0495 0.0492
 Neptune -19180-01-24 04:04 J -5284048.55 -5284048.33 -5284048.12 0.0089 0.0012
 Neptune -19180-09-06 16:19 J -5283823.03 -5283822.82 -5283822.61 0.0089 0.0015
 Neptune -19179-04-20 04:19 J -5283597.52 -5283597.32 -5283597.10 0.0089 0.0018
 Neptune -19179-12-01 16:33 J -5283372.01 -5283371.81 -5283371.59 0.0089 0.0021
 Neptune -19178-07-15 05:16 J -5283146.49 -5283146.28 -5283146.07 0.0089 0.0023
 Neptune -19177-02-25 17:16 J -5282920.97 -5282920.78 -5282920.56 0.0089 0.0026
 Neptune -19177-10-08 05:31 J -5282695.46 -5282695.27 -5282695.05 0.0089 0.0029
 Jupiter -19176-03-04 20:09 J -5282547.75 -5282547.66 -5282547.56 0.0528 0.0469
 Neptune -19176-05-21 18:00 J -5282469.94 -5282469.75 -5282469.54 0.0089 0.0031
 Saturn -19176-05-23 09:36 J -5282468.23 -5282468.10 -5282467.96 0.0263 0.0198
 Jupiter -19176-10-28 17:31 J -5282309.97 -5282309.77 -5282309.56 0.0530 0.0021
 Neptune -19175-01-02 06:14 J -5282244.43 -5282244.24 -5282244.02 0.0089 0.0034

Saturn	-19175-01-07 03:50 J	-5282239.54	-5282239.34	-5282239.14	0.0262	0.0068
Jupiter	-19175-06-23 12:00 J	-5282072.06	-5282072.00	-5282071.93	0.0531	0.0496
Neptune	-19175-08-15 18:43 J	-5282018.91	-5282018.72	-5282018.51	0.0089	0.0036
Saturn	-19175-08-23 21:21 J	-5282010.81	-5282010.61	-5282010.41	0.0261	0.0060
Neptune	-19174-03-29 06:57 J	-5281793.39	-5281793.21	-5281793.00	0.0089	0.0039
Saturn	-19174-04-09 14:23 J	-5281782.04	-5281781.90	-5281781.75	0.0260	0.0187
Neptune	-19174-11-09 19:40 J	-5281567.87	-5281567.68	-5281567.49	0.0089	0.0041
Neptune	-19173-06-22 07:55 J	-5281342.35	-5281342.17	-5281341.97	0.0089	0.0044
Neptune	-19172-02-02 20:09 J	-5281116.83	-5281116.66	-5281116.46	0.0089	0.0047
Neptune	-19172-09-16 08:38 J	-5280891.31	-5280891.14	-5280890.95	0.0089	0.0049
Neptune	-19171-04-29 20:38 J	-5280665.79	-5280665.64	-5280665.44	0.0089	0.0052
Uranus	-19171-09-01 09:07 J	-5280541.22	-5280541.12	-5280540.99	0.0132	0.0112
Neptune	-19171-12-11 09:21 J	-5280440.27	-5280440.11	-5280439.93	0.0089	0.0054
Jupiter	-19170-01-05 19:55 J	-5280414.79	-5280414.67	-5280414.55	0.0498	0.0399
Uranus	-19170-04-15 14:23 J	-5280315.05	-5280314.90	-5280314.72	0.0132	0.0084
Neptune	-19170-07-24 22:04 J	-5280214.75	-5280214.58	-5280214.41	0.0089	0.0056
Jupiter	-19170-08-30 00:00 J	-5280178.70	-5280178.50	-5280178.29	0.0496	0.0008
Uranus	-19170-11-27 19:55 J	-5280088.86	-5280088.67	-5280088.46	0.0132	0.0056
Neptune	-19169-03-06 10:04 J	-5279989.23	-5279989.08	-5279988.90	0.0089	0.0059
Jupiter	-19169-04-22 05:45 J	-5279942.38	-5279942.26	-5279942.13	0.0495	0.0389
Uranus	-19169-07-11 01:11 J	-5279862.65	-5279862.45	-5279862.22	0.0132	0.0028
Neptune	-19169-10-17 22:33 J	-5279763.71	-5279763.56	-5279763.39	0.0089	0.0061
Uranus	-19168-02-22 06:43 J	-5279636.43	-5279636.22	-5279635.99	0.0132	0.0003
Neptune	-19168-05-31 11:02 J	-5279538.18	-5279538.04	-5279537.88	0.0089	0.0063
Uranus	-19168-10-06 12:00 J	-5279410.21	-5279410.00	-5279409.78	0.0132	0.0029
Neptune	-19167-01-11 23:02 J	-5279312.66	-5279312.54	-5279312.37	0.0089	0.0066
Uranus	-19167-05-20 17:16 J	-5279183.97	-5279183.78	-5279183.58	0.0132	0.0057
Neptune	-19167-08-25 11:31 J	-5279087.14	-5279087.02	-5279086.87	0.0088	0.0068
Uranus	-19166-01-01 22:33 J	-5278957.71	-5278957.56	-5278957.38	0.0132	0.0086
Neptune	-19166-04-08 00:00 J	-5278861.62	-5278861.50	-5278861.36	0.0088	0.0070

Uranus	-19166-08-16 03:50 J	-5278731.43	-5278731.34	-5278731.21	0.0132	0.0114
Neptune	-19166-11-19 12:28 J	-5278636.10	-5278635.98	-5278635.85	0.0088	0.0072
Neptune	-19165-07-02 00:57 J	-5278410.57	-5278410.46	-5278410.34	0.0088	0.0074
Neptune	-19164-02-12 12:43 J	-5278185.05	-5278184.97	-5278184.83	0.0088	0.0077
Jupiter	-19164-07-03 07:11 J	-5278044.40	-5278044.20	-5278044.00	0.0530	0.0122
Neptune	-19164-09-26 01:11 J	-5277959.53	-5277959.45	-5277959.33	0.0088	0.0079
Mars	-19164-11-13 07:11 J	-5277911.30	-5277911.20	-5277911.11	0.1894	0.1582
Jupiter	-19163-02-26 03:07 J	-5277806.52	-5277806.37	-5277806.23	0.0531	0.0368
Neptune	-19163-05-09 13:26 J	-5277734.00	-5277733.94	-5277733.82	0.0088	0.0081
Mars	-19163-10-17 14:09 J	-5277573.06	-5277572.91	-5277572.76	0.1626	0.0801
Neptune	-19163-12-21 01:55 J	-5277508.47	-5277508.42	-5277508.32	0.0088	0.0082
Neptune	-19162-08-03 14:52 J	-5277282.94	-5277282.88	-5277282.81	0.0088	0.0084
Neptune	-19161-03-16 03:21 J	-5277057.40	-5277057.36	-5277057.30	0.0088	0.0086
Mars	-19161-08-16 18:43 J	-5276903.86	-5276903.72	-5276903.58	0.1629	0.0906
Neptune	-19161-10-27 15:36 J	-5276831.86	-5276831.85	-5276831.81	0.0088	0.0088
Saturn	-19160-02-01 01:40 J	-5276735.59	-5276735.43	-5276735.25	0.0300	0.0177
Saturn	-19160-09-19 12:00 J	-5276505.22	-5276505.00	-5276504.79	0.0301	0.0029
Saturn	-19159-05-07 22:33 J	-5276274.69	-5276274.56	-5276274.43	0.0302	0.0237
Jupiter	-19158-05-05 03:07 J	-5275912.57	-5275912.37	-5275912.17	0.0496	0.0115
Jupiter	-19158-12-27 07:55 J	-5275676.33	-5275676.17	-5275675.99	0.0495	0.0283
Jupiter	-19152-03-07 21:50 J	-5273778.76	-5273778.59	-5273778.41	0.0529	0.0258
Jupiter	-19152-10-31 18:57 J	-5273540.89	-5273540.71	-5273540.53	0.0531	0.0236
Saturn	-19147-12-03 09:50 J	-5271682.24	-5271682.09	-5271681.94	0.0262	0.0183
Jupiter	-19146-01-08 06:14 J	-5271646.42	-5271646.24	-5271646.06	0.0496	0.0222
Earth	-19146-05-04 08:23 J	-5271530.31	-5271530.15	-5271530.00	0.2706	0.0620
Moon	-19146-05-04 10:19 J	-5271530.24	-5271530.07	-5271529.91	0.2699	0.0793 *
Saturn	-19146-07-20 04:04 J	-5271453.54	-5271453.33	-5271453.13	0.0261	0.0053
Jupiter	-19146-09-01 10:19 J	-5271410.26	-5271410.07	-5271409.87	0.0495	0.0175
Saturn	-19145-03-04 21:21 J	-5271224.81	-5271224.61	-5271224.41	0.0260	0.0075
Saturn	-19145-10-19 14:09 J	-5270996.03	-5270995.91	-5270995.76	0.0260	0.0202

Jupiter	-19141-11-10 12:57 J	-5269513.09	-5269512.96	-5269512.82	0.0529	0.0390
Jupiter	-19140-07-06 11:02 J	-5269275.24	-5269275.04	-5269274.84	0.0531	0.0103
Jupiter	-19135-09-13 09:36 J	-5267380.25	-5267380.10	-5267379.95	0.0497	0.0328
Jupiter	-19134-05-07 13:11 J	-5267144.16	-5267143.95	-5267143.75	0.0495	0.0067
Jupiter	-19134-12-29 18:43 J	-5266907.79	-5266907.72	-5266907.64	0.0495	0.0457
Saturn	-19131-08-14 01:40 J	-5265949.60	-5265949.43	-5265949.24	0.0299	0.0161
Mars	-19131-10-16 06:00 J	-5265886.28	-5265886.25	-5265886.23	0.1626	0.1603
Saturn	-19130-04-01 12:00 J	-5265719.21	-5265719.00	-5265718.79	0.0301	0.0045
Mars	-19130-09-10 06:57 J	-5265557.39	-5265557.21	-5265557.04	0.1891	0.0474
Saturn	-19130-11-17 22:33 J	-5265488.67	-5265488.56	-5265488.44	0.0302	0.0252
Uranus	-19129-03-08 10:48 J	-5265377.09	-5265377.05	-5265377.00	0.0147	0.0143
Jupiter	-19129-07-16 05:02 J	-5265247.32	-5265247.29	-5265247.24	0.0528	0.0515
Mars	-19129-08-15 10:48 J	-5265217.22	-5265217.05	-5265216.88	0.1627	0.0086
Uranus	-19129-10-20 22:33 J	-5265150.70	-5265150.56	-5265150.40	0.0147	0.0106
Jupiter	-19128-03-11 03:07 J	-5265009.57	-5265009.37	-5265009.16	0.0530	0.0032
Uranus	-19128-06-04 10:48 J	-5264924.24	-5264924.05	-5264923.86	0.0147	0.0068
Jupiter	-19128-11-03 22:19 J	-5264771.67	-5264771.57	-5264771.47	0.0531	0.0454
Uranus	-19127-01-16 23:02 J	-5264697.75	-5264697.54	-5264697.33	0.0147	0.0030
Uranus	-19127-08-31 11:16 J	-5264471.25	-5264471.03	-5264470.82	0.0147	0.0009
Uranus	-19126-04-14 23:16 J	-5264244.73	-5264244.53	-5264244.32	0.0147	0.0047
Uranus	-19126-11-27 11:31 J	-5264018.19	-5264018.02	-5264017.84	0.0146	0.0085
Uranus	-19125-07-10 23:45 J	-5263791.61	-5263791.51	-5263791.38	0.0146	0.0123
Jupiter	-19123-05-19 09:36 J	-5263114.18	-5263114.10	-5263113.99	0.0498	0.0437
Jupiter	-19122-01-10 13:40 J	-5262878.14	-5262877.93	-5262877.73	0.0496	0.0044
Jupiter	-19122-09-03 19:11 J	-5262641.84	-5262641.70	-5262641.55	0.0495	0.0353
Neptune	-19122-09-22 09:50 J	-5262623.10	-5262623.09	-5262623.04	0.0088	0.0087
Neptune	-19121-05-04 23:16 J	-5262397.57	-5262397.53	-5262397.46	0.0088	0.0085
Neptune	-19121-12-16 12:43 J	-5262172.03	-5262171.97	-5262171.89	0.0088	0.0083
Neptune	-19120-07-30 01:55 J	-5261946.49	-5261946.42	-5261946.32	0.0088	0.0081
Neptune	-19119-03-12 15:21 J	-5261720.94	-5261720.86	-5261720.75	0.0088	0.0079

Neptune	-19119-10-24 04:48 J	-5261495.38	-5261495.30	-5261495.17	0.0088	0.0077
Neptune	-19118-06-06 18:14 J	-5261269.83	-5261269.74	-5261269.60	0.0088	0.0075
Neptune	-19117-01-18 07:40 J	-5261044.29	-5261044.18	-5261044.04	0.0088	0.0073
Saturn	-19117-06-14 11:16 J	-5260896.18	-5260896.03	-5260895.86	0.0263	0.0166
Neptune	-19117-08-30 20:52 J	-5260818.74	-5260818.63	-5260818.47	0.0088	0.0071
Jupiter	-19117-11-13 18:43 J	-5260743.92	-5260743.72	-5260743.53	0.0530	0.0166
Saturn	-19116-01-29 05:31 J	-5260667.48	-5260667.27	-5260667.06	0.0262	0.0036
Neptune	-19116-04-13 10:48 J	-5260593.18	-5260593.05	-5260592.91	0.0088	0.0068
Jupiter	-19116-07-09 14:23 J	-5260506.05	-5260505.90	-5260505.74	0.0531	0.0326
Saturn	-19116-09-14 22:48 J	-5260438.74	-5260438.55	-5260438.35	0.0261	0.0092
Neptune	-19116-11-25 00:00 J	-5260367.63	-5260367.50	-5260367.34	0.0088	0.0066
Saturn	-19115-05-01 15:50 J	-5260209.95	-5260209.84	-5260209.72	0.0260	0.0218
Neptune	-19115-07-08 13:11 J	-5260142.08	-5260141.95	-5260141.77	0.0088	0.0064
Neptune	-19114-02-19 03:07 J	-5259916.53	-5259916.37	-5259916.21	0.0088	0.0061
Neptune	-19114-10-02 16:19 J	-5259690.97	-5259690.82	-5259690.64	0.0088	0.0059
Neptune	-19113-05-15 06:14 J	-5259465.41	-5259465.24	-5259465.07	0.0088	0.0057
Neptune	-19113-12-26 19:26 J	-5259239.86	-5259239.69	-5259239.50	0.0088	0.0054
Neptune	-19112-08-09 09:07 J	-5259014.30	-5259014.12	-5259013.94	0.0088	0.0052
Neptune	-19111-03-22 22:19 J	-5258788.74	-5258788.57	-5258788.37	0.0088	0.0049
Jupiter	-19111-09-15 16:33 J	-5258612.00	-5258611.81	-5258611.62	0.0496	0.0152
Neptune	-19111-11-03 12:14 J	-5258563.18	-5258562.99	-5258562.80	0.0088	0.0047
Jupiter	-19110-05-09 21:36 J	-5258375.78	-5258375.60	-5258375.42	0.0495	0.0247
Neptune	-19110-06-17 01:40 J	-5258337.61	-5258337.43	-5258337.23	0.0088	0.0044
Neptune	-19109-01-28 15:21 J	-5258112.05	-5258111.86	-5258111.66	0.0088	0.0041
Neptune	-19109-09-10 04:33 J	-5257886.49	-5257886.31	-5257886.09	0.0088	0.0040
Neptune	-19108-04-23 18:28 J	-5257660.93	-5257660.73	-5257660.52	0.0088	0.0036
Neptune	-19108-12-05 08:09 J	-5257435.36	-5257435.16	-5257434.94	0.0088	0.0034
Neptune	-19107-07-18 21:36 J	-5257209.79	-5257209.60	-5257209.37	0.0088	0.0032
Neptune	-19106-03-01 11:16 J	-5256984.23	-5256984.03	-5256983.80	0.0088	0.0029
Neptune	-19106-10-13 01:11 J	-5256758.66	-5256758.45	-5256758.23	0.0088	0.0025

Neptune -19105-05-25 14:52 J -5256533.09 -5256532.88 -5256532.66 0.0088 0.0023
 Jupiter -19105-07-19 07:55 J -5256478.34 -5256478.17 -5256478.00 0.0529 0.0304
 Neptune -19104-01-06 04:19 J -5256307.53 -5256307.32 -5256307.09 0.0088 0.0020
 Jupiter -19104-03-14 04:48 J -5256240.49 -5256240.30 -5256240.11 0.0531 0.0190
 Neptune -19104-08-19 18:00 J -5256081.96 -5256081.75 -5256081.52 0.0088 0.0017
 Neptune -19103-04-02 07:40 J -5255856.40 -5255856.18 -5255855.95 0.0088 0.0014
 Neptune -19103-11-13 21:36 J -5255630.82 -5255630.60 -5255630.38 0.0088 0.0011
 Neptune -19102-06-27 11:16 J -5255405.25 -5255405.03 -5255404.81 0.0088 0.0008
 Neptune -19101-02-08 00:43 J -5255179.69 -5255179.47 -5255179.24 0.0088 0.0006
 Saturn -19101-02-24 06:43 J -5255163.41 -5255163.22 -5255163.03 0.0300 0.0135
 Neptune -19101-09-20 14:23 J -5254954.12 -5254953.90 -5254953.67 0.0088 0.0003
 Saturn -19101-10-11 16:48 J -5254933.01 -5254932.80 -5254932.59 0.0301 0.0072
 Neptune -19100-05-04 04:04 J -5254728.55 -5254728.33 -5254728.11 0.0088 0.0000
 Saturn -19100-05-30 03:21 J -5254702.43 -5254702.36 -5254702.27 0.0302 0.0279
 Neptune -19100-12-15 17:45 J -5254502.98 -5254502.76 -5254502.53 0.0088 0.0003
 Jupiter -19099-05-21 19:55 J -5254345.84 -5254345.67 -5254345.50 0.0497 0.0260
 Neptune -19099-07-29 07:26 J -5254277.41 -5254277.19 -5254276.96 0.0088 0.0006
 Jupiter -19098-01-13 00:14 J -5254109.69 -5254109.49 -5254109.29 0.0495 0.0139
 Neptune -19098-03-11 21:07 J -5254051.84 -5254051.62 -5254051.40 0.0088 0.0009
 Mars -19098-09-10 08:52 J -5253869.26 -5253869.13 -5253869.00 0.1893 0.1275
 Neptune -19098-10-23 10:48 J -5253826.27 -5253826.05 -5253825.82 0.0088 0.0011
 Neptune -19097-06-05 00:28 J -5253600.70 -5253600.48 -5253600.25 0.0088 0.0014
 Mars -19097-08-14 02:52 J -5253530.53 -5253530.38 -5253530.23 0.1626 0.0729
 Neptune -19096-01-16 14:09 J -5253375.12 -5253374.91 -5253374.68 0.0088 0.0017
 Neptune -19096-08-30 04:04 J -5253149.55 -5253149.33 -5253149.11 0.0088 0.0020
 Neptune -19095-04-12 17:31 J -5252923.98 -5252923.77 -5252923.54 0.0088 0.0023
 Mars -19095-06-14 07:11 J -5252861.33 -5252861.20 -5252861.06 0.1630 0.0981
 Neptune -19095-11-24 07:26 J -5252698.40 -5252698.19 -5252697.97 0.0088 0.0026
 Neptune -19094-07-07 21:07 J -5252472.82 -5252472.62 -5252472.40 0.0089 0.0028
 Neptune -19093-02-18 11:02 J -5252247.25 -5252247.04 -5252246.83 0.0089 0.0031

Jupiter	-19093-03-23 22:19 J	-5252212.68	-5252212.57	-5252212.45	0.0528	0.0435
Neptune	-19093-10-01 00:28 J	-5252021.68	-5252021.48	-5252021.26	0.0089	0.0034
Jupiter	-19093-11-16 19:55 J	-5251974.87	-5251974.67	-5251974.47	0.0531	0.0054
Neptune	-19092-05-14 14:09 J	-5251796.10	-5251795.91	-5251795.70	0.0089	0.0037
Neptune	-19092-12-26 03:50 J	-5251570.52	-5251570.34	-5251570.12	0.0089	0.0040
Neptune	-19091-08-08 17:45 J	-5251344.95	-5251344.76	-5251344.56	0.0089	0.0042
Neptune	-19090-03-22 07:11 J	-5251119.38	-5251119.20	-5251118.99	0.0089	0.0045
Neptune	-19090-11-02 20:38 J	-5250893.81	-5250893.64	-5250893.43	0.0089	0.0048
Neptune	-19089-06-15 10:33 J	-5250668.23	-5250668.06	-5250667.86	0.0089	0.0050
Neptune	-19088-01-27 00:00 J	-5250442.66	-5250442.50	-5250442.30	0.0089	0.0053
Neptune	-19088-09-09 13:55 J	-5250217.09	-5250216.92	-5250216.74	0.0089	0.0055
Saturn	-19088-12-25 11:31 J	-5250110.18	-5250110.02	-5250109.84	0.0262	0.0151
Jupiter	-19087-01-24 23:16 J	-5250079.66	-5250079.53	-5250079.39	0.0498	0.0366
Neptune	-19087-04-23 03:21 J	-5249991.51	-5249991.36	-5249991.18	0.0089	0.0058
Uranus	-19087-05-01 21:50 J	-5249982.67	-5249982.59	-5249982.51	0.0132	0.0122
Saturn	-19087-08-11 05:31 J	-5249881.47	-5249881.27	-5249881.06	0.0261	0.0022
Jupiter	-19087-09-18 03:07 J	-5249843.57	-5249843.37	-5249843.17	0.0495	0.0030
Neptune	-19087-12-04 17:16 J	-5249765.93	-5249765.78	-5249765.61	0.0089	0.0060
Uranus	-19087-12-14 03:07 J	-5249756.51	-5249756.37	-5249756.21	0.0132	0.0094
Saturn	-19086-03-27 22:48 J	-5249652.73	-5249652.55	-5249652.35	0.0260	0.0108
Jupiter	-19086-05-12 08:23 J	-5249607.25	-5249607.15	-5249607.04	0.0495	0.0423
Neptune	-19086-07-18 06:43 J	-5249540.36	-5249540.22	-5249540.04	0.0089	0.0063
Uranus	-19086-07-28 08:38 J	-5249530.33	-5249530.14	-5249529.95	0.0132	0.0066
Saturn	-19086-11-11 15:50 J	-5249423.92	-5249423.84	-5249423.74	0.0260	0.0233
Neptune	-19085-02-28 20:38 J	-5249314.78	-5249314.64	-5249314.48	0.0089	0.0065
Uranus	-19085-03-10 13:55 J	-5249304.12	-5249303.92	-5249303.70	0.0132	0.0038
Neptune	-19085-10-11 09:50 J	-5249089.21	-5249089.09	-5249088.92	0.0089	0.0068
Uranus	-19085-10-22 19:26 J	-5249077.91	-5249077.69	-5249077.47	0.0132	0.0010
Neptune	-19084-05-24 23:45 J	-5248863.63	-5248863.51	-5248863.36	0.0089	0.0070
Uranus	-19084-06-06 00:28 J	-5248851.69	-5248851.48	-5248851.25	0.0132	0.0020

Pluto -19084-08-23 18:28 J -5248772.76 -5248772.73 -5248772.67 0.0064 0.0062
 Neptune -19083-01-05 13:40 J -5248638.05 -5248637.93 -5248637.79 0.0089 0.0072
 Uranus -19083-01-18 06:00 J -5248625.45 -5248625.25 -5248625.04 0.0132 0.0047
 Pluto -19083-04-05 22:19 J -5248547.77 -5248547.57 -5248547.37 0.0064 0.0027
 Neptune -19083-08-19 02:52 J -5248412.47 -5248412.38 -5248412.23 0.0089 0.0075
 Uranus -19083-09-01 11:16 J -5248399.20 -5248399.03 -5248398.84 0.0132 0.0076
 Pluto -19083-11-17 01:55 J -5248322.63 -5248322.42 -5248322.20 0.0064 0.0008
 Neptune -19082-04-01 16:48 J -5248186.89 -5248186.80 -5248186.67 0.0089 0.0077
 Uranus -19082-04-15 16:33 J -5248172.93 -5248172.81 -5248172.66 0.0132 0.0104
 Pluto -19082-06-30 05:31 J -5248097.41 -5248097.27 -5248097.09 0.0065 0.0044
 Neptune -19082-11-13 06:28 J -5247961.31 -5247961.23 -5247961.11 0.0089 0.0079
 Uranus -19082-11-27 21:50 J -5247946.60 -5247946.59 -5247946.56 0.0132 0.0132
 Neptune -19081-06-25 20:09 J -5247735.73 -5247735.66 -5247735.55 0.0089 0.0081
 Jupiter -19081-07-22 11:31 J -5247709.22 -5247709.02 -5247708.82 0.0530 0.0082
 Neptune -19080-02-06 10:04 J -5247510.15 -5247510.08 -5247509.99 0.0089 0.0083
 Jupiter -19080-03-17 07:40 J -5247471.30 -5247471.18 -5247471.05 0.0531 0.0409
 Neptune -19080-09-19 23:31 J -5247284.57 -5247284.52 -5247284.44 0.0089 0.0085
 Neptune -19079-05-03 13:11 J -5247058.98 -5247058.95 -5247058.90 0.0089 0.0087
 Jupiter -19076-09-30 02:23 J -5245813.46 -5245813.40 -5245813.33 0.0498 0.0469
 Jupiter -19075-05-24 06:00 J -5245577.45 -5245577.25 -5245577.05 0.0496 0.0080
 Jupiter -19074-01-15 10:33 J -5245341.21 -5245341.06 -5245340.90 0.0495 0.0318
 Saturn -19072-09-05 06:28 J -5244377.42 -5244377.23 -5244377.03 0.0299 0.0120
 Saturn -19071-04-23 16:33 J -5244147.01 -5244146.81 -5244146.60 0.0301 0.0087
 Saturn -19071-12-10 03:07 J -5243916.40 -5243916.37 -5243916.31 0.0302 0.0294
 Jupiter -19069-03-27 03:50 J -5243443.52 -5243443.34 -5243443.15 0.0529 0.0214
 Jupiter -19069-11-20 00:28 J -5243205.65 -5243205.48 -5243205.31 0.0531 0.0281
 Mars -19065-08-12 18:43 J -5241843.77 -5241843.72 -5241843.66 0.1626 0.1536
 Mars -19064-07-07 08:38 J -5241515.30 -5241515.14 -5241514.97 0.1891 0.0769
 Jupiter -19063-01-27 06:14 J -5241311.43 -5241311.24 -5241311.05 0.0497 0.0191
 Mars -19063-06-12 23:31 J -5241174.69 -5241174.52 -5241174.34 0.1628 0.0161

Jupiter	-19063-09-20 11:02 J	-5241075.23	-5241075.04	-5241074.86	0.0495	0.0209
Saturn	-19058-07-07 12:57 J	-5239324.14	-5239323.96	-5239323.78	0.0263	0.0134
Jupiter	-19058-11-30 19:26 J	-5239177.84	-5239177.69	-5239177.54	0.0528	0.0346
Saturn	-19057-02-21 06:57 J	-5239095.42	-5239095.21	-5239095.00	0.0261	0.0004
Jupiter	-19057-07-25 16:19 J	-5238940.01	-5238939.82	-5238939.63	0.0531	0.0147
Saturn	-19057-10-07 00:14 J	-5238866.67	-5238866.49	-5238866.30	0.0260	0.0125
Saturn	-19056-05-23 17:16 J	-5238637.83	-5238637.78	-5238637.72	0.0260	0.0250
Jupiter	-19052-10-02 08:52 J	-5237045.28	-5237045.13	-5237044.96	0.0497	0.0299
Jupiter	-19051-05-26 13:11 J	-5236809.14	-5236808.95	-5236808.74	0.0496	0.0102
Jupiter	-19050-01-17 19:55 J	-5236572.68	-5236572.67	-5236572.65	0.0496	0.0493
Jupiter	-19046-08-05 08:38 J	-5234912.22	-5234912.14	-5234912.06	0.0527	0.0479
Jupiter	-19045-03-30 06:00 J	-5234674.45	-5234674.25	-5234674.05	0.0530	0.0008
Uranus	-19045-06-20 07:55 J	-5234592.27	-5234592.17	-5234592.03	0.0147	0.0121
Jupiter	-19045-11-23 00:43 J	-5234436.54	-5234436.47	-5234436.40	0.0531	0.0492
Uranus	-19044-02-01 20:09 J	-5234365.83	-5234365.66	-5234365.47	0.0147	0.0083
Uranus	-19044-09-16 08:23 J	-5234139.35	-5234139.15	-5234138.94	0.0147	0.0045
Uranus	-19043-04-30 20:38 J	-5233912.85	-5233912.64	-5233912.42	0.0147	0.0007
Saturn	-19043-07-31 02:23 J	-5233821.43	-5233821.40	-5233821.36	0.0298	0.0294
Uranus	-19043-12-13 08:52 J	-5233686.34	-5233686.13	-5233685.92	0.0147	0.0032
Saturn	-19042-03-18 11:45 J	-5233591.22	-5233591.01	-5233590.81	0.0300	0.0093
Uranus	-19042-07-27 21:07 J	-5233459.80	-5233459.62	-5233459.42	0.0147	0.0071
Saturn	-19042-11-03 21:50 J	-5233360.78	-5233360.59	-5233360.39	0.0301	0.0115
Uranus	-19041-03-10 09:21 J	-5233233.24	-5233233.11	-5233232.95	0.0146	0.0109
Uranus	-19041-10-22 21:50 J	-5233006.59	-5233006.59	-5233006.57	0.0146	0.0146
Neptune	-19040-03-29 05:16 J	-5232849.28	-5232849.28	-5232849.27	0.0089	0.0089
Jupiter	-19040-06-07 12:28 J	-5232779.09	-5232778.98	-5232778.86	0.0498	0.0404
Neptune	-19040-11-09 17:31 J	-5232623.79	-5232623.77	-5232623.70	0.0089	0.0088
Jupiter	-19039-01-29 16:33 J	-5232543.02	-5232542.81	-5232542.61	0.0496	0.0013
Neptune	-19039-06-23 06:14 J	-5232398.28	-5232398.24	-5232398.16	0.0089	0.0085
Jupiter	-19039-09-22 22:19 J	-5232306.70	-5232306.57	-5232306.45	0.0495	0.0389

Neptune	-19038-02-03 18:43 J	-5232172.77	-5232172.72	-5232172.62	0.0089	0.0084
Neptune	-19038-09-17 07:26 J	-5231947.26	-5231947.19	-5231947.08	0.0089	0.0081
Neptune	-19037-04-29 20:09 J	-5231721.73	-5231721.66	-5231721.54	0.0089	0.0079
Neptune	-19037-12-11 09:07 J	-5231496.22	-5231496.12	-5231496.00	0.0089	0.0077
Neptune	-19036-07-24 21:36 J	-5231270.70	-5231270.60	-5231270.47	0.0089	0.0074
Neptune	-19035-03-07 10:04 J	-5231045.19	-5231045.08	-5231044.94	0.0089	0.0072
Neptune	-19035-10-18 22:33 J	-5230819.67	-5230819.56	-5230819.40	0.0089	0.0070
Neptune	-19034-06-01 11:31 J	-5230594.15	-5230594.02	-5230593.87	0.0089	0.0068
Jupiter	-19034-12-03 20:23 J	-5230408.84	-5230408.65	-5230408.45	0.0530	0.0131
Neptune	-19033-01-13 00:00 J	-5230368.63	-5230368.50	-5230368.34	0.0089	0.0065
Jupiter	-19033-07-28 16:33 J	-5230170.96	-5230170.81	-5230170.67	0.0531	0.0363
Neptune	-19033-08-25 12:57 J	-5230143.11	-5230142.96	-5230142.81	0.0089	0.0063
Moon	-19033-11-01 17:02 J	-5230074.91	-5230074.79	-5230074.67	0.2622	0.1818
Earth	-19033-11-01 20:38 J	-5230074.69	-5230074.64	-5230074.59	0.2626	0.2463 *
Neptune	-19032-04-08 01:11 J	-5229917.59	-5229917.45	-5229917.28	0.0089	0.0060
Mars	-19032-07-07 10:33 J	-5229827.22	-5229827.06	-5229826.91	0.1893	0.0970
Neptune	-19032-11-19 14:09 J	-5229692.07	-5229691.91	-5229691.75	0.0089	0.0058
Mars	-19031-06-11 15:50 J	-5229488.00	-5229487.84	-5229487.69	0.1627	0.0660
Neptune	-19031-07-03 02:23 J	-5229466.56	-5229466.40	-5229466.22	0.0089	0.0055
Neptune	-19030-02-13 15:07 J	-5229241.04	-5229240.87	-5229240.69	0.0089	0.0053
Neptune	-19030-09-27 03:21 J	-5229015.52	-5229015.36	-5229015.16	0.0089	0.0051
Mars	-19029-04-10 20:09 J	-5228818.79	-5228818.66	-5228818.53	0.1630	0.1048
Neptune	-19029-05-09 16:19 J	-5228790.00	-5228789.82	-5228789.63	0.0089	0.0047
Saturn	-19029-06-01 18:57 J	-5228766.77	-5228766.71	-5228766.63	0.0264	0.0248
Neptune	-19029-12-21 04:33 J	-5228564.48	-5228564.31	-5228564.11	0.0089	0.0045
Saturn	-19028-01-16 13:40 J	-5228538.11	-5228537.93	-5228537.74	0.0262	0.0118
Neptune	-19028-08-03 17:02 J	-5228338.96	-5228338.79	-5228338.58	0.0089	0.0042
Saturn	-19028-09-02 07:40 J	-5228309.39	-5228309.18	-5228308.97	0.0261	0.0012
Jupiter	-19028-10-04 19:40 J	-5228276.88	-5228276.68	-5228276.49	0.0496	0.0118
Neptune	-19027-03-17 05:45 J	-5228113.45	-5228113.26	-5228113.06	0.0089	0.0039

Saturn	-19027-04-19 00:57 J	-5228080.63	-5228080.46	-5228080.28	0.0260	0.0140
Jupiter	-19027-05-29 00:14 J	-5228040.66	-5228040.49	-5228040.32	0.0495	0.0282
Neptune	-19027-10-28 18:00 J	-5227887.93	-5227887.75	-5227887.54	0.0089	0.0037
Neptune	-19026-06-11 06:28 J	-5227662.41	-5227662.23	-5227662.01	0.0089	0.0035
Neptune	-19025-01-22 18:57 J	-5227436.90	-5227436.71	-5227436.50	0.0089	0.0032
Neptune	-19025-09-04 07:40 J	-5227211.39	-5227211.18	-5227210.98	0.0089	0.0028
Moon	-19025-10-30 09:36 J	-5227155.25	-5227155.10	-5227154.96	0.2628	0.1054
Earth	-19025-10-30 14:38 J	-5227155.05	-5227154.89	-5227154.74	0.2628	0.0554 *
Neptune	-19024-04-17 19:40 J	-5226985.87	-5226985.68	-5226985.46	0.0089	0.0026
Neptune	-19024-11-29 08:09 J	-5226760.36	-5226760.16	-5226759.94	0.0089	0.0023
Neptune	-19023-07-12 20:38 J	-5226534.84	-5226534.64	-5226534.42	0.0089	0.0020
Neptune	-19022-02-23 09:07 J	-5226309.33	-5226309.12	-5226308.91	0.0089	0.0017
Jupiter	-19022-08-08 11:31 J	-5226143.19	-5226143.02	-5226142.84	0.0529	0.0265
Neptune	-19022-10-06 21:21 J	-5226083.82	-5226083.61	-5226083.39	0.0089	0.0015
Jupiter	-19021-04-02 08:52 J	-5225905.31	-5225905.13	-5225904.95	0.0531	0.0232
Neptune	-19021-05-19 09:50 J	-5225858.30	-5225858.09	-5225857.87	0.0089	0.0012
Neptune	-19021-12-30 22:19 J	-5225632.78	-5225632.57	-5225632.35	0.0089	0.0009
Neptune	-19020-08-13 10:48 J	-5225407.27	-5225407.05	-5225406.83	0.0089	0.0006
Neptune	-19019-03-26 23:02 J	-5225181.75	-5225181.54	-5225181.32	0.0089	0.0004
Neptune	-19019-11-07 11:31 J	-5224956.23	-5224956.02	-5224955.80	0.0089	0.0001
Neptune	-19018-06-21 00:00 J	-5224730.71	-5224730.50	-5224730.28	0.0089	0.0003
Neptune	-19017-02-01 12:28 J	-5224505.19	-5224504.98	-5224504.76	0.0089	0.0005
Neptune	-19017-09-14 00:43 J	-5224279.68	-5224279.47	-5224279.25	0.0089	0.0008
Neptune	-19016-04-27 13:11 J	-5224054.16	-5224053.95	-5224053.74	0.0089	0.0011
Jupiter	-19016-06-09 22:33 J	-5224010.74	-5224010.56	-5224010.38	0.0497	0.0226
Neptune	-19016-12-09 01:26 J	-5223828.65	-5223828.44	-5223828.22	0.0089	0.0014
Jupiter	-19015-02-01 02:23 J	-5223774.59	-5223774.40	-5223774.20	0.0495	0.0174
Neptune	-19015-07-22 13:40 J	-5223603.13	-5223602.93	-5223602.71	0.0089	0.0017
Neptune	-19014-03-05 01:55 J	-5223377.62	-5223377.42	-5223377.20	0.0089	0.0020
Neptune	-19014-10-16 14:23 J	-5223152.10	-5223151.90	-5223151.69	0.0089	0.0022

Saturn	-19013-02-10 03:21 J	-5223035.43	-5223035.36	-5223035.28	0.0298	0.0277
Neptune	-19013-05-29 02:52 J	-5222926.59	-5222926.38	-5222926.17	0.0089	0.0025
Saturn	-19013-09-27 12:43 J	-5222805.18	-5222804.97	-5222804.76	0.0300	0.0076
Neptune	-19012-01-09 15:07 J	-5222701.07	-5222700.87	-5222700.66	0.0089	0.0028
Saturn	-19012-05-15 22:48 J	-5222574.74	-5222574.55	-5222574.35	0.0301	0.0132
Neptune	-19012-08-23 03:07 J	-5222475.56	-5222475.37	-5222475.15	0.0089	0.0031
Neptune	-19011-04-05 15:21 J	-5222250.05	-5222249.86	-5222249.65	0.0089	0.0034
Neptune	-19011-11-17 03:50 J	-5222024.53	-5222024.34	-5222024.14	0.0089	0.0036
Jupiter	-19010-04-13 03:50 J	-5221877.47	-5221877.34	-5221877.20	0.0528	0.0394
Neptune	-19010-06-30 16:04 J	-5221799.01	-5221798.83	-5221798.62	0.0089	0.0039
Jupiter	-19010-12-07 01:26 J	-5221639.64	-5221639.44	-5221639.24	0.0531	0.0099
Neptune	-19009-02-11 04:19 J	-5221573.49	-5221573.32	-5221573.11	0.0089	0.0042
Neptune	-19009-09-23 16:48 J	-5221347.98	-5221347.80	-5221347.60	0.0089	0.0044
Neptune	-19008-05-07 05:02 J	-5221122.46	-5221122.29	-5221122.09	0.0089	0.0047
Neptune	-19008-12-18 17:45 J	-5220896.94	-5220896.76	-5220896.58	0.0089	0.0049
Neptune	-19007-08-01 06:00 J	-5220671.42	-5220671.25	-5220671.07	0.0089	0.0052
Neptune	-19006-03-14 18:00 J	-5220445.90	-5220445.75	-5220445.56	0.0089	0.0055
Neptune	-19006-10-26 06:43 J	-5220220.38	-5220220.22	-5220220.05	0.0089	0.0057
Neptune	-19005-06-07 18:57 J	-5219994.85	-5219994.71	-5219994.53	0.0089	0.0060
Neptune	-19004-01-19 07:26 J	-5219769.33	-5219769.19	-5219769.02	0.0089	0.0062
Jupiter	-19004-02-12 22:33 J	-5219744.70	-5219744.56	-5219744.41	0.0498	0.0337
Neptune	-19004-09-01 19:40 J	-5219543.81	-5219543.68	-5219543.51	0.0089	0.0064
Jupiter	-19004-10-07 02:38 J	-5219508.59	-5219508.39	-5219508.19	0.0496	0.0062
Neptune	-19003-04-15 08:09 J	-5219318.29	-5219318.16	-5219318.01	0.0088	0.0067
Jupiter	-19003-05-31 08:52 J	-5219272.21	-5219272.13	-5219272.06	0.0495	0.0457
Uranus	-19003-08-13 15:50 J	-5219197.96	-5219197.84	-5219197.70	0.0132	0.0105
Neptune	-19003-11-26 20:38 J	-5219092.77	-5219092.64	-5219092.50	0.0088	0.0069
Uranus	-19002-03-27 21:07 J	-5218971.78	-5218971.62	-5218971.43	0.0132	0.0077
Neptune	-19002-07-10 08:52 J	-5218867.24	-5218867.13	-5218866.98	0.0088	0.0072
Uranus	-19002-11-09 02:52 J	-5218745.59	-5218745.38	-5218745.18	0.0132	0.0048

Neptune -19001-02-20 21:21 J -5218641.71 -5218641.61 -5218641.48 0.0088 0.0074

Uranus -19001-06-22 08:09 J -5218519.38 -5218519.16 -5218518.94 0.0132 0.0020

Neptune -19001-10-03 09:50 J -5218416.19 -5218416.09 -5218415.97 0.0088 0.0076

19TH MILLENNIUM BCE

This is a list of transits of Venus in the 19th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-19000-02-03 13:26 J	-5218293.15	-5218292.94	-5218292.71	0.0132	0.0009		
Neptune	-19000-05-16 22:19 J	-5218190.67	-5218190.57	-5218190.47	0.0088	0.0078		
Uranus	-19000-09-17 18:43 J	-5218066.92	-5218066.72	-5218066.50	0.0132	0.0037		
Saturn	-19000-12-12 19:55 J	-5217980.75	-5217980.67	-5217980.56	0.0264	0.0233		
Neptune	-19000-12-28 10:04 J	-5217965.14	-5217965.08	-5217964.96	0.0088	0.0081		
Uranus	-18999-05-02 00:00 J	-5217840.68	-5217840.50	-5217840.30	0.0132	0.0065		
Mars	-18999-06-10 07:26 J	-5217801.26	-5217801.19	-5217801.12	0.1626	0.1463		
Saturn	-18999-07-29 14:52 J	-5217752.06	-5217751.88	-5217751.68	0.0263	0.0101		
Neptune	-18999-08-10 22:33 J	-5217739.61	-5217739.56	-5217739.46	0.0088	0.0083		
Uranus	-18999-12-14 05:16 J	-5217614.42	-5217614.28	-5217614.11	0.0132	0.0094		
Jupiter	-18999-12-16 19:26 J	-5217611.71	-5217611.69	-5217611.66	0.0527	0.0521		
Saturn	-18998-03-15 09:07 J	-5217523.33	-5217523.12	-5217522.91	0.0261	0.0030		
Neptune	-18998-03-24 11:02 J	-5217514.08	-5217514.04	-5217513.96	0.0088	0.0085		
Mars	-18998-05-04 11:45 J	-5217473.16	-5217473.01	-5217472.87	0.1890	0.1047		
Uranus	-18998-07-28 10:48 J	-5217388.13	-5217388.05	-5217387.96	0.0132	0.0122		
Jupiter	-18998-08-11 17:02 J	-5217373.99	-5217373.79	-5217373.58	0.0530	0.0038		

Saturn	-18998-10-30 02:38 J	-5217294.56	-5217294.39	-5217294.23	0.0261	0.0158
Neptune	-18998-11-04 23:16 J	-5217288.55	-5217288.53	-5217288.46	0.0088	0.0087
Jupiter	-18997-04-05 12:14 J	-5217136.09	-5217135.99	-5217135.88	0.0531	0.0451
Mars	-18997-04-09 12:28 J	-5217132.15	-5217131.98	-5217131.81	0.1628	0.0227
Neptune	-18997-06-17 12:14 J	-5217062.99	-5217062.99	-5217062.98	0.0088	0.0088
Pluto	-18994-02-27 22:04 J	-5216077.80	-5216077.58	-5216077.35	0.0080	0.0011
Pluto	-18994-10-11 08:38 J	-5215852.27	-5215852.14	-5215851.97	0.0080	0.0060
Jupiter	-18993-10-19 00:57 J	-5215478.54	-5215478.46	-5215478.36	0.0499	0.0443
Jupiter	-18992-06-12 05:02 J	-5215242.49	-5215242.29	-5215242.09	0.0496	0.0048
Jupiter	-18991-02-03 10:33 J	-5215006.20	-5215006.06	-5215005.92	0.0495	0.0352
Jupiter	-18986-04-16 06:14 J	-5213108.43	-5213108.24	-5213108.04	0.0529	0.0177
Jupiter	-18986-12-10 02:09 J	-5212870.56	-5212870.41	-5212870.24	0.0531	0.0319
Saturn	-18984-08-22 09:21 J	-5212249.22	-5212249.11	-5212248.99	0.0298	0.0250
Saturn	-18983-04-09 18:43 J	-5212018.93	-5212018.72	-5212018.51	0.0300	0.0047
Saturn	-18983-11-26 04:48 J	-5211788.47	-5211788.30	-5211788.11	0.0302	0.0162
Jupiter	-18980-02-15 08:23 J	-5210976.34	-5210976.15	-5210975.96	0.0497	0.0157
Jupiter	-18980-10-09 13:11 J	-5210740.13	-5210739.95	-5210739.77	0.0495	0.0245
Jupiter	-18975-12-19 20:23 J	-5208842.81	-5208842.65	-5208842.49	0.0529	0.0313
Jupiter	-18974-08-14 17:16 J	-5208604.97	-5208604.78	-5208604.59	0.0531	0.0183
Saturn	-18970-06-24 21:50 J	-5207194.69	-5207194.59	-5207194.46	0.0263	0.0215
Saturn	-18969-02-08 16:48 J	-5206965.99	-5206965.80	-5206965.60	0.0262	0.0083
Saturn	-18969-09-24 10:48 J	-5206737.26	-5206737.05	-5206736.85	0.0261	0.0047
Jupiter	-18969-10-21 11:31 J	-5206710.19	-5206710.02	-5206709.85	0.0497	0.0265
Saturn	-18968-05-11 04:04 J	-5206508.48	-5206508.33	-5206508.17	0.0260	0.0174
Jupiter	-18968-06-14 15:36 J	-5206474.05	-5206473.85	-5206473.66	0.0495	0.0136
Mars	-18966-05-04 12:57 J	-5205785.13	-5205784.96	-5205784.79	0.1892	0.0678
Mars	-18965-04-08 04:33 J	-5205445.47	-5205445.31	-5205445.15	0.1627	0.0589
Mars	-18963-02-06 08:23 J	-5204776.28	-5204776.15	-5204776.03	0.1631	0.1124
Jupiter	-18963-08-24 11:02 J	-5204577.15	-5204577.04	-5204576.93	0.0528	0.0445
Jupiter	-18962-04-19 08:52 J	-5204339.34	-5204339.13	-5204338.93	0.0531	0.0048

Jupiter	-18962-12-13 03:50 J	-5204101.34	-5204101.34	-5204101.33	0.0531	0.0530
Uranus	-18961-02-18 17:31 J	-5204033.83	-5204033.77	-5204033.68	0.0147	0.0136
Uranus	-18961-10-02 05:45 J	-5203807.41	-5203807.26	-5203807.09	0.0147	0.0098
Uranus	-18960-05-16 18:00 J	-5203580.94	-5203580.75	-5203580.55	0.0147	0.0060
Uranus	-18960-12-29 06:14 J	-5203354.45	-5203354.24	-5203354.02	0.0147	0.0022
Uranus	-18959-08-12 18:43 J	-5203127.93	-5203127.72	-5203127.50	0.0147	0.0017
Uranus	-18958-03-27 06:57 J	-5202901.40	-5202901.21	-5202901.00	0.0147	0.0056
Uranus	-18958-11-08 19:26 J	-5202674.85	-5202674.69	-5202674.52	0.0147	0.0094
Uranus	-18957-06-22 07:26 J	-5202448.26	-5202448.19	-5202448.08	0.0146	0.0132
Jupiter	-18957-06-26 14:23 J	-5202444.03	-5202443.90	-5202443.76	0.0498	0.0372
Jupiter	-18956-02-17 18:00 J	-5202207.95	-5202207.75	-5202207.54	0.0496	0.0027
Jupiter	-18956-10-11 23:31 J	-5201971.62	-5201971.52	-5201971.41	0.0495	0.0422
Neptune	-18956-10-31 09:07 J	-5201952.15	-5201952.12	-5201952.06	0.0088	0.0086
Neptune	-18955-06-13 22:33 J	-5201726.61	-5201726.56	-5201726.48	0.0088	0.0084
Neptune	-18954-01-25 11:45 J	-5201501.07	-5201501.01	-5201500.91	0.0088	0.0082
Saturn	-18954-03-04 11:16 J	-5201463.15	-5201463.03	-5201462.88	0.0298	0.0231
Neptune	-18954-09-08 01:11 J	-5201275.52	-5201275.45	-5201275.34	0.0088	0.0080
Saturn	-18954-10-20 20:52 J	-5201232.85	-5201232.63	-5201232.42	0.0300	0.0028
Neptune	-18953-04-20 15:07 J	-5201049.97	-5201049.87	-5201049.76	0.0088	0.0077
Saturn	-18953-06-07 06:57 J	-5201002.37	-5201002.21	-5201002.03	0.0301	0.0180
Neptune	-18953-12-02 04:19 J	-5200824.42	-5200824.32	-5200824.19	0.0088	0.0075
Neptune	-18952-07-15 17:31 J	-5200598.87	-5200598.77	-5200598.63	0.0088	0.0073
Neptune	-18951-02-26 06:43 J	-5200373.32	-5200373.22	-5200373.06	0.0088	0.0071
Neptune	-18951-10-09 20:38 J	-5200147.77	-5200147.64	-5200147.49	0.0088	0.0068
Jupiter	-18951-12-23 01:11 J	-5200073.65	-5200073.45	-5200073.25	0.0530	0.0087
Neptune	-18950-05-23 09:50 J	-5199922.21	-5199922.09	-5199921.92	0.0088	0.0066
Jupiter	-18950-08-17 21:07 J	-5199835.75	-5199835.62	-5199835.49	0.0531	0.0406
Neptune	-18949-01-03 23:31 J	-5199696.66	-5199696.52	-5199696.35	0.0088	0.0063
Neptune	-18949-08-16 12:43 J	-5199471.11	-5199470.97	-5199470.79	0.0088	0.0061
Neptune	-18948-03-30 02:23 J	-5199245.56	-5199245.40	-5199245.22	0.0088	0.0058

Neptune	-18948-11-10 16:19 J	-5199020.00	-5199019.82	-5199019.65	0.0088	0.0056
Neptune	-18947-06-24 05:16 J	-5198794.44	-5198794.28	-5198794.08	0.0088	0.0053
Neptune	-18946-02-04 18:57 J	-5198568.88	-5198568.71	-5198568.52	0.0088	0.0050
Neptune	-18946-09-18 08:09 J	-5198343.33	-5198343.16	-5198342.95	0.0088	0.0048
Jupiter	-18945-03-01 14:23 J	-5198177.95	-5198177.90	-5198177.84	0.0499	0.0481
Neptune	-18945-04-30 21:50 J	-5198117.77	-5198117.59	-5198117.38	0.0088	0.0045
Jupiter	-18945-10-23 18:00 J	-5197941.95	-5197941.75	-5197941.55	0.0496	0.0088
Neptune	-18945-12-12 11:31 J	-5197892.21	-5197892.02	-5197891.81	0.0088	0.0042
Jupiter	-18944-06-16 22:48 J	-5197705.70	-5197705.55	-5197705.39	0.0495	0.0314
Neptune	-18944-07-26 01:11 J	-5197666.65	-5197666.45	-5197666.25	0.0088	0.0040
Neptune	-18943-03-08 14:23 J	-5197441.08	-5197440.90	-5197440.68	0.0088	0.0038
Neptune	-18943-10-20 04:19 J	-5197215.52	-5197215.32	-5197215.10	0.0088	0.0034
Neptune	-18942-06-02 18:00 J	-5196989.95	-5196989.75	-5196989.53	0.0088	0.0031
Neptune	-18941-01-14 07:40 J	-5196764.39	-5196764.18	-5196763.96	0.0088	0.0028
Neptune	-18941-08-26 21:21 J	-5196538.82	-5196538.61	-5196538.39	0.0088	0.0025
Saturn	-18940-01-03 23:45 J	-5196408.64	-5196408.51	-5196408.36	0.0264	0.0196
Neptune	-18940-04-09 11:02 J	-5196313.26	-5196313.04	-5196312.82	0.0088	0.0023
Saturn	-18940-08-20 18:28 J	-5196179.92	-5196179.73	-5196179.52	0.0263	0.0065
Neptune	-18940-11-21 00:43 J	-5196087.68	-5196087.47	-5196087.25	0.0088	0.0020
Saturn	-18939-04-06 12:28 J	-5195951.17	-5195950.98	-5195950.77	0.0261	0.0067
Neptune	-18939-07-04 14:09 J	-5195862.12	-5195861.91	-5195861.68	0.0088	0.0018
Jupiter	-18939-08-27 16:48 J	-5195807.99	-5195807.80	-5195807.62	0.0529	0.0223
Saturn	-18939-11-21 06:00 J	-5195722.38	-5195722.25	-5195722.10	0.0261	0.0194
Neptune	-18938-02-15 04:04 J	-5195636.55	-5195636.33	-5195636.11	0.0088	0.0014
Jupiter	-18938-04-22 13:11 J	-5195570.12	-5195569.95	-5195569.78	0.0531	0.0274
Neptune	-18938-09-28 17:31 J	-5195410.99	-5195410.77	-5195410.54	0.0088	0.0011
Neptune	-18937-05-11 07:11 J	-5195185.42	-5195185.20	-5195184.97	0.0088	0.0008
Neptune	-18937-12-22 20:52 J	-5194959.85	-5194959.63	-5194959.40	0.0088	0.0005
Neptune	-18936-08-05 10:33 J	-5194734.28	-5194734.06	-5194733.83	0.0088	0.0002
Neptune	-18935-03-19 00:14 J	-5194508.72	-5194508.49	-5194508.27	0.0088	0.0002

Neptune -18935-10-30 13:40 J -5194283.15 -5194282.93 -5194282.70 0.0088 0.0005
 Neptune -18934-06-13 03:21 J -5194057.58 -5194057.36 -5194057.13 0.0088 0.0007
 Neptune -18933-01-24 17:16 J -5193832.01 -5193831.78 -5193831.56 0.0088 0.0010
 Mars -18933-04-06 20:23 J -5193758.73 -5193758.65 -5193758.56 0.1626 0.1397
 Jupiter -18933-06-28 20:23 J -5193675.84 -5193675.65 -5193675.46 0.0497 0.0198
 Neptune -18933-09-06 06:43 J -5193606.44 -5193606.22 -5193605.99 0.0088 0.0013
 Jupiter -18932-02-20 00:57 J -5193439.65 -5193439.46 -5193439.27 0.0495 0.0205
 Mars -18932-02-28 13:26 J -5193431.06 -5193430.94 -5193430.81 0.1889 0.1339
 Neptune -18932-04-19 20:23 J -5193380.87 -5193380.65 -5193380.43 0.0088 0.0016
 Neptune -18932-12-01 10:04 J -5193155.29 -5193155.08 -5193154.85 0.0088 0.0019
 Mars -18931-02-05 00:57 J -5193089.63 -5193089.46 -5193089.29 0.1629 0.0300
 Neptune -18931-07-15 00:00 J -5192929.72 -5192929.50 -5192929.28 0.0088 0.0022
 Neptune -18930-02-25 13:26 J -5192704.14 -5192703.94 -5192703.71 0.0088 0.0025
 Neptune -18930-10-09 03:07 J -5192478.57 -5192478.37 -5192478.15 0.0088 0.0028
 Neptune -18929-05-21 16:48 J -5192253.00 -5192252.80 -5192252.58 0.0088 0.0031
 Neptune -18928-01-02 06:43 J -5192027.42 -5192027.22 -5192027.00 0.0089 0.0033
 Neptune -18928-08-15 20:23 J -5191801.84 -5191801.65 -5191801.43 0.0089 0.0036
 Neptune -18927-03-29 10:19 J -5191576.27 -5191576.07 -5191575.87 0.0089 0.0039
 Jupiter -18927-05-02 05:31 J -5191542.42 -5191542.27 -5191542.12 0.0528 0.0361
 Neptune -18927-11-10 00:00 J -5191350.69 -5191350.50 -5191350.30 0.0089 0.0042
 Jupiter -18927-12-26 02:23 J -5191304.59 -5191304.40 -5191304.20 0.0530 0.0135
 Neptune -18926-06-23 13:40 J -5191125.11 -5191124.93 -5191124.73 0.0089 0.0045
 Neptune -18925-02-04 03:07 J -5190899.54 -5190899.37 -5190899.16 0.0089 0.0048
 Saturn -18925-09-13 19:11 J -5190676.85 -5190676.70 -5190676.54 0.0299 0.0200
 Neptune -18925-09-16 16:48 J -5190673.96 -5190673.80 -5190673.60 0.0089 0.0051
 Neptune -18924-04-30 06:43 J -5190448.39 -5190448.22 -5190448.03 0.0089 0.0053
 Saturn -18924-05-02 04:33 J -5190446.52 -5190446.31 -5190446.09 0.0300 0.0007
 Neptune -18924-12-11 20:23 J -5190222.81 -5190222.65 -5190222.46 0.0089 0.0056
 Saturn -18924-12-18 14:52 J -5190216.02 -5190215.88 -5190215.72 0.0302 0.0213
 Neptune -18923-07-25 09:50 J -5189997.23 -5189997.09 -5189996.90 0.0089 0.0059

Neptune	-18922-03-07 23:45 J	-5189771.66	-5189771.51	-5189771.34	0.0089	0.0061
Neptune	-18922-10-19 13:11 J	-5189546.09	-5189545.95	-5189545.78	0.0089	0.0064
Jupiter	-18921-03-03 23:31 J	-5189409.67	-5189409.52	-5189409.35	0.0498	0.0307
Neptune	-18921-06-01 03:07 J	-5189320.51	-5189320.37	-5189320.22	0.0089	0.0066
Jupiter	-18921-10-26 03:50 J	-5189173.54	-5189173.34	-5189173.14	0.0496	0.0096
Neptune	-18920-01-12 16:33 J	-5189094.93	-5189094.81	-5189094.65	0.0089	0.0069
Jupiter	-18920-06-19 10:04 J	-5188937.11	-5188937.08	-5188937.05	0.0495	0.0490
Neptune	-18920-08-26 06:28 J	-5188869.35	-5188869.23	-5188869.09	0.0089	0.0071
Neptune	-18919-04-08 19:40 J	-5188643.78	-5188643.68	-5188643.53	0.0089	0.0074
Uranus	-18919-04-13 03:50 J	-5188639.42	-5188639.34	-5188639.21	0.0132	0.0116
Neptune	-18919-11-20 09:36 J	-5188418.20	-5188418.10	-5188417.97	0.0089	0.0076
Uranus	-18919-11-25 09:50 J	-5188413.26	-5188413.09	-5188412.93	0.0132	0.0087
Neptune	-18918-07-03 23:02 J	-5188192.62	-5188192.54	-5188192.41	0.0089	0.0079
Uranus	-18918-07-09 15:07 J	-5188187.06	-5188186.87	-5188186.67	0.0132	0.0059
Neptune	-18917-02-14 12:57 J	-5187967.03	-5187966.96	-5187966.85	0.0089	0.0081
Uranus	-18917-02-20 20:23 J	-5187960.86	-5187960.65	-5187960.43	0.0132	0.0031
Neptune	-18917-09-27 02:38 J	-5187741.45	-5187741.39	-5187741.30	0.0089	0.0083
Uranus	-18917-10-04 01:55 J	-5187734.64	-5187734.42	-5187734.20	0.0132	0.0002
Neptune	-18916-05-10 16:33 J	-5187515.86	-5187515.81	-5187515.74	0.0089	0.0085
Uranus	-18916-05-18 07:11 J	-5187508.42	-5187508.20	-5187507.99	0.0132	0.0026
Neptune	-18916-12-22 05:45 J	-5187290.27	-5187290.26	-5187290.19	0.0089	0.0088
Uranus	-18916-12-30 12:14 J	-5187282.18	-5187281.99	-5187281.78	0.0132	0.0055
Jupiter	-18915-01-04 19:26 J	-5187276.76	-5187276.69	-5187276.62	0.0527	0.0492
Uranus	-18915-08-13 17:45 J	-5187055.92	-5187055.76	-5187055.59	0.0132	0.0083
Jupiter	-18915-08-30 16:48 J	-5187039.00	-5187038.80	-5187038.60	0.0530	0.0004
Uranus	-18914-03-27 23:02 J	-5186829.65	-5186829.54	-5186829.42	0.0132	0.0111
Jupiter	-18914-04-25 11:45 J	-5186801.08	-5186801.01	-5186800.92	0.0531	0.0485
Saturn	-18911-07-17 02:38 J	-5185622.54	-5185622.39	-5185622.23	0.0263	0.0177
Saturn	-18910-03-02 21:21 J	-5185393.81	-5185393.61	-5185393.40	0.0262	0.0046
Saturn	-18910-10-17 15:21 J	-5185165.06	-5185164.86	-5185164.66	0.0261	0.0084

Jupiter	-18910-11-08 02:52 J	-5185143.49	-5185143.38	-5185143.27	0.0498	0.0413
Saturn	-18909-06-02 08:52 J	-5184936.25	-5184936.13	-5184936.01	0.0260	0.0212
Jupiter	-18909-07-01 06:28 J	-5184907.44	-5184907.23	-5184907.03	0.0496	0.0015
Jupiter	-18908-02-22 11:31 J	-5184671.14	-5184671.02	-5184670.89	0.0495	0.0384
Moon	-18903-05-04 02:52 J	-5182774.53	-5182774.38	-5182774.24	0.2711	0.0938
Earth	-18903-05-04 06:28 J	-5182774.38	-5182774.23	-5182774.07	0.2705	0.0791 *
Jupiter	-18903-05-05 07:26 J	-5182773.39	-5182773.19	-5182773.00	0.0530	0.0142
Jupiter	-18903-12-29 03:50 J	-5182535.49	-5182535.34	-5182535.19	0.0531	0.0355
Mars	-18900-02-28 14:38 J	-5181743.07	-5181742.89	-5181742.72	0.1892	0.0376
Mars	-18899-02-03 17:16 J	-5181402.95	-5181402.78	-5181402.62	0.1627	0.0520
Mars	-18898-12-04 20:52 J	-5180733.74	-5180733.63	-5180733.51	0.1632	0.1196
Jupiter	-18897-03-06 09:07 J	-5180641.32	-5180641.12	-5180640.93	0.0496	0.0125
Jupiter	-18897-10-28 13:26 J	-5180405.11	-5180404.94	-5180404.77	0.0495	0.0277
Saturn	-18895-03-26 23:16 J	-5179890.69	-5179890.53	-5179890.35	0.0298	0.0178
Saturn	-18895-11-12 08:52 J	-5179660.34	-5179660.13	-5179659.92	0.0300	0.0026
Saturn	-18894-06-30 19:11 J	-5179429.83	-5179429.70	-5179429.57	0.0301	0.0234
Jupiter	-18891-01-07 23:31 J	-5178507.69	-5178507.52	-5178507.34	0.0529	0.0275
Jupiter	-18891-09-02 20:38 J	-5178269.82	-5178269.64	-5178269.45	0.0531	0.0225
Jupiter	-18886-11-10 08:52 J	-5176375.31	-5176375.13	-5176374.95	0.0497	0.0239
Jupiter	-18885-07-03 12:57 J	-5176139.16	-5176138.96	-5176138.77	0.0495	0.0165
Saturn	-18881-01-27 05:02 J	-5174836.45	-5174836.29	-5174836.12	0.0264	0.0158
Saturn	-18881-09-11 23:45 J	-5174607.71	-5174607.51	-5174607.30	0.0263	0.0026
Saturn	-18880-04-28 17:45 J	-5174378.95	-5174378.76	-5174378.56	0.0261	0.0105
Jupiter	-18880-09-12 14:52 J	-5174242.01	-5174241.88	-5174241.75	0.0528	0.0408
Saturn	-18880-12-13 11:16 J	-5174150.11	-5174150.03	-5174149.93	0.0261	0.0232
Jupiter	-18879-05-08 12:14 J	-5174004.19	-5174003.99	-5174003.79	0.0530	0.0088
Uranus	-18877-06-01 12:00 J	-5173249.12	-5173249.00	-5173248.86	0.0147	0.0116
Uranus	-18876-01-14 00:14 J	-5173022.66	-5173022.49	-5173022.30	0.0147	0.0078
Uranus	-18876-08-28 12:43 J	-5172796.18	-5172795.97	-5172795.76	0.0147	0.0039
Uranus	-18875-04-12 01:11 J	-5172569.67	-5172569.45	-5172569.24	0.0147	0.0003

Uranus	-18875-11-24 13:26 J	-5172343.15	-5172342.94	-5172342.73	0.0147	0.0038
Neptune	-18874-05-08 03:21 J	-5172178.37	-5172178.36	-5172178.31	0.0089	0.0088
Uranus	-18874-07-09 01:55 J	-5172116.60	-5172116.42	-5172116.23	0.0147	0.0077
Jupiter	-18874-07-16 11:02 J	-5172109.18	-5172109.04	-5172108.89	0.0498	0.0348
Neptune	-18874-12-19 15:50 J	-5171952.87	-5171952.84	-5171952.76	0.0089	0.0087
Uranus	-18873-02-20 14:09 J	-5171890.03	-5171889.91	-5171889.77	0.0147	0.0115
Jupiter	-18873-03-08 14:52 J	-5171873.08	-5171872.88	-5171872.67	0.0496	0.0055
Neptune	-18873-08-01 05:02 J	-5171727.36	-5171727.29	-5171727.22	0.0089	0.0084
Jupiter	-18873-10-30 20:52 J	-5171636.71	-5171636.63	-5171636.55	0.0495	0.0452
Neptune	-18872-03-14 17:16 J	-5171501.85	-5171501.78	-5171501.68	0.0089	0.0082
Neptune	-18872-10-26 05:45 J	-5171276.33	-5171276.26	-5171276.14	0.0089	0.0080
Neptune	-18871-06-08 18:28 J	-5171050.82	-5171050.73	-5171050.60	0.0089	0.0077
Neptune	-18870-01-20 07:11 J	-5170825.30	-5170825.20	-5170825.07	0.0089	0.0075
Neptune	-18870-09-02 19:40 J	-5170599.79	-5170599.68	-5170599.54	0.0089	0.0072
Neptune	-18869-04-15 08:23 J	-5170374.27	-5170374.15	-5170374.00	0.0089	0.0070
Neptune	-18869-11-26 20:52 J	-5170148.75	-5170148.63	-5170148.47	0.0089	0.0067
Neptune	-18868-07-10 09:36 J	-5169923.24	-5169923.10	-5169922.94	0.0089	0.0065
Jupiter	-18867-01-11 00:57 J	-5169738.66	-5169738.46	-5169738.25	0.0530	0.0055
Mars	-18867-02-02 08:52 J	-5169716.22	-5169716.13	-5169716.03	0.1626	0.1325
Neptune	-18867-02-20 21:50 J	-5169697.72	-5169697.59	-5169697.41	0.0089	0.0063
Jupiter	-18867-09-05 20:23 J	-5169500.76	-5169500.65	-5169500.54	0.0531	0.0438
Neptune	-18867-10-04 10:33 J	-5169472.20	-5169472.06	-5169471.88	0.0089	0.0060
Mars	-18867-12-26 16:04 J	-5169388.92	-5169388.83	-5169388.74	0.1888	0.1620
Neptune	-18866-05-17 23:45 J	-5169246.68	-5169246.51	-5169246.35	0.0089	0.0057
Saturn	-18866-10-07 08:23 J	-5169104.34	-5169104.15	-5169103.96	0.0299	0.0145
Mars	-18866-12-03 13:40 J	-5169047.10	-5169046.93	-5169046.76	0.1629	0.0369
Neptune	-18866-12-29 11:45 J	-5169021.16	-5169021.01	-5169020.82	0.0089	0.0055
Saturn	-18865-05-24 17:45 J	-5168873.97	-5168873.76	-5168873.55	0.0300	0.0061
Neptune	-18865-08-11 00:28 J	-5168795.64	-5168795.48	-5168795.29	0.0089	0.0051
Saturn	-18864-01-10 04:04 J	-5168643.42	-5168643.33	-5168643.23	0.0302	0.0268

Neptune	-18864-03-24 13:11 J	-5168570.13	-5168569.95	-5168569.77	0.0089	0.0049
Neptune	-18864-11-05 01:26 J	-5168344.61	-5168344.44	-5168344.24	0.0089	0.0046
Neptune	-18863-06-18 14:09 J	-5168119.09	-5168118.91	-5168118.71	0.0089	0.0043
Neptune	-18862-01-30 02:38 J	-5167893.57	-5167893.39	-5167893.19	0.0089	0.0040
Jupiter	-18862-03-21 14:09 J	-5167842.99	-5167842.91	-5167842.83	0.0499	0.0455
Neptune	-18862-09-12 15:07 J	-5167668.06	-5167667.87	-5167667.67	0.0089	0.0037
Jupiter	-18862-11-12 18:00 J	-5167606.95	-5167606.75	-5167606.55	0.0496	0.0058
Neptune	-18861-04-25 03:50 J	-5167442.54	-5167442.34	-5167442.14	0.0089	0.0034
Jupiter	-18861-07-05 23:02 J	-5167370.68	-5167370.54	-5167370.39	0.0495	0.0345
Neptune	-18861-12-06 15:50 J	-5167217.02	-5167216.84	-5167216.62	0.0089	0.0032
Neptune	-18860-07-20 04:19 J	-5166991.51	-5166991.32	-5166991.10	0.0089	0.0029
Neptune	-18859-03-02 16:48 J	-5166766.00	-5166765.80	-5166765.58	0.0089	0.0026
Neptune	-18859-10-14 05:16 J	-5166540.48	-5166540.28	-5166540.07	0.0089	0.0023
Neptune	-18858-05-27 17:45 J	-5166314.96	-5166314.76	-5166314.54	0.0089	0.0020
Neptune	-18857-01-08 06:14 J	-5166089.45	-5166089.24	-5166089.02	0.0089	0.0017
Neptune	-18857-08-20 18:28 J	-5165863.94	-5165863.73	-5165863.51	0.0089	0.0014
Neptune	-18856-04-03 06:57 J	-5165638.42	-5165638.21	-5165637.99	0.0089	0.0011
Jupiter	-18856-09-15 14:52 J	-5165473.07	-5165472.88	-5165472.69	0.0529	0.0194
Neptune	-18856-11-14 19:26 J	-5165412.91	-5165412.69	-5165412.48	0.0089	0.0008
Jupiter	-18855-05-11 11:02 J	-5165235.20	-5165235.04	-5165234.87	0.0531	0.0305
Neptune	-18855-06-28 07:55 J	-5165187.39	-5165187.17	-5165186.95	0.0089	0.0005
Neptune	-18854-02-08 20:23 J	-5164961.87	-5164961.65	-5164961.44	0.0089	0.0003
Neptune	-18854-09-22 08:38 J	-5164736.35	-5164736.14	-5164735.92	0.0089	0.0001
Neptune	-18853-05-04 21:07 J	-5164510.84	-5164510.62	-5164510.40	0.0089	0.0004
Neptune	-18853-12-16 09:21 J	-5164285.32	-5164285.11	-5164284.89	0.0089	0.0007
Neptune	-18852-07-29 21:50 J	-5164059.80	-5164059.59	-5164059.37	0.0089	0.0010
Saturn	-18852-08-08 09:07 J	-5164050.29	-5164050.12	-5164049.94	0.0263	0.0137
Neptune	-18851-03-12 10:04 J	-5163834.28	-5163834.08	-5163833.86	0.0089	0.0013
Saturn	-18851-03-25 03:50 J	-5163821.55	-5163821.34	-5163821.13	0.0262	0.0006
Neptune	-18851-10-23 22:33 J	-5163608.77	-5163608.56	-5163608.34	0.0089	0.0016

Saturn	-18851-11-08 21:50 J	-5163592.77	-5163592.59	-5163592.40	0.0261	0.0124
Neptune	-18850-06-06 11:02 J	-5163383.24	-5163383.04	-5163382.82	0.0089	0.0019
Saturn	-18850-06-25 15:21 J	-5163363.90	-5163363.86	-5163363.80	0.0260	0.0251
Jupiter	-18850-07-18 20:38 J	-5163340.83	-5163340.64	-5163340.45	0.0497	0.0167
Neptune	-18849-01-17 23:16 J	-5163157.73	-5163157.53	-5163157.31	0.0089	0.0022
Jupiter	-18849-03-11 00:57 J	-5163104.64	-5163104.46	-5163104.28	0.0495	0.0236
Neptune	-18849-08-30 11:45 J	-5162932.21	-5162932.01	-5162931.80	0.0089	0.0024
Neptune	-18848-04-13 00:00 J	-5162706.70	-5162706.50	-5162706.29	0.0089	0.0027
Neptune	-18848-11-24 12:28 J	-5162481.18	-5162480.98	-5162480.78	0.0089	0.0030
Neptune	-18847-07-08 00:43 J	-5162255.66	-5162255.47	-5162255.26	0.0089	0.0033
Neptune	-18846-02-18 12:57 J	-5162030.15	-5162029.96	-5162029.75	0.0089	0.0036
Neptune	-18846-10-02 01:11 J	-5161804.63	-5161804.45	-5161804.24	0.0089	0.0039
Neptune	-18845-05-14 13:26 J	-5161579.11	-5161578.94	-5161578.73	0.0089	0.0042
Neptune	-18845-12-26 02:09 J	-5161353.60	-5161353.41	-5161353.22	0.0089	0.0044
Jupiter	-18844-05-21 04:33 J	-5161207.47	-5161207.31	-5161207.15	0.0528	0.0331
Neptune	-18844-08-08 14:09 J	-5161128.08	-5161127.91	-5161127.71	0.0089	0.0047
Jupiter	-18843-01-14 01:55 J	-5160969.61	-5160969.42	-5160969.23	0.0531	0.0169
Neptune	-18843-03-22 02:23 J	-5160902.56	-5160902.40	-5160902.21	0.0089	0.0050
Neptune	-18843-11-02 14:38 J	-5160677.04	-5160676.89	-5160676.70	0.0089	0.0053
Neptune	-18842-06-16 03:21 J	-5160451.52	-5160451.36	-5160451.18	0.0089	0.0055
Neptune	-18841-01-27 15:36 J	-5160226.00	-5160225.85	-5160225.67	0.0089	0.0058
Neptune	-18841-09-09 03:50 J	-5160000.48	-5160000.34	-5160000.16	0.0089	0.0060
Neptune	-18840-04-22 16:19 J	-5159774.96	-5159774.82	-5159774.66	0.0089	0.0063
Neptune	-18840-12-04 04:33 J	-5159549.44	-5159549.31	-5159549.15	0.0089	0.0066
Neptune	-18839-07-17 17:16 J	-5159323.91	-5159323.78	-5159323.63	0.0089	0.0068
Neptune	-18838-02-28 05:16 J	-5159098.38	-5159098.28	-5159098.12	0.0088	0.0071
Jupiter	-18838-03-23 23:16 J	-5159074.70	-5159074.53	-5159074.36	0.0497	0.0277
Neptune	-18838-10-11 18:00 J	-5158872.86	-5158872.75	-5158872.62	0.0088	0.0073
Jupiter	-18838-11-15 02:52 J	-5158838.57	-5158838.38	-5158838.18	0.0495	0.0126
Neptune	-18837-05-24 06:00 J	-5158647.34	-5158647.25	-5158647.11	0.0088	0.0076

Neptune -18836-01-04 18:28 J -5158421.81 -5158421.73 -5158421.61 0.0088 0.0078
 Saturn -18836-04-18 14:23 J -5158318.09 -5158317.90 -5158317.70 0.0299 0.0120
 Pluto -18836-07-27 11:45 J -5158218.17 -5158218.01 -5158217.83 0.0064 0.0040
 Neptune -18836-08-18 07:11 J -5158196.28 -5158196.20 -5158196.10 0.0088 0.0080
 Saturn -18836-12-05 00:00 J -5158087.70 -5158087.50 -5158087.29 0.0300 0.0087
 Uranus -18836-12-11 16:48 J -5158080.85 -5158080.80 -5158080.73 0.0132 0.0126
 Pluto -18835-03-09 15:36 J -5157993.06 -5157992.85 -5157992.63 0.0064 0.0005
 Neptune -18835-03-31 19:11 J -5157970.76 -5157970.70 -5157970.60 0.0088 0.0082
 Saturn -18835-07-23 10:19 J -5157857.11 -5157857.07 -5157857.02 0.0301 0.0293
 Uranus -18835-07-25 22:19 J -5157854.71 -5157854.57 -5157854.42 0.0132 0.0098
 Pluto -18835-10-20 18:57 J -5157767.88 -5157767.71 -5157767.50 0.0064 0.0031
 Neptune -18835-11-12 07:26 J -5157745.23 -5157745.19 -5157745.10 0.0088 0.0085
 Mars -18835-12-26 17:16 J -5157700.95 -5157700.78 -5157700.60 0.1891 0.0103
 Uranus -18834-03-09 03:36 J -5157628.53 -5157628.35 -5157628.16 0.0132 0.0070
 Neptune -18834-06-25 20:09 J -5157519.69 -5157519.66 -5157519.60 0.0088 0.0087
 Uranus -18834-10-21 09:07 J -5157402.33 -5157402.12 -5157401.91 0.0132 0.0041
 Mars -18834-12-02 05:45 J -5157360.42 -5157360.26 -5157360.09 0.1628 0.0448
 Uranus -18833-06-03 14:23 J -5157176.12 -5157175.90 -5157175.68 0.0132 0.0013
 Uranus -18832-01-15 19:40 J -5156949.89 -5156949.68 -5156949.46 0.0132 0.0016
 Jupiter -18832-01-23 20:23 J -5156941.75 -5156941.65 -5156941.55 0.0528 0.0460
 Uranus -18832-08-30 01:11 J -5156723.66 -5156723.45 -5156723.25 0.0132 0.0044
 Jupiter -18832-09-18 18:28 J -5156703.94 -5156703.73 -5156703.53 0.0530 0.0035
 Mars -18832-10-01 09:21 J -5156691.21 -5156691.11 -5156691.00 0.1632 0.1271
 Uranus -18831-04-13 06:00 J -5156497.42 -5156497.25 -5156497.05 0.0132 0.0073
 Jupiter -18831-05-14 13:40 J -5156465.96 -5156465.93 -5156465.90 0.0531 0.0522
 Uranus -18831-11-25 11:16 J -5156271.16 -5156271.03 -5156270.88 0.0132 0.0101
 Uranus -18830-07-09 16:19 J -5156044.85 -5156044.82 -5156044.76 0.0132 0.0130
 Jupiter -18827-11-26 23:02 J -5154808.66 -5154808.54 -5154808.41 0.0498 0.0390
 Jupiter -18826-07-21 02:38 J -5154572.60 -5154572.39 -5154572.19 0.0496 0.0015
 Jupiter -18825-03-13 07:40 J -5154336.29 -5154336.18 -5154336.06 0.0495 0.0411

Saturn	-18823-07-04 16:33 J	-5153492.87	-5153492.81	-5153492.74	0.0265	0.0251
Saturn	-18822-02-18 12:14 J	-5153264.18	-5153263.99	-5153263.80	0.0264	0.0117
Saturn	-18822-10-05 06:57 J	-5153035.42	-5153035.21	-5153035.00	0.0263	0.0015
Saturn	-18821-05-21 00:57 J	-5152806.63	-5152806.46	-5152806.28	0.0261	0.0146
Jupiter	-18820-05-24 09:21 J	-5152438.31	-5152438.11	-5152437.91	0.0530	0.0105
Jupiter	-18819-01-17 05:31 J	-5152200.40	-5152200.27	-5152200.13	0.0531	0.0392
Jupiter	-18815-08-02 01:11 J	-5150542.47	-5150542.45	-5150542.43	0.0499	0.0495
Jupiter	-18814-03-26 04:33 J	-5150306.51	-5150306.31	-5150306.11	0.0496	0.0101
Jupiter	-18814-11-17 09:07 J	-5150070.28	-5150070.12	-5150069.95	0.0495	0.0303
Jupiter	-18808-01-26 22:04 J	-5148172.76	-5148172.58	-5148172.40	0.0529	0.0247
Jupiter	-18808-09-21 18:28 J	-5147934.90	-5147934.73	-5147934.55	0.0530	0.0254
Saturn	-18807-03-13 17:02 J	-5147761.84	-5147761.79	-5147761.72	0.0297	0.0284
Saturn	-18807-10-30 01:26 J	-5147531.64	-5147531.44	-5147531.23	0.0299	0.0084
Saturn	-18806-06-17 11:02 J	-5147301.23	-5147301.04	-5147300.84	0.0301	0.0123
Jupiter	-18803-11-29 07:26 J	-5146040.38	-5146040.19	-5146040.01	0.0497	0.0212
Mars	-18803-12-26 19:26 J	-5146012.72	-5146012.69	-5146012.65	0.1893	0.1838
Jupiter	-18802-07-23 11:45 J	-5145804.20	-5145804.01	-5145803.83	0.0496	0.0194
Mars	-18802-11-30 21:50 J	-5145673.70	-5145673.59	-5145673.48	0.1626	0.1256
Mars	-18800-09-30 02:09 J	-5145004.58	-5145004.41	-5145004.25	0.1630	0.0444
Jupiter	-18797-10-01 11:16 J	-5143907.17	-5143907.03	-5143906.89	0.0528	0.0384
Jupiter	-18796-05-27 08:23 J	-5143669.34	-5143669.15	-5143668.95	0.0530	0.0115
Saturn	-18793-01-14 21:50 J	-5142706.69	-5142706.59	-5142706.48	0.0265	0.0228
Uranus	-18793-01-30 18:14 J	-5142690.81	-5142690.74	-5142690.64	0.0147	0.0135
Saturn	-18793-08-30 17:16 J	-5142477.97	-5142477.78	-5142477.58	0.0263	0.0095
Uranus	-18793-09-13 06:43 J	-5142464.38	-5142464.22	-5142464.06	0.0147	0.0096
Saturn	-18792-04-16 12:00 J	-5142249.21	-5142249.00	-5142248.79	0.0262	0.0037
Uranus	-18792-04-27 18:43 J	-5142237.91	-5142237.72	-5142237.51	0.0147	0.0058
Saturn	-18792-12-01 05:45 J	-5142020.41	-5142020.26	-5142020.09	0.0261	0.0167
Uranus	-18792-12-10 07:11 J	-5142011.41	-5142011.20	-5142010.98	0.0147	0.0019
Uranus	-18791-07-24 19:55 J	-5141784.89	-5141784.67	-5141784.46	0.0147	0.0020

Jupiter -18791-08-04 10:04 J -5141774.23 -5141774.08 -5141773.93 0.0498 0.0321
 Uranus -18790-03-08 08:09 J -5141558.35 -5141558.16 -5141557.96 0.0147 0.0059
 Jupiter -18790-03-28 13:55 J -5141538.12 -5141537.92 -5141537.72 0.0496 0.0083
 Neptune -18790-04-28 18:28 J -5141506.74 -5141506.73 -5141506.67 0.0088 0.0087
 Uranus -18790-10-20 20:23 J -5141331.80 -5141331.65 -5141331.48 0.0147 0.0098
 Jupiter -18790-11-19 19:26 J -5141301.73 -5141301.69 -5141301.64 0.0495 0.0480
 Neptune -18790-12-10 07:40 J -5141281.21 -5141281.18 -5141281.09 0.0088 0.0085
 Uranus -18789-06-03 08:52 J -5141105.20 -5141105.13 -5141105.05 0.0147 0.0136
 Neptune -18789-07-22 21:21 J -5141055.67 -5141055.61 -5141055.52 0.0088 0.0082
 Neptune -18788-03-05 10:33 J -5140830.13 -5140830.06 -5140829.95 0.0088 0.0080
 Neptune -18788-10-17 00:00 J -5140604.57 -5140604.50 -5140604.37 0.0088 0.0078
 Neptune -18787-05-30 13:55 J -5140379.02 -5140378.92 -5140378.80 0.0088 0.0075
 Neptune -18786-01-11 03:07 J -5140153.48 -5140153.37 -5140153.23 0.0088 0.0073
 Neptune -18786-08-24 16:33 J -5139927.93 -5139927.81 -5139927.66 0.0088 0.0071
 Neptune -18785-04-06 05:45 J -5139702.37 -5139702.26 -5139702.09 0.0088 0.0068
 Jupiter -18785-06-06 00:28 J -5139641.52 -5139641.48 -5139641.44 0.0527 0.0515
 Neptune -18785-11-17 19:40 J -5139476.82 -5139476.68 -5139476.52 0.0088 0.0065
 Jupiter -18784-01-29 22:33 J -5139403.77 -5139403.56 -5139403.36 0.0530 0.0026
 Neptune -18784-07-01 09:21 J -5139251.26 -5139251.11 -5139250.95 0.0088 0.0062
 Jupiter -18784-09-24 18:14 J -5139165.83 -5139165.74 -5139165.64 0.0531 0.0469
 Neptune -18783-02-11 22:19 J -5139025.71 -5139025.57 -5139025.39 0.0088 0.0060
 Neptune -18783-09-25 12:00 J -5138800.16 -5138800.00 -5138799.82 0.0088 0.0057
 Neptune -18782-05-09 01:40 J -5138574.60 -5138574.43 -5138574.25 0.0088 0.0054
 Earth -18782-10-31 18:28 J -5138398.88 -5138398.73 -5138398.57 0.2628 0.0229
 Moon -18782-10-31 23:02 J -5138398.69 -5138398.54 -5138398.38 0.2632 0.0078 *
 Neptune -18782-12-20 14:52 J -5138349.04 -5138348.88 -5138348.68 0.0088 0.0052
 Neptune -18781-08-02 04:19 J -5138123.49 -5138123.32 -5138123.12 0.0088 0.0049
 Neptune -18780-03-15 17:45 J -5137897.93 -5137897.76 -5137897.55 0.0088 0.0047
 Neptune -18780-10-27 07:40 J -5137672.37 -5137672.18 -5137671.98 0.0088 0.0043
 Jupiter -18779-04-09 12:28 J -5137508.08 -5137507.98 -5137507.88 0.0499 0.0429

Neptune -18779-06-09 21:07 J -5137446.81 -5137446.62 -5137446.41 0.0088 0.0041
 Jupiter -18779-12-01 15:50 J -5137272.04 -5137271.84 -5137271.64 0.0496 0.0030
 Neptune -18778-01-21 10:48 J -5137221.24 -5137221.05 -5137220.84 0.0088 0.0037
 Jupiter -18778-07-25 20:23 J -5137035.77 -5137035.65 -5137035.51 0.0495 0.0373
 Neptune -18778-09-04 00:28 J -5136995.68 -5136995.48 -5136995.27 0.0088 0.0034
 Saturn -18778-09-24 00:43 J -5136975.57 -5136975.47 -5136975.36 0.0297 0.0256
 Neptune -18777-04-16 13:55 J -5136770.12 -5136769.92 -5136769.70 0.0088 0.0032
 Saturn -18777-05-11 09:21 J -5136745.33 -5136745.11 -5136744.90 0.0299 0.0055
 Neptune -18777-11-28 03:50 J -5136544.55 -5136544.34 -5136544.13 0.0088 0.0029
 Saturn -18777-12-27 18:57 J -5136514.89 -5136514.71 -5136514.53 0.0300 0.0151
 Neptune -18776-07-11 17:31 J -5136318.98 -5136318.77 -5136318.55 0.0088 0.0026
 Neptune -18775-02-22 07:11 J -5136093.42 -5136093.20 -5136092.99 0.0088 0.0023
 Neptune -18775-10-05 20:38 J -5135867.85 -5135867.64 -5135867.41 0.0088 0.0020
 Neptune -18774-05-19 10:19 J -5135642.28 -5135642.07 -5135641.84 0.0088 0.0017
 Neptune -18774-12-31 00:00 J -5135416.72 -5135416.50 -5135416.27 0.0088 0.0014
 Neptune -18773-08-12 13:40 J -5135191.15 -5135190.93 -5135190.70 0.0088 0.0010
 Jupiter -18773-10-04 14:09 J -5135138.10 -5135137.91 -5135137.72 0.0530 0.0162
 Neptune -18772-03-26 03:21 J -5134965.58 -5134965.36 -5134965.14 0.0088 0.0007
 Jupiter -18772-05-30 10:48 J -5134900.20 -5134900.05 -5134899.89 0.0531 0.0340
 Neptune -18772-11-06 17:02 J -5134740.01 -5134739.79 -5134739.56 0.0088 0.0004
 Neptune -18771-06-20 06:43 J -5134514.44 -5134514.22 -5134513.99 0.0088 0.0002
 Neptune -18770-01-31 20:23 J -5134288.87 -5134288.65 -5134288.43 0.0088 0.0002
 Neptune -18770-09-14 09:50 J -5134063.31 -5134063.09 -5134062.86 0.0088 0.0005
 Neptune -18769-04-26 23:31 J -5133837.74 -5133837.52 -5133837.29 0.0088 0.0008
 Mars -18769-10-22 18:57 J -5133658.88 -5133658.71 -5133658.53 0.1890 0.0208
 Neptune -18769-12-08 13:11 J -5133612.17 -5133611.95 -5133611.72 0.0088 0.0011
 Neptune -18768-07-22 02:52 J -5133386.60 -5133386.38 -5133386.15 0.0088 0.0014
 Mars -18768-09-28 18:28 J -5133317.90 -5133317.73 -5133317.56 0.1628 0.0378
 Neptune -18767-03-04 16:19 J -5133161.03 -5133160.82 -5133160.59 0.0088 0.0018
 Jupiter -18767-08-06 15:50 J -5133006.04 -5133005.84 -5133005.65 0.0496 0.0144

Neptune -18767-10-16 06:00 J -5132935.46 -5132935.25 -5132935.02 0.0088 0.0021
 Jupiter -18766-03-30 19:55 J -5132769.85 -5132769.67 -5132769.50 0.0495 0.0261
 Neptune -18766-05-29 19:40 J -5132709.89 -5132709.68 -5132709.45 0.0088 0.0024
 Mars -18766-07-29 21:36 J -5132648.69 -5132648.60 -5132648.50 0.1633 0.1347
 Neptune -18765-01-10 09:21 J -5132484.31 -5132484.11 -5132483.88 0.0088 0.0027
 Neptune -18765-08-22 23:02 J -5132258.74 -5132258.54 -5132258.32 0.0088 0.0030
 Neptune -18764-04-05 12:43 J -5132033.17 -5132032.97 -5132032.75 0.0089 0.0033
 Saturn -18764-07-27 01:11 J -5131920.57 -5131920.45 -5131920.31 0.0265 0.0208
 Neptune -18764-11-17 02:38 J -5131807.59 -5131807.39 -5131807.18 0.0089 0.0036
 Saturn -18763-03-12 20:52 J -5131691.83 -5131691.63 -5131691.43 0.0264 0.0073
 Neptune -18763-06-30 16:19 J -5131582.01 -5131581.82 -5131581.61 0.0089 0.0039
 Saturn -18763-10-27 15:36 J -5131463.05 -5131462.85 -5131462.65 0.0262 0.0059
 Neptune -18762-02-11 06:00 J -5131356.44 -5131356.25 -5131356.04 0.0089 0.0042
 Saturn -18762-06-13 09:36 J -5131234.24 -5131234.10 -5131233.95 0.0261 0.0189
 Neptune -18762-09-24 19:40 J -5131130.86 -5131130.68 -5131130.48 0.0089 0.0045
 Neptune -18761-05-07 09:07 J -5130905.29 -5130905.12 -5130904.91 0.0089 0.0048
 Jupiter -18761-06-09 04:48 J -5130872.47 -5130872.30 -5130872.13 0.0529 0.0299
 Neptune -18761-12-18 23:02 J -5130679.71 -5130679.54 -5130679.34 0.0089 0.0051
 Jupiter -18760-02-02 02:23 J -5130634.59 -5130634.40 -5130634.21 0.0531 0.0204
 Neptune -18760-08-01 13:11 J -5130454.13 -5130453.95 -5130453.77 0.0089 0.0053
 Neptune -18759-03-15 02:38 J -5130228.55 -5130228.39 -5130228.21 0.0089 0.0056
 Neptune -18759-10-26 16:04 J -5130002.98 -5130002.83 -5130002.65 0.0089 0.0059
 Neptune -18758-06-09 05:45 J -5129777.40 -5129777.26 -5129777.09 0.0089 0.0062
 Neptune -18757-01-20 19:11 J -5129551.83 -5129551.70 -5129551.52 0.0089 0.0065
 Neptune -18757-09-02 09:21 J -5129326.25 -5129326.11 -5129325.96 0.0089 0.0067
 Neptune -18756-04-15 22:33 J -5129100.68 -5129100.56 -5129100.40 0.0089 0.0070
 Neptune -18756-11-27 12:00 J -5128875.10 -5128875.00 -5128874.84 0.0089 0.0073
 Jupiter -18755-04-11 17:45 J -5128739.93 -5128739.76 -5128739.59 0.0497 0.0256
 Neptune -18755-07-11 01:55 J -5128649.52 -5128649.42 -5128649.28 0.0089 0.0075
 Jupiter -18755-12-03 21:21 J -5128503.80 -5128503.61 -5128503.41 0.0495 0.0149

Neptune	-18754-02-21 15:21 J	-5128423.94	-5128423.86	-5128423.72	0.0089	0.0078
Neptune	-18754-10-05 05:16 J	-5128198.36	-5128198.28	-5128198.17	0.0089	0.0080
Neptune	-18753-05-17 18:43 J	-5127972.78	-5127972.72	-5127972.62	0.0089	0.0083
Neptune	-18753-12-29 08:38 J	-5127747.18	-5127747.14	-5127747.06	0.0089	0.0085
Neptune	-18752-08-11 22:33 J	-5127521.59	-5127521.56	-5127521.51	0.0089	0.0087
Uranus	-18751-03-25 10:33 J	-5127296.17	-5127296.06	-5127295.93	0.0132	0.0109
Uranus	-18751-11-06 15:50 J	-5127070.00	-5127069.84	-5127069.65	0.0132	0.0081
Uranus	-18750-06-20 21:36 J	-5126843.80	-5126843.60	-5126843.40	0.0132	0.0052
Uranus	-18749-02-02 02:52 J	-5126617.59	-5126617.38	-5126617.16	0.0132	0.0024
Jupiter	-18749-02-12 17:16 J	-5126606.89	-5126606.78	-5126606.66	0.0527	0.0437
Uranus	-18749-09-15 08:23 J	-5126391.37	-5126391.15	-5126390.93	0.0132	0.0005
Jupiter	-18749-10-07 14:52 J	-5126369.08	-5126368.88	-5126368.68	0.0530	0.0061
Saturn	-18748-04-05 12:28 J	-5126189.12	-5126188.98	-5126188.83	0.0297	0.0221
Uranus	-18748-04-29 13:26 J	-5126165.15	-5126164.94	-5126164.72	0.0132	0.0034
Saturn	-18748-11-21 21:07 J	-5125958.83	-5125958.62	-5125958.40	0.0299	0.0019
Uranus	-18748-12-11 18:43 J	-5125938.91	-5125938.72	-5125938.52	0.0132	0.0062
Pluto	-18747-06-20 06:57 J	-5125748.38	-5125748.21	-5125748.00	0.0080	0.0042
Saturn	-18747-07-10 06:43 J	-5125728.38	-5125728.22	-5125728.04	0.0301	0.0190
Uranus	-18747-07-25 23:45 J	-5125712.66	-5125712.51	-5125712.34	0.0132	0.0091
Pluto	-18746-01-31 18:28 J	-5125522.94	-5125522.73	-5125522.52	0.0080	0.0029
Uranus	-18746-03-09 05:02 J	-5125486.37	-5125486.29	-5125486.19	0.0132	0.0119
Jupiter	-18744-12-15 20:09 J	-5124473.80	-5124473.66	-5124473.53	0.0498	0.0366
Jupiter	-18743-08-09 00:00 J	-5124237.70	-5124237.50	-5124237.30	0.0496	0.0038
Jupiter	-18742-04-02 05:31 J	-5124001.36	-5124001.27	-5124001.18	0.0495	0.0438
Jupiter	-18737-06-12 04:19 J	-5122103.52	-5122103.32	-5122103.12	0.0529	0.0081
Mars	-18737-10-22 21:36 J	-5121970.71	-5121970.60	-5121970.50	0.1893	0.1541
Jupiter	-18736-02-05 00:14 J	-5121865.62	-5121865.49	-5121865.37	0.0531	0.0417
Mars	-18736-09-27 10:33 J	-5121631.18	-5121631.06	-5121630.95	0.1627	0.1184
Saturn	-18734-02-06 07:26 J	-5121134.33	-5121134.19	-5121134.04	0.0264	0.0184
Mars	-18734-07-28 14:38 J	-5120962.05	-5120961.89	-5120961.72	0.1631	0.0515

Saturn	-18734-09-23 02:52 J	-5120905.58	-5120905.38	-5120905.17	0.0263	0.0050
Saturn	-18733-05-08 21:21 J	-5120676.81	-5120676.61	-5120676.41	0.0262	0.0082
Saturn	-18733-12-23 15:21 J	-5120447.98	-5120447.86	-5120447.73	0.0261	0.0211
Jupiter	-18732-08-20 22:33 J	-5120207.62	-5120207.56	-5120207.49	0.0499	0.0473
Jupiter	-18731-04-14 02:09 J	-5119971.61	-5119971.41	-5119971.20	0.0496	0.0075
Jupiter	-18731-12-06 06:57 J	-5119735.36	-5119735.21	-5119735.06	0.0495	0.0330
Jupiter	-18725-02-15 17:31 J	-5117837.95	-5117837.77	-5117837.58	0.0529	0.0221
Jupiter	-18725-10-10 14:23 J	-5117600.06	-5117599.90	-5117599.72	0.0531	0.0283
Jupiter	-18720-12-18 04:04 J	-5115705.51	-5115705.33	-5115705.13	0.0497	0.0187
Jupiter	-18719-08-11 08:09 J	-5115469.34	-5115469.16	-5115468.97	0.0495	0.0221
Saturn	-18719-10-16 22:04 J	-5115402.73	-5115402.58	-5115402.40	0.0298	0.0190
Saturn	-18718-06-04 06:57 J	-5115172.42	-5115172.21	-5115171.99	0.0299	0.0016
Saturn	-18717-01-20 16:48 J	-5114941.94	-5114941.80	-5114941.65	0.0301	0.0222
Jupiter	-18714-10-21 08:23 J	-5113572.29	-5113572.15	-5113571.99	0.0528	0.0357
Jupiter	-18713-06-15 06:28 J	-5113334.43	-5113334.23	-5113334.04	0.0531	0.0147
Uranus	-18709-05-13 12:14 J	-5111906.12	-5111905.99	-5111905.86	0.0147	0.0115
Neptune	-18709-11-02 12:28 J	-5111732.98	-5111732.98	-5111732.94	0.0089	0.0089
Uranus	-18709-12-26 00:14 J	-5111679.66	-5111679.49	-5111679.30	0.0147	0.0077
Neptune	-18708-06-16 01:26 J	-5111507.48	-5111507.44	-5111507.38	0.0089	0.0087
Uranus	-18708-08-09 12:43 J	-5111453.17	-5111452.97	-5111452.75	0.0147	0.0038
Jupiter	-18708-08-23 04:48 J	-5111439.46	-5111439.30	-5111439.14	0.0497	0.0300
Neptune	-18707-01-27 13:40 J	-5111281.97	-5111281.93	-5111281.83	0.0089	0.0085
Uranus	-18707-03-24 01:11 J	-5111226.66	-5111226.45	-5111226.23	0.0147	0.0002
Jupiter	-18707-04-16 07:55 J	-5111203.36	-5111203.17	-5111202.96	0.0495	0.0106
Neptune	-18707-09-10 02:52 J	-5111056.46	-5111056.38	-5111056.29	0.0089	0.0082
Uranus	-18707-11-05 13:40 J	-5111000.14	-5110999.93	-5110999.73	0.0147	0.0040
Neptune	-18706-04-23 15:21 J	-5110830.94	-5110830.86	-5110830.75	0.0089	0.0079
Uranus	-18706-06-20 01:55 J	-5110773.60	-5110773.42	-5110773.24	0.0147	0.0079
Neptune	-18706-12-05 04:04 J	-5110605.43	-5110605.33	-5110605.21	0.0089	0.0077
Uranus	-18705-02-01 14:09 J	-5110547.03	-5110546.91	-5110546.77	0.0147	0.0118

Neptune -18705-07-17 16:19 J -5110379.92 -5110379.82 -5110379.68 0.0089 0.0075
 Saturn -18705-08-18 11:31 J -5110348.19 -5110348.02 -5110347.86 0.0265 0.0162
 Neptune -18704-02-28 05:16 J -5110154.40 -5110154.28 -5110154.15 0.0089 0.0072
 Saturn -18704-04-04 06:43 J -5110119.43 -5110119.22 -5110119.01 0.0263 0.0028
 Neptune -18704-10-11 17:31 J -5109928.88 -5109928.77 -5109928.61 0.0089 0.0069
 Saturn -18704-11-19 01:11 J -5109890.64 -5109890.45 -5109890.25 0.0262 0.0105
 Neptune -18703-05-25 06:28 J -5109703.36 -5109703.23 -5109703.08 0.0089 0.0066
 Saturn -18703-07-05 19:26 J -5109661.78 -5109661.69 -5109661.59 0.0261 0.0234
 Mars -18703-08-19 21:50 J -5109616.76 -5109616.59 -5109616.42 0.1889 0.0485
 Neptune -18702-01-05 19:11 J -5109477.85 -5109477.70 -5109477.55 0.0089 0.0064
 Jupiter -18702-06-25 22:48 J -5109306.61 -5109306.55 -5109306.47 0.0527 0.0490
 Mars -18702-07-27 06:57 J -5109275.38 -5109275.21 -5109275.04 0.1629 0.0304
 Neptune -18702-08-19 07:11 J -5109252.33 -5109252.20 -5109252.02 0.0089 0.0062
 Jupiter -18701-02-18 21:21 J -5109068.81 -5109068.61 -5109068.40 0.0530 0.0014
 Neptune -18701-03-31 19:55 J -5109026.81 -5109026.67 -5109026.49 0.0089 0.0059
 Jupiter -18701-10-13 17:16 J -5108830.84 -5108830.78 -5108830.71 0.0531 0.0501
 Neptune -18701-11-12 08:38 J -5108801.30 -5108801.14 -5108800.96 0.0089 0.0055
 Mars -18700-05-26 10:04 J -5108606.16 -5108606.08 -5108605.99 0.1634 0.1421
 Neptune -18700-06-25 21:21 J -5108575.78 -5108575.61 -5108575.43 0.0089 0.0052
 Neptune -18699-02-06 10:04 J -5108350.26 -5108350.08 -5108349.90 0.0089 0.0050
 Neptune -18699-09-19 22:04 J -5108124.74 -5108124.58 -5108124.37 0.0089 0.0048
 Neptune -18698-05-03 10:48 J -5107899.22 -5107899.05 -5107898.84 0.0089 0.0044
 Neptune -18698-12-14 23:31 J -5107673.70 -5107673.52 -5107673.32 0.0089 0.0041
 Neptune -18697-07-27 12:00 J -5107448.19 -5107448.00 -5107447.79 0.0089 0.0038
 Neptune -18696-03-10 00:28 J -5107222.67 -5107222.48 -5107222.27 0.0089 0.0035
 Jupiter -18696-04-28 06:28 J -5107173.34 -5107173.23 -5107173.11 0.0498 0.0410
 Neptune -18696-10-21 12:57 J -5106997.15 -5106996.96 -5106996.75 0.0089 0.0032
 Jupiter -18696-12-20 09:50 J -5106937.30 -5106937.09 -5106936.89 0.0496 0.0013
 Neptune -18695-06-04 01:26 J -5106771.63 -5106771.44 -5106771.22 0.0089 0.0029
 Jupiter -18695-08-13 14:38 J -5106701.01 -5106700.89 -5106700.77 0.0495 0.0395

Neptune	-18694-01-15 13:55 J	-5106546.12	-5106545.92	-5106545.70	0.0089	0.0026
Neptune	-18694-08-29 02:09 J	-5106320.60	-5106320.41	-5106320.19	0.0089	0.0023
Neptune	-18693-04-10 14:38 J	-5106095.09	-5106094.89	-5106094.67	0.0089	0.0020
Neptune	-18693-11-22 03:07 J	-5105869.58	-5105869.37	-5105869.15	0.0089	0.0017
Neptune	-18692-07-05 15:36 J	-5105644.06	-5105643.85	-5105643.63	0.0089	0.0014
Neptune	-18691-02-16 03:50 J	-5105418.55	-5105418.34	-5105418.12	0.0089	0.0011
Neptune	-18691-09-29 16:19 J	-5105193.03	-5105192.82	-5105192.60	0.0089	0.0008
Neptune	-18690-05-13 04:48 J	-5104967.51	-5104967.30	-5104967.08	0.0089	0.0004
Jupiter	-18690-10-24 09:50 J	-5104803.29	-5104803.09	-5104802.90	0.0529	0.0138
Neptune	-18690-12-24 17:16 J	-5104742.00	-5104741.78	-5104741.57	0.0089	0.0002
Saturn	-18689-04-28 10:19 J	-5104616.25	-5104616.07	-5104615.89	0.0298	0.0153
Jupiter	-18689-06-18 06:00 J	-5104565.39	-5104565.25	-5104565.10	0.0531	0.0364
Neptune	-18689-08-06 05:31 J	-5104516.49	-5104516.27	-5104516.05	0.0089	0.0002
Saturn	-18689-12-14 19:11 J	-5104385.90	-5104385.70	-5104385.48	0.0300	0.0053
Neptune	-18688-03-19 17:45 J	-5104290.97	-5104290.76	-5104290.54	0.0089	0.0005
Saturn	-18688-08-02 05:02 J	-5104155.39	-5104155.29	-5104155.18	0.0301	0.0260
Neptune	-18688-10-31 06:14 J	-5104065.45	-5104065.24	-5104065.02	0.0089	0.0008
Neptune	-18687-06-13 18:43 J	-5103839.93	-5103839.72	-5103839.50	0.0089	0.0011
Neptune	-18686-01-25 07:11 J	-5103614.41	-5103614.20	-5103613.98	0.0089	0.0014
Neptune	-18686-09-07 19:26 J	-5103388.90	-5103388.69	-5103388.47	0.0089	0.0017
Neptune	-18685-04-20 07:55 J	-5103163.38	-5103163.17	-5103162.96	0.0089	0.0020
Neptune	-18685-12-01 20:23 J	-5102937.86	-5102937.65	-5102937.44	0.0089	0.0023
Neptune	-18684-07-15 08:52 J	-5102712.34	-5102712.13	-5102711.93	0.0089	0.0026
Jupiter	-18684-08-25 12:14 J	-5102671.19	-5102670.99	-5102670.79	0.0497	0.0121
Neptune	-18683-02-25 21:07 J	-5102486.82	-5102486.62	-5102486.42	0.0089	0.0029
Jupiter	-18683-04-18 16:33 J	-5102434.97	-5102434.81	-5102434.64	0.0495	0.0286
Neptune	-18683-10-09 09:21 J	-5102261.31	-5102261.11	-5102260.90	0.0089	0.0032
Neptune	-18682-05-22 21:50 J	-5102035.79	-5102035.59	-5102035.39	0.0089	0.0035
Neptune	-18681-01-03 10:04 J	-5101810.27	-5101810.08	-5101809.88	0.0089	0.0038
Neptune	-18681-08-15 22:19 J	-5101584.76	-5101584.57	-5101584.37	0.0089	0.0041

Neptune	-18680-03-29 10:33 J	-5101359.24	-5101359.06	-5101358.86	0.0089	0.0044
Neptune	-18680-11-09 22:48 J	-5101133.72	-5101133.55	-5101133.36	0.0089	0.0047
Neptune	-18679-06-23 11:16 J	-5100908.20	-5100908.03	-5100907.84	0.0089	0.0050
Neptune	-18678-02-03 23:31 J	-5100682.68	-5100682.52	-5100682.33	0.0089	0.0053
Jupiter	-18678-06-28 23:02 J	-5100537.71	-5100537.54	-5100537.37	0.0528	0.0277
Neptune	-18678-09-17 11:45 J	-5100457.16	-5100457.01	-5100456.83	0.0089	0.0056
Jupiter	-18677-02-21 20:09 J	-5100299.85	-5100299.66	-5100299.48	0.0530	0.0227
Neptune	-18677-04-30 00:28 J	-5100231.65	-5100231.48	-5100231.32	0.0089	0.0058
Neptune	-18677-12-11 12:28 J	-5100006.12	-5100005.98	-5100005.81	0.0089	0.0061
Neptune	-18676-07-25 00:57 J	-5099780.60	-5099780.46	-5099780.30	0.0089	0.0064
Saturn	-18675-02-28 17:45 J	-5099561.93	-5099561.76	-5099561.57	0.0264	0.0139
Neptune	-18675-03-07 12:57 J	-5099555.08	-5099554.96	-5099554.79	0.0089	0.0067
Saturn	-18675-10-15 13:11 J	-5099333.16	-5099332.95	-5099332.74	0.0263	0.0004
Neptune	-18675-10-19 01:40 J	-5099329.55	-5099329.43	-5099329.28	0.0089	0.0069
Saturn	-18674-06-01 07:40 J	-5099104.36	-5099104.18	-5099104.00	0.0262	0.0127
Neptune	-18674-06-01 13:55 J	-5099104.03	-5099103.92	-5099103.77	0.0088	0.0072 *
Neptune	-18673-01-13 02:52 J	-5098878.50	-5098878.38	-5098878.27	0.0088	0.0074
Saturn	-18673-01-16 01:26 J	-5098875.46	-5098875.44	-5098875.39	0.0261	0.0256
Neptune	-18673-08-25 14:52 J	-5098652.97	-5098652.88	-5098652.76	0.0088	0.0077
Neptune	-18672-04-08 02:52 J	-5098427.45	-5098427.38	-5098427.25	0.0088	0.0080
Jupiter	-18672-04-30 14:23 J	-5098405.08	-5098404.90	-5098404.72	0.0497	0.0232
Neptune	-18672-11-19 15:36 J	-5098201.91	-5098201.85	-5098201.75	0.0088	0.0082
Jupiter	-18672-12-22 18:28 J	-5098168.93	-5098168.73	-5098168.54	0.0495	0.0176
Neptune	-18671-07-03 04:33 J	-5097976.38	-5097976.31	-5097976.25	0.0088	0.0084
Mars	-18671-08-19 23:16 J	-5097928.66	-5097928.53	-5097928.39	0.1892	0.1239
Neptune	-18670-02-13 16:19 J	-5097750.84	-5097750.82	-5097750.75	0.0088	0.0087
Mars	-18670-07-25 23:02 J	-5097588.66	-5097588.54	-5097588.41	0.1627	0.1115
Mars	-18668-05-25 03:07 J	-5096919.53	-5096919.37	-5096919.21	0.1631	0.0590
Uranus	-18668-11-22 23:02 J	-5096737.62	-5096737.54	-5096737.44	0.0132	0.0120
Uranus	-18667-07-07 04:19 J	-5096511.46	-5096511.32	-5096511.15	0.0132	0.0092

Uranus	-18666-02-18 10:04 J	-5096285.27	-5096285.08	-5096284.88	0.0132	0.0063
Jupiter	-18666-03-03 11:45 J	-5096272.13	-5096272.01	-5096271.88	0.0527	0.0414
Uranus	-18666-10-02 15:21 J	-5096059.06	-5096058.86	-5096058.64	0.0132	0.0035
Jupiter	-18666-10-27 09:36 J	-5096034.30	-5096034.10	-5096033.90	0.0530	0.0086
Uranus	-18665-05-15 20:52 J	-5095832.85	-5095832.63	-5095832.41	0.0132	0.0006
Uranus	-18665-12-28 02:23 J	-5095606.62	-5095606.40	-5095606.19	0.0132	0.0023
Uranus	-18664-08-11 07:26 J	-5095380.39	-5095380.19	-5095379.98	0.0132	0.0052
Uranus	-18663-03-25 12:28 J	-5095154.14	-5095153.98	-5095153.79	0.0132	0.0081
Uranus	-18663-11-06 17:45 J	-5094927.87	-5094927.76	-5094927.63	0.0132	0.0109
Jupiter	-18660-01-03 16:19 J	-5094138.96	-5094138.82	-5094138.67	0.0498	0.0343
Earth	-18660-05-04 04:33 J	-5094018.46	-5094018.31	-5094018.16	0.2704	0.0971
Moon	-18660-05-04 10:04 J	-5094018.25	-5094018.08	-5094017.92	0.2702	0.0337 *
Jupiter	-18660-08-27 20:09 J	-5093902.86	-5093902.66	-5093902.46	0.0496	0.0063
Saturn	-18660-11-08 20:52 J	-5093829.82	-5093829.63	-5093829.43	0.0298	0.0120
Jupiter	-18659-04-21 01:11 J	-5093666.51	-5093666.45	-5093666.37	0.0495	0.0463
Saturn	-18659-06-27 06:00 J	-5093599.46	-5093599.25	-5093599.05	0.0300	0.0086
Saturn	-18658-02-12 15:36 J	-5093368.89	-5093368.85	-5093368.79	0.0301	0.0293
Jupiter	-18654-07-02 00:43 J	-5091768.67	-5091768.47	-5091768.27	0.0530	0.0053
Jupiter	-18653-02-24 21:07 J	-5091530.72	-5091530.62	-5091530.51	0.0531	0.0448
Jupiter	-18649-09-08 17:31 J	-5089872.85	-5089872.77	-5089872.69	0.0499	0.0453
Jupiter	-18648-05-02 20:23 J	-5089636.85	-5089636.65	-5089636.44	0.0496	0.0054
Jupiter	-18648-12-25 00:28 J	-5089400.62	-5089400.48	-5089400.33	0.0495	0.0352
Saturn	-18646-01-25 01:55 J	-5089004.47	-5089004.42	-5089004.35	0.0266	0.0252
Saturn	-18646-09-10 22:04 J	-5088775.76	-5088775.58	-5088775.39	0.0264	0.0116
Saturn	-18645-04-26 17:16 J	-5088546.99	-5088546.78	-5088546.57	0.0263	0.0018
Saturn	-18645-12-11 11:31 J	-5088318.19	-5088318.02	-5088317.84	0.0262	0.0150
Jupiter	-18642-03-06 15:21 J	-5087503.05	-5087502.86	-5087502.67	0.0529	0.0193
Jupiter	-18642-10-30 12:43 J	-5087265.13	-5087264.97	-5087264.80	0.0531	0.0313
Mars	-18637-06-16 00:00 J	-5085574.66	-5085574.50	-5085574.34	0.1888	0.0773
Jupiter	-18636-01-05 22:19 J	-5085370.76	-5085370.57	-5085370.38	0.0497	0.0166

Mars	-18636-05-23 19:40 J	-5085232.85	-5085232.68	-5085232.51	0.1629	0.0235
Jupiter	-18636-08-30 02:09 J	-5085134.59	-5085134.41	-5085134.23	0.0495	0.0242
Mars	-18634-03-23 22:33 J	-5084563.62	-5084563.56	-5084563.49	0.1635	0.1497
Saturn	-18631-10-04 00:43 J	-5083273.53	-5083273.47	-5083273.41	0.0296	0.0284
Jupiter	-18631-11-09 03:50 J	-5083237.49	-5083237.34	-5083237.18	0.0528	0.0334
Saturn	-18630-05-22 08:38 J	-5083043.34	-5083043.14	-5083042.93	0.0298	0.0084
Jupiter	-18630-07-05 01:26 J	-5082999.63	-5082999.44	-5082999.25	0.0530	0.0171
Saturn	-18629-01-07 18:00 J	-5082812.94	-5082812.75	-5082812.55	0.0300	0.0123
Uranus	-18625-01-11 21:07 J	-5081347.70	-5081347.62	-5081347.51	0.0147	0.0132
Uranus	-18625-08-25 09:21 J	-5081121.26	-5081121.11	-5081120.93	0.0147	0.0093
Jupiter	-18625-09-11 00:14 J	-5081104.65	-5081104.49	-5081104.32	0.0498	0.0279
Neptune	-18625-10-24 04:33 J	-5081061.33	-5081061.31	-5081061.27	0.0088	0.0087
Uranus	-18624-04-08 21:50 J	-5080894.79	-5080894.59	-5080894.39	0.0147	0.0054
Jupiter	-18624-05-05 04:19 J	-5080868.52	-5080868.32	-5080868.13	0.0496	0.0130
Neptune	-18624-06-06 17:31 J	-5080835.80	-5080835.77	-5080835.68	0.0088	0.0085
Uranus	-18624-11-21 10:04 J	-5080668.29	-5080668.08	-5080667.87	0.0147	0.0015
Neptune	-18623-01-18 07:11 J	-5080610.26	-5080610.20	-5080610.11	0.0088	0.0082
Uranus	-18623-07-05 22:33 J	-5080441.78	-5080441.56	-5080441.35	0.0147	0.0024
Neptune	-18623-08-31 20:23 J	-5080384.72	-5080384.65	-5080384.54	0.0088	0.0080
Uranus	-18622-02-17 10:48 J	-5080215.24	-5080215.05	-5080214.86	0.0147	0.0063
Neptune	-18622-04-14 10:04 J	-5080159.17	-5080159.08	-5080158.97	0.0088	0.0077
Uranus	-18622-10-01 23:02 J	-5079988.69	-5079988.54	-5079988.39	0.0147	0.0102
Neptune	-18622-11-25 23:16 J	-5079933.62	-5079933.53	-5079933.39	0.0088	0.0075
Uranus	-18621-05-15 11:02 J	-5079762.08	-5079762.04	-5079761.97	0.0147	0.0141
Neptune	-18621-07-08 12:57 J	-5079708.08	-5079707.96	-5079707.82	0.0088	0.0072
Neptune	-18620-02-19 02:38 J	-5079482.53	-5079482.39	-5079482.25	0.0088	0.0069
Neptune	-18620-10-02 15:36 J	-5079256.97	-5079256.85	-5079256.68	0.0088	0.0067
Neptune	-18619-05-16 05:16 J	-5079031.42	-5079031.28	-5079031.11	0.0088	0.0064
Jupiter	-18619-07-14 17:16 J	-5078971.87	-5078971.78	-5078971.68	0.0527	0.0468
Neptune	-18619-12-27 18:43 J	-5078805.87	-5078805.72	-5078805.55	0.0088	0.0062

Jupiter -18618-03-09 15:07 J -5078734.08 -5078733.87 -5078733.67 0.0530 0.0029
 Neptune -18618-08-10 08:23 J -5078580.31 -5078580.15 -5078579.98 0.0088 0.0058
 Jupiter -18618-11-02 10:19 J -5078496.10 -5078496.07 -5078496.03 0.0531 0.0522
 Neptune -18617-03-22 21:21 J -5078354.76 -5078354.61 -5078354.42 0.0088 0.0056
 Saturn -18617-08-06 08:38 J -5078218.24 -5078218.14 -5078218.03 0.0265 0.0227
 Neptune -18617-11-03 11:02 J -5078129.20 -5078129.04 -5078128.84 0.0088 0.0053
 Saturn -18616-03-23 04:48 J -5077989.50 -5077989.30 -5077989.11 0.0264 0.0092
 Neptune -18616-06-17 00:28 J -5077903.64 -5077903.48 -5077903.28 0.0088 0.0050
 Saturn -18616-11-06 23:45 J -5077760.72 -5077760.51 -5077760.31 0.0262 0.0042
 Neptune -18615-01-28 13:55 J -5077678.09 -5077677.92 -5077677.71 0.0088 0.0047
 Saturn -18615-06-23 18:00 J -5077531.90 -5077531.75 -5077531.59 0.0261 0.0173
 Neptune -18615-09-11 03:21 J -5077452.53 -5077452.36 -5077452.15 0.0088 0.0045
 Neptune -18614-04-24 17:02 J -5077226.98 -5077226.79 -5077226.58 0.0088 0.0041
 Neptune -18614-12-06 06:43 J -5077001.41 -5077001.22 -5077001.01 0.0088 0.0038
 Jupiter -18613-05-17 02:38 J -5076838.52 -5076838.39 -5076838.27 0.0499 0.0388
 Neptune -18613-07-18 20:09 J -5076775.85 -5076775.66 -5076775.44 0.0088 0.0035
 Jupiter -18612-01-08 06:14 J -5076602.44 -5076602.24 -5076602.04 0.0496 0.0018
 Neptune -18612-03-01 09:36 J -5076550.29 -5076550.10 -5076549.87 0.0088 0.0033
 Jupiter -18612-09-01 11:16 J -5076366.13 -5076366.03 -5076365.92 0.0495 0.0421
 Neptune -18612-10-12 23:16 J -5076324.73 -5076324.53 -5076324.30 0.0088 0.0029
 Neptune -18611-05-26 13:11 J -5076099.16 -5076098.95 -5076098.73 0.0088 0.0026
 Neptune -18610-01-07 02:52 J -5075873.60 -5075873.38 -5075873.16 0.0088 0.0022
 Neptune -18610-08-20 16:19 J -5075648.03 -5075647.82 -5075647.59 0.0088 0.0020
 Neptune -18609-04-02 06:00 J -5075422.47 -5075422.25 -5075422.02 0.0088 0.0016
 Neptune -18609-11-13 19:40 J -5075196.89 -5075196.68 -5075196.45 0.0088 0.0014
 Neptune -18608-06-27 09:21 J -5074971.32 -5074971.11 -5074970.88 0.0088 0.0011
 Neptune -18607-02-07 23:16 J -5074745.76 -5074745.53 -5074745.31 0.0088 0.0007
 Neptune -18607-09-21 12:43 J -5074520.19 -5074519.97 -5074519.74 0.0088 0.0004
 Jupiter -18607-11-12 03:50 J -5074468.54 -5074468.34 -5074468.14 0.0529 0.0114
 Neptune -18606-05-05 02:23 J -5074294.62 -5074294.40 -5074294.17 0.0088 0.0002

Jupiter -18606-07-08 00:28 J -5074230.61 -5074230.48 -5074230.34 0.0531 0.0390
 Neptune -18606-12-16 16:19 J -5074069.05 -5074068.82 -5074068.60 0.0088 0.0003
 Mars -18605-06-16 01:11 J -5073886.60 -5073886.45 -5073886.29 0.1892 0.0940
 Neptune -18605-07-29 05:45 J -5073843.48 -5073843.26 -5073843.03 0.0088 0.0007
 Neptune -18604-03-11 19:26 J -5073617.91 -5073617.69 -5073617.46 0.0088 0.0009
 Mars -18604-05-22 12:00 J -5073546.13 -5073546.00 -5073545.87 0.1627 0.1047
 Neptune -18604-10-23 09:07 J -5073392.34 -5073392.12 -5073391.90 0.0088 0.0013
 Neptune -18603-06-05 22:48 J -5073166.77 -5073166.55 -5073166.33 0.0088 0.0016
 Neptune -18602-01-17 12:14 J -5072941.20 -5072940.99 -5072940.76 0.0088 0.0019
 Mars -18602-03-22 15:50 J -5072877.00 -5072876.84 -5072876.68 0.1632 0.0660
 Neptune -18602-08-31 01:55 J -5072715.63 -5072715.42 -5072715.20 0.0088 0.0022
 Jupiter -18601-01-21 04:48 J -5072572.32 -5072572.30 -5072572.28 0.0500 0.0496
 Neptune -18601-04-12 15:21 J -5072490.06 -5072489.86 -5072489.63 0.0088 0.0026
 Saturn -18601-04-15 11:31 J -5072487.12 -5072487.02 -5072486.90 0.0297 0.0252
 Jupiter -18601-09-13 08:23 J -5072336.35 -5072336.15 -5072335.95 0.0496 0.0096
 Neptune -18601-11-24 05:16 J -5072264.48 -5072264.28 -5072264.06 0.0088 0.0029
 Saturn -18601-12-01 19:55 J -5072256.88 -5072256.67 -5072256.46 0.0299 0.0050
 Jupiter -18600-05-07 12:43 J -5072100.13 -5072099.97 -5072099.82 0.0495 0.0312
 Neptune -18600-07-07 18:57 J -5072038.91 -5072038.71 -5072038.49 0.0088 0.0032
 Saturn -18600-07-20 05:16 J -5072026.46 -5072026.28 -5072026.10 0.0300 0.0158
 Neptune -18599-02-18 08:52 J -5071813.34 -5071813.13 -5071812.92 0.0088 0.0035
 Neptune -18599-10-01 22:33 J -5071587.76 -5071587.56 -5071587.36 0.0089 0.0038
 Neptune -18598-05-15 11:45 J -5071362.19 -5071362.01 -5071361.79 0.0089 0.0042
 Neptune -18598-12-27 01:40 J -5071136.61 -5071136.43 -5071136.22 0.0089 0.0045
 Neptune -18597-08-08 15:21 J -5070911.03 -5070910.86 -5070910.65 0.0089 0.0048
 Neptune -18596-03-22 05:02 J -5070685.45 -5070685.29 -5070685.09 0.0089 0.0051
 Neptune -18596-11-02 18:43 J -5070459.88 -5070459.72 -5070459.52 0.0089 0.0054
 Neptune -18595-06-16 08:23 J -5070234.30 -5070234.15 -5070233.95 0.0089 0.0057
 Jupiter -18595-07-17 18:28 J -5070202.91 -5070202.73 -5070202.55 0.0529 0.0252
 Neptune -18594-01-27 22:19 J -5070008.72 -5070008.57 -5070008.39 0.0089 0.0060

Jupiter	-18594-03-12 16:19 J	-5069965.00	-5069964.82	-5069964.64	0.0531	0.0255
Neptune	-18594-09-10 12:14 J	-5069783.14	-5069782.99	-5069782.82	0.0089	0.0062
Neptune	-18593-04-23 01:55 J	-5069557.56	-5069557.42	-5069557.26	0.0089	0.0065
Neptune	-18593-12-04 15:36 J	-5069331.98	-5069331.85	-5069331.70	0.0089	0.0068
Neptune	-18592-07-18 05:02 J	-5069106.40	-5069106.29	-5069106.14	0.0089	0.0071
Neptune	-18591-02-28 18:43 J	-5068880.83	-5068880.72	-5068880.58	0.0089	0.0074
Neptune	-18591-10-12 08:38 J	-5068655.25	-5068655.14	-5068655.02	0.0089	0.0076
Neptune	-18590-05-25 21:50 J	-5068429.67	-5068429.59	-5068429.47	0.0089	0.0079
Neptune	-18589-01-06 11:31 J	-5068204.08	-5068204.02	-5068203.91	0.0089	0.0082
Jupiter	-18589-05-19 09:21 J	-5068070.29	-5068070.11	-5068069.93	0.0497	0.0211
Neptune	-18589-08-19 01:26 J	-5067978.50	-5067978.44	-5067978.36	0.0089	0.0084
Pluto	-18589-11-16 22:19 J	-5067888.59	-5067888.57	-5067888.54	0.0064	0.0063
Jupiter	-18588-01-10 12:43 J	-5067834.16	-5067833.97	-5067833.78	0.0495	0.0197
Neptune	-18588-04-01 14:38 J	-5067752.91	-5067752.89	-5067752.82	0.0089	0.0087
Pluto	-18588-06-30 01:40 J	-5067663.60	-5067663.43	-5067663.21	0.0064	0.0029
Pluto	-18587-02-10 05:45 J	-5067438.47	-5067438.26	-5067438.04	0.0064	0.0006
Saturn	-18587-02-16 12:57 J	-5067432.09	-5067431.96	-5067431.83	0.0265	0.0206
Pluto	-18587-09-23 09:21 J	-5067213.26	-5067213.11	-5067212.94	0.0064	0.0042
Saturn	-18587-10-03 08:38 J	-5067203.34	-5067203.14	-5067202.94	0.0264	0.0071
Saturn	-18586-05-20 03:21 J	-5066974.56	-5066974.36	-5066974.15	0.0263	0.0063
Saturn	-18585-01-03 21:36 J	-5066745.74	-5066745.60	-5066745.46	0.0262	0.0194
Uranus	-18584-07-23 11:45 J	-5066179.02	-5066179.01	-5066178.98	0.0132	0.0131
Uranus	-18583-03-06 17:02 J	-5065952.90	-5065952.79	-5065952.63	0.0132	0.0103
Jupiter	-18583-03-22 08:52 J	-5065937.26	-5065937.13	-5065936.99	0.0528	0.0389
Uranus	-18583-10-18 22:48 J	-5065726.72	-5065726.55	-5065726.36	0.0132	0.0074
Jupiter	-18583-11-15 07:11 J	-5065699.39	-5065699.20	-5065699.00	0.0531	0.0116
Uranus	-18582-06-02 04:19 J	-5065500.52	-5065500.32	-5065500.11	0.0132	0.0045
Uranus	-18581-01-14 09:50 J	-5065274.30	-5065274.09	-5065273.87	0.0132	0.0016
Uranus	-18581-08-27 15:07 J	-5065048.08	-5065047.87	-5065047.64	0.0132	0.0013
Uranus	-18580-04-10 20:09 J	-5064821.85	-5064821.66	-5064821.44	0.0132	0.0042

Uranus	-18580-11-23 01:40 J	-5064595.61	-5064595.43	-5064595.24	0.0132	0.0070
Uranus	-18579-07-07 06:28 J	-5064369.36	-5064369.23	-5064369.07	0.0132	0.0100
Uranus	-18578-02-18 12:00 J	-5064143.05	-5064143.00	-5064142.94	0.0132	0.0128
Jupiter	-18577-01-23 11:16 J	-5063804.18	-5063804.03	-5063803.87	0.0498	0.0323
Jupiter	-18577-09-15 14:38 J	-5063568.09	-5063567.89	-5063567.69	0.0495	0.0085
Jupiter	-18576-05-09 19:26 J	-5063331.72	-5063331.69	-5063331.64	0.0495	0.0485
Saturn	-18572-10-26 21:36 J	-5061700.74	-5061700.60	-5061700.45	0.0297	0.0220
Jupiter	-18572-11-24 22:04 J	-5061671.59	-5061671.58	-5061671.55	0.0526	0.0523
Mars	-18571-04-13 03:07 J	-5061532.51	-5061532.37	-5061532.22	0.1887	0.1045
Saturn	-18571-06-14 06:14 J	-5061470.46	-5061470.24	-5061470.03	0.0299	0.0017
Jupiter	-18571-07-20 20:09 J	-5061433.86	-5061433.66	-5061433.46	0.0530	0.0028
Saturn	-18570-01-30 15:50 J	-5061240.00	-5061239.84	-5061239.68	0.0300	0.0192
Jupiter	-18570-03-15 16:04 J	-5061195.91	-5061195.83	-5061195.73	0.0531	0.0471
Mars	-18570-03-21 08:23 J	-5061190.32	-5061190.15	-5061189.98	0.1630	0.0164
Mars	-18568-01-18 11:02 J	-5060521.09	-5060521.04	-5060521.00	0.1636	0.1572
Jupiter	-18566-09-28 12:43 J	-5059538.06	-5059537.97	-5059537.86	0.0499	0.0433
Jupiter	-18565-05-21 16:33 J	-5059302.02	-5059301.81	-5059301.61	0.0496	0.0031
Jupiter	-18564-01-12 21:21 J	-5059065.74	-5059065.61	-5059065.48	0.0495	0.0378
Jupiter	-18559-03-25 09:50 J	-5057168.28	-5057168.09	-5057167.89	0.0529	0.0170
Jupiter	-18559-11-18 06:28 J	-5056930.39	-5056930.23	-5056930.07	0.0530	0.0335
Saturn	-18558-08-29 19:26 J	-5056645.84	-5056645.69	-5056645.54	0.0265	0.0182
Saturn	-18557-04-14 14:52 J	-5056417.09	-5056416.88	-5056416.68	0.0263	0.0047
Saturn	-18557-11-29 09:21 J	-5056188.30	-5056188.11	-5056187.91	0.0262	0.0086
Saturn	-18556-07-16 03:36 J	-5055959.46	-5055959.35	-5055959.22	0.0261	0.0216
Jupiter	-18553-01-25 18:43 J	-5055035.92	-5055035.72	-5055035.53	0.0497	0.0142
Jupiter	-18553-09-17 23:02 J	-5054799.71	-5054799.54	-5054799.37	0.0495	0.0268
Jupiter	-18548-11-27 22:33 J	-5052902.73	-5052902.56	-5052902.40	0.0528	0.0310
Jupiter	-18547-07-23 19:55 J	-5052664.86	-5052664.67	-5052664.48	0.0530	0.0196
Neptune	-18543-04-30 21:50 J	-5051287.59	-5051287.59	-5051287.57	0.0089	0.0089
Neptune	-18543-12-12 10:33 J	-5051062.10	-5051062.06	-5051062.00	0.0089	0.0087

Saturn	-18542-05-09 08:09 J	-5050914.32	-5050914.16	-5050913.99	0.0298	0.0187
Neptune	-18542-07-25 22:48 J	-5050836.60	-5050836.55	-5050836.46	0.0089	0.0085
Jupiter	-18542-09-30 21:07 J	-5050769.80	-5050769.62	-5050769.45	0.0498	0.0254
Saturn	-18542-12-25 17:02 J	-5050684.01	-5050683.79	-5050683.58	0.0299	0.0018
Neptune	-18541-03-07 11:45 J	-5050611.08	-5050611.01	-5050610.91	0.0089	0.0082
Uranus	-18541-04-24 18:28 J	-5050562.86	-5050562.73	-5050562.57	0.0147	0.0109
Jupiter	-18541-05-24 00:43 J	-5050533.66	-5050533.47	-5050533.28	0.0495	0.0156
Saturn	-18541-08-12 02:23 J	-5050453.53	-5050453.40	-5050453.25	0.0301	0.0227
Neptune	-18541-10-19 00:00 J	-5050385.57	-5050385.50	-5050385.37	0.0089	0.0080
Uranus	-18541-12-07 06:43 J	-5050336.40	-5050336.22	-5050336.02	0.0147	0.0070
Neptune	-18540-06-01 12:57 J	-5050160.05	-5050159.96	-5050159.83	0.0089	0.0077
Uranus	-18540-07-21 19:11 J	-5050109.90	-5050109.70	-5050109.48	0.0147	0.0031
Neptune	-18539-01-13 01:40 J	-5049934.54	-5049934.43	-5049934.30	0.0089	0.0074
Uranus	-18539-03-05 07:26 J	-5049883.40	-5049883.19	-5049882.97	0.0147	0.0009
Mars	-18539-04-13 03:50 J	-5049844.51	-5049844.34	-5049844.18	0.1890	0.0653
Neptune	-18539-08-26 13:55 J	-5049709.03	-5049708.92	-5049708.77	0.0089	0.0071
Uranus	-18539-10-17 19:26 J	-5049656.88	-5049656.69	-5049656.47	0.0147	0.0048
Moon	-18539-10-31 19:40 J	-5049642.84	-5049642.68	-5049642.52	0.2624	0.0159
Earth	-18539-10-31 22:48 J	-5049642.70	-5049642.55	-5049642.39	0.2629	0.0158 *
Mars	-18538-03-20 00:43 J	-5049503.61	-5049503.47	-5049503.34	0.1628	0.0974
Neptune	-18538-04-09 02:38 J	-5049483.51	-5049483.39	-5049483.23	0.0089	0.0069
Uranus	-18538-06-01 07:40 J	-5049430.34	-5049430.18	-5049430.00	0.0147	0.0087
Neptune	-18538-11-20 15:21 J	-5049257.99	-5049257.86	-5049257.70	0.0089	0.0065
Uranus	-18537-01-13 19:40 J	-5049203.77	-5049203.68	-5049203.55	0.0147	0.0126
Neptune	-18537-07-03 03:50 J	-5049032.48	-5049032.34	-5049032.17	0.0089	0.0063
Mars	-18536-01-17 03:50 J	-5048834.49	-5048834.34	-5048834.18	0.1633	0.0738
Neptune	-18536-02-13 16:33 J	-5048806.96	-5048806.81	-5048806.64	0.0089	0.0060
Jupiter	-18536-08-02 12:43 J	-5048637.07	-5048636.97	-5048636.86	0.0527	0.0445
Neptune	-18536-09-27 05:16 J	-5048581.44	-5048581.28	-5048581.11	0.0089	0.0057
Jupiter	-18535-03-28 11:02 J	-5048399.24	-5048399.04	-5048398.84	0.0530	0.0057

Neptune	-18535-05-10 18:00 J	-5048355.92	-5048355.75	-5048355.58	0.0089	0.0054
Neptune	-18535-12-22 06:28 J	-5048130.40	-5048130.23	-5048130.05	0.0089	0.0051
Neptune	-18534-08-04 18:57 J	-5047904.89	-5047904.71	-5047904.52	0.0089	0.0048
Neptune	-18533-03-17 07:26 J	-5047679.37	-5047679.19	-5047679.00	0.0089	0.0045
Neptune	-18533-10-28 20:09 J	-5047453.85	-5047453.66	-5047453.47	0.0089	0.0041
Neptune	-18532-06-11 08:38 J	-5047228.33	-5047228.14	-5047227.94	0.0089	0.0039
Neptune	-18531-01-22 21:07 J	-5047002.81	-5047002.62	-5047002.41	0.0089	0.0036
Neptune	-18531-09-05 09:36 J	-5046777.29	-5046777.10	-5046776.89	0.0089	0.0032
Neptune	-18530-04-18 22:04 J	-5046551.77	-5046551.58	-5046551.36	0.0089	0.0029
Jupiter	-18530-06-05 22:48 J	-5046503.69	-5046503.55	-5046503.41	0.0498	0.0366
Neptune	-18530-11-30 10:33 J	-5046326.26	-5046326.06	-5046325.84	0.0089	0.0026
Jupiter	-18529-01-28 01:40 J	-5046267.63	-5046267.43	-5046267.22	0.0496	0.0042
Neptune	-18529-07-12 23:02 J	-5046100.74	-5046100.54	-5046100.32	0.0089	0.0023
Jupiter	-18529-09-20 06:14 J	-5046031.32	-5046031.24	-5046031.14	0.0495	0.0444
Neptune	-18528-02-23 11:45 J	-5045875.22	-5045875.01	-5045874.80	0.0089	0.0020
Saturn	-18528-03-10 23:02 J	-5045859.70	-5045859.54	-5045859.37	0.0265	0.0162
Neptune	-18528-10-07 00:00 J	-5045649.71	-5045649.50	-5045649.28	0.0089	0.0016
Saturn	-18528-10-25 18:28 J	-5045630.94	-5045630.73	-5045630.52	0.0263	0.0027
Neptune	-18527-05-20 12:28 J	-5045424.19	-5045423.98	-5045423.76	0.0089	0.0013
Saturn	-18527-06-11 12:57 J	-5045402.15	-5045401.96	-5045401.77	0.0262	0.0107
Neptune	-18526-01-01 00:57 J	-5045198.67	-5045198.46	-5045198.24	0.0089	0.0010
Saturn	-18526-01-26 06:57 J	-5045173.30	-5045173.21	-5045173.12	0.0261	0.0237
Neptune	-18526-08-14 13:11 J	-5044973.16	-5044972.95	-5044972.73	0.0089	0.0007
Neptune	-18525-03-27 01:40 J	-5044747.65	-5044747.43	-5044747.21	0.0089	0.0003
Neptune	-18525-11-07 14:09 J	-5044522.13	-5044521.91	-5044521.70	0.0089	0.0002
Neptune	-18524-06-21 02:38 J	-5044296.61	-5044296.39	-5044296.18	0.0089	0.0003
Jupiter	-18524-12-01 01:40 J	-5044133.63	-5044133.43	-5044133.22	0.0530	0.0085
Neptune	-18523-02-01 14:52 J	-5044071.09	-5044070.88	-5044070.66	0.0089	0.0006
Jupiter	-18523-07-26 22:48 J	-5043895.67	-5043895.55	-5043895.42	0.0531	0.0420
Neptune	-18523-09-15 03:21 J	-5043845.58	-5043845.36	-5043845.15	0.0089	0.0009

Neptune	-18522-04-28 15:36 J	-5043620.06	-5043619.85	-5043619.63	0.0089	0.0013
Neptune	-18522-12-10 03:50 J	-5043394.54	-5043394.34	-5043394.12	0.0089	0.0016
Neptune	-18521-07-22 16:19 J	-5043169.02	-5043168.82	-5043168.60	0.0089	0.0019
Neptune	-18520-03-05 04:48 J	-5042943.50	-5042943.30	-5042943.09	0.0089	0.0022
Neptune	-18520-10-16 17:16 J	-5042717.99	-5042717.78	-5042717.57	0.0089	0.0025
Neptune	-18519-05-30 05:31 J	-5042492.46	-5042492.27	-5042492.05	0.0089	0.0029
Neptune	-18518-01-10 18:00 J	-5042266.94	-5042266.75	-5042266.54	0.0089	0.0032
Jupiter	-18518-02-09 00:57 J	-5042237.52	-5042237.46	-5042237.40	0.0499	0.0474
Neptune	-18518-08-24 06:14 J	-5042041.43	-5042041.24	-5042041.03	0.0089	0.0035
Jupiter	-18518-10-03 04:04 J	-5042001.53	-5042001.33	-5042001.13	0.0496	0.0072
Neptune	-18517-04-05 18:28 J	-5041815.91	-5041815.73	-5041815.52	0.0089	0.0038
Jupiter	-18517-05-26 07:55 J	-5041765.32	-5041765.17	-5041765.02	0.0495	0.0335
Neptune	-18517-11-17 06:57 J	-5041590.39	-5041590.21	-5041590.01	0.0089	0.0041
Neptune	-18516-06-30 19:26 J	-5041364.87	-5041364.69	-5041364.49	0.0089	0.0044
Neptune	-18515-02-11 07:40 J	-5041139.35	-5041139.18	-5041138.98	0.0089	0.0047
Neptune	-18515-09-24 20:09 J	-5040913.83	-5040913.66	-5040913.48	0.0089	0.0050
Neptune	-18514-05-08 08:23 J	-5040688.32	-5040688.15	-5040687.97	0.0089	0.0053
Neptune	-18514-12-19 20:38 J	-5040462.80	-5040462.64	-5040462.46	0.0089	0.0056
Neptune	-18513-08-01 08:52 J	-5040237.27	-5040237.13	-5040236.95	0.0089	0.0059
Saturn	-18513-11-18 16:48 J	-5040127.98	-5040127.80	-5040127.62	0.0298	0.0158
Neptune	-18512-03-14 21:07 J	-5040011.76	-5040011.62	-5040011.45	0.0089	0.0062
Saturn	-18512-07-07 01:40 J	-5039897.64	-5039897.43	-5039897.22	0.0299	0.0048
Jupiter	-18512-08-05 15:07 J	-5039868.05	-5039867.87	-5039867.68	0.0529	0.0226
Neptune	-18512-10-26 09:21 J	-5039786.24	-5039786.11	-5039785.94	0.0089	0.0065
Saturn	-18511-02-22 11:16 J	-5039667.12	-5039667.03	-5039666.91	0.0301	0.0258
Jupiter	-18511-03-31 12:28 J	-5039630.15	-5039629.98	-5039629.81	0.0530	0.0282
Neptune	-18511-06-08 22:19 J	-5039560.71	-5039560.57	-5039560.43	0.0089	0.0067
Neptune	-18510-01-20 10:19 J	-5039335.19	-5039335.07	-5039334.93	0.0089	0.0070
Neptune	-18510-09-02 22:33 J	-5039109.67	-5039109.56	-5039109.42	0.0089	0.0073
Neptune	-18509-04-15 10:48 J	-5038884.14	-5038884.05	-5038883.92	0.0089	0.0076

Neptune	-18509-11-26 23:31 J	-5038658.61	-5038658.52	-5038658.41	0.0088	0.0078
Neptune	-18508-07-10 11:45 J	-5038433.08	-5038433.01	-5038432.90	0.0088	0.0081
Neptune	-18507-02-21 00:00 J	-5038207.55	-5038207.50	-5038207.40	0.0088	0.0084
Neptune	-18507-10-04 12:28 J	-5037982.01	-5037981.98	-5037981.91	0.0088	0.0086
Neptune	-18506-05-18 00:57 J	-5037756.46	-5037756.46	-5037756.43	0.0088	0.0088
Jupiter	-18506-06-08 05:31 J	-5037735.46	-5037735.27	-5037735.08	0.0497	0.0187
Jupiter	-18505-01-30 09:36 J	-5037499.28	-5037499.10	-5037498.92	0.0496	0.0224
Mars	-18505-02-08 05:16 J	-5037490.41	-5037490.28	-5037490.16	0.1885	0.1331
Mars	-18504-01-15 20:38 J	-5037147.81	-5037147.64	-5037147.47	0.1630	0.0088
Jupiter	-18500-04-10 05:16 J	-5035602.42	-5035602.28	-5035602.13	0.0527	0.0363
Uranus	-18500-11-04 06:14 J	-5035394.34	-5035394.24	-5035394.12	0.0132	0.0113
Jupiter	-18500-12-04 02:38 J	-5035364.59	-5035364.39	-5035364.19	0.0530	0.0142
Pluto	-18499-05-23 22:48 J	-5035193.76	-5035193.55	-5035193.32	0.0080	0.0019
Uranus	-18499-06-18 12:00 J	-5035168.17	-5035168.00	-5035167.83	0.0132	0.0084
Saturn	-18499-09-21 04:33 J	-5035073.48	-5035073.31	-5035073.12	0.0264	0.0139
Pluto	-18498-01-04 09:50 J	-5034968.25	-5034968.09	-5034967.91	0.0080	0.0052
Uranus	-18498-01-30 17:16 J	-5034941.97	-5034941.78	-5034941.57	0.0132	0.0056
Saturn	-18498-05-08 00:00 J	-5034844.71	-5034844.50	-5034844.29	0.0263	0.0006
Uranus	-18498-09-13 22:48 J	-5034715.76	-5034715.55	-5034715.33	0.0132	0.0027
Saturn	-18498-12-22 18:14 J	-5034615.92	-5034615.74	-5034615.56	0.0262	0.0128
Uranus	-18497-04-27 04:19 J	-5034489.54	-5034489.32	-5034489.10	0.0132	0.0003
Saturn	-18497-08-07 12:00 J	-5034387.02	-5034387.00	-5034386.96	0.0261	0.0258
Uranus	-18497-12-09 09:36 J	-5034263.32	-5034263.10	-5034262.89	0.0132	0.0031
Uranus	-18496-07-23 14:38 J	-5034037.08	-5034036.89	-5034036.69	0.0132	0.0060
Uranus	-18495-03-06 19:40 J	-5033810.83	-5033810.68	-5033810.50	0.0132	0.0089
Uranus	-18495-10-19 01:11 J	-5033584.55	-5033584.45	-5033584.35	0.0132	0.0118
Jupiter	-18494-02-11 07:55 J	-5033469.33	-5033469.17	-5033469.01	0.0498	0.0298
Jupiter	-18494-10-05 11:45 J	-5033233.21	-5033233.01	-5033232.81	0.0496	0.0113
Jupiter	-18489-12-13 18:00 J	-5031336.81	-5031336.75	-5031336.69	0.0526	0.0498
Jupiter	-18488-08-08 15:36 J	-5031099.05	-5031098.85	-5031098.64	0.0530	0.0012

Jupiter	-18487-04-03 11:45 J	-5030861.07	-5030861.01	-5030860.94	0.0531	0.0498
Saturn	-18483-06-01 02:09 J	-5029341.60	-5029341.41	-5029341.21	0.0298	0.0126
Jupiter	-18483-10-17 10:33 J	-5029203.18	-5029203.06	-5029202.95	0.0499	0.0408
Saturn	-18482-01-17 11:16 J	-5029111.24	-5029111.03	-5029110.82	0.0300	0.0082
Jupiter	-18482-06-10 13:55 J	-5028967.12	-5028966.92	-5028966.71	0.0496	0.0007
Saturn	-18482-09-04 21:07 J	-5028880.67	-5028880.62	-5028880.56	0.0301	0.0291
Jupiter	-18481-02-01 18:28 J	-5028730.84	-5028730.73	-5028730.61	0.0495	0.0406
Jupiter	-18476-04-13 06:28 J	-5026833.43	-5026833.23	-5026833.04	0.0529	0.0141
Jupiter	-18476-12-07 03:21 J	-5026595.50	-5026595.36	-5026595.21	0.0531	0.0366
Mars	-18473-02-08 05:31 J	-5025802.45	-5025802.27	-5025802.10	0.1889	0.0354
Mars	-18472-01-14 13:11 J	-5025461.09	-5025460.95	-5025460.81	0.1628	0.0904
Mars	-18471-11-14 16:33 J	-5024791.96	-5024791.81	-5024791.66	0.1634	0.0812
Jupiter	-18470-02-13 15:50 J	-5024701.03	-5024700.84	-5024700.64	0.0497	0.0116
Saturn	-18470-08-17 12:00 J	-5024516.05	-5024516.00	-5024515.95	0.0265	0.0255
Jupiter	-18470-10-07 19:40 J	-5024464.84	-5024464.68	-5024464.52	0.0495	0.0294
Saturn	-18469-04-02 07:40 J	-5024287.36	-5024287.18	-5024286.99	0.0264	0.0119
Saturn	-18469-11-17 02:38 J	-5024058.59	-5024058.39	-5024058.18	0.0263	0.0017
Saturn	-18468-07-03 21:07 J	-5023829.79	-5023829.62	-5023829.45	0.0261	0.0148
Jupiter	-18465-12-16 20:52 J	-5022567.80	-5022567.63	-5022567.45	0.0529	0.0282
Jupiter	-18464-08-11 18:57 J	-5022329.89	-5022329.71	-5022329.52	0.0531	0.0229
Neptune	-18459-04-21 14:09 J	-5020615.92	-5020615.91	-5020615.87	0.0088	0.0087
Jupiter	-18459-10-19 18:14 J	-5020434.91	-5020434.74	-5020434.55	0.0497	0.0229
Neptune	-18459-12-03 03:21 J	-5020390.39	-5020390.36	-5020390.28	0.0088	0.0085
Jupiter	-18458-06-12 21:36 J	-5020198.79	-5020198.60	-5020198.41	0.0495	0.0182
Neptune	-18458-07-16 16:48 J	-5020164.86	-5020164.80	-5020164.70	0.0088	0.0082
Uranus	-18458-12-24 05:31 J	-5020004.38	-5020004.27	-5020004.15	0.0147	0.0123
Neptune	-18457-02-27 06:43 J	-5019939.32	-5019939.22	-5019939.13	0.0088	0.0079
Uranus	-18457-08-06 17:45 J	-5019777.93	-5019777.76	-5019777.58	0.0147	0.0084
Neptune	-18457-10-09 19:40 J	-5019713.77	-5019713.68	-5019713.55	0.0088	0.0077
Uranus	-18456-03-21 06:00 J	-5019551.46	-5019551.25	-5019551.05	0.0147	0.0045

Neptune	-18456-05-23 09:07 J	-5019488.22	-5019488.12	-5019487.98	0.0088	0.0074
Uranus	-18456-11-02 18:00 J	-5019324.96	-5019324.75	-5019324.53	0.0147	0.0006
Neptune	-18455-01-03 22:48 J	-5019262.67	-5019262.55	-5019262.41	0.0088	0.0071
Uranus	-18455-06-17 06:00 J	-5019098.45	-5019098.25	-5019098.03	0.0147	0.0034
Neptune	-18455-08-17 12:14 J	-5019037.12	-5019036.99	-5019036.84	0.0088	0.0069
Uranus	-18454-01-29 18:14 J	-5018871.92	-5018871.74	-5018871.54	0.0147	0.0073
Neptune	-18454-03-31 01:26 J	-5018811.57	-5018811.44	-5018811.27	0.0088	0.0066
Uranus	-18454-09-13 06:28 J	-5018645.36	-5018645.23	-5018645.08	0.0147	0.0112
Neptune	-18454-11-11 15:07 J	-5018586.01	-5018585.87	-5018585.70	0.0088	0.0063
Saturn	-18454-12-12 08:23 J	-5018555.35	-5018555.15	-5018554.94	0.0298	0.0100
Neptune	-18453-06-24 04:33 J	-5018360.45	-5018360.31	-5018360.13	0.0088	0.0060
Saturn	-18453-07-29 17:45 J	-5018324.96	-5018324.76	-5018324.56	0.0300	0.0108
Jupiter	-18453-08-21 11:31 J	-5018302.15	-5018302.02	-5018301.90	0.0527	0.0416
Neptune	-18452-02-04 18:00 J	-5018134.90	-5018134.75	-5018134.56	0.0088	0.0057
Jupiter	-18452-04-16 09:07 J	-5018064.32	-5018064.12	-5018063.92	0.0530	0.0088
Neptune	-18452-09-18 07:26 J	-5017909.35	-5017909.19	-5017908.99	0.0088	0.0054
Neptune	-18451-05-01 20:52 J	-5017683.79	-5017683.63	-5017683.43	0.0088	0.0051
Neptune	-18451-12-13 10:19 J	-5017458.23	-5017458.07	-5017457.86	0.0088	0.0049
Neptune	-18450-07-27 00:14 J	-5017232.68	-5017232.49	-5017232.29	0.0088	0.0045
Neptune	-18449-03-08 13:40 J	-5017007.12	-5017006.93	-5017006.73	0.0088	0.0041
Neptune	-18449-10-20 03:07 J	-5016781.56	-5016781.37	-5016781.16	0.0088	0.0038
Neptune	-18448-06-02 16:33 J	-5016556.00	-5016555.81	-5016555.59	0.0088	0.0036
Neptune	-18447-01-14 06:00 J	-5016330.44	-5016330.25	-5016330.02	0.0088	0.0033
Jupiter	-18447-06-24 19:26 J	-5016168.84	-5016168.69	-5016168.55	0.0499	0.0342
Neptune	-18447-08-27 19:55 J	-5016104.88	-5016104.67	-5016104.46	0.0088	0.0029
Jupiter	-18446-02-15 23:16 J	-5015932.74	-5015932.53	-5015932.33	0.0496	0.0069
Neptune	-18446-04-10 09:21 J	-5015879.32	-5015879.11	-5015878.89	0.0088	0.0025
Jupiter	-18446-10-10 04:33 J	-5015696.36	-5015696.31	-5015696.25	0.0495	0.0473
Neptune	-18446-11-21 23:02 J	-5015653.75	-5015653.54	-5015653.32	0.0088	0.0022
Neptune	-18445-07-04 12:28 J	-5015428.19	-5015427.98	-5015427.75	0.0088	0.0020

Neptune	-18444-02-15 02:23 J	-5015202.62	-5015202.40	-5015202.18	0.0088	0.0016
Neptune	-18444-09-28 15:50 J	-5014977.06	-5014976.84	-5014976.61	0.0088	0.0013
Neptune	-18443-05-12 05:31 J	-5014751.49	-5014751.27	-5014751.04	0.0088	0.0009
Neptune	-18443-12-23 19:11 J	-5014525.92	-5014525.70	-5014525.47	0.0088	0.0006
Neptune	-18442-08-06 08:52 J	-5014300.35	-5014300.13	-5014299.90	0.0088	0.0003
Neptune	-18441-03-18 22:33 J	-5014074.78	-5014074.56	-5014074.33	0.0088	0.0001
Neptune	-18441-10-30 12:14 J	-5013849.21	-5013848.99	-5013848.76	0.0088	0.0004
Jupiter	-18441-12-19 23:31 J	-5013798.72	-5013798.52	-5013798.32	0.0529	0.0054
Saturn	-18440-02-26 17:02 J	-5013729.88	-5013729.79	-5013729.69	0.0265	0.0233
Neptune	-18440-06-13 01:55 J	-5013623.64	-5013623.42	-5013623.19	0.0088	0.0008
Jupiter	-18440-08-14 19:26 J	-5013560.79	-5013560.69	-5013560.58	0.0530	0.0448
Saturn	-18440-10-13 12:43 J	-5013501.16	-5013500.97	-5013500.77	0.0264	0.0097
Mars	-18440-12-05 07:55 J	-5013448.26	-5013448.17	-5013448.08	0.1884	0.1608
Neptune	-18439-01-24 15:21 J	-5013398.07	-5013397.86	-5013397.63	0.0088	0.0012
Saturn	-18439-05-30 07:40 J	-5013272.39	-5013272.18	-5013271.98	0.0262	0.0037
Neptune	-18439-09-07 05:02 J	-5013172.51	-5013172.29	-5013172.06	0.0088	0.0014
Mars	-18439-11-13 09:21 J	-5013105.28	-5013105.11	-5013104.94	0.1631	0.0019
Saturn	-18438-01-14 01:40 J	-5013043.59	-5013043.43	-5013043.27	0.0261	0.0168
Neptune	-18438-04-20 18:43 J	-5012946.94	-5012946.72	-5012946.50	0.0088	0.0018
Neptune	-18438-12-02 08:09 J	-5012721.36	-5012721.16	-5012720.93	0.0088	0.0022
Neptune	-18437-07-14 21:50 J	-5012495.79	-5012495.59	-5012495.36	0.0088	0.0025
Neptune	-18436-02-25 11:31 J	-5012270.22	-5012270.02	-5012269.80	0.0088	0.0028
Neptune	-18436-10-09 01:11 J	-5012044.65	-5012044.45	-5012044.23	0.0088	0.0031
Jupiter	-18435-02-27 21:50 J	-5011902.67	-5011902.59	-5011902.50	0.0500	0.0451
Neptune	-18435-05-22 14:38 J	-5011819.08	-5011818.89	-5011818.67	0.0088	0.0034
Jupiter	-18435-10-22 01:40 J	-5011666.63	-5011666.43	-5011666.23	0.0497	0.0044
Neptune	-18434-01-03 04:19 J	-5011593.50	-5011593.32	-5011593.10	0.0089	0.0038
Jupiter	-18434-06-15 06:14 J	-5011430.37	-5011430.24	-5011430.10	0.0495	0.0366
Neptune	-18434-08-16 18:00 J	-5011367.93	-5011367.75	-5011367.53	0.0089	0.0041
Neptune	-18433-03-29 07:40 J	-5011142.36	-5011142.18	-5011141.97	0.0089	0.0044

Neptune	-18433-11-09 21:36 J	-5010916.78	-5010916.60	-5010916.40	0.0089	0.0047
Neptune	-18432-06-23 11:16 J	-5010691.21	-5010691.03	-5010690.84	0.0089	0.0050
Neptune	-18431-02-04 00:43 J	-5010465.63	-5010465.47	-5010465.27	0.0089	0.0054
Neptune	-18431-09-17 14:23 J	-5010240.05	-5010239.90	-5010239.71	0.0089	0.0057
Neptune	-18430-05-01 04:04 J	-5010014.47	-5010014.33	-5010014.14	0.0089	0.0060
Neptune	-18430-12-12 18:00 J	-5009788.89	-5009788.75	-5009788.57	0.0089	0.0063
Neptune	-18429-07-25 07:40 J	-5009563.31	-5009563.18	-5009563.01	0.0089	0.0066
Jupiter	-18429-08-24 12:28 J	-5009533.16	-5009532.98	-5009532.79	0.0528	0.0197
Neptune	-18428-03-07 21:21 J	-5009337.73	-5009337.61	-5009337.45	0.0089	0.0069
Jupiter	-18428-04-19 09:21 J	-5009295.27	-5009295.11	-5009294.94	0.0530	0.0313
Neptune	-18428-10-19 11:02 J	-5009112.15	-5009112.04	-5009111.89	0.0089	0.0072
Neptune	-18427-06-02 00:28 J	-5008886.57	-5008886.48	-5008886.33	0.0089	0.0075
Neptune	-18426-01-13 14:52 J	-5008660.98	-5008660.88	-5008660.77	0.0089	0.0077
Neptune	-18426-08-27 04:19 J	-5008435.40	-5008435.32	-5008435.21	0.0089	0.0080
Neptune	-18425-04-08 17:45 J	-5008209.82	-5008209.76	-5008209.66	0.0089	0.0083
Saturn	-18425-11-05 08:38 J	-5007999.22	-5007999.14	-5007999.05	0.0297	0.0272
Neptune	-18425-11-20 07:11 J	-5007984.23	-5007984.20	-5007984.12	0.0089	0.0086
Saturn	-18424-06-23 16:48 J	-5007769.00	-5007768.80	-5007768.59	0.0299	0.0069
Neptune	-18424-07-03 21:21 J	-5007758.63	-5007758.61	-5007758.58	0.0089	0.0088
Saturn	-18423-02-09 02:09 J	-5007538.59	-5007538.41	-5007538.21	0.0301	0.0141
Jupiter	-18423-06-27 04:19 J	-5007400.51	-5007400.32	-5007400.13	0.0497	0.0158
Jupiter	-18422-02-18 08:23 J	-5007164.32	-5007164.15	-5007163.97	0.0496	0.0254
Jupiter	-18417-04-29 02:52 J	-5005267.53	-5005267.38	-5005267.22	0.0528	0.0335
Moon	-18417-05-03 21:07 J	-5005262.73	-5005262.62	-5005262.52	0.2703	0.2025
Earth	-18417-05-04 02:52 J	-5005262.53	-5005262.38	-5005262.24	0.2703	0.1124 *
Jupiter	-18417-12-23 00:43 J	-5005029.66	-5005029.47	-5005029.28	0.0530	0.0174
Uranus	-18416-07-04 18:57 J	-5004835.77	-5004835.71	-5004835.62	0.0132	0.0124
Uranus	-18415-02-16 00:43 J	-5004609.61	-5004609.47	-5004609.31	0.0132	0.0095
Uranus	-18415-09-30 06:14 J	-5004383.43	-5004383.24	-5004383.05	0.0132	0.0066
Uranus	-18414-05-14 11:31 J	-5004157.23	-5004157.02	-5004156.80	0.0132	0.0037

Uranus	-18414-12-26 17:02 J	-5003931.01	-5003930.79	-5003930.57	0.0132	0.0008
Uranus	-18413-08-08 22:19 J	-5003704.79	-5003704.57	-5003704.35	0.0132	0.0021
Uranus	-18412-03-23 03:21 J	-5003478.55	-5003478.36	-5003478.15	0.0132	0.0050
Uranus	-18412-11-04 08:23 J	-5003252.31	-5003252.15	-5003251.96	0.0132	0.0079
Jupiter	-18411-03-02 06:57 J	-5003134.38	-5003134.21	-5003134.04	0.0498	0.0270
Uranus	-18411-06-18 13:55 J	-5003026.05	-5003025.92	-5003025.79	0.0132	0.0107
Saturn	-18411-09-08 19:26 J	-5002943.80	-5002943.69	-5002943.56	0.0265	0.0215
Jupiter	-18411-10-24 10:19 J	-5002898.27	-5002898.07	-5002897.87	0.0495	0.0141
Saturn	-18410-04-25 14:52 J	-5002715.07	-5002714.88	-5002714.67	0.0263	0.0079
Saturn	-18410-12-10 09:36 J	-5002486.31	-5002486.10	-5002485.90	0.0262	0.0055
Saturn	-18409-07-26 03:36 J	-5002257.50	-5002257.35	-5002257.20	0.0261	0.0186
Mars	-18408-12-05 08:23 J	-5001760.33	-5001760.15	-5001759.98	0.1888	0.0087
Mars	-18407-11-12 01:40 J	-5001418.57	-5001418.43	-5001418.28	0.1629	0.0831
Jupiter	-18405-01-02 17:45 J	-5001001.85	-5001001.76	-5001001.67	0.0527	0.0469
Jupiter	-18405-08-27 16:04 J	-5000764.03	-5000763.83	-5000763.63	0.0530	0.0033
Mars	-18405-09-11 04:33 J	-5000749.45	-5000749.31	-5000749.16	0.1635	0.0890
Jupiter	-18400-11-05 09:21 J	-4998868.23	-4998868.11	-4998867.97	0.0499	0.0382
Jupiter	-18399-06-29 12:43 J	-4998632.17	-4998631.97	-4998631.76	0.0496	0.0028
Jupiter	-18398-02-20 17:16 J	-4998395.88	-4998395.78	-4998395.68	0.0495	0.0433
Saturn	-18395-05-18 12:28 J	-4997213.08	-4997212.98	-4997212.85	0.0297	0.0251
Saturn	-18394-01-03 21:07 J	-4996982.83	-4996982.62	-4996982.40	0.0299	0.0047
Saturn	-18394-08-22 06:43 J	-4996752.39	-4996752.22	-4996752.04	0.0300	0.0163
Jupiter	-18393-05-02 06:43 J	-4996498.42	-4996498.22	-4996498.02	0.0529	0.0107
Jupiter	-18393-12-26 03:07 J	-4996260.50	-4996260.37	-4996260.23	0.0530	0.0399
Jupiter	-18388-07-11 10:04 J	-4994602.11	-4994602.08	-4994602.05	0.0500	0.0492
Jupiter	-18387-03-04 13:55 J	-4994366.12	-4994365.92	-4994365.72	0.0497	0.0087
Jupiter	-18387-10-26 18:28 J	-4994129.88	-4994129.73	-4994129.58	0.0496	0.0325
Jupiter	-18381-01-05 21:21 J	-4992232.78	-4992232.61	-4992232.42	0.0528	0.0247
Saturn	-18381-03-20 23:31 J	-4992157.66	-4992157.52	-4992157.38	0.0265	0.0194
Jupiter	-18381-08-30 18:28 J	-4991994.91	-4991994.73	-4991994.56	0.0530	0.0262

Saturn	-18381-11-04 18:57 J	-4991928.92	-4991928.71	-4991928.51	0.0263	0.0058
Saturn	-18380-06-21 13:26 J	-4991700.14	-4991699.94	-4991699.74	0.0262	0.0075
Saturn	-18379-02-05 07:11 J	-4991471.32	-4991471.20	-4991471.07	0.0261	0.0206
Neptune	-18378-10-27 07:11 J	-4990842.20	-4990842.20	-4990842.20	0.0089	0.0089
Neptune	-18377-06-08 19:40 J	-4990616.72	-4990616.68	-4990616.62	0.0089	0.0087
Neptune	-18376-01-20 08:09 J	-4990391.21	-4990391.16	-4990391.07	0.0089	0.0084
Neptune	-18376-09-02 20:52 J	-4990165.70	-4990165.63	-4990165.52	0.0089	0.0081
Jupiter	-18376-11-07 16:33 J	-4990100.00	-4990099.81	-4990099.62	0.0498	0.0200
Mars	-18376-12-05 09:50 J	-4990072.15	-4990072.09	-4990072.04	0.1891	0.1791
Neptune	-18375-04-16 09:36 J	-4989940.18	-4989940.10	-4989939.98	0.0089	0.0079
Jupiter	-18375-07-01 20:52 J	-4989863.82	-4989863.63	-4989863.45	0.0496	0.0214
Neptune	-18375-11-27 22:19 J	-4989714.67	-4989714.57	-4989714.44	0.0089	0.0076
Neptune	-18374-07-11 11:02 J	-4989489.16	-4989489.04	-4989488.91	0.0089	0.0073
Uranus	-18374-08-23 13:26 J	-4989445.99	-4989445.94	-4989445.87	0.0147	0.0140
Neptune	-18373-02-21 23:45 J	-4989263.64	-4989263.51	-4989263.38	0.0089	0.0070
Uranus	-18373-04-06 01:40 J	-4989219.59	-4989219.43	-4989219.28	0.0147	0.0101
Mars	-18373-09-09 21:36 J	-4989062.77	-4989062.60	-4989062.43	0.1632	0.0063
Neptune	-18373-10-04 12:14 J	-4989038.13	-4989037.99	-4989037.84	0.0089	0.0067
Uranus	-18373-11-18 13:40 J	-4988993.12	-4988992.93	-4988992.73	0.0147	0.0062
Neptune	-18372-05-18 00:57 J	-4988812.61	-4988812.46	-4988812.31	0.0089	0.0064
Uranus	-18372-07-03 01:55 J	-4988766.63	-4988766.42	-4988766.20	0.0147	0.0023
Neptune	-18372-12-29 13:40 J	-4988587.09	-4988586.93	-4988586.78	0.0089	0.0061
Uranus	-18371-02-14 14:09 J	-4988540.12	-4988539.91	-4988539.70	0.0147	0.0017
Neptune	-18371-08-12 01:55 J	-4988361.58	-4988361.42	-4988361.25	0.0089	0.0058
Uranus	-18371-09-29 02:23 J	-4988313.60	-4988313.40	-4988313.20	0.0147	0.0056
Neptune	-18370-03-25 14:23 J	-4988136.06	-4988135.90	-4988135.72	0.0089	0.0055
Uranus	-18370-05-13 14:09 J	-4988087.06	-4988086.91	-4988086.73	0.0147	0.0096
Jupiter	-18370-09-10 10:33 J	-4987967.19	-4987967.06	-4987966.91	0.0527	0.0386
Neptune	-18370-11-06 02:52 J	-4987910.54	-4987910.38	-4987910.19	0.0089	0.0052
Uranus	-18370-12-26 02:23 J	-4987860.47	-4987860.40	-4987860.30	0.0147	0.0135

Jupiter -18369-05-05 07:55 J -4987729.36 -4987729.17 -4987728.97 0.0530 0.0122
 Neptune -18369-06-18 15:36 J -4987685.02 -4987684.85 -4987684.66 0.0089 0.0048
 Neptune -18368-01-30 04:04 J -4987459.51 -4987459.33 -4987459.14 0.0089 0.0045
 Neptune -18368-09-12 16:33 J -4987233.99 -4987233.81 -4987233.61 0.0089 0.0042
 Neptune -18367-04-26 05:02 J -4987008.47 -4987008.29 -4987008.08 0.0089 0.0039
 Neptune -18367-12-07 18:00 J -4986782.95 -4986782.75 -4986782.55 0.0089 0.0036
 Neptune -18366-07-21 06:14 J -4986557.43 -4986557.24 -4986557.03 0.0089 0.0032
 Saturn -18366-11-28 19:11 J -4986426.83 -4986426.70 -4986426.55 0.0297 0.0223
 Neptune -18365-03-02 18:43 J -4986331.92 -4986331.72 -4986331.51 0.0089 0.0029
 Saturn -18365-07-16 03:50 J -4986196.55 -4986196.34 -4986196.12 0.0299 0.0018
 Neptune -18365-10-14 07:11 J -4986106.40 -4986106.20 -4986105.98 0.0089 0.0026
 Saturn -18364-03-03 13:40 J -4985966.09 -4985965.93 -4985965.77 0.0301 0.0193
 Neptune -18364-05-27 19:55 J -4985880.87 -4985880.67 -4985880.46 0.0089 0.0023
 Jupiter -18364-07-13 19:26 J -4985833.84 -4985833.69 -4985833.53 0.0499 0.0312
 Neptune -18363-01-08 08:23 J -4985655.36 -4985655.15 -4985654.94 0.0089 0.0019
 Jupiter -18363-03-06 23:31 J -4985597.72 -4985597.52 -4985597.32 0.0496 0.0101
 Neptune -18363-08-21 20:38 J -4985429.84 -4985429.64 -4985429.42 0.0089 0.0016
 Neptune -18362-04-04 09:07 J -4985204.33 -4985204.12 -4985203.90 0.0089 0.0013
 Neptune -18362-11-15 21:36 J -4984978.81 -4984978.60 -4984978.38 0.0089 0.0009
 Neptune -18361-06-28 10:04 J -4984753.29 -4984753.08 -4984752.86 0.0089 0.0006
 Neptune -18360-02-08 22:33 J -4984527.78 -4984527.56 -4984527.34 0.0089 0.0003
 Neptune -18360-09-22 10:48 J -4984302.26 -4984302.05 -4984301.83 0.0089 0.0002
 Neptune -18359-05-05 23:16 J -4984076.74 -4984076.53 -4984076.31 0.0089 0.0004
 Neptune -18359-12-17 11:31 J -4983851.23 -4983851.02 -4983850.80 0.0089 0.0008
 Jupiter -18358-05-16 00:57 J -4983701.48 -4983701.46 -4983701.42 0.0526 0.0519
 Neptune -18358-07-31 00:00 J -4983625.71 -4983625.50 -4983625.28 0.0089 0.0011
 Jupiter -18357-01-08 22:48 J -4983463.75 -4983463.55 -4983463.34 0.0529 0.0021
 Neptune -18357-03-12 12:28 J -4983400.20 -4983399.98 -4983399.77 0.0089 0.0014
 Jupiter -18357-09-02 19:11 J -4983225.78 -4983225.70 -4983225.62 0.0531 0.0482
 Neptune -18357-10-24 00:43 J -4983174.68 -4983174.47 -4983174.25 0.0089 0.0018

Neptune	-18356-06-06 13:11 J	-4982949.15	-4982948.95	-4982948.73	0.0089	0.0021
Neptune	-18355-01-18 01:40 J	-4982723.63	-4982723.43	-4982723.22	0.0089	0.0024
Neptune	-18355-08-31 14:09 J	-4982498.12	-4982497.91	-4982497.71	0.0089	0.0027
Neptune	-18354-04-14 02:09 J	-4982272.60	-4982272.41	-4982272.19	0.0089	0.0031
Neptune	-18354-11-25 14:38 J	-4982047.08	-4982046.89	-4982046.68	0.0089	0.0034
Neptune	-18353-07-08 03:21 J	-4981821.55	-4981821.36	-4981821.16	0.0089	0.0037
Neptune	-18352-02-18 15:50 J	-4981596.03	-4981595.84	-4981595.64	0.0089	0.0040
Jupiter	-18352-03-18 22:33 J	-4981567.66	-4981567.56	-4981567.45	0.0499	0.0422
Saturn	-18352-10-01 01:26 J	-4981371.59	-4981371.44	-4981371.28	0.0264	0.0176
Neptune	-18352-10-02 03:50 J	-4981370.51	-4981370.34	-4981370.13	0.0089	0.0044
Jupiter	-18352-11-10 01:55 J	-4981331.62	-4981331.42	-4981331.21	0.0496	0.0017
Neptune	-18351-05-15 16:19 J	-4981144.99	-4981144.82	-4981144.62	0.0089	0.0047
Saturn	-18351-05-17 20:38 J	-4981142.85	-4981142.64	-4981142.43	0.0263	0.0041
Jupiter	-18351-07-04 06:14 J	-4981095.36	-4981095.24	-4981095.12	0.0495	0.0396
Neptune	-18351-12-27 04:48 J	-4980919.47	-4980919.30	-4980919.11	0.0089	0.0050
Saturn	-18350-01-01 14:52 J	-4980914.08	-4980913.88	-4980913.68	0.0262	0.0092
Neptune	-18350-08-09 17:02 J	-4980693.95	-4980693.79	-4980693.60	0.0089	0.0053
Saturn	-18350-08-18 08:23 J	-4980685.25	-4980685.15	-4980685.04	0.0261	0.0223
Neptune	-18349-03-22 05:31 J	-4980468.43	-4980468.27	-4980468.09	0.0089	0.0056
Neptune	-18349-11-02 17:45 J	-4980242.91	-4980242.76	-4980242.59	0.0089	0.0059
Neptune	-18348-06-16 06:14 J	-4980017.38	-4980017.24	-4980017.07	0.0089	0.0062
Neptune	-18347-01-27 18:43 J	-4979791.86	-4979791.72	-4979791.57	0.0089	0.0065
Neptune	-18347-09-10 06:57 J	-4979566.34	-4979566.21	-4979566.06	0.0089	0.0068
Neptune	-18346-04-23 19:11 J	-4979340.82	-4979340.70	-4979340.56	0.0089	0.0071
Jupiter	-18346-09-13 14:09 J	-4979198.11	-4979197.91	-4979197.72	0.0529	0.0161
Neptune	-18346-12-05 07:26 J	-4979115.29	-4979115.19	-4979115.06	0.0089	0.0074
Jupiter	-18345-05-08 11:16 J	-4978960.17	-4978960.03	-4978959.87	0.0531	0.0350
Neptune	-18345-07-17 19:55 J	-4978889.76	-4978889.67	-4978889.55	0.0089	0.0077
Neptune	-18344-02-28 08:09 J	-4978664.23	-4978664.16	-4978664.04	0.0089	0.0080
Neptune	-18344-10-11 20:52 J	-4978438.70	-4978438.63	-4978438.54	0.0089	0.0082

Neptune	-18343-05-25 08:52 J	-4978213.17	-4978213.13	-4978213.05	0.0088	0.0085
Neptune	-18342-01-05 21:07 J	-4977987.63	-4977987.62	-4977987.56	0.0088	0.0088
Mars	-18342-10-02 10:19 J	-4977718.25	-4977718.07	-4977717.90	0.1887	0.0223
Mars	-18341-09-08 14:09 J	-4977376.06	-4977375.91	-4977375.75	0.1630	0.0761
Pluto	-18341-10-20 10:33 J	-4977334.14	-4977334.06	-4977333.95	0.0064	0.0057
Pluto	-18340-06-02 14:38 J	-4977109.09	-4977108.89	-4977108.68	0.0064	0.0022
Jupiter	-18340-07-16 04:48 J	-4977065.50	-4977065.30	-4977065.10	0.0497	0.0126
Pluto	-18339-01-13 18:14 J	-4976883.95	-4976883.74	-4976883.52	0.0064	0.0013
Jupiter	-18339-03-09 08:38 J	-4976829.30	-4976829.14	-4976828.97	0.0495	0.0286
Mars	-18339-07-09 17:02 J	-4976706.93	-4976706.79	-4976706.66	0.1636	0.0967
Pluto	-18339-08-26 21:21 J	-4976658.72	-4976658.61	-4976658.44	0.0064	0.0049
Saturn	-18336-06-09 21:36 J	-4975640.75	-4975640.60	-4975640.44	0.0297	0.0204
Saturn	-18335-01-26 06:28 J	-4975410.44	-4975410.23	-4975410.01	0.0299	0.0003
Saturn	-18335-09-13 16:19 J	-4975179.97	-4975179.82	-4975179.67	0.0301	0.0213
Jupiter	-18334-05-19 05:16 J	-4974932.44	-4974932.28	-4974932.11	0.0528	0.0298
Jupiter	-18333-01-12 02:38 J	-4974694.57	-4974694.39	-4974694.20	0.0530	0.0212
Uranus	-18332-10-16 12:43 J	-4974051.09	-4974050.97	-4974050.83	0.0132	0.0106
Uranus	-18331-05-30 18:14 J	-4973824.91	-4973824.74	-4973824.56	0.0132	0.0077
Uranus	-18330-01-11 23:45 J	-4973598.71	-4973598.51	-4973598.30	0.0132	0.0048
Uranus	-18330-08-26 05:02 J	-4973372.50	-4973372.29	-4973372.07	0.0132	0.0019
Uranus	-18329-04-08 10:19 J	-4973146.29	-4973146.07	-4973145.85	0.0132	0.0010
Uranus	-18329-11-20 15:21 J	-4972920.06	-4972919.86	-4972919.64	0.0132	0.0039
Jupiter	-18328-03-21 05:31 J	-4972799.45	-4972799.27	-4972799.09	0.0498	0.0241
Uranus	-18328-07-04 20:23 J	-4972693.82	-4972693.65	-4972693.45	0.0132	0.0068
Jupiter	-18328-11-12 09:36 J	-4972563.29	-4972563.10	-4972562.91	0.0496	0.0173
Uranus	-18327-02-16 01:40 J	-4972467.56	-4972467.43	-4972467.27	0.0132	0.0097
Uranus	-18327-09-30 06:57 J	-4972241.27	-4972241.21	-4972241.13	0.0132	0.0125
Jupiter	-18322-01-21 20:52 J	-4970666.75	-4970666.63	-4970666.52	0.0526	0.0431
Saturn	-18322-04-13 04:33 J	-4970585.48	-4970585.31	-4970585.15	0.0264	0.0157
Jupiter	-18322-09-16 18:00 J	-4970428.95	-4970428.75	-4970428.54	0.0529	0.0073

Saturn	-18322-11-27 23:31 J	-4970356.73	-4970356.52	-4970356.31	0.0263	0.0021
Saturn	-18321-07-13 17:45 J	-4970127.94	-4970127.76	-4970127.57	0.0261	0.0112
Saturn	-18320-02-27 11:16 J	-4969899.10	-4969899.03	-4969898.95	0.0260	0.0241
Jupiter	-18317-11-24 07:55 J	-4968533.30	-4968533.17	-4968533.02	0.0499	0.0354
Jupiter	-18316-07-18 12:14 J	-4968297.19	-4968296.99	-4968296.79	0.0497	0.0061
Jupiter	-18315-03-11 17:31 J	-4968060.83	-4968060.77	-4968060.70	0.0496	0.0468
Jupiter	-18310-05-22 07:26 J	-4966163.39	-4966163.19	-4966162.99	0.0529	0.0072
Mars	-18310-10-02 12:00 J	-4966030.10	-4966030.00	-4966029.89	0.1891	0.1500
Jupiter	-18309-01-15 03:36 J	-4965925.46	-4965925.35	-4965925.24	0.0530	0.0434
Mars	-18309-09-07 06:28 J	-4965689.28	-4965689.23	-4965689.19	0.1628	0.1562
Mars	-18307-07-08 10:19 J	-4965020.25	-4965020.07	-4965019.90	0.1633	0.0139
Saturn	-18307-12-21 03:21 J	-4964854.53	-4964854.36	-4964854.18	0.0298	0.0177
Saturn	-18306-08-08 12:14 J	-4964624.20	-4964623.99	-4964623.77	0.0300	0.0031
Saturn	-18305-03-25 22:19 J	-4964393.69	-4964393.57	-4964393.44	0.0301	0.0242
Jupiter	-18305-07-30 11:16 J	-4964267.10	-4964267.03	-4964266.95	0.0500	0.0463
Jupiter	-18304-03-23 15:21 J	-4964031.06	-4964030.86	-4964030.66	0.0497	0.0053
Jupiter	-18304-11-14 19:55 J	-4963794.81	-4963794.67	-4963794.53	0.0496	0.0359
Jupiter	-18298-01-24 22:04 J	-4961897.76	-4961897.58	-4961897.39	0.0528	0.0212
Jupiter	-18298-09-19 19:11 J	-4961659.87	-4961659.70	-4961659.53	0.0530	0.0299
Earth	-18296-11-01 03:07 J	-4960886.53	-4960886.37	-4960886.22	0.2630	0.0482
Moon	-18296-11-01 04:04 J	-4960886.48	-4960886.33	-4960886.18	0.2637	0.0392 *
Neptune	-18294-10-18 00:14 J	-4960170.50	-4960170.49	-4960170.43	0.0088	0.0087
Neptune	-18293-05-30 13:55 J	-4959944.97	-4959944.92	-4959944.85	0.0088	0.0084
Saturn	-18293-10-23 05:31 J	-4959799.44	-4959799.27	-4959799.09	0.0264	0.0140
Jupiter	-18293-11-26 18:28 J	-4959764.93	-4959764.73	-4959764.54	0.0498	0.0167
Neptune	-18292-01-11 03:21 J	-4959719.44	-4959719.36	-4959719.27	0.0088	0.0081
Saturn	-18292-06-09 00:43 J	-4959570.68	-4959570.47	-4959570.26	0.0262	0.0007
Jupiter	-18292-07-20 22:19 J	-4959528.75	-4959528.57	-4959528.40	0.0496	0.0248
Neptune	-18292-08-24 16:04 J	-4959493.90	-4959493.83	-4959493.70	0.0088	0.0079
Saturn	-18291-01-23 18:28 J	-4959341.90	-4959341.73	-4959341.54	0.0261	0.0128

Neptune	-18291-04-07 05:45 J	-4959268.35	-4959268.26	-4959268.13	0.0088	0.0076
Saturn	-18291-09-09 11:45 J	-4959113.03	-4959113.01	-4959112.97	0.0260	0.0257
Neptune	-18291-11-18 19:11 J	-4959042.80	-4959042.70	-4959042.55	0.0088	0.0073
Neptune	-18290-07-02 08:52 J	-4958817.25	-4958817.13	-4958816.98	0.0088	0.0070
Uranus	-18290-12-05 08:23 J	-4958661.27	-4958661.15	-4958661.02	0.0147	0.0119
Neptune	-18289-02-12 22:19 J	-4958591.70	-4958591.57	-4958591.41	0.0088	0.0067
Uranus	-18289-07-18 20:38 J	-4958434.82	-4958434.64	-4958434.46	0.0147	0.0080
Neptune	-18289-09-25 11:45 J	-4958366.15	-4958366.01	-4958365.84	0.0088	0.0064
Uranus	-18288-03-02 08:38 J	-4958208.34	-4958208.14	-4958207.93	0.0147	0.0041
Neptune	-18288-05-09 01:11 J	-4958140.59	-4958140.45	-4958140.27	0.0088	0.0061
Uranus	-18288-10-14 20:52 J	-4957981.85	-4957981.63	-4957981.42	0.0147	0.0001
Earth	-18288-10-29 21:07 J	-4957966.66	-4957966.62	-4957966.59	0.2631	0.2542
Moon	-18288-10-30 01:26 J	-4957966.55	-4957966.44	-4957966.33	0.2636	0.1816
Neptune	-18288-12-20 14:38 J	-4957915.04	-4957914.89	-4957914.70	0.0088	0.0058
Uranus	-18287-05-29 09:07 J	-4957755.33	-4957755.12	-4957754.92	0.0147	0.0038
Neptune	-18287-08-03 04:04 J	-4957689.49	-4957689.33	-4957689.14	0.0088	0.0055
Jupiter	-18287-09-29 13:11 J	-4957632.10	-4957631.95	-4957631.80	0.0527	0.0350
Uranus	-18286-01-10 21:07 J	-4957528.80	-4957528.62	-4957528.43	0.0147	0.0078
Neptune	-18286-03-16 18:00 J	-4957463.93	-4957463.75	-4957463.57	0.0088	0.0052
Jupiter	-18286-05-25 11:02 J	-4957394.24	-4957394.04	-4957393.85	0.0530	0.0161
Uranus	-18286-08-25 09:36 J	-4957302.22	-4957302.10	-4957301.97	0.0147	0.0117
Neptune	-18286-10-28 07:26 J	-4957238.37	-4957238.19	-4957238.00	0.0088	0.0048
Neptune	-18285-06-09 20:52 J	-4957012.81	-4957012.63	-4957012.43	0.0088	0.0045
Neptune	-18284-01-21 10:04 J	-4956787.26	-4956787.08	-4956786.86	0.0088	0.0042
Neptune	-18284-09-04 00:00 J	-4956561.70	-4956561.50	-4956561.30	0.0088	0.0039
Neptune	-18283-04-17 13:11 J	-4956336.15	-4956335.95	-4956335.73	0.0088	0.0035
Neptune	-18283-11-29 02:52 J	-4956110.58	-4956110.38	-4956110.16	0.0088	0.0032
Neptune	-18282-07-12 16:33 J	-4955885.02	-4955884.81	-4955884.60	0.0088	0.0029
Neptune	-18281-02-23 06:00 J	-4955659.46	-4955659.25	-4955659.03	0.0088	0.0025
Jupiter	-18281-08-01 21:21 J	-4955498.78	-4955498.61	-4955498.44	0.0498	0.0279

Neptune	-18281-10-05 19:26 J	-4955433.90	-4955433.69	-4955433.46	0.0088	0.0022
Jupiter	-18280-03-26 00:57 J	-4955262.65	-4955262.46	-4955262.26	0.0496	0.0136
Neptune	-18280-05-19 09:07 J	-4955208.33	-4955208.12	-4955207.89	0.0088	0.0019
Neptune	-18280-12-30 22:48 J	-4954982.77	-4954982.55	-4954982.32	0.0088	0.0015
Neptune	-18279-08-13 12:28 J	-4954757.20	-4954756.98	-4954756.76	0.0088	0.0012
Neptune	-18278-03-27 01:55 J	-4954531.64	-4954531.42	-4954531.19	0.0088	0.0009
Neptune	-18278-11-07 15:50 J	-4954306.06	-4954305.84	-4954305.62	0.0088	0.0005
Neptune	-18277-06-20 05:31 J	-4954080.49	-4954080.27	-4954080.04	0.0088	0.0001
Saturn	-18277-07-02 04:04 J	-4954068.51	-4954068.33	-4954068.15	0.0298	0.0160
Neptune	-18276-01-31 19:11 J	-4953854.92	-4953854.70	-4953854.48	0.0088	0.0002
Saturn	-18276-02-17 13:11 J	-4953838.17	-4953837.95	-4953837.74	0.0299	0.0048
Mars	-18276-07-29 13:11 J	-4953676.12	-4953675.95	-4953675.78	0.1886	0.0495
Neptune	-18276-09-14 08:52 J	-4953629.36	-4953629.13	-4953628.91	0.0088	0.0006
Saturn	-18276-10-05 23:16 J	-4953607.64	-4953607.53	-4953607.43	0.0301	0.0259
Neptune	-18275-04-27 22:19 J	-4953403.79	-4953403.57	-4953403.34	0.0088	0.0009
Jupiter	-18275-06-04 05:16 J	-4953366.36	-4953366.28	-4953366.20	0.0526	0.0480
Mars	-18275-07-07 02:38 J	-4953333.55	-4953333.39	-4953333.23	0.1630	0.0685
Neptune	-18275-12-09 12:14 J	-4953178.21	-4953177.99	-4953177.77	0.0088	0.0013
Jupiter	-18274-01-28 02:52 J	-4953128.59	-4953128.38	-4953128.18	0.0529	0.0023
Neptune	-18274-07-23 01:40 J	-4952952.64	-4952952.43	-4952952.20	0.0088	0.0016
Jupiter	-18274-09-22 22:19 J	-4952890.59	-4952890.57	-4952890.53	0.0530	0.0523
Neptune	-18273-03-04 15:21 J	-4952727.07	-4952726.86	-4952726.63	0.0088	0.0020
Mars	-18273-05-06 05:16 J	-4952664.41	-4952664.28	-4952664.14	0.1637	0.1040
Neptune	-18273-10-16 05:02 J	-4952501.50	-4952501.29	-4952501.07	0.0088	0.0023
Neptune	-18272-05-29 18:28 J	-4952275.93	-4952275.73	-4952275.50	0.0088	0.0027
Neptune	-18271-01-10 08:23 J	-4952050.36	-4952050.15	-4952049.94	0.0088	0.0030
Neptune	-18271-08-23 21:36 J	-4951824.79	-4951824.60	-4951824.37	0.0088	0.0034
Neptune	-18270-04-06 11:16 J	-4951599.22	-4951599.03	-4951598.81	0.0088	0.0037
Neptune	-18270-11-18 01:11 J	-4951373.64	-4951373.45	-4951373.24	0.0088	0.0040
Jupiter	-18269-04-06 21:36 J	-4951232.72	-4951232.60	-4951232.48	0.0500	0.0394

Neptune -18269-06-30 14:38 J -4951148.07 -4951147.89 -4951147.68 0.0089 0.0044
 Jupiter -18269-11-29 01:40 J -4950996.64 -4950996.43 -4950996.23 0.0497 0.0021
 Neptune -18268-02-11 04:19 J -4950922.50 -4950922.32 -4950922.12 0.0089 0.0047
 Jupiter -18268-07-23 06:43 J -4950760.32 -4950760.22 -4950760.12 0.0496 0.0430
 Neptune -18268-09-24 18:00 J -4950696.92 -4950696.75 -4950696.56 0.0089 0.0050
 Neptune -18267-05-08 07:55 J -4950471.35 -4950471.17 -4950470.99 0.0089 0.0053
 Neptune -18267-12-19 21:21 J -4950245.77 -4950245.61 -4950245.42 0.0089 0.0057
 Neptune -18266-08-02 11:02 J -4950020.19 -4950020.04 -4950019.86 0.0089 0.0060
 Neptune -18265-03-15 00:43 J -4949794.61 -4949794.47 -4949794.30 0.0089 0.0063
 Neptune -18265-10-26 14:23 J -4949569.03 -4949568.90 -4949568.74 0.0089 0.0066
 Neptune -18264-06-09 04:19 J -4949343.45 -4949343.32 -4949343.18 0.0089 0.0069
 Saturn -18264-09-18 11:45 J -4949242.04 -4949242.01 -4949241.95 0.0266 0.0259
 Neptune -18263-01-20 18:00 J -4949117.87 -4949117.75 -4949117.61 0.0089 0.0072
 Saturn -18263-05-05 07:55 J -4949013.35 -4949013.17 -4949012.98 0.0264 0.0121
 Neptune -18263-09-03 07:40 J -4948892.29 -4948892.18 -4948892.05 0.0089 0.0075
 Jupiter -18263-10-02 18:14 J -4948862.93 -4948862.74 -4948862.54 0.0528 0.0119
 Saturn -18263-12-20 02:52 J -4948784.59 -4948784.38 -4948784.17 0.0263 0.0014
 Neptune -18262-04-16 21:21 J -4948666.71 -4948666.61 -4948666.50 0.0089 0.0078
 Jupiter -18262-05-28 14:23 J -4948625.03 -4948624.90 -4948624.76 0.0530 0.0390
 Saturn -18262-08-05 20:52 J -4948555.80 -4948555.63 -4948555.46 0.0261 0.0146
 Neptune -18262-11-28 11:02 J -4948441.12 -4948441.04 -4948440.94 0.0089 0.0081
 Neptune -18261-07-11 00:43 J -4948215.53 -4948215.47 -4948215.39 0.0089 0.0084
 Neptune -18260-02-21 14:09 J -4947989.93 -4947989.91 -4947989.85 0.0089 0.0087
 Jupiter -18257-08-04 04:19 J -4946730.52 -4946730.32 -4946730.12 0.0498 0.0094
 Jupiter -18256-03-28 09:07 J -4946494.27 -4946494.12 -4946493.96 0.0496 0.0322
 Pluto -18251-04-26 10:19 J -4944639.29 -4944639.07 -4944638.84 0.0080 0.0013
 Jupiter -18251-06-07 07:40 J -4944597.35 -4944597.18 -4944597.00 0.0527 0.0261
 Pluto -18251-12-07 21:07 J -4944413.75 -4944413.62 -4944413.44 0.0080 0.0058
 Jupiter -18250-01-31 04:33 J -4944359.49 -4944359.31 -4944359.13 0.0530 0.0250
 Uranus -18248-06-16 00:28 J -4943492.56 -4943492.48 -4943492.36 0.0132 0.0118

Saturn	-18247-01-12 08:52 J	-4943282.32	-4943282.13	-4943281.94	0.0298	0.0135
Uranus	-18247-01-28 06:14 J	-4943266.39	-4943266.24	-4943266.07	0.0132	0.0089
Saturn	-18247-08-30 18:00 J	-4943051.96	-4943051.75	-4943051.54	0.0300	0.0075
Uranus	-18247-09-11 11:31 J	-4943040.21	-4943040.02	-4943039.81	0.0132	0.0060
Saturn	-18246-04-18 04:04 J	-4942821.39	-4942821.33	-4942821.26	0.0302	0.0287
Uranus	-18246-04-25 16:48 J	-4942814.00	-4942813.80	-4942813.58	0.0132	0.0031
Uranus	-18246-12-07 22:19 J	-4942587.79	-4942587.57	-4942587.35	0.0132	0.0001
Jupiter	-18245-04-09 07:40 J	-4942464.36	-4942464.18	-4942463.99	0.0498	0.0208
Uranus	-18245-07-21 03:21 J	-4942361.57	-4942361.36	-4942361.14	0.0132	0.0028
Jupiter	-18245-12-01 12:00 J	-4942228.18	-4942228.00	-4942227.81	0.0496	0.0209
Uranus	-18244-03-04 08:38 J	-4942135.33	-4942135.14	-4942134.93	0.0132	0.0057
Mars	-18244-07-29 13:55 J	-4941988.06	-4941987.92	-4941987.78	0.1890	0.1200
Uranus	-18244-10-16 13:40 J	-4941909.08	-4941908.93	-4941908.75	0.0132	0.0086
Uranus	-18243-05-30 18:43 J	-4941682.81	-4941682.72	-4941682.60	0.0132	0.0115
Mars	-18243-07-05 18:57 J	-4941646.77	-4941646.71	-4941646.64	0.1628	0.1491
Mars	-18241-05-04 22:33 J	-4940977.73	-4940977.56	-4940977.39	0.1634	0.0206
Jupiter	-18239-02-09 22:19 J	-4940331.70	-4940331.57	-4940331.43	0.0526	0.0398
Jupiter	-18239-10-05 19:40 J	-4940093.88	-4940093.68	-4940093.48	0.0529	0.0110
Saturn	-18234-03-31 12:28 J	-4938456.05	-4938455.98	-4938455.88	0.0265	0.0243
Saturn	-18234-11-15 08:23 J	-4938227.33	-4938227.15	-4938226.95	0.0264	0.0106
Jupiter	-18234-12-14 11:02 J	-4938198.20	-4938198.04	-4938197.89	0.0499	0.0319
Saturn	-18233-07-01 03:36 J	-4937998.56	-4937998.35	-4937998.14	0.0262	0.0030
Jupiter	-18233-08-06 14:52 J	-4937962.08	-4937961.88	-4937961.68	0.0496	0.0097
Saturn	-18232-02-14 21:21 J	-4937769.77	-4937769.61	-4937769.44	0.0261	0.0162
Jupiter	-18227-06-10 11:02 J	-4935828.24	-4935828.04	-4935827.84	0.0529	0.0031
Jupiter	-18226-02-03 07:26 J	-4935590.27	-4935590.19	-4935590.09	0.0531	0.0476
Jupiter	-18222-08-19 13:55 J	-4933932.01	-4933931.92	-4933931.81	0.0500	0.0430
Jupiter	-18221-04-11 17:45 J	-4933695.96	-4933695.76	-4933695.55	0.0497	0.0020
Jupiter	-18221-12-03 22:04 J	-4933459.69	-4933459.58	-4933459.45	0.0495	0.0395
Saturn	-18218-07-25 09:21 J	-4932496.30	-4932496.11	-4932495.91	0.0298	0.0118

Saturn	-18217-03-11 18:28 J	-4932265.93	-4932265.73	-4932265.52	0.0300	0.0092
Jupiter	-18215-02-13 03:21 J	-4931562.55	-4931562.36	-4931562.16	0.0528	0.0168
Jupiter	-18215-10-09 00:14 J	-4931324.65	-4931324.49	-4931324.34	0.0530	0.0343
Neptune	-18212-04-23 16:04 J	-4930396.83	-4930396.83	-4930396.80	0.0089	0.0089
Neptune	-18212-12-05 04:33 J	-4930171.34	-4930171.31	-4930171.23	0.0089	0.0087
Neptune	-18211-07-18 17:16 J	-4929945.83	-4929945.78	-4929945.68	0.0089	0.0084
Neptune	-18210-03-01 06:14 J	-4929720.32	-4929720.24	-4929720.14	0.0089	0.0080
Mars	-18210-05-26 15:50 J	-4929634.00	-4929633.84	-4929633.68	0.1884	0.0776
Neptune	-18210-10-12 18:57 J	-4929494.81	-4929494.71	-4929494.59	0.0089	0.0077
Jupiter	-18210-12-16 18:00 J	-4929429.94	-4929429.75	-4929429.55	0.0498	0.0135
Mars	-18209-05-03 15:21 J	-4929291.02	-4929290.86	-4929290.70	0.1631	0.0617
Neptune	-18209-05-25 07:40 J	-4929269.29	-4929269.18	-4929269.05	0.0089	0.0075
Jupiter	-18209-08-08 22:33 J	-4929193.72	-4929193.56	-4929193.39	0.0496	0.0283
Neptune	-18208-01-05 20:09 J	-4929043.77	-4929043.66	-4929043.51	0.0089	0.0072
Neptune	-18208-08-19 08:38 J	-4928818.26	-4928818.14	-4928817.98	0.0089	0.0069
Mars	-18207-03-03 17:31 J	-4928621.89	-4928621.77	-4928621.64	0.1638	0.1118
Neptune	-18207-04-01 21:21 J	-4928592.74	-4928592.61	-4928592.45	0.0089	0.0065
Neptune	-18207-11-13 09:50 J	-4928367.23	-4928367.09	-4928366.92	0.0089	0.0062
Neptune	-18206-06-26 22:19 J	-4928141.71	-4928141.57	-4928141.38	0.0089	0.0060
Uranus	-18206-08-04 12:43 J	-4928103.01	-4928102.97	-4928102.88	0.0147	0.0140
Neptune	-18205-02-07 11:16 J	-4927916.19	-4927916.03	-4927915.86	0.0089	0.0056
Uranus	-18205-03-18 00:57 J	-4927876.60	-4927876.46	-4927876.29	0.0147	0.0101
Neptune	-18205-09-19 23:45 J	-4927690.68	-4927690.51	-4927690.33	0.0089	0.0052
Saturn	-18205-10-10 14:23 J	-4927670.00	-4927669.90	-4927669.78	0.0266	0.0225
Uranus	-18205-10-30 13:11 J	-4927650.14	-4927649.95	-4927649.75	0.0147	0.0061
Neptune	-18204-05-03 12:14 J	-4927465.15	-4927464.99	-4927464.79	0.0089	0.0049
Saturn	-18204-05-27 10:19 J	-4927441.26	-4927441.07	-4927440.87	0.0264	0.0087
Uranus	-18204-06-14 01:11 J	-4927423.66	-4927423.45	-4927423.23	0.0147	0.0022
Jupiter	-18204-10-18 19:11 J	-4927296.87	-4927296.70	-4927296.53	0.0527	0.0306
Neptune	-18204-12-15 00:43 J	-4927239.64	-4927239.47	-4927239.27	0.0089	0.0046

Saturn	-18203-01-11 05:02 J	-4927212.49	-4927212.29	-4927212.08	0.0262	0.0049
Uranus	-18203-01-26 13:26 J	-4927197.15	-4927196.94	-4927196.73	0.0147	0.0018
Jupiter	-18203-06-13 15:50 J	-4927059.02	-4927058.84	-4927058.65	0.0529	0.0206
Neptune	-18203-07-28 13:26 J	-4927014.12	-4927013.94	-4927013.74	0.0089	0.0043
Saturn	-18203-08-27 22:48 J	-4926983.69	-4926983.55	-4926983.39	0.0261	0.0180
Uranus	-18203-09-10 01:26 J	-4926970.63	-4926970.44	-4926970.23	0.0147	0.0058
Neptune	-18202-03-11 01:55 J	-4926788.60	-4926788.42	-4926788.22	0.0089	0.0039
Uranus	-18202-04-24 13:55 J	-4926744.08	-4926743.92	-4926743.76	0.0147	0.0097
Neptune	-18202-10-22 14:23 J	-4926563.08	-4926562.90	-4926562.69	0.0089	0.0036
Uranus	-18202-12-07 01:40 J	-4926517.49	-4926517.43	-4926517.33	0.0147	0.0137
Neptune	-18201-06-04 03:21 J	-4926337.56	-4926337.36	-4926337.16	0.0089	0.0032
Neptune	-18200-01-15 15:36 J	-4926112.04	-4926111.85	-4926111.63	0.0089	0.0030
Neptune	-18200-08-29 04:04 J	-4925886.52	-4925886.33	-4925886.11	0.0089	0.0026
Neptune	-18199-04-11 16:48 J	-4925661.00	-4925660.80	-4925660.58	0.0089	0.0022
Neptune	-18199-11-23 05:16 J	-4925435.48	-4925435.28	-4925435.06	0.0089	0.0019
Neptune	-18198-07-06 18:00 J	-4925209.96	-4925209.75	-4925209.54	0.0089	0.0015
Jupiter	-18198-08-21 20:52 J	-4925163.80	-4925163.63	-4925163.45	0.0499	0.0248
Neptune	-18197-02-17 06:14 J	-4924984.45	-4924984.24	-4924984.02	0.0089	0.0012
Jupiter	-18197-04-14 01:11 J	-4924927.64	-4924927.45	-4924927.25	0.0497	0.0171
Neptune	-18197-09-29 18:57 J	-4924758.93	-4924758.71	-4924758.50	0.0089	0.0008
Neptune	-18196-05-13 07:11 J	-4924533.41	-4924533.20	-4924532.98	0.0089	0.0005
Neptune	-18196-12-24 19:40 J	-4924307.89	-4924307.68	-4924307.46	0.0089	0.0002
Neptune	-18195-08-07 08:09 J	-4924082.38	-4924082.16	-4924081.95	0.0089	0.0002
Neptune	-18194-03-20 20:23 J	-4923856.86	-4923856.65	-4923856.43	0.0089	0.0006
Neptune	-18194-11-01 08:52 J	-4923631.35	-4923631.13	-4923630.92	0.0089	0.0009
Neptune	-18193-06-13 21:07 J	-4923405.82	-4923405.62	-4923405.39	0.0089	0.0013
Neptune	-18192-01-25 09:36 J	-4923180.31	-4923180.10	-4923179.88	0.0089	0.0016
Jupiter	-18192-06-23 08:38 J	-4923031.24	-4923031.14	-4923031.03	0.0526	0.0444
Neptune	-18192-09-07 22:04 J	-4922954.79	-4922954.58	-4922954.37	0.0089	0.0019
Jupiter	-18191-02-16 05:45 J	-4922793.46	-4922793.26	-4922793.06	0.0529	0.0062

Neptune	-18191-04-21 10:19 J	-4922729.27	-4922729.07	-4922728.86	0.0089	0.0023
Neptune	-18191-12-02 22:48 J	-4922503.76	-4922503.55	-4922503.34	0.0089	0.0026
Neptune	-18190-07-16 11:02 J	-4922278.23	-4922278.04	-4922277.82	0.0089	0.0030
Neptune	-18189-02-26 23:31 J	-4922052.71	-4922052.52	-4922052.31	0.0089	0.0033
Saturn	-18189-06-18 05:45 J	-4921940.27	-4921940.26	-4921940.24	0.0296	0.0295
Neptune	-18189-10-09 12:00 J	-4921827.19	-4921827.00	-4921826.80	0.0089	0.0036
Saturn	-18188-02-03 13:26 J	-4921710.14	-4921709.94	-4921709.73	0.0298	0.0092
Neptune	-18188-05-23 00:14 J	-4921601.67	-4921601.49	-4921601.28	0.0089	0.0040
Saturn	-18188-09-21 22:33 J	-4921479.75	-4921479.56	-4921479.35	0.0300	0.0119
Neptune	-18187-01-03 12:43 J	-4921376.15	-4921375.97	-4921375.77	0.0089	0.0043
Neptune	-18187-08-17 01:11 J	-4921150.63	-4921150.45	-4921150.26	0.0089	0.0046
Neptune	-18186-03-30 13:11 J	-4920925.11	-4920924.95	-4920924.75	0.0089	0.0050
Jupiter	-18186-04-27 00:00 J	-4920897.63	-4920897.50	-4920897.35	0.0500	0.0361
Neptune	-18186-11-11 01:40 J	-4920699.58	-4920699.43	-4920699.24	0.0089	0.0053
Jupiter	-18186-12-19 04:33 J	-4920661.52	-4920661.31	-4920661.11	0.0497	0.0057
Neptune	-18185-06-23 14:23 J	-4920474.06	-4920473.90	-4920473.72	0.0089	0.0056
Jupiter	-18185-08-11 09:50 J	-4920425.15	-4920425.09	-4920425.02	0.0496	0.0467
Neptune	-18184-02-04 02:52 J	-4920248.53	-4920248.38	-4920248.21	0.0089	0.0059
Neptune	-18184-09-17 15:21 J	-4920023.01	-4920022.86	-4920022.71	0.0089	0.0062
Neptune	-18183-05-01 03:07 J	-4919797.49	-4919797.37	-4919797.20	0.0089	0.0066
Neptune	-18183-12-12 15:36 J	-4919571.97	-4919571.85	-4919571.70	0.0089	0.0069
Earth	-18182-05-07 12:43 J	-4919425.97	-4919425.97	-4919425.96	0.2703	0.2699
Neptune	-18182-07-26 04:04 J	-4919346.44	-4919346.33	-4919346.19	0.0089	0.0072
Neptune	-18181-03-07 16:19 J	-4919120.91	-4919120.82	-4919120.68	0.0089	0.0075
Neptune	-18181-10-19 04:33 J	-4918895.39	-4918895.31	-4918895.18	0.0089	0.0078
Neptune	-18180-06-01 16:48 J	-4918669.86	-4918669.80	-4918669.68	0.0089	0.0081
Jupiter	-18180-10-21 20:23 J	-4918527.85	-4918527.65	-4918527.44	0.0528	0.0082
Neptune	-18179-01-13 05:45 J	-4918444.33	-4918444.26	-4918444.18	0.0089	0.0083
Jupiter	-18179-06-16 16:33 J	-4918289.92	-4918289.81	-4918289.68	0.0530	0.0428
Neptune	-18179-08-26 18:00 J	-4918218.79	-4918218.75	-4918218.69	0.0089	0.0086

Mars	-18178-05-26 16:04 J	-4917945.98	-4917945.83	-4917945.67	0.1889	0.0908
Mars	-18177-05-02 07:55 J	-4917604.25	-4917604.17	-4917604.09	0.1629	0.1425
Mars	-18175-03-02 11:02 J	-4916935.21	-4916935.04	-4916934.87	0.1635	0.0279
Saturn	-18175-04-22 15:07 J	-4916883.99	-4916883.87	-4916883.74	0.0265	0.0208
Saturn	-18175-12-07 10:48 J	-4916655.24	-4916655.05	-4916654.84	0.0263	0.0071
Jupiter	-18175-12-31 03:36 J	-4916631.42	-4916631.35	-4916631.28	0.0501	0.0470
Earth	-18174-05-05 00:43 J	-4916506.61	-4916506.47	-4916506.33	0.2702	0.1316
Moon	-18174-05-05 05:45 J	-4916506.42	-4916506.26	-4916506.11	0.2705	0.0447 *
Saturn	-18174-07-24 05:45 J	-4916426.46	-4916426.26	-4916426.06	0.0262	0.0064
Jupiter	-18174-08-24 07:40 J	-4916395.38	-4916395.18	-4916394.97	0.0497	0.0058
Saturn	-18173-03-08 23:16 J	-4916197.66	-4916197.53	-4916197.38	0.0261	0.0196
Jupiter	-18173-04-16 12:14 J	-4916159.13	-4916158.99	-4916158.85	0.0496	0.0358
Jupiter	-18168-06-26 11:31 J	-4914262.20	-4914262.02	-4914261.83	0.0528	0.0221
Jupiter	-18167-02-19 08:52 J	-4914024.30	-4914024.13	-4914023.96	0.0530	0.0293
Uranus	-18164-02-13 12:00 J	-4912934.02	-4912934.00	-4912933.95	0.0132	0.0130
Uranus	-18164-09-27 17:16 J	-4912707.90	-4912707.78	-4912707.62	0.0132	0.0101
Uranus	-18163-05-11 22:48 J	-4912481.72	-4912481.55	-4912481.35	0.0132	0.0072
Uranus	-18163-12-24 04:33 J	-4912255.52	-4912255.31	-4912255.10	0.0132	0.0042
Jupiter	-18162-04-29 10:33 J	-4912129.24	-4912129.06	-4912128.86	0.0498	0.0172
Uranus	-18162-08-07 09:50 J	-4912029.30	-4912029.09	-4912028.87	0.0132	0.0013
Jupiter	-18162-12-21 14:52 J	-4911893.06	-4911892.88	-4911892.71	0.0496	0.0246
Uranus	-18161-03-20 15:07 J	-4911803.08	-4911802.87	-4911802.65	0.0132	0.0017
Uranus	-18161-11-01 20:09 J	-4911576.85	-4911576.66	-4911576.44	0.0132	0.0046
Uranus	-18160-06-16 01:26 J	-4911350.61	-4911350.44	-4911350.25	0.0132	0.0075
Saturn	-18160-12-29 05:45 J	-4911154.31	-4911154.26	-4911154.17	0.0296	0.0279
Uranus	-18159-01-28 06:43 J	-4911124.34	-4911124.22	-4911124.07	0.0132	0.0104
Saturn	-18159-08-16 13:40 J	-4910924.13	-4910923.93	-4910923.71	0.0298	0.0077
Saturn	-18158-04-03 23:02 J	-4910693.73	-4910693.54	-4910693.34	0.0300	0.0134
Jupiter	-18156-03-01 04:04 J	-4909996.47	-4909996.33	-4909996.17	0.0527	0.0356
Jupiter	-18156-10-25 01:26 J	-4909758.63	-4909758.44	-4909758.24	0.0529	0.0156

Jupiter	-18150-01-02 10:33 J	-4907863.22	-4907863.06	-4907862.89	0.0499	0.0289
Jupiter	-18150-08-26 15:07 J	-4907627.07	-4907626.87	-4907626.68	0.0497	0.0131
Saturn	-18146-11-02 16:19 J	-4906097.95	-4906097.82	-4906097.67	0.0266	0.0191
Saturn	-18145-06-18 12:28 J	-4905869.19	-4905868.98	-4905868.78	0.0264	0.0053
Jupiter	-18145-11-03 20:09 J	-4905730.73	-4905730.66	-4905730.59	0.0525	0.0488
Saturn	-18144-02-02 06:57 J	-4905640.40	-4905640.21	-4905640.01	0.0262	0.0082
Mars	-18144-03-22 18:57 J	-4905591.86	-4905591.71	-4905591.56	0.1883	0.1040
Jupiter	-18144-06-29 17:16 J	-4905492.98	-4905492.78	-4905492.57	0.0529	0.0017
Saturn	-18144-09-19 00:28 J	-4905411.58	-4905411.48	-4905411.35	0.0261	0.0214
Jupiter	-18143-02-22 12:43 J	-4905255.00	-4905254.97	-4905254.92	0.0530	0.0519
Mars	-18143-03-01 03:50 J	-4905248.50	-4905248.34	-4905248.18	0.1632	0.0543
Mars	-18142-12-30 05:45 J	-4904579.38	-4904579.26	-4904579.14	0.1639	0.1195
Jupiter	-18139-09-07 13:11 J	-4903597.06	-4903596.95	-4903596.82	0.0500	0.0401
Jupiter	-18138-05-01 17:31 J	-4903360.97	-4903360.77	-4903360.56	0.0497	0.0019
Jupiter	-18138-12-23 22:48 J	-4903124.64	-4903124.55	-4903124.44	0.0496	0.0430
Jupiter	-18132-03-04 06:57 J	-4901227.41	-4901227.21	-4901227.01	0.0528	0.0129
Jupiter	-18132-10-28 02:52 J	-4900989.51	-4900989.38	-4900989.23	0.0530	0.0383
Saturn	-18130-07-11 10:48 J	-4900368.16	-4900368.05	-4900367.94	0.0296	0.0253
Saturn	-18129-02-26 18:43 J	-4900137.94	-4900137.72	-4900137.51	0.0299	0.0049
Saturn	-18129-10-14 03:50 J	-4899907.51	-4899907.34	-4899907.15	0.0301	0.0163
Neptune	-18128-04-14 11:16 J	-4899725.06	-4899725.03	-4899724.97	0.0088	0.0086
Neptune	-18128-11-26 00:43 J	-4899499.52	-4899499.47	-4899499.39	0.0088	0.0083
Neptune	-18127-07-09 14:09 J	-4899273.99	-4899273.91	-4899273.81	0.0088	0.0080
Jupiter	-18126-01-04 20:52 J	-4899094.83	-4899094.63	-4899094.43	0.0498	0.0099
Neptune	-18126-02-20 03:36 J	-4899048.45	-4899048.35	-4899048.24	0.0088	0.0077
Jupiter	-18126-08-29 01:40 J	-4898858.58	-4898858.43	-4898858.27	0.0496	0.0320
Neptune	-18126-10-03 17:02 J	-4898822.90	-4898822.79	-4898822.66	0.0088	0.0074
Neptune	-18125-05-16 06:28 J	-4898597.35	-4898597.23	-4898597.09	0.0088	0.0071
Neptune	-18125-12-27 19:40 J	-4898371.80	-4898371.68	-4898371.52	0.0088	0.0068
Neptune	-18124-08-10 09:07 J	-4898146.25	-4898146.12	-4898145.96	0.0088	0.0065

Neptune	-18123-03-23 22:33 J	-4897920.70	-4897920.56	-4897920.39	0.0088	0.0062
Neptune	-18123-11-04 12:00 J	-4897695.14	-4897695.00	-4897694.81	0.0088	0.0059
Neptune	-18122-06-18 01:55 J	-4897469.59	-4897469.42	-4897469.24	0.0088	0.0055
Uranus	-18122-11-16 07:40 J	-4897318.30	-4897318.18	-4897318.06	0.0147	0.0119
Neptune	-18121-01-29 15:07 J	-4897244.03	-4897243.87	-4897243.67	0.0088	0.0052
Uranus	-18121-06-29 19:26 J	-4897091.86	-4897091.69	-4897091.50	0.0147	0.0080
Neptune	-18121-09-11 04:33 J	-4897018.48	-4897018.31	-4897018.11	0.0088	0.0049
Jupiter	-18121-11-06 21:21 J	-4896961.78	-4896961.61	-4896961.43	0.0527	0.0270
Uranus	-18120-02-11 07:26 J	-4896865.39	-4896865.19	-4896864.97	0.0147	0.0041
Neptune	-18120-04-24 18:14 J	-4896792.92	-4896792.74	-4896792.54	0.0088	0.0045
Jupiter	-18120-07-02 18:14 J	-4896723.92	-4896723.74	-4896723.56	0.0530	0.0244
Uranus	-18120-09-25 19:40 J	-4896638.89	-4896638.68	-4896638.46	0.0147	0.0002
Neptune	-18120-12-06 07:40 J	-4896567.36	-4896567.18	-4896566.97	0.0088	0.0042
Uranus	-18119-05-10 07:55 J	-4896412.38	-4896412.17	-4896411.96	0.0147	0.0039
Neptune	-18119-07-19 21:07 J	-4896341.81	-4896341.62	-4896341.40	0.0088	0.0039
Uranus	-18119-12-22 19:55 J	-4896185.84	-4896185.67	-4896185.48	0.0147	0.0079
Neptune	-18118-03-02 10:33 J	-4896116.25	-4896116.06	-4896115.84	0.0088	0.0036
Uranus	-18118-08-06 08:38 J	-4895959.27	-4895959.14	-4895959.02	0.0147	0.0118
Neptune	-18118-10-14 00:00 J	-4895890.69	-4895890.50	-4895890.27	0.0088	0.0032
Neptune	-18117-05-26 13:40 J	-4895665.13	-4895664.93	-4895664.71	0.0088	0.0029
Neptune	-18116-01-07 03:07 J	-4895439.57	-4895439.37	-4895439.14	0.0088	0.0025
Saturn	-18116-05-14 17:16 J	-4895311.93	-4895311.78	-4895311.61	0.0265	0.0174
Neptune	-18116-08-20 16:48 J	-4895214.01	-4895213.80	-4895213.58	0.0088	0.0021
Saturn	-18116-12-29 13:11 J	-4895083.16	-4895082.95	-4895082.74	0.0263	0.0036
Neptune	-18115-04-03 06:14 J	-4894988.45	-4894988.24	-4894988.01	0.0088	0.0018
Saturn	-18115-08-15 07:40 J	-4894854.37	-4894854.18	-4894853.98	0.0262	0.0098
Jupiter	-18115-09-10 00:14 J	-4894828.67	-4894828.49	-4894828.30	0.0499	0.0213
Neptune	-18115-11-14 19:55 J	-4894762.88	-4894762.67	-4894762.44	0.0088	0.0015
Saturn	-18114-04-01 01:26 J	-4894625.53	-4894625.44	-4894625.34	0.0261	0.0229
Jupiter	-18114-05-04 04:33 J	-4894592.50	-4894592.31	-4894592.13	0.0496	0.0207

Neptune	-18114-06-28 09:36 J	-4894537.32	-4894537.10	-4894536.87	0.0088	0.0011
Neptune	-18113-02-08 23:16 J	-4894311.75	-4894311.53	-4894311.31	0.0088	0.0007
Neptune	-18113-09-21 12:43 J	-4894086.19	-4894085.97	-4894085.74	0.0088	0.0004
Mars	-18112-03-22 18:43 J	-4893903.89	-4893903.72	-4893903.55	0.1887	0.0623
Neptune	-18112-05-05 02:23 J	-4893860.62	-4893860.40	-4893860.17	0.0088	0.0000
Neptune	-18112-12-16 16:04 J	-4893635.05	-4893634.83	-4893634.60	0.0088	0.0004
Mars	-18111-02-27 20:23 J	-4893561.75	-4893561.65	-4893561.56	0.1629	0.1352
Neptune	-18111-07-30 05:45 J	-4893409.48	-4893409.26	-4893409.03	0.0088	0.0007
Neptune	-18110-03-12 19:26 J	-4893183.91	-4893183.69	-4893183.47	0.0088	0.0011
Neptune	-18110-10-24 08:52 J	-4892958.34	-4892958.13	-4892957.90	0.0088	0.0015
Mars	-18110-12-28 23:02 J	-4892892.71	-4892892.54	-4892892.37	0.1635	0.0358
Neptune	-18109-06-05 22:48 J	-4892732.77	-4892732.55	-4892732.33	0.0088	0.0018
Jupiter	-18109-07-12 12:00 J	-4892696.12	-4892696.00	-4892695.87	0.0526	0.0407
Neptune	-18108-01-17 12:14 J	-4892507.20	-4892506.99	-4892506.76	0.0088	0.0022
Jupiter	-18108-03-07 09:36 J	-4892458.30	-4892458.10	-4892457.90	0.0529	0.0104
Neptune	-18108-08-31 01:40 J	-4892281.63	-4892281.43	-4892281.20	0.0088	0.0026
Neptune	-18107-04-13 15:36 J	-4892056.06	-4892055.85	-4892055.63	0.0088	0.0028
Neptune	-18107-11-25 05:02 J	-4891830.48	-4891830.29	-4891830.06	0.0088	0.0033
Neptune	-18106-07-08 18:57 J	-4891604.91	-4891604.71	-4891604.50	0.0088	0.0036
Neptune	-18105-02-19 08:23 J	-4891379.34	-4891379.15	-4891378.94	0.0088	0.0039
Neptune	-18105-10-01 22:04 J	-4891153.77	-4891153.58	-4891153.38	0.0088	0.0043
Neptune	-18104-05-15 11:16 J	-4890928.20	-4890928.03	-4890927.81	0.0088	0.0047
Neptune	-18104-12-27 01:11 J	-4890702.62	-4890702.45	-4890702.25	0.0089	0.0050
Jupiter	-18103-05-16 03:07 J	-4890562.52	-4890562.37	-4890562.21	0.0499	0.0326
Neptune	-18103-08-09 15:07 J	-4890477.04	-4890476.87	-4890476.68	0.0089	0.0053
Jupiter	-18102-01-07 07:11 J	-4890326.40	-4890326.20	-4890326.00	0.0497	0.0093
Neptune	-18102-03-23 04:19 J	-4890251.47	-4890251.32	-4890251.12	0.0089	0.0057
Neptune	-18102-11-03 18:00 J	-4890025.89	-4890025.75	-4890025.56	0.0089	0.0060
Neptune	-18101-06-16 07:55 J	-4889800.32	-4889800.17	-4889800.00	0.0089	0.0063
Saturn	-18100-01-20 11:16 J	-4889582.15	-4889582.03	-4889581.89	0.0296	0.0236

Neptune	-18100-01-27 21:50 J	-4889574.73	-4889574.59	-4889574.44	0.0089	0.0066
Saturn	-18100-09-07 19:11 J	-4889351.91	-4889351.70	-4889351.48	0.0298	0.0033
Neptune	-18100-09-10 11:02 J	-4889349.15	-4889349.04	-4889348.88	0.0089	0.0070
Neptune	-18099-04-24 00:43 J	-4889123.57	-4889123.47	-4889123.32	0.0089	0.0073
Saturn	-18099-04-26 04:33 J	-4889121.47	-4889121.31	-4889121.13	0.0300	0.0179
Neptune	-18099-12-05 14:38 J	-4888897.99	-4888897.89	-4888897.76	0.0089	0.0076
Neptune	-18098-07-19 04:33 J	-4888672.40	-4888672.31	-4888672.20	0.0089	0.0079
Neptune	-18097-02-29 18:14 J	-4888446.81	-4888446.74	-4888446.65	0.0089	0.0082
Neptune	-18097-10-12 07:55 J	-4888221.22	-4888221.17	-4888221.10	0.0089	0.0085
Jupiter	-18097-11-10 02:09 J	-4888192.61	-4888192.41	-4888192.20	0.0528	0.0037
Neptune	-18096-05-25 21:36 J	-4887995.61	-4887995.60	-4887995.57	0.0089	0.0088
Jupiter	-18096-07-05 22:19 J	-4887954.65	-4887954.57	-4887954.48	0.0530	0.0474
Pluto	-18093-09-22 20:38 J	-4886779.71	-4886779.64	-4886779.53	0.0064	0.0058
Pluto	-18092-05-06 00:14 J	-4886554.67	-4886554.49	-4886554.27	0.0064	0.0024
Pluto	-18092-12-17 04:19 J	-4886329.53	-4886329.32	-4886329.10	0.0064	0.0012
Jupiter	-18091-01-19 03:07 J	-4886296.46	-4886296.37	-4886296.28	0.0500	0.0441
Pluto	-18091-07-30 07:55 J	-4886104.30	-4886104.17	-4886104.01	0.0064	0.0047
Jupiter	-18091-09-12 07:11 J	-4886060.40	-4886060.20	-4886060.00	0.0497	0.0025
Jupiter	-18090-05-06 12:14 J	-4885824.12	-4885823.99	-4885823.87	0.0496	0.0392
Saturn	-18087-11-24 18:28 J	-4884525.90	-4884525.73	-4884525.56	0.0266	0.0156
Saturn	-18086-07-11 14:23 J	-4884297.11	-4884296.90	-4884296.69	0.0264	0.0018
Saturn	-18085-02-25 09:07 J	-4884068.31	-4884068.12	-4884067.94	0.0262	0.0117
Jupiter	-18085-07-15 18:00 J	-4883926.94	-4883926.75	-4883926.55	0.0528	0.0176
Saturn	-18085-10-11 02:38 J	-4883839.45	-4883839.39	-4883839.32	0.0261	0.0247
Jupiter	-18084-03-10 14:38 J	-4883689.04	-4883688.89	-4883688.73	0.0530	0.0339
Uranus	-18080-05-28 04:48 J	-4882149.40	-4882149.30	-4882149.18	0.0132	0.0113
Uranus	-18079-01-09 10:19 J	-4881923.23	-4881923.07	-4881922.89	0.0132	0.0084
Jupiter	-18079-05-18 09:36 J	-4881794.29	-4881794.10	-4881793.90	0.0498	0.0141
Uranus	-18079-08-23 16:04 J	-4881697.03	-4881696.83	-4881696.63	0.0132	0.0054
Jupiter	-18078-01-09 14:09 J	-4881558.07	-4881557.91	-4881557.73	0.0496	0.0281

Mars	-18078-01-17 21:21 J	-4881549.73	-4881549.61	-4881549.48	0.1881	0.1317
Uranus	-18078-04-06 21:21 J	-4881470.82	-4881470.61	-4881470.39	0.0132	0.0025
Uranus	-18078-11-19 02:52 J	-4881244.60	-4881244.38	-4881244.16	0.0132	0.0005
Mars	-18078-12-27 16:04 J	-4881205.99	-4881205.83	-4881205.66	0.1633	0.0470
Uranus	-18077-07-02 07:55 J	-4881018.37	-4881018.17	-4881017.95	0.0132	0.0034
Uranus	-18076-02-13 13:26 J	-4880792.13	-4880791.94	-4880791.74	0.0132	0.0063
Uranus	-18076-09-27 18:43 J	-4880565.87	-4880565.72	-4880565.56	0.0132	0.0092
Mars	-18076-10-26 17:45 J	-4880536.86	-4880536.76	-4880536.65	0.1640	0.1277
Uranus	-18075-05-12 00:00 J	-4880339.58	-4880339.50	-4880339.41	0.0132	0.0121
Jupiter	-18073-03-20 07:40 J	-4879661.34	-4879661.18	-4879661.02	0.0526	0.0318
Jupiter	-18073-11-13 04:19 J	-4879423.51	-4879423.32	-4879423.13	0.0529	0.0196
Saturn	-18071-08-02 16:48 J	-4878795.95	-4878795.80	-4878795.65	0.0297	0.0209
Saturn	-18070-03-21 00:43 J	-4878565.69	-4878565.47	-4878565.26	0.0299	0.0004
Saturn	-18070-11-06 10:04 J	-4878335.23	-4878335.08	-4878334.93	0.0301	0.0208
Jupiter	-18067-01-21 12:57 J	-4877528.13	-4877527.96	-4877527.79	0.0499	0.0256
Jupiter	-18067-09-14 17:31 J	-4877291.96	-4877291.77	-4877291.58	0.0497	0.0167
Jupiter	-18062-11-23 21:50 J	-4875395.69	-4875395.59	-4875395.49	0.0525	0.0455
Jupiter	-18061-07-18 18:43 J	-4875157.92	-4875157.72	-4875157.51	0.0529	0.0054
Saturn	-18057-06-05 20:09 J	-4873739.84	-4873739.66	-4873739.49	0.0265	0.0138
Saturn	-18056-01-20 15:36 J	-4873511.06	-4873510.85	-4873510.64	0.0263	0.0004
Saturn	-18056-09-06 10:04 J	-4873282.25	-4873282.08	-4873281.90	0.0262	0.0133
Jupiter	-18056-09-26 16:19 J	-4873261.95	-4873261.82	-4873261.68	0.0500	0.0367
Jupiter	-18055-05-20 20:23 J	-4873025.85	-4873025.65	-4873025.45	0.0497	0.0052
Jupiter	-18054-01-12 01:26 J	-4872789.51	-4872789.44	-4872789.37	0.0496	0.0465
Earth	-18053-11-01 07:26 J	-4872130.34	-4872130.19	-4872130.04	0.2631	0.0833
Moon	-18053-11-01 08:38 J	-4872130.30	-4872130.14	-4872129.98	0.2624	0.0866 *
Jupiter	-18049-03-23 09:50 J	-4870892.29	-4870892.09	-4870891.89	0.0528	0.0090
Jupiter	-18049-11-16 06:14 J	-4870654.36	-4870654.24	-4870654.12	0.0530	0.0423
Neptune	-18047-10-20 01:40 J	-4869951.44	-4869951.43	-4869951.38	0.0089	0.0089
Mars	-18046-01-17 20:38 J	-4869861.81	-4869861.64	-4869861.46	0.1886	0.0334

Neptune -18046-06-02 14:38 J -4869725.93 -4869725.89 -4869725.81 0.0089 0.0085
 Mars -18046-12-26 08:52 J -4869519.23 -4869519.13 -4869519.02 0.1630 0.1283
 Neptune -18045-01-14 03:07 J -4869500.43 -4869500.37 -4869500.26 0.0089 0.0083
 Neptune -18045-08-26 15:50 J -4869274.92 -4869274.84 -4869274.72 0.0089 0.0080
 Earth -18045-10-30 01:26 J -4869210.53 -4869210.44 -4869210.35 0.2632 0.2182
 Neptune -18044-04-09 04:33 J -4869049.40 -4869049.31 -4869049.18 0.0089 0.0076
 Jupiter -18044-06-01 18:57 J -4868995.76 -4868995.71 -4868995.65 0.0501 0.0479
 Mars -18044-10-25 11:31 J -4868850.19 -4868850.02 -4868849.85 0.1637 0.0432
 Neptune -18044-11-20 17:02 J -4868823.89 -4868823.79 -4868823.64 0.0089 0.0074
 Jupiter -18043-01-23 23:02 J -4868759.74 -4868759.54 -4868759.33 0.0498 0.0064
 Neptune -18043-07-04 06:00 J -4868598.37 -4868598.25 -4868598.10 0.0089 0.0070
 Jupiter -18043-09-17 03:36 J -4868523.48 -4868523.35 -4868523.20 0.0496 0.0355
 Neptune -18042-02-14 18:28 J -4868372.86 -4868372.73 -4868372.57 0.0089 0.0067
 Neptune -18042-09-28 06:57 J -4868147.34 -4868147.21 -4868147.04 0.0089 0.0064
 Saturn -18041-02-12 18:28 J -4868009.89 -4868009.73 -4868009.56 0.0296 0.0190
 Neptune -18041-05-10 20:09 J -4867921.82 -4867921.66 -4867921.50 0.0089 0.0060
 Saturn -18041-09-30 02:38 J -4867779.60 -4867779.39 -4867779.18 0.0299 0.0016
 Neptune -18041-12-22 08:23 J -4867696.31 -4867696.15 -4867695.97 0.0089 0.0057
 Saturn -18040-05-18 12:00 J -4867549.13 -4867549.00 -4867548.86 0.0300 0.0227
 Neptune -18040-08-04 20:38 J -4867470.79 -4867470.64 -4867470.45 0.0089 0.0054
 Neptune -18039-03-18 09:36 J -4867245.28 -4867245.10 -4867244.92 0.0089 0.0050
 Neptune -18039-10-29 21:50 J -4867019.76 -4867019.59 -4867019.39 0.0089 0.0047
 Neptune -18038-06-12 10:33 J -4866794.24 -4866794.06 -4866793.86 0.0089 0.0043
 Uranus -18038-07-16 15:21 J -4866759.92 -4866759.86 -4866759.77 0.0147 0.0136
 Jupiter -18038-11-27 02:09 J -4866626.59 -4866626.41 -4866626.22 0.0527 0.0228
 Neptune -18037-01-23 23:16 J -4866568.72 -4866568.53 -4866568.33 0.0089 0.0039
 Uranus -18037-02-28 03:07 J -4866533.51 -4866533.37 -4866533.19 0.0147 0.0098
 Jupiter -18037-07-21 23:02 J -4866388.70 -4866388.54 -4866388.36 0.0530 0.0290
 Neptune -18037-09-05 11:31 J -4866343.20 -4866343.02 -4866342.81 0.0089 0.0036
 Uranus -18037-10-11 15:07 J -4866307.06 -4866306.87 -4866306.66 0.0147 0.0058

Neptune	-18036-04-19 00:14 J	-4866117.68	-4866117.49	-4866117.28	0.0089	0.0032
Uranus	-18036-05-26 03:07 J	-4866080.58	-4866080.37	-4866080.15	0.0147	0.0019
Neptune	-18036-11-30 12:43 J	-4865892.16	-4865891.97	-4865891.76	0.0089	0.0029
Uranus	-18035-01-07 15:21 J	-4865854.07	-4865853.86	-4865853.65	0.0147	0.0022
Neptune	-18035-07-14 01:26 J	-4865666.64	-4865666.44	-4865666.23	0.0089	0.0025
Uranus	-18035-08-22 03:21 J	-4865627.55	-4865627.36	-4865627.16	0.0147	0.0062
Neptune	-18034-02-24 13:40 J	-4865441.13	-4865440.93	-4865440.71	0.0089	0.0022
Uranus	-18034-04-05 15:36 J	-4865401.00	-4865400.85	-4865400.69	0.0147	0.0101
Neptune	-18034-10-08 02:23 J	-4865215.61	-4865215.40	-4865215.18	0.0089	0.0018
Uranus	-18034-11-18 03:36 J	-4865174.39	-4865174.35	-4865174.27	0.0146	0.0140
Neptune	-18033-05-20 14:52 J	-4864990.08	-4864989.88	-4864989.65	0.0089	0.0015
Neptune	-18032-01-01 03:36 J	-4864764.56	-4864764.35	-4864764.13	0.0089	0.0011
Neptune	-18032-08-14 16:04 J	-4864539.04	-4864538.83	-4864538.61	0.0089	0.0007
Jupiter	-18032-09-28 23:02 J	-4864493.73	-4864493.54	-4864493.35	0.0498	0.0183
Neptune	-18031-03-28 04:33 J	-4864313.53	-4864313.31	-4864313.09	0.0089	0.0004
Jupiter	-18031-05-23 03:21 J	-4864257.54	-4864257.36	-4864257.18	0.0496	0.0239
Neptune	-18031-11-08 17:02 J	-4864088.01	-4864087.79	-4864087.58	0.0089	0.0001
Neptune	-18030-06-22 05:31 J	-4863862.48	-4863862.27	-4863862.05	0.0089	0.0004
Neptune	-18029-02-02 18:00 J	-4863636.97	-4863636.75	-4863636.53	0.0089	0.0007
Neptune	-18029-09-15 06:14 J	-4863411.45	-4863411.24	-4863411.02	0.0089	0.0011
Neptune	-18028-04-28 18:43 J	-4863185.93	-4863185.72	-4863185.51	0.0089	0.0014
Saturn	-18028-05-02 00:28 J	-4863182.53	-4863182.48	-4863182.44	0.0267	0.0260
Neptune	-18028-12-10 06:57 J	-4862960.41	-4862960.21	-4862959.99	0.0089	0.0018
Saturn	-18028-12-16 21:21 J	-4862953.80	-4862953.61	-4862953.42	0.0265	0.0120
Neptune	-18027-07-23 19:40 J	-4862734.89	-4862734.68	-4862734.47	0.0089	0.0021
Saturn	-18027-08-02 17:02 J	-4862725.00	-4862724.79	-4862724.58	0.0264	0.0018
Neptune	-18026-03-06 07:40 J	-4862509.38	-4862509.18	-4862508.96	0.0089	0.0025
Saturn	-18026-03-19 11:45 J	-4862496.18	-4862496.01	-4862495.84	0.0262	0.0152
Jupiter	-18026-08-01 17:45 J	-4862360.90	-4862360.76	-4862360.61	0.0526	0.0367
Neptune	-18026-10-17 20:23 J	-4862283.86	-4862283.65	-4862283.45	0.0089	0.0028

Jupiter	-18025-03-26 15:07 J	-4862123.06	-4862122.87	-4862122.67	0.0529	0.0149
Neptune	-18025-05-30 08:38 J	-4862058.33	-4862058.14	-4862057.93	0.0089	0.0032
Neptune	-18024-01-10 20:52 J	-4861832.81	-4861832.63	-4861832.42	0.0089	0.0036
Neptune	-18024-08-24 09:21 J	-4861607.29	-4861607.11	-4861606.91	0.0089	0.0039
Neptune	-18023-04-06 22:04 J	-4861381.77	-4861381.58	-4861381.39	0.0089	0.0042
Neptune	-18023-11-18 10:04 J	-4861156.25	-4861156.08	-4861155.88	0.0089	0.0046
Neptune	-18022-07-01 22:48 J	-4860930.72	-4860930.55	-4860930.36	0.0089	0.0049
Neptune	-18021-02-12 11:02 J	-4860705.20	-4860705.04	-4860704.85	0.0089	0.0053
Neptune	-18021-09-24 23:31 J	-4860479.67	-4860479.52	-4860479.34	0.0089	0.0056
Neptune	-18020-05-08 12:00 J	-4860254.15	-4860254.00	-4860253.83	0.0089	0.0059
Jupiter	-18020-06-04 01:11 J	-4860227.60	-4860227.45	-4860227.28	0.0499	0.0299
Neptune	-18020-12-20 00:14 J	-4860028.63	-4860028.49	-4860028.32	0.0089	0.0063
Jupiter	-18019-01-26 05:31 J	-4859991.47	-4859991.27	-4859991.07	0.0497	0.0124
Neptune	-18019-08-02 12:43 J	-4859803.10	-4859802.97	-4859802.81	0.0089	0.0066
Neptune	-18018-03-16 01:11 J	-4859577.57	-4859577.45	-4859577.30	0.0089	0.0069
Neptune	-18018-10-27 13:40 J	-4859352.05	-4859351.93	-4859351.80	0.0089	0.0072
Neptune	-18017-06-09 01:40 J	-4859126.52	-4859126.43	-4859126.29	0.0089	0.0076
Neptune	-18016-01-20 14:09 J	-4858900.99	-4858900.91	-4858900.79	0.0089	0.0079
Neptune	-18016-09-03 02:23 J	-4858675.46	-4858675.40	-4858675.29	0.0089	0.0082
Neptune	-18015-04-16 14:38 J	-4858449.92	-4858449.89	-4858449.80	0.0089	0.0085
Neptune	-18015-11-28 03:07 J	-4858224.38	-4858224.37	-4858224.31	0.0089	0.0088
Jupiter	-18014-04-06 07:26 J	-4858095.24	-4858095.19	-4858095.13	0.0525	0.0503
Jupiter	-18014-11-30 04:19 J	-4857857.52	-4857857.32	-4857857.11	0.0528	0.0011
Jupiter	-18013-07-25 00:00 J	-4857619.55	-4857619.50	-4857619.45	0.0530	0.0510
Mars	-18013-11-14 00:00 J	-4857507.59	-4857507.50	-4857507.40	0.1879	0.1589
Saturn	-18012-08-25 01:11 J	-4857223.63	-4857223.45	-4857223.26	0.0297	0.0160
Mars	-18012-10-24 04:33 J	-4857163.47	-4857163.31	-4857163.14	0.1633	0.0398
Saturn	-18011-04-12 09:21 J	-4856993.32	-4856993.11	-4856992.90	0.0299	0.0047
Saturn	-18011-11-28 18:43 J	-4856762.82	-4856762.72	-4856762.61	0.0301	0.0258
Mars	-18010-08-24 05:45 J	-4856494.35	-4856494.26	-4856494.16	0.1641	0.1357

Jupiter	-18008-02-07 04:19 J	-4855961.43	-4855961.32	-4855961.20	0.0501	0.0412
Jupiter	-18008-10-01 08:52 J	-4855725.34	-4855725.13	-4855724.93	0.0498	0.0014
Jupiter	-18007-05-25 13:55 J	-4855489.02	-4855488.92	-4855488.82	0.0496	0.0426
Pluto	-18003-03-29 19:55 J	-4854084.89	-4854084.67	-4854084.45	0.0080	0.0015
Pluto	-18003-11-10 06:43 J	-4853859.37	-4853859.22	-4853859.05	0.0080	0.0055
Jupiter	-18002-08-04 18:28 J	-4853591.92	-4853591.73	-4853591.53	0.0527	0.0142
Jupiter	-18001-03-29 14:52 J	-4853354.02	-4853353.88	-4853353.73	0.0530	0.0373

18TH MILLENNIUM BCE

This is a list of transits of Venus in the 18th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-17999-11-12 02:38 J	-4852396.47	-4852396.39	-4852396.30	0.0267	0.0241		
Saturn	-17998-06-28 23:45 J	-4852167.71	-4852167.51	-4852167.32	0.0265	0.0101		
Saturn	-17997-02-12 19:11 J	-4851938.91	-4851938.70	-4851938.49	0.0263	0.0036		
Saturn	-17997-09-28 13:40 J	-4851710.08	-4851709.93	-4851709.77	0.0262	0.0170		
Uranus	-17996-01-25 16:04 J	-4851590.89	-4851590.83	-4851590.76	0.0132	0.0125		
Jupiter	-17996-06-06 11:45 J	-4851459.21	-4851459.01	-4851458.81	0.0498	0.0107		
Uranus	-17996-09-08 21:21 J	-4851364.74	-4851364.61	-4851364.44	0.0132	0.0097		
Jupiter	-17995-01-28 16:04 J	-4851222.98	-4851222.83	-4851222.67	0.0496	0.0315		
Uranus	-17995-04-23 03:21 J	-4851138.55	-4851138.36	-4851138.17	0.0132	0.0066		
Uranus	-17995-12-05 08:38 J	-4850912.34	-4850912.14	-4850911.92	0.0132	0.0037		
Uranus	-17994-07-19 14:23 J	-4850686.12	-4850685.90	-4850685.68	0.0132	0.0008		
Uranus	-17993-03-01 19:55 J	-4850459.89	-4850459.67	-4850459.46	0.0132	0.0022		

Uranus	-17993-10-14 00:57 J	-4850233.65	-4850233.46	-4850233.25	0.0132	0.0052
Uranus	-17992-05-28 06:14 J	-4850007.40	-4850007.24	-4850007.05	0.0132	0.0082
Uranus	-17991-01-09 12:00 J	-4849781.12	-4849781.00	-4849780.88	0.0132	0.0110
Jupiter	-17990-04-09 08:38 J	-4849326.30	-4849326.14	-4849325.96	0.0527	0.0284
Jupiter	-17990-12-03 06:00 J	-4849088.43	-4849088.25	-4849088.07	0.0530	0.0234
Jupiter	-17984-02-09 14:23 J	-4847193.08	-4847192.90	-4847192.72	0.0499	0.0222
Jupiter	-17984-10-03 18:28 J	-4846956.91	-4846956.73	-4846956.54	0.0496	0.0201
Saturn	-17982-03-07 04:33 J	-4846437.50	-4846437.31	-4846437.12	0.0297	0.0138
Saturn	-17982-10-23 12:43 J	-4846207.18	-4846206.97	-4846206.76	0.0299	0.0069
Saturn	-17981-06-09 22:04 J	-4845976.65	-4845976.58	-4845976.50	0.0300	0.0279
Mars	-17981-11-13 23:31 J	-4845819.70	-4845819.52	-4845819.34	0.1884	0.0055
Mars	-17980-10-22 21:21 J	-4845476.73	-4845476.61	-4845476.50	0.1631	0.1208
Jupiter	-17979-12-13 00:57 J	-4845060.58	-4845060.46	-4845060.33	0.0526	0.0419
Jupiter	-17978-08-07 22:33 J	-4844822.76	-4844822.56	-4844822.36	0.0529	0.0095
Mars	-17978-08-22 23:31 J	-4844807.69	-4844807.52	-4844807.36	0.1638	0.0514
Jupiter	-17973-10-15 14:09 J	-4842927.05	-4842926.91	-4842926.76	0.0500	0.0342
Jupiter	-17972-06-08 18:00 J	-4842690.95	-4842690.75	-4842690.54	0.0497	0.0082
Jupiter	-17971-01-30 23:16 J	-4842454.54	-4842454.53	-4842454.52	0.0496	0.0495
Saturn	-17969-05-24 04:19 J	-4841610.42	-4841610.32	-4841610.20	0.0267	0.0222
Saturn	-17968-01-08 01:26 J	-4841381.64	-4841381.44	-4841381.24	0.0265	0.0082
Saturn	-17968-08-24 21:07 J	-4841152.83	-4841152.62	-4841152.42	0.0264	0.0056
Saturn	-17967-04-10 15:36 J	-4840923.99	-4840923.85	-4840923.70	0.0262	0.0190
Jupiter	-17966-04-12 14:09 J	-4840557.11	-4840556.91	-4840556.70	0.0528	0.0048
Jupiter	-17966-12-06 10:19 J	-4840319.16	-4840319.07	-4840318.97	0.0530	0.0465
Neptune	-17963-02-27 09:21 J	-4839505.11	-4839505.11	-4839505.10	0.0088	0.0088
Neptune	-17963-10-10 22:33 J	-4839279.60	-4839279.56	-4839279.49	0.0088	0.0085
Neptune	-17962-05-24 11:45 J	-4839054.07	-4839054.01	-4839053.91	0.0088	0.0082
Neptune	-17961-01-05 00:57 J	-4838828.53	-4838828.46	-4838828.34	0.0088	0.0079
Jupiter	-17961-06-20 16:19 J	-4838660.90	-4838660.82	-4838660.73	0.0501	0.0455
Neptune	-17961-08-17 14:23 J	-4838602.99	-4838602.90	-4838602.77	0.0088	0.0076

Jupiter -17960-02-11 20:23 J -4838424.85 -4838424.65 -4838424.45 0.0498 0.0036
 Neptune -17960-03-31 04:19 J -4838377.44 -4838377.32 -4838377.19 0.0088 0.0072
 Jupiter -17960-10-06 00:57 J -4838188.58 -4838188.46 -4838188.32 0.0496 0.0386
 Neptune -17960-11-11 17:45 J -4838151.89 -4838151.76 -4838151.62 0.0088 0.0069
 Neptune -17959-06-25 06:57 J -4837926.34 -4837926.21 -4837926.05 0.0088 0.0066
 Neptune -17958-02-05 20:09 J -4837700.79 -4837700.66 -4837700.48 0.0088 0.0063
 Neptune -17958-09-19 10:04 J -4837475.24 -4837475.08 -4837474.91 0.0088 0.0059
 Neptune -17957-05-01 23:16 J -4837249.68 -4837249.53 -4837249.34 0.0088 0.0056
 Neptune -17957-12-13 12:43 J -4837024.12 -4837023.97 -4837023.77 0.0088 0.0053
 Neptune -17956-07-27 02:23 J -4836798.57 -4836798.40 -4836798.20 0.0088 0.0050
 Neptune -17955-03-09 15:50 J -4836573.01 -4836572.84 -4836572.63 0.0088 0.0046
 Neptune -17955-10-21 05:31 J -4836347.45 -4836347.27 -4836347.06 0.0088 0.0042
 Jupiter -17955-12-16 03:07 J -4836291.56 -4836291.37 -4836291.18 0.0527 0.0195
 Neptune -17954-06-03 19:26 J -4836121.89 -4836121.69 -4836121.49 0.0088 0.0039
 Jupiter -17954-08-10 23:45 J -4836053.67 -4836053.51 -4836053.35 0.0529 0.0323
 Uranus -17954-10-28 12:57 J -4835975.08 -4835974.96 -4835974.81 0.0147 0.0113
 Neptune -17953-01-15 08:38 J -4835896.34 -4835896.14 -4835895.92 0.0088 0.0035
 Uranus -17953-06-11 00:43 J -4835748.64 -4835748.47 -4835748.27 0.0147 0.0074
 Neptune -17953-08-27 22:19 J -4835670.78 -4835670.57 -4835670.36 0.0088 0.0031
 Saturn -17953-09-16 12:43 J -4835651.17 -4835650.97 -4835650.77 0.0297 0.0106
 Uranus -17952-01-23 12:57 J -4835522.17 -4835521.96 -4835521.75 0.0147 0.0034
 Neptune -17952-04-10 11:31 J -4835445.22 -4835445.02 -4835444.79 0.0088 0.0028
 Saturn -17952-05-04 20:52 J -4835420.83 -4835420.63 -4835420.43 0.0299 0.0102
 Uranus -17952-09-07 00:57 J -4835295.67 -4835295.46 -4835295.24 0.0147 0.0006
 Neptune -17952-11-22 01:11 J -4835219.65 -4835219.45 -4835219.22 0.0088 0.0025
 Uranus -17951-04-21 12:57 J -4835069.16 -4835068.96 -4835068.75 0.0147 0.0046
 Neptune -17951-07-05 14:52 J -4834994.09 -4834993.88 -4834993.66 0.0088 0.0021
 Uranus -17951-12-04 00:57 J -4834842.62 -4834842.46 -4834842.27 0.0147 0.0086
 Neptune -17950-02-16 04:19 J -4834768.53 -4834768.32 -4834768.09 0.0088 0.0017
 Uranus -17950-07-18 13:40 J -4834616.04 -4834615.93 -4834615.82 0.0146 0.0125

Neptune	-17950-09-29 17:45 J	-4834542.97	-4834542.76	-4834542.53	0.0088	0.0014
Neptune	-17949-05-12 07:26 J	-4834317.41	-4834317.19	-4834316.96	0.0088	0.0010
Jupiter	-17949-10-17 23:16 J	-4834158.72	-4834158.53	-4834158.33	0.0499	0.0153
Mars	-17949-11-14 00:14 J	-4834131.55	-4834131.49	-4834131.42	0.1889	0.1748
Neptune	-17949-12-23 21:07 J	-4834091.84	-4834091.62	-4834091.39	0.0088	0.0006
Jupiter	-17948-06-11 03:50 J	-4833922.51	-4833922.34	-4833922.17	0.0497	0.0272
Neptune	-17948-08-06 10:48 J	-4833866.28	-4833866.05	-4833865.83	0.0088	0.0002
Neptune	-17947-03-20 00:14 J	-4833640.71	-4833640.49	-4833640.26	0.0088	0.0002
Mars	-17947-09-11 03:07 J	-4833465.40	-4833465.37	-4833465.35	0.1877	0.1856
Neptune	-17947-10-31 13:55 J	-4833415.14	-4833414.92	-4833414.69	0.0088	0.0005
Neptune	-17946-06-14 03:36 J	-4833189.57	-4833189.35	-4833189.13	0.0088	0.0009
Mars	-17946-08-21 16:48 J	-4833120.97	-4833120.80	-4833120.63	0.1634	0.0318
Neptune	-17945-01-25 17:16 J	-4832964.00	-4832963.78	-4832963.56	0.0088	0.0013
Neptune	-17945-09-07 06:43 J	-4832738.43	-4832738.22	-4832737.99	0.0088	0.0016
Neptune	-17944-04-20 20:09 J	-4832512.86	-4832512.66	-4832512.43	0.0088	0.0021
Mars	-17944-06-20 17:45 J	-4832451.84	-4832451.76	-4832451.68	0.1643	0.1439
Neptune	-17944-12-02 10:19 J	-4832287.29	-4832287.07	-4832286.85	0.0088	0.0024
Neptune	-17943-07-15 23:45 J	-4832061.71	-4832061.51	-4832061.29	0.0088	0.0028
Jupiter	-17943-08-20 17:02 J	-4832025.94	-4832025.79	-4832025.63	0.0526	0.0337
Neptune	-17942-02-26 13:11 J	-4831836.14	-4831835.95	-4831835.72	0.0088	0.0032
Jupiter	-17942-04-15 14:09 J	-4831788.11	-4831787.91	-4831787.72	0.0529	0.0181
Neptune	-17942-10-10 03:07 J	-4831610.57	-4831610.37	-4831610.16	0.0088	0.0035
Neptune	-17941-05-22 16:33 J	-4831385.00	-4831384.81	-4831384.60	0.0088	0.0038
Neptune	-17940-01-03 06:28 J	-4831159.42	-4831159.23	-4831159.03	0.0088	0.0042
Neptune	-17940-08-16 19:55 J	-4830933.85	-4830933.67	-4830933.47	0.0088	0.0046
Saturn	-17940-12-04 07:55 J	-4830824.30	-4830824.17	-4830824.03	0.0267	0.0201
Neptune	-17939-03-30 09:07 J	-4830708.28	-4830708.12	-4830707.91	0.0088	0.0050
Earth	-17939-05-07 11:02 J	-4830670.09	-4830670.04	-4830669.99	0.2702	0.2546
Moon	-17939-05-07 12:28 J	-4830670.05	-4830669.98	-4830669.90	0.2696	0.2409 *
Saturn	-17939-07-21 04:48 J	-4830595.50	-4830595.30	-4830595.09	0.0265	0.0062

Neptune	-17939-11-10 23:02 J	-4830482.71	-4830482.54	-4830482.35	0.0089	0.0053
Saturn	-17938-03-07 00:28 J	-4830366.68	-4830366.48	-4830366.28	0.0263	0.0076
Neptune	-17938-06-24 12:28 J	-4830257.13	-4830256.98	-4830256.79	0.0089	0.0057
Saturn	-17938-10-21 18:57 J	-4830137.83	-4830137.71	-4830137.58	0.0262	0.0209
Neptune	-17937-02-05 02:09 J	-4830031.56	-4830031.41	-4830031.23	0.0089	0.0060
Jupiter	-17937-06-23 02:09 J	-4829892.58	-4829892.41	-4829892.24	0.0499	0.0268
Neptune	-17937-09-17 16:04 J	-4829805.98	-4829805.83	-4829805.67	0.0089	0.0063
Jupiter	-17936-02-14 06:14 J	-4829656.43	-4829656.24	-4829656.04	0.0497	0.0158
Neptune	-17936-05-01 05:16 J	-4829580.41	-4829580.28	-4829580.11	0.0089	0.0067
Neptune	-17936-12-12 19:11 J	-4829354.82	-4829354.70	-4829354.55	0.0089	0.0070
Neptune	-17935-07-26 09:07 J	-4829129.24	-4829129.12	-4829128.99	0.0089	0.0073
Neptune	-17934-03-08 22:19 J	-4828903.66	-4828903.57	-4828903.44	0.0089	0.0077
Neptune	-17934-10-20 12:00 J	-4828678.08	-4828678.00	-4828677.89	0.0089	0.0080
Neptune	-17933-06-02 01:40 J	-4828452.49	-4828452.43	-4828452.33	0.0089	0.0083
Neptune	-17932-01-13 15:36 J	-4828226.89	-4828226.85	-4828226.79	0.0089	0.0086
Jupiter	-17931-04-25 06:43 J	-4827760.30	-4827760.22	-4827760.13	0.0525	0.0475
Moon	-17931-05-04 19:26 J	-4827750.80	-4827750.69	-4827750.58	0.2695	0.2014
Earth	-17931-05-04 22:48 J	-4827750.68	-4827750.55	-4827750.41	0.2701	0.1473 *
Jupiter	-17931-12-19 04:04 J	-4827522.53	-4827522.33	-4827522.12	0.0529	0.0038
Jupiter	-17925-02-27 04:48 J	-4825626.43	-4825626.30	-4825626.17	0.0500	0.0382
Jupiter	-17925-10-20 08:38 J	-4825390.34	-4825390.14	-4825389.93	0.0497	0.0042
Jupiter	-17924-06-13 13:11 J	-4825154.01	-4825153.95	-4825153.86	0.0496	0.0458
Saturn	-17924-08-11 11:31 J	-4825095.07	-4825095.02	-4825094.95	0.0295	0.0282
Saturn	-17923-03-29 18:14 J	-4824864.95	-4824864.74	-4824864.53	0.0297	0.0081
Saturn	-17923-11-15 02:23 J	-4824634.59	-4824634.40	-4824634.20	0.0299	0.0127
Jupiter	-17919-08-23 20:23 J	-4823256.85	-4823256.65	-4823256.45	0.0528	0.0105
Jupiter	-17918-04-18 17:02 J	-4823018.91	-4823018.79	-4823018.66	0.0530	0.0414
Mars	-17915-09-11 01:55 J	-4821777.59	-4821777.42	-4821777.24	0.1883	0.0232
Mars	-17914-08-20 09:50 J	-4821434.22	-4821434.09	-4821433.97	0.1632	0.1137
Jupiter	-17914-11-02 04:33 J	-4821360.31	-4821360.31	-4821360.28	0.0501	0.0499

Jupiter	-17913-06-25 08:23 J	-4821124.35	-4821124.15	-4821123.94	0.0498	0.0081
Jupiter	-17912-02-16 12:43 J	-4820888.12	-4820887.97	-4820887.82	0.0496	0.0342
Uranus	-17912-05-09 09:07 J	-4820806.23	-4820806.12	-4820805.98	0.0132	0.0108
Mars	-17912-06-19 11:45 J	-4820765.17	-4820765.01	-4820764.85	0.1639	0.0591
Uranus	-17912-12-21 14:52 J	-4820580.05	-4820579.88	-4820579.69	0.0132	0.0078
Uranus	-17911-08-04 20:23 J	-4820353.84	-4820353.65	-4820353.43	0.0132	0.0049
Uranus	-17910-03-19 02:09 J	-4820127.62	-4820127.41	-4820127.19	0.0132	0.0019
Saturn	-17910-06-16 10:33 J	-4820038.21	-4820038.06	-4820037.91	0.0267	0.0181
Uranus	-17910-10-31 07:40 J	-4819901.40	-4819901.18	-4819900.96	0.0132	0.0011
Saturn	-17909-01-31 07:11 J	-4819809.40	-4819809.20	-4819808.99	0.0265	0.0041
Uranus	-17909-06-13 13:11 J	-4819675.16	-4819674.95	-4819674.74	0.0132	0.0040
Saturn	-17909-09-16 02:52 J	-4819580.57	-4819580.38	-4819580.19	0.0264	0.0097
Uranus	-17908-01-25 18:28 J	-4819448.91	-4819448.73	-4819448.53	0.0132	0.0070
Saturn	-17908-05-02 21:21 J	-4819351.70	-4819351.61	-4819351.51	0.0262	0.0230
Uranus	-17908-09-09 00:00 J	-4819222.64	-4819222.50	-4819222.35	0.0132	0.0099
Uranus	-17907-04-23 05:31 J	-4818996.32	-4818996.27	-4818996.22	0.0132	0.0129
Jupiter	-17907-04-28 11:31 J	-4818991.20	-4818991.02	-4818990.84	0.0527	0.0247
Jupiter	-17907-12-22 08:38 J	-4818753.31	-4818753.14	-4818752.96	0.0529	0.0274
Jupiter	-17901-02-29 10:33 J	-4816858.24	-4816858.06	-4816857.87	0.0499	0.0198
Jupiter	-17901-10-22 14:38 J	-4816622.07	-4816621.89	-4816621.71	0.0497	0.0228
Jupiter	-17895-01-01 00:28 J	-4814725.61	-4814725.48	-4814725.34	0.0526	0.0391
Jupiter	-17895-08-26 21:50 J	-4814487.79	-4814487.59	-4814487.40	0.0529	0.0127
Saturn	-17894-02-21 21:07 J	-4814308.73	-4814308.62	-4814308.50	0.0295	0.0249
Saturn	-17894-10-10 03:50 J	-4814078.55	-4814078.34	-4814078.13	0.0297	0.0047
Saturn	-17893-05-27 12:14 J	-4813848.17	-4813847.99	-4813847.81	0.0299	0.0163
Jupiter	-17890-11-04 13:11 J	-4812592.11	-4812591.95	-4812591.79	0.0500	0.0315
Jupiter	-17889-06-27 17:16 J	-4812355.98	-4812355.78	-4812355.58	0.0497	0.0111
Jupiter	-17883-05-01 11:31 J	-4810222.23	-4810222.02	-4810221.82	0.0528	0.0019
Mars	-17883-09-11 03:07 J	-4810089.48	-4810089.37	-4810089.26	0.1888	0.1464
Jupiter	-17883-12-25 07:11 J	-4809984.26	-4809984.20	-4809984.12	0.0530	0.0494

Neptune	-17881-04-16 12:00 J	-4809506.02	-4809506.00	-4809505.93	0.0089	0.0088
Neptune	-17881-11-28 00:43 J	-4809280.52	-4809280.47	-4809280.37	0.0089	0.0084
Saturn	-17881-12-26 15:07 J	-4809252.04	-4809251.87	-4809251.70	0.0266	0.0159
Mars	-17880-06-18 05:16 J	-4809078.45	-4809078.28	-4809078.11	0.1635	0.0247
Neptune	-17880-07-11 13:40 J	-4809055.01	-4809054.93	-4809054.83	0.0089	0.0081
Saturn	-17880-08-12 11:45 J	-4809023.22	-4809023.01	-4809022.80	0.0264	0.0019
Neptune	-17879-02-22 02:23 J	-4808829.49	-4808829.40	-4808829.28	0.0089	0.0077
Saturn	-17879-03-29 07:11 J	-4808794.38	-4808794.20	-4808794.01	0.0263	0.0118
Neptune	-17879-10-05 14:52 J	-4808603.98	-4808603.88	-4808603.74	0.0089	0.0075
Saturn	-17879-11-13 01:40 J	-4808565.48	-4808565.43	-4808565.37	0.0262	0.0250
Mars	-17878-04-18 06:00 J	-4808409.31	-4808409.25	-4808409.18	0.1644	0.1515
Neptune	-17878-05-19 04:04 J	-4808378.46	-4808378.33	-4808378.20	0.0089	0.0071
Jupiter	-17878-07-10 15:50 J	-4808325.95	-4808325.84	-4808325.74	0.0501	0.0428
Neptune	-17878-12-30 16:33 J	-4808152.94	-4808152.81	-4808152.66	0.0089	0.0067
Jupiter	-17877-03-02 19:55 J	-4808089.87	-4808089.67	-4808089.47	0.0498	0.0006
Neptune	-17877-08-12 04:48 J	-4807927.43	-4807927.30	-4807927.13	0.0089	0.0065
Jupiter	-17877-10-25 00:28 J	-4807853.59	-4807853.48	-4807853.37	0.0496	0.0416
Neptune	-17876-03-25 17:45 J	-4807701.91	-4807701.76	-4807701.59	0.0089	0.0061
Neptune	-17876-11-06 06:00 J	-4807476.39	-4807476.25	-4807476.06	0.0089	0.0058
Neptune	-17875-06-19 18:57 J	-4807250.87	-4807250.71	-4807250.53	0.0089	0.0054
Neptune	-17874-01-31 07:11 J	-4807025.36	-4807025.20	-4807025.00	0.0089	0.0051
Neptune	-17874-09-13 19:55 J	-4806799.84	-4806799.67	-4806799.48	0.0089	0.0047
Neptune	-17873-04-26 08:23 J	-4806574.32	-4806574.15	-4806573.95	0.0089	0.0043
Neptune	-17873-12-07 21:07 J	-4806348.81	-4806348.62	-4806348.42	0.0089	0.0039
Neptune	-17872-07-21 09:36 J	-4806123.29	-4806123.10	-4806122.90	0.0089	0.0036
Jupiter	-17871-01-04 00:57 J	-4805956.65	-4805956.46	-4805956.26	0.0527	0.0165
Neptune	-17871-03-03 21:50 J	-4805897.77	-4805897.59	-4805897.37	0.0089	0.0033
Jupiter	-17871-08-29 21:50 J	-4805718.74	-4805718.59	-4805718.44	0.0530	0.0356
Neptune	-17871-10-15 10:33 J	-4805672.26	-4805672.06	-4805671.85	0.0089	0.0029
Neptune	-17870-05-28 23:02 J	-4805446.73	-4805446.54	-4805446.32	0.0089	0.0026

Uranus	-17870-06-27 22:04 J	-4805416.67	-4805416.58	-4805416.47	0.0146	0.0129
Neptune	-17869-01-09 11:45 J	-4805221.21	-4805221.01	-4805220.79	0.0089	0.0021
Uranus	-17869-02-09 09:50 J	-4805190.25	-4805190.09	-4805189.91	0.0147	0.0090
Neptune	-17869-08-22 00:14 J	-4804995.69	-4804995.49	-4804995.27	0.0089	0.0018
Uranus	-17869-09-22 21:50 J	-4804963.79	-4804963.59	-4804963.38	0.0147	0.0050
Neptune	-17868-04-04 12:57 J	-4804770.18	-4804769.96	-4804769.75	0.0089	0.0014
Uranus	-17868-05-07 09:50 J	-4804737.30	-4804737.09	-4804736.87	0.0147	0.0010
Neptune	-17868-11-16 01:26 J	-4804544.65	-4804544.44	-4804544.22	0.0089	0.0010
Uranus	-17868-12-19 21:50 J	-4804510.79	-4804510.59	-4804510.37	0.0147	0.0030
Neptune	-17867-06-29 14:09 J	-4804319.13	-4804318.91	-4804318.70	0.0089	0.0006
Uranus	-17867-08-03 10:04 J	-4804284.26	-4804284.08	-4804283.88	0.0146	0.0070
Neptune	-17866-02-10 02:23 J	-4804093.61	-4804093.40	-4804093.18	0.0089	0.0003
Uranus	-17866-03-17 22:04 J	-4804057.71	-4804057.58	-4804057.42	0.0146	0.0110
Neptune	-17866-09-23 14:52 J	-4803868.09	-4803867.88	-4803867.66	0.0089	0.0002
Jupiter	-17866-11-06 22:04 J	-4803823.77	-4803823.58	-4803823.38	0.0498	0.0123
Neptune	-17865-05-06 03:21 J	-4803642.57	-4803642.36	-4803642.14	0.0089	0.0005
Jupiter	-17865-06-30 02:09 J	-4803587.57	-4803587.41	-4803587.25	0.0496	0.0302
Saturn	-17865-09-03 04:04 J	-4803522.46	-4803522.33	-4803522.18	0.0295	0.0222
Neptune	-17865-12-17 15:50 J	-4803417.05	-4803416.84	-4803416.62	0.0089	0.0009
Saturn	-17864-04-21 11:02 J	-4803292.25	-4803292.04	-4803291.82	0.0297	0.0019
Neptune	-17864-07-31 04:19 J	-4803191.54	-4803191.32	-4803191.11	0.0089	0.0012
Saturn	-17864-12-07 19:26 J	-4803061.85	-4803061.69	-4803061.52	0.0299	0.0191
Neptune	-17863-03-13 16:33 J	-4802966.02	-4802965.81	-4802965.59	0.0089	0.0016
Neptune	-17863-10-25 04:48 J	-4802740.50	-4802740.30	-4802740.08	0.0089	0.0020
Neptune	-17862-06-07 17:16 J	-4802514.98	-4802514.78	-4802514.56	0.0089	0.0024
Neptune	-17861-01-19 05:45 J	-4802289.46	-4802289.26	-4802289.05	0.0089	0.0027
Neptune	-17861-08-31 18:00 J	-4802063.94	-4802063.75	-4802063.53	0.0089	0.0031
Neptune	-17860-04-14 06:43 J	-4801838.42	-4801838.22	-4801838.02	0.0089	0.0034
Jupiter	-17860-09-08 16:33 J	-4801690.97	-4801690.81	-4801690.64	0.0527	0.0305
Neptune	-17860-11-25 18:43 J	-4801612.90	-4801612.72	-4801612.51	0.0089	0.0038

Jupiter	-17859-05-04 13:55 J	-4801453.10	-4801452.92	-4801452.73	0.0529	0.0218
Neptune	-17859-07-09 07:11 J	-4801387.37	-4801387.20	-4801386.99	0.0089	0.0042
Neptune	-17858-02-19 19:40 J	-4801161.85	-4801161.68	-4801161.48	0.0089	0.0045
Neptune	-17858-10-03 07:55 J	-4800936.33	-4800936.17	-4800935.97	0.0089	0.0049
Neptune	-17857-05-15 20:38 J	-4800710.81	-4800710.64	-4800710.46	0.0089	0.0052
Neptune	-17857-12-27 08:52 J	-4800485.28	-4800485.13	-4800484.95	0.0089	0.0056
Neptune	-17856-08-09 21:21 J	-4800259.76	-4800259.61	-4800259.44	0.0089	0.0059
Neptune	-17855-03-23 09:36 J	-4800034.23	-4800034.10	-4800033.93	0.0089	0.0063
Neptune	-17855-11-03 22:19 J	-4799808.70	-4799808.57	-4799808.42	0.0089	0.0066
Neptune	-17854-06-17 11:02 J	-4799583.17	-4799583.04	-4799582.90	0.0089	0.0069
Jupiter	-17854-07-12 22:19 J	-4799557.75	-4799557.57	-4799557.39	0.0499	0.0244
Neptune	-17853-01-28 23:02 J	-4799357.64	-4799357.54	-4799357.40	0.0089	0.0073
Jupiter	-17853-03-05 01:55 J	-4799321.61	-4799321.42	-4799321.23	0.0496	0.0182
Neptune	-17853-09-10 11:31 J	-4799132.11	-4799132.02	-4799131.89	0.0089	0.0076
Neptune	-17852-04-24 00:00 J	-4798906.59	-4798906.50	-4798906.39	0.0089	0.0079
Neptune	-17852-12-05 12:43 J	-4798681.05	-4798680.97	-4798680.89	0.0089	0.0082
Saturn	-17851-07-08 18:28 J	-4798465.90	-4798465.73	-4798465.55	0.0267	0.0138
Neptune	-17851-07-19 00:43 J	-4798455.50	-4798455.47	-4798455.39	0.0089	0.0086
Saturn	-17850-02-22 15:07 J	-4798237.08	-4798236.87	-4798236.66	0.0265	0.0003
Neptune	-17850-03-01 13:11 J	-4798229.95	-4798229.95	-4798229.92	0.0089	0.0089
Saturn	-17850-10-09 10:19 J	-4798008.24	-4798008.07	-4798007.88	0.0263	0.0141
Mars	-17849-07-08 05:16 J	-4797735.45	-4797735.28	-4797735.11	0.1881	0.0495
Jupiter	-17848-05-14 07:26 J	-4797425.30	-4797425.19	-4797425.08	0.0526	0.0445
Mars	-17848-06-16 22:04 J	-4797391.71	-4797391.58	-4797391.45	0.1632	0.1063
Jupiter	-17847-01-07 05:16 J	-4797187.48	-4797187.28	-4797187.08	0.0529	0.0073
Mars	-17846-04-17 00:00 J	-4796722.65	-4796722.50	-4796722.34	0.1640	0.0666
Pluto	-17845-08-26 05:31 J	-4796225.28	-4796225.27	-4796225.19	0.0064	0.0063
Pluto	-17844-04-08 09:50 J	-4796000.28	-4796000.09	-4795999.89	0.0064	0.0028
Pluto	-17844-11-19 13:40 J	-4795775.14	-4795774.93	-4795774.71	0.0064	0.0007
Pluto	-17843-07-02 17:31 J	-4795549.93	-4795549.77	-4795549.60	0.0064	0.0042

Jupiter	-17842-03-18 00:00 J	-4795291.63	-4795291.50	-4795291.35	0.0500	0.0361
Jupiter	-17842-11-09 03:50 J	-4795055.55	-4795055.34	-4795055.14	0.0497	0.0065
Jupiter	-17841-07-02 08:23 J	-4794819.19	-4794819.15	-4794819.10	0.0496	0.0482
Jupiter	-17836-09-11 18:00 J	-4792921.95	-4792921.75	-4792921.54	0.0528	0.0077
Saturn	-17835-03-16 14:52 J	-4792736.03	-4792735.88	-4792735.70	0.0295	0.0188
Jupiter	-17835-05-07 14:23 J	-4792684.01	-4792683.90	-4792683.79	0.0530	0.0442
Saturn	-17835-11-01 22:04 J	-4792505.79	-4792505.58	-4792505.36	0.0298	0.0019
Saturn	-17834-06-20 06:43 J	-4792275.35	-4792275.22	-4792275.08	0.0300	0.0228
Jupiter	-17831-11-21 01:55 J	-4791025.48	-4791025.42	-4791025.36	0.0501	0.0476
Jupiter	-17830-07-15 06:14 J	-4790789.44	-4790789.24	-4790789.04	0.0498	0.0054
Jupiter	-17829-03-07 10:48 J	-4790553.19	-4790553.05	-4790552.92	0.0496	0.0370
Uranus	-17828-01-06 19:55 J	-4790247.74	-4790247.67	-4790247.56	0.0132	0.0120
Uranus	-17828-08-21 01:55 J	-4790021.58	-4790021.42	-4790021.26	0.0132	0.0090
Uranus	-17827-04-04 07:11 J	-4789795.38	-4789795.20	-4789794.99	0.0132	0.0061
Uranus	-17827-11-16 12:57 J	-4789569.17	-4789568.96	-4789568.74	0.0132	0.0031
Uranus	-17826-06-30 18:43 J	-4789342.94	-4789342.72	-4789342.50	0.0132	0.0002
Uranus	-17825-02-12 00:00 J	-4789116.70	-4789116.50	-4789116.27	0.0132	0.0029
Uranus	-17825-09-25 05:31 J	-4788890.46	-4788890.27	-4788890.06	0.0132	0.0058
Uranus	-17824-05-09 10:48 J	-4788664.20	-4788664.05	-4788663.87	0.0132	0.0088
Jupiter	-17824-05-17 07:26 J	-4788656.37	-4788656.19	-4788656.00	0.0527	0.0222
Uranus	-17824-12-21 16:19 J	-4788437.91	-4788437.82	-4788437.71	0.0132	0.0117
Jupiter	-17823-01-10 04:04 J	-4788418.49	-4788418.33	-4788418.16	0.0529	0.0300
Saturn	-17822-06-04 02:23 J	-4787908.46	-4787908.40	-4787908.34	0.0268	0.0257
Saturn	-17821-01-19 00:00 J	-4787679.68	-4787679.50	-4787679.31	0.0266	0.0114
Saturn	-17821-09-03 20:38 J	-4787450.85	-4787450.64	-4787450.44	0.0264	0.0026
Saturn	-17820-04-20 15:50 J	-4787222.00	-4787221.84	-4787221.68	0.0263	0.0162
Jupiter	-17818-03-20 08:38 J	-4786523.33	-4786523.14	-4786522.95	0.0499	0.0171
Jupiter	-17818-11-11 12:43 J	-4786287.14	-4786286.97	-4786286.79	0.0496	0.0256
Mars	-17817-07-08 05:02 J	-4786047.43	-4786047.29	-4786047.15	0.1886	0.1170
Mars	-17814-04-15 17:31 J	-4785035.94	-4785035.77	-4785035.59	0.1636	0.0173

Jupiter	-17812-01-19 20:38 J	-4784390.79	-4784390.64	-4784390.49	0.0526	0.0365
Mars	-17812-02-12 17:45 J	-4784366.80	-4784366.76	-4784366.72	0.1645	0.1599
Jupiter	-17812-09-14 18:00 J	-4784152.95	-4784152.75	-4784152.56	0.0529	0.0156
Moon	-17810-11-02 08:23 J	-4783374.29	-4783374.15	-4783374.02	0.2638	0.1159
Earth	-17810-11-02 11:31 J	-4783374.16	-4783374.02	-4783373.88	0.2632	0.1165 *
Jupiter	-17807-11-23 10:48 J	-4782257.22	-4782257.05	-4782256.89	0.0500	0.0289
Jupiter	-17806-07-17 14:38 J	-4782021.09	-4782020.89	-4782020.69	0.0497	0.0139
Saturn	-17806-09-27 00:14 J	-4781949.67	-4781949.49	-4781949.31	0.0296	0.0156
Saturn	-17805-05-14 07:26 J	-4781719.40	-4781719.19	-4781718.98	0.0298	0.0050
Saturn	-17805-12-30 16:04 J	-4781488.93	-4781488.83	-4781488.72	0.0300	0.0261
Earth	-17802-10-31 05:45 J	-4780454.37	-4780454.26	-4780454.15	0.2633	0.1844
Moon	-17802-10-31 06:14 J	-4780454.35	-4780454.24	-4780454.12	0.2640	0.1723 *
Jupiter	-17801-09-24 11:31 J	-4780125.07	-4780125.02	-4780124.96	0.0525	0.0502
Jupiter	-17800-05-20 09:21 J	-4779887.32	-4779887.11	-4779886.91	0.0529	0.0014
Jupiter	-17799-01-13 05:45 J	-4779649.27	-4779649.26	-4779649.24	0.0530	0.0527
Neptune	-17798-08-25 21:21 J	-4779059.64	-4779059.61	-4779059.56	0.0088	0.0086
Neptune	-17797-04-07 10:33 J	-4778834.11	-4778834.06	-4778833.97	0.0088	0.0083
Neptune	-17797-11-19 00:00 J	-4778608.58	-4778608.50	-4778608.39	0.0088	0.0080
Neptune	-17796-07-02 13:11 J	-4778383.04	-4778382.95	-4778382.82	0.0088	0.0077
Neptune	-17795-02-13 02:52 J	-4778157.49	-4778157.38	-4778157.25	0.0088	0.0073
Jupiter	-17795-07-29 11:16 J	-4777991.14	-4777991.03	-4777990.91	0.0500	0.0407
Neptune	-17795-09-26 16:04 J	-4777931.95	-4777931.83	-4777931.68	0.0088	0.0070
Jupiter	-17794-03-22 14:52 J	-4777755.09	-4777754.88	-4777754.68	0.0497	0.0020
Neptune	-17794-05-10 05:16 J	-4777706.40	-4777706.28	-4777706.11	0.0088	0.0067
Jupiter	-17794-11-13 18:57 J	-4777518.80	-4777518.71	-4777518.62	0.0496	0.0438
Neptune	-17794-12-21 18:57 J	-4777480.85	-4777480.71	-4777480.54	0.0088	0.0063
Neptune	-17793-08-03 08:09 J	-4777255.30	-4777255.16	-4777254.97	0.0088	0.0060
Saturn	-17793-12-14 06:14 J	-4777122.33	-4777122.24	-4777122.13	0.0268	0.0235
Neptune	-17792-03-16 21:50 J	-4777029.75	-4777029.59	-4777029.41	0.0088	0.0056
Saturn	-17792-07-31 04:04 J	-4776893.52	-4776893.33	-4776893.13	0.0266	0.0092

Neptune -17792-10-28 11:16 J -4776804.19 -4776804.03 -4776803.83 0.0088 0.0053
 Saturn -17791-03-17 00:28 J -4776664.69 -4776664.48 -4776664.28 0.0264 0.0048
 Neptune -17791-06-11 00:57 J -4776578.63 -4776578.46 -4776578.26 0.0088 0.0049
 Saturn -17791-10-31 19:26 J -4776435.82 -4776435.69 -4776435.53 0.0263 0.0185
 Neptune -17790-01-22 14:38 J -4776353.08 -4776352.89 -4776352.69 0.0088 0.0046
 Neptune -17790-09-05 03:50 J -4776127.52 -4776127.34 -4776127.13 0.0088 0.0042
 Neptune -17789-04-17 17:31 J -4775901.96 -4775901.77 -4775901.56 0.0088 0.0038
 Neptune -17789-11-29 07:26 J -4775676.40 -4775676.19 -4775675.99 0.0088 0.0035
 Jupiter -17788-01-23 00:00 J -4775621.69 -4775621.50 -4775621.30 0.0528 0.0134
 Neptune -17788-07-12 20:38 J -4775450.84 -4775450.64 -4775450.42 0.0088 0.0031
 Jupiter -17788-09-17 21:21 J -4775383.74 -4775383.61 -4775383.47 0.0530 0.0389
 Neptune -17787-02-23 10:04 J -4775225.28 -4775225.08 -4775224.86 0.0088 0.0027
 Neptune -17787-10-06 23:45 J -4774999.72 -4774999.51 -4774999.29 0.0088 0.0023
 Uranus -17786-02-25 05:45 J -4774858.26 -4774858.26 -4774858.26 0.0146 0.0146
 Neptune -17786-05-20 13:26 J -4774774.16 -4774773.94 -4774773.73 0.0088 0.0020
 Uranus -17786-10-09 17:16 J -4774631.91 -4774631.78 -4774631.62 0.0146 0.0108
 Neptune -17785-01-01 02:38 J -4774548.60 -4774548.39 -4774548.16 0.0088 0.0016
 Uranus -17785-05-23 05:16 J -4774405.46 -4774405.28 -4774405.08 0.0147 0.0068
 Neptune -17785-08-13 16:19 J -4774323.04 -4774322.82 -4774322.59 0.0088 0.0012
 Uranus -17784-01-04 17:31 J -4774178.98 -4774178.77 -4774178.56 0.0147 0.0028
 Neptune -17784-03-27 05:45 J -4774097.48 -4774097.26 -4774097.03 0.0088 0.0008
 Uranus -17784-08-19 05:31 J -4773952.48 -4773952.27 -4773952.05 0.0147 0.0013
 Neptune -17784-11-07 19:26 J -4773871.91 -4773871.69 -4773871.46 0.0088 0.0005
 Uranus -17783-04-02 17:31 J -4773725.96 -4773725.77 -4773725.56 0.0146 0.0053
 Mars -17783-05-05 08:09 J -4773693.32 -4773693.16 -4773693.00 0.1879 0.0765
 Neptune -17783-06-21 09:07 J -4773646.34 -4773646.12 -4773645.90 0.0088 0.0001
 Uranus -17783-11-15 05:31 J -4773499.42 -4773499.27 -4773499.09 0.0146 0.0093
 Jupiter -17783-11-25 16:33 J -4773489.01 -4773488.81 -4773488.61 0.0498 0.0102
 Neptune -17782-02-01 22:33 J -4773420.78 -4773420.56 -4773420.33 0.0088 0.0004
 Mars -17782-04-14 10:48 J -4773349.19 -4773349.05 -4773348.92 0.1633 0.0993

Uranus -17782-06-29 18:00 J -4773272.83 -4773272.75 -4773272.65 0.0146 0.0132
 Jupiter -17782-07-19 20:23 J -4773252.80 -4773252.65 -4773252.50 0.0496 0.0324
 Neptune -17782-09-15 12:00 J -4773195.22 -4773195.00 -4773194.77 0.0088 0.0008
 Neptune -17781-04-28 01:40 J -4772969.65 -4772969.43 -4772969.20 0.0088 0.0011
 Neptune -17781-12-09 15:36 J -4772744.07 -4772743.85 -4772743.63 0.0088 0.0015
 Mars -17780-02-11 12:00 J -4772680.15 -4772680.00 -4772679.85 0.1641 0.0746
 Neptune -17780-07-23 05:02 J -4772518.50 -4772518.29 -4772518.06 0.0088 0.0019
 Neptune -17779-03-05 18:43 J -4772292.93 -4772292.72 -4772292.50 0.0088 0.0022
 Neptune -17779-10-17 08:09 J -4772067.36 -4772067.16 -4772066.93 0.0088 0.0026
 Neptune -17778-05-30 22:04 J -4771841.79 -4771841.58 -4771841.37 0.0088 0.0030
 Neptune -17777-01-11 11:45 J -4771616.21 -4771616.01 -4771615.80 0.0088 0.0034
 Neptune -17777-08-24 01:11 J -4771390.64 -4771390.45 -4771390.23 0.0088 0.0038
 Jupiter -17777-09-27 12:57 J -4771356.13 -4771355.96 -4771355.78 0.0526 0.0281
 Neptune -17776-04-06 14:52 J -4771165.07 -4771164.88 -4771164.67 0.0088 0.0041
 Saturn -17776-04-08 11:16 J -4771163.22 -4771163.03 -4771162.83 0.0296 0.0121
 Jupiter -17776-05-23 10:04 J -4771118.26 -4771118.08 -4771117.90 0.0529 0.0243
 Neptune -17776-11-18 04:48 J -4770939.49 -4770939.30 -4770939.10 0.0088 0.0045
 Saturn -17776-11-24 18:43 J -4770932.92 -4770932.72 -4770932.51 0.0298 0.0087
 Neptune -17775-07-01 18:14 J -4770713.91 -4770713.74 -4770713.54 0.0088 0.0049
 Saturn -17775-07-13 03:50 J -4770702.36 -4770702.34 -4770702.31 0.0300 0.0298
 Neptune -17774-02-12 07:40 J -4770488.34 -4770488.18 -4770487.98 0.0088 0.0053
 Neptune -17774-09-25 21:36 J -4770262.77 -4770262.60 -4770262.42 0.0088 0.0056
 Neptune -17773-05-08 11:02 J -4770037.19 -4770037.04 -4770036.86 0.0089 0.0060
 Neptune -17773-12-20 00:28 J -4769811.61 -4769811.48 -4769811.30 0.0089 0.0064
 Neptune -17772-08-02 14:23 J -4769586.03 -4769585.90 -4769585.74 0.0089 0.0067
 Neptune -17771-03-16 03:50 J -4769360.45 -4769360.34 -4769360.18 0.0089 0.0071
 Jupiter -17771-07-31 18:28 J -4769222.91 -4769222.73 -4769222.54 0.0499 0.0221
 Neptune -17771-10-27 17:31 J -4769134.88 -4769134.77 -4769134.63 0.0089 0.0074
 Jupiter -17770-03-24 22:33 J -4768986.74 -4768986.56 -4768986.37 0.0497 0.0209
 Neptune -17770-06-10 07:26 J -4768909.29 -4768909.19 -4768909.08 0.0089 0.0077

Neptune	-17769-01-21 20:38 J	-4768683.70	-4768683.64	-4768683.52	0.0089	0.0081
Neptune	-17769-09-03 10:33 J	-4768458.12	-4768458.06	-4768457.98	0.0089	0.0084
Neptune	-17768-04-17 00:28 J	-4768232.52	-4768232.48	-4768232.44	0.0089	0.0087
Jupiter	-17765-06-02 02:23 J	-4767090.52	-4767090.40	-4767090.27	0.0525	0.0422
Jupiter	-17764-01-25 23:45 J	-4766852.71	-4766852.51	-4766852.31	0.0528	0.0097
Saturn	-17763-06-26 12:57 J	-4766336.08	-4766335.96	-4766335.82	0.0268	0.0210
Saturn	-17762-02-10 10:33 J	-4766107.26	-4766107.06	-4766106.85	0.0266	0.0067
Saturn	-17762-09-27 06:43 J	-4765878.42	-4765878.22	-4765878.02	0.0264	0.0073
Saturn	-17761-05-13 01:55 J	-4765649.55	-4765649.42	-4765649.29	0.0262	0.0208
Jupiter	-17759-04-05 20:38 J	-4764956.78	-4764956.64	-4764956.49	0.0500	0.0338
Jupiter	-17759-11-28 00:43 J	-4764720.67	-4764720.47	-4764720.27	0.0497	0.0091
Pluto	-17755-03-02 01:55 J	-4763530.62	-4763530.42	-4763530.20	0.0080	0.0030
Pluto	-17755-10-13 12:57 J	-4763305.14	-4763304.96	-4763304.76	0.0080	0.0041
Jupiter	-17753-09-30 12:43 J	-4762587.17	-4762586.97	-4762586.77	0.0528	0.0051
Jupiter	-17752-05-26 09:21 J	-4762349.20	-4762349.11	-4762349.02	0.0530	0.0468
Mars	-17751-05-05 07:40 J	-4762005.34	-4762005.18	-4762005.02	0.1885	0.0885
Mars	-17748-02-10 05:45 J	-4760993.43	-4760993.26	-4760993.08	0.1637	0.0106
Jupiter	-17748-12-09 22:33 J	-4760690.64	-4760690.56	-4760690.47	0.0501	0.0453
Saturn	-17747-03-03 16:04 J	-4760606.86	-4760606.83	-4760606.78	0.0294	0.0287
Jupiter	-17747-08-03 02:52 J	-4760454.59	-4760454.38	-4760454.18	0.0498	0.0028
Saturn	-17747-10-19 22:04 J	-4760376.79	-4760376.58	-4760376.38	0.0296	0.0087
Jupiter	-17746-03-27 06:57 J	-4760218.33	-4760218.21	-4760218.08	0.0496	0.0397
Saturn	-17746-06-07 05:31 J	-4760146.46	-4760146.27	-4760146.07	0.0299	0.0122
Uranus	-17744-04-20 12:28 J	-4759463.11	-4759462.98	-4759462.83	0.0132	0.0103
Uranus	-17744-12-02 18:14 J	-4759236.92	-4759236.74	-4759236.55	0.0132	0.0073
Uranus	-17743-07-16 23:45 J	-4759010.71	-4759010.51	-4759010.29	0.0132	0.0044
Uranus	-17742-02-28 05:31 J	-4758784.49	-4758784.27	-4758784.05	0.0132	0.0014
Uranus	-17742-10-12 11:02 J	-4758558.26	-4758558.04	-4758557.82	0.0132	0.0016
Uranus	-17741-05-25 16:19 J	-4758332.02	-4758331.82	-4758331.61	0.0132	0.0046
Jupiter	-17741-06-05 03:21 J	-4758321.54	-4758321.36	-4758321.16	0.0527	0.0196

Uranus	-17740-01-06 21:36 J	-4758105.76	-4758105.60	-4758105.40	0.0132	0.0076
Jupiter	-17740-01-29 00:57 J	-4758083.62	-4758083.46	-4758083.30	0.0530	0.0330
Uranus	-17740-08-21 03:07 J	-4757879.49	-4757879.37	-4757879.22	0.0132	0.0105
Jupiter	-17735-04-08 03:21 J	-4756188.55	-4756188.36	-4756188.16	0.0498	0.0150
Jupiter	-17735-11-30 06:57 J	-4755952.38	-4755952.21	-4755952.04	0.0496	0.0278
Saturn	-17733-01-06 17:45 J	-4755549.90	-4755549.76	-4755549.61	0.0267	0.0187
Saturn	-17733-08-22 15:07 J	-4755321.08	-4755320.87	-4755320.67	0.0266	0.0044
Saturn	-17732-04-08 11:02 J	-4755092.23	-4755092.04	-4755091.84	0.0264	0.0096
Saturn	-17732-11-23 06:00 J	-4754863.34	-4754863.25	-4754863.15	0.0263	0.0231
Jupiter	-17729-02-08 18:00 J	-4754055.90	-4754055.75	-4754055.59	0.0527	0.0339
Jupiter	-17729-10-03 16:04 J	-4753818.02	-4753817.83	-4753817.64	0.0529	0.0186
Jupiter	-17724-12-12 05:16 J	-4751922.45	-4751922.28	-4751922.11	0.0499	0.0268
Jupiter	-17723-08-05 08:38 J	-4751686.33	-4751686.14	-4751685.94	0.0497	0.0161
Saturn	-17718-09-14 03:21 J	-4749820.47	-4749820.36	-4749820.25	0.0294	0.0253
Jupiter	-17718-10-14 07:11 J	-4749790.27	-4749790.20	-4749790.11	0.0525	0.0480
Mars	-17717-03-01 11:31 J	-4749651.17	-4749651.02	-4749650.87	0.1878	0.1025
Saturn	-17717-05-01 09:36 J	-4749590.31	-4749590.10	-4749589.89	0.0297	0.0051
Jupiter	-17717-06-08 04:48 J	-4749552.50	-4749552.30	-4749552.10	0.0528	0.0037
Saturn	-17717-12-17 17:31 J	-4749359.94	-4749359.77	-4749359.58	0.0299	0.0159
Mars	-17716-02-08 23:02 J	-4749306.69	-4749306.54	-4749306.40	0.1634	0.0919
Neptune	-17716-03-01 10:04 J	-4749286.09	-4749286.08	-4749286.03	0.0089	0.0089
Neptune	-17716-10-12 22:48 J	-4749060.59	-4749060.55	-4749060.47	0.0089	0.0086
Neptune	-17715-05-26 11:31 J	-4748835.08	-4748835.02	-4748834.91	0.0089	0.0083
Mars	-17715-12-10 00:14 J	-4748637.64	-4748637.49	-4748637.34	0.1642	0.0823
Neptune	-17714-01-07 00:28 J	-4748609.57	-4748609.48	-4748609.36	0.0089	0.0079
Neptune	-17714-08-20 12:57 J	-4748384.05	-4748383.96	-4748383.82	0.0089	0.0076
Neptune	-17713-04-02 02:09 J	-4748158.54	-4748158.41	-4748158.28	0.0089	0.0072
Neptune	-17713-11-13 14:23 J	-4747933.02	-4747932.90	-4747932.74	0.0089	0.0069
Neptune	-17712-06-27 03:21 J	-4747707.50	-4747707.36	-4747707.20	0.0089	0.0065
Jupiter	-17712-08-17 06:43 J	-4747656.35	-4747656.22	-4747656.09	0.0501	0.0387

Neptune -17711-02-07 15:36 J -4747481.98 -4747481.85 -4747481.67 0.0089 0.0062
 Jupiter -17711-04-10 10:33 J -4747420.26 -4747420.06 -4747419.85 0.0498 0.0043
 Neptune -17711-09-21 04:33 J -4747256.47 -4747256.31 -4747256.14 0.0089 0.0057
 Jupiter -17711-12-02 15:21 J -4747183.93 -4747183.86 -4747183.79 0.0496 0.0464
 Neptune -17710-05-04 16:48 J -4747030.95 -4747030.80 -4747030.60 0.0089 0.0055
 Neptune -17710-12-16 05:31 J -4746805.43 -4746805.27 -4746805.07 0.0089 0.0051
 Neptune -17709-07-28 18:14 J -4746579.92 -4746579.74 -4746579.55 0.0089 0.0046
 Neptune -17708-03-11 06:57 J -4746354.40 -4746354.21 -4746354.02 0.0089 0.0043
 Neptune -17708-10-22 19:11 J -4746128.88 -4746128.70 -4746128.49 0.0089 0.0039
 Neptune -17707-06-05 07:55 J -4745903.36 -4745903.17 -4745902.96 0.0089 0.0035
 Neptune -17706-01-16 20:38 J -4745677.84 -4745677.64 -4745677.44 0.0089 0.0031
 Neptune -17706-08-30 08:52 J -4745452.33 -4745452.13 -4745451.91 0.0089 0.0028
 Jupiter -17705-02-11 18:28 J -4745286.93 -4745286.73 -4745286.53 0.0527 0.0110
 Neptune -17705-04-11 21:21 J -4745226.81 -4745226.61 -4745226.39 0.0089 0.0024
 Jupiter -17705-10-06 14:52 J -4745049.00 -4745048.88 -4745048.75 0.0529 0.0412
 Neptune -17705-11-23 10:04 J -4745001.29 -4745001.08 -4745000.87 0.0089 0.0020
 Neptune -17704-07-06 22:33 J -4744775.77 -4744775.56 -4744775.34 0.0089 0.0017
 Saturn -17704-07-19 00:43 J -4744763.63 -4744763.47 -4744763.30 0.0267 0.0161
 Neptune -17703-02-17 11:16 J -4744550.25 -4744550.03 -4744549.82 0.0089 0.0012
 Saturn -17703-03-04 21:50 J -4744534.80 -4744534.59 -4744534.38 0.0265 0.0019
 Neptune -17703-09-30 23:31 J -4744324.73 -4744324.52 -4744324.29 0.0089 0.0009
 Saturn -17703-10-19 17:45 J -4744305.95 -4744305.76 -4744305.58 0.0263 0.0120
 Neptune -17702-05-14 12:14 J -4744099.20 -4744098.99 -4744098.77 0.0089 0.0005
 Saturn -17702-06-05 12:28 J -4744077.02 -4744076.98 -4744076.92 0.0262 0.0254
 Uranus -17702-06-08 22:48 J -4744073.65 -4744073.55 -4744073.44 0.0146 0.0127
 Neptune -17702-12-26 00:57 J -4743873.68 -4743873.46 -4743873.25 0.0089 0.0002
 Uranus -17701-01-21 10:33 J -4743847.22 -4743847.06 -4743846.88 0.0146 0.0088
 Neptune -17701-08-07 13:26 J -4743648.16 -4743647.94 -4743647.73 0.0089 0.0003
 Uranus -17701-09-03 22:33 J -4743620.76 -4743620.56 -4743620.35 0.0146 0.0048
 Neptune -17700-03-21 01:40 J -4743422.64 -4743422.43 -4743422.21 0.0089 0.0007

Uranus	-17700-04-18 10:48 J	-4743394.27	-4743394.05	-4743393.84	0.0146	0.0008
Jupiter	-17700-04-22 08:23 J	-4743390.16	-4743390.15	-4743390.14	0.0502	0.0501
Neptune	-17700-11-01 14:09 J	-4743197.12	-4743196.91	-4743196.69	0.0089	0.0011
Uranus	-17700-11-30 22:48 J	-4743167.76	-4743167.55	-4743167.34	0.0146	0.0033
Jupiter	-17700-12-14 12:43 J	-4743154.17	-4743153.97	-4743153.77	0.0498	0.0077
Neptune	-17699-06-15 02:52 J	-4742971.59	-4742971.38	-4742971.16	0.0089	0.0015
Uranus	-17699-07-15 11:02 J	-4742941.23	-4742941.04	-4742940.85	0.0146	0.0073
Jupiter	-17699-08-07 17:02 J	-4742917.93	-4742917.79	-4742917.64	0.0496	0.0351
Neptune	-17698-01-26 15:21 J	-4742746.07	-4742745.86	-4742745.65	0.0089	0.0018
Uranus	-17698-02-26 23:02 J	-4742714.67	-4742714.54	-4742714.40	0.0146	0.0113
Neptune	-17698-09-09 03:36 J	-4742520.55	-4742520.35	-4742520.14	0.0089	0.0022
Neptune	-17697-04-21 15:50 J	-4742295.04	-4742294.84	-4742294.62	0.0089	0.0026
Neptune	-17697-12-03 04:19 J	-4742069.52	-4742069.32	-4742069.11	0.0089	0.0030
Moon	-17696-05-07 05:02 J	-4741914.36	-4741914.29	-4741914.21	0.2707	0.2351
Earth	-17696-05-07 08:52 J	-4741914.21	-4741914.13	-4741914.05	0.2701	0.2352 *
Neptune	-17696-07-16 16:33 J	-4741843.99	-4741843.81	-4741843.59	0.0089	0.0034
Neptune	-17695-02-27 05:16 J	-4741618.47	-4741618.28	-4741618.08	0.0089	0.0037
Neptune	-17695-10-10 17:31 J	-4741392.95	-4741392.77	-4741392.57	0.0089	0.0041
Neptune	-17694-05-24 05:45 J	-4741167.43	-4741167.26	-4741167.05	0.0089	0.0045
Jupiter	-17694-10-17 06:57 J	-4741021.38	-4741021.21	-4741021.03	0.0526	0.0258
Neptune	-17693-01-04 18:28 J	-4740941.91	-4740941.73	-4740941.54	0.0089	0.0048
Jupiter	-17693-06-11 04:19 J	-4740783.50	-4740783.32	-4740783.15	0.0529	0.0268
Neptune	-17693-08-17 06:43 J	-4740716.38	-4740716.22	-4740716.03	0.0089	0.0052
Neptune	-17692-03-30 18:57 J	-4740490.86	-4740490.71	-4740490.53	0.0089	0.0056
Neptune	-17692-11-11 07:26 J	-4740265.34	-4740265.19	-4740265.02	0.0089	0.0059
Neptune	-17691-06-24 19:55 J	-4740039.80	-4740039.67	-4740039.50	0.0089	0.0063
Neptune	-17690-02-05 08:38 J	-4739814.28	-4739814.14	-4739813.99	0.0089	0.0066
Neptune	-17690-09-18 20:38 J	-4739588.75	-4739588.64	-4739588.49	0.0089	0.0070
Neptune	-17689-05-01 09:21 J	-4739363.22	-4739363.11	-4739362.98	0.0089	0.0073
Neptune	-17689-12-12 21:21 J	-4739137.69	-4739137.61	-4739137.48	0.0089	0.0077

Saturn	-17688-03-26 13:55 J	-4739034.05	-4739033.92	-4739033.77	0.0295	0.0220
Earth	-17688-05-04 20:52 J	-4738994.76	-4738994.63	-4738994.50	0.2699	0.1648
Moon	-17688-05-04 21:50 J	-4738994.70	-4738994.59	-4738994.47	0.2706	0.1680 *
Neptune	-17688-07-26 10:04 J	-4738912.15	-4738912.08	-4738911.97	0.0089	0.0080
Jupiter	-17688-08-19 14:52 J	-4738888.06	-4738887.88	-4738887.69	0.0499	0.0196
Saturn	-17688-11-11 20:23 J	-4738803.86	-4738803.65	-4738803.43	0.0297	0.0016
Neptune	-17687-03-08 22:48 J	-4738686.62	-4738686.55	-4738686.47	0.0089	0.0083
Jupiter	-17687-04-12 18:43 J	-4738651.89	-4738651.72	-4738651.54	0.0497	0.0235
Saturn	-17687-06-30 04:19 J	-4738573.47	-4738573.32	-4738573.15	0.0299	0.0194
Neptune	-17687-10-20 10:48 J	-4738461.07	-4738461.05	-4738460.98	0.0089	0.0087
Mars	-17685-03-01 10:19 J	-4737963.24	-4737963.07	-4737962.90	0.1883	0.0606
Mars	-17683-12-08 18:00 J	-4736950.92	-4736950.75	-4736950.58	0.1638	0.0019
Jupiter	-17682-06-21 21:21 J	-4736755.74	-4736755.61	-4736755.47	0.0526	0.0399
Jupiter	-17681-02-14 19:11 J	-4736517.89	-4736517.70	-4736517.50	0.0529	0.0125
Jupiter	-17676-04-24 16:04 J	-4734621.98	-4734621.83	-4734621.67	0.0499	0.0316
Jupiter	-17676-12-16 19:26 J	-4734385.89	-4734385.69	-4734385.49	0.0497	0.0113
Saturn	-17674-01-29 05:45 J	-4733977.44	-4733977.26	-4733977.08	0.0267	0.0138
Saturn	-17674-09-15 02:38 J	-4733748.60	-4733748.39	-4733748.18	0.0265	0.0006
Saturn	-17673-04-30 22:04 J	-4733519.75	-4733519.58	-4733519.40	0.0263	0.0143
Jupiter	-17670-10-20 09:50 J	-4732252.29	-4732252.09	-4732251.88	0.0529	0.0023
Jupiter	-17669-06-14 06:57 J	-4732014.27	-4732014.21	-4732014.14	0.0530	0.0498
Jupiter	-17665-12-28 17:45 J	-4730355.86	-4730355.76	-4730355.66	0.0501	0.0432
Jupiter	-17664-08-21 21:21 J	-4730119.81	-4730119.61	-4730119.40	0.0497	0.0008
Jupiter	-17663-04-15 01:11 J	-4729883.55	-4729883.45	-4729883.34	0.0496	0.0418
Uranus	-17661-12-18 22:33 J	-4728904.66	-4728904.56	-4728904.45	0.0132	0.0116
Uranus	-17660-08-02 04:19 J	-4728678.48	-4728678.32	-4728678.15	0.0132	0.0086
Uranus	-17659-03-16 09:50 J	-4728452.28	-4728452.09	-4728451.88	0.0132	0.0057
Saturn	-17659-10-07 00:14 J	-4728247.65	-4728247.49	-4728247.32	0.0295	0.0188
Uranus	-17659-10-28 15:21 J	-4728226.07	-4728225.86	-4728225.63	0.0132	0.0027
Saturn	-17658-05-25 07:11 J	-4728017.42	-4728017.20	-4728016.99	0.0297	0.0018

Uranus	-17658-06-11 21:07 J	-4727999.84	-4727999.62	-4727999.40	0.0132	0.0003
Jupiter	-17658-06-24 23:02 J	-4727986.73	-4727986.54	-4727986.34	0.0527	0.0171
Saturn	-17657-01-10 15:36 J	-4727786.98	-4727786.85	-4727786.71	0.0299	0.0229
Uranus	-17657-01-24 02:38 J	-4727773.60	-4727773.39	-4727773.17	0.0132	0.0033
Jupiter	-17657-02-17 20:09 J	-4727748.80	-4727748.66	-4727748.50	0.0529	0.0356
Uranus	-17657-09-06 08:09 J	-4727547.35	-4727547.16	-4727546.96	0.0132	0.0063
Uranus	-17656-04-20 13:11 J	-4727321.09	-4727320.95	-4727320.78	0.0132	0.0093
Uranus	-17656-12-02 18:43 J	-4727094.79	-4727094.72	-4727094.63	0.0132	0.0122
Jupiter	-17652-04-26 22:48 J	-4725853.75	-4725853.55	-4725853.35	0.0499	0.0126
Jupiter	-17652-12-19 02:52 J	-4725617.54	-4725617.38	-4725617.22	0.0497	0.0304
Mars	-17652-12-27 14:23 J	-4725609.02	-4725608.90	-4725608.77	0.1876	0.1292
Mars	-17651-12-07 11:16 J	-4725264.17	-4725264.03	-4725263.88	0.1635	0.0846
Mars	-17649-10-06 12:14 J	-4724595.13	-4724594.99	-4724594.85	0.1644	0.0906
Jupiter	-17646-02-27 13:11 J	-4723721.12	-4723720.95	-4723720.79	0.0526	0.0315
Jupiter	-17646-10-23 10:04 J	-4723483.26	-4723483.08	-4723482.89	0.0529	0.0211
Saturn	-17646-12-25 14:38 J	-4723419.95	-4723419.89	-4723419.83	0.0268	0.0257
Saturn	-17645-08-10 12:28 J	-4723191.16	-4723190.98	-4723190.79	0.0266	0.0113
Saturn	-17644-03-27 09:07 J	-4722962.33	-4722962.12	-4722961.91	0.0265	0.0029
Saturn	-17644-11-11 04:33 J	-4722733.47	-4722733.31	-4722733.14	0.0263	0.0166
Jupiter	-17641-12-31 00:43 J	-4721587.64	-4721587.47	-4721587.29	0.0500	0.0245
Jupiter	-17640-08-24 05:02 J	-4721351.48	-4721351.29	-4721351.10	0.0497	0.0187
Jupiter	-17635-11-02 01:40 J	-4719455.52	-4719455.43	-4719455.33	0.0525	0.0457
Jupiter	-17634-06-27 23:02 J	-4719217.74	-4719217.54	-4719217.34	0.0528	0.0062
Neptune	-17633-07-09 20:23 J	-4718839.65	-4718839.65	-4718839.61	0.0088	0.0088
Neptune	-17632-02-20 09:50 J	-4718614.13	-4718614.09	-4718614.01	0.0088	0.0084
Neptune	-17632-10-03 23:02 J	-4718388.60	-4718388.54	-4718388.43	0.0088	0.0081
Neptune	-17631-05-17 12:14 J	-4718163.06	-4718162.99	-4718162.86	0.0088	0.0078
Neptune	-17631-12-29 01:55 J	-4717937.52	-4717937.42	-4717937.29	0.0088	0.0074
Neptune	-17630-08-11 15:07 J	-4717711.98	-4717711.87	-4717711.72	0.0088	0.0071
Neptune	-17629-03-24 04:33 J	-4717486.44	-4717486.31	-4717486.15	0.0088	0.0067

Saturn	-17629-04-18 11:16 J	-4717461.21	-4717461.03	-4717460.84	0.0296	0.0154
Jupiter	-17629-09-05 03:07 J	-4717321.51	-4717321.37	-4717321.23	0.0501	0.0363
Neptune	-17629-11-04 18:28 J	-4717260.88	-4717260.73	-4717260.57	0.0088	0.0064
Saturn	-17629-12-04 18:28 J	-4717230.94	-4717230.73	-4717230.52	0.0298	0.0054
Jupiter	-17628-04-29 06:57 J	-4717085.41	-4717085.21	-4717085.01	0.0497	0.0069
Neptune	-17628-06-18 07:40 J	-4717035.33	-4717035.18	-4717035.00	0.0088	0.0060
Saturn	-17628-07-23 02:52 J	-4717000.47	-4717000.38	-4717000.27	0.0300	0.0266
Jupiter	-17628-12-21 11:31 J	-4716849.05	-4716849.02	-4716848.99	0.0496	0.0490
Neptune	-17627-01-29 21:07 J	-4716809.78	-4716809.62	-4716809.43	0.0088	0.0057
Neptune	-17627-09-12 10:19 J	-4716584.23	-4716584.07	-4716583.87	0.0088	0.0053
Neptune	-17626-04-26 00:00 J	-4716358.67	-4716358.50	-4716358.30	0.0088	0.0049
Neptune	-17626-12-07 13:40 J	-4716133.11	-4716132.93	-4716132.72	0.0088	0.0045
Neptune	-17625-07-20 03:21 J	-4715907.55	-4715907.36	-4715907.16	0.0088	0.0041
Neptune	-17624-03-02 16:33 J	-4715681.99	-4715681.81	-4715681.59	0.0088	0.0038
Neptune	-17624-10-14 06:14 J	-4715456.43	-4715456.24	-4715456.02	0.0088	0.0034
Neptune	-17623-05-27 19:55 J	-4715230.87	-4715230.67	-4715230.45	0.0088	0.0030
Neptune	-17622-01-08 09:21 J	-4715005.31	-4715005.11	-4715004.88	0.0088	0.0027
Jupiter	-17622-03-02 13:40 J	-4714952.13	-4714951.93	-4714951.73	0.0528	0.0085
Neptune	-17622-08-21 23:02 J	-4714779.75	-4714779.54	-4714779.32	0.0088	0.0022
Jupiter	-17622-10-26 10:48 J	-4714714.16	-4714714.05	-4714713.94	0.0530	0.0440
Neptune	-17621-04-03 12:28 J	-4714554.19	-4714553.98	-4714553.75	0.0088	0.0018
Neptune	-17621-11-15 02:09 J	-4714328.63	-4714328.41	-4714328.18	0.0088	0.0015
Neptune	-17620-06-28 15:50 J	-4714103.06	-4714102.84	-4714102.62	0.0088	0.0010
Mars	-17620-12-27 12:43 J	-4713921.14	-4713920.97	-4713920.79	0.1882	0.0325
Neptune	-17619-02-09 05:16 J	-4713877.50	-4713877.28	-4713877.05	0.0088	0.0007
Neptune	-17619-09-22 18:43 J	-4713651.94	-4713651.72	-4713651.49	0.0088	0.0003
Neptune	-17618-05-06 08:09 J	-4713426.38	-4713426.16	-4713425.93	0.0088	0.0003
Uranus	-17618-09-20 14:52 J	-4713289.00	-4713288.88	-4713288.72	0.0146	0.0109
Neptune	-17618-12-17 21:50 J	-4713200.81	-4713200.59	-4713200.36	0.0088	0.0006
Uranus	-17617-05-04 02:52 J	-4713062.56	-4713062.38	-4713062.18	0.0146	0.0069

Jupiter -17617-05-11 04:33 J -4713055.36 -4713055.31 -4713055.24 0.0501 0.0480
 Neptune -17617-07-30 11:31 J -4712975.24 -4712975.02 -4712974.80 0.0088 0.0009
 Mars -17617-10-05 06:14 J -4712908.41 -4712908.24 -4712908.07 0.1640 0.0060
 Uranus -17617-12-16 15:07 J -4712836.08 -4712835.87 -4712835.66 0.0146 0.0028
 Jupiter -17616-01-02 08:23 J -4712819.35 -4712819.15 -4712818.95 0.0498 0.0053
 Neptune -17616-03-13 00:57 J -4712749.68 -4712749.46 -4712749.23 0.0088 0.0013
 Saturn -17616-07-06 19:26 J -4712633.78 -4712633.69 -4712633.58 0.0268 0.0234
 Uranus -17616-07-31 03:21 J -4712609.58 -4712609.36 -4712609.15 0.0146 0.0012
 Jupiter -17616-08-26 12:14 J -4712583.12 -4712582.99 -4712582.86 0.0496 0.0374
 Neptune -17616-10-24 14:23 J -4712524.11 -4712523.90 -4712523.67 0.0088 0.0017
 Saturn -17615-02-20 17:16 J -4712404.98 -4712404.78 -4712404.58 0.0266 0.0090
 Uranus -17615-03-14 15:21 J -4712383.06 -4712382.86 -4712382.66 0.0146 0.0052
 Neptune -17615-06-07 04:04 J -4712298.54 -4712298.33 -4712298.11 0.0088 0.0021
 Saturn -17615-10-07 13:26 J -4712176.14 -4712175.94 -4712175.73 0.0264 0.0051
 Uranus -17615-10-27 03:07 J -4712156.53 -4712156.37 -4712156.19 0.0146 0.0092
 Neptune -17614-01-18 17:31 J -4712072.97 -4712072.77 -4712072.54 0.0088 0.0026
 Saturn -17614-05-24 08:52 J -4711947.28 -4711947.13 -4711946.99 0.0263 0.0188
 Uranus -17614-06-10 15:07 J -4711929.95 -4711929.87 -4711929.76 0.0146 0.0132
 Neptune -17614-09-01 07:26 J -4711847.40 -4711847.19 -4711846.98 0.0088 0.0029
 Neptune -17613-04-13 20:52 J -4711621.83 -4711621.63 -4711621.41 0.0088 0.0033
 Neptune -17613-11-25 10:33 J -4711396.25 -4711396.06 -4711395.84 0.0088 0.0037
 Neptune -17612-07-09 00:14 J -4711170.68 -4711170.49 -4711170.28 0.0088 0.0041
 Neptune -17611-02-19 13:55 J -4710945.10 -4710944.92 -4710944.71 0.0088 0.0044
 Neptune -17611-10-03 03:21 J -4710719.53 -4710719.36 -4710719.15 0.0088 0.0049
 Jupiter -17611-11-05 03:50 J -4710686.52 -4710686.34 -4710686.15 0.0527 0.0231
 Neptune -17610-05-16 17:16 J -4710493.95 -4710493.78 -4710493.59 0.0088 0.0052
 Jupiter -17610-07-01 01:40 J -4710448.59 -4710448.43 -4710448.26 0.0530 0.0299
 Neptune -17610-12-28 06:57 J -4710268.37 -4710268.21 -4710268.03 0.0088 0.0056
 Neptune -17609-08-09 20:23 J -4710042.80 -4710042.65 -4710042.47 0.0088 0.0060
 Neptune -17608-03-23 09:50 J -4709817.22 -4709817.09 -4709816.91 0.0089 0.0064

Neptune	-17608-11-03 23:45 J	-4709591.64	-4709591.51	-4709591.35	0.0089	0.0067
Neptune	-17607-06-17 13:11 J	-4709366.07	-4709365.95	-4709365.80	0.0089	0.0071
Neptune	-17606-01-29 02:38 J	-4709140.48	-4709140.39	-4709140.24	0.0089	0.0075
Neptune	-17606-09-11 16:33 J	-4708914.90	-4708914.81	-4708914.69	0.0089	0.0078
Neptune	-17605-04-24 05:45 J	-4708689.32	-4708689.26	-4708689.14	0.0089	0.0082
Jupiter	-17605-09-07 10:33 J	-4708553.25	-4708553.06	-4708552.87	0.0499	0.0173
Neptune	-17605-12-05 19:40 J	-4708463.72	-4708463.68	-4708463.60	0.0089	0.0085
Jupiter	-17604-05-01 13:55 J	-4708317.09	-4708316.92	-4708316.74	0.0496	0.0258
Neptune	-17604-07-19 09:36 J	-4708238.11	-4708238.10	-4708238.07	0.0089	0.0088
Saturn	-17600-10-29 19:55 J	-4706674.86	-4706674.67	-4706674.47	0.0296	0.0124
Saturn	-17599-06-17 03:21 J	-4706444.56	-4706444.36	-4706444.15	0.0298	0.0085
Jupiter	-17599-07-10 17:45 J	-4706420.89	-4706420.76	-4706420.61	0.0526	0.0374
Saturn	-17598-02-02 12:14 J	-4706214.01	-4706213.99	-4706213.96	0.0300	0.0297
Jupiter	-17598-03-05 15:21 J	-4706183.05	-4706182.86	-4706182.66	0.0529	0.0153
Pluto	-17596-03-11 17:02 J	-4705445.94	-4705445.79	-4705445.59	0.0064	0.0038
Pluto	-17596-10-22 21:21 J	-4705220.83	-4705220.61	-4705220.40	0.0064	0.0004
Pluto	-17595-06-05 00:57 J	-4704995.64	-4704995.46	-4704995.26	0.0064	0.0032
Jupiter	-17593-05-13 11:16 J	-4704287.19	-4704287.03	-4704286.87	0.0500	0.0293
Jupiter	-17592-01-04 15:21 J	-4704051.06	-4704050.86	-4704050.67	0.0497	0.0140
Jupiter	-17587-03-15 08:38 J	-4702155.18	-4702155.14	-4702155.10	0.0524	0.0510
Jupiter	-17587-11-08 05:31 J	-4701917.47	-4701917.27	-4701917.06	0.0528	0.0009
Saturn	-17586-01-17 01:40 J	-4701847.55	-4701847.43	-4701847.29	0.0268	0.0210
Jupiter	-17586-07-04 01:40 J	-4701679.45	-4701679.43	-4701679.40	0.0530	0.0523
Saturn	-17586-09-02 23:16 J	-4701618.73	-4701618.53	-4701618.33	0.0266	0.0066
Mars	-17586-10-24 17:31 J	-4701566.87	-4701566.77	-4701566.68	0.1874	0.1554
Saturn	-17585-04-18 19:26 J	-4701389.89	-4701389.69	-4701389.49	0.0264	0.0075
Mars	-17585-10-03 23:45 J	-4701221.66	-4701221.51	-4701221.36	0.1636	0.0771
Saturn	-17585-12-03 14:23 J	-4701161.01	-4701160.90	-4701160.77	0.0263	0.0211
Mars	-17583-08-04 00:14 J	-4700552.63	-4700552.49	-4700552.35	0.1645	0.0986
Jupiter	-17581-01-17 13:11 J	-4700021.06	-4700020.95	-4700020.83	0.0501	0.0411

Jupiter	-17581-09-09 17:31 J	-4699784.97	-4699784.77	-4699784.56	0.0498	0.0023
Jupiter	-17580-05-03 22:19 J	-4699548.66	-4699548.57	-4699548.49	0.0496	0.0447
Uranus	-17577-08-18 08:09 J	-4698346.18	-4698346.16	-4698346.11	0.0132	0.0130
Uranus	-17576-04-01 14:09 J	-4698120.05	-4698119.91	-4698119.76	0.0132	0.0100
Uranus	-17576-11-13 19:55 J	-4697893.85	-4697893.67	-4697893.48	0.0132	0.0070
Uranus	-17575-06-28 01:26 J	-4697667.64	-4697667.44	-4697667.22	0.0132	0.0041
Jupiter	-17575-07-13 18:14 J	-4697651.93	-4697651.74	-4697651.54	0.0527	0.0145
Uranus	-17574-02-09 07:26 J	-4697441.41	-4697441.19	-4697440.97	0.0132	0.0010
Jupiter	-17574-03-08 15:21 J	-4697414.00	-4697413.86	-4697413.72	0.0529	0.0383
Uranus	-17574-09-23 12:43 J	-4697215.18	-4697214.97	-4697214.74	0.0132	0.0020
Uranus	-17573-05-06 18:14 J	-4696988.94	-4696988.74	-4696988.53	0.0132	0.0050
Uranus	-17573-12-18 23:31 J	-4696762.68	-4696762.52	-4696762.33	0.0132	0.0080
Uranus	-17572-08-02 04:48 J	-4696536.40	-4696536.30	-4696536.16	0.0132	0.0110
Saturn	-17571-09-24 00:14 J	-4696118.51	-4696118.49	-4696118.46	0.0294	0.0291
Saturn	-17570-05-12 06:00 J	-4695888.45	-4695888.25	-4695888.04	0.0296	0.0090
Saturn	-17570-12-28 13:40 J	-4695658.12	-4695657.93	-4695657.73	0.0299	0.0120
Jupiter	-17569-05-15 19:55 J	-4695518.87	-4695518.67	-4695518.47	0.0499	0.0099
Jupiter	-17568-01-07 00:00 J	-4695282.65	-4695282.50	-4695282.35	0.0496	0.0332
Earth	-17567-11-02 15:50 J	-4694617.97	-4694617.84	-4694617.71	0.2633	0.1516
Moon	-17567-11-02 20:38 J	-4694617.76	-4694617.64	-4694617.52	0.2630	0.1652 *
Jupiter	-17563-03-18 08:38 J	-4693386.31	-4693386.14	-4693385.97	0.0526	0.0289
Jupiter	-17563-11-11 06:14 J	-4693148.42	-4693148.24	-4693148.06	0.0529	0.0239
Earth	-17559-10-31 09:50 J	-4691698.22	-4691698.09	-4691697.96	0.2634	0.1518
Moon	-17559-10-31 11:31 J	-4691698.17	-4691698.02	-4691697.87	0.2628	0.1165 *
Jupiter	-17557-01-19 21:50 J	-4691252.77	-4691252.59	-4691252.40	0.0499	0.0220
Saturn	-17557-07-29 06:14 J	-4691061.39	-4691061.24	-4691061.10	0.0267	0.0188
Jupiter	-17557-09-12 01:26 J	-4691016.62	-4691016.44	-4691016.25	0.0496	0.0214
Saturn	-17556-03-15 03:21 J	-4690832.57	-4690832.36	-4690832.16	0.0265	0.0044
Saturn	-17556-10-29 23:02 J	-4690603.73	-4690603.54	-4690603.34	0.0264	0.0096
Saturn	-17555-06-15 18:14 J	-4690374.84	-4690374.74	-4690374.65	0.0262	0.0232

Mars	-17554-10-24 15:50 J	-4689879.02	-4689878.84	-4689878.66	0.1880	0.0053
Mars	-17553-10-02 16:48 J	-4689534.84	-4689534.80	-4689534.76	0.1633	0.1582
Jupiter	-17552-11-20 23:02 J	-4689120.65	-4689120.54	-4689120.42	0.0525	0.0431
Jupiter	-17551-07-16 20:52 J	-4688882.83	-4688882.63	-4688882.42	0.0529	0.0094
Mars	-17551-08-02 18:14 J	-4688865.92	-4688865.74	-4688865.57	0.1641	0.0142
Neptune	-17551-08-27 21:50 J	-4688840.62	-4688840.59	-4688840.52	0.0089	0.0087
Neptune	-17550-04-10 10:33 J	-4688615.12	-4688615.06	-4688614.96	0.0089	0.0083
Neptune	-17550-11-21 23:31 J	-4688389.61	-4688389.52	-4688389.41	0.0089	0.0079
Neptune	-17549-07-04 11:45 J	-4688164.09	-4688164.01	-4688163.87	0.0089	0.0077
Neptune	-17548-02-15 00:43 J	-4687938.58	-4687938.47	-4687938.33	0.0089	0.0073
Neptune	-17548-09-28 13:40 J	-4687713.06	-4687712.93	-4687712.79	0.0089	0.0069
Neptune	-17547-05-12 02:09 J	-4687487.54	-4687487.41	-4687487.25	0.0089	0.0065
Neptune	-17547-12-23 14:52 J	-4687262.02	-4687261.88	-4687261.71	0.0089	0.0061
Neptune	-17546-08-06 03:36 J	-4687036.51	-4687036.35	-4687036.18	0.0089	0.0058
Jupiter	-17546-09-25 00:14 J	-4686986.64	-4686986.49	-4686986.34	0.0500	0.0337
Neptune	-17545-03-18 16:19 J	-4686810.99	-4686810.82	-4686810.65	0.0089	0.0054
Jupiter	-17545-05-18 03:36 J	-4686750.55	-4686750.35	-4686750.15	0.0497	0.0095
Neptune	-17545-10-30 04:33 J	-4686585.47	-4686585.31	-4686585.12	0.0089	0.0050
Neptune	-17544-06-12 17:16 J	-4686359.95	-4686359.78	-4686359.58	0.0089	0.0046
Neptune	-17543-01-24 05:45 J	-4686134.44	-4686134.26	-4686134.06	0.0089	0.0043
Neptune	-17543-09-06 18:28 J	-4685908.92	-4685908.73	-4685908.53	0.0089	0.0038
Neptune	-17542-04-20 06:57 J	-4685683.40	-4685683.21	-4685683.01	0.0089	0.0035
Neptune	-17542-12-01 19:40 J	-4685457.89	-4685457.68	-4685457.48	0.0089	0.0031
Saturn	-17541-04-05 07:11 J	-4685332.29	-4685332.20	-4685332.11	0.0294	0.0265
Neptune	-17541-07-14 07:40 J	-4685232.37	-4685232.18	-4685231.96	0.0089	0.0028
Saturn	-17541-11-21 13:11 J	-4685102.16	-4685101.95	-4685101.74	0.0296	0.0063
Neptune	-17540-02-24 20:23 J	-4685006.85	-4685006.65	-4685006.43	0.0089	0.0023
Saturn	-17540-07-09 21:07 J	-4684871.81	-4684871.62	-4684871.43	0.0299	0.0148
Neptune	-17540-10-08 08:52 J	-4684781.33	-4684781.13	-4684780.91	0.0089	0.0019
Jupiter	-17539-03-21 11:16 J	-4684617.23	-4684617.03	-4684616.82	0.0528	0.0054

Neptune	-17539-05-21 21:21 J	-4684555.81	-4684555.61	-4684555.39	0.0089	0.0016
Jupiter	-17539-11-14 07:55 J	-4684379.25	-4684379.17	-4684379.07	0.0530	0.0471
Neptune	-17538-01-02 10:04 J	-4684330.29	-4684330.08	-4684329.86	0.0089	0.0011
Neptune	-17538-08-15 22:33 J	-4684104.78	-4684104.56	-4684104.34	0.0089	0.0007
Neptune	-17537-03-28 11:02 J	-4683879.26	-4683879.04	-4683878.82	0.0089	0.0003
Neptune	-17537-11-08 23:31 J	-4683653.73	-4683653.52	-4683653.30	0.0089	0.0001
Neptune	-17536-06-22 12:14 J	-4683428.21	-4683427.99	-4683427.77	0.0089	0.0005
Neptune	-17535-02-03 00:43 J	-4683202.68	-4683202.47	-4683202.25	0.0089	0.0009
Neptune	-17535-09-16 12:57 J	-4682977.16	-4682976.96	-4682976.74	0.0089	0.0013
Neptune	-17534-04-30 01:26 J	-4682751.64	-4682751.44	-4682751.22	0.0089	0.0017
Uranus	-17534-05-20 21:07 J	-4682730.72	-4682730.62	-4682730.52	0.0146	0.0128
Jupiter	-17534-05-31 00:14 J	-4682720.57	-4682720.49	-4682720.41	0.0502	0.0457
Neptune	-17534-12-11 13:55 J	-4682526.12	-4682525.92	-4682525.70	0.0089	0.0021
Uranus	-17533-01-02 08:38 J	-4682504.30	-4682504.14	-4682503.96	0.0146	0.0088
Jupiter	-17533-01-22 04:33 J	-4682484.51	-4682484.31	-4682484.11	0.0498	0.0026
Neptune	-17533-07-24 02:23 J	-4682300.60	-4682300.40	-4682300.18	0.0089	0.0025
Uranus	-17533-08-15 20:38 J	-4682277.84	-4682277.64	-4682277.43	0.0146	0.0048
Jupiter	-17533-09-14 09:07 J	-4682248.23	-4682248.12	-4682248.00	0.0496	0.0403
Neptune	-17532-03-06 14:38 J	-4682075.08	-4682074.89	-4682074.67	0.0089	0.0029
Uranus	-17532-03-30 08:38 J	-4682051.36	-4682051.14	-4682050.93	0.0146	0.0008
Neptune	-17532-10-18 03:21 J	-4681849.56	-4681849.36	-4681849.15	0.0089	0.0032
Uranus	-17532-11-11 20:23 J	-4681824.85	-4681824.65	-4681824.43	0.0146	0.0032
Neptune	-17531-05-31 15:50 J	-4681624.03	-4681623.84	-4681623.64	0.0089	0.0036
Uranus	-17531-06-26 08:23 J	-4681598.33	-4681598.15	-4681597.96	0.0146	0.0073
Neptune	-17530-01-12 04:19 J	-4681398.51	-4681398.32	-4681398.12	0.0089	0.0040
Uranus	-17530-02-07 20:23 J	-4681371.78	-4681371.65	-4681371.51	0.0146	0.0113
Neptune	-17530-08-25 16:33 J	-4681172.99	-4681172.81	-4681172.61	0.0089	0.0044
Neptune	-17529-04-07 04:48 J	-4680947.47	-4680947.30	-4680947.10	0.0089	0.0048
Neptune	-17529-11-18 17:02 J	-4680721.94	-4680721.79	-4680721.59	0.0089	0.0052
Neptune	-17528-07-02 06:00 J	-4680496.41	-4680496.25	-4680496.08	0.0089	0.0055

Jupiter	-17528-11-24 01:55 J	-4680351.61	-4680351.42	-4680351.23	0.0526	0.0199
Saturn	-17527-02-08 11:45 J	-4680275.17	-4680275.01	-4680274.85	0.0267	0.0164
Neptune	-17527-02-12 18:14 J	-4680270.89	-4680270.74	-4680270.57	0.0089	0.0059
Jupiter	-17527-07-19 22:33 J	-4680113.71	-4680113.56	-4680113.39	0.0529	0.0329
Saturn	-17527-09-25 08:38 J	-4680046.35	-4680046.14	-4680045.93	0.0265	0.0021
Neptune	-17527-09-26 06:28 J	-4680045.37	-4680045.23	-4680045.06	0.0089	0.0063
Neptune	-17526-05-09 19:11 J	-4679819.84	-4679819.70	-4679819.56	0.0089	0.0066
Saturn	-17526-05-12 04:04 J	-4679817.51	-4679817.33	-4679817.13	0.0263	0.0119
Neptune	-17526-12-21 07:11 J	-4679594.31	-4679594.20	-4679594.05	0.0089	0.0070
Saturn	-17526-12-26 23:02 J	-4679588.59	-4679588.54	-4679588.49	0.0262	0.0253
Neptune	-17525-08-02 19:40 J	-4679368.78	-4679368.68	-4679368.54	0.0089	0.0074
Neptune	-17524-03-16 08:23 J	-4679143.25	-4679143.15	-4679143.03	0.0089	0.0077
Neptune	-17524-10-27 20:23 J	-4678917.71	-4678917.65	-4678917.53	0.0089	0.0081
Neptune	-17523-06-10 09:07 J	-4678692.17	-4678692.12	-4678692.03	0.0089	0.0084
Neptune	-17522-01-21 21:21 J	-4678466.62	-4678466.61	-4678466.55	0.0089	0.0088
Jupiter	-17522-09-27 06:57 J	-4678218.41	-4678218.21	-4678218.02	0.0499	0.0146
Mars	-17522-10-24 15:36 J	-4678190.92	-4678190.85	-4678190.77	0.1885	0.1715
Jupiter	-17521-05-20 11:16 J	-4677982.20	-4677982.03	-4677981.86	0.0497	0.0288
Mars	-17520-08-20 20:52 J	-4677524.67	-4677524.63	-4677524.59	0.1871	0.1808
Mars	-17519-08-01 11:45 J	-4677179.16	-4677179.01	-4677178.85	0.1637	0.0695
Mars	-17517-05-31 12:00 J	-4676510.13	-4676510.00	-4676509.87	0.1646	0.1070
Jupiter	-17516-07-29 14:52 J	-4676086.03	-4676085.88	-4676085.72	0.0525	0.0346
Jupiter	-17515-03-24 12:00 J	-4675848.19	-4675848.00	-4675847.81	0.0529	0.0182
Saturn	-17512-10-16 15:21 J	-4674545.98	-4674545.86	-4674545.72	0.0295	0.0236
Saturn	-17511-06-03 21:50 J	-4674315.81	-4674315.59	-4674315.38	0.0297	0.0031
Saturn	-17510-01-20 05:45 J	-4674085.42	-4674085.26	-4674085.08	0.0299	0.0182
Jupiter	-17510-06-02 09:21 J	-4673952.28	-4673952.11	-4673951.93	0.0500	0.0266
Jupiter	-17509-01-24 13:26 J	-4673716.13	-4673715.94	-4673715.74	0.0497	0.0170
Pluto	-17507-02-02 07:26 J	-4672976.35	-4672976.19	-4672975.99	0.0080	0.0047
Pluto	-17507-09-15 18:43 J	-4672750.92	-4672750.72	-4672750.50	0.0080	0.0024

Jupiter	-17504-04-03 05:16 J	-4671820.35	-4671820.28	-4671820.20	0.0524	0.0485
Jupiter	-17504-11-27 02:38 J	-4671582.60	-4671582.39	-4671582.19	0.0528	0.0036
Jupiter	-17498-02-05 12:14 J	-4669686.12	-4669685.99	-4669685.87	0.0501	0.0383
Saturn	-17498-08-21 14:52 J	-4669489.06	-4669488.88	-4669488.71	0.0267	0.0144
Jupiter	-17498-09-29 15:50 J	-4669450.04	-4669449.84	-4669449.63	0.0497	0.0051
Saturn	-17497-04-06 11:31 J	-4669260.23	-4669260.02	-4669259.81	0.0265	0.0002
Jupiter	-17497-05-22 19:55 J	-4669213.72	-4669213.67	-4669213.61	0.0496	0.0474
Saturn	-17497-11-21 06:57 J	-4669031.38	-4669031.21	-4669031.03	0.0263	0.0138
Uranus	-17493-11-29 23:02 J	-4667561.64	-4667561.54	-4667561.42	0.0132	0.0115
Uranus	-17492-07-14 05:02 J	-4667335.45	-4667335.29	-4667335.11	0.0132	0.0084
Jupiter	-17492-08-01 17:16 J	-4667316.98	-4667316.78	-4667316.58	0.0528	0.0112
Uranus	-17491-02-25 10:48 J	-4667109.24	-4667109.05	-4667108.84	0.0132	0.0054
Jupiter	-17491-03-27 14:52 J	-4667079.00	-4667078.88	-4667078.75	0.0530	0.0417
Uranus	-17491-10-09 16:33 J	-4666883.02	-4666882.81	-4666882.59	0.0132	0.0024
Uranus	-17490-05-23 22:19 J	-4666656.79	-4666656.57	-4666656.35	0.0132	0.0007
Uranus	-17489-01-05 03:36 J	-4666430.55	-4666430.35	-4666430.12	0.0132	0.0038
Uranus	-17489-08-18 09:07 J	-4666204.30	-4666204.12	-4666203.92	0.0132	0.0067
Uranus	-17488-04-01 14:23 J	-4665978.03	-4665977.90	-4665977.73	0.0132	0.0098
Mars	-17488-08-20 18:43 J	-4665836.90	-4665836.72	-4665836.55	0.1878	0.0221
Uranus	-17488-11-13 20:09 J	-4665751.72	-4665751.66	-4665751.60	0.0132	0.0127
Mars	-17487-07-31 05:02 J	-4665492.35	-4665492.29	-4665492.22	0.1634	0.1513
Jupiter	-17487-10-11 14:23 J	-4665419.92	-4665419.90	-4665419.88	0.0502	0.0498
Jupiter	-17486-06-04 18:14 J	-4665183.94	-4665183.74	-4665183.54	0.0498	0.0070
Jupiter	-17485-01-26 22:04 J	-4664947.72	-4664947.58	-4664947.44	0.0496	0.0361
Mars	-17485-05-30 06:14 J	-4664823.41	-4664823.24	-4664823.06	0.1642	0.0219
Saturn	-17482-04-28 20:09 J	-4663759.80	-4663759.66	-4663759.51	0.0294	0.0212
Saturn	-17482-12-15 02:52 J	-4663529.60	-4663529.38	-4663529.17	0.0297	0.0008
Saturn	-17481-08-01 11:02 J	-4663299.19	-4663299.04	-4663298.88	0.0299	0.0205
Jupiter	-17480-04-06 08:23 J	-4663051.32	-4663051.15	-4663050.97	0.0526	0.0255
Jupiter	-17480-11-30 05:31 J	-4662813.44	-4662813.27	-4662813.09	0.0529	0.0275

Jupiter	-17474-02-07 18:43 J	-4660917.90	-4660917.72	-4660917.53	0.0500	0.0192
Jupiter	-17474-10-01 23:02 J	-4660681.71	-4660681.54	-4660681.36	0.0497	0.0244
Saturn	-17469-07-16 21:21 J	-4658931.63	-4658931.61	-4658931.59	0.0269	0.0267
Jupiter	-17469-12-09 23:31 J	-4658785.65	-4658785.52	-4658785.38	0.0525	0.0397
Saturn	-17468-03-02 19:11 J	-4658702.88	-4658702.70	-4658702.51	0.0267	0.0122
Jupiter	-17468-08-04 20:38 J	-4658547.84	-4658547.64	-4658547.44	0.0528	0.0129
Saturn	-17468-10-17 15:50 J	-4658474.05	-4658473.84	-4658473.63	0.0265	0.0020
Neptune	-17467-01-05 09:36 J	-4658394.14	-4658394.10	-4658394.03	0.0088	0.0085
Saturn	-17467-06-03 11:02 J	-4658245.20	-4658245.04	-4658244.87	0.0263	0.0159
Neptune	-17467-08-18 22:33 J	-4658168.62	-4658168.56	-4658168.45	0.0088	0.0082
Neptune	-17466-04-01 12:00 J	-4657943.08	-4657943.00	-4657942.88	0.0088	0.0079
Neptune	-17466-11-13 01:26 J	-4657717.53	-4657717.44	-4657717.30	0.0088	0.0075
Neptune	-17465-06-25 14:52 J	-4657491.99	-4657491.88	-4657491.73	0.0088	0.0071
Neptune	-17464-02-06 04:19 J	-4657266.45	-4657266.32	-4657266.16	0.0088	0.0068
Neptune	-17464-09-19 17:31 J	-4657040.90	-4657040.77	-4657040.59	0.0088	0.0064
Neptune	-17463-05-03 06:57 J	-4656815.35	-4656815.21	-4656815.03	0.0088	0.0060
Jupiter	-17463-10-13 21:07 J	-4656651.78	-4656651.62	-4656651.46	0.0501	0.0311
Neptune	-17463-12-14 20:38 J	-4656589.80	-4656589.64	-4656589.45	0.0088	0.0056
Jupiter	-17462-06-07 01:26 J	-4656415.64	-4656415.44	-4656415.24	0.0498	0.0125
Neptune	-17462-07-28 10:19 J	-4656364.25	-4656364.07	-4656363.89	0.0088	0.0052
Neptune	-17461-03-09 23:45 J	-4656138.69	-4656138.51	-4656138.32	0.0088	0.0049
Neptune	-17461-10-21 12:57 J	-4655913.13	-4655912.96	-4655912.75	0.0088	0.0045
Neptune	-17460-06-04 02:38 J	-4655687.58	-4655687.39	-4655687.18	0.0088	0.0041
Neptune	-17459-01-15 16:04 J	-4655462.02	-4655461.83	-4655461.61	0.0088	0.0037
Neptune	-17459-08-29 05:45 J	-4655236.46	-4655236.26	-4655236.04	0.0088	0.0033
Neptune	-17458-04-11 19:11 J	-4655010.90	-4655010.70	-4655010.48	0.0088	0.0029
Neptune	-17458-11-23 08:52 J	-4654785.33	-4654785.13	-4654784.90	0.0088	0.0025
Neptune	-17457-07-05 22:33 J	-4654559.77	-4654559.56	-4654559.33	0.0088	0.0021
Neptune	-17456-02-16 12:00 J	-4654334.21	-4654334.00	-4654333.77	0.0088	0.0018
Jupiter	-17456-04-09 10:04 J	-4654282.29	-4654282.08	-4654281.88	0.0527	0.0023

Mars -17456-08-20 18:43 J -4654148.83 -4654148.72 -4654148.60 0.1884 0.1441
 Neptune -17456-09-30 01:40 J -4654108.65 -4654108.43 -4654108.20 0.0088 0.0013
 Jupiter -17456-12-03 06:14 J -4654044.30 -4654044.24 -4654044.18 0.0529 0.0503
 Neptune -17455-05-13 15:21 J -4653883.08 -4653882.86 -4653882.64 0.0088 0.0009
 Neptune -17455-12-25 05:02 J -4653657.51 -4653657.29 -4653657.07 0.0088 0.0005
 Neptune -17454-08-07 18:28 J -4653431.95 -4653431.73 -4653431.50 0.0088 0.0001
 Neptune -17453-03-20 08:09 J -4653206.39 -4653206.16 -4653205.94 0.0088 0.0004
 Earth -17453-05-07 06:57 J -4653158.30 -4653158.21 -4653158.12 0.2700 0.2190
 Moon -17453-05-07 12:28 J -4653158.02 -4653157.98 -4653157.93 0.2697 0.2559
 Mars -17453-05-29 00:28 J -4653136.64 -4653136.48 -4653136.32 0.1638 0.0623
 Neptune -17453-10-31 21:36 J -4652980.82 -4652980.60 -4652980.37 0.0088 0.0008
 Saturn -17453-11-08 02:52 J -4652973.54 -4652973.38 -4652973.20 0.0295 0.0184
 Neptune -17452-06-14 11:16 J -4652755.25 -4652755.03 -4652754.81 0.0088 0.0012
 Saturn -17452-06-26 09:50 J -4652743.30 -4652743.09 -4652742.87 0.0298 0.0024
 Neptune -17451-01-26 00:43 J -4652529.69 -4652529.47 -4652529.25 0.0088 0.0016
 Saturn -17451-02-11 18:14 J -4652512.86 -4652512.74 -4652512.60 0.0300 0.0237
 Mars -17451-03-29 00:00 J -4652467.62 -4652467.50 -4652467.37 0.1648 0.1150
 Jupiter -17451-06-18 23:45 J -4652385.61 -4652385.51 -4652385.40 0.0502 0.0429
 Neptune -17451-09-08 14:23 J -4652304.12 -4652303.90 -4652303.68 0.0088 0.0020
 Uranus -17450-01-18 04:48 J -4652172.31 -4652172.30 -4652172.28 0.0146 0.0146
 Jupiter -17450-02-10 04:19 J -4652149.53 -4652149.32 -4652149.12 0.0498 0.0008
 Neptune -17450-04-22 03:50 J -4652078.55 -4652078.34 -4652078.12 0.0088 0.0024
 Uranus -17450-09-01 16:04 J -4651945.96 -4651945.83 -4651945.67 0.0146 0.0107
 Jupiter -17450-10-04 08:52 J -4651913.22 -4651913.13 -4651913.03 0.0496 0.0435
 Neptune -17450-12-03 17:31 J -4651852.98 -4651852.77 -4651852.55 0.0088 0.0028
 Uranus -17449-04-15 04:04 J -4651719.52 -4651719.33 -4651719.14 0.0146 0.0066
 Neptune -17449-07-16 07:11 J -4651627.41 -4651627.20 -4651626.99 0.0088 0.0032
 Uranus -17449-11-27 15:50 J -4651493.05 -4651492.84 -4651492.63 0.0146 0.0026
 Neptune -17448-02-26 20:52 J -4651401.83 -4651401.63 -4651401.42 0.0088 0.0036
 Uranus -17448-07-12 03:50 J -4651266.55 -4651266.34 -4651266.13 0.0146 0.0014

Neptune	-17448-10-10 10:19 J	-4651176.26	-4651176.07	-4651175.86	0.0088	0.0040
Uranus	-17447-02-23 15:36 J	-4651040.04	-4651039.85	-4651039.65	0.0146	0.0054
Neptune	-17447-05-24 00:00 J	-4650950.69	-4650950.50	-4650950.30	0.0088	0.0044
Uranus	-17447-10-08 03:21 J	-4650813.51	-4650813.36	-4650813.19	0.0146	0.0095
Neptune	-17446-01-04 13:40 J	-4650725.11	-4650724.93	-4650724.73	0.0088	0.0048
Uranus	-17446-05-22 15:07 J	-4650586.94	-4650586.87	-4650586.77	0.0146	0.0135
Neptune	-17446-08-18 03:21 J	-4650499.53	-4650499.36	-4650499.17	0.0088	0.0052
Neptune	-17445-03-30 16:48 J	-4650273.96	-4650273.80	-4650273.61	0.0088	0.0056
Earth	-17445-05-04 18:43 J	-4650238.83	-4650238.72	-4650238.60	0.2698	0.1836
Moon	-17445-05-04 20:09 J	-4650238.81	-4650238.66	-4650238.51	0.2691	0.1340 *
Neptune	-17445-11-11 06:28 J	-4650048.38	-4650048.23	-4650048.05	0.0088	0.0060
Jupiter	-17445-12-13 00:14 J	-4650016.68	-4650016.49	-4650016.29	0.0527	0.0168
Neptune	-17444-06-24 20:09 J	-4649822.80	-4649822.66	-4649822.49	0.0088	0.0064
Jupiter	-17444-08-07 21:21 J	-4649778.76	-4649778.61	-4649778.46	0.0529	0.0362
Neptune	-17443-02-05 09:36 J	-4649597.22	-4649597.10	-4649596.93	0.0089	0.0068
Neptune	-17443-09-18 23:45 J	-4649371.64	-4649371.51	-4649371.37	0.0089	0.0071
Neptune	-17442-05-02 12:57 J	-4649146.06	-4649145.96	-4649145.82	0.0089	0.0075
Neptune	-17442-12-14 02:38 J	-4648920.47	-4648920.39	-4648920.27	0.0089	0.0079
Neptune	-17441-07-26 16:48 J	-4648694.88	-4648694.80	-4648694.72	0.0089	0.0082
Neptune	-17440-03-09 06:00 J	-4648469.29	-4648469.25	-4648469.18	0.0089	0.0086
Saturn	-17439-01-27 00:00 J	-4648145.58	-4648145.50	-4648145.42	0.0268	0.0247
Saturn	-17439-09-12 21:36 J	-4647916.79	-4647916.60	-4647916.41	0.0266	0.0103
Jupiter	-17439-10-16 06:57 J	-4647883.40	-4647883.21	-4647883.01	0.0499	0.0115
Saturn	-17438-04-29 17:45 J	-4647687.96	-4647687.76	-4647687.55	0.0264	0.0039
Jupiter	-17438-06-09 10:48 J	-4647647.20	-4647647.05	-4647646.89	0.0496	0.0320
Saturn	-17438-12-14 12:57 J	-4647459.11	-4647458.96	-4647458.80	0.0263	0.0177
Jupiter	-17433-08-17 15:07 J	-4645751.03	-4645750.87	-4645750.70	0.0526	0.0312
Jupiter	-17432-04-12 12:57 J	-4645513.15	-4645512.96	-4645512.78	0.0529	0.0219
Jupiter	-17427-06-21 09:36 J	-4643617.27	-4643617.10	-4643616.92	0.0500	0.0234
Jupiter	-17426-02-12 13:26 J	-4643381.13	-4643380.94	-4643380.75	0.0497	0.0202

Saturn	-17423-05-21 06:14 J	-4642187.42	-4642187.24	-4642187.06	0.0295	0.0163
Saturn	-17422-01-06 13:11 J	-4641957.16	-4641956.95	-4641956.74	0.0297	0.0045
Mars	-17422-06-17 22:19 J	-4641794.74	-4641794.57	-4641794.40	0.1876	0.0475
Saturn	-17422-08-24 21:36 J	-4641726.70	-4641726.60	-4641726.48	0.0299	0.0258
Jupiter	-17421-04-22 06:57 J	-4641485.31	-4641485.21	-4641485.10	0.0524	0.0450
Mars	-17421-05-27 17:31 J	-4641449.85	-4641449.77	-4641449.69	0.1635	0.1440
Jupiter	-17421-12-16 04:19 J	-4641247.53	-4641247.32	-4641247.12	0.0528	0.0075
Mars	-17419-03-27 18:28 J	-4640780.90	-4640780.73	-4640780.56	0.1643	0.0297
Jupiter	-17415-02-24 09:36 J	-4639351.23	-4639351.10	-4639350.95	0.0501	0.0356
Jupiter	-17415-10-18 14:09 J	-4639115.11	-4639114.91	-4639114.71	0.0498	0.0082
Saturn	-17410-08-09 03:07 J	-4637359.47	-4637359.37	-4637359.26	0.0268	0.0227
Saturn	-17409-03-25 00:43 J	-4637130.67	-4637130.47	-4637130.27	0.0266	0.0082
Uranus	-17409-07-30 08:52 J	-4637003.16	-4637003.13	-4637003.06	0.0132	0.0129
Jupiter	-17409-08-20 19:40 J	-4636981.88	-4636981.68	-4636981.48	0.0527	0.0072
Saturn	-17409-11-08 20:52 J	-4636901.83	-4636901.63	-4636901.42	0.0264	0.0059
Uranus	-17408-03-13 14:52 J	-4636777.01	-4636776.88	-4636776.72	0.0132	0.0098
Jupiter	-17408-04-15 16:04 J	-4636743.93	-4636743.83	-4636743.73	0.0529	0.0455
Saturn	-17408-06-25 15:50 J	-4636672.97	-4636672.84	-4636672.69	0.0263	0.0197
Uranus	-17408-10-25 20:52 J	-4636550.81	-4636550.63	-4636550.44	0.0132	0.0068
Uranus	-17407-06-09 02:38 J	-4636324.60	-4636324.39	-4636324.18	0.0132	0.0037
Uranus	-17406-01-21 08:23 J	-4636098.37	-4636098.15	-4636097.93	0.0132	0.0007
Uranus	-17406-09-04 14:09 J	-4635872.13	-4635871.91	-4635871.70	0.0132	0.0024
Uranus	-17405-04-17 19:11 J	-4635645.89	-4635645.70	-4635645.48	0.0132	0.0054
Uranus	-17405-11-30 00:28 J	-4635419.63	-4635419.48	-4635419.29	0.0132	0.0085
Uranus	-17404-07-14 06:28 J	-4635193.34	-4635193.23	-4635193.12	0.0132	0.0114
Jupiter	-17404-10-30 11:45 J	-4635085.07	-4635085.01	-4635084.94	0.0502	0.0473
Jupiter	-17403-06-23 16:33 J	-4634849.01	-4634848.81	-4634848.61	0.0499	0.0039
Jupiter	-17402-02-14 21:07 J	-4634612.73	-4634612.62	-4634612.49	0.0497	0.0395
Jupiter	-17397-04-25 09:07 J	-4632716.30	-4632716.12	-4632715.93	0.0526	0.0221
Jupiter	-17397-12-19 05:45 J	-4632478.42	-4632478.26	-4632478.09	0.0529	0.0311

Saturn	-17394-12-01 11:16 J	-4631401.21	-4631401.03	-4631400.83	0.0296	0.0137
Saturn	-17393-07-18 18:28 J	-4631170.93	-4631170.73	-4631170.51	0.0298	0.0074
Saturn	-17392-03-06 03:21 J	-4630940.41	-4630940.36	-4630940.29	0.0300	0.0287
Jupiter	-17391-02-26 19:40 J	-4630582.87	-4630582.68	-4630582.49	0.0500	0.0159
Jupiter	-17391-10-21 00:00 J	-4630346.66	-4630346.50	-4630346.33	0.0497	0.0279
Mars	-17390-06-17 21:21 J	-4630106.75	-4630106.61	-4630106.47	0.1882	0.1158
Mars	-17387-03-26 12:28 J	-4629094.14	-4629093.98	-4629093.81	0.1639	0.0546
Neptune	-17386-07-12 21:21 J	-4628620.64	-4628620.61	-4628620.55	0.0089	0.0087
Jupiter	-17386-12-29 23:31 J	-4628450.66	-4628450.52	-4628450.36	0.0525	0.0365
Mars	-17385-01-24 11:45 J	-4628425.13	-4628425.01	-4628424.90	0.1649	0.1235
Neptune	-17385-02-23 10:19 J	-4628395.14	-4628395.07	-4628394.99	0.0089	0.0084
Jupiter	-17385-08-23 20:38 J	-4628212.83	-4628212.64	-4628212.44	0.0528	0.0165
Neptune	-17385-10-05 22:33 J	-4628169.63	-4628169.56	-4628169.44	0.0089	0.0081
Neptune	-17384-05-19 11:31 J	-4627944.11	-4627944.02	-4627943.89	0.0089	0.0077
Neptune	-17384-12-31 00:28 J	-4627718.60	-4627718.48	-4627718.35	0.0089	0.0073
Neptune	-17383-08-13 12:43 J	-4627493.08	-4627492.97	-4627492.81	0.0089	0.0069
Neptune	-17382-03-27 01:26 J	-4627267.57	-4627267.44	-4627267.27	0.0089	0.0066
Neptune	-17382-11-07 14:09 J	-4627042.05	-4627041.91	-4627041.73	0.0089	0.0062
Neptune	-17381-06-20 03:07 J	-4626816.52	-4626816.37	-4626816.19	0.0089	0.0058
Neptune	-17380-01-31 15:50 J	-4626591.01	-4626590.84	-4626590.66	0.0089	0.0054
Saturn	-17380-02-18 04:33 J	-4626573.42	-4626573.31	-4626573.17	0.0267	0.0210
Neptune	-17380-09-14 04:19 J	-4626365.49	-4626365.32	-4626365.13	0.0089	0.0050
Saturn	-17380-10-05 02:09 J	-4626344.61	-4626344.41	-4626344.20	0.0265	0.0065
Jupiter	-17380-11-01 22:48 J	-4626316.71	-4626316.55	-4626316.38	0.0500	0.0278
Neptune	-17379-04-27 17:02 J	-4626139.97	-4626139.79	-4626139.60	0.0089	0.0046
Saturn	-17379-05-21 22:04 J	-4626115.77	-4626115.58	-4626115.37	0.0264	0.0077
Jupiter	-17379-06-26 02:52 J	-4626080.57	-4626080.38	-4626080.19	0.0497	0.0160
Neptune	-17379-12-09 05:45 J	-4625914.45	-4625914.26	-4625914.07	0.0089	0.0042
Saturn	-17378-01-05 16:48 J	-4625886.91	-4625886.80	-4625886.67	0.0262	0.0213
Neptune	-17378-07-22 18:14 J	-4625688.93	-4625688.74	-4625688.54	0.0089	0.0038

Neptune	-17377-03-04 06:43 J	-4625463.42	-4625463.22	-4625463.02	0.0089	0.0034
Neptune	-17377-10-15 19:11 J	-4625237.90	-4625237.70	-4625237.49	0.0089	0.0030
Neptune	-17376-05-29 07:55 J	-4625012.38	-4625012.17	-4625011.96	0.0089	0.0025
Neptune	-17375-01-09 20:23 J	-4624786.86	-4624786.65	-4624786.44	0.0089	0.0021
Neptune	-17375-08-23 08:38 J	-4624561.34	-4624561.14	-4624560.92	0.0089	0.0018
Neptune	-17374-04-05 21:07 J	-4624335.83	-4624335.62	-4624335.40	0.0089	0.0014
Jupiter	-17374-09-03 14:38 J	-4624184.94	-4624184.89	-4624184.83	0.0524	0.0503
Neptune	-17374-11-17 09:50 J	-4624110.31	-4624110.09	-4624109.88	0.0089	0.0009
Jupiter	-17373-04-28 12:00 J	-4623947.21	-4623947.00	-4623946.80	0.0528	0.0022
Neptune	-17373-06-29 22:19 J	-4623884.78	-4623884.57	-4623884.35	0.0089	0.0005
Neptune	-17372-02-10 10:48 J	-4623659.26	-4623659.05	-4623658.83	0.0089	0.0002
Neptune	-17372-09-23 23:16 J	-4623433.74	-4623433.53	-4623433.31	0.0089	0.0003
Neptune	-17371-05-07 11:45 J	-4623208.22	-4623208.01	-4623207.79	0.0089	0.0007
Neptune	-17371-12-19 00:14 J	-4622982.70	-4622982.49	-4622982.27	0.0089	0.0011
Neptune	-17370-08-01 12:43 J	-4622757.18	-4622756.97	-4622756.75	0.0089	0.0015
Neptune	-17369-03-14 01:11 J	-4622531.66	-4622531.45	-4622531.23	0.0089	0.0019
Neptune	-17369-10-25 13:55 J	-4622306.13	-4622305.92	-4622305.72	0.0089	0.0023
Neptune	-17368-06-08 02:23 J	-4622080.60	-4622080.40	-4622080.19	0.0089	0.0027
Jupiter	-17368-07-08 01:40 J	-4622050.56	-4622050.43	-4622050.31	0.0501	0.0396
Neptune	-17367-01-19 14:52 J	-4621855.08	-4621854.88	-4621854.68	0.0089	0.0031
Jupiter	-17367-03-01 05:45 J	-4621814.47	-4621814.26	-4621814.06	0.0498	0.0042
Neptune	-17367-09-02 02:52 J	-4621629.56	-4621629.38	-4621629.17	0.0089	0.0036
Jupiter	-17367-10-23 09:50 J	-4621578.15	-4621578.09	-4621578.02	0.0496	0.0469
Neptune	-17366-04-15 15:36 J	-4621404.04	-4621403.85	-4621403.65	0.0089	0.0039
Uranus	-17366-05-02 00:43 J	-4621387.57	-4621387.47	-4621387.34	0.0146	0.0123
Neptune	-17366-11-27 04:04 J	-4621178.52	-4621178.33	-4621178.14	0.0089	0.0043
Uranus	-17366-12-14 12:28 J	-4621161.15	-4621160.98	-4621160.79	0.0146	0.0083
Neptune	-17365-07-09 16:33 J	-4620952.99	-4620952.81	-4620952.62	0.0089	0.0047
Uranus	-17365-07-28 00:28 J	-4620934.68	-4620934.48	-4620934.27	0.0146	0.0043
Neptune	-17364-02-20 04:48 J	-4620727.47	-4620727.30	-4620727.11	0.0089	0.0051

Uranus	-17364-03-11 12:14 J	-4620708.20	-4620707.99	-4620707.77	0.0146	0.0003
Saturn	-17364-06-12 12:43 J	-4620615.16	-4620614.97	-4620614.77	0.0296	0.0119
Neptune	-17364-10-03 17:02 J	-4620501.95	-4620501.79	-4620501.61	0.0089	0.0055
Uranus	-17364-10-24 00:00 J	-4620481.71	-4620481.50	-4620481.29	0.0146	0.0037
Saturn	-17363-01-28 20:09 J	-4620384.86	-4620384.66	-4620384.45	0.0298	0.0091
Neptune	-17363-05-17 05:31 J	-4620276.42	-4620276.27	-4620276.10	0.0089	0.0059
Uranus	-17363-06-07 11:45 J	-4620255.19	-4620255.01	-4620254.83	0.0146	0.0078
Neptune	-17363-12-28 17:45 J	-4620050.90	-4620050.76	-4620050.59	0.0089	0.0063
Uranus	-17362-01-19 23:16 J	-4620028.64	-4620028.53	-4620028.39	0.0146	0.0118
Neptune	-17362-08-11 06:00 J	-4619825.37	-4619825.25	-4619825.09	0.0089	0.0067
Jupiter	-17361-01-02 03:50 J	-4619681.54	-4619681.34	-4619681.14	0.0527	0.0126
Neptune	-17361-03-23 18:43 J	-4619599.84	-4619599.72	-4619599.58	0.0089	0.0070
Jupiter	-17361-08-27 00:43 J	-4619443.60	-4619443.47	-4619443.34	0.0529	0.0405
Neptune	-17361-11-04 06:57 J	-4619374.31	-4619374.21	-4619374.08	0.0089	0.0074
Neptune	-17360-06-17 19:11 J	-4619148.78	-4619148.70	-4619148.57	0.0089	0.0078
Neptune	-17359-01-29 07:55 J	-4618923.24	-4618923.17	-4618923.07	0.0089	0.0081
Neptune	-17359-09-11 20:09 J	-4618697.70	-4618697.66	-4618697.58	0.0089	0.0085
Neptune	-17358-04-25 08:52 J	-4618472.14	-4618472.13	-4618472.10	0.0089	0.0088
Mars	-17356-04-14 01:40 J	-4617752.59	-4617752.43	-4617752.27	0.1874	0.0736
Jupiter	-17356-11-04 06:00 J	-4617548.45	-4617548.25	-4617548.05	0.0499	0.0084
Mars	-17355-03-25 06:00 J	-4617407.34	-4617407.25	-4617407.16	0.1636	0.1369
Jupiter	-17355-06-28 10:19 J	-4617312.21	-4617312.07	-4617311.93	0.0497	0.0354
Mars	-17353-01-23 06:28 J	-4616738.40	-4616738.23	-4616738.06	0.1645	0.0376
Saturn	-17351-08-31 06:57 J	-4615787.34	-4615787.21	-4615787.05	0.0268	0.0190
Saturn	-17350-04-17 04:33 J	-4615558.52	-4615558.31	-4615558.11	0.0266	0.0045
Jupiter	-17350-09-06 19:55 J	-4615415.85	-4615415.67	-4615415.50	0.0525	0.0270
Saturn	-17350-12-02 00:28 J	-4615329.68	-4615329.48	-4615329.29	0.0264	0.0096
Jupiter	-17349-05-01 16:33 J	-4615177.99	-4615177.81	-4615177.63	0.0528	0.0262
Saturn	-17349-07-17 19:11 J	-4615100.79	-4615100.70	-4615100.60	0.0262	0.0232
Pluto	-17348-02-11 23:31 J	-4614891.62	-4614891.52	-4614891.36	0.0064	0.0052

Pluto	-17348-09-25 03:36 J	-4614666.55	-4614666.35	-4614666.13	0.0064	0.0017
Pluto	-17347-05-08 07:11 J	-4614441.39	-4614441.20	-4614440.98	0.0064	0.0018
Pluto	-17347-12-19 10:48 J	-4614216.15	-4614216.05	-4614215.90	0.0064	0.0054
Jupiter	-17344-07-10 08:23 J	-4613282.33	-4613282.15	-4613281.96	0.0500	0.0203
Jupiter	-17343-03-03 12:57 J	-4613046.14	-4613045.96	-4613045.78	0.0498	0.0237
Jupiter	-17338-05-12 09:36 J	-4611150.22	-4611150.10	-4611149.98	0.0524	0.0414
Jupiter	-17337-01-05 06:14 J	-4610912.44	-4610912.24	-4610912.04	0.0528	0.0113
Saturn	-17335-12-23 17:16 J	-4609828.98	-4609828.78	-4609828.57	0.0296	0.0092
Saturn	-17334-08-11 00:43 J	-4609598.66	-4609598.47	-4609598.27	0.0299	0.0119
Jupiter	-17332-03-15 11:31 J	-4609016.17	-4609016.02	-4609015.86	0.0501	0.0323
Jupiter	-17332-11-06 16:04 J	-4608780.03	-4608779.83	-4608779.63	0.0498	0.0118
Jupiter	-17326-09-09 20:52 J	-4606646.83	-4606646.63	-4606646.42	0.0527	0.0037
Jupiter	-17325-05-04 17:16 J	-4606408.84	-4606408.78	-4606408.70	0.0529	0.0493
Uranus	-17325-11-11 00:28 J	-4606218.59	-4606218.48	-4606218.36	0.0132	0.0112
Mars	-17324-04-14 00:14 J	-4606064.65	-4606064.49	-4606064.34	0.1881	0.0880
Uranus	-17324-06-25 06:14 J	-4605992.41	-4605992.24	-4605992.06	0.0132	0.0081
Moon	-17324-11-02 14:52 J	-4605862.01	-4605861.88	-4605861.75	0.2634	0.1498
Earth	-17324-11-02 20:09 J	-4605861.77	-4605861.66	-4605861.55	0.2634	0.1845 *
Uranus	-17323-02-06 12:00 J	-4605766.20	-4605766.00	-4605765.79	0.0132	0.0051
Uranus	-17323-09-20 17:45 J	-4605539.97	-4605539.76	-4605539.54	0.0132	0.0021
Uranus	-17322-05-04 23:16 J	-4605313.74	-4605313.53	-4605313.30	0.0132	0.0011
Uranus	-17322-12-17 04:48 J	-4605087.50	-4605087.30	-4605087.08	0.0132	0.0041
Mars	-17321-01-22 00:43 J	-4605051.64	-4605051.47	-4605051.31	0.1641	0.0471
Saturn	-17321-03-12 08:09 J	-4605001.32	-4605001.16	-4605001.00	0.0267	0.0172
Uranus	-17321-07-30 10:19 J	-4604861.25	-4604861.07	-4604860.88	0.0132	0.0071
Saturn	-17321-10-27 05:16 J	-4604772.49	-4604772.28	-4604772.07	0.0265	0.0029
Jupiter	-17321-11-18 14:38 J	-4604749.98	-4604749.89	-4604749.79	0.0502	0.0440
Uranus	-17320-03-13 16:04 J	-4604634.97	-4604634.83	-4604634.69	0.0132	0.0101
Saturn	-17320-06-13 00:57 J	-4604543.64	-4604543.46	-4604543.26	0.0263	0.0112
Jupiter	-17320-07-12 19:11 J	-4604513.90	-4604513.70	-4604513.49	0.0499	0.0012

Uranus	-17320-10-25 21:21 J	-4604408.64	-4604408.61	-4604408.58	0.0132	0.0131
Mars	-17320-11-20 23:31 J	-4604382.62	-4604382.52	-4604382.42	0.1651	0.1319
Saturn	-17319-01-27 19:26 J	-4604314.74	-4604314.69	-4604314.61	0.0262	0.0248
Jupiter	-17319-03-05 23:31 J	-4604277.61	-4604277.52	-4604277.41	0.0497	0.0431
Moon	-17316-10-31 10:48 J	-4602942.16	-4602942.05	-4602941.94	0.2640	0.1814
Earth	-17316-10-31 14:09 J	-4602942.05	-4602941.91	-4602941.76	0.2635	0.1161 *
Jupiter	-17314-05-15 12:00 J	-4602381.20	-4602381.00	-4602380.81	0.0526	0.0182
Jupiter	-17313-01-08 09:07 J	-4602143.27	-4602143.12	-4602142.97	0.0529	0.0353
Jupiter	-17308-03-17 22:19 J	-4600247.77	-4600247.57	-4600247.38	0.0499	0.0123
Jupiter	-17308-11-09 02:23 J	-4600011.56	-4600011.40	-4600011.25	0.0497	0.0315
Saturn	-17306-11-17 12:14 J	-4599273.06	-4599272.99	-4599272.92	0.0293	0.0278
Saturn	-17305-07-04 17:45 J	-4599042.97	-4599042.76	-4599042.55	0.0296	0.0076
Saturn	-17304-02-20 01:26 J	-4598812.63	-4598812.44	-4598812.25	0.0298	0.0136
Neptune	-17303-11-20 09:36 J	-4598174.12	-4598174.10	-4598174.03	0.0088	0.0086
Jupiter	-17302-01-18 04:33 J	-4598115.47	-4598115.31	-4598115.15	0.0525	0.0322
Neptune	-17302-07-03 23:16 J	-4597948.59	-4597948.53	-4597948.44	0.0088	0.0082
Jupiter	-17302-09-13 01:26 J	-4597877.62	-4597877.44	-4597877.25	0.0528	0.0211
Neptune	-17301-02-14 12:43 J	-4597723.06	-4597722.97	-4597722.86	0.0088	0.0079
Neptune	-17301-09-27 01:40 J	-4597497.52	-4597497.43	-4597497.29	0.0088	0.0075
Neptune	-17300-05-10 15:07 J	-4597271.98	-4597271.87	-4597271.72	0.0088	0.0072
Neptune	-17300-12-22 04:48 J	-4597046.43	-4597046.30	-4597046.15	0.0088	0.0067
Neptune	-17299-08-04 18:14 J	-4596820.89	-4596820.74	-4596820.58	0.0088	0.0063
Neptune	-17298-03-18 07:40 J	-4596595.34	-4596595.18	-4596595.01	0.0088	0.0060
Neptune	-17298-10-29 20:38 J	-4596369.79	-4596369.64	-4596369.44	0.0088	0.0057
Neptune	-17297-06-11 10:19 J	-4596144.23	-4596144.07	-4596143.87	0.0088	0.0052
Jupiter	-17297-11-20 22:04 J	-4595981.75	-4595981.58	-4595981.40	0.0500	0.0247
Neptune	-17296-01-22 23:45 J	-4595918.68	-4595918.51	-4595918.31	0.0088	0.0048
Jupiter	-17296-07-15 02:23 J	-4595745.58	-4595745.40	-4595745.21	0.0498	0.0195
Neptune	-17296-09-05 13:11 J	-4595693.13	-4595692.95	-4595692.74	0.0088	0.0044
Neptune	-17295-04-19 02:38 J	-4595467.57	-4595467.39	-4595467.17	0.0088	0.0040

Neptune	-17295-11-30 16:19 J	-4595242.01	-4595241.82	-4595241.60	0.0088	0.0036
Neptune	-17294-07-14 06:14 J	-4595016.45	-4595016.24	-4595016.03	0.0088	0.0032
Neptune	-17293-02-24 19:40 J	-4594790.89	-4594790.68	-4594790.47	0.0088	0.0027
Neptune	-17293-10-07 09:07 J	-4594565.33	-4594565.12	-4594564.90	0.0088	0.0023
Neptune	-17292-05-20 22:33 J	-4594339.77	-4594339.56	-4594339.33	0.0088	0.0020
Saturn	-17292-09-22 09:50 J	-4594215.26	-4594215.09	-4594214.92	0.0268	0.0154
Neptune	-17291-01-01 12:14 J	-4594114.20	-4594113.99	-4594113.76	0.0088	0.0015
Saturn	-17291-05-09 06:43 J	-4593986.42	-4593986.22	-4593986.01	0.0265	0.0012
Neptune	-17291-08-15 01:55 J	-4593888.64	-4593888.42	-4593888.20	0.0088	0.0011
Jupiter	-17291-09-22 20:52 J	-4593849.72	-4593849.63	-4593849.53	0.0524	0.0461
Saturn	-17291-12-24 02:23 J	-4593757.57	-4593757.40	-4593757.21	0.0264	0.0131
Mars	-17290-02-09 05:16 J	-4593710.43	-4593710.28	-4593710.13	0.1872	0.0987
Neptune	-17290-03-28 15:21 J	-4593663.08	-4593662.86	-4593662.63	0.0088	0.0007
Jupiter	-17290-05-18 17:31 J	-4593611.97	-4593611.77	-4593611.57	0.0527	0.0065
Neptune	-17290-11-09 05:02 J	-4593437.51	-4593437.29	-4593437.06	0.0088	0.0003
Mars	-17289-01-20 18:14 J	-4593364.85	-4593364.74	-4593364.64	0.1637	0.1294
Neptune	-17289-06-21 18:43 J	-4593211.95	-4593211.72	-4593211.50	0.0088	0.0002
Neptune	-17288-02-02 08:09 J	-4592986.38	-4592986.16	-4592985.93	0.0088	0.0006
Neptune	-17288-09-15 21:36 J	-4592760.82	-4592760.60	-4592760.37	0.0088	0.0010
Mars	-17288-11-19 18:43 J	-4592695.89	-4592695.72	-4592695.56	0.1646	0.0455
Neptune	-17287-04-29 11:02 J	-4592535.25	-4592535.04	-4592534.81	0.0088	0.0015
Neptune	-17287-12-11 00:43 J	-4592309.68	-4592309.47	-4592309.24	0.0088	0.0019
Neptune	-17286-07-24 14:23 J	-4592084.11	-4592083.90	-4592083.68	0.0088	0.0023
Neptune	-17285-03-06 04:04 J	-4591858.55	-4591858.33	-4591858.12	0.0088	0.0027
Jupiter	-17285-07-27 00:28 J	-4591715.61	-4591715.48	-4591715.34	0.0502	0.0367
Neptune	-17285-10-17 17:31 J	-4591632.98	-4591632.77	-4591632.56	0.0088	0.0031
Jupiter	-17284-03-20 05:16 J	-4591479.48	-4591479.28	-4591479.08	0.0499	0.0075
Neptune	-17284-05-31 06:43 J	-4591407.41	-4591407.22	-4591407.00	0.0088	0.0036
Neptune	-17283-01-11 20:23 J	-4591181.83	-4591181.65	-4591181.43	0.0088	0.0040
Neptune	-17283-08-25 10:04 J	-4590956.26	-4590956.08	-4590955.87	0.0088	0.0044

Uranus	-17283-12-30 08:52 J	-4590829.19	-4590829.13	-4590829.08	0.0146	0.0141
Neptune	-17282-04-07 23:45 J	-4590730.69	-4590730.51	-4590730.31	0.0088	0.0047
Uranus	-17282-08-13 20:09 J	-4590602.80	-4590602.66	-4590602.49	0.0146	0.0101
Neptune	-17282-11-19 13:26 J	-4590505.11	-4590504.94	-4590504.74	0.0088	0.0052
Uranus	-17281-03-27 07:55 J	-4590376.35	-4590376.17	-4590375.96	0.0146	0.0061
Neptune	-17281-07-02 03:07 J	-4590279.53	-4590279.37	-4590279.18	0.0088	0.0056
Uranus	-17281-11-08 19:55 J	-4590149.89	-4590149.67	-4590149.46	0.0146	0.0021
Neptune	-17280-02-12 16:48 J	-4590053.95	-4590053.80	-4590053.62	0.0088	0.0060
Uranus	-17280-06-23 07:26 J	-4589923.40	-4589923.19	-4589922.97	0.0146	0.0020
Neptune	-17280-09-26 06:14 J	-4589828.37	-4589828.24	-4589828.06	0.0088	0.0064
Uranus	-17279-02-04 19:11 J	-4589696.89	-4589696.70	-4589696.49	0.0146	0.0061
Neptune	-17279-05-09 19:55 J	-4589602.79	-4589602.67	-4589602.50	0.0088	0.0068
Uranus	-17279-09-19 07:11 J	-4589470.35	-4589470.20	-4589470.04	0.0146	0.0101
Neptune	-17279-12-21 09:36 J	-4589377.20	-4589377.10	-4589376.94	0.0089	0.0072
Jupiter	-17278-01-21 07:11 J	-4589346.40	-4589346.20	-4589345.99	0.0526	0.0086
Uranus	-17278-05-03 18:57 J	-4589243.76	-4589243.71	-4589243.65	0.0146	0.0141
Neptune	-17278-08-03 23:16 J	-4589151.62	-4589151.53	-4589151.39	0.0089	0.0076
Jupiter	-17278-09-16 03:36 J	-4589108.46	-4589108.35	-4589108.24	0.0529	0.0445
Neptune	-17277-03-16 13:26 J	-4588926.03	-4588925.94	-4588925.84	0.0089	0.0079
Neptune	-17277-10-28 02:52 J	-4588700.45	-4588700.38	-4588700.29	0.0089	0.0083
Saturn	-17276-05-29 15:36 J	-4588486.95	-4588486.85	-4588486.74	0.0294	0.0254
Neptune	-17276-06-10 16:19 J	-4588474.85	-4588474.82	-4588474.76	0.0089	0.0087
Saturn	-17275-01-14 21:21 J	-4588256.82	-4588256.61	-4588256.40	0.0297	0.0050
Saturn	-17275-09-02 05:02 J	-4588026.47	-4588026.29	-4588026.11	0.0299	0.0162
Jupiter	-17273-04-01 03:21 J	-4587449.40	-4587449.36	-4587449.30	0.0503	0.0485
Jupiter	-17273-11-23 08:23 J	-4587213.35	-4587213.15	-4587212.94	0.0499	0.0048
Jupiter	-17272-07-17 13:11 J	-4586977.07	-4586976.95	-4586976.82	0.0497	0.0391
Jupiter	-17267-09-25 21:50 J	-4585080.77	-4585080.59	-4585080.40	0.0525	0.0233
Jupiter	-17266-05-21 18:28 J	-4584842.89	-4584842.73	-4584842.56	0.0528	0.0302
Saturn	-17262-04-04 10:19 J	-4583429.24	-4583429.07	-4583428.88	0.0267	0.0137

Saturn	-17262-11-19 07:26 J	-4583200.40	-4583200.19	-4583199.98	0.0265	0.0007
Saturn	-17261-07-05 03:07 J	-4582971.54	-4582971.37	-4582971.19	0.0263	0.0147
Jupiter	-17261-07-29 12:00 J	-4582947.19	-4582947.00	-4582946.81	0.0500	0.0166
Jupiter	-17260-03-22 16:04 J	-4582710.99	-4582710.83	-4582710.65	0.0497	0.0276
Pluto	-17259-01-05 09:50 J	-4582422.13	-4582422.09	-4582422.03	0.0080	0.0078
Pluto	-17259-08-18 21:07 J	-4582196.84	-4582196.62	-4582196.39	0.0080	0.0007
Mars	-17258-02-09 03:07 J	-4582022.54	-4582022.37	-4582022.20	0.1878	0.0609
Pluto	-17258-04-01 07:26 J	-4581971.30	-4581971.19	-4581971.02	0.0079	0.0063
Mars	-17256-11-18 12:43 J	-4581009.14	-4581008.97	-4581008.80	0.1642	0.0392
Jupiter	-17255-05-31 12:43 J	-4580815.11	-4580814.97	-4580814.82	0.0525	0.0376
Jupiter	-17254-01-24 09:50 J	-4580577.28	-4580577.09	-4580576.89	0.0528	0.0157
Mars	-17254-09-18 11:16 J	-4580340.12	-4580340.03	-4580339.94	0.1653	0.1406
Jupiter	-17249-04-03 14:52 J	-4578681.05	-4578680.88	-4578680.71	0.0501	0.0286
Jupiter	-17249-11-25 18:57 J	-4578444.90	-4578444.71	-4578444.51	0.0498	0.0156
Saturn	-17247-12-09 15:50 J	-4577700.96	-4577700.84	-4577700.71	0.0294	0.0238
Saturn	-17246-07-27 21:50 J	-4577470.80	-4577470.59	-4577470.38	0.0296	0.0033
Saturn	-17245-03-14 05:31 J	-4577240.44	-4577240.27	-4577240.09	0.0299	0.0179
Jupiter	-17243-02-03 05:45 J	-4576549.30	-4576549.26	-4576549.22	0.0523	0.0512
Jupiter	-17243-09-29 02:38 J	-4576311.59	-4576311.39	-4576311.18	0.0527	0.0012
Uranus	-17241-07-11 09:50 J	-4575660.15	-4575660.09	-4575660.02	0.0132	0.0126
Uranus	-17240-02-22 15:36 J	-4575433.99	-4575433.85	-4575433.69	0.0132	0.0095
Uranus	-17240-10-06 21:21 J	-4575207.79	-4575207.61	-4575207.41	0.0132	0.0065
Uranus	-17239-05-21 03:07 J	-4574981.58	-4574981.37	-4574981.15	0.0132	0.0034
Uranus	-17238-01-02 08:52 J	-4574755.35	-4574755.13	-4574754.91	0.0132	0.0004
Uranus	-17238-08-16 14:23 J	-4574529.11	-4574528.90	-4574528.68	0.0132	0.0027
Jupiter	-17238-12-08 14:23 J	-4574415.01	-4574414.90	-4574414.78	0.0502	0.0410
Uranus	-17237-03-29 19:55 J	-4574302.86	-4574302.67	-4574302.47	0.0132	0.0057
Jupiter	-17237-07-31 19:11 J	-4574178.91	-4574178.70	-4574178.50	0.0499	0.0033
Uranus	-17237-11-11 01:11 J	-4574076.60	-4574076.45	-4574076.28	0.0132	0.0088
Jupiter	-17236-03-25 00:00 J	-4573942.57	-4573942.50	-4573942.43	0.0497	0.0466

Uranus	-17236-06-25 06:43 J	-4573850.31	-4573850.22	-4573850.11	0.0132	0.0118
Saturn	-17233-02-28 12:57 J	-4572871.98	-4572871.96	-4572871.92	0.0270	0.0266
Saturn	-17233-10-14 11:31 J	-4572643.20	-4572643.02	-4572642.83	0.0267	0.0119
Saturn	-17232-05-31 08:38 J	-4572414.35	-4572414.14	-4572413.93	0.0265	0.0026
Saturn	-17231-01-15 04:04 J	-4572185.48	-4572185.33	-4572185.16	0.0263	0.0166
Jupiter	-17231-06-03 18:43 J	-4572045.92	-4572045.72	-4572045.52	0.0526	0.0134
Jupiter	-17230-01-27 15:07 J	-4571808.00	-4571807.87	-4571807.73	0.0529	0.0400
Jupiter	-17225-04-05 21:50 J	-4569912.79	-4569912.59	-4569912.40	0.0500	0.0091
Jupiter	-17225-11-28 02:23 J	-4569676.54	-4569676.40	-4569676.26	0.0497	0.0350
Mars	-17225-12-06 08:38 J	-4569668.27	-4569668.14	-4569668.01	0.1870	0.1245
Mars	-17224-11-17 06:28 J	-4569322.34	-4569322.23	-4569322.11	0.1638	0.1221
Mars	-17222-09-17 06:14 J	-4568653.40	-4568653.24	-4568653.07	0.1648	0.0540
Neptune	-17221-05-26 21:21 J	-4568400.62	-4568400.61	-4568400.55	0.0089	0.0088
Neptune	-17220-01-07 10:04 J	-4568175.13	-4568175.08	-4568174.99	0.0089	0.0085
Neptune	-17220-08-20 22:48 J	-4567949.62	-4567949.55	-4567949.44	0.0089	0.0081
Jupiter	-17219-02-06 08:38 J	-4567780.31	-4567780.14	-4567779.96	0.0525	0.0283
Neptune	-17219-04-03 11:45 J	-4567724.11	-4567724.01	-4567723.90	0.0089	0.0077
Jupiter	-17219-10-02 05:16 J	-4567542.46	-4567542.28	-4567542.10	0.0528	0.0252
Neptune	-17219-11-15 00:28 J	-4567498.60	-4567498.48	-4567498.35	0.0089	0.0073
Neptune	-17218-06-28 12:43 J	-4567273.08	-4567272.97	-4567272.81	0.0089	0.0069
Neptune	-17217-02-09 01:26 J	-4567047.57	-4567047.44	-4567047.28	0.0089	0.0065
Saturn	-17217-06-20 19:26 J	-4566914.82	-4566914.69	-4566914.53	0.0294	0.0214
Neptune	-17217-09-21 13:55 J	-4566822.05	-4566821.92	-4566821.74	0.0089	0.0062
Saturn	-17216-02-06 01:40 J	-4566684.64	-4566684.43	-4566684.21	0.0297	0.0007
Neptune	-17216-05-05 02:52 J	-4566596.53	-4566596.38	-4566596.20	0.0089	0.0057
Saturn	-17216-09-24 09:21 J	-4566454.26	-4566454.11	-4566453.95	0.0299	0.0206
Neptune	-17216-12-16 15:21 J	-4566371.01	-4566370.86	-4566370.67	0.0089	0.0054
Neptune	-17215-07-30 04:04 J	-4566145.50	-4566145.33	-4566145.13	0.0089	0.0049
Neptune	-17214-03-12 16:33 J	-4565919.98	-4565919.81	-4565919.60	0.0089	0.0045
Neptune	-17214-10-24 05:31 J	-4565694.46	-4565694.27	-4565694.07	0.0089	0.0041

Jupiter -17214-12-11 00:57 J -4565646.65 -4565646.46 -4565646.28 0.0501 0.0212
 Neptune -17213-06-05 18:14 J -4565468.93 -4565468.74 -4565468.54 0.0089 0.0037
 Jupiter -17213-08-03 05:31 J -4565410.44 -4565410.27 -4565410.09 0.0498 0.0233
 Neptune -17212-01-17 06:43 J -4565243.42 -4565243.22 -4565243.01 0.0089 0.0032
 Neptune -17212-08-30 19:11 J -4565017.90 -4565017.70 -4565017.49 0.0089 0.0028
 Neptune -17211-04-13 07:40 J -4564792.38 -4564792.18 -4564791.97 0.0089 0.0024
 Neptune -17211-11-24 20:09 J -4564566.86 -4564566.66 -4564566.44 0.0089 0.0020
 Moon -17210-05-07 22:33 J -4564402.69 -4564402.56 -4564402.42 0.2700 0.1330
 Earth -17210-05-08 04:48 J -4564402.40 -4564402.30 -4564402.19 0.2699 0.2006
 Neptune -17210-07-08 08:38 J -4564341.34 -4564341.14 -4564340.92 0.0089 0.0016
 Neptune -17209-02-18 21:21 J -4564115.82 -4564115.61 -4564115.40 0.0089 0.0011
 Neptune -17209-10-01 09:50 J -4563890.31 -4563890.09 -4563889.88 0.0089 0.0007
 Neptune -17208-05-14 22:19 J -4563664.78 -4563664.57 -4563664.35 0.0089 0.0003
 Jupiter -17208-10-11 23:31 J -4563514.64 -4563514.52 -4563514.41 0.0524 0.0426
 Neptune -17208-12-26 10:48 J -4563439.27 -4563439.05 -4563438.83 0.0089 0.0001
 Jupiter -17207-06-06 19:55 J -4563276.87 -4563276.67 -4563276.47 0.0527 0.0104
 Neptune -17207-08-08 23:16 J -4563213.75 -4563213.53 -4563213.31 0.0089 0.0005
 Neptune -17206-03-22 11:31 J -4562988.23 -4562988.02 -4562987.80 0.0089 0.0010
 Neptune -17206-11-03 00:00 J -4562762.70 -4562762.50 -4562762.28 0.0089 0.0014
 Neptune -17205-06-15 12:43 J -4562537.18 -4562536.97 -4562536.75 0.0089 0.0018
 Neptune -17204-01-27 01:11 J -4562311.65 -4562311.45 -4562311.23 0.0089 0.0022
 Neptune -17204-09-09 13:40 J -4562086.13 -4562085.93 -4562085.72 0.0089 0.0026
 Saturn -17204-09-09 13:55 J -4562085.99 -4562085.92 -4562085.83 0.0269 0.0248 *
 Neptune -17203-04-23 02:23 J -4561860.61 -4561860.40 -4561860.20 0.0089 0.0030
 Saturn -17203-04-26 12:14 J -4561857.17 -4561856.99 -4561856.79 0.0267 0.0102
 Neptune -17203-12-04 14:23 J -4561635.08 -4561634.90 -4561634.68 0.0089 0.0035
 Saturn -17203-12-11 09:07 J -4561628.32 -4561628.12 -4561627.91 0.0265 0.0043
 Earth -17202-05-05 16:48 J -4561482.91 -4561482.80 -4561482.69 0.2697 0.1993
 Neptune -17202-07-18 03:07 J -4561409.55 -4561409.37 -4561409.16 0.0089 0.0039
 Saturn -17202-07-28 04:48 J -4561399.44 -4561399.30 -4561399.14 0.0263 0.0181

Jupiter	-17202-08-16 04:19 J	-4561380.47	-4561380.32	-4561380.17	0.0501	0.0331
Neptune	-17201-02-28 15:36 J	-4561184.03	-4561183.85	-4561183.65	0.0089	0.0043
Jupiter	-17201-04-08 08:52 J	-4561144.33	-4561144.13	-4561143.93	0.0498	0.0113
Neptune	-17201-10-11 03:50 J	-4560958.51	-4560958.34	-4560958.14	0.0089	0.0047
Neptune	-17200-05-24 16:19 J	-4560732.98	-4560732.82	-4560732.63	0.0089	0.0051
Neptune	-17199-01-05 04:48 J	-4560507.45	-4560507.30	-4560507.12	0.0089	0.0055
Neptune	-17199-08-18 17:16 J	-4560281.93	-4560281.78	-4560281.61	0.0089	0.0059
Neptune	-17198-04-01 05:31 J	-4560056.40	-4560056.27	-4560056.10	0.0089	0.0063
Uranus	-17198-04-13 02:09 J	-4560044.52	-4560044.41	-4560044.28	0.0146	0.0121
Neptune	-17198-11-12 18:00 J	-4559830.88	-4559830.75	-4559830.59	0.0089	0.0067
Uranus	-17198-11-25 13:55 J	-4559818.09	-4559817.92	-4559817.73	0.0146	0.0080
Neptune	-17197-06-25 06:28 J	-4559605.34	-4559605.23	-4559605.08	0.0089	0.0071
Uranus	-17197-07-09 01:40 J	-4559591.63	-4559591.43	-4559591.22	0.0146	0.0040
Neptune	-17196-02-05 18:43 J	-4559379.81	-4559379.72	-4559379.58	0.0089	0.0075
Uranus	-17196-02-20 13:40 J	-4559365.15	-4559364.93	-4559364.72	0.0146	0.0003
Neptune	-17196-09-19 07:26 J	-4559154.28	-4559154.19	-4559154.08	0.0089	0.0078
Uranus	-17196-10-05 01:11 J	-4559138.65	-4559138.45	-4559138.24	0.0146	0.0041
Jupiter	-17195-02-09 11:02 J	-4559011.25	-4559011.04	-4559010.84	0.0527	0.0044
Neptune	-17195-05-02 19:40 J	-4558928.75	-4558928.68	-4558928.59	0.0089	0.0082
Uranus	-17195-05-19 12:57 J	-4558912.13	-4558911.96	-4558911.78	0.0146	0.0082
Jupiter	-17195-10-05 07:26 J	-4558773.26	-4558773.19	-4558773.11	0.0529	0.0489
Neptune	-17195-12-14 07:55 J	-4558703.20	-4558703.17	-4558703.10	0.0089	0.0086
Uranus	-17194-01-01 00:43 J	-4558685.57	-4558685.47	-4558685.34	0.0146	0.0122
Mars	-17193-12-06 06:00 J	-4557980.42	-4557980.25	-4557980.08	0.1877	0.0332
Jupiter	-17190-04-21 06:57 J	-4557114.29	-4557114.21	-4557114.12	0.0503	0.0449
Mars	-17190-09-16 00:57 J	-4556966.63	-4556966.46	-4556966.30	0.1643	0.0318
Jupiter	-17190-12-13 11:45 J	-4556878.21	-4556878.01	-4556877.81	0.0499	0.0008
Jupiter	-17189-08-05 16:19 J	-4556641.92	-4556641.82	-4556641.72	0.0497	0.0429
Mars	-17188-07-15 22:48 J	-4556297.62	-4556297.55	-4556297.48	0.1654	0.1495
Saturn	-17188-12-31 19:55 J	-4556128.83	-4556128.67	-4556128.51	0.0294	0.0196

Saturn	-17187-08-19 01:55 J	-4555898.63	-4555898.42	-4555898.20	0.0297	0.0011
Saturn	-17186-04-06 09:36 J	-4555668.23	-4555668.10	-4555667.94	0.0299	0.0223
Jupiter	-17184-10-15 03:36 J	-4554745.54	-4554745.35	-4554745.16	0.0526	0.0188
Jupiter	-17183-06-10 00:28 J	-4554507.63	-4554507.48	-4554507.33	0.0529	0.0349
Jupiter	-17178-08-18 11:31 J	-4552612.21	-4552612.02	-4552611.82	0.0500	0.0135
Jupiter	-17177-04-10 16:04 J	-4552375.99	-4552375.83	-4552375.67	0.0497	0.0309
Saturn	-17174-03-22 15:07 J	-4551299.97	-4551299.87	-4551299.76	0.0269	0.0230
Saturn	-17174-11-06 13:40 J	-4551071.13	-4551070.93	-4551070.73	0.0267	0.0082
Saturn	-17173-06-22 10:33 J	-4550842.26	-4550842.06	-4550841.85	0.0265	0.0062
Saturn	-17172-02-06 06:00 J	-4550613.37	-4550613.25	-4550613.11	0.0263	0.0201
Jupiter	-17172-06-19 19:55 J	-4550479.83	-4550479.67	-4550479.51	0.0525	0.0332
Jupiter	-17171-02-12 16:48 J	-4550241.99	-4550241.80	-4550241.61	0.0528	0.0204
Jupiter	-17166-04-23 13:55 J	-4548346.09	-4548345.92	-4548345.74	0.0501	0.0256
Jupiter	-17166-12-15 18:28 J	-4548109.92	-4548109.73	-4548109.54	0.0498	0.0189
Jupiter	-17160-02-22 10:04 J	-4546214.16	-4546214.08	-4546213.99	0.0523	0.0476
Jupiter	-17160-10-18 06:28 J	-4545976.43	-4545976.23	-4545976.03	0.0527	0.0053
Mars	-17159-10-03 12:14 J	-4545626.09	-4545625.99	-4545625.89	0.1867	0.1498
Saturn	-17158-07-14 00:28 J	-4545342.65	-4545342.48	-4545342.30	0.0294	0.0169
Mars	-17158-09-14 18:43 J	-4545279.84	-4545279.72	-4545279.60	0.1639	0.1145
Saturn	-17157-02-29 06:43 J	-4545112.44	-4545112.22	-4545112.01	0.0297	0.0038
Saturn	-17157-10-16 14:23 J	-4544882.01	-4544881.90	-4544881.78	0.0299	0.0251
Uranus	-17157-10-23 00:00 J	-4544875.61	-4544875.50	-4544875.36	0.0132	0.0110
Uranus	-17156-06-06 06:00 J	-4544649.42	-4544649.25	-4544649.07	0.0132	0.0079
Mars	-17156-07-14 18:14 J	-4544610.90	-4544610.74	-4544610.58	0.1649	0.0619
Uranus	-17155-01-18 11:31 J	-4544423.21	-4544423.02	-4544422.80	0.0132	0.0050
Uranus	-17155-09-01 17:31 J	-4544196.99	-4544196.77	-4544196.55	0.0132	0.0018
Jupiter	-17155-12-27 16:48 J	-4544079.93	-4544079.80	-4544079.66	0.0502	0.0377
Uranus	-17154-04-15 23:02 J	-4543970.76	-4543970.54	-4543970.32	0.0132	0.0012
Jupiter	-17154-08-20 21:50 J	-4543843.79	-4543843.59	-4543843.39	0.0499	0.0069
Uranus	-17154-11-28 04:19 J	-4543744.52	-4543744.32	-4543744.10	0.0132	0.0043

Uranus	-17153-07-11 09:50 J	-4543518.27	-4543518.09	-4543517.90	0.0132	0.0073
Uranus	-17152-02-22 15:21 J	-4543291.99	-4543291.86	-4543291.72	0.0132	0.0104
Jupiter	-17148-06-22 20:52 J	-4541710.83	-4541710.63	-4541710.43	0.0526	0.0097
Jupiter	-17147-02-15 17:02 J	-4541472.89	-4541472.79	-4541472.67	0.0529	0.0439
Saturn	-17145-10-01 16:33 J	-4540513.93	-4540513.81	-4540513.68	0.0269	0.0212
Saturn	-17144-05-18 14:52 J	-4540285.08	-4540284.88	-4540284.67	0.0267	0.0065
Saturn	-17143-01-02 11:45 J	-4540056.21	-4540056.01	-4540055.81	0.0264	0.0078
Saturn	-17143-08-19 06:57 J	-4539827.32	-4539827.21	-4539827.08	0.0263	0.0217
Jupiter	-17143-09-01 19:55 J	-4539813.70	-4539813.67	-4539813.63	0.0503	0.0495
Jupiter	-17142-04-26 01:11 J	-4539577.66	-4539577.45	-4539577.25	0.0499	0.0054
Jupiter	-17142-12-18 05:31 J	-4539341.39	-4539341.27	-4539341.14	0.0497	0.0389
Neptune	-17138-10-05 10:04 J	-4537954.10	-4537954.08	-4537954.02	0.0088	0.0086
Neptune	-17137-05-17 23:45 J	-4537728.58	-4537728.51	-4537728.43	0.0088	0.0083
Neptune	-17137-12-29 12:43 J	-4537503.04	-4537502.97	-4537502.85	0.0088	0.0079
Jupiter	-17136-02-25 11:31 J	-4537445.20	-4537445.02	-4537444.83	0.0525	0.0245
Neptune	-17136-08-12 02:09 J	-4537277.51	-4537277.41	-4537277.27	0.0088	0.0075
Jupiter	-17136-10-21 08:23 J	-4537207.31	-4537207.15	-4537206.98	0.0528	0.0294
Neptune	-17135-03-25 15:36 J	-4537051.96	-4537051.85	-4537051.70	0.0088	0.0071
Neptune	-17135-11-06 05:02 J	-4536826.41	-4536826.29	-4536826.12	0.0088	0.0067
Neptune	-17134-06-19 18:28 J	-4536600.86	-4536600.73	-4536600.55	0.0088	0.0064
Neptune	-17133-01-31 07:55 J	-4536375.32	-4536375.17	-4536374.99	0.0088	0.0059
Neptune	-17133-09-12 21:21 J	-4536149.77	-4536149.61	-4536149.42	0.0088	0.0055
Neptune	-17132-04-26 10:48 J	-4535924.22	-4535924.05	-4535923.85	0.0088	0.0051
Neptune	-17132-12-08 00:14 J	-4535698.66	-4535698.49	-4535698.28	0.0088	0.0047
Neptune	-17131-07-21 13:40 J	-4535473.11	-4535472.93	-4535472.72	0.0088	0.0043
Jupiter	-17131-12-30 03:50 J	-4535311.53	-4535311.34	-4535311.15	0.0500	0.0175
Neptune	-17130-03-04 03:36 J	-4535247.55	-4535247.35	-4535247.15	0.0088	0.0038
Jupiter	-17130-08-23 08:09 J	-4535075.32	-4535075.16	-4535074.98	0.0498	0.0271
Neptune	-17130-10-15 17:02 J	-4535021.99	-4535021.79	-4535021.58	0.0088	0.0034
Neptune	-17129-05-28 06:28 J	-4534796.43	-4534796.23	-4534796.01	0.0088	0.0030

Neptune -17128-01-08 19:55 J -4534570.87 -4534570.67 -4534570.44 0.0088 0.0026
 Saturn -17128-01-23 02:09 J -4534556.59 -4534556.41 -4534556.22 0.0294 0.0150
 Neptune -17128-08-22 09:21 J -4534345.31 -4534345.11 -4534344.88 0.0088 0.0022
 Saturn -17128-09-10 08:09 J -4534326.36 -4534326.16 -4534325.94 0.0297 0.0058
 Neptune -17127-04-04 23:16 J -4534119.75 -4534119.53 -4534119.31 0.0088 0.0017
 Saturn -17127-04-28 16:04 J -4534095.91 -4534095.83 -4534095.73 0.0299 0.0270
 Mars -17127-10-03 09:36 J -4533938.28 -4533938.10 -4533937.93 0.1874 0.0086
 Neptune -17127-11-16 12:57 J -4533894.18 -4533893.96 -4533893.74 0.0088 0.0013
 Neptune -17126-06-30 02:23 J -4533668.61 -4533668.40 -4533668.17 0.0088 0.0009
 Neptune -17125-02-10 16:04 J -4533443.05 -4533442.83 -4533442.60 0.0088 0.0005
 Neptune -17125-09-23 05:45 J -4533217.49 -4533217.26 -4533217.04 0.0088 0.0001
 Jupiter -17125-10-31 04:04 J -4533179.46 -4533179.33 -4533179.18 0.0524 0.0386
 Neptune -17124-05-06 19:11 J -4532991.92 -4532991.70 -4532991.47 0.0088 0.0004
 Jupiter -17124-06-26 01:11 J -4532941.65 -4532941.45 -4532941.25 0.0528 0.0150
 Mars -17124-07-13 12:43 J -4532924.14 -4532923.97 -4532923.80 0.1644 0.0234
 Neptune -17124-12-18 08:52 J -4532766.35 -4532766.13 -4532765.90 0.0088 0.0009
 Neptune -17123-07-31 22:19 J -4532540.78 -4532540.57 -4532540.34 0.0088 0.0013
 Neptune -17122-03-14 12:00 J -4532315.22 -4532315.00 -4532314.78 0.0088 0.0017
 Mars -17122-05-13 10:33 J -4532255.10 -4532255.06 -4532255.01 0.1656 0.1579
 Neptune -17122-10-26 01:26 J -4532089.65 -4532089.44 -4532089.21 0.0088 0.0022
 Neptune -17121-06-07 15:07 J -4531864.08 -4531863.87 -4531863.65 0.0088 0.0026
 Neptune -17120-01-19 04:33 J -4531638.51 -4531638.31 -4531638.09 0.0088 0.0030
 Neptune -17120-09-01 18:00 J -4531412.94 -4531412.75 -4531412.53 0.0088 0.0035
 Neptune -17119-04-15 07:40 J -4531187.37 -4531187.18 -4531186.97 0.0088 0.0039
 Jupiter -17119-09-04 03:36 J -4531045.51 -4531045.35 -4531045.19 0.0501 0.0302
 Neptune -17119-11-26 21:21 J -4530961.80 -4530961.61 -4530961.41 0.0088 0.0043
 Jupiter -17118-04-28 07:55 J -4530809.36 -4530809.17 -4530808.97 0.0498 0.0146
 Neptune -17118-07-10 10:48 J -4530736.22 -4530736.05 -4530735.84 0.0088 0.0047
 Neptune -17117-02-21 00:14 J -4530510.65 -4530510.49 -4530510.29 0.0088 0.0052
 Neptune -17117-10-03 13:55 J -4530285.08 -4530284.92 -4530284.73 0.0088 0.0056

Neptune	-17116-05-17 03:36 J	-4530059.50	-4530059.35	-4530059.17	0.0088	0.0060
Neptune	-17116-12-28 17:16 J	-4529833.91	-4529833.78	-4529833.61	0.0088	0.0064
Saturn	-17115-04-13 17:31 J	-4529727.90	-4529727.77	-4529727.62	0.0269	0.0193
Neptune	-17115-08-11 06:57 J	-4529608.33	-4529608.21	-4529608.05	0.0088	0.0068
Saturn	-17115-11-28 16:04 J	-4529499.03	-4529498.83	-4529498.62	0.0267	0.0045
Uranus	-17115-12-11 06:00 J	-4529486.29	-4529486.25	-4529486.19	0.0146	0.0142
Neptune	-17114-03-24 20:38 J	-4529382.75	-4529382.64	-4529382.49	0.0089	0.0072
Saturn	-17114-07-15 13:11 J	-4529270.15	-4529269.95	-4529269.76	0.0265	0.0098
Uranus	-17114-07-25 17:45 J	-4529259.90	-4529259.76	-4529259.60	0.0146	0.0102
Neptune	-17114-11-05 10:19 J	-4529157.17	-4529157.07	-4529156.94	0.0089	0.0076
Saturn	-17113-02-29 08:38 J	-4529041.23	-4529041.14	-4529041.05	0.0263	0.0237
Uranus	-17113-03-08 05:16 J	-4529033.46	-4529033.28	-4529033.08	0.0146	0.0062
Neptune	-17113-06-18 00:00 J	-4528931.58	-4528931.50	-4528931.39	0.0089	0.0080
Uranus	-17113-10-20 17:02 J	-4528807.00	-4528806.79	-4528806.57	0.0146	0.0022
Neptune	-17112-01-29 13:40 J	-4528705.98	-4528705.93	-4528705.84	0.0089	0.0084
Jupiter	-17112-02-28 17:16 J	-4528675.98	-4528675.78	-4528675.57	0.0527	0.0007
Uranus	-17112-06-04 04:48 J	-4528580.51	-4528580.30	-4528580.09	0.0146	0.0019
Neptune	-17112-09-12 03:07 J	-4528480.38	-4528480.37	-4528480.31	0.0089	0.0088
Uranus	-17111-01-16 16:19 J	-4528354.00	-4528353.82	-4528353.61	0.0146	0.0061
Uranus	-17111-08-31 04:33 J	-4528127.46	-4528127.31	-4528127.15	0.0146	0.0100
Uranus	-17110-04-14 16:04 J	-4527900.86	-4527900.83	-4527900.76	0.0146	0.0141
Jupiter	-17107-05-10 05:31 J	-4526779.37	-4526779.27	-4526779.15	0.0502	0.0423
Jupiter	-17106-01-01 10:19 J	-4526543.27	-4526543.07	-4526542.87	0.0499	0.0023
Jupiter	-17106-08-25 15:07 J	-4526306.94	-4526306.87	-4526306.79	0.0497	0.0462
Jupiter	-17101-11-03 06:57 J	-4524410.41	-4524410.21	-4524410.01	0.0526	0.0150
Jupiter	-17100-06-29 03:21 J	-4524172.50	-4524172.36	-4524172.23	0.0528	0.0388
Pluto	-17100-08-28 08:38 J	-4524112.31	-4524112.14	-4524111.95	0.0064	0.0035
Pluto	-17099-04-10 12:43 J	-4523887.19	-4523886.97	-4523886.76	0.0064	0.0001
Saturn	-17099-08-05 07:26 J	-4523770.38	-4523770.19	-4523769.99	0.0295	0.0122
Pluto	-17099-11-21 16:04 J	-4523662.00	-4523661.83	-4523661.63	0.0064	0.0035

Saturn	-17098-03-23 13:40 J	-4523540.14	-4523539.93	-4523539.72	0.0297	0.0086
Saturn	-17098-11-08 21:50 J	-4523309.59	-4523309.59	-4523309.59	0.0299	0.0299
Jupiter	-17095-09-06 13:26 J	-4522277.14	-4522276.94	-4522276.74	0.0500	0.0100
Mars	-17095-10-03 08:23 J	-4522250.22	-4522250.15	-4522250.08	0.1881	0.1700
Jupiter	-17094-04-30 18:14 J	-4522040.88	-4522040.74	-4522040.59	0.0498	0.0345
Mars	-17093-07-30 15:50 J	-4521583.90	-4521583.84	-4521583.78	0.1865	0.1743
Mars	-17092-07-12 06:43 J	-4521237.35	-4521237.22	-4521237.09	0.1640	0.1069
Mars	-17090-05-12 06:00 J	-4520568.40	-4520568.25	-4520568.09	0.1651	0.0702
Jupiter	-17089-07-08 21:21 J	-4520144.78	-4520144.61	-4520144.44	0.0524	0.0298
Jupiter	-17088-03-03 17:45 J	-4519906.94	-4519906.76	-4519906.57	0.0528	0.0241
Saturn	-17086-10-24 19:55 J	-4518941.83	-4518941.67	-4518941.51	0.0269	0.0174
Saturn	-17085-06-09 18:14 J	-4518712.94	-4518712.74	-4518712.53	0.0266	0.0027
Saturn	-17084-01-24 14:52 J	-4518484.06	-4518483.88	-4518483.69	0.0264	0.0117
Saturn	-17084-09-10 10:19 J	-4518255.11	-4518255.07	-4518255.01	0.0263	0.0254
Jupiter	-17083-05-12 16:33 J	-4518010.99	-4518010.81	-4518010.63	0.0501	0.0222
Jupiter	-17082-01-03 21:07 J	-4517774.80	-4517774.62	-4517774.44	0.0498	0.0226
Earth	-17081-11-03 00:14 J	-4517105.57	-4517105.49	-4517105.40	0.2635	0.2179
Jupiter	-17077-03-13 11:31 J	-4515879.12	-4515879.02	-4515878.90	0.0523	0.0442
Jupiter	-17077-11-06 08:23 J	-4515641.35	-4515641.15	-4515640.95	0.0527	0.0092
Uranus	-17073-06-22 08:52 J	-4514317.20	-4514317.13	-4514317.06	0.0132	0.0125
Earth	-17073-10-31 18:14 J	-4514185.89	-4514185.74	-4514185.59	0.2637	0.0858
Moon	-17073-10-31 23:02 J	-4514185.69	-4514185.54	-4514185.38	0.2635	0.0204 *
Uranus	-17072-02-03 14:38 J	-4514091.04	-4514090.89	-4514090.73	0.0132	0.0094
Uranus	-17072-09-17 20:23 J	-4513864.84	-4513864.65	-4513864.45	0.0132	0.0064
Jupiter	-17071-01-15 18:57 J	-4513744.85	-4513744.71	-4513744.56	0.0502	0.0344
Uranus	-17071-05-02 01:55 J	-4513638.63	-4513638.42	-4513638.20	0.0132	0.0033
Jupiter	-17071-09-08 23:45 J	-4513508.71	-4513508.51	-4513508.31	0.0498	0.0104
Uranus	-17071-12-14 07:40 J	-4513412.40	-4513412.18	-4513411.96	0.0132	0.0003
Uranus	-17070-07-28 13:11 J	-4513186.16	-4513185.95	-4513185.73	0.0132	0.0029
Saturn	-17069-02-15 10:19 J	-4512984.26	-4512984.07	-4512983.86	0.0295	0.0101

Uranus	-17069-03-10 18:43 J	-4512959.91	-4512959.72	-4512959.52	0.0132	0.0059
Saturn	-17069-10-02 16:48 J	-4512754.00	-4512753.80	-4512753.60	0.0297	0.0108
Uranus	-17069-10-23 00:14 J	-4512733.65	-4512733.49	-4512733.32	0.0132	0.0089
Uranus	-17068-06-06 05:45 J	-4512507.35	-4512507.26	-4512507.17	0.0132	0.0120
Jupiter	-17065-07-12 00:43 J	-4511375.67	-4511375.47	-4511375.26	0.0527	0.0055
Jupiter	-17064-03-06 21:36 J	-4511137.68	-4511137.60	-4511137.52	0.0529	0.0483
Mars	-17061-07-30 12:28 J	-4509896.15	-4509895.98	-4509895.80	0.1872	0.0194
Jupiter	-17060-09-20 18:57 J	-4509478.78	-4509478.71	-4509478.64	0.0502	0.0468
Jupiter	-17059-05-14 23:31 J	-4509242.73	-4509242.52	-4509242.32	0.0499	0.0025
Jupiter	-17058-01-06 03:50 J	-4509006.45	-4509006.34	-4509006.23	0.0497	0.0419
Mars	-17058-05-11 00:57 J	-4508881.64	-4508881.46	-4508881.29	0.1646	0.0162
Neptune	-17056-04-10 22:04 J	-4508180.59	-4508180.58	-4508180.54	0.0089	0.0089
Saturn	-17056-05-05 21:36 J	-4508155.77	-4508155.60	-4508155.43	0.0269	0.0154
Neptune	-17056-11-22 10:48 J	-4507955.10	-4507955.05	-4507954.97	0.0089	0.0085
Saturn	-17056-12-20 19:55 J	-4507926.88	-4507926.67	-4507926.46	0.0267	0.0007
Neptune	-17055-07-05 23:31 J	-4507729.60	-4507729.52	-4507729.42	0.0089	0.0081
Saturn	-17055-08-06 16:48 J	-4507697.98	-4507697.80	-4507697.62	0.0265	0.0137
Neptune	-17054-02-16 12:14 J	-4507504.09	-4507503.99	-4507503.87	0.0089	0.0077
Neptune	-17054-09-30 00:43 J	-4507278.58	-4507278.47	-4507278.33	0.0089	0.0073
Jupiter	-17053-03-16 16:48 J	-4507109.99	-4507109.80	-4507109.61	0.0526	0.0203
Neptune	-17053-05-12 13:26 J	-4507053.06	-4507052.94	-4507052.79	0.0089	0.0069
Jupiter	-17053-11-09 13:26 J	-4506872.09	-4506871.94	-4506871.78	0.0528	0.0340
Neptune	-17053-12-24 02:09 J	-4506827.55	-4506827.41	-4506827.25	0.0089	0.0065
Neptune	-17052-08-06 14:38 J	-4506602.03	-4506601.89	-4506601.72	0.0089	0.0061
Neptune	-17051-03-20 03:21 J	-4506376.52	-4506376.36	-4506376.18	0.0089	0.0056
Neptune	-17051-10-31 15:50 J	-4506151.00	-4506150.84	-4506150.65	0.0089	0.0053
Neptune	-17050-06-14 04:33 J	-4505925.47	-4505925.31	-4505925.11	0.0089	0.0049
Neptune	-17049-01-25 17:45 J	-4505699.95	-4505699.76	-4505699.58	0.0089	0.0044
Neptune	-17049-09-07 06:00 J	-4505474.43	-4505474.25	-4505474.05	0.0089	0.0040
Neptune	-17048-04-20 18:28 J	-4505248.91	-4505248.73	-4505248.52	0.0089	0.0036

Neptune -17048-12-02 07:11 J -4505023.39 -4505023.20 -4505022.99 0.0089 0.0031
 Jupiter -17047-01-18 01:26 J -4504976.63 -4504976.44 -4504976.24 0.0500 0.0148
 Neptune -17047-07-15 19:55 J -4504797.87 -4504797.67 -4504797.46 0.0089 0.0027
 Jupiter -17047-09-11 06:00 J -4504740.41 -4504740.25 -4504740.09 0.0498 0.0300
 Neptune -17046-02-26 08:23 J -4504572.36 -4504572.15 -4504571.94 0.0089 0.0022
 Neptune -17046-10-09 20:52 J -4504346.84 -4504346.63 -4504346.41 0.0089 0.0018
 Neptune -17045-05-22 09:36 J -4504121.32 -4504121.10 -4504120.89 0.0089 0.0014
 Neptune -17044-01-02 22:04 J -4503895.80 -4503895.58 -4503895.37 0.0089 0.0009
 Neptune -17044-08-16 10:19 J -4503670.28 -4503670.07 -4503669.85 0.0089 0.0005
 Neptune -17043-03-29 22:48 J -4503444.76 -4503444.55 -4503444.33 0.0089 0.0001
 Neptune -17043-11-10 11:16 J -4503219.24 -4503219.03 -4503218.81 0.0089 0.0004
 Neptune -17042-06-24 00:00 J -4502993.72 -4502993.50 -4502993.29 0.0089 0.0008
 Jupiter -17042-11-20 06:28 J -4502844.38 -4502844.23 -4502844.08 0.0524 0.0352
 Neptune -17041-02-04 12:28 J -4502768.20 -4502767.98 -4502767.77 0.0089 0.0012
 Jupiter -17041-07-15 03:07 J -4502606.56 -4502606.37 -4502606.18 0.0527 0.0188
 Neptune -17041-09-17 00:28 J -4502542.68 -4502542.48 -4502542.25 0.0089 0.0017
 Saturn -17040-01-09 13:26 J -4502428.01 -4502427.94 -4502427.85 0.0292 0.0270
 Neptune -17040-04-30 12:57 J -4502317.16 -4502316.96 -4502316.74 0.0089 0.0021
 Saturn -17040-08-27 17:45 J -4502197.97 -4502197.76 -4502197.55 0.0295 0.0069
 Neptune -17040-12-12 01:40 J -4502091.64 -4502091.43 -4502091.22 0.0089 0.0025
 Saturn -17039-04-15 00:00 J -4501967.68 -4501967.50 -4501967.30 0.0297 0.0141
 Neptune -17039-07-25 14:09 J -4501866.11 -4501865.91 -4501865.70 0.0089 0.0029
 Neptune -17038-03-08 02:23 J -4501640.59 -4501640.40 -4501640.19 0.0089 0.0034
 Neptune -17038-10-19 14:52 J -4501415.06 -4501414.88 -4501414.67 0.0089 0.0038
 Neptune -17037-06-01 03:36 J -4501189.53 -4501189.35 -4501189.15 0.0089 0.0042
 Neptune -17036-01-12 16:04 J -4500964.01 -4500963.83 -4500963.64 0.0089 0.0046
 Neptune -17036-08-26 04:04 J -4500738.48 -4500738.33 -4500738.13 0.0089 0.0051
 Jupiter -17036-09-23 04:19 J -4500710.49 -4500710.32 -4500710.15 0.0501 0.0271
 Neptune -17035-04-08 16:33 J -4500512.96 -4500512.81 -4500512.62 0.0089 0.0055
 Jupiter -17035-05-17 08:52 J -4500474.32 -4500474.13 -4500473.94 0.0498 0.0179

Neptune	-17035-11-20 05:02 J	-4500287.43	-4500287.29	-4500287.11	0.0089	0.0059
Neptune	-17034-07-03 17:45 J	-4500061.90	-4500061.76	-4500061.59	0.0089	0.0063
Neptune	-17033-02-14 06:14 J	-4499836.37	-4499836.24	-4499836.09	0.0089	0.0067
Neptune	-17033-09-26 18:28 J	-4499610.84	-4499610.73	-4499610.59	0.0089	0.0071
Neptune	-17032-05-10 06:43 J	-4499385.31	-4499385.22	-4499385.08	0.0089	0.0075
Neptune	-17032-12-21 19:11 J	-4499159.78	-4499159.70	-4499159.58	0.0089	0.0079
Neptune	-17031-08-04 07:40 J	-4498934.24	-4498934.18	-4498934.09	0.0089	0.0083
Neptune	-17030-03-17 19:55 J	-4498708.69	-4498708.67	-4498708.60	0.0089	0.0087
Uranus	-17030-03-24 21:07 J	-4498701.72	-4498701.62	-4498701.50	0.0146	0.0124
Jupiter	-17030-07-25 20:38 J	-4498578.70	-4498578.64	-4498578.57	0.0523	0.0495
Uranus	-17030-11-06 08:38 J	-4498475.31	-4498475.14	-4498474.96	0.0146	0.0084
Jupiter	-17029-03-19 17:16 J	-4498340.99	-4498340.78	-4498340.58	0.0527	0.0037
Uranus	-17029-06-19 20:23 J	-4498248.85	-4498248.65	-4498248.44	0.0146	0.0044
Mars	-17029-07-30 11:31 J	-4498208.13	-4498208.02	-4498207.91	0.1879	0.1432
Uranus	-17028-02-01 08:09 J	-4498022.37	-4498022.16	-4498021.94	0.0146	0.0003
Uranus	-17028-09-15 19:40 J	-4497795.88	-4497795.68	-4497795.46	0.0146	0.0039
Uranus	-17027-04-30 07:40 J	-4497569.36	-4497569.18	-4497569.00	0.0146	0.0079
Saturn	-17027-11-16 00:43 J	-4497369.65	-4497369.47	-4497369.28	0.0269	0.0133
Uranus	-17027-12-12 19:26 J	-4497342.80	-4497342.69	-4497342.56	0.0146	0.0119
Mars	-17026-05-09 19:26 J	-4497194.83	-4497194.69	-4497194.56	0.1641	0.0999
Saturn	-17026-07-02 23:02 J	-4497140.74	-4497140.54	-4497140.33	0.0266	0.0015
Saturn	-17025-02-16 19:40 J	-4496911.84	-4496911.68	-4496911.51	0.0264	0.0157
Mars	-17024-03-08 18:00 J	-4496525.91	-4496525.75	-4496525.60	0.1652	0.0785
Jupiter	-17024-05-29 06:57 J	-4496444.33	-4496444.21	-4496444.08	0.0502	0.0392
Jupiter	-17023-01-20 11:45 J	-4496208.21	-4496208.01	-4496207.81	0.0499	0.0058
Jupiter	-17023-09-13 16:33 J	-4495971.81	-4495971.81	-4495971.80	0.0497	0.0496
Jupiter	-17018-11-23 07:11 J	-4494075.40	-4494075.20	-4494075.00	0.0526	0.0115
Jupiter	-17017-07-18 03:50 J	-4493837.46	-4493837.34	-4493837.22	0.0529	0.0426
Jupiter	-17012-09-25 14:23 J	-4491942.11	-4491941.90	-4491941.70	0.0500	0.0067
Jupiter	-17011-05-19 18:28 J	-4491705.85	-4491705.73	-4491705.59	0.0497	0.0379

Pluto	-17011-07-21 22:33 J	-4491642.73	-4491642.56	-4491642.34	0.0080	0.0040
Saturn	-17011-07-22 18:00 J	-4491641.85	-4491641.75	-4491641.62	0.0292	0.0246
Pluto	-17010-03-04 10:04 J	-4491417.29	-4491417.08	-4491416.87	0.0080	0.0030
Saturn	-17010-03-09 22:33 J	-4491411.78	-4491411.56	-4491411.35	0.0295	0.0045
Saturn	-17010-10-26 04:48 J	-4491181.47	-4491181.30	-4491181.12	0.0297	0.0165
Jupiter	-17006-07-28 23:02 J	-4489809.71	-4489809.54	-4489809.36	0.0525	0.0261
Jupiter	-17005-03-22 20:23 J	-4489571.82	-4489571.65	-4489571.48	0.0528	0.0282

17TH MILLENNIUM BCE

This is a list of transits of Venus in the 17th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-17000-05-31 14:09 J	-4487676.09	-4487675.91	-4487675.72	0.0500	0.0195		
Jupiter	-16999-01-22 18:00 J	-4487439.92	-4487439.75	-4487439.57	0.0498	0.0255		
Saturn	-16998-10-12 03:07 J	-4486812.41	-4486812.37	-4486812.32	0.0271	0.0264		
Saturn	-16997-05-28 03:07 J	-4486583.56	-4486583.37	-4486583.18	0.0269	0.0112		
Saturn	-16996-01-12 01:26 J	-4486354.65	-4486354.44	-4486354.23	0.0267	0.0035		
Saturn	-16996-08-28 22:04 J	-4486125.73	-4486125.58	-4486125.43	0.0265	0.0178		
Mars	-16995-05-27 16:48 J	-4485853.97	-4485853.80	-4485853.63	0.1870	0.0438		
Jupiter	-16994-04-02 14:52 J	-4485544.01	-4485543.88	-4485543.75	0.0524	0.0406		
Jupiter	-16994-11-26 12:00 J	-4485306.20	-4485306.00	-4485305.81	0.0528	0.0134		
Mars	-16992-03-07 12:57 J	-4484839.14	-4484838.96	-4484838.79	0.1647	0.0086		
Uranus	-16989-10-03 22:04 J	-4483532.69	-4483532.58	-4483532.45	0.0132	0.0110		
Jupiter	-16988-02-03 16:04 J	-4483409.98	-4483409.83	-4483409.67	0.0501	0.0319		

Uranus	-16988-05-18 03:50 J	-4483306.50	-4483306.34	-4483306.15	0.0132	0.0080
Jupiter	-16988-09-27 20:23 J	-4483173.85	-4483173.65	-4483173.46	0.0498	0.0132
Uranus	-16988-12-30 09:50 J	-4483080.29	-4483080.09	-4483079.88	0.0132	0.0049
Uranus	-16987-08-13 15:36 J	-4482854.06	-4482853.85	-4482853.63	0.0132	0.0018
Uranus	-16986-03-27 21:21 J	-4482627.83	-4482627.61	-4482627.39	0.0132	0.0013
Uranus	-16986-11-09 02:38 J	-4482401.59	-4482401.39	-4482401.17	0.0132	0.0045
Uranus	-16985-06-22 08:23 J	-4482175.33	-4482175.15	-4482174.96	0.0132	0.0075
Uranus	-16984-02-03 13:55 J	-4481949.04	-4481948.92	-4481948.78	0.0132	0.0105
Jupiter	-16982-08-01 01:11 J	-4481040.65	-4481040.45	-4481040.24	0.0526	0.0021
Saturn	-16981-02-02 02:38 J	-4480855.53	-4480855.39	-4480855.24	0.0292	0.0215
Jupiter	-16981-03-25 21:36 J	-4480802.64	-4480802.60	-4480802.56	0.0529	0.0516
Saturn	-16981-09-19 07:11 J	-4480625.42	-4480625.20	-4480624.99	0.0295	0.0013
Saturn	-16980-05-07 13:26 J	-4480395.09	-4480394.94	-4480394.77	0.0298	0.0200
Jupiter	-16977-10-09 18:00 J	-4479143.84	-4479143.75	-4479143.65	0.0503	0.0442
Jupiter	-16976-06-02 22:48 J	-4478907.75	-4478907.55	-4478907.34	0.0499	0.0013
Jupiter	-16975-01-25 03:36 J	-4478671.43	-4478671.35	-4478671.26	0.0497	0.0451
Neptune	-16973-08-19 11:02 J	-4477734.07	-4477734.04	-4477733.99	0.0088	0.0086
Neptune	-16972-04-02 00:28 J	-4477508.55	-4477508.48	-4477508.40	0.0088	0.0082
Neptune	-16972-11-13 14:09 J	-4477283.01	-4477282.91	-4477282.81	0.0088	0.0079
Neptune	-16971-06-27 03:36 J	-4477057.47	-4477057.35	-4477057.23	0.0088	0.0075
Neptune	-16970-02-07 16:48 J	-4476831.93	-4476831.80	-4476831.66	0.0088	0.0071
Jupiter	-16970-04-05 15:07 J	-4476775.06	-4476774.87	-4476774.67	0.0525	0.0173
Neptune	-16970-09-21 06:14 J	-4476606.38	-4476606.24	-4476606.09	0.0088	0.0066
Jupiter	-16970-11-29 11:45 J	-4476537.16	-4476537.01	-4476536.87	0.0528	0.0370
Neptune	-16969-05-03 19:26 J	-4476380.83	-4476380.69	-4476380.52	0.0088	0.0063
Neptune	-16969-12-15 08:52 J	-4476155.28	-4476155.13	-4476154.95	0.0088	0.0058
Saturn	-16968-04-23 07:26 J	-4476026.27	-4476026.19	-4476026.09	0.0271	0.0241
Neptune	-16968-07-28 22:19 J	-4475929.73	-4475929.57	-4475929.38	0.0088	0.0054
Saturn	-16968-12-08 07:11 J	-4475797.39	-4475797.20	-4475796.99	0.0268	0.0091
Neptune	-16967-03-11 11:31 J	-4475704.18	-4475704.02	-4475703.82	0.0088	0.0050

Earth -16967-05-08 02:52 J -4475646.50 -4475646.38 -4475646.26 0.2697 0.1822
 Saturn -16967-07-25 05:31 J -4475568.47 -4475568.27 -4475568.06 0.0266 0.0057
 Neptune -16967-10-23 01:26 J -4475478.63 -4475478.44 -4475478.25 0.0088 0.0046
 Saturn -16966-03-11 02:09 J -4475339.55 -4475339.41 -4475339.27 0.0264 0.0199
 Neptune -16966-06-05 14:38 J -4475253.08 -4475252.89 -4475252.68 0.0088 0.0042
 Neptune -16965-01-17 04:04 J -4475027.52 -4475027.33 -4475027.12 0.0088 0.0037
 Neptune -16965-08-29 17:16 J -4474801.97 -4474801.78 -4474801.55 0.0088 0.0034
 Jupiter -16964-02-06 01:26 J -4474641.63 -4474641.44 -4474641.24 0.0500 0.0117
 Neptune -16964-04-12 07:11 J -4474576.41 -4474576.20 -4474575.99 0.0088 0.0028
 Jupiter -16964-09-30 06:14 J -4474405.39 -4474405.24 -4474405.09 0.0498 0.0333
 Neptune -16964-11-23 20:38 J -4474350.84 -4474350.64 -4474350.41 0.0088 0.0024
 Mars -16963-05-27 14:38 J -4474166.03 -4474165.89 -4474165.75 0.1877 0.1159
 Neptune -16963-07-07 10:04 J -4474125.28 -4474125.08 -4474124.85 0.0088 0.0021
 Neptune -16962-02-17 23:45 J -4473899.72 -4473899.51 -4473899.28 0.0088 0.0016
 Neptune -16962-10-01 13:26 J -4473674.16 -4473673.94 -4473673.72 0.0088 0.0011
 Neptune -16961-05-14 03:07 J -4473448.60 -4473448.37 -4473448.15 0.0088 0.0007
 Neptune -16961-12-25 16:48 J -4473223.03 -4473222.80 -4473222.58 0.0088 0.0002
 Mars -16960-03-06 07:11 J -4473152.34 -4473152.20 -4473152.05 0.1643 0.0920
 Neptune -16960-08-08 06:14 J -4472997.46 -4472997.24 -4472997.01 0.0088 0.0003
 Neptune -16959-03-21 19:55 J -4472771.89 -4472771.67 -4472771.45 0.0088 0.0007
 Earth -16959-05-05 14:38 J -4472726.98 -4472726.89 -4472726.80 0.2695 0.2191
 Moon -16959-05-05 19:55 J -4472726.81 -4472726.67 -4472726.53 0.2691 0.1470 *
 Neptune -16959-11-02 09:21 J -4472546.32 -4472546.11 -4472545.88 0.0088 0.0012
 Jupiter -16959-12-09 04:33 J -4472509.46 -4472509.31 -4472509.14 0.0524 0.0322
 Mars -16958-01-04 05:16 J -4472483.42 -4472483.28 -4472483.13 0.1654 0.0873
 Neptune -16958-06-15 23:16 J -4472320.76 -4472320.53 -4472320.31 0.0088 0.0016
 Jupiter -16958-08-04 01:26 J -4472271.62 -4472271.44 -4472271.25 0.0528 0.0221
 Neptune -16957-01-27 12:28 J -4472095.19 -4472094.98 -4472094.75 0.0088 0.0021
 Neptune -16957-09-09 02:09 J -4471869.62 -4471869.41 -4471869.19 0.0088 0.0025
 Neptune -16956-04-22 15:36 J -4471644.05 -4471643.85 -4471643.63 0.0088 0.0029

Neptune	-16956-12-04 05:16 J	-4471418.47	-4471418.28	-4471418.06	0.0088	0.0034
Neptune	-16955-07-17 19:11 J	-4471192.90	-4471192.70	-4471192.50	0.0088	0.0038
Neptune	-16954-02-28 08:23 J	-4470967.33	-4470967.15	-4470966.94	0.0088	0.0043
Neptune	-16954-10-11 22:04 J	-4470741.76	-4470741.58	-4470741.38	0.0088	0.0047
Neptune	-16953-05-24 11:45 J	-4470516.19	-4470516.01	-4470515.82	0.0088	0.0051
Jupiter	-16953-10-12 03:50 J	-4470375.51	-4470375.34	-4470375.16	0.0501	0.0240
Neptune	-16952-01-05 01:11 J	-4470290.61	-4470290.45	-4470290.26	0.0088	0.0055
Jupiter	-16952-06-05 08:09 J	-4470139.34	-4470139.16	-4470138.98	0.0498	0.0211
Saturn	-16952-08-14 09:21 J	-4470069.27	-4470069.11	-4470068.94	0.0293	0.0187
Neptune	-16952-08-18 14:52 J	-4470065.03	-4470064.88	-4470064.70	0.0088	0.0060
Neptune	-16951-04-01 04:33 J	-4469839.45	-4469839.31	-4469839.15	0.0088	0.0064
Saturn	-16951-04-01 14:09 J	-4469839.13	-4469838.91	-4469838.70	0.0295	0.0017
Neptune	-16951-11-12 18:14 J	-4469613.87	-4469613.74	-4469613.59	0.0088	0.0068
Saturn	-16951-11-17 20:52 J	-4469608.76	-4469608.63	-4469608.49	0.0298	0.0228
Neptune	-16950-06-26 07:55 J	-4469388.29	-4469388.17	-4469388.03	0.0088	0.0072
Neptune	-16949-02-06 21:07 J	-4469162.70	-4469162.62	-4469162.48	0.0089	0.0077
Neptune	-16949-09-19 10:48 J	-4468937.12	-4468937.05	-4468936.93	0.0089	0.0081
Neptune	-16948-05-03 00:28 J	-4468711.52	-4468711.48	-4468711.39	0.0089	0.0085
Neptune	-16948-12-14 14:38 J	-4468485.89	-4468485.89	-4468485.86	0.0089	0.0088
Jupiter	-16947-08-13 20:23 J	-4468243.74	-4468243.65	-4468243.56	0.0523	0.0465
Uranus	-16947-11-22 01:55 J	-4468143.43	-4468143.42	-4468143.39	0.0146	0.0145
Jupiter	-16946-04-08 17:31 J	-4468005.97	-4468005.77	-4468005.57	0.0527	0.0073
Uranus	-16946-07-06 13:26 J	-4467917.07	-4467916.94	-4467916.78	0.0146	0.0105
Uranus	-16945-02-18 00:57 J	-4467690.64	-4467690.46	-4467690.26	0.0146	0.0065
Uranus	-16945-10-01 12:43 J	-4467464.18	-4467463.97	-4467463.75	0.0146	0.0024
Uranus	-16944-05-16 00:28 J	-4467237.69	-4467237.48	-4467237.27	0.0146	0.0017
Uranus	-16944-12-28 12:14 J	-4467011.19	-4467010.99	-4467010.79	0.0146	0.0057
Uranus	-16943-08-12 00:00 J	-4466784.65	-4466784.50	-4466784.33	0.0146	0.0098
Uranus	-16942-03-26 11:45 J	-4466558.06	-4466558.01	-4466557.93	0.0146	0.0139
Jupiter	-16941-06-17 04:04 J	-4466109.46	-4466109.33	-4466109.19	0.0502	0.0368

Jupiter	-16940-02-08 08:09 J	-4465873.36	-4465873.16	-4465872.96	0.0498	0.0083
Saturn	-16939-11-03 10:48 J	-4465240.16	-4465240.05	-4465239.92	0.0271	0.0219
Saturn	-16938-06-20 10:48 J	-4465011.26	-4465011.05	-4465010.85	0.0269	0.0068
Saturn	-16937-02-04 08:38 J	-4464782.34	-4464782.14	-4464781.94	0.0266	0.0079
Saturn	-16937-09-20 05:02 J	-4464553.40	-4464553.29	-4464553.17	0.0265	0.0221
Jupiter	-16935-12-12 08:38 J	-4463740.35	-4463740.14	-4463739.94	0.0526	0.0080
Jupiter	-16934-08-07 05:31 J	-4463502.36	-4463502.27	-4463502.17	0.0529	0.0464
Jupiter	-16929-02-21 05:45 J	-4461843.30	-4461843.26	-4461843.22	0.0503	0.0489
Mars	-16929-03-23 20:09 J	-4461811.82	-4461811.66	-4461811.49	0.1867	0.0693
Jupiter	-16929-10-14 10:04 J	-4461607.28	-4461607.08	-4461606.88	0.0499	0.0042
Jupiter	-16928-06-07 13:55 J	-4461371.03	-4461370.92	-4461370.79	0.0497	0.0404
Mars	-16926-01-03 00:43 J	-4460796.65	-4460796.47	-4460796.30	0.1649	0.0037
Jupiter	-16923-08-16 22:04 J	-4459474.77	-4459474.58	-4459474.40	0.0525	0.0232
Saturn	-16922-02-24 19:11 J	-4459282.88	-4459282.70	-4459282.51	0.0293	0.0154
Jupiter	-16922-04-11 18:43 J	-4459236.88	-4459236.72	-4459236.55	0.0528	0.0314
Saturn	-16922-10-13 00:14 J	-4459052.70	-4459052.49	-4459052.28	0.0296	0.0052
Saturn	-16921-05-30 06:57 J	-4458822.30	-4458822.21	-4458822.11	0.0298	0.0264
Jupiter	-16917-06-19 12:00 J	-4457341.18	-4457341.00	-4457340.80	0.0500	0.0169
Jupiter	-16916-02-10 16:19 J	-4457104.98	-4457104.82	-4457104.64	0.0498	0.0284
Jupiter	-16911-04-21 12:00 J	-4455209.14	-4455209.00	-4455208.86	0.0524	0.0380
Jupiter	-16911-12-15 08:23 J	-4454971.34	-4454971.15	-4454970.95	0.0527	0.0162
Saturn	-16909-05-15 16:04 J	-4454453.96	-4454453.83	-4454453.68	0.0270	0.0196
Saturn	-16909-12-30 15:36 J	-4454225.05	-4454224.85	-4454224.64	0.0268	0.0045
Saturn	-16908-08-16 13:26 J	-4453996.13	-4453995.94	-4453995.74	0.0266	0.0102
Saturn	-16907-04-02 09:50 J	-4453767.16	-4453767.09	-4453767.00	0.0264	0.0243
Jupiter	-16905-02-23 14:23 J	-4453075.06	-4453074.90	-4453074.73	0.0501	0.0292
Uranus	-16905-06-03 06:14 J	-4452974.30	-4452974.24	-4452974.16	0.0133	0.0126
Jupiter	-16905-10-16 18:57 J	-4452838.90	-4452838.71	-4452838.52	0.0498	0.0162
Uranus	-16904-01-15 12:14 J	-4452748.13	-4452747.99	-4452747.82	0.0132	0.0095
Uranus	-16904-08-29 18:14 J	-4452521.93	-4452521.74	-4452521.54	0.0132	0.0064

Uranus	-16903-04-13 00:00 J	-4452295.71	-4452295.50	-4452295.28	0.0132	0.0033
Uranus	-16903-11-25 05:45 J	-4452069.48	-4452069.26	-4452069.04	0.0132	0.0002
Uranus	-16902-07-09 11:16 J	-4451843.24	-4451843.03	-4451842.81	0.0132	0.0030
Uranus	-16901-02-20 17:02 J	-4451616.98	-4451616.79	-4451616.58	0.0132	0.0060
Uranus	-16901-10-03 22:48 J	-4451390.71	-4451390.55	-4451390.39	0.0132	0.0091
Uranus	-16900-05-18 04:04 J	-4451164.40	-4451164.33	-4451164.23	0.0132	0.0122
Jupiter	-16899-08-19 21:50 J	-4450705.79	-4450705.59	-4450705.39	0.0527	0.0008
Mars	-16897-03-23 17:45 J	-4450123.92	-4450123.76	-4450123.61	0.1875	0.0889
Mars	-16894-01-01 19:26 J	-4449109.84	-4449109.69	-4449109.54	0.1644	0.0845
Jupiter	-16894-10-29 16:19 J	-4448808.92	-4448808.82	-4448808.70	0.0502	0.0416
Jupiter	-16893-06-21 20:52 J	-4448572.83	-4448572.63	-4448572.42	0.0499	0.0038
Saturn	-16893-09-06 03:50 J	-4448496.54	-4448496.34	-4448496.15	0.0293	0.0123
Mars	-16893-10-31 17:02 J	-4448440.93	-4448440.79	-4448440.65	0.1656	0.0960
Jupiter	-16892-02-13 01:26 J	-4448336.49	-4448336.44	-4448336.39	0.0497	0.0479
Saturn	-16892-04-24 08:52 J	-4448266.34	-4448266.13	-4448265.93	0.0296	0.0084
Saturn	-16892-12-10 15:50 J	-4448035.85	-4448035.84	-4448035.81	0.0298	0.0296
Neptune	-16891-02-23 22:48 J	-4447960.56	-4447960.55	-4447960.51	0.0089	0.0089
Neptune	-16891-10-07 11:31 J	-4447735.08	-4447735.02	-4447734.94	0.0089	0.0085
Neptune	-16890-05-21 00:14 J	-4447509.57	-4447509.49	-4447509.38	0.0089	0.0081
Neptune	-16889-01-01 12:43 J	-4447284.06	-4447283.97	-4447283.84	0.0089	0.0077
Neptune	-16889-08-14 01:26 J	-4447058.55	-4447058.44	-4447058.30	0.0089	0.0072
Neptune	-16888-03-27 13:55 J	-4446833.04	-4446832.92	-4446832.76	0.0089	0.0069
Neptune	-16888-11-08 02:23 J	-4446607.52	-4446607.40	-4446607.22	0.0089	0.0065
Jupiter	-16887-04-24 13:11 J	-4446440.15	-4446439.95	-4446439.76	0.0526	0.0142
Neptune	-16887-06-21 15:36 J	-4446382.00	-4446381.85	-4446381.68	0.0089	0.0060
Jupiter	-16887-12-18 10:04 J	-4446202.20	-4446202.08	-4446201.94	0.0529	0.0404
Neptune	-16886-02-02 04:04 J	-4446156.49	-4446156.33	-4446156.15	0.0089	0.0056
Neptune	-16886-09-15 16:33 J	-4445930.97	-4445930.81	-4445930.62	0.0089	0.0051
Neptune	-16885-04-28 05:16 J	-4445705.45	-4445705.28	-4445705.08	0.0089	0.0047
Neptune	-16885-12-09 18:00 J	-4445479.93	-4445479.75	-4445479.55	0.0089	0.0043

Neptune	-16884-07-23 06:28 J	-4445254.41	-4445254.23	-4445254.02	0.0089	0.0038
Neptune	-16883-03-05 19:26 J	-4445028.89	-4445028.69	-4445028.49	0.0089	0.0034
Neptune	-16883-10-17 07:55 J	-4444803.37	-4444803.17	-4444802.96	0.0089	0.0029
Neptune	-16882-05-30 20:23 J	-4444577.84	-4444577.65	-4444577.43	0.0089	0.0025
Neptune	-16881-01-11 09:07 J	-4444352.32	-4444352.12	-4444351.90	0.0089	0.0021
Jupiter	-16881-02-25 21:21 J	-4444306.81	-4444306.61	-4444306.41	0.0499	0.0093
Neptune	-16881-08-23 21:36 J	-4444126.81	-4444126.60	-4444126.38	0.0089	0.0016
Jupiter	-16881-10-19 01:11 J	-4444070.59	-4444070.45	-4444070.31	0.0497	0.0356
Neptune	-16880-04-06 10:19 J	-4443901.29	-4443901.07	-4443900.86	0.0089	0.0011
Neptune	-16880-11-17 22:48 J	-4443675.77	-4443675.55	-4443675.33	0.0089	0.0007
Saturn	-16880-11-25 20:09 J	-4443667.81	-4443667.66	-4443667.49	0.0270	0.0173
Neptune	-16879-07-01 11:31 J	-4443450.24	-4443450.02	-4443449.81	0.0089	0.0003
Saturn	-16879-07-12 19:55 J	-4443438.88	-4443438.67	-4443438.47	0.0268	0.0022
Neptune	-16878-02-11 23:45 J	-4443224.72	-4443224.51	-4443224.29	0.0089	0.0003
Saturn	-16878-02-26 17:31 J	-4443209.95	-4443209.77	-4443209.59	0.0266	0.0125
Neptune	-16878-09-25 12:14 J	-4442999.20	-4442998.99	-4442998.77	0.0089	0.0007
Neptune	-16877-05-08 00:43 J	-4442773.68	-4442773.47	-4442773.25	0.0089	0.0011
Neptune	-16877-12-19 13:11 J	-4442548.16	-4442547.95	-4442547.73	0.0089	0.0015
Neptune	-16876-08-02 01:26 J	-4442322.64	-4442322.44	-4442322.22	0.0089	0.0020
Jupiter	-16876-12-28 03:36 J	-4442174.51	-4442174.35	-4442174.17	0.0525	0.0293
Neptune	-16875-03-15 13:55 J	-4442097.12	-4442096.92	-4442096.70	0.0089	0.0024
Jupiter	-16875-08-23 01:11 J	-4441936.62	-4441936.45	-4441936.27	0.0528	0.0255
Neptune	-16875-10-27 02:09 J	-4441871.60	-4441871.41	-4441871.19	0.0089	0.0029
Neptune	-16874-06-09 14:52 J	-4441646.07	-4441645.88	-4441645.67	0.0089	0.0033
Neptune	-16873-01-21 03:36 J	-4441420.54	-4441420.35	-4441420.15	0.0089	0.0037
Neptune	-16873-09-02 15:36 J	-4441195.02	-4441194.85	-4441194.64	0.0089	0.0042
Neptune	-16872-04-16 04:19 J	-4440969.50	-4440969.32	-4440969.13	0.0089	0.0046
Neptune	-16872-11-27 16:48 J	-4440743.97	-4440743.80	-4440743.61	0.0089	0.0050
Neptune	-16871-07-11 05:16 J	-4440518.43	-4440518.28	-4440518.09	0.0089	0.0055
Neptune	-16870-02-21 17:45 J	-4440292.91	-4440292.76	-4440292.58	0.0089	0.0059

Neptune -16870-10-05 06:14 J -4440067.38 -4440067.24 -4440067.08 0.0089 0.0063
 Jupiter -16870-10-31 23:02 J -4440040.72 -4440040.54 -4440040.35 0.0500 0.0219
 Neptune -16869-05-17 18:43 J -4439841.85 -4439841.72 -4439841.57 0.0089 0.0067
 Jupiter -16869-06-24 02:52 J -4439804.56 -4439804.38 -4439804.20 0.0498 0.0234
 Neptune -16869-12-29 07:11 J -4439616.32 -4439616.20 -4439616.06 0.0089 0.0071
 Neptune -16868-08-11 19:55 J -4439390.78 -4439390.67 -4439390.56 0.0089 0.0075
 Neptune -16867-03-25 07:40 J -4439165.25 -4439165.18 -4439165.06 0.0089 0.0080
 Neptune -16867-11-05 20:09 J -4438939.71 -4438939.66 -4438939.57 0.0089 0.0084
 Neptune -16866-06-19 08:23 J -4438714.15 -4438714.15 -4438714.08 0.0089 0.0088
 Saturn -16864-08-01 11:16 J -4437940.05 -4437940.03 -4437939.99 0.0291 0.0287
 Jupiter -16864-09-01 17:31 J -4437908.87 -4437908.77 -4437908.65 0.0523 0.0440
 Mars -16863-01-19 00:28 J -4437769.63 -4437769.48 -4437769.33 0.1865 0.0931
 Saturn -16863-03-19 14:23 J -4437710.10 -4437709.90 -4437709.69 0.0293 0.0089
 Jupiter -16863-04-27 14:23 J -4437671.10 -4437670.90 -4437670.69 0.0527 0.0102
 Saturn -16863-11-04 19:55 J -4437479.86 -4437479.67 -4437479.47 0.0296 0.0120
 Uranus -16862-03-05 20:23 J -4437358.75 -4437358.65 -4437358.52 0.0146 0.0124
 Uranus -16862-10-18 07:55 J -4437132.33 -4437132.17 -4437131.98 0.0146 0.0084
 Uranus -16861-05-31 19:40 J -4436905.89 -4436905.68 -4436905.48 0.0146 0.0043
 Mars -16861-10-30 12:43 J -4436754.14 -4436753.97 -4436753.80 0.1650 0.0085
 Uranus -16860-01-13 07:11 J -4436679.41 -4436679.20 -4436678.98 0.0146 0.0004
 Uranus -16860-08-27 19:11 J -4436452.91 -4436452.70 -4436452.50 0.0146 0.0039
 Uranus -16859-04-11 06:43 J -4436226.39 -4436226.22 -4436226.03 0.0146 0.0080
 Uranus -16859-11-23 18:28 J -4435999.84 -4435999.73 -4435999.60 0.0146 0.0120
 Jupiter -16858-07-07 00:28 J -4435774.62 -4435774.48 -4435774.33 0.0502 0.0344
 Jupiter -16857-02-28 05:02 J -4435538.49 -4435538.29 -4435538.10 0.0499 0.0110
 Pluto -16852-07-31 12:28 J -4433558.06 -4433557.98 -4433557.87 0.0064 0.0057
 Jupiter -16852-12-31 04:04 J -4433405.53 -4433405.33 -4433405.13 0.0526 0.0053
 Pluto -16851-03-13 16:04 J -4433333.02 -4433332.83 -4433332.61 0.0064 0.0023
 Jupiter -16851-08-26 00:28 J -4433167.55 -4433167.48 -4433167.40 0.0528 0.0489
 Pluto -16851-10-24 20:09 J -4433107.87 -4433107.66 -4433107.45 0.0064 0.0012

Pluto	-16850-06-06 23:45 J	-4432882.64	-4432882.51	-4432882.35	0.0064	0.0047
Saturn	-16850-06-08 02:38 J	-4432881.56	-4432881.39	-4432881.21	0.0270	0.0147
Saturn	-16849-01-23 01:55 J	-4432652.63	-4432652.42	-4432652.21	0.0268	0.0005
Saturn	-16849-09-07 23:16 J	-4432423.70	-4432423.53	-4432423.36	0.0266	0.0149
Jupiter	-16846-03-12 02:09 J	-4431508.47	-4431508.41	-4431508.33	0.0503	0.0467
Jupiter	-16846-11-03 07:11 J	-4431272.41	-4431272.20	-4431272.00	0.0499	0.0017
Jupiter	-16845-06-26 11:31 J	-4431036.12	-4431036.02	-4431035.92	0.0497	0.0432
Jupiter	-16840-09-04 17:02 J	-4429139.98	-4429139.79	-4429139.60	0.0525	0.0207
Jupiter	-16839-04-30 13:55 J	-4428902.07	-4428901.92	-4428901.76	0.0528	0.0341
Moon	-16838-11-04 01:55 J	-4428349.53	-4428349.42	-4428349.31	0.2631	0.1959
Earth	-16838-11-04 04:33 J	-4428349.36	-4428349.31	-4428349.27	0.2636	0.2511 *
Saturn	-16834-02-11 21:21 J	-4427153.71	-4427153.61	-4427153.50	0.0291	0.0254
Jupiter	-16834-07-09 09:07 J	-4427006.31	-4427006.12	-4427005.92	0.0500	0.0141
Saturn	-16834-09-30 00:43 J	-4426923.68	-4426923.47	-4426923.26	0.0294	0.0054
Jupiter	-16833-03-01 13:11 J	-4426770.10	-4426769.95	-4426769.79	0.0498	0.0312
Saturn	-16833-05-17 06:14 J	-4426693.42	-4426693.24	-4426693.06	0.0296	0.0155
Mars	-16831-01-18 21:07 J	-4426081.79	-4426081.62	-4426081.45	0.1873	0.0627
Moon	-16830-11-01 17:45 J	-4425429.91	-4425429.76	-4425429.61	0.2637	0.0939
Earth	-16830-11-01 22:48 J	-4425429.71	-4425429.55	-4425429.40	0.2638	0.0510 *
Mars	-16829-10-29 07:11 J	-4425067.35	-4425067.20	-4425067.04	0.1645	0.0765
Jupiter	-16828-05-10 07:40 J	-4424874.33	-4424874.18	-4424874.03	0.0524	0.0355
Jupiter	-16827-01-03 05:02 J	-4424636.48	-4424636.29	-4424636.10	0.0528	0.0191
Mars	-16827-08-29 04:33 J	-4424398.45	-4424398.31	-4424398.18	0.1658	0.1050
Jupiter	-16822-03-14 10:04 J	-4422740.25	-4422740.08	-4422739.91	0.0501	0.0269
Jupiter	-16822-11-05 13:40 J	-4422504.12	-4422503.93	-4422503.74	0.0498	0.0184
Uranus	-16821-09-14 20:38 J	-4422189.76	-4422189.64	-4422189.52	0.0133	0.0110
Saturn	-16821-12-18 07:26 J	-4422095.38	-4422095.19	-4422095.01	0.0270	0.0123
Uranus	-16820-04-29 02:09 J	-4421963.57	-4421963.41	-4421963.22	0.0132	0.0079
Saturn	-16820-08-04 06:14 J	-4421866.44	-4421866.24	-4421866.03	0.0267	0.0027
Uranus	-16820-12-11 08:09 J	-4421737.36	-4421737.16	-4421736.95	0.0132	0.0048

Saturn	-16819-03-21 03:21 J	-4421637.50	-4421637.36	-4421637.19	0.0266	0.0173
Uranus	-16819-07-25 14:09 J	-4421511.13	-4421510.91	-4421510.69	0.0132	0.0017
Uranus	-16818-03-08 19:55 J	-4421284.89	-4421284.67	-4421284.45	0.0132	0.0014
Uranus	-16818-10-21 01:26 J	-4421058.64	-4421058.44	-4421058.22	0.0132	0.0046
Uranus	-16817-06-03 06:57 J	-4420832.37	-4420832.21	-4420832.01	0.0132	0.0077
Jupiter	-16816-01-12 22:04 J	-4420608.63	-4420608.58	-4420608.51	0.0523	0.0502
Uranus	-16816-01-15 12:43 J	-4420606.08	-4420605.97	-4420605.82	0.0132	0.0107
Jupiter	-16816-09-07 19:40 J	-4420370.88	-4420370.68	-4420370.47	0.0527	0.0039
Jupiter	-16811-11-17 11:31 J	-4418474.14	-4418474.02	-4418473.90	0.0502	0.0394
Jupiter	-16810-07-11 15:21 J	-4418238.06	-4418237.86	-4418237.65	0.0498	0.0059
Neptune	-16808-07-04 12:00 J	-4417514.03	-4417514.00	-4417513.95	0.0088	0.0086
Neptune	-16807-02-15 01:11 J	-4417288.51	-4417288.45	-4417288.36	0.0088	0.0083
Neptune	-16807-09-28 14:38 J	-4417062.98	-4417062.89	-4417062.78	0.0088	0.0078
Neptune	-16806-05-12 04:04 J	-4416837.43	-4416837.33	-4416837.20	0.0088	0.0074
Neptune	-16806-12-23 17:31 J	-4416611.89	-4416611.77	-4416611.62	0.0088	0.0070
Neptune	-16805-08-05 06:43 J	-4416386.34	-4416386.22	-4416386.05	0.0088	0.0066
Saturn	-16805-08-24 07:40 J	-4416367.31	-4416367.18	-4416367.03	0.0291	0.0222
Neptune	-16804-03-18 20:38 J	-4416160.79	-4416160.64	-4416160.48	0.0088	0.0062
Saturn	-16804-04-11 11:31 J	-4416137.23	-4416137.02	-4416136.80	0.0294	0.0020
Jupiter	-16804-05-13 09:07 J	-4416105.32	-4416105.12	-4416104.92	0.0526	0.0117
Neptune	-16804-10-30 10:04 J	-4415935.24	-4415935.08	-4415934.90	0.0088	0.0057
Saturn	-16804-11-27 17:31 J	-4415906.93	-4415906.77	-4415906.60	0.0297	0.0191
Jupiter	-16803-01-06 05:45 J	-4415867.37	-4415867.26	-4415867.14	0.0528	0.0431
Neptune	-16803-06-12 23:16 J	-4415709.69	-4415709.53	-4415709.33	0.0088	0.0053
Neptune	-16802-01-24 13:11 J	-4415484.14	-4415483.95	-4415483.76	0.0088	0.0049
Neptune	-16802-09-07 02:09 J	-4415258.59	-4415258.41	-4415258.20	0.0088	0.0045
Neptune	-16801-04-19 15:36 J	-4415033.03	-4415032.85	-4415032.63	0.0088	0.0040
Neptune	-16801-12-01 05:16 J	-4414807.47	-4414807.28	-4414807.06	0.0088	0.0036
Neptune	-16800-07-14 18:43 J	-4414581.92	-4414581.72	-4414581.50	0.0088	0.0031
Neptune	-16799-02-25 08:23 J	-4414356.36	-4414356.15	-4414355.93	0.0088	0.0026

Neptune -16799-10-08 21:36 J -4414130.80 -4414130.60 -4414130.37 0.0088 0.0023
 Jupiter -16798-03-16 17:02 J -4413971.99 -4413971.79 -4413971.59 0.0500 0.0068
 Neptune -16798-05-22 11:16 J -4413905.24 -4413905.03 -4413904.80 0.0088 0.0018
 Jupiter -16798-11-07 21:07 J -4413735.74 -4413735.62 -4413735.48 0.0497 0.0383
 Mars -16798-11-16 03:50 J -4413727.47 -4413727.34 -4413727.20 0.1863 0.1183
 Neptune -16797-01-03 00:57 J -4413679.68 -4413679.46 -4413679.23 0.0088 0.0013
 Neptune -16797-08-15 14:38 J -4413454.12 -4413453.89 -4413453.67 0.0088 0.0008
 Mars -16797-10-28 01:26 J -4413380.48 -4413380.44 -4413380.40 0.1641 0.1593
 Neptune -16796-03-29 04:04 J -4413228.55 -4413228.33 -4413228.11 0.0088 0.0004
 Neptune -16796-11-09 17:45 J -4413002.98 -4413002.76 -4413002.54 0.0088 0.0001
 Neptune -16795-06-23 07:26 J -4412777.42 -4412777.19 -4412776.97 0.0088 0.0005
 Mars -16795-08-28 00:00 J -4412711.67 -4412711.50 -4412711.32 0.1652 0.0178
 Neptune -16794-02-03 20:52 J -4412551.85 -4412551.63 -4412551.40 0.0088 0.0010
 Neptune -16794-09-17 10:19 J -4412326.28 -4412326.07 -4412325.84 0.0088 0.0015
 Neptune -16793-04-29 23:45 J -4412100.71 -4412100.51 -4412100.28 0.0088 0.0020
 Neptune -16793-12-11 13:40 J -4411875.14 -4411874.93 -4411874.71 0.0088 0.0024
 Jupiter -16792-01-15 23:02 J -4411839.72 -4411839.54 -4411839.37 0.0524 0.0268
 Neptune -16792-07-25 03:07 J -4411649.57 -4411649.37 -4411649.14 0.0088 0.0029
 Jupiter -16792-09-10 19:40 J -4411601.85 -4411601.68 -4411601.50 0.0528 0.0280
 Saturn -16792-11-13 13:55 J -4411538.00 -4411537.92 -4411537.84 0.0272 0.0250
 Neptune -16791-03-07 16:48 J -4411424.00 -4411423.80 -4411423.58 0.0088 0.0033
 Saturn -16791-06-30 14:09 J -4411309.10 -4411308.91 -4411308.71 0.0269 0.0097
 Neptune -16791-10-19 06:14 J -4411198.43 -4411198.24 -4411198.02 0.0088 0.0038
 Saturn -16790-02-14 12:57 J -4411080.17 -4411079.96 -4411079.76 0.0267 0.0052
 Neptune -16790-06-01 19:55 J -4410972.86 -4410972.67 -4410972.46 0.0088 0.0042
 Saturn -16790-10-01 10:04 J -4410851.22 -4410851.08 -4410850.94 0.0265 0.0196
 Neptune -16789-01-13 09:21 J -4410747.28 -4410747.11 -4410746.90 0.0088 0.0047
 Neptune -16789-08-25 23:02 J -4410521.71 -4410521.54 -4410521.34 0.0088 0.0051
 Neptune -16788-04-08 12:57 J -4410296.14 -4410295.96 -4410295.79 0.0088 0.0055
 Neptune -16788-11-20 02:09 J -4410070.56 -4410070.41 -4410070.23 0.0088 0.0060

Neptune	-16787-07-03 15:50 J	-4409844.98	-4409844.84	-4409844.67	0.0088	0.0064
Jupiter	-16787-11-19 18:43 J	-4409705.90	-4409705.72	-4409705.53	0.0501	0.0195
Neptune	-16786-02-14 05:45 J	-4409619.40	-4409619.26	-4409619.12	0.0089	0.0068
Jupiter	-16786-07-13 23:16 J	-4409469.70	-4409469.53	-4409469.36	0.0498	0.0261
Neptune	-16786-09-27 18:43 J	-4409393.82	-4409393.72	-4409393.57	0.0089	0.0073
Neptune	-16785-05-10 08:23 J	-4409168.24	-4409168.15	-4409168.02	0.0089	0.0077
Neptune	-16785-12-21 22:19 J	-4408942.64	-4408942.57	-4408942.47	0.0089	0.0081
Neptune	-16784-08-04 12:14 J	-4408717.05	-4408716.99	-4408716.93	0.0089	0.0085
Jupiter	-16781-09-20 11:45 J	-4407574.13	-4407574.01	-4407573.88	0.0523	0.0418
Jupiter	-16780-05-16 08:38 J	-4407336.34	-4407336.14	-4407335.95	0.0527	0.0126
Uranus	-16779-11-03 04:04 J	-4406800.37	-4406800.33	-4406800.28	0.0146	0.0142
Uranus	-16778-06-17 15:21 J	-4406574.00	-4406573.86	-4406573.69	0.0146	0.0102
Uranus	-16777-01-30 03:21 J	-4406347.56	-4406347.36	-4406347.17	0.0146	0.0061
Uranus	-16777-09-12 14:52 J	-4406121.09	-4406120.88	-4406120.67	0.0146	0.0021
Uranus	-16776-04-27 02:38 J	-4405894.61	-4405894.39	-4405894.18	0.0146	0.0020
Uranus	-16776-12-09 14:09 J	-4405668.10	-4405667.91	-4405667.71	0.0146	0.0061
Saturn	-16775-03-06 18:14 J	-4405580.89	-4405580.74	-4405580.56	0.0292	0.0189
Uranus	-16775-07-24 02:09 J	-4405441.56	-4405441.41	-4405441.25	0.0146	0.0102
Jupiter	-16775-07-25 20:52 J	-4405439.78	-4405439.63	-4405439.47	0.0502	0.0320
Saturn	-16775-10-22 22:33 J	-4405350.78	-4405350.56	-4405350.35	0.0295	0.0017
Uranus	-16774-03-07 13:40 J	-4405214.95	-4405214.93	-4405214.87	0.0146	0.0143
Jupiter	-16774-03-19 01:11 J	-4405203.64	-4405203.45	-4405203.25	0.0498	0.0137
Saturn	-16774-06-10 04:33 J	-4405120.44	-4405120.31	-4405120.17	0.0297	0.0228
Jupiter	-16768-01-18 23:02 J	-4403070.74	-4403070.54	-4403070.33	0.0526	0.0029
Jupiter	-16768-09-13 20:09 J	-4402832.69	-4402832.66	-4402832.62	0.0529	0.0518
Mars	-16766-11-16 00:00 J	-4402039.68	-4402039.50	-4402039.33	0.1870	0.0356
Jupiter	-16763-03-30 22:04 J	-4401173.66	-4401173.58	-4401173.48	0.0502	0.0445
Mars	-16763-08-26 18:57 J	-4401024.86	-4401024.71	-4401024.55	0.1647	0.0685
Jupiter	-16763-11-22 02:09 J	-4400937.61	-4400937.41	-4400937.20	0.0499	0.0013
Pluto	-16762-02-04 08:09 J	-4400863.38	-4400863.16	-4400862.94	0.0080	0.0017

Saturn	-16762-05-26 19:26 J	-4400751.80	-4400751.69	-4400751.57	0.0271	0.0226
Jupiter	-16762-07-16 05:45 J	-4400701.33	-4400701.26	-4400701.17	0.0497	0.0455
Pluto	-16762-09-17 18:43 J	-4400637.88	-4400637.72	-4400637.54	0.0079	0.0052
Saturn	-16761-01-10 19:26 J	-4400522.89	-4400522.69	-4400522.48	0.0269	0.0073
Mars	-16761-06-25 15:50 J	-4400355.96	-4400355.84	-4400355.71	0.1659	0.1141
Saturn	-16761-08-26 17:45 J	-4400293.96	-4400293.76	-4400293.56	0.0267	0.0077
Saturn	-16760-04-12 14:38 J	-4400065.00	-4400064.89	-4400064.77	0.0265	0.0220
Jupiter	-16757-09-23 13:26 J	-4398805.13	-4398804.94	-4398804.75	0.0526	0.0180
Jupiter	-16756-05-19 11:02 J	-4398567.18	-4398567.04	-4398566.89	0.0529	0.0371
Jupiter	-16751-07-28 04:04 J	-4396671.53	-4396671.33	-4396671.13	0.0500	0.0119
Jupiter	-16750-03-21 07:40 J	-4396435.33	-4396435.18	-4396435.03	0.0497	0.0334
Saturn	-16746-09-17 04:48 J	-4394794.48	-4394794.30	-4394794.12	0.0292	0.0156
Saturn	-16745-05-04 09:07 J	-4394564.33	-4394564.12	-4394563.91	0.0295	0.0050
Jupiter	-16745-05-29 03:21 J	-4394539.52	-4394539.36	-4394539.20	0.0524	0.0331
Saturn	-16745-12-20 15:50 J	-4394333.93	-4394333.84	-4394333.74	0.0297	0.0262
Jupiter	-16744-01-22 00:28 J	-4394301.66	-4394301.48	-4394301.29	0.0528	0.0218
Jupiter	-16739-04-02 04:48 J	-4392405.47	-4392405.30	-4392405.12	0.0501	0.0247
Jupiter	-16739-11-24 09:07 J	-4392169.30	-4392169.12	-4392168.94	0.0498	0.0210
Uranus	-16737-05-15 05:02 J	-4391631.35	-4391631.29	-4391631.21	0.0133	0.0125
Uranus	-16737-12-27 11:16 J	-4391405.18	-4391405.03	-4391404.87	0.0132	0.0094
Uranus	-16736-08-10 17:02 J	-4391178.97	-4391178.79	-4391178.58	0.0132	0.0063
Uranus	-16735-03-24 23:02 J	-4390952.75	-4390952.54	-4390952.32	0.0132	0.0031
Uranus	-16735-11-06 04:48 J	-4390726.52	-4390726.30	-4390726.07	0.0132	0.0002
Uranus	-16734-06-20 10:33 J	-4390500.27	-4390500.06	-4390499.84	0.0132	0.0031
Uranus	-16733-02-01 16:19 J	-4390274.01	-4390273.82	-4390273.62	0.0132	0.0062
Jupiter	-16733-02-01 18:00 J	-4390273.83	-4390273.75	-4390273.67	0.0523	0.0476 *
Uranus	-16733-09-14 22:19 J	-4390047.73	-4390047.57	-4390047.42	0.0132	0.0093
Jupiter	-16733-09-26 14:23 J	-4390036.10	-4390035.90	-4390035.69	0.0527	0.0065
Saturn	-16733-12-06 02:38 J	-4389965.53	-4389965.39	-4389965.25	0.0271	0.0199
Uranus	-16732-04-29 03:36 J	-4389821.42	-4389821.35	-4389821.26	0.0132	0.0124

Saturn	-16732-07-23 02:23 J	-4389736.60	-4389736.40	-4389736.19	0.0268	0.0047
Mars	-16732-09-12 07:55 J	-4389685.28	-4389685.17	-4389685.06	0.1860	0.1427
Saturn	-16731-03-09 00:28 J	-4389507.67	-4389507.48	-4389507.29	0.0266	0.0101
Mars	-16731-08-25 13:26 J	-4389338.00	-4389337.94	-4389337.88	0.1642	0.1516
Saturn	-16731-10-23 21:07 J	-4389278.70	-4389278.62	-4389278.54	0.0264	0.0244
Mars	-16729-06-24 12:00 J	-4388669.17	-4388669.00	-4388668.83	0.1654	0.0256
Jupiter	-16728-12-06 06:14 J	-4388139.37	-4388139.24	-4388139.10	0.0502	0.0373
Jupiter	-16727-07-30 11:02 J	-4387903.24	-4387903.04	-4387902.84	0.0499	0.0086
Neptune	-16726-01-09 00:00 J	-4387740.51	-4387740.50	-4387740.46	0.0089	0.0089
Neptune	-16726-08-22 12:28 J	-4387515.03	-4387514.98	-4387514.89	0.0089	0.0085
Neptune	-16725-04-04 01:11 J	-4387289.52	-4387289.45	-4387289.34	0.0089	0.0081
Neptune	-16725-11-15 13:40 J	-4387064.02	-4387063.93	-4387063.79	0.0089	0.0077
Moon	-16724-05-07 19:40 J	-4386890.85	-4386890.68	-4386890.52	0.2692	0.0713
Earth	-16724-05-08 00:43 J	-4386890.59	-4386890.47	-4386890.34	0.2696	0.1658 *
Neptune	-16724-06-29 02:52 J	-4386838.50	-4386838.38	-4386838.25	0.0089	0.0072
Neptune	-16723-02-09 15:07 J	-4386612.99	-4386612.87	-4386612.71	0.0089	0.0068
Neptune	-16723-09-23 03:36 J	-4386387.48	-4386387.35	-4386387.17	0.0089	0.0064
Neptune	-16722-05-06 16:33 J	-4386161.96	-4386161.81	-4386161.64	0.0089	0.0059
Neptune	-16722-12-18 05:02 J	-4385936.45	-4385936.29	-4385936.10	0.0089	0.0055
Jupiter	-16721-06-01 03:07 J	-4385770.57	-4385770.37	-4385770.17	0.0526	0.0092
Neptune	-16721-07-30 17:31 J	-4385710.93	-4385710.77	-4385710.57	0.0089	0.0050
Jupiter	-16720-01-24 23:45 J	-4385532.60	-4385532.51	-4385532.40	0.0528	0.0456
Neptune	-16720-03-13 06:14 J	-4385485.41	-4385485.24	-4385485.04	0.0089	0.0046
Neptune	-16720-10-24 18:43 J	-4385259.89	-4385259.72	-4385259.51	0.0089	0.0041
Neptune	-16719-06-07 07:40 J	-4385034.37	-4385034.18	-4385033.97	0.0089	0.0036
Neptune	-16718-01-18 20:09 J	-4384808.85	-4384808.66	-4384808.45	0.0089	0.0032
Neptune	-16718-09-01 08:52 J	-4384583.33	-4384583.13	-4384582.92	0.0089	0.0027
Neptune	-16717-04-13 21:21 J	-4384357.81	-4384357.61	-4384357.39	0.0089	0.0023
Neptune	-16717-11-25 10:04 J	-4384132.29	-4384132.08	-4384131.87	0.0089	0.0018
Saturn	-16716-03-29 15:21 J	-4384008.05	-4384007.86	-4384007.66	0.0293	0.0121

Earth	-16716-05-05 12:43 J	-4383971.05	-4383970.97	-4383970.89	0.2694	0.2344
Neptune	-16716-07-08 22:48 J	-4383906.76	-4383906.55	-4383906.34	0.0089	0.0014
Jupiter	-16716-08-11 08:23 J	-4383873.18	-4383873.15	-4383873.12	0.0504	0.0496
Saturn	-16716-11-14 20:09 J	-4383777.86	-4383777.66	-4383777.45	0.0296	0.0088
Neptune	-16715-02-19 11:16 J	-4383681.24	-4383681.03	-4383680.81	0.0089	0.0009
Jupiter	-16715-04-04 13:11 J	-4383637.15	-4383636.95	-4383636.75	0.0500	0.0042
Neptune	-16715-10-02 23:45 J	-4383455.72	-4383455.51	-4383455.29	0.0089	0.0005
Jupiter	-16715-11-26 17:16 J	-4383400.89	-4383400.78	-4383400.66	0.0497	0.0410
Neptune	-16714-05-16 12:14 J	-4383230.20	-4383229.99	-4383229.77	0.0089	0.0002
Neptune	-16714-12-28 00:43 J	-4383004.68	-4383004.47	-4383004.25	0.0089	0.0005
Neptune	-16713-08-09 13:11 J	-4382779.16	-4382778.95	-4382778.73	0.0089	0.0009
Neptune	-16712-03-23 01:26 J	-4382553.64	-4382553.44	-4382553.22	0.0089	0.0015
Neptune	-16712-11-03 14:09 J	-4382328.12	-4382327.91	-4382327.70	0.0089	0.0018
Neptune	-16711-06-17 02:38 J	-4382102.59	-4382102.39	-4382102.18	0.0089	0.0023
Neptune	-16710-01-28 15:07 J	-4381877.07	-4381876.87	-4381876.66	0.0089	0.0028
Neptune	-16710-09-11 03:21 J	-4381651.55	-4381651.36	-4381651.15	0.0089	0.0032
Jupiter	-16709-02-04 17:31 J	-4381504.95	-4381504.77	-4381504.59	0.0525	0.0244
Neptune	-16709-04-23 15:36 J	-4381426.03	-4381425.85	-4381425.64	0.0089	0.0037
Jupiter	-16709-09-29 14:38 J	-4381267.05	-4381266.89	-4381266.72	0.0528	0.0308
Neptune	-16709-12-05 04:04 J	-4381200.51	-4381200.33	-4381200.12	0.0089	0.0041
Neptune	-16708-07-18 17:02 J	-4380974.98	-4380974.79	-4380974.61	0.0089	0.0045
Neptune	-16707-03-01 05:02 J	-4380749.45	-4380749.29	-4380749.09	0.0089	0.0050
Neptune	-16707-10-12 17:45 J	-4380523.93	-4380523.76	-4380523.58	0.0089	0.0054
Neptune	-16706-05-26 06:00 J	-4380298.40	-4380298.25	-4380298.07	0.0089	0.0059
Neptune	-16705-01-06 18:28 J	-4380072.87	-4380072.73	-4380072.56	0.0089	0.0063
Neptune	-16705-08-19 07:11 J	-4379847.33	-4379847.20	-4379847.05	0.0089	0.0067
Neptune	-16704-04-01 19:11 J	-4379621.80	-4379621.70	-4379621.55	0.0089	0.0072
Neptune	-16704-11-13 07:40 J	-4379396.27	-4379396.18	-4379396.04	0.0089	0.0076
Jupiter	-16704-12-08 14:52 J	-4379371.07	-4379370.88	-4379370.69	0.0500	0.0170
Saturn	-16703-06-18 08:09 J	-4379179.31	-4379179.16	-4379179.00	0.0270	0.0175

Neptune	-16703-06-26 20:23 J	-4379170.72	-4379170.65	-4379170.54	0.0089	0.0080
Jupiter	-16703-08-01 18:28 J	-4379134.89	-4379134.73	-4379134.56	0.0497	0.0285
Saturn	-16702-02-02 07:40 J	-4378950.39	-4378950.18	-4378949.98	0.0268	0.0023
Neptune	-16702-02-07 08:52 J	-4378945.18	-4378945.13	-4378945.04	0.0089	0.0084
Saturn	-16702-09-19 05:16 J	-4378721.46	-4378721.28	-4378721.09	0.0266	0.0125
Neptune	-16702-09-20 21:21 J	-4378719.62	-4378719.61	-4378719.57	0.0089	0.0088
Mars	-16700-09-12 04:04 J	-4377997.51	-4377997.33	-4377997.16	0.1868	0.0111
Jupiter	-16698-10-10 07:40 J	-4377239.32	-4377239.18	-4377239.05	0.0524	0.0394
Jupiter	-16697-06-04 05:02 J	-4377001.48	-4377001.29	-4377001.09	0.0528	0.0155
Mars	-16697-06-23 06:57 J	-4376982.37	-4376982.21	-4376982.05	0.1649	0.0602
Mars	-16695-04-23 03:36 J	-4376313.46	-4376313.35	-4376313.23	0.1661	0.1226
Uranus	-16694-02-14 22:19 J	-4376015.67	-4376015.57	-4376015.43	0.0146	0.0121
Uranus	-16694-09-29 10:04 J	-4375789.25	-4375789.08	-4375788.89	0.0146	0.0080
Uranus	-16693-05-12 21:50 J	-4375562.80	-4375562.59	-4375562.38	0.0146	0.0039
Uranus	-16693-12-25 09:36 J	-4375336.32	-4375336.10	-4375335.89	0.0146	0.0002
Uranus	-16692-08-08 21:21 J	-4375109.81	-4375109.61	-4375109.40	0.0146	0.0043
Jupiter	-16692-08-13 16:33 J	-4375104.97	-4375104.81	-4375104.64	0.0501	0.0297
Uranus	-16691-03-23 09:07 J	-4374883.29	-4374883.12	-4374882.93	0.0146	0.0084
Jupiter	-16691-04-06 20:23 J	-4374868.84	-4374868.65	-4374868.46	0.0498	0.0160
Uranus	-16691-11-04 20:38 J	-4374656.73	-4374656.64	-4374656.51	0.0146	0.0125
Saturn	-16687-02-21 21:36 J	-4373451.61	-4373451.60	-4373451.59	0.0290	0.0290
Saturn	-16687-10-10 00:28 J	-4373221.69	-4373221.48	-4373221.28	0.0293	0.0091
Saturn	-16686-05-28 05:31 J	-4372991.46	-4372991.27	-4372991.07	0.0296	0.0118
Jupiter	-16685-02-07 19:11 J	-4372735.91	-4372735.70	-4372735.50	0.0526	0.0002
Jupiter	-16680-04-18 16:33 J	-4370838.92	-4370838.81	-4370838.70	0.0503	0.0424
Jupiter	-16680-12-10 21:21 J	-4370602.82	-4370602.61	-4370602.41	0.0499	0.0034
Jupiter	-16679-08-04 01:26 J	-4370366.47	-4370366.44	-4370366.38	0.0497	0.0483
Jupiter	-16674-10-13 09:36 J	-4368470.30	-4368470.10	-4368469.91	0.0525	0.0152
Saturn	-16674-12-29 15:07 J	-4368393.04	-4368392.87	-4368392.69	0.0270	0.0148
Jupiter	-16673-06-07 06:14 J	-4368232.38	-4368232.24	-4368232.11	0.0528	0.0398

Saturn	-16673-08-14 14:09 J	-4368164.12	-4368163.91	-4368163.70	0.0268	0.0005
Saturn	-16672-03-31 11:45 J	-4367935.18	-4367935.01	-4367934.84	0.0266	0.0150
Jupiter	-16668-08-15 23:16 J	-4366336.73	-4366336.53	-4366336.33	0.0500	0.0094
Mars	-16668-09-12 01:40 J	-4366309.50	-4366309.43	-4366309.35	0.1875	0.1698
Jupiter	-16667-04-09 03:36 J	-4366100.48	-4366100.35	-4366100.21	0.0498	0.0362
Mars	-16666-07-10 12:00 J	-4365643.08	-4365643.00	-4365642.93	0.1857	0.1664
Mars	-16665-06-22 01:26 J	-4365295.52	-4365295.44	-4365295.36	0.1644	0.1439
Mars	-16663-04-21 23:31 J	-4364626.69	-4364626.52	-4364626.35	0.1655	0.0343
Jupiter	-16662-06-17 22:19 J	-4364204.73	-4364204.57	-4364204.40	0.0524	0.0306
Jupiter	-16661-02-10 19:11 J	-4363966.88	-4363966.70	-4363966.52	0.0527	0.0245
Saturn	-16658-09-04 07:26 J	-4362665.29	-4362665.19	-4362665.09	0.0291	0.0258
Saturn	-16657-04-21 10:33 J	-4362435.27	-4362435.06	-4362434.84	0.0294	0.0056
Saturn	-16657-12-07 16:19 J	-4362205.00	-4362204.82	-4362204.64	0.0297	0.0155
Jupiter	-16656-04-21 01:26 J	-4362070.62	-4362070.44	-4362070.26	0.0501	0.0221
Jupiter	-16656-12-13 05:45 J	-4361834.44	-4361834.26	-4361834.08	0.0498	0.0238
Uranus	-16653-08-26 19:40 J	-4360846.81	-4360846.68	-4360846.56	0.0132	0.0109
Uranus	-16652-04-10 01:26 J	-4360620.62	-4360620.44	-4360620.26	0.0132	0.0078
Uranus	-16652-11-22 07:11 J	-4360394.40	-4360394.20	-4360393.99	0.0132	0.0047
Uranus	-16651-07-06 13:11 J	-4360168.17	-4360167.95	-4360167.73	0.0132	0.0015
Uranus	-16650-02-17 18:57 J	-4359941.93	-4359941.71	-4359941.49	0.0132	0.0016
Jupiter	-16650-02-20 12:43 J	-4359939.07	-4359938.97	-4359938.87	0.0523	0.0453
Uranus	-16650-10-02 00:28 J	-4359715.68	-4359715.48	-4359715.26	0.0132	0.0047
Jupiter	-16650-10-16 09:36 J	-4359701.30	-4359701.10	-4359700.90	0.0527	0.0092
Uranus	-16649-05-15 06:00 J	-4359489.41	-4359489.25	-4359489.06	0.0132	0.0079
Uranus	-16649-12-27 11:31 J	-4359263.12	-4359263.02	-4359262.87	0.0132	0.0110
Jupiter	-16645-12-25 03:21 J	-4357804.50	-4357804.36	-4357804.21	0.0502	0.0347
Saturn	-16644-07-10 20:09 J	-4357606.84	-4357606.66	-4357606.47	0.0269	0.0125
Jupiter	-16644-08-18 07:40 J	-4357568.38	-4357568.18	-4357567.98	0.0498	0.0112
Saturn	-16643-02-24 18:57 J	-4357377.92	-4357377.71	-4357377.50	0.0267	0.0026
Neptune	-16643-05-19 12:43 J	-4357294.00	-4357293.97	-4357293.91	0.0088	0.0086

Saturn	-16643-10-11 16:04 J	-4357148.98	-4357148.83	-4357148.67	0.0265	0.0172
Neptune	-16643-12-31 02:09 J	-4357068.47	-4357068.41	-4357068.32	0.0088	0.0082
Neptune	-16642-08-13 15:21 J	-4356842.94	-4356842.86	-4356842.74	0.0088	0.0078
Neptune	-16641-03-26 05:16 J	-4356617.40	-4356617.28	-4356617.16	0.0088	0.0074
Neptune	-16641-11-06 18:28 J	-4356391.85	-4356391.73	-4356391.58	0.0088	0.0070
Neptune	-16640-06-20 07:55 J	-4356166.30	-4356166.17	-4356166.00	0.0088	0.0065
Neptune	-16639-01-31 21:36 J	-4355940.75	-4355940.60	-4355940.43	0.0088	0.0061
Neptune	-16639-09-14 10:48 J	-4355715.21	-4355715.05	-4355714.86	0.0088	0.0056
Neptune	-16638-04-28 00:00 J	-4355489.65	-4355489.50	-4355489.29	0.0088	0.0053
Jupiter	-16638-06-20 23:45 J	-4355435.71	-4355435.51	-4355435.31	0.0526	0.0063
Neptune	-16638-12-09 13:55 J	-4355264.10	-4355263.92	-4355263.72	0.0088	0.0047
Jupiter	-16637-02-13 21:21 J	-4355197.68	-4355197.61	-4355197.53	0.0529	0.0488
Neptune	-16637-07-22 03:07 J	-4355038.54	-4355038.37	-4355038.15	0.0088	0.0044
Neptune	-16636-03-04 16:48 J	-4354812.99	-4354812.80	-4354812.59	0.0088	0.0038
Neptune	-16636-10-16 06:28 J	-4354587.43	-4354587.23	-4354587.02	0.0088	0.0034
Neptune	-16635-05-29 19:40 J	-4354361.88	-4354361.68	-4354361.45	0.0088	0.0030
Neptune	-16634-01-10 09:21 J	-4354136.32	-4354136.11	-4354135.89	0.0088	0.0024
Mars	-16634-07-10 07:26 J	-4353955.37	-4353955.19	-4353955.02	0.1865	0.0160
Neptune	-16634-08-23 22:48 J	-4353910.76	-4353910.55	-4353910.32	0.0088	0.0020
Neptune	-16633-04-05 12:14 J	-4353685.20	-4353684.99	-4353684.76	0.0088	0.0015
Jupiter	-16633-08-30 05:16 J	-4353538.35	-4353538.28	-4353538.21	0.0503	0.0471
Neptune	-16633-11-17 01:55 J	-4353459.64	-4353459.42	-4353459.19	0.0088	0.0011
Jupiter	-16632-04-23 09:36 J	-4353302.30	-4353302.10	-4353301.89	0.0499	0.0017
Neptune	-16632-06-30 15:36 J	-4353234.07	-4353233.85	-4353233.62	0.0088	0.0006
Jupiter	-16632-12-15 13:26 J	-4353066.04	-4353065.94	-4353065.84	0.0497	0.0435
Neptune	-16631-02-11 05:02 J	-4353008.51	-4353008.29	-4353008.06	0.0088	0.0002
Mars	-16631-04-20 18:57 J	-4352939.88	-4352939.71	-4352939.55	0.1650	0.0524
Neptune	-16631-09-24 18:43 J	-4352782.95	-4352782.72	-4352782.50	0.0088	0.0004
Neptune	-16630-05-08 08:09 J	-4352557.38	-4352557.16	-4352556.93	0.0088	0.0008
Neptune	-16630-12-19 21:50 J	-4352331.81	-4352331.59	-4352331.36	0.0088	0.0013

Mars	-16629-02-18 14:52 J	-4352270.98	-4352270.88	-4352270.78	0.1663	0.1320
Neptune	-16629-08-01 11:31 J	-4352106.24	-4352106.02	-4352105.80	0.0088	0.0018
Neptune	-16628-03-15 00:57 J	-4351880.67	-4351880.46	-4351880.23	0.0088	0.0023
Saturn	-16628-03-16 14:52 J	-4351879.01	-4351878.88	-4351878.75	0.0291	0.0230
Neptune	-16628-10-26 14:23 J	-4351655.10	-4351654.90	-4351654.67	0.0088	0.0028
Saturn	-16628-11-01 18:28 J	-4351648.95	-4351648.73	-4351648.52	0.0294	0.0028
Neptune	-16627-06-09 04:19 J	-4351429.52	-4351429.32	-4351429.11	0.0088	0.0032
Saturn	-16627-06-20 00:00 J	-4351418.66	-4351418.50	-4351418.32	0.0296	0.0184
Neptune	-16626-01-20 17:45 J	-4351203.95	-4351203.76	-4351203.54	0.0088	0.0037
Jupiter	-16626-02-23 14:38 J	-4351170.08	-4351169.89	-4351169.70	0.0525	0.0214
Neptune	-16626-09-03 07:11 J	-4350978.38	-4350978.20	-4350977.98	0.0088	0.0042
Jupiter	-16626-10-19 11:45 J	-4350932.17	-4350932.01	-4350931.86	0.0528	0.0339
Neptune	-16625-04-15 21:07 J	-4350752.80	-4350752.62	-4350752.42	0.0088	0.0046
Neptune	-16625-11-27 10:33 J	-4350527.22	-4350527.06	-4350526.86	0.0088	0.0051
Neptune	-16624-07-11 00:28 J	-4350301.65	-4350301.48	-4350301.30	0.0088	0.0055
Neptune	-16623-02-21 13:55 J	-4350076.07	-4350075.92	-4350075.74	0.0088	0.0060
Neptune	-16623-10-05 03:36 J	-4349850.49	-4349850.35	-4349850.19	0.0088	0.0064
Neptune	-16622-05-18 16:48 J	-4349624.92	-4349624.80	-4349624.63	0.0088	0.0069
Neptune	-16622-12-30 06:43 J	-4349399.33	-4349399.22	-4349399.08	0.0089	0.0073
Neptune	-16621-08-11 20:38 J	-4349173.74	-4349173.64	-4349173.53	0.0089	0.0077
Jupiter	-16621-12-27 09:50 J	-4349036.28	-4349036.09	-4349035.89	0.0501	0.0145
Neptune	-16620-03-25 09:50 J	-4348948.16	-4348948.09	-4348947.99	0.0089	0.0082
Jupiter	-16620-08-20 14:23 J	-4348800.06	-4348799.90	-4348799.74	0.0498	0.0314
Neptune	-16620-11-05 23:31 J	-4348722.56	-4348722.52	-4348722.45	0.0089	0.0086
Saturn	-16615-06-06 02:09 J	-4347049.48	-4347049.41	-4347049.34	0.0272	0.0253
Jupiter	-16615-10-29 05:31 J	-4346904.41	-4346904.27	-4346904.12	0.0523	0.0363
Saturn	-16614-01-21 02:09 J	-4346820.60	-4346820.41	-4346820.21	0.0269	0.0100
Jupiter	-16614-06-24 02:09 J	-4346666.60	-4346666.41	-4346666.22	0.0527	0.0187
Saturn	-16614-09-07 00:43 J	-4346591.67	-4346591.47	-4346591.26	0.0267	0.0051
Saturn	-16613-04-22 21:36 J	-4346362.73	-4346362.60	-4346362.46	0.0265	0.0196

Uranus	-16611-10-15 03:21 J	-4345457.39	-4345457.36	-4345457.29	0.0146	0.0142
Uranus	-16610-05-29 15:07 J	-4345231.01	-4345230.87	-4345230.71	0.0146	0.0101
Uranus	-16609-01-11 02:52 J	-4345004.57	-4345004.38	-4345004.18	0.0146	0.0060
Uranus	-16609-08-24 14:38 J	-4344778.10	-4344777.89	-4344777.67	0.0146	0.0020
Jupiter	-16609-09-01 11:45 J	-4344770.18	-4344770.01	-4344769.84	0.0502	0.0272
Uranus	-16608-04-08 02:23 J	-4344551.61	-4344551.40	-4344551.18	0.0146	0.0022
Jupiter	-16608-04-25 16:33 J	-4344534.00	-4344533.81	-4344533.63	0.0499	0.0189
Uranus	-16608-11-20 14:09 J	-4344325.10	-4344324.91	-4344324.71	0.0146	0.0063
Uranus	-16607-07-05 02:09 J	-4344098.56	-4344098.41	-4344098.26	0.0146	0.0104
Uranus	-16606-02-16 13:55 J	-4343871.93	-4343871.92	-4343871.90	0.0146	0.0145
Pluto	-16603-02-13 19:11 J	-4342778.83	-4342778.70	-4342778.54	0.0064	0.0048
Jupiter	-16603-07-03 18:57 J	-4342638.75	-4342638.71	-4342638.67	0.0522	0.0510
Pluto	-16603-09-26 23:02 J	-4342553.75	-4342553.54	-4342553.32	0.0064	0.0014
Jupiter	-16602-02-26 15:21 J	-4342401.07	-4342400.86	-4342400.66	0.0526	0.0031
Pluto	-16602-05-10 02:23 J	-4342328.58	-4342328.40	-4342328.17	0.0064	0.0022
Mars	-16602-07-10 05:16 J	-4342267.39	-4342267.28	-4342267.17	0.1873	0.1437
Pluto	-16602-12-21 06:43 J	-4342103.32	-4342103.22	-4342103.11	0.0065	0.0056
Mars	-16599-04-19 13:40 J	-4341253.02	-4341252.93	-4341252.83	0.1645	0.1368
Saturn	-16599-09-26 22:48 J	-4341092.70	-4341092.55	-4341092.39	0.0292	0.0200
Saturn	-16598-05-15 02:52 J	-4340862.60	-4340862.38	-4340862.17	0.0295	0.0005
Saturn	-16598-12-31 09:07 J	-4340632.26	-4340632.12	-4340631.97	0.0297	0.0218
Mars	-16597-02-17 11:16 J	-4340584.20	-4340584.03	-4340583.87	0.1657	0.0428
Jupiter	-16597-05-07 13:55 J	-4340504.04	-4340503.92	-4340503.80	0.0503	0.0398
Jupiter	-16597-12-29 18:43 J	-4340267.92	-4340267.72	-4340267.51	0.0499	0.0064
Jupiter	-16591-11-01 05:31 J	-4338135.47	-4338135.27	-4338135.07	0.0525	0.0124
Jupiter	-16590-06-27 02:23 J	-4337897.52	-4337897.40	-4337897.28	0.0528	0.0428
Earth	-16587-11-02 02:38 J	-4336673.54	-4336673.39	-4336673.23	0.2639	0.0211
Moon	-16587-11-02 06:28 J	-4336673.38	-4336673.23	-4336673.08	0.2643	0.0153 *
Saturn	-16586-12-17 06:28 J	-4336263.33	-4336263.23	-4336263.11	0.0271	0.0230
Saturn	-16585-08-02 06:43 J	-4336034.42	-4336034.22	-4336034.02	0.0269	0.0077

Jupiter	-16585-09-03 21:21 J	-4336001.81	-4336001.61	-4336001.41	0.0500	0.0064
Saturn	-16584-03-19 04:48 J	-4335805.50	-4335805.30	-4335805.10	0.0266	0.0073
Jupiter	-16584-04-28 01:11 J	-4335765.57	-4335765.45	-4335765.32	0.0497	0.0390
Saturn	-16584-11-03 01:26 J	-4335576.55	-4335576.44	-4335576.31	0.0265	0.0217
Jupiter	-16579-07-06 19:40 J	-4333869.85	-4333869.68	-4333869.50	0.0524	0.0277
Jupiter	-16578-03-01 17:16 J	-4333631.95	-4333631.78	-4333631.60	0.0528	0.0279
Jupiter	-16573-05-09 23:31 J	-4331735.71	-4331735.52	-4331735.34	0.0501	0.0192
Jupiter	-16572-01-01 03:21 J	-4331499.53	-4331499.36	-4331499.19	0.0498	0.0267
Saturn	-16569-04-08 04:33 J	-4330306.48	-4330306.31	-4330306.13	0.0292	0.0175
Uranus	-16569-04-26 03:36 J	-4330288.41	-4330288.35	-4330288.26	0.0132	0.0124
Saturn	-16569-11-24 08:52 J	-4330076.34	-4330076.13	-4330075.91	0.0295	0.0031
Uranus	-16569-12-08 09:36 J	-4330062.24	-4330062.10	-4330061.93	0.0132	0.0093
Mars	-16568-05-06 12:00 J	-4329913.18	-4329913.00	-4329912.83	0.1863	0.0392
Saturn	-16568-07-12 15:07 J	-4329845.98	-4329845.87	-4329845.74	0.0297	0.0244
Uranus	-16568-07-22 15:50 J	-4329836.03	-4329835.84	-4329835.64	0.0132	0.0062
Uranus	-16567-03-05 21:36 J	-4329609.81	-4329609.60	-4329609.38	0.0132	0.0030
Jupiter	-16567-03-11 11:31 J	-4329604.14	-4329604.02	-4329603.90	0.0523	0.0422
Uranus	-16567-10-18 03:21 J	-4329383.58	-4329383.36	-4329383.13	0.0132	0.0003
Jupiter	-16567-11-04 08:09 J	-4329366.35	-4329366.16	-4329365.96	0.0527	0.0128
Uranus	-16566-06-01 09:07 J	-4329157.33	-4329157.12	-4329156.90	0.0132	0.0032
Uranus	-16565-01-13 14:52 J	-4328931.07	-4328930.88	-4328930.68	0.0132	0.0063
Mars	-16565-02-16 06:28 J	-4328897.39	-4328897.23	-4328897.06	0.1652	0.0442
Uranus	-16565-08-26 20:23 J	-4328704.80	-4328704.65	-4328704.49	0.0132	0.0094
Uranus	-16564-04-10 01:40 J	-4328478.48	-4328478.43	-4328478.34	0.0132	0.0126
Mars	-16564-12-16 02:09 J	-4328228.49	-4328228.41	-4328228.31	0.1665	0.1410
Neptune	-16562-11-24 00:57 J	-4327520.47	-4327520.46	-4327520.42	0.0089	0.0089
Jupiter	-16561-01-13 23:02 J	-4327469.69	-4327469.54	-4327469.38	0.0502	0.0322
Neptune	-16561-07-06 13:26 J	-4327294.99	-4327294.94	-4327294.85	0.0089	0.0085
Jupiter	-16561-09-06 03:50 J	-4327233.53	-4327233.34	-4327233.14	0.0499	0.0141
Neptune	-16560-02-17 02:38 J	-4327069.49	-4327069.39	-4327069.30	0.0089	0.0080

Neptune	-16560-09-30 14:52 J	-4326843.98	-4326843.88	-4326843.75	0.0089	0.0076
Neptune	-16559-05-14 03:21 J	-4326618.46	-4326618.36	-4326618.20	0.0089	0.0072
Neptune	-16559-12-25 16:19 J	-4326392.95	-4326392.82	-4326392.66	0.0089	0.0067
Neptune	-16558-08-08 04:48 J	-4326167.44	-4326167.30	-4326167.13	0.0089	0.0062
Neptune	-16557-03-20 17:31 J	-4325941.92	-4325941.77	-4325941.60	0.0089	0.0058
Neptune	-16557-11-01 06:00 J	-4325716.41	-4325716.25	-4325716.06	0.0089	0.0053
Neptune	-16556-06-14 18:57 J	-4325490.89	-4325490.71	-4325490.52	0.0089	0.0048
Saturn	-16556-06-28 12:00 J	-4325477.12	-4325477.00	-4325476.85	0.0271	0.0206
Neptune	-16555-01-26 07:11 J	-4325265.37	-4325265.20	-4325264.99	0.0089	0.0044
Saturn	-16555-02-12 11:45 J	-4325248.21	-4325248.01	-4325247.80	0.0269	0.0053
Jupiter	-16555-07-09 23:31 J	-4325100.73	-4325100.52	-4325100.32	0.0526	0.0028
Neptune	-16555-09-08 19:55 J	-4325039.85	-4325039.67	-4325039.46	0.0089	0.0039
Saturn	-16555-09-29 09:50 J	-4325019.29	-4325019.09	-4325018.90	0.0266	0.0097
Jupiter	-16554-03-04 19:55 J	-4324862.69	-4324862.67	-4324862.64	0.0528	0.0522
Neptune	-16554-04-22 08:38 J	-4324814.33	-4324814.14	-4324813.93	0.0089	0.0035
Saturn	-16554-05-16 06:14 J	-4324790.32	-4324790.24	-4324790.15	0.0264	0.0239
Neptune	-16554-12-03 21:07 J	-4324588.81	-4324588.62	-4324588.41	0.0089	0.0030
Neptune	-16553-07-16 09:50 J	-4324363.29	-4324363.09	-4324362.88	0.0089	0.0025
Neptune	-16552-02-26 22:33 J	-4324137.77	-4324137.56	-4324137.35	0.0089	0.0021
Neptune	-16552-10-10 11:02 J	-4323912.25	-4323912.04	-4323911.82	0.0089	0.0016
Neptune	-16551-05-23 23:45 J	-4323686.72	-4323686.51	-4323686.29	0.0089	0.0011
Neptune	-16550-01-04 12:28 J	-4323461.20	-4323460.98	-4323460.77	0.0089	0.0007
Neptune	-16550-08-18 00:57 J	-4323235.68	-4323235.46	-4323235.25	0.0089	0.0002
Jupiter	-16550-09-19 00:43 J	-4323203.55	-4323203.47	-4323203.37	0.0504	0.0448
Neptune	-16549-03-30 13:26 J	-4323010.16	-4323009.94	-4323009.73	0.0089	0.0003
Jupiter	-16549-05-12 06:00 J	-4322967.45	-4322967.25	-4322967.05	0.0500	0.0015
Neptune	-16549-11-11 01:55 J	-4322784.63	-4322784.42	-4322784.20	0.0089	0.0008
Jupiter	-16548-01-03 10:48 J	-4322731.12	-4322731.05	-4322730.98	0.0498	0.0467
Neptune	-16548-06-24 14:38 J	-4322559.11	-4322558.89	-4322558.68	0.0089	0.0012
Neptune	-16547-02-05 02:52 J	-4322333.59	-4322333.38	-4322333.16	0.0089	0.0017

Neptune	-16547-09-18 15:07 J	-4322108.07	-4322107.87	-4322107.65	0.0089	0.0022
Neptune	-16546-05-02 03:50 J	-4321882.54	-4321882.34	-4321882.13	0.0089	0.0026
Neptune	-16546-12-13 16:04 J	-4321657.02	-4321656.83	-4321656.62	0.0089	0.0031
Neptune	-16545-07-26 04:33 J	-4321431.50	-4321431.31	-4321431.10	0.0089	0.0036
Neptune	-16544-03-08 17:02 J	-4321205.97	-4321205.79	-4321205.59	0.0089	0.0040
Neptune	-16544-10-20 05:16 J	-4320980.45	-4320980.28	-4320980.08	0.0089	0.0045
Jupiter	-16543-03-14 12:43 J	-4320835.16	-4320834.97	-4320834.77	0.0524	0.0183
Neptune	-16543-06-02 18:14 J	-4320754.92	-4320754.74	-4320754.56	0.0089	0.0049
Jupiter	-16543-11-07 09:21 J	-4320597.25	-4320597.11	-4320596.97	0.0528	0.0371
Neptune	-16542-01-14 06:14 J	-4320529.40	-4320529.24	-4320529.06	0.0089	0.0054
Neptune	-16542-08-27 18:57 J	-4320303.87	-4320303.71	-4320303.55	0.0089	0.0058
Neptune	-16541-04-09 06:57 J	-4320078.34	-4320078.21	-4320078.04	0.0089	0.0063
Neptune	-16541-11-20 19:40 J	-4319852.81	-4319852.68	-4319852.53	0.0089	0.0067
Neptune	-16540-07-04 07:55 J	-4319627.27	-4319627.17	-4319627.02	0.0089	0.0072
Saturn	-16540-10-19 11:45 J	-4319520.19	-4319520.01	-4319519.82	0.0293	0.0146
Neptune	-16539-02-14 20:38 J	-4319401.74	-4319401.64	-4319401.52	0.0089	0.0076
Saturn	-16539-06-06 16:19 J	-4319290.03	-4319289.82	-4319289.61	0.0296	0.0063
Neptune	-16539-09-28 09:07 J	-4319176.20	-4319176.12	-4319176.02	0.0089	0.0080
Saturn	-16538-01-22 23:02 J	-4319059.61	-4319059.54	-4319059.45	0.0298	0.0277
Neptune	-16538-05-11 21:07 J	-4318950.66	-4318950.62	-4318950.53	0.0089	0.0085
Neptune	-16538-12-23 10:04 J	-4318725.08	-4318725.08	-4318725.07	0.0089	0.0089
Jupiter	-16537-01-16 08:38 J	-4318701.34	-4318701.14	-4318700.94	0.0501	0.0114
Jupiter	-16537-09-08 13:11 J	-4318465.09	-4318464.95	-4318464.80	0.0498	0.0346
Mars	-16536-05-06 08:38 J	-4318225.28	-4318225.14	-4318225.00	0.1871	0.1169
Mars	-16533-02-15 01:26 J	-4317210.55	-4317210.44	-4317210.33	0.1647	0.1286
Jupiter	-16532-11-17 03:07 J	-4316569.52	-4316569.37	-4316569.21	0.0523	0.0334
Mars	-16532-12-14 22:33 J	-4316541.73	-4316541.56	-4316541.40	0.1659	0.0516
Jupiter	-16531-07-12 23:45 J	-4316331.69	-4316331.51	-4316331.32	0.0527	0.0220
Saturn	-16526-01-08 15:36 J	-4314690.99	-4314690.85	-4314690.69	0.0270	0.0184
Uranus	-16526-01-26 18:28 J	-4314672.82	-4314672.73	-4314672.60	0.0146	0.0124

Saturn	-16526-08-25 15:07 J	-4314462.08	-4314461.87	-4314461.66	0.0268	0.0031
Uranus	-16526-09-10 06:14 J	-4314446.41	-4314446.24	-4314446.05	0.0146	0.0083
Jupiter	-16526-09-21 11:31 J	-4314435.19	-4314435.02	-4314434.84	0.0502	0.0241
Saturn	-16525-04-10 12:43 J	-4314233.15	-4314232.97	-4314232.78	0.0266	0.0117
Uranus	-16525-04-23 18:00 J	-4314219.95	-4314219.75	-4314219.54	0.0146	0.0042
Jupiter	-16525-05-14 15:50 J	-4314199.02	-4314198.84	-4314198.66	0.0498	0.0222
Saturn	-16525-11-25 08:52 J	-4314004.16	-4314004.13	-4314004.08	0.0264	0.0259
Uranus	-16525-12-06 05:45 J	-4313993.47	-4313993.26	-4313993.04	0.0146	0.0002
Uranus	-16524-07-20 17:31 J	-4313766.97	-4313766.77	-4313766.56	0.0146	0.0041
Uranus	-16523-03-04 05:16 J	-4313540.45	-4313540.28	-4313540.09	0.0146	0.0082
Uranus	-16523-10-16 17:02 J	-4313313.89	-4313313.79	-4313313.67	0.0146	0.0124
Jupiter	-16520-07-22 17:45 J	-4312303.83	-4312303.76	-4312303.68	0.0522	0.0481
Jupiter	-16519-03-17 14:38 J	-4312066.09	-4312065.89	-4312065.69	0.0527	0.0066
Pluto	-16514-01-07 06:00 J	-4310309.38	-4310309.25	-4310309.11	0.0080	0.0064
Jupiter	-16514-05-27 13:40 J	-4310169.06	-4310168.93	-4310168.79	0.0503	0.0367
Pluto	-16514-08-20 17:02 J	-4310084.01	-4310083.79	-4310083.56	0.0080	0.0005
Jupiter	-16513-01-18 18:14 J	-4309932.94	-4309932.74	-4309932.54	0.0499	0.0095
Pluto	-16513-04-02 03:50 J	-4309858.41	-4309858.34	-4309858.26	0.0079	0.0074
Saturn	-16510-05-01 15:21 J	-4308734.06	-4308733.86	-4308733.67	0.0293	0.0124
Saturn	-16510-12-17 20:09 J	-4308503.86	-4308503.66	-4308503.45	0.0295	0.0085
Jupiter	-16508-11-20 06:14 J	-4307800.44	-4307800.24	-4307800.03	0.0525	0.0086
Jupiter	-16507-07-16 02:52 J	-4307562.46	-4307562.38	-4307562.28	0.0528	0.0468
Jupiter	-16502-01-30 12:57 J	-4305902.99	-4305902.96	-4305902.92	0.0504	0.0496
Mars	-16502-03-03 15:36 J	-4305871.02	-4305870.85	-4305870.69	0.1860	0.0637
Jupiter	-16502-09-23 18:28 J	-4305666.94	-4305666.73	-4305666.53	0.0500	0.0036
Jupiter	-16501-05-16 22:48 J	-4305430.65	-4305430.55	-4305430.44	0.0498	0.0423
Mars	-16500-12-13 18:14 J	-4304854.91	-4304854.74	-4304854.57	0.1653	0.0358
Mars	-16498-10-13 13:26 J	-4304186.01	-4304185.94	-4304185.87	0.1667	0.1507
Saturn	-16497-07-20 19:55 J	-4303904.83	-4303904.67	-4303904.50	0.0270	0.0161
Saturn	-16496-03-06 19:11 J	-4303675.91	-4303675.70	-4303675.49	0.0268	0.0009

Jupiter	-16496-07-25 22:04 J	-4303534.76	-4303534.58	-4303534.39	0.0524	0.0237
Saturn	-16496-10-21 16:48 J	-4303446.98	-4303446.80	-4303446.62	0.0266	0.0139
Jupiter	-16495-03-20 18:43 J	-4303296.88	-4303296.72	-4303296.56	0.0527	0.0319
Jupiter	-16490-05-29 20:23 J	-4301400.84	-4301400.65	-4301400.46	0.0501	0.0163
Jupiter	-16489-01-21 01:11 J	-4301164.61	-4301164.45	-4301164.29	0.0499	0.0300
Uranus	-16485-08-07 18:00 J	-4299503.88	-4299503.75	-4299503.63	0.0132	0.0109
Uranus	-16484-03-21 23:45 J	-4299277.68	-4299277.51	-4299277.33	0.0132	0.0077
Jupiter	-16484-03-30 12:00 J	-4299269.13	-4299269.00	-4299268.86	0.0523	0.0388
Uranus	-16484-11-03 05:31 J	-4299051.47	-4299051.27	-4299051.06	0.0132	0.0046
Jupiter	-16484-11-23 08:09 J	-4299031.35	-4299031.16	-4299030.96	0.0526	0.0163
Uranus	-16483-06-17 11:16 J	-4298825.24	-4298825.03	-4298824.80	0.0132	0.0015
Uranus	-16482-01-29 17:16 J	-4298599.00	-4298598.78	-4298598.56	0.0132	0.0017
Uranus	-16482-09-12 22:48 J	-4298372.75	-4298372.55	-4298372.34	0.0132	0.0048
Uranus	-16481-04-26 04:19 J	-4298146.48	-4298146.32	-4298146.13	0.0132	0.0079
Earth	-16481-05-07 22:48 J	-4298134.69	-4298134.55	-4298134.42	0.2694	0.1472
Moon	-16481-05-08 01:55 J	-4298134.52	-4298134.42	-4298134.32	0.2700	0.2066 *
Saturn	-16481-11-10 20:52 J	-4297947.83	-4297947.63	-4297947.42	0.0293	0.0096
Uranus	-16481-12-08 09:50 J	-4297920.20	-4297920.09	-4297919.96	0.0132	0.0110
Saturn	-16480-06-29 01:55 J	-4297717.61	-4297717.42	-4297717.22	0.0296	0.0115
Jupiter	-16478-02-01 23:16 J	-4297134.70	-4297134.53	-4297134.37	0.0502	0.0291
Neptune	-16478-04-03 13:40 J	-4297073.95	-4297073.93	-4297073.86	0.0088	0.0086
Jupiter	-16478-09-26 04:19 J	-4296898.51	-4296898.32	-4296898.13	0.0499	0.0175
Neptune	-16478-11-15 03:36 J	-4296848.42	-4296848.35	-4296848.26	0.0088	0.0082
Neptune	-16477-06-27 16:48 J	-4296622.89	-4296622.80	-4296622.68	0.0088	0.0077
Neptune	-16476-02-08 06:00 J	-4296397.35	-4296397.25	-4296397.10	0.0088	0.0073
Neptune	-16476-09-21 19:40 J	-4296171.81	-4296171.68	-4296171.53	0.0088	0.0068
Neptune	-16475-05-05 08:52 J	-4295946.26	-4295946.13	-4295945.96	0.0088	0.0064
Neptune	-16475-12-16 22:48 J	-4295720.71	-4295720.55	-4295720.38	0.0088	0.0059
Neptune	-16474-07-30 12:00 J	-4295495.16	-4295495.00	-4295494.81	0.0088	0.0055
Neptune	-16473-03-12 01:40 J	-4295269.61	-4295269.43	-4295269.24	0.0088	0.0050

Earth	-16473-05-05 10:33 J	-4295215.11	-4295215.06	-4295215.00	0.2692	0.2523
Moon	-16473-05-05 16:48 J	-4295214.89	-4295214.80	-4295214.71	0.2694	0.2227
Neptune	-16473-10-23 15:21 J	-4295044.05	-4295043.86	-4295043.67	0.0088	0.0046
Neptune	-16472-06-06 04:33 J	-4294818.49	-4294818.31	-4294818.10	0.0088	0.0041
Jupiter	-16472-07-28 22:48 J	-4294765.76	-4294765.55	-4294765.35	0.0526	0.0010
Neptune	-16471-01-17 18:00 J	-4294592.94	-4294592.75	-4294592.53	0.0088	0.0037
Neptune	-16471-08-31 07:40 J	-4294367.39	-4294367.18	-4294366.97	0.0088	0.0032
Mars	-16470-03-03 11:45 J	-4294183.16	-4294183.01	-4294182.85	0.1869	0.0907
Neptune	-16470-04-13 20:52 J	-4294141.83	-4294141.63	-4294141.40	0.0088	0.0027
Neptune	-16470-11-25 10:33 J	-4293916.27	-4293916.06	-4293915.83	0.0088	0.0022
Neptune	-16469-07-08 00:14 J	-4293690.71	-4293690.49	-4293690.27	0.0088	0.0017
Neptune	-16468-02-18 13:40 J	-4293465.15	-4293464.93	-4293464.70	0.0088	0.0013
Neptune	-16468-10-02 03:07 J	-4293239.59	-4293239.37	-4293239.14	0.0088	0.0008
Mars	-16468-12-12 13:40 J	-4293168.05	-4293167.93	-4293167.82	0.1648	0.1212
Saturn	-16467-01-30 22:33 J	-4293118.74	-4293118.56	-4293118.38	0.0270	0.0141
Neptune	-16467-05-15 16:33 J	-4293014.03	-4293013.81	-4293013.58	0.0088	0.0004
Saturn	-16467-09-16 21:21 J	-4292889.81	-4292889.61	-4292889.40	0.0267	0.0012
Jupiter	-16467-10-08 02:09 J	-4292868.52	-4292868.41	-4292868.29	0.0503	0.0415
Neptune	-16467-12-27 06:14 J	-4292788.46	-4292788.24	-4292788.01	0.0088	0.0002
Saturn	-16466-05-03 18:43 J	-4292660.88	-4292660.72	-4292660.55	0.0265	0.0157
Jupiter	-16466-06-01 07:11 J	-4292632.40	-4292632.20	-4292632.00	0.0500	0.0049
Neptune	-16466-08-09 19:55 J	-4292562.90	-4292562.67	-4292562.45	0.0088	0.0007
Mars	-16466-10-12 10:04 J	-4292499.24	-4292499.08	-4292498.92	0.1661	0.0604
Neptune	-16465-03-22 09:21 J	-4292337.33	-4292337.11	-4292336.89	0.0088	0.0011
Neptune	-16465-11-02 22:48 J	-4292111.76	-4292111.55	-4292111.32	0.0088	0.0016
Neptune	-16464-06-16 12:14 J	-4291886.20	-4291885.99	-4291885.76	0.0088	0.0022
Neptune	-16463-01-28 02:09 J	-4291660.62	-4291660.41	-4291660.20	0.0088	0.0026
Neptune	-16463-09-10 15:36 J	-4291435.05	-4291434.85	-4291434.63	0.0088	0.0031
Neptune	-16462-04-24 05:02 J	-4291209.48	-4291209.29	-4291209.07	0.0088	0.0036
Neptune	-16462-12-05 18:43 J	-4290983.90	-4290983.72	-4290983.50	0.0088	0.0041

Neptune	-16461-07-18 08:38 J	-4290758.33	-4290758.14	-4290757.94	0.0088	0.0045
Neptune	-16460-02-28 22:04 J	-4290532.75	-4290532.58	-4290532.38	0.0088	0.0050
Jupiter	-16460-04-02 13:26 J	-4290500.13	-4290499.94	-4290499.74	0.0525	0.0146
Neptune	-16460-10-12 11:31 J	-4290307.18	-4290307.02	-4290306.83	0.0088	0.0055
Jupiter	-16460-11-26 10:33 J	-4290262.18	-4290262.06	-4290261.93	0.0528	0.0411
Neptune	-16459-05-26 01:26 J	-4290081.60	-4290081.44	-4290081.27	0.0088	0.0059
Neptune	-16458-01-06 14:52 J	-4289856.02	-4289855.88	-4289855.71	0.0088	0.0064
Neptune	-16458-08-20 04:19 J	-4289630.44	-4289630.32	-4289630.15	0.0088	0.0069
Neptune	-16457-04-01 18:14 J	-4289404.86	-4289404.74	-4289404.60	0.0088	0.0073
Neptune	-16457-11-13 07:26 J	-4289179.27	-4289179.19	-4289179.06	0.0089	0.0078
Neptune	-16456-06-26 21:21 J	-4288953.68	-4288953.61	-4288953.51	0.0089	0.0082
Neptune	-16455-02-07 10:33 J	-4288728.08	-4288728.06	-4288727.98	0.0089	0.0087
Jupiter	-16454-02-04 09:50 J	-4288366.29	-4288366.09	-4288365.89	0.0500	0.0079
Jupiter	-16454-09-28 14:09 J	-4288130.04	-4288129.91	-4288129.78	0.0498	0.0381
Saturn	-16452-10-05 20:23 J	-4287391.70	-4287391.65	-4287391.58	0.0290	0.0277
Saturn	-16451-05-23 23:16 J	-4287161.73	-4287161.53	-4287161.32	0.0293	0.0076
Saturn	-16450-01-09 04:33 J	-4286931.49	-4286931.31	-4286931.11	0.0296	0.0135
Jupiter	-16449-12-06 05:45 J	-4286234.42	-4286234.26	-4286234.09	0.0524	0.0294
Jupiter	-16448-08-01 02:38 J	-4285996.57	-4285996.39	-4285996.22	0.0527	0.0263
Jupiter	-16443-10-10 09:36 J	-4284100.29	-4284100.10	-4284099.92	0.0502	0.0211
Uranus	-16442-05-10 09:36 J	-4283888.23	-4283888.10	-4283887.94	0.0146	0.0106
Jupiter	-16442-06-03 14:09 J	-4283864.08	-4283863.91	-4283863.73	0.0499	0.0255
Uranus	-16442-12-22 21:07 J	-4283661.80	-4283661.62	-4283661.41	0.0146	0.0066
Uranus	-16441-08-05 09:21 J	-4283435.32	-4283435.11	-4283434.90	0.0146	0.0023
Uranus	-16440-03-19 20:52 J	-4283208.84	-4283208.63	-4283208.41	0.0146	0.0018
Uranus	-16440-11-01 08:38 J	-4282982.33	-4282982.14	-4282981.94	0.0146	0.0060
Uranus	-16439-06-15 20:09 J	-4282755.80	-4282755.66	-4282755.49	0.0146	0.0101
Uranus	-16438-01-28 07:55 J	-4282529.20	-4282529.17	-4282529.11	0.0146	0.0142
Saturn	-16438-08-13 01:26 J	-4282332.62	-4282332.44	-4282332.25	0.0270	0.0120
Saturn	-16437-03-29 00:14 J	-4282103.69	-4282103.49	-4282103.28	0.0268	0.0033

Jupiter	-16437-08-10 22:19 J	-4281968.67	-4281968.57	-4281968.46	0.0522	0.0440
Saturn	-16437-11-12 21:36 J	-4281874.75	-4281874.60	-4281874.45	0.0265	0.0178
Mars	-16437-12-28 20:09 J	-4281828.81	-4281828.66	-4281828.50	0.1858	0.0870
Jupiter	-16436-04-05 18:43 J	-4281730.92	-4281730.72	-4281730.52	0.0526	0.0111
Mars	-16434-10-11 06:14 J	-4280812.41	-4280812.24	-4280812.07	0.1655	0.0277
Mars	-16432-08-10 00:28 J	-4280143.53	-4280143.48	-4280143.44	0.1669	0.1604
Jupiter	-16431-06-15 11:31 J	-4279834.16	-4279834.02	-4279833.87	0.0503	0.0339
Jupiter	-16430-02-06 16:33 J	-4279598.00	-4279597.81	-4279597.61	0.0500	0.0128
Jupiter	-16425-12-09 08:23 J	-4277465.36	-4277465.15	-4277464.95	0.0525	0.0047
Jupiter	-16424-08-04 04:33 J	-4277227.37	-4277227.31	-4277227.26	0.0528	0.0506
Saturn	-16422-04-18 00:28 J	-4276605.58	-4276605.48	-4276605.37	0.0291	0.0252
Saturn	-16422-12-04 03:36 J	-4276375.56	-4276375.35	-4276375.13	0.0294	0.0050
Saturn	-16421-07-21 08:52 J	-4276145.30	-4276145.13	-4276144.94	0.0296	0.0163
Jupiter	-16419-02-18 14:09 J	-4275567.98	-4275567.91	-4275567.83	0.0504	0.0465
Jupiter	-16419-10-12 19:40 J	-4275331.88	-4275331.68	-4275331.47	0.0500	0.0009
Jupiter	-16418-06-06 00:28 J	-4275095.55	-4275095.48	-4275095.40	0.0498	0.0459
Jupiter	-16413-08-13 23:02 J	-4273199.73	-4273199.54	-4273199.35	0.0524	0.0201
Jupiter	-16412-04-08 19:26 J	-4272961.84	-4272961.69	-4272961.54	0.0527	0.0357
Saturn	-16409-07-08 02:09 J	-4271775.46	-4271775.41	-4271775.33	0.0272	0.0257
Saturn	-16408-02-22 02:52 J	-4271546.57	-4271546.38	-4271546.18	0.0269	0.0101
Saturn	-16408-10-09 01:40 J	-4271317.64	-4271317.43	-4271317.23	0.0267	0.0050
Saturn	-16407-05-25 22:48 J	-4271088.69	-4271088.55	-4271088.41	0.0265	0.0195
Jupiter	-16407-06-17 23:02 J	-4271065.74	-4271065.54	-4271065.35	0.0501	0.0126
Jupiter	-16406-02-09 03:21 J	-4270829.50	-4270829.36	-4270829.21	0.0498	0.0338
Mars	-16405-12-28 15:36 J	-4270141.01	-4270140.85	-4270140.68	0.1866	0.0653
Mars	-16402-10-10 01:11 J	-4269125.57	-4269125.45	-4269125.32	0.1650	0.1129
Uranus	-16401-04-07 01:40 J	-4268945.49	-4268945.43	-4268945.35	0.0132	0.0125
Jupiter	-16401-04-18 13:55 J	-4268934.07	-4268933.92	-4268933.77	0.0523	0.0351
Uranus	-16401-11-19 07:40 J	-4268719.33	-4268719.18	-4268719.01	0.0132	0.0093
Jupiter	-16401-12-12 10:33 J	-4268696.25	-4268696.06	-4268695.87	0.0527	0.0205

Uranus	-16400-07-03 13:26 J	-4268493.12	-4268492.94	-4268492.73	0.0132	0.0063
Mars	-16400-08-08 21:07 J	-4268456.78	-4268456.62	-4268456.46	0.1663	0.0699
Uranus	-16399-02-14 19:40 J	-4268266.89	-4268266.68	-4268266.46	0.0132	0.0030
Uranus	-16399-09-29 01:26 J	-4268040.66	-4268040.44	-4268040.22	0.0132	0.0002
Uranus	-16398-05-13 07:11 J	-4267814.41	-4267814.20	-4267813.99	0.0132	0.0033
Uranus	-16398-12-25 12:28 J	-4267588.16	-4267587.98	-4267587.77	0.0132	0.0065
Uranus	-16397-08-07 18:14 J	-4267361.88	-4267361.74	-4267361.58	0.0132	0.0095
Neptune	-16397-10-08 01:40 J	-4267300.44	-4267300.43	-4267300.37	0.0089	0.0089
Uranus	-16396-03-21 23:45 J	-4267135.56	-4267135.51	-4267135.43	0.0132	0.0126
Neptune	-16396-05-21 14:52 J	-4267074.94	-4267074.88	-4267074.80	0.0089	0.0084
Neptune	-16395-01-02 03:21 J	-4266849.44	-4266849.36	-4266849.24	0.0089	0.0079
Jupiter	-16395-02-21 01:40 J	-4266799.60	-4266799.43	-4266799.25	0.0502	0.0254
Neptune	-16395-08-15 16:04 J	-4266623.93	-4266623.83	-4266623.70	0.0089	0.0075
Jupiter	-16395-10-15 06:14 J	-4266563.42	-4266563.24	-4266563.05	0.0499	0.0213
Neptune	-16394-03-29 04:33 J	-4266398.42	-4266398.31	-4266398.16	0.0089	0.0070
Neptune	-16394-11-09 17:16 J	-4266172.91	-4266172.78	-4266172.62	0.0089	0.0066
Neptune	-16393-06-22 05:45 J	-4265947.39	-4265947.26	-4265947.08	0.0089	0.0062
Saturn	-16393-10-28 01:26 J	-4265819.56	-4265819.44	-4265819.31	0.0291	0.0234
Neptune	-16392-02-02 18:28 J	-4265721.88	-4265721.73	-4265721.54	0.0089	0.0057
Saturn	-16392-06-15 04:48 J	-4265589.52	-4265589.30	-4265589.09	0.0294	0.0032
Neptune	-16392-09-16 07:11 J	-4265496.37	-4265496.20	-4265496.01	0.0089	0.0052
Saturn	-16391-01-31 10:04 J	-4265359.24	-4265359.08	-4265358.90	0.0296	0.0181
Neptune	-16391-04-29 19:40 J	-4265270.85	-4265270.68	-4265270.48	0.0089	0.0047
Neptune	-16391-12-11 08:23 J	-4265045.33	-4265045.15	-4265044.95	0.0089	0.0042
Neptune	-16390-07-24 20:52 J	-4264819.81	-4264819.63	-4264819.42	0.0089	0.0038
Jupiter	-16390-12-23 06:43 J	-4264668.28	-4264668.22	-4264668.15	0.0522	0.0494
Neptune	-16389-03-06 09:36 J	-4264594.30	-4264594.10	-4264593.90	0.0089	0.0033
Jupiter	-16389-08-17 03:07 J	-4264430.58	-4264430.37	-4264430.17	0.0526	0.0055
Neptune	-16389-10-17 21:50 J	-4264368.78	-4264368.59	-4264368.37	0.0089	0.0029
Neptune	-16388-05-31 10:48 J	-4264143.25	-4264143.05	-4264142.84	0.0089	0.0023

Neptune	-16387-01-11 23:16 J	-4263917.73	-4263917.53	-4263917.31	0.0089	0.0018
Neptune	-16387-08-25 12:00 J	-4263692.21	-4263692.00	-4263691.79	0.0089	0.0013
Neptune	-16386-04-08 00:28 J	-4263466.69	-4263466.48	-4263466.26	0.0089	0.0009
Neptune	-16386-11-19 13:11 J	-4263241.17	-4263240.95	-4263240.74	0.0089	0.0004
Neptune	-16385-07-02 01:55 J	-4263015.64	-4263015.42	-4263015.21	0.0089	0.0002
Neptune	-16384-02-12 14:23 J	-4262790.12	-4262789.90	-4262789.69	0.0089	0.0006
Neptune	-16384-09-26 02:38 J	-4262564.60	-4262564.39	-4262564.17	0.0089	0.0011
Jupiter	-16384-10-27 00:57 J	-4262533.58	-4262533.46	-4262533.32	0.0503	0.0387
Neptune	-16383-05-09 15:21 J	-4262339.07	-4262338.86	-4262338.65	0.0089	0.0016
Jupiter	-16383-06-20 06:14 J	-4262297.44	-4262297.24	-4262297.04	0.0500	0.0083
Neptune	-16383-12-21 03:50 J	-4262113.55	-4262113.34	-4262113.13	0.0089	0.0020
Neptune	-16382-08-03 16:19 J	-4261888.02	-4261887.82	-4261887.61	0.0089	0.0025
Neptune	-16381-03-16 04:33 J	-4261662.50	-4261662.31	-4261662.09	0.0089	0.0030
Neptune	-16381-10-27 17:02 J	-4261436.98	-4261436.79	-4261436.58	0.0089	0.0035
Neptune	-16380-06-10 05:31 J	-4261211.45	-4261211.27	-4261211.06	0.0089	0.0040
Saturn	-16379-01-18 04:19 J	-4260989.42	-4260989.32	-4260989.21	0.0272	0.0237
Neptune	-16379-01-21 18:00 J	-4260985.92	-4260985.75	-4260985.55	0.0089	0.0044
Saturn	-16379-09-04 04:48 J	-4260760.50	-4260760.30	-4260760.10	0.0270	0.0081
Neptune	-16379-09-04 06:14 J	-4260760.40	-4260760.24	-4260760.04	0.0089	0.0049 *
Neptune	-16378-04-17 18:28 J	-4260534.88	-4260534.73	-4260534.53	0.0089	0.0054
Saturn	-16378-04-21 03:36 J	-4260531.56	-4260531.35	-4260531.15	0.0267	0.0071
Neptune	-16378-11-29 07:11 J	-4260309.35	-4260309.20	-4260309.02	0.0089	0.0058
Saturn	-16378-12-06 00:28 J	-4260302.60	-4260302.48	-4260302.36	0.0265	0.0216
Jupiter	-16377-04-21 19:26 J	-4260164.89	-4260164.69	-4260164.49	0.0525	0.0099
Neptune	-16377-07-11 19:40 J	-4260083.81	-4260083.68	-4260083.51	0.0089	0.0063
Jupiter	-16377-12-15 15:36 J	-4259926.94	-4259926.85	-4259926.74	0.0528	0.0458
Neptune	-16376-02-22 08:23 J	-4259858.28	-4259858.15	-4259858.00	0.0089	0.0067
Neptune	-16376-10-05 20:23 J	-4259632.75	-4259632.65	-4259632.50	0.0089	0.0072
Neptune	-16375-05-19 09:07 J	-4259407.22	-4259407.12	-4259407.00	0.0089	0.0076
Neptune	-16375-12-30 21:21 J	-4259181.68	-4259181.61	-4259181.50	0.0089	0.0081

Neptune	-16374-08-13 10:04 J	-4258956.13	-4258956.08	-4258956.01	0.0089	0.0085
Jupiter	-16371-02-23 08:38 J	-4258031.34	-4258031.14	-4258030.94	0.0501	0.0047
Jupiter	-16371-10-17 13:26 J	-4257795.05	-4257794.94	-4257794.83	0.0498	0.0417
Mars	-16371-10-26 00:00 J	-4257786.64	-4257786.50	-4257786.36	0.1855	0.1113
Mars	-16368-08-07 17:16 J	-4256769.95	-4256769.78	-4256769.61	0.1657	0.0186
Jupiter	-16366-12-26 09:36 J	-4255899.28	-4255899.10	-4255898.92	0.0523	0.0254
Jupiter	-16365-08-20 05:45 J	-4255661.43	-4255661.26	-4255661.10	0.0527	0.0304
Saturn	-16363-05-10 05:02 J	-4255033.44	-4255033.29	-4255033.14	0.0291	0.0210
Saturn	-16363-12-26 08:23 J	-4254803.37	-4254803.15	-4254802.94	0.0294	0.0006
Saturn	-16362-08-13 13:55 J	-4254573.07	-4254572.92	-4254572.76	0.0297	0.0207
Jupiter	-16360-10-29 11:45 J	-4253765.20	-4253765.01	-4253764.82	0.0502	0.0175
Jupiter	-16359-06-22 16:33 J	-4253528.97	-4253528.81	-4253528.64	0.0499	0.0293
Uranus	-16358-01-07 14:52 J	-4253329.97	-4253329.88	-4253329.76	0.0146	0.0127
Uranus	-16358-08-22 02:38 J	-4253103.56	-4253103.39	-4253103.21	0.0146	0.0086
Uranus	-16357-04-04 14:09 J	-4252877.11	-4252876.91	-4252876.70	0.0146	0.0045
Uranus	-16357-11-17 01:55 J	-4252650.64	-4252650.42	-4252650.21	0.0146	0.0003
Uranus	-16356-07-01 13:40 J	-4252424.14	-4252423.93	-4252423.73	0.0146	0.0039
Uranus	-16355-02-13 00:57 J	-4252197.63	-4252197.46	-4252197.27	0.0146	0.0080
Pluto	-16355-08-30 00:28 J	-4251999.63	-4251999.48	-4251999.31	0.0064	0.0043
Uranus	-16355-09-27 12:43 J	-4251971.08	-4251970.97	-4251970.84	0.0146	0.0122
Pluto	-16354-04-12 04:04 J	-4251774.53	-4251774.33	-4251774.10	0.0064	0.0010
Jupiter	-16354-08-31 00:28 J	-4251633.61	-4251633.48	-4251633.35	0.0522	0.0404
Pluto	-16354-11-23 07:55 J	-4251549.36	-4251549.17	-4251548.96	0.0064	0.0026
Jupiter	-16353-04-24 20:23 J	-4251395.84	-4251395.65	-4251395.45	0.0526	0.0151
Pluto	-16353-07-05 11:45 J	-4251324.06	-4251324.01	-4251323.92	0.0065	0.0061
Saturn	-16350-07-31 05:16 J	-4250203.39	-4250203.28	-4250203.15	0.0271	0.0219
Saturn	-16349-03-16 05:45 J	-4249974.46	-4249974.26	-4249974.05	0.0269	0.0063
Saturn	-16349-10-31 04:19 J	-4249745.52	-4249745.32	-4249745.12	0.0267	0.0087
Saturn	-16348-06-17 01:11 J	-4249516.54	-4249516.45	-4249516.35	0.0265	0.0231
Jupiter	-16348-07-04 14:52 J	-4249499.03	-4249498.88	-4249498.71	0.0503	0.0302

Jupiter	-16347-02-25 19:55 J	-4249262.86	-4249262.67	-4249262.48	0.0499	0.0168
Moon	-16344-11-02 05:16 J	-4247917.44	-4247917.28	-4247917.12	0.2634	0.0249
Earth	-16344-11-02 07:11 J	-4247917.36	-4247917.20	-4247917.05	0.2640	0.0144 *
Jupiter	-16342-12-29 11:16 J	-4247130.23	-4247130.03	-4247129.82	0.0525	0.0007
Mars	-16339-10-25 18:43 J	-4246098.89	-4246098.72	-4246098.55	0.1864	0.0387
Jupiter	-16336-03-09 17:31 J	-4245232.87	-4245232.77	-4245232.66	0.0504	0.0429
Mars	-16336-08-06 12:43 J	-4245083.10	-4245082.97	-4245082.83	0.1652	0.1049
Jupiter	-16336-10-31 22:48 J	-4244996.75	-4244996.55	-4244996.35	0.0500	0.0041
Mars	-16334-06-06 08:23 J	-4244414.30	-4244414.15	-4244414.00	0.1665	0.0793
Saturn	-16334-11-20 05:16 J	-4244247.43	-4244247.28	-4244247.11	0.0291	0.0193
Saturn	-16333-07-07 08:52 J	-4244017.35	-4244017.13	-4244016.92	0.0294	0.0013
Saturn	-16332-02-22 14:23 J	-4243787.03	-4243786.90	-4243786.75	0.0297	0.0225
Jupiter	-16330-09-03 04:19 J	-4242864.52	-4242864.32	-4242864.13	0.0524	0.0155
Jupiter	-16329-04-28 00:43 J	-4242626.59	-4242626.47	-4242626.33	0.0527	0.0406
Jupiter	-16324-07-06 22:33 J	-4240730.76	-4240730.56	-4240730.36	0.0501	0.0094
Jupiter	-16323-02-28 03:07 J	-4240494.50	-4240494.37	-4240494.23	0.0498	0.0373
Saturn	-16320-02-09 06:14 J	-4239417.37	-4239417.24	-4239417.09	0.0272	0.0200
Saturn	-16320-09-26 06:43 J	-4239188.42	-4239188.22	-4239188.01	0.0269	0.0044
Saturn	-16319-05-13 05:16 J	-4238959.47	-4238959.28	-4238959.09	0.0267	0.0107
Saturn	-16319-12-28 02:09 J	-4238730.47	-4238730.41	-4238730.34	0.0265	0.0251
Jupiter	-16318-05-08 20:38 J	-4238598.80	-4238598.64	-4238598.47	0.0523	0.0306
Jupiter	-16317-01-01 17:02 J	-4238360.96	-4238360.79	-4238360.61	0.0527	0.0255
Uranus	-16317-07-19 15:21 J	-4238160.96	-4238160.86	-4238160.71	0.0133	0.0110
Uranus	-16316-03-02 21:36 J	-4237934.77	-4237934.60	-4237934.41	0.0132	0.0078
Uranus	-16316-10-15 03:21 J	-4237708.55	-4237708.36	-4237708.14	0.0132	0.0047
Uranus	-16315-05-29 09:21 J	-4237482.32	-4237482.11	-4237481.88	0.0132	0.0015
Uranus	-16314-01-10 15:21 J	-4237256.08	-4237255.86	-4237255.64	0.0132	0.0017
Uranus	-16314-08-24 21:07 J	-4237029.83	-4237029.62	-4237029.42	0.0132	0.0049
Neptune	-16313-02-16 14:52 J	-4236853.92	-4236853.88	-4236853.81	0.0088	0.0086
Uranus	-16313-04-07 02:23 J	-4236803.56	-4236803.40	-4236803.21	0.0132	0.0080

Neptune -16313-09-29 04:04 J -4236628.40 -4236628.33 -4236628.23 0.0088 0.0081
 Uranus -16313-11-19 07:55 J -4236577.28 -4236577.17 -4236577.04 0.0132 0.0112
 Jupiter -16312-03-12 00:57 J -4236464.64 -4236464.46 -4236464.28 0.0502 0.0223
 Neptune -16312-05-12 17:45 J -4236402.86 -4236402.76 -4236402.64 0.0088 0.0077
 Jupiter -16312-11-03 05:45 J -4236228.43 -4236228.26 -4236228.08 0.0499 0.0248
 Neptune -16312-12-24 06:57 J -4236177.32 -4236177.21 -4236177.07 0.0088 0.0072
 Neptune -16311-08-06 20:38 J -4235951.78 -4235951.64 -4235951.49 0.0088 0.0067
 Neptune -16310-03-20 09:36 J -4235726.23 -4235726.10 -4235725.92 0.0088 0.0063
 Neptune -16310-10-31 23:16 J -4235500.68 -4235500.53 -4235500.34 0.0088 0.0059
 Neptune -16309-06-13 12:57 J -4235275.13 -4235274.96 -4235274.77 0.0088 0.0054
 Neptune -16308-01-25 02:09 J -4235049.57 -4235049.41 -4235049.20 0.0088 0.0049
 Neptune -16308-09-07 15:50 J -4234824.02 -4234823.84 -4234823.63 0.0088 0.0044
 Neptune -16307-04-21 05:16 J -4234598.46 -4234598.28 -4234598.06 0.0088 0.0040
 Neptune -16307-12-02 19:11 J -4234372.90 -4234372.70 -4234372.49 0.0088 0.0034
 Jupiter -16306-01-11 11:31 J -4234333.11 -4234333.02 -4234332.92 0.0522 0.0456
 Neptune -16306-07-16 08:38 J -4234147.34 -4234147.14 -4234146.92 0.0088 0.0030
 Jupiter -16306-09-06 07:11 J -4234095.40 -4234095.20 -4234094.99 0.0526 0.0098
 Neptune -16305-02-26 22:19 J -4233921.78 -4233921.57 -4233921.35 0.0088 0.0025
 Mars -16305-08-22 04:19 J -4233744.44 -4233744.32 -4233744.20 0.1853 0.1344
 Neptune -16305-10-09 11:45 J -4233696.23 -4233696.01 -4233695.79 0.0088 0.0020
 Neptune -16304-05-23 00:57 J -4233470.67 -4233470.46 -4233470.23 0.0088 0.0016
 Saturn -16304-06-01 08:23 J -4233461.32 -4233461.15 -4233460.97 0.0291 0.0168
 Neptune -16303-01-03 14:38 J -4233245.10 -4233244.89 -4233244.66 0.0088 0.0010
 Saturn -16303-01-17 12:00 J -4233231.21 -4233231.00 -4233230.79 0.0294 0.0037
 Neptune -16303-08-17 04:19 J -4233019.54 -4233019.32 -4233019.10 0.0088 0.0005
 Saturn -16303-09-04 17:31 J -4233000.87 -4233000.77 -4233000.64 0.0297 0.0251
 Neptune -16302-03-30 17:45 J -4232793.98 -4232793.76 -4232793.53 0.0088 0.0001
 Mars -16302-06-05 05:02 J -4232727.46 -4232727.29 -4232727.12 0.1659 0.0103
 Neptune -16302-11-11 07:26 J -4232568.42 -4232568.19 -4232567.97 0.0088 0.0005
 Neptune -16301-06-23 20:52 J -4232342.85 -4232342.63 -4232342.40 0.0088 0.0010

Jupiter	-16301-11-15 03:36 J	-4232198.49	-4232198.35	-4232198.20	0.0503	0.0352
Neptune	-16300-02-04 10:19 J	-4232117.28	-4232117.07	-4232116.84	0.0088	0.0015
Jupiter	-16300-07-09 09:07 J	-4231962.32	-4231962.12	-4231961.93	0.0500	0.0121
Neptune	-16300-09-18 00:00 J	-4231891.72	-4231891.50	-4231891.28	0.0088	0.0020
Neptune	-16299-05-01 13:26 J	-4231666.15	-4231665.94	-4231665.72	0.0088	0.0025
Neptune	-16299-12-13 03:07 J	-4231440.57	-4231440.37	-4231440.15	0.0088	0.0030
Neptune	-16298-07-26 16:33 J	-4231215.00	-4231214.81	-4231214.59	0.0088	0.0035
Neptune	-16297-03-08 06:14 J	-4230989.43	-4230989.24	-4230989.03	0.0088	0.0039
Neptune	-16297-10-19 19:40 J	-4230763.86	-4230763.68	-4230763.47	0.0088	0.0044
Neptune	-16296-06-02 09:07 J	-4230538.28	-4230538.12	-4230537.91	0.0088	0.0050
Neptune	-16295-01-13 23:16 J	-4230312.70	-4230312.53	-4230312.35	0.0088	0.0054
Neptune	-16295-08-27 12:43 J	-4230087.12	-4230086.97	-4230086.79	0.0088	0.0059
Neptune	-16294-04-10 02:09 J	-4229861.54	-4229861.41	-4229861.23	0.0088	0.0064
Jupiter	-16294-05-11 22:04 J	-4229829.79	-4229829.58	-4229829.38	0.0525	0.0060
Neptune	-16294-11-21 15:50 J	-4229635.96	-4229635.84	-4229635.68	0.0088	0.0069
Jupiter	-16293-01-04 18:00 J	-4229591.81	-4229591.75	-4229591.68	0.0528	0.0498
Neptune	-16293-07-04 05:45 J	-4229410.38	-4229410.26	-4229410.12	0.0088	0.0073
Neptune	-16292-02-14 19:11 J	-4229184.79	-4229184.70	-4229184.58	0.0089	0.0078
Neptune	-16292-09-28 08:23 J	-4228959.20	-4228959.15	-4228959.04	0.0089	0.0083
Neptune	-16291-05-11 22:19 J	-4228733.59	-4228733.57	-4228733.51	0.0089	0.0087
Saturn	-16291-08-22 07:11 J	-4228631.35	-4228631.20	-4228631.04	0.0271	0.0182
Saturn	-16290-04-08 07:26 J	-4228402.40	-4228402.19	-4228401.98	0.0269	0.0027
Saturn	-16290-11-23 05:45 J	-4228173.44	-4228173.26	-4228173.07	0.0266	0.0123
Jupiter	-16289-07-21 06:43 J	-4227932.28	-4227932.22	-4227932.15	0.0505	0.0477
Jupiter	-16288-03-14 12:28 J	-4227696.18	-4227695.98	-4227695.78	0.0501	0.0009
Jupiter	-16288-11-05 17:02 J	-4227459.86	-4227459.79	-4227459.70	0.0498	0.0457
Jupiter	-16282-01-14 12:43 J	-4225564.15	-4225563.97	-4225563.78	0.0524	0.0214
Jupiter	-16282-09-09 09:21 J	-4225326.26	-4225326.11	-4225325.96	0.0527	0.0349
Jupiter	-16277-11-17 15:21 J	-4223430.05	-4223429.86	-4223429.67	0.0502	0.0136
Jupiter	-16276-07-11 19:55 J	-4223193.82	-4223193.67	-4223193.52	0.0499	0.0333

Uranus	-16275-09-06 22:48 J	-4222771.57	-4222771.55	-4222771.54	0.0146	0.0145
Saturn	-16275-12-12 08:38 J	-4222675.31	-4222675.14	-4222674.95	0.0291	0.0151
Uranus	-16274-04-21 09:50 J	-4222545.23	-4222545.09	-4222544.93	0.0146	0.0105
Saturn	-16274-07-30 12:28 J	-4222445.19	-4222444.98	-4222444.77	0.0294	0.0055
Uranus	-16274-12-03 21:36 J	-4222318.79	-4222318.60	-4222318.41	0.0146	0.0064
Saturn	-16273-03-16 18:28 J	-4222214.82	-4222214.73	-4222214.64	0.0297	0.0268
Uranus	-16273-07-17 09:07 J	-4222092.33	-4222092.12	-4222091.90	0.0146	0.0022
Mars	-16273-08-21 23:02 J	-4222056.71	-4222056.54	-4222056.36	0.1861	0.0149
Uranus	-16272-02-28 20:38 J	-4221865.85	-4221865.64	-4221865.42	0.0146	0.0020
Uranus	-16272-10-13 08:09 J	-4221639.35	-4221639.16	-4221638.96	0.0146	0.0061
Uranus	-16271-05-27 19:55 J	-4221412.82	-4221412.67	-4221412.52	0.0146	0.0103
Jupiter	-16271-09-19 05:45 J	-4221298.40	-4221298.26	-4221298.11	0.0523	0.0362
Uranus	-16270-01-09 07:11 J	-4221186.21	-4221186.20	-4221186.14	0.0146	0.0144
Jupiter	-16270-05-15 02:09 J	-4221060.60	-4221060.41	-4221060.22	0.0526	0.0199
Mars	-16270-06-04 00:28 J	-4221040.62	-4221040.48	-4221040.34	0.1653	0.0966
Mars	-16268-04-02 19:55 J	-4220371.82	-4220371.67	-4220371.52	0.1667	0.0883
Pluto	-16266-07-23 11:31 J	-4219530.17	-4219530.02	-4219529.85	0.0080	0.0056
Pluto	-16265-03-04 22:19 J	-4219304.78	-4219304.57	-4219304.33	0.0080	0.0014
Jupiter	-16265-07-23 15:07 J	-4219164.04	-4219163.87	-4219163.70	0.0502	0.0270
Jupiter	-16264-03-16 19:40 J	-4218927.86	-4218927.68	-4218927.49	0.0499	0.0203
Saturn	-16261-03-03 08:09 J	-4217845.33	-4217845.16	-4217844.99	0.0272	0.0163
Saturn	-16261-10-18 08:23 J	-4217616.36	-4217616.15	-4217615.94	0.0269	0.0008
Saturn	-16260-06-04 06:43 J	-4217387.39	-4217387.22	-4217387.04	0.0267	0.0143
Jupiter	-16259-05-24 22:33 J	-4217032.60	-4217032.56	-4217032.52	0.0522	0.0507
Jupiter	-16258-01-17 18:43 J	-4216794.93	-4216794.72	-4216794.52	0.0525	0.0045
Jupiter	-16253-03-28 17:02 J	-4214897.91	-4214897.79	-4214897.66	0.0504	0.0400
Jupiter	-16253-11-19 22:19 J	-4214661.77	-4214661.57	-4214661.37	0.0500	0.0073
Jupiter	-16247-09-22 08:52 J	-4212529.33	-4212529.13	-4212528.93	0.0524	0.0114
Jupiter	-16246-05-18 05:02 J	-4212291.39	-4212291.29	-4212291.18	0.0527	0.0447
Saturn	-16245-06-23 12:28 J	-4211889.17	-4211888.98	-4211888.78	0.0292	0.0126

Saturn	-16244-02-08 16:04 J	-4211659.03	-4211658.83	-4211658.62	0.0295	0.0082
Saturn	-16244-09-26 21:50 J	-4211428.60	-4211428.59	-4211428.55	0.0297	0.0296
Jupiter	-16241-07-26 01:26 J	-4210395.64	-4210395.44	-4210395.24	0.0501	0.0056
Mars	-16241-08-21 19:40 J	-4210368.75	-4210368.68	-4210368.61	0.1869	0.1701
Jupiter	-16240-03-19 06:14 J	-4210159.35	-4210159.24	-4210159.12	0.0499	0.0412
Mars	-16239-06-19 08:38 J	-4209702.23	-4209702.14	-4209702.05	0.1849	0.1573
Moon	-16238-05-08 19:55 J	-4209378.82	-4209378.67	-4209378.52	0.2687	0.1230
Earth	-16238-05-08 20:52 J	-4209378.77	-4209378.63	-4209378.49	0.2693	0.1308 *
Mars	-16236-04-01 16:33 J	-4208684.99	-4208684.81	-4208684.64	0.1660	0.0044
Jupiter	-16235-05-27 23:31 J	-4208263.69	-4208263.52	-4208263.34	0.0523	0.0268
Jupiter	-16234-01-20 19:40 J	-4208025.85	-4208025.68	-4208025.51	0.0527	0.0295
Uranus	-16233-03-19 00:28 J	-4207602.54	-4207602.48	-4207602.39	0.0133	0.0125
Uranus	-16233-10-31 06:28 J	-4207376.37	-4207376.23	-4207376.06	0.0133	0.0093
Uranus	-16232-06-14 12:43 J	-4207150.17	-4207149.97	-4207149.77	0.0132	0.0061
Neptune	-16232-08-23 02:52 J	-4207080.41	-4207080.38	-4207080.33	0.0089	0.0088
Saturn	-16232-09-13 08:52 J	-4207059.30	-4207059.13	-4207058.95	0.0271	0.0145
Uranus	-16231-01-26 18:28 J	-4206923.94	-4206923.73	-4206923.51	0.0132	0.0029
Neptune	-16231-04-05 15:21 J	-4206854.91	-4206854.86	-4206854.76	0.0089	0.0083
Saturn	-16231-04-30 09:07 J	-4206830.33	-4206830.12	-4206829.91	0.0269	0.0011
Uranus	-16231-09-10 00:28 J	-4206697.70	-4206697.48	-4206697.26	0.0132	0.0003
Neptune	-16231-11-17 04:19 J	-4206629.41	-4206629.32	-4206629.21	0.0089	0.0079
Saturn	-16231-12-15 07:11 J	-4206601.36	-4206601.20	-4206601.03	0.0266	0.0159
Uranus	-16230-04-24 06:00 J	-4206471.46	-4206471.25	-4206471.03	0.0132	0.0034
Earth	-16230-05-06 08:52 J	-4206459.14	-4206459.13	-4206459.12	0.2691	0.2676
Neptune	-16230-06-30 16:48 J	-4206403.90	-4206403.80	-4206403.66	0.0089	0.0074
Uranus	-16230-12-06 11:31 J	-4206245.20	-4206245.02	-4206244.82	0.0132	0.0066
Neptune	-16229-02-11 05:31 J	-4206178.38	-4206178.27	-4206178.11	0.0089	0.0070
Jupiter	-16229-03-31 04:48 J	-4206129.49	-4206129.30	-4206129.12	0.0502	0.0185
Uranus	-16229-07-19 16:48 J	-4206018.93	-4206018.80	-4206018.63	0.0132	0.0098
Neptune	-16229-09-23 18:14 J	-4205952.87	-4205952.74	-4205952.57	0.0089	0.0065

Jupiter	-16229-11-22 09:21 J	-4205893.27	-4205893.11	-4205892.94	0.0499	0.0288
Uranus	-16228-03-02 22:33 J	-4205792.59	-4205792.56	-4205792.49	0.0132	0.0129
Neptune	-16228-05-07 07:11 J	-4205727.35	-4205727.20	-4205727.03	0.0089	0.0060
Neptune	-16228-12-18 19:26 J	-4205501.84	-4205501.69	-4205501.50	0.0089	0.0055
Neptune	-16227-08-01 08:09 J	-4205276.32	-4205276.16	-4205275.97	0.0089	0.0050
Neptune	-16226-03-14 20:38 J	-4205050.81	-4205050.64	-4205050.44	0.0089	0.0046
Neptune	-16226-10-26 09:21 J	-4204825.29	-4204825.11	-4204824.91	0.0089	0.0040
Neptune	-16225-06-07 22:04 J	-4204599.77	-4204599.58	-4204599.37	0.0089	0.0036
Neptune	-16224-01-19 10:48 J	-4204374.25	-4204374.05	-4204373.84	0.0089	0.0030
Neptune	-16224-09-01 23:16 J	-4204148.73	-4204148.53	-4204148.32	0.0089	0.0026
Jupiter	-16223-01-30 14:23 J	-4203998.02	-4203997.90	-4203997.78	0.0522	0.0419
Neptune	-16223-04-15 11:31 J	-4203923.22	-4203923.02	-4203922.79	0.0089	0.0021
Jupiter	-16223-09-25 10:33 J	-4203760.26	-4203760.06	-4203759.86	0.0526	0.0140
Neptune	-16223-11-27 00:14 J	-4203697.70	-4203697.49	-4203697.27	0.0089	0.0016
Neptune	-16222-07-10 12:57 J	-4203472.17	-4203471.96	-4203471.74	0.0089	0.0011
Neptune	-16221-02-21 01:26 J	-4203246.65	-4203246.44	-4203246.22	0.0089	0.0006
Neptune	-16221-10-03 14:09 J	-4203021.13	-4203020.91	-4203020.70	0.0089	0.0001
Neptune	-16220-05-17 02:38 J	-4202795.60	-4202795.39	-4202795.17	0.0089	0.0004
Neptune	-16220-12-28 15:07 J	-4202570.08	-4202569.87	-4202569.65	0.0089	0.0009
Neptune	-16219-08-11 03:36 J	-4202344.56	-4202344.35	-4202344.13	0.0089	0.0014
Neptune	-16218-03-24 16:04 J	-4202119.03	-4202118.83	-4202118.61	0.0089	0.0019
Neptune	-16218-11-05 04:33 J	-4201893.51	-4201893.31	-4201893.09	0.0089	0.0024
Jupiter	-16218-12-05 07:11 J	-4201863.35	-4201863.20	-4201863.04	0.0503	0.0314
Neptune	-16217-06-17 17:02 J	-4201667.98	-4201667.79	-4201667.57	0.0089	0.0029
Jupiter	-16217-07-28 12:28 J	-4201627.17	-4201626.98	-4201626.79	0.0500	0.0161
Neptune	-16216-01-29 05:31 J	-4201442.45	-4201442.27	-4201442.05	0.0089	0.0034
Neptune	-16216-09-11 18:00 J	-4201216.93	-4201216.75	-4201216.54	0.0089	0.0039
Saturn	-16215-01-03 13:26 J	-4201103.14	-4201102.94	-4201102.74	0.0292	0.0107
Neptune	-16215-04-25 06:43 J	-4200991.41	-4200991.22	-4200991.03	0.0089	0.0043
Saturn	-16215-08-21 17:02 J	-4200872.98	-4200872.79	-4200872.58	0.0294	0.0101

Neptune	-16215-12-06 18:57 J	-4200765.88	-4200765.71	-4200765.52	0.0089	0.0048
Neptune	-16214-07-20 07:26 J	-4200540.35	-4200540.19	-4200540.00	0.0089	0.0053
Neptune	-16213-03-01 19:40 J	-4200314.83	-4200314.68	-4200314.50	0.0089	0.0058
Neptune	-16213-10-13 08:23 J	-4200089.30	-4200089.15	-4200088.99	0.0089	0.0062
Neptune	-16212-05-26 20:38 J	-4199863.77	-4199863.64	-4199863.49	0.0089	0.0067
Neptune	-16211-01-07 08:52 J	-4199638.24	-4199638.13	-4199637.98	0.0089	0.0072
Jupiter	-16211-05-31 03:07 J	-4199494.57	-4199494.37	-4199494.16	0.0525	0.0018
Neptune	-16211-08-20 21:36 J	-4199412.70	-4199412.60	-4199412.48	0.0089	0.0076
Neptune	-16210-04-03 09:36 J	-4199187.16	-4199187.10	-4199186.99	0.0089	0.0081
Neptune	-16210-11-14 22:33 J	-4198961.62	-4198961.56	-4198961.50	0.0089	0.0085
Mars	-16207-06-19 02:52 J	-4198014.55	-4198014.38	-4198014.20	0.1858	0.0102
Jupiter	-16206-08-10 07:11 J	-4197597.29	-4197597.20	-4197597.11	0.0504	0.0447
Jupiter	-16205-04-02 12:14 J	-4197361.19	-4197360.99	-4197360.79	0.0500	0.0026
Jupiter	-16205-11-24 16:48 J	-4197124.84	-4197124.80	-4197124.77	0.0498	0.0489
Mars	-16204-03-31 12:14 J	-4196998.13	-4196997.99	-4196997.84	0.1655	0.0883
Mars	-16202-01-29 06:43 J	-4196329.36	-4196329.22	-4196329.08	0.1669	0.0981
Saturn	-16202-03-26 09:36 J	-4196273.28	-4196273.10	-4196272.91	0.0272	0.0126
Saturn	-16202-11-10 09:50 J	-4196044.30	-4196044.09	-4196043.88	0.0269	0.0030
Saturn	-16201-06-26 08:09 J	-4195815.31	-4195815.16	-4195815.00	0.0267	0.0179
Jupiter	-16199-02-02 19:40 J	-4195228.87	-4195228.68	-4195228.48	0.0524	0.0167
Jupiter	-16199-09-28 16:19 J	-4194990.95	-4194990.82	-4194990.69	0.0527	0.0398
Jupiter	-16194-12-07 14:24 J	-4193095.10	-4193094.90	-4193094.70	0.0501	0.0106
Jupiter	-16193-07-30 19:11 J	-4192858.84	-4192858.70	-4192858.57	0.0499	0.0366
Uranus	-16191-12-19 17:45 J	-4191986.87	-4191986.76	-4191986.64	0.0146	0.0123
Uranus	-16190-08-03 05:16 J	-4191760.45	-4191760.28	-4191760.09	0.0146	0.0082
Uranus	-16189-03-16 17:02 J	-4191534.00	-4191533.79	-4191533.59	0.0146	0.0041
Uranus	-16189-10-29 04:33 J	-4191307.53	-4191307.31	-4191307.10	0.0146	0.0003
Uranus	-16188-06-12 15:50 J	-4191081.04	-4191080.84	-4191080.63	0.0146	0.0043
Jupiter	-16188-10-08 10:04 J	-4190963.24	-4190963.08	-4190962.92	0.0523	0.0323
Uranus	-16187-01-25 03:35 J	-4190854.52	-4190854.35	-4190854.17	0.0146	0.0085

Jupiter	-16187-06-03 06:14 J	-4190725.42	-4190725.24	-4190725.06	0.0526	0.0240
Uranus	-16187-09-08 15:07 J	-4190627.96	-4190627.87	-4190627.75	0.0146	0.0127
Saturn	-16187-11-28 16:19 J	-4190546.86	-4190546.82	-4190546.76	0.0289	0.0279
Saturn	-16186-07-16 17:45 J	-4190316.96	-4190316.76	-4190316.55	0.0292	0.0080
Saturn	-16185-03-02 21:35 J	-4190086.79	-4190086.60	-4190086.41	0.0295	0.0128
Jupiter	-16182-08-12 17:16 J	-4188828.96	-4188828.78	-4188828.60	0.0503	0.0236
Jupiter	-16181-04-04 22:19 J	-4188592.75	-4188592.57	-4188592.39	0.0499	0.0239
Jupiter	-16176-06-13 00:57 J	-4186697.54	-4186697.46	-4186697.37	0.0521	0.0473
Jupiter	-16175-02-05 20:52 J	-4186459.84	-4186459.63	-4186459.43	0.0525	0.0084
Mars	-16175-06-18 23:31 J	-4186326.63	-4186326.52	-4186326.41	0.1867	0.1449
Saturn	-16173-02-19 09:07 J	-4185716.15	-4185716.12	-4185716.06	0.0274	0.0267
Mars	-16173-04-15 13:11 J	-4185659.98	-4185659.95	-4185659.91	0.1847	0.1800
Saturn	-16173-10-05 11:16 J	-4185487.22	-4185487.03	-4185486.83	0.0271	0.0107
Saturn	-16172-05-22 11:16 J	-4185258.23	-4185258.03	-4185257.82	0.0268	0.0048
Saturn	-16171-01-06 09:21 J	-4185029.24	-4185029.11	-4185028.96	0.0266	0.0197
Mars	-16170-01-28 03:50 J	-4184642.52	-4184642.34	-4184642.17	0.1663	0.0082
Jupiter	-16170-04-17 19:55 J	-4184562.80	-4184562.67	-4184562.53	0.0504	0.0365
Jupiter	-16170-12-10 01:26 J	-4184326.64	-4184326.44	-4184326.24	0.0500	0.0112
Jupiter	-16164-10-11 11:02 J	-4182194.24	-4182194.04	-4182193.83	0.0525	0.0075
Jupiter	-16163-06-06 07:26 J	-4181956.26	-4181956.19	-4181956.11	0.0528	0.0489
Jupiter	-16159-12-21 22:19 J	-4180296.61	-4180296.57	-4180296.52	0.0505	0.0492
Jupiter	-16158-08-15 04:19 J	-4180060.53	-4180060.32	-4180060.12	0.0501	0.0021
Jupiter	-16157-04-07 08:52 J	-4179824.22	-4179824.13	-4179824.05	0.0498	0.0449
Saturn	-16157-06-09 18:28 J	-4179760.82	-4179760.73	-4179760.63	0.0289	0.0258
Saturn	-16156-01-25 19:55 J	-4179530.87	-4179530.67	-4179530.45	0.0292	0.0060
Saturn	-16156-09-12 23:45 J	-4179300.68	-4179300.51	-4179300.32	0.0295	0.0150
Jupiter	-16152-06-16 03:35 J	-4177928.54	-4177928.35	-4177928.17	0.0524	0.0226
Jupiter	-16151-02-09 00:14 J	-4177690.64	-4177690.49	-4177690.33	0.0527	0.0341
Uranus	-16149-06-30 15:21 J	-4176817.98	-4176817.86	-4176817.72	0.0132	0.0108
Neptune	-16149-12-31 15:35 J	-4176633.88	-4176633.85	-4176633.77	0.0088	0.0085

Uranus	-16148-02-11 21:35 J	-4176591.78	-4176591.60	-4176591.42	0.0132	0.0076
Neptune	-16148-08-14 05:02 J	-4176408.36	-4176408.29	-4176408.18	0.0088	0.0081
Uranus	-16148-09-26 03:07 J	-4176365.57	-4176365.37	-4176365.15	0.0132	0.0045
Neptune	-16147-03-27 18:43 J	-4176182.83	-4176182.72	-4176182.60	0.0088	0.0076
Uranus	-16147-05-10 09:07 J	-4176139.34	-4176139.12	-4176138.90	0.0132	0.0012
Neptune	-16147-11-08 07:55 J	-4175957.28	-4175957.17	-4175957.02	0.0088	0.0071
Uranus	-16147-12-22 14:52 J	-4175913.10	-4175912.88	-4175912.66	0.0132	0.0019
Jupiter	-16146-04-20 04:04 J	-4175794.52	-4175794.33	-4175794.14	0.0501	0.0155
Neptune	-16146-06-21 21:21 J	-4175731.74	-4175731.61	-4175731.45	0.0088	0.0066
Uranus	-16146-08-05 20:09 J	-4175686.85	-4175686.66	-4175686.44	0.0132	0.0052
Jupiter	-16146-12-12 08:24 J	-4175558.30	-4175558.15	-4175557.99	0.0499	0.0319
Neptune	-16145-02-02 10:48 J	-4175506.20	-4175506.05	-4175505.88	0.0088	0.0062
Uranus	-16145-03-19 01:55 J	-4175460.58	-4175460.42	-4175460.24	0.0132	0.0083
Neptune	-16145-09-15 00:28 J	-4175280.65	-4175280.48	-4175280.31	0.0088	0.0057
Uranus	-16145-10-31 07:40 J	-4175234.29	-4175234.18	-4175234.07	0.0132	0.0114
Neptune	-16144-04-28 13:26 J	-4175055.10	-4175054.94	-4175054.74	0.0088	0.0052
Saturn	-16144-08-31 10:19 J	-4174930.15	-4174930.07	-4174929.98	0.0274	0.0247
Neptune	-16144-12-10 03:07 J	-4174829.54	-4174829.37	-4174829.16	0.0088	0.0047
Saturn	-16143-04-17 12:14 J	-4174701.18	-4174700.99	-4174700.79	0.0271	0.0088
Neptune	-16143-07-23 16:48 J	-4174603.99	-4174603.80	-4174603.59	0.0088	0.0042
Saturn	-16143-12-02 12:28 J	-4174472.18	-4174471.98	-4174471.78	0.0269	0.0068
Neptune	-16142-03-06 06:14 J	-4174378.43	-4174378.24	-4174378.03	0.0088	0.0037
Saturn	-16142-07-19 10:48 J	-4174243.17	-4174243.05	-4174242.93	0.0267	0.0217
Neptune	-16142-10-17 19:40 J	-4174152.87	-4174152.68	-4174152.46	0.0088	0.0033
Mars	-16141-04-15 07:40 J	-4173972.35	-4173972.18	-4173972.00	0.1856	0.0333
Neptune	-16141-05-30 09:21 J	-4173927.32	-4173927.11	-4173926.89	0.0088	0.0027
Neptune	-16140-01-10 22:48 J	-4173701.76	-4173701.55	-4173701.32	0.0088	0.0023
Jupiter	-16140-02-18 19:55 J	-4173662.81	-4173662.67	-4173662.53	0.0523	0.0379
Neptune	-16140-08-24 12:28 J	-4173476.20	-4173475.98	-4173475.76	0.0088	0.0017
Jupiter	-16140-10-14 16:19 J	-4173425.01	-4173424.82	-4173424.62	0.0526	0.0187

Neptune	-16139-04-07 01:55 J	-4173250.64	-4173250.42	-4173250.19	0.0088	0.0012
Neptune	-16139-11-18 15:35 J	-4173025.07	-4173024.85	-4173024.62	0.0088	0.0007
Mars	-16138-01-26 23:45 J	-4172955.66	-4172955.51	-4172955.36	0.1656	0.0798
Neptune	-16138-07-02 05:16 J	-4172799.51	-4172799.28	-4172799.06	0.0088	0.0003
Neptune	-16137-02-12 18:43 J	-4172573.95	-4172573.72	-4172573.50	0.0088	0.0003
Neptune	-16137-09-25 07:55 J	-4172348.38	-4172348.17	-4172347.94	0.0088	0.0009
Mars	-16137-11-25 18:14 J	-4172286.88	-4172286.74	-4172286.61	0.1671	0.1073
Neptune	-16136-05-08 21:21 J	-4172122.82	-4172122.61	-4172122.38	0.0088	0.0014
Neptune	-16136-12-20 11:02 J	-4171897.25	-4171897.04	-4171896.81	0.0088	0.0019
Neptune	-16135-08-03 00:28 J	-4171671.68	-4171671.48	-4171671.25	0.0088	0.0024
Jupiter	-16135-12-24 06:00 J	-4171528.42	-4171528.25	-4171528.09	0.0503	0.0286
Neptune	-16134-03-16 14:09 J	-4171446.11	-4171445.91	-4171445.69	0.0088	0.0028
Jupiter	-16134-08-17 10:48 J	-4171292.24	-4171292.05	-4171291.86	0.0499	0.0191
Neptune	-16134-10-28 03:35 J	-4171220.55	-4171220.35	-4171220.13	0.0088	0.0033
Neptune	-16133-06-09 17:02 J	-4170994.97	-4170994.79	-4170994.57	0.0088	0.0039
Neptune	-16132-01-21 06:43 J	-4170769.40	-4170769.22	-4170769.01	0.0088	0.0044
Neptune	-16132-09-03 20:09 J	-4170543.83	-4170543.66	-4170543.45	0.0088	0.0049
Neptune	-16131-04-17 09:50 J	-4170318.25	-4170318.09	-4170317.89	0.0088	0.0053
Neptune	-16131-11-28 23:31 J	-4170092.67	-4170092.52	-4170092.33	0.0088	0.0058
Neptune	-16130-07-12 13:40 J	-4169867.09	-4169866.93	-4169866.77	0.0088	0.0063
Neptune	-16129-02-23 03:07 J	-4169641.50	-4169641.37	-4169641.22	0.0088	0.0068
Neptune	-16129-10-05 16:33 J	-4169415.92	-4169415.81	-4169415.67	0.0088	0.0073
Neptune	-16128-05-19 06:00 J	-4169190.33	-4169190.25	-4169190.12	0.0088	0.0078
Jupiter	-16128-06-19 06:14 J	-4169159.44	-4169159.24	-4169159.03	0.0525	0.0028
Saturn	-16128-12-21 00:14 J	-4168974.61	-4168974.49	-4168974.36	0.0289	0.0231
Neptune	-16128-12-30 19:40 J	-4168964.73	-4168964.68	-4168964.57	0.0088	0.0083
Saturn	-16127-08-08 01:55 J	-4168744.64	-4168744.42	-4168744.21	0.0292	0.0031
Neptune	-16127-08-13 09:50 J	-4168739.12	-4168739.09	-4168739.04	0.0089	0.0087
Saturn	-16126-03-26 05:45 J	-4168514.42	-4168514.26	-4168514.08	0.0295	0.0179
Jupiter	-16123-08-29 08:09 J	-4167262.27	-4167262.16	-4167262.05	0.0504	0.0416

Jupiter	-16122-04-22 13:40 J	-4167026.14	-4167025.93	-4167025.73	0.0500	0.0061
Jupiter	-16116-02-21 20:52 J	-4164893.83	-4164893.63	-4164893.43	0.0524	0.0132
Jupiter	-16116-10-17 17:02 J	-4164655.90	-4164655.79	-4164655.68	0.0527	0.0434
Saturn	-16114-03-13 12:57 J	-4164144.07	-4164143.96	-4164143.84	0.0274	0.0227
Saturn	-16114-10-28 14:52 J	-4163915.08	-4163914.88	-4163914.68	0.0271	0.0067
Saturn	-16113-06-13 14:52 J	-4163686.08	-4163685.88	-4163685.68	0.0268	0.0087
Saturn	-16112-01-28 12:43 J	-4163457.05	-4163456.97	-4163456.86	0.0266	0.0235
Jupiter	-16111-12-26 16:19 J	-4162760.02	-4162759.82	-4162759.62	0.0501	0.0070
Jupiter	-16110-08-19 21:07 J	-4162523.73	-4162523.62	-4162523.49	0.0499	0.0404
Mars	-16109-04-15 03:07 J	-4162284.50	-4162284.37	-4162284.23	0.1864	0.1190
Uranus	-16107-08-19 00:43 J	-4161428.50	-4161428.47	-4161428.41	0.0146	0.0142
Mars	-16106-01-25 18:57 J	-4161268.71	-4161268.71	-4161268.70	0.1651	0.1648
Pluto	-16106-03-15 05:45 J	-4161220.42	-4161220.26	-4161220.08	0.0064	0.0039
Uranus	-16106-04-02 12:14 J	-4161202.14	-4161201.99	-4161201.83	0.0146	0.0101
Pluto	-16106-10-26 09:35 J	-4160995.32	-4160995.10	-4160994.88	0.0064	0.0005
Uranus	-16106-11-14 23:31 J	-4160975.70	-4160975.52	-4160975.31	0.0146	0.0061
Pluto	-16105-06-07 13:26 J	-4160770.13	-4160769.94	-4160769.74	0.0064	0.0030
Uranus	-16105-06-28 11:31 J	-4160749.23	-4160749.02	-4160748.81	0.0146	0.0018
Jupiter	-16105-10-27 10:48 J	-4160628.22	-4160628.05	-4160627.88	0.0523	0.0288
Mars	-16105-11-24 14:52 J	-4160600.05	-4160599.88	-4160599.70	0.1664	0.0173
Uranus	-16104-02-09 23:02 J	-4160522.75	-4160522.54	-4160522.32	0.0146	0.0024
Jupiter	-16104-06-22 07:11 J	-4160390.37	-4160390.20	-4160390.03	0.0527	0.0279
Uranus	-16104-09-24 10:33 J	-4160296.24	-4160296.06	-4160295.86	0.0146	0.0066
Uranus	-16103-05-08 22:33 J	-4160069.71	-4160069.56	-4160069.42	0.0146	0.0108
Moon	-16101-11-02 10:33 J	-4159161.20	-4159161.06	-4159160.91	0.2648	0.0298
Earth	-16101-11-02 11:16 J	-4159161.19	-4159161.03	-4159160.88	0.2641	0.0445 *
Jupiter	-16099-08-31 18:57 J	-4158493.89	-4158493.71	-4158493.52	0.0502	0.0201
Jupiter	-16098-04-24 23:45 J	-4158257.68	-4158257.51	-4158257.34	0.0499	0.0276
Saturn	-16098-07-03 03:35 J	-4158188.49	-4158188.35	-4158188.19	0.0289	0.0208
Saturn	-16097-02-18 05:31 J	-4157958.49	-4157958.27	-4157958.06	0.0292	0.0007

Saturn	-16097-10-05 09:35 J	-4157728.25	-4157728.10	-4157727.94	0.0295	0.0203
Jupiter	-16093-07-02 03:07 J	-4156362.48	-4156362.37	-4156362.26	0.0522	0.0437
Earth	-16093-10-31 05:16 J	-4156241.30	-4156241.28	-4156241.27	0.2643	0.2623
Moon	-16093-10-31 08:24 J	-4156241.25	-4156241.15	-4156241.06	0.2649	0.2004
Jupiter	-16092-02-24 23:31 J	-4156124.72	-4156124.52	-4156124.32	0.0526	0.0125
Jupiter	-16087-05-06 18:43 J	-4154227.86	-4154227.72	-4154227.56	0.0503	0.0337
Jupiter	-16087-12-28 23:31 J	-4153991.71	-4153991.52	-4153991.32	0.0500	0.0141
Saturn	-16085-09-22 14:52 J	-4153358.01	-4153357.88	-4153357.73	0.0274	0.0206
Saturn	-16084-05-09 16:48 J	-4153129.00	-4153128.80	-4153128.59	0.0271	0.0046
Saturn	-16084-12-24 16:48 J	-4152899.99	-4152899.80	-4152899.61	0.0269	0.0109
Saturn	-16083-08-10 14:52 J	-4152670.92	-4152670.88	-4152670.82	0.0267	0.0257
Jupiter	-16081-10-30 15:07 J	-4151859.07	-4151858.87	-4151858.66	0.0525	0.0033
Jupiter	-16075-01-09 20:24 J	-4149961.72	-4149961.65	-4149961.57	0.0504	0.0467
Mars	-16075-02-10 11:45 J	-4149930.17	-4149930.01	-4149929.84	0.1853	0.0569
Jupiter	-16075-09-03 01:40 J	-4149725.63	-4149725.43	-4149725.23	0.0500	0.0011
Jupiter	-16074-04-27 06:00 J	-4149489.30	-4149489.25	-4149489.19	0.0498	0.0478
Mars	-16073-11-23 11:16 J	-4148913.19	-4148913.03	-4148912.87	0.1658	0.0713
Mars	-16071-09-23 04:48 J	-4148244.42	-4148244.30	-4148244.17	0.1673	0.1174
Jupiter	-16069-07-05 05:16 J	-4147593.47	-4147593.28	-4147593.09	0.0524	0.0191
Saturn	-16068-01-12 11:02 J	-4147402.20	-4147402.04	-4147401.87	0.0289	0.0178
Jupiter	-16068-02-28 01:40 J	-4147355.57	-4147355.43	-4147355.28	0.0527	0.0378
Saturn	-16068-08-30 12:57 J	-4147172.17	-4147171.96	-4147171.74	0.0292	0.0024
Saturn	-16067-04-17 17:02 J	-4146941.91	-4146941.79	-4146941.65	0.0295	0.0236
Neptune	-16067-07-08 03:07 J	-4146860.39	-4146860.37	-4146860.30	0.0089	0.0087
Neptune	-16066-02-18 15:50 J	-4146634.90	-4146634.84	-4146634.74	0.0089	0.0083
Neptune	-16066-10-02 04:48 J	-4146409.39	-4146409.30	-4146409.19	0.0089	0.0078
Uranus	-16065-02-29 00:14 J	-4146259.55	-4146259.49	-4146259.39	0.0132	0.0123
Neptune	-16065-05-14 17:16 J	-4146183.88	-4146183.78	-4146183.63	0.0089	0.0073
Uranus	-16065-10-12 06:28 J	-4146033.39	-4146033.23	-4146033.07	0.0132	0.0091
Neptune	-16065-12-26 06:00 J	-4145958.37	-4145958.25	-4145958.09	0.0089	0.0069

Uranus	-16064-05-26 12:00 J	-4145807.18	-4145807.00	-4145806.79	0.0132	0.0059
Neptune	-16064-08-08 18:43 J	-4145732.85	-4145732.72	-4145732.55	0.0089	0.0064
Uranus	-16063-01-07 18:00 J	-4145580.96	-4145580.75	-4145580.52	0.0132	0.0028
Neptune	-16063-03-22 07:26 J	-4145507.34	-4145507.19	-4145507.01	0.0089	0.0058
Jupiter	-16063-05-09 03:50 J	-4145459.53	-4145459.34	-4145459.14	0.0502	0.0123
Uranus	-16063-08-22 00:00 J	-4145354.72	-4145354.50	-4145354.28	0.0132	0.0005
Neptune	-16063-11-02 20:09 J	-4145281.82	-4145281.66	-4145281.48	0.0089	0.0053
Jupiter	-16063-12-31 08:38 J	-4145223.28	-4145223.14	-4145222.99	0.0499	0.0353
Uranus	-16062-04-05 05:31 J	-4145128.48	-4145128.27	-4145128.06	0.0132	0.0036
Neptune	-16062-06-16 08:52 J	-4145056.30	-4145056.13	-4145055.94	0.0089	0.0049
Uranus	-16062-11-17 10:48 J	-4144902.22	-4144902.05	-4144901.85	0.0132	0.0069
Neptune	-16061-01-27 21:35 J	-4144830.78	-4144830.60	-4144830.41	0.0089	0.0043
Uranus	-16061-06-30 16:33 J	-4144675.95	-4144675.81	-4144675.66	0.0132	0.0099
Neptune	-16061-09-09 10:04 J	-4144605.27	-4144605.08	-4144604.88	0.0089	0.0038
Uranus	-16060-02-11 22:19 J	-4144449.60	-4144449.57	-4144449.54	0.0132	0.0131
Neptune	-16060-04-22 22:33 J	-4144379.75	-4144379.56	-4144379.35	0.0089	0.0034
Neptune	-16060-12-04 11:16 J	-4144154.23	-4144154.03	-4144153.82	0.0089	0.0028
Neptune	-16059-07-17 23:45 J	-4143928.71	-4143928.51	-4143928.29	0.0089	0.0024
Neptune	-16058-02-28 12:14 J	-4143703.19	-4143702.99	-4143702.77	0.0089	0.0019
Neptune	-16058-10-12 00:57 J	-4143477.67	-4143477.46	-4143477.24	0.0089	0.0013
Jupiter	-16057-03-09 19:40 J	-4143327.83	-4143327.68	-4143327.52	0.0522	0.0347
Neptune	-16057-05-24 13:26 J	-4143252.15	-4143251.94	-4143251.72	0.0089	0.0009
Jupiter	-16057-11-02 15:50 J	-4143090.03	-4143089.84	-4143089.66	0.0526	0.0220
Neptune	-16056-01-05 02:09 J	-4143026.63	-4143026.41	-4143026.19	0.0089	0.0003
Neptune	-16056-08-18 14:38 J	-4142801.11	-4142800.89	-4142800.67	0.0089	0.0002
Neptune	-16055-04-01 03:07 J	-4142575.59	-4142575.37	-4142575.15	0.0089	0.0007
Saturn	-16055-04-04 18:43 J	-4142571.87	-4142571.72	-4142571.56	0.0273	0.0183
Neptune	-16055-11-12 15:35 J	-4142350.06	-4142349.85	-4142349.63	0.0089	0.0012
Saturn	-16055-11-19 20:24 J	-4142342.85	-4142342.65	-4142342.44	0.0271	0.0024
Neptune	-16054-06-26 04:19 J	-4142124.53	-4142124.32	-4142124.10	0.0089	0.0017

Saturn	-16054-07-06 20:09 J	-4142113.83	-4142113.66	-4142113.47	0.0268	0.0130
Neptune	-16053-02-06 16:48 J	-4141899.00	-4141898.80	-4141898.59	0.0089	0.0022
Neptune	-16053-09-19 05:16 J	-4141673.48	-4141673.28	-4141673.07	0.0089	0.0027
Neptune	-16052-05-02 17:45 J	-4141447.95	-4141447.76	-4141447.55	0.0089	0.0032
Neptune	-16052-12-14 06:14 J	-4141222.43	-4141222.24	-4141222.04	0.0089	0.0037
Jupiter	-16051-01-12 06:14 J	-4141193.41	-4141193.24	-4141193.06	0.0503	0.0254
Neptune	-16051-07-27 18:57 J	-4140996.90	-4140996.71	-4140996.52	0.0089	0.0042
Jupiter	-16051-09-05 11:31 J	-4140957.20	-4140957.02	-4140956.84	0.0500	0.0226
Neptune	-16050-03-10 07:26 J	-4140771.37	-4140771.19	-4140771.00	0.0089	0.0047
Neptune	-16050-10-21 19:40 J	-4140545.84	-4140545.68	-4140545.49	0.0089	0.0052
Neptune	-16049-06-03 08:09 J	-4140320.31	-4140320.16	-4140319.98	0.0089	0.0057
Neptune	-16048-01-14 20:38 J	-4140094.78	-4140094.64	-4140094.48	0.0089	0.0062
Neptune	-16048-08-28 08:52 J	-4139869.25	-4139869.13	-4139868.97	0.0089	0.0067
Neptune	-16047-04-10 21:07 J	-4139643.72	-4139643.62	-4139643.47	0.0089	0.0072
Neptune	-16047-11-22 09:50 J	-4139418.19	-4139418.09	-4139417.97	0.0089	0.0076
Neptune	-16046-07-05 22:19 J	-4139192.64	-4139192.57	-4139192.47	0.0089	0.0081
Jupiter	-16046-11-13 09:35 J	-4139062.15	-4139062.10	-4139062.04	0.0521	0.0498
Neptune	-16045-02-16 10:33 J	-4138967.09	-4138967.06	-4138966.98	0.0089	0.0086
Jupiter	-16045-07-08 05:31 J	-4138824.48	-4138824.27	-4138824.07	0.0525	0.0061
Mars	-16043-02-10 06:57 J	-4138242.36	-4138242.21	-4138242.06	0.1862	0.0936
Mars	-16041-11-22 07:11 J	-4137226.25	-4137226.20	-4137226.15	0.1653	0.1571
Jupiter	-16040-09-17 08:38 J	-4136927.27	-4136927.14	-4136927.01	0.0504	0.0385
Jupiter	-16039-05-11 13:40 J	-4136691.12	-4136690.93	-4136690.73	0.0500	0.0095
Saturn	-16039-07-25 16:48 J	-4136615.97	-4136615.80	-4136615.61	0.0290	0.0152
Mars	-16039-09-22 02:09 J	-4136557.58	-4136557.41	-4136557.24	0.1667	0.0261
Saturn	-16038-03-12 18:57 J	-4136385.92	-4136385.71	-4136385.50	0.0293	0.0053
Saturn	-16038-10-28 23:16 J	-4136155.62	-4136155.53	-4136155.43	0.0295	0.0264
Jupiter	-16033-03-12 21:21 J	-4134558.81	-4134558.61	-4134558.41	0.0524	0.0096
Jupiter	-16033-11-05 18:00 J	-4134320.83	-4134320.75	-4134320.66	0.0528	0.0474
Jupiter	-16027-01-14 13:55 J	-4132425.12	-4132424.92	-4132424.72	0.0501	0.0042

Jupiter	-16027-09-07 18:00 J	-4132188.84	-4132188.75	-4132188.64	0.0498	0.0430
Saturn	-16026-10-15 21:50 J	-4131785.75	-4131785.59	-4131785.42	0.0273	0.0161
Saturn	-16025-05-31 23:31 J	-4131556.73	-4131556.52	-4131556.31	0.0271	0.0002
Saturn	-16024-01-15 23:02 J	-4131327.71	-4131327.54	-4131327.36	0.0268	0.0153
Uranus	-16023-11-30 17:16 J	-4130643.89	-4130643.78	-4130643.66	0.0146	0.0122
Uranus	-16022-07-15 04:48 J	-4130417.47	-4130417.30	-4130417.11	0.0146	0.0081
Jupiter	-16022-11-16 12:28 J	-4130293.16	-4130292.98	-4130292.80	0.0524	0.0253
Uranus	-16021-02-26 16:19 J	-4130191.02	-4130190.82	-4130190.61	0.0146	0.0040
Jupiter	-16021-07-11 09:35 J	-4130055.26	-4130055.10	-4130054.94	0.0527	0.0320
Uranus	-16021-10-10 04:04 J	-4129964.55	-4129964.33	-4129964.12	0.0146	0.0003
Uranus	-16020-05-24 15:35 J	-4129738.05	-4129737.85	-4129737.64	0.0146	0.0045
Uranus	-16019-01-06 03:35 J	-4129511.53	-4129511.35	-4129511.18	0.0146	0.0087
Uranus	-16019-08-20 15:21 J	-4129284.95	-4129284.86	-4129284.75	0.0146	0.0129
Pluto	-16017-02-05 17:45 J	-4128750.93	-4128750.76	-4128750.56	0.0080	0.0044
Pluto	-16017-09-18 04:48 J	-4128525.51	-4128525.30	-4128525.08	0.0080	0.0025
Jupiter	-16016-09-19 15:50 J	-4128159.03	-4128158.84	-4128158.65	0.0502	0.0175
Jupiter	-16015-05-13 19:55 J	-4127922.83	-4127922.67	-4127922.50	0.0499	0.0302
Jupiter	-16010-07-22 02:52 J	-4126027.50	-4126027.38	-4126027.25	0.0522	0.0408
Mars	-16010-12-08 16:48 J	-4125887.96	-4125887.80	-4125887.64	0.1850	0.0794
Saturn	-16009-02-05 01:11 J	-4125829.64	-4125829.45	-4125829.25	0.0290	0.0120
Jupiter	-16009-03-15 23:16 J	-4125789.72	-4125789.53	-4125789.33	0.0526	0.0159
Saturn	-16009-09-22 03:21 J	-4125599.56	-4125599.36	-4125599.15	0.0293	0.0085
Mars	-16007-09-20 22:48 J	-4124870.71	-4124870.55	-4124870.39	0.1660	0.0628
Mars	-16005-07-20 15:50 J	-4124201.95	-4124201.84	-4124201.73	0.1675	0.1273
Jupiter	-16004-05-25 17:16 J	-4123892.94	-4123892.78	-4123892.62	0.0503	0.0309
Jupiter	-16003-01-16 22:04 J	-4123656.76	-4123656.58	-4123656.38	0.0500	0.0173

16TH MILLENNIUM BCE

This is a list of transits of Venus in the 16th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-15998-11-19 13:11 J		-4121524.15	-4121523.95	-4121523.74	0.0525	0.0001	
Saturn	-15996-04-27 02:52 J		-4120999.55	-4120999.38	-4120999.19	0.0273	0.0137	
Saturn	-15996-12-12 04:19 J		-4120770.53	-4120770.32	-4120770.11	0.0270	0.0022	
Moon	-15995-05-08 17:16 J		-4120622.93	-4120622.78	-4120622.64	0.2698	0.0697	
Earth	-15995-05-08 18:57 J		-4120622.86	-4120622.71	-4120622.57	0.2691	0.1154	*
Saturn	-15995-07-29 03:50 J		-4120541.49	-4120541.34	-4120541.18	0.0268	0.0175	
Jupiter	-15992-01-28 19:11 J		-4119626.80	-4119626.70	-4119626.60	0.0504	0.0440	
Jupiter	-15992-09-22 00:43 J		-4119390.67	-4119390.47	-4119390.27	0.0501	0.0041	
Moon	-15987-05-06 09:50 J		-4117703.10	-4117703.09	-4117703.08	0.2695	0.2683	
Jupiter	-15986-07-25 02:38 J		-4117258.59	-4117258.39	-4117258.20	0.0524	0.0162	
Jupiter	-15985-03-18 23:02 J		-4117020.66	-4117020.54	-4117020.41	0.0527	0.0410	
Neptune	-15984-11-15 16:33 J		-4116413.86	-4116413.81	-4116413.73	0.0088	0.0084	
Neptune	-15983-06-29 06:00 J		-4116188.33	-4116188.25	-4116188.14	0.0088	0.0079	
Neptune	-15982-02-09 19:40 J		-4115962.80	-4115962.68	-4115962.57	0.0088	0.0075	
Neptune	-15982-09-23 08:24 J		-4115737.26	-4115737.15	-4115736.99	0.0088	0.0070	
Neptune	-15981-05-05 21:50 J		-4115511.72	-4115511.59	-4115511.42	0.0088	0.0065	
Uranus	-15981-06-11 15:07 J		-4115474.99	-4115474.87	-4115474.73	0.0132	0.0106	
Neptune	-15981-12-17 11:16 J		-4115286.17	-4115286.03	-4115285.85	0.0088	0.0061	
Saturn	-15981-12-30 09:07 J		-4115273.13	-4115273.12	-4115273.09	0.0287	0.0286	
Uranus	-15980-01-23 20:52 J		-4115248.80	-4115248.63	-4115248.43	0.0132	0.0074	
Jupiter	-15980-05-28 02:52 J		-4115124.58	-4115124.38	-4115124.18	0.0501	0.0092	
Neptune	-15980-07-31 00:43 J		-4115060.62	-4115060.47	-4115060.28	0.0088	0.0056	

Saturn	-15980-08-17 09:07 J	-4115043.32	-4115043.12	-4115042.91	0.0290	0.0090
Uranus	-15980-09-07 02:52 J	-4115022.59	-4115022.38	-4115022.17	0.0132	0.0042
Jupiter	-15979-01-19 07:11 J	-4114888.32	-4114888.20	-4114888.06	0.0499	0.0385
Neptune	-15979-03-13 14:24 J	-4114835.08	-4114834.90	-4114834.71	0.0088	0.0050
Saturn	-15979-04-04 11:45 J	-4114813.21	-4114813.01	-4114812.81	0.0293	0.0117
Uranus	-15979-04-21 08:38 J	-4114796.36	-4114796.14	-4114795.92	0.0132	0.0010
Neptune	-15979-10-25 03:50 J	-4114609.52	-4114609.34	-4114609.14	0.0088	0.0045
Uranus	-15979-12-03 14:09 J	-4114570.12	-4114569.91	-4114569.69	0.0132	0.0022
Neptune	-15978-06-07 17:16 J	-4114383.97	-4114383.78	-4114383.57	0.0088	0.0040
Uranus	-15978-07-17 19:40 J	-4114343.87	-4114343.68	-4114343.47	0.0132	0.0053
Mars	-15978-12-08 11:02 J	-4114200.20	-4114200.04	-4114199.88	0.1859	0.0687
Neptune	-15977-01-19 06:43 J	-4114158.41	-4114158.22	-4114158.00	0.0088	0.0036
Uranus	-15977-02-29 01:11 J	-4114117.60	-4114117.45	-4114117.27	0.0132	0.0085
Neptune	-15977-08-31 20:09 J	-4113932.85	-4113932.66	-4113932.43	0.0088	0.0031
Uranus	-15977-10-12 06:43 J	-4113891.31	-4113891.22	-4113891.10	0.0132	0.0116
Neptune	-15976-04-14 09:50 J	-4113707.30	-4113707.09	-4113706.87	0.0088	0.0025
Neptune	-15976-11-25 23:31 J	-4113481.73	-4113481.52	-4113481.29	0.0088	0.0020
Neptune	-15975-07-09 13:11 J	-4113256.17	-4113255.95	-4113255.72	0.0088	0.0015
Mars	-15975-09-19 18:28 J	-4113183.80	-4113183.73	-4113183.66	0.1654	0.1486
Neptune	-15974-02-20 02:52 J	-4113030.61	-4113030.38	-4113030.16	0.0088	0.0009
Jupiter	-15974-03-29 18:00 J	-4112992.91	-4112992.75	-4112992.59	0.0523	0.0317
Neptune	-15974-10-03 16:19 J	-4112805.04	-4112804.82	-4112804.60	0.0088	0.0004
Jupiter	-15974-11-22 14:38 J	-4112755.07	-4112754.89	-4112754.71	0.0527	0.0255
Neptune	-15973-05-16 05:45 J	-4112579.48	-4112579.26	-4112579.03	0.0088	0.0001
Mars	-15973-07-19 13:11 J	-4112515.12	-4112514.95	-4112514.78	0.1669	0.0356
Neptune	-15973-12-27 19:26 J	-4112353.91	-4112353.69	-4112353.47	0.0088	0.0006
Neptune	-15972-08-10 08:52 J	-4112128.35	-4112128.13	-4112127.90	0.0088	0.0011
Neptune	-15971-03-23 22:19 J	-4111902.78	-4111902.57	-4111902.34	0.0088	0.0017
Neptune	-15971-11-04 12:00 J	-4111677.22	-4111677.00	-4111676.78	0.0088	0.0022
Neptune	-15970-06-18 01:26 J	-4111451.65	-4111451.44	-4111451.22	0.0088	0.0027

Neptune	-15969-01-29 14:38 J	-4111226.08	-4111225.89	-4111225.66	0.0088	0.0033
Neptune	-15969-09-11 04:04 J	-4111000.51	-4111000.33	-4111000.11	0.0088	0.0038
Jupiter	-15968-01-31 03:21 J	-4110858.54	-4110858.36	-4110858.18	0.0502	0.0229
Neptune	-15968-04-24 17:45 J	-4110774.94	-4110774.76	-4110774.55	0.0088	0.0042
Jupiter	-15968-09-24 07:40 J	-4110622.36	-4110622.18	-4110622.01	0.0499	0.0251
Neptune	-15968-12-06 07:26 J	-4110549.36	-4110549.19	-4110548.99	0.0088	0.0048
Neptune	-15967-07-19 20:52 J	-4110323.79	-4110323.63	-4110323.43	0.0088	0.0053
Saturn	-15967-11-07 07:11 J	-4110213.39	-4110213.20	-4110213.01	0.0273	0.0113
Neptune	-15966-03-02 10:33 J	-4110098.21	-4110098.06	-4110097.87	0.0088	0.0058
Saturn	-15966-06-24 08:24 J	-4109984.35	-4109984.15	-4109983.94	0.0270	0.0047
Neptune	-15966-10-14 00:00 J	-4109872.64	-4109872.50	-4109872.32	0.0088	0.0063
Saturn	-15965-02-08 07:40 J	-4109755.31	-4109755.18	-4109755.03	0.0268	0.0199
Neptune	-15965-05-26 13:40 J	-4109647.06	-4109646.93	-4109646.77	0.0088	0.0068
Neptune	-15964-01-07 03:21 J	-4109421.47	-4109421.36	-4109421.21	0.0088	0.0073
Neptune	-15964-08-20 17:02 J	-4109195.88	-4109195.79	-4109195.66	0.0088	0.0078
Neptune	-15963-04-03 06:28 J	-4108970.28	-4108970.23	-4108970.12	0.0088	0.0083
Neptune	-15963-11-14 20:38 J	-4108744.67	-4108744.64	-4108744.59	0.0088	0.0087
Jupiter	-15963-12-02 08:38 J	-4108727.22	-4108727.14	-4108727.05	0.0522	0.0471
Jupiter	-15962-07-28 05:31 J	-4108489.47	-4108489.27	-4108489.07	0.0526	0.0096
Jupiter	-15957-10-06 04:48 J	-4106592.43	-4106592.30	-4106592.16	0.0503	0.0362
Jupiter	-15956-05-30 09:21 J	-4106356.31	-4106356.11	-4106355.91	0.0500	0.0119
Saturn	-15951-07-12 18:43 J	-4104486.81	-4104486.72	-4104486.61	0.0288	0.0254
Saturn	-15950-02-27 19:11 J	-4104256.91	-4104256.70	-4104256.49	0.0291	0.0056
Jupiter	-15950-04-01 19:26 J	-4104223.90	-4104223.69	-4104223.49	0.0525	0.0065
Saturn	-15950-10-15 21:50 J	-4104026.77	-4104026.59	-4104026.40	0.0294	0.0152
Jupiter	-15950-11-25 15:50 J	-4103985.89	-4103985.84	-4103985.78	0.0527	0.0505
Jupiter	-15945-06-11 05:31 J	-4102326.30	-4102326.27	-4102326.23	0.0505	0.0494
Jupiter	-15944-02-02 11:02 J	-4102090.24	-4102090.04	-4102089.84	0.0501	0.0015
Jupiter	-15944-09-26 15:35 J	-4101853.92	-4101853.85	-4101853.77	0.0498	0.0459
Mars	-15944-10-04 21:07 J	-4101845.77	-4101845.62	-4101845.48	0.1847	0.1031

Mars	-15941-07-18 10:04 J	-4100828.25	-4100828.08	-4100827.92	0.1662	0.0538
Mars	-15939-05-18 02:38 J	-4100159.49	-4100159.39	-4100159.30	0.1678	0.1375
Uranus	-15939-07-30 20:52 J	-4100085.63	-4100085.63	-4100085.59	0.0146	0.0145
Jupiter	-15939-12-05 09:21 J	-4099958.29	-4099958.11	-4099957.92	0.0523	0.0225
Uranus	-15938-03-14 08:24 J	-4099859.29	-4099859.15	-4099858.99	0.0146	0.0104
Jupiter	-15938-07-31 05:45 J	-4099720.41	-4099720.26	-4099720.11	0.0527	0.0348
Saturn	-15938-10-03 10:19 J	-4099656.15	-4099656.07	-4099655.98	0.0275	0.0250
Uranus	-15938-10-26 19:55 J	-4099632.85	-4099632.67	-4099632.47	0.0146	0.0062
Saturn	-15937-05-19 13:11 J	-4099427.14	-4099426.95	-4099426.75	0.0272	0.0087
Uranus	-15937-06-09 07:40 J	-4099406.39	-4099406.18	-4099405.96	0.0146	0.0020
Saturn	-15936-01-03 14:09 J	-4099198.11	-4099197.91	-4099197.70	0.0270	0.0071
Uranus	-15936-01-21 19:26 J	-4099179.90	-4099179.69	-4099179.48	0.0146	0.0022
Saturn	-15936-08-20 13:11 J	-4098969.05	-4098968.95	-4098968.83	0.0267	0.0223
Uranus	-15936-09-05 07:11 J	-4098953.39	-4098953.20	-4098953.00	0.0146	0.0064
Uranus	-15935-04-19 18:57 J	-4098726.85	-4098726.71	-4098726.55	0.0146	0.0107
Jupiter	-15933-10-08 12:57 J	-4097824.15	-4097823.96	-4097823.76	0.0502	0.0148
Jupiter	-15932-06-01 17:31 J	-4097587.91	-4097587.77	-4097587.61	0.0499	0.0333
Jupiter	-15927-08-09 22:33 J	-4095692.69	-4095692.56	-4095692.41	0.0522	0.0383
Jupiter	-15926-04-04 18:57 J	-4095454.90	-4095454.71	-4095454.52	0.0526	0.0188
Saturn	-15921-01-23 03:50 J	-4093700.47	-4093700.34	-4093700.20	0.0288	0.0223
Jupiter	-15921-06-13 14:52 J	-4093558.04	-4093557.88	-4093557.71	0.0503	0.0282
Saturn	-15921-09-09 04:19 J	-4093470.53	-4093470.32	-4093470.10	0.0291	0.0023
Jupiter	-15920-02-04 19:40 J	-4093321.86	-4093321.68	-4093321.49	0.0500	0.0201
Saturn	-15920-04-27 07:26 J	-4093240.35	-4093240.19	-4093240.02	0.0294	0.0186
Jupiter	-15915-12-08 09:50 J	-4091189.30	-4091189.09	-4091188.89	0.0525	0.0030
Mars	-15912-10-04 14:38 J	-4090158.06	-4090157.89	-4090157.72	0.1856	0.0432
Jupiter	-15909-02-17 15:50 J	-4089291.95	-4089291.84	-4089291.72	0.0504	0.0416
Mars	-15909-07-17 06:00 J	-4089141.34	-4089141.25	-4089141.16	0.1656	0.1405
Jupiter	-15909-10-10 20:24 J	-4089055.85	-4089055.65	-4089055.44	0.0500	0.0067
Saturn	-15908-04-14 15:35 J	-4088869.97	-4088869.85	-4088869.73	0.0275	0.0225

Saturn	-15908-11-29 18:14 J	-4088640.94	-4088640.74	-4088640.53	0.0272	0.0062
Mars	-15907-05-17 00:14 J	-4088472.65	-4088472.49	-4088472.32	0.1671	0.0452
Saturn	-15907-07-16 19:11 J	-4088411.89	-4088411.70	-4088411.50	0.0270	0.0096
Saturn	-15906-03-02 18:14 J	-4088182.82	-4088182.74	-4088182.66	0.0267	0.0247
Jupiter	-15903-08-13 00:14 J	-4086923.69	-4086923.49	-4086923.29	0.0525	0.0133
Jupiter	-15902-04-07 21:35 J	-4086685.70	-4086685.60	-4086685.49	0.0528	0.0443
Neptune	-15902-05-23 03:50 J	-4086640.38	-4086640.34	-4086640.27	0.0089	0.0087
Neptune	-15901-01-03 16:33 J	-4086414.88	-4086414.81	-4086414.71	0.0089	0.0082
Neptune	-15901-08-16 05:31 J	-4086189.38	-4086189.27	-4086189.16	0.0089	0.0077
Neptune	-15900-03-29 17:31 J	-4085963.87	-4085963.77	-4085963.61	0.0089	0.0073
Neptune	-15900-11-10 06:28 J	-4085738.35	-4085738.23	-4085738.07	0.0089	0.0067
Neptune	-15899-06-23 19:11 J	-4085512.83	-4085512.70	-4085512.52	0.0089	0.0062
Neptune	-15898-02-04 07:55 J	-4085287.32	-4085287.17	-4085286.99	0.0089	0.0057
Neptune	-15898-09-17 20:24 J	-4085061.80	-4085061.65	-4085061.45	0.0089	0.0053
Uranus	-15897-02-09 23:45 J	-4084916.58	-4084916.51	-4084916.40	0.0132	0.0122
Neptune	-15897-04-30 09:35 J	-4084836.28	-4084836.10	-4084835.92	0.0089	0.0047
Jupiter	-15897-06-15 22:04 J	-4084789.78	-4084789.58	-4084789.38	0.0501	0.0069
Uranus	-15897-09-23 05:45 J	-4084690.41	-4084690.26	-4084690.09	0.0132	0.0090
Neptune	-15897-12-11 22:04 J	-4084610.77	-4084610.58	-4084610.38	0.0089	0.0042
Jupiter	-15896-02-07 01:55 J	-4084553.53	-4084553.42	-4084553.30	0.0498	0.0407
Uranus	-15896-05-07 11:45 J	-4084464.21	-4084464.01	-4084463.81	0.0132	0.0057
Neptune	-15896-07-25 10:33 J	-4084385.25	-4084385.06	-4084384.85	0.0089	0.0037
Uranus	-15896-12-19 17:31 J	-4084237.98	-4084237.77	-4084237.55	0.0132	0.0025
Neptune	-15895-03-07 23:02 J	-4084159.73	-4084159.54	-4084159.33	0.0089	0.0032
Uranus	-15895-08-02 23:16 J	-4084011.75	-4084011.53	-4084011.31	0.0132	0.0006
Neptune	-15895-10-19 11:31 J	-4083934.21	-4083934.02	-4083933.80	0.0089	0.0027
Uranus	-15894-03-17 04:48 J	-4083785.50	-4083785.30	-4083785.08	0.0132	0.0039
Neptune	-15894-06-02 00:14 J	-4083708.69	-4083708.49	-4083708.27	0.0089	0.0021
Uranus	-15894-10-29 10:19 J	-4083559.25	-4083559.07	-4083558.87	0.0132	0.0070
Neptune	-15893-01-13 12:43 J	-4083483.17	-4083482.97	-4083482.74	0.0089	0.0016

Uranus	-15893-06-11 16:04 J	-4083332.97	-4083332.83	-4083332.69	0.0132	0.0102
Neptune	-15893-08-26 01:26 J	-4083257.65	-4083257.44	-4083257.22	0.0089	0.0010
Neptune	-15892-04-08 13:55 J	-4083032.14	-4083031.92	-4083031.70	0.0089	0.0005
Saturn	-15892-08-04 13:55 J	-4082914.08	-4082913.92	-4082913.75	0.0288	0.0190
Neptune	-15892-11-20 02:24 J	-4082806.61	-4082806.40	-4082806.18	0.0089	0.0001
Saturn	-15891-03-22 14:52 J	-4082684.09	-4082683.88	-4082683.66	0.0291	0.0013
Jupiter	-15891-04-17 14:24 J	-4082658.07	-4082657.90	-4082657.73	0.0523	0.0291
Neptune	-15891-07-03 15:07 J	-4082581.09	-4082580.87	-4082580.65	0.0089	0.0005
Saturn	-15891-11-07 18:14 J	-4082453.87	-4082453.74	-4082453.59	0.0294	0.0221
Jupiter	-15891-12-11 11:02 J	-4082420.21	-4082420.04	-4082419.87	0.0526	0.0284
Neptune	-15890-02-14 03:35 J	-4082355.57	-4082355.35	-4082355.14	0.0089	0.0010
Neptune	-15890-09-27 16:04 J	-4082130.05	-4082129.83	-4082129.62	0.0089	0.0015
Neptune	-15889-05-10 04:33 J	-4081904.52	-4081904.31	-4081904.10	0.0089	0.0021
Neptune	-15889-12-21 16:48 J	-4081679.00	-4081678.80	-4081678.58	0.0089	0.0026
Neptune	-15888-08-04 05:16 J	-4081453.47	-4081453.28	-4081453.06	0.0089	0.0031
Neptune	-15887-03-17 17:45 J	-4081227.94	-4081227.76	-4081227.55	0.0089	0.0036
Neptune	-15887-10-29 06:14 J	-4081002.42	-4081002.24	-4081002.03	0.0089	0.0041
Neptune	-15886-06-11 18:57 J	-4080776.88	-4080776.71	-4080776.51	0.0089	0.0046
Neptune	-15885-01-23 07:26 J	-4080551.36	-4080551.19	-4080551.00	0.0089	0.0051
Jupiter	-15885-02-19 23:02 J	-4080523.72	-4080523.54	-4080523.35	0.0502	0.0204
Neptune	-15885-09-04 19:55 J	-4080325.83	-4080325.67	-4080325.49	0.0089	0.0056
Jupiter	-15885-10-13 03:35 J	-4080287.51	-4080287.35	-4080287.18	0.0499	0.0279
Neptune	-15884-04-18 08:24 J	-4080100.30	-4080100.15	-4080099.99	0.0089	0.0061
Neptune	-15884-11-29 20:52 J	-4079874.77	-4079874.63	-4079874.48	0.0089	0.0066
Neptune	-15883-07-13 09:21 J	-4079649.23	-4079649.11	-4079648.97	0.0089	0.0071
Neptune	-15882-02-23 21:35 J	-4079423.69	-4079423.60	-4079423.47	0.0089	0.0076
Neptune	-15882-10-07 09:50 J	-4079198.15	-4079198.09	-4079197.98	0.0089	0.0081
Neptune	-15881-05-19 22:04 J	-4078972.60	-4078972.58	-4078972.49	0.0089	0.0086
Jupiter	-15880-12-21 04:48 J	-4078392.40	-4078392.30	-4078392.19	0.0521	0.0445
Jupiter	-15879-08-16 00:57 J	-4078154.66	-4078154.46	-4078154.26	0.0525	0.0123

Saturn	-15879-10-25 22:48 J	-4078083.69	-4078083.55	-4078083.40	0.0274	0.0197
Saturn	-15878-06-12 01:26 J	-4077854.65	-4077854.44	-4077854.24	0.0272	0.0035
Mars	-15878-08-02 01:40 J	-4077803.55	-4077803.43	-4077803.30	0.1844	0.1252
Saturn	-15877-01-27 01:40 J	-4077625.61	-4077625.43	-4077625.24	0.0269	0.0122
Mars	-15875-05-15 21:35 J	-4076785.76	-4076785.60	-4076785.43	0.1664	0.0455
Jupiter	-15874-10-26 00:28 J	-4076257.63	-4076257.48	-4076257.33	0.0504	0.0338
Mars	-15873-03-14 13:11 J	-4076117.03	-4076116.95	-4076116.86	0.1680	0.1477
Jupiter	-15873-06-18 05:31 J	-4076021.46	-4076021.27	-4076021.07	0.0500	0.0147
Jupiter	-15867-04-20 13:55 J	-4073889.13	-4073888.92	-4073888.72	0.0524	0.0040
Saturn	-15862-02-15 00:14 J	-4072127.66	-4072127.49	-4072127.30	0.0289	0.0156
Jupiter	-15862-07-01 01:55 J	-4071991.48	-4071991.42	-4071991.34	0.0505	0.0471
Saturn	-15862-10-03 01:40 J	-4071897.64	-4071897.43	-4071897.22	0.0292	0.0048
Jupiter	-15861-02-22 07:40 J	-4071755.38	-4071755.18	-4071754.98	0.0501	0.0014
Saturn	-15861-05-20 05:16 J	-4071667.37	-4071667.28	-4071667.17	0.0295	0.0259
Jupiter	-15861-10-15 12:00 J	-4071519.04	-4071519.00	-4071518.96	0.0498	0.0487
Pluto	-15858-09-28 09:21 J	-4070441.26	-4070441.11	-4070440.92	0.0064	0.0039
Earth	-15858-11-03 15:21 J	-4070405.01	-4070404.86	-4070404.71	0.2643	0.0759
Moon	-15858-11-03 18:14 J	-4070404.89	-4070404.74	-4070404.58	0.2637	0.0856 *
Pluto	-15857-05-10 13:26 J	-4070216.15	-4070215.94	-4070215.72	0.0064	0.0005
Pluto	-15857-12-21 16:48 J	-4069990.97	-4069990.80	-4069990.59	0.0064	0.0031
Jupiter	-15856-12-24 04:19 J	-4069623.51	-4069623.32	-4069623.13	0.0524	0.0200
Jupiter	-15855-08-19 00:57 J	-4069385.59	-4069385.46	-4069385.31	0.0527	0.0377
Uranus	-15855-11-11 12:28 J	-4069301.08	-4069300.98	-4069300.87	0.0146	0.0126
Uranus	-15854-06-25 23:45 J	-4069074.67	-4069074.51	-4069074.32	0.0146	0.0085
Uranus	-15853-02-07 11:31 J	-4068848.22	-4068848.02	-4068847.81	0.0146	0.0043
Uranus	-15853-09-20 23:16 J	-4068621.74	-4068621.53	-4068621.31	0.0146	0.0002
Uranus	-15852-05-05 11:02 J	-4068395.24	-4068395.04	-4068394.83	0.0146	0.0042
Uranus	-15852-12-17 22:33 J	-4068168.72	-4068168.56	-4068168.37	0.0146	0.0085
Uranus	-15851-08-01 10:33 J	-4067942.15	-4067942.06	-4067941.94	0.0146	0.0127
Jupiter	-15850-10-28 08:52 J	-4067489.33	-4067489.13	-4067488.93	0.0501	0.0123

Earth	-15850-11-01 09:35 J	-4067485.18	-4067485.10	-4067485.03	0.2645	0.2299
Saturn	-15849-05-07 04:48 J	-4067297.46	-4067297.30	-4067297.13	0.0274	0.0171
Jupiter	-15849-06-20 12:43 J	-4067253.11	-4067252.97	-4067252.83	0.0498	0.0356
Saturn	-15849-12-22 06:57 J	-4067068.42	-4067068.21	-4067068.00	0.0271	0.0009
Saturn	-15848-08-08 07:11 J	-4066839.37	-4066839.20	-4066839.03	0.0269	0.0147
Mars	-15846-08-01 19:11 J	-4066115.87	-4066115.70	-4066115.53	0.1853	0.0199
Jupiter	-15844-08-28 18:28 J	-4065357.87	-4065357.73	-4065357.58	0.0523	0.0358
Jupiter	-15843-04-23 15:35 J	-4065120.03	-4065119.85	-4065119.66	0.0527	0.0218
Mars	-15843-05-14 17:45 J	-4065098.87	-4065098.76	-4065098.66	0.1658	0.1324
Mars	-15841-03-13 11:31 J	-4064430.18	-4064430.02	-4064429.86	0.1673	0.0544
Jupiter	-15838-07-03 10:19 J	-4063223.24	-4063223.07	-4063222.90	0.0502	0.0258
Jupiter	-15837-02-24 14:24 J	-4062987.08	-4062986.90	-4062986.72	0.0499	0.0225
Saturn	-15833-08-27 10:19 J	-4061341.26	-4061341.07	-4061340.87	0.0289	0.0124
Saturn	-15832-04-14 12:00 J	-4061111.20	-4061111.00	-4061110.79	0.0292	0.0081
Jupiter	-15832-05-03 09:21 J	-4061092.15	-4061092.11	-4061092.07	0.0521	0.0509
Saturn	-15832-11-30 16:04 J	-4060880.84	-4060880.83	-4060880.79	0.0295	0.0293
Jupiter	-15832-12-27 05:31 J	-4060854.48	-4060854.27	-4060854.07	0.0525	0.0057
Jupiter	-15826-03-08 10:19 J	-4058957.19	-4058957.07	-4058956.94	0.0504	0.0394
Jupiter	-15826-10-30 15:21 J	-4058721.05	-4058720.86	-4058720.66	0.0500	0.0092
Jupiter	-15820-08-31 19:40 J	-4056588.88	-4056588.68	-4056588.47	0.0524	0.0105
Saturn	-15820-11-17 12:14 J	-4056511.17	-4056510.99	-4056510.81	0.0273	0.0143
Jupiter	-15819-04-26 16:19 J	-4056350.91	-4056350.82	-4056350.73	0.0527	0.0470
Saturn	-15819-07-04 14:09 J	-4056282.12	-4056281.91	-4056281.70	0.0271	0.0019
Neptune	-15819-09-30 16:48 J	-4056193.86	-4056193.80	-4056193.72	0.0088	0.0083
Saturn	-15818-02-18 13:55 J	-4056053.08	-4056052.92	-4056052.76	0.0269	0.0173
Neptune	-15818-05-14 06:14 J	-4055968.33	-4055968.24	-4055968.14	0.0088	0.0079
Neptune	-15818-12-25 19:11 J	-4055742.80	-4055742.70	-4055742.56	0.0088	0.0074
Neptune	-15817-08-07 08:24 J	-4055517.26	-4055517.15	-4055516.98	0.0088	0.0070
Neptune	-15816-03-20 21:50 J	-4055291.72	-4055291.59	-4055291.41	0.0088	0.0064
Neptune	-15816-11-01 11:16 J	-4055066.17	-4055066.03	-4055065.84	0.0088	0.0059

Neptune -15815-06-15 01:11 J -4054840.62 -4054840.45 -4054840.27 0.0088 0.0054
 Neptune -15814-01-26 14:24 J -4054615.08 -4054614.90 -4054614.70 0.0088 0.0049
 Jupiter -15814-07-05 17:16 J -4054454.98 -4054454.78 -4054454.58 0.0501 0.0044
 Mars -15814-08-01 14:24 J -4054427.96 -4054427.90 -4054427.83 0.1862 0.1717
 Neptune -15814-09-09 03:50 J -4054389.53 -4054389.34 -4054389.14 0.0088 0.0043
 Jupiter -15813-02-26 21:35 J -4054218.69 -4054218.60 -4054218.50 0.0499 0.0436
 Neptune -15813-04-21 17:16 J -4054163.97 -4054163.78 -4054163.57 0.0088 0.0038
 Uranus -15813-05-23 14:24 J -4054132.03 -4054131.90 -4054131.77 0.0132 0.0105
 Neptune -15813-12-03 06:43 J -4053938.41 -4053938.22 -4053938.00 0.0088 0.0034
 Uranus -15812-01-04 20:24 J -4053905.83 -4053905.65 -4053905.47 0.0132 0.0073
 Mars -15812-05-29 06:43 J -4053761.32 -4053761.22 -4053761.12 0.1841 0.1468
 Neptune -15812-07-16 20:24 J -4053712.85 -4053712.65 -4053712.43 0.0088 0.0028
 Uranus -15812-08-19 01:55 J -4053679.62 -4053679.42 -4053679.20 0.0132 0.0041
 Neptune -15811-02-27 10:04 J -4053487.30 -4053487.08 -4053486.86 0.0088 0.0023
 Uranus -15811-04-02 07:55 J -4053453.39 -4053453.17 -4053452.95 0.0132 0.0009
 Neptune -15811-10-10 23:31 J -4053261.74 -4053261.52 -4053261.30 0.0088 0.0017
 Uranus -15811-11-14 13:26 J -4053227.15 -4053226.94 -4053226.71 0.0132 0.0024
 Neptune -15810-05-24 12:57 J -4053036.18 -4053035.96 -4053035.73 0.0088 0.0012
 Uranus -15810-06-28 18:57 J -4053000.90 -4053000.71 -4053000.50 0.0132 0.0056
 Neptune -15809-01-05 02:38 J -4052810.61 -4052810.39 -4052810.16 0.0088 0.0007
 Uranus -15809-02-10 00:43 J -4052774.62 -4052774.47 -4052774.29 0.0132 0.0087
 Mars -15809-03-12 08:38 J -4052743.30 -4052743.14 -4052742.97 0.1666 0.0364
 Neptune -15809-08-17 16:19 J -4052585.05 -4052584.82 -4052584.60 0.0088 0.0002
 Uranus -15809-09-23 06:28 J -4052548.32 -4052548.23 -4052548.12 0.0132 0.0118
 Neptune -15808-03-31 05:45 J -4052359.48 -4052359.26 -4052359.03 0.0088 0.0004
 Jupiter -15808-05-06 08:38 J -4052323.31 -4052323.14 -4052322.96 0.0523 0.0267
 Neptune -15808-11-11 19:26 J -4052133.91 -4052133.69 -4052133.47 0.0088 0.0009
 Jupiter -15808-12-30 05:02 J -4052085.45 -4052085.29 -4052085.13 0.0526 0.0310
 Mars -15807-01-09 23:45 J -4052074.56 -4052074.51 -4052074.45 0.1682 0.1583
 Neptune -15807-06-25 08:52 J -4051908.35 -4051908.13 -4051907.90 0.0088 0.0015

Neptune	-15806-02-05 22:33 J	-4051682.78	-4051682.56	-4051682.34	0.0088	0.0020
Neptune	-15806-09-19 11:45 J	-4051457.21	-4051457.01	-4051456.78	0.0088	0.0025
Neptune	-15805-05-02 01:26 J	-4051231.64	-4051231.44	-4051231.22	0.0088	0.0030
Neptune	-15805-12-13 15:07 J	-4051006.07	-4051005.87	-4051005.66	0.0088	0.0036
Saturn	-15804-07-22 21:21 J	-4050784.62	-4050784.61	-4050784.58	0.0287	0.0286
Neptune	-15804-07-27 04:48 J	-4050780.50	-4050780.30	-4050780.10	0.0088	0.0041
Neptune	-15803-03-09 18:00 J	-4050554.93	-4050554.75	-4050554.54	0.0088	0.0046
Saturn	-15803-03-09 21:07 J	-4050554.82	-4050554.62	-4050554.42	0.0290	0.0088 *
Neptune	-15803-10-21 07:26 J	-4050329.35	-4050329.19	-4050328.99	0.0088	0.0052
Saturn	-15803-10-25 23:02 J	-4050324.73	-4050324.54	-4050324.34	0.0293	0.0119
Jupiter	-15802-03-10 19:11 J	-4050188.89	-4050188.70	-4050188.51	0.0502	0.0178
Neptune	-15802-06-03 21:07 J	-4050103.78	-4050103.62	-4050103.43	0.0088	0.0057
Jupiter	-15802-11-01 23:45 J	-4049952.67	-4049952.51	-4049952.35	0.0499	0.0306
Neptune	-15801-01-15 10:48 J	-4049878.20	-4049878.05	-4049877.88	0.0088	0.0062
Neptune	-15801-08-28 00:28 J	-4049652.62	-4049652.48	-4049652.32	0.0088	0.0067
Neptune	-15800-04-10 13:55 J	-4049427.03	-4049426.92	-4049426.77	0.0088	0.0072
Neptune	-15800-11-22 03:50 J	-4049201.44	-4049201.34	-4049201.23	0.0088	0.0077
Neptune	-15799-07-05 17:16 J	-4048975.85	-4048975.78	-4048975.68	0.0088	0.0082
Neptune	-15798-02-16 06:57 J	-4048750.24	-4048750.21	-4048750.16	0.0088	0.0087
Jupiter	-15796-01-08 23:02 J	-4048057.65	-4048057.54	-4048057.41	0.0522	0.0422
Jupiter	-15796-09-03 19:26 J	-4047819.89	-4047819.69	-4047819.49	0.0526	0.0150
Jupiter	-15791-11-13 20:38 J	-4045922.79	-4045922.64	-4045922.48	0.0503	0.0314
Saturn	-15790-05-30 18:28 J	-4045724.92	-4045724.73	-4045724.54	0.0273	0.0117
Jupiter	-15790-07-08 01:11 J	-4045686.64	-4045686.45	-4045686.26	0.0499	0.0172
Saturn	-15789-01-14 19:55 J	-4045495.88	-4045495.67	-4045495.47	0.0270	0.0044
Saturn	-15789-08-30 19:26 J	-4045266.83	-4045266.69	-4045266.55	0.0268	0.0198
Jupiter	-15784-05-09 09:35 J	-4043554.31	-4043554.10	-4043553.90	0.0525	0.0014
Mars	-15780-05-28 23:45 J	-4042073.69	-4042073.51	-4042073.34	0.1850	0.0062
Jupiter	-15779-07-19 22:04 J	-4041656.67	-4041656.58	-4041656.48	0.0504	0.0446
Jupiter	-15778-03-13 03:07 J	-4041420.58	-4041420.37	-4041420.17	0.0500	0.0040

Mars	-15777-03-11 05:16 J	-4041056.40	-4041056.28	-4041056.17	0.1660	0.1240
Mars	-15775-01-08 22:19 J	-4040387.73	-4040387.57	-4040387.41	0.1675	0.0645
Saturn	-15774-02-02 06:43 J	-4039998.32	-4039998.22	-4039998.13	0.0287	0.0256
Saturn	-15774-09-20 06:28 J	-4039768.44	-4039768.23	-4039768.02	0.0290	0.0057
Saturn	-15773-05-07 08:52 J	-4039538.31	-4039538.13	-4039537.94	0.0293	0.0151
Jupiter	-15772-01-12 00:00 J	-4039288.69	-4039288.50	-4039288.30	0.0524	0.0172
Jupiter	-15772-09-06 20:52 J	-4039050.76	-4039050.63	-4039050.50	0.0527	0.0406
Uranus	-15770-02-23 06:14 J	-4038516.38	-4038516.24	-4038516.09	0.0146	0.0105
Uranus	-15770-10-07 17:45 J	-4038289.95	-4038289.76	-4038289.56	0.0146	0.0063
Uranus	-15769-05-21 05:16 J	-4038063.48	-4038063.28	-4038063.06	0.0146	0.0022
Pluto	-15769-08-20 21:21 J	-4037971.79	-4037971.61	-4037971.42	0.0080	0.0044
Uranus	-15768-01-02 17:16 J	-4037837.00	-4037836.78	-4037836.57	0.0146	0.0022
Pluto	-15768-04-03 08:09 J	-4037746.36	-4037746.16	-4037745.94	0.0080	0.0025
Uranus	-15768-08-17 04:48 J	-4037610.48	-4037610.30	-4037610.09	0.0146	0.0065
Uranus	-15767-03-31 16:48 J	-4037383.94	-4037383.80	-4037383.64	0.0146	0.0106
Jupiter	-15767-11-16 03:21 J	-4037154.56	-4037154.36	-4037154.17	0.0502	0.0100
Jupiter	-15766-07-10 07:40 J	-4036918.31	-4036918.18	-4036918.05	0.0499	0.0383
Saturn	-15761-04-24 22:33 J	-4035167.63	-4035167.56	-4035167.47	0.0275	0.0253
Jupiter	-15761-09-16 14:52 J	-4035023.03	-4035022.88	-4035022.71	0.0522	0.0329
Saturn	-15761-12-10 01:40 J	-4034938.62	-4034938.43	-4034938.23	0.0273	0.0089
Jupiter	-15760-05-12 11:16 J	-4034785.21	-4034785.03	-4034784.85	0.0526	0.0247
Saturn	-15760-07-27 02:52 J	-4034709.58	-4034709.38	-4034709.18	0.0270	0.0071
Saturn	-15759-03-13 01:55 J	-4034480.53	-4034480.42	-4034480.30	0.0268	0.0223
Jupiter	-15755-07-22 04:48 J	-4032888.48	-4032888.30	-4032888.12	0.0503	0.0234
Jupiter	-15754-03-15 09:35 J	-4032652.27	-4032652.10	-4032651.92	0.0500	0.0253
Earth	-15752-05-08 16:48 J	-4031866.95	-4031866.80	-4031866.65	0.2690	0.0971
Moon	-15752-05-08 21:07 J	-4031866.75	-4031866.62	-4031866.49	0.2686	0.1745 *
Jupiter	-15749-05-22 04:19 J	-4030757.39	-4030757.32	-4030757.25	0.0521	0.0486
Jupiter	-15748-01-15 00:00 J	-4030519.70	-4030519.50	-4030519.30	0.0525	0.0083
Mars	-15748-05-28 19:11 J	-4030385.81	-4030385.70	-4030385.60	0.1860	0.1476

Mars	-15746-03-26 11:45 J	-4029719.08	-4029719.01	-4029718.95	0.1838	0.1686
Saturn	-15745-08-14 16:19 J	-4029211.95	-4029211.82	-4029211.68	0.0288	0.0223
Saturn	-15744-04-01 16:48 J	-4028982.01	-4028981.80	-4028981.58	0.0291	0.0022
Saturn	-15744-11-17 19:40 J	-4028751.84	-4028751.68	-4028751.51	0.0294	0.0188
Mars	-15743-01-07 19:55 J	-4028700.84	-4028700.67	-4028700.50	0.1668	0.0272
Jupiter	-15743-03-27 06:28 J	-4028622.36	-4028622.23	-4028622.09	0.0504	0.0370
Jupiter	-15743-11-18 11:45 J	-4028386.20	-4028386.01	-4028385.81	0.0500	0.0119
Neptune	-15737-04-06 03:21 J	-4026420.39	-4026420.36	-4026420.28	0.0089	0.0087
Jupiter	-15737-09-19 14:09 J	-4026254.11	-4026253.91	-4026253.70	0.0524	0.0080
Neptune	-15737-11-17 16:04 J	-4026194.89	-4026194.83	-4026194.71	0.0089	0.0082
Jupiter	-15736-05-15 11:02 J	-4026016.10	-4026016.04	-4026015.98	0.0527	0.0498
Neptune	-15736-07-01 04:48 J	-4025969.38	-4025969.30	-4025969.16	0.0089	0.0077
Neptune	-15735-02-11 17:31 J	-4025743.87	-4025743.77	-4025743.61	0.0089	0.0072
Neptune	-15735-09-25 06:43 J	-4025518.36	-4025518.22	-4025518.07	0.0089	0.0066
Neptune	-15734-05-08 19:26 J	-4025292.84	-4025292.69	-4025292.53	0.0089	0.0060
Neptune	-15734-12-20 07:55 J	-4025067.33	-4025067.17	-4025066.99	0.0089	0.0056
Neptune	-15733-08-01 20:38 J	-4024841.81	-4024841.64	-4024841.45	0.0089	0.0050
Neptune	-15732-03-15 09:07 J	-4024616.29	-4024616.12	-4024615.92	0.0089	0.0045
Neptune	-15732-10-26 22:04 J	-4024390.77	-4024390.58	-4024390.38	0.0089	0.0040
Saturn	-15732-11-05 04:19 J	-4024381.42	-4024381.32	-4024381.19	0.0274	0.0228
Jupiter	-15732-11-30 08:24 J	-4024356.17	-4024356.15	-4024356.13	0.0505	0.0501
Neptune	-15731-06-09 10:48 J	-4024165.24	-4024165.05	-4024164.85	0.0089	0.0034
Saturn	-15731-06-22 07:26 J	-4024152.39	-4024152.19	-4024151.99	0.0272	0.0064
Jupiter	-15731-07-24 13:55 J	-4024120.13	-4024119.92	-4024119.72	0.0501	0.0017
Neptune	-15730-01-20 23:16 J	-4023939.73	-4023939.53	-4023939.32	0.0089	0.0029
Saturn	-15730-02-06 08:09 J	-4023923.36	-4023923.16	-4023922.97	0.0269	0.0095
Jupiter	-15730-03-17 17:45 J	-4023883.83	-4023883.76	-4023883.69	0.0498	0.0462
Neptune	-15730-09-03 11:45 J	-4023714.21	-4023714.01	-4023713.79	0.0089	0.0024
Saturn	-15730-09-23 06:57 J	-4023694.28	-4023694.21	-4023694.13	0.0267	0.0247
Uranus	-15729-01-21 23:45 J	-4023573.60	-4023573.51	-4023573.41	0.0133	0.0120

Neptune	-15729-04-16 00:28 J	-4023488.69	-4023488.48	-4023488.27	0.0089	0.0018
Uranus	-15729-09-04 05:45 J	-4023347.42	-4023347.26	-4023347.09	0.0132	0.0088
Neptune	-15729-11-27 12:57 J	-4023263.17	-4023262.96	-4023262.74	0.0089	0.0013
Uranus	-15728-04-18 11:31 J	-4023121.22	-4023121.02	-4023120.82	0.0132	0.0056
Neptune	-15728-07-11 01:40 J	-4023037.64	-4023037.43	-4023037.21	0.0089	0.0008
Uranus	-15728-11-30 17:16 J	-4022894.99	-4022894.78	-4022894.56	0.0132	0.0024
Neptune	-15727-02-21 14:09 J	-4022812.12	-4022811.91	-4022811.69	0.0089	0.0003
Uranus	-15727-07-14 23:02 J	-4022668.75	-4022668.54	-4022668.31	0.0132	0.0009
Neptune	-15727-10-05 02:38 J	-4022586.61	-4022586.39	-4022586.17	0.0089	0.0003
Uranus	-15726-02-26 05:02 J	-4022442.50	-4022442.29	-4022442.08	0.0132	0.0041
Neptune	-15726-05-18 15:07 J	-4022361.08	-4022360.87	-4022360.65	0.0089	0.0008
Uranus	-15726-10-10 10:33 J	-4022216.24	-4022216.06	-4022215.87	0.0132	0.0073
Neptune	-15726-12-30 03:35 J	-4022135.56	-4022135.35	-4022135.13	0.0089	0.0013
Uranus	-15725-05-23 16:04 J	-4021989.95	-4021989.83	-4021989.69	0.0132	0.0104
Jupiter	-15725-05-25 04:04 J	-4021988.51	-4021988.33	-4021988.14	0.0523	0.0240
Neptune	-15725-08-11 15:50 J	-4021910.04	-4021909.84	-4021909.61	0.0089	0.0019
Jupiter	-15724-01-18 01:11 J	-4021750.60	-4021750.45	-4021750.29	0.0527	0.0341
Neptune	-15724-03-25 04:19 J	-4021684.52	-4021684.32	-4021684.10	0.0089	0.0025
Neptune	-15724-11-05 17:02 J	-4021458.99	-4021458.79	-4021458.58	0.0089	0.0029
Neptune	-15723-06-19 05:45 J	-4021233.46	-4021233.26	-4021233.06	0.0089	0.0034
Neptune	-15722-01-30 18:00 J	-4021007.93	-4021007.75	-4021007.55	0.0089	0.0040
Neptune	-15722-09-13 06:28 J	-4020782.41	-4020782.23	-4020782.03	0.0089	0.0045
Neptune	-15721-04-25 18:57 J	-4020556.88	-4020556.71	-4020556.52	0.0089	0.0050
Neptune	-15721-12-07 07:26 J	-4020331.35	-4020331.19	-4020331.01	0.0089	0.0055
Neptune	-15720-07-20 20:09 J	-4020105.81	-4020105.66	-4020105.50	0.0089	0.0060
Neptune	-15719-03-03 08:38 J	-4019880.28	-4019880.14	-4019879.99	0.0089	0.0065
Jupiter	-15719-03-29 15:35 J	-4019854.04	-4019853.85	-4019853.66	0.0502	0.0152
Neptune	-15719-10-14 21:07 J	-4019654.75	-4019654.62	-4019654.49	0.0089	0.0070
Jupiter	-15719-11-20 19:40 J	-4019617.83	-4019617.68	-4019617.53	0.0499	0.0333
Neptune	-15718-05-28 09:07 J	-4019429.21	-4019429.12	-4019428.98	0.0089	0.0076

Neptune	-15717-01-08 22:04 J	-4019203.67	-4019203.58	-4019203.49	0.0089	0.0080
Neptune	-15717-08-21 10:33 J	-4018978.12	-4018978.06	-4018978.00	0.0089	0.0085
Saturn	-15715-02-25 00:00 J	-4018425.65	-4018425.50	-4018425.33	0.0288	0.0195
Saturn	-15715-10-13 00:43 J	-4018195.68	-4018195.47	-4018195.25	0.0291	0.0009
Mars	-15714-03-26 04:48 J	-4018031.47	-4018031.30	-4018031.13	0.1847	0.0258
Saturn	-15714-05-31 03:50 J	-4017965.47	-4017965.34	-4017965.19	0.0294	0.0218
Jupiter	-15713-01-28 19:40 J	-4017722.81	-4017722.68	-4017722.55	0.0522	0.0394
Jupiter	-15713-09-22 16:04 J	-4017485.02	-4017484.83	-4017484.64	0.0526	0.0182
Mars	-15711-01-06 16:33 J	-4017013.93	-4017013.81	-4017013.69	0.1662	0.1153
Mars	-15710-11-06 09:35 J	-4016345.26	-4016345.10	-4016344.95	0.1677	0.0739
Jupiter	-15708-12-02 15:07 J	-4015588.03	-4015587.87	-4015587.70	0.0503	0.0290
Jupiter	-15707-07-26 20:09 J	-4015351.85	-4015351.66	-4015351.48	0.0500	0.0200
Saturn	-15702-05-18 11:45 J	-4013595.15	-4013595.01	-4013594.87	0.0274	0.0200
Saturn	-15701-01-02 13:55 J	-4013366.12	-4013365.92	-4013365.71	0.0272	0.0037
Jupiter	-15701-05-28 06:43 J	-4013219.42	-4013219.22	-4013219.01	0.0524	0.0021
Saturn	-15701-08-18 14:24 J	-4013137.08	-4013136.90	-4013136.71	0.0269	0.0121
Jupiter	-15696-08-07 16:19 J	-4011321.92	-4011321.82	-4011321.71	0.0505	0.0425
Jupiter	-15695-03-31 22:04 J	-4011085.78	-4011085.58	-4011085.38	0.0501	0.0065
Jupiter	-15689-01-31 19:55 J	-4008953.86	-4008953.67	-4008953.47	0.0523	0.0144
Jupiter	-15689-09-25 16:19 J	-4008715.93	-4008715.82	-4008715.70	0.0527	0.0435
Uranus	-15687-10-23 13:55 J	-4007958.01	-4007957.92	-4007957.79	0.0146	0.0124
Uranus	-15686-06-07 01:40 J	-4007731.60	-4007731.43	-4007731.24	0.0146	0.0082
Saturn	-15686-09-07 08:38 J	-4007639.32	-4007639.14	-4007638.96	0.0289	0.0163
Uranus	-15685-01-19 13:11 J	-4007505.14	-4007504.95	-4007504.73	0.0146	0.0040
Saturn	-15685-04-24 09:50 J	-4007409.31	-4007409.09	-4007408.88	0.0292	0.0041
Uranus	-15685-09-02 01:11 J	-4007278.66	-4007278.45	-4007278.23	0.0146	0.0003
Saturn	-15685-12-10 13:26 J	-4007179.04	-4007178.94	-4007178.83	0.0295	0.0253
Uranus	-15684-04-16 12:57 J	-4007052.16	-4007051.96	-4007051.75	0.0146	0.0045
Uranus	-15684-11-29 00:43 J	-4006825.64	-4006825.47	-4006825.29	0.0146	0.0088
Jupiter	-15684-12-05 00:14 J	-4006819.69	-4006819.49	-4006819.29	0.0502	0.0071

Uranus	-15683-07-13 12:28 J	-4006599.06	-4006598.98	-4006598.87	0.0146	0.0130
Jupiter	-15683-07-29 04:48 J	-4006583.41	-4006583.30	-4006583.18	0.0499	0.0413
Mars	-15682-03-25 23:02 J	-4006343.67	-4006343.54	-4006343.41	0.1857	0.1225
Jupiter	-15678-10-06 10:19 J	-4004688.24	-4004688.07	-4004687.90	0.0522	0.0303
Mars	-15678-11-05 06:57 J	-4004658.38	-4004658.21	-4004658.03	0.1670	0.0182
Jupiter	-15677-05-31 06:28 J	-4004450.40	-4004450.23	-4004450.05	0.0526	0.0276
Saturn	-15673-11-27 16:48 J	-4002808.95	-4002808.80	-4002808.63	0.0274	0.0175
Saturn	-15672-07-14 19:11 J	-4002579.91	-4002579.70	-4002579.49	0.0271	0.0013
Jupiter	-15672-08-10 02:38 J	-4002553.57	-4002553.39	-4002553.21	0.0503	0.0206
Saturn	-15671-02-28 19:11 J	-4002350.87	-4002350.70	-4002350.52	0.0269	0.0144
Jupiter	-15671-04-03 07:11 J	-4002317.37	-4002317.20	-4002317.04	0.0499	0.0283
Jupiter	-15666-06-11 00:28 J	-4000422.58	-4000422.48	-4000422.39	0.0521	0.0459
Jupiter	-15665-02-03 20:52 J	-4000184.83	-4000184.63	-4000184.43	0.0526	0.0115
Jupiter	-15660-04-15 04:19 J	-3998287.47	-3998287.32	-3998287.17	0.0504	0.0341
Jupiter	-15660-12-07 09:07 J	-3998051.31	-3998051.12	-3998050.93	0.0500	0.0149
Saturn	-15656-03-19 14:52 J	-3996853.06	-3996852.88	-3996852.69	0.0289	0.0138
Saturn	-15656-11-04 16:19 J	-3996623.02	-3996622.82	-3996622.61	0.0292	0.0068
Saturn	-15655-06-22 20:24 J	-3996392.71	-3996392.65	-3996392.59	0.0295	0.0280
Neptune	-15654-01-02 03:35 J	-3996199.37	-3996199.35	-3996199.33	0.0088	0.0088
Neptune	-15654-08-15 16:04 J	-3995973.87	-3995973.83	-3995973.72	0.0088	0.0084
Jupiter	-15654-10-09 12:14 J	-3995919.20	-3995918.99	-3995918.79	0.0524	0.0046
Neptune	-15653-03-28 06:14 J	-3995748.34	-3995748.24	-3995748.14	0.0088	0.0078
Neptune	-15653-11-08 19:40 J	-3995522.80	-3995522.68	-3995522.55	0.0088	0.0073
Neptune	-15652-06-22 08:52 J	-3995297.26	-3995297.13	-3995296.98	0.0088	0.0068
Neptune	-15651-02-02 22:04 J	-3995071.72	-3995071.58	-3995071.41	0.0088	0.0063
Neptune	-15651-09-16 11:16 J	-3994846.18	-3994846.03	-3994845.84	0.0088	0.0058
Neptune	-15650-04-30 00:43 J	-3994620.63	-3994620.47	-3994620.27	0.0088	0.0052
Neptune	-15650-12-11 14:09 J	-3994395.08	-3994394.91	-3994394.70	0.0088	0.0047
Neptune	-15649-07-24 03:50 J	-3994169.53	-3994169.34	-3994169.13	0.0088	0.0042
Jupiter	-15649-12-19 03:07 J	-3994021.43	-3994021.37	-3994021.30	0.0505	0.0479

Mars -15648-01-20 09:21 J -3993989.28 -3993989.11 -3993988.94 0.1844 0.0485
 Neptune -15648-03-06 17:16 J -3993943.98 -3993943.78 -3993943.57 0.0088 0.0036
 Jupiter -15648-08-12 09:07 J -3993785.32 -3993785.12 -3993784.92 0.0501 0.0012
 Neptune -15648-10-18 06:28 J -3993718.42 -3993718.23 -3993718.00 0.0088 0.0031
 Jupiter -15647-04-05 13:40 J -3993548.96 -3993548.93 -3993548.90 0.0499 0.0492
 Neptune -15647-05-31 20:09 J -3993492.87 -3993492.66 -3993492.44 0.0088 0.0026
 Neptune -15646-01-12 09:35 J -3993267.31 -3993267.10 -3993266.87 0.0088 0.0021
 Neptune -15646-08-25 23:02 J -3993041.75 -3993041.54 -3993041.31 0.0088 0.0015
 Mars -15646-11-04 04:04 J -3992971.47 -3992971.33 -3992971.20 0.1664 0.1067
 Neptune -15645-04-07 12:43 J -3992816.19 -3992815.97 -3992815.74 0.0088 0.0010
 Uranus -15645-05-04 14:52 J -3992789.00 -3992788.88 -3992788.72 0.0132 0.0103
 Neptune -15645-11-19 02:24 J -3992590.62 -3992590.40 -3992590.17 0.0088 0.0004
 Uranus -15645-12-16 21:21 J -3992562.80 -3992562.61 -3992562.42 0.0132 0.0070
 Neptune -15644-07-02 16:04 J -3992365.06 -3992364.83 -3992364.61 0.0088 0.0002
 Uranus -15644-07-31 03:21 J -3992336.58 -3992336.36 -3992336.15 0.0132 0.0038
 Mars -15644-09-02 19:55 J -3992302.82 -3992302.67 -3992302.52 0.1680 0.0845
 Neptune -15643-02-13 05:31 J -3992139.49 -3992139.27 -3992139.04 0.0088 0.0007
 Uranus -15643-03-14 09:07 J -3992110.34 -3992110.12 -3992109.90 0.0132 0.0005
 Saturn -15643-06-09 22:48 J -3992022.72 -3992022.55 -3992022.37 0.0274 0.0149
 Neptune -15643-09-26 18:57 J -3991913.93 -3991913.71 -3991913.48 0.0088 0.0012
 Uranus -15643-10-26 14:38 J -3991884.10 -3991883.89 -3991883.67 0.0132 0.0027
 Saturn -15642-01-25 00:43 J -3991793.68 -3991793.47 -3991793.26 0.0271 0.0014
 Neptune -15642-05-10 08:38 J -3991688.36 -3991688.14 -3991687.92 0.0088 0.0018
 Uranus -15642-06-09 20:09 J -3991657.84 -3991657.66 -3991657.45 0.0132 0.0059
 Jupiter -15642-06-14 03:35 J -3991653.54 -3991653.35 -3991653.16 0.0523 0.0204
 Saturn -15642-09-11 00:14 J -3991564.64 -3991564.49 -3991564.32 0.0269 0.0169
 Neptune -15642-12-21 22:04 J -3991462.79 -3991462.58 -3991462.35 0.0088 0.0023
 Uranus -15641-01-22 02:24 J -3991431.56 -3991431.40 -3991431.24 0.0132 0.0091
 Jupiter -15641-02-07 00:00 J -3991415.64 -3991415.50 -3991415.36 0.0526 0.0377
 Neptune -15641-08-03 11:45 J -3991237.22 -3991237.01 -3991236.79 0.0088 0.0029

Uranus	-15641-09-04 07:40 J	-3991205.25	-3991205.18	-3991205.09	0.0132	0.0123
Neptune	-15640-03-17 00:57 J	-3991011.65	-3991011.46	-3991011.23	0.0088	0.0035
Neptune	-15640-10-28 14:38 J	-3990786.08	-3990785.89	-3990785.68	0.0088	0.0040
Neptune	-15639-06-11 04:19 J	-3990560.51	-3990560.32	-3990560.12	0.0088	0.0045
Neptune	-15638-01-22 17:31 J	-3990334.93	-3990334.77	-3990334.56	0.0088	0.0051
Neptune	-15638-09-05 07:11 J	-3990109.36	-3990109.20	-3990109.01	0.0088	0.0056
Neptune	-15637-04-17 20:52 J	-3989883.78	-3989883.63	-3989883.46	0.0088	0.0061
Neptune	-15637-11-29 10:33 J	-3989658.20	-3989658.06	-3989657.90	0.0088	0.0066
Jupiter	-15636-04-17 10:48 J	-3989519.24	-3989519.05	-3989518.85	0.0502	0.0125
Neptune	-15636-07-12 23:45 J	-3989432.62	-3989432.51	-3989432.35	0.0088	0.0072
Jupiter	-15636-12-09 15:35 J	-3989282.98	-3989282.85	-3989282.71	0.0499	0.0363
Neptune	-15635-02-23 13:26 J	-3989207.03	-3989206.94	-3989206.81	0.0088	0.0077
Neptune	-15635-10-07 02:52 J	-3988981.44	-3988981.38	-3988981.27	0.0088	0.0082
Neptune	-15634-05-20 16:33 J	-3988755.83	-3988755.81	-3988755.74	0.0088	0.0087
Jupiter	-15630-02-16 17:31 J	-3987387.91	-3987387.77	-3987387.62	0.0521	0.0364
Jupiter	-15630-10-12 13:11 J	-3987150.13	-3987149.95	-3987149.76	0.0525	0.0214
Saturn	-15627-09-29 21:50 J	-3986066.79	-3986066.59	-3986066.39	0.0290	0.0107
Saturn	-15626-05-17 23:45 J	-3985836.71	-3985836.51	-3985836.31	0.0293	0.0100
Jupiter	-15625-12-21 12:57 J	-3985253.13	-3985252.96	-3985252.79	0.0504	0.0261
Jupiter	-15624-08-14 18:14 J	-3985016.92	-3985016.74	-3985016.56	0.0500	0.0231
Jupiter	-15619-10-22 08:09 J	-3983122.17	-3983122.16	-3983122.14	0.0520	0.0518
Jupiter	-15618-06-17 03:35 J	-3982884.56	-3982884.35	-3982884.15	0.0525	0.0052
Mars	-15616-01-20 03:21 J	-3982301.51	-3982301.36	-3982301.22	0.1854	0.0983
Moon	-15615-11-03 15:21 J	-3981649.01	-3981648.86	-3981648.72	0.2648	0.0983
Earth	-15615-11-03 19:40 J	-3981648.83	-3981648.68	-3981648.54	0.2644	0.1060 *
Saturn	-15614-12-21 02:52 J	-3981236.55	-3981236.38	-3981236.19	0.0273	0.0126
Saturn	-15613-08-06 04:33 J	-3981007.51	-3981007.31	-3981007.10	0.0270	0.0036
Jupiter	-15613-08-26 15:35 J	-3980986.97	-3980986.85	-3980986.72	0.0505	0.0395
Saturn	-15612-03-23 04:04 J	-3980778.47	-3980778.33	-3980778.18	0.0268	0.0190
Jupiter	-15612-04-19 20:52 J	-3980750.82	-3980750.63	-3980750.43	0.0501	0.0099

Mars	-15612-09-01 18:00 J	-3980615.93	-3980615.75	-3980615.58	0.1673	0.0092
Pluto	-15609-04-12 13:55 J	-3979662.08	-3979661.92	-3979661.72	0.0064	0.0037
Pluto	-15609-11-23 18:00 J	-3979436.96	-3979436.75	-3979436.53	0.0064	0.0003
Pluto	-15608-07-06 22:04 J	-3979211.77	-3979211.58	-3979211.39	0.0064	0.0032
Moon	-15607-11-01 12:43 J	-3978729.06	-3978728.97	-3978728.88	0.2653	0.2115
Earth	-15607-11-01 13:26 J	-3978729.04	-3978728.94	-3978728.83	0.2646	0.2008 *
Jupiter	-15606-02-19 18:00 J	-3978618.95	-3978618.75	-3978618.55	0.0524	0.0111
Jupiter	-15606-10-15 14:52 J	-3978380.97	-3978380.88	-3978380.79	0.0527	0.0471
Uranus	-15603-06-22 22:48 J	-3977399.60	-3977399.55	-3977399.50	0.0146	0.0142
Uranus	-15602-02-04 10:04 J	-3977173.22	-3977173.08	-3977172.91	0.0146	0.0100
Uranus	-15602-09-18 21:50 J	-3976946.78	-3976946.59	-3976946.39	0.0146	0.0058
Uranus	-15601-05-02 09:35 J	-3976720.31	-3976720.10	-3976719.88	0.0146	0.0015
Uranus	-15601-12-14 21:21 J	-3976493.82	-3976493.61	-3976493.40	0.0146	0.0028
Jupiter	-15601-12-23 23:02 J	-3976484.74	-3976484.54	-3976484.33	0.0501	0.0039
Uranus	-15600-07-29 09:07 J	-3976267.29	-3976267.12	-3976266.92	0.0146	0.0071
Jupiter	-15600-08-17 03:35 J	-3976248.44	-3976248.35	-3976248.26	0.0499	0.0446
Uranus	-15599-03-12 21:21 J	-3976040.75	-3976040.61	-3976040.48	0.0146	0.0113
Saturn	-15598-08-25 02:38 J	-3975510.42	-3975510.39	-3975510.35	0.0287	0.0282
Saturn	-15597-04-11 02:09 J	-3975280.61	-3975280.41	-3975280.20	0.0290	0.0084
Saturn	-15597-11-27 04:19 J	-3975050.51	-3975050.32	-3975050.12	0.0293	0.0124
Jupiter	-15595-10-25 09:50 J	-3974353.26	-3974353.09	-3974352.91	0.0522	0.0268
Jupiter	-15594-06-20 06:14 J	-3974115.40	-3974115.24	-3974115.07	0.0526	0.0316
Jupiter	-15589-08-28 22:33 J	-3972218.74	-3972218.56	-3972218.36	0.0503	0.0179
Jupiter	-15588-04-22 03:35 J	-3971982.51	-3971982.35	-3971982.19	0.0500	0.0313
Saturn	-15585-11-15 04:33 J	-3970679.36	-3970679.31	-3970679.25	0.0276	0.0266
Saturn	-15584-07-02 08:09 J	-3970450.36	-3970450.16	-3970449.97	0.0273	0.0100
Saturn	-15583-02-16 09:21 J	-3970221.32	-3970221.11	-3970220.91	0.0270	0.0061
Jupiter	-15583-06-30 02:24 J	-3970087.52	-3970087.40	-3970087.28	0.0521	0.0422
Saturn	-15583-10-03 08:24 J	-3969992.27	-3969992.15	-3969992.02	0.0268	0.0214
Mars	-15583-11-17 14:38 J	-3969947.05	-3969946.89	-3969946.73	0.1842	0.0701

Jupiter	-15582-02-22 22:04 J	-3969849.77	-3969849.58	-3969849.38	0.0525	0.0156
Mars	-15580-08-31 15:07 J	-3968929.01	-3968928.87	-3968928.73	0.1666	0.0979
Mars	-15578-07-01 06:43 J	-3968260.36	-3968260.22	-3968260.08	0.1682	0.0946
Jupiter	-15577-05-04 00:14 J	-3967952.65	-3967952.49	-3967952.33	0.0504	0.0315
Jupiter	-15577-12-26 05:45 J	-3967716.45	-3967716.26	-3967716.07	0.0501	0.0180
Neptune	-15572-02-19 03:21 J	-3966200.40	-3966200.36	-3966200.28	0.0089	0.0085
Neptune	-15572-10-02 15:50 J	-3965974.91	-3965974.84	-3965974.72	0.0089	0.0081
Neptune	-15571-05-16 05:16 J	-3965749.40	-3965749.28	-3965749.17	0.0089	0.0075
Jupiter	-15571-10-28 11:45 J	-3965584.22	-3965584.01	-3965583.81	0.0524	0.0009
Neptune	-15571-12-27 17:31 J	-3965523.89	-3965523.77	-3965523.62	0.0089	0.0070
Neptune	-15570-08-10 06:00 J	-3965298.38	-3965298.25	-3965298.08	0.0089	0.0065
Neptune	-15569-03-22 18:43 J	-3965072.87	-3965072.72	-3965072.54	0.0089	0.0059
Neptune	-15569-11-03 07:11 J	-3964847.35	-3964847.20	-3964847.01	0.0089	0.0054
Saturn	-15568-03-06 08:09 J	-3964724.25	-3964724.16	-3964724.06	0.0287	0.0255
Neptune	-15568-06-16 20:24 J	-3964621.83	-3964621.65	-3964621.46	0.0089	0.0048
Saturn	-15568-10-22 07:55 J	-3964494.38	-3964494.17	-3964493.96	0.0291	0.0056
Neptune	-15567-01-28 08:52 J	-3964396.31	-3964396.13	-3964395.93	0.0089	0.0043
Saturn	-15567-06-09 10:19 J	-3964264.25	-3964264.07	-3964263.88	0.0293	0.0154
Neptune	-15567-09-10 21:21 J	-3964170.79	-3964170.61	-3964170.40	0.0089	0.0038
Neptune	-15566-04-24 10:04 J	-3963945.27	-3963945.08	-3963944.87	0.0089	0.0033
Neptune	-15566-12-05 22:48 J	-3963719.75	-3963719.55	-3963719.34	0.0089	0.0027
Jupiter	-15565-01-08 02:09 J	-3963686.49	-3963686.41	-3963686.32	0.0505	0.0450
Neptune	-15565-07-18 11:31 J	-3963494.23	-3963494.02	-3963493.81	0.0089	0.0022
Jupiter	-15565-08-31 08:24 J	-3963450.35	-3963450.15	-3963449.94	0.0501	0.0046
Neptune	-15564-03-01 00:00 J	-3963268.71	-3963268.50	-3963268.28	0.0089	0.0016
Neptune	-15564-10-12 12:28 J	-3963043.19	-3963042.98	-3963042.76	0.0089	0.0011
Neptune	-15563-05-26 01:11 J	-3962817.66	-3962817.45	-3962817.23	0.0089	0.0005
Neptune	-15562-01-06 13:40 J	-3962592.14	-3962591.93	-3962591.71	0.0089	0.0001
Neptune	-15562-08-20 02:09 J	-3962366.62	-3962366.41	-3962366.19	0.0089	0.0006
Uranus	-15561-01-03 01:55 J	-3962230.53	-3962230.42	-3962230.32	0.0132	0.0116

Neptune	-15561-04-01 14:38 J	-3962141.10	-3962140.89	-3962140.67	0.0089	0.0011
Uranus	-15561-08-16 07:40 J	-3962004.34	-3962004.18	-3962004.00	0.0132	0.0084
Neptune	-15561-11-13 03:07 J	-3961915.58	-3961915.37	-3961915.16	0.0089	0.0017
Uranus	-15560-03-30 13:40 J	-3961778.13	-3961777.93	-3961777.73	0.0132	0.0051
Neptune	-15560-06-26 15:35 J	-3961690.05	-3961689.85	-3961689.63	0.0089	0.0022
Uranus	-15560-11-11 19:26 J	-3961551.91	-3961551.69	-3961551.47	0.0132	0.0019
Neptune	-15559-02-07 04:04 J	-3961464.53	-3961464.33	-3961464.12	0.0089	0.0027
Uranus	-15559-06-26 01:11 J	-3961325.67	-3961325.45	-3961325.23	0.0132	0.0013
Jupiter	-15559-07-03 02:09 J	-3961318.60	-3961318.41	-3961318.21	0.0523	0.0172
Neptune	-15559-09-20 16:19 J	-3961239.01	-3961238.82	-3961238.60	0.0089	0.0033
Uranus	-15558-02-07 06:57 J	-3961099.41	-3961099.21	-3961099.00	0.0132	0.0045
Jupiter	-15558-02-25 22:33 J	-3961080.69	-3961080.56	-3961080.43	0.0526	0.0412
Neptune	-15558-05-04 04:48 J	-3961013.48	-3961013.30	-3961013.09	0.0089	0.0038
Uranus	-15558-09-21 12:28 J	-3960873.15	-3960872.98	-3960872.79	0.0132	0.0077
Neptune	-15558-12-15 17:31 J	-3960787.96	-3960787.77	-3960787.58	0.0089	0.0043
Uranus	-15557-05-04 18:00 J	-3960646.86	-3960646.75	-3960646.61	0.0132	0.0109
Neptune	-15557-07-28 05:45 J	-3960562.42	-3960562.26	-3960562.06	0.0089	0.0049
Neptune	-15556-03-10 18:14 J	-3960336.89	-3960336.74	-3960336.55	0.0089	0.0054
Neptune	-15556-10-22 06:57 J	-3960111.36	-3960111.21	-3960111.04	0.0089	0.0059
Saturn	-15555-05-28 07:55 J	-3959893.26	-3959893.17	-3959893.07	0.0275	0.0244
Neptune	-15555-06-04 19:40 J	-3959885.83	-3959885.68	-3959885.53	0.0089	0.0064
Saturn	-15554-01-12 11:02 J	-3959664.24	-3959664.04	-3959663.84	0.0272	0.0079
Neptune	-15554-01-16 07:40 J	-3959660.29	-3959660.18	-3959660.03	0.0089	0.0070
Saturn	-15554-08-29 12:00 J	-3959435.20	-3959435.00	-3959434.80	0.0270	0.0081
Neptune	-15554-08-29 20:09 J	-3959434.76	-3959434.66	-3959434.52	0.0089	0.0075
Neptune	-15553-04-11 08:38 J	-3959209.21	-3959209.14	-3959209.03	0.0089	0.0080
Saturn	-15553-04-14 11:02 J	-3959206.14	-3959206.04	-3959205.94	0.0267	0.0233
Jupiter	-15553-05-06 11:31 J	-3959184.22	-3959184.02	-3959183.83	0.0502	0.0091
Neptune	-15553-11-22 21:07 J	-3958983.66	-3958983.62	-3958983.54	0.0089	0.0085
Jupiter	-15553-12-28 15:50 J	-3958947.95	-3958947.84	-3958947.71	0.0499	0.0399

Mars	-15551-11-17 07:26 J	-3958259.35	-3958259.19	-3958259.02	0.1851	0.0744
Jupiter	-15547-03-07 16:48 J	-3957052.95	-3957052.80	-3957052.64	0.0522	0.0331
Jupiter	-15547-10-31 13:11 J	-3956815.13	-3956814.95	-3956814.77	0.0526	0.0252
Mars	-15546-06-30 04:48 J	-3956573.47	-3956573.30	-3956573.13	0.1675	0.0017
Jupiter	-15541-01-10 13:40 J	-3954918.11	-3954917.93	-3954917.75	0.0503	0.0226
Jupiter	-15541-09-02 18:43 J	-3954681.89	-3954681.72	-3954681.55	0.0500	0.0267
Saturn	-15539-09-16 10:33 J	-3953938.17	-3953938.06	-3953937.93	0.0287	0.0235
Saturn	-15538-05-04 10:48 J	-3953708.26	-3953708.05	-3953707.84	0.0290	0.0035
Saturn	-15538-12-20 13:26 J	-3953478.11	-3953477.94	-3953477.76	0.0293	0.0175
Jupiter	-15536-11-10 09:35 J	-3952787.17	-3952787.10	-3952787.02	0.0521	0.0481
Jupiter	-15535-07-06 05:16 J	-3952549.48	-3952549.28	-3952549.08	0.0525	0.0094
Jupiter	-15530-09-15 12:43 J	-3950652.10	-3950651.97	-3950651.83	0.0504	0.0367
Jupiter	-15529-05-08 18:14 J	-3950415.93	-3950415.74	-3950415.54	0.0501	0.0130
Saturn	-15526-12-08 11:31 J	-3949107.14	-3949107.02	-3949106.89	0.0275	0.0221
Saturn	-15525-07-24 14:38 J	-3948878.09	-3948877.89	-3948877.68	0.0272	0.0055
Saturn	-15524-03-10 15:21 J	-3948649.05	-3948648.86	-3948648.66	0.0270	0.0104
Saturn	-15524-10-25 14:24 J	-3948419.96	-3948419.90	-3948419.84	0.0267	0.0256
Jupiter	-15523-03-10 21:35 J	-3948283.80	-3948283.60	-3948283.39	0.0524	0.0067
Jupiter	-15523-11-03 18:00 J	-3948045.79	-3948045.75	-3948045.72	0.0527	0.0515
Pluto	-15520-03-06 02:38 J	-3947192.58	-3947192.39	-3947192.18	0.0080	0.0037
Pluto	-15520-10-17 13:26 J	-3946967.14	-3946966.94	-3946966.72	0.0079	0.0032
Uranus	-15519-10-04 17:31 J	-3946614.88	-3946614.77	-3946614.63	0.0146	0.0119
Uranus	-15518-05-19 05:02 J	-3946388.46	-3946388.29	-3946388.09	0.0146	0.0078
Jupiter	-15518-05-21 14:09 J	-3946385.93	-3946385.91	-3946385.89	0.0506	0.0502
Uranus	-15518-12-31 17:02 J	-3946161.99	-3946161.79	-3946161.58	0.0146	0.0034
Jupiter	-15517-01-12 20:24 J	-3946149.85	-3946149.65	-3946149.44	0.0502	0.0011
Uranus	-15517-08-14 05:02 J	-3945935.50	-3945935.29	-3945935.07	0.0146	0.0009
Jupiter	-15517-09-05 01:40 J	-3945913.49	-3945913.43	-3945913.38	0.0499	0.0480
Mars	-15517-09-13 19:26 J	-3945904.84	-3945904.69	-3945904.54	0.1838	0.0926
Uranus	-15516-03-28 16:48 J	-3945708.99	-3945708.80	-3945708.59	0.0146	0.0051

Uranus	-15516-11-10 04:33 J	-3945482.46	-3945482.31	-3945482.14	0.0146	0.0094
Uranus	-15515-06-24 16:33 J	-3945255.88	-3945255.81	-3945255.73	0.0146	0.0137
Mars	-15514-06-29 02:24 J	-3944886.55	-3944886.40	-3944886.26	0.1668	0.0887
Mars	-15512-04-27 17:16 J	-3944217.91	-3944217.78	-3944217.64	0.1684	0.1049
Jupiter	-15512-11-13 11:45 J	-3944018.19	-3944018.01	-3944017.82	0.0522	0.0230
Jupiter	-15511-07-09 07:40 J	-3943780.33	-3943780.18	-3943780.03	0.0526	0.0355
Saturn	-15509-03-28 14:24 J	-3943152.03	-3943151.90	-3943151.74	0.0288	0.0210
Moon	-15509-05-08 09:35 J	-3943111.26	-3943111.10	-3943110.94	0.2690	0.0090
Earth	-15509-05-08 15:07 J	-3943111.02	-3943110.87	-3943110.71	0.2688	0.0841 *
Saturn	-15509-11-13 14:52 J	-3942922.10	-3942921.88	-3942921.66	0.0291	0.0008
Saturn	-15508-07-01 17:31 J	-3942691.91	-3942691.77	-3942691.61	0.0294	0.0203
Jupiter	-15506-09-17 23:16 J	-3941883.72	-3941883.53	-3941883.34	0.0503	0.0144
Jupiter	-15505-05-11 04:19 J	-3941647.46	-3941647.32	-3941647.17	0.0500	0.0350
Jupiter	-15500-07-19 02:38 J	-3939752.52	-3939752.39	-3939752.25	0.0521	0.0388
Jupiter	-15499-03-13 22:19 J	-3939514.76	-3939514.57	-3939514.38	0.0525	0.0193
Saturn	-15496-06-19 14:09 J	-3938321.04	-3938320.91	-3938320.76	0.0274	0.0200
Saturn	-15495-02-03 17:02 J	-3938092.00	-3938091.79	-3938091.59	0.0272	0.0035
Saturn	-15495-09-20 17:16 J	-3937862.96	-3937862.78	-3937862.59	0.0269	0.0124
Jupiter	-15494-05-24 02:09 J	-3937617.57	-3937617.41	-3937617.24	0.0504	0.0279
Jupiter	-15493-01-15 07:26 J	-3937381.37	-3937381.19	-3937381.00	0.0500	0.0219
Neptune	-15490-11-17 02:09 J	-3935979.42	-3935979.41	-3935979.36	0.0088	0.0087
Neptune	-15489-06-29 15:21 J	-3935753.91	-3935753.86	-3935753.75	0.0088	0.0083
Neptune	-15488-02-10 04:48 J	-3935528.38	-3935528.30	-3935528.17	0.0088	0.0077
Neptune	-15488-09-23 18:28 J	-3935302.85	-3935302.73	-3935302.59	0.0088	0.0072
Jupiter	-15488-11-16 12:57 J	-3935249.17	-3935248.96	-3935248.76	0.0524	0.0031
Neptune	-15487-05-07 07:40 J	-3935077.31	-3935077.18	-3935077.02	0.0088	0.0067
Neptune	-15487-12-18 21:07 J	-3934851.76	-3934851.62	-3934851.44	0.0088	0.0061
Neptune	-15486-08-01 10:33 J	-3934626.22	-3934626.06	-3934625.87	0.0088	0.0056
Neptune	-15485-03-14 00:00 J	-3934400.67	-3934400.50	-3934400.30	0.0088	0.0051
Mars	-15485-09-13 11:45 J	-3934217.18	-3934217.01	-3934216.84	0.1848	0.0497

Neptune	-15485-10-25 13:26 J	-3934175.12	-3934174.94	-3934174.73	0.0088	0.0045
Neptune	-15484-06-08 03:07 J	-3933949.57	-3933949.37	-3933949.17	0.0088	0.0040
Neptune	-15483-01-19 16:19 J	-3933724.01	-3933723.82	-3933723.60	0.0088	0.0034
Neptune	-15483-09-02 05:31 J	-3933498.46	-3933498.27	-3933498.04	0.0088	0.0030
Jupiter	-15482-01-27 04:33 J	-3933351.42	-3933351.31	-3933351.20	0.0505	0.0414
Neptune	-15482-04-15 19:11 J	-3933272.91	-3933272.70	-3933272.48	0.0088	0.0023
Jupiter	-15482-09-20 10:19 J	-3933115.27	-3933115.07	-3933114.87	0.0501	0.0083
Neptune	-15482-11-27 08:52 J	-3933047.34	-3933047.13	-3933046.90	0.0088	0.0018
Neptune	-15481-07-09 22:33 J	-3932821.78	-3932821.56	-3932821.34	0.0088	0.0012
Neptune	-15480-02-20 12:00 J	-3932596.22	-3932596.00	-3932595.78	0.0088	0.0007
Mars	-15480-04-26 15:50 J	-3932531.01	-3932530.84	-3932530.66	0.1677	0.0112
Neptune	-15480-10-04 01:26 J	-3932370.66	-3932370.44	-3932370.21	0.0088	0.0002
Saturn	-15480-10-08 15:50 J	-3932365.99	-3932365.84	-3932365.67	0.0288	0.0191
Neptune	-15479-05-17 15:07 J	-3932145.10	-3932144.87	-3932144.65	0.0088	0.0004
Saturn	-15479-05-26 16:33 J	-3932136.02	-3932135.81	-3932135.59	0.0291	0.0012
Neptune	-15479-12-29 04:33 J	-3931919.53	-3931919.31	-3931919.08	0.0088	0.0010
Saturn	-15478-01-11 19:40 J	-3931905.81	-3931905.68	-3931905.54	0.0294	0.0223
Neptune	-15478-08-11 18:14 J	-3931693.96	-3931693.74	-3931693.52	0.0088	0.0015
Uranus	-15478-09-02 12:00 J	-3931672.04	-3931672.00	-3931671.96	0.0132	0.0130
Neptune	-15477-03-24 07:40 J	-3931468.39	-3931468.18	-3931467.95	0.0088	0.0021
Uranus	-15477-04-15 17:45 J	-3931445.90	-3931445.76	-3931445.60	0.0132	0.0098
Neptune	-15477-11-04 21:21 J	-3931242.82	-3931242.61	-3931242.39	0.0088	0.0026
Uranus	-15477-11-27 23:45 J	-3931219.70	-3931219.51	-3931219.32	0.0132	0.0065
Neptune	-15476-06-18 10:48 J	-3931017.25	-3931017.05	-3931016.83	0.0088	0.0032
Uranus	-15476-07-12 05:31 J	-3930993.48	-3930993.27	-3930993.05	0.0132	0.0033
Jupiter	-15476-07-22 05:31 J	-3930983.47	-3930983.27	-3930983.07	0.0523	0.0128
Neptune	-15475-01-30 00:28 J	-3930791.67	-3930791.48	-3930791.27	0.0088	0.0038
Uranus	-15475-02-23 11:31 J	-3930767.24	-3930767.02	-3930766.80	0.0132	0.0002
Jupiter	-15475-03-17 01:55 J	-3930745.51	-3930745.42	-3930745.31	0.0526	0.0458
Neptune	-15475-09-12 13:40 J	-3930566.10	-3930565.93	-3930565.71	0.0088	0.0044

Uranus	-15475-10-07 17:02 J	-3930541.00	-3930540.79	-3930540.57	0.0132	0.0031
Neptune	-15474-04-26 03:21 J	-3930340.53	-3930340.36	-3930340.16	0.0088	0.0049
Uranus	-15474-05-21 22:33 J	-3930314.75	-3930314.56	-3930314.36	0.0132	0.0063
Neptune	-15474-12-07 17:02 J	-3930114.95	-3930114.79	-3930114.60	0.0088	0.0054
Uranus	-15473-01-03 04:04 J	-3930088.47	-3930088.33	-3930088.17	0.0132	0.0095
Neptune	-15473-07-20 06:43 J	-3929889.37	-3929889.22	-3929889.04	0.0088	0.0060
Uranus	-15473-08-16 09:35 J	-3929862.15	-3929862.10	-3929862.03	0.0132	0.0127
Neptune	-15472-03-02 20:24 J	-3929663.79	-3929663.65	-3929663.49	0.0088	0.0065
Neptune	-15472-10-14 09:35 J	-3929438.21	-3929438.10	-3929437.94	0.0088	0.0071
Neptune	-15471-05-27 23:16 J	-3929212.63	-3929212.53	-3929212.40	0.0088	0.0076
Neptune	-15470-01-08 12:57 J	-3928987.03	-3928986.96	-3928986.85	0.0088	0.0081
Jupiter	-15470-05-26 09:50 J	-3928849.29	-3928849.09	-3928848.89	0.0502	0.0059
Neptune	-15470-08-22 02:38 J	-3928761.43	-3928761.39	-3928761.33	0.0088	0.0086
Jupiter	-15469-01-17 14:38 J	-3928612.99	-3928612.89	-3928612.79	0.0499	0.0433
Saturn	-15467-12-30 16:33 J	-3927534.96	-3927534.81	-3927534.64	0.0275	0.0178
Saturn	-15466-08-16 19:26 J	-3927305.90	-3927305.69	-3927305.49	0.0272	0.0014
Saturn	-15465-04-01 19:40 J	-3927076.85	-3927076.68	-3927076.50	0.0269	0.0145
Jupiter	-15464-03-26 22:19 J	-3926717.74	-3926717.57	-3926717.39	0.0522	0.0286
Jupiter	-15464-11-19 18:14 J	-3926479.90	-3926479.74	-3926479.57	0.0526	0.0301
Jupiter	-15458-01-29 11:45 J	-3924583.19	-3924583.01	-3924582.82	0.0503	0.0197
Jupiter	-15458-09-22 17:16 J	-3924346.94	-3924346.78	-3924346.62	0.0500	0.0301
Jupiter	-15453-11-29 13:26 J	-3922452.05	-3922451.94	-3922451.84	0.0520	0.0444
Jupiter	-15452-07-25 08:24 J	-3922214.35	-3922214.15	-3922213.95	0.0524	0.0136
Mars	-15451-07-12 00:43 J	-3921862.61	-3921862.47	-3921862.34	0.1836	0.1137
Saturn	-15450-04-20 19:26 J	-3921579.86	-3921579.69	-3921579.51	0.0288	0.0166
Saturn	-15450-12-06 20:09 J	-3921349.87	-3921349.66	-3921349.45	0.0291	0.0038
Saturn	-15449-07-23 23:16 J	-3921119.64	-3921119.53	-3921119.42	0.0294	0.0250
Mars	-15448-04-25 13:55 J	-3920844.07	-3920843.92	-3920843.77	0.1670	0.0803
Jupiter	-15447-10-04 14:09 J	-3920317.05	-3920316.91	-3920316.75	0.0505	0.0334
Mars	-15446-02-23 03:50 J	-3920175.46	-3920175.34	-3920175.21	0.1687	0.1154

Jupiter	-15446-05-28 20:09 J	-3920080.85	-3920080.66	-3920080.47	0.0501	0.0167
Jupiter	-15440-03-29 23:16 J	-3917948.73	-3917948.53	-3917948.32	0.0523	0.0028
Saturn	-15437-07-11 18:14 J	-3916748.90	-3916748.74	-3916748.56	0.0274	0.0159
Saturn	-15436-02-25 20:52 J	-3916519.84	-3916519.63	-3916519.43	0.0271	0.0007
Saturn	-15436-10-12 20:52 J	-3916290.79	-3916290.63	-3916290.46	0.0269	0.0163
Uranus	-15435-06-03 23:02 J	-3916056.59	-3916056.54	-3916056.47	0.0146	0.0140
Jupiter	-15435-06-09 17:02 J	-3916050.86	-3916050.79	-3916050.71	0.0506	0.0467
Uranus	-15434-01-16 10:33 J	-3915830.20	-3915830.06	-3915829.89	0.0146	0.0099
Jupiter	-15434-01-31 23:31 J	-3915814.72	-3915814.52	-3915814.32	0.0502	0.0033
Uranus	-15434-08-30 22:33 J	-3915603.75	-3915603.56	-3915603.36	0.0146	0.0056
Uranus	-15433-04-13 10:33 J	-3915377.28	-3915377.06	-3915376.85	0.0146	0.0013
Uranus	-15433-11-25 22:04 J	-3915150.78	-3915150.58	-3915150.36	0.0146	0.0031
Uranus	-15432-07-10 10:04 J	-3914924.26	-3914924.08	-3914923.89	0.0146	0.0074
Uranus	-15431-02-21 21:50 J	-3914697.70	-3914697.59	-3914697.45	0.0147	0.0117
Jupiter	-15429-12-02 13:55 J	-3913683.11	-3913682.92	-3913682.73	0.0523	0.0190
Jupiter	-15428-07-28 10:04 J	-3913445.21	-3913445.08	-3913444.94	0.0526	0.0398
Jupiter	-15423-10-07 02:09 J	-3911548.60	-3911548.41	-3911548.21	0.0503	0.0105
Jupiter	-15422-05-31 06:57 J	-3911312.33	-3911312.21	-3911312.08	0.0499	0.0390
Saturn	-15421-10-30 19:40 J	-3910793.86	-3910793.68	-3910793.49	0.0288	0.0149
Saturn	-15420-06-17 20:24 J	-3910563.86	-3910563.65	-3910563.43	0.0291	0.0056
Saturn	-15419-02-02 23:45 J	-3910333.59	-3910333.51	-3910333.41	0.0294	0.0267
Mars	-15419-07-11 16:48 J	-3910174.97	-3910174.80	-3910174.63	0.1845	0.0276
Jupiter	-15417-08-07 06:57 J	-3909417.36	-3909417.21	-3909417.05	0.0521	0.0346
Jupiter	-15416-04-02 03:07 J	-3909179.56	-3909179.37	-3909179.19	0.0525	0.0242
Mars	-15414-02-22 02:52 J	-3908488.56	-3908488.38	-3908488.21	0.1679	0.0211
Jupiter	-15411-06-12 01:40 J	-3907282.61	-3907282.43	-3907282.26	0.0504	0.0248
Jupiter	-15410-02-03 06:43 J	-3907046.39	-3907046.22	-3907046.04	0.0500	0.0253
Neptune	-15407-01-04 02:38 J	-3905980.43	-3905980.39	-3905980.30	0.0089	0.0085
Saturn	-15407-01-21 19:55 J	-3905962.84	-3905962.67	-3905962.48	0.0275	0.0137
Neptune	-15407-08-17 15:21 J	-3905754.94	-3905754.86	-3905754.74	0.0089	0.0079

Saturn	-15407-09-07 22:19 J	-3905733.77	-3905733.57	-3905733.36	0.0272	0.0028
Neptune	-15406-03-31 04:19 J	-3905529.43	-3905529.32	-3905529.19	0.0089	0.0074
Saturn	-15406-04-24 22:33 J	-3905504.70	-3905504.56	-3905504.40	0.0269	0.0185
Neptune	-15406-11-11 16:48 J	-3905303.92	-3905303.80	-3905303.65	0.0089	0.0068
Jupiter	-15405-04-12 00:14 J	-3905151.54	-3905151.49	-3905151.43	0.0520	0.0498
Neptune	-15405-06-24 05:31 J	-3905078.41	-3905078.27	-3905078.10	0.0089	0.0063
Jupiter	-15405-12-05 19:26 J	-3904913.89	-3904913.69	-3904913.48	0.0524	0.0081
Neptune	-15404-02-04 18:28 J	-3904852.89	-3904852.73	-3904852.57	0.0089	0.0058
Neptune	-15404-09-18 06:43 J	-3904627.38	-3904627.22	-3904627.03	0.0089	0.0052
Neptune	-15403-05-01 19:11 J	-3904401.86	-3904401.70	-3904401.49	0.0089	0.0047
Neptune	-15403-12-13 08:09 J	-3904176.34	-3904176.16	-3904175.96	0.0089	0.0041
Neptune	-15402-07-26 20:38 J	-3903950.82	-3903950.64	-3903950.43	0.0089	0.0036
Neptune	-15401-03-08 09:21 J	-3903725.30	-3903725.11	-3903724.90	0.0089	0.0030
Neptune	-15401-10-19 21:50 J	-3903499.78	-3903499.59	-3903499.37	0.0089	0.0025
Neptune	-15400-06-02 10:48 J	-3903274.26	-3903274.05	-3903273.83	0.0089	0.0019
Neptune	-15399-01-13 23:31 J	-3903048.73	-3903048.52	-3903048.31	0.0089	0.0014
Jupiter	-15399-02-15 03:35 J	-3903016.48	-3903016.35	-3903016.22	0.0505	0.0385
Neptune	-15399-08-27 12:00 J	-3902823.21	-3902823.00	-3902822.78	0.0089	0.0008
Jupiter	-15399-10-09 09:21 J	-3902780.31	-3902780.11	-3902779.92	0.0501	0.0117
Neptune	-15398-04-10 00:28 J	-3902597.69	-3902597.48	-3902597.26	0.0089	0.0003
Neptune	-15398-11-21 12:57 J	-3902372.17	-3902371.96	-3902371.74	0.0089	0.0004
Neptune	-15397-07-04 01:40 J	-3902146.64	-3902146.43	-3902146.21	0.0089	0.0009
Neptune	-15396-02-14 14:09 J	-3901921.12	-3901920.91	-3901920.70	0.0089	0.0014
Neptune	-15396-09-28 02:24 J	-3901695.60	-3901695.40	-3901695.18	0.0089	0.0020
Neptune	-15395-05-11 14:52 J	-3901470.08	-3901469.88	-3901469.66	0.0089	0.0025
Neptune	-15395-12-23 03:07 J	-3901244.56	-3901244.37	-3901244.15	0.0089	0.0031
Neptune	-15394-08-05 15:50 J	-3901019.03	-3901018.84	-3901018.64	0.0089	0.0036
Uranus	-15394-12-15 04:19 J	-3900887.43	-3900887.32	-3900887.20	0.0132	0.0112
Neptune	-15393-03-18 04:04 J	-3900793.51	-3900793.33	-3900793.12	0.0089	0.0042
Uranus	-15393-07-28 10:19 J	-3900661.25	-3900661.07	-3900660.89	0.0132	0.0079

Jupiter	-15393-08-10 10:04 J	-3900648.28	-3900648.08	-3900647.88	0.0523	0.0085
Neptune	-15393-10-29 16:33 J	-3900567.98	-3900567.81	-3900567.61	0.0089	0.0047
Uranus	-15392-03-11 16:04 J	-3900435.03	-3900434.83	-3900434.62	0.0132	0.0047
Jupiter	-15392-04-05 06:00 J	-3900410.30	-3900410.25	-3900410.19	0.0526	0.0502
Neptune	-15392-06-12 04:48 J	-3900342.45	-3900342.30	-3900342.10	0.0089	0.0053
Uranus	-15392-10-23 21:50 J	-3900208.81	-3900208.59	-3900208.37	0.0132	0.0015
Neptune	-15391-01-23 17:31 J	-3900116.92	-3900116.77	-3900116.59	0.0089	0.0058
Saturn	-15391-05-12 22:48 J	-3900007.74	-3900007.55	-3900007.35	0.0288	0.0124
Uranus	-15391-06-07 03:21 J	-3899982.57	-3899982.36	-3899982.13	0.0132	0.0018
Neptune	-15391-09-06 06:00 J	-3899891.39	-3899891.25	-3899891.09	0.0089	0.0063
Saturn	-15391-12-28 23:45 J	-3899777.72	-3899777.51	-3899777.30	0.0292	0.0081
Uranus	-15390-01-19 08:52 J	-3899756.32	-3899756.13	-3899755.91	0.0132	0.0050
Neptune	-15390-04-19 18:00 J	-3899665.86	-3899665.75	-3899665.59	0.0089	0.0069
Saturn	-15390-08-16 03:07 J	-3899547.38	-3899547.37	-3899547.35	0.0295	0.0294
Uranus	-15390-09-02 14:24 J	-3899530.06	-3899529.90	-3899529.71	0.0132	0.0082
Neptune	-15390-12-01 06:43 J	-3899440.32	-3899440.22	-3899440.08	0.0089	0.0074
Uranus	-15389-04-15 19:40 J	-3899303.77	-3899303.68	-3899303.55	0.0132	0.0114
Neptune	-15389-07-13 19:26 J	-3899214.77	-3899214.69	-3899214.58	0.0089	0.0079
Neptune	-15388-02-24 07:55 J	-3898989.22	-3898989.17	-3898989.09	0.0089	0.0084
Jupiter	-15387-06-14 12:14 J	-3898514.19	-3898513.99	-3898513.79	0.0502	0.0021
Mars	-15387-07-11 10:48 J	-3898487.10	-3898487.05	-3898487.00	0.1854	0.1755
Jupiter	-15386-02-05 17:16 J	-3898277.84	-3898277.78	-3898277.71	0.0499	0.0472
Mars	-15385-05-08 06:14 J	-3897820.36	-3897820.24	-3897820.12	0.1832	0.1345
Mars	-15382-02-21 00:43 J	-3896801.63	-3896801.47	-3896801.31	0.1672	0.0709
Jupiter	-15381-04-15 01:11 J	-3896382.63	-3896382.45	-3896382.27	0.0522	0.0247
Jupiter	-15381-12-08 20:38 J	-3896144.79	-3896144.64	-3896144.48	0.0525	0.0342
Mars	-15381-12-20 14:09 J	-3896133.02	-3896132.91	-3896132.79	0.1689	0.1262
Saturn	-15378-08-03 21:07 J	-3895176.80	-3895176.62	-3895176.43	0.0274	0.0119
Saturn	-15377-03-19 23:31 J	-3894947.73	-3894947.52	-3894947.32	0.0271	0.0045
Saturn	-15377-11-03 23:16 J	-3894718.65	-3894718.53	-3894718.38	0.0269	0.0202

Jupiter	-15375-02-17 15:21 J	-3894248.05	-3894247.86	-3894247.66	0.0503	0.0157
Jupiter	-15375-10-11 20:38 J	-3894011.78	-3894011.64	-3894011.49	0.0500	0.0343
Earth	-15372-11-03 23:31 J	-3892892.65	-3892892.52	-3892892.38	0.2645	0.1363
Moon	-15372-11-04 05:02 J	-3892892.42	-3892892.29	-3892892.17	0.2644	0.1582 *
Jupiter	-15370-12-19 15:50 J	-3892116.96	-3892116.84	-3892116.70	0.0521	0.0406
Jupiter	-15369-08-13 11:31 J	-3891879.21	-3891879.02	-3891878.83	0.0525	0.0180
Jupiter	-15364-10-23 18:00 J	-3889981.91	-3889981.75	-3889981.58	0.0504	0.0294
Earth	-15364-11-01 17:31 J	-3889972.89	-3889972.77	-3889972.65	0.2647	0.1726
Moon	-15364-11-01 20:24 J	-3889972.79	-3889972.65	-3889972.50	0.2641	0.1177 *
Jupiter	-15363-06-16 23:31 J	-3889745.70	-3889745.52	-3889745.33	0.0501	0.0208
Saturn	-15362-11-22 23:31 J	-3889221.72	-3889221.52	-3889221.32	0.0288	0.0106
Saturn	-15361-07-10 00:28 J	-3888991.68	-3888991.48	-3888991.28	0.0292	0.0100
Pluto	-15361-10-26 17:31 J	-3888882.92	-3888882.77	-3888882.58	0.0064	0.0038
Pluto	-15360-06-08 21:35 J	-3888657.81	-3888657.60	-3888657.37	0.0064	0.0005
Pluto	-15359-01-20 01:26 J	-3888432.62	-3888432.44	-3888432.24	0.0064	0.0031
Jupiter	-15357-04-18 04:19 J	-3887613.52	-3887613.32	-3887613.11	0.0524	0.0024
Mars	-15353-05-07 21:35 J	-3886132.77	-3886132.60	-3886132.42	0.1842	0.0067
Jupiter	-15352-06-28 17:31 J	-3885715.87	-3885715.77	-3885715.67	0.0505	0.0436
Jupiter	-15351-02-19 23:16 J	-3885479.73	-3885479.53	-3885479.33	0.0501	0.0067
Uranus	-15351-09-15 15:21 J	-3885271.98	-3885271.86	-3885271.74	0.0146	0.0121
Mars	-15350-02-19 21:50 J	-3885114.64	-3885114.59	-3885114.55	0.1665	0.1594
Uranus	-15350-04-30 02:38 J	-3885045.56	-3885045.39	-3885045.19	0.0146	0.0079
Uranus	-15350-12-12 14:38 J	-3884819.09	-3884818.89	-3884818.68	0.0146	0.0035
Saturn	-15349-06-28 17:31 J	-3884619.81	-3884619.77	-3884619.71	0.0277	0.0268
Uranus	-15349-07-26 02:38 J	-3884592.60	-3884592.39	-3884592.17	0.0146	0.0008
Mars	-15349-12-19 13:26 J	-3884446.11	-3884445.94	-3884445.77	0.1681	0.0309
Saturn	-15348-02-12 22:19 J	-3884390.76	-3884390.57	-3884390.37	0.0274	0.0098
Uranus	-15348-03-09 14:09 J	-3884366.10	-3884365.91	-3884365.69	0.0147	0.0052
Saturn	-15348-09-30 00:28 J	-3884161.68	-3884161.48	-3884161.27	0.0272	0.0066
Uranus	-15348-10-22 02:24 J	-3884139.57	-3884139.40	-3884139.24	0.0147	0.0094

Saturn	-15347-05-17 00:28 J	-3883932.58	-3883932.48	-3883932.35	0.0269	0.0222
Uranus	-15347-06-05 14:09 J	-3883912.98	-3883912.91	-3883912.83	0.0147	0.0137
Jupiter	-15346-12-22 21:07 J	-3883347.82	-3883347.62	-3883347.42	0.0523	0.0142
Jupiter	-15345-08-16 17:16 J	-3883109.88	-3883109.78	-3883109.67	0.0526	0.0449
Jupiter	-15340-10-26 01:40 J	-3881213.63	-3881213.43	-3881213.23	0.0502	0.0072
Jupiter	-15339-06-19 06:28 J	-3880977.33	-3880977.23	-3880977.12	0.0500	0.0425
Jupiter	-15334-08-27 12:14 J	-3879082.16	-3879081.99	-3879081.82	0.0521	0.0304
Jupiter	-15333-04-21 07:40 J	-3878844.35	-3878844.18	-3878844.00	0.0525	0.0287
Saturn	-15333-10-17 04:04 J	-3878665.37	-3878665.33	-3878665.27	0.0285	0.0277
Saturn	-15332-06-04 02:24 J	-3878435.60	-3878435.40	-3878435.19	0.0289	0.0081
Saturn	-15331-01-20 03:21 J	-3878205.55	-3878205.36	-3878205.16	0.0292	0.0125
Jupiter	-15328-07-01 04:19 J	-3876947.50	-3876947.32	-3876947.14	0.0504	0.0211
Jupiter	-15327-02-22 09:35 J	-3876711.26	-3876711.10	-3876710.93	0.0500	0.0292
Neptune	-15325-10-01 00:43 J	-3875759.49	-3875759.47	-3875759.41	0.0088	0.0087
Neptune	-15324-05-14 14:09 J	-3875533.98	-3875533.91	-3875533.81	0.0088	0.0081
Neptune	-15324-12-26 03:21 J	-3875308.44	-3875308.36	-3875308.22	0.0088	0.0076
Neptune	-15323-08-08 17:02 J	-3875082.91	-3875082.79	-3875082.64	0.0088	0.0071
Neptune	-15322-03-22 06:14 J	-3874857.37	-3874857.24	-3874857.07	0.0088	0.0066
Jupiter	-15322-05-02 03:21 J	-3874816.45	-3874816.36	-3874816.26	0.0520	0.0462
Neptune	-15322-11-02 19:40 J	-3874631.82	-3874631.68	-3874631.49	0.0088	0.0060
Jupiter	-15322-12-25 22:33 J	-3874578.76	-3874578.56	-3874578.36	0.0524	0.0122
Mars	-15321-05-07 15:50 J	-3874444.94	-3874444.84	-3874444.74	0.1852	0.1522
Neptune	-15321-06-15 09:21 J	-3874406.27	-3874406.11	-3874405.92	0.0088	0.0054
Neptune	-15320-01-26 22:33 J	-3874180.73	-3874180.56	-3874180.36	0.0088	0.0049
Neptune	-15320-09-09 12:00 J	-3873955.18	-3873955.00	-3873954.79	0.0088	0.0044
Saturn	-15319-01-08 18:43 J	-3873833.80	-3873833.72	-3873833.63	0.0277	0.0249
Mars	-15319-03-05 11:16 J	-3873778.12	-3873778.03	-3873777.94	0.1829	0.1555
Neptune	-15319-04-23 01:40 J	-3873729.63	-3873729.43	-3873729.23	0.0088	0.0038
Saturn	-15319-08-25 23:02 J	-3873604.73	-3873604.54	-3873604.33	0.0274	0.0080
Neptune	-15319-12-04 15:07 J	-3873504.07	-3873503.87	-3873503.65	0.0088	0.0032

Saturn -15318-04-12 01:26 J -3873375.64 -3873375.44 -3873375.24 0.0271 0.0083
 Neptune -15318-07-18 04:33 J -3873278.52 -3873278.31 -3873278.09 0.0088 0.0027
 Saturn -15318-11-27 01:26 J -3873146.53 -3873146.44 -3873146.34 0.0268 0.0239
 Neptune -15317-02-28 17:45 J -3873052.96 -3873052.76 -3873052.53 0.0088 0.0022
 Neptune -15317-10-11 07:26 J -3872827.41 -3872827.19 -3872826.97 0.0088 0.0015
 Mars -15317-12-18 11:45 J -3872759.17 -3872759.01 -3872758.85 0.1674 0.0619
 Jupiter -15316-03-06 07:11 J -3872681.34 -3872681.20 -3872681.05 0.0505 0.0347
 Neptune -15316-05-24 20:52 J -3872601.85 -3872601.63 -3872601.40 0.0088 0.0010
 Jupiter -15316-10-28 13:11 J -3872445.15 -3872444.95 -3872444.76 0.0501 0.0159
 Neptune -15315-01-05 10:33 J -3872376.29 -3872376.06 -3872375.84 0.0088 0.0004
 Neptune -15315-08-19 00:00 J -3872150.72 -3872150.50 -3872150.28 0.0088 0.0002
 Mars -15315-10-18 00:43 J -3872090.57 -3872090.47 -3872090.37 0.1692 0.1372
 Neptune -15314-04-01 13:26 J -3871925.16 -3871924.94 -3871924.72 0.0088 0.0007
 Neptune -15314-11-13 02:52 J -3871699.59 -3871699.38 -3871699.15 0.0088 0.0013
 Neptune -15313-06-25 16:33 J -3871474.03 -3871473.81 -3871473.59 0.0088 0.0018
 Neptune -15312-02-06 06:00 J -3871248.46 -3871248.25 -3871248.03 0.0088 0.0024
 Neptune -15312-09-19 19:40 J -3871022.89 -3871022.68 -3871022.47 0.0088 0.0030
 Neptune -15311-05-03 09:07 J -3870797.32 -3870797.12 -3870796.91 0.0088 0.0035
 Neptune -15311-12-14 22:33 J -3870571.74 -3870571.56 -3870571.34 0.0088 0.0042
 Neptune -15310-07-28 12:28 J -3870346.16 -3870345.98 -3870345.78 0.0088 0.0047
 Uranus -15310-08-14 14:09 J -3870328.96 -3870328.91 -3870328.83 0.0132 0.0126
 Jupiter -15310-08-30 13:11 J -3870313.16 -3870312.95 -3870312.75 0.0523 0.0043
 Neptune -15309-03-10 01:55 J -3870120.59 -3870120.42 -3870120.23 0.0088 0.0052
 Uranus -15309-03-27 19:55 J -3870102.80 -3870102.67 -3870102.49 0.0132 0.0095
 Neptune -15309-10-21 15:35 J -3869895.01 -3869894.85 -3869894.67 0.0088 0.0058
 Uranus -15309-11-09 02:09 J -3869876.60 -3869876.41 -3869876.21 0.0132 0.0061
 Neptune -15308-06-04 04:48 J -3869669.43 -3869669.30 -3869669.12 0.0088 0.0064
 Uranus -15308-06-23 07:55 J -3869650.39 -3869650.17 -3869649.95 0.0132 0.0029
 Neptune -15307-01-15 18:43 J -3869443.85 -3869443.72 -3869443.57 0.0088 0.0069
 Uranus -15307-02-04 13:40 J -3869424.15 -3869423.93 -3869423.71 0.0132 0.0004

Neptune	-15307-08-29 08:09 J	-3869218.26	-3869218.16	-3869218.02	0.0088	0.0075
Uranus	-15307-09-18 19:11 J	-3869197.91	-3869197.70	-3869197.48	0.0132	0.0036
Neptune	-15306-04-11 21:50 J	-3868992.67	-3868992.59	-3868992.48	0.0088	0.0080
Uranus	-15306-05-03 00:28 J	-3868971.66	-3868971.48	-3868971.28	0.0132	0.0068
Neptune	-15306-11-23 11:45 J	-3868767.07	-3868767.01	-3868766.95	0.0088	0.0085
Uranus	-15306-12-15 06:00 J	-3868745.38	-3868745.25	-3868745.10	0.0132	0.0100
Uranus	-15305-07-28 11:16 J	-3868519.03	-3868519.03	-3868519.00	0.0132	0.0132
Jupiter	-15305-11-09 09:35 J	-3868415.16	-3868415.10	-3868415.05	0.0506	0.0483
Jupiter	-15304-07-03 15:50 J	-3868179.04	-3868178.84	-3868178.64	0.0502	0.0021
Saturn	-15303-04-29 05:02 J	-3867879.38	-3867879.29	-3867879.20	0.0286	0.0258
Saturn	-15303-12-15 03:21 J	-3867649.57	-3867649.36	-3867649.15	0.0289	0.0062
Saturn	-15302-08-02 04:33 J	-3867419.50	-3867419.31	-3867419.12	0.0292	0.0145
Jupiter	-15298-05-05 06:00 J	-3866047.44	-3866047.25	-3866047.06	0.0522	0.0202
Jupiter	-15298-12-29 02:09 J	-3865809.54	-3865809.41	-3865809.27	0.0526	0.0391
Jupiter	-15292-03-08 15:50 J	-3863913.04	-3863912.84	-3863912.65	0.0503	0.0124
Jupiter	-15292-10-30 20:24 J	-3863676.78	-3863676.65	-3863676.51	0.0500	0.0377
Saturn	-15290-07-21 19:40 J	-3863047.79	-3863047.68	-3863047.56	0.0277	0.0229
Saturn	-15289-03-07 00:14 J	-3862818.69	-3862818.49	-3862818.28	0.0274	0.0059
Saturn	-15289-10-22 02:24 J	-3862589.59	-3862589.40	-3862589.21	0.0271	0.0104
Saturn	-15288-06-08 02:24 J	-3862360.44	-3862360.40	-3862360.34	0.0269	0.0260
Mars	-15287-03-05 03:07 J	-3862090.54	-3862090.37	-3862090.19	0.1839	0.0165
Jupiter	-15286-01-07 22:48 J	-3861781.70	-3861781.55	-3861781.40	0.0521	0.0361
Jupiter	-15286-09-02 18:43 J	-3861543.90	-3861543.72	-3861543.53	0.0525	0.0230
Mars	-15285-12-17 09:07 J	-3861072.19	-3861072.12	-3861072.05	0.1667	0.1507
Mars	-15283-10-17 00:28 J	-3860403.65	-3860403.48	-3860403.31	0.1684	0.0407
Jupiter	-15281-11-11 17:45 J	-3859646.93	-3859646.76	-3859646.59	0.0504	0.0263
Jupiter	-15280-07-05 22:48 J	-3859410.72	-3859410.55	-3859410.37	0.0500	0.0242
Jupiter	-15275-09-12 14:09 J	-3857515.91	-3857515.91	-3857515.89	0.0520	0.0518
Jupiter	-15274-05-08 09:07 J	-3857278.32	-3857278.12	-3857277.91	0.0524	0.0065
Saturn	-15274-11-09 08:52 J	-3857093.25	-3857093.13	-3857093.00	0.0286	0.0233

Saturn	-15273-06-26 07:26 J	-3856863.41	-3856863.19	-3856862.98	0.0289	0.0036
Saturn	-15272-02-11 08:24 J	-3856633.32	-3856633.15	-3856632.97	0.0292	0.0172
Pluto	-15272-09-19 05:31 J	-3856413.46	-3856413.27	-3856413.07	0.0080	0.0039
Pluto	-15271-05-02 16:19 J	-3856188.02	-3856187.82	-3856187.60	0.0079	0.0030
Jupiter	-15269-07-17 19:55 J	-3855380.79	-3855380.67	-3855380.55	0.0505	0.0402
Jupiter	-15268-03-11 01:55 J	-3855144.62	-3855144.42	-3855144.22	0.0502	0.0105
Uranus	-15267-05-15 20:09 J	-3854713.70	-3854713.66	-3854713.61	0.0146	0.0143
Uranus	-15267-12-28 07:40 J	-3854487.32	-3854487.18	-3854487.01	0.0146	0.0100
Earth	-15266-05-09 12:57 J	-3854355.12	-3854354.96	-3854354.80	0.2687	0.0653
Moon	-15266-05-09 19:11 J	-3854354.85	-3854354.70	-3854354.56	0.2688	0.1138 *
Uranus	-15266-08-11 19:40 J	-3854260.87	-3854260.68	-3854260.48	0.0146	0.0057
Uranus	-15265-03-25 07:26 J	-3854034.40	-3854034.19	-3854033.97	0.0146	0.0014
Uranus	-15265-11-06 19:11 J	-3853807.91	-3853807.70	-3853807.49	0.0147	0.0029
Uranus	-15264-06-21 06:43 J	-3853581.39	-3853581.22	-3853581.02	0.0147	0.0073
Uranus	-15263-02-02 18:28 J	-3853354.84	-3853354.73	-3853354.58	0.0147	0.0116
Jupiter	-15262-01-11 00:00 J	-3853012.70	-3853012.50	-3853012.30	0.0523	0.0101
Jupiter	-15262-09-05 19:55 J	-3852774.74	-3852774.67	-3852774.60	0.0526	0.0490
Saturn	-15260-01-30 21:07 J	-3852261.74	-3852261.62	-3852261.48	0.0277	0.0210
Saturn	-15260-09-17 01:40 J	-3852032.64	-3852032.43	-3852032.23	0.0274	0.0040
Saturn	-15259-05-04 03:35 J	-3851803.53	-3851803.35	-3851803.16	0.0271	0.0122
Jupiter	-15257-11-14 05:02 J	-3850878.49	-3850878.29	-3850878.09	0.0503	0.0033
Jupiter	-15256-07-08 09:50 J	-3850642.15	-3850642.09	-3850642.01	0.0500	0.0466
Mars	-15255-03-04 20:09 J	-3850402.79	-3850402.66	-3850402.54	0.1849	0.1280
Mars	-15254-12-31 17:31 J	-3849735.82	-3849735.77	-3849735.72	0.1826	0.1746
Jupiter	-15251-09-15 14:38 J	-3848747.07	-3848746.89	-3848746.71	0.0522	0.0265
Mars	-15251-10-15 22:48 J	-3848716.72	-3848716.55	-3848716.39	0.1676	0.0522
Jupiter	-15250-05-11 10:19 J	-3848509.23	-3848509.07	-3848508.91	0.0525	0.0329
Mars	-15249-08-14 10:48 J	-3848048.13	-3848048.05	-3848047.97	0.1694	0.1486
Jupiter	-15245-07-20 07:40 J	-3846612.37	-3846612.18	-3846611.99	0.0503	0.0171
Jupiter	-15244-03-13 12:43 J	-3846376.12	-3846375.97	-3846375.82	0.0500	0.0333

Saturn	-15244-05-21 10:33 J	-3846307.19	-3846307.06	-3846306.91	0.0286	0.0213
Saturn	-15243-01-06 09:21 J	-3846077.33	-3846077.11	-3846076.90	0.0289	0.0015
Neptune	-15243-04-07 13:11 J	-3845985.96	-3845985.95	-3845985.93	0.0089	0.0089
Saturn	-15243-08-24 10:19 J	-3845847.22	-3845847.07	-3845846.90	0.0292	0.0193
Neptune	-15243-11-19 01:40 J	-3845760.49	-3845760.43	-3845760.34	0.0089	0.0084
Neptune	-15242-07-02 14:09 J	-3845534.99	-3845534.91	-3845534.78	0.0089	0.0079
Neptune	-15241-02-13 03:07 J	-3845309.49	-3845309.37	-3845309.24	0.0089	0.0073
Neptune	-15241-09-25 15:35 J	-3845083.98	-3845083.85	-3845083.70	0.0089	0.0067
Neptune	-15240-05-09 04:33 J	-3844858.46	-3844858.31	-3844858.15	0.0089	0.0062
Neptune	-15240-12-20 16:48 J	-3844632.95	-3844632.80	-3844632.62	0.0089	0.0056
Jupiter	-15239-05-21 07:11 J	-3844481.32	-3844481.20	-3844481.08	0.0521	0.0422
Neptune	-15239-08-03 05:31 J	-3844407.44	-3844407.27	-3844407.08	0.0089	0.0051
Jupiter	-15238-01-14 02:52 J	-3844243.57	-3844243.38	-3844243.18	0.0525	0.0168
Neptune	-15238-03-16 18:00 J	-3844181.92	-3844181.75	-3844181.55	0.0089	0.0045
Neptune	-15238-10-28 06:43 J	-3843956.40	-3843956.22	-3843956.02	0.0089	0.0040
Neptune	-15237-06-09 19:26 J	-3843730.88	-3843730.69	-3843730.48	0.0089	0.0034
Neptune	-15236-01-21 08:09 J	-3843505.36	-3843505.16	-3843504.95	0.0089	0.0028
Neptune	-15236-09-03 20:52 J	-3843279.84	-3843279.63	-3843279.42	0.0089	0.0022
Neptune	-15235-04-17 09:21 J	-3843054.32	-3843054.11	-3843053.89	0.0089	0.0017
Neptune	-15235-11-28 22:04 J	-3842828.80	-3842828.58	-3842828.37	0.0089	0.0011
Neptune	-15234-07-12 10:48 J	-3842603.27	-3842603.05	-3842602.84	0.0089	0.0006
Neptune	-15233-02-22 23:16 J	-3842377.75	-3842377.53	-3842377.31	0.0089	0.0000
Jupiter	-15233-03-25 07:26 J	-3842346.34	-3842346.19	-3842346.03	0.0504	0.0316
Neptune	-15233-10-05 11:45 J	-3842152.22	-3842152.01	-3842151.79	0.0089	0.0006
Jupiter	-15233-11-16 12:43 J	-3842110.16	-3842109.97	-3842109.78	0.0501	0.0191
Neptune	-15232-05-19 00:14 J	-3841926.70	-3841926.49	-3841926.27	0.0089	0.0012
Neptune	-15232-12-30 12:43 J	-3841701.18	-3841700.97	-3841700.75	0.0089	0.0017
Saturn	-15231-08-12 22:19 J	-3841475.73	-3841475.57	-3841475.42	0.0277	0.0189
Neptune	-15231-08-13 01:11 J	-3841475.65	-3841475.45	-3841475.23	0.0089	0.0023 *
Neptune	-15230-03-26 13:26 J	-3841250.13	-3841249.94	-3841249.72	0.0089	0.0029

Saturn	-15230-03-30 02:38 J	-3841246.60	-3841246.39	-3841246.19	0.0274	0.0020
Neptune	-15230-11-07 02:09 J	-3841024.60	-3841024.41	-3841024.20	0.0089	0.0034
Saturn	-15230-11-14 04:33 J	-3841017.48	-3841017.31	-3841017.13	0.0271	0.0143
Neptune	-15229-06-19 14:38 J	-3840799.07	-3840798.89	-3840798.69	0.0089	0.0040
Neptune	-15228-01-31 03:07 J	-3840573.55	-3840573.37	-3840573.18	0.0089	0.0045
Neptune	-15228-09-13 15:21 J	-3840348.02	-3840347.86	-3840347.67	0.0089	0.0051
Neptune	-15227-04-27 04:04 J	-3840122.49	-3840122.33	-3840122.16	0.0089	0.0056
Jupiter	-15227-09-18 19:11 J	-3839977.90	-3839977.70	-3839977.49	0.0524	0.0012
Neptune	-15227-12-08 16:04 J	-3839896.96	-3839896.83	-3839896.65	0.0089	0.0062
Neptune	-15226-07-22 05:02 J	-3839671.43	-3839671.29	-3839671.14	0.0089	0.0067
Uranus	-15226-11-26 06:14 J	-3839544.35	-3839544.24	-3839544.10	0.0132	0.0109
Neptune	-15225-03-03 17:02 J	-3839445.89	-3839445.79	-3839445.64	0.0089	0.0073
Uranus	-15225-07-09 12:14 J	-3839318.16	-3839317.99	-3839317.80	0.0132	0.0076
Neptune	-15225-10-15 05:31 J	-3839220.35	-3839220.27	-3839220.15	0.0089	0.0078
Uranus	-15224-02-20 18:14 J	-3839091.94	-3839091.74	-3839091.52	0.0132	0.0043
Neptune	-15224-05-28 18:14 J	-3838994.80	-3838994.74	-3838994.66	0.0089	0.0083
Uranus	-15224-10-05 00:00 J	-3838865.72	-3838865.50	-3838865.28	0.0132	0.0011
Neptune	-15223-01-09 06:28 J	-3838769.23	-3838769.23	-3838769.19	0.0089	0.0089
Uranus	-15223-05-19 05:31 J	-3838639.48	-3838639.27	-3838639.05	0.0132	0.0022
Uranus	-15223-12-31 11:02 J	-3838413.23	-3838413.04	-3838412.83	0.0132	0.0054
Uranus	-15222-08-14 16:33 J	-3838186.96	-3838186.81	-3838186.63	0.0132	0.0087
Jupiter	-15222-11-29 09:07 J	-3838080.20	-3838080.12	-3838080.03	0.0505	0.0454
Mars	-15222-12-31 08:24 J	-3838048.32	-3838048.15	-3838047.98	0.1836	0.0381
Uranus	-15221-03-27 22:04 J	-3837960.67	-3837960.58	-3837960.47	0.0132	0.0118
Jupiter	-15221-07-22 14:52 J	-3837844.08	-3837843.88	-3837843.68	0.0502	0.0053
Mars	-15219-10-14 20:24 J	-3837029.74	-3837029.65	-3837029.56	0.1669	0.1419
Mars	-15217-08-13 10:33 J	-3836361.22	-3836361.06	-3836360.89	0.1686	0.0517
Jupiter	-15215-05-24 09:50 J	-3835712.28	-3835712.09	-3835711.89	0.0522	0.0162
Saturn	-15215-12-01 15:35 J	-3835521.01	-3835520.85	-3835520.69	0.0286	0.0187
Jupiter	-15214-01-17 05:45 J	-3835474.36	-3835474.26	-3835474.14	0.0526	0.0434

Saturn	-15214-07-19 14:09 J	-3835291.13	-3835290.91	-3835290.70	0.0289	0.0012
Saturn	-15213-03-05 15:07 J	-3835061.00	-3835060.87	-3835060.72	0.0292	0.0221
Jupiter	-15209-03-27 17:31 J	-3833577.97	-3833577.77	-3833577.58	0.0503	0.0088
Jupiter	-15209-11-18 22:33 J	-3833341.68	-3833341.56	-3833341.45	0.0500	0.0414
Jupiter	-15203-01-27 00:57 J	-3831446.62	-3831446.46	-3831446.30	0.0521	0.0324
Jupiter	-15203-09-21 20:24 J	-3831208.82	-3831208.65	-3831208.47	0.0525	0.0270
Saturn	-15201-02-23 00:14 J	-3830689.64	-3830689.49	-3830689.31	0.0276	0.0170
Saturn	-15201-10-09 04:33 J	-3830460.52	-3830460.31	-3830460.10	0.0274	0.0004
Saturn	-15200-05-26 06:28 J	-3830231.39	-3830231.23	-3830231.06	0.0271	0.0162
Jupiter	-15198-12-01 19:55 J	-3829311.85	-3829311.67	-3829311.49	0.0504	0.0227
Jupiter	-15197-07-25 01:26 J	-3829075.60	-3829075.44	-3829075.27	0.0501	0.0281
Jupiter	-15192-10-01 15:21 J	-3827180.93	-3827180.86	-3827180.78	0.0520	0.0484
Jupiter	-15191-05-27 10:33 J	-3826943.26	-3826943.06	-3826942.86	0.0524	0.0103
Mars	-15190-12-31 00:57 J	-3826360.60	-3826360.46	-3826360.31	0.1846	0.1049
Jupiter	-15186-08-06 22:19 J	-3825045.70	-3825045.57	-3825045.43	0.0505	0.0366
Jupiter	-15185-03-30 04:04 J	-3824809.52	-3824809.33	-3824809.13	0.0501	0.0144
Saturn	-15185-06-12 18:28 J	-3824734.90	-3824734.73	-3824734.55	0.0286	0.0165
Mars	-15185-08-12 09:21 J	-3824674.28	-3824674.11	-3824673.94	0.1679	0.0423
Saturn	-15184-01-28 17:31 J	-3824504.99	-3824504.77	-3824504.56	0.0289	0.0036
Saturn	-15184-09-15 18:57 J	-3824274.83	-3824274.71	-3824274.60	0.0292	0.0245
Mars	-15183-06-11 20:52 J	-3824005.68	-3824005.63	-3824005.58	0.1697	0.1602
Uranus	-15183-08-27 15:35 J	-3823928.96	-3823928.85	-3823928.71	0.0146	0.0120
Uranus	-15182-04-11 03:21 J	-3823702.54	-3823702.36	-3823702.17	0.0146	0.0077
Uranus	-15182-11-23 15:07 J	-3823476.08	-3823475.87	-3823475.66	0.0146	0.0034
Uranus	-15181-07-07 02:52 J	-3823249.60	-3823249.38	-3823249.17	0.0147	0.0010
Uranus	-15180-02-18 14:38 J	-3823023.09	-3823022.89	-3823022.69	0.0147	0.0053
Uranus	-15180-10-03 01:55 J	-3822796.56	-3822796.42	-3822796.24	0.0147	0.0097
Jupiter	-15179-01-30 02:52 J	-3822677.59	-3822677.38	-3822677.18	0.0523	0.0060
Uranus	-15179-05-17 13:40 J	-3822569.97	-3822569.93	-3822569.84	0.0147	0.0140
Jupiter	-15174-12-04 04:19 J	-3820543.53	-3820543.32	-3820543.12	0.0502	0.0011

Jupiter	-15173-07-27 08:24 J	-3820307.16	-3820307.15	-3820307.12	0.0499	0.0496
Saturn	-15172-09-04 02:09 J	-3819903.58	-3819903.41	-3819903.23	0.0277	0.0147
Saturn	-15171-04-21 06:14 J	-3819674.45	-3819674.24	-3819674.03	0.0274	0.0022
Saturn	-15171-12-06 08:09 J	-3819445.31	-3819445.16	-3819445.00	0.0271	0.0184
Jupiter	-15168-10-04 18:43 J	-3818411.90	-3818411.72	-3818411.53	0.0522	0.0225
Jupiter	-15167-05-30 15:07 J	-3818174.01	-3818173.87	-3818173.72	0.0526	0.0375
Jupiter	-15162-08-09 06:14 J	-3816277.43	-3816277.24	-3816277.05	0.0503	0.0142
Jupiter	-15161-04-01 10:48 J	-3816041.18	-3816041.05	-3816040.91	0.0500	0.0363
Neptune	-15160-08-15 22:19 J	-3815539.59	-3815539.57	-3815539.49	0.0088	0.0086
Neptune	-15159-03-29 12:00 J	-3815314.08	-3815314.00	-3815313.90	0.0088	0.0080
Neptune	-15159-11-10 01:11 J	-3815088.54	-3815088.45	-3815088.31	0.0088	0.0076
Neptune	-15158-06-23 15:07 J	-3814863.00	-3814862.87	-3814862.73	0.0088	0.0069
Neptune	-15157-02-04 04:04 J	-3814637.46	-3814637.33	-3814637.15	0.0088	0.0065
Neptune	-15157-09-16 17:45 J	-3814411.91	-3814411.76	-3814411.58	0.0088	0.0058
Neptune	-15156-04-30 06:57 J	-3814186.37	-3814186.21	-3814186.01	0.0088	0.0053
Jupiter	-15156-06-09 09:35 J	-3814146.23	-3814146.10	-3814145.96	0.0521	0.0387
Mars	-15156-10-27 13:55 J	-3814006.09	-3814005.92	-3814005.75	0.1833	0.0589
Neptune	-15156-12-11 20:38 J	-3813960.81	-3813960.64	-3813960.43	0.0088	0.0048
Saturn	-15156-12-24 00:57 J	-3813948.65	-3813948.46	-3813948.27	0.0286	0.0136
Jupiter	-15155-02-02 05:31 J	-3813908.46	-3813908.27	-3813908.08	0.0525	0.0209
Neptune	-15155-07-25 10:19 J	-3813735.26	-3813735.07	-3813734.87	0.0088	0.0042
Saturn	-15155-08-10 23:45 J	-3813718.71	-3813718.51	-3813718.29	0.0289	0.0066
Neptune	-15154-03-07 23:31 J	-3813509.71	-3813509.52	-3813509.30	0.0088	0.0036
Saturn	-15154-03-29 01:26 J	-3813488.51	-3813488.44	-3813488.37	0.0292	0.0275
Neptune	-15154-10-19 12:57 J	-3813284.16	-3813283.96	-3813283.74	0.0088	0.0031
Neptune	-15153-06-01 02:38 J	-3813058.60	-3813058.39	-3813058.17	0.0088	0.0024
Mars	-15153-08-11 07:26 J	-3812987.30	-3812987.19	-3812987.09	0.1671	0.1329
Neptune	-15152-01-12 15:50 J	-3812833.04	-3812832.84	-3812832.61	0.0088	0.0020
Neptune	-15152-08-26 05:31 J	-3812607.49	-3812607.27	-3812607.04	0.0088	0.0013
Neptune	-15151-04-08 18:57 J	-3812381.93	-3812381.71	-3812381.48	0.0088	0.0007

Mars	-15151-06-10 21:07 J	-3812318.78	-3812318.62	-3812318.45	0.1689	0.0622
Neptune	-15151-11-20 08:38 J	-3812156.37	-3812156.14	-3812155.92	0.0088	0.0002
Jupiter	-15150-04-14 07:55 J	-3812011.34	-3812011.17	-3812011.00	0.0504	0.0283
Neptune	-15150-07-03 22:04 J	-3811930.80	-3811930.58	-3811930.36	0.0088	0.0004
Jupiter	-15150-12-06 13:11 J	-3811775.12	-3811774.95	-3811774.76	0.0501	0.0227
Neptune	-15149-02-14 11:31 J	-3811705.24	-3811705.02	-3811704.80	0.0088	0.0010
Neptune	-15149-09-27 00:43 J	-3811479.68	-3811479.47	-3811479.24	0.0088	0.0017
Neptune	-15148-05-10 14:24 J	-3811254.11	-3811253.90	-3811253.68	0.0088	0.0022
Neptune	-15148-12-22 04:04 J	-3811028.54	-3811028.33	-3811028.11	0.0088	0.0027
Neptune	-15147-08-04 17:31 J	-3810802.96	-3810802.77	-3810802.55	0.0088	0.0033
Neptune	-15146-03-18 07:26 J	-3810577.39	-3810577.19	-3810576.99	0.0088	0.0039
Neptune	-15146-10-29 20:38 J	-3810351.82	-3810351.64	-3810351.44	0.0088	0.0045
Neptune	-15145-06-11 10:04 J	-3810126.25	-3810126.08	-3810125.88	0.0088	0.0051
Neptune	-15144-01-22 23:45 J	-3809900.66	-3809900.51	-3809900.32	0.0088	0.0056
Neptune	-15144-09-05 13:26 J	-3809675.09	-3809674.94	-3809674.77	0.0088	0.0062
Jupiter	-15144-10-07 19:55 J	-3809642.88	-3809642.67	-3809642.47	0.0524	0.0041
Neptune	-15143-04-19 02:52 J	-3809449.50	-3809449.38	-3809449.22	0.0088	0.0068
Neptune	-15143-11-30 16:48 J	-3809223.92	-3809223.80	-3809223.67	0.0088	0.0073
Saturn	-15142-03-17 05:02 J	-3809117.47	-3809117.29	-3809117.10	0.0276	0.0126
Neptune	-15142-07-14 06:14 J	-3808998.33	-3808998.24	-3808998.12	0.0088	0.0079
Uranus	-15142-07-26 16:48 J	-3808985.86	-3808985.80	-3808985.69	0.0132	0.0123
Saturn	-15142-11-01 09:07 J	-3808888.33	-3808888.12	-3808887.91	0.0273	0.0043
Neptune	-15141-02-24 20:09 J	-3808772.73	-3808772.66	-3808772.59	0.0088	0.0084
Uranus	-15141-03-08 23:02 J	-3808759.69	-3808759.54	-3808759.37	0.0132	0.0090
Saturn	-15141-06-17 10:48 J	-3808659.18	-3808659.05	-3808658.91	0.0271	0.0204
Uranus	-15141-10-21 04:48 J	-3808533.49	-3808533.30	-3808533.09	0.0132	0.0057
Uranus	-15140-06-04 10:48 J	-3808307.27	-3808307.05	-3808306.83	0.0132	0.0024
Uranus	-15139-01-16 16:33 J	-3808081.03	-3808080.81	-3808080.59	0.0132	0.0008
Uranus	-15139-08-30 22:04 J	-3807854.79	-3807854.58	-3807854.37	0.0132	0.0041
Jupiter	-15139-12-18 09:35 J	-3807745.20	-3807745.10	-3807744.98	0.0506	0.0423

Uranus	-15138-04-14 03:35 J	-3807628.53	-3807628.35	-3807628.16	0.0132	0.0073
Jupiter	-15138-08-11 16:04 J	-3807509.03	-3807508.83	-3807508.63	0.0502	0.0089
Uranus	-15138-11-26 08:52 J	-3807402.25	-3807402.13	-3807401.99	0.0132	0.0106
Jupiter	-15132-06-12 09:35 J	-3805377.30	-3805377.10	-3805376.90	0.0523	0.0127
Jupiter	-15131-02-05 05:45 J	-3805139.34	-3805139.26	-3805139.17	0.0526	0.0471
Moon	-15129-11-03 22:33 J	-3804136.70	-3804136.56	-3804136.42	0.2646	0.1244
Earth	-15129-11-04 03:35 J	-3804136.47	-3804136.35	-3804136.23	0.2647	0.1653 *
Jupiter	-15126-04-16 18:28 J	-3803242.93	-3803242.73	-3803242.53	0.0503	0.0052
Saturn	-15126-07-06 05:31 J	-3803162.46	-3803162.27	-3803162.06	0.0287	0.0111
Jupiter	-15126-12-08 23:16 J	-3803006.62	-3803006.53	-3803006.44	0.0500	0.0450
Saturn	-15125-02-21 04:48 J	-3802932.50	-3802932.30	-3802932.09	0.0290	0.0092
Mars	-15124-10-27 05:31 J	-3802318.43	-3802318.27	-3802318.11	0.1843	0.0816
Moon	-15121-11-01 17:31 J	-3801216.86	-3801216.77	-3801216.69	0.2653	0.2178
Earth	-15121-11-01 21:35 J	-3801216.73	-3801216.60	-3801216.47	0.2649	0.1420 *
Jupiter	-15120-02-15 01:40 J	-3801111.60	-3801111.43	-3801111.26	0.0522	0.0289
Jupiter	-15120-10-10 21:50 J	-3800873.76	-3800873.59	-3800873.43	0.0525	0.0310
Mars	-15119-06-09 20:09 J	-3800631.83	-3800631.66	-3800631.49	0.1681	0.0324
Jupiter	-15115-12-20 18:43 J	-3798976.90	-3798976.72	-3798976.53	0.0503	0.0197
Jupiter	-15114-08-13 23:16 J	-3798740.68	-3798740.53	-3798740.37	0.0500	0.0311
Saturn	-15113-02-10 01:40 J	-3798560.44	-3798560.43	-3798560.40	0.0279	0.0278
Saturn	-15113-09-26 07:55 J	-3798331.36	-3798331.17	-3798330.97	0.0276	0.0103
Pluto	-15112-05-11 22:19 J	-3798103.73	-3798103.57	-3798103.38	0.0064	0.0036
Saturn	-15112-05-13 11:45 J	-3798102.21	-3798102.01	-3798101.81	0.0273	0.0065
Pluto	-15112-12-23 02:24 J	-3797878.62	-3797878.40	-3797878.18	0.0064	0.0002
Saturn	-15112-12-28 13:11 J	-3797873.05	-3797872.95	-3797872.83	0.0271	0.0227
Pluto	-15111-08-05 06:14 J	-3797653.42	-3797653.24	-3797653.05	0.0064	0.0033
Jupiter	-15109-10-20 17:02 J	-3796845.89	-3796845.79	-3796845.68	0.0521	0.0451
Jupiter	-15108-06-15 13:11 J	-3796608.15	-3796607.95	-3796607.75	0.0525	0.0144
Jupiter	-15103-08-25 20:24 J	-3794710.80	-3794710.65	-3794710.50	0.0504	0.0338
Jupiter	-15102-04-19 01:26 J	-3794474.63	-3794474.44	-3794474.25	0.0501	0.0172

Uranus	-15099-04-27 00:14 J	-3793370.54	-3793370.49	-3793370.40	0.0146	0.0138
Uranus	-15099-12-09 12:00 J	-3793144.15	-3793144.00	-3793143.83	0.0146	0.0095
Uranus	-15098-07-23 23:45 J	-3792917.70	-3792917.51	-3792917.30	0.0146	0.0052
Uranus	-15097-03-06 11:31 J	-3792691.23	-3792691.02	-3792690.80	0.0147	0.0008
Saturn	-15097-05-30 16:19 J	-3792605.86	-3792605.82	-3792605.76	0.0284	0.0274
Uranus	-15097-10-18 23:02 J	-3792464.74	-3792464.54	-3792464.32	0.0147	0.0036
Saturn	-15096-01-15 13:11 J	-3792376.16	-3792375.95	-3792375.74	0.0287	0.0081
Jupiter	-15096-02-18 03:35 J	-3792342.55	-3792342.35	-3792342.14	0.0523	0.0024
Uranus	-15096-06-02 10:48 J	-3792238.22	-3792238.05	-3792237.86	0.0147	0.0079
Saturn	-15096-09-02 12:28 J	-3792146.17	-3792145.98	-3792145.78	0.0290	0.0123
Uranus	-15095-01-14 22:48 J	-3792011.66	-3792011.55	-3792011.43	0.0147	0.0122
Jupiter	-15091-04-30 21:07 J	-3790444.68	-3790444.62	-3790444.56	0.0506	0.0479
Jupiter	-15091-12-23 03:21 J	-3790208.57	-3790208.36	-3790208.16	0.0502	0.0033
Mars	-15090-08-24 19:11 J	-3789963.86	-3789963.70	-3789963.54	0.1830	0.0803
Mars	-15087-06-08 18:14 J	-3788944.85	-3788944.74	-3788944.62	0.1674	0.1236
Mars	-15085-04-07 07:40 J	-3788276.34	-3788276.18	-3788276.03	0.1691	0.0728
Jupiter	-15085-10-23 18:00 J	-3788076.94	-3788076.75	-3788076.56	0.0522	0.0191
Jupiter	-15084-06-18 13:55 J	-3787839.04	-3787838.92	-3787838.79	0.0526	0.0409
Saturn	-15084-08-22 06:28 J	-3787774.31	-3787774.23	-3787774.14	0.0279	0.0253
Saturn	-15083-04-08 12:14 J	-3787545.18	-3787544.99	-3787544.78	0.0276	0.0079
Saturn	-15083-11-23 15:50 J	-3787316.03	-3787315.84	-3787315.64	0.0273	0.0089
Saturn	-15082-07-10 17:16 J	-3787086.85	-3787086.78	-3787086.69	0.0270	0.0249
Jupiter	-15079-08-28 05:31 J	-3785942.47	-3785942.27	-3785942.07	0.0503	0.0110
Neptune	-15078-02-20 11:16 J	-3785766.04	-3785766.03	-3785765.98	0.0089	0.0088
Jupiter	-15078-04-21 10:33 J	-3785706.18	-3785706.06	-3785705.94	0.0500	0.0397
Neptune	-15078-10-04 00:14 J	-3785540.56	-3785540.49	-3785540.40	0.0089	0.0083
Neptune	-15077-05-16 12:43 J	-3785315.06	-3785314.97	-3785314.84	0.0089	0.0077
Neptune	-15077-12-28 01:26 J	-3785089.55	-3785089.44	-3785089.29	0.0089	0.0072
Neptune	-15076-08-10 13:55 J	-3784864.04	-3784863.92	-3784863.75	0.0089	0.0066
Neptune	-15075-03-24 02:38 J	-3784638.53	-3784638.39	-3784638.22	0.0089	0.0060

Neptune	-15075-11-04 15:21 J	-3784413.02	-3784412.86	-3784412.68	0.0089	0.0055
Neptune	-15074-06-18 03:50 J	-3784187.50	-3784187.34	-3784187.14	0.0089	0.0050
Neptune	-15073-01-29 16:33 J	-3783961.98	-3783961.81	-3783961.61	0.0089	0.0043
Jupiter	-15073-06-28 07:55 J	-3783811.32	-3783811.17	-3783811.03	0.0521	0.0356
Neptune	-15073-09-11 05:16 J	-3783736.47	-3783736.28	-3783736.08	0.0089	0.0037
Jupiter	-15072-02-21 03:35 J	-3783573.53	-3783573.35	-3783573.17	0.0525	0.0242
Neptune	-15072-04-24 17:45 J	-3783510.95	-3783510.76	-3783510.55	0.0089	0.0032
Neptune	-15072-12-06 06:28 J	-3783285.43	-3783285.23	-3783285.02	0.0089	0.0026
Neptune	-15071-07-19 19:11 J	-3783059.91	-3783059.70	-3783059.49	0.0089	0.0020
Neptune	-15070-03-02 07:40 J	-3782834.39	-3782834.18	-3782833.96	0.0089	0.0014
Neptune	-15070-10-13 20:09 J	-3782608.87	-3782608.66	-3782608.44	0.0089	0.0009
Neptune	-15069-05-26 08:52 J	-3782383.34	-3782383.13	-3782382.91	0.0089	0.0003
Neptune	-15068-01-06 21:35 J	-3782157.82	-3782157.60	-3782157.38	0.0089	0.0003
Neptune	-15068-08-20 10:04 J	-3781932.30	-3781932.08	-3781931.86	0.0089	0.0009
Saturn	-15068-12-10 23:16 J	-3781819.63	-3781819.53	-3781819.42	0.0284	0.0246
Neptune	-15067-04-02 22:19 J	-3781706.77	-3781706.57	-3781706.34	0.0089	0.0015
Jupiter	-15067-05-03 07:26 J	-3781676.36	-3781676.19	-3781676.01	0.0504	0.0252
Saturn	-15067-07-28 20:09 J	-3781589.87	-3781589.66	-3781589.44	0.0287	0.0051
Neptune	-15067-11-14 11:02 J	-3781481.25	-3781481.04	-3781480.83	0.0089	0.0020
Jupiter	-15067-12-25 12:43 J	-3781440.14	-3781439.97	-3781439.79	0.0501	0.0260
Saturn	-15066-03-15 19:40 J	-3781359.85	-3781359.68	-3781359.49	0.0290	0.0155
Neptune	-15066-06-27 23:31 J	-3781255.72	-3781255.52	-3781255.30	0.0089	0.0026
Neptune	-15065-02-08 12:00 J	-3781030.19	-3781030.00	-3781029.79	0.0089	0.0032
Neptune	-15065-09-21 00:14 J	-3780804.67	-3780804.49	-3780804.28	0.0089	0.0038
Neptune	-15064-05-04 12:57 J	-3780579.14	-3780578.96	-3780578.77	0.0089	0.0043
Neptune	-15064-12-16 01:11 J	-3780353.62	-3780353.45	-3780353.26	0.0089	0.0049
Neptune	-15063-07-29 13:40 J	-3780128.08	-3780127.93	-3780127.74	0.0089	0.0055
Neptune	-15062-03-12 02:09 J	-3779902.56	-3779902.41	-3779902.24	0.0089	0.0060
Neptune	-15062-10-23 14:24 J	-3779677.03	-3779676.90	-3779676.74	0.0089	0.0066
Jupiter	-15061-03-02 23:31 J	-3779545.54	-3779545.52	-3779545.49	0.0520	0.0514

Neptune	-15061-06-05 03:07 J	-3779451.49	-3779451.37	-3779451.23	0.0089	0.0071
Jupiter	-15061-10-26 18:43 J	-3779307.92	-3779307.72	-3779307.51	0.0524	0.0077
Neptune	-15060-01-16 15:07 J	-3779225.95	-3779225.87	-3779225.74	0.0089	0.0077
Neptune	-15060-08-30 03:50 J	-3779000.41	-3779000.34	-3779000.25	0.0089	0.0082
Neptune	-15059-04-12 15:50 J	-3778774.85	-3778774.84	-3778774.78	0.0089	0.0088
Mars	-15058-08-24 10:04 J	-3778276.24	-3778276.08	-3778275.91	0.1840	0.0584
Uranus	-15058-11-07 10:48 J	-3778201.18	-3778201.05	-3778200.90	0.0132	0.0102
Uranus	-15057-06-20 16:48 J	-3777974.98	-3777974.80	-3777974.61	0.0132	0.0070
Uranus	-15056-02-01 22:33 J	-3777748.76	-3777748.56	-3777748.34	0.0132	0.0037
Uranus	-15056-09-16 04:19 J	-3777522.54	-3777522.32	-3777522.10	0.0132	0.0005
Jupiter	-15055-01-06 08:09 J	-3777410.28	-3777410.16	-3777410.04	0.0505	0.0395
Uranus	-15055-04-30 09:50 J	-3777296.30	-3777296.09	-3777295.87	0.0132	0.0028
Jupiter	-15055-08-30 13:26 J	-3777174.14	-3777173.94	-3777173.74	0.0501	0.0117
Uranus	-15055-12-12 15:07 J	-3777070.05	-3777069.87	-3777069.66	0.0132	0.0061
Saturn	-15054-03-04 10:19 J	-3776988.18	-3776988.07	-3776987.95	0.0278	0.0229
Uranus	-15054-07-26 20:38 J	-3776843.78	-3776843.64	-3776843.47	0.0132	0.0093
Saturn	-15054-10-19 16:04 J	-3776759.03	-3776758.83	-3776758.62	0.0276	0.0056
Uranus	-15053-03-09 02:09 J	-3776617.46	-3776617.41	-3776617.32	0.0132	0.0126
Mars	-15053-04-06 06:57 J	-3776589.38	-3776589.21	-3776589.04	0.1684	0.0224
Saturn	-15053-06-04 19:40 J	-3776529.87	-3776529.68	-3776529.49	0.0273	0.0112
Jupiter	-15049-07-01 09:35 J	-3775042.30	-3775042.10	-3775041.89	0.0523	0.0093
Jupiter	-15048-02-24 06:43 J	-3774804.26	-3774804.22	-3774804.17	0.0527	0.0510
Jupiter	-15043-05-05 15:07 J	-3772908.07	-3772907.87	-3772907.67	0.0502	0.0026
Jupiter	-15043-12-27 19:11 J	-3772671.75	-3772671.70	-3772671.64	0.0499	0.0476
Saturn	-15038-06-23 07:26 J	-3771033.32	-3771033.19	-3771033.04	0.0284	0.0216
Saturn	-15037-02-08 04:48 J	-3770803.51	-3770803.30	-3770803.08	0.0287	0.0020
Jupiter	-15037-03-06 00:28 J	-3770776.66	-3770776.48	-3770776.30	0.0522	0.0258
Saturn	-15037-09-25 04:33 J	-3770573.47	-3770573.31	-3770573.14	0.0290	0.0187
Jupiter	-15037-10-29 20:38 J	-3770538.79	-3770538.64	-3770538.48	0.0525	0.0344
Jupiter	-15031-01-08 16:04 J	-3768642.02	-3768641.83	-3768641.64	0.0503	0.0169

Jupiter	-15031-09-01 21:21 J	-3768405.76	-3768405.61	-3768405.47	0.0500	0.0341
Jupiter	-15026-11-09 15:07 J	-3766510.98	-3766510.87	-3766510.74	0.0520	0.0420
Jupiter	-15025-07-04 10:33 J	-3766273.25	-3766273.06	-3766272.86	0.0524	0.0177
Saturn	-15025-09-13 16:04 J	-3766201.96	-3766201.83	-3766201.67	0.0278	0.0203
Saturn	-15024-04-30 21:35 J	-3765972.80	-3765972.60	-3765972.39	0.0275	0.0031
Mars	-15024-06-21 00:57 J	-3765921.61	-3765921.46	-3765921.32	0.1827	0.1005
Saturn	-15024-12-16 00:43 J	-3765743.64	-3765743.47	-3765743.28	0.0272	0.0137
Pluto	-15023-04-04 11:16 J	-3765634.23	-3765634.03	-3765633.82	0.0080	0.0031
Moon	-15023-05-09 05:45 J	-3765599.43	-3765599.26	-3765599.10	0.2682	0.0276
Earth	-15023-05-09 11:31 J	-3765599.18	-3765599.02	-3765598.86	0.2685	0.0531 *
Pluto	-15023-11-15 21:50 J	-3765408.77	-3765408.59	-3765408.37	0.0079	0.0038
Mars	-15021-04-05 05:45 J	-3764902.39	-3764902.26	-3764902.14	0.1676	0.1149
Jupiter	-15020-09-13 17:45 J	-3764375.92	-3764375.76	-3764375.60	0.0505	0.0311
Mars	-15019-02-02 17:45 J	-3764233.91	-3764233.76	-3764233.61	0.1694	0.0837
Jupiter	-15019-05-07 23:16 J	-3764139.71	-3764139.53	-3764139.34	0.0501	0.0203
Uranus	-15015-08-08 22:04 J	-3762585.72	-3762585.58	-3762585.44	0.0146	0.0112
Uranus	-15014-03-23 09:35 J	-3762359.29	-3762359.10	-3762358.91	0.0146	0.0069
Uranus	-15014-11-04 21:07 J	-3762132.82	-3762132.62	-3762132.40	0.0147	0.0026
Jupiter	-15013-03-09 00:00 J	-3762007.71	-3762007.50	-3762007.30	0.0523	0.0009
Uranus	-15013-06-18 08:52 J	-3761906.34	-3761906.13	-3761905.91	0.0147	0.0018
Uranus	-15012-01-30 20:38 J	-3761679.83	-3761679.64	-3761679.44	0.0147	0.0062
Uranus	-15012-09-14 08:24 J	-3761453.28	-3761453.15	-3761452.99	0.0147	0.0106
Saturn	-15008-01-02 15:50 J	-3760247.00	-3760246.84	-3760246.68	0.0285	0.0185
Jupiter	-15008-05-19 19:11 J	-3760109.78	-3760109.70	-3760109.61	0.0506	0.0452
Saturn	-15008-08-20 13:26 J	-3760017.16	-3760016.94	-3760016.73	0.0288	0.0014
Jupiter	-15007-01-11 01:26 J	-3759873.64	-3759873.44	-3759873.24	0.0502	0.0063
Saturn	-15007-04-07 13:26 J	-3759787.07	-3759786.94	-3759786.79	0.0291	0.0221
Jupiter	-15002-11-12 14:52 J	-3757742.08	-3757741.88	-3757741.69	0.0522	0.0161
Jupiter	-15001-07-07 11:16 J	-3757504.14	-3757504.03	-3757503.92	0.0526	0.0442

15TH MILLENNIUM BCE

This is a list of transits of Venus in the 15th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-14996-09-16 02:24 J		-3755607.60	-3755607.40	-3755607.20	0.0502	0.0083	
Saturn	-14995-03-26 21:35 J		-3755415.75	-3755415.60	-3755415.43	0.0278	0.0177	
Jupiter	-14995-05-10 06:28 J		-3755371.33	-3755371.23	-3755371.12	0.0499	0.0423	
Neptune	-14995-06-30 19:55 J		-3755319.70	-3755319.67	-3755319.59	0.0088	0.0085	
Saturn	-14995-11-11 02:52 J		-3755186.59	-3755186.38	-3755186.17	0.0275	0.0004	
Neptune	-14994-02-11 09:35 J		-3755094.19	-3755094.10	-3755094.00	0.0088	0.0079	
Saturn	-14994-06-28 05:45 J		-3754957.42	-3754957.26	-3754957.09	0.0272	0.0162	
Neptune	-14994-09-24 22:33 J		-3754868.66	-3754868.56	-3754868.42	0.0088	0.0074	
Neptune	-14993-05-07 12:14 J		-3754643.12	-3754642.99	-3754642.84	0.0088	0.0068	
Neptune	-14993-12-19 01:26 J		-3754417.57	-3754417.44	-3754417.26	0.0088	0.0063	
Mars	-14992-06-20 15:50 J		-3754234.01	-3754233.84	-3754233.67	0.1836	0.0371	
Neptune	-14992-08-01 14:52 J		-3754192.03	-3754191.88	-3754191.69	0.0088	0.0058	
Neptune	-14991-03-15 04:33 J		-3753966.48	-3753966.31	-3753966.12	0.0088	0.0051	
Neptune	-14991-10-26 18:14 J		-3753740.93	-3753740.74	-3753740.55	0.0088	0.0046	
Neptune	-14990-06-09 07:11 J		-3753515.38	-3753515.20	-3753514.98	0.0088	0.0041	
Jupiter	-14990-07-18 05:02 J		-3753476.44	-3753476.29	-3753476.12	0.0522	0.0329	
Neptune	-14989-01-20 20:52 J		-3753289.83	-3753289.63	-3753289.41	0.0088	0.0034	
Jupiter	-14989-03-12 01:55 J		-3753238.59	-3753238.42	-3753238.24	0.0526	0.0276	
Neptune	-14989-09-02 10:19 J		-3753064.27	-3753064.07	-3753063.85	0.0088	0.0028	
Neptune	-14988-04-15 23:45 J		-3752838.72	-3752838.51	-3752838.29	0.0088	0.0023	

Neptune -14988-11-27 13:26 J -3752613.16 -3752612.94 -3752612.72 0.0088 0.0017
 Mars -14987-02-01 17:31 J -3752546.94 -3752546.77 -3752546.60 0.1686 0.0124
 Neptune -14987-07-11 02:52 J -3752387.60 -3752387.38 -3752387.15 0.0088 0.0011
 Neptune -14986-02-21 16:19 J -3752162.04 -3752161.82 -3752161.59 0.0088 0.0005
 Neptune -14986-10-05 05:45 J -3751936.48 -3751936.26 -3751936.04 0.0088 0.0001
 Neptune -14985-05-17 19:11 J -3751710.92 -3751710.70 -3751710.48 0.0088 0.0007
 Neptune -14985-12-29 08:38 J -3751485.35 -3751485.14 -3751484.91 0.0088 0.0013
 Jupiter -14984-05-22 03:35 J -3751341.52 -3751341.35 -3751341.16 0.0503 0.0226
 Neptune -14984-08-11 22:19 J -3751259.79 -3751259.57 -3751259.35 0.0088 0.0019
 Jupiter -14983-01-13 08:09 J -3751105.32 -3751105.16 -3751104.99 0.0500 0.0286
 Neptune -14983-03-25 11:45 J -3751034.22 -3751034.01 -3751033.79 0.0088 0.0025
 Neptune -14983-11-06 01:11 J -3750808.65 -3750808.45 -3750808.23 0.0088 0.0030
 Neptune -14982-06-19 14:38 J -3750583.08 -3750582.89 -3750582.68 0.0088 0.0036
 Neptune -14981-01-31 04:04 J -3750357.51 -3750357.33 -3750357.12 0.0088 0.0043
 Neptune -14981-09-12 17:31 J -3750131.94 -3750131.77 -3750131.56 0.0088 0.0049
 Neptune -14980-04-26 07:26 J -3749906.36 -3749906.19 -3749906.01 0.0088 0.0054
 Neptune -14980-12-07 21:07 J -3749680.77 -3749680.62 -3749680.45 0.0088 0.0060
 Saturn -14979-07-16 01:11 J -3749460.63 -3749460.45 -3749460.27 0.0285 0.0154
 Neptune -14979-07-21 10:33 J -3749455.19 -3749455.06 -3749454.89 0.0088 0.0066
 Saturn -14978-03-02 23:02 J -3749230.75 -3749230.54 -3749230.32 0.0288 0.0046
 Neptune -14978-03-04 00:00 J -3749229.61 -3749229.50 -3749229.34 0.0088 0.0072
 Jupiter -14978-03-22 20:24 J -3749210.71 -3749210.65 -3749210.58 0.0520 0.0488
 Neptune -14978-10-15 13:55 J -3749004.02 -3749003.92 -3749003.80 0.0088 0.0077
 Saturn -14978-10-18 23:31 J -3749000.61 -3749000.52 -3749000.41 0.0291 0.0254
 Jupiter -14978-11-15 16:04 J -3748973.03 -3748972.83 -3748972.63 0.0524 0.0108
 Neptune -14977-05-28 03:21 J -3748778.42 -3748778.36 -3748778.26 0.0088 0.0083
 Neptune -14976-01-08 17:02 J -3748552.79 -3748552.79 -3748552.75 0.0088 0.0088
 Uranus -14974-07-07 22:19 J -3747642.66 -3747642.57 -3747642.44 0.0132 0.0116
 Uranus -14973-02-19 04:33 J -3747416.47 -3747416.31 -3747416.13 0.0132 0.0082
 Uranus -14973-10-02 10:04 J -3747190.27 -3747190.08 -3747189.86 0.0132 0.0050

Jupiter	-14972-01-25 03:50 J	-3747075.47	-3747075.34	-3747075.20	0.0505	0.0370
Uranus	-14972-05-16 16:04 J	-3746964.05	-3746963.83	-3746963.61	0.0132	0.0017
Jupiter	-14972-09-18 09:35 J	-3746839.29	-3746839.10	-3746838.91	0.0501	0.0145
Uranus	-14972-12-28 21:35 J	-3746737.81	-3746737.60	-3746737.37	0.0132	0.0016
Uranus	-14971-08-12 03:21 J	-3746511.57	-3746511.36	-3746511.16	0.0132	0.0048
Uranus	-14970-03-26 08:38 J	-3746285.30	-3746285.14	-3746284.96	0.0132	0.0081
Uranus	-14970-11-07 13:55 J	-3746059.01	-3746058.92	-3746058.79	0.0132	0.0113
Jupiter	-14966-07-21 06:14 J	-3744707.44	-3744707.24	-3744707.03	0.0523	0.0062
Saturn	-14966-10-07 04:33 J	-3744629.48	-3744629.31	-3744629.13	0.0277	0.0148
Saturn	-14965-05-23 09:21 J	-3744400.32	-3744400.11	-3744399.90	0.0274	0.0024
Saturn	-14964-01-07 12:00 J	-3744171.15	-3744171.00	-3744170.85	0.0272	0.0188
Jupiter	-14960-05-24 11:16 J	-3742573.24	-3742573.03	-3742572.83	0.0502	0.0010
Mars	-14960-06-20 08:24 J	-3742546.18	-3742546.15	-3742546.12	0.1846	0.1811
Mars	-14958-04-18 06:43 J	-3741879.34	-3741879.22	-3741879.08	0.1823	0.1206
Mars	-14955-01-31 16:04 J	-3740859.96	-3740859.83	-3740859.69	0.1678	0.1052
Jupiter	-14954-03-25 19:40 J	-3740441.87	-3740441.68	-3740441.50	0.0522	0.0232
Jupiter	-14954-11-18 15:21 J	-3740204.00	-3740203.86	-3740203.71	0.0525	0.0373
Mars	-14954-12-01 04:04 J	-3740191.47	-3740191.33	-3740191.19	0.1697	0.0949
Saturn	-14949-01-26 10:33 J	-3738674.25	-3738674.06	-3738673.86	0.0286	0.0121
Saturn	-14949-09-12 08:52 J	-3738444.33	-3738444.13	-3738443.92	0.0289	0.0082
Jupiter	-14948-01-27 12:57 J	-3738307.15	-3738306.96	-3738306.76	0.0503	0.0141
Saturn	-14948-04-30 09:50 J	-3738214.10	-3738214.09	-3738214.07	0.0292	0.0291
Jupiter	-14948-09-20 18:00 J	-3738070.88	-3738070.75	-3738070.61	0.0500	0.0371
Jupiter	-14943-11-28 10:19 J	-3736176.20	-3736176.07	-3736175.94	0.0521	0.0396
Jupiter	-14942-07-24 06:00 J	-3735938.44	-3735938.25	-3735938.06	0.0525	0.0205
Jupiter	-14937-10-02 14:09 J	-3734041.07	-3734040.91	-3734040.74	0.0504	0.0285
Saturn	-14936-04-18 10:48 J	-3733843.24	-3733843.05	-3733842.86	0.0277	0.0121
Jupiter	-14936-05-26 19:11 J	-3733804.88	-3733804.70	-3733804.52	0.0500	0.0230
Saturn	-14936-12-03 15:07 J	-3733614.07	-3733613.87	-3733613.66	0.0274	0.0051
Saturn	-14935-07-20 17:45 J	-3733384.89	-3733384.76	-3733384.64	0.0271	0.0214

Uranus	-14931-04-08 05:16 J	-3732027.36	-3732027.28	-3732027.17	0.0146	0.0131
Uranus	-14931-11-20 16:48 J	-3731800.95	-3731800.80	-3731800.61	0.0146	0.0089
Jupiter	-14930-03-28 20:09 J	-3731672.86	-3731672.66	-3731672.45	0.0524	0.0036
Uranus	-14930-07-05 04:48 J	-3731574.50	-3731574.30	-3731574.09	0.0147	0.0045
Uranus	-14929-02-16 16:33 J	-3731348.02	-3731347.81	-3731347.59	0.0147	0.0003
Uranus	-14929-09-30 04:19 J	-3731121.52	-3731121.32	-3731121.11	0.0147	0.0043
Uranus	-14928-05-14 16:04 J	-3730894.99	-3730894.83	-3730894.64	0.0147	0.0087
Uranus	-14928-12-27 04:19 J	-3730668.41	-3730668.32	-3730668.22	0.0147	0.0130
Mars	-14926-04-17 20:52 J	-3730191.80	-3730191.63	-3730191.45	0.1833	0.0158
Jupiter	-14925-06-07 15:21 J	-3729774.96	-3729774.86	-3729774.75	0.0505	0.0427
Jupiter	-14924-01-29 20:38 J	-3729538.84	-3729538.64	-3729538.44	0.0501	0.0088
Mars	-14922-11-30 04:04 J	-3728504.51	-3728504.33	-3728504.16	0.1688	0.0030
Saturn	-14921-12-21 00:00 J	-3728117.51	-3728117.50	-3728117.47	0.0283	0.0282
Saturn	-14920-08-07 20:09 J	-3727887.86	-3727887.66	-3727887.45	0.0286	0.0089
Saturn	-14919-03-25 18:43 J	-3727657.91	-3727657.72	-3727657.51	0.0289	0.0115
Jupiter	-14919-12-01 10:33 J	-3727407.25	-3727407.06	-3727406.86	0.0523	0.0134
Jupiter	-14918-07-27 07:11 J	-3727169.28	-3727169.20	-3727169.11	0.0526	0.0473
Neptune	-14913-01-05 09:07 J	-3725546.14	-3725546.12	-3725546.06	0.0089	0.0087
Neptune	-14913-08-17 22:04 J	-3725320.66	-3725320.58	-3725320.49	0.0089	0.0082
Jupiter	-14913-10-04 21:07 J	-3725272.82	-3725272.62	-3725272.42	0.0503	0.0057
Neptune	-14912-03-31 10:19 J	-3725095.16	-3725095.07	-3725094.94	0.0089	0.0077
Jupiter	-14912-05-29 01:40 J	-3725036.51	-3725036.43	-3725036.34	0.0500	0.0451
Neptune	-14912-11-11 23:16 J	-3724869.65	-3724869.53	-3724869.39	0.0089	0.0070
Neptune	-14911-06-25 12:14 J	-3724644.13	-3724643.99	-3724643.84	0.0089	0.0065
Neptune	-14910-02-06 00:28 J	-3724418.62	-3724418.48	-3724418.30	0.0089	0.0059
Neptune	-14910-09-19 13:11 J	-3724193.11	-3724192.95	-3724192.76	0.0089	0.0053
Neptune	-14909-05-02 01:55 J	-3723967.59	-3723967.42	-3723967.23	0.0089	0.0047
Neptune	-14909-12-13 14:38 J	-3723742.08	-3723741.89	-3723741.69	0.0089	0.0041
Neptune	-14908-07-27 03:07 J	-3723516.56	-3723516.37	-3723516.16	0.0089	0.0036
Neptune	-14907-03-09 15:50 J	-3723291.04	-3723290.84	-3723290.63	0.0089	0.0030

Saturn	-14907-03-14 12:00 J	-3723286.04	-3723286.00	-3723285.93	0.0279	0.0268
Jupiter	-14907-08-06 01:26 J	-3723141.60	-3723141.44	-3723141.27	0.0521	0.0299
Neptune	-14907-10-21 04:04 J	-3723065.52	-3723065.33	-3723065.11	0.0089	0.0024
Saturn	-14907-10-29 18:28 J	-3723056.92	-3723056.73	-3723056.53	0.0276	0.0091
Jupiter	-14906-03-31 21:21 J	-3722903.77	-3722903.61	-3722903.44	0.0525	0.0306
Neptune	-14906-06-03 16:48 J	-3722840.00	-3722839.80	-3722839.57	0.0089	0.0019
Saturn	-14906-06-15 22:48 J	-3722827.75	-3722827.55	-3722827.35	0.0274	0.0079
Neptune	-14905-01-15 05:31 J	-3722614.48	-3722614.27	-3722614.05	0.0089	0.0012
Saturn	-14905-01-31 00:28 J	-3722598.57	-3722598.48	-3722598.38	0.0271	0.0241
Neptune	-14905-08-27 18:14 J	-3722388.96	-3722388.74	-3722388.53	0.0089	0.0006
Neptune	-14904-04-10 06:43 J	-3722163.44	-3722163.22	-3722163.00	0.0089	0.0000
Neptune	-14904-11-21 19:11 J	-3721937.91	-3721937.70	-3721937.48	0.0089	0.0006
Neptune	-14903-07-05 07:55 J	-3721712.38	-3721712.17	-3721711.95	0.0089	0.0012
Neptune	-14902-02-15 20:24 J	-3721486.85	-3721486.65	-3721486.43	0.0089	0.0018
Neptune	-14902-09-29 09:07 J	-3721261.33	-3721261.12	-3721260.91	0.0089	0.0023
Neptune	-14901-05-11 21:35 J	-3721035.80	-3721035.60	-3721035.39	0.0089	0.0029
Jupiter	-14901-06-09 22:19 J	-3721006.75	-3721006.57	-3721006.38	0.0504	0.0202
Neptune	-14901-12-23 10:04 J	-3720810.28	-3720810.08	-3720809.88	0.0089	0.0035
Jupiter	-14900-02-01 03:35 J	-3720770.51	-3720770.35	-3720770.19	0.0500	0.0314
Neptune	-14900-08-05 22:33 J	-3720584.75	-3720584.56	-3720584.36	0.0089	0.0041
Neptune	-14899-03-19 10:48 J	-3720359.22	-3720359.05	-3720358.85	0.0089	0.0047
Neptune	-14899-10-30 23:02 J	-3720133.69	-3720133.54	-3720133.34	0.0089	0.0053
Neptune	-14898-06-13 12:00 J	-3719908.16	-3719908.00	-3719907.83	0.0089	0.0058
Neptune	-14897-01-25 00:14 J	-3719682.63	-3719682.49	-3719682.33	0.0089	0.0064
Neptune	-14897-09-06 12:28 J	-3719457.09	-3719456.98	-3719456.83	0.0089	0.0070
Neptune	-14896-04-20 01:11 J	-3719231.56	-3719231.45	-3719231.33	0.0089	0.0075
Neptune	-14896-12-01 13:11 J	-3719006.02	-3719005.95	-3719005.84	0.0089	0.0081
Jupiter	-14895-04-10 15:07 J	-3718875.96	-3718875.87	-3718875.77	0.0520	0.0464
Neptune	-14895-07-15 02:09 J	-3718780.45	-3718780.41	-3718780.36	0.0089	0.0086
Jupiter	-14895-12-04 10:19 J	-3718638.27	-3718638.07	-3718637.88	0.0524	0.0134

Mars	-14894-04-17 13:40 J	-3718504.01	-3718503.93	-3718503.84	0.1843	0.1587
Mars	-14892-02-12 12:14 J	-3717837.09	-3717836.99	-3717836.88	0.1820	0.1408
Saturn	-14891-07-03 09:50 J	-3717331.18	-3717331.09	-3717330.98	0.0284	0.0249
Saturn	-14890-02-18 06:28 J	-3717101.44	-3717101.23	-3717101.02	0.0287	0.0054
Uranus	-14890-03-07 10:48 J	-3717084.10	-3717084.05	-3717083.99	0.0132	0.0128
Saturn	-14890-10-06 05:16 J	-3716871.45	-3716871.28	-3716871.08	0.0290	0.0153
Uranus	-14890-10-19 16:19 J	-3716857.95	-3716857.82	-3716857.65	0.0132	0.0096
Mars	-14890-11-29 03:07 J	-3716817.51	-3716817.37	-3716817.22	0.1681	0.0959
Jupiter	-14889-02-14 00:00 J	-3716740.65	-3716740.50	-3716740.36	0.0505	0.0345
Uranus	-14889-06-01 22:19 J	-3716631.76	-3716631.57	-3716631.37	0.0132	0.0062
Jupiter	-14889-10-07 05:31 J	-3716504.45	-3716504.27	-3716504.08	0.0501	0.0174
Uranus	-14888-01-14 04:19 J	-3716405.54	-3716405.32	-3716405.11	0.0132	0.0030
Uranus	-14888-08-28 09:50 J	-3716179.31	-3716179.09	-3716178.87	0.0132	0.0003
Mars	-14888-09-27 14:09 J	-3716149.05	-3716148.91	-3716148.78	0.1699	0.1063
Uranus	-14887-04-11 15:21 J	-3715953.07	-3715952.86	-3715952.64	0.0132	0.0036
Uranus	-14887-11-23 20:52 J	-3715726.82	-3715726.63	-3715726.44	0.0132	0.0068
Uranus	-14886-07-08 01:55 J	-3715500.54	-3715500.42	-3715500.26	0.0132	0.0101
Earth	-14886-11-05 07:40 J	-3715380.29	-3715380.18	-3715380.08	0.2648	0.1940
Moon	-14886-11-05 11:31 J	-3715380.07	-3715380.02	-3715379.98	0.2652	0.2513
Jupiter	-14883-08-09 00:28 J	-3714372.68	-3714372.48	-3714372.27	0.0523	0.0036
Saturn	-14878-09-24 19:11 J	-3712499.80	-3712499.70	-3712499.59	0.0278	0.0239
Jupiter	-14878-10-20 01:26 J	-3712474.49	-3712474.44	-3712474.39	0.0506	0.0486
Earth	-14878-11-03 01:26 J	-3712460.58	-3712460.44	-3712460.30	0.2650	0.1167
Moon	-14878-11-03 06:28 J	-3712460.38	-3712460.23	-3712460.07	0.2649	0.0495 *
Saturn	-14877-05-11 01:11 J	-3712270.65	-3712270.45	-3712270.24	0.0276	0.0064
Jupiter	-14877-06-12 07:11 J	-3712238.40	-3712238.20	-3712238.00	0.0502	0.0030
Saturn	-14877-12-26 04:48 J	-3712041.48	-3712041.30	-3712041.10	0.0273	0.0106
Saturn	-14876-08-12 06:28 J	-3711812.25	-3711812.23	-3711812.19	0.0270	0.0267
Jupiter	-14871-04-13 14:24 J	-3710107.09	-3710106.90	-3710106.71	0.0522	0.0206
Jupiter	-14871-12-07 11:16 J	-3709869.16	-3709869.03	-3709868.90	0.0526	0.0403

Jupiter	-14865-02-16 08:52 J	-3707972.33	-3707972.13	-3707971.94	0.0503	0.0115
Jupiter	-14865-10-09 12:57 J	-3707736.08	-3707735.96	-3707735.83	0.0499	0.0397
Pluto	-14864-11-25 01:55 J	-3707324.57	-3707324.42	-3707324.22	0.0064	0.0037
Pluto	-14863-07-08 06:28 J	-3707099.45	-3707099.23	-3707099.01	0.0064	0.0003
Pluto	-14862-02-18 09:50 J	-3706874.26	-3706874.09	-3706873.88	0.0064	0.0033
Saturn	-14861-01-13 18:57 J	-3706544.84	-3706544.71	-3706544.57	0.0284	0.0219
Saturn	-14861-08-30 16:04 J	-3706315.05	-3706314.83	-3706314.62	0.0287	0.0023
Mars	-14860-02-12 02:52 J	-3706149.56	-3706149.38	-3706149.21	0.1830	0.0070
Saturn	-14860-04-17 15:21 J	-3706085.02	-3706084.86	-3706084.69	0.0290	0.0184
Jupiter	-14860-12-17 05:31 J	-3705841.41	-3705841.27	-3705841.12	0.0521	0.0370
Jupiter	-14859-08-12 01:26 J	-3705603.62	-3705603.44	-3705603.25	0.0525	0.0236
Mars	-14856-09-26 14:52 J	-3704462.06	-3704461.88	-3704461.71	0.1691	0.0093
Jupiter	-14854-10-22 08:24 J	-3703706.32	-3703706.15	-3703705.98	0.0504	0.0261
Jupiter	-14853-06-14 13:26 J	-3703470.11	-3703469.94	-3703469.76	0.0501	0.0256
Saturn	-14848-04-06 03:21 J	-3701713.49	-3701713.36	-3701713.21	0.0278	0.0208
Saturn	-14848-11-21 09:07 J	-3701484.33	-3701484.12	-3701483.91	0.0275	0.0033
Jupiter	-14847-04-16 16:19 J	-3701338.03	-3701337.82	-3701337.62	0.0524	0.0067
Saturn	-14847-07-08 12:28 J	-3701255.16	-3701254.98	-3701254.80	0.0273	0.0134
Uranus	-14847-07-20 23:45 J	-3701242.64	-3701242.51	-3701242.35	0.0146	0.0109
Uranus	-14846-03-04 11:31 J	-3701016.20	-3701016.02	-3701015.82	0.0147	0.0065
Uranus	-14846-10-16 23:16 J	-3700789.74	-3700789.53	-3700789.31	0.0147	0.0022
Uranus	-14845-05-30 11:02 J	-3700563.24	-3700563.04	-3700562.82	0.0147	0.0023
Uranus	-14844-01-11 22:48 J	-3700336.72	-3700336.55	-3700336.34	0.0147	0.0067
Uranus	-14844-08-26 11:16 J	-3700110.17	-3700110.03	-3700109.88	0.0147	0.0110
Jupiter	-14842-06-27 09:07 J	-3699440.24	-3699440.12	-3699440.00	0.0506	0.0406
Jupiter	-14841-02-18 15:07 J	-3699204.06	-3699203.87	-3699203.67	0.0502	0.0114
Jupiter	-14836-12-20 05:16 J	-3697072.48	-3697072.28	-3697072.08	0.0522	0.0107
Jupiter	-14835-08-15 01:26 J	-3696834.50	-3696834.44	-3696834.38	0.0526	0.0499
Saturn	-14832-07-26 04:04 J	-3695758.48	-3695758.33	-3695758.15	0.0285	0.0187
Saturn	-14831-03-13 01:40 J	-3695528.64	-3695528.43	-3695528.21	0.0288	0.0013

Saturn -14831-10-29 01:40 J -3695298.57 -3695298.43 -3695298.29 0.0291 0.0221
 Neptune -14830-05-15 16:48 J -3695099.84 -3695099.80 -3695099.72 0.0088 0.0085
 Jupiter -14830-10-24 17:02 J -3694937.99 -3694937.79 -3694937.59 0.0503 0.0031
 Neptune -14830-12-27 06:00 J -3694874.32 -3694874.25 -3694874.12 0.0088 0.0079
 Jupiter -14829-06-16 21:50 J -3694701.64 -3694701.59 -3694701.54 0.0500 0.0480
 Neptune -14829-08-08 19:26 J -3694648.79 -3694648.69 -3694648.54 0.0088 0.0073
 Mars -14828-02-11 18:28 J -3694461.85 -3694461.73 -3694461.61 0.1840 0.1353
 Neptune -14828-03-22 09:07 J -3694423.25 -3694423.12 -3694422.97 0.0088 0.0067
 Neptune -14828-11-02 22:48 J -3694197.71 -3694197.55 -3694197.39 0.0088 0.0061
 Neptune -14827-06-16 11:45 J -3693972.16 -3693972.01 -3693971.82 0.0088 0.0056
 Mars -14827-12-10 18:57 J -3693794.79 -3693794.71 -3693794.63 0.1816 0.1592
 Neptune -14826-01-28 01:11 J -3693746.62 -3693746.45 -3693746.25 0.0088 0.0050
 Neptune -14826-09-10 14:38 J -3693521.07 -3693520.89 -3693520.68 0.0088 0.0044
 Neptune -14825-04-23 04:04 J -3693295.52 -3693295.33 -3693295.11 0.0088 0.0039
 Neptune -14825-12-04 17:45 J -3693069.96 -3693069.76 -3693069.54 0.0088 0.0033
 Neptune -14824-07-18 07:26 J -3692844.40 -3692844.19 -3692843.97 0.0088 0.0026
 Jupiter -14824-08-24 19:40 J -3692806.85 -3692806.68 -3692806.50 0.0521 0.0275
 Mars -14824-09-25 13:40 J -3692775.07 -3692774.93 -3692774.78 0.1683 0.0860
 Neptune -14823-02-28 20:52 J -3692618.84 -3692618.63 -3692618.41 0.0088 0.0020
 Jupiter -14823-04-19 15:35 J -3692569.01 -3692568.85 -3692568.69 0.0525 0.0333
 Neptune -14823-10-12 10:19 J -3692393.29 -3692393.07 -3692392.85 0.0088 0.0014
 Neptune -14822-05-25 23:45 J -3692167.73 -3692167.51 -3692167.29 0.0088 0.0008
 Mars -14822-07-26 00:00 J -3692106.62 -3692106.50 -3692106.38 0.1702 0.1181
 Neptune -14821-01-06 13:11 J -3691942.17 -3691941.95 -3691941.72 0.0088 0.0003
 Neptune -14821-08-19 02:38 J -3691716.61 -3691716.39 -3691716.16 0.0088 0.0004
 Neptune -14820-04-01 16:04 J -3691491.05 -3691490.83 -3691490.60 0.0088 0.0010
 Neptune -14820-11-13 05:45 J -3691265.48 -3691265.26 -3691265.04 0.0088 0.0016
 Neptune -14819-06-26 19:11 J -3691039.92 -3691039.70 -3691039.48 0.0088 0.0022
 Saturn -14819-10-17 10:33 J -3690927.21 -3690927.06 -3690926.90 0.0277 0.0180
 Neptune -14818-02-07 08:38 J -3690814.35 -3690814.14 -3690813.93 0.0088 0.0028

Saturn	-14818-06-03 15:50 J	-3690698.05	-3690697.84	-3690697.63	0.0275	0.0007
Jupiter	-14818-06-29 18:57 J	-3690671.89	-3690671.71	-3690671.52	0.0503	0.0174
Neptune	-14818-09-20 21:50 J	-3690588.79	-3690588.59	-3690588.37	0.0088	0.0034
Saturn	-14817-01-18 18:43 J	-3690468.88	-3690468.72	-3690468.55	0.0272	0.0161
Jupiter	-14817-02-20 23:31 J	-3690435.66	-3690435.52	-3690435.36	0.0500	0.0342
Neptune	-14817-05-03 11:16 J	-3690363.22	-3690363.03	-3690362.82	0.0088	0.0040
Neptune	-14817-12-15 00:57 J	-3690137.64	-3690137.46	-3690137.26	0.0088	0.0046
Neptune	-14816-07-28 14:38 J	-3689912.06	-3689911.89	-3689911.70	0.0088	0.0052
Neptune	-14815-03-11 04:04 J	-3689686.49	-3689686.33	-3689686.15	0.0088	0.0058
Neptune	-14815-10-22 17:31 J	-3689460.91	-3689460.77	-3689460.60	0.0088	0.0063
Neptune	-14814-06-05 06:57 J	-3689235.33	-3689235.21	-3689235.05	0.0088	0.0070
Neptune	-14813-01-16 21:07 J	-3689009.73	-3689009.62	-3689009.50	0.0088	0.0075
Neptune	-14813-08-29 10:33 J	-3688784.14	-3688784.06	-3688783.96	0.0088	0.0081
Neptune	-14812-04-12 00:00 J	-3688558.53	-3688558.50	-3688558.44	0.0088	0.0087
Jupiter	-14812-04-29 09:35 J	-3688541.21	-3688541.10	-3688540.99	0.0520	0.0440
Jupiter	-14812-12-23 05:16 J	-3688303.47	-3688303.28	-3688303.08	0.0525	0.0164
Jupiter	-14806-03-04 20:38 J	-3686405.80	-3686405.64	-3686405.49	0.0505	0.0318
Uranus	-14806-06-19 04:19 J	-3686299.43	-3686299.32	-3686299.18	0.0132	0.0108
Jupiter	-14806-10-27 01:26 J	-3686169.62	-3686169.44	-3686169.25	0.0501	0.0202
Uranus	-14805-01-31 10:19 J	-3686073.24	-3686073.07	-3686072.88	0.0132	0.0075
Uranus	-14805-09-13 16:04 J	-3685847.04	-3685846.83	-3685846.62	0.0132	0.0042
Uranus	-14804-04-27 21:35 J	-3685620.81	-3685620.60	-3685620.37	0.0132	0.0010
Uranus	-14804-12-10 03:21 J	-3685394.58	-3685394.36	-3685394.14	0.0132	0.0023
Uranus	-14803-07-24 08:38 J	-3685168.33	-3685168.14	-3685167.93	0.0132	0.0056
Saturn	-14802-02-05 12:43 J	-3684972.15	-3684971.97	-3684971.79	0.0285	0.0157
Uranus	-14802-03-07 14:24 J	-3684942.06	-3684941.90	-3684941.74	0.0132	0.0088
Saturn	-14802-09-23 10:19 J	-3684742.28	-3684742.07	-3684741.86	0.0288	0.0043
Uranus	-14802-10-19 19:26 J	-3684715.76	-3684715.69	-3684715.59	0.0132	0.0121
Saturn	-14801-05-10 10:33 J	-3684512.16	-3684512.06	-3684511.95	0.0291	0.0252
Jupiter	-14800-08-27 20:24 J	-3684037.85	-3684037.65	-3684037.44	0.0523	0.0012

Jupiter	-14795-11-07 19:11 J	-3682139.77	-3682139.70	-3682139.62	0.0506	0.0465
Mars	-14795-12-10 08:24 J	-3682107.32	-3682107.15	-3682106.98	0.1827	0.0264
Jupiter	-14794-07-02 01:26 J	-3681903.64	-3681903.44	-3681903.24	0.0502	0.0055
Mars	-14790-07-25 00:43 J	-3680419.65	-3680419.47	-3680419.30	0.1693	0.0197
Saturn	-14789-04-28 18:28 J	-3680140.90	-3680140.73	-3680140.55	0.0277	0.0149
Saturn	-14789-12-13 23:16 J	-3679911.74	-3679911.53	-3679911.32	0.0275	0.0024
Jupiter	-14788-05-02 11:45 J	-3679772.20	-3679772.01	-3679771.81	0.0522	0.0173
Saturn	-14788-07-31 01:55 J	-3679682.56	-3679682.42	-3679682.27	0.0272	0.0189
Jupiter	-14788-12-26 07:55 J	-3679534.28	-3679534.17	-3679534.06	0.0525	0.0436
Jupiter	-14782-03-07 02:52 J	-3677637.58	-3677637.38	-3677637.18	0.0503	0.0090
Jupiter	-14782-10-29 07:55 J	-3677401.28	-3677401.17	-3677401.07	0.0500	0.0425
Earth	-14780-05-09 09:21 J	-3676843.27	-3676843.11	-3676842.95	0.2683	0.0373
Moon	-14780-05-09 13:40 J	-3676843.09	-3676842.93	-3676842.78	0.2689	0.0437 *
Jupiter	-14776-01-05 01:26 J	-3675506.59	-3675506.44	-3675506.28	0.0520	0.0343
Jupiter	-14776-08-30 20:52 J	-3675268.81	-3675268.63	-3675268.45	0.0524	0.0264
Pluto	-14775-10-18 14:52 J	-3674855.08	-3674854.88	-3674854.67	0.0080	0.0031
Pluto	-14774-06-01 01:40 J	-3674629.62	-3674629.43	-3674629.23	0.0079	0.0037
Saturn	-14773-08-17 21:21 J	-3674185.80	-3674185.61	-3674185.41	0.0286	0.0125
Saturn	-14772-04-04 19:40 J	-3673955.89	-3673955.68	-3673955.47	0.0289	0.0078
Moon	-14772-05-07 04:04 J	-3673923.34	-3673923.33	-3673923.32	0.2682	0.2671
Saturn	-14772-11-20 20:09 J	-3673725.67	-3673725.66	-3673725.62	0.0292	0.0289
Jupiter	-14771-11-10 04:33 J	-3673371.48	-3673371.31	-3673371.13	0.0504	0.0235
Jupiter	-14770-07-04 10:04 J	-3673135.25	-3673135.08	-3673134.91	0.0501	0.0286
Jupiter	-14765-09-09 16:04 J	-3671240.86	-3671240.83	-3671240.77	0.0519	0.0506
Jupiter	-14764-05-05 11:02 J	-3671003.24	-3671003.04	-3671002.84	0.0524	0.0094
Uranus	-14763-03-20 04:33 J	-3670684.39	-3670684.31	-3670684.20	0.0146	0.0131
Uranus	-14763-11-01 16:19 J	-3670457.98	-3670457.82	-3670457.64	0.0146	0.0088
Mars	-14763-12-09 23:31 J	-3670419.65	-3670419.52	-3670419.38	0.1837	0.1128
Uranus	-14762-06-16 04:04 J	-3670231.53	-3670231.33	-3670231.12	0.0147	0.0044
Uranus	-14761-01-28 16:04 J	-3670005.05	-3670004.83	-3670004.62	0.0147	0.0002

Uranus	-14761-09-11 03:50 J	-3669778.54	-3669778.34	-3669778.13	0.0147	0.0044
Mars	-14761-10-07 00:28 J	-3669752.50	-3669752.48	-3669752.45	0.1813	0.1788
Uranus	-14760-04-25 15:50 J	-3669552.00	-3669551.84	-3669551.66	0.0147	0.0088
Saturn	-14760-11-09 00:57 J	-3669354.65	-3669354.46	-3669354.27	0.0277	0.0122
Uranus	-14760-12-08 03:50 J	-3669325.42	-3669325.34	-3669325.23	0.0147	0.0132
Saturn	-14759-06-26 05:31 J	-3669125.48	-3669125.27	-3669125.07	0.0274	0.0050
Jupiter	-14759-07-16 06:43 J	-3669105.35	-3669105.22	-3669105.08	0.0505	0.0377
Saturn	-14758-02-10 07:26 J	-3668896.31	-3668896.19	-3668896.05	0.0271	0.0214
Jupiter	-14758-03-09 12:28 J	-3668869.17	-3668868.98	-3668868.79	0.0501	0.0145
Mars	-14758-07-24 00:14 J	-3668732.65	-3668732.49	-3668732.34	0.1686	0.0758
Mars	-14756-05-22 09:50 J	-3668064.20	-3668064.09	-3668063.98	0.1705	0.1300
Jupiter	-14752-01-08 00:57 J	-3666737.67	-3666737.46	-3666737.26	0.0523	0.0078
Neptune	-14749-11-19 06:43 J	-3665326.26	-3665326.22	-3665326.16	0.0089	0.0087
Neptune	-14748-07-02 19:11 J	-3665100.77	-3665100.70	-3665100.59	0.0089	0.0081
Neptune	-14747-02-13 07:55 J	-3664875.26	-3664875.17	-3664875.03	0.0089	0.0075
Neptune	-14747-09-26 20:38 J	-3664649.76	-3664649.64	-3664649.49	0.0089	0.0070
Jupiter	-14747-11-12 14:24 J	-3664603.11	-3664602.90	-3664602.70	0.0502	0.0008
Neptune	-14746-05-10 09:21 J	-3664424.24	-3664424.11	-3664423.94	0.0089	0.0064
Neptune	-14746-12-21 22:04 J	-3664198.73	-3664198.58	-3664198.40	0.0089	0.0058
Neptune	-14745-08-03 10:48 J	-3663973.22	-3663973.05	-3663972.86	0.0089	0.0052
Neptune	-14744-03-16 23:31 J	-3663747.70	-3663747.52	-3663747.33	0.0089	0.0045
Neptune	-14744-10-28 12:00 J	-3663522.19	-3663522.00	-3663521.80	0.0089	0.0040
Saturn	-14743-02-28 04:04 J	-3663399.53	-3663399.33	-3663399.12	0.0286	0.0098
Neptune	-14743-06-11 00:57 J	-3663296.66	-3663296.46	-3663296.26	0.0089	0.0034
Saturn	-14743-10-16 02:38 J	-3663169.59	-3663169.39	-3663169.19	0.0289	0.0106
Neptune	-14742-01-22 13:26 J	-3663071.15	-3663070.94	-3663070.73	0.0089	0.0028
Neptune	-14742-09-05 01:55 J	-3662845.63	-3662845.42	-3662845.21	0.0089	0.0022
Neptune	-14741-04-17 14:24 J	-3662620.11	-3662619.90	-3662619.68	0.0089	0.0016
Jupiter	-14741-09-12 16:33 J	-3662471.99	-3662471.81	-3662471.62	0.0521	0.0244
Neptune	-14741-11-29 02:52 J	-3662394.59	-3662394.38	-3662394.16	0.0089	0.0010

Jupiter -14740-05-08 12:43 J -3662234.11 -3662233.97 -3662233.82 0.0525 0.0368
 Neptune -14740-07-12 15:35 J -3662169.06 -3662168.85 -3662168.63 0.0089 0.0004
 Neptune -14739-02-23 04:04 J -3661943.54 -3661943.33 -3661943.11 0.0089 0.0003
 Neptune -14739-10-06 16:33 J -3661718.02 -3661717.81 -3661717.59 0.0089 0.0009
 Neptune -14738-05-20 05:02 J -3661492.49 -3661492.29 -3661492.07 0.0089 0.0015
 Neptune -14738-12-31 17:31 J -3661266.97 -3661266.77 -3661266.55 0.0089 0.0021
 Neptune -14737-08-13 06:00 J -3661041.44 -3661041.25 -3661041.03 0.0089 0.0027
 Neptune -14736-03-26 18:28 J -3660815.91 -3660815.73 -3660815.51 0.0089 0.0033
 Neptune -14736-11-07 07:26 J -3660590.38 -3660590.19 -3660589.99 0.0089 0.0038
 Neptune -14735-06-20 20:09 J -3660364.85 -3660364.66 -3660364.48 0.0089 0.0044
 Jupiter -14735-07-18 13:40 J -3660337.12 -3660336.93 -3660336.74 0.0504 0.0148
 Neptune -14734-02-01 08:24 J -3660139.32 -3660139.15 -3660138.96 0.0089 0.0050
 Jupiter -14734-03-11 18:43 J -3660100.85 -3660100.72 -3660100.58 0.0500 0.0370
 Neptune -14734-09-14 20:52 J -3659913.79 -3659913.63 -3659913.46 0.0089 0.0056
 Neptune -14733-04-27 09:07 J -3659688.26 -3659688.12 -3659687.95 0.0089 0.0062
 Neptune -14733-12-08 21:35 J -3659462.72 -3659462.60 -3659462.45 0.0089 0.0068
 Neptune -14732-07-22 10:04 J -3659237.18 -3659237.08 -3659236.94 0.0089 0.0074
 Neptune -14731-03-04 22:48 J -3659011.64 -3659011.55 -3659011.45 0.0089 0.0079
 Saturn -14731-10-05 01:11 J -3658797.50 -3658797.45 -3658797.40 0.0280 0.0270
 Neptune -14731-10-16 10:48 J -3658786.09 -3658786.05 -3658785.97 0.0089 0.0085
 Saturn -14730-05-22 07:40 J -3658568.37 -3658568.18 -3658567.98 0.0277 0.0093
 Saturn -14729-01-06 11:45 J -3658339.21 -3658339.01 -3658338.81 0.0274 0.0078
 Jupiter -14729-05-18 08:52 J -3658206.26 -3658206.13 -3658206.00 0.0520 0.0406
 Saturn -14729-08-22 13:40 J -3658110.02 -3658109.93 -3658109.83 0.0271 0.0241
 Mars -14729-10-06 14:24 J -3658065.07 -3658064.90 -3658064.74 0.1824 0.0469
 Jupiter -14728-01-11 04:04 J -3657968.52 -3657968.33 -3657968.14 0.0524 0.0200
 Mars -14726-07-22 22:48 J -3657045.56 -3657045.55 -3657045.54 0.1678 0.1673
 Mars -14724-05-21 11:02 J -3656377.21 -3656377.04 -3656376.86 0.1696 0.0302
 Jupiter -14723-03-23 14:52 J -3656071.04 -3656070.88 -3656070.72 0.0505 0.0294
 Jupiter -14723-11-14 20:24 J -3655834.82 -3655834.65 -3655834.47 0.0501 0.0230

Uranus	-14722-02-16 16:04 J	-3655740.91	-3655740.83	-3655740.74	0.0132	0.0122
Uranus	-14722-09-30 21:35 J	-3655514.74	-3655514.60	-3655514.42	0.0132	0.0090
Uranus	-14721-05-14 03:35 J	-3655288.54	-3655288.35	-3655288.14	0.0132	0.0056
Uranus	-14721-12-26 09:21 J	-3655062.32	-3655062.11	-3655061.88	0.0132	0.0024
Uranus	-14720-08-09 15:21 J	-3654836.08	-3654835.86	-3654835.64	0.0132	0.0010
Uranus	-14719-03-23 20:52 J	-3654609.84	-3654609.63	-3654609.42	0.0132	0.0043
Uranus	-14719-11-05 02:09 J	-3654383.58	-3654383.41	-3654383.22	0.0132	0.0076
Uranus	-14718-06-19 07:40 J	-3654157.29	-3654157.18	-3654157.05	0.0132	0.0108
Jupiter	-14717-09-15 17:45 J	-3653702.97	-3653702.76	-3653702.56	0.0523	0.0028
Saturn	-14714-01-23 15:07 J	-3652842.94	-3652842.87	-3652842.78	0.0284	0.0262
Saturn	-14714-09-10 11:16 J	-3652613.23	-3652613.03	-3652612.81	0.0287	0.0067
Saturn	-14713-04-27 10:19 J	-3652383.26	-3652383.07	-3652382.88	0.0290	0.0139
Jupiter	-14712-11-26 16:04 J	-3651804.92	-3651804.83	-3651804.73	0.0506	0.0439
Jupiter	-14711-07-20 22:48 J	-3651568.75	-3651568.55	-3651568.35	0.0502	0.0086
Jupiter	-14705-05-21 07:55 J	-3649437.37	-3649437.17	-3649436.97	0.0522	0.0145
Jupiter	-14704-01-14 03:50 J	-3649199.43	-3649199.34	-3649199.25	0.0525	0.0467
Saturn	-14701-04-16 06:57 J	-3648011.31	-3648011.21	-3648011.11	0.0279	0.0243
Saturn	-14701-12-01 13:11 J	-3647782.16	-3647781.95	-3647781.75	0.0276	0.0067
Saturn	-14700-07-18 16:48 J	-3647552.99	-3647552.80	-3647552.60	0.0273	0.0103
Saturn	-14699-03-04 18:28 J	-3647323.77	-3647323.73	-3647323.68	0.0270	0.0264
Jupiter	-14699-03-26 01:26 J	-3647302.64	-3647302.44	-3647302.24	0.0503	0.0058
Jupiter	-14699-11-17 06:14 J	-3647066.32	-3647066.24	-3647066.16	0.0500	0.0458
Mars	-14697-10-06 04:33 J	-3646377.46	-3646377.31	-3646377.16	0.1834	0.0901
Jupiter	-14693-01-24 22:04 J	-3645171.74	-3645171.58	-3645171.41	0.0521	0.0313
Jupiter	-14693-09-18 18:00 J	-3644933.91	-3644933.75	-3644933.58	0.0525	0.0299
Mars	-14692-05-20 10:48 J	-3644690.21	-3644690.05	-3644689.89	0.1688	0.0657
Mars	-14690-03-19 19:55 J	-3644021.76	-3644021.67	-3644021.57	0.1707	0.1416
Jupiter	-14688-11-29 03:21 J	-3643036.55	-3643036.36	-3643036.18	0.0504	0.0203
Jupiter	-14687-07-23 08:24 J	-3642800.30	-3642800.15	-3642799.99	0.0500	0.0319
Saturn	-14685-08-04 20:09 J	-3642056.77	-3642056.66	-3642056.54	0.0284	0.0238

Saturn	-14684-03-22 16:48 J	-3641827.01	-3641826.80	-3641826.59	0.0287	0.0041
Saturn	-14684-11-07 15:50 J	-3641597.01	-3641596.84	-3641596.66	0.0290	0.0165
Jupiter	-14682-09-29 14:24 J	-3640905.97	-3640905.90	-3640905.80	0.0519	0.0474
Jupiter	-14681-05-24 09:50 J	-3640668.29	-3640668.09	-3640667.89	0.0524	0.0132
Uranus	-14679-07-01 23:45 J	-3639899.65	-3639899.51	-3639899.36	0.0146	0.0108
Uranus	-14678-02-13 11:16 J	-3639673.21	-3639673.03	-3639672.83	0.0146	0.0065
Uranus	-14678-09-27 23:16 J	-3639446.74	-3639446.53	-3639446.32	0.0147	0.0020
Uranus	-14677-05-11 11:02 J	-3639220.25	-3639220.04	-3639219.83	0.0147	0.0024
Uranus	-14677-12-23 22:48 J	-3638993.73	-3638993.55	-3638993.35	0.0147	0.0068
Jupiter	-14676-08-04 02:09 J	-3638770.55	-3638770.41	-3638770.26	0.0505	0.0352
Uranus	-14676-08-07 11:02 J	-3638767.17	-3638767.04	-3638766.89	0.0147	0.0112
Jupiter	-14675-03-28 08:09 J	-3638534.35	-3638534.16	-3638533.97	0.0502	0.0174
Saturn	-14672-10-27 12:43 J	-3637225.10	-3637224.97	-3637224.83	0.0279	0.0216
Saturn	-14671-06-13 18:43 J	-3636995.92	-3636995.72	-3636995.51	0.0276	0.0039
Saturn	-14670-01-28 22:04 J	-3636766.76	-3636766.58	-3636766.39	0.0273	0.0130
Jupiter	-14669-01-28 01:55 J	-3636402.63	-3636402.42	-3636402.21	0.0523	0.0037
Neptune	-14665-03-29 13:40 J	-3634880.00	-3634879.93	-3634879.87	0.0088	0.0084
Neptune	-14665-11-10 02:24 J	-3634654.48	-3634654.40	-3634654.27	0.0088	0.0078
Jupiter	-14664-04-09 03:07 J	-3634504.41	-3634504.37	-3634504.33	0.0507	0.0497
Neptune	-14664-06-23 15:50 J	-3634428.94	-3634428.84	-3634428.69	0.0088	0.0073
Jupiter	-14664-12-01 09:50 J	-3634268.29	-3634268.09	-3634267.89	0.0503	0.0029
Neptune	-14663-02-04 05:16 J	-3634203.41	-3634203.28	-3634203.12	0.0088	0.0066
Mars	-14663-08-03 19:55 J	-3634022.83	-3634022.67	-3634022.51	0.1820	0.0672
Neptune	-14663-09-17 18:43 J	-3633977.87	-3633977.72	-3633977.55	0.0088	0.0060
Neptune	-14662-05-01 08:09 J	-3633752.33	-3633752.16	-3633751.98	0.0088	0.0054
Neptune	-14662-12-12 21:50 J	-3633526.77	-3633526.59	-3633526.40	0.0088	0.0048
Neptune	-14661-07-25 11:16 J	-3633301.22	-3633301.03	-3633300.83	0.0088	0.0043
Neptune	-14660-03-08 00:43 J	-3633075.67	-3633075.47	-3633075.27	0.0088	0.0037
Mars	-14660-05-19 09:35 J	-3633003.15	-3633003.10	-3633003.04	0.1680	0.1580
Neptune	-14660-10-19 14:09 J	-3632850.12	-3632849.91	-3632849.70	0.0088	0.0030

Neptune	-14659-06-02 03:35 J	-3632624.56	-3632624.35	-3632624.13	0.0088	0.0024
Neptune	-14658-01-13 17:02 J	-3632399.00	-3632398.79	-3632398.57	0.0088	0.0018
Mars	-14658-03-18 21:07 J	-3632334.79	-3632334.62	-3632334.45	0.1699	0.0414
Neptune	-14658-08-27 06:28 J	-3632173.45	-3632173.23	-3632173.00	0.0088	0.0012
Jupiter	-14658-10-02 16:04 J	-3632137.02	-3632136.83	-3632136.64	0.0521	0.0209
Neptune	-14657-04-08 19:55 J	-3631947.89	-3631947.67	-3631947.44	0.0088	0.0006
Jupiter	-14657-05-27 11:31 J	-3631899.15	-3631899.02	-3631898.89	0.0525	0.0404
Neptune	-14657-11-20 09:35 J	-3631722.32	-3631722.10	-3631721.88	0.0088	0.0000
Neptune	-14656-07-03 23:02 J	-3631496.76	-3631496.54	-3631496.31	0.0088	0.0006
Neptune	-14655-02-14 12:28 J	-3631271.20	-3631270.98	-3631270.75	0.0088	0.0012
Saturn	-14655-02-15 01:40 J	-3631270.56	-3631270.43	-3631270.28	0.0284	0.0210
Neptune	-14655-09-28 01:55 J	-3631045.64	-3631045.42	-3631045.20	0.0088	0.0018
Saturn	-14655-10-02 22:33 J	-3631040.78	-3631040.56	-3631040.35	0.0287	0.0012
Neptune	-14654-05-11 15:21 J	-3630820.07	-3630819.86	-3630819.64	0.0088	0.0025
Saturn	-14654-05-20 21:50 J	-3630810.74	-3630810.59	-3630810.42	0.0290	0.0196
Neptune	-14654-12-23 05:02 J	-3630594.50	-3630594.29	-3630594.08	0.0088	0.0031
Neptune	-14653-08-04 18:28 J	-3630368.93	-3630368.73	-3630368.52	0.0088	0.0037
Neptune	-14652-03-18 07:40 J	-3630143.36	-3630143.18	-3630142.97	0.0088	0.0043
Jupiter	-14652-08-06 12:14 J	-3630002.19	-3630001.99	-3630001.80	0.0504	0.0117
Neptune	-14652-10-29 21:07 J	-3629917.79	-3629917.62	-3629917.42	0.0088	0.0049
Jupiter	-14651-03-30 17:31 J	-3629765.89	-3629765.77	-3629765.65	0.0501	0.0404
Neptune	-14651-06-12 10:33 J	-3629692.21	-3629692.06	-3629691.86	0.0088	0.0055
Neptune	-14650-01-24 00:00 J	-3629466.63	-3629466.50	-3629466.31	0.0088	0.0062
Neptune	-14650-09-06 14:09 J	-3629241.05	-3629240.91	-3629240.76	0.0088	0.0067
Neptune	-14649-04-19 03:35 J	-3629015.47	-3629015.35	-3629015.22	0.0088	0.0073
Neptune	-14649-11-30 17:16 J	-3628789.87	-3628789.78	-3628789.67	0.0088	0.0079
Neptune	-14648-07-14 06:43 J	-3628564.27	-3628564.22	-3628564.14	0.0088	0.0085
Jupiter	-14646-06-07 06:43 J	-3627871.36	-3627871.22	-3627871.07	0.0520	0.0376
Jupiter	-14645-01-31 01:55 J	-3627633.60	-3627633.42	-3627633.24	0.0524	0.0234
Moon	-14643-11-05 09:50 J	-3626624.22	-3626624.09	-3626623.97	0.2644	0.1741

Earth	-14643-11-05 11:31 J	-3626624.10	-3626624.02	-3626623.94	0.2650	0.2223	*
Saturn	-14642-05-09 16:48 J	-3626438.94	-3626438.80	-3626438.64	0.0278	0.0192	
Saturn	-14642-12-24 22:33 J	-3626209.77	-3626209.56	-3626209.35	0.0275	0.0017	
Saturn	-14641-08-10 01:40 J	-3625980.60	-3625980.43	-3625980.25	0.0272	0.0151	
Jupiter	-14640-04-11 14:38 J	-3625736.06	-3625735.89	-3625735.71	0.0505	0.0261	
Jupiter	-14640-12-03 20:24 J	-3625499.82	-3625499.65	-3625499.48	0.0501	0.0265	
Uranus	-14638-05-31 09:07 J	-3624956.24	-3624956.12	-3624955.96	0.0132	0.0103	
Uranus	-14637-01-12 15:21 J	-3624730.04	-3624729.86	-3624729.66	0.0132	0.0069	
Uranus	-14637-08-25 21:07 J	-3624503.82	-3624503.62	-3624503.40	0.0132	0.0037	
Uranus	-14636-04-09 03:07 J	-3624277.59	-3624277.37	-3624277.15	0.0132	0.0003	
Uranus	-14636-11-21 08:38 J	-3624051.35	-3624051.14	-3624050.92	0.0132	0.0030	
Uranus	-14635-07-05 14:09 J	-3623825.09	-3623824.91	-3623824.71	0.0132	0.0063	
Moon	-14635-11-03 00:43 J	-3623704.61	-3623704.47	-3623704.33	0.2650	0.1263	
Earth	-14635-11-03 05:31 J	-3623704.41	-3623704.27	-3623704.12	0.2652	0.0868	*
Uranus	-14634-02-16 19:40 J	-3623598.81	-3623598.68	-3623598.51	0.0132	0.0096	
Uranus	-14634-10-01 01:26 J	-3623372.48	-3623372.44	-3623372.38	0.0132	0.0128	
Jupiter	-14634-10-05 16:19 J	-3623368.03	-3623367.82	-3623367.62	0.0523	0.0064	
Mars	-14631-08-03 09:35 J	-3622335.26	-3622335.10	-3622334.94	0.1831	0.0677	
Jupiter	-14629-12-15 16:33 J	-3621469.93	-3621469.81	-3621469.69	0.0506	0.0405	
Jupiter	-14628-08-08 22:48 J	-3621233.74	-3621233.55	-3621233.35	0.0502	0.0123	
Mars	-14626-03-17 21:07 J	-3620647.78	-3620647.62	-3620647.45	0.1691	0.0553	
Saturn	-14626-08-28 05:02 J	-3620484.45	-3620484.29	-3620484.13	0.0284	0.0188	
Saturn	-14625-04-14 01:55 J	-3620254.63	-3620254.42	-3620254.20	0.0287	0.0011	
Saturn	-14625-11-30 01:40 J	-3620024.56	-3620024.43	-3620024.28	0.0290	0.0218	
Mars	-14624-01-14 05:16 J	-3619979.35	-3619979.28	-3619979.20	0.1710	0.1543	
Jupiter	-14622-06-10 08:24 J	-3619102.35	-3619102.15	-3619101.95	0.0522	0.0105	
Jupiter	-14621-02-03 04:48 J	-3618864.35	-3618864.30	-3618864.25	0.0526	0.0510	
Jupiter	-14616-04-13 22:04 J	-3616967.78	-3616967.58	-3616967.37	0.0503	0.0030	
Jupiter	-14616-12-06 02:52 J	-3616731.41	-3616731.38	-3616731.33	0.0500	0.0490	
Pluto	-14615-06-10 07:26 J	-3616545.37	-3616545.19	-3616544.99	0.0064	0.0033	

Pluto	-14614-01-21 11:31 J	-3616320.24	-3616320.02	-3616319.80	0.0064	0.0001
Pluto	-14614-09-03 15:07 J	-3616095.04	-3616094.87	-3616094.68	0.0065	0.0036
Saturn	-14613-11-18 21:07 J	-3615652.78	-3615652.62	-3615652.45	0.0278	0.0166
Saturn	-14612-07-06 02:52 J	-3615423.59	-3615423.38	-3615423.17	0.0275	0.0010
Saturn	-14611-02-20 05:45 J	-3615194.41	-3615194.26	-3615194.10	0.0272	0.0177
Jupiter	-14610-02-13 01:26 J	-3614836.62	-3614836.44	-3614836.27	0.0521	0.0271
Jupiter	-14610-10-08 20:52 J	-3614598.78	-3614598.63	-3614598.47	0.0525	0.0344
Jupiter	-14605-12-17 23:45 J	-3612701.70	-3612701.51	-3612701.32	0.0504	0.0174
Jupiter	-14604-08-11 05:16 J	-3612465.42	-3612465.28	-3612465.13	0.0501	0.0352
Jupiter	-14599-10-18 16:19 J	-3610570.93	-3610570.82	-3610570.71	0.0519	0.0437
Jupiter	-14598-06-13 10:48 J	-3610333.24	-3610333.05	-3610332.85	0.0523	0.0172
Mars	-14597-05-31 02:09 J	-3609980.56	-3609980.41	-3609980.26	0.1817	0.0864
Saturn	-14596-03-09 09:07 J	-3609698.29	-3609698.12	-3609697.94	0.0285	0.0163
Saturn	-14596-10-25 06:28 J	-3609468.45	-3609468.23	-3609468.02	0.0288	0.0038
Uranus	-14595-03-01 08:09 J	-3609341.25	-3609341.16	-3609341.04	0.0146	0.0127
Saturn	-14595-06-12 06:14 J	-3609238.35	-3609238.24	-3609238.12	0.0291	0.0247
Uranus	-14595-10-13 19:40 J	-3609114.84	-3609114.68	-3609114.49	0.0146	0.0083
Mars	-14594-03-16 20:38 J	-3608960.71	-3608960.64	-3608960.56	0.1682	0.1489
Uranus	-14594-05-28 07:26 J	-3608888.39	-3608888.19	-3608887.98	0.0146	0.0040
Uranus	-14593-01-09 19:26 J	-3608661.91	-3608661.69	-3608661.48	0.0147	0.0005
Jupiter	-14593-08-23 01:55 J	-3608435.57	-3608435.42	-3608435.26	0.0506	0.0320
Uranus	-14593-08-23 07:26 J	-3608435.39	-3608435.19	-3608434.99	0.0147	0.0049 *
Mars	-14592-01-13 06:57 J	-3608292.37	-3608292.21	-3608292.04	0.1702	0.0528
Uranus	-14592-04-06 19:11 J	-3608208.86	-3608208.70	-3608208.52	0.0147	0.0093
Jupiter	-14592-04-16 08:09 J	-3608199.34	-3608199.16	-3608198.98	0.0502	0.0209
Uranus	-14592-11-19 07:11 J	-3607982.26	-3607982.20	-3607982.11	0.0147	0.0137
Jupiter	-14586-02-16 01:40 J	-3606067.64	-3606067.43	-3606067.22	0.0522	0.0001
Neptune	-14584-10-04 03:07 J	-3605106.40	-3605106.37	-3605106.29	0.0089	0.0086
Neptune	-14583-05-17 16:04 J	-3604880.90	-3604880.83	-3604880.72	0.0089	0.0080
Saturn	-14583-06-01 00:14 J	-3604866.66	-3604866.49	-3604866.31	0.0277	0.0144

Neptune -14583-12-29 04:48 J -3604655.40 -3604655.30 -3604655.16 0.0089 0.0074
 Saturn -14582-01-16 05:31 J -3604637.48 -3604637.27 -3604637.06 0.0274 0.0030
 Neptune -14582-08-11 17:31 J -3604429.89 -3604429.77 -3604429.61 0.0089 0.0068
 Saturn -14582-09-02 07:55 J -3604408.30 -3604408.17 -3604408.01 0.0272 0.0197
 Neptune -14581-03-24 06:14 J -3604204.38 -3604204.24 -3604204.07 0.0089 0.0062
 Jupiter -14581-04-28 04:19 J -3604169.40 -3604169.32 -3604169.24 0.0507 0.0463
 Neptune -14581-11-04 18:57 J -3603978.86 -3603978.71 -3603978.52 0.0089 0.0056
 Jupiter -14581-12-20 11:16 J -3603933.23 -3603933.03 -3603932.83 0.0503 0.0067
 Neptune -14580-06-18 07:55 J -3603753.34 -3603753.17 -3603752.98 0.0089 0.0050
 Neptune -14579-01-29 20:24 J -3603527.82 -3603527.65 -3603527.44 0.0089 0.0044
 Neptune -14579-09-12 09:07 J -3603302.30 -3603302.12 -3603301.91 0.0089 0.0038
 Neptune -14578-04-25 22:04 J -3603076.79 -3603076.58 -3603076.38 0.0089 0.0032
 Neptune -14578-12-07 10:33 J -3602851.27 -3602851.06 -3602850.85 0.0089 0.0025
 Neptune -14577-07-19 23:02 J -3602625.74 -3602625.54 -3602625.32 0.0089 0.0020
 Neptune -14576-03-02 11:45 J -3602400.22 -3602400.01 -3602399.80 0.0089 0.0013
 Neptune -14576-10-14 00:14 J -3602174.70 -3602174.49 -3602174.27 0.0089 0.0007
 Neptune -14575-05-27 12:57 J -3601949.18 -3601948.96 -3601948.75 0.0089 0.0001
 Jupiter -14575-10-21 16:04 J -3601802.02 -3601801.83 -3601801.63 0.0521 0.0172
 Neptune -14574-01-08 01:26 J -3601723.66 -3601723.44 -3601723.22 0.0089 0.0005
 Jupiter -14574-06-16 12:00 J -3601564.11 -3601564.00 -3601563.89 0.0525 0.0445
 Neptune -14574-08-21 13:55 J -3601498.13 -3601497.92 -3601497.70 0.0089 0.0011
 Neptune -14573-04-03 02:09 J -3601272.61 -3601272.41 -3601272.19 0.0089 0.0018
 Neptune -14573-11-14 14:38 J -3601047.08 -3601046.89 -3601046.67 0.0089 0.0024
 Neptune -14572-06-28 03:21 J -3600821.55 -3600821.36 -3600821.14 0.0089 0.0030
 Neptune -14571-02-08 15:50 J -3600596.02 -3600595.84 -3600595.63 0.0089 0.0036
 Neptune -14571-09-22 04:19 J -3600370.50 -3600370.32 -3600370.11 0.0089 0.0042
 Neptune -14570-05-05 16:48 J -3600144.97 -3600144.80 -3600144.60 0.0089 0.0048
 Neptune -14570-12-17 05:16 J -3599919.43 -3599919.28 -3599919.09 0.0089 0.0054
 Neptune -14569-07-29 18:00 J -3599693.90 -3599693.75 -3599693.58 0.0089 0.0060
 Jupiter -14569-08-25 13:40 J -3599667.12 -3599666.93 -3599666.73 0.0504 0.0079

Neptune -14568-03-12 06:14 J -3599468.36 -3599468.24 -3599468.07 0.0089 0.0066
 Jupiter -14568-04-18 18:43 J -3599430.80 -3599430.72 -3599430.62 0.0500 0.0443
 Neptune -14568-10-23 18:43 J -3599242.82 -3599242.72 -3599242.57 0.0089 0.0072
 Neptune -14567-06-06 07:11 J -3599017.28 -3599017.20 -3599017.07 0.0089 0.0078
 Saturn -14567-09-19 11:02 J -3598912.22 -3598912.04 -3598911.85 0.0285 0.0142
 Neptune -14566-01-17 20:09 J -3598791.73 -3598791.66 -3598791.59 0.0089 0.0083
 Saturn -14566-05-07 08:24 J -3598682.36 -3598682.15 -3598681.93 0.0288 0.0059
 Saturn -14566-12-23 08:38 J -3598452.21 -3598452.14 -3598452.05 0.0291 0.0268
 Mars -14565-05-30 15:35 J -3598293.02 -3598292.85 -3598292.68 0.1827 0.0474
 Jupiter -14563-06-26 09:07 J -3597536.28 -3597536.12 -3597535.97 0.0520 0.0336
 Jupiter -14562-02-19 04:33 J -3597298.48 -3597298.31 -3597298.13 0.0524 0.0280
 Mars -14560-01-12 07:26 J -3596605.35 -3596605.19 -3596605.02 0.1693 0.0449
 Mars -14559-11-11 15:21 J -3595936.90 -3595936.86 -3595936.82 0.1713 0.1662
 Jupiter -14557-04-30 12:43 J -3595401.14 -3595400.97 -3595400.79 0.0505 0.0231
 Jupiter -14557-12-22 18:28 J -3595164.89 -3595164.73 -3595164.57 0.0501 0.0298
 Uranus -14554-01-28 22:04 J -3594397.69 -3594397.58 -3594397.47 0.0133 0.0115
 Uranus -14554-09-12 03:50 J -3594171.50 -3594171.34 -3594171.16 0.0132 0.0082
 Saturn -14554-12-12 03:07 J -3594080.56 -3594080.37 -3594080.19 0.0278 0.0120
 Uranus -14553-04-25 09:50 J -3593945.29 -3593945.09 -3593944.88 0.0132 0.0048
 Saturn -14553-07-28 08:09 J -3593851.36 -3593851.16 -3593850.95 0.0275 0.0054
 Uranus -14553-12-07 15:35 J -3593719.07 -3593718.85 -3593718.63 0.0132 0.0015
 Saturn -14552-03-14 10:48 J -3593622.17 -3593622.05 -3593621.92 0.0272 0.0219
 Uranus -14552-07-21 21:21 J -3593492.82 -3593492.61 -3593492.39 0.0132 0.0018
 Jupiter -14551-03-01 02:24 J -3593270.45 -3593270.40 -3593270.34 0.0519 0.0497
 Uranus -14551-03-05 03:07 J -3593266.57 -3593266.37 -3593266.16 0.0132 0.0051
 Uranus -14551-10-17 08:38 J -3593040.30 -3593040.14 -3593039.96 0.0132 0.0084
 Jupiter -14551-10-24 21:07 J -3593032.82 -3593032.62 -3593032.42 0.0523 0.0111
 Uranus -14550-05-31 14:24 J -3592814.00 -3592813.90 -3592813.80 0.0132 0.0116
 Jupiter -14545-01-04 14:09 J -3591135.04 -3591134.91 -3591134.77 0.0506 0.0377
 Jupiter -14545-08-27 20:38 J -3590898.83 -3590898.64 -3590898.44 0.0502 0.0155

Jupiter	-14539-06-29 11:45 J	-3588767.21	-3588767.01	-3588766.80	0.0522	0.0062
Saturn	-14537-03-31 14:09 J	-3588126.11	-3588125.91	-3588125.72	0.0285	0.0118
Moon	-14537-05-09 05:31 J	-3588087.44	-3588087.27	-3588087.10	0.2675	0.0192
Earth	-14537-05-09 07:55 J	-3588087.33	-3588087.17	-3588087.01	0.2682	0.0254 *
Saturn	-14537-11-16 11:31 J	-3587896.22	-3587896.02	-3587895.81	0.0288	0.0084
Jupiter	-14533-05-02 23:16 J	-3586632.73	-3586632.53	-3586632.32	0.0503	0.0013
Mars	-14531-03-28 08:24 J	-3585938.29	-3585938.15	-3585938.01	0.1814	0.1058
Mars	-14528-01-11 06:57 J	-3584918.30	-3584918.21	-3584918.11	0.1685	0.1388
Jupiter	-14527-03-04 02:52 J	-3584501.56	-3584501.38	-3584501.19	0.0521	0.0233
Jupiter	-14527-10-27 22:04 J	-3584263.71	-3584263.58	-3584263.44	0.0525	0.0384
Mars	-14527-11-10 17:02 J	-3584249.95	-3584249.79	-3584249.63	0.1704	0.0645
Pluto	-14526-05-03 21:21 J	-3584075.82	-3584075.61	-3584075.39	0.0080	0.0020
Pluto	-14526-12-15 08:09 J	-3583850.33	-3583850.16	-3583849.97	0.0079	0.0047
Saturn	-14525-11-05 21:21 J	-3583523.61	-3583523.61	-3583523.59	0.0280	0.0280
Saturn	-14524-06-23 04:48 J	-3583294.49	-3583294.30	-3583294.10	0.0277	0.0101
Saturn	-14523-02-07 09:50 J	-3583065.29	-3583065.09	-3583064.89	0.0274	0.0073
Saturn	-14523-09-24 12:14 J	-3582836.09	-3582835.99	-3582835.89	0.0271	0.0237
Jupiter	-14521-01-07 02:24 J	-3582366.60	-3582366.40	-3582366.21	0.0504	0.0135
Jupiter	-14521-08-30 07:55 J	-3582130.29	-3582130.17	-3582130.04	0.0501	0.0393
Jupiter	-14516-11-06 17:45 J	-3580235.89	-3580235.76	-3580235.63	0.0520	0.0400
Jupiter	-14515-07-02 12:43 J	-3579998.16	-3579997.97	-3579997.79	0.0524	0.0214
Uranus	-14512-10-29 19:26 J	-3578782.73	-3578782.69	-3578782.64	0.0146	0.0142
Uranus	-14511-06-13 06:57 J	-3578556.36	-3578556.21	-3578556.05	0.0146	0.0099
Uranus	-14510-01-25 18:43 J	-3578329.91	-3578329.72	-3578329.52	0.0146	0.0056
Uranus	-14510-09-09 06:43 J	-3578103.44	-3578103.22	-3578103.01	0.0146	0.0012
Jupiter	-14510-09-12 04:48 J	-3578100.47	-3578100.30	-3578100.13	0.0505	0.0281
Uranus	-14509-04-22 18:28 J	-3577876.94	-3577876.73	-3577876.52	0.0147	0.0033
Jupiter	-14509-05-05 10:48 J	-3577864.23	-3577864.05	-3577863.88	0.0502	0.0251
Uranus	-14509-12-05 06:28 J	-3577650.41	-3577650.23	-3577650.05	0.0147	0.0077
Uranus	-14508-07-19 18:28 J	-3577423.85	-3577423.73	-3577423.61	0.0147	0.0121

Saturn	-14508-10-11 14:52 J	-3577340.08	-3577339.88	-3577339.68	0.0285	0.0100
Saturn	-14507-05-29 12:28 J	-3577110.18	-3577109.98	-3577109.78	0.0288	0.0103
Jupiter	-14503-03-07 05:31 J	-3575732.47	-3575732.27	-3575732.06	0.0523	0.0046
Neptune	-14500-02-11 09:35 J	-3574660.15	-3574660.10	-3574660.00	0.0088	0.0083
Neptune	-14500-09-24 22:48 J	-3574434.63	-3574434.55	-3574434.42	0.0088	0.0078
Mars	-14499-03-27 21:07 J	-3574250.80	-3574250.62	-3574250.45	0.1824	0.0262
Neptune	-14499-05-08 12:14 J	-3574209.10	-3574208.99	-3574208.84	0.0088	0.0071
Neptune	-14499-12-20 01:40 J	-3573983.56	-3573983.43	-3573983.26	0.0088	0.0065
Jupiter	-14498-05-18 03:50 J	-3573834.44	-3573834.34	-3573834.24	0.0506	0.0432
Neptune	-14498-08-02 15:07 J	-3573758.02	-3573757.87	-3573757.69	0.0088	0.0059
Jupiter	-14497-01-09 10:19 J	-3573598.27	-3573598.07	-3573597.87	0.0502	0.0101
Neptune	-14497-03-15 04:19 J	-3573532.48	-3573532.32	-3573532.13	0.0088	0.0053
Neptune	-14497-10-26 17:45 J	-3573306.94	-3573306.76	-3573306.56	0.0088	0.0047
Neptune	-14496-06-09 07:11 J	-3573081.39	-3573081.20	-3573080.99	0.0088	0.0041
Neptune	-14495-01-20 20:24 J	-3572855.84	-3572855.65	-3572855.43	0.0088	0.0036
Saturn	-14495-05-18 23:16 J	-3572737.60	-3572737.53	-3572737.44	0.0281	0.0258
Neptune	-14495-09-03 09:50 J	-3572630.29	-3572630.09	-3572629.86	0.0088	0.0029
Mars	-14495-11-09 17:45 J	-3572562.93	-3572562.76	-3572562.59	0.1696	0.0340
Saturn	-14494-01-03 06:43 J	-3572508.42	-3572508.22	-3572508.02	0.0277	0.0078
Neptune	-14494-04-16 23:31 J	-3572404.73	-3572404.52	-3572404.30	0.0088	0.0023
Saturn	-14494-08-20 11:31 J	-3572279.21	-3572279.02	-3572278.82	0.0275	0.0096
Neptune	-14494-11-28 13:11 J	-3572179.17	-3572178.95	-3572178.73	0.0088	0.0016
Saturn	-14493-04-05 13:55 J	-3572049.97	-3572049.92	-3572049.86	0.0272	0.0260
Neptune	-14493-07-11 02:38 J	-3571953.61	-3571953.39	-3571953.16	0.0088	0.0010
Neptune	-14492-02-21 16:04 J	-3571728.05	-3571727.83	-3571727.60	0.0088	0.0004
Neptune	-14492-10-05 05:31 J	-3571502.49	-3571502.27	-3571502.04	0.0088	0.0003
Jupiter	-14492-11-09 22:19 J	-3571466.76	-3571466.57	-3571466.36	0.0522	0.0124
Neptune	-14491-05-18 18:57 J	-3571276.93	-3571276.71	-3571276.48	0.0088	0.0009
Jupiter	-14491-07-05 18:14 J	-3571228.80	-3571228.74	-3571228.67	0.0525	0.0496
Neptune	-14491-12-30 08:24 J	-3571051.36	-3571051.15	-3571050.92	0.0088	0.0015

Neptune	-14490-08-12 21:50 J	-3570825.79	-3570825.59	-3570825.36	0.0088	0.0022
Neptune	-14489-03-25 11:31 J	-3570600.23	-3570600.02	-3570599.80	0.0088	0.0027
Neptune	-14489-11-06 00:57 J	-3570374.66	-3570374.46	-3570374.25	0.0088	0.0034
Neptune	-14488-06-19 14:09 J	-3570149.09	-3570148.91	-3570148.70	0.0088	0.0040
Neptune	-14487-01-31 03:35 J	-3569923.52	-3569923.35	-3569923.14	0.0088	0.0047
Neptune	-14487-09-13 17:02 J	-3569697.95	-3569697.79	-3569697.59	0.0088	0.0053
Neptune	-14486-04-27 06:28 J	-3569472.38	-3569472.23	-3569472.04	0.0088	0.0059
Jupiter	-14486-09-14 12:28 J	-3569332.18	-3569331.98	-3569331.78	0.0503	0.0046
Neptune	-14486-12-08 20:09 J	-3569246.79	-3569246.66	-3569246.49	0.0088	0.0065
Jupiter	-14485-05-07 17:45 J	-3569095.82	-3569095.76	-3569095.70	0.0500	0.0478
Neptune	-14485-07-21 09:50 J	-3569021.21	-3569021.09	-3569020.94	0.0088	0.0071
Neptune	-14484-03-03 23:16 J	-3568795.62	-3568795.53	-3568795.40	0.0088	0.0077
Neptune	-14484-10-15 12:43 J	-3568570.03	-3568569.97	-3568569.87	0.0088	0.0083
Jupiter	-14480-07-15 13:40 J	-3567201.10	-3567200.93	-3567200.76	0.0520	0.0294
Jupiter	-14479-03-10 08:52 J	-3566963.29	-3566963.13	-3566962.97	0.0524	0.0325
Saturn	-14479-09-05 22:19 J	-3566783.63	-3566783.57	-3566783.50	0.0282	0.0268
Saturn	-14478-04-23 17:16 J	-3566553.98	-3566553.78	-3566553.57	0.0285	0.0076
Saturn	-14478-12-09 15:07 J	-3566324.06	-3566323.87	-3566323.67	0.0288	0.0128
Jupiter	-14474-05-20 14:52 J	-3565066.07	-3565065.88	-3565065.70	0.0505	0.0193
Jupiter	-14473-01-11 20:38 J	-3564829.78	-3564829.64	-3564829.49	0.0501	0.0339
Uranus	-14471-09-28 10:19 J	-3563839.11	-3563839.07	-3563838.99	0.0133	0.0128
Uranus	-14470-05-12 16:48 J	-3563612.95	-3563612.80	-3563612.64	0.0132	0.0094
Uranus	-14470-12-24 22:48 J	-3563386.74	-3563386.55	-3563386.35	0.0132	0.0060
Uranus	-14469-08-07 04:33 J	-3563160.52	-3563160.31	-3563160.08	0.0132	0.0028
Jupiter	-14468-03-20 05:31 J	-3562935.37	-3562935.27	-3562935.18	0.0519	0.0458
Uranus	-14468-03-21 10:33 J	-3562934.28	-3562934.06	-3562933.84	0.0132	0.0006
Uranus	-14468-11-02 16:19 J	-3562708.03	-3562707.82	-3562707.61	0.0132	0.0039
Jupiter	-14468-11-12 23:45 J	-3562697.71	-3562697.51	-3562697.32	0.0523	0.0153
Mars	-14467-03-27 12:28 J	-3562563.05	-3562562.98	-3562562.91	0.1835	0.1657
Uranus	-14467-06-16 21:50 J	-3562481.77	-3562481.59	-3562481.40	0.0132	0.0072

Uranus	-14466-01-29 03:21 J	-3562255.48	-3562255.36	-3562255.22	0.0132	0.0105
Saturn	-14466-11-29 00:28 J	-3561951.59	-3561951.48	-3561951.37	0.0280	0.0238
Mars	-14465-01-23 14:24 J	-3561896.03	-3561895.90	-3561895.78	0.1810	0.1251
Saturn	-14465-07-15 07:40 J	-3561722.38	-3561722.18	-3561721.97	0.0277	0.0059
Saturn	-14464-03-01 12:28 J	-3561493.17	-3561492.98	-3561492.79	0.0274	0.0113
Mars	-14463-11-08 17:45 J	-3560875.87	-3560875.76	-3560875.65	0.1687	0.1293
Jupiter	-14462-01-23 17:31 J	-3560799.92	-3560799.77	-3560799.62	0.0506	0.0338
Jupiter	-14462-09-17 00:14 J	-3560563.68	-3560563.49	-3560563.31	0.0502	0.0198
Mars	-14461-09-07 02:38 J	-3560207.55	-3560207.39	-3560207.24	0.1707	0.0766
Jupiter	-14456-07-18 14:24 J	-3558432.11	-3558431.90	-3558431.70	0.0522	0.0021
Jupiter	-14451-09-28 19:40 J	-3556533.73	-3556533.68	-3556533.62	0.0507	0.0483
Jupiter	-14450-05-23 02:52 J	-3556297.58	-3556297.38	-3556297.18	0.0503	0.0053
Saturn	-14449-03-17 22:33 J	-3555997.65	-3555997.56	-3555997.46	0.0282	0.0251
Saturn	-14449-11-02 17:45 J	-3555767.97	-3555767.76	-3555767.55	0.0285	0.0058
Saturn	-14448-06-20 15:35 J	-3555538.03	-3555537.85	-3555537.66	0.0289	0.0146
Jupiter	-14444-03-23 07:26 J	-3554166.38	-3554166.19	-3554166.00	0.0521	0.0187
Jupiter	-14444-11-16 03:07 J	-3553928.48	-3553928.37	-3553928.25	0.0525	0.0435
Jupiter	-14438-01-26 02:24 J	-3552031.59	-3552031.40	-3552031.20	0.0504	0.0101
Jupiter	-14438-09-19 07:40 J	-3551795.28	-3551795.18	-3551795.07	0.0501	0.0427
Saturn	-14436-06-10 01:26 J	-3551165.56	-3551165.44	-3551165.30	0.0280	0.0218
Saturn	-14435-01-25 08:52 J	-3550936.34	-3550936.13	-3550935.93	0.0277	0.0038
Saturn	-14435-09-11 13:11 J	-3550707.12	-3550706.95	-3550706.76	0.0274	0.0135
Mars	-14433-01-23 03:21 J	-3550208.54	-3550208.36	-3550208.19	0.1821	0.0065
Jupiter	-14433-11-26 00:28 J	-3549900.63	-3549900.48	-3549900.33	0.0520	0.0354
Jupiter	-14432-07-21 19:55 J	-3549662.85	-3549662.67	-3549662.49	0.0524	0.0266
Mars	-14429-09-06 04:04 J	-3548520.50	-3548520.33	-3548520.16	0.1698	0.0233
Uranus	-14427-02-10 16:48 J	-3547997.93	-3547997.80	-3547997.67	0.0146	0.0117
Uranus	-14427-09-25 04:04 J	-3547771.50	-3547771.33	-3547771.13	0.0146	0.0074
Jupiter	-14427-10-01 04:19 J	-3547765.49	-3547765.32	-3547765.14	0.0505	0.0249
Uranus	-14426-05-09 16:04 J	-3547545.04	-3547544.83	-3547544.62	0.0146	0.0029

Jupiter	-14426-05-25 10:04 J	-3547529.24	-3547529.08	-3547528.91	0.0501	0.0285
Uranus	-14426-12-22 03:50 J	-3547318.55	-3547318.34	-3547318.12	0.0147	0.0015
Uranus	-14425-08-04 15:50 J	-3547092.03	-3547091.84	-3547091.64	0.0147	0.0060
Uranus	-14424-03-19 03:50 J	-3546865.48	-3546865.34	-3546865.18	0.0147	0.0104
Jupiter	-14421-07-31 16:33 J	-3545634.81	-3545634.81	-3545634.80	0.0519	0.0518
Jupiter	-14420-03-26 10:48 J	-3545397.25	-3545397.05	-3545396.85	0.0523	0.0093
Saturn	-14420-09-28 00:43 J	-3545211.59	-3545211.47	-3545211.34	0.0282	0.0228
Saturn	-14419-05-15 19:55 J	-3544981.89	-3544981.67	-3544981.46	0.0285	0.0034
Neptune	-14419-08-18 23:45 J	-3544886.55	-3544886.51	-3544886.43	0.0089	0.0085
Saturn	-14419-12-31 17:45 J	-3544751.92	-3544751.76	-3544751.58	0.0289	0.0171
Neptune	-14418-04-01 12:28 J	-3544661.06	-3544660.98	-3544660.86	0.0089	0.0079
Neptune	-14418-11-13 01:11 J	-3544435.55	-3544435.45	-3544435.31	0.0089	0.0074
Neptune	-14417-06-25 14:09 J	-3544210.03	-3544209.91	-3544209.75	0.0089	0.0067
Neptune	-14416-02-06 02:52 J	-3543984.52	-3543984.38	-3543984.21	0.0089	0.0061
Neptune	-14416-09-19 15:21 J	-3543759.01	-3543758.86	-3543758.66	0.0089	0.0056
Neptune	-14415-05-03 04:33 J	-3543533.49	-3543533.31	-3543533.12	0.0089	0.0049
Jupiter	-14415-06-06 06:14 J	-3543499.36	-3543499.24	-3543499.11	0.0506	0.0396
Neptune	-14415-12-14 17:02 J	-3543307.97	-3543307.79	-3543307.59	0.0089	0.0043
Jupiter	-14414-01-28 12:57 J	-3543263.15	-3543262.96	-3543262.77	0.0503	0.0141
Neptune	-14414-07-28 05:45 J	-3543082.45	-3543082.26	-3543082.05	0.0089	0.0036
Neptune	-14413-03-09 18:14 J	-3542856.93	-3542856.74	-3542856.52	0.0089	0.0030
Neptune	-14413-10-21 07:11 J	-3542631.41	-3542631.20	-3542630.99	0.0089	0.0023
Neptune	-14412-06-03 19:55 J	-3542405.88	-3542405.67	-3542405.46	0.0089	0.0017
Neptune	-14411-01-15 08:24 J	-3542180.36	-3542180.15	-3542179.93	0.0089	0.0011
Neptune	-14411-08-28 20:52 J	-3541954.84	-3541954.63	-3541954.41	0.0089	0.0005
Neptune	-14410-04-11 09:35 J	-3541729.32	-3541729.10	-3541728.89	0.0089	0.0002
Neptune	-14410-11-22 22:04 J	-3541503.80	-3541503.58	-3541503.36	0.0089	0.0008
Neptune	-14409-07-05 10:48 J	-3541278.27	-3541278.05	-3541277.84	0.0089	0.0014
Jupiter	-14409-11-29 01:55 J	-3541131.63	-3541131.42	-3541131.22	0.0522	0.0081
Neptune	-14408-02-15 23:16 J	-3541052.74	-3541052.53	-3541052.32	0.0089	0.0020

Neptune	-14408-09-29 11:31 J	-3540827.22	-3540827.02	-3540826.80	0.0089	0.0027
Neptune	-14407-05-13 00:00 J	-3540601.69	-3540601.50	-3540601.29	0.0089	0.0033
Saturn	-14407-12-21 02:38 J	-3540379.54	-3540379.39	-3540379.25	0.0280	0.0198
Neptune	-14407-12-24 12:28 J	-3540376.16	-3540375.98	-3540375.77	0.0089	0.0039
Neptune	-14406-08-07 01:11 J	-3540150.63	-3540150.45	-3540150.25	0.0089	0.0045
Saturn	-14406-08-07 09:35 J	-3540150.31	-3540150.10	-3540149.89	0.0277	0.0019 *
Neptune	-14405-03-19 13:55 J	-3539925.09	-3539924.92	-3539924.74	0.0089	0.0051
Saturn	-14405-03-23 13:55 J	-3539921.08	-3539920.92	-3539920.74	0.0274	0.0153
Neptune	-14405-10-31 02:24 J	-3539699.56	-3539699.40	-3539699.23	0.0089	0.0057
Neptune	-14404-06-13 14:38 J	-3539474.02	-3539473.89	-3539473.72	0.0089	0.0064
Neptune	-14403-01-25 03:07 J	-3539248.48	-3539248.37	-3539248.22	0.0089	0.0070
Neptune	-14403-09-07 15:35 J	-3539022.94	-3539022.85	-3539022.72	0.0089	0.0076
Jupiter	-14403-10-03 16:04 J	-3538997.03	-3538996.83	-3538996.62	0.0504	0.0012
Neptune	-14402-04-21 04:04 J	-3538797.39	-3538797.33	-3538797.23	0.0089	0.0082
Neptune	-14402-12-02 16:19 J	-3538571.82	-3538571.82	-3538571.75	0.0089	0.0088
Mars	-14401-01-22 17:31 J	-3538520.87	-3538520.77	-3538520.66	0.1831	0.1435
Moon	-14400-11-05 14:38 J	-3537867.91	-3537867.89	-3537867.86	0.2657	0.2612
Earth	-14400-11-05 15:35 J	-3537867.90	-3537867.85	-3537867.80	0.2651	0.2505 *
Mars	-14400-11-19 20:52 J	-3537853.73	-3537853.63	-3537853.52	0.1807	0.1430
Jupiter	-14397-08-03 16:33 J	-3536865.98	-3536865.81	-3536865.62	0.0520	0.0253
Mars	-14397-09-05 03:50 J	-3536833.46	-3536833.34	-3536833.22	0.1690	0.1187
Jupiter	-14396-03-29 12:00 J	-3536628.14	-3536628.00	-3536627.85	0.0524	0.0371
Mars	-14395-07-05 12:14 J	-3536165.14	-3536164.99	-3536164.85	0.1710	0.0890
Earth	-14392-11-03 09:21 J	-3534948.27	-3534948.11	-3534947.96	0.2653	0.0617
Moon	-14392-11-03 12:14 J	-3534948.13	-3534947.99	-3534947.84	0.2658	0.0611 *
Jupiter	-14391-06-08 18:43 J	-3534730.91	-3534730.72	-3534730.53	0.0504	0.0151
Jupiter	-14390-01-31 00:14 J	-3534494.61	-3534494.49	-3534494.35	0.0501	0.0382
Saturn	-14390-04-10 00:57 J	-3534425.59	-3534425.46	-3534425.31	0.0282	0.0211
Saturn	-14390-11-25 20:38 J	-3534195.86	-3534195.64	-3534195.43	0.0286	0.0016
Saturn	-14389-07-12 18:28 J	-3533965.88	-3533965.73	-3533965.56	0.0289	0.0190

Uranus	-14386-01-10 05:45 J	-3533054.38	-3533054.26	-3533054.12	0.0132	0.0106
Uranus	-14386-08-24 11:45 J	-3532828.19	-3532828.01	-3532827.82	0.0132	0.0073
Uranus	-14385-04-06 17:45 J	-3532601.97	-3532601.76	-3532601.55	0.0132	0.0039
Jupiter	-14385-04-08 09:50 J	-3532600.21	-3532600.09	-3532599.97	0.0519	0.0416
Uranus	-14385-11-18 23:31 J	-3532375.74	-3532375.52	-3532375.30	0.0132	0.0006
Jupiter	-14385-12-02 04:48 J	-3532362.49	-3532362.30	-3532362.11	0.0524	0.0203
Uranus	-14384-07-03 05:02 J	-3532149.49	-3532149.29	-3532149.06	0.0132	0.0028
Uranus	-14383-02-14 10:48 J	-3531923.23	-3531923.05	-3531922.84	0.0132	0.0061
Uranus	-14383-09-28 16:19 J	-3531696.96	-3531696.82	-3531696.65	0.0132	0.0094
Uranus	-14382-05-12 22:04 J	-3531470.64	-3531470.58	-3531470.51	0.0132	0.0126
Jupiter	-14379-02-11 18:43 J	-3530464.88	-3530464.72	-3530464.57	0.0505	0.0305
Jupiter	-14379-10-06 00:14 J	-3530228.66	-3530228.49	-3530228.31	0.0502	0.0233
Saturn	-14377-07-02 03:21 J	-3529593.51	-3529593.36	-3529593.19	0.0280	0.0178
Saturn	-14376-02-16 10:33 J	-3529364.27	-3529364.06	-3529363.86	0.0277	0.0006
Saturn	-14376-10-03 14:38 J	-3529135.04	-3529134.89	-3529134.72	0.0274	0.0174
Jupiter	-14373-08-06 21:21 J	-3528096.81	-3528096.61	-3528096.40	0.0523	0.0033
Jupiter	-14368-10-17 20:09 J	-3526198.75	-3526198.66	-3526198.57	0.0506	0.0451
Mars	-14368-11-19 09:07 J	-3526166.29	-3526166.12	-3526165.95	0.1817	0.0138
Jupiter	-14367-06-11 02:38 J	-3525962.59	-3525962.39	-3525962.19	0.0503	0.0086
Pluto	-14367-12-24 11:31 J	-3525766.19	-3525766.02	-3525765.82	0.0064	0.0033
Pluto	-14366-08-06 15:50 J	-3525541.06	-3525540.84	-3525540.62	0.0064	0.0001
Pluto	-14365-03-18 19:26 J	-3525315.86	-3525315.69	-3525315.50	0.0065	0.0036
Mars	-14363-07-04 13:40 J	-3524478.10	-3524477.93	-3524477.76	0.1701	0.0115
Jupiter	-14361-04-11 12:43 J	-3523831.16	-3523830.97	-3523830.77	0.0521	0.0143
Saturn	-14361-10-20 03:50 J	-3523639.49	-3523639.34	-3523639.17	0.0282	0.0187
Jupiter	-14361-12-05 08:24 J	-3523593.23	-3523593.15	-3523593.07	0.0525	0.0481
Saturn	-14360-06-06 23:16 J	-3523409.74	-3523409.53	-3523409.31	0.0286	0.0010
Saturn	-14359-01-22 21:21 J	-3523179.74	-3523179.61	-3523179.45	0.0289	0.0215
Jupiter	-14355-02-14 05:02 J	-3521696.49	-3521696.29	-3521696.09	0.0504	0.0062
Jupiter	-14355-10-08 10:19 J	-3521460.13	-3521460.07	-3521459.99	0.0501	0.0469

Jupiter	-14350-12-16 04:04 J	-3519565.49	-3519565.33	-3519565.16	0.0520	0.0313
Jupiter	-14349-08-09 23:02 J	-3519327.70	-3519327.54	-3519327.37	0.0524	0.0310
Saturn	-14347-01-12 04:19 J	-3518807.49	-3518807.32	-3518807.14	0.0280	0.0159
Saturn	-14347-08-29 11:16 J	-3518578.24	-3518578.03	-3518577.82	0.0277	0.0021
Saturn	-14346-04-15 15:21 J	-3518349.00	-3518348.86	-3518348.70	0.0274	0.0192
Uranus	-14344-10-11 02:09 J	-3517439.49	-3517439.41	-3517439.33	0.0146	0.0135
Jupiter	-14344-10-20 07:40 J	-3517430.36	-3517430.18	-3517429.99	0.0505	0.0209
Uranus	-14343-05-25 13:26 J	-3517213.09	-3517212.94	-3517212.76	0.0146	0.0092
Jupiter	-14343-06-13 13:40 J	-3517194.08	-3517193.93	-3517193.77	0.0501	0.0329
Uranus	-14342-01-07 01:11 J	-3516986.64	-3516986.45	-3516986.24	0.0146	0.0048
Uranus	-14342-08-21 13:26 J	-3516760.16	-3516759.94	-3516759.73	0.0147	0.0003
Uranus	-14341-04-04 01:11 J	-3516533.65	-3516533.45	-3516533.24	0.0147	0.0042
Uranus	-14341-11-16 13:11 J	-3516307.12	-3516306.95	-3516306.78	0.0147	0.0086
Uranus	-14340-07-01 00:43 J	-3516080.55	-3516080.47	-3516080.36	0.0147	0.0131
Jupiter	-14338-08-20 19:11 J	-3515299.77	-3515299.70	-3515299.62	0.0519	0.0480
Jupiter	-14337-04-14 13:40 J	-3515062.13	-3515061.93	-3515061.73	0.0523	0.0137
Neptune	-14336-05-15 17:02 J	-3514665.79	-3514665.79	-3514665.78	0.0088	0.0088
Mars	-14336-11-18 23:02 J	-3514478.67	-3514478.54	-3514478.41	0.1828	0.1217
Neptune	-14336-12-27 06:00 J	-3514440.31	-3514440.25	-3514440.15	0.0088	0.0082
Neptune	-14335-08-09 19:11 J	-3514214.79	-3514214.70	-3514214.57	0.0088	0.0076
Neptune	-14334-03-23 08:38 J	-3513989.26	-3513989.14	-3513988.99	0.0088	0.0070
Mars	-14334-09-17 03:07 J	-3513811.44	-3513811.37	-3513811.29	0.1803	0.1620
Neptune	-14334-11-03 21:50 J	-3513763.72	-3513763.59	-3513763.42	0.0088	0.0064
Neptune	-14333-06-16 11:02 J	-3513538.18	-3513538.04	-3513537.85	0.0088	0.0059
Neptune	-14332-01-28 00:57 J	-3513312.64	-3513312.46	-3513312.28	0.0088	0.0052
Jupiter	-14332-06-25 10:19 J	-3513164.22	-3513164.07	-3513163.93	0.0506	0.0356
Neptune	-14332-09-10 14:09 J	-3513087.10	-3513086.91	-3513086.72	0.0088	0.0045
Jupiter	-14331-02-16 16:33 J	-3512927.99	-3512927.81	-3512927.62	0.0502	0.0184
Neptune	-14331-04-24 03:21 J	-3512861.55	-3512861.36	-3512861.15	0.0088	0.0039
Saturn	-14331-05-02 04:48 J	-3512853.47	-3512853.30	-3512853.12	0.0283	0.0168

Mars	-14331-07-03 14:09 J	-3512791.05	-3512790.91	-3512790.78	0.1693	0.1083
Neptune	-14331-12-05 16:48 J	-3512636.00	-3512635.80	-3512635.58	0.0088	0.0033
Saturn	-14331-12-18 00:28 J	-3512623.69	-3512623.48	-3512623.26	0.0286	0.0029
Neptune	-14330-07-19 06:14 J	-3512410.44	-3512410.24	-3512410.02	0.0088	0.0027
Saturn	-14330-08-04 22:48 J	-3512393.67	-3512393.55	-3512393.42	0.0289	0.0235
Neptune	-14329-02-29 19:40 J	-3512184.89	-3512184.68	-3512184.45	0.0088	0.0021
Mars	-14329-05-01 21:50 J	-3512122.73	-3512122.59	-3512122.45	0.1713	0.1010
Neptune	-14329-10-12 09:07 J	-3511959.33	-3511959.12	-3511958.89	0.0088	0.0014
Neptune	-14328-05-25 22:33 J	-3511733.78	-3511733.56	-3511733.33	0.0088	0.0008
Neptune	-14327-01-06 12:14 J	-3511508.21	-3511507.99	-3511507.76	0.0088	0.0002
Neptune	-14327-08-20 01:40 J	-3511282.65	-3511282.43	-3511282.20	0.0088	0.0005
Neptune	-14326-04-02 15:07 J	-3511057.09	-3511056.87	-3511056.64	0.0088	0.0011
Neptune	-14326-11-14 04:48 J	-3510831.52	-3510831.30	-3510831.08	0.0088	0.0018
Jupiter	-14326-12-19 06:14 J	-3510796.45	-3510796.24	-3510796.04	0.0522	0.0035
Neptune	-14325-06-26 18:00 J	-3510605.95	-3510605.75	-3510605.52	0.0088	0.0024
Neptune	-14324-02-07 07:40 J	-3510380.39	-3510380.18	-3510379.97	0.0088	0.0030
Neptune	-14324-09-20 21:07 J	-3510154.82	-3510154.62	-3510154.41	0.0088	0.0037
Neptune	-14323-05-04 10:19 J	-3509929.25	-3509929.07	-3509928.86	0.0088	0.0043
Neptune	-14323-12-16 00:00 J	-3509703.67	-3509703.50	-3509703.30	0.0088	0.0050
Neptune	-14322-07-29 13:40 J	-3509478.10	-3509477.93	-3509477.75	0.0088	0.0056
Neptune	-14321-03-11 02:38 J	-3509252.52	-3509252.39	-3509252.21	0.0088	0.0063
Neptune	-14321-10-22 16:04 J	-3509026.95	-3509026.83	-3509026.66	0.0088	0.0069
Neptune	-14320-06-05 05:45 J	-3508801.36	-3508801.26	-3508801.12	0.0088	0.0075
Jupiter	-14320-10-22 16:48 J	-3508662.00	-3508661.80	-3508661.60	0.0503	0.0032
Neptune	-14319-01-16 19:26 J	-3508575.76	-3508575.69	-3508575.58	0.0088	0.0081
Neptune	-14319-08-30 08:52 J	-3508350.15	-3508350.13	-3508350.07	0.0088	0.0087
Saturn	-14318-07-25 05:31 J	-3508021.45	-3508021.27	-3508021.08	0.0280	0.0138
Saturn	-14317-03-10 12:28 J	-3507792.19	-3507791.98	-3507791.78	0.0277	0.0042
Saturn	-14317-10-25 16:33 J	-3507562.93	-3507562.81	-3507562.67	0.0274	0.0213
Jupiter	-14314-08-23 22:48 J	-3506530.74	-3506530.55	-3506530.36	0.0521	0.0206

Jupiter	-14313-04-17 18:43 J	-3506292.83	-3506292.72	-3506292.59	0.0525	0.0422
Jupiter	-14308-06-27 18:43 J	-3504395.91	-3504395.72	-3504395.52	0.0504	0.0118
Jupiter	-14307-02-18 23:45 J	-3504159.62	-3504159.51	-3504159.40	0.0501	0.0415
Uranus	-14303-09-09 18:28 J	-3502495.81	-3502495.73	-3502495.62	0.0132	0.0119
Uranus	-14302-04-24 00:14 J	-3502269.64	-3502269.49	-3502269.30	0.0132	0.0086
Jupiter	-14302-04-28 14:24 J	-3502265.03	-3502264.90	-3502264.75	0.0520	0.0376
Mars	-14302-09-16 15:35 J	-3502124.02	-3502123.85	-3502123.68	0.1814	0.0333
Saturn	-14302-11-12 08:38 J	-3502067.32	-3502067.14	-3502066.95	0.0283	0.0144
Uranus	-14302-12-06 06:28 J	-3502043.43	-3502043.23	-3502043.02	0.0132	0.0052
Jupiter	-14302-12-22 09:21 J	-3502027.28	-3502027.11	-3502026.92	0.0524	0.0249
Saturn	-14301-06-29 04:19 J	-3501837.53	-3501837.32	-3501837.11	0.0286	0.0055
Uranus	-14301-07-19 12:28 J	-3501817.20	-3501816.98	-3501816.76	0.0132	0.0018
Saturn	-14300-02-14 02:38 J	-3501607.47	-3501607.39	-3501607.29	0.0289	0.0261
Uranus	-14300-03-02 18:14 J	-3501590.96	-3501590.74	-3501590.52	0.0132	0.0015
Uranus	-14300-10-14 23:45 J	-3501364.71	-3501364.51	-3501364.30	0.0132	0.0049
Uranus	-14299-05-29 05:02 J	-3501138.45	-3501138.29	-3501138.10	0.0132	0.0082
Uranus	-14298-01-10 10:33 J	-3500912.15	-3500912.06	-3500911.93	0.0132	0.0115
Mars	-14297-05-01 00:00 J	-3500435.67	-3500435.50	-3500435.32	0.1704	0.0014
Jupiter	-14296-03-02 20:38 J	-3500129.81	-3500129.64	-3500129.47	0.0505	0.0267
Jupiter	-14296-10-25 02:24 J	-3499893.56	-3499893.40	-3499893.22	0.0502	0.0273
Earth	-14294-05-10 06:14 J	-3499331.40	-3499331.24	-3499331.08	0.2680	0.0121
Moon	-14294-05-10 06:14 J	-3499331.39	-3499331.24	-3499331.08	0.2687	0.0231 *
Jupiter	-14290-08-27 00:28 J	-3497761.69	-3497761.48	-3497761.28	0.0523	0.0074
Saturn	-14288-02-03 07:11 J	-3497235.38	-3497235.20	-3497235.00	0.0280	0.0117
Saturn	-14288-09-20 13:55 J	-3497006.12	-3497005.92	-3497005.72	0.0276	0.0062
Saturn	-14287-05-07 18:00 J	-3496776.85	-3496776.75	-3496776.64	0.0273	0.0231
Jupiter	-14285-11-05 22:33 J	-3495863.67	-3495863.56	-3495863.44	0.0507	0.0416
Jupiter	-14284-06-30 05:31 J	-3495627.47	-3495627.27	-3495627.08	0.0503	0.0127
Jupiter	-14278-05-01 14:38 J	-3493496.09	-3493495.89	-3493495.68	0.0521	0.0103
Pluto	-14278-11-17 01:55 J	-3493296.64	-3493296.42	-3493296.20	0.0080	0.0017

Jupiter	-14278-12-25 10:19 J	-3493258.07	-3493258.07	-3493258.05	0.0525	0.0524
Pluto	-14277-06-29 12:14 J	-3493071.14	-3493070.99	-3493070.80	0.0079	0.0051
Jupiter	-14272-03-05 08:09 J	-3491361.36	-3491361.16	-3491360.96	0.0504	0.0021
Saturn	-14272-05-24 11:16 J	-3491281.22	-3491281.03	-3491280.83	0.0283	0.0121
Saturn	-14271-01-09 07:11 J	-3491051.41	-3491051.20	-3491050.99	0.0286	0.0078
Saturn	-14271-08-27 05:45 J	-3490821.29	-3490821.26	-3490821.22	0.0289	0.0285
Mars	-14270-09-16 04:33 J	-3490436.46	-3490436.31	-3490436.16	0.1825	0.0998
Mars	-14268-07-14 10:19 J	-3489769.09	-3489769.07	-3489769.06	0.1800	0.1788
Jupiter	-14266-01-04 07:11 J	-3489230.37	-3489230.20	-3489230.02	0.0521	0.0272
Jupiter	-14266-08-30 02:38 J	-3488992.53	-3488992.39	-3488992.23	0.0524	0.0357
Mars	-14265-04-30 00:28 J	-3488748.62	-3488748.48	-3488748.34	0.1695	0.0980
Mars	-14263-02-27 07:40 J	-3488080.31	-3488080.18	-3488080.05	0.1716	0.1131
Jupiter	-14261-11-08 08:24 J	-3487095.34	-3487095.15	-3487094.96	0.0504	0.0175
Jupiter	-14260-07-02 13:26 J	-3486859.08	-3486858.94	-3486858.80	0.0501	0.0362
Saturn	-14260-12-29 23:45 J	-3486678.53	-3486678.51	-3486678.50	0.0283	0.0281
Uranus	-14259-01-22 19:26 J	-3486654.81	-3486654.69	-3486654.54	0.0146	0.0113
Saturn	-14259-08-16 08:52 J	-3486449.32	-3486449.13	-3486448.93	0.0280	0.0095
Uranus	-14259-09-06 07:26 J	-3486428.38	-3486428.19	-3486428.00	0.0146	0.0069
Saturn	-14258-04-02 15:21 J	-3486220.05	-3486219.86	-3486219.65	0.0277	0.0084
Uranus	-14258-04-20 19:11 J	-3486201.91	-3486201.70	-3486201.49	0.0146	0.0025
Saturn	-14258-11-17 19:26 J	-3485990.75	-3485990.69	-3485990.60	0.0274	0.0254
Uranus	-14258-12-03 06:57 J	-3485975.42	-3485975.21	-3485975.00	0.0147	0.0020
Uranus	-14257-07-16 18:43 J	-3485748.90	-3485748.72	-3485748.52	0.0147	0.0065
Uranus	-14256-02-28 06:43 J	-3485522.36	-3485522.22	-3485522.07	0.0147	0.0109
Jupiter	-14255-09-08 23:31 J	-3484964.63	-3484964.52	-3484964.41	0.0520	0.0441
Jupiter	-14254-05-04 18:43 J	-3484726.91	-3484726.72	-3484726.52	0.0524	0.0184
Neptune	-14254-07-03 20:24 J	-3484666.70	-3484666.65	-3484666.56	0.0089	0.0085
Neptune	-14253-02-14 09:07 J	-3484441.20	-3484441.12	-3484441.00	0.0089	0.0079
Neptune	-14253-09-26 21:50 J	-3484215.70	-3484215.59	-3484215.45	0.0089	0.0072
Neptune	-14252-05-10 10:33 J	-3483990.18	-3483990.06	-3483989.89	0.0089	0.0066

Neptune	-14252-12-21 23:45 J	-3483764.67	-3483764.51	-3483764.35	0.0089	0.0060
Neptune	-14251-08-04 12:14 J	-3483539.15	-3483538.99	-3483538.80	0.0089	0.0053
Neptune	-14250-03-18 00:57 J	-3483313.63	-3483313.46	-3483313.26	0.0089	0.0047
Neptune	-14250-10-29 13:55 J	-3483088.11	-3483087.92	-3483087.73	0.0089	0.0041
Neptune	-14249-06-11 02:38 J	-3482862.58	-3482862.39	-3482862.18	0.0089	0.0034
Jupiter	-14249-07-14 10:04 J	-3482829.23	-3482829.08	-3482828.92	0.0505	0.0324
Neptune	-14248-01-22 15:07 J	-3482637.06	-3482636.87	-3482636.65	0.0089	0.0028
Jupiter	-14248-03-07 15:35 J	-3482593.03	-3482592.85	-3482592.66	0.0502	0.0217
Neptune	-14248-09-05 03:50 J	-3482411.54	-3482411.34	-3482411.12	0.0089	0.0022
Neptune	-14247-04-18 16:33 J	-3482186.02	-3482185.81	-3482185.59	0.0089	0.0015
Neptune	-14247-11-30 05:16 J	-3481960.50	-3481960.28	-3481960.07	0.0089	0.0009
Neptune	-14246-07-13 18:00 J	-3481734.97	-3481734.75	-3481734.54	0.0089	0.0003
Neptune	-14245-02-24 06:28 J	-3481509.45	-3481509.23	-3481509.01	0.0089	0.0004
Neptune	-14245-10-06 18:43 J	-3481283.93	-3481283.72	-3481283.50	0.0089	0.0011
Neptune	-14244-05-20 07:26 J	-3481058.40	-3481058.19	-3481057.97	0.0089	0.0017
Neptune	-14244-12-31 19:55 J	-3480832.87	-3480832.67	-3480832.46	0.0089	0.0023
Neptune	-14243-08-14 08:09 J	-3480607.35	-3480607.16	-3480606.94	0.0089	0.0030
Saturn	-14243-12-04 16:04 J	-3480495.03	-3480494.83	-3480494.62	0.0283	0.0095
Jupiter	-14242-01-07 09:35 J	-3480461.30	-3480461.10	-3480460.89	0.0522	0.0014
Neptune	-14242-03-27 20:52 J	-3480381.82	-3480381.63	-3480381.43	0.0089	0.0036
Saturn	-14242-07-22 12:00 J	-3480265.20	-3480265.00	-3480264.80	0.0286	0.0105
Neptune	-14242-11-08 09:21 J	-3480156.29	-3480156.11	-3480155.91	0.0089	0.0042
Neptune	-14241-06-20 21:50 J	-3479930.76	-3479930.59	-3479930.39	0.0089	0.0049
Neptune	-14240-02-01 10:19 J	-3479705.22	-3479705.07	-3479704.88	0.0089	0.0055
Neptune	-14240-09-14 22:48 J	-3479479.69	-3479479.55	-3479479.38	0.0089	0.0061
Neptune	-14239-04-28 11:16 J	-3479254.15	-3479254.03	-3479253.87	0.0089	0.0067
Neptune	-14239-12-10 00:00 J	-3479028.61	-3479028.50	-3479028.37	0.0089	0.0073
Neptune	-14238-07-23 12:43 J	-3478803.06	-3478802.97	-3478802.87	0.0089	0.0079
Neptune	-14237-03-05 01:26 J	-3478577.50	-3478577.44	-3478577.39	0.0089	0.0085
Jupiter	-14237-03-19 11:02 J	-3478563.10	-3478563.04	-3478562.97	0.0507	0.0474

Jupiter	-14237-11-10 18:00 J	-3478326.95	-3478326.75	-3478326.55	0.0503	0.0069
Mars	-14236-07-13 21:35 J	-3478081.77	-3478081.60	-3478081.44	0.1811	0.0531
Mars	-14231-02-26 09:35 J	-3476393.27	-3476393.10	-3476392.92	0.1707	0.0111
Jupiter	-14231-09-12 00:43 J	-3476195.66	-3476195.47	-3476195.27	0.0521	0.0167
Jupiter	-14230-05-07 20:09 J	-3475957.75	-3475957.66	-3475957.56	0.0525	0.0463
Saturn	-14230-07-12 02:38 J	-3475892.47	-3475892.39	-3475892.31	0.0282	0.0259
Saturn	-14229-02-26 11:45 J	-3475663.21	-3475663.01	-3475662.81	0.0279	0.0074
Saturn	-14229-10-12 18:00 J	-3475433.94	-3475433.75	-3475433.55	0.0276	0.0105
Saturn	-14228-05-29 22:04 J	-3475204.58	-3475204.58	-3475204.58	0.0273	0.0273
Jupiter	-14225-07-16 20:09 J	-3474060.85	-3474060.66	-3474060.46	0.0504	0.0081
Jupiter	-14224-03-10 01:40 J	-3473824.51	-3473824.43	-3473824.35	0.0501	0.0455
Uranus	-14219-05-10 06:28 J	-3471937.24	-3471937.23	-3471937.19	0.0133	0.0132
Jupiter	-14219-05-17 15:07 J	-3471930.03	-3471929.87	-3471929.72	0.0520	0.0340
Uranus	-14219-12-22 12:28 J	-3471711.11	-3471710.98	-3471710.81	0.0132	0.0099
Jupiter	-14218-01-10 10:04 J	-3471692.25	-3471692.08	-3471691.91	0.0524	0.0288
Uranus	-14218-08-05 18:43 J	-3471484.90	-3471484.72	-3471484.52	0.0132	0.0065
Uranus	-14217-03-19 00:43 J	-3471258.68	-3471258.47	-3471258.25	0.0132	0.0031
Uranus	-14217-10-31 06:28 J	-3471032.45	-3471032.23	-3471032.01	0.0132	0.0003
Uranus	-14216-06-14 12:00 J	-3470806.20	-3470806.00	-3470805.78	0.0132	0.0036
Uranus	-14215-01-26 17:45 J	-3470579.94	-3470579.76	-3470579.57	0.0132	0.0069
Uranus	-14215-09-09 23:16 J	-3470353.66	-3470353.53	-3470353.38	0.0132	0.0102
Saturn	-14214-10-30 03:07 J	-3469938.44	-3469938.37	-3469938.29	0.0280	0.0259
Jupiter	-14213-03-21 22:33 J	-3469794.74	-3469794.56	-3469794.38	0.0505	0.0230
Saturn	-14213-06-15 20:24 J	-3469708.86	-3469708.65	-3469708.44	0.0283	0.0070
Jupiter	-14213-11-13 04:04 J	-3469558.48	-3469558.33	-3469558.16	0.0501	0.0312
Saturn	-14212-01-31 16:19 J	-3469479.01	-3469478.82	-3469478.62	0.0287	0.0131
Jupiter	-14207-01-20 07:40 J	-3467664.23	-3467664.18	-3467664.14	0.0519	0.0505
Jupiter	-14207-09-15 02:09 J	-3467426.61	-3467426.41	-3467426.21	0.0523	0.0115
Mars	-14204-07-13 09:50 J	-3466394.25	-3466394.09	-3466393.93	0.1822	0.0783
Jupiter	-14202-11-25 23:02 J	-3465528.67	-3465528.54	-3465528.41	0.0506	0.0383

Jupiter	-14201-07-19 04:48 J	-3465292.49	-3465292.30	-3465292.11	0.0502	0.0160
Saturn	-14200-01-21 05:31 J	-3465106.38	-3465106.27	-3465106.16	0.0282	0.0236
Saturn	-14200-09-07 14:24 J	-3464877.11	-3464876.90	-3464876.70	0.0279	0.0050
Mars	-14199-02-25 10:33 J	-3464706.21	-3464706.06	-3464705.91	0.1698	0.0872
Saturn	-14199-04-24 20:24 J	-3464647.82	-3464647.65	-3464647.46	0.0276	0.0129
Mars	-14198-12-25 16:48 J	-3464037.92	-3464037.80	-3464037.69	0.1719	0.1264
Jupiter	-14195-05-20 17:31 J	-3463160.98	-3463160.77	-3463160.57	0.0522	0.0061
Jupiter	-14189-03-24 06:43 J	-3461026.42	-3461026.22	-3461026.02	0.0503	0.0011
Saturn	-14184-05-11 09:21 J	-3459152.22	-3459152.11	-3459151.99	0.0280	0.0233
Saturn	-14184-12-27 03:07 J	-3458922.59	-3458922.37	-3458922.16	0.0283	0.0042
Jupiter	-14183-01-23 08:52 J	-3458895.31	-3458895.13	-3458894.95	0.0521	0.0234
Saturn	-14183-08-13 23:02 J	-3458692.71	-3458692.54	-3458692.35	0.0287	0.0161
Jupiter	-14183-09-18 04:33 J	-3458657.44	-3458657.31	-3458657.17	0.0525	0.0397
Jupiter	-14178-11-28 08:09 J	-3456760.36	-3456760.16	-3456759.97	0.0504	0.0141
Jupiter	-14177-07-21 13:11 J	-3456524.06	-3456523.95	-3456523.82	0.0501	0.0398
Uranus	-14176-09-22 01:55 J	-3456096.48	-3456096.42	-3456096.31	0.0146	0.0134
Uranus	-14175-05-06 13:40 J	-3455870.09	-3455869.93	-3455869.75	0.0146	0.0090
Uranus	-14175-12-19 01:11 J	-3455643.64	-3455643.45	-3455643.23	0.0146	0.0047
Uranus	-14174-08-02 13:11 J	-3455417.16	-3455416.95	-3455416.73	0.0146	0.0004
Uranus	-14173-03-16 00:57 J	-3455190.66	-3455190.46	-3455190.25	0.0147	0.0043
Uranus	-14173-10-28 12:43 J	-3454964.13	-3454963.97	-3454963.79	0.0147	0.0088
Uranus	-14172-06-12 00:43 J	-3454737.56	-3454737.47	-3454737.38	0.0147	0.0132
Jupiter	-14172-09-28 00:14 J	-3454629.62	-3454629.49	-3454629.36	0.0519	0.0405
Neptune	-14171-03-30 13:11 J	-3454445.96	-3454445.95	-3454445.90	0.0088	0.0087
Jupiter	-14171-05-23 18:57 J	-3454391.89	-3454391.71	-3454391.52	0.0523	0.0222
Saturn	-14171-08-03 09:35 J	-3454320.23	-3454320.10	-3454319.96	0.0282	0.0211
Neptune	-14171-11-11 02:38 J	-3454220.46	-3454220.39	-3454220.29	0.0088	0.0081
Saturn	-14170-03-20 18:14 J	-3454090.95	-3454090.74	-3454090.53	0.0279	0.0026
Mars	-14170-05-11 04:19 J	-3454039.48	-3454039.32	-3454039.16	0.1808	0.0715
Neptune	-14170-06-24 15:50 J	-3453994.94	-3453994.84	-3453994.71	0.0088	0.0075

Saturn	-14170-11-05 00:14 J	-3453861.66	-3453861.49	-3453861.31	0.0276	0.0151
Neptune	-14169-02-05 05:02 J	-3453769.41	-3453769.29	-3453769.13	0.0088	0.0069
Neptune	-14169-09-17 18:43 J	-3453543.88	-3453543.72	-3453543.56	0.0088	0.0063
Neptune	-14168-05-01 07:40 J	-3453318.34	-3453318.18	-3453318.00	0.0088	0.0056
Neptune	-14168-12-12 21:07 J	-3453092.79	-3453092.62	-3453092.42	0.0088	0.0050
Neptune	-14167-07-26 10:19 J	-3452867.25	-3452867.07	-3452866.86	0.0088	0.0044
Neptune	-14166-03-08 23:45 J	-3452641.70	-3452641.51	-3452641.30	0.0088	0.0038
Jupiter	-14166-08-03 09:50 J	-3452494.25	-3452494.09	-3452493.93	0.0506	0.0291
Neptune	-14166-10-20 12:57 J	-3452416.16	-3452415.96	-3452415.74	0.0088	0.0031
Mars	-14166-12-24 19:11 J	-3452350.87	-3452350.70	-3452350.52	0.1710	0.0230
Jupiter	-14165-03-26 15:50 J	-3452258.01	-3452257.84	-3452257.66	0.0502	0.0253
Neptune	-14165-06-02 02:24 J	-3452190.60	-3452190.40	-3452190.18	0.0088	0.0025
Neptune	-14164-01-13 15:50 J	-3451965.05	-3451964.84	-3451964.61	0.0088	0.0019
Neptune	-14164-08-27 05:16 J	-3451739.50	-3451739.28	-3451739.05	0.0088	0.0012
Neptune	-14163-04-09 18:43 J	-3451513.94	-3451513.72	-3451513.49	0.0088	0.0006
Neptune	-14163-11-21 08:24 J	-3451288.38	-3451288.15	-3451287.93	0.0088	0.0001
Neptune	-14162-07-04 21:50 J	-3451062.81	-3451062.59	-3451062.37	0.0088	0.0008
Neptune	-14161-02-15 11:02 J	-3450837.25	-3450837.04	-3450836.81	0.0088	0.0015
Neptune	-14161-09-28 00:43 J	-3450611.69	-3450611.47	-3450611.25	0.0088	0.0020
Neptune	-14160-05-11 13:55 J	-3450386.12	-3450385.92	-3450385.69	0.0088	0.0027
Neptune	-14160-12-23 03:50 J	-3450160.54	-3450160.34	-3450160.13	0.0088	0.0033
Jupiter	-14159-01-26 08:38 J	-3450126.34	-3450126.14	-3450125.93	0.0522	0.0044
Neptune	-14159-08-05 17:02 J	-3449934.97	-3449934.79	-3449934.58	0.0088	0.0040
Neptune	-14158-03-19 06:28 J	-3449709.40	-3449709.23	-3449709.02	0.0088	0.0047
Neptune	-14158-10-30 20:09 J	-3449483.83	-3449483.66	-3449483.47	0.0088	0.0053
Neptune	-14157-06-12 09:21 J	-3449258.26	-3449258.11	-3449257.93	0.0088	0.0060
Neptune	-14156-01-23 23:02 J	-3449032.67	-3449032.54	-3449032.38	0.0088	0.0066
Neptune	-14156-09-06 12:43 J	-3448807.09	-3448806.97	-3448806.84	0.0088	0.0072
Neptune	-14155-04-20 01:40 J	-3448581.51	-3448581.43	-3448581.30	0.0088	0.0079
Saturn	-14155-11-21 15:07 J	-3448366.01	-3448365.87	-3448365.72	0.0281	0.0206

Neptune	-14155-12-01 15:21 J	-3448355.90	-3448355.86	-3448355.77	0.0088	0.0085
Jupiter	-14154-04-08 11:16 J	-3448228.12	-3448228.03	-3448227.92	0.0507	0.0442
Saturn	-14154-07-09 08:52 J	-3448136.34	-3448136.13	-3448135.91	0.0284	0.0013
Jupiter	-14154-11-30 18:14 J	-3447991.94	-3447991.74	-3447991.54	0.0503	0.0104
Saturn	-14153-02-24 05:16 J	-3447906.43	-3447906.28	-3447906.11	0.0287	0.0190
Moon	-14149-11-03 12:14 J	-3446192.15	-3446191.99	-3446191.82	0.2648	0.0172
Earth	-14149-11-03 13:11 J	-3446192.11	-3446191.95	-3446191.80	0.2655	0.0346 *
Jupiter	-14148-10-01 00:14 J	-3445860.69	-3445860.49	-3445860.29	0.0521	0.0131
Jupiter	-14147-05-26 20:09 J	-3445622.71	-3445622.66	-3445622.60	0.0525	0.0501
Jupiter	-14142-08-05 19:11 J	-3443725.90	-3443725.70	-3443725.50	0.0503	0.0049
Saturn	-14141-02-13 13:26 J	-3443534.09	-3443533.94	-3443533.78	0.0282	0.0187
Jupiter	-14141-03-28 23:31 J	-3443489.56	-3443489.52	-3443489.47	0.0500	0.0485
Saturn	-14141-09-29 21:50 J	-3443304.80	-3443304.59	-3443304.38	0.0279	0.0005
Saturn	-14140-05-17 03:35 J	-3443075.50	-3443075.35	-3443075.18	0.0276	0.0175
Mars	-14138-05-10 16:19 J	-3442351.98	-3442351.82	-3442351.65	0.1818	0.0588
Jupiter	-14136-06-05 15:07 J	-3441595.04	-3441594.87	-3441594.70	0.0521	0.0306
Jupiter	-14135-01-29 11:16 J	-3441357.19	-3441357.03	-3441356.87	0.0525	0.0328
Uranus	-14135-08-22 00:28 J	-3441152.59	-3441152.48	-3441152.36	0.0133	0.0112
Uranus	-14134-04-05 06:14 J	-3440926.41	-3440926.24	-3440926.05	0.0132	0.0078
Uranus	-14134-11-17 12:14 J	-3440700.19	-3440699.99	-3440699.77	0.0132	0.0045
Mars	-14134-12-23 20:38 J	-3440663.79	-3440663.64	-3440663.48	0.1700	0.0764
Uranus	-14133-06-30 18:14 J	-3440473.96	-3440473.74	-3440473.52	0.0132	0.0011
Uranus	-14132-02-12 00:00 J	-3440247.71	-3440247.50	-3440247.28	0.0132	0.0023
Uranus	-14132-09-26 05:31 J	-3440021.46	-3440021.27	-3440021.06	0.0132	0.0056
Mars	-14132-10-22 02:24 J	-3439995.50	-3439995.40	-3439995.30	0.1722	0.1388
Uranus	-14131-05-10 11:02 J	-3439795.19	-3439795.04	-3439794.87	0.0132	0.0090
Uranus	-14131-12-22 16:33 J	-3439568.88	-3439568.81	-3439568.72	0.0132	0.0122
Jupiter	-14130-04-10 20:38 J	-3439459.83	-3439459.64	-3439459.46	0.0504	0.0200
Jupiter	-14130-12-03 01:26 J	-3439223.59	-3439223.44	-3439223.29	0.0501	0.0340
Saturn	-14125-06-02 22:33 J	-3437579.72	-3437579.56	-3437579.39	0.0281	0.0177

Saturn	-14124-01-18 16:48 J	-3437350.02	-3437349.80	-3437349.59	0.0284	0.0017
Jupiter	-14124-02-08 06:43 J	-3437329.29	-3437329.22	-3437329.13	0.0519	0.0474
Saturn	-14124-09-05 13:26 J	-3437120.07	-3437119.94	-3437119.80	0.0287	0.0221
Jupiter	-14124-10-04 01:55 J	-3437091.62	-3437091.42	-3437091.22	0.0523	0.0152
Pluto	-14119-11-26 13:11 J	-3435211.99	-3435211.95	-3435211.90	0.0064	0.0062
Jupiter	-14119-12-14 20:52 J	-3435193.77	-3435193.63	-3435193.48	0.0506	0.0353
Pluto	-14118-07-09 17:16 J	-3434986.97	-3434986.78	-3434986.58	0.0064	0.0029
Jupiter	-14118-08-08 03:07 J	-3434957.56	-3434957.37	-3434957.19	0.0502	0.0193
Pluto	-14117-02-19 21:07 J	-3434761.83	-3434761.62	-3434761.40	0.0064	0.0006
Pluto	-14117-10-02 00:28 J	-3434536.62	-3434536.48	-3434536.28	0.0065	0.0041
Jupiter	-14112-06-08 16:19 J	-3432826.02	-3432825.82	-3432825.61	0.0522	0.0026
Saturn	-14112-08-25 18:57 J	-3432747.87	-3432747.71	-3432747.53	0.0281	0.0160
Saturn	-14111-04-12 03:07 J	-3432518.58	-3432518.37	-3432518.16	0.0278	0.0025
Saturn	-14111-11-27 08:38 J	-3432289.28	-3432289.14	-3432288.99	0.0275	0.0200
Jupiter	-14107-08-19 21:50 J	-3430927.61	-3430927.59	-3430927.56	0.0507	0.0503
Jupiter	-14106-04-13 05:02 J	-3430691.49	-3430691.29	-3430691.09	0.0503	0.0043
Mars	-14104-03-07 10:33 J	-3429997.21	-3429997.06	-3429996.91	0.1804	0.0903
Jupiter	-14100-02-11 06:14 J	-3428560.43	-3428560.24	-3428560.05	0.0521	0.0204
Jupiter	-14100-10-07 01:40 J	-3428322.54	-3428322.43	-3428322.31	0.0525	0.0430
Mars	-14100-10-21 05:02 J	-3428308.46	-3428308.29	-3428308.12	0.1712	0.0350
Saturn	-14096-12-14 06:14 J	-3426793.42	-3426793.24	-3426793.05	0.0282	0.0147
Saturn	-14095-08-01 00:43 J	-3426563.68	-3426563.47	-3426563.26	0.0285	0.0050
Jupiter	-14095-12-17 06:43 J	-3426425.41	-3426425.22	-3426425.02	0.0504	0.0109
Saturn	-14094-03-18 21:50 J	-3426333.69	-3426333.59	-3426333.49	0.0288	0.0254
Jupiter	-14094-08-10 12:00 J	-3426189.09	-3426189.00	-3426188.89	0.0501	0.0432
Uranus	-14091-01-03 20:38 J	-3425311.77	-3425311.64	-3425311.49	0.0146	0.0111
Uranus	-14091-08-18 08:09 J	-3425085.34	-3425085.16	-3425084.96	0.0146	0.0067
Uranus	-14090-04-01 19:55 J	-3424858.88	-3424858.67	-3424858.46	0.0146	0.0023
Uranus	-14090-11-14 07:26 J	-3424632.40	-3424632.19	-3424631.97	0.0146	0.0022
Neptune	-14089-05-17 17:02 J	-3424446.86	-3424446.79	-3424446.71	0.0089	0.0084

Uranus	-14089-06-27 18:57 J	-3424405.89	-3424405.71	-3424405.51	0.0147	0.0067
Jupiter	-14089-10-16 21:21 J	-3424294.75	-3424294.61	-3424294.47	0.0520	0.0376
Neptune	-14089-12-29 05:31 J	-3424221.36	-3424221.27	-3424221.15	0.0089	0.0078
Uranus	-14088-02-09 06:57 J	-3424179.34	-3424179.21	-3424179.07	0.0147	0.0111
Jupiter	-14088-06-11 16:33 J	-3424056.99	-3424056.81	-3424056.63	0.0524	0.0256
Neptune	-14088-08-11 18:00 J	-3423995.86	-3423995.75	-3423995.60	0.0089	0.0072
Neptune	-14087-03-25 07:11 J	-3423770.34	-3423770.20	-3423770.05	0.0089	0.0065
Neptune	-14087-11-05 19:40 J	-3423544.83	-3423544.68	-3423544.50	0.0089	0.0059
Neptune	-14086-06-19 08:24 J	-3423319.30	-3423319.15	-3423318.95	0.0089	0.0053
Neptune	-14085-01-30 21:21 J	-3423093.78	-3423093.61	-3423093.41	0.0089	0.0046
Neptune	-14085-09-12 10:04 J	-3422868.26	-3422868.08	-3422867.87	0.0089	0.0039
Neptune	-14084-04-25 23:02 J	-3422642.74	-3422642.54	-3422642.34	0.0089	0.0032
Neptune	-14084-12-07 11:31 J	-3422417.22	-3422417.02	-3422416.80	0.0089	0.0026
Neptune	-14083-07-21 00:28 J	-3422191.69	-3422191.48	-3422191.26	0.0089	0.0019
Jupiter	-14083-08-22 07:55 J	-3422159.33	-3422159.17	-3422158.99	0.0505	0.0262
Neptune	-14082-03-03 12:57 J	-3421966.16	-3421965.96	-3421965.73	0.0089	0.0014
Saturn	-14082-03-08 00:14 J	-3421961.67	-3421961.49	-3421961.30	0.0281	0.0133
Jupiter	-14082-04-15 13:11 J	-3421923.11	-3421922.95	-3421922.78	0.0501	0.0282
Neptune	-14082-10-15 01:55 J	-3421740.64	-3421740.42	-3421740.21	0.0089	0.0006
Saturn	-14082-10-23 08:09 J	-3421732.36	-3421732.16	-3421731.95	0.0278	0.0051
Neptune	-14081-05-27 14:24 J	-3421515.11	-3421514.90	-3421514.68	0.0089	0.0002
Saturn	-14081-06-08 13:26 J	-3421503.05	-3421502.94	-3421502.81	0.0275	0.0225
Neptune	-14080-01-08 03:07 J	-3421289.59	-3421289.37	-3421289.15	0.0089	0.0007
Neptune	-14080-08-21 15:35 J	-3421064.06	-3421063.85	-3421063.63	0.0089	0.0014
Neptune	-14079-04-04 04:04 J	-3420838.53	-3420838.33	-3420838.11	0.0089	0.0020
Neptune	-14079-11-15 16:48 J	-3420613.01	-3420612.80	-3420612.59	0.0089	0.0026
Neptune	-14078-06-29 05:16 J	-3420387.47	-3420387.28	-3420387.07	0.0089	0.0033
Neptune	-14077-02-09 17:45 J	-3420161.94	-3420161.76	-3420161.56	0.0089	0.0039
Neptune	-14077-09-22 06:00 J	-3419936.42	-3419936.25	-3419936.05	0.0089	0.0046
Jupiter	-14076-02-14 07:11 J	-3419791.41	-3419791.20	-3419791.00	0.0523	0.0078

Neptune	-14076-05-05 18:43 J	-3419710.88	-3419710.72	-3419710.53	0.0089	0.0052
Neptune	-14076-12-17 07:26 J	-3419485.35	-3419485.19	-3419485.03	0.0089	0.0058
Neptune	-14075-07-30 19:40 J	-3419259.81	-3419259.68	-3419259.51	0.0089	0.0065
Neptune	-14074-03-13 08:09 J	-3419034.27	-3419034.16	-3419034.01	0.0089	0.0071
Neptune	-14074-10-24 20:52 J	-3418808.72	-3418808.63	-3418808.51	0.0089	0.0077
Neptune	-14073-06-06 09:35 J	-3418583.17	-3418583.10	-3418583.02	0.0089	0.0083
Mars	-14072-03-06 22:04 J	-3418309.75	-3418309.58	-3418309.41	0.1815	0.0381
Jupiter	-14071-04-27 08:52 J	-3417893.24	-3417893.13	-3417893.01	0.0506	0.0413
Jupiter	-14071-12-19 14:52 J	-3417657.08	-3417656.88	-3417656.69	0.0502	0.0133
Mars	-14068-10-20 06:43 J	-3416621.38	-3416621.22	-3416621.06	0.1703	0.0652
Saturn	-14066-06-26 14:52 J	-3416007.07	-3416006.88	-3416006.68	0.0282	0.0117
Mars	-14066-08-19 11:02 J	-3415953.11	-3415953.04	-3415952.96	0.1725	0.1528
Saturn	-14065-02-11 09:35 J	-3415777.30	-3415777.10	-3415776.89	0.0285	0.0081
Saturn	-14065-09-28 06:57 J	-3415547.22	-3415547.21	-3415547.18	0.0288	0.0286
Jupiter	-14065-10-19 21:50 J	-3415525.79	-3415525.59	-3415525.38	0.0522	0.0099
Jupiter	-14059-08-24 15:35 J	-3413391.05	-3413390.85	-3413390.65	0.0503	0.0020
Jupiter	-14053-06-24 12:57 J	-3411260.14	-3411259.96	-3411259.79	0.0520	0.0273
Saturn	-14053-09-17 06:43 J	-3411175.41	-3411175.22	-3411175.02	0.0281	0.0105
Jupiter	-14052-02-17 08:24 J	-3411022.29	-3411022.15	-3411022.00	0.0524	0.0362
Saturn	-14052-05-04 14:09 J	-3410946.10	-3410945.91	-3410945.70	0.0278	0.0079
Saturn	-14052-12-19 19:11 J	-3410716.77	-3410716.70	-3410716.61	0.0275	0.0251
Uranus	-14051-04-21 11:16 J	-3410594.09	-3410594.03	-3410593.95	0.0133	0.0126
Earth	-14051-05-10 04:48 J	-3410575.46	-3410575.30	-3410575.14	0.2678	0.0027
Moon	-14051-05-10 07:11 J	-3410575.37	-3410575.20	-3410575.03	0.2672	0.0071 *
Uranus	-14051-12-03 17:16 J	-3410367.92	-3410367.78	-3410367.61	0.0133	0.0093
Uranus	-14050-07-17 23:16 J	-3410141.71	-3410141.53	-3410141.32	0.0133	0.0059
Uranus	-14049-02-29 05:31 J	-3409915.48	-3409915.27	-3409915.05	0.0132	0.0025
Uranus	-14049-10-12 11:31 J	-3409689.25	-3409689.02	-3409688.80	0.0132	0.0010
Uranus	-14048-05-26 16:48 J	-3409463.00	-3409462.80	-3409462.58	0.0132	0.0044
Uranus	-14047-01-07 22:48 J	-3409236.73	-3409236.55	-3409236.37	0.0132	0.0076

Jupiter	-14047-04-29 16:48 J	-3409124.99	-3409124.80	-3409124.61	0.0505	0.0172
Uranus	-14047-08-22 03:50 J	-3409010.44	-3409010.34	-3409010.19	0.0132	0.0111
Jupiter	-14047-12-21 22:19 J	-3408888.70	-3408888.57	-3408888.44	0.0501	0.0372
Jupiter	-14041-02-28 02:52 J	-3406994.48	-3406994.38	-3406994.27	0.0519	0.0447
Jupiter	-14041-10-22 21:21 J	-3406756.80	-3406756.61	-3406756.41	0.0523	0.0182
Mars	-14040-03-06 12:14 J	-3406622.04	-3406621.99	-3406621.94	0.1826	0.1741
Mars	-14038-01-02 17:16 J	-3405954.92	-3405954.78	-3405954.64	0.1801	0.1086
Saturn	-14037-05-21 06:57 J	-3405450.24	-3405450.21	-3405450.15	0.0279	0.0274
Saturn	-14036-01-05 23:31 J	-3405220.72	-3405220.52	-3405220.31	0.0283	0.0085
Saturn	-14036-08-23 18:43 J	-3404990.91	-3404990.72	-3404990.52	0.0286	0.0116
Mars	-14036-10-19 07:26 J	-3404934.23	-3404934.19	-3404934.14	0.1695	0.1620
Jupiter	-14035-01-02 18:14 J	-3404858.89	-3404858.74	-3404858.59	0.0506	0.0325
Jupiter	-14035-08-27 00:28 J	-3404622.66	-3404622.48	-3404622.30	0.0502	0.0224
Mars	-14034-08-18 14:09 J	-3404266.08	-3404265.91	-3404265.74	0.1715	0.0478
Pluto	-14030-10-19 21:50 J	-3402742.67	-3402742.59	-3402742.48	0.0080	0.0072
Pluto	-14029-06-01 08:52 J	-3402517.35	-3402517.13	-3402516.90	0.0079	0.0005
Jupiter	-14029-06-27 12:00 J	-3402491.21	-3402491.00	-3402490.79	0.0522	0.0004
Pluto	-14028-01-12 19:40 J	-3402291.80	-3402291.68	-3402291.53	0.0079	0.0062
Saturn	-14024-08-13 03:21 J	-3400618.42	-3400618.36	-3400618.27	0.0283	0.0264
Jupiter	-14024-09-07 19:26 J	-3400592.75	-3400592.69	-3400592.62	0.0507	0.0476
Saturn	-14023-03-30 13:11 J	-3400389.15	-3400388.95	-3400388.75	0.0280	0.0076
Jupiter	-14023-05-02 01:40 J	-3400356.62	-3400356.43	-3400356.23	0.0502	0.0073
Saturn	-14023-11-14 20:24 J	-3400159.84	-3400159.65	-3400159.46	0.0277	0.0105
Jupiter	-14017-03-02 02:09 J	-3398225.61	-3398225.41	-3398225.22	0.0522	0.0175
Jupiter	-14017-10-25 22:33 J	-3397987.65	-3397987.56	-3397987.46	0.0525	0.0464
Jupiter	-14011-01-05 03:07 J	-3396090.57	-3396090.37	-3396090.17	0.0503	0.0080
Jupiter	-14011-08-29 07:40 J	-3395854.25	-3395854.18	-3395854.10	0.0500	0.0458
Uranus	-14008-09-03 06:43 J	-3394753.31	-3394753.22	-3394753.11	0.0146	0.0128
Saturn	-14008-12-01 16:04 J	-3394663.93	-3394663.83	-3394663.72	0.0280	0.0243
Uranus	-14007-04-17 18:14 J	-3394526.91	-3394526.74	-3394526.56	0.0146	0.0084

Saturn	-14007-07-19 08:52 J	-3394434.34	-3394434.13	-3394433.91	0.0283	0.0053
Uranus	-14007-11-30 05:31 J	-3394300.47	-3394300.27	-3394300.06	0.0146	0.0041
Mars	-14006-01-02 05:02 J	-3394267.47	-3394267.29	-3394267.12	0.1811	0.0196
Neptune	-14006-02-12 10:19 J	-3394226.10	-3394226.07	-3394226.01	0.0088	0.0086
Saturn	-14006-03-06 04:19 J	-3394204.50	-3394204.32	-3394204.13	0.0286	0.0148
Uranus	-14006-07-14 17:16 J	-3394073.99	-3394073.78	-3394073.56	0.0146	0.0004
Neptune	-14006-09-25 23:31 J	-3394000.59	-3394000.52	-3394000.41	0.0088	0.0080
Jupiter	-14006-11-05 17:31 J	-3393959.93	-3393959.77	-3393959.62	0.0520	0.0347
Uranus	-14005-02-26 04:48 J	-3393847.50	-3393847.30	-3393847.09	0.0146	0.0049
Neptune	-14005-05-08 12:43 J	-3393775.07	-3393774.97	-3393774.83	0.0088	0.0074
Jupiter	-14005-06-30 12:57 J	-3393722.13	-3393721.96	-3393721.79	0.0524	0.0288
Uranus	-14005-10-09 16:19 J	-3393620.97	-3393620.82	-3393620.64	0.0147	0.0094
Neptune	-14005-12-20 02:24 J	-3393549.53	-3393549.40	-3393549.25	0.0088	0.0067
Uranus	-14004-05-24 04:04 J	-3393394.39	-3393394.33	-3393394.25	0.0147	0.0138
Neptune	-14004-08-02 15:35 J	-3393324.00	-3393323.85	-3393323.68	0.0088	0.0061
Neptune	-14003-03-16 04:33 J	-3393098.46	-3393098.31	-3393098.11	0.0088	0.0055
Neptune	-14003-10-27 18:14 J	-3392872.92	-3392872.74	-3392872.55	0.0088	0.0048
Neptune	-14002-06-10 07:11 J	-3392647.38	-3392647.20	-3392646.98	0.0088	0.0043
Mars	-14002-08-17 16:33 J	-3392578.97	-3392578.81	-3392578.64	0.1706	0.0540
Neptune	-14001-01-21 20:52 J	-3392421.83	-3392421.63	-3392421.42	0.0088	0.0035
Neptune	-14001-09-03 10:04 J	-3392196.28	-3392196.08	-3392195.86	0.0088	0.0029

14TH MILLENNIUM BCE

This is a list of transits of Venus in the 14th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
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TRANSIT

TIME

Neptune	-14000-04-16 23:31 J	-3391970.73	-3391970.52	-3391970.30	0.0088	0.0022
Mars	-14000-06-15 19:55 J	-3391910.71	-3391910.67	-3391910.62	0.1728	0.1666
Jupiter	-14000-09-10 02:52 J	-3391824.55	-3391824.38	-3391824.20	0.0505	0.0236
Neptune	-14000-11-28 12:57 J	-3391745.18	-3391744.96	-3391744.74	0.0088	0.0016
Jupiter	-13999-05-04 08:24 J	-3391588.30	-3391588.15	-3391587.99	0.0501	0.0311
Neptune	-13999-07-12 02:24 J	-3391519.62	-3391519.40	-3391519.18	0.0088	0.0009
Neptune	-13998-02-22 15:50 J	-3391294.07	-3391293.84	-3391293.62	0.0088	0.0003
Neptune	-13998-10-06 05:02 J	-3391068.51	-3391068.29	-3391068.06	0.0088	0.0004
Neptune	-13997-05-18 18:28 J	-3390842.95	-3390842.73	-3390842.51	0.0088	0.0010
Neptune	-13997-12-30 07:55 J	-3390617.38	-3390617.17	-3390616.94	0.0088	0.0017
Neptune	-13996-08-12 21:35 J	-3390391.82	-3390391.60	-3390391.38	0.0088	0.0024
Neptune	-13995-03-26 10:48 J	-3390166.25	-3390166.05	-3390165.83	0.0088	0.0030
Neptune	-13995-11-07 00:28 J	-3389940.68	-3389940.48	-3389940.28	0.0088	0.0037
Saturn	-13994-02-23 11:31 J	-3389832.12	-3389832.02	-3389831.89	0.0283	0.0233
Neptune	-13994-06-20 13:40 J	-3389715.11	-3389714.93	-3389714.72	0.0088	0.0044
Jupiter	-13994-07-11 09:07 J	-3389694.13	-3389694.12	-3389694.10	0.0518	0.0516
Saturn	-13994-10-10 20:52 J	-3389602.83	-3389602.63	-3389602.42	0.0280	0.0045
Neptune	-13993-02-01 03:07 J	-3389489.54	-3389489.37	-3389489.17	0.0088	0.0050
Jupiter	-13993-03-05 03:35 J	-3389456.55	-3389456.35	-3389456.15	0.0523	0.0110
Saturn	-13993-05-27 03:35 J	-3389373.53	-3389373.35	-3389373.17	0.0277	0.0135
Neptune	-13993-09-13 16:33 J	-3389263.96	-3389263.81	-3389263.62	0.0088	0.0057
Neptune	-13992-04-27 06:28 J	-3389038.39	-3389038.23	-3389038.08	0.0088	0.0063
Neptune	-13992-12-08 19:40 J	-3388812.80	-3388812.68	-3388812.53	0.0088	0.0070
Neptune	-13991-07-22 09:21 J	-3388587.21	-3388587.11	-3388586.99	0.0088	0.0076
Neptune	-13990-03-04 22:33 J	-3388361.62	-3388361.56	-3388361.46	0.0088	0.0082
Jupiter	-13988-05-16 03:21 J	-3387558.48	-3387558.36	-3387558.23	0.0506	0.0390
Jupiter	-13987-01-07 09:50 J	-3387322.28	-3387322.09	-3387321.90	0.0502	0.0162
Jupiter	-13982-11-08 16:48 J	-3385191.01	-3385190.80	-3385190.60	0.0521	0.0071

Saturn	-13978-06-14 01:11 J	-3383877.58	-3383877.45	-3383877.30	0.0280	0.0211
Saturn	-13977-01-29 18:28 J	-3383647.94	-3383647.73	-3383647.51	0.0284	0.0019
Saturn	-13977-09-15 14:24 J	-3383418.06	-3383417.90	-3383417.73	0.0287	0.0185
Jupiter	-13976-09-12 11:45 J	-3383056.21	-3383056.01	-3383055.81	0.0503	0.0011
Mars	-13974-01-01 18:00 J	-3382579.85	-3382579.75	-3382579.66	0.1822	0.1528
Mars	-13973-10-30 00:14 J	-3381912.61	-3381912.49	-3381912.37	0.1797	0.1257
Jupiter	-13970-07-14 07:11 J	-3380925.38	-3380925.20	-3380925.02	0.0520	0.0249
Mars	-13970-08-16 17:16 J	-3380891.86	-3380891.78	-3380891.70	0.1697	0.1510
Jupiter	-13969-03-08 02:52 J	-3380687.51	-3380687.38	-3380687.24	0.0524	0.0390
Mars	-13968-06-14 23:31 J	-3380223.68	-3380223.52	-3380223.35	0.1718	0.0605
Uranus	-13967-08-03 05:02 J	-3379809.40	-3379809.29	-3379809.14	0.0133	0.0106
Uranus	-13966-03-17 11:16 J	-3379583.20	-3379583.03	-3379582.83	0.0133	0.0072
Uranus	-13966-10-29 17:16 J	-3379356.98	-3379356.78	-3379356.56	0.0133	0.0038
Uranus	-13965-06-11 23:16 J	-3379130.75	-3379130.53	-3379130.31	0.0132	0.0004
Saturn	-13965-09-04 18:43 J	-3379045.85	-3379045.72	-3379045.56	0.0282	0.0203
Uranus	-13964-01-24 05:02 J	-3378904.50	-3378904.29	-3378904.07	0.0132	0.0030
Saturn	-13964-04-22 03:50 J	-3378816.55	-3378816.34	-3378816.13	0.0279	0.0017
Jupiter	-13964-05-18 13:11 J	-3378790.14	-3378789.95	-3378789.75	0.0504	0.0145
Uranus	-13964-09-07 10:33 J	-3378678.24	-3378678.06	-3378677.85	0.0132	0.0064
Saturn	-13964-12-07 10:04 J	-3378587.25	-3378587.08	-3378586.91	0.0276	0.0162
Jupiter	-13963-01-09 18:00 J	-3378553.86	-3378553.75	-3378553.62	0.0501	0.0401
Uranus	-13963-04-21 16:19 J	-3378451.96	-3378451.82	-3378451.66	0.0132	0.0097
Uranus	-13963-12-03 21:50 J	-3378225.61	-3378225.59	-3378225.55	0.0132	0.0130
Jupiter	-13958-03-18 21:07 J	-3376659.73	-3376659.62	-3376659.50	0.0520	0.0423
Jupiter	-13958-11-11 16:33 J	-3376422.00	-3376421.81	-3376421.62	0.0524	0.0212
Jupiter	-13952-01-21 14:24 J	-3374524.06	-3374523.90	-3374523.73	0.0505	0.0297
Jupiter	-13952-09-14 19:55 J	-3374287.84	-3374287.67	-3374287.49	0.0501	0.0252
Saturn	-13949-12-24 10:04 J	-3373091.24	-3373091.08	-3373090.91	0.0281	0.0181
Saturn	-13948-08-11 03:50 J	-3372861.56	-3372861.34	-3372861.13	0.0284	0.0013
Saturn	-13947-03-29 00:00 J	-3372631.63	-3372631.50	-3372631.35	0.0287	0.0217

Jupiter	-13946-07-17 07:26 J	-3372156.40	-3372156.19	-3372155.99	0.0523	0.0034
Jupiter	-13941-09-26 13:26 J	-3370258.03	-3370257.94	-3370257.86	0.0507	0.0453
Mars	-13941-10-29 11:02 J	-3370225.21	-3370225.04	-3370224.87	0.1808	0.0003
Jupiter	-13940-05-20 19:55 J	-3370021.87	-3370021.67	-3370021.47	0.0503	0.0099
Mars	-13936-06-14 02:09 J	-3368536.58	-3368536.41	-3368536.24	0.1709	0.0421
Saturn	-13935-03-18 03:21 J	-3368259.52	-3368259.36	-3368259.19	0.0282	0.0171
Saturn	-13935-11-02 11:45 J	-3368030.22	-3368030.01	-3368029.80	0.0279	0.0015
Jupiter	-13934-03-21 22:33 J	-3367890.75	-3367890.56	-3367890.36	0.0521	0.0143
Saturn	-13934-06-19 17:45 J	-3367800.91	-3367800.76	-3367800.61	0.0276	0.0192
Jupiter	-13934-11-14 18:28 J	-3367652.79	-3367652.73	-3367652.66	0.0525	0.0496
Jupiter	-13928-01-23 20:52 J	-3365755.82	-3365755.63	-3365755.42	0.0504	0.0057
Jupiter	-13928-09-17 02:09 J	-3365519.45	-3365519.41	-3365519.36	0.0501	0.0487
Neptune	-13925-08-19 00:43 J	-3364452.47	-3364452.47	-3364452.44	0.0089	0.0089
Neptune	-13924-04-01 13:40 J	-3364227.00	-3364226.93	-3364226.84	0.0089	0.0083
Uranus	-13924-05-03 16:33 J	-3364194.82	-3364194.81	-3364194.78	0.0146	0.0145
Neptune	-13924-11-13 02:09 J	-3364001.50	-3364001.41	-3364001.28	0.0089	0.0077
Uranus	-13924-12-16 03:35 J	-3363968.48	-3363968.35	-3363968.18	0.0146	0.0102
Neptune	-13923-06-26 15:21 J	-3363775.99	-3363775.86	-3363775.72	0.0089	0.0070
Uranus	-13923-07-30 15:35 J	-3363742.05	-3363741.85	-3363741.65	0.0146	0.0058
Jupiter	-13923-11-24 12:14 J	-3363625.15	-3363624.99	-3363624.82	0.0520	0.0322
Neptune	-13922-02-07 03:50 J	-3363550.48	-3363550.34	-3363550.17	0.0089	0.0063
Uranus	-13922-03-14 02:52 J	-3363515.59	-3363515.38	-3363515.16	0.0146	0.0014
Jupiter	-13922-07-20 07:11 J	-3363387.36	-3363387.20	-3363387.03	0.0524	0.0316
Neptune	-13922-09-20 16:48 J	-3363324.97	-3363324.80	-3363324.63	0.0089	0.0057
Uranus	-13922-10-26 14:24 J	-3363289.11	-3363288.90	-3363288.69	0.0146	0.0031
Neptune	-13921-05-03 05:16 J	-3363099.45	-3363099.28	-3363099.09	0.0089	0.0050
Uranus	-13921-06-09 02:09 J	-3363062.60	-3363062.41	-3363062.23	0.0146	0.0076
Neptune	-13921-12-14 18:14 J	-3362873.93	-3362873.74	-3362873.55	0.0089	0.0044
Uranus	-13920-01-21 13:26 J	-3362836.04	-3362835.94	-3362835.80	0.0146	0.0121
Neptune	-13920-07-28 06:43 J	-3362648.40	-3362648.22	-3362648.01	0.0089	0.0037

Neptune	-13919-03-10 19:40 J	-3362422.88	-3362422.68	-3362422.47	0.0089	0.0030
Saturn	-13919-07-06 18:57 J	-3362304.88	-3362304.71	-3362304.52	0.0282	0.0149
Neptune	-13919-10-22 08:09 J	-3362197.36	-3362197.16	-3362196.94	0.0089	0.0024
Saturn	-13918-02-21 13:11 J	-3362075.16	-3362074.95	-3362074.74	0.0285	0.0049
Neptune	-13918-06-04 21:07 J	-3361971.83	-3361971.62	-3361971.40	0.0089	0.0017
Saturn	-13918-10-09 10:04 J	-3361845.18	-3361845.08	-3361844.98	0.0288	0.0254
Neptune	-13917-01-16 09:50 J	-3361746.30	-3361746.09	-3361745.87	0.0089	0.0011
Neptune	-13917-08-28 22:33 J	-3361520.78	-3361520.56	-3361520.34	0.0089	0.0004
Jupiter	-13917-09-28 22:19 J	-3361489.74	-3361489.57	-3361489.38	0.0505	0.0211
Neptune	-13916-04-11 11:16 J	-3361295.25	-3361295.03	-3361294.82	0.0089	0.0003
Jupiter	-13916-05-23 04:04 J	-3361253.47	-3361253.33	-3361253.18	0.0502	0.0341
Neptune	-13916-11-22 23:45 J	-3361069.72	-3361069.51	-3361069.29	0.0089	0.0010
Neptune	-13915-07-06 12:28 J	-3360844.19	-3360843.98	-3360843.76	0.0089	0.0016
Neptune	-13914-02-17 00:57 J	-3360618.66	-3360618.46	-3360618.24	0.0089	0.0023
Neptune	-13914-09-30 13:40 J	-3360393.14	-3360392.93	-3360392.73	0.0089	0.0029
Moon	-13914-11-06 18:43 J	-3360355.80	-3360355.72	-3360355.65	0.2657	0.2299
Neptune	-13913-05-13 01:55 J	-3360167.61	-3360167.42	-3360167.21	0.0089	0.0036
Neptune	-13913-12-24 14:24 J	-3359942.08	-3359941.90	-3359941.70	0.0089	0.0043
Neptune	-13912-08-07 03:07 J	-3359716.54	-3359716.37	-3359716.18	0.0089	0.0049
Neptune	-13911-03-20 15:21 J	-3359491.01	-3359490.86	-3359490.67	0.0089	0.0056
Jupiter	-13911-07-30 03:07 J	-3359359.43	-3359359.37	-3359359.31	0.0518	0.0493
Neptune	-13911-11-01 04:04 J	-3359265.47	-3359265.33	-3359265.16	0.0089	0.0062
Jupiter	-13910-03-24 21:21 J	-3359121.81	-3359121.61	-3359121.41	0.0523	0.0137
Neptune	-13910-06-14 16:48 J	-3359039.93	-3359039.80	-3359039.66	0.0089	0.0068
Neptune	-13909-01-26 05:02 J	-3358814.39	-3358814.29	-3358814.16	0.0089	0.0075
Neptune	-13909-09-07 17:31 J	-3358588.84	-3358588.77	-3358588.67	0.0089	0.0081
Mars	-13909-10-28 23:31 J	-3358537.63	-3358537.52	-3358537.40	0.1819	0.1318
Neptune	-13908-04-21 06:28 J	-3358363.27	-3358363.23	-3358363.20	0.0089	0.0087
Mars	-13907-08-27 06:43 J	-3357870.32	-3357870.22	-3357870.12	0.1793	0.1440
Saturn	-13906-09-28 11:16 J	-3357473.21	-3357473.03	-3357472.85	0.0281	0.0140

Moon	-13906-11-04 15:21 J	-3357436.01	-3357435.86	-3357435.71	0.2662	0.0294
Earth	-13906-11-04 16:48 J	-3357435.95	-3357435.80	-3357435.64	0.2656	0.0120 *
Saturn	-13905-05-14 18:57 J	-3357243.91	-3357243.71	-3357243.50	0.0278	0.0045
Jupiter	-13905-06-04 00:00 J	-3357223.63	-3357223.50	-3357223.35	0.0506	0.0362
Saturn	-13905-12-30 00:43 J	-3357014.60	-3357014.47	-3357014.35	0.0275	0.0219
Jupiter	-13904-01-26 06:14 J	-3356987.43	-3356987.24	-3356987.05	0.0502	0.0191
Mars	-13904-06-13 03:21 J	-3356849.46	-3356849.36	-3356849.26	0.1700	0.1404
Mars	-13902-04-12 08:52 J	-3356181.29	-3356181.13	-3356180.97	0.1721	0.0732
Jupiter	-13899-11-27 11:02 J	-3354856.25	-3354856.04	-3354855.84	0.0522	0.0045
Jupiter	-13893-10-01 07:55 J	-3352721.37	-3352721.17	-3352720.97	0.0503	0.0039
Saturn	-13889-01-17 03:21 J	-3351518.55	-3351518.36	-3351518.16	0.0282	0.0119
Saturn	-13889-09-02 22:04 J	-3351288.79	-3351288.58	-3351288.37	0.0285	0.0079
Saturn	-13888-04-20 19:11 J	-3351058.72	-3351058.70	-3351058.67	0.0288	0.0285
Jupiter	-13887-08-02 02:24 J	-3350590.58	-3350590.40	-3350590.21	0.0521	0.0220
Jupiter	-13886-03-27 22:19 J	-3350352.68	-3350352.57	-3350352.44	0.0525	0.0423
Uranus	-13883-04-02 16:48 J	-3349250.89	-3349250.80	-3349250.69	0.0133	0.0119
Uranus	-13883-11-14 22:48 J	-3349024.71	-3349024.55	-3349024.37	0.0133	0.0085
Uranus	-13882-06-29 05:02 J	-3348798.49	-3348798.29	-3348798.08	0.0133	0.0051
Uranus	-13881-02-10 11:16 J	-3348572.25	-3348572.03	-3348571.81	0.0133	0.0017
Jupiter	-13881-06-06 06:57 J	-3348455.40	-3348455.21	-3348455.01	0.0504	0.0120
Uranus	-13881-09-23 17:02 J	-3348346.01	-3348345.79	-3348345.57	0.0132	0.0017
Jupiter	-13880-01-28 12:14 J	-3348219.09	-3348218.99	-3348218.88	0.0501	0.0428
Uranus	-13880-05-07 22:33 J	-3348119.75	-3348119.56	-3348119.35	0.0132	0.0051
Uranus	-13880-12-20 04:19 J	-3347893.48	-3347893.32	-3347893.14	0.0132	0.0085
Uranus	-13879-08-03 09:35 J	-3347667.17	-3347667.10	-3347666.98	0.0132	0.0119
Saturn	-13876-04-09 19:11 J	-3346686.89	-3346686.70	-3346686.50	0.0281	0.0108
Saturn	-13876-11-25 02:52 J	-3346457.58	-3346457.38	-3346457.18	0.0278	0.0076
Jupiter	-13875-04-06 18:28 J	-3346324.86	-3346324.73	-3346324.59	0.0519	0.0392
Saturn	-13875-07-12 07:55 J	-3346228.25	-3346228.17	-3346228.08	0.0275	0.0250
Mars	-13875-08-26 17:45 J	-3346182.93	-3346182.76	-3346182.58	0.1804	0.0190

Jupiter	-13875-11-30 13:11 J	-3346087.12	-3346086.95	-3346086.76	0.0523	0.0247
Mars	-13870-04-11 12:14 J	-3344494.17	-3344493.99	-3344493.82	0.1712	0.0312
Pluto	-13870-06-11 17:16 J	-3344432.81	-3344432.78	-3344432.71	0.0064	0.0062
Pluto	-13869-01-22 21:21 J	-3344207.80	-3344207.61	-3344207.41	0.0064	0.0029
Jupiter	-13869-02-10 07:55 J	-3344189.34	-3344189.17	-3344189.00	0.0506	0.0275
Pluto	-13869-09-04 01:26 J	-3343982.66	-3343982.44	-3343982.22	0.0064	0.0006
Jupiter	-13869-10-03 13:55 J	-3343953.09	-3343952.92	-3343952.75	0.0502	0.0279
Pluto	-13868-04-17 04:48 J	-3343757.44	-3343757.30	-3343757.11	0.0065	0.0041
Jupiter	-13863-08-05 02:38 J	-3341821.59	-3341821.39	-3341821.18	0.0522	0.0063
Saturn	-13861-12-11 19:40 J	-3340961.70	-3340961.68	-3340961.64	0.0279	0.0276
Saturn	-13860-07-29 12:00 J	-3340732.20	-3340732.00	-3340731.79	0.0282	0.0086
Saturn	-13859-03-16 06:57 J	-3340502.40	-3340502.21	-3340502.01	0.0286	0.0114
Jupiter	-13858-10-16 08:52 J	-3339923.24	-3339923.13	-3339923.03	0.0507	0.0429
Jupiter	-13857-06-08 15:50 J	-3339687.04	-3339686.84	-3339686.65	0.0503	0.0127
Jupiter	-13851-04-09 17:02 J	-3337555.99	-3337555.79	-3337555.59	0.0521	0.0117
Jupiter	-13851-12-03 12:28 J	-3337317.98	-3337317.98	-3337317.96	0.0525	0.0524
Saturn	-13847-03-05 16:48 J	-3336129.86	-3336129.80	-3336129.72	0.0283	0.0267
Saturn	-13847-10-21 02:38 J	-3335900.59	-3335900.39	-3335900.19	0.0280	0.0078
Saturn	-13846-06-07 09:35 J	-3335671.29	-3335671.10	-3335670.90	0.0277	0.0104
Jupiter	-13845-02-12 18:00 J	-3335420.95	-3335420.75	-3335420.55	0.0504	0.0026
Mars	-13843-08-26 05:31 J	-3334495.40	-3334495.27	-3334495.13	0.1815	0.1111
Neptune	-13842-12-28 07:26 J	-3334006.22	-3334006.19	-3334006.11	0.0088	0.0085
Mars	-13841-06-23 14:24 J	-3333827.98	-3333827.90	-3333827.83	0.1790	0.1600
Neptune	-13841-08-09 20:38 J	-3333780.71	-3333780.64	-3333780.52	0.0088	0.0079
Neptune	-13840-03-23 10:04 J	-3333555.19	-3333555.08	-3333554.94	0.0088	0.0072
Uranus	-13840-08-15 13:55 J	-3333410.03	-3333409.92	-3333409.79	0.0146	0.0119
Neptune	-13840-11-03 23:16 J	-3333329.65	-3333329.53	-3333329.36	0.0088	0.0066
Jupiter	-13840-12-13 06:43 J	-3333290.39	-3333290.22	-3333290.05	0.0520	0.0296
Uranus	-13839-03-30 01:11 J	-3333183.62	-3333183.45	-3333183.26	0.0146	0.0075
Neptune	-13839-06-17 12:57 J	-3333104.12	-3333103.96	-3333103.79	0.0088	0.0059

Jupiter -13839-08-08 02:09 J -3333052.56 -3333052.41 -3333052.25 0.0524 0.0347
 Uranus -13839-11-11 12:43 J -3332957.18 -3332956.97 -3332956.76 0.0146 0.0031
 Neptune -13838-01-29 01:55 J -3332878.58 -3332878.42 -3332878.22 0.0088 0.0053
 Mars -13838-04-10 13:26 J -3332807.05 -3332806.94 -3332806.83 0.1703 0.1296
 Uranus -13838-06-26 00:14 J -3332730.70 -3332730.49 -3332730.27 0.0146 0.0014
 Neptune -13838-09-11 15:21 J -3332653.04 -3332652.86 -3332652.66 0.0088 0.0046
 Uranus -13837-02-07 11:45 J -3332504.20 -3332504.01 -3332503.81 0.0146 0.0059
 Neptune -13837-04-24 04:33 J -3332427.50 -3332427.31 -3332427.10 0.0088 0.0040
 Uranus -13837-09-20 23:16 J -3332277.66 -3332277.53 -3332277.36 0.0146 0.0104
 Neptune -13837-12-05 18:00 J -3332201.94 -3332201.75 -3332201.53 0.0088 0.0034
 Mars -13836-02-06 18:28 J -3332138.89 -3332138.73 -3332138.58 0.1724 0.0858
 Neptune -13836-07-19 07:40 J -3331976.39 -3331976.18 -3331975.97 0.0088 0.0026
 Neptune -13835-03-01 20:38 J -3331750.84 -3331750.64 -3331750.41 0.0088 0.0020
 Neptune -13835-10-13 10:04 J -3331525.30 -3331525.08 -3331524.85 0.0088 0.0013
 Neptune -13834-05-26 23:31 J -3331299.74 -3331299.52 -3331299.30 0.0088 0.0007
 Jupiter -13834-10-18 19:26 J -3331154.87 -3331154.69 -3331154.50 0.0505 0.0180
 Neptune -13833-01-07 12:57 J -3331074.18 -3331073.96 -3331073.73 0.0088 0.0001
 Jupiter -13833-06-11 00:43 J -3330918.60 -3330918.47 -3330918.33 0.0501 0.0371
 Neptune -13833-08-20 02:24 J -3330848.62 -3330848.40 -3330848.18 0.0088 0.0007
 Neptune -13832-04-02 15:50 J -3330623.06 -3330622.84 -3330622.62 0.0088 0.0014
 Neptune -13832-11-14 05:02 J -3330397.50 -3330397.29 -3330397.06 0.0088 0.0020
 Saturn -13831-06-24 02:09 J -3330175.50 -3330175.41 -3330175.31 0.0280 0.0250
 Neptune -13831-06-27 18:28 J -3330171.93 -3330171.73 -3330171.51 0.0088 0.0027
 Neptune -13830-02-08 08:09 J -3329946.37 -3329946.16 -3329945.95 0.0088 0.0034
 Saturn -13830-02-08 18:57 J -3329945.92 -3329945.71 -3329945.50 0.0283 0.0058
 Neptune -13830-09-21 21:21 J -3329720.80 -3329720.61 -3329720.40 0.0088 0.0040
 Saturn -13830-09-26 14:24 J -3329716.09 -3329715.90 -3329715.71 0.0286 0.0143
 Neptune -13829-05-04 10:33 J -3329495.23 -3329495.06 -3329494.85 0.0088 0.0048
 Neptune -13829-12-16 00:28 J -3329269.65 -3329269.48 -3329269.29 0.0088 0.0054
 Neptune -13828-07-29 13:55 J -3329044.07 -3329043.92 -3329043.74 0.0088 0.0060

Jupiter	-13828-08-17 23:02 J	-3329024.63	-3329024.54	-3329024.45	0.0519	0.0465
Neptune	-13827-03-12 03:07 J	-3328818.49	-3328818.37	-3328818.20	0.0088	0.0068
Jupiter	-13827-04-12 17:45 J	-3328786.96	-3328786.76	-3328786.57	0.0523	0.0171
Neptune	-13827-10-23 16:48 J	-3328592.91	-3328592.80	-3328592.66	0.0088	0.0074
Neptune	-13826-06-06 06:00 J	-3328367.31	-3328367.25	-3328367.13	0.0088	0.0081
Neptune	-13825-01-17 19:55 J	-3328141.70	-3328141.67	-3328141.61	0.0088	0.0087
Jupiter	-13822-06-23 18:00 J	-3326888.89	-3326888.75	-3326888.59	0.0506	0.0339
Jupiter	-13821-02-15 00:28 J	-3326652.66	-3326652.48	-3326652.30	0.0502	0.0218
Saturn	-13818-09-16 00:43 J	-3325343.57	-3325343.47	-3325343.34	0.0283	0.0235
Saturn	-13817-05-02 10:19 J	-3325114.28	-3325114.07	-3325113.87	0.0280	0.0046
Saturn	-13817-12-17 17:02 J	-3324884.97	-3324884.79	-3324884.61	0.0277	0.0134
Jupiter	-13816-12-16 09:21 J	-3324521.31	-3324521.11	-3324520.90	0.0522	0.0009
Jupiter	-13810-02-26 18:28 J	-3322622.77	-3322622.73	-3322622.68	0.0507	0.0493
Jupiter	-13810-10-21 01:40 J	-3322386.63	-3322386.43	-3322386.23	0.0503	0.0065
Mars	-13809-06-23 00:28 J	-3322140.65	-3322140.48	-3322140.31	0.1801	0.0374
Moon	-13808-05-09 23:16 J	-3321819.69	-3321819.53	-3321819.37	0.2681	0.0178
Earth	-13808-05-10 03:21 J	-3321819.52	-3321819.36	-3321819.19	0.2677	0.0113 *
Mars	-13804-02-05 21:21 J	-3320451.78	-3320451.61	-3320451.43	0.1715	0.0187
Jupiter	-13804-08-20 23:31 J	-3320255.71	-3320255.52	-3320255.33	0.0520	0.0189
Jupiter	-13803-04-15 18:43 J	-3320017.82	-3320017.72	-3320017.62	0.0524	0.0454
Saturn	-13801-01-04 09:21 J	-3319389.24	-3319389.11	-3319388.97	0.0280	0.0220
Saturn	-13801-08-21 02:24 J	-3319159.61	-3319159.40	-3319159.18	0.0283	0.0027
Saturn	-13800-04-07 22:04 J	-3318929.74	-3318929.58	-3318929.40	0.0287	0.0177
Uranus	-13800-12-01 04:48 J	-3318692.31	-3318692.30	-3318692.28	0.0133	0.0132
Uranus	-13799-07-15 11:02 J	-3318466.19	-3318466.04	-3318465.89	0.0133	0.0098
Uranus	-13798-02-26 17:02 J	-3318239.98	-3318239.79	-3318239.59	0.0133	0.0064
Jupiter	-13798-06-26 03:21 J	-3318120.55	-3318120.36	-3318120.16	0.0505	0.0092
Uranus	-13798-10-10 23:02 J	-3318013.76	-3318013.54	-3318013.33	0.0133	0.0030
Jupiter	-13797-02-17 09:07 J	-3317884.20	-3317884.12	-3317884.04	0.0501	0.0458
Uranus	-13797-05-24 04:48 J	-3317787.52	-3317787.30	-3317787.08	0.0132	0.0004

Uranus	-13796-01-05 10:33 J	-3317561.26	-3317561.06	-3317560.84	0.0132	0.0038
Uranus	-13796-08-19 16:04 J	-3317335.00	-3317334.83	-3317334.63	0.0132	0.0072
Uranus	-13795-04-02 22:04 J	-3317108.71	-3317108.58	-3317108.44	0.0132	0.0105
Jupiter	-13792-04-25 14:09 J	-3315990.05	-3315989.91	-3315989.76	0.0519	0.0365
Jupiter	-13792-12-19 08:38 J	-3315752.31	-3315752.14	-3315751.96	0.0523	0.0275
Saturn	-13788-03-28 07:40 J	-3314557.32	-3314557.18	-3314557.03	0.0282	0.0205
Saturn	-13788-11-12 16:33 J	-3314328.02	-3314327.81	-3314327.60	0.0279	0.0019
Saturn	-13787-06-29 22:48 J	-3314098.71	-3314098.55	-3314098.37	0.0276	0.0161
Jupiter	-13786-03-01 05:45 J	-3313854.43	-3313854.26	-3313854.08	0.0506	0.0244
Jupiter	-13786-10-23 11:45 J	-3313618.17	-3313618.01	-3313617.85	0.0502	0.0312
Pluto	-13781-05-04 02:09 J	-3311963.51	-3311963.41	-3311963.27	0.0080	0.0068
Pluto	-13781-12-15 13:40 J	-3311738.15	-3311737.93	-3311737.70	0.0079	0.0000
Pluto	-13780-07-29 00:00 J	-3311512.60	-3311512.50	-3311512.36	0.0079	0.0066
Jupiter	-13780-08-23 22:33 J	-3311486.76	-3311486.56	-3311486.36	0.0523	0.0095
Mars	-13777-06-22 11:31 J	-3310453.17	-3310453.02	-3310452.87	0.1812	0.0906
Mars	-13775-04-20 21:50 J	-3309785.61	-3309785.59	-3309785.57	0.1787	0.1765
Jupiter	-13775-11-04 07:11 J	-3309588.32	-3309588.20	-3309588.08	0.0507	0.0398
Jupiter	-13774-06-28 13:40 J	-3309352.12	-3309351.93	-3309351.74	0.0503	0.0161
Mars	-13772-02-04 23:16 J	-3308764.66	-3308764.53	-3308764.41	0.1706	0.1185
Saturn	-13772-07-16 14:52 J	-3308603.03	-3308602.88	-3308602.72	0.0280	0.0194
Saturn	-13771-03-03 08:24 J	-3308373.37	-3308373.15	-3308372.94	0.0283	0.0004
Saturn	-13771-10-19 04:19 J	-3308143.46	-3308143.32	-3308143.16	0.0287	0.0204
Mars	-13771-12-05 03:21 J	-3308096.50	-3308096.36	-3308096.22	0.1727	0.0993
Jupiter	-13768-04-28 14:24 J	-3307221.10	-3307220.90	-3307220.69	0.0521	0.0083
Jupiter	-13762-03-03 12:57 J	-3305086.16	-3305085.96	-3305085.76	0.0504	0.0005
Neptune	-13760-07-03 21:35 J	-3304232.61	-3304232.60	-3304232.54	0.0089	0.0089
Neptune	-13759-02-14 10:33 J	-3304007.13	-3304007.06	-3304006.96	0.0089	0.0082
Neptune	-13759-09-27 23:02 J	-3303781.63	-3303781.54	-3303781.40	0.0089	0.0076
Saturn	-13759-10-08 14:24 J	-3303771.06	-3303770.90	-3303770.74	0.0282	0.0175
Neptune	-13758-05-11 12:14 J	-3303556.12	-3303555.99	-3303555.84	0.0089	0.0068

Saturn	-13758-05-25 23:02 J	-3303541.75	-3303541.54	-3303541.33	0.0279	0.0012
Neptune	-13758-12-23 01:11 J	-3303330.60	-3303330.45	-3303330.29	0.0089	0.0062
Saturn	-13757-01-10 05:02 J	-3303312.44	-3303312.29	-3303312.14	0.0276	0.0190
Neptune	-13757-08-04 13:26 J	-3303105.09	-3303104.94	-3303104.75	0.0089	0.0056
Jupiter	-13756-01-01 06:57 J	-3302955.38	-3302955.21	-3302955.02	0.0520	0.0258
Neptune	-13756-03-18 02:24 J	-3302879.57	-3302879.40	-3302879.21	0.0089	0.0048
Uranus	-13756-04-14 21:21 J	-3302851.66	-3302851.61	-3302851.53	0.0146	0.0139
Jupiter	-13756-08-27 02:09 J	-3302717.54	-3302717.41	-3302717.27	0.0524	0.0388
Neptune	-13756-10-29 15:21 J	-3302654.05	-3302653.86	-3302653.67	0.0089	0.0042
Uranus	-13756-11-27 08:38 J	-3302625.29	-3302625.14	-3302624.97	0.0146	0.0095
Neptune	-13755-06-12 03:50 J	-3302428.52	-3302428.34	-3302428.12	0.0089	0.0035
Uranus	-13755-07-11 20:09 J	-3302398.86	-3302398.66	-3302398.45	0.0146	0.0051
Neptune	-13754-01-23 16:48 J	-3302203.00	-3302202.80	-3302202.59	0.0089	0.0028
Uranus	-13754-02-23 07:40 J	-3302172.39	-3302172.18	-3302171.96	0.0146	0.0007
Neptune	-13754-09-06 05:31 J	-3301977.48	-3301977.27	-3301977.06	0.0089	0.0021
Uranus	-13754-10-07 19:11 J	-3301945.90	-3301945.70	-3301945.49	0.0146	0.0038
Neptune	-13753-04-18 18:14 J	-3301751.95	-3301751.74	-3301751.52	0.0089	0.0015
Uranus	-13753-05-21 06:43 J	-3301719.39	-3301719.22	-3301719.04	0.0146	0.0083
Neptune	-13753-11-30 06:57 J	-3301526.42	-3301526.21	-3301525.99	0.0089	0.0008
Uranus	-13752-01-02 18:43 J	-3301492.82	-3301492.72	-3301492.62	0.0146	0.0128
Neptune	-13752-07-13 19:55 J	-3301300.89	-3301300.67	-3301300.45	0.0089	0.0001
Neptune	-13751-02-24 08:24 J	-3301075.36	-3301075.15	-3301074.93	0.0089	0.0006
Neptune	-13751-10-07 21:07 J	-3300849.83	-3300849.62	-3300849.40	0.0089	0.0013
Jupiter	-13751-11-06 14:09 J	-3300820.10	-3300819.91	-3300819.72	0.0505	0.0154
Neptune	-13750-05-21 09:50 J	-3300624.30	-3300624.09	-3300623.88	0.0089	0.0019
Jupiter	-13750-06-30 19:40 J	-3300583.80	-3300583.68	-3300583.56	0.0502	0.0400
Neptune	-13749-01-01 22:19 J	-3300398.77	-3300398.57	-3300398.36	0.0089	0.0026
Neptune	-13749-08-14 10:48 J	-3300173.24	-3300173.05	-3300172.84	0.0089	0.0033
Neptune	-13748-03-27 23:31 J	-3299947.71	-3299947.52	-3299947.32	0.0089	0.0040
Neptune	-13748-11-08 12:00 J	-3299722.18	-3299722.00	-3299721.81	0.0089	0.0046

Neptune	-13747-06-22 00:28 J	-3299496.64	-3299496.48	-3299496.29	0.0089	0.0053
Neptune	-13746-02-02 13:11 J	-3299271.10	-3299270.95	-3299270.78	0.0089	0.0060
Neptune	-13746-09-16 01:26 J	-3299045.57	-3299045.44	-3299045.28	0.0089	0.0066
Neptune	-13745-04-28 13:40 J	-3298820.03	-3298819.93	-3298819.78	0.0089	0.0073
Jupiter	-13745-09-05 22:04 J	-3298689.69	-3298689.58	-3298689.46	0.0518	0.0433
Neptune	-13745-12-10 02:24 J	-3298594.48	-3298594.40	-3298594.28	0.0089	0.0079
Jupiter	-13744-05-01 16:04 J	-3298452.02	-3298451.83	-3298451.64	0.0523	0.0206
Neptune	-13744-07-23 15:21 J	-3298368.91	-3298368.86	-3298368.80	0.0089	0.0085
Mars	-13743-04-20 07:40 J	-3298098.35	-3298098.18	-3298098.02	0.1798	0.0550
Saturn	-13742-01-26 20:09 J	-3297816.82	-3297816.66	-3297816.48	0.0281	0.0167
Saturn	-13742-09-13 13:55 J	-3297587.13	-3297586.92	-3297586.70	0.0284	0.0029
Saturn	-13741-04-30 10:19 J	-3297357.19	-3297357.07	-3297356.94	0.0287	0.0234
Jupiter	-13739-07-12 15:35 J	-3296554.01	-3296553.85	-3296553.69	0.0506	0.0310
Mars	-13739-12-04 06:57 J	-3296409.39	-3296409.21	-3296409.04	0.1718	0.0067
Jupiter	-13738-03-05 22:04 J	-3296317.75	-3296317.58	-3296317.40	0.0503	0.0251
Jupiter	-13732-01-04 06:28 J	-3294186.44	-3294186.23	-3294186.02	0.0522	0.0025
Saturn	-13729-04-19 19:55 J	-3292984.84	-3292984.67	-3292984.49	0.0281	0.0148
Saturn	-13729-12-05 04:19 J	-3292755.53	-3292755.32	-3292755.12	0.0278	0.0038
Saturn	-13728-07-22 09:50 J	-3292526.21	-3292526.09	-3292525.95	0.0275	0.0215
Jupiter	-13727-03-17 17:31 J	-3292287.84	-3292287.77	-3292287.68	0.0508	0.0463
Jupiter	-13727-11-09 00:57 J	-3292051.66	-3292051.46	-3292051.26	0.0503	0.0100
Jupiter	-13721-09-08 20:38 J	-3289920.83	-3289920.64	-3289920.44	0.0521	0.0156
Jupiter	-13720-05-04 16:19 J	-3289682.89	-3289682.82	-3289682.75	0.0525	0.0491
Uranus	-13715-03-14 21:21 J	-3287907.70	-3287907.61	-3287907.47	0.0133	0.0113
Jupiter	-13715-07-15 03:07 J	-3287785.57	-3287785.37	-3287785.17	0.0504	0.0055
Uranus	-13715-10-27 03:50 J	-3287681.51	-3287681.34	-3287681.16	0.0133	0.0078
Jupiter	-13714-03-08 08:09 J	-3287549.18	-3287549.16	-3287549.13	0.0501	0.0495
Uranus	-13714-06-10 09:50 J	-3287455.30	-3287455.09	-3287454.88	0.0133	0.0044
Uranus	-13713-01-22 15:50 J	-3287229.05	-3287228.84	-3287228.61	0.0132	0.0010
Saturn	-13713-08-08 00:14 J	-3287030.67	-3287030.49	-3287030.30	0.0281	0.0143

Uranus	-13713-09-04 21:50 J	-3287002.81	-3287002.59	-3287002.37	0.0132	0.0024
Saturn	-13712-03-25 18:14 J	-3286800.95	-3286800.74	-3286800.52	0.0284	0.0054
Uranus	-13712-04-19 03:21 J	-3286776.55	-3286776.36	-3286776.15	0.0132	0.0059
Saturn	-13712-11-10 14:52 J	-3286570.96	-3286570.88	-3286570.78	0.0287	0.0259
Uranus	-13712-12-01 08:52 J	-3286550.27	-3286550.13	-3286549.96	0.0132	0.0092
Mars	-13711-04-19 18:28 J	-3286410.89	-3286410.73	-3286410.57	0.1809	0.0719
Uranus	-13711-07-15 14:38 J	-3286323.94	-3286323.89	-3286323.81	0.0132	0.0126
Jupiter	-13709-05-14 13:11 J	-3285655.11	-3285654.95	-3285654.79	0.0519	0.0330
Jupiter	-13708-01-07 08:09 J	-3285417.32	-3285417.16	-3285416.99	0.0524	0.0317
Mars	-13707-12-03 09:07 J	-3284722.25	-3284722.12	-3284721.98	0.1708	0.1075
Mars	-13705-10-01 12:43 J	-3284054.10	-3284053.97	-3284053.84	0.1730	0.1122
Jupiter	-13703-03-20 01:55 J	-3283519.60	-3283519.42	-3283519.24	0.0505	0.0216
Jupiter	-13703-11-11 07:40 J	-3283283.32	-3283283.18	-3283283.03	0.0502	0.0342
Saturn	-13700-10-31 01:11 J	-3282198.63	-3282198.45	-3282198.25	0.0281	0.0119
Saturn	-13699-06-17 09:35 J	-3281969.31	-3281969.10	-3281968.90	0.0278	0.0066
Saturn	-13698-02-01 15:07 J	-3281739.97	-3281739.87	-3281739.77	0.0275	0.0242
Jupiter	-13697-01-18 06:43 J	-3281389.27	-3281389.22	-3281389.17	0.0518	0.0499
Jupiter	-13697-09-12 00:43 J	-3281151.67	-3281151.47	-3281151.27	0.0522	0.0139
Jupiter	-13692-11-23 02:52 J	-3279253.51	-3279253.38	-3279253.24	0.0507	0.0373
Jupiter	-13691-07-17 09:35 J	-3279017.28	-3279017.10	-3279016.91	0.0503	0.0190
Jupiter	-13685-05-17 15:21 J	-3276886.07	-3276885.86	-3276885.66	0.0521	0.0044
Saturn	-13683-02-18 04:48 J	-3276244.49	-3276244.30	-3276244.10	0.0281	0.0117
Saturn	-13683-10-05 23:02 J	-3276014.74	-3276014.54	-3276014.33	0.0285	0.0082
Jupiter	-13679-03-22 12:00 J	-3274751.20	-3274751.00	-3274750.80	0.0504	0.0036
Mars	-13677-02-15 14:24 J	-3274056.06	-3274055.90	-3274055.74	0.1794	0.0730
Neptune	-13677-11-11 05:45 J	-3273786.32	-3273786.26	-3273786.18	0.0088	0.0083
Neptune	-13676-06-24 18:43 J	-3273560.80	-3273560.72	-3273560.59	0.0088	0.0077
Neptune	-13675-02-05 08:24 J	-3273335.28	-3273335.15	-3273335.01	0.0088	0.0070
Neptune	-13675-09-18 21:21 J	-3273109.75	-3273109.61	-3273109.44	0.0088	0.0064
Neptune	-13674-05-02 10:48 J	-3272884.21	-3272884.05	-3272883.87	0.0088	0.0057

Neptune -13674-12-14 00:00 J -3272658.66 -3272658.50 -3272658.30 0.0088 0.0051
 Jupiter -13673-01-21 06:14 J -3272620.42 -3272620.24 -3272620.05 0.0520 0.0223
 Neptune -13673-07-26 13:26 J -3272433.12 -3272432.94 -3272432.73 0.0088 0.0044
 Jupiter -13673-09-15 01:11 J -3272382.57 -3272382.45 -3272382.33 0.0524 0.0424
 Mars -13673-09-30 16:19 J -3272367.00 -3272366.82 -3272366.65 0.1721 0.0062
 Neptune -13672-03-09 02:52 J -3272207.57 -3272207.38 -3272207.17 0.0088 0.0037
 Uranus -13672-07-27 14:38 J -3272067.00 -3272066.89 -3272066.75 0.0146 0.0117
 Neptune -13672-10-20 16:19 J -3271982.03 -3271981.82 -3271981.61 0.0088 0.0030
 Uranus -13671-03-11 01:55 J -3271840.59 -3271840.42 -3271840.22 0.0146 0.0073
 Neptune -13671-06-03 05:16 J -3271756.48 -3271756.28 -3271756.05 0.0088 0.0024
 Uranus -13671-10-23 13:26 J -3271614.15 -3271613.94 -3271613.72 0.0146 0.0029
 Neptune -13670-01-14 18:43 J -3271530.93 -3271530.72 -3271530.49 0.0088 0.0017
 Saturn -13670-05-13 05:16 J -3271412.47 -3271412.28 -3271412.08 0.0281 0.0095
 Uranus -13670-06-07 00:57 J -3271387.67 -3271387.46 -3271387.24 0.0146 0.0016
 Neptune -13670-08-28 08:09 J -3271305.38 -3271305.16 -3271304.93 0.0088 0.0010
 Saturn -13670-12-28 13:11 J -3271183.15 -3271182.95 -3271182.75 0.0278 0.0089
 Uranus -13669-01-19 12:28 J -3271161.17 -3271160.98 -3271160.78 0.0146 0.0061
 Neptune -13669-04-09 21:35 J -3271079.83 -3271079.60 -3271079.38 0.0088 0.0004
 Saturn -13669-08-13 18:14 J -3270953.78 -3270953.74 -3270953.67 0.0275 0.0264
 Uranus -13669-09-02 00:14 J -3270934.62 -3270934.49 -3270934.33 0.0146 0.0107
 Neptune -13669-11-21 11:02 J -3270854.27 -3270854.04 -3270853.82 0.0088 0.0004
 Neptune -13668-07-05 00:14 J -3270628.71 -3270628.49 -3270628.26 0.0088 0.0010
 Jupiter -13668-11-25 14:38 J -3270485.09 -3270484.89 -3270484.69 0.0505 0.0117
 Neptune -13667-02-15 13:26 J -3270403.15 -3270402.94 -3270402.71 0.0088 0.0017
 Jupiter -13667-07-19 20:24 J -3270248.74 -3270248.65 -3270248.55 0.0501 0.0439
 Neptune -13667-09-29 02:38 J -3270177.59 -3270177.39 -3270177.16 0.0088 0.0024
 Neptune -13666-05-12 16:19 J -3269952.03 -3269951.82 -3269951.61 0.0088 0.0031
 Neptune -13666-12-24 05:45 J -3269726.46 -3269726.26 -3269726.05 0.0088 0.0037
 Neptune -13665-08-05 18:57 J -3269500.89 -3269500.71 -3269500.50 0.0088 0.0045
 Neptune -13664-03-19 08:24 J -3269275.31 -3269275.15 -3269274.95 0.0088 0.0051

Neptune	-13664-10-30 22:04 J	-3269049.74	-3269049.58	-3269049.40	0.0088	0.0058
Neptune	-13663-06-13 11:16 J	-3268824.16	-3268824.03	-3268823.86	0.0088	0.0065
Earth	-13663-11-04 20:38 J	-3268679.80	-3268679.64	-3268679.49	0.2658	0.0173
Moon	-13663-11-05 00:28 J	-3268679.64	-3268679.48	-3268679.32	0.2653	0.0299 *
Neptune	-13662-01-25 00:43 J	-3268598.58	-3268598.47	-3268598.31	0.0088	0.0072
Neptune	-13662-09-07 14:38 J	-3268372.99	-3268372.89	-3268372.78	0.0088	0.0078
Jupiter	-13662-09-25 20:52 J	-3268354.76	-3268354.63	-3268354.50	0.0519	0.0400
Neptune	-13661-04-20 03:50 J	-3268147.38	-3268147.34	-3268147.25	0.0088	0.0085
Jupiter	-13661-05-20 15:07 J	-3268117.04	-3268116.87	-3268116.68	0.0523	0.0245
Jupiter	-13656-07-31 16:33 J	-3266218.97	-3266218.81	-3266218.63	0.0506	0.0273
Jupiter	-13655-03-24 23:02 J	-3265982.70	-3265982.54	-3265982.38	0.0502	0.0290
Saturn	-13654-08-31 07:11 J	-3265458.40	-3265458.20	-3265457.99	0.0282	0.0095
Saturn	-13653-04-17 01:40 J	-3265228.63	-3265228.43	-3265228.23	0.0285	0.0104
Jupiter	-13649-01-24 07:40 J	-3263851.38	-3263851.18	-3263850.97	0.0522	0.0069
Mars	-13645-02-15 00:28 J	-3262368.64	-3262368.48	-3262368.31	0.1805	0.0520
Jupiter	-13644-04-05 15:21 J	-3261952.96	-3261952.86	-3261952.76	0.0507	0.0434
Jupiter	-13644-11-27 22:19 J	-3261716.76	-3261716.57	-3261716.37	0.0503	0.0131
Saturn	-13641-04-06 22:33 J	-3260855.63	-3260855.56	-3260855.47	0.0284	0.0260
Mars	-13641-09-29 18:57 J	-3260679.85	-3260679.71	-3260679.57	0.1711	0.0960
Saturn	-13641-11-22 09:07 J	-3260626.32	-3260626.12	-3260625.91	0.0281	0.0068
Saturn	-13640-07-09 17:02 J	-3260396.98	-3260396.79	-3260396.60	0.0278	0.0116
Mars	-13639-07-29 21:07 J	-3260011.74	-3260011.62	-3260011.50	0.1734	0.1267
Jupiter	-13638-09-29 00:43 J	-3259585.67	-3259585.47	-3259585.26	0.0521	0.0111
Jupiter	-13632-08-03 00:14 J	-3257450.69	-3257450.49	-3257450.29	0.0504	0.0025
Uranus	-13632-11-12 08:24 J	-3257349.21	-3257349.15	-3257349.09	0.0133	0.0127
Uranus	-13631-06-26 14:24 J	-3257123.05	-3257122.90	-3257122.74	0.0133	0.0093
Uranus	-13630-02-07 20:38 J	-3256896.83	-3256896.64	-3256896.44	0.0133	0.0059
Uranus	-13630-09-22 02:38 J	-3256670.60	-3256670.39	-3256670.17	0.0133	0.0025
Uranus	-13629-05-05 08:38 J	-3256444.36	-3256444.14	-3256443.92	0.0132	0.0010
Uranus	-13629-12-17 14:24 J	-3256218.10	-3256217.90	-3256217.69	0.0132	0.0044

Uranus	-13628-07-31 19:55 J	-3255991.83	-3255991.67	-3255991.47	0.0132	0.0079
Uranus	-13627-03-15 02:09 J	-3255765.53	-3255765.41	-3255765.29	0.0132	0.0112
Jupiter	-13626-06-03 16:04 J	-3255320.00	-3255319.83	-3255319.66	0.0519	0.0289
Jupiter	-13625-01-27 10:48 J	-3255082.19	-3255082.05	-3255081.90	0.0523	0.0360
Saturn	-13625-07-25 18:43 J	-3254901.78	-3254901.72	-3254901.63	0.0279	0.0260
Saturn	-13624-03-12 10:33 J	-3254672.26	-3254672.06	-3254671.85	0.0282	0.0070
Saturn	-13624-10-28 05:02 J	-3254442.48	-3254442.29	-3254442.10	0.0285	0.0130
Pluto	-13622-12-25 22:48 J	-3253653.63	-3253653.55	-3253653.46	0.0064	0.0058
Pluto	-13621-08-07 02:52 J	-3253428.58	-3253428.38	-3253428.18	0.0064	0.0025
Pluto	-13620-03-20 06:43 J	-3253203.43	-3253203.22	-3253203.00	0.0065	0.0010
Jupiter	-13620-04-08 02:09 J	-3253184.60	-3253184.41	-3253184.22	0.0506	0.0181
Pluto	-13620-10-31 10:04 J	-3252978.21	-3252978.08	-3252977.90	0.0065	0.0045
Jupiter	-13620-11-30 08:24 J	-3252948.28	-3252948.15	-3252948.02	0.0502	0.0380
Jupiter	-13614-02-06 07:55 J	-3251054.26	-3251054.17	-3251054.08	0.0518	0.0463
Jupiter	-13614-10-02 01:40 J	-3250816.63	-3250816.43	-3250816.24	0.0522	0.0179
Saturn	-13612-10-18 01:40 J	-3250069.54	-3250069.43	-3250069.31	0.0284	0.0237
Mars	-13612-12-12 21:35 J	-3250013.75	-3250013.60	-3250013.46	0.1791	0.0907
Saturn	-13611-06-04 12:00 J	-3249840.20	-3249840.00	-3249839.79	0.0280	0.0046
Saturn	-13610-01-19 19:26 J	-3249610.87	-3249610.69	-3249610.51	0.0277	0.0137
Jupiter	-13609-12-12 04:33 J	-3248918.46	-3248918.31	-3248918.16	0.0507	0.0335
Jupiter	-13608-08-05 11:31 J	-3248682.19	-3248682.02	-3248681.84	0.0503	0.0232
Mars	-13607-07-29 01:11 J	-3248324.62	-3248324.45	-3248324.28	0.1724	0.0193
Jupiter	-13602-06-06 15:50 J	-3246551.04	-3246550.84	-3246550.63	0.0521	0.0012
Jupiter	-13597-08-17 06:28 J	-3244652.28	-3244652.23	-3244652.18	0.0508	0.0490
Jupiter	-13596-04-10 14:09 J	-3244416.11	-3244415.91	-3244415.71	0.0504	0.0078
Saturn	-13595-02-04 20:09 J	-3244115.76	-3244115.66	-3244115.54	0.0279	0.0240
Neptune	-13595-05-18 19:40 J	-3244012.72	-3244012.68	-3244012.63	0.0089	0.0087
Saturn	-13595-09-22 12:00 J	-3243886.20	-3243886.00	-3243885.78	0.0282	0.0050
Neptune	-13595-12-30 07:55 J	-3243787.24	-3243787.17	-3243787.05	0.0089	0.0081
Saturn	-13594-05-10 06:43 J	-3243656.39	-3243656.22	-3243656.03	0.0285	0.0151

Neptune	-13594-08-12 20:52 J	-3243561.73	-3243561.63	-3243561.49	0.0089	0.0074
Neptune	-13593-03-25 09:50 J	-3243336.23	-3243336.09	-3243335.94	0.0089	0.0067
Neptune	-13593-11-05 22:48 J	-3243110.71	-3243110.55	-3243110.39	0.0089	0.0060
Neptune	-13592-06-19 11:16 J	-3242885.19	-3242885.03	-3242884.84	0.0089	0.0053
Neptune	-13591-01-31 00:00 J	-3242659.67	-3242659.50	-3242659.30	0.0089	0.0046
Neptune	-13591-09-13 12:43 J	-3242434.15	-3242433.97	-3242433.77	0.0089	0.0040
Jupiter	-13590-02-09 08:52 J	-3242285.32	-3242285.13	-3242284.93	0.0520	0.0180
Neptune	-13590-04-27 01:26 J	-3242208.63	-3242208.44	-3242208.23	0.0089	0.0033
Jupiter	-13590-10-05 04:19 J	-3242047.40	-3242047.32	-3242047.23	0.0524	0.0472
Neptune	-13590-12-08 14:24 J	-3241983.11	-3241982.90	-3241982.69	0.0089	0.0026
Neptune	-13589-07-21 02:52 J	-3241757.58	-3241757.38	-3241757.16	0.0089	0.0019
Neptune	-13588-03-03 15:35 J	-3241532.06	-3241531.85	-3241531.63	0.0089	0.0012
Uranus	-13588-03-26 20:24 J	-3241508.71	-3241508.65	-3241508.59	0.0145	0.0139
Neptune	-13588-10-15 04:33 J	-3241306.53	-3241306.31	-3241306.10	0.0089	0.0005
Uranus	-13588-11-08 07:11 J	-3241282.35	-3241282.20	-3241282.02	0.0146	0.0096
Neptune	-13587-05-28 17:16 J	-3241081.00	-3241080.78	-3241080.56	0.0089	0.0002
Uranus	-13587-06-22 18:43 J	-3241055.92	-3241055.72	-3241055.51	0.0146	0.0051
Neptune	-13586-01-09 05:45 J	-3240855.47	-3240855.26	-3240855.04	0.0089	0.0009
Uranus	-13586-02-04 06:14 J	-3240829.45	-3240829.24	-3240829.03	0.0146	0.0006
Neptune	-13586-08-22 18:28 J	-3240629.94	-3240629.73	-3240629.51	0.0089	0.0016
Uranus	-13586-09-18 17:45 J	-3240602.96	-3240602.76	-3240602.55	0.0146	0.0038
Neptune	-13585-04-04 06:57 J	-3240404.41	-3240404.21	-3240403.99	0.0089	0.0023
Uranus	-13585-05-02 05:16 J	-3240376.45	-3240376.28	-3240376.10	0.0146	0.0083
Neptune	-13585-11-15 19:55 J	-3240178.87	-3240178.67	-3240178.46	0.0089	0.0030
Jupiter	-13585-12-14 13:26 J	-3240150.13	-3240149.94	-3240149.74	0.0505	0.0085
Uranus	-13585-12-14 16:48 J	-3240149.88	-3240149.80	-3240149.68	0.0146	0.0129 *
Neptune	-13584-06-29 08:38 J	-3239953.33	-3239953.14	-3239952.94	0.0089	0.0036
Jupiter	-13584-08-07 18:57 J	-3239913.77	-3239913.71	-3239913.64	0.0501	0.0473
Neptune	-13583-02-09 21:07 J	-3239727.80	-3239727.62	-3239727.42	0.0089	0.0043
Neptune	-13583-09-23 09:35 J	-3239502.27	-3239502.10	-3239501.91	0.0089	0.0050

Saturn	-13582-04-30 04:19 J	-3239283.45	-3239283.32	-3239283.18	0.0284	0.0213
Neptune	-13582-05-06 22:04 J	-3239276.73	-3239276.58	-3239276.40	0.0089	0.0057
Saturn	-13582-12-15 14:38 J	-3239054.10	-3239053.89	-3239053.68	0.0281	0.0022
Neptune	-13582-12-18 10:48 J	-3239051.19	-3239051.05	-3239050.89	0.0089	0.0064
Neptune	-13581-07-30 23:16 J	-3238825.64	-3238825.53	-3238825.38	0.0089	0.0070
Saturn	-13581-07-31 21:50 J	-3238824.75	-3238824.59	-3238824.41	0.0277	0.0162
Neptune	-13580-03-13 11:45 J	-3238600.10	-3238600.01	-3238599.88	0.0089	0.0077
Neptune	-13580-10-25 00:28 J	-3238374.54	-3238374.48	-3238374.40	0.0089	0.0083
Mars	-13580-12-12 07:55 J	-3238326.35	-3238326.17	-3238326.00	0.1802	0.0344
Jupiter	-13579-10-15 02:09 J	-3238019.55	-3238019.41	-3238019.25	0.0519	0.0355
Jupiter	-13578-06-09 20:52 J	-3237781.79	-3237781.63	-3237781.45	0.0523	0.0297
Mars	-13575-07-28 04:33 J	-3236637.46	-3236637.31	-3236637.16	0.1714	0.0845
Mars	-13573-05-26 06:00 J	-3235969.35	-3235969.25	-3235969.15	0.1737	0.1408
Jupiter	-13573-08-19 15:21 J	-3235884.04	-3235883.86	-3235883.69	0.0506	0.0242
Jupiter	-13572-04-12 21:21 J	-3235647.76	-3235647.61	-3235647.45	0.0502	0.0323
Jupiter	-13566-02-12 12:14 J	-3233516.19	-3233515.99	-3233515.79	0.0522	0.0114
Saturn	-13566-08-17 22:48 J	-3233329.68	-3233329.55	-3233329.41	0.0279	0.0217
Saturn	-13565-04-03 14:38 J	-3233100.10	-3233099.89	-3233099.67	0.0282	0.0027
Earth	-13565-05-10 01:55 J	-3233063.58	-3233063.42	-3233063.26	0.2675	0.0210
Moon	-13565-05-10 07:26 J	-3233063.35	-3233063.19	-3233063.02	0.2673	0.0242 *
Saturn	-13565-11-19 09:21 J	-3232870.27	-3232870.11	-3232869.94	0.0285	0.0175
Jupiter	-13561-04-24 16:48 J	-3231617.92	-3231617.80	-3231617.68	0.0507	0.0398
Jupiter	-13561-12-17 00:00 J	-3231381.69	-3231381.50	-3231381.31	0.0503	0.0171
Jupiter	-13555-10-18 03:21 J	-3229250.57	-3229250.36	-3229250.16	0.0521	0.0068
Saturn	-13553-11-09 05:45 J	-3228497.40	-3228497.26	-3228497.10	0.0283	0.0192
Saturn	-13552-06-26 16:04 J	-3228268.04	-3228267.83	-3228267.62	0.0280	0.0002
Saturn	-13551-02-10 23:16 J	-3228038.69	-3228038.53	-3228038.37	0.0277	0.0180
Jupiter	-13549-08-22 03:07 J	-3227115.57	-3227115.37	-3227115.17	0.0504	0.0018
Mars	-13548-12-11 19:26 J	-3226638.76	-3226638.69	-3226638.62	0.1813	0.1639
Uranus	-13547-02-23 23:31 J	-3226564.64	-3226564.52	-3226564.39	0.0133	0.0109

Uranus	-13547-10-08 05:31 J	-3226338.44	-3226338.27	-3226338.07	0.0133	0.0075
Uranus	-13546-05-22 12:00 J	-3226112.21	-3226112.00	-3226111.79	0.0133	0.0040
Mars	-13546-10-10 04:48 J	-3225971.44	-3225971.30	-3225971.16	0.1787	0.1073
Uranus	-13545-01-03 18:14 J	-3225885.96	-3225885.74	-3225885.52	0.0133	0.0006
Uranus	-13545-08-17 00:14 J	-3225659.71	-3225659.49	-3225659.28	0.0133	0.0029
Uranus	-13544-03-31 05:45 J	-3225433.44	-3225433.26	-3225433.05	0.0132	0.0064
Uranus	-13544-11-12 11:31 J	-3225207.15	-3225207.02	-3225206.85	0.0132	0.0098
Jupiter	-13543-06-22 18:00 J	-3224984.93	-3224984.75	-3224984.57	0.0520	0.0249
Uranus	-13543-06-26 17:45 J	-3224980.79	-3224980.76	-3224980.73	0.0132	0.0131
Jupiter	-13542-02-15 12:57 J	-3224747.09	-3224746.96	-3224746.83	0.0524	0.0405
Mars	-13541-05-25 10:33 J	-3224282.24	-3224282.06	-3224281.89	0.1727	0.0325
Jupiter	-13537-04-27 05:31 J	-3222849.46	-3222849.27	-3222849.08	0.0505	0.0139
Jupiter	-13537-12-19 11:31 J	-3222613.13	-3222613.02	-3222612.91	0.0502	0.0424
Saturn	-13536-02-26 23:16 J	-3222543.67	-3222543.53	-3222543.37	0.0279	0.0198
Saturn	-13536-10-14 15:21 J	-3222314.07	-3222313.86	-3222313.64	0.0282	0.0006
Saturn	-13535-06-01 10:04 J	-3222084.23	-3222084.08	-3222083.92	0.0285	0.0195
Pluto	-13533-11-17 08:52 J	-3221184.26	-3221184.13	-3221183.95	0.0080	0.0057
Pluto	-13532-06-30 20:24 J	-3220958.87	-3220958.65	-3220958.43	0.0079	0.0011
Pluto	-13531-02-11 07:11 J	-3220733.26	-3220733.20	-3220733.15	0.0079	0.0076
Jupiter	-13531-02-25 11:16 J	-3220719.14	-3220719.03	-3220718.90	0.0518	0.0422
Jupiter	-13531-10-21 05:45 J	-3220481.45	-3220481.26	-3220481.08	0.0523	0.0228
Jupiter	-13525-01-01 04:48 J	-3218583.45	-3218583.30	-3218583.13	0.0506	0.0302
Jupiter	-13525-08-24 11:31 J	-3218347.19	-3218347.02	-3218346.85	0.0502	0.0267
Saturn	-13523-05-22 07:26 J	-3217711.35	-3217711.19	-3217711.01	0.0284	0.0170
Saturn	-13522-01-06 17:31 J	-3217481.97	-3217481.77	-3217481.56	0.0280	0.0022
Saturn	-13522-08-24 00:43 J	-3217252.60	-3217252.47	-3217252.32	0.0277	0.0203
Jupiter	-13519-06-25 22:33 J	-3216215.76	-3216215.56	-3216215.35	0.0522	0.0048
Jupiter	-13514-09-06 06:28 J	-3214317.31	-3214317.23	-3214317.15	0.0507	0.0458
Mars	-13514-10-09 14:24 J	-3214284.08	-3214283.90	-3214283.73	0.1798	0.0153
Jupiter	-13513-04-29 13:26 J	-3214081.13	-3214080.94	-3214080.74	0.0503	0.0113

Neptune	-13512-09-26 04:19 J	-3213566.40	-3213566.32	-3213566.24	0.0088	0.0081
Neptune	-13511-05-09 17:02 J	-3213340.88	-3213340.79	-3213340.65	0.0088	0.0075
Neptune	-13511-12-21 06:43 J	-3213115.35	-3213115.22	-3213115.07	0.0088	0.0068
Neptune	-13510-08-03 19:40 J	-3212889.81	-3212889.68	-3212889.50	0.0088	0.0062
Neptune	-13509-03-16 09:07 J	-3212664.27	-3212664.12	-3212663.93	0.0088	0.0055
Mars	-13509-05-24 13:55 J	-3212595.08	-3212594.92	-3212594.76	0.1717	0.0724
Neptune	-13509-10-27 22:33 J	-3212438.73	-3212438.56	-3212438.36	0.0088	0.0048
Neptune	-13508-06-10 12:00 J	-3212213.19	-3212213.00	-3212212.79	0.0088	0.0041
Neptune	-13507-01-22 01:26 J	-3211987.64	-3211987.44	-3211987.23	0.0088	0.0035
Jupiter	-13507-02-28 14:24 J	-3211950.10	-3211949.90	-3211949.70	0.0520	0.0133
Mars	-13507-03-23 14:24 J	-3211926.97	-3211926.90	-3211926.82	0.1740	0.1553
Neptune	-13507-09-04 14:38 J	-3211762.09	-3211761.89	-3211761.67	0.0088	0.0028
Saturn	-13507-09-09 01:26 J	-3211757.60	-3211757.44	-3211757.27	0.0279	0.0176
Jupiter	-13507-10-24 09:21 J	-3211712.12	-3211712.11	-3211712.08	0.0524	0.0521
Neptune	-13506-04-18 03:50 J	-3211536.54	-3211536.34	-3211536.11	0.0088	0.0021
Saturn	-13506-04-26 17:31 J	-3211527.98	-3211527.77	-3211527.55	0.0282	0.0017
Neptune	-13506-11-29 17:31 J	-3211310.99	-3211310.77	-3211310.54	0.0088	0.0014
Saturn	-13506-12-12 12:43 J	-3211298.11	-3211297.97	-3211297.83	0.0285	0.0219
Neptune	-13505-07-12 06:57 J	-3211085.43	-3211085.21	-3211084.99	0.0088	0.0007
Neptune	-13504-02-22 20:24 J	-3210859.88	-3210859.65	-3210859.43	0.0088	0.0002
Uranus	-13504-07-08 14:38 J	-3210724.01	-3210723.89	-3210723.75	0.0145	0.0116
Neptune	-13504-10-06 09:35 J	-3210634.32	-3210634.10	-3210633.88	0.0088	0.0007
Uranus	-13503-02-20 01:55 J	-3210497.60	-3210497.42	-3210497.23	0.0146	0.0072
Neptune	-13503-05-19 22:48 J	-3210408.77	-3210408.55	-3210408.32	0.0088	0.0014
Uranus	-13503-10-04 13:11 J	-3210271.16	-3210270.95	-3210270.73	0.0146	0.0027
Neptune	-13503-12-31 12:14 J	-3210183.20	-3210182.99	-3210182.77	0.0088	0.0021
Uranus	-13502-05-19 00:43 J	-3210044.68	-3210044.47	-3210044.26	0.0146	0.0017
Neptune	-13502-08-14 01:26 J	-3209957.64	-3209957.44	-3209957.21	0.0088	0.0028
Uranus	-13502-12-31 12:14 J	-3209818.18	-3209817.99	-3209817.79	0.0146	0.0062
Jupiter	-13501-01-03 15:50 J	-3209815.04	-3209814.84	-3209814.64	0.0505	0.0045

Neptune	-13501-03-26 15:07 J	-3209732.07	-3209731.87	-3209731.66	0.0088	0.0035
Uranus	-13501-08-13 23:45 J	-3209591.64	-3209591.51	-3209591.35	0.0146	0.0107
Neptune	-13501-11-07 04:19 J	-3209506.51	-3209506.32	-3209506.11	0.0088	0.0042
Neptune	-13500-06-20 17:31 J	-3209280.94	-3209280.77	-3209280.57	0.0088	0.0049
Neptune	-13499-02-01 06:57 J	-3209055.36	-3209055.21	-3209055.02	0.0088	0.0056
Neptune	-13499-09-14 20:24 J	-3208829.79	-3208829.65	-3208829.47	0.0088	0.0062
Neptune	-13498-04-28 10:19 J	-3208604.21	-3208604.07	-3208603.93	0.0088	0.0069
Neptune	-13498-12-09 23:45 J	-3208378.62	-3208378.51	-3208378.39	0.0088	0.0076
Neptune	-13497-07-22 12:57 J	-3208153.02	-3208152.96	-3208152.86	0.0088	0.0083
Jupiter	-13496-11-03 05:45 J	-3207684.42	-3207684.26	-3207684.09	0.0519	0.0312
Jupiter	-13495-06-29 00:14 J	-3207446.64	-3207446.49	-3207446.33	0.0523	0.0341
Saturn	-13494-12-02 08:38 J	-3206925.32	-3206925.14	-3206924.96	0.0283	0.0150
Saturn	-13493-07-18 18:28 J	-3206695.93	-3206695.73	-3206695.52	0.0280	0.0041
Saturn	-13492-03-05 01:26 J	-3206466.56	-3206466.44	-3206466.31	0.0277	0.0221
Jupiter	-13490-09-08 18:28 J	-3205548.91	-3205548.73	-3205548.54	0.0506	0.0200
Jupiter	-13489-05-02 00:57 J	-3205312.59	-3205312.46	-3205312.32	0.0502	0.0368
Jupiter	-13484-07-08 21:07 J	-3203418.68	-3203418.62	-3203418.55	0.0518	0.0488
Jupiter	-13483-03-03 14:52 J	-3203181.07	-3203180.88	-3203180.68	0.0522	0.0159
Mars	-13482-10-09 01:40 J	-3202596.53	-3202596.43	-3202596.33	0.1809	0.1437
Mars	-13480-08-06 11:45 J	-3201929.13	-3201929.01	-3201928.89	0.1784	0.1246
Jupiter	-13478-05-14 20:38 J	-3201282.78	-3201282.64	-3201282.50	0.0507	0.0357
Jupiter	-13477-01-06 03:35 J	-3201046.53	-3201046.35	-3201046.16	0.0503	0.0216
Saturn	-13477-03-21 02:09 J	-3200971.58	-3200971.41	-3200971.23	0.0279	0.0157
Saturn	-13477-11-05 18:14 J	-3200741.95	-3200741.74	-3200741.52	0.0282	0.0037
Saturn	-13476-06-23 13:11 J	-3200512.06	-3200511.95	-3200511.82	0.0286	0.0239
Mars	-13475-03-22 19:26 J	-3200239.86	-3200239.69	-3200239.52	0.1730	0.0456
Jupiter	-13472-11-06 07:40 J	-3198915.39	-3198915.18	-3198914.97	0.0521	0.0020
Jupiter	-13466-09-11 03:50 J	-3196780.54	-3196780.34	-3196780.14	0.0504	0.0054
Saturn	-13464-06-13 09:21 J	-3196139.29	-3196139.11	-3196138.92	0.0283	0.0129
Uranus	-13464-10-24 08:38 J	-3196006.19	-3196006.14	-3196006.04	0.0133	0.0126

Saturn	-13463-01-28 19:11 J	-3195909.90	-3195909.70	-3195909.49	0.0280	0.0062
Uranus	-13463-06-07 15:21 J	-3195780.01	-3195779.86	-3195779.69	0.0133	0.0090
Saturn	-13463-09-15 01:55 J	-3195680.50	-3195680.42	-3195680.31	0.0277	0.0244
Uranus	-13462-01-19 21:35 J	-3195553.79	-3195553.60	-3195553.38	0.0133	0.0056
Uranus	-13462-09-03 04:04 J	-3195327.55	-3195327.33	-3195327.11	0.0133	0.0021
Uranus	-13461-04-16 10:19 J	-3195101.29	-3195101.07	-3195100.85	0.0133	0.0014
Uranus	-13461-11-28 15:50 J	-3194875.03	-3194874.84	-3194874.62	0.0133	0.0049
Jupiter	-13460-07-12 00:28 J	-3194649.66	-3194649.48	-3194649.28	0.0520	0.0200
Uranus	-13460-07-12 21:50 J	-3194648.75	-3194648.59	-3194648.40	0.0132	0.0083
Uranus	-13459-02-24 03:50 J	-3194422.43	-3194422.34	-3194422.22	0.0132	0.0117
Jupiter	-13459-03-06 20:24 J	-3194411.75	-3194411.65	-3194411.56	0.0524	0.0458
Jupiter	-13454-05-17 05:45 J	-3192514.46	-3192514.26	-3192514.06	0.0505	0.0104
Jupiter	-13453-01-08 11:02 J	-3192278.11	-3192278.04	-3192277.95	0.0501	0.0460
Jupiter	-13448-03-16 16:48 J	-3190383.93	-3190383.80	-3190383.65	0.0519	0.0377
Mars	-13448-08-05 21:35 J	-3190241.77	-3190241.60	-3190241.43	0.1795	0.0026
Saturn	-13448-10-01 04:19 J	-3190185.51	-3190185.32	-3190185.13	0.0279	0.0135
Jupiter	-13448-11-09 11:16 J	-3190146.20	-3190146.03	-3190145.85	0.0523	0.0277
Saturn	-13447-05-18 20:24 J	-3189955.86	-3189955.65	-3189955.43	0.0282	0.0059
Saturn	-13446-01-03 15:35 J	-3189725.92	-3189725.85	-3189725.76	0.0286	0.0262
Mars	-13443-03-21 23:45 J	-3188552.68	-3188552.51	-3188552.35	0.1720	0.0607
Jupiter	-13442-01-20 07:26 J	-3188248.36	-3188248.19	-3188248.02	0.0506	0.0262
Jupiter	-13442-09-13 13:55 J	-3188012.07	-3188011.92	-3188011.75	0.0503	0.0309
Mars	-13441-01-18 22:48 J	-3187884.59	-3187884.55	-3187884.52	0.1744	0.1701
Jupiter	-13436-07-15 02:24 J	-3185880.60	-3185880.40	-3185880.20	0.0522	0.0094
Saturn	-13435-12-24 10:19 J	-3185353.26	-3185353.07	-3185352.88	0.0283	0.0109
Saturn	-13434-08-10 19:55 J	-3185123.87	-3185123.67	-3185123.47	0.0280	0.0081
Saturn	-13433-03-27 02:52 J	-3184894.45	-3184894.38	-3184894.31	0.0277	0.0260
Jupiter	-13431-09-25 09:21 J	-3183982.21	-3183982.11	-3183981.99	0.0508	0.0419
Neptune	-13430-04-02 17:16 J	-3183792.81	-3183792.78	-3183792.69	0.0089	0.0086
Jupiter	-13430-05-19 17:02 J	-3183745.98	-3183745.79	-3183745.60	0.0504	0.0156

Neptune	-13430-11-14 06:14 J	-3183567.32	-3183567.24	-3183567.11	0.0089	0.0079
Neptune	-13429-06-26 19:26 J	-3183341.80	-3183341.69	-3183341.55	0.0089	0.0072
Neptune	-13428-02-07 08:09 J	-3183116.29	-3183116.16	-3183116.00	0.0089	0.0065
Neptune	-13428-09-20 20:52 J	-3182890.78	-3182890.63	-3182890.45	0.0089	0.0058
Neptune	-13427-05-04 09:50 J	-3182665.26	-3182665.09	-3182664.91	0.0089	0.0051
Neptune	-13427-12-15 22:33 J	-3182439.74	-3182439.56	-3182439.37	0.0089	0.0044
Neptune	-13426-07-29 11:16 J	-3182214.22	-3182214.03	-3182213.83	0.0089	0.0037
Neptune	-13425-03-11 00:00 J	-3181988.70	-3181988.50	-3181988.29	0.0089	0.0030
Neptune	-13425-10-22 12:43 J	-3181763.18	-3181762.97	-3181762.76	0.0089	0.0023
Jupiter	-13424-03-19 17:02 J	-3181614.99	-3181614.79	-3181614.58	0.0521	0.0091
Neptune	-13424-06-05 01:26 J	-3181537.65	-3181537.44	-3181537.22	0.0089	0.0016
Neptune	-13423-01-16 14:09 J	-3181312.12	-3181311.91	-3181311.69	0.0089	0.0009
Neptune	-13423-08-30 02:52 J	-3181086.60	-3181086.38	-3181086.16	0.0089	0.0002
Neptune	-13422-04-12 15:21 J	-3180861.07	-3180860.86	-3180860.64	0.0089	0.0006
Neptune	-13422-11-24 04:04 J	-3180635.54	-3180635.33	-3180635.11	0.0089	0.0013
Neptune	-13421-07-06 17:02 J	-3180410.00	-3180409.79	-3180409.58	0.0089	0.0019
Neptune	-13420-02-17 05:31 J	-3180184.47	-3180184.27	-3180184.06	0.0089	0.0026
Uranus	-13420-03-08 00:00 J	-3180165.58	-3180165.50	-3180165.42	0.0145	0.0134
Neptune	-13420-09-30 18:00 J	-3179958.94	-3179958.75	-3179958.54	0.0089	0.0034
Uranus	-13420-10-20 10:48 J	-3179939.20	-3179939.05	-3179938.87	0.0145	0.0090
Moon	-13420-11-04 19:11 J	-3179923.85	-3179923.70	-3179923.55	0.2662	0.0252
Earth	-13420-11-05 00:14 J	-3179923.65	-3179923.49	-3179923.34	0.2659	0.0391 *
Neptune	-13419-05-14 06:43 J	-3179733.40	-3179733.22	-3179733.02	0.0089	0.0040
Uranus	-13419-06-03 22:04 J	-3179712.78	-3179712.58	-3179712.37	0.0146	0.0046
Neptune	-13419-12-25 19:11 J	-3179507.87	-3179507.70	-3179507.50	0.0089	0.0048
Uranus	-13418-01-16 09:35 J	-3179486.31	-3179486.10	-3179485.89	0.0146	0.0001
Jupiter	-13418-01-22 19:40 J	-3179479.88	-3179479.68	-3179479.48	0.0504	0.0001
Saturn	-13418-04-13 05:02 J	-3179399.48	-3179399.29	-3179399.09	0.0279	0.0116
Neptune	-13418-08-08 07:55 J	-3179282.33	-3179282.17	-3179281.98	0.0089	0.0054
Uranus	-13418-08-30 20:52 J	-3179259.82	-3179259.63	-3179259.41	0.0146	0.0044

Saturn	-13418-11-28 21:35 J	-3179169.80	-3179169.60	-3179169.39	0.0283	0.0080
Neptune	-13417-03-20 20:24 J	-3179056.79	-3179056.65	-3179056.48	0.0089	0.0061
Uranus	-13417-04-13 08:38 J	-3179033.31	-3179033.14	-3179032.97	0.0146	0.0088
Saturn	-13417-07-15 16:48 J	-3178939.82	-3178939.80	-3178939.77	0.0286	0.0283
Neptune	-13417-11-01 08:52 J	-3178831.25	-3178831.13	-3178830.97	0.0089	0.0068
Uranus	-13417-11-25 19:55 J	-3178806.74	-3178806.67	-3178806.57	0.0146	0.0133
Neptune	-13416-06-14 21:21 J	-3178605.70	-3178605.61	-3178605.47	0.0089	0.0075
Mars	-13416-08-05 07:55 J	-3178554.29	-3178554.17	-3178554.04	0.1806	0.1241
Neptune	-13415-01-26 10:19 J	-3178380.15	-3178380.07	-3178379.97	0.0089	0.0081
Neptune	-13415-09-08 22:33 J	-3178154.57	-3178154.56	-3178154.51	0.0089	0.0088
Mars	-13414-06-03 19:55 J	-3177886.77	-3177886.67	-3177886.56	0.1780	0.1397
Jupiter	-13413-11-22 09:50 J	-3177349.26	-3177349.09	-3177348.91	0.0520	0.0268
Jupiter	-13412-07-18 04:48 J	-3177111.43	-3177111.30	-3177111.16	0.0524	0.0391
Mars	-13411-03-21 01:55 J	-3176865.47	-3176865.42	-3176865.36	0.1711	0.1612
Mars	-13409-01-18 04:33 J	-3176197.47	-3176197.31	-3176197.14	0.1733	0.0588
Jupiter	-13407-09-27 19:55 J	-3175213.86	-3175213.67	-3175213.48	0.0505	0.0163
Jupiter	-13406-05-22 01:26 J	-3174977.56	-3174977.44	-3174977.32	0.0502	0.0404
Saturn	-13406-11-18 22:33 J	-3174796.56	-3174796.56	-3174796.54	0.0286	0.0286
Saturn	-13405-07-05 11:16 J	-3174567.23	-3174567.03	-3174566.83	0.0283	0.0088
Saturn	-13404-02-19 20:52 J	-3174337.82	-3174337.63	-3174337.43	0.0280	0.0102
Jupiter	-13401-07-28 02:38 J	-3173083.49	-3173083.39	-3173083.28	0.0519	0.0445
Jupiter	-13400-03-22 21:21 J	-3172845.79	-3172845.61	-3172845.42	0.0523	0.0211
Jupiter	-13395-06-02 21:35 J	-3170947.75	-3170947.60	-3170947.45	0.0506	0.0322
Jupiter	-13394-01-25 03:50 J	-3170711.52	-3170711.34	-3170711.17	0.0502	0.0251
Saturn	-13389-10-23 08:09 J	-3168613.36	-3168613.16	-3168612.96	0.0279	0.0093
Jupiter	-13389-11-25 12:57 J	-3168580.17	-3168579.96	-3168579.76	0.0521	0.0028
Saturn	-13388-06-10 00:28 J	-3168383.68	-3168383.48	-3168383.27	0.0282	0.0103
Jupiter	-13383-02-05 22:33 J	-3166681.62	-3166681.56	-3166681.49	0.0508	0.0480
Jupiter	-13383-09-30 06:14 J	-3166445.44	-3166445.24	-3166445.05	0.0504	0.0096
Mars	-13382-06-03 04:48 J	-3166199.47	-3166199.30	-3166199.13	0.1791	0.0201

Uranus	-13379-02-05 00:43 J	-3165221.59	-3165221.47	-3165221.32	0.0133	0.0106
Uranus	-13379-09-19 07:11 J	-3164995.37	-3164995.20	-3164995.00	0.0133	0.0071
Uranus	-13378-05-03 13:40 J	-3164769.14	-3164768.93	-3164768.71	0.0133	0.0036
Uranus	-13378-12-15 19:55 J	-3164542.89	-3164542.67	-3164542.45	0.0133	0.0002
Mars	-13377-01-17 08:38 J	-3164510.31	-3164510.14	-3164509.97	0.1723	0.0479
Uranus	-13377-07-29 01:55 J	-3164316.63	-3164316.42	-3164316.20	0.0133	0.0034
Jupiter	-13377-07-31 04:19 J	-3164314.51	-3164314.32	-3164314.12	0.0520	0.0155
Uranus	-13376-03-12 08:09 J	-3164090.35	-3164090.16	-3164089.97	0.0133	0.0068
Jupiter	-13376-03-25 23:31 J	-3164076.57	-3164076.52	-3164076.46	0.0524	0.0504
Saturn	-13376-05-31 00:00 J	-3164010.57	-3164010.50	-3164010.42	0.0286	0.0265
Uranus	-13376-10-24 14:09 J	-3163864.05	-3163863.91	-3163863.77	0.0133	0.0102
Saturn	-13375-01-15 12:14 J	-3163781.19	-3163780.99	-3163780.79	0.0283	0.0068
Saturn	-13375-09-01 21:35 J	-3163551.79	-3163551.60	-3163551.41	0.0280	0.0121
Pluto	-13373-07-10 02:24 J	-3162874.46	-3162874.40	-3162874.30	0.0064	0.0059
Pluto	-13372-02-20 06:28 J	-3162649.42	-3162649.23	-3162649.02	0.0064	0.0026
Pluto	-13372-10-03 10:33 J	-3162424.27	-3162424.06	-3162423.84	0.0064	0.0009
Pluto	-13371-05-16 14:09 J	-3162199.05	-3162198.91	-3162198.73	0.0065	0.0044
Jupiter	-13371-06-05 08:38 J	-3162179.34	-3162179.14	-3162178.94	0.0505	0.0062
Jupiter	-13365-04-04 19:26 J	-3160048.85	-3160048.69	-3160048.54	0.0519	0.0336
Jupiter	-13365-11-28 13:40 J	-3159811.09	-3159810.93	-3159810.77	0.0523	0.0322
Saturn	-13360-09-17 19:55 J	-3158056.73	-3158056.67	-3158056.58	0.0277	0.0257
Jupiter	-13359-02-08 11:02 J	-3157913.22	-3157913.04	-3157912.86	0.0506	0.0220
Saturn	-13359-05-05 09:50 J	-3157827.30	-3157827.09	-3157826.88	0.0280	0.0071
Jupiter	-13359-10-02 17:16 J	-3157676.92	-3157676.78	-3157676.63	0.0502	0.0353
Saturn	-13359-12-21 02:24 J	-3157597.58	-3157597.40	-3157597.20	0.0283	0.0126
Jupiter	-13354-12-09 12:14 J	-3155783.02	-3155782.99	-3155782.96	0.0518	0.0510
Jupiter	-13353-08-03 06:00 J	-3155545.45	-3155545.25	-3155545.05	0.0522	0.0141
Mars	-13350-06-02 14:38 J	-3154512.03	-3154511.89	-3154511.75	0.1802	0.1045
Mars	-13348-03-31 03:35 J	-3153844.43	-3153844.35	-3153844.27	0.1777	0.1556
Jupiter	-13348-10-14 11:31 J	-3153647.15	-3153647.02	-3153646.89	0.0507	0.0382

Neptune -13348-12-28 13:55 J -3153571.94 -3153571.92 -3153571.86 0.0088 0.0086
 Jupiter -13347-06-07 17:45 J -3153410.95 -3153410.76 -3153410.57 0.0503 0.0193
 Neptune -13347-08-11 03:21 J -3153346.44 -3153346.36 -3153346.26 0.0088 0.0079
 Saturn -13347-12-11 01:11 J -3153224.55 -3153224.45 -3153224.34 0.0286 0.0244
 Neptune -13346-03-24 16:04 J -3153120.93 -3153120.83 -3153120.68 0.0088 0.0073
 Saturn -13346-07-28 13:40 J -3152995.14 -3152994.93 -3152994.73 0.0283 0.0046
 Neptune -13346-11-05 05:31 J -3152895.39 -3152895.27 -3152895.10 0.0088 0.0066
 Mars -13345-01-16 11:31 J -3152823.10 -3152823.02 -3152822.94 0.1714 0.1497
 Saturn -13345-03-13 23:02 J -3152765.72 -3152765.54 -3152765.36 0.0280 0.0143
 Neptune -13345-06-17 18:57 J -3152669.86 -3152669.71 -3152669.53 0.0088 0.0059
 Neptune -13344-01-29 08:24 J -3152444.32 -3152444.15 -3152443.96 0.0088 0.0052
 Neptune -13344-09-11 21:35 J -3152218.78 -3152218.60 -3152218.40 0.0088 0.0045
 Mars -13344-11-14 13:26 J -3152155.10 -3152154.94 -3152154.79 0.1736 0.0729
 Neptune -13343-04-25 11:02 J -3151993.24 -3151993.04 -3151992.83 0.0088 0.0038
 Neptune -13343-12-07 00:28 J -3151767.68 -3151767.48 -3151767.26 0.0088 0.0031
 Neptune -13342-07-20 13:55 J -3151542.13 -3151541.92 -3151541.70 0.0088 0.0024
 Neptune -13341-03-02 03:21 J -3151316.58 -3151316.36 -3151316.14 0.0088 0.0017
 Jupiter -13341-04-07 22:04 J -3151279.78 -3151279.58 -3151279.37 0.0521 0.0043
 Neptune -13341-10-13 16:33 J -3151091.03 -3151090.81 -3151090.59 0.0088 0.0010
 Neptune -13340-05-27 06:00 J -3150865.48 -3150865.25 -3150865.03 0.0088 0.0003
 Neptune -13339-01-07 19:26 J -3150639.92 -3150639.69 -3150639.47 0.0088 0.0004
 Neptune -13339-08-21 08:38 J -3150414.36 -3150414.14 -3150413.91 0.0088 0.0011
 Neptune -13338-04-03 21:50 J -3150188.80 -3150188.59 -3150188.36 0.0088 0.0018
 Neptune -13338-11-15 11:02 J -3149963.24 -3149963.04 -3149962.81 0.0088 0.0026
 Neptune -13337-06-28 00:28 J -3149737.68 -3149737.48 -3149737.26 0.0088 0.0032
 Neptune -13336-02-08 13:40 J -3149512.11 -3149511.93 -3149511.71 0.0088 0.0040
 Uranus -13336-06-19 20:09 J -3149380.79 -3149380.66 -3149380.50 0.0145 0.0109
 Neptune -13336-09-22 03:07 J -3149286.54 -3149286.37 -3149286.16 0.0088 0.0046
 Uranus -13335-02-01 07:26 J -3149154.37 -3149154.19 -3149153.99 0.0145 0.0064
 Jupiter -13335-02-10 19:55 J -3149144.87 -3149144.67 -3149144.47 0.0504 0.0035

Neptune	-13335-05-05 16:19 J	-3149060.98	-3149060.82	-3149060.62	0.0088	0.0053
Uranus	-13335-09-15 18:57 J	-3148927.92	-3148927.71	-3148927.50	0.0146	0.0019
Neptune	-13335-12-17 06:28 J	-3148835.39	-3148835.23	-3148835.07	0.0088	0.0060
Uranus	-13334-04-30 06:14 J	-3148701.45	-3148701.24	-3148701.02	0.0146	0.0025
Neptune	-13334-07-30 19:40 J	-3148609.82	-3148609.68	-3148609.53	0.0088	0.0067
Uranus	-13334-12-12 17:45 J	-3148474.95	-3148474.76	-3148474.57	0.0146	0.0070
Neptune	-13333-03-12 09:07 J	-3148384.23	-3148384.12	-3148383.99	0.0088	0.0074
Uranus	-13333-07-26 05:16 J	-3148248.40	-3148248.28	-3148248.14	0.0146	0.0115
Neptune	-13333-10-23 22:19 J	-3148158.64	-3148158.57	-3148158.46	0.0088	0.0081
Neptune	-13332-06-06 11:45 J	-3147933.02	-3147933.01	-3147932.96	0.0088	0.0087
Saturn	-13330-03-30 23:31 J	-3147270.62	-3147270.52	-3147270.39	0.0276	0.0235
Saturn	-13330-11-15 13:40 J	-3147041.14	-3147040.93	-3147040.72	0.0280	0.0047
Jupiter	-13330-12-12 13:55 J	-3147014.10	-3147013.92	-3147013.73	0.0520	0.0224
Saturn	-13329-07-02 06:14 J	-3146811.41	-3146811.24	-3146811.05	0.0283	0.0150
Jupiter	-13329-08-06 09:07 J	-3146776.22	-3146776.12	-3146776.00	0.0524	0.0439
Jupiter	-13324-10-16 21:35 J	-3144878.80	-3144878.60	-3144878.41	0.0505	0.0124
Jupiter	-13323-06-10 03:07 J	-3144642.46	-3144642.37	-3144642.28	0.0502	0.0445
Moon	-13322-05-10 18:57 J	-3144307.86	-3144307.71	-3144307.56	0.2673	0.1005
Earth	-13322-05-11 00:43 J	-3144307.63	-3144307.47	-3144307.31	0.2673	0.0293 *
Jupiter	-13318-08-17 05:45 J	-3142748.38	-3142748.26	-3142748.12	0.0519	0.0403
Jupiter	-13317-04-11 00:14 J	-3142510.67	-3142510.49	-3142510.31	0.0523	0.0256
Saturn	-13317-06-22 03:35 J	-3142438.47	-3142438.35	-3142438.21	0.0286	0.0222
Saturn	-13316-02-06 15:35 J	-3142209.06	-3142208.85	-3142208.64	0.0283	0.0025
Mars	-13316-03-30 12:14 J	-3142157.16	-3142156.99	-3142156.82	0.1788	0.0371
Saturn	-13316-09-24 00:43 J	-3141979.64	-3141979.47	-3141979.30	0.0279	0.0163
Jupiter	-13312-06-21 23:16 J	-3140612.69	-3140612.53	-3140612.36	0.0506	0.0283
Mars	-13312-11-13 18:00 J	-3140467.92	-3140467.75	-3140467.58	0.1726	0.0353
Jupiter	-13311-02-13 06:00 J	-3140376.42	-3140376.25	-3140376.09	0.0503	0.0293
Jupiter	-13306-12-15 14:09 J	-3138245.11	-3138244.91	-3138244.70	0.0521	0.0070
Saturn	-13301-10-10 02:38 J	-3136484.52	-3136484.39	-3136484.24	0.0277	0.0211

Jupiter	-13300-02-25 01:11 J	-3136346.55	-3136346.45	-3136346.35	0.0508	0.0442
Saturn	-13300-05-27 17:02 J	-3136255.01	-3136254.79	-3136254.58	0.0280	0.0023
Jupiter	-13300-10-19 08:24 J	-3136110.34	-3136110.15	-3136109.95	0.0504	0.0138
Saturn	-13299-01-12 09:50 J	-3136025.25	-3136025.09	-3136024.92	0.0283	0.0176
Uranus	-13296-10-05 10:48 J	-3134663.11	-3134663.05	-3134662.93	0.0133	0.0122
Uranus	-13295-05-19 17:31 J	-3134436.92	-3134436.77	-3134436.59	0.0133	0.0086
Uranus	-13294-01-01 00:00 J	-3134210.69	-3134210.50	-3134210.28	0.0133	0.0051
Uranus	-13294-08-15 06:28 J	-3133984.45	-3133984.23	-3133984.01	0.0133	0.0016
Jupiter	-13294-08-20 06:28 J	-3133979.43	-3133979.23	-3133979.03	0.0521	0.0114
Uranus	-13293-03-28 12:43 J	-3133758.19	-3133757.97	-3133757.75	0.0133	0.0019
Uranus	-13293-11-09 18:28 J	-3133531.92	-3133531.73	-3133531.52	0.0133	0.0054
Uranus	-13292-06-24 00:28 J	-3133305.63	-3133305.48	-3133305.31	0.0133	0.0088
Uranus	-13291-02-05 06:43 J	-3133079.30	-3133079.22	-3133079.13	0.0132	0.0122
Jupiter	-13288-06-24 09:21 J	-3131844.31	-3131844.11	-3131843.91	0.0504	0.0026
Saturn	-13287-01-02 05:45 J	-3131652.40	-3131652.26	-3131652.10	0.0285	0.0199
Saturn	-13287-08-19 17:45 J	-3131422.97	-3131422.76	-3131422.55	0.0282	0.0002
Saturn	-13286-04-06 02:38 J	-3131193.54	-3131193.39	-3131193.23	0.0279	0.0186
Mars	-13284-03-29 21:35 J	-3130469.75	-3130469.60	-3130469.44	0.1799	0.0865
Pluto	-13284-06-02 12:57 J	-3130405.10	-3130404.96	-3130404.77	0.0080	0.0055
Pluto	-13283-01-14 00:28 J	-3130179.70	-3130179.48	-3130179.26	0.0079	0.0012
Pluto	-13283-08-27 11:02 J	-3129954.06	-3129954.04	-3129954.00	0.0079	0.0078
Mars	-13282-01-26 11:45 J	-3129802.05	-3129802.01	-3129801.96	0.1774	0.1704
Jupiter	-13282-04-24 22:04 J	-3129713.75	-3129713.58	-3129713.41	0.0520	0.0296
Jupiter	-13282-12-18 17:31 J	-3129475.91	-3129475.77	-3129475.62	0.0524	0.0369
Mars	-13280-11-12 21:21 J	-3128780.71	-3128780.61	-3128780.51	0.1716	0.1383
Mars	-13278-09-11 22:19 J	-3128112.72	-3128112.57	-3128112.42	0.1739	0.0864
Jupiter	-13276-02-27 11:02 J	-3127578.23	-3127578.04	-3127577.85	0.0505	0.0185
Jupiter	-13276-10-21 16:19 J	-3127341.94	-3127341.82	-3127341.69	0.0502	0.0386
Saturn	-13271-04-22 07:40 J	-3125698.33	-3125698.18	-3125698.02	0.0277	0.0187
Saturn	-13271-12-07 22:04 J	-3125468.79	-3125468.58	-3125468.36	0.0280	0.0007

Jupiter -13271-12-28 14:09 J -3125447.98 -3125447.91 -3125447.82 0.0518 0.0473
 Saturn -13270-07-25 15:21 J -3125239.01 -3125238.86 -3125238.71 0.0283 0.0202
 Jupiter -13270-08-23 08:38 J -3125210.33 -3125210.14 -3125209.95 0.0523 0.0185
 Neptune -13265-02-15 16:04 J -3123572.88 -3123572.83 -3123572.72 0.0089 0.0084
 Neptune -13265-09-28 05:02 J -3123347.38 -3123347.29 -3123347.16 0.0089 0.0077
 Jupiter -13265-11-02 11:45 J -3123312.16 -3123312.01 -3123311.87 0.0507 0.0347
 Neptune -13264-05-11 18:00 J -3123121.87 -3123121.75 -3123121.60 0.0089 0.0069
 Jupiter -13264-06-26 18:14 J -3123075.92 -3123075.74 -3123075.56 0.0503 0.0231
 Neptune -13264-12-23 06:43 J -3122896.35 -3122896.22 -3122896.04 0.0089 0.0063
 Neptune -13263-08-05 19:26 J -3122670.84 -3122670.69 -3122670.50 0.0089 0.0056
 Neptune -13262-03-19 08:09 J -3122445.32 -3122445.16 -3122444.95 0.0089 0.0049
 Neptune -13262-10-30 21:21 J -3122219.80 -3122219.61 -3122219.41 0.0089 0.0041
 Neptune -13261-06-12 10:19 J -3121994.27 -3121994.07 -3121993.87 0.0089 0.0034
 Neptune -13260-01-23 22:48 J -3121768.75 -3121768.55 -3121768.34 0.0089 0.0027
 Neptune -13260-09-06 11:31 J -3121543.23 -3121543.02 -3121542.80 0.0089 0.0019
 Neptune -13259-04-20 00:14 J -3121317.70 -3121317.49 -3121317.27 0.0089 0.0012
 Neptune -13259-12-01 12:57 J -3121092.18 -3121091.96 -3121091.74 0.0089 0.0005
 Jupiter -13258-04-27 23:45 J -3120944.72 -3120944.51 -3120944.30 0.0521 0.0003
 Neptune -13258-07-15 01:40 J -3120866.64 -3120866.43 -3120866.21 0.0089 0.0003
 Saturn -13258-07-15 09:21 J -3120866.27 -3120866.11 -3120865.94 0.0285 0.0175 *
 Neptune -13257-02-25 14:24 J -3120641.12 -3120640.90 -3120640.68 0.0089 0.0009
 Saturn -13257-02-29 20:52 J -3120636.84 -3120636.63 -3120636.42 0.0282 0.0021
 Neptune -13257-10-08 02:52 J -3120415.59 -3120415.38 -3120415.16 0.0089 0.0016
 Saturn -13257-10-16 05:31 J -3120407.40 -3120407.27 -3120407.13 0.0279 0.0208
 Neptune -13256-05-21 15:35 J -3120190.05 -3120189.85 -3120189.64 0.0089 0.0023
 Neptune -13255-01-02 04:19 J -3119964.52 -3119964.32 -3119964.11 0.0089 0.0030
 Neptune -13255-08-15 17:02 J -3119738.98 -3119738.79 -3119738.59 0.0089 0.0038
 Neptune -13254-03-29 05:45 J -3119513.45 -3119513.26 -3119513.07 0.0089 0.0045
 Neptune -13254-11-09 18:28 J -3119287.91 -3119287.73 -3119287.56 0.0089 0.0052
 Neptune -13253-06-22 07:11 J -3119062.36 -3119062.20 -3119062.04 0.0089 0.0059

Jupiter	-13253-07-08 12:43 J	-3119045.98	-3119045.97	-3119045.95	0.0508	0.0505
Neptune	-13252-02-02 19:40 J	-3118836.82	-3118836.68	-3118836.53	0.0089	0.0066
Uranus	-13252-02-17 04:48 J	-3118822.38	-3118822.30	-3118822.18	0.0145	0.0127
Jupiter	-13252-03-01 20:24 J	-3118809.85	-3118809.65	-3118809.45	0.0504	0.0074
Neptune	-13252-09-16 08:09 J	-3118611.28	-3118611.16	-3118611.03	0.0089	0.0073
Uranus	-13252-10-01 15:50 J	-3118596.00	-3118595.84	-3118595.65	0.0145	0.0084
Neptune	-13251-04-29 20:38 J	-3118385.72	-3118385.64	-3118385.53	0.0089	0.0079
Uranus	-13251-05-16 03:21 J	-3118369.56	-3118369.36	-3118369.15	0.0146	0.0039
Neptune	-13251-12-11 09:07 J	-3118160.15	-3118160.12	-3118160.05	0.0089	0.0086
Uranus	-13251-12-28 14:38 J	-3118143.10	-3118142.89	-3118142.67	0.0146	0.0007
Mars	-13250-01-25 19:26 J	-3118114.85	-3118114.69	-3118114.52	0.1784	0.0542
Uranus	-13250-08-12 02:24 J	-3117916.61	-3117916.40	-3117916.20	0.0146	0.0051
Uranus	-13249-03-25 13:40 J	-3117690.09	-3117689.93	-3117689.77	0.0146	0.0096
Uranus	-13249-11-07 00:57 J	-3117463.50	-3117463.46	-3117463.40	0.0146	0.0141
Jupiter	-13247-12-31 13:55 J	-3116679.11	-3116678.92	-3116678.73	0.0520	0.0187
Jupiter	-13246-08-26 08:52 J	-3116441.20	-3116441.13	-3116441.04	0.0524	0.0478
Mars	-13246-09-11 02:52 J	-3116425.55	-3116425.38	-3116425.20	0.1729	0.0222
Saturn	-13242-11-02 12:14 J	-3114912.16	-3114911.99	-3114911.81	0.0278	0.0161
Saturn	-13241-06-19 02:38 J	-3114682.60	-3114682.39	-3114682.17	0.0281	0.0031
Jupiter	-13241-11-04 22:33 J	-3114543.76	-3114543.56	-3114543.36	0.0505	0.0086
Saturn	-13240-02-03 20:09 J	-3114452.78	-3114452.66	-3114452.53	0.0284	0.0230
Jupiter	-13240-06-29 04:04 J	-3114307.38	-3114307.33	-3114307.28	0.0502	0.0484
Jupiter	-13235-09-05 06:00 J	-3112413.39	-3112413.25	-3112413.10	0.0519	0.0367
Jupiter	-13234-05-01 00:28 J	-3112175.65	-3112175.48	-3112175.31	0.0523	0.0296
Jupiter	-13229-07-10 23:31 J	-3110277.69	-3110277.52	-3110277.34	0.0506	0.0248
Saturn	-13228-01-24 12:57 J	-3110080.13	-3110079.96	-3110079.77	0.0285	0.0150
Jupiter	-13228-03-04 05:16 J	-3110041.43	-3110041.28	-3110041.13	0.0502	0.0327
Saturn	-13228-09-11 00:28 J	-3109850.69	-3109850.48	-3109850.27	0.0282	0.0046
Saturn	-13227-04-28 08:52 J	-3109621.23	-3109621.13	-3109621.01	0.0279	0.0232
Jupiter	-13222-01-03 15:21 J	-3107910.06	-3107909.86	-3107909.66	0.0522	0.0110

Mars	-13218-01-25 04:19 J	-3106427.48	-3106427.32	-3106427.16	0.1795	0.0678
Jupiter	-13217-03-16 00:43 J	-3106011.58	-3106011.47	-3106011.35	0.0507	0.0408
Jupiter	-13217-11-07 07:11 J	-3105775.39	-3105775.20	-3105775.01	0.0503	0.0170
Mars	-13214-09-10 06:28 J	-3104738.34	-3104738.23	-3104738.11	0.1720	0.1262
Saturn	-13212-05-14 18:28 J	-3104125.91	-3104125.73	-3104125.54	0.0277	0.0134
Mars	-13212-07-09 06:14 J	-3104070.38	-3104070.24	-3104070.09	0.1743	0.1016
Saturn	-13212-12-30 09:35 J	-3103896.31	-3103896.10	-3103895.89	0.0281	0.0058
Uranus	-13211-01-17 03:21 J	-3103878.50	-3103878.36	-3103878.21	0.0133	0.0101
Saturn	-13211-08-17 02:52 J	-3103666.45	-3103666.38	-3103666.28	0.0284	0.0259
Uranus	-13211-08-31 09:50 J	-3103652.28	-3103652.09	-3103651.89	0.0133	0.0066
Jupiter	-13211-09-08 06:57 J	-3103644.42	-3103644.21	-3103644.01	0.0521	0.0074
Uranus	-13210-04-14 16:04 J	-3103426.04	-3103425.83	-3103425.61	0.0133	0.0031
Uranus	-13210-11-26 22:19 J	-3103199.79	-3103199.57	-3103199.35	0.0133	0.0004
Uranus	-13209-07-10 04:04 J	-3102973.53	-3102973.33	-3102973.10	0.0133	0.0039
Uranus	-13208-02-21 10:19 J	-3102747.25	-3102747.07	-3102746.88	0.0133	0.0073
Uranus	-13208-10-05 16:04 J	-3102520.94	-3102520.83	-3102520.69	0.0132	0.0107
Jupiter	-13205-07-13 08:09 J	-3101509.36	-3101509.16	-3101508.96	0.0504	0.0010
Jupiter	-13199-05-13 22:19 J	-3099378.75	-3099378.57	-3099378.39	0.0520	0.0258
Saturn	-13199-08-06 18:00 J	-3099293.93	-3099293.75	-3099293.56	0.0285	0.0123
Jupiter	-13198-01-06 17:16 J	-3099140.90	-3099140.78	-3099140.65	0.0523	0.0409
Saturn	-13198-03-24 05:02 J	-3099064.49	-3099064.29	-3099064.09	0.0282	0.0072
Saturn	-13198-11-08 13:11 J	-3098835.02	-3098834.95	-3098834.87	0.0278	0.0257
Jupiter	-13193-03-18 09:35 J	-3097243.29	-3097243.10	-3097242.91	0.0505	0.0151
Jupiter	-13193-11-09 15:21 J	-3097006.96	-3097006.86	-3097006.75	0.0502	0.0423
Jupiter	-13187-01-16 12:43 J	-3095113.07	-3095112.97	-3095112.85	0.0518	0.0440
Jupiter	-13187-09-11 06:57 J	-3094875.40	-3094875.21	-3094875.03	0.0522	0.0221
Mars	-13185-11-22 02:52 J	-3094072.54	-3094072.38	-3094072.22	0.1781	0.0711
Neptune	-13183-11-12 13:26 J	-3093351.98	-3093351.94	-3093351.84	0.0088	0.0084
Saturn	-13183-11-25 00:57 J	-3093339.65	-3093339.46	-3093339.25	0.0278	0.0106
Neptune	-13182-06-26 02:38 J	-3093126.47	-3093126.39	-3093126.25	0.0088	0.0077

Saturn	-13182-07-12 16:19 J	-3093110.02	-3093109.82	-3093109.62	0.0281	0.0089
Jupiter	-13182-11-22 11:02 J	-3092977.19	-3092977.04	-3092976.88	0.0507	0.0313
Neptune	-13181-02-06 16:04 J	-3092900.95	-3092900.83	-3092900.68	0.0088	0.0070
Jupiter	-13181-07-15 17:45 J	-3092740.93	-3092740.76	-3092740.59	0.0503	0.0268
Neptune	-13181-09-19 05:16 J	-3092675.42	-3092675.28	-3092675.11	0.0088	0.0063
Neptune	-13180-05-02 18:28 J	-3092449.88	-3092449.73	-3092449.54	0.0088	0.0056
Mars	-13180-07-08 11:31 J	-3092383.19	-3092383.02	-3092382.84	0.1733	0.0084
Neptune	-13180-12-14 07:55 J	-3092224.34	-3092224.17	-3092223.97	0.0088	0.0050
Neptune	-13179-07-27 21:21 J	-3091998.79	-3091998.61	-3091998.40	0.0088	0.0042
Neptune	-13178-03-10 10:33 J	-3091773.25	-3091773.06	-3091772.84	0.0088	0.0036
Neptune	-13178-10-22 00:00 J	-3091547.70	-3091547.50	-3091547.28	0.0088	0.0028
Neptune	-13177-06-03 13:26 J	-3091322.15	-3091321.94	-3091321.72	0.0088	0.0021
Earth	-13177-11-05 03:35 J	-3091167.50	-3091167.35	-3091167.20	0.2661	0.0615
Moon	-13177-11-05 09:07 J	-3091167.27	-3091167.12	-3091166.97	0.2661	0.0900 *
Neptune	-13176-01-15 02:52 J	-3091096.59	-3091096.38	-3091096.15	0.0088	0.0014
Neptune	-13176-08-28 16:19 J	-3090871.04	-3090870.82	-3090870.59	0.0088	0.0007
Neptune	-13175-04-11 05:45 J	-3090645.49	-3090645.26	-3090645.04	0.0088	0.0001
Jupiter	-13175-05-16 21:50 J	-3090609.79	-3090609.59	-3090609.38	0.0521	0.0035
Neptune	-13175-11-22 18:57 J	-3090419.92	-3090419.71	-3090419.48	0.0088	0.0008
Neptune	-13174-07-06 08:24 J	-3090194.36	-3090194.15	-3090193.92	0.0088	0.0015
Neptune	-13173-02-16 21:35 J	-3089968.80	-3089968.60	-3089968.37	0.0088	0.0023
Neptune	-13173-09-29 11:02 J	-3089743.24	-3089743.04	-3089742.82	0.0088	0.0029
Neptune	-13172-05-13 00:28 J	-3089517.68	-3089517.48	-3089517.27	0.0088	0.0036
Neptune	-13172-12-24 13:55 J	-3089292.11	-3089291.92	-3089291.72	0.0088	0.0044
Neptune	-13171-08-07 03:21 J	-3089066.54	-3089066.36	-3089066.17	0.0088	0.0051
Neptune	-13170-03-20 16:48 J	-3088840.97	-3088840.80	-3088840.63	0.0088	0.0058
Jupiter	-13170-07-28 12:14 J	-3088711.06	-3088710.99	-3088710.92	0.0507	0.0473
Neptune	-13170-11-01 06:00 J	-3088615.39	-3088615.25	-3088615.09	0.0088	0.0065
Saturn	-13169-02-16 23:02 J	-3088507.73	-3088507.54	-3088507.34	0.0284	0.0096
Jupiter	-13169-03-20 19:11 J	-3088474.90	-3088474.70	-3088474.51	0.0503	0.0108

Neptune	-13169-06-13 19:26 J	-3088389.81	-3088389.69	-3088389.56	0.0088	0.0072
Saturn	-13169-10-03 09:50 J	-3088278.28	-3088278.09	-3088277.89	0.0281	0.0098
Earth	-13169-11-02 21:07 J	-3088247.66	-3088247.62	-3088247.59	0.2663	0.2590
Moon	-13169-11-03 00:57 J	-3088247.57	-3088247.46	-3088247.35	0.2658	0.1891
Neptune	-13168-01-25 08:52 J	-3088164.22	-3088164.13	-3088164.02	0.0088	0.0079
Uranus	-13168-05-31 22:33 J	-3088037.70	-3088037.56	-3088037.40	0.0145	0.0105
Neptune	-13168-09-07 22:19 J	-3087938.61	-3087938.57	-3087938.51	0.0088	0.0086
Uranus	-13167-01-13 09:35 J	-3087811.28	-3087811.10	-3087810.89	0.0145	0.0061
Uranus	-13167-08-27 21:07 J	-3087584.83	-3087584.62	-3087584.40	0.0146	0.0016
Uranus	-13166-04-11 08:24 J	-3087358.36	-3087358.15	-3087357.93	0.0146	0.0030
Uranus	-13166-11-23 19:40 J	-3087131.86	-3087131.68	-3087131.49	0.0146	0.0075
Uranus	-13165-07-07 06:57 J	-3086905.31	-3086905.21	-3086905.07	0.0146	0.0120
Jupiter	-13163-01-19 12:14 J	-3086344.18	-3086343.99	-3086343.79	0.0521	0.0153
Jupiter	-13163-09-14 08:24 J	-3086106.17	-3086106.15	-3086106.11	0.0525	0.0518
Jupiter	-13158-11-24 20:38 J	-3084208.84	-3084208.64	-3084208.44	0.0504	0.0054
Saturn	-13154-10-20 19:26 J	-3082782.74	-3082782.69	-3082782.62	0.0275	0.0262
Saturn	-13153-06-06 08:24 J	-3082553.36	-3082553.15	-3082552.94	0.0278	0.0077
Mars	-13153-11-21 12:00 J	-3082385.17	-3082385.00	-3082384.84	0.1792	0.0505
Saturn	-13152-01-22 00:00 J	-3082323.69	-3082323.50	-3082323.30	0.0281	0.0118
Jupiter	-13152-09-24 04:04 J	-3082078.48	-3082078.33	-3082078.17	0.0519	0.0334
Jupiter	-13151-05-19 23:02 J	-3081840.69	-3081840.54	-3081840.37	0.0523	0.0335
Mars	-13148-07-07 16:04 J	-3080695.96	-3080695.83	-3080695.70	0.1722	0.1143
Mars	-13146-05-06 14:52 J	-3080028.01	-3080027.88	-3080027.75	0.1746	0.1159
Jupiter	-13146-07-30 20:38 J	-3079942.82	-3079942.64	-3079942.45	0.0506	0.0217
Jupiter	-13145-03-23 02:24 J	-3079706.53	-3079706.40	-3079706.25	0.0502	0.0361
Saturn	-13140-01-11 16:33 J	-3077950.88	-3077950.81	-3077950.73	0.0287	0.0267
Jupiter	-13140-05-29 20:09 J	-3077812.69	-3077812.66	-3077812.63	0.0518	0.0511
Saturn	-13140-08-29 05:31 J	-3077721.47	-3077721.27	-3077721.06	0.0284	0.0066
Jupiter	-13139-01-22 13:55 J	-3077575.11	-3077574.92	-3077574.72	0.0522	0.0148
Saturn	-13139-04-15 15:50 J	-3077492.02	-3077491.84	-3077491.65	0.0281	0.0127

Jupiter	-13134-04-04 21:21 J	-3075676.74	-3075676.61	-3075676.48	0.0507	0.0380
Jupiter	-13134-11-27 04:04 J	-3075440.51	-3075440.33	-3075440.14	0.0503	0.0203
Uranus	-13128-09-16 12:57 J	-3073320.05	-3073319.96	-3073319.84	0.0133	0.0118
Jupiter	-13128-09-27 03:35 J	-3073309.55	-3073309.35	-3073309.14	0.0521	0.0043
Uranus	-13127-04-30 19:26 J	-3073093.85	-3073093.69	-3073093.50	0.0133	0.0083
Uranus	-13127-12-13 01:55 J	-3072867.62	-3072867.42	-3072867.21	0.0133	0.0047
Uranus	-13126-07-27 08:09 J	-3072641.38	-3072641.16	-3072640.94	0.0133	0.0012
Uranus	-13125-03-09 14:24 J	-3072415.12	-3072414.90	-3072414.68	0.0133	0.0023
Uranus	-13125-10-21 20:09 J	-3072188.85	-3072188.66	-3072188.45	0.0133	0.0058
Pluto	-13124-01-23 07:26 J	-3072095.27	-3072095.19	-3072095.06	0.0064	0.0056
Saturn	-13124-05-02 02:52 J	-3071996.48	-3071996.38	-3071996.26	0.0276	0.0232
Uranus	-13124-06-05 02:09 J	-3071962.56	-3071962.41	-3071962.25	0.0132	0.0092
Pluto	-13124-09-05 11:31 J	-3071870.21	-3071870.02	-3071869.80	0.0064	0.0023
Saturn	-13124-12-17 16:19 J	-3071767.03	-3071766.82	-3071766.60	0.0279	0.0045
Uranus	-13123-01-17 07:40 J	-3071736.22	-3071736.18	-3071736.10	0.0132	0.0127
Pluto	-13123-04-18 15:35 J	-3071645.06	-3071644.85	-3071644.63	0.0065	0.0012
Saturn	-13123-08-04 08:09 J	-3071537.33	-3071537.16	-3071536.97	0.0282	0.0152
Pluto	-13123-11-29 19:26 J	-3071419.82	-3071419.69	-3071419.52	0.0065	0.0047
Jupiter	-13122-08-02 06:00 J	-3071174.45	-3071174.25	-3071174.04	0.0504	0.0045
Mars	-13121-11-20 22:19 J	-3070697.60	-3070697.57	-3070697.54	0.1803	0.1769
Mars	-13119-09-19 10:33 J	-3070030.21	-3070030.06	-3070029.90	0.1777	0.0875
Jupiter	-13116-06-01 18:28 J	-3069043.91	-3069043.73	-3069043.55	0.0520	0.0229
Jupiter	-13115-01-25 13:40 J	-3068806.03	-3068805.93	-3068805.82	0.0524	0.0441
Mars	-13114-05-05 20:38 J	-3068340.82	-3068340.64	-3068340.47	0.1736	0.0051
Saturn	-13111-07-24 23:31 J	-3067164.63	-3067164.52	-3067164.40	0.0286	0.0237
Saturn	-13110-03-11 12:14 J	-3066935.20	-3066934.99	-3066934.78	0.0283	0.0037
Jupiter	-13110-04-07 07:40 J	-3066908.38	-3066908.18	-3066907.99	0.0505	0.0119
Saturn	-13110-10-26 22:04 J	-3066705.75	-3066705.58	-3066705.40	0.0280	0.0155
Jupiter	-13110-11-29 12:28 J	-3066672.05	-3066671.98	-3066671.89	0.0501	0.0454
Jupiter	-13104-02-04 08:38 J	-3064778.26	-3064778.14	-3064778.01	0.0519	0.0413

Jupiter -13104-09-30 03:35 J -3064540.53 -3064540.35 -3064540.17 0.0523 0.0255
 Neptune -13101-05-19 03:07 J -3063578.40 -3063578.37 -3063578.32 0.0089 0.0088
 Neptune -13101-12-30 15:50 J -3063352.91 -3063352.84 -3063352.73 0.0089 0.0081
 Neptune -13100-08-13 04:48 J -3063127.41 -3063127.30 -3063127.17 0.0089 0.0073
 Neptune -13099-03-26 17:31 J -3062901.90 -3062901.77 -3062901.61 0.0089 0.0067
 Neptune -13099-11-07 06:14 J -3062676.38 -3062676.24 -3062676.06 0.0089 0.0060
 Jupiter -13099-12-11 08:38 J -3062642.31 -3062642.14 -3062641.97 0.0506 0.0282
 Neptune -13098-06-20 19:11 J -3062450.86 -3062450.70 -3062450.51 0.0089 0.0052
 Jupiter -13098-08-04 14:24 J -3062406.06 -3062405.90 -3062405.74 0.0502 0.0298
 Neptune -13097-02-01 08:24 J -3062225.34 -3062225.15 -3062224.96 0.0089 0.0045
 Neptune -13097-09-13 20:52 J -3061999.82 -3061999.63 -3061999.43 0.0089 0.0038
 Neptune -13096-04-27 09:35 J -3061774.30 -3061774.10 -3061773.89 0.0089 0.0030
 Neptune -13096-12-08 22:19 J -3061548.77 -3061548.57 -3061548.35 0.0089 0.0023
 Neptune -13095-07-22 11:16 J -3061323.24 -3061323.03 -3061322.82 0.0089 0.0016
 Saturn -13095-11-12 11:16 J -3061210.16 -3061210.03 -3061209.87 0.0276 0.0203
 Neptune -13094-03-05 00:00 J -3061097.72 -3061097.50 -3061097.29 0.0089 0.0009
 Saturn -13094-06-30 01:11 J -3060980.67 -3060980.45 -3060980.24 0.0279 0.0015
 Neptune -13094-10-16 12:28 J -3060872.19 -3060871.98 -3060871.76 0.0089 0.0002
 Saturn -13093-02-14 17:16 J -3060750.93 -3060750.78 -3060750.61 0.0282 0.0184
 Neptune -13093-05-29 01:11 J -3060646.67 -3060646.45 -3060646.23 0.0089 0.0006
 Neptune -13092-01-09 13:40 J -3060421.14 -3060420.93 -3060420.71 0.0089 0.0014
 Jupiter -13092-06-04 18:28 J -3060274.93 -3060274.73 -3060274.52 0.0522 0.0069
 Neptune -13092-08-23 02:24 J -3060195.61 -3060195.40 -3060195.18 0.0089 0.0021
 Neptune -13091-04-05 15:07 J -3059970.08 -3059969.87 -3059969.66 0.0089 0.0028
 Neptune -13091-11-17 03:21 J -3059744.54 -3059744.36 -3059744.14 0.0089 0.0035
 Neptune -13090-06-30 16:04 J -3059519.00 -3059518.83 -3059518.62 0.0089 0.0043
 Neptune -13089-02-11 04:48 J -3059293.47 -3059293.30 -3059293.11 0.0089 0.0049
 Neptune -13089-09-23 17:31 J -3059067.93 -3059067.77 -3059067.59 0.0089 0.0056
 Neptune -13088-05-07 06:00 J -3058842.39 -3058842.25 -3058842.08 0.0089 0.0064
 Neptune -13088-12-18 18:43 J -3058616.84 -3058616.72 -3058616.58 0.0089 0.0070

Neptune	-13087-08-01 07:26 J	-3058391.28	-3058391.19	-3058391.07	0.0089	0.0078
Jupiter	-13087-08-16 07:40 J	-3058376.27	-3058376.18	-3058376.08	0.0507	0.0447
Mars	-13087-09-18 18:57 J	-3058342.88	-3058342.71	-3058342.54	0.1788	0.0321
Neptune	-13086-03-14 20:09 J	-3058165.72	-3058165.66	-3058165.58	0.0089	0.0084
Jupiter	-13086-04-09 14:52 J	-3058140.08	-3058139.88	-3058139.69	0.0503	0.0137
Uranus	-13084-01-29 03:50 J	-3057479.44	-3057479.34	-3057479.24	0.0145	0.0128
Uranus	-13084-09-12 14:38 J	-3057253.06	-3057252.89	-3057252.71	0.0145	0.0084
Uranus	-13083-04-27 01:55 J	-3057026.63	-3057026.42	-3057026.21	0.0146	0.0039
Uranus	-13083-12-09 13:11 J	-3056800.17	-3056799.95	-3056799.74	0.0146	0.0007
Mars	-13082-05-05 01:11 J	-3056653.59	-3056653.45	-3056653.31	0.1726	0.1019
Uranus	-13082-07-24 00:28 J	-3056573.68	-3056573.48	-3056573.28	0.0146	0.0051
Saturn	-13081-02-04 07:26 J	-3056378.33	-3056378.19	-3056378.04	0.0286	0.0204
Uranus	-13081-03-06 11:45 J	-3056347.16	-3056347.01	-3056346.84	0.0146	0.0096
Saturn	-13081-09-20 19:40 J	-3056148.88	-3056148.68	-3056148.47	0.0283	0.0008
Uranus	-13081-10-18 23:02 J	-3056120.58	-3056120.54	-3056120.48	0.0146	0.0142
Jupiter	-13080-02-07 10:04 J	-3056009.28	-3056009.08	-3056008.88	0.0520	0.0118
Mars	-13080-03-02 23:16 J	-3055985.65	-3055985.53	-3055985.42	0.1749	0.1310
Saturn	-13080-05-08 05:16 J	-3055919.43	-3055919.28	-3055919.12	0.0280	0.0185
Earth	-13079-05-10 23:31 J	-3055551.68	-3055551.52	-3055551.36	0.2671	0.0395
Moon	-13079-05-11 04:04 J	-3055551.48	-3055551.33	-3055551.17	0.2675	0.0439 *
Jupiter	-13075-12-13 15:50 J	-3053874.04	-3053873.84	-3053873.64	0.0505	0.0026
Jupiter	-13069-10-12 23:45 J	-3051743.67	-3051743.51	-3051743.34	0.0519	0.0306
Jupiter	-13068-06-07 18:14 J	-3051505.88	-3051505.74	-3051505.58	0.0523	0.0365
Saturn	-13065-05-24 19:40 J	-3050423.85	-3050423.68	-3050423.51	0.0277	0.0172
Saturn	-13064-01-09 09:50 J	-3050194.30	-3050194.09	-3050193.88	0.0280	0.0019
Saturn	-13064-08-27 02:24 J	-3049964.53	-3049964.40	-3049964.26	0.0283	0.0219
Jupiter	-13063-08-18 17:16 J	-3049607.97	-3049607.78	-3049607.60	0.0506	0.0189
Jupiter	-13062-04-11 23:16 J	-3049371.65	-3049371.53	-3049371.41	0.0502	0.0392
Jupiter	-13057-06-17 14:52 J	-3047477.95	-3047477.88	-3047477.81	0.0518	0.0486
Jupiter	-13056-02-10 08:52 J	-3047240.33	-3047240.13	-3047239.94	0.0522	0.0176

Mars	-13055-09-18 05:02 J	-3046655.37	-3046655.29	-3046655.21	0.1800	0.1574
Mars	-13053-07-16 18:00 J	-3045987.89	-3045987.75	-3045987.61	0.1774	0.1040
Saturn	-13052-08-16 15:21 J	-3045592.02	-3045591.86	-3045591.69	0.0285	0.0172
Saturn	-13051-04-03 03:07 J	-3045362.57	-3045362.37	-3045362.16	0.0282	0.0027
Jupiter	-13051-04-23 18:43 J	-3045341.87	-3045341.72	-3045341.58	0.0507	0.0350
Saturn	-13051-11-18 12:14 J	-3045133.11	-3045132.99	-3045132.85	0.0279	0.0214
Jupiter	-13051-12-16 00:57 J	-3045105.64	-3045105.46	-3045105.28	0.0503	0.0234
Mars	-13048-03-02 05:16 J	-3044298.45	-3044298.28	-3044298.11	0.1739	0.0187
Jupiter	-13045-10-15 22:19 J	-3042974.78	-3042974.57	-3042974.37	0.0521	0.0015
Uranus	-13044-12-29 03:50 J	-3042535.48	-3042535.34	-3042535.19	0.0133	0.0099
Uranus	-13043-08-12 10:19 J	-3042309.26	-3042309.07	-3042308.87	0.0133	0.0064
Uranus	-13042-03-26 16:33 J	-3042083.02	-3042082.81	-3042082.59	0.0133	0.0029
Uranus	-13042-11-07 22:48 J	-3041856.77	-3041856.55	-3041856.33	0.0133	0.0006
Uranus	-13041-06-21 04:48 J	-3041630.51	-3041630.30	-3041630.09	0.0133	0.0041
Uranus	-13040-02-02 10:48 J	-3041404.23	-3041404.05	-3041403.86	0.0133	0.0076
Uranus	-13040-09-16 16:19 J	-3041177.92	-3041177.82	-3041177.68	0.0133	0.0111
Jupiter	-13039-08-21 02:38 J	-3040839.59	-3040839.39	-3040839.19	0.0503	0.0073
Saturn	-13036-12-05 04:19 J	-3039637.50	-3039637.32	-3039637.13	0.0277	0.0141
Pluto	-13036-12-16 19:11 J	-3039625.87	-3039625.70	-3039625.51	0.0080	0.0047
Saturn	-13035-07-22 18:57 J	-3039407.92	-3039407.71	-3039407.50	0.0280	0.0051
Pluto	-13035-07-30 06:14 J	-3039400.45	-3039400.24	-3039400.02	0.0079	0.0020
Saturn	-13034-03-09 11:45 J	-3039178.09	-3039178.01	-3039177.90	0.0283	0.0252
Jupiter	-13033-06-20 13:40 J	-3038709.12	-3038708.93	-3038708.74	0.0520	0.0199
Jupiter	-13032-02-13 09:35 J	-3038471.19	-3038471.10	-3038471.02	0.0524	0.0475
Jupiter	-13027-04-26 01:55 J	-3036573.62	-3036573.42	-3036573.22	0.0505	0.0093
Jupiter	-13027-12-18 07:11 J	-3036337.25	-3036337.20	-3036337.14	0.0501	0.0483
Saturn	-13022-02-27 00:14 J	-3034805.67	-3034805.49	-3034805.30	0.0285	0.0138
Saturn	-13022-10-14 11:31 J	-3034576.22	-3034576.02	-3034575.81	0.0282	0.0060
Jupiter	-13021-02-24 05:45 J	-3034443.39	-3034443.26	-3034443.11	0.0519	0.0381
Saturn	-13021-05-30 20:09 J	-3034346.75	-3034346.66	-3034346.55	0.0279	0.0246

Mars	-13021-07-16 02:24 J	-3034300.57	-3034300.40	-3034300.22	0.1785	0.0156
Jupiter	-13021-10-19 00:14 J	-3034205.66	-3034205.49	-3034205.32	0.0523	0.0289
Neptune	-13018-02-14 00:43 J	-3033357.47	-3033357.47	-3033357.45	0.0088	0.0088
Neptune	-13018-09-27 13:26 J	-3033132.00	-3033131.94	-3033131.83	0.0088	0.0081
Neptune	-13017-05-10 02:52 J	-3032906.48	-3032906.38	-3032906.25	0.0088	0.0074
Neptune	-13017-12-21 16:04 J	-3032680.95	-3032680.83	-3032680.67	0.0088	0.0067
Mars	-13016-03-01 10:33 J	-3032611.21	-3032611.06	-3032610.91	0.1729	0.0898
Neptune	-13016-08-04 05:16 J	-3032455.42	-3032455.28	-3032455.10	0.0088	0.0060
Jupiter	-13016-12-30 02:09 J	-3032307.58	-3032307.41	-3032307.23	0.0506	0.0258
Neptune	-13015-03-17 18:28 J	-3032229.89	-3032229.73	-3032229.53	0.0088	0.0053
Jupiter	-13015-08-23 08:52 J	-3032071.29	-3032071.13	-3032070.98	0.0502	0.0327
Neptune	-13015-10-29 07:40 J	-3032004.35	-3032004.18	-3032003.97	0.0088	0.0047
Mars	-13015-12-29 07:11 J	-3031943.30	-3031943.20	-3031943.11	0.1753	0.1466
Neptune	-13014-06-11 21:07 J	-3031778.80	-3031778.62	-3031778.40	0.0088	0.0039
Neptune	-13013-01-23 10:48 J	-3031553.26	-3031553.05	-3031552.84	0.0088	0.0031
Neptune	-13013-09-05 00:00 J	-3031327.71	-3031327.50	-3031327.28	0.0088	0.0024
Neptune	-13012-04-18 13:11 J	-3031102.16	-3031101.95	-3031101.72	0.0088	0.0017
Neptune	-13012-11-30 02:52 J	-3030876.60	-3030876.38	-3030876.16	0.0088	0.0010
Neptune	-13011-07-13 16:19 J	-3030651.04	-3030650.82	-3030650.60	0.0088	0.0002
Neptune	-13010-02-24 05:31 J	-3030425.49	-3030425.27	-3030425.04	0.0088	0.0005
Neptune	-13010-10-07 18:57 J	-3030199.93	-3030199.71	-3030199.49	0.0088	0.0012
Neptune	-13009-05-20 08:24 J	-3029974.37	-3029974.15	-3029973.93	0.0088	0.0019
Jupiter	-13009-06-23 13:26 J	-3029940.14	-3029939.94	-3029939.73	0.0521	0.0098
Neptune	-13009-12-31 21:35 J	-3029748.80	-3029748.60	-3029748.37	0.0088	0.0027
Neptune	-13008-08-14 11:02 J	-3029523.23	-3029523.04	-3029522.82	0.0088	0.0034
Neptune	-13007-03-28 00:28 J	-3029297.67	-3029297.48	-3029297.27	0.0088	0.0041
Neptune	-13007-11-08 13:55 J	-3029072.10	-3029071.92	-3029071.73	0.0088	0.0048
Saturn	-13006-06-17 13:11 J	-3028851.15	-3028850.95	-3028850.75	0.0278	0.0109
Neptune	-13006-06-22 03:21 J	-3028846.53	-3028846.36	-3028846.18	0.0088	0.0056
Saturn	-13005-02-02 04:04 J	-3028621.53	-3028621.33	-3028621.12	0.0281	0.0086

Neptune -13005-02-02 16:19 J -3028620.95 -3028620.82 -3028620.64 0.0088 0.0064

Neptune -13005-09-15 05:45 J -3028395.37 -3028395.26 -3028395.10 0.0088 0.0071

Neptune -13004-04-28 19:11 J -3028169.79 -3028169.70 -3028169.57 0.0088 0.0077

Jupiter -13004-09-04 03:07 J -3028041.48 -3028041.37 -3028041.26 0.0508 0.0422

Neptune -13004-12-10 08:38 J -3027944.18 -3027944.14 -3027944.05 0.0088 0.0085

Jupiter -13003-04-28 10:33 J -3027805.25 -3027805.06 -3027804.87 0.0504 0.0167

13TH MILLENNIUM BCE

This is a list of transits of Venus in the 13th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Uranus	-13000-05-12	19:11 J	-3026694.83	-3026694.70	-3026694.55	0.0145	0.0107	
Uranus	-13000-12-25	06:28 J	-3026468.43	-3026468.23	-3026468.04	0.0145	0.0063	
Uranus	-12999-08-08	17:31 J	-3026241.98	-3026241.77	-3026241.55	0.0146	0.0018	
Uranus	-12998-03-23	04:48 J	-3026015.51	-3026015.30	-3026015.09	0.0146	0.0027	
Uranus	-12998-11-04	15:50 J	-3025789.02	-3025788.84	-3025788.65	0.0146	0.0072	
Jupiter	-12997-02-27	03:50 J	-3025674.54	-3025674.34	-3025674.13	0.0520	0.0092	
Uranus	-12997-06-18	03:07 J	-3025562.49	-3025562.37	-3025562.23	0.0146	0.0117	
Saturn	-12993-09-08	08:38 J	-3024019.33	-3024019.14	-3024018.94	0.0284	0.0105	
Saturn	-12992-04-25	19:26 J	-3023789.88	-3023789.69	-3023789.49	0.0281	0.0090	
Saturn	-12992-12-11	03:50 J	-3023560.37	-3023560.34	-3023560.31	0.0278	0.0275	
Jupiter	-12991-01-01	12:28 J	-3023539.18	-3023538.98	-3023538.78	0.0504	0.0010	
Mars	-12989-07-15	11:45 J	-3022613.12	-3022613.01	-3022612.90	0.1796	0.1385	
Mars	-12987-05-14	02:38 J	-3021945.52	-3021945.39	-3021945.26	0.1771	0.1186	

Jupiter	-12986-11-01 17:16 J	-3021408.95	-3021408.78	-3021408.60	0.0519	0.0281
Jupiter	-12985-06-26 12:28 J	-3021171.11	-3021170.98	-3021170.84	0.0524	0.0395
Mars	-12983-12-28 13:55 J	-3020256.09	-3020255.92	-3020255.74	0.1742	0.0328
Jupiter	-12980-09-06 13:40 J	-3019273.12	-3019272.93	-3019272.74	0.0505	0.0158
Jupiter	-12979-04-30 19:11 J	-3019036.81	-3019036.70	-3019036.60	0.0502	0.0422
Saturn	-12977-05-12 08:38 J	-3018294.19	-3018294.14	-3018294.07	0.0275	0.0264
Saturn	-12977-12-27 21:35 J	-3018064.80	-3018064.60	-3018064.39	0.0278	0.0078
Saturn	-12976-08-14 12:57 J	-3017835.15	-3017834.96	-3017834.76	0.0281	0.0118
Jupiter	-12974-07-07 09:21 J	-3017143.19	-3017143.11	-3017143.01	0.0518	0.0460
Jupiter	-12973-03-01 03:50 J	-3016905.53	-3016905.34	-3016905.15	0.0522	0.0209
Jupiter	-12968-05-12 12:14 J	-3015007.14	-3015006.99	-3015006.84	0.0507	0.0327
Jupiter	-12967-01-03 18:43 J	-3014770.89	-3014770.72	-3014770.55	0.0503	0.0261
Saturn	-12964-08-04 03:50 J	-3013462.39	-3013462.34	-3013462.27	0.0287	0.0274
Saturn	-12963-03-21 17:16 J	-3013232.98	-3013232.78	-3013232.58	0.0284	0.0071
Saturn	-12963-11-06 03:35 J	-3013003.53	-3013003.35	-3013003.15	0.0281	0.0124
Jupiter	-12962-11-04 19:26 J	-3012639.90	-3012639.69	-3012639.49	0.0521	0.0023
Uranus	-12960-08-28 11:31 J	-3011977.10	-3011977.02	-3011976.89	0.0133	0.0118
Uranus	-12959-04-11 18:28 J	-3011750.90	-3011750.73	-3011750.55	0.0133	0.0082
Uranus	-12959-11-24 00:43 J	-3011524.67	-3011524.47	-3011524.26	0.0133	0.0046
Uranus	-12958-07-08 06:57 J	-3011298.43	-3011298.21	-3011297.99	0.0133	0.0011
Uranus	-12957-02-19 13:11 J	-3011072.16	-3011071.95	-3011071.73	0.0133	0.0024
Uranus	-12957-10-02 19:11 J	-3010845.89	-3010845.70	-3010845.50	0.0133	0.0059
Jupiter	-12956-01-15 12:00 J	-3010741.04	-3010741.00	-3010740.95	0.0508	0.0492
Uranus	-12956-05-17 00:57 J	-3010619.60	-3010619.46	-3010619.29	0.0133	0.0094
Jupiter	-12956-09-08 19:55 J	-3010504.87	-3010504.67	-3010504.47	0.0504	0.0099
Uranus	-12956-12-29 06:28 J	-3010393.26	-3010393.23	-3010393.15	0.0133	0.0129
Mars	-12955-05-13 10:04 J	-3010258.25	-3010258.08	-3010257.90	0.1782	0.0034
Mars	-12951-12-27 19:11 J	-3008568.86	-3008568.70	-3008568.54	0.1732	0.0765
Jupiter	-12950-07-10 09:21 J	-3008374.31	-3008374.11	-3008373.92	0.0520	0.0170
Jupiter	-12949-03-04 04:19 J	-3008136.37	-3008136.32	-3008136.26	0.0524	0.0505

Mars	-12949-10-25 15:21 J	-3007900.92	-3007900.86	-3007900.80	0.1756	0.1622
Saturn	-12948-11-22 16:48 J	-3007507.91	-3007507.80	-3007507.68	0.0276	0.0233
Saturn	-12947-07-10 06:00 J	-3007278.46	-3007278.25	-3007278.04	0.0279	0.0046
Saturn	-12946-02-24 21:35 J	-3007048.77	-3007048.60	-3007048.41	0.0282	0.0153
Jupiter	-12944-05-14 21:07 J	-3006238.82	-3006238.62	-3006238.42	0.0505	0.0066
Jupiter	-12938-03-15 00:00 J	-3004108.65	-3004108.50	-3004108.35	0.0518	0.0356
Jupiter	-12938-11-07 18:14 J	-3003870.90	-3003870.74	-3003870.58	0.0523	0.0317
Neptune	-12936-04-03 02:24 J	-3003358.43	-3003358.40	-3003358.31	0.0089	0.0086
Neptune	-12936-11-14 15:50 J	-3003132.94	-3003132.84	-3003132.73	0.0089	0.0078
Neptune	-12935-06-28 04:48 J	-3002907.42	-3002907.30	-3002907.16	0.0089	0.0071
Neptune	-12934-02-08 17:31 J	-3002681.91	-3002681.77	-3002681.61	0.0089	0.0063
Saturn	-12934-02-14 12:57 J	-3002676.07	-3002675.96	-3002675.85	0.0286	0.0240
Neptune	-12934-09-22 06:14 J	-3002456.39	-3002456.24	-3002456.06	0.0089	0.0056
Saturn	-12934-10-02 01:40 J	-3002446.64	-3002446.43	-3002446.23	0.0283	0.0039
Moon	-12934-11-06 01:55 J	-3002411.58	-3002411.42	-3002411.26	0.2660	0.0374
Earth	-12934-11-06 06:57 J	-3002411.35	-3002411.21	-3002411.06	0.2662	0.0839 *
Neptune	-12933-05-04 19:26 J	-3002230.87	-3002230.69	-3002230.51	0.0089	0.0049
Saturn	-12933-05-18 11:31 J	-3002217.19	-3002217.02	-3002216.84	0.0280	0.0153
Neptune	-12933-12-16 07:55 J	-3002005.35	-3002005.17	-3002004.96	0.0089	0.0042
Jupiter	-12932-01-17 23:02 J	-3001972.72	-3001972.54	-3001972.36	0.0506	0.0228
Neptune	-12932-07-29 20:52 J	-3001779.82	-3001779.63	-3001779.42	0.0089	0.0034
Jupiter	-12932-09-11 05:31 J	-3001736.41	-3001736.27	-3001736.13	0.0502	0.0358
Neptune	-12931-03-12 09:50 J	-3001554.30	-3001554.09	-3001553.88	0.0089	0.0027
Neptune	-12931-10-23 22:19 J	-3001328.77	-3001328.57	-3001328.35	0.0089	0.0020
Neptune	-12930-06-06 11:16 J	-3001103.24	-3001103.03	-3001102.81	0.0089	0.0012
Neptune	-12929-01-18 00:00 J	-3000877.72	-3000877.50	-3000877.28	0.0089	0.0004
Neptune	-12929-08-30 12:43 J	-3000652.19	-3000651.97	-3000651.76	0.0089	0.0003
Neptune	-12928-04-13 01:11 J	-3000426.66	-3000426.45	-3000426.23	0.0089	0.0011
Neptune	-12928-11-24 13:40 J	-3000201.13	-3000200.93	-3000200.71	0.0089	0.0018
Neptune	-12927-07-08 02:38 J	-2999975.59	-2999975.39	-2999975.18	0.0089	0.0025

Neptune	-12926-02-18 15:07 J	-2999750.06	-2999749.87	-2999749.66	0.0089	0.0033
Jupiter	-12926-07-13 07:26 J	-2999605.39	-2999605.19	-2999604.99	0.0522	0.0126
Neptune	-12926-10-02 03:35 J	-2999524.53	-2999524.35	-2999524.14	0.0089	0.0040
Earth	-12926-11-04 00:28 J	-2999491.55	-2999491.48	-2999491.41	0.2664	0.2366
Neptune	-12925-05-14 16:04 J	-2999298.99	-2999298.83	-2999298.63	0.0089	0.0048
Neptune	-12925-12-26 04:48 J	-2999073.46	-2999073.30	-2999073.11	0.0089	0.0054
Neptune	-12924-08-08 17:45 J	-2998847.91	-2998847.76	-2998847.60	0.0089	0.0061
Neptune	-12923-03-22 06:28 J	-2998622.37	-2998622.23	-2998622.09	0.0089	0.0069
Mars	-12923-05-12 18:43 J	-2998570.85	-2998570.72	-2998570.59	0.1793	0.1197
Neptune	-12923-11-02 18:28 J	-2998396.82	-2998396.73	-2998396.59	0.0089	0.0076
Neptune	-12922-06-16 07:11 J	-2998171.25	-2998171.20	-2998171.10	0.0089	0.0083
Mars	-12921-03-10 10:19 J	-2997903.18	-2997903.07	-2997902.95	0.1767	0.1341
Jupiter	-12921-09-23 00:00 J	-2997706.62	-2997706.50	-2997706.37	0.0507	0.0392
Jupiter	-12920-05-17 06:57 J	-2997470.39	-2997470.21	-2997470.02	0.0503	0.0199
Saturn	-12918-06-04 23:45 J	-2996721.64	-2996721.51	-2996721.36	0.0276	0.0205
Saturn	-12917-01-20 13:40 J	-2996492.14	-2996491.93	-2996491.71	0.0279	0.0016
Saturn	-12917-09-06 05:45 J	-2996262.41	-2996262.26	-2996262.09	0.0282	0.0183
Mars	-12917-10-24 22:33 J	-2996213.73	-2996213.56	-2996213.39	0.1745	0.0473
Uranus	-12916-01-10 01:55 J	-2996136.51	-2996136.42	-2996136.31	0.0145	0.0128
Uranus	-12916-08-24 12:57 J	-2995910.13	-2995909.96	-2995909.78	0.0145	0.0084
Uranus	-12915-04-08 00:00 J	-2995683.70	-2995683.50	-2995683.29	0.0145	0.0040
Uranus	-12915-11-20 11:02 J	-2995457.25	-2995457.04	-2995456.82	0.0146	0.0006
Jupiter	-12914-03-17 23:16 J	-2995339.74	-2995339.53	-2995339.33	0.0521	0.0061
Uranus	-12914-07-04 22:04 J	-2995230.77	-2995230.58	-2995230.37	0.0146	0.0051
Uranus	-12913-02-16 09:07 J	-2995004.26	-2995004.12	-2995003.94	0.0146	0.0096
Uranus	-12913-09-29 20:24 J	-2994777.68	-2994777.65	-2994777.57	0.0146	0.0141
Jupiter	-12908-01-20 06:00 J	-2993204.45	-2993204.25	-2993204.05	0.0504	0.0032
Saturn	-12905-08-26 21:35 J	-2991889.75	-2991889.60	-2991889.46	0.0286	0.0205
Saturn	-12904-04-13 09:50 J	-2991660.30	-2991660.09	-2991659.88	0.0283	0.0005
Saturn	-12904-11-28 19:26 J	-2991430.84	-2991430.69	-2991430.53	0.0280	0.0186

Jupiter	-12903-11-20 15:35 J	-2991074.03	-2991073.85	-2991073.67	0.0519	0.0245
Jupiter	-12902-07-16 10:33 J	-2990836.18	-2990836.06	-2990835.95	0.0523	0.0432
Jupiter	-12897-09-25 06:57 J	-2988938.41	-2988938.21	-2988938.02	0.0506	0.0135
Jupiter	-12896-05-19 12:43 J	-2988702.05	-2988701.97	-2988701.88	0.0502	0.0450
Jupiter	-12891-07-26 06:28 J	-2986808.34	-2986808.23	-2986808.11	0.0518	0.0431
Jupiter	-12890-03-21 00:14 J	-2986570.68	-2986570.49	-2986570.31	0.0522	0.0240
Mars	-12889-03-09 17:45 J	-2986215.93	-2986215.76	-2986215.58	0.1778	0.0185
Saturn	-12889-12-15 07:11 J	-2985935.36	-2985935.20	-2985935.03	0.0277	0.0175
Saturn	-12888-08-01 21:21 J	-2985705.83	-2985705.61	-2985705.40	0.0280	0.0017
Saturn	-12887-03-19 13:40 J	-2985476.06	-2985475.93	-2985475.78	0.0283	0.0216
Jupiter	-12885-05-31 07:40 J	-2984672.34	-2984672.18	-2984672.01	0.0507	0.0301
Mars	-12885-10-24 04:19 J	-2984526.49	-2984526.32	-2984526.16	0.1735	0.0636
Jupiter	-12884-01-22 14:38 J	-2984436.05	-2984435.89	-2984435.72	0.0503	0.0291
Jupiter	-12879-11-23 14:09 J	-2982305.11	-2982304.91	-2982304.70	0.0521	0.0051
Pluto	-12876-08-08 12:00 J	-2981316.09	-2981316.00	-2981315.88	0.0064	0.0055
Uranus	-12876-12-10 01:40 J	-2981192.56	-2981192.43	-2981192.27	0.0133	0.0100
Saturn	-12875-03-09 05:02 J	-2981103.45	-2981103.29	-2981103.12	0.0285	0.0174
Pluto	-12875-03-21 16:04 J	-2981091.03	-2981090.83	-2981090.62	0.0064	0.0022
Uranus	-12875-07-24 08:09 J	-2980966.34	-2980966.16	-2980965.95	0.0133	0.0064
Saturn	-12875-10-24 17:02 J	-2980874.00	-2980873.79	-2980873.58	0.0282	0.0025
Pluto	-12875-11-01 19:55 J	-2980865.88	-2980865.67	-2980865.45	0.0065	0.0013
Uranus	-12874-03-07 14:52 J	-2980740.10	-2980739.88	-2980739.67	0.0133	0.0028
Saturn	-12874-06-11 02:09 J	-2980644.54	-2980644.41	-2980644.27	0.0279	0.0214
Pluto	-12874-06-14 23:31 J	-2980640.64	-2980640.52	-2980640.34	0.0065	0.0048
Uranus	-12874-10-19 20:52 J	-2980513.85	-2980513.63	-2980513.40	0.0133	0.0008
Jupiter	-12873-02-04 09:21 J	-2980406.18	-2980406.11	-2980406.02	0.0508	0.0463
Uranus	-12873-06-02 02:52 J	-2980287.58	-2980287.38	-2980287.16	0.0133	0.0042
Jupiter	-12873-09-27 17:16 J	-2980169.97	-2980169.78	-2980169.58	0.0504	0.0132
Uranus	-12872-01-14 09:07 J	-2980061.29	-2980061.12	-2980060.94	0.0133	0.0077
Uranus	-12872-08-28 14:52 J	-2979834.98	-2979834.88	-2979834.75	0.0133	0.0112

Jupiter	-12867-07-29 03:50 J	-2978039.53	-2978039.34	-2978039.14	0.0520	0.0142
Jupiter	-12861-06-02 18:57 J	-2975903.92	-2975903.71	-2975903.51	0.0505	0.0034
Saturn	-12859-06-27 13:11 J	-2975149.13	-2975148.95	-2975148.77	0.0277	0.0148
Saturn	-12858-02-12 03:21 J	-2974919.57	-2974919.36	-2974919.14	0.0280	0.0044
Saturn	-12858-09-29 20:09 J	-2974689.75	-2974689.66	-2974689.54	0.0283	0.0245
Mars	-12857-03-09 02:09 J	-2974528.56	-2974528.41	-2974528.27	0.1789	0.1021
Mars	-12855-01-05 19:11 J	-2973860.79	-2973860.70	-2973860.61	0.1764	0.1482
Jupiter	-12855-04-02 20:24 J	-2973773.81	-2973773.65	-2973773.49	0.0519	0.0325
Jupiter	-12855-11-26 14:52 J	-2973536.03	-2973535.88	-2973535.73	0.0523	0.0353
Neptune	-12854-12-30 01:11 J	-2973137.49	-2973137.45	-2973137.38	0.0088	0.0085
Neptune	-12853-08-11 14:24 J	-2972911.98	-2972911.90	-2972911.78	0.0088	0.0078
Mars	-12853-10-23 08:24 J	-2972839.18	-2972839.15	-2972839.11	0.1725	0.1684
Neptune	-12852-03-25 03:21 J	-2972686.46	-2972686.36	-2972686.20	0.0088	0.0071
Neptune	-12852-11-05 16:33 J	-2972460.93	-2972460.81	-2972460.63	0.0088	0.0065
Neptune	-12851-06-19 06:14 J	-2972235.40	-2972235.24	-2972235.06	0.0088	0.0057
Mars	-12851-08-22 06:57 J	-2972171.37	-2972171.21	-2972171.04	0.1749	0.0616
Neptune	-12850-01-30 19:26 J	-2972009.87	-2972009.69	-2972009.50	0.0088	0.0049
Neptune	-12850-09-13 08:24 J	-2971784.33	-2971784.15	-2971783.94	0.0088	0.0042
Jupiter	-12849-02-06 17:31 J	-2971637.95	-2971637.77	-2971637.59	0.0506	0.0204
Neptune	-12849-04-25 21:35 J	-2971558.79	-2971558.60	-2971558.38	0.0088	0.0035
Jupiter	-12849-09-29 23:45 J	-2971401.64	-2971401.51	-2971401.38	0.0502	0.0386
Neptune	-12849-12-07 11:16 J	-2971333.23	-2971333.03	-2971332.81	0.0088	0.0028
Neptune	-12848-07-21 00:43 J	-2971107.68	-2971107.47	-2971107.25	0.0088	0.0020
Neptune	-12847-03-03 13:55 J	-2970882.14	-2970881.92	-2970881.69	0.0088	0.0013
Neptune	-12847-10-15 03:21 J	-2970656.58	-2970656.36	-2970656.14	0.0088	0.0005
Neptune	-12846-05-28 16:33 J	-2970431.03	-2970430.81	-2970430.58	0.0088	0.0003
Saturn	-12846-09-19 12:28 J	-2970317.16	-2970316.98	-2970316.80	0.0286	0.0140
Neptune	-12845-01-09 06:14 J	-2970205.46	-2970205.24	-2970205.02	0.0088	0.0009
Saturn	-12845-05-06 00:00 J	-2970087.70	-2970087.50	-2970087.29	0.0282	0.0059
Neptune	-12845-08-21 19:26 J	-2969979.90	-2969979.69	-2969979.47	0.0088	0.0017

Saturn	-12845-12-21 09:07 J	-2969858.22	-2969858.12	-2969858.02	0.0279	0.0246
Neptune	-12844-04-04 08:38 J	-2969754.34	-2969754.14	-2969753.91	0.0088	0.0025
Neptune	-12844-11-15 22:19 J	-2969528.78	-2969528.57	-2969528.36	0.0088	0.0031
Jupiter	-12844-12-06 13:40 J	-2969507.97	-2969507.93	-2969507.89	0.0517	0.0504
Neptune	-12843-06-29 11:16 J	-2969303.21	-2969303.03	-2969302.81	0.0088	0.0040
Jupiter	-12843-08-01 06:57 J	-2969270.40	-2969270.21	-2969270.01	0.0522	0.0166
Neptune	-12842-02-10 00:57 J	-2969077.64	-2969077.46	-2969077.26	0.0088	0.0046
Neptune	-12842-09-23 14:24 J	-2968852.07	-2968851.90	-2968851.72	0.0088	0.0054
Neptune	-12841-05-06 03:21 J	-2968626.50	-2968626.36	-2968626.17	0.0088	0.0062
Neptune	-12841-12-17 17:02 J	-2968400.91	-2968400.79	-2968400.63	0.0088	0.0069
Neptune	-12840-07-31 06:28 J	-2968175.33	-2968175.23	-2968175.10	0.0088	0.0076
Neptune	-12839-03-13 20:09 J	-2967949.73	-2967949.66	-2967949.58	0.0088	0.0083
Jupiter	-12838-10-12 18:00 J	-2967371.88	-2967371.75	-2967371.61	0.0507	0.0370
Jupiter	-12837-06-05 00:57 J	-2967135.63	-2967135.46	-2967135.27	0.0503	0.0226
Moon	-12836-05-10 19:11 J	-2966795.86	-2966795.70	-2966795.55	0.2664	0.1103
Earth	-12836-05-10 22:19 J	-2966795.73	-2966795.57	-2966795.41	0.2670	0.0460 *
Uranus	-12832-04-23 20:38 J	-2965351.78	-2965351.64	-2965351.48	0.0145	0.0104
Uranus	-12832-12-06 07:40 J	-2965125.37	-2965125.18	-2965124.98	0.0145	0.0060
Jupiter	-12831-04-05 21:35 J	-2965004.81	-2965004.60	-2965004.40	0.0520	0.0026
Uranus	-12831-07-20 18:43 J	-2964898.93	-2964898.72	-2964898.50	0.0145	0.0015
Uranus	-12830-03-04 05:45 J	-2964672.46	-2964672.26	-2964672.04	0.0146	0.0031
Uranus	-12830-10-16 16:48 J	-2964445.97	-2964445.80	-2964445.60	0.0146	0.0076
Saturn	-12829-01-07 18:57 J	-2964362.90	-2964362.71	-2964362.51	0.0278	0.0120
Uranus	-12829-05-30 04:04 J	-2964219.44	-2964219.33	-2964219.20	0.0146	0.0121
Saturn	-12829-08-24 09:35 J	-2964133.31	-2964133.10	-2964132.89	0.0281	0.0074
Saturn	-12828-04-11 02:38 J	-2963903.43	-2963903.39	-2963903.33	0.0284	0.0276
Jupiter	-12825-02-09 02:52 J	-2962869.58	-2962869.38	-2962869.18	0.0505	0.0062
Mars	-12823-01-05 01:40 J	-2962173.60	-2962173.43	-2962173.26	0.1775	0.0347
Jupiter	-12820-12-09 12:14 J	-2960739.18	-2960738.99	-2960738.80	0.0519	0.0215
Jupiter	-12819-08-04 06:43 J	-2960501.31	-2960501.22	-2960501.12	0.0523	0.0464

Mars	-12819-08-21 12:43 J	-2960484.14	-2960483.97	-2960483.80	0.1738	0.0495
Saturn	-12816-03-31 18:57 J	-2959530.90	-2959530.71	-2959530.52	0.0285	0.0111
Saturn	-12816-11-16 06:14 J	-2959301.44	-2959301.24	-2959301.04	0.0281	0.0086
Saturn	-12815-07-03 14:38 J	-2959071.92	-2959071.89	-2959071.84	0.0278	0.0272
Jupiter	-12814-10-15 05:16 J	-2958603.48	-2958603.28	-2958603.08	0.0506	0.0101
Jupiter	-12813-06-07 11:02 J	-2958367.08	-2958367.04	-2958366.98	0.0502	0.0486
Jupiter	-12808-08-14 02:38 J	-2956473.52	-2956473.39	-2956473.26	0.0518	0.0402
Jupiter	-12807-04-08 20:24 J	-2956235.82	-2956235.65	-2956235.47	0.0522	0.0275
Jupiter	-12802-06-20 06:43 J	-2954337.39	-2954337.22	-2954337.05	0.0507	0.0267
Jupiter	-12801-02-11 13:26 J	-2954101.09	-2954100.94	-2954100.79	0.0503	0.0327
Saturn	-12800-07-19 23:31 J	-2953576.72	-2953576.52	-2953576.32	0.0278	0.0095
Saturn	-12799-03-06 14:24 J	-2953347.10	-2953346.90	-2953346.70	0.0281	0.0100
Jupiter	-12796-12-12 12:28 J	-2951970.18	-2951969.98	-2951969.77	0.0521	0.0087
Uranus	-12792-08-09 10:19 J	-2950634.16	-2950634.07	-2950633.95	0.0134	0.0117
Mars	-12791-01-04 09:21 J	-2950486.27	-2950486.11	-2950485.96	0.1786	0.0842
Uranus	-12791-03-23 17:02 J	-2950407.96	-2950407.79	-2950407.61	0.0133	0.0081
Uranus	-12791-11-04 23:16 J	-2950181.73	-2950181.53	-2950181.31	0.0133	0.0045
Jupiter	-12790-02-23 05:02 J	-2950071.38	-2950071.29	-2950071.18	0.0508	0.0438
Uranus	-12790-06-19 05:45 J	-2949955.48	-2949955.26	-2949955.04	0.0133	0.0010
Jupiter	-12790-10-17 12:43 J	-2949835.16	-2949834.97	-2949834.78	0.0504	0.0160
Mars	-12790-11-03 03:21 J	-2949818.43	-2949818.36	-2949818.30	0.1760	0.1629
Uranus	-12789-01-31 12:00 J	-2949729.21	-2949729.00	-2949728.78	0.0133	0.0026
Uranus	-12789-09-13 18:00 J	-2949502.94	-2949502.75	-2949502.55	0.0133	0.0061
Uranus	-12788-04-28 00:00 J	-2949276.64	-2949276.50	-2949276.34	0.0133	0.0096
Uranus	-12788-12-10 05:31 J	-2949050.28	-2949050.27	-2949050.21	0.0133	0.0131
Saturn	-12787-02-24 11:02 J	-2948974.07	-2948974.04	-2948974.01	0.0288	0.0284
Pluto	-12787-07-01 23:45 J	-2948846.68	-2948846.51	-2948846.30	0.0080	0.0044
Mars	-12787-08-20 17:16 J	-2948796.85	-2948796.78	-2948796.71	0.1728	0.1557
Saturn	-12787-10-12 00:57 J	-2948744.66	-2948744.46	-2948744.26	0.0285	0.0080
Pluto	-12786-02-12 10:48 J	-2948621.25	-2948621.05	-2948620.83	0.0079	0.0024

Saturn	-12786-05-29 12:00 J	-2948515.19	-2948515.00	-2948514.81	0.0282	0.0116
Mars	-12785-06-18 14:38 J	-2948129.04	-2948128.89	-2948128.73	0.1752	0.0775
Jupiter	-12784-08-17 05:31 J	-2947704.48	-2947704.27	-2947704.07	0.0520	0.0100
Jupiter	-12778-06-22 13:55 J	-2945569.12	-2945568.92	-2945568.71	0.0505	0.0012
Jupiter	-12772-04-21 20:52 J	-2943438.80	-2943438.63	-2943438.46	0.0519	0.0288
Neptune	-12772-07-05 14:38 J	-2943363.89	-2943363.89	-2943363.88	0.0089	0.0089
Jupiter	-12772-12-15 14:52 J	-2943201.01	-2943200.88	-2943200.74	0.0523	0.0393
Neptune	-12771-02-16 02:52 J	-2943138.43	-2943138.38	-2943138.27	0.0089	0.0083
Saturn	-12771-06-14 15:21 J	-2943019.93	-2943019.86	-2943019.77	0.0275	0.0254
Neptune	-12771-09-29 16:04 J	-2942912.94	-2942912.83	-2942912.70	0.0089	0.0075
Saturn	-12770-01-30 04:04 J	-2942790.54	-2942790.33	-2942790.12	0.0278	0.0069
Neptune	-12770-05-13 04:48 J	-2942687.42	-2942687.30	-2942687.14	0.0089	0.0068
Saturn	-12770-09-16 18:57 J	-2942560.90	-2942560.71	-2942560.51	0.0281	0.0127
Neptune	-12770-12-24 17:31 J	-2942461.91	-2942461.77	-2942461.59	0.0089	0.0061
Neptune	-12769-08-06 06:43 J	-2942236.39	-2942236.22	-2942236.04	0.0089	0.0053
Neptune	-12768-03-19 19:11 J	-2942010.87	-2942010.70	-2942010.49	0.0089	0.0046
Neptune	-12768-10-31 08:24 J	-2941785.34	-2941785.15	-2941784.95	0.0089	0.0038
Neptune	-12767-06-13 21:07 J	-2941559.81	-2941559.62	-2941559.40	0.0089	0.0030
Neptune	-12766-01-25 10:04 J	-2941334.29	-2941334.08	-2941333.87	0.0089	0.0023
Jupiter	-12766-02-25 15:35 J	-2941303.04	-2941302.85	-2941302.66	0.0506	0.0171
Neptune	-12766-09-07 22:48 J	-2941108.76	-2941108.55	-2941108.33	0.0089	0.0015
Jupiter	-12766-10-19 21:50 J	-2941066.69	-2941066.59	-2941066.47	0.0503	0.0422
Neptune	-12765-04-20 11:31 J	-2940883.24	-2940883.02	-2940882.80	0.0089	0.0008
Neptune	-12765-12-02 00:14 J	-2940657.71	-2940657.49	-2940657.27	0.0089	0.0001
Neptune	-12764-07-15 13:11 J	-2940432.17	-2940431.95	-2940431.74	0.0089	0.0008
Neptune	-12763-02-26 01:40 J	-2940206.64	-2940206.43	-2940206.21	0.0089	0.0015
Neptune	-12763-10-09 14:09 J	-2939981.11	-2939980.91	-2939980.69	0.0089	0.0023
Neptune	-12762-05-23 02:38 J	-2939755.58	-2939755.39	-2939755.17	0.0089	0.0030
Neptune	-12761-01-03 15:21 J	-2939530.05	-2939529.86	-2939529.65	0.0089	0.0038
Neptune	-12761-08-16 03:50 J	-2939304.51	-2939304.34	-2939304.13	0.0089	0.0045

Jupiter	-12761-12-25 12:14 J	-2939173.06	-2939172.99	-2939172.90	0.0517	0.0471
Neptune	-12760-03-29 16:33 J	-2939078.97	-2939078.81	-2939078.62	0.0089	0.0052
Jupiter	-12760-08-20 05:16 J	-2938935.46	-2938935.28	-2938935.08	0.0522	0.0203
Neptune	-12760-11-10 05:16 J	-2938853.43	-2938853.28	-2938853.11	0.0089	0.0059
Neptune	-12759-06-23 17:45 J	-2938627.88	-2938627.76	-2938627.60	0.0089	0.0067
Neptune	-12758-02-04 06:14 J	-2938402.34	-2938402.24	-2938402.10	0.0089	0.0074
Saturn	-12758-09-06 15:50 J	-2938187.92	-2938187.84	-2938187.74	0.0287	0.0258
Neptune	-12758-09-17 18:57 J	-2938176.78	-2938176.71	-2938176.61	0.0089	0.0081
Mars	-12758-11-02 09:21 J	-2938131.28	-2938131.11	-2938130.95	0.1771	0.0512
Saturn	-12757-04-23 05:31 J	-2937958.47	-2937958.27	-2937958.06	0.0284	0.0054
Neptune	-12757-04-30 07:40 J	-2937951.19	-2937951.18	-2937951.14	0.0089	0.0088
Saturn	-12757-12-08 16:19 J	-2937729.00	-2937728.82	-2937728.64	0.0281	0.0141
Jupiter	-12755-10-31 17:31 J	-2937036.92	-2937036.77	-2937036.62	0.0508	0.0335
Jupiter	-12754-06-25 00:57 J	-2936800.63	-2936800.46	-2936800.29	0.0503	0.0264
Mars	-12753-06-17 20:52 J	-2936441.80	-2936441.63	-2936441.45	0.1742	0.0354
Uranus	-12749-12-22 05:02 J	-2934793.40	-2934793.29	-2934793.18	0.0145	0.0123
Jupiter	-12748-04-24 19:26 J	-2934669.89	-2934669.69	-2934669.48	0.0521	0.0014
Uranus	-12748-08-05 15:50 J	-2934567.01	-2934566.84	-2934566.65	0.0145	0.0079
Uranus	-12747-03-20 02:52 J	-2934340.58	-2934340.38	-2934340.17	0.0145	0.0035
Uranus	-12747-11-01 13:55 J	-2934114.13	-2934113.92	-2934113.70	0.0145	0.0011
Uranus	-12746-06-16 00:57 J	-2933887.65	-2933887.46	-2933887.25	0.0146	0.0056
Uranus	-12745-01-28 12:14 J	-2933661.13	-2933660.99	-2933660.83	0.0146	0.0101
Jupiter	-12743-07-06 18:43 J	-2932770.74	-2932770.72	-2932770.68	0.0509	0.0500
Jupiter	-12742-02-28 03:07 J	-2932534.56	-2932534.37	-2932534.17	0.0504	0.0102
Saturn	-12742-12-25 18:00 J	-2932233.85	-2932233.75	-2932233.62	0.0275	0.0233
Saturn	-12741-08-11 06:57 J	-2932004.42	-2932004.21	-2932004.00	0.0278	0.0045
Saturn	-12740-03-28 22:04 J	-2931774.75	-2931774.58	-2931774.39	0.0281	0.0151
Jupiter	-12737-12-28 12:00 J	-2930404.19	-2930404.00	-2930403.80	0.0519	0.0177
Jupiter	-12736-08-23 07:11 J	-2930166.25	-2930166.20	-2930166.15	0.0524	0.0508
Jupiter	-12731-11-03 02:24 J	-2928268.60	-2928268.40	-2928268.20	0.0505	0.0072

Saturn	-12728-03-18 20:38 J	-2927401.75	-2927401.64	-2927401.50	0.0287	0.0229
Saturn	-12728-11-03 10:19 J	-2927172.28	-2927172.07	-2927171.86	0.0284	0.0025
Saturn	-12727-06-20 20:38 J	-2926942.79	-2926942.64	-2926942.46	0.0281	0.0171
Mars	-12726-11-01 17:02 J	-2926443.95	-2926443.79	-2926443.63	0.1782	0.0675
Jupiter	-12725-09-02 05:31 J	-2926138.41	-2926138.27	-2926138.11	0.0518	0.0361
Jupiter	-12724-04-27 23:45 J	-2925900.67	-2925900.51	-2925900.34	0.0523	0.0323
Mars	-12721-06-17 02:24 J	-2924754.49	-2924754.40	-2924754.30	0.1731	0.1433
Mars	-12719-04-15 22:48 J	-2924086.69	-2924086.55	-2924086.40	0.1756	0.0926
Jupiter	-12719-07-09 03:35 J	-2924002.53	-2924002.35	-2924002.17	0.0507	0.0238
Jupiter	-12718-03-02 10:04 J	-2923766.22	-2923766.08	-2923765.94	0.0503	0.0358
Jupiter	-12713-12-31 14:38 J	-2921635.08	-2921634.89	-2921634.69	0.0521	0.0131
Saturn	-12712-07-06 21:21 J	-2921447.74	-2921447.61	-2921447.46	0.0275	0.0209
Saturn	-12711-02-21 10:04 J	-2921218.29	-2921218.08	-2921217.86	0.0278	0.0022
Saturn	-12711-10-09 01:26 J	-2920988.60	-2920988.44	-2920988.26	0.0282	0.0177
Uranus	-12708-04-08 18:43 J	-2920075.72	-2920075.72	-2920075.70	0.0134	0.0133
Uranus	-12708-11-21 01:11 J	-2919849.59	-2919849.45	-2919849.29	0.0133	0.0098
Jupiter	-12707-03-14 04:33 J	-2919736.43	-2919736.31	-2919736.19	0.0508	0.0405
Uranus	-12707-07-05 07:40 J	-2919623.37	-2919623.18	-2919622.98	0.0133	0.0062
Jupiter	-12707-11-05 12:14 J	-2919500.17	-2919499.99	-2919499.80	0.0504	0.0198
Uranus	-12706-02-16 14:09 J	-2919397.12	-2919396.91	-2919396.69	0.0133	0.0027
Uranus	-12706-09-30 20:24 J	-2919170.87	-2919170.65	-2919170.43	0.0133	0.0009
Uranus	-12705-05-14 02:38 J	-2918944.60	-2918944.39	-2918944.18	0.0133	0.0044
Uranus	-12705-12-26 08:24 J	-2918718.31	-2918718.15	-2918717.96	0.0133	0.0080
Uranus	-12704-08-09 14:38 J	-2918492.00	-2918491.89	-2918491.78	0.0133	0.0114
Jupiter	-12701-09-05 06:00 J	-2917369.46	-2917369.25	-2917369.05	0.0520	0.0060
Saturn	-12699-09-29 00:14 J	-2916615.63	-2916615.49	-2916615.34	0.0287	0.0204
Saturn	-12698-05-16 13:26 J	-2916386.15	-2916385.94	-2916385.73	0.0284	0.0004
Saturn	-12698-12-31 23:45 J	-2916156.66	-2916156.51	-2916156.36	0.0280	0.0191
Jupiter	-12695-07-11 15:07 J	-2915234.07	-2915233.87	-2915233.67	0.0505	0.0036
Mars	-12692-08-29 17:16 J	-2914088.94	-2914088.78	-2914088.62	0.1768	0.0667

Earth	-12691-11-06 10:19 J	-2913655.21	-2913655.07	-2913654.92	0.2664	0.1047
Moon	-12691-11-06 13:55 J	-2913655.04	-2913654.92	-2913654.80	0.2669	0.1630 *
Jupiter	-12689-05-10 20:38 J	-2913103.82	-2913103.64	-2913103.46	0.0519	0.0251
Neptune	-12689-11-13 01:40 J	-2912917.49	-2912917.43	-2912917.33	0.0088	0.0082
Jupiter	-12688-01-03 14:52 J	-2912865.99	-2912865.88	-2912865.77	0.0523	0.0434
Neptune	-12688-06-26 14:52 J	-2912691.97	-2912691.88	-2912691.74	0.0088	0.0075
Neptune	-12687-02-07 04:33 J	-2912466.45	-2912466.31	-2912466.16	0.0088	0.0067
Mars	-12687-04-15 05:31 J	-2912399.44	-2912399.27	-2912399.09	0.1745	0.0218
Neptune	-12687-09-20 17:31 J	-2912240.92	-2912240.77	-2912240.60	0.0088	0.0060
Neptune	-12686-05-04 06:28 J	-2912015.38	-2912015.23	-2912015.03	0.0088	0.0054
Neptune	-12686-12-15 20:24 J	-2911789.84	-2911789.65	-2911789.46	0.0088	0.0045
Neptune	-12685-07-28 09:21 J	-2911564.30	-2911564.11	-2911563.90	0.0088	0.0038
Neptune	-12684-03-10 22:33 J	-2911338.75	-2911338.56	-2911338.34	0.0088	0.0031
Neptune	-12684-10-22 12:00 J	-2911113.21	-2911113.00	-2911112.78	0.0088	0.0023
Jupiter	-12683-03-16 17:16 J	-2910967.97	-2910967.78	-2910967.58	0.0506	0.0131
Neptune	-12683-06-05 01:11 J	-2910887.66	-2910887.45	-2910887.22	0.0088	0.0016
Earth	-12683-11-04 03:35 J	-2910735.44	-2910735.35	-2910735.26	0.2666	0.2190
Moon	-12683-11-04 08:52 J	-2910735.26	-2910735.13	-2910735.00	0.2666	0.1497 *
Jupiter	-12683-11-07 23:31 J	-2910731.59	-2910731.52	-2910731.44	0.0502	0.0463
Neptune	-12682-01-16 14:52 J	-2910662.11	-2910661.88	-2910661.66	0.0088	0.0008
Saturn	-12682-01-16 23:02 J	-2910661.69	-2910661.54	-2910661.38	0.0276	0.0188 *
Neptune	-12682-08-30 04:04 J	-2910436.55	-2910436.33	-2910436.11	0.0088	0.0001
Saturn	-12682-09-03 12:00 J	-2910432.21	-2910432.00	-2910431.78	0.0279	0.0004
Neptune	-12681-04-11 17:16 J	-2910211.00	-2910210.78	-2910210.55	0.0088	0.0007
Saturn	-12681-04-20 03:35 J	-2910202.50	-2910202.35	-2910202.19	0.0282	0.0199
Neptune	-12681-11-23 06:43 J	-2909985.43	-2909985.22	-2909984.99	0.0088	0.0014
Neptune	-12680-07-06 19:55 J	-2909759.87	-2909759.67	-2909759.44	0.0088	0.0022
Neptune	-12679-02-17 09:21 J	-2909534.31	-2909534.11	-2909533.89	0.0088	0.0030
Neptune	-12679-09-30 23:02 J	-2909308.74	-2909308.54	-2909308.34	0.0088	0.0037
Neptune	-12678-05-14 12:14 J	-2909083.17	-2909082.99	-2909082.79	0.0088	0.0044

Neptune	-12678-12-26 01:55 J	-2908857.59	-2908857.42	-2908857.23	0.0088	0.0052
Jupiter	-12677-01-14 13:55 J	-2908838.03	-2908837.92	-2908837.81	0.0518	0.0432
Neptune	-12677-08-07 15:07 J	-2908632.02	-2908631.87	-2908631.69	0.0088	0.0059
Jupiter	-12677-09-08 07:26 J	-2908600.37	-2908600.19	-2908600.01	0.0522	0.0248
Neptune	-12676-03-21 04:48 J	-2908406.44	-2908406.30	-2908406.15	0.0088	0.0066
Neptune	-12676-11-01 17:45 J	-2908180.86	-2908180.76	-2908180.62	0.0088	0.0074
Neptune	-12675-06-15 07:11 J	-2907955.26	-2907955.20	-2907955.09	0.0088	0.0082
Jupiter	-12672-11-19 16:19 J	-2906701.97	-2906701.82	-2906701.65	0.0507	0.0304
Jupiter	-12671-07-13 23:16 J	-2906465.69	-2906465.53	-2906465.37	0.0503	0.0297
Saturn	-12669-04-10 03:21 J	-2905829.52	-2905829.36	-2905829.19	0.0287	0.0178
Saturn	-12669-11-25 16:33 J	-2905600.02	-2905599.81	-2905599.60	0.0284	0.0025
Saturn	-12668-07-13 02:52 J	-2905370.51	-2905370.38	-2905370.25	0.0281	0.0218
Jupiter	-12665-05-14 00:28 J	-2904334.69	-2904334.48	-2904334.28	0.0521	0.0060
Uranus	-12665-08-21 12:00 J	-2904235.00	-2904235.00	-2904234.97	0.0145	0.0145
Uranus	-12664-04-04 23:02 J	-2904008.69	-2904008.54	-2904008.39	0.0145	0.0100
Uranus	-12664-11-17 09:35 J	-2903782.28	-2903782.10	-2903781.89	0.0145	0.0057
Uranus	-12663-07-01 20:52 J	-2903555.84	-2903555.63	-2903555.41	0.0145	0.0011
Uranus	-12662-02-13 08:09 J	-2903329.37	-2903329.16	-2903328.95	0.0146	0.0035
Uranus	-12662-09-27 19:26 J	-2903102.87	-2903102.69	-2903102.51	0.0146	0.0080
Uranus	-12661-05-11 06:28 J	-2902876.32	-2902876.23	-2902876.11	0.0146	0.0126
Jupiter	-12660-07-25 17:31 J	-2902435.84	-2902435.77	-2902435.69	0.0508	0.0469
Mars	-12660-08-29 00:14 J	-2902401.65	-2902401.49	-2902401.32	0.1778	0.0499
Jupiter	-12659-03-19 01:11 J	-2902199.64	-2902199.45	-2902199.25	0.0504	0.0134
Mars	-12655-04-14 11:16 J	-2900712.14	-2900712.03	-2900711.92	0.1734	0.1303
Jupiter	-12653-01-17 16:19 J	-2900069.02	-2900068.82	-2900068.62	0.0520	0.0131
Mars	-12653-02-11 06:43 J	-2900044.36	-2900044.22	-2900044.08	0.1759	0.1084
Saturn	-12653-07-29 01:11 J	-2899875.61	-2899875.45	-2899875.27	0.0276	0.0166
Saturn	-12652-03-15 14:09 J	-2899646.12	-2899645.91	-2899645.69	0.0279	0.0024
Saturn	-12652-10-31 05:45 J	-2899416.38	-2899416.26	-2899416.12	0.0282	0.0222
Jupiter	-12648-11-22 03:07 J	-2897933.57	-2897933.37	-2897933.16	0.0505	0.0034

Jupiter	-12642-09-22 08:09 J	-2895803.33	-2895803.16	-2895803.00	0.0518	0.0319
Jupiter	-12641-05-17 01:40 J	-2895565.57	-2895565.43	-2895565.28	0.0522	0.0367
Saturn	-12640-10-21 05:45 J	-2895043.43	-2895043.26	-2895043.08	0.0287	0.0155
Saturn	-12639-06-07 18:43 J	-2894813.92	-2894813.72	-2894813.51	0.0283	0.0047
Saturn	-12638-01-23 04:33 J	-2894584.41	-2894584.31	-2894584.19	0.0280	0.0238
Jupiter	-12636-07-28 05:45 J	-2893667.45	-2893667.26	-2893667.08	0.0507	0.0197
Jupiter	-12635-03-21 12:28 J	-2893431.09	-2893430.98	-2893430.86	0.0503	0.0403
Jupiter	-12630-05-27 23:16 J	-2891537.57	-2891537.53	-2891537.48	0.0517	0.0503
Jupiter	-12629-01-20 16:04 J	-2891300.02	-2891299.83	-2891299.63	0.0521	0.0175
Mars	-12628-08-28 09:07 J	-2890714.16	-2890714.12	-2890714.07	0.1790	0.1719
Pluto	-12627-02-21 18:14 J	-2890536.86	-2890536.74	-2890536.58	0.0064	0.0049
Pluto	-12627-10-04 22:19 J	-2890311.77	-2890311.57	-2890311.35	0.0064	0.0015
Pluto	-12626-05-18 02:09 J	-2890086.60	-2890086.41	-2890086.19	0.0065	0.0020
Mars	-12626-06-27 00:57 J	-2890046.61	-2890046.46	-2890046.30	0.1764	0.0827
Pluto	-12626-12-29 06:14 J	-2889861.34	-2889861.24	-2889861.11	0.0065	0.0054
Jupiter	-12624-04-02 07:26 J	-2889401.32	-2889401.19	-2889401.04	0.0508	0.0364
Uranus	-12624-07-21 10:04 J	-2889291.18	-2889291.08	-2889290.96	0.0133	0.0115
Jupiter	-12624-11-24 15:07 J	-2889165.04	-2889164.87	-2889164.69	0.0504	0.0242
Saturn	-12623-02-08 02:09 J	-2889089.59	-2889089.41	-2889089.22	0.0276	0.0146
Uranus	-12623-03-04 16:19 J	-2889064.98	-2889064.82	-2889064.62	0.0133	0.0080
Saturn	-12623-09-25 15:07 J	-2888860.08	-2888859.87	-2888859.65	0.0279	0.0045
Uranus	-12623-10-16 23:02 J	-2888838.75	-2888838.54	-2888838.33	0.0133	0.0043
Saturn	-12622-05-13 06:57 J	-2888630.31	-2888630.21	-2888630.09	0.0282	0.0243
Uranus	-12622-05-31 05:16 J	-2888612.50	-2888612.28	-2888612.06	0.0133	0.0008
Uranus	-12621-01-12 11:31 J	-2888386.23	-2888386.02	-2888385.80	0.0133	0.0028
Mars	-12621-02-10 13:55 J	-2888357.10	-2888356.92	-2888356.75	0.1748	0.0075
Uranus	-12621-08-25 17:31 J	-2888159.96	-2888159.77	-2888159.57	0.0133	0.0063
Uranus	-12620-04-08 23:45 J	-2887933.66	-2887933.51	-2887933.36	0.0133	0.0098
Jupiter	-12618-09-25 09:07 J	-2887034.33	-2887034.12	-2887033.92	0.0520	0.0016
Jupiter	-12612-07-30 15:07 J	-2884899.07	-2884898.87	-2884898.67	0.0504	0.0071

Saturn	-12610-05-03 07:55 J	-2884257.35	-2884257.17	-2884256.98	0.0287	0.0131
Saturn	-12610-12-18 20:52 J	-2884027.83	-2884027.63	-2884027.43	0.0284	0.0071
Saturn	-12609-08-04 06:43 J	-2883798.28	-2883798.22	-2883798.14	0.0280	0.0263
Neptune	-12607-05-20 14:52 J	-2883143.91	-2883143.88	-2883143.79	0.0089	0.0087
Neptune	-12606-01-01 04:04 J	-2882918.42	-2882918.33	-2882918.22	0.0089	0.0079
Jupiter	-12606-05-31 02:09 J	-2882768.60	-2882768.41	-2882768.22	0.0519	0.0202
Neptune	-12606-08-14 16:48 J	-2882692.91	-2882692.80	-2882692.65	0.0089	0.0071
Jupiter	-12605-01-23 21:07 J	-2882530.68	-2882530.62	-2882530.54	0.0523	0.0488
Neptune	-12605-03-27 05:45 J	-2882467.40	-2882467.26	-2882467.10	0.0089	0.0064
Neptune	-12605-11-07 18:28 J	-2882241.88	-2882241.73	-2882241.55	0.0089	0.0056
Neptune	-12604-06-21 07:40 J	-2882016.36	-2882016.18	-2882016.00	0.0089	0.0049
Neptune	-12603-02-01 20:09 J	-2881790.84	-2881790.66	-2881790.45	0.0089	0.0041
Neptune	-12603-09-15 09:07 J	-2881565.31	-2881565.12	-2881564.91	0.0089	0.0034
Neptune	-12602-04-28 21:50 J	-2881339.79	-2881339.59	-2881339.37	0.0089	0.0026
Neptune	-12602-12-10 10:48 J	-2881114.26	-2881114.05	-2881113.83	0.0089	0.0018
Neptune	-12601-07-22 23:45 J	-2880888.73	-2880888.51	-2880888.29	0.0089	0.0011
Neptune	-12600-03-05 12:28 J	-2880663.20	-2880662.98	-2880662.76	0.0089	0.0003
Jupiter	-12600-04-04 16:48 J	-2880632.99	-2880632.80	-2880632.60	0.0506	0.0097
Neptune	-12600-10-17 01:11 J	-2880437.67	-2880437.45	-2880437.23	0.0089	0.0005
Jupiter	-12600-11-26 22:33 J	-2880396.58	-2880396.56	-2880396.53	0.0502	0.0498
Neptune	-12599-05-30 13:55 J	-2880212.13	-2880211.92	-2880211.70	0.0089	0.0012
Neptune	-12598-01-11 02:24 J	-2879986.60	-2879986.40	-2879986.18	0.0089	0.0020
Neptune	-12598-08-24 15:07 J	-2879761.07	-2879760.87	-2879760.66	0.0089	0.0028
Neptune	-12597-04-06 03:35 J	-2879535.54	-2879535.35	-2879535.14	0.0089	0.0035
Neptune	-12597-11-17 16:33 J	-2879310.00	-2879309.81	-2879309.62	0.0089	0.0043
Neptune	-12596-07-01 04:48 J	-2879084.46	-2879084.30	-2879084.10	0.0089	0.0051
Neptune	-12595-02-11 17:45 J	-2878858.92	-2878858.76	-2878858.59	0.0089	0.0058
Neptune	-12595-09-25 06:00 J	-2878633.38	-2878633.25	-2878633.09	0.0089	0.0065
Jupiter	-12594-02-02 18:57 J	-2878502.85	-2878502.71	-2878502.58	0.0518	0.0387
Neptune	-12594-05-08 18:43 J	-2878407.84	-2878407.72	-2878407.59	0.0089	0.0072

Mars	-12594-06-26 08:24 J	-2878359.32	-2878359.15	-2878358.98	0.1775	0.0338
Saturn	-12594-08-21 04:04 J	-2878303.52	-2878303.33	-2878303.13	0.0276	0.0124
Jupiter	-12594-09-28 12:43 J	-2878265.14	-2878264.97	-2878264.81	0.0522	0.0298
Neptune	-12594-12-20 06:57 J	-2878182.28	-2878182.21	-2878182.09	0.0089	0.0080
Saturn	-12593-04-06 17:16 J	-2878073.99	-2878073.78	-2878073.57	0.0279	0.0067
Earth	-12593-05-10 21:21 J	-2878039.76	-2878039.61	-2878039.45	0.2668	0.0524
Moon	-12593-05-10 22:19 J	-2878039.72	-2878039.57	-2878039.42	0.2675	0.0340 *
Neptune	-12593-08-01 19:40 J	-2877956.70	-2877956.68	-2877956.61	0.0089	0.0087
Saturn	-12593-11-22 08:52 J	-2877844.18	-2877844.13	-2877844.04	0.0282	0.0267
Mars	-12589-02-09 20:09 J	-2876669.79	-2876669.66	-2876669.53	0.1738	0.1176
Jupiter	-12589-12-08 18:14 J	-2876366.91	-2876366.74	-2876366.57	0.0507	0.0264
Jupiter	-12588-08-02 01:11 J	-2876130.59	-2876130.45	-2876130.30	0.0503	0.0340
Mars	-12588-12-08 14:24 J	-2876002.03	-2876001.90	-2876001.78	0.1763	0.1248
Jupiter	-12582-06-03 03:35 J	-2873999.55	-2873999.35	-2873999.14	0.0521	0.0107
Saturn	-12581-11-12 09:07 J	-2873471.31	-2873471.12	-2873470.92	0.0286	0.0110
Uranus	-12581-12-03 04:04 J	-2873450.43	-2873450.33	-2873450.21	0.0145	0.0123
Saturn	-12580-06-29 21:50 J	-2873241.78	-2873241.59	-2873241.39	0.0283	0.0091
Uranus	-12580-07-17 14:52 J	-2873224.04	-2873223.88	-2873223.69	0.0145	0.0079
Uranus	-12579-03-01 02:09 J	-2872997.61	-2872997.41	-2872997.20	0.0145	0.0034
Uranus	-12579-10-13 13:26 J	-2872771.16	-2872770.94	-2872770.73	0.0145	0.0012
Uranus	-12578-05-28 00:28 J	-2872544.67	-2872544.48	-2872544.28	0.0146	0.0057
Uranus	-12577-01-09 11:31 J	-2872318.15	-2872318.02	-2872317.85	0.0146	0.0103
Jupiter	-12577-08-13 20:09 J	-2872100.76	-2872100.66	-2872100.55	0.0508	0.0430
Jupiter	-12576-04-07 04:19 J	-2871864.51	-2871864.32	-2871864.13	0.0504	0.0179
Jupiter	-12570-02-05 18:43 J	-2869733.93	-2869733.72	-2869733.52	0.0520	0.0087
Jupiter	-12565-12-11 06:57 J	-2867598.41	-2867598.21	-2867598.01	0.0505	0.0015
Saturn	-12564-03-02 04:19 J	-2867517.51	-2867517.32	-2867517.11	0.0276	0.0105
Saturn	-12564-10-17 17:31 J	-2867287.97	-2867287.77	-2867287.56	0.0279	0.0087
Mars	-12562-06-25 16:19 J	-2866671.91	-2866671.82	-2866671.73	0.1786	0.1538
Mars	-12560-04-23 10:04 J	-2866004.23	-2866004.08	-2866003.94	0.1761	0.0969

Jupiter	-12559-10-11 11:31 J	-2865468.19	-2865468.02	-2865467.84	0.0519	0.0274
Jupiter	-12558-06-06 05:45 J	-2865230.37	-2865230.26	-2865230.13	0.0523	0.0417
Mars	-12556-12-07 22:19 J	-2864314.75	-2864314.57	-2864314.39	0.1751	0.0078
Jupiter	-12553-08-16 06:57 J	-2863332.40	-2863332.21	-2863332.02	0.0506	0.0159
Jupiter	-12552-04-09 12:57 J	-2863096.05	-2863095.96	-2863095.86	0.0502	0.0439
Saturn	-12551-05-25 10:48 J	-2862685.25	-2862685.05	-2862684.85	0.0287	0.0087
Saturn	-12550-01-09 23:31 J	-2862455.71	-2862455.52	-2862455.33	0.0283	0.0114
Jupiter	-12547-06-16 04:48 J	-2861202.39	-2861202.30	-2861202.20	0.0518	0.0458
Jupiter	-12546-02-08 22:48 J	-2860964.73	-2860964.55	-2860964.36	0.0522	0.0228
Jupiter	-12541-04-21 08:24 J	-2859066.30	-2859066.15	-2859065.99	0.0507	0.0327
Jupiter	-12541-12-13 15:07 J	-2858830.03	-2858829.87	-2858829.70	0.0503	0.0279
Uranus	-12540-03-20 17:45 J	-2858732.76	-2858732.76	-2858732.71	0.0134	0.0133
Uranus	-12540-11-02 00:28 J	-2858506.62	-2858506.48	-2858506.32	0.0133	0.0097
Uranus	-12539-06-16 06:43 J	-2858280.40	-2858280.22	-2858280.01	0.0133	0.0062
Pluto	-12538-01-15 07:40 J	-2858067.39	-2858067.18	-2858066.97	0.0079	0.0030
Uranus	-12538-01-28 13:26 J	-2858054.15	-2858053.94	-2858053.72	0.0133	0.0025
Pluto	-12538-08-28 18:00 J	-2857841.93	-2857841.75	-2857841.53	0.0079	0.0037
Uranus	-12538-09-11 19:40 J	-2857827.90	-2857827.68	-2857827.46	0.0133	0.0011
Uranus	-12537-04-25 01:40 J	-2857601.63	-2857601.43	-2857601.21	0.0133	0.0046
Uranus	-12537-12-07 07:55 J	-2857375.34	-2857375.17	-2857375.00	0.0133	0.0081
Uranus	-12536-07-21 13:55 J	-2857149.02	-2857148.92	-2857148.81	0.0133	0.0116
Saturn	-12535-01-25 19:55 J	-2856960.72	-2856960.67	-2856960.62	0.0273	0.0265
Saturn	-12535-09-12 06:14 J	-2856731.44	-2856731.24	-2856731.03	0.0276	0.0084
Jupiter	-12535-10-14 14:38 J	-2856699.09	-2856698.89	-2856698.68	0.0521	0.0036
Saturn	-12534-04-29 19:40 J	-2856501.88	-2856501.68	-2856501.48	0.0279	0.0108
Jupiter	-12530-12-26 09:07 J	-2854800.16	-2854800.12	-2854800.07	0.0509	0.0495
Jupiter	-12529-08-18 17:31 J	-2854563.96	-2854563.77	-2854563.57	0.0504	0.0114
Mars	-12528-04-22 16:19 J	-2854316.99	-2854316.82	-2854316.65	0.1772	0.0175
Neptune	-12524-02-14 13:26 J	-2852922.97	-2852922.94	-2852922.87	0.0088	0.0086
Neptune	-12524-09-28 03:07 J	-2852697.47	-2852697.37	-2852697.27	0.0088	0.0078

Mars	-12524-12-07 04:33 J	-2852627.45	-2852627.31	-2852627.17	0.1741	0.1038
Neptune	-12523-05-11 16:04 J	-2852471.95	-2852471.83	-2852471.69	0.0088	0.0071
Jupiter	-12523-06-19 06:14 J	-2852433.43	-2852433.24	-2852433.04	0.0519	0.0155
Neptune	-12523-12-23 05:16 J	-2852246.41	-2852246.28	-2852246.11	0.0088	0.0064
Saturn	-12522-04-19 19:55 J	-2852128.71	-2852128.67	-2852128.60	0.0290	0.0277
Neptune	-12522-08-05 18:43 J	-2852020.88	-2852020.72	-2852020.54	0.0088	0.0056
Mars	-12522-10-05 22:04 J	-2851959.68	-2851959.58	-2851959.48	0.1766	0.1410
Saturn	-12522-12-05 11:31 J	-2851899.22	-2851899.02	-2851898.81	0.0286	0.0067
Neptune	-12521-03-18 07:40 J	-2851795.35	-2851795.18	-2851794.98	0.0088	0.0049
Saturn	-12521-07-22 00:14 J	-2851669.67	-2851669.49	-2851669.30	0.0283	0.0134
Neptune	-12521-10-29 21:07 J	-2851569.81	-2851569.62	-2851569.41	0.0088	0.0042
Neptune	-12520-06-12 10:19 J	-2851344.26	-2851344.07	-2851343.85	0.0088	0.0034
Neptune	-12519-01-23 23:45 J	-2851118.72	-2851118.51	-2851118.29	0.0088	0.0026
Neptune	-12519-09-06 12:57 J	-2850893.17	-2850892.96	-2850892.74	0.0088	0.0019
Neptune	-12518-04-20 02:09 J	-2850667.62	-2850667.41	-2850667.18	0.0088	0.0012
Neptune	-12518-12-01 15:35 J	-2850442.07	-2850441.85	-2850441.62	0.0088	0.0004
Jupiter	-12517-04-23 19:55 J	-2850297.87	-2850297.67	-2850297.47	0.0506	0.0053
Neptune	-12517-07-14 05:02 J	-2850216.51	-2850216.29	-2850216.07	0.0088	0.0004
Neptune	-12516-02-24 18:14 J	-2849990.96	-2849990.74	-2849990.52	0.0088	0.0012
Neptune	-12516-10-08 07:26 J	-2849765.40	-2849765.19	-2849764.97	0.0088	0.0019
Neptune	-12515-05-21 20:38 J	-2849539.84	-2849539.64	-2849539.41	0.0088	0.0027
Neptune	-12514-01-02 10:19 J	-2849314.27	-2849314.07	-2849313.86	0.0088	0.0034
Neptune	-12514-08-15 23:31 J	-2849088.70	-2849088.52	-2849088.31	0.0088	0.0042
Neptune	-12513-03-28 13:11 J	-2848863.13	-2848862.95	-2848862.76	0.0088	0.0050
Neptune	-12513-11-09 02:09 J	-2848637.56	-2848637.41	-2848637.22	0.0088	0.0058
Neptune	-12512-06-22 16:04 J	-2848411.98	-2848411.83	-2848411.68	0.0088	0.0065
Neptune	-12511-02-03 05:16 J	-2848186.39	-2848186.28	-2848186.14	0.0088	0.0072
Jupiter	-12511-02-21 21:35 J	-2848167.75	-2848167.60	-2848167.44	0.0518	0.0345
Neptune	-12511-09-16 18:57 J	-2847960.80	-2847960.71	-2847960.61	0.0088	0.0080
Jupiter	-12511-10-17 15:21 J	-2847930.01	-2847929.86	-2847929.70	0.0522	0.0345

Neptune	-12510-04-30 07:55 J	-2847735.18	-2847735.17	-2847735.11	0.0088	0.0088
Saturn	-12506-08-07 20:52 J	-2846174.72	-2846174.63	-2846174.54	0.0273	0.0246
Jupiter	-12506-12-28 22:19 J	-2846031.75	-2846031.57	-2846031.39	0.0507	0.0219
Saturn	-12505-03-24 07:26 J	-2845945.40	-2845945.19	-2845944.98	0.0276	0.0063
Jupiter	-12505-08-21 05:16 J	-2845795.41	-2845795.28	-2845795.15	0.0503	0.0386
Saturn	-12505-11-08 20:52 J	-2845715.82	-2845715.63	-2845715.44	0.0279	0.0130
Jupiter	-12499-06-22 07:55 J	-2843664.37	-2843664.17	-2843663.97	0.0521	0.0155
Uranus	-12496-03-16 18:28 J	-2842665.86	-2842665.73	-2842665.56	0.0145	0.0104
Mars	-12496-04-21 23:31 J	-2842629.63	-2842629.52	-2842629.41	0.1783	0.1357
Uranus	-12496-10-29 05:31 J	-2842439.45	-2842439.27	-2842439.06	0.0145	0.0060
Uranus	-12495-06-12 16:48 J	-2842213.01	-2842212.80	-2842212.59	0.0145	0.0014
Uranus	-12494-01-25 04:04 J	-2841986.54	-2841986.33	-2841986.12	0.0145	0.0032
Mars	-12494-02-18 18:00 J	-2841961.88	-2841961.75	-2841961.62	0.1757	0.1119
Jupiter	-12494-09-02 22:33 J	-2841765.69	-2841765.56	-2841765.44	0.0507	0.0391
Uranus	-12494-09-08 15:07 J	-2841760.04	-2841759.87	-2841759.67	0.0146	0.0078
Uranus	-12493-04-22 02:38 J	-2841533.49	-2841533.39	-2841533.27	0.0146	0.0123
Jupiter	-12493-04-26 05:31 J	-2841529.45	-2841529.27	-2841529.08	0.0503	0.0218
Saturn	-12493-10-29 21:21 J	-2841342.70	-2841342.61	-2841342.51	0.0290	0.0254
Saturn	-12492-06-16 12:57 J	-2841113.17	-2841112.96	-2841112.75	0.0286	0.0044
Saturn	-12491-02-01 01:26 J	-2840883.61	-2840883.44	-2840883.27	0.0283	0.0156
Mars	-12490-10-05 06:14 J	-2840272.41	-2840272.24	-2840272.06	0.1755	0.0233
Jupiter	-12487-02-25 00:28 J	-2839398.68	-2839398.48	-2839398.27	0.0521	0.0036
Jupiter	-12482-12-31 07:40 J	-2837263.38	-2837263.18	-2837262.98	0.0504	0.0051
Saturn	-12476-02-16 22:48 J	-2835388.66	-2835388.55	-2835388.42	0.0273	0.0225
Saturn	-12476-10-04 09:35 J	-2835159.31	-2835159.10	-2835158.89	0.0276	0.0042
Jupiter	-12476-10-30 16:48 J	-2835132.98	-2835132.80	-2835132.61	0.0519	0.0226
Saturn	-12475-05-21 23:02 J	-2834929.72	-2834929.54	-2834929.36	0.0279	0.0151
Jupiter	-12475-06-25 11:31 J	-2834895.10	-2834895.02	-2834894.93	0.0523	0.0469
Jupiter	-12470-09-05 09:21 J	-2832997.30	-2832997.11	-2832996.91	0.0506	0.0117
Jupiter	-12469-04-28 15:35 J	-2832760.90	-2832760.85	-2832760.80	0.0502	0.0483

Jupiter	-12464-07-05 09:21 J	-2830867.24	-2830867.11	-2830866.99	0.0518	0.0412
Jupiter	-12463-02-28 02:52 J	-2830629.55	-2830629.38	-2830629.21	0.0522	0.0277
Saturn	-12463-05-11 22:19 J	-2830556.68	-2830556.57	-2830556.44	0.0289	0.0235
Saturn	-12463-12-27 13:40 J	-2830327.13	-2830326.93	-2830326.72	0.0286	0.0025
Mars	-12462-02-18 00:14 J	-2830274.66	-2830274.49	-2830274.32	0.1768	0.0017
Saturn	-12462-08-14 02:09 J	-2830097.57	-2830097.41	-2830097.25	0.0283	0.0175
Jupiter	-12458-05-11 11:02 J	-2828731.20	-2828731.04	-2828730.87	0.0507	0.0285
Mars	-12458-10-04 13:11 J	-2828585.10	-2828584.95	-2828584.80	0.1744	0.0901
Jupiter	-12457-01-02 18:14 J	-2828494.89	-2828494.74	-2828494.58	0.0503	0.0324
Uranus	-12456-07-02 08:09 J	-2827948.26	-2827948.16	-2827948.04	0.0134	0.0115
Mars	-12456-08-02 05:02 J	-2827917.36	-2827917.29	-2827917.21	0.1769	0.1586
Uranus	-12455-02-13 14:38 J	-2827722.06	-2827721.89	-2827721.70	0.0133	0.0079
Uranus	-12455-09-27 21:07 J	-2827495.82	-2827495.62	-2827495.40	0.0133	0.0043
Uranus	-12454-05-12 03:35 J	-2827269.57	-2827269.35	-2827269.13	0.0133	0.0007
Uranus	-12454-12-24 09:50 J	-2827043.31	-2827043.09	-2827042.87	0.0133	0.0028
Uranus	-12453-08-06 15:50 J	-2826817.03	-2826816.84	-2826816.64	0.0133	0.0064
Uranus	-12452-03-20 22:04 J	-2826590.72	-2826590.58	-2826590.43	0.0133	0.0099
Jupiter	-12452-11-02 17:16 J	-2826363.98	-2826363.78	-2826363.57	0.0521	0.0082
Moon	-12448-11-06 12:00 J	-2824899.15	-2824899.00	-2824898.84	0.2659	0.0786
Earth	-12448-11-06 13:40 J	-2824899.07	-2824898.93	-2824898.79	0.2666	0.1251 *
Saturn	-12447-08-30 00:14 J	-2824602.62	-2824602.49	-2824602.34	0.0274	0.0205
Jupiter	-12446-01-14 12:57 J	-2824465.05	-2824464.96	-2824464.87	0.0509	0.0453
Saturn	-12446-04-16 11:16 J	-2824373.25	-2824373.03	-2824372.82	0.0277	0.0020
Jupiter	-12446-09-07 21:07 J	-2824228.81	-2824228.62	-2824228.43	0.0504	0.0160
Saturn	-12446-12-02 00:43 J	-2824143.63	-2824143.47	-2824143.30	0.0280	0.0174
Neptune	-12442-04-04 16:04 J	-2822923.90	-2822923.83	-2822923.74	0.0089	0.0083
Neptune	-12442-11-16 04:33 J	-2822698.40	-2822698.31	-2822698.17	0.0089	0.0076
Neptune	-12441-06-28 17:45 J	-2822472.89	-2822472.76	-2822472.61	0.0089	0.0068
Neptune	-12440-02-09 06:28 J	-2822247.37	-2822247.23	-2822247.05	0.0089	0.0060
Jupiter	-12440-07-08 09:50 J	-2822098.29	-2822098.09	-2822097.89	0.0520	0.0109

Neptune	-12440-09-22 19:11 J	-2822021.86	-2822021.70	-2822021.51	0.0089	0.0053
Moon	-12440-11-04 02:09 J	-2821979.48	-2821979.41	-2821979.34	0.2665	0.2381
Earth	-12440-11-04 06:57 J	-2821979.31	-2821979.21	-2821979.10	0.2668	0.1981
Neptune	-12439-05-06 08:24 J	-2821796.34	-2821796.15	-2821795.96	0.0089	0.0045
Neptune	-12439-12-17 20:52 J	-2821570.81	-2821570.63	-2821570.42	0.0089	0.0037
Neptune	-12438-07-31 09:50 J	-2821345.29	-2821345.09	-2821344.88	0.0089	0.0029
Neptune	-12437-03-12 22:48 J	-2821119.76	-2821119.55	-2821119.34	0.0089	0.0022
Neptune	-12437-10-24 11:16 J	-2820894.23	-2820894.03	-2820893.80	0.0089	0.0015
Neptune	-12436-06-07 00:14 J	-2820668.70	-2820668.49	-2820668.27	0.0089	0.0007
Neptune	-12435-01-18 13:11 J	-2820443.17	-2820442.95	-2820442.73	0.0089	0.0002
Neptune	-12435-09-01 01:55 J	-2820217.64	-2820217.42	-2820217.20	0.0089	0.0009
Neptune	-12434-04-14 14:24 J	-2819992.10	-2819991.90	-2819991.68	0.0089	0.0018
Jupiter	-12434-05-13 21:50 J	-2819962.79	-2819962.59	-2819962.39	0.0505	0.0012
Saturn	-12434-11-22 00:00 J	-2819770.63	-2819770.50	-2819770.35	0.0289	0.0212
Neptune	-12434-11-26 03:07 J	-2819766.57	-2819766.37	-2819766.15	0.0089	0.0025
Saturn	-12433-07-08 15:21 J	-2819541.06	-2819540.86	-2819540.65	0.0286	0.0006
Neptune	-12433-07-08 16:19 J	-2819541.03	-2819540.82	-2819540.62	0.0089	0.0033 *
Neptune	-12432-02-19 04:33 J	-2819315.49	-2819315.31	-2819315.10	0.0089	0.0041
Saturn	-12432-02-23 03:35 J	-2819311.49	-2819311.35	-2819311.20	0.0283	0.0198
Neptune	-12432-10-02 17:02 J	-2819089.95	-2819089.79	-2819089.59	0.0089	0.0048
Neptune	-12431-05-16 06:00 J	-2818864.42	-2818864.25	-2818864.08	0.0089	0.0056
Neptune	-12431-12-27 18:14 J	-2818638.87	-2818638.74	-2818638.57	0.0089	0.0064
Mars	-12430-02-17 07:11 J	-2818587.33	-2818587.20	-2818587.07	0.1779	0.1187
Neptune	-12430-08-10 06:57 J	-2818413.32	-2818413.21	-2818413.06	0.0089	0.0071
Neptune	-12429-03-22 19:40 J	-2818187.77	-2818187.68	-2818187.56	0.0089	0.0078
Neptune	-12429-11-03 08:24 J	-2817962.20	-2817962.15	-2817962.09	0.0089	0.0086
Mars	-12429-12-16 03:07 J	-2817919.49	-2817919.37	-2817919.25	0.1754	0.1256
Jupiter	-12428-03-13 02:09 J	-2817832.58	-2817832.41	-2817832.24	0.0519	0.0299
Jupiter	-12428-11-05 20:52 J	-2817594.76	-2817594.63	-2817594.49	0.0523	0.0398
Mars	-12424-08-01 14:24 J	-2816230.07	-2816229.90	-2816229.73	0.1758	0.0385

Jupiter	-12422-01-16 23:31 J	-2815696.71	-2815696.52	-2815696.33	0.0506	0.0180
Jupiter	-12422-09-10 05:31 J	-2815460.37	-2815460.27	-2815460.16	0.0502	0.0423
Saturn	-12417-03-11 03:35 J	-2813816.51	-2813816.35	-2813816.19	0.0273	0.0182
Saturn	-12417-10-26 14:38 J	-2813587.11	-2813586.89	-2813586.68	0.0276	0.0006
Jupiter	-12417-11-15 18:57 J	-2813566.78	-2813566.71	-2813566.63	0.0518	0.0483
Saturn	-12416-06-13 04:04 J	-2813357.47	-2813357.33	-2813357.17	0.0279	0.0197
Jupiter	-12416-07-11 12:43 J	-2813329.16	-2813328.97	-2813328.79	0.0522	0.0206
Uranus	-12413-11-13 23:02 J	-2812107.63	-2812107.54	-2812107.44	0.0145	0.0128
Uranus	-12412-06-28 10:04 J	-2811881.26	-2811881.08	-2811880.91	0.0145	0.0083
Uranus	-12411-02-09 21:07 J	-2811654.83	-2811654.62	-2811654.42	0.0145	0.0039
Jupiter	-12411-09-22 00:14 J	-2811430.63	-2811430.49	-2811430.34	0.0507	0.0351
Uranus	-12411-09-24 08:09 J	-2811428.37	-2811428.16	-2811427.95	0.0145	0.0007
Uranus	-12410-05-08 19:11 J	-2811201.89	-2811201.70	-2811201.49	0.0145	0.0053
Jupiter	-12410-05-16 07:40 J	-2811194.36	-2811194.18	-2811194.01	0.0503	0.0261
Uranus	-12410-12-21 06:43 J	-2810975.38	-2810975.22	-2810975.06	0.0146	0.0098
Uranus	-12409-08-03 17:45 J	-2810748.77	-2810748.76	-2810748.71	0.0146	0.0144
Jupiter	-12404-03-16 04:19 J	-2809063.53	-2809063.32	-2809063.12	0.0520	0.0017
Saturn	-12404-06-03 02:09 J	-2808984.57	-2808984.41	-2808984.25	0.0289	0.0189
Saturn	-12403-01-18 17:02 J	-2808755.00	-2808754.79	-2808754.58	0.0286	0.0020
Saturn	-12403-09-05 04:48 J	-2808525.42	-2808525.30	-2808525.16	0.0283	0.0219
Jupiter	-12398-01-19 09:50 J	-2806928.29	-2806928.09	-2806927.89	0.0505	0.0095
Mars	-12397-12-15 08:24 J	-2806232.32	-2806232.15	-2806231.98	0.1765	0.0146
Jupiter	-12393-11-18 18:57 J	-2804797.90	-2804797.71	-2804797.52	0.0519	0.0183
Jupiter	-12392-07-14 13:26 J	-2804559.97	-2804559.94	-2804559.90	0.0523	0.0514
Mars	-12392-07-31 21:07 J	-2804542.78	-2804542.62	-2804542.46	0.1748	0.0754
Mars	-12390-05-30 12:43 J	-2803874.99	-2803874.97	-2803874.95	0.1773	0.1756
Saturn	-12388-09-21 06:00 J	-2803030.42	-2803030.25	-2803030.07	0.0274	0.0160
Saturn	-12387-05-08 17:16 J	-2802801.00	-2802800.78	-2802800.57	0.0277	0.0027
Jupiter	-12387-09-24 12:14 J	-2802662.19	-2802661.99	-2802661.79	0.0506	0.0073
Saturn	-12387-12-24 07:11 J	-2802571.33	-2802571.20	-2802571.07	0.0280	0.0222

Jupiter	-12381-07-24 11:31 J	-2800532.16	-2800532.02	-2800531.88	0.0518	0.0371
Jupiter	-12380-03-19 05:31 J	-2800294.43	-2800294.27	-2800294.11	0.0522	0.0324
Pluto	-12379-09-07 00:28 J	-2799757.61	-2799757.48	-2799757.29	0.0064	0.0043
Pluto	-12378-04-20 05:02 J	-2799532.50	-2799532.29	-2799532.07	0.0065	0.0008
Pluto	-12378-12-01 08:52 J	-2799307.32	-2799307.13	-2799306.92	0.0065	0.0027
Pluto	-12377-07-13 12:28 J	-2799082.01	-2799081.98	-2799081.88	0.0065	0.0062
Jupiter	-12375-05-30 12:57 J	-2798396.13	-2798395.96	-2798395.78	0.0506	0.0245
Saturn	-12375-12-14 04:04 J	-2798198.50	-2798198.33	-2798198.16	0.0289	0.0167
Jupiter	-12374-01-21 19:11 J	-2798159.84	-2798159.70	-2798159.56	0.0502	0.0363
Saturn	-12374-07-31 18:57 J	-2797968.91	-2797968.71	-2797968.50	0.0286	0.0042
Saturn	-12373-03-17 06:43 J	-2797739.32	-2797739.22	-2797739.10	0.0282	0.0241
Uranus	-12372-10-13 21:35 J	-2797163.75	-2797163.60	-2797163.45	0.0133	0.0098
Uranus	-12371-05-28 03:50 J	-2796937.52	-2796937.34	-2796937.13	0.0133	0.0062
Uranus	-12370-01-09 10:33 J	-2796711.27	-2796711.06	-2796710.84	0.0133	0.0026
Uranus	-12370-08-23 17:02 J	-2796485.01	-2796484.79	-2796484.57	0.0133	0.0010
Uranus	-12369-04-05 23:02 J	-2796258.74	-2796258.54	-2796258.32	0.0133	0.0046
Uranus	-12369-11-18 05:16 J	-2796032.45	-2796032.28	-2796032.10	0.0133	0.0081
Jupiter	-12369-11-21 20:52 J	-2796028.83	-2796028.63	-2796028.43	0.0522	0.0130
Uranus	-12368-07-02 11:31 J	-2795806.13	-2795806.02	-2795805.92	0.0133	0.0116
Mars	-12365-12-14 14:52 J	-2794545.02	-2794544.88	-2794544.74	0.1776	0.1012
Jupiter	-12363-02-02 14:24 J	-2794130.01	-2794129.90	-2794129.78	0.0507	0.0414
Jupiter	-12363-09-26 21:21 J	-2793893.79	-2793893.61	-2793893.42	0.0503	0.0198
Mars	-12363-10-13 11:31 J	-2793877.12	-2793877.02	-2793876.92	0.1751	0.1399
Neptune	-12360-12-30 14:52 J	-2792702.95	-2792702.88	-2792702.80	0.0088	0.0082
Neptune	-12359-08-13 03:50 J	-2792477.44	-2792477.34	-2792477.21	0.0088	0.0075
Neptune	-12358-03-26 16:48 J	-2792251.92	-2792251.80	-2792251.63	0.0088	0.0068
Saturn	-12358-04-03 10:19 J	-2792244.25	-2792244.07	-2792243.88	0.0274	0.0137
Mars	-12358-05-29 21:50 J	-2792187.76	-2792187.59	-2792187.42	0.1762	0.0548
Neptune	-12358-11-07 06:14 J	-2792026.38	-2792026.24	-2792026.06	0.0088	0.0060
Saturn	-12358-11-18 21:35 J	-2792014.81	-2792014.60	-2792014.39	0.0277	0.0051

Neptune	-12357-06-19 19:55 J	-2791800.85	-2791800.67	-2791800.49	0.0088	0.0052
Saturn	-12357-07-05 11:45 J	-2791785.11	-2791785.01	-2791784.91	0.0280	0.0246
Jupiter	-12357-07-27 12:57 J	-2791763.17	-2791762.96	-2791762.76	0.0520	0.0064
Neptune	-12356-01-31 08:52 J	-2791575.31	-2791575.13	-2791574.92	0.0088	0.0045
Neptune	-12356-09-13 22:19 J	-2791349.77	-2791349.57	-2791349.36	0.0088	0.0037
Neptune	-12355-04-27 11:45 J	-2791124.22	-2791124.01	-2791123.80	0.0088	0.0030
Neptune	-12355-12-09 00:57 J	-2790898.67	-2790898.46	-2790898.24	0.0088	0.0022
Neptune	-12354-07-22 14:24 J	-2790673.12	-2790672.90	-2790672.68	0.0088	0.0014
Neptune	-12353-03-04 03:35 J	-2790447.57	-2790447.35	-2790447.12	0.0088	0.0007
Neptune	-12353-10-15 16:48 J	-2790222.02	-2790221.80	-2790221.57	0.0088	0.0002
Neptune	-12352-05-29 06:00 J	-2789996.46	-2789996.25	-2789996.02	0.0088	0.0010
Neptune	-12351-01-09 19:26 J	-2789770.90	-2789770.69	-2789770.46	0.0088	0.0017
Jupiter	-12351-06-01 22:48 J	-2789627.76	-2789627.55	-2789627.35	0.0505	0.0031
Neptune	-12351-08-23 08:52 J	-2789545.34	-2789545.13	-2789544.91	0.0088	0.0024
Neptune	-12350-04-05 22:04 J	-2789319.78	-2789319.58	-2789319.36	0.0088	0.0032
Earth	-12350-05-11 20:38 J	-2789283.80	-2789283.64	-2789283.49	0.2666	0.0587
Moon	-12350-05-11 21:50 J	-2789283.76	-2789283.59	-2789283.41	0.2659	0.0256 *
Neptune	-12350-11-17 11:16 J	-2789094.21	-2789094.03	-2789093.82	0.0088	0.0040
Neptune	-12349-06-30 00:43 J	-2788868.65	-2788868.47	-2788868.27	0.0088	0.0048
Neptune	-12348-02-10 14:09 J	-2788643.07	-2788642.91	-2788642.73	0.0088	0.0055
Neptune	-12348-09-24 03:21 J	-2788417.50	-2788417.36	-2788417.19	0.0088	0.0063
Neptune	-12347-05-07 17:02 J	-2788191.91	-2788191.79	-2788191.65	0.0088	0.0070
Neptune	-12347-12-19 06:14 J	-2787966.32	-2787966.24	-2787966.11	0.0088	0.0079
Neptune	-12346-08-01 20:09 J	-2787740.71	-2787740.66	-2787740.60	0.0088	0.0086
Jupiter	-12345-04-01 04:48 J	-2787497.47	-2787497.30	-2787497.12	0.0519	0.0254
Saturn	-12345-06-25 06:57 J	-2787412.38	-2787412.21	-2787412.02	0.0289	0.0143
Jupiter	-12345-11-24 23:16 J	-2787259.63	-2787259.53	-2787259.42	0.0523	0.0445
Saturn	-12344-02-09 21:35 J	-2787182.80	-2787182.60	-2787182.39	0.0286	0.0066
Saturn	-12344-09-27 09:21 J	-2786953.18	-2786953.11	-2786953.04	0.0282	0.0263
Jupiter	-12339-02-05 00:14 J	-2785361.68	-2785361.49	-2785361.29	0.0506	0.0141

Jupiter	-12339-09-29 06:43 J	-2785125.29	-2785125.22	-2785125.15	0.0502	0.0466
Jupiter	-12334-12-05 19:55 J	-2783231.77	-2783231.67	-2783231.56	0.0517	0.0445
Jupiter	-12333-07-30 13:11 J	-2782994.13	-2782993.95	-2782993.77	0.0522	0.0248
Mars	-12331-10-12 16:19 J	-2782189.99	-2782189.82	-2782189.65	0.1762	0.0307
Saturn	-12329-10-13 14:09 J	-2781458.10	-2781457.91	-2781457.71	0.0274	0.0112
Uranus	-12328-02-25 15:50 J	-2781322.96	-2781322.84	-2781322.67	0.0145	0.0106
Saturn	-12328-05-31 01:40 J	-2781228.63	-2781228.43	-2781228.22	0.0277	0.0078
Uranus	-12328-10-10 02:52 J	-2781096.56	-2781096.38	-2781096.17	0.0145	0.0061
Jupiter	-12328-10-11 01:55 J	-2781095.57	-2781095.42	-2781095.26	0.0507	0.0311
Saturn	-12327-01-15 15:50 J	-2780998.87	-2780998.84	-2780998.78	0.0281	0.0275
Uranus	-12327-05-24 14:09 J	-2780870.12	-2780869.91	-2780869.70	0.0145	0.0015
Jupiter	-12327-06-04 09:07 J	-2780859.28	-2780859.12	-2780858.96	0.0503	0.0303
Uranus	-12326-01-06 01:11 J	-2780643.66	-2780643.45	-2780643.24	0.0145	0.0030
Mars	-12326-05-29 05:16 J	-2780500.44	-2780500.28	-2780500.11	0.1751	0.0607
Uranus	-12326-08-20 12:28 J	-2780417.16	-2780416.98	-2780416.79	0.0145	0.0076
Uranus	-12325-04-02 23:31 J	-2780190.62	-2780190.52	-2780190.39	0.0146	0.0122
Jupiter	-12321-04-04 05:02 J	-2778728.50	-2778728.29	-2778728.09	0.0521	0.0054
Jupiter	-12316-06-16 02:52 J	-2776829.44	-2776829.38	-2776829.31	0.0508	0.0481
Saturn	-12315-01-05 10:33 J	-2776626.25	-2776626.06	-2776625.87	0.0288	0.0117
Jupiter	-12315-02-07 10:19 J	-2776593.26	-2776593.07	-2776592.87	0.0504	0.0134
Saturn	-12315-08-23 00:57 J	-2776396.66	-2776396.46	-2776396.26	0.0285	0.0090
Jupiter	-12310-12-08 19:55 J	-2774462.87	-2774462.67	-2774462.47	0.0520	0.0142
Jupiter	-12304-10-13 12:14 J	-2772327.19	-2772326.99	-2772326.79	0.0505	0.0035
Saturn	-12300-09-08 10:33 J	-2770901.09	-2770901.06	-2770901.02	0.0271	0.0266
Saturn	-12299-04-25 19:40 J	-2770671.88	-2770671.68	-2770671.47	0.0274	0.0086
Mars	-12299-10-11 22:48 J	-2770502.70	-2770502.55	-2770502.40	0.1772	0.0849
Saturn	-12299-12-11 07:40 J	-2770442.38	-2770442.18	-2770441.98	0.0277	0.0104
Jupiter	-12298-08-13 12:14 J	-2770197.14	-2770196.99	-2770196.83	0.0519	0.0332
Jupiter	-12297-04-07 06:43 J	-2769959.36	-2769959.22	-2769959.07	0.0523	0.0370
Mars	-12297-08-09 20:24 J	-2769834.73	-2769834.65	-2769834.57	0.1747	0.1537

Mars	-12294-05-28 11:45 J	-2768813.03	-2768813.01	-2768812.98	0.1740	0.1713
Mars	-12292-03-26 05:45 J	-2768145.42	-2768145.26	-2768145.10	0.1765	0.0707
Jupiter	-12292-06-18 12:28 J	-2768061.16	-2768060.98	-2768060.79	0.0506	0.0208
Jupiter	-12291-02-09 18:43 J	-2767824.83	-2767824.72	-2767824.60	0.0503	0.0402
Pluto	-12291-12-18 05:31 J	-2767513.29	-2767513.27	-2767513.24	0.0080	0.0079
Pluto	-12290-07-31 16:19 J	-2767288.03	-2767287.82	-2767287.59	0.0079	0.0013
Pluto	-12289-03-13 02:52 J	-2767062.53	-2767062.38	-2767062.20	0.0079	0.0053
Uranus	-12288-06-13 05:02 J	-2766605.40	-2766605.29	-2766605.18	0.0134	0.0116
Uranus	-12287-01-25 11:45 J	-2766379.18	-2766379.01	-2766378.83	0.0133	0.0080
Uranus	-12287-09-08 18:00 J	-2766152.94	-2766152.75	-2766152.53	0.0133	0.0045
Jupiter	-12286-04-18 04:48 J	-2765931.30	-2765931.30	-2765931.29	0.0517	0.0517
Uranus	-12286-04-23 00:43 J	-2765926.69	-2765926.47	-2765926.25	0.0133	0.0008
Saturn	-12286-07-18 14:38 J	-2765840.08	-2765839.89	-2765839.68	0.0288	0.0091
Uranus	-12286-12-05 06:57 J	-2765700.42	-2765700.21	-2765699.99	0.0133	0.0028
Jupiter	-12286-12-11 21:50 J	-2765693.78	-2765693.59	-2765693.39	0.0521	0.0175
Saturn	-12285-03-04 04:33 J	-2765610.49	-2765610.31	-2765610.11	0.0285	0.0116
Uranus	-12285-07-18 12:57 J	-2765474.14	-2765473.96	-2765473.75	0.0133	0.0064
Uranus	-12284-03-01 19:26 J	-2765247.83	-2765247.69	-2765247.54	0.0133	0.0099
Jupiter	-12280-02-21 13:11 J	-2763795.07	-2763794.95	-2763794.81	0.0508	0.0380
Jupiter	-12280-10-15 20:38 J	-2763558.81	-2763558.64	-2763558.46	0.0504	0.0237
Neptune	-12278-07-07 04:48 J	-2762929.35	-2762929.30	-2762929.25	0.0089	0.0087
Neptune	-12277-02-17 17:02 J	-2762703.86	-2762703.79	-2762703.67	0.0089	0.0080
Neptune	-12277-09-30 06:00 J	-2762478.36	-2762478.25	-2762478.11	0.0089	0.0072
Neptune	-12276-05-13 19:11 J	-2762252.85	-2762252.70	-2762252.55	0.0089	0.0064
Neptune	-12276-12-25 07:26 J	-2762027.33	-2762027.19	-2762027.00	0.0089	0.0057
Neptune	-12275-08-07 20:24 J	-2761801.82	-2761801.65	-2761801.45	0.0089	0.0049
Neptune	-12274-03-21 09:21 J	-2761576.30	-2761576.11	-2761575.91	0.0089	0.0040
Jupiter	-12274-08-16 12:00 J	-2761428.20	-2761428.00	-2761427.79	0.0520	0.0028
Neptune	-12274-11-01 22:04 J	-2761350.77	-2761350.58	-2761350.37	0.0089	0.0033
Neptune	-12273-06-14 11:02 J	-2761125.25	-2761125.04	-2761124.83	0.0089	0.0025

Neptune	-12272-01-25 23:45 J	-2760899.72	-2760899.51	-2760899.29	0.0089	0.0017
Neptune	-12272-09-08 12:28 J	-2760674.19	-2760673.98	-2760673.76	0.0089	0.0009
Neptune	-12271-04-22 01:11 J	-2760448.66	-2760448.45	-2760448.23	0.0089	0.0002
Neptune	-12271-12-03 13:55 J	-2760223.13	-2760222.92	-2760222.70	0.0089	0.0007
Saturn	-12270-03-21 15:35 J	-2760114.94	-2760114.85	-2760114.75	0.0272	0.0240
Neptune	-12270-07-17 02:52 J	-2759997.59	-2759997.38	-2759997.16	0.0089	0.0015
Saturn	-12270-11-06 01:11 J	-2759885.66	-2759885.45	-2759885.24	0.0275	0.0059
Neptune	-12269-02-27 15:35 J	-2759772.06	-2759771.85	-2759771.64	0.0089	0.0022
Saturn	-12269-06-22 13:11 J	-2759656.14	-2759655.95	-2759655.76	0.0278	0.0133
Neptune	-12269-10-10 04:04 J	-2759546.52	-2759546.33	-2759546.12	0.0089	0.0030
Neptune	-12268-05-23 16:48 J	-2759320.99	-2759320.80	-2759320.59	0.0089	0.0038
Jupiter	-12268-06-20 22:48 J	-2759292.75	-2759292.55	-2759292.35	0.0505	0.0068
Neptune	-12267-01-04 05:16 J	-2759095.45	-2759095.28	-2759095.07	0.0089	0.0046
Neptune	-12267-08-17 18:14 J	-2758869.90	-2758869.74	-2758869.56	0.0089	0.0054
Neptune	-12266-03-31 06:43 J	-2758644.36	-2758644.22	-2758644.05	0.0089	0.0061
Neptune	-12266-11-11 19:11 J	-2758418.82	-2758418.70	-2758418.54	0.0089	0.0069
Neptune	-12265-06-24 08:09 J	-2758193.26	-2758193.16	-2758193.04	0.0089	0.0077
Mars	-12265-08-09 00:43 J	-2758147.64	-2758147.47	-2758147.30	0.1758	0.0456
Neptune	-12264-02-04 20:24 J	-2757967.70	-2757967.65	-2757967.56	0.0089	0.0085
Jupiter	-12262-04-21 03:35 J	-2757162.53	-2757162.35	-2757162.16	0.0519	0.0219
Jupiter	-12262-12-14 22:19 J	-2756924.64	-2756924.57	-2756924.49	0.0523	0.0483
Mars	-12260-03-25 13:26 J	-2756458.11	-2756457.94	-2756457.77	0.1754	0.0461
Saturn	-12257-06-12 02:52 J	-2755283.43	-2755283.38	-2755283.31	0.0291	0.0278
Saturn	-12256-01-27 19:40 J	-2755053.88	-2755053.68	-2755053.48	0.0288	0.0063
Jupiter	-12256-02-24 00:14 J	-2755026.69	-2755026.49	-2755026.29	0.0505	0.0103
Saturn	-12256-09-14 09:21 J	-2754824.29	-2754824.11	-2754823.93	0.0284	0.0142
Jupiter	-12256-10-18 05:31 J	-2754790.27	-2754790.27	-2754790.26	0.0502	0.0502
Jupiter	-12251-12-24 18:00 J	-2752896.86	-2752896.75	-2752896.62	0.0518	0.0413
Jupiter	-12250-08-19 12:28 J	-2752659.15	-2752658.98	-2752658.80	0.0523	0.0289
Uranus	-12245-10-25 23:45 J	-2750764.61	-2750764.51	-2750764.40	0.0145	0.0126

Jupiter	-12245-10-30 01:26 J	-2750760.61	-2750760.44	-2750760.27	0.0506	0.0275
Uranus	-12244-06-09 10:33 J	-2750538.23	-2750538.06	-2750537.88	0.0145	0.0081
Jupiter	-12244-06-23 07:40 J	-2750524.33	-2750524.18	-2750524.03	0.0503	0.0338
Uranus	-12243-01-21 21:35 J	-2750311.81	-2750311.60	-2750311.39	0.0145	0.0036
Uranus	-12243-09-05 08:52 J	-2750085.35	-2750085.13	-2750084.92	0.0145	0.0009
Uranus	-12242-04-19 19:55 J	-2749858.87	-2749858.67	-2749858.47	0.0145	0.0055
Uranus	-12242-12-02 06:57 J	-2749632.36	-2749632.21	-2749632.05	0.0146	0.0101
Saturn	-12241-09-30 21:50 J	-2749328.72	-2749328.59	-2749328.45	0.0272	0.0214
Saturn	-12240-05-18 07:40 J	-2749099.39	-2749099.18	-2749098.96	0.0275	0.0032
Saturn	-12239-01-02 20:09 J	-2748869.83	-2748869.66	-2748869.48	0.0278	0.0161
Jupiter	-12238-04-24 04:04 J	-2748393.53	-2748393.33	-2748393.13	0.0521	0.0094
Jupiter	-12233-07-05 00:43 J	-2746494.56	-2746494.47	-2746494.37	0.0508	0.0449
Mars	-12233-08-08 06:28 J	-2746460.39	-2746460.23	-2746460.07	0.1769	0.0681
Jupiter	-12232-02-26 08:24 J	-2746258.34	-2746258.15	-2746257.96	0.0504	0.0169
Mars	-12231-06-07 05:02 J	-2745792.33	-2745792.29	-2745792.24	0.1744	0.1674
Mars	-12228-03-24 20:24 J	-2744770.73	-2744770.65	-2744770.58	0.1744	0.1576
Saturn	-12228-12-23 09:07 J	-2744497.21	-2744497.12	-2744497.00	0.0291	0.0248
Saturn	-12227-08-10 01:40 J	-2744267.64	-2744267.43	-2744267.22	0.0287	0.0034
Jupiter	-12227-12-27 19:40 J	-2744127.88	-2744127.68	-2744127.48	0.0520	0.0102
Mars	-12226-01-21 12:57 J	-2744103.11	-2744102.96	-2744102.81	0.1769	0.0875
Saturn	-12226-03-27 14:52 J	-2744038.04	-2744037.88	-2744037.71	0.0284	0.0171
Jupiter	-12221-11-01 09:35 J	-2741992.30	-2741992.10	-2741991.90	0.0505	0.0005
Jupiter	-12215-09-01 10:04 J	-2739862.24	-2739862.08	-2739861.91	0.0518	0.0298
Jupiter	-12214-04-27 04:19 J	-2739624.45	-2739624.32	-2739624.19	0.0523	0.0405
Saturn	-12211-04-13 04:19 J	-2738542.47	-2738542.32	-2738542.16	0.0273	0.0186
Saturn	-12211-11-28 14:38 J	-2738313.10	-2738312.89	-2738312.67	0.0276	0.0006
Saturn	-12210-07-16 03:35 J	-2738083.50	-2738083.35	-2738083.20	0.0279	0.0193
Jupiter	-12209-07-07 11:02 J	-2737726.23	-2737726.04	-2737725.85	0.0506	0.0174
Jupiter	-12208-02-28 17:16 J	-2737489.87	-2737489.78	-2737489.68	0.0503	0.0437
Moon	-12205-11-06 16:04 J	-2736142.95	-2736142.83	-2736142.71	0.2673	0.1538

Earth	-12205-11-06 17:02 J	-2736142.92	-2736142.79	-2736142.66	0.2667	0.1454 *
Uranus	-12204-09-24 19:26 J	-2735820.83	-2735820.69	-2735820.53	0.0133	0.0098
Jupiter	-12203-05-07 01:40 J	-2735596.49	-2735596.43	-2735596.36	0.0517	0.0488
Uranus	-12203-05-09 02:09 J	-2735594.60	-2735594.41	-2735594.21	0.0133	0.0062
Uranus	-12203-12-21 08:38 J	-2735368.35	-2735368.14	-2735367.92	0.0133	0.0026
Jupiter	-12203-12-30 18:57 J	-2735358.90	-2735358.71	-2735358.52	0.0522	0.0208
Uranus	-12202-08-04 15:07 J	-2735142.09	-2735141.87	-2735141.65	0.0133	0.0011
Uranus	-12201-03-17 21:21 J	-2734915.81	-2734915.61	-2734915.40	0.0133	0.0047
Uranus	-12201-10-30 03:35 J	-2734689.52	-2734689.35	-2734689.17	0.0133	0.0082
Uranus	-12200-06-13 09:21 J	-2734463.19	-2734463.11	-2734462.99	0.0133	0.0118
Mars	-12199-06-06 08:52 J	-2734105.29	-2734105.13	-2734104.96	0.1755	0.0610
Saturn	-12198-07-05 15:50 J	-2733710.96	-2733710.84	-2733710.69	0.0290	0.0217
Saturn	-12197-02-20 07:55 J	-2733481.38	-2733481.17	-2733480.96	0.0287	0.0005
Jupiter	-12197-03-12 12:14 J	-2733460.13	-2733459.99	-2733459.84	0.0507	0.0345
Saturn	-12197-10-06 20:38 J	-2733251.78	-2733251.64	-2733251.48	0.0284	0.0199
Jupiter	-12197-11-03 18:57 J	-2733223.87	-2733223.71	-2733223.53	0.0503	0.0272
Earth	-12197-11-04 09:50 J	-2733223.20	-2733223.09	-2733222.97	0.2669	0.1814
Moon	-12197-11-04 12:57 J	-2733223.07	-2733222.96	-2733222.85	0.2674	0.1812 *
Neptune	-12195-04-03 02:24 J	-2732708.43	-2732708.40	-2732708.36	0.0088	0.0087
Neptune	-12195-11-14 15:21 J	-2732482.94	-2732482.86	-2732482.74	0.0088	0.0079
Mars	-12194-01-20 21:21 J	-2732415.79	-2732415.61	-2732415.44	0.1758	0.0306
Neptune	-12194-06-28 04:48 J	-2732257.42	-2732257.30	-2732257.16	0.0088	0.0072
Neptune	-12193-02-08 17:45 J	-2732031.89	-2732031.76	-2732031.59	0.0088	0.0064
Neptune	-12193-09-21 07:11 J	-2731806.36	-2731806.20	-2731806.02	0.0088	0.0056
Neptune	-12192-05-04 20:38 J	-2731580.82	-2731580.64	-2731580.45	0.0088	0.0048
Neptune	-12192-12-16 09:50 J	-2731355.27	-2731355.09	-2731354.88	0.0088	0.0041
Neptune	-12191-07-29 23:16 J	-2731129.73	-2731129.53	-2731129.31	0.0088	0.0033
Jupiter	-12191-09-04 08:38 J	-2731093.34	-2731093.14	-2731092.93	0.0521	0.0013
Neptune	-12190-03-12 12:28 J	-2730904.18	-2730903.98	-2730903.75	0.0088	0.0026
Neptune	-12190-10-24 01:55 J	-2730678.64	-2730678.42	-2730678.20	0.0088	0.0017

Neptune	-12189-06-05 15:21 J	-2730453.08	-2730452.86	-2730452.64	0.0088	0.0010
Neptune	-12188-01-17 04:33 J	-2730227.53	-2730227.31	-2730227.08	0.0088	0.0002
Neptune	-12188-08-30 18:00 J	-2730001.97	-2730001.75	-2730001.53	0.0088	0.0006
Neptune	-12187-04-13 07:11 J	-2729776.42	-2729776.20	-2729775.98	0.0088	0.0014
Neptune	-12187-11-24 20:24 J	-2729550.86	-2729550.65	-2729550.43	0.0088	0.0022
Neptune	-12186-07-08 09:35 J	-2729325.30	-2729325.10	-2729324.88	0.0088	0.0030
Neptune	-12185-02-18 23:02 J	-2729099.73	-2729099.54	-2729099.33	0.0088	0.0038
Jupiter	-12185-07-09 20:38 J	-2728957.83	-2728957.64	-2728957.44	0.0504	0.0103
Neptune	-12185-10-01 12:14 J	-2728874.17	-2728873.99	-2728873.79	0.0088	0.0046
Neptune	-12184-05-15 01:26 J	-2728648.60	-2728648.44	-2728648.24	0.0088	0.0054
Neptune	-12184-12-26 14:52 J	-2728423.02	-2728422.88	-2728422.70	0.0088	0.0062
Neptune	-12183-08-09 04:48 J	-2728197.44	-2728197.30	-2728197.16	0.0088	0.0069
Neptune	-12182-03-22 18:00 J	-2727971.85	-2727971.75	-2727971.63	0.0088	0.0076
Saturn	-12182-10-24 11:45 J	-2727756.18	-2727756.01	-2727755.83	0.0273	0.0158
Neptune	-12182-11-03 06:57 J	-2727746.25	-2727746.21	-2727746.12	0.0088	0.0085
Saturn	-12181-06-09 22:33 J	-2727526.78	-2727526.56	-2727526.35	0.0276	0.0029
Saturn	-12180-01-25 11:45 J	-2727297.14	-2727297.01	-2727296.88	0.0279	0.0223
Jupiter	-12179-05-10 00:28 J	-2726827.67	-2726827.48	-2726827.29	0.0520	0.0185
Jupiter	-12178-01-02 19:55 J	-2726589.68	-2726589.67	-2726589.66	0.0524	0.0522
Jupiter	-12173-03-14 20:24 J	-2724691.85	-2724691.65	-2724691.45	0.0505	0.0073
Saturn	-12168-01-14 23:31 J	-2722924.67	-2722924.52	-2722924.35	0.0290	0.0184
Saturn	-12168-09-01 15:07 J	-2722695.08	-2722694.87	-2722694.67	0.0287	0.0029
Jupiter	-12167-01-12 16:48 J	-2722561.94	-2722561.80	-2722561.66	0.0518	0.0376
Saturn	-12167-04-19 03:21 J	-2722465.47	-2722465.36	-2722465.23	0.0283	0.0230
Mars	-12167-06-05 15:07 J	-2722418.04	-2722417.87	-2722417.71	0.1765	0.0528
Jupiter	-12167-09-07 10:48 J	-2722324.21	-2722324.05	-2722323.89	0.0522	0.0327
Mars	-12162-01-20 04:48 J	-2720728.39	-2720728.30	-2720728.20	0.1747	0.1443
Jupiter	-12162-11-18 20:52 J	-2720425.81	-2720425.63	-2720425.45	0.0507	0.0247
Jupiter	-12161-07-12 03:21 J	-2720189.49	-2720189.36	-2720189.22	0.0503	0.0370
Mars	-12161-11-17 20:24 J	-2720060.80	-2720060.65	-2720060.51	0.1772	0.1047

Uranus	-12160-02-06 18:14 J	-2719979.88	-2719979.74	-2719979.58	0.0145	0.0102
Uranus	-12160-09-21 05:02 J	-2719753.48	-2719753.29	-2719753.08	0.0145	0.0057
Uranus	-12159-05-05 16:19 J	-2719527.03	-2719526.82	-2719526.61	0.0145	0.0011
Uranus	-12159-12-18 03:21 J	-2719300.57	-2719300.36	-2719300.15	0.0145	0.0034
Uranus	-12158-08-01 14:24 J	-2719074.07	-2719073.90	-2719073.71	0.0146	0.0081
Uranus	-12157-03-15 01:40 J	-2718847.52	-2718847.43	-2718847.31	0.0146	0.0126
Jupiter	-12155-05-13 00:14 J	-2718058.69	-2718058.49	-2718058.29	0.0521	0.0126
Saturn	-12152-05-05 19:11 J	-2716969.89	-2716969.70	-2716969.51	0.0274	0.0127
Saturn	-12152-12-21 06:14 J	-2716740.45	-2716740.24	-2716740.03	0.0277	0.0061
Saturn	-12151-08-07 19:40 J	-2716510.75	-2716510.68	-2716510.59	0.0280	0.0258
Jupiter	-12150-07-24 21:21 J	-2716159.71	-2716159.61	-2716159.49	0.0508	0.0420
Jupiter	-12149-03-17 05:16 J	-2715923.46	-2715923.28	-2715923.09	0.0504	0.0202
Jupiter	-12143-01-15 14:52 J	-2713793.08	-2713792.88	-2713792.67	0.0520	0.0073
Saturn	-12139-07-28 07:55 J	-2712138.34	-2712138.17	-2712137.99	0.0289	0.0150
Saturn	-12138-03-14 22:48 J	-2711908.75	-2711908.55	-2711908.34	0.0286	0.0060
Saturn	-12138-10-30 10:48 J	-2711679.12	-2711679.05	-2711678.96	0.0283	0.0259
Jupiter	-12138-11-21 07:11 J	-2711657.40	-2711657.20	-2711657.00	0.0505	0.0032
Mars	-12135-06-04 21:50 J	-2710730.64	-2710730.59	-2710730.54	0.1776	0.1699
Mars	-12133-04-02 18:00 J	-2710062.90	-2710062.75	-2710062.59	0.1751	0.0746
Jupiter	-12132-09-20 04:33 J	-2709527.48	-2709527.31	-2709527.13	0.0519	0.0271
Jupiter	-12131-05-15 23:31 J	-2709289.63	-2709289.52	-2709289.41	0.0523	0.0438
Pluto	-12131-08-10 06:00 J	-2709203.29	-2709203.25	-2709203.16	0.0064	0.0061
Pluto	-12130-03-23 10:04 J	-2708978.26	-2708978.08	-2708977.86	0.0064	0.0028
Pluto	-12130-11-03 14:24 J	-2708753.11	-2708752.90	-2708752.68	0.0065	0.0007
Pluto	-12129-06-15 18:00 J	-2708527.89	-2708527.75	-2708527.56	0.0065	0.0042
Mars	-12129-11-17 05:31 J	-2708373.44	-2708373.27	-2708373.09	0.1761	0.0155
Jupiter	-12126-07-27 08:24 J	-2707391.34	-2707391.15	-2707390.96	0.0506	0.0141
Jupiter	-12125-03-19 13:55 J	-2707154.98	-2707154.92	-2707154.85	0.0502	0.0470
Saturn	-12123-11-16 03:07 J	-2706183.56	-2706183.37	-2706183.16	0.0274	0.0098
Saturn	-12122-07-03 14:52 J	-2705954.08	-2705953.88	-2705953.68	0.0277	0.0092

Uranus	-12120-05-25 04:04 J	-2705262.43	-2705262.33	-2705262.21	0.0134	0.0115
Jupiter	-12120-05-25 20:38 J	-2705261.72	-2705261.64	-2705261.54	0.0518	0.0460
Uranus	-12119-01-06 10:48 J	-2705036.22	-2705036.05	-2705035.86	0.0133	0.0079
Jupiter	-12119-01-18 14:38 J	-2705024.07	-2705023.89	-2705023.71	0.0522	0.0243
Uranus	-12119-08-20 17:31 J	-2704809.98	-2704809.77	-2704809.56	0.0133	0.0042
Uranus	-12118-04-04 00:00 J	-2704583.72	-2704583.50	-2704583.28	0.0133	0.0006
Uranus	-12118-11-16 06:00 J	-2704357.45	-2704357.25	-2704357.02	0.0133	0.0030
Uranus	-12117-06-29 12:14 J	-2704131.17	-2704130.99	-2704130.79	0.0133	0.0066
Uranus	-12116-02-10 18:28 J	-2703904.86	-2703904.73	-2703904.58	0.0133	0.0101
Jupiter	-12114-04-01 06:57 J	-2703125.36	-2703125.21	-2703125.05	0.0507	0.0319
Jupiter	-12114-11-23 13:55 J	-2702889.08	-2702888.92	-2702888.76	0.0503	0.0301
Neptune	-12113-05-21 05:16 J	-2702709.34	-2702709.28	-2702709.19	0.0089	0.0084
Neptune	-12112-01-01 18:14 J	-2702483.84	-2702483.74	-2702483.61	0.0089	0.0076
Neptune	-12112-08-15 07:11 J	-2702258.33	-2702258.20	-2702258.05	0.0089	0.0068
Neptune	-12111-03-28 20:09 J	-2702032.82	-2702032.66	-2702032.50	0.0089	0.0060
Neptune	-12111-11-09 08:24 J	-2701807.30	-2701807.15	-2701806.95	0.0089	0.0053
Neptune	-12110-06-22 21:21 J	-2701581.78	-2701581.61	-2701581.40	0.0089	0.0045
Neptune	-12109-02-03 10:19 J	-2701356.26	-2701356.07	-2701355.86	0.0089	0.0036
Saturn	-12109-02-07 16:33 J	-2701352.00	-2701351.81	-2701351.62	0.0289	0.0115
Neptune	-12109-09-15 23:02 J	-2701130.74	-2701130.54	-2701130.32	0.0089	0.0028
Saturn	-12109-09-24 06:57 J	-2701122.41	-2701122.21	-2701122.01	0.0286	0.0094
Neptune	-12108-04-29 11:45 J	-2700905.21	-2700905.01	-2700904.79	0.0089	0.0021
Jupiter	-12108-09-23 06:14 J	-2700758.45	-2700758.24	-2700758.03	0.0521	0.0045
Neptune	-12108-12-11 00:43 J	-2700679.68	-2700679.47	-2700679.25	0.0089	0.0012
Moon	-12107-05-11 16:33 J	-2700527.94	-2700527.81	-2700527.67	0.2670	0.1308
Earth	-12107-05-11 19:55 J	-2700527.83	-2700527.67	-2700527.51	0.2664	0.0601 *
Neptune	-12107-07-24 13:40 J	-2700454.15	-2700453.93	-2700453.71	0.0089	0.0004
Neptune	-12106-03-07 02:24 J	-2700228.62	-2700228.40	-2700228.19	0.0089	0.0004
Neptune	-12106-10-18 14:52 J	-2700003.09	-2700002.88	-2700002.66	0.0089	0.0012
Neptune	-12105-05-31 03:50 J	-2699777.55	-2699777.34	-2699777.13	0.0089	0.0020

Neptune	-12104-01-11 16:33 J	-2699552.02	-2699551.81	-2699551.60	0.0089	0.0028
Neptune	-12104-08-25 05:16 J	-2699326.48	-2699326.28	-2699326.08	0.0089	0.0036
Neptune	-12103-04-07 17:45 J	-2699100.94	-2699100.76	-2699100.56	0.0089	0.0044
Neptune	-12103-11-19 06:28 J	-2698875.40	-2698875.23	-2698875.04	0.0089	0.0051
Jupiter	-12103-12-05 06:28 J	-2698859.26	-2698859.23	-2698859.17	0.0509	0.0494
Neptune	-12102-07-02 19:11 J	-2698649.85	-2698649.70	-2698649.52	0.0089	0.0059
Jupiter	-12102-07-29 14:52 J	-2698623.07	-2698622.88	-2698622.68	0.0504	0.0131
Neptune	-12101-02-13 07:40 J	-2698424.30	-2698424.18	-2698424.02	0.0089	0.0068
Mars	-12101-04-01 23:16 J	-2698375.70	-2698375.53	-2698375.36	0.1762	0.0371
Neptune	-12101-09-25 20:09 J	-2698198.75	-2698198.66	-2698198.52	0.0089	0.0075
Neptune	-12100-05-09 09:07 J	-2697973.19	-2697973.12	-2697973.03	0.0089	0.0083
Mars	-12097-11-16 12:57 J	-2696686.07	-2696685.96	-2696685.84	0.1750	0.1299
Jupiter	-12096-05-28 20:09 J	-2696492.85	-2696492.66	-2696492.46	0.0519	0.0155
Mars	-12095-09-15 03:35 J	-2696018.48	-2696018.35	-2696018.22	0.1776	0.1217
Saturn	-12094-10-12 01:40 J	-2695626.50	-2695626.43	-2695626.33	0.0272	0.0248
Saturn	-12093-05-28 11:16 J	-2695397.24	-2695397.03	-2695396.82	0.0275	0.0066
Saturn	-12092-01-12 23:16 J	-2695167.72	-2695167.53	-2695167.33	0.0278	0.0126
Jupiter	-12090-04-03 16:04 J	-2694357.03	-2694356.83	-2694356.63	0.0506	0.0044
Jupiter	-12084-01-31 11:16 J	-2692227.18	-2692227.03	-2692226.88	0.0518	0.0350
Jupiter	-12084-09-26 05:02 J	-2691989.44	-2691989.29	-2691989.14	0.0522	0.0356
Saturn	-12080-08-20 01:26 J	-2690565.64	-2690565.44	-2690565.24	0.0288	0.0080
Saturn	-12079-04-06 15:21 J	-2690336.05	-2690335.86	-2690335.67	0.0285	0.0127
Jupiter	-12079-12-07 17:45 J	-2690090.94	-2690090.76	-2690090.58	0.0507	0.0215
Jupiter	-12078-08-01 00:14 J	-2689854.61	-2689854.49	-2689854.37	0.0503	0.0403
Uranus	-12077-10-07 00:28 J	-2689421.57	-2689421.48	-2689421.35	0.0145	0.0124
Uranus	-12076-05-21 11:31 J	-2689195.19	-2689195.02	-2689194.83	0.0145	0.0079
Uranus	-12075-01-02 22:48 J	-2688968.76	-2688968.55	-2688968.34	0.0145	0.0034
Uranus	-12075-08-17 09:50 J	-2688742.30	-2688742.09	-2688741.87	0.0145	0.0012
Uranus	-12074-03-31 20:52 J	-2688515.82	-2688515.63	-2688515.43	0.0146	0.0058
Uranus	-12074-11-13 08:09 J	-2688289.31	-2688289.16	-2688289.01	0.0146	0.0104

Jupiter	-12072-05-31 18:00 J	-2687723.95	-2687723.75	-2687723.56	0.0521	0.0155
Mars	-12069-04-01 05:16 J	-2686688.36	-2686688.28	-2686688.19	0.1773	0.1525
Mars	-12067-01-29 02:38 J	-2686020.54	-2686020.39	-2686020.24	0.1748	0.0890
Jupiter	-12067-08-12 18:28 J	-2685824.85	-2685824.73	-2685824.60	0.0508	0.0389
Jupiter	-12066-04-06 01:40 J	-2685588.60	-2685588.43	-2685588.25	0.0503	0.0235
Saturn	-12064-04-23 09:07 J	-2684840.23	-2684840.12	-2684839.98	0.0272	0.0220
Saturn	-12064-12-08 19:11 J	-2684610.91	-2684610.70	-2684610.48	0.0275	0.0036
Saturn	-12063-07-26 07:40 J	-2684381.35	-2684381.18	-2684381.00	0.0278	0.0157
Mars	-12063-09-14 12:57 J	-2684331.13	-2684330.96	-2684330.78	0.1765	0.0038
Jupiter	-12060-02-03 09:35 J	-2683458.31	-2683458.10	-2683457.89	0.0520	0.0042
Jupiter	-12055-12-10 00:57 J	-2681322.66	-2681322.46	-2681322.26	0.0505	0.0058
Saturn	-12051-07-15 18:14 J	-2680008.83	-2680008.74	-2680008.64	0.0291	0.0258
Saturn	-12050-03-02 10:48 J	-2679779.26	-2679779.05	-2679778.85	0.0288	0.0043
Saturn	-12050-10-18 00:00 J	-2679549.66	-2679549.50	-2679549.32	0.0285	0.0163
Jupiter	-12049-10-09 01:55 J	-2679192.60	-2679192.42	-2679192.24	0.0519	0.0237
Jupiter	-12048-06-03 20:24 J	-2678954.73	-2678954.65	-2678954.56	0.0523	0.0474
Jupiter	-12043-08-15 01:26 J	-2677056.63	-2677056.44	-2677056.24	0.0506	0.0117
Jupiter	-12042-04-08 07:40 J	-2676820.21	-2676820.18	-2676820.16	0.0502	0.0497
Pluto	-12042-07-03 17:16 J	-2676733.93	-2676733.78	-2676733.58	0.0080	0.0049
Pluto	-12041-02-14 04:33 J	-2676508.53	-2676508.31	-2676508.09	0.0079	0.0018
Jupiter	-12037-06-13 16:48 J	-2674926.91	-2674926.80	-2674926.69	0.0517	0.0431
Uranus	-12036-01-22 12:57 J	-2674703.98	-2674703.96	-2674703.92	0.0134	0.0132
Jupiter	-12036-02-06 09:50 J	-2674689.26	-2674689.09	-2674688.91	0.0522	0.0274
Uranus	-12036-09-05 19:40 J	-2674477.83	-2674477.68	-2674477.52	0.0133	0.0096
Mars	-12035-01-28 07:40 J	-2674333.35	-2674333.18	-2674333.01	0.1759	0.0218
Uranus	-12035-04-20 02:09 J	-2674251.60	-2674251.41	-2674251.21	0.0133	0.0059
Saturn	-12035-11-03 17:02 J	-2674053.94	-2674053.79	-2674053.63	0.0273	0.0189
Uranus	-12035-12-02 08:38 J	-2674025.36	-2674025.14	-2674024.93	0.0133	0.0023
Saturn	-12034-06-21 03:21 J	-2673824.57	-2673824.36	-2673824.14	0.0276	0.0004
Uranus	-12034-07-16 14:38 J	-2673799.10	-2673798.89	-2673798.66	0.0133	0.0013

Saturn	-12033-02-05 16:04 J	-2673594.98	-2673594.83	-2673594.67	0.0279	0.0192
Uranus	-12033-02-27 20:52 J	-2673572.83	-2673572.63	-2673572.42	0.0133	0.0049
Uranus	-12033-10-11 03:07 J	-2673346.54	-2673346.37	-2673346.20	0.0133	0.0084
Uranus	-12032-05-25 08:38 J	-2673120.21	-2673120.14	-2673120.03	0.0133	0.0120
Jupiter	-12031-04-20 01:55 J	-2672790.58	-2672790.42	-2672790.25	0.0508	0.0293
Mars	-12031-09-13 21:07 J	-2672643.75	-2672643.62	-2672643.49	0.1754	0.1156
Jupiter	-12031-12-12 09:07 J	-2672554.27	-2672554.12	-2672553.96	0.0503	0.0331
Neptune	-12030-02-16 03:07 J	-2672488.42	-2672488.37	-2672488.27	0.0088	0.0083
Neptune	-12030-09-29 16:33 J	-2672262.91	-2672262.81	-2672262.68	0.0088	0.0075
Neptune	-12029-05-12 06:00 J	-2672037.39	-2672037.25	-2672037.11	0.0088	0.0067
Mars	-12029-07-12 10:19 J	-2671976.18	-2671976.07	-2671975.97	0.1779	0.1401
Neptune	-12029-12-23 18:57 J	-2671811.85	-2671811.71	-2671811.53	0.0088	0.0060
Neptune	-12028-08-06 08:24 J	-2671586.32	-2671586.15	-2671585.96	0.0088	0.0052
Neptune	-12027-03-19 21:35 J	-2671360.78	-2671360.60	-2671360.39	0.0088	0.0044
Neptune	-12027-10-31 11:02 J	-2671135.24	-2671135.04	-2671134.83	0.0088	0.0036
Neptune	-12026-06-14 00:28 J	-2670909.69	-2670909.48	-2670909.27	0.0088	0.0028
Neptune	-12025-01-25 13:55 J	-2670684.14	-2670683.92	-2670683.71	0.0088	0.0021
Neptune	-12025-09-07 03:07 J	-2670458.59	-2670458.37	-2670458.15	0.0088	0.0013
Jupiter	-12025-10-12 00:00 J	-2670423.70	-2670423.50	-2670423.29	0.0520	0.0073
Neptune	-12024-04-20 16:19 J	-2670233.04	-2670232.82	-2670232.59	0.0088	0.0005
Neptune	-12024-12-02 05:45 J	-2670007.48	-2670007.26	-2670007.03	0.0088	0.0004
Neptune	-12023-07-15 19:11 J	-2669781.92	-2669781.70	-2669781.48	0.0088	0.0011
Neptune	-12022-02-26 08:24 J	-2669556.37	-2669556.15	-2669555.93	0.0088	0.0019
Neptune	-12022-10-09 21:35 J	-2669330.81	-2669330.60	-2669330.39	0.0088	0.0027
Saturn	-12021-01-26 03:50 J	-2669222.47	-2669222.34	-2669222.20	0.0290	0.0222
Neptune	-12021-05-22 10:48 J	-2669105.25	-2669105.05	-2669104.84	0.0088	0.0035
Saturn	-12021-09-11 19:40 J	-2668992.88	-2668992.68	-2668992.47	0.0287	0.0010
Neptune	-12020-01-03 00:00 J	-2668879.68	-2668879.50	-2668879.29	0.0088	0.0044
Saturn	-12020-04-29 08:38 J	-2668763.29	-2668763.14	-2668762.98	0.0284	0.0195
Neptune	-12020-08-16 13:26 J	-2668654.11	-2668653.94	-2668653.74	0.0088	0.0051

Jupiter	-12020-12-24 03:07 J	-2668524.44	-2668524.37	-2668524.29	0.0509	0.0465
Neptune	-12019-03-30 02:38 J	-2668428.54	-2668428.39	-2668428.21	0.0088	0.0059
Jupiter	-12019-08-17 11:31 J	-2668288.21	-2668288.02	-2668287.83	0.0504	0.0163
Neptune	-12019-11-10 16:19 J	-2668202.96	-2668202.82	-2668202.67	0.0088	0.0067
Neptune	-12018-06-24 05:31 J	-2667977.38	-2667977.27	-2667977.14	0.0088	0.0075
Neptune	-12017-02-04 18:43 J	-2667751.78	-2667751.72	-2667751.62	0.0088	0.0083
Jupiter	-12013-06-16 13:11 J	-2666158.14	-2666157.95	-2666157.74	0.0519	0.0130
Jupiter	-12007-04-22 12:57 J	-2664022.17	-2664021.96	-2664021.76	0.0505	0.0015
Saturn	-12005-05-16 00:28 J	-2663267.65	-2663267.48	-2663267.31	0.0273	0.0159
Saturn	-12005-12-31 11:16 J	-2663038.24	-2663038.03	-2663037.81	0.0276	0.0028
Saturn	-12004-08-18 00:14 J	-2662808.60	-2662808.49	-2662808.35	0.0279	0.0223
Mars	-12003-01-27 13:26 J	-2662646.04	-2662645.94	-2662645.83	0.1769	0.1364
Mars	-12002-11-26 12:00 J	-2661978.14	-2661978.00	-2661977.87	0.1745	0.1023
Jupiter	-12001-02-20 05:45 J	-2661892.42	-2661892.26	-2661892.10	0.0518	0.0323
Jupiter	-12001-10-15 00:00 J	-2661654.64	-2661654.50	-2661654.37	0.0523	0.0389

12TH MILLENNIUM BCE

This is a list of transits of Venus in the 12th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Mars	-11997-07-11 20:38 J	-2660288.81	-2660288.64	-2660288.46	0.1768	0.0171		
Jupiter	-11996-12-26 11:16 J	-2659756.22	-2659756.03	-2659755.84	0.0507	0.0191		
Jupiter	-11995-08-19 17:45 J	-2659519.86	-2659519.76	-2659519.65	0.0503	0.0430		
Uranus	-11992-01-18 16:19 J	-2658636.96	-2658636.82	-2658636.66	0.0145	0.0103		

Saturn	-11992-08-07 12:57 J	-2658436.11	-2658435.96	-2658435.79	0.0290	0.0185
Uranus	-11992-09-02 03:35 J	-2658410.54	-2658410.35	-2658410.15	0.0145	0.0057
Saturn	-11991-03-25 04:33 J	-2658206.51	-2658206.31	-2658206.10	0.0287	0.0029
Uranus	-11991-04-16 14:38 J	-2658184.10	-2658183.89	-2658183.68	0.0145	0.0012
Saturn	-11991-11-09 17:16 J	-2657976.90	-2657976.78	-2657976.66	0.0284	0.0230
Uranus	-11991-11-29 01:26 J	-2657957.64	-2657957.44	-2657957.22	0.0145	0.0035
Uranus	-11990-07-13 12:57 J	-2657731.14	-2657730.96	-2657730.78	0.0146	0.0080
Jupiter	-11990-10-25 22:48 J	-2657626.58	-2657626.55	-2657626.52	0.0517	0.0511
Uranus	-11989-02-25 00:00 J	-2657504.60	-2657504.50	-2657504.39	0.0146	0.0126
Jupiter	-11989-06-19 15:35 J	-2657389.04	-2657388.85	-2657388.66	0.0521	0.0192
Jupiter	-11984-08-31 11:16 J	-2655490.16	-2655490.03	-2655489.89	0.0508	0.0368
Jupiter	-11983-04-24 18:57 J	-2655253.88	-2655253.71	-2655253.54	0.0504	0.0259
Jupiter	-11977-02-23 06:00 J	-2653123.46	-2653123.25	-2653123.04	0.0520	0.0010
Saturn	-11976-11-26 07:26 J	-2652481.37	-2652481.19	-2652481.00	0.0274	0.0130
Saturn	-11975-07-13 18:28 J	-2652251.94	-2652251.73	-2652251.52	0.0277	0.0059
Saturn	-11974-02-28 07:55 J	-2652022.25	-2652022.17	-2652022.08	0.0280	0.0256
Jupiter	-11972-12-28 20:09 J	-2650987.86	-2650987.66	-2650987.46	0.0505	0.0087
Mars	-11970-11-25 16:04 J	-2650291.00	-2650290.83	-2650290.66	0.1755	0.0067
Jupiter	-11966-10-28 20:38 J	-2648857.83	-2648857.64	-2648857.45	0.0519	0.0209
Jupiter	-11965-06-22 14:38 J	-2648619.94	-2648619.89	-2648619.83	0.0523	0.0503
Mars	-11965-07-11 04:48 J	-2648601.44	-2648601.30	-2648601.16	0.1757	0.1002
Mars	-11963-05-09 17:31 J	-2647933.85	-2647933.77	-2647933.69	0.1783	0.1575
Saturn	-11962-02-17 22:04 J	-2647649.75	-2647649.58	-2647649.40	0.0289	0.0150
Saturn	-11962-10-05 13:11 J	-2647420.15	-2647419.95	-2647419.75	0.0286	0.0061
Earth	-11962-11-07 19:55 J	-2647386.79	-2647386.67	-2647386.55	0.2669	0.1620
Moon	-11962-11-07 23:16 J	-2647386.63	-2647386.53	-2647386.43	0.2664	0.2070 *
Saturn	-11961-05-22 01:11 J	-2647190.52	-2647190.45	-2647190.36	0.0283	0.0261
Jupiter	-11960-09-02 22:19 J	-2646721.77	-2646721.57	-2646721.37	0.0506	0.0085
Jupiter	-11954-07-03 10:33 J	-2644592.19	-2644592.06	-2644591.93	0.0517	0.0406
Moon	-11954-11-05 12:14 J	-2644467.13	-2644466.99	-2644466.85	0.2665	0.1444

Earth	-11954-11-05 12:57 J	-2644467.08	-2644466.96	-2644466.83	0.2671	0.1642 *
Jupiter	-11953-02-26 04:04 J	-2644354.50	-2644354.33	-2644354.17	0.0522	0.0303
Uranus	-11952-05-06 03:50 J	-2643919.43	-2643919.34	-2643919.21	0.0133	0.0114
Uranus	-11952-12-18 10:33 J	-2643693.23	-2643693.06	-2643692.87	0.0133	0.0077
Uranus	-11951-08-01 17:02 J	-2643466.99	-2643466.79	-2643466.57	0.0133	0.0041
Uranus	-11950-03-15 23:31 J	-2643240.74	-2643240.52	-2643240.30	0.0133	0.0005
Uranus	-11950-10-28 05:31 J	-2643014.48	-2643014.27	-2643014.05	0.0133	0.0032
Uranus	-11949-06-10 11:45 J	-2642788.20	-2642788.01	-2642787.82	0.0133	0.0067
Neptune	-11949-08-22 17:16 J	-2642714.80	-2642714.78	-2642714.73	0.0089	0.0088
Uranus	-11948-01-22 17:31 J	-2642561.89	-2642561.77	-2642561.62	0.0133	0.0103
Neptune	-11948-04-05 06:14 J	-2642489.33	-2642489.24	-2642489.13	0.0089	0.0080
Jupiter	-11948-05-08 23:16 J	-2642455.70	-2642455.53	-2642455.36	0.0507	0.0261
Neptune	-11948-11-16 19:11 J	-2642263.82	-2642263.70	-2642263.57	0.0089	0.0072
Jupiter	-11948-12-31 06:14 J	-2642219.37	-2642219.24	-2642219.10	0.0503	0.0365
Neptune	-11947-06-30 08:24 J	-2642038.30	-2642038.15	-2642038.00	0.0089	0.0064
Neptune	-11946-02-10 21:07 J	-2641812.79	-2641812.62	-2641812.45	0.0089	0.0056
Saturn	-11946-06-08 13:55 J	-2641695.12	-2641694.92	-2641694.72	0.0274	0.0101
Neptune	-11946-09-24 09:50 J	-2641587.27	-2641587.09	-2641586.91	0.0089	0.0048
Saturn	-11945-01-24 01:11 J	-2641465.65	-2641465.45	-2641465.24	0.0277	0.0089
Neptune	-11945-05-06 22:33 J	-2641361.75	-2641361.56	-2641361.36	0.0089	0.0040
Neptune	-11945-12-18 11:16 J	-2641136.23	-2641136.03	-2641135.82	0.0089	0.0032
Neptune	-11944-08-01 00:14 J	-2640910.70	-2640910.49	-2640910.28	0.0089	0.0024
Neptune	-11943-03-14 12:43 J	-2640685.18	-2640684.97	-2640684.75	0.0089	0.0016
Neptune	-11943-10-26 01:40 J	-2640459.65	-2640459.43	-2640459.22	0.0089	0.0008
Neptune	-11942-06-08 14:24 J	-2640234.12	-2640233.90	-2640233.68	0.0089	0.0001
Jupiter	-11942-10-31 19:40 J	-2640088.88	-2640088.68	-2640088.48	0.0521	0.0106
Neptune	-11941-01-20 02:52 J	-2640008.59	-2640008.38	-2640008.15	0.0089	0.0009
Neptune	-11941-09-01 15:35 J	-2639783.06	-2639782.85	-2639782.63	0.0089	0.0017
Neptune	-11940-04-15 04:04 J	-2639557.52	-2639557.33	-2639557.11	0.0089	0.0026
Neptune	-11940-11-26 16:48 J	-2639331.99	-2639331.80	-2639331.58	0.0089	0.0033

Neptune -11939-07-10 05:45 J -2639106.44 -2639106.26 -2639106.06 0.0089 0.0041
 Neptune -11938-02-20 18:14 J -2638880.90 -2638880.74 -2638880.54 0.0089 0.0049
 Neptune -11938-10-04 06:57 J -2638655.36 -2638655.21 -2638655.03 0.0089 0.0057
 Mars -11938-11-24 21:21 J -2638603.74 -2638603.61 -2638603.48 0.1766 0.1195
 Neptune -11937-05-16 19:26 J -2638429.81 -2638429.69 -2638429.52 0.0089 0.0066
 Neptune -11937-12-28 08:09 J -2638204.26 -2638204.16 -2638204.01 0.0089 0.0073
 Jupiter -11936-01-11 21:21 J -2638189.71 -2638189.61 -2638189.51 0.0508 0.0443
 Neptune -11936-08-10 21:21 J -2637978.69 -2637978.61 -2637978.51 0.0089 0.0081
 Jupiter -11936-09-05 05:31 J -2637953.46 -2637953.27 -2637953.08 0.0504 0.0189
 Mars -11936-09-22 20:38 J -2637935.76 -2637935.64 -2637935.51 0.1741 0.1163
 Neptune -11935-03-24 09:50 J -2637753.10 -2637753.09 -2637753.05 0.0089 0.0088
 Saturn -11933-08-30 06:43 J -2636863.41 -2636863.22 -2636863.03 0.0289 0.0113
 Saturn -11932-04-16 21:21 J -2636633.80 -2636633.61 -2636633.41 0.0286 0.0097
 Mars -11931-05-09 04:04 J -2636246.51 -2636246.33 -2636246.16 0.1772 0.0334
 Jupiter -11930-07-06 12:14 J -2635823.19 -2635822.99 -2635822.78 0.0520 0.0092
 Jupiter -11924-05-11 06:14 J -2633687.44 -2633687.24 -2633687.04 0.0505 0.0014
 Jupiter -11918-03-11 03:35 J -2631557.52 -2631557.35 -2631557.17 0.0518 0.0289
 Jupiter -11918-11-03 21:21 J -2631319.73 -2631319.61 -2631319.49 0.0522 0.0424
 Saturn -11917-05-03 10:48 J -2631138.12 -2631138.05 -2631137.97 0.0272 0.0254
 Saturn -11917-12-18 20:09 J -2630908.86 -2630908.66 -2630908.45 0.0274 0.0072
 Saturn -11916-08-05 07:40 J -2630679.37 -2630679.18 -2630678.98 0.0277 0.0120
 Jupiter -11912-01-14 07:11 J -2629421.39 -2629421.20 -2629421.01 0.0507 0.0163
 Jupiter -11912-09-07 14:09 J -2629184.99 -2629184.91 -2629184.83 0.0503 0.0461
 Uranus -11909-09-17 20:09 J -2628078.75 -2628078.66 -2628078.55 0.0145 0.0128
 Uranus -11908-05-02 06:57 J -2627852.38 -2627852.21 -2627852.03 0.0145 0.0083
 Uranus -11908-12-14 18:00 J -2627625.95 -2627625.75 -2627625.54 0.0145 0.0037
 Uranus -11907-07-29 05:16 J -2627399.50 -2627399.28 -2627399.07 0.0145 0.0009
 Jupiter -11907-11-13 18:57 J -2627291.77 -2627291.71 -2627291.63 0.0517 0.0482
 Uranus -11906-03-12 16:04 J -2627173.02 -2627172.83 -2627172.62 0.0146 0.0055
 Jupiter -11906-07-09 11:31 J -2627054.21 -2627054.02 -2627053.84 0.0521 0.0224

Uranus	-11906-10-25 03:07 J	-2626946.51	-2626946.37	-2626946.20	0.0146	0.0101
Mars	-11904-09-22 00:28 J	-2626248.65	-2626248.48	-2626248.31	0.1752	0.0092
Saturn	-11903-03-12 14:24 J	-2626077.10	-2626076.90	-2626076.70	0.0288	0.0081
Saturn	-11903-10-28 04:33 J	-2625847.49	-2625847.31	-2625847.12	0.0285	0.0127
Jupiter	-11901-09-19 08:52 J	-2625155.28	-2625155.13	-2625154.98	0.0508	0.0336
Jupiter	-11900-05-13 16:48 J	-2624918.97	-2624918.80	-2624918.64	0.0504	0.0295
Mars	-11899-05-08 12:43 J	-2624559.12	-2624558.97	-2624558.82	0.1761	0.0852
Mars	-11897-03-06 00:14 J	-2623891.51	-2623891.49	-2623891.46	0.1786	0.1761
Jupiter	-11894-03-14 01:11 J	-2622788.66	-2622788.45	-2622788.24	0.0520	0.0021
Jupiter	-11888-01-16 18:28 J	-2620652.93	-2620652.73	-2620652.54	0.0505	0.0123
Saturn	-11888-11-13 15:50 J	-2620351.95	-2620351.84	-2620351.72	0.0272	0.0228
Saturn	-11887-07-01 01:11 J	-2620122.66	-2620122.45	-2620122.24	0.0275	0.0045
Saturn	-11886-02-15 12:57 J	-2619893.13	-2619892.96	-2619892.77	0.0278	0.0147
Jupiter	-11883-11-16 17:31 J	-2618522.96	-2618522.77	-2618522.58	0.0519	0.0175
Pluto	-11882-02-23 15:50 J	-2618423.97	-2618423.84	-2618423.65	0.0064	0.0045
Pluto	-11882-10-06 20:24 J	-2618198.86	-2618198.65	-2618198.43	0.0065	0.0010
Pluto	-11881-05-19 00:00 J	-2617973.68	-2617973.50	-2617973.28	0.0065	0.0025
Pluto	-11881-12-30 03:50 J	-2617748.40	-2617748.34	-2617748.23	0.0065	0.0060
Jupiter	-11877-09-21 17:16 J	-2616386.98	-2616386.78	-2616386.58	0.0506	0.0059
Saturn	-11874-02-05 04:19 J	-2615520.40	-2615520.32	-2615520.23	0.0291	0.0264
Saturn	-11874-09-22 21:21 J	-2615290.82	-2615290.61	-2615290.40	0.0288	0.0047
Saturn	-11873-05-09 11:16 J	-2615061.20	-2615061.03	-2615060.85	0.0285	0.0161
Mars	-11872-09-21 05:45 J	-2614561.40	-2614561.26	-2614561.12	0.1762	0.1037
Jupiter	-11871-07-22 11:02 J	-2614257.19	-2614257.04	-2614256.90	0.0518	0.0369
Jupiter	-11870-03-17 04:33 J	-2614019.46	-2614019.31	-2614019.15	0.0522	0.0346
Mars	-11870-07-21 05:45 J	-2613893.37	-2613893.26	-2613893.14	0.1738	0.1295
Uranus	-11868-01-03 11:45 J	-2613361.03	-2613361.01	-2613360.97	0.0134	0.0132
Uranus	-11868-08-17 18:14 J	-2613134.88	-2613134.74	-2613134.57	0.0133	0.0096
Uranus	-11867-04-01 00:43 J	-2612908.66	-2612908.47	-2612908.26	0.0133	0.0059
Uranus	-11867-11-13 07:11 J	-2612682.42	-2612682.20	-2612681.98	0.0133	0.0023

Neptune	-11866-05-20 14:52 J	-2612493.89	-2612493.88	-2612493.84	0.0088	0.0087
Uranus	-11866-06-27 13:26 J	-2612456.16	-2612455.94	-2612455.72	0.0133	0.0014
Neptune	-11865-01-01 04:19 J	-2612268.41	-2612268.32	-2612268.22	0.0088	0.0079
Uranus	-11865-02-08 19:26 J	-2612229.88	-2612229.69	-2612229.47	0.0133	0.0050
Mars	-11865-03-05 11:31 J	-2612204.19	-2612204.02	-2612203.85	0.1775	0.0499
Jupiter	-11865-05-27 17:45 J	-2612120.93	-2612120.76	-2612120.58	0.0507	0.0237
Neptune	-11865-08-13 17:45 J	-2612042.89	-2612042.76	-2612042.64	0.0088	0.0072
Uranus	-11865-09-22 01:40 J	-2612003.59	-2612003.43	-2612003.26	0.0133	0.0085
Jupiter	-11864-01-19 00:43 J	-2611884.59	-2611884.47	-2611884.34	0.0503	0.0393
Neptune	-11864-03-27 06:14 J	-2611817.37	-2611817.24	-2611817.06	0.0088	0.0064
Uranus	-11864-05-06 07:26 J	-2611777.27	-2611777.19	-2611777.09	0.0133	0.0121
Earth	-11864-05-11 19:11 J	-2611771.86	-2611771.70	-2611771.54	0.2663	0.0658
Moon	-11864-05-12 00:14 J	-2611771.66	-2611771.49	-2611771.32	0.2659	0.0197 *
Neptune	-11864-11-07 19:40 J	-2611591.84	-2611591.68	-2611591.49	0.0088	0.0056
Neptune	-11863-06-21 08:52 J	-2611366.30	-2611366.13	-2611365.93	0.0088	0.0048
Neptune	-11862-02-01 22:19 J	-2611140.76	-2611140.57	-2611140.36	0.0088	0.0040
Neptune	-11862-09-15 11:31 J	-2610915.22	-2610915.02	-2610914.80	0.0088	0.0032
Neptune	-11861-04-28 00:57 J	-2610689.67	-2610689.46	-2610689.24	0.0088	0.0024
Neptune	-11861-12-09 14:24 J	-2610464.11	-2610463.90	-2610463.67	0.0088	0.0016
Neptune	-11860-07-23 03:50 J	-2610238.56	-2610238.34	-2610238.12	0.0088	0.0008
Neptune	-11859-03-05 17:16 J	-2610013.01	-2610012.78	-2610012.56	0.0088	0.0001
Neptune	-11859-10-17 06:28 J	-2609787.45	-2609787.23	-2609787.01	0.0088	0.0008
Jupiter	-11859-11-19 19:11 J	-2609753.89	-2609753.70	-2609753.50	0.0521	0.0146
Saturn	-11858-05-26 20:24 J	-2609565.79	-2609565.65	-2609565.50	0.0272	0.0202
Neptune	-11858-05-30 19:40 J	-2609561.89	-2609561.68	-2609561.46	0.0088	0.0017
Saturn	-11857-01-11 06:14 J	-2609336.46	-2609336.24	-2609336.03	0.0275	0.0019
Neptune	-11857-01-11 09:21 J	-2609336.33	-2609336.11	-2609335.90	0.0088	0.0025 *
Neptune	-11857-08-23 22:33 J	-2609110.76	-2609110.56	-2609110.35	0.0088	0.0033
Saturn	-11857-08-27 18:00 J	-2609106.91	-2609106.75	-2609106.57	0.0278	0.0175
Neptune	-11856-04-06 12:00 J	-2608885.20	-2608885.00	-2608884.80	0.0088	0.0041

Neptune	-11856-11-18 00:43 J	-2608659.63	-2608659.47	-2608659.26	0.0088	0.0050
Neptune	-11855-07-01 14:38 J	-2608434.06	-2608433.89	-2608433.72	0.0088	0.0057
Neptune	-11854-02-12 03:21 J	-2608208.48	-2608208.36	-2608208.18	0.0088	0.0066
Neptune	-11854-09-25 17:16 J	-2607982.90	-2607982.78	-2607982.65	0.0088	0.0073
Jupiter	-11853-01-31 18:14 J	-2607854.85	-2607854.74	-2607854.62	0.0509	0.0414
Neptune	-11853-05-08 06:28 J	-2607757.31	-2607757.23	-2607757.13	0.0088	0.0081
Jupiter	-11853-09-24 02:38 J	-2607618.56	-2607618.39	-2607618.20	0.0504	0.0223
Jupiter	-11847-07-25 10:19 J	-2605488.28	-2605488.07	-2605487.87	0.0519	0.0057
Saturn	-11845-08-17 10:19 J	-2604734.18	-2604734.07	-2604733.93	0.0291	0.0234
Saturn	-11844-04-04 03:21 J	-2604504.57	-2604504.36	-2604504.15	0.0288	0.0018
Saturn	-11844-11-19 16:48 J	-2604274.94	-2604274.80	-2604274.63	0.0284	0.0188
Jupiter	-11841-05-30 05:02 J	-2603352.49	-2603352.29	-2603352.09	0.0506	0.0052
Mars	-11838-07-20 09:07 J	-2602206.29	-2602206.12	-2602205.95	0.1748	0.0237
Jupiter	-11835-03-30 00:28 J	-2601222.65	-2601222.48	-2601222.29	0.0518	0.0257
Jupiter	-11835-11-22 18:14 J	-2600984.83	-2600984.74	-2600984.64	0.0522	0.0461
Mars	-11833-03-04 20:38 J	-2600516.80	-2600516.64	-2600516.48	0.1764	0.0699
Jupiter	-11829-02-03 06:43 J	-2599086.41	-2599086.22	-2599086.02	0.0507	0.0126
Jupiter	-11829-09-26 13:26 J	-2598849.95	-2598849.94	-2598849.92	0.0503	0.0501
Saturn	-11829-12-06 00:00 J	-2598779.65	-2598779.50	-2598779.33	0.0272	0.0179
Saturn	-11828-07-23 10:04 J	-2598550.30	-2598550.08	-2598549.87	0.0275	0.0009
Saturn	-11827-03-09 22:19 J	-2598320.72	-2598320.57	-2598320.42	0.0278	0.0201
Uranus	-11825-12-30 11:31 J	-2597294.15	-2597294.02	-2597293.86	0.0145	0.0107
Uranus	-11824-08-13 22:48 J	-2597067.74	-2597067.55	-2597067.36	0.0145	0.0062
Jupiter	-11824-12-02 17:31 J	-2596956.86	-2596956.77	-2596956.66	0.0517	0.0449
Uranus	-11823-03-28 09:35 J	-2596841.31	-2596841.10	-2596840.88	0.0145	0.0016
Jupiter	-11823-07-28 10:19 J	-2596719.24	-2596719.07	-2596718.89	0.0521	0.0265
Uranus	-11823-11-09 20:24 J	-2596614.85	-2596614.65	-2596614.43	0.0145	0.0031
Uranus	-11822-06-24 07:26 J	-2596388.36	-2596388.19	-2596387.99	0.0146	0.0077
Uranus	-11821-02-05 18:43 J	-2596161.82	-2596161.72	-2596161.59	0.0146	0.0123
Jupiter	-11818-10-09 05:31 J	-2594820.43	-2594820.27	-2594820.11	0.0508	0.0308

Jupiter	-11817-06-01 12:43 J	-2594584.11	-2594583.97	-2594583.81	0.0504	0.0326
Saturn	-11815-02-27 16:19 J	-2593947.96	-2593947.82	-2593947.66	0.0291	0.0202
Saturn	-11815-10-15 08:52 J	-2593718.33	-2593718.13	-2593717.92	0.0288	0.0015
Saturn	-11814-06-01 22:19 J	-2593488.69	-2593488.57	-2593488.43	0.0284	0.0219
Jupiter	-11811-04-02 03:35 J	-2592453.56	-2592453.35	-2592453.15	0.0520	0.0067
Jupiter	-11806-06-14 06:00 J	-2590554.30	-2590554.25	-2590554.19	0.0509	0.0485
Mars	-11806-07-19 13:55 J	-2590519.07	-2590518.92	-2590518.77	0.1759	0.0878
Jupiter	-11805-02-05 14:24 J	-2590318.09	-2590317.90	-2590317.70	0.0505	0.0152
Mars	-11804-05-17 15:21 J	-2589850.96	-2589850.86	-2589850.77	0.1735	0.1425
Jupiter	-11800-12-05 19:11 J	-2588187.90	-2588187.70	-2588187.50	0.0519	0.0134
Mars	-11800-12-31 18:28 J	-2588161.89	-2588161.73	-2588161.57	0.1779	0.0675
Saturn	-11799-06-18 03:35 J	-2587993.52	-2587993.35	-2587993.17	0.0272	0.0154
Saturn	-11798-02-02 13:26 J	-2587764.15	-2587763.94	-2587763.72	0.0275	0.0032
Saturn	-11798-09-20 01:40 J	-2587534.54	-2587534.43	-2587534.29	0.0278	0.0227
Pluto	-11794-06-05 21:07 J	-2586179.66	-2586179.62	-2586179.52	0.0080	0.0076
Jupiter	-11794-10-11 16:04 J	-2586052.04	-2586051.83	-2586051.63	0.0506	0.0025
Pluto	-11793-01-17 08:38 J	-2585954.35	-2585954.14	-2585953.91	0.0079	0.0009
Pluto	-11793-08-29 19:26 J	-2585728.84	-2585728.69	-2585728.53	0.0079	0.0056
Jupiter	-11788-08-10 11:02 J	-2583922.20	-2583922.04	-2583921.88	0.0517	0.0331
Jupiter	-11787-04-05 04:19 J	-2583684.46	-2583684.32	-2583684.18	0.0522	0.0387
Saturn	-11786-09-09 20:24 J	-2583161.81	-2583161.65	-2583161.48	0.0290	0.0176
Saturn	-11785-04-26 12:43 J	-2582932.18	-2582931.97	-2582931.76	0.0287	0.0039
Saturn	-11785-12-12 01:55 J	-2582702.52	-2582702.42	-2582702.31	0.0284	0.0243
Uranus	-11784-04-17 01:55 J	-2582576.52	-2582576.42	-2582576.30	0.0134	0.0114
Neptune	-11784-07-07 17:45 J	-2582494.81	-2582494.76	-2582494.67	0.0089	0.0085
Uranus	-11784-11-29 08:09 J	-2582350.32	-2582350.16	-2582349.96	0.0133	0.0078
Neptune	-11783-02-18 06:43 J	-2582269.31	-2582269.22	-2582269.09	0.0089	0.0076
Uranus	-11783-07-13 14:52 J	-2582124.09	-2582123.88	-2582123.66	0.0133	0.0041
Neptune	-11783-10-01 19:26 J	-2582043.80	-2582043.69	-2582043.53	0.0089	0.0069
Uranus	-11782-02-24 21:21 J	-2581897.83	-2581897.61	-2581897.39	0.0133	0.0004

Neptune -11782-05-15 08:24 J -2581818.29 -2581818.15 -2581817.97 0.0089 0.0060
 Jupiter -11782-06-16 18:00 J -2581785.93 -2581785.75 -2581785.56 0.0507 0.0198
 Uranus -11782-10-09 03:21 J -2581671.57 -2581671.36 -2581671.14 0.0133 0.0032
 Neptune -11782-12-26 21:35 J -2581592.77 -2581592.60 -2581592.41 0.0089 0.0052
 Jupiter -11781-02-08 01:11 J -2581549.54 -2581549.45 -2581549.34 0.0503 0.0434
 Uranus -11781-05-22 09:21 J -2581445.29 -2581445.11 -2581444.91 0.0133 0.0068
 Neptune -11781-08-08 10:33 J -2581367.25 -2581367.06 -2581366.87 0.0089 0.0043
 Uranus -11780-01-03 15:21 J -2581218.98 -2581218.86 -2581218.71 0.0133 0.0104
 Neptune -11780-03-21 23:16 J -2581141.72 -2581141.53 -2581141.32 0.0089 0.0035
 Neptune -11780-11-02 12:00 J -2580916.20 -2580916.00 -2580915.79 0.0089 0.0027
 Neptune -11779-06-16 00:43 J -2580690.67 -2580690.47 -2580690.24 0.0089 0.0020
 Neptune -11778-01-27 13:40 J -2580465.14 -2580464.93 -2580464.71 0.0089 0.0011
 Neptune -11778-09-10 02:24 J -2580239.62 -2580239.40 -2580239.18 0.0089 0.0002
 Neptune -11777-04-22 15:07 J -2580014.09 -2580013.87 -2580013.65 0.0089 0.0006
 Neptune -11777-12-04 03:35 J -2579788.55 -2579788.35 -2579788.13 0.0089 0.0014
 Neptune -11776-07-17 16:33 J -2579563.02 -2579562.81 -2579562.60 0.0089 0.0022
 Jupiter -11776-12-08 18:14 J -2579418.93 -2579418.74 -2579418.55 0.0521 0.0184
 Neptune -11775-02-28 05:02 J -2579337.48 -2579337.29 -2579337.07 0.0089 0.0031
 Neptune -11775-10-11 17:45 J -2579111.95 -2579111.76 -2579111.56 0.0089 0.0038
 Neptune -11774-05-25 06:28 J -2578886.41 -2578886.23 -2578886.04 0.0089 0.0047
 Neptune -11773-01-05 19:11 J -2578660.87 -2578660.70 -2578660.52 0.0089 0.0055
 Neptune -11773-08-18 08:09 J -2578435.32 -2578435.16 -2578435.01 0.0089 0.0063
 Neptune -11772-03-31 20:38 J -2578209.77 -2578209.64 -2578209.51 0.0089 0.0071
 Mars -11772-05-16 18:00 J -2578163.92 -2578163.75 -2578163.58 0.1745 0.0381
 Neptune -11772-11-12 09:21 J -2577984.21 -2577984.11 -2577984.01 0.0089 0.0079
 Neptune -11771-06-25 22:04 J -2577758.63 -2577758.58 -2577758.53 0.0089 0.0086
 Jupiter -11770-02-19 19:26 J -2577519.82 -2577519.69 -2577519.55 0.0509 0.0375
 Jupiter -11770-10-14 03:50 J -2577283.51 -2577283.34 -2577283.17 0.0504 0.0264
 Saturn -11770-12-29 06:00 J -2577207.44 -2577207.25 -2577207.06 0.0273 0.0132
 Saturn -11769-08-14 16:04 J -2576978.04 -2576977.83 -2576977.62 0.0276 0.0055

Saturn	-11768-04-01 04:33 J	-2576748.40	-2576748.31	-2576748.21	0.0279	0.0250
Mars	-11768-12-31 04:04 J	-2576474.50	-2576474.33	-2576474.17	0.1768	0.0539
Jupiter	-11764-08-13 10:48 J	-2575153.25	-2575153.05	-2575152.84	0.0520	0.0018
Jupiter	-11758-06-19 03:07 J	-2573017.57	-2573017.37	-2573017.17	0.0505	0.0084
Saturn	-11756-03-22 00:43 J	-2572375.65	-2572375.47	-2572375.29	0.0290	0.0147
Saturn	-11756-11-06 16:48 J	-2572146.00	-2572145.80	-2572145.59	0.0287	0.0068
Saturn	-11755-06-24 06:00 J	-2571916.30	-2571916.25	-2571916.19	0.0284	0.0271
Jupiter	-11752-04-18 04:19 J	-2570887.51	-2570887.32	-2570887.13	0.0519	0.0211
Jupiter	-11752-12-11 22:48 J	-2570649.59	-2570649.55	-2570649.51	0.0523	0.0512
Jupiter	-11746-02-22 04:48 J	-2568751.50	-2568751.30	-2568751.10	0.0506	0.0093
Uranus	-11741-08-29 18:14 J	-2566735.82	-2566735.74	-2566735.63	0.0145	0.0129
Jupiter	-11741-12-21 21:07 J	-2566621.75	-2566621.62	-2566621.49	0.0517	0.0405
Uranus	-11740-04-13 05:16 J	-2566509.45	-2566509.28	-2566509.10	0.0145	0.0083
Mars	-11740-05-15 23:02 J	-2566476.70	-2566476.54	-2566476.39	0.1756	0.0731
Saturn	-11740-07-10 08:24 J	-2566421.35	-2566421.15	-2566420.96	0.0273	0.0110
Jupiter	-11740-08-16 13:55 J	-2566384.08	-2566383.92	-2566383.75	0.0521	0.0313
Uranus	-11740-11-25 16:04 J	-2566283.03	-2566282.83	-2566282.62	0.0145	0.0038
Saturn	-11739-02-24 18:28 J	-2566191.94	-2566191.73	-2566191.53	0.0276	0.0078
Uranus	-11739-07-10 03:07 J	-2566056.58	-2566056.37	-2566056.16	0.0145	0.0008
Saturn	-11739-10-12 06:57 J	-2565962.24	-2565962.21	-2565962.16	0.0279	0.0273
Uranus	-11738-02-21 13:55 J	-2565830.11	-2565829.92	-2565829.71	0.0145	0.0055
Mars	-11738-03-15 00:28 J	-2565808.55	-2565808.48	-2565808.40	0.1732	0.1554
Uranus	-11738-10-06 00:57 J	-2565603.60	-2565603.46	-2565603.29	0.0146	0.0101
Mars	-11736-12-30 12:57 J	-2564787.00	-2564786.96	-2564786.93	0.1757	0.1705
Jupiter	-11735-10-28 05:45 J	-2564485.43	-2564485.26	-2564485.09	0.0508	0.0271
Jupiter	-11734-06-21 13:11 J	-2564249.09	-2564248.95	-2564248.81	0.0504	0.0366
Mars	-11734-10-29 01:26 J	-2564119.59	-2564119.44	-2564119.28	0.1782	0.0853
Jupiter	-11728-04-21 05:16 J	-2562118.48	-2562118.28	-2562118.08	0.0520	0.0111
Saturn	-11727-10-02 03:21 J	-2561589.55	-2561589.36	-2561589.17	0.0290	0.0123
Saturn	-11726-05-19 19:11 J	-2561359.89	-2561359.70	-2561359.50	0.0287	0.0091

Jupiter	-11723-07-03 07:11 J	-2560219.29	-2560219.20	-2560219.10	0.0509	0.0446
Jupiter	-11722-02-24 16:04 J	-2559983.01	-2559982.83	-2559982.64	0.0505	0.0196
Moon	-11719-11-07 18:28 J	-2558630.87	-2558630.73	-2558630.59	0.2673	0.1047
Earth	-11719-11-07 23:02 J	-2558630.65	-2558630.54	-2558630.42	0.2670	0.1820 *
Jupiter	-11717-12-24 19:55 J	-2557852.87	-2557852.67	-2557852.46	0.0519	0.0092
Saturn	-11711-06-05 01:40 J	-2555864.44	-2555864.43	-2555864.39	0.0270	0.0268
Jupiter	-11711-10-30 18:28 J	-2555716.93	-2555716.73	-2555716.53	0.0506	0.0022
Moon	-11711-11-05 14:09 J	-2555711.02	-2555710.91	-2555710.80	0.2679	0.1705
Earth	-11711-11-05 15:50 J	-2555710.96	-2555710.84	-2555710.71	0.2672	0.1481 *
Saturn	-11710-01-20 09:35 J	-2555635.30	-2555635.10	-2555634.89	0.0273	0.0089
Saturn	-11710-09-06 19:55 J	-2555405.87	-2555405.67	-2555405.47	0.0276	0.0100
Mars	-11706-03-14 03:21 J	-2554121.53	-2554121.36	-2554121.20	0.1742	0.0514
Jupiter	-11705-08-29 13:11 J	-2553587.12	-2553586.95	-2553586.78	0.0518	0.0288
Jupiter	-11704-04-24 06:43 J	-2553349.33	-2553349.22	-2553349.10	0.0522	0.0435
Mars	-11702-10-28 12:00 J	-2552432.17	-2552432.00	-2552431.83	0.1771	0.0381
Neptune	-11701-04-03 15:50 J	-2552273.90	-2552273.84	-2552273.76	0.0088	0.0084
Neptune	-11701-11-15 05:16 J	-2552048.39	-2552048.28	-2552048.17	0.0088	0.0076
Uranus	-11701-12-15 09:35 J	-2552018.12	-2552018.10	-2552018.04	0.0134	0.0132
Neptune	-11700-06-28 17:45 J	-2551822.87	-2551822.76	-2551822.59	0.0088	0.0068
Uranus	-11700-07-29 16:33 J	-2551791.96	-2551791.81	-2551791.65	0.0134	0.0095
Neptune	-11699-02-09 06:57 J	-2551597.35	-2551597.21	-2551597.02	0.0088	0.0060
Uranus	-11699-03-12 23:02 J	-2551565.73	-2551565.54	-2551565.34	0.0133	0.0058
Jupiter	-11699-07-05 18:00 J	-2551450.94	-2551450.75	-2551450.56	0.0507	0.0162
Neptune	-11699-09-22 20:09 J	-2551371.82	-2551371.66	-2551371.46	0.0088	0.0052
Uranus	-11699-10-25 05:16 J	-2551339.49	-2551339.28	-2551339.05	0.0133	0.0022
Jupiter	-11698-02-27 00:28 J	-2551214.54	-2551214.48	-2551214.41	0.0503	0.0470
Neptune	-11698-05-06 09:21 J	-2551146.28	-2551146.11	-2551145.90	0.0088	0.0044
Uranus	-11698-06-08 11:45 J	-2551113.23	-2551113.01	-2551112.79	0.0133	0.0015
Neptune	-11698-12-17 23:16 J	-2550920.74	-2550920.53	-2550920.33	0.0088	0.0036
Uranus	-11697-01-20 17:45 J	-2550886.95	-2550886.76	-2550886.54	0.0133	0.0051

Saturn	-11697-04-13 06:00 J	-2550803.45	-2550803.25	-2550803.06	0.0290	0.0097
Neptune	-11697-07-30 12:28 J	-2550695.19	-2550694.98	-2550694.77	0.0088	0.0027
Uranus	-11697-09-02 23:45 J	-2550660.66	-2550660.51	-2550660.33	0.0133	0.0087
Saturn	-11697-11-28 21:35 J	-2550573.78	-2550573.60	-2550573.40	0.0287	0.0117
Neptune	-11696-03-13 01:40 J	-2550469.65	-2550469.43	-2550469.21	0.0088	0.0019
Uranus	-11696-04-17 05:45 J	-2550434.32	-2550434.26	-2550434.16	0.0133	0.0123
Neptune	-11696-10-24 14:52 J	-2550244.10	-2550243.88	-2550243.66	0.0088	0.0011
Neptune	-11695-06-07 04:19 J	-2550018.55	-2550018.32	-2550018.10	0.0088	0.0003
Neptune	-11694-01-18 17:45 J	-2549792.99	-2549792.76	-2549792.54	0.0088	0.0005
Neptune	-11694-09-01 06:57 J	-2549567.43	-2549567.21	-2549566.99	0.0088	0.0013
Neptune	-11693-04-13 20:24 J	-2549341.87	-2549341.65	-2549341.44	0.0088	0.0022
Jupiter	-11693-05-04 06:43 J	-2549321.29	-2549321.22	-2549321.15	0.0517	0.0481
Neptune	-11693-11-25 09:21 J	-2549116.30	-2549116.11	-2549115.88	0.0088	0.0030
Jupiter	-11693-12-27 23:31 J	-2549083.70	-2549083.52	-2549083.33	0.0521	0.0237
Neptune	-11692-07-08 22:48 J	-2548890.74	-2548890.55	-2548890.34	0.0088	0.0038
Neptune	-11691-02-19 12:00 J	-2548665.17	-2548665.00	-2548664.79	0.0088	0.0047
Neptune	-11691-10-03 01:26 J	-2548439.60	-2548439.44	-2548439.25	0.0088	0.0054
Neptune	-11690-05-16 14:52 J	-2548214.03	-2548213.88	-2548213.72	0.0088	0.0062
Neptune	-11690-12-28 04:19 J	-2547988.44	-2547988.32	-2547988.18	0.0088	0.0071
Neptune	-11689-08-09 17:45 J	-2547762.85	-2547762.76	-2547762.65	0.0088	0.0079
Neptune	-11688-03-23 06:57 J	-2547537.24	-2547537.21	-2547537.16	0.0088	0.0087
Jupiter	-11687-03-10 19:26 J	-2547184.84	-2547184.69	-2547184.54	0.0508	0.0339
Jupiter	-11687-11-02 02:52 J	-2546948.54	-2546948.38	-2546948.22	0.0504	0.0300
Saturn	-11682-12-16 03:35 J	-2545078.43	-2545078.35	-2545078.26	0.0270	0.0247
Saturn	-11681-08-01 11:31 J	-2544849.23	-2544849.02	-2544848.82	0.0273	0.0068
Jupiter	-11681-09-01 15:50 J	-2544818.05	-2544817.84	-2544817.63	0.0520	0.0037
Saturn	-11680-03-18 21:35 J	-2544619.79	-2544619.60	-2544619.40	0.0276	0.0121
Jupiter	-11675-07-08 04:48 J	-2542682.50	-2542682.30	-2542682.11	0.0505	0.0126
Mars	-11674-03-13 07:26 J	-2542434.36	-2542434.19	-2542434.03	0.1752	0.0579
Mars	-11672-01-09 10:04 J	-2541766.11	-2541766.08	-2541766.04	0.1728	0.1677

Mars	-11670-10-27 20:38 J	-2540744.72	-2540744.64	-2540744.56	0.1760	0.1555
Jupiter	-11669-05-07 07:40 J	-2540552.37	-2540552.18	-2540551.98	0.0519	0.0164
Mars	-11668-08-25 08:24 J	-2540077.30	-2540077.15	-2540077.01	0.1786	0.1035
Saturn	-11668-10-24 07:11 J	-2540017.40	-2540017.20	-2540016.99	0.0290	0.0076
Saturn	-11667-06-10 23:02 J	-2539787.72	-2539787.54	-2539787.36	0.0287	0.0137
Jupiter	-11663-03-13 07:11 J	-2538416.40	-2538416.20	-2538416.00	0.0506	0.0048
Jupiter	-11657-01-10 23:02 J	-2536286.68	-2536286.54	-2536286.39	0.0517	0.0364
Jupiter	-11657-09-04 16:04 J	-2536048.97	-2536048.83	-2536048.68	0.0522	0.0359
Uranus	-11657-12-11 12:57 J	-2535951.10	-2535950.96	-2535950.80	0.0145	0.0104
Uranus	-11656-07-26 00:00 J	-2535724.69	-2535724.50	-2535724.30	0.0145	0.0058
Uranus	-11655-03-09 11:02 J	-2535498.25	-2535498.04	-2535497.82	0.0145	0.0012
Uranus	-11655-10-21 22:04 J	-2535271.79	-2535271.58	-2535271.37	0.0145	0.0034
Uranus	-11654-06-05 08:52 J	-2535045.29	-2535045.13	-2535044.94	0.0146	0.0081
Uranus	-11653-01-17 20:09 J	-2534818.75	-2534818.66	-2534818.54	0.0146	0.0127
Saturn	-11652-06-27 03:50 J	-2534292.44	-2534292.34	-2534292.21	0.0270	0.0229
Jupiter	-11652-11-16 09:07 J	-2534150.30	-2534150.12	-2534149.94	0.0508	0.0226
Saturn	-11651-02-11 12:00 J	-2534063.21	-2534063.00	-2534062.79	0.0273	0.0048
Jupiter	-11651-07-10 16:33 J	-2533913.92	-2533913.81	-2533913.69	0.0504	0.0412
Saturn	-11651-09-28 22:04 J	-2533833.75	-2533833.58	-2533833.39	0.0276	0.0142
Jupiter	-11645-05-10 08:38 J	-2531783.33	-2531783.14	-2531782.94	0.0521	0.0160
Mars	-11642-03-12 12:28 J	-2530747.02	-2530746.98	-2530746.94	0.1763	0.1706
Mars	-11640-01-08 12:14 J	-2530079.15	-2530078.99	-2530078.83	0.1738	0.0652
Jupiter	-11640-07-22 09:07 J	-2529884.24	-2529884.12	-2529884.00	0.0508	0.0407
Jupiter	-11639-03-15 16:48 J	-2529647.97	-2529647.80	-2529647.62	0.0504	0.0236
Saturn	-11639-09-18 14:24 J	-2529460.96	-2529460.90	-2529460.82	0.0293	0.0274
Saturn	-11638-05-06 09:07 J	-2529231.32	-2529231.12	-2529230.91	0.0290	0.0052
Saturn	-11638-12-22 00:43 J	-2529001.64	-2529001.47	-2529001.30	0.0287	0.0161
Mars	-11636-08-24 18:57 J	-2528389.88	-2528389.71	-2528389.53	0.1775	0.0216
Pluto	-11634-01-27 00:43 J	-2527869.57	-2527869.47	-2527869.34	0.0064	0.0054
Pluto	-11634-09-09 04:48 J	-2527644.50	-2527644.30	-2527644.08	0.0065	0.0020

Jupiter	-11633-01-14 01:40 J	-2527517.64	-2527517.43	-2527517.23	0.0520	0.0041
Pluto	-11633-04-21 08:38 J	-2527419.34	-2527419.14	-2527418.91	0.0065	0.0015
Pluto	-11633-12-02 12:28 J	-2527194.09	-2527193.98	-2527193.81	0.0065	0.0050
Moon	-11629-05-14 00:28 J	-2525935.56	-2525935.48	-2525935.40	0.2659	0.2287
Jupiter	-11628-11-18 18:57 J	-2525381.91	-2525381.71	-2525381.51	0.0505	0.0060
Saturn	-11622-01-07 05:31 J	-2523506.40	-2523506.27	-2523506.13	0.0270	0.0208
Saturn	-11622-08-24 13:26 J	-2523277.15	-2523276.94	-2523276.72	0.0273	0.0028
Jupiter	-11622-09-18 18:28 J	-2523251.91	-2523251.73	-2523251.54	0.0518	0.0238
Saturn	-11621-04-09 23:45 J	-2523047.68	-2523047.51	-2523047.33	0.0276	0.0162
Moon	-11621-05-11 12:57 J	-2523016.10	-2523015.96	-2523015.83	0.2663	0.1415
Earth	-11621-05-11 18:43 J	-2523015.88	-2523015.72	-2523015.56	0.2661	0.0665 *
Jupiter	-11621-05-13 12:28 J	-2523014.04	-2523013.98	-2523013.91	0.0522	0.0490
Neptune	-11620-10-09 05:16 J	-2522500.29	-2522500.28	-2522500.25	0.0089	0.0089
Neptune	-11619-05-22 18:14 J	-2522274.82	-2522274.74	-2522274.64	0.0089	0.0081
Neptune	-11618-01-03 06:57 J	-2522049.32	-2522049.21	-2522049.07	0.0089	0.0073
Neptune	-11618-08-16 19:40 J	-2521823.81	-2521823.68	-2521823.51	0.0089	0.0065
Neptune	-11617-03-29 08:38 J	-2521598.29	-2521598.14	-2521597.95	0.0089	0.0056
Neptune	-11617-11-09 21:50 J	-2521372.77	-2521372.59	-2521372.40	0.0089	0.0048
Uranus	-11616-03-29 01:26 J	-2521233.54	-2521233.44	-2521233.31	0.0134	0.0112
Neptune	-11616-06-23 10:33 J	-2521147.24	-2521147.06	-2521146.85	0.0089	0.0040
Jupiter	-11616-07-24 20:24 J	-2521115.84	-2521115.65	-2521115.45	0.0507	0.0118
Uranus	-11616-11-10 07:55 J	-2521007.34	-2521007.17	-2521006.97	0.0133	0.0075
Neptune	-11615-02-03 23:31 J	-2520921.72	-2520921.52	-2520921.31	0.0089	0.0031
Uranus	-11615-06-24 14:38 J	-2520781.10	-2520780.89	-2520780.68	0.0133	0.0038
Neptune	-11615-09-17 12:28 J	-2520696.19	-2520695.98	-2520695.77	0.0089	0.0023
Uranus	-11614-02-05 21:07 J	-2520554.84	-2520554.62	-2520554.40	0.0133	0.0002
Neptune	-11614-05-01 01:11 J	-2520470.66	-2520470.45	-2520470.23	0.0089	0.0014
Uranus	-11614-09-20 03:21 J	-2520328.57	-2520328.36	-2520328.15	0.0133	0.0034
Neptune	-11614-12-12 13:55 J	-2520245.13	-2520244.92	-2520244.70	0.0089	0.0006
Uranus	-11613-05-03 09:07 J	-2520102.29	-2520102.12	-2520101.92	0.0133	0.0071

Neptune	-11613-07-25 02:52 J	-2520019.60	-2520019.38	-2520019.16	0.0089	0.0002
Uranus	-11613-12-15 15:35 J	-2519875.98	-2519875.85	-2519875.72	0.0133	0.0106
Neptune	-11612-03-07 15:21 J	-2519794.07	-2519793.86	-2519793.64	0.0089	0.0011
Neptune	-11612-10-19 04:04 J	-2519568.54	-2519568.33	-2519568.11	0.0089	0.0019
Neptune	-11611-06-01 16:48 J	-2519343.00	-2519342.80	-2519342.59	0.0089	0.0027
Neptune	-11610-01-13 05:31 J	-2519117.47	-2519117.27	-2519117.07	0.0089	0.0036
Jupiter	-11610-05-24 11:02 J	-2518986.15	-2518986.04	-2518985.92	0.0517	0.0434
Neptune	-11610-08-26 17:45 J	-2518891.93	-2518891.76	-2518891.55	0.0089	0.0045
Jupiter	-11609-01-17 03:50 J	-2518748.51	-2518748.34	-2518748.17	0.0521	0.0288
Saturn	-11609-03-30 15:07 J	-2518674.97	-2518674.87	-2518674.76	0.0293	0.0254
Neptune	-11609-04-08 06:28 J	-2518666.39	-2518666.23	-2518666.04	0.0089	0.0052
Saturn	-11609-11-15 09:35 J	-2518445.31	-2518445.10	-2518444.89	0.0290	0.0032
Neptune	-11609-11-19 19:11 J	-2518440.84	-2518440.70	-2518440.52	0.0089	0.0060
Mars	-11608-01-07 16:19 J	-2518391.98	-2518391.82	-2518391.65	0.1749	0.0434
Saturn	-11608-07-03 00:57 J	-2518215.61	-2518215.46	-2518215.29	0.0286	0.0180
Neptune	-11608-07-03 08:09 J	-2518215.29	-2518215.16	-2518215.01	0.0089	0.0068 *
Neptune	-11607-02-13 20:38 J	-2517989.73	-2517989.64	-2517989.51	0.0089	0.0077
Neptune	-11607-09-27 09:21 J	-2517764.16	-2517764.11	-2517764.03	0.0089	0.0084
Jupiter	-11604-03-29 22:04 J	-2516849.74	-2516849.58	-2516849.41	0.0508	0.0296
Mars	-11604-08-24 04:19 J	-2516702.42	-2516702.32	-2516702.21	0.1764	0.1405
Jupiter	-11604-11-21 06:00 J	-2516613.40	-2516613.25	-2516613.11	0.0504	0.0347
Mars	-11602-06-22 14:38 J	-2516035.02	-2516034.89	-2516034.76	0.1790	0.1227
Jupiter	-11598-09-21 18:43 J	-2514482.92	-2514482.72	-2514482.52	0.0520	0.0084
Saturn	-11593-07-19 06:14 J	-2512720.40	-2512720.24	-2512720.09	0.0271	0.0189
Jupiter	-11593-12-02 23:31 J	-2512583.58	-2512583.52	-2512583.44	0.0509	0.0473
Saturn	-11592-03-05 13:55 J	-2512491.13	-2512490.92	-2512490.70	0.0273	0.0009
Jupiter	-11592-07-27 08:38 J	-2512347.33	-2512347.14	-2512346.95	0.0505	0.0175
Saturn	-11592-10-21 00:14 J	-2512261.64	-2512261.49	-2512261.32	0.0276	0.0184
Jupiter	-11586-05-27 11:16 J	-2510217.23	-2510217.03	-2510216.82	0.0519	0.0117
Jupiter	-11580-04-01 09:21 J	-2508081.32	-2508081.11	-2508080.91	0.0506	0.0011

Saturn	-11580-10-10 16:19 J	-2507888.94	-2507888.82	-2507888.69	0.0293	0.0231
Saturn	-11579-05-28 10:48 J	-2507659.25	-2507659.05	-2507658.84	0.0290	0.0011
Saturn	-11578-01-13 02:09 J	-2507429.55	-2507429.41	-2507429.26	0.0286	0.0203
Mars	-11576-01-06 21:07 J	-2506704.70	-2506704.62	-2506704.54	0.1760	0.1552
Mars	-11575-11-05 21:50 J	-2506036.74	-2506036.59	-2506036.43	0.1735	0.0778
Jupiter	-11574-01-30 04:04 J	-2505951.49	-2505951.33	-2505951.16	0.0518	0.0315
Jupiter	-11574-09-24 22:19 J	-2505713.69	-2505713.57	-2505713.44	0.0522	0.0415
Uranus	-11573-08-10 21:07 J	-2505392.72	-2505392.62	-2505392.51	0.0145	0.0124
Uranus	-11572-03-25 07:40 J	-2505166.34	-2505166.18	-2505165.99	0.0145	0.0079
Uranus	-11572-11-06 18:43 J	-2504939.92	-2504939.72	-2504939.50	0.0145	0.0033
Uranus	-11571-06-21 06:00 J	-2504713.46	-2504713.25	-2504713.04	0.0145	0.0013
Uranus	-11570-02-02 17:02 J	-2504486.98	-2504486.79	-2504486.59	0.0145	0.0060
Mars	-11570-06-22 02:24 J	-2504347.57	-2504347.40	-2504347.22	0.1778	0.0053
Uranus	-11570-09-17 04:33 J	-2504260.45	-2504260.31	-2504260.16	0.0146	0.0106
Jupiter	-11569-12-05 10:48 J	-2503815.23	-2503815.05	-2503814.86	0.0507	0.0185
Jupiter	-11568-07-29 17:31 J	-2503578.86	-2503578.77	-2503578.69	0.0503	0.0452
Saturn	-11563-01-29 07:11 J	-2501934.36	-2501934.20	-2501934.02	0.0270	0.0170
Saturn	-11563-09-15 15:21 J	-2501705.07	-2501704.86	-2501704.64	0.0273	0.0013
Jupiter	-11563-10-04 21:35 J	-2501685.63	-2501685.60	-2501685.56	0.0517	0.0507
Saturn	-11562-05-03 01:40 J	-2501475.56	-2501475.43	-2501475.27	0.0276	0.0203
Jupiter	-11562-05-30 14:24 J	-2501448.09	-2501447.90	-2501447.71	0.0521	0.0214
Jupiter	-11557-08-10 11:45 J	-2499549.15	-2499549.01	-2499548.87	0.0508	0.0364
Jupiter	-11556-04-03 19:40 J	-2499312.85	-2499312.68	-2499312.52	0.0504	0.0281
Jupiter	-11550-02-02 06:14 J	-2497182.44	-2497182.24	-2497182.03	0.0520	0.0017
Saturn	-11550-04-22 17:02 J	-2497102.92	-2497102.79	-2497102.63	0.0293	0.0211
Saturn	-11550-12-08 11:31 J	-2496873.23	-2496873.02	-2496872.81	0.0289	0.0011
Saturn	-11549-07-25 02:38 J	-2496643.51	-2496643.39	-2496643.25	0.0286	0.0222
Pluto	-11546-12-20 15:21 J	-2495400.06	-2495399.86	-2495399.63	0.0079	0.0026
Pluto	-11545-08-02 02:09 J	-2495174.59	-2495174.41	-2495174.21	0.0079	0.0040
Jupiter	-11545-12-07 21:50 J	-2495046.78	-2495046.59	-2495046.39	0.0505	0.0108

Mars	-11543-11-05 01:11 J	-2494349.63	-2494349.45	-2494349.28	0.1746	0.0291
Jupiter	-11539-10-07 21:35 J	-2492916.79	-2492916.60	-2492916.41	0.0518	0.0192
Mars	-11538-06-21 11:45 J	-2492660.13	-2492660.01	-2492659.88	0.1767	0.1245
Neptune	-11537-07-06 03:07 J	-2492279.37	-2492279.37	-2492279.36	0.0088	0.0088
Neptune	-11536-02-16 15:50 J	-2492053.91	-2492053.84	-2492053.73	0.0088	0.0080
Mars	-11536-04-18 21:35 J	-2491992.71	-2491992.60	-2491992.49	0.1793	0.1409
Neptune	-11536-09-30 04:48 J	-2491828.40	-2491828.30	-2491828.15	0.0088	0.0073
Neptune	-11535-05-13 18:00 J	-2491602.88	-2491602.75	-2491602.58	0.0088	0.0064
Neptune	-11535-12-25 07:26 J	-2491377.34	-2491377.19	-2491377.00	0.0088	0.0056
Neptune	-11534-08-07 21:07 J	-2491151.81	-2491151.62	-2491151.44	0.0088	0.0048
Saturn	-11534-08-11 08:24 J	-2491148.32	-2491148.15	-2491147.97	0.0271	0.0150
Neptune	-11533-03-20 10:04 J	-2490926.27	-2490926.08	-2490925.88	0.0088	0.0039
Saturn	-11533-03-27 16:33 J	-2490919.02	-2490918.81	-2490918.60	0.0274	0.0034
Jupiter	-11533-08-13 00:14 J	-2490780.69	-2490780.49	-2490780.29	0.0507	0.0071
Neptune	-11533-10-31 23:16 J	-2490700.73	-2490700.53	-2490700.32	0.0088	0.0031
Saturn	-11533-11-12 02:52 J	-2490689.49	-2490689.38	-2490689.24	0.0277	0.0226
Uranus	-11533-11-26 11:02 J	-2490675.09	-2490675.04	-2490674.97	0.0134	0.0128
Neptune	-11532-06-14 12:28 J	-2490475.19	-2490474.98	-2490474.76	0.0088	0.0023
Uranus	-11532-07-10 17:31 J	-2490448.92	-2490448.77	-2490448.60	0.0133	0.0092
Neptune	-11531-01-26 01:40 J	-2490249.64	-2490249.43	-2490249.20	0.0088	0.0015
Uranus	-11531-02-22 00:14 J	-2490222.69	-2490222.49	-2490222.29	0.0133	0.0055
Neptune	-11531-09-08 15:07 J	-2490024.09	-2490023.87	-2490023.64	0.0088	0.0007
Uranus	-11531-10-06 06:28 J	-2489996.45	-2489996.23	-2489996.01	0.0133	0.0018
Neptune	-11530-04-22 04:33 J	-2489798.54	-2489798.31	-2489798.09	0.0088	0.0002
Uranus	-11530-05-20 12:43 J	-2489770.19	-2489769.97	-2489769.75	0.0133	0.0018
Neptune	-11530-12-03 17:45 J	-2489572.98	-2489572.76	-2489572.53	0.0088	0.0010
Uranus	-11529-01-01 18:43 J	-2489543.91	-2489543.72	-2489543.51	0.0133	0.0055
Neptune	-11529-07-16 07:11 J	-2489347.42	-2489347.20	-2489346.98	0.0088	0.0018
Uranus	-11529-08-15 00:43 J	-2489317.61	-2489317.47	-2489317.29	0.0133	0.0091
Neptune	-11528-02-26 20:09 J	-2489121.85	-2489121.66	-2489121.43	0.0088	0.0028

Uranus	-11528-03-29 06:43 J	-2489091.26	-2489091.22	-2489091.13	0.0133	0.0127
Neptune	-11528-10-10 09:35 J	-2488896.29	-2488896.10	-2488895.88	0.0088	0.0035
Neptune	-11527-05-23 23:02 J	-2488670.72	-2488670.54	-2488670.34	0.0088	0.0043
Jupiter	-11527-06-12 14:24 J	-2488651.03	-2488650.90	-2488650.76	0.0517	0.0389
Neptune	-11526-01-04 12:43 J	-2488445.15	-2488444.97	-2488444.79	0.0088	0.0052
Jupiter	-11526-02-05 07:40 J	-2488413.33	-2488413.18	-2488413.02	0.0522	0.0339
Neptune	-11526-08-18 01:40 J	-2488219.57	-2488219.43	-2488219.25	0.0088	0.0060
Neptune	-11525-03-30 15:07 J	-2487993.99	-2487993.87	-2487993.71	0.0088	0.0068
Neptune	-11525-11-11 04:33 J	-2487768.41	-2487768.31	-2487768.19	0.0088	0.0076
Neptune	-11524-06-24 18:00 J	-2487542.80	-2487542.75	-2487542.68	0.0088	0.0085
Jupiter	-11521-04-18 00:57 J	-2486514.63	-2486514.46	-2486514.28	0.0507	0.0252
Saturn	-11521-11-01 18:28 J	-2486316.88	-2486316.73	-2486316.56	0.0292	0.0188
Jupiter	-11521-12-10 07:55 J	-2486278.30	-2486278.17	-2486278.05	0.0503	0.0389
Saturn	-11520-06-19 12:43 J	-2486087.17	-2486086.97	-2486086.76	0.0289	0.0035
Saturn	-11519-02-04 03:50 J	-2485857.44	-2485857.34	-2485857.22	0.0286	0.0244
Jupiter	-11515-10-10 23:45 J	-2484147.71	-2484147.51	-2484147.31	0.0521	0.0136
Mars	-11511-11-04 05:16 J	-2482662.39	-2482662.28	-2482662.18	0.1756	0.1392
Jupiter	-11510-12-23 02:09 J	-2482248.51	-2482248.41	-2482248.30	0.0508	0.0430
Jupiter	-11509-08-15 10:19 J	-2482012.26	-2482012.07	-2482011.89	0.0504	0.0217
Mars	-11509-09-02 06:57 J	-2481994.35	-2481994.21	-2481994.06	0.1732	0.0914
Saturn	-11504-02-20 10:33 J	-2480362.24	-2480362.06	-2480361.87	0.0270	0.0129
Mars	-11504-04-18 09:21 J	-2480305.28	-2480305.11	-2480304.93	0.1782	0.0130
Saturn	-11504-10-07 18:43 J	-2480132.93	-2480132.72	-2480132.51	0.0273	0.0055
Saturn	-11503-05-25 05:16 J	-2479903.36	-2479903.28	-2479903.17	0.0276	0.0247
Jupiter	-11503-06-15 16:04 J	-2479882.03	-2479881.83	-2479881.62	0.0520	0.0065
Jupiter	-11497-04-20 11:31 J	-2477746.22	-2477746.02	-2477745.82	0.0505	0.0040
Jupiter	-11491-02-18 08:52 J	-2475616.31	-2475616.13	-2475615.96	0.0518	0.0264
Saturn	-11491-05-14 19:40 J	-2475530.84	-2475530.68	-2475530.50	0.0292	0.0167
Jupiter	-11491-10-14 02:38 J	-2475378.48	-2475378.39	-2475378.30	0.0522	0.0468
Saturn	-11491-12-30 13:40 J	-2475301.13	-2475300.93	-2475300.72	0.0289	0.0054

Saturn	-11490-08-17 04:33 J	-2475071.38	-2475071.31	-2475071.22	0.0286	0.0264
Uranus	-11489-11-22 14:24 J	-2474608.04	-2474607.90	-2474607.73	0.0145	0.0101
Uranus	-11488-07-07 01:26 J	-2474381.62	-2474381.44	-2474381.23	0.0145	0.0056
Uranus	-11487-02-18 12:57 J	-2474155.18	-2474154.96	-2474154.75	0.0145	0.0009
Uranus	-11487-10-03 00:00 J	-2473928.70	-2473928.50	-2473928.29	0.0145	0.0038
Uranus	-11486-05-17 11:16 J	-2473702.20	-2473702.03	-2473701.85	0.0146	0.0085
Jupiter	-11486-12-25 13:11 J	-2473480.14	-2473479.95	-2473479.75	0.0507	0.0140
Uranus	-11486-12-29 22:48 J	-2473475.64	-2473475.55	-2473475.46	0.0146	0.0131
Jupiter	-11485-08-17 20:09 J	-2473243.68	-2473243.66	-2473243.64	0.0503	0.0499
Jupiter	-11480-10-24 00:28 J	-2471350.57	-2471350.48	-2471350.39	0.0517	0.0463
Jupiter	-11479-06-18 16:48 J	-2471112.97	-2471112.80	-2471112.62	0.0521	0.0262
Mars	-11477-09-01 09:50 J	-2470307.26	-2470307.09	-2470306.92	0.1742	0.0138
Earth	-11476-11-08 01:40 J	-2469874.53	-2469874.43	-2469874.32	0.2672	0.1953
Saturn	-11475-09-02 12:00 J	-2469576.19	-2469576.00	-2469575.80	0.0271	0.0108
Saturn	-11474-04-19 20:38 J	-2469346.85	-2469346.64	-2469346.44	0.0274	0.0077
Jupiter	-11474-08-30 15:07 J	-2469214.03	-2469213.87	-2469213.72	0.0508	0.0319
Saturn	-11474-12-05 07:11 J	-2469117.23	-2469117.20	-2469117.14	0.0277	0.0270
Jupiter	-11473-04-22 22:48 J	-2468977.70	-2468977.55	-2468977.39	0.0504	0.0328
Mars	-11472-04-17 19:26 J	-2468617.83	-2468617.69	-2468617.56	0.1771	0.1088
Mars	-11470-02-14 03:50 J	-2467950.41	-2467950.34	-2467950.26	0.1797	0.1602
Earth	-11468-11-05 18:43 J	-2466954.86	-2466954.72	-2466954.59	0.2674	0.1343
Moon	-11468-11-05 22:48 J	-2466954.70	-2466954.55	-2466954.41	0.2670	0.1171 *
Jupiter	-11467-02-21 09:07 J	-2466847.32	-2466847.12	-2466846.91	0.0520	0.0060
Jupiter	-11462-05-05 15:35 J	-2464947.88	-2464947.85	-2464947.81	0.0509	0.0499
Saturn	-11462-11-24 21:50 J	-2464744.77	-2464744.59	-2464744.40	0.0292	0.0143
Jupiter	-11462-12-28 00:00 J	-2464711.69	-2464711.50	-2464711.30	0.0504	0.0151
Saturn	-11461-07-11 15:50 J	-2464515.04	-2464514.84	-2464514.63	0.0289	0.0078
Jupiter	-11456-10-27 00:43 J	-2462581.67	-2462581.47	-2462581.27	0.0519	0.0145
Neptune	-11455-08-24 05:16 J	-2462280.32	-2462280.28	-2462280.20	0.0089	0.0085
Neptune	-11454-04-06 18:28 J	-2462054.83	-2462054.73	-2462054.62	0.0089	0.0077

Neptune	-11454-11-18 07:11 J	-2461829.33	-2461829.20	-2461829.05	0.0089	0.0069
Neptune	-11453-06-30 20:09 J	-2461603.81	-2461603.66	-2461603.49	0.0089	0.0060
Neptune	-11452-02-11 08:52 J	-2461378.29	-2461378.13	-2461377.94	0.0089	0.0052
Neptune	-11452-09-24 21:50 J	-2461152.77	-2461152.59	-2461152.39	0.0089	0.0044
Neptune	-11451-05-08 10:33 J	-2460927.24	-2460927.06	-2460926.84	0.0089	0.0036
Neptune	-11451-12-19 23:45 J	-2460701.72	-2460701.51	-2460701.30	0.0089	0.0027
Neptune	-11450-08-02 12:28 J	-2460476.18	-2460475.98	-2460475.76	0.0089	0.0018
Jupiter	-11450-09-02 02:09 J	-2460445.61	-2460445.41	-2460445.21	0.0505	0.0027
Neptune	-11449-03-15 01:26 J	-2460250.66	-2460250.44	-2460250.22	0.0089	0.0010
Neptune	-11449-10-26 14:09 J	-2460025.13	-2460024.91	-2460024.69	0.0089	0.0001
Uranus	-11448-03-10 03:35 J	-2459890.47	-2459890.35	-2459890.21	0.0133	0.0108
Neptune	-11448-06-09 02:52 J	-2459799.59	-2459799.38	-2459799.16	0.0089	0.0008
Uranus	-11448-10-22 09:50 J	-2459664.26	-2459664.09	-2459663.89	0.0133	0.0071
Neptune	-11447-01-20 15:35 J	-2459574.06	-2459573.85	-2459573.63	0.0089	0.0016
Uranus	-11447-06-05 16:33 J	-2459438.03	-2459437.81	-2459437.60	0.0133	0.0034
Neptune	-11447-09-03 04:04 J	-2459348.53	-2459348.33	-2459348.11	0.0089	0.0025
Uranus	-11446-01-17 22:48 J	-2459211.77	-2459211.55	-2459211.32	0.0133	0.0003
Neptune	-11446-04-16 17:02 J	-2459122.99	-2459122.79	-2459122.59	0.0089	0.0033
Saturn	-11446-07-29 09:07 J	-2459019.15	-2459019.12	-2459019.06	0.0268	0.0263
Uranus	-11446-09-01 04:48 J	-2458985.50	-2458985.30	-2458985.07	0.0133	0.0039
Neptune	-11446-11-28 05:16 J	-2458897.46	-2458897.28	-2458897.07	0.0089	0.0041
Saturn	-11445-03-14 15:35 J	-2458790.05	-2458789.85	-2458789.65	0.0271	0.0086
Uranus	-11445-04-14 11:02 J	-2458759.21	-2458759.04	-2458758.85	0.0133	0.0075
Neptune	-11445-07-10 18:14 J	-2458671.91	-2458671.74	-2458671.55	0.0089	0.0049
Mars	-11445-08-31 14:09 J	-2458620.04	-2458619.91	-2458619.79	0.1753	0.1241
Saturn	-11445-10-30 00:00 J	-2458560.70	-2458560.50	-2458560.30	0.0274	0.0100
Uranus	-11445-11-26 16:48 J	-2458532.90	-2458532.80	-2458532.66	0.0133	0.0111
Neptune	-11444-02-21 06:57 J	-2458446.37	-2458446.21	-2458446.04	0.0089	0.0057
Jupiter	-11444-07-01 17:45 J	-2458315.92	-2458315.76	-2458315.61	0.0518	0.0342
Neptune	-11444-10-04 19:11 J	-2458220.83	-2458220.70	-2458220.53	0.0089	0.0066

Jupiter	-11443-02-24 11:45 J	-2458078.14	-2458078.01	-2458077.87	0.0522	0.0392
Neptune	-11443-05-18 07:40 J	-2457995.27	-2457995.18	-2457995.03	0.0089	0.0075
Mars	-11443-06-30 16:33 J	-2457951.94	-2457951.81	-2457951.67	0.1729	0.1040
Neptune	-11443-12-29 20:24 J	-2457769.71	-2457769.65	-2457769.55	0.0089	0.0083
Mars	-11438-02-13 16:33 J	-2456262.99	-2456262.81	-2456262.64	0.1785	0.0304
Jupiter	-11438-05-08 02:24 J	-2456179.58	-2456179.40	-2456179.21	0.0507	0.0209
Jupiter	-11438-12-30 09:21 J	-2455943.21	-2455943.11	-2455943.01	0.0503	0.0434
Saturn	-11432-06-06 00:14 J	-2453958.67	-2453958.49	-2453958.29	0.0292	0.0119
Jupiter	-11432-10-30 03:07 J	-2453812.56	-2453812.37	-2453812.17	0.0521	0.0188
Saturn	-11431-01-21 18:00 J	-2453728.95	-2453728.75	-2453728.56	0.0289	0.0101
Jupiter	-11426-01-11 03:21 J	-2451913.48	-2451913.36	-2451913.23	0.0508	0.0390
Jupiter	-11426-09-04 11:31 J	-2451677.18	-2451677.02	-2451676.84	0.0504	0.0262
Jupiter	-11420-07-04 18:00 J	-2449546.96	-2449546.75	-2449546.55	0.0519	0.0022
Saturn	-11416-02-07 12:00 J	-2448233.09	-2448233.00	-2448232.90	0.0269	0.0240
Saturn	-11416-09-24 18:28 J	-2448003.94	-2448003.73	-2448003.52	0.0272	0.0062
Saturn	-11415-05-12 03:07 J	-2447774.56	-2447774.37	-2447774.18	0.0274	0.0125
Jupiter	-11414-05-10 13:55 J	-2447411.12	-2447410.92	-2447410.73	0.0505	0.0084
Mars	-11411-06-29 18:57 J	-2446264.88	-2446264.71	-2446264.54	0.1739	0.0013
Jupiter	-11408-03-09 10:04 J	-2445281.26	-2445281.08	-2445280.89	0.0518	0.0222
Jupiter	-11408-11-02 04:19 J	-2445043.35	-2445043.32	-2445043.29	0.0523	0.0514
Mars	-11406-02-13 02:52 J	-2444575.53	-2444575.38	-2444575.23	0.1774	0.0928
Uranus	-11405-07-22 19:55 J	-2444049.77	-2444049.67	-2444049.55	0.0145	0.0124
Mars	-11405-12-11 10:48 J	-2443908.07	-2443908.05	-2443908.04	0.1800	0.1790
Uranus	-11404-03-06 06:43 J	-2443823.39	-2443823.22	-2443823.03	0.0145	0.0079
Uranus	-11404-10-18 18:00 J	-2443596.96	-2443596.75	-2443596.54	0.0145	0.0033
Uranus	-11403-06-02 05:02 J	-2443370.50	-2443370.29	-2443370.07	0.0145	0.0014
Saturn	-11403-12-17 03:35 J	-2443172.55	-2443172.35	-2443172.15	0.0291	0.0094
Jupiter	-11402-01-13 15:07 J	-2443145.07	-2443144.87	-2443144.67	0.0506	0.0097
Uranus	-11402-01-14 16:19 J	-2443144.01	-2443143.82	-2443143.62	0.0146	0.0061
Saturn	-11402-08-03 20:52 J	-2442942.81	-2442942.63	-2442942.43	0.0288	0.0126

Uranus	-11402-08-29 03:35 J	-2442917.47	-2442917.35	-2442917.19	0.0146	0.0108
Jupiter	-11397-11-12 01:11 J	-2441015.56	-2441015.45	-2441015.33	0.0518	0.0424
Jupiter	-11396-07-07 18:57 J	-2440777.87	-2440777.71	-2440777.54	0.0522	0.0310
Jupiter	-11391-09-18 16:33 J	-2438878.97	-2438878.81	-2438878.64	0.0507	0.0277
Jupiter	-11390-05-12 23:16 J	-2438642.66	-2438642.53	-2438642.39	0.0503	0.0369
Saturn	-11387-08-20 16:19 J	-2437446.94	-2437446.82	-2437446.69	0.0269	0.0217
Pluto	-11387-12-30 09:50 J	-2437315.14	-2437315.09	-2437314.99	0.0064	0.0061
Saturn	-11386-04-06 23:02 J	-2437217.76	-2437217.54	-2437217.33	0.0271	0.0038
Pluto	-11386-08-12 14:09 J	-2437090.09	-2437089.91	-2437089.69	0.0065	0.0027
Saturn	-11386-11-22 07:40 J	-2436988.35	-2436988.18	-2436987.99	0.0274	0.0149
Pluto	-11385-03-24 18:28 J	-2436864.94	-2436864.73	-2436864.51	0.0065	0.0008
Pluto	-11385-11-04 22:04 J	-2436639.72	-2436639.58	-2436639.39	0.0065	0.0043
Jupiter	-11384-03-12 11:02 J	-2436512.24	-2436512.04	-2436511.84	0.0521	0.0107
Jupiter	-11379-05-24 16:04 J	-2434612.91	-2434612.83	-2434612.74	0.0509	0.0460
Mars	-11379-06-28 22:33 J	-2434577.69	-2434577.56	-2434577.42	0.1749	0.1089
Jupiter	-11378-01-16 00:28 J	-2434376.67	-2434376.48	-2434376.30	0.0504	0.0193
Earth	-11378-05-12 18:14 J	-2434259.90	-2434259.74	-2434259.58	0.2659	0.0689
Moon	-11378-05-13 00:00 J	-2434259.66	-2434259.50	-2434259.34	0.2660	0.0261 *
Mars	-11377-04-27 02:24 J	-2433909.53	-2433909.40	-2433909.27	0.1726	0.1166
Saturn	-11374-11-11 11:16 J	-2432616.03	-2432616.03	-2432616.03	0.0295	0.0295
Saturn	-11373-06-28 07:11 J	-2432386.40	-2432386.20	-2432385.99	0.0292	0.0068
Jupiter	-11373-11-15 03:07 J	-2432246.57	-2432246.37	-2432246.17	0.0519	0.0097
Mars	-11373-12-10 23:02 J	-2432220.70	-2432220.54	-2432220.37	0.1789	0.0487
Saturn	-11372-02-13 00:14 J	-2432156.66	-2432156.49	-2432156.31	0.0288	0.0152
Neptune	-11372-05-21 02:09 J	-2432059.44	-2432059.41	-2432059.32	0.0088	0.0085
Neptune	-11371-01-01 16:04 J	-2431833.94	-2431833.83	-2431833.72	0.0088	0.0076
Neptune	-11371-08-15 05:02 J	-2431608.42	-2431608.29	-2431608.14	0.0088	0.0068
Neptune	-11370-03-28 18:00 J	-2431382.89	-2431382.75	-2431382.57	0.0088	0.0060
Neptune	-11370-11-09 07:11 J	-2431157.36	-2431157.20	-2431157.00	0.0088	0.0052
Neptune	-11369-06-21 20:52 J	-2430931.83	-2430931.63	-2430931.44	0.0088	0.0044

Neptune	-11368-02-02 09:50 J	-2430706.29	-2430706.09	-2430705.88	0.0088	0.0035
Neptune	-11368-09-15 22:48 J	-2430480.75	-2430480.55	-2430480.33	0.0088	0.0027
Neptune	-11367-04-29 12:14 J	-2430255.21	-2430254.99	-2430254.77	0.0088	0.0019
Jupiter	-11367-09-21 01:55 J	-2430110.62	-2430110.42	-2430110.22	0.0506	0.0014
Neptune	-11367-12-11 01:40 J	-2430029.65	-2430029.43	-2430029.21	0.0088	0.0010
Neptune	-11366-07-24 14:52 J	-2429804.10	-2429803.88	-2429803.65	0.0088	0.0002
Neptune	-11365-03-06 04:04 J	-2429578.55	-2429578.33	-2429578.10	0.0088	0.0007
Neptune	-11365-10-17 17:16 J	-2429353.00	-2429352.78	-2429352.56	0.0088	0.0015
Uranus	-11365-11-07 12:43 J	-2429332.03	-2429331.97	-2429331.87	0.0134	0.0125
Neptune	-11364-05-31 06:28 J	-2429127.44	-2429127.23	-2429127.01	0.0088	0.0024
Uranus	-11364-06-21 19:26 J	-2429105.85	-2429105.69	-2429105.52	0.0133	0.0088
Neptune	-11363-01-11 19:55 J	-2428901.87	-2428901.67	-2428901.45	0.0088	0.0032
Uranus	-11363-02-03 01:55 J	-2428879.61	-2428879.42	-2428879.20	0.0133	0.0051
Neptune	-11363-08-25 09:21 J	-2428676.30	-2428676.11	-2428675.90	0.0088	0.0040
Uranus	-11363-09-17 08:24 J	-2428653.36	-2428653.15	-2428652.92	0.0133	0.0015
Neptune	-11362-04-07 22:48 J	-2428450.73	-2428450.55	-2428450.36	0.0088	0.0049
Uranus	-11362-05-01 14:38 J	-2428427.10	-2428426.89	-2428426.67	0.0133	0.0022
Neptune	-11362-11-19 11:45 J	-2428225.16	-2428225.01	-2428224.82	0.0088	0.0058
Uranus	-11362-12-13 20:38 J	-2428200.83	-2428200.64	-2428200.43	0.0133	0.0059
Neptune	-11361-07-02 01:11 J	-2427999.58	-2427999.45	-2427999.28	0.0088	0.0066
Jupiter	-11361-07-20 18:14 J	-2427980.91	-2427980.74	-2427980.57	0.0518	0.0302
Uranus	-11361-07-27 02:38 J	-2427974.53	-2427974.39	-2427974.22	0.0133	0.0095
Neptune	-11360-02-12 14:52 J	-2427773.99	-2427773.88	-2427773.75	0.0088	0.0074
Uranus	-11360-03-10 08:38 J	-2427748.16	-2427748.14	-2427748.09	0.0133	0.0131
Jupiter	-11360-03-15 11:45 J	-2427743.12	-2427743.01	-2427742.89	0.0522	0.0434
Neptune	-11360-09-26 03:50 J	-2427548.39	-2427548.34	-2427548.23	0.0088	0.0083
Saturn	-11357-03-01 20:24 J	-2426660.79	-2426660.65	-2426660.49	0.0269	0.0192
Saturn	-11357-10-17 03:21 J	-2426431.58	-2426431.36	-2426431.15	0.0272	0.0012
Saturn	-11356-06-03 12:28 J	-2426202.14	-2426201.98	-2426201.81	0.0275	0.0177
Jupiter	-11355-05-27 03:21 J	-2425844.55	-2425844.36	-2425844.17	0.0507	0.0168

Jupiter	-11354-01-18 10:04 J	-2425608.14	-2425608.08	-2425608.01	0.0503	0.0476
Jupiter	-11349-03-25 10:33 J	-2423715.11	-2423715.06	-2423715.01	0.0516	0.0499
Jupiter	-11349-11-18 02:52 J	-2423477.56	-2423477.38	-2423477.19	0.0521	0.0229
Mars	-11345-04-26 04:04 J	-2422222.50	-2422222.33	-2422222.16	0.1736	0.0142
Saturn	-11344-05-23 16:19 J	-2421829.90	-2421829.82	-2421829.72	0.0294	0.0266
Saturn	-11343-01-08 12:14 J	-2421600.20	-2421599.99	-2421599.79	0.0291	0.0040
Jupiter	-11343-01-30 04:33 J	-2421578.45	-2421578.31	-2421578.16	0.0508	0.0349
Saturn	-11343-08-26 04:48 J	-2421370.46	-2421370.30	-2421370.13	0.0288	0.0178
Jupiter	-11343-09-23 12:00 J	-2421342.16	-2421342.00	-2421341.84	0.0504	0.0302
Mars	-11341-12-10 10:04 J	-2420533.24	-2420533.08	-2420532.93	0.1778	0.0762
Jupiter	-11337-07-23 17:16 J	-2419211.99	-2419211.78	-2419211.58	0.0520	0.0023
Jupiter	-11331-05-29 13:40 J	-2417076.12	-2417075.93	-2417075.73	0.0505	0.0125
Saturn	-11328-09-12 02:09 J	-2415874.57	-2415874.41	-2415874.24	0.0269	0.0167
Saturn	-11327-04-29 09:21 J	-2415645.33	-2415645.11	-2415644.90	0.0272	0.0015
Saturn	-11327-12-14 18:57 J	-2415415.85	-2415415.71	-2415415.57	0.0275	0.0204
Jupiter	-11325-03-28 09:35 J	-2414946.29	-2414946.10	-2414945.91	0.0519	0.0181
Uranus	-11321-11-03 11:16 J	-2413265.18	-2413265.03	-2413264.88	0.0145	0.0103
Uranus	-11320-06-17 22:19 J	-2413038.77	-2413038.57	-2413038.37	0.0145	0.0057
Uranus	-11319-01-30 09:21 J	-2412812.32	-2412812.11	-2412811.89	0.0145	0.0011
Jupiter	-11319-02-01 13:55 J	-2412810.12	-2412809.92	-2412809.72	0.0506	0.0059
Uranus	-11319-09-13 20:38 J	-2412585.84	-2412585.64	-2412585.42	0.0146	0.0036
Uranus	-11318-04-28 07:55 J	-2412359.34	-2412359.17	-2412358.98	0.0146	0.0083
Uranus	-11318-12-10 19:26 J	-2412132.78	-2412132.69	-2412132.59	0.0146	0.0129
Saturn	-11315-12-03 21:50 J	-2411043.70	-2411043.59	-2411043.45	0.0294	0.0236
Saturn	-11314-07-21 17:31 J	-2410813.98	-2410813.77	-2410813.56	0.0291	0.0010
Jupiter	-11314-12-02 02:09 J	-2410680.54	-2410680.41	-2410680.27	0.0517	0.0381
Saturn	-11313-03-07 09:50 J	-2410584.23	-2410584.09	-2410583.94	0.0288	0.0207
Mars	-11313-04-25 07:55 J	-2410535.31	-2410535.17	-2410535.03	0.1746	0.0946
Jupiter	-11313-07-26 19:40 J	-2410442.83	-2410442.68	-2410442.53	0.0522	0.0356
Mars	-11311-02-22 12:00 J	-2409867.12	-2409867.00	-2409866.89	0.1723	0.1292

Jupiter	-11308-10-07 14:24 J	-2408544.07	-2408543.90	-2408543.72	0.0507	0.0242
Jupiter	-11307-05-31 21:35 J	-2408307.72	-2408307.60	-2408307.48	0.0503	0.0407
Mars	-11307-10-08 05:45 J	-2408178.42	-2408178.26	-2408178.10	0.1793	0.0671
Jupiter	-11301-03-31 09:35 J	-2406177.29	-2406177.10	-2406176.90	0.0520	0.0147
Saturn	-11298-03-25 07:40 J	-2405088.36	-2405088.18	-2405087.99	0.0270	0.0139
Saturn	-11298-11-09 15:07 J	-2404859.08	-2404858.87	-2404858.66	0.0273	0.0044
Pluto	-11298-11-23 01:26 J	-2404845.64	-2404845.44	-2404845.22	0.0079	0.0030
Saturn	-11297-06-26 00:43 J	-2404629.57	-2404629.47	-2404629.35	0.0276	0.0235
Pluto	-11297-07-05 12:14 J	-2404620.19	-2404619.99	-2404619.79	0.0079	0.0035
Jupiter	-11296-06-12 15:07 J	-2404277.98	-2404277.87	-2404277.76	0.0509	0.0425
Jupiter	-11295-02-03 23:31 J	-2404041.70	-2404041.52	-2404041.34	0.0504	0.0231
Neptune	-11290-07-09 05:16 J	-2402060.36	-2402060.28	-2402060.19	0.0089	0.0082
Jupiter	-11290-12-05 00:57 J	-2401911.67	-2401911.46	-2401911.26	0.0519	0.0062
Neptune	-11289-02-19 17:45 J	-2401834.86	-2401834.76	-2401834.62	0.0089	0.0074
Neptune	-11289-10-02 06:28 J	-2401609.35	-2401609.23	-2401609.06	0.0089	0.0065
Neptune	-11288-05-15 19:40 J	-2401383.84	-2401383.68	-2401383.50	0.0089	0.0056
Neptune	-11288-12-27 08:24 J	-2401158.32	-2401158.15	-2401157.95	0.0089	0.0048
Neptune	-11287-08-09 21:21 J	-2400932.79	-2400932.61	-2400932.40	0.0089	0.0040
Neptune	-11286-03-23 10:04 J	-2400707.27	-2400707.08	-2400706.86	0.0089	0.0031
Neptune	-11286-11-03 23:02 J	-2400481.74	-2400481.54	-2400481.32	0.0089	0.0023
Saturn	-11285-06-15 04:48 J	-2400257.45	-2400257.30	-2400257.15	0.0293	0.0204
Neptune	-11285-06-16 12:14 J	-2400256.21	-2400255.99	-2400255.78	0.0089	0.0014
Neptune	-11284-01-28 00:57 J	-2400030.67	-2400030.46	-2400030.24	0.0089	0.0005
Saturn	-11284-01-30 23:45 J	-2400027.72	-2400027.51	-2400027.30	0.0290	0.0021
Neptune	-11284-09-10 13:40 J	-2399805.14	-2399804.93	-2399804.71	0.0089	0.0004
Saturn	-11284-09-17 15:35 J	-2399797.96	-2399797.85	-2399797.72	0.0287	0.0235
Jupiter	-11284-10-10 01:26 J	-2399775.64	-2399775.44	-2399775.24	0.0505	0.0053
Neptune	-11283-04-24 02:24 J	-2399579.61	-2399579.40	-2399579.18	0.0089	0.0012
Neptune	-11283-12-05 15:21 J	-2399354.07	-2399353.86	-2399353.65	0.0089	0.0021
Neptune	-11282-07-19 03:50 J	-2399128.53	-2399128.34	-2399128.12	0.0089	0.0030

Neptune	-11281-02-29 16:48 J	-2398902.99	-2398902.80	-2398902.60	0.0089	0.0038
Neptune	-11281-10-12 05:16 J	-2398677.46	-2398677.28	-2398677.09	0.0089	0.0046
Uranus	-11280-02-19 04:48 J	-2398547.44	-2398547.30	-2398547.17	0.0134	0.0105
Neptune	-11280-05-25 18:00 J	-2398451.91	-2398451.75	-2398451.57	0.0089	0.0055
Uranus	-11280-10-03 11:02 J	-2398321.22	-2398321.04	-2398320.84	0.0133	0.0068
Neptune	-11279-01-06 06:28 J	-2398226.37	-2398226.23	-2398226.06	0.0089	0.0063
Mars	-11279-02-21 13:40 J	-2398180.10	-2398179.93	-2398179.76	0.1733	0.0270
Uranus	-11279-05-17 17:31 J	-2398094.98	-2398094.77	-2398094.55	0.0133	0.0031
Neptune	-11279-08-19 19:11 J	-2398000.82	-2398000.70	-2398000.56	0.0089	0.0071
Uranus	-11279-12-30 00:00 J	-2397868.72	-2397868.50	-2397868.28	0.0133	0.0005
Neptune	-11278-04-02 08:09 J	-2397775.26	-2397775.16	-2397775.07	0.0089	0.0080
Jupiter	-11278-08-09 14:52 J	-2397646.06	-2397645.88	-2397645.70	0.0518	0.0269
Uranus	-11278-08-13 06:00 J	-2397642.45	-2397642.25	-2397642.03	0.0133	0.0042
Neptune	-11278-11-13 20:09 J	-2397549.67	-2397549.66	-2397549.60	0.0089	0.0088
Uranus	-11277-03-26 12:28 J	-2397416.16	-2397415.98	-2397415.80	0.0133	0.0078
Jupiter	-11277-04-03 09:21 J	-2397408.19	-2397408.11	-2397408.02	0.0523	0.0474
Uranus	-11277-11-07 18:28 J	-2397189.84	-2397189.73	-2397189.62	0.0133	0.0114
Mars	-11275-10-07 17:31 J	-2396490.93	-2396490.77	-2396490.60	0.1781	0.0598
Jupiter	-11272-06-15 02:38 J	-2395509.59	-2395509.39	-2395509.20	0.0506	0.0130
Saturn	-11269-10-04 14:09 J	-2394302.09	-2394301.91	-2394301.70	0.0270	0.0113
Saturn	-11268-05-21 22:04 J	-2394072.78	-2394072.58	-2394072.37	0.0273	0.0073
Saturn	-11267-01-06 08:24 J	-2393843.20	-2393843.15	-2393843.08	0.0276	0.0264
Jupiter	-11266-04-14 07:40 J	-2393380.26	-2393380.18	-2393380.09	0.0517	0.0466
Jupiter	-11266-12-08 00:43 J	-2393142.64	-2393142.47	-2393142.29	0.0522	0.0270
Jupiter	-11260-02-18 01:40 J	-2391243.58	-2391243.43	-2391243.27	0.0508	0.0316
Jupiter	-11260-10-12 08:52 J	-2391007.27	-2391007.13	-2391006.97	0.0504	0.0338
Saturn	-11256-12-26 12:00 J	-2389471.16	-2389471.00	-2389470.83	0.0293	0.0171
Saturn	-11255-08-13 06:43 J	-2389241.43	-2389241.22	-2389241.02	0.0290	0.0054
Saturn	-11254-03-30 22:19 J	-2389011.64	-2389011.57	-2389011.49	0.0287	0.0266
Jupiter	-11254-08-12 16:33 J	-2388877.01	-2388876.81	-2388876.60	0.0520	0.0063

Jupiter	-11249-10-24 01:26 J	-2386977.48	-2386977.44	-2386977.41	0.0509	0.0501
Jupiter	-11248-06-17 10:04 J	-2386741.27	-2386741.08	-2386740.89	0.0505	0.0158
Mars	-11247-02-20 16:33 J	-2386492.96	-2386492.81	-2386492.65	0.1743	0.0800
Mars	-11246-12-20 21:50 J	-2385824.68	-2385824.59	-2385824.49	0.1720	0.1411
Jupiter	-11242-04-17 07:11 J	-2384611.40	-2384611.20	-2384611.00	0.0519	0.0146
Mars	-11241-08-04 12:00 J	-2384136.15	-2384136.00	-2384135.84	0.1796	0.0864
Saturn	-11240-08-30 15:07 J	-2383744.91	-2383744.87	-2383744.81	0.0268	0.0260
Saturn	-11239-04-16 21:07 J	-2383515.82	-2383515.62	-2383515.41	0.0271	0.0082
Saturn	-11239-12-02 05:31 J	-2383286.47	-2383286.27	-2383286.08	0.0274	0.0104
Uranus	-11237-07-03 17:16 J	-2382706.87	-2382706.78	-2382706.67	0.0145	0.0126
Uranus	-11236-02-15 04:19 J	-2382480.50	-2382480.32	-2382480.14	0.0145	0.0080
Jupiter	-11236-02-20 11:16 J	-2382475.23	-2382475.03	-2382474.83	0.0506	0.0025
Uranus	-11236-09-29 15:21 J	-2382254.07	-2382253.86	-2382253.65	0.0145	0.0034
Uranus	-11235-05-14 02:24 J	-2382027.61	-2382027.40	-2382027.18	0.0145	0.0013
Uranus	-11235-12-26 13:26 J	-2381801.12	-2381800.94	-2381800.73	0.0146	0.0060
Uranus	-11234-08-10 00:57 J	-2381574.60	-2381574.46	-2381574.31	0.0146	0.0106
Moon	-11233-11-07 23:45 J	-2381118.64	-2381118.51	-2381118.38	0.2671	0.1509
Earth	-11233-11-08 04:33 J	-2381118.40	-2381118.31	-2381118.21	0.2674	0.2127 *
Jupiter	-11231-12-20 22:19 J	-2380345.72	-2380345.57	-2380345.41	0.0517	0.0351
Jupiter	-11230-08-15 15:35 J	-2380107.98	-2380107.85	-2380107.71	0.0522	0.0389
Saturn	-11226-07-08 20:24 J	-2378684.83	-2378684.65	-2378684.46	0.0292	0.0136
Saturn	-11225-02-23 14:38 J	-2378455.09	-2378454.89	-2378454.69	0.0289	0.0086
Jupiter	-11225-10-26 12:43 J	-2378209.15	-2378208.97	-2378208.78	0.0507	0.0206
Moon	-11225-11-05 16:19 J	-2378198.95	-2378198.82	-2378198.69	0.2678	0.1374
Earth	-11225-11-05 21:21 J	-2378198.75	-2378198.61	-2378198.47	0.2676	0.1202 *
Jupiter	-11224-06-19 19:26 J	-2377972.78	-2377972.69	-2377972.59	0.0503	0.0444
Jupiter	-11218-04-20 04:48 J	-2375842.49	-2375842.30	-2375842.10	0.0521	0.0179
Mars	-11214-12-19 23:02 J	-2374137.71	-2374137.54	-2374137.37	0.1729	0.0403
Jupiter	-11213-07-01 13:26 J	-2373943.06	-2373942.94	-2373942.81	0.0508	0.0389
Jupiter	-11212-02-22 21:07 J	-2373706.78	-2373706.62	-2373706.44	0.0504	0.0268

Saturn	-11210-03-12 22:33 J	-2372958.66	-2372958.56	-2372958.45	0.0269	0.0231
Saturn	-11210-10-28 04:48 J	-2372729.51	-2372729.30	-2372729.09	0.0271	0.0053
Saturn	-11209-06-13 13:26 J	-2372500.13	-2372499.94	-2372499.75	0.0274	0.0134
Mars	-11209-08-04 00:14 J	-2372448.66	-2372448.49	-2372448.32	0.1785	0.0420
Neptune	-11207-04-05 01:55 J	-2371839.49	-2371839.42	-2371839.33	0.0088	0.0081
Neptune	-11207-11-16 14:52 J	-2371613.98	-2371613.88	-2371613.73	0.0088	0.0074
Jupiter	-11207-12-23 20:38 J	-2371576.85	-2371576.64	-2371576.43	0.0520	0.0027
Neptune	-11206-06-30 04:04 J	-2371388.46	-2371388.33	-2371388.16	0.0088	0.0065
Neptune	-11205-02-10 17:31 J	-2371162.93	-2371162.77	-2371162.59	0.0088	0.0056
Neptune	-11205-09-23 06:28 J	-2370937.40	-2370937.23	-2370937.02	0.0088	0.0048
Neptune	-11204-05-06 20:09 J	-2370711.86	-2370711.66	-2370711.46	0.0088	0.0039
Neptune	-11204-12-18 09:07 J	-2370486.31	-2370486.12	-2370485.90	0.0088	0.0032
Neptune	-11203-07-31 22:48 J	-2370260.77	-2370260.55	-2370260.34	0.0088	0.0023
Neptune	-11202-03-14 11:45 J	-2370035.23	-2370035.01	-2370034.79	0.0088	0.0014
Neptune	-11202-10-26 00:57 J	-2369809.68	-2369809.46	-2369809.23	0.0088	0.0006
Neptune	-11201-06-07 14:09 J	-2369584.13	-2369583.91	-2369583.68	0.0088	0.0003
Jupiter	-11201-10-28 20:38 J	-2369440.83	-2369440.64	-2369440.44	0.0505	0.0084
Neptune	-11200-01-19 03:35 J	-2369358.57	-2369358.35	-2369358.13	0.0088	0.0011
Neptune	-11200-09-01 16:33 J	-2369133.02	-2369132.81	-2369132.58	0.0088	0.0020
Neptune	-11199-04-15 06:00 J	-2368907.46	-2368907.25	-2368907.03	0.0088	0.0028
Neptune	-11199-11-26 19:11 J	-2368681.89	-2368681.70	-2368681.49	0.0088	0.0037
Neptune	-11198-07-10 08:38 J	-2368456.32	-2368456.14	-2368455.94	0.0088	0.0045
Neptune	-11197-02-20 21:35 J	-2368230.75	-2368230.60	-2368230.40	0.0088	0.0055
Neptune	-11197-10-03 11:02 J	-2368005.18	-2368005.04	-2368004.87	0.0088	0.0063
Uranus	-11197-10-19 13:26 J	-2367989.02	-2367988.94	-2367988.85	0.0134	0.0122
Saturn	-11196-01-18 04:33 J	-2367898.50	-2367898.31	-2367898.11	0.0292	0.0100
Neptune	-11196-05-17 00:43 J	-2367779.60	-2367779.47	-2367779.33	0.0088	0.0071
Uranus	-11196-06-02 19:40 J	-2367762.83	-2367762.68	-2367762.49	0.0133	0.0086
Saturn	-11196-09-04 22:19 J	-2367668.76	-2367668.57	-2367668.38	0.0289	0.0121
Neptune	-11196-12-28 13:55 J	-2367554.00	-2367553.92	-2367553.80	0.0088	0.0079

Uranus	-11195-01-15 02:24 J	-2367536.59	-2367536.40	-2367536.18	0.0133	0.0049
Neptune	-11195-08-11 03:35 J	-2367328.37	-2367328.35	-2367328.32	0.0088	0.0088
Jupiter	-11195-08-28 13:11 J	-2367311.13	-2367310.95	-2367310.76	0.0518	0.0231
Uranus	-11195-08-29 09:07 J	-2367310.34	-2367310.12	-2367309.90	0.0133	0.0011
Uranus	-11194-04-12 15:21 J	-2367084.07	-2367083.86	-2367083.64	0.0133	0.0025
Jupiter	-11194-04-23 07:11 J	-2367073.23	-2367073.20	-2367073.16	0.0523	0.0514
Uranus	-11194-11-24 21:21 J	-2366857.80	-2366857.61	-2366857.41	0.0133	0.0062
Uranus	-11193-07-08 03:35 J	-2366631.49	-2366631.35	-2366631.20	0.0133	0.0098
Jupiter	-11189-07-03 21:07 J	-2365174.82	-2365174.62	-2365174.42	0.0506	0.0102
Jupiter	-11183-05-03 04:19 J	-2363045.42	-2363045.32	-2363045.21	0.0517	0.0436
Jupiter	-11183-12-26 20:52 J	-2362807.80	-2362807.63	-2362807.46	0.0521	0.0303
Mars	-11182-12-19 02:09 J	-2362450.57	-2362450.41	-2362450.25	0.1740	0.0660
Saturn	-11181-09-22 05:16 J	-2362172.41	-2362172.28	-2362172.13	0.0269	0.0202
Saturn	-11180-05-09 12:14 J	-2361943.21	-2361942.99	-2361942.78	0.0272	0.0022
Mars	-11180-10-17 07:40 J	-2361782.26	-2361782.18	-2361782.11	0.1717	0.1533
Saturn	-11180-12-24 21:07 J	-2361713.78	-2361713.62	-2361713.44	0.0275	0.0168
Jupiter	-11177-03-08 21:35 J	-2360908.77	-2360908.60	-2360908.44	0.0508	0.0287
Mars	-11177-08-03 10:48 J	-2360761.11	-2360761.05	-2360760.99	0.1773	0.1644
Jupiter	-11177-10-31 05:02 J	-2360672.42	-2360672.29	-2360672.15	0.0504	0.0370
Mars	-11175-06-01 18:14 J	-2360093.88	-2360093.74	-2360093.60	0.1800	0.1063
Jupiter	-11171-08-31 11:16 J	-2358542.23	-2358542.03	-2358541.83	0.0520	0.0093
Saturn	-11168-12-13 17:45 J	-2357341.77	-2357341.76	-2357341.72	0.0294	0.0292
Saturn	-11167-07-31 14:09 J	-2357112.12	-2357111.91	-2357111.71	0.0291	0.0064
Saturn	-11166-03-18 07:11 J	-2356882.37	-2356882.20	-2356882.02	0.0288	0.0155
Jupiter	-11166-11-12 22:33 J	-2356642.63	-2356642.56	-2356642.48	0.0509	0.0469
Jupiter	-11165-07-06 07:11 J	-2356406.38	-2356406.20	-2356406.01	0.0505	0.0193
Jupiter	-11159-05-06 00:28 J	-2354276.68	-2354276.48	-2354276.28	0.0519	0.0120
Jupiter	-11153-03-11 08:38 J	-2352140.34	-2352140.14	-2352139.94	0.0506	0.0013
Uranus	-11153-10-15 11:45 J	-2351922.15	-2351922.01	-2351921.85	0.0145	0.0101
Uranus	-11152-05-29 22:48 J	-2351695.75	-2351695.55	-2351695.35	0.0145	0.0055

Uranus	-11151-01-11 09:50 J	-2351469.30	-2351469.09	-2351468.87	0.0145	0.0009
Saturn	-11151-04-04 12:57 J	-2351386.12	-2351385.96	-2351385.79	0.0270	0.0173
Uranus	-11151-08-25 21:07 J	-2351242.82	-2351242.62	-2351242.41	0.0145	0.0038
Saturn	-11151-11-19 20:09 J	-2351156.87	-2351156.66	-2351156.44	0.0272	0.0009
Uranus	-11150-04-09 08:24 J	-2351016.32	-2351016.15	-2351015.97	0.0146	0.0085
Saturn	-11150-07-07 05:16 J	-2350927.41	-2350927.28	-2350927.12	0.0275	0.0199
Uranus	-11150-11-21 19:26 J	-2350789.76	-2350789.69	-2350789.59	0.0146	0.0132
Mars	-11148-10-16 08:52 J	-2350095.29	-2350095.13	-2350094.96	0.1726	0.0528
Jupiter	-11147-01-08 16:48 J	-2350010.96	-2350010.80	-2350010.64	0.0518	0.0322
Jupiter	-11147-09-03 10:33 J	-2349773.17	-2349773.06	-2349772.94	0.0522	0.0424
Mars	-11143-06-01 07:26 J	-2348406.37	-2348406.19	-2348406.02	0.1788	0.0249
Jupiter	-11142-11-15 06:57 J	-2347874.39	-2347874.21	-2347874.02	0.0507	0.0180
Jupiter	-11141-07-08 13:40 J	-2347637.99	-2347637.93	-2347637.86	0.0503	0.0473
Pluto	-11139-12-02 22:19 J	-2346760.65	-2346760.57	-2346760.50	0.0064	0.0060
Saturn	-11138-06-26 03:35 J	-2346555.44	-2346555.35	-2346555.24	0.0294	0.0253
Pluto	-11138-07-16 02:09 J	-2346535.60	-2346535.41	-2346535.20	0.0065	0.0026
Saturn	-11137-02-10 23:16 J	-2346325.74	-2346325.53	-2346325.32	0.0291	0.0026
Pluto	-11137-02-26 06:14 J	-2346310.45	-2346310.24	-2346310.02	0.0065	0.0009
Saturn	-11137-09-27 15:50 J	-2346095.99	-2346095.84	-2346095.68	0.0288	0.0192
Pluto	-11137-10-08 10:04 J	-2346085.23	-2346085.08	-2346084.90	0.0065	0.0043
Jupiter	-11135-05-09 02:24 J	-2345507.59	-2345507.40	-2345507.21	0.0521	0.0217
Moon	-11135-05-12 12:57 J	-2345504.12	-2345503.96	-2345503.81	0.2654	0.0886
Earth	-11135-05-12 18:00 J	-2345503.91	-2345503.75	-2345503.59	0.2657	0.0691 *
Jupiter	-11130-07-21 06:43 J	-2343608.35	-2343608.22	-2343608.08	0.0508	0.0367
Jupiter	-11129-03-13 14:52 J	-2343372.04	-2343371.88	-2343371.72	0.0504	0.0295
Neptune	-11126-10-10 15:35 J	-2342065.89	-2342065.85	-2342065.79	0.0089	0.0087
Neptune	-11125-05-23 04:19 J	-2341840.40	-2341840.32	-2341840.20	0.0089	0.0078
Neptune	-11124-01-03 17:31 J	-2341614.90	-2341614.77	-2341614.63	0.0089	0.0070
Neptune	-11124-08-17 06:00 J	-2341389.39	-2341389.25	-2341389.07	0.0089	0.0061
Jupiter	-11123-01-11 16:33 J	-2341242.01	-2341241.81	-2341241.60	0.0519	0.0013

Neptune	-11123-03-30 18:57 J	-2341163.87	-2341163.71	-2341163.52	0.0089	0.0053
Neptune	-11123-11-11 07:40 J	-2340938.35	-2340938.18	-2340937.98	0.0089	0.0044
Neptune	-11122-06-24 20:38 J	-2340712.83	-2340712.64	-2340712.43	0.0089	0.0036
Saturn	-11122-10-15 20:24 J	-2340599.83	-2340599.65	-2340599.47	0.0270	0.0142
Neptune	-11121-02-05 09:35 J	-2340487.30	-2340487.10	-2340486.89	0.0089	0.0027
Saturn	-11121-06-01 03:50 J	-2340370.55	-2340370.34	-2340370.13	0.0273	0.0041
Neptune	-11121-09-17 22:19 J	-2340261.78	-2340261.57	-2340261.35	0.0089	0.0018
Saturn	-11120-01-16 13:26 J	-2340141.04	-2340140.94	-2340140.81	0.0275	0.0233
Neptune	-11120-05-01 11:16 J	-2340036.25	-2340036.03	-2340035.81	0.0089	0.0009
Neptune	-11120-12-13 00:00 J	-2339810.71	-2339810.50	-2339810.28	0.0089	0.0002
Neptune	-11119-07-26 12:57 J	-2339585.17	-2339584.96	-2339584.74	0.0089	0.0008
Neptune	-11118-03-09 01:26 J	-2339359.64	-2339359.44	-2339359.21	0.0089	0.0018
Neptune	-11118-10-20 14:24 J	-2339134.11	-2339133.90	-2339133.69	0.0089	0.0025
Jupiter	-11118-11-17 15:50 J	-2339106.04	-2339105.84	-2339105.64	0.0505	0.0112
Neptune	-11117-06-02 02:52 J	-2338908.57	-2338908.38	-2338908.16	0.0089	0.0035
Neptune	-11116-01-13 15:35 J	-2338683.03	-2338682.85	-2338682.64	0.0089	0.0043
Neptune	-11116-08-27 04:19 J	-2338457.48	-2338457.32	-2338457.13	0.0089	0.0052
Mars	-11116-10-15 11:02 J	-2338408.20	-2338408.04	-2338407.87	0.1736	0.0519
Neptune	-11115-04-09 16:48 J	-2338231.94	-2338231.80	-2338231.62	0.0089	0.0060
Neptune	-11115-11-21 05:45 J	-2338006.39	-2338006.26	-2338006.11	0.0089	0.0068
Neptune	-11114-07-04 18:00 J	-2337780.83	-2337780.75	-2337780.61	0.0089	0.0078
Mars	-11114-08-14 17:31 J	-2337739.81	-2337739.77	-2337739.72	0.1713	0.1648
Neptune	-11113-02-15 06:57 J	-2337555.26	-2337555.21	-2337555.13	0.0089	0.0085
Uranus	-11112-01-31 05:45 J	-2337204.39	-2337204.26	-2337204.10	0.0134	0.0102
Uranus	-11112-09-14 12:28 J	-2336978.16	-2336977.98	-2336977.78	0.0133	0.0065
Jupiter	-11112-09-16 07:26 J	-2336976.38	-2336976.19	-2336976.00	0.0518	0.0204
Uranus	-11111-04-28 18:57 J	-2336751.92	-2336751.71	-2336751.49	0.0133	0.0028
Mars	-11111-05-31 18:00 J	-2336718.85	-2336718.75	-2336718.66	0.1777	0.1480
Uranus	-11111-12-11 01:26 J	-2336525.66	-2336525.44	-2336525.22	0.0133	0.0009
Uranus	-11110-07-25 07:40 J	-2336299.39	-2336299.18	-2336298.97	0.0133	0.0046

Uranus	-11109-03-07 13:40 J	-2336073.09	-2336072.93	-2336072.75	0.0133	0.0083
Mars	-11109-03-29 00:43 J	-2336051.59	-2336051.47	-2336051.34	0.1803	0.1255
Uranus	-11109-10-19 19:40 J	-2335846.76	-2335846.68	-2335846.57	0.0133	0.0119
Saturn	-11108-01-05 13:40 J	-2335769.07	-2335768.93	-2335768.79	0.0293	0.0215
Saturn	-11108-08-23 08:52 J	-2335539.34	-2335539.13	-2335538.93	0.0290	0.0012
Saturn	-11107-04-10 00:57 J	-2335309.59	-2335309.46	-2335309.33	0.0287	0.0225
Jupiter	-11106-07-23 17:45 J	-2334839.96	-2334839.76	-2334839.56	0.0507	0.0069
Jupiter	-11100-05-21 20:52 J	-2332710.74	-2332710.63	-2332710.50	0.0517	0.0413
Jupiter	-11099-01-14 13:55 J	-2332473.08	-2332472.92	-2332472.76	0.0522	0.0332
Jupiter	-11094-03-28 18:28 J	-2330573.90	-2330573.73	-2330573.56	0.0508	0.0255
Jupiter	-11094-11-20 01:40 J	-2330337.54	-2330337.43	-2330337.31	0.0503	0.0404
Saturn	-11092-04-27 03:35 J	-2329813.55	-2329813.35	-2329813.16	0.0270	0.0113
Saturn	-11092-12-12 11:31 J	-2329584.23	-2329584.02	-2329583.81	0.0273	0.0072
Saturn	-11091-07-29 21:35 J	-2329354.65	-2329354.60	-2329354.53	0.0276	0.0264
Jupiter	-11088-09-19 05:31 J	-2328207.46	-2328207.27	-2328207.06	0.0520	0.0125
Mars	-11084-10-14 14:09 J	-2326720.98	-2326720.91	-2326720.84	0.1747	0.1596
Jupiter	-11083-12-01 16:19 J	-2326307.91	-2326307.82	-2326307.73	0.0509	0.0446
Jupiter	-11082-07-26 00:57 J	-2326071.64	-2326071.46	-2326071.28	0.0505	0.0219
Mars	-11082-08-13 18:14 J	-2326052.90	-2326052.74	-2326052.58	0.1723	0.0658
Saturn	-11079-07-18 23:16 J	-2324982.69	-2324982.53	-2324982.35	0.0293	0.0176
Saturn	-11078-03-05 18:14 J	-2324752.95	-2324752.74	-2324752.54	0.0290	0.0049
Saturn	-11078-10-21 09:35 J	-2324523.17	-2324523.10	-2324523.00	0.0287	0.0263
Mars	-11077-03-28 13:55 J	-2324364.10	-2324363.92	-2324363.75	0.1792	0.0065
Jupiter	-11076-05-24 22:04 J	-2323941.78	-2323941.58	-2323941.37	0.0519	0.0084
Jupiter	-11070-03-31 01:26 J	-2321805.64	-2321805.44	-2321805.24	0.0506	0.0034
Uranus	-11069-06-14 20:38 J	-2321363.74	-2321363.64	-2321363.51	0.0145	0.0121
Uranus	-11068-01-27 07:40 J	-2321137.35	-2321137.18	-2321136.99	0.0145	0.0075
Uranus	-11068-09-10 18:57 J	-2320910.92	-2320910.71	-2320910.50	0.0145	0.0028
Uranus	-11067-04-25 06:00 J	-2320684.46	-2320684.25	-2320684.03	0.0145	0.0019
Uranus	-11067-12-07 17:02 J	-2320457.97	-2320457.79	-2320457.59	0.0146	0.0066

Uranus	-11066-07-22 04:19 J	-2320231.44	-2320231.32	-2320231.17	0.0146	0.0113
Jupiter	-11064-01-27 13:26 J	-2319676.11	-2319675.94	-2319675.77	0.0517	0.0291
Jupiter	-11064-09-22 06:28 J	-2319438.32	-2319438.23	-2319438.12	0.0522	0.0457
Saturn	-11063-03-23 04:19 J	-2319256.36	-2319256.32	-2319256.26	0.0268	0.0261
Saturn	-11063-11-07 10:19 J	-2319027.27	-2319027.07	-2319026.86	0.0271	0.0083
Saturn	-11062-06-24 18:28 J	-2318797.92	-2318797.73	-2318797.53	0.0274	0.0103
Jupiter	-11059-12-04 01:40 J	-2317539.62	-2317539.43	-2317539.23	0.0507	0.0153
Jupiter	-11053-10-02 04:48 J	-2315410.35	-2315410.30	-2315410.24	0.0516	0.0494
Jupiter	-11052-05-27 20:38 J	-2315172.82	-2315172.64	-2315172.46	0.0521	0.0245
Mars	-11050-08-12 20:09 J	-2314365.83	-2314365.66	-2314365.50	0.1733	0.0375
Pluto	-11050-10-26 14:09 J	-2314291.12	-2314290.91	-2314290.70	0.0079	0.0027
Saturn	-11049-01-29 09:07 J	-2314196.30	-2314196.12	-2314195.93	0.0292	0.0139
Pluto	-11049-06-08 00:28 J	-2314065.67	-2314065.48	-2314065.28	0.0079	0.0038
Saturn	-11049-09-15 03:21 J	-2313966.56	-2313966.36	-2313966.16	0.0289	0.0084
Jupiter	-11047-08-09 03:07 J	-2313273.52	-2313273.37	-2313273.22	0.0509	0.0337
Jupiter	-11046-04-02 11:31 J	-2313037.18	-2313037.02	-2313036.87	0.0504	0.0329
Mars	-11045-03-28 00:57 J	-2312676.57	-2312676.46	-2312676.34	0.1781	0.1315
Mars	-11043-01-24 06:28 J	-2312009.33	-2312009.23	-2312009.13	0.1807	0.1460
Neptune	-11043-07-07 11:16 J	-2311845.06	-2311845.03	-2311844.98	0.0088	0.0086
Neptune	-11042-02-18 00:14 J	-2311619.57	-2311619.49	-2311619.37	0.0088	0.0078
Neptune	-11042-10-01 13:11 J	-2311394.06	-2311393.95	-2311393.79	0.0088	0.0070
Neptune	-11041-05-14 02:38 J	-2311168.53	-2311168.39	-2311168.22	0.0088	0.0062
Neptune	-11041-12-25 15:50 J	-2310942.99	-2310942.84	-2310942.64	0.0088	0.0053
Jupiter	-11040-01-30 09:50 J	-2310907.29	-2310907.09	-2310906.88	0.0520	0.0032
Neptune	-11040-08-08 05:16 J	-2310717.46	-2310717.28	-2310717.07	0.0088	0.0045
Neptune	-11039-03-21 18:28 J	-2310491.92	-2310491.73	-2310491.51	0.0088	0.0036
Neptune	-11039-11-02 07:40 J	-2310266.38	-2310266.18	-2310265.96	0.0088	0.0028
Neptune	-11038-06-15 21:07 J	-2310040.84	-2310040.62	-2310040.40	0.0088	0.0019
Neptune	-11037-01-27 10:19 J	-2309815.29	-2309815.07	-2309814.84	0.0088	0.0010
Neptune	-11037-09-08 23:31 J	-2309589.74	-2309589.52	-2309589.29	0.0088	0.0003

Neptune	-11036-04-22 12:57 J	-2309364.19	-2309363.96	-2309363.74	0.0088	0.0007
Neptune	-11036-12-04 01:55 J	-2309138.63	-2309138.42	-2309138.19	0.0088	0.0017
Neptune	-11035-07-17 15:21 J	-2308913.07	-2308912.86	-2308912.64	0.0088	0.0025
Jupiter	-11035-12-06 12:43 J	-2308771.16	-2308770.97	-2308770.77	0.0505	0.0147
Neptune	-11034-02-28 04:33 J	-2308687.51	-2308687.31	-2308687.10	0.0088	0.0033
Saturn	-11034-10-03 10:33 J	-2308470.15	-2308470.06	-2308469.94	0.0269	0.0233
Neptune	-11034-10-11 17:31 J	-2308461.95	-2308461.77	-2308461.56	0.0088	0.0042
Saturn	-11033-05-19 17:02 J	-2308241.00	-2308240.79	-2308240.58	0.0271	0.0054
Neptune	-11033-05-24 06:57 J	-2308236.38	-2308236.21	-2308236.01	0.0088	0.0051
Saturn	-11032-01-04 01:40 J	-2308011.61	-2308011.43	-2308011.24	0.0274	0.0134
Neptune	-11032-01-04 20:24 J	-2308010.80	-2308010.65	-2308010.47	0.0088	0.0059
Neptune	-11032-08-18 09:50 J	-2307785.22	-2307785.09	-2307784.93	0.0088	0.0068
Neptune	-11031-03-31 23:02 J	-2307559.63	-2307559.54	-2307559.41	0.0088	0.0076
Neptune	-11031-11-12 12:28 J	-2307334.03	-2307333.98	-2307333.90	0.0088	0.0085
Uranus	-11029-09-30 16:33 J	-2306645.91	-2306645.81	-2306645.70	0.0134	0.0117
Jupiter	-11029-10-05 02:09 J	-2306641.61	-2306641.41	-2306641.22	0.0518	0.0175
Uranus	-11028-05-14 23:02 J	-2306419.71	-2306419.54	-2306419.36	0.0133	0.0080
Uranus	-11028-12-27 05:45 J	-2306193.47	-2306193.26	-2306193.05	0.0133	0.0043
Uranus	-11027-08-10 12:00 J	-2305967.22	-2305967.00	-2305966.77	0.0133	0.0006
Uranus	-11026-03-24 18:14 J	-2305740.95	-2305740.74	-2305740.52	0.0133	0.0031
Uranus	-11026-11-06 00:14 J	-2305514.67	-2305514.49	-2305514.29	0.0133	0.0068
Uranus	-11025-06-19 06:14 J	-2305288.36	-2305288.24	-2305288.09	0.0133	0.0104
Jupiter	-11023-08-11 11:31 J	-2304505.22	-2304505.02	-2304504.82	0.0506	0.0044
Saturn	-11020-08-10 18:14 J	-2303409.93	-2303409.74	-2303409.54	0.0292	0.0100
Saturn	-11019-03-28 12:00 J	-2303180.18	-2303180.00	-2303179.81	0.0289	0.0122
Mars	-11018-08-11 23:02 J	-2302678.63	-2302678.54	-2302678.44	0.1743	0.1451
Jupiter	-11017-06-09 19:11 J	-2302375.83	-2302375.70	-2302375.55	0.0517	0.0378
Jupiter	-11016-02-02 12:14 J	-2302138.12	-2302137.99	-2302137.84	0.0522	0.0372
Mars	-11016-06-10 04:19 J	-2302010.47	-2302010.32	-2302010.17	0.1720	0.0779
Mars	-11011-01-23 20:24 J	-2300321.82	-2300321.65	-2300321.47	0.1795	0.0123

Jupiter	-11011-04-16 11:31 J	-2300239.19	-2300239.02	-2300238.84	0.0508	0.0233
Jupiter	-11011-12-08 18:57 J	-2300002.81	-2300002.71	-2300002.61	0.0504	0.0429
Jupiter	-11005-10-08 03:07 J	-2297872.57	-2297872.37	-2297872.18	0.0520	0.0159
Saturn	-11004-04-14 16:33 J	-2297683.94	-2297683.81	-2297683.67	0.0269	0.0205
Saturn	-11004-11-29 23:16 J	-2297454.75	-2297454.53	-2297454.32	0.0271	0.0025
Saturn	-11003-07-17 07:55 J	-2297225.34	-2297225.17	-2297224.99	0.0274	0.0164

11TH MILLENNIUM BCE

This is a list of transits of Venus in the 11th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-11000-12-20 11:16 J	-2295973.14	-2295973.03	-2295972.92	0.0509	0.0421		
Jupiter	-10999-08-13 20:24 J	-2295736.83	-2295736.65	-2295736.48	0.0505	0.0249		
Jupiter	-10993-06-12 17:31 J	-2293606.97	-2293606.77	-2293606.56	0.0519	0.0054		
Saturn	-10991-07-06 06:28 J	-2292853.23	-2292853.23	-2292853.23	0.0294	0.0294		
Saturn	-10990-02-21 02:38 J	-2292623.59	-2292623.39	-2292623.18	0.0291	0.0066		
Saturn	-10990-10-08 20:09 J	-2292393.83	-2292393.66	-2292393.48	0.0288	0.0155		
Earth	-10990-11-09 07:11 J	-2292362.28	-2292362.20	-2292362.12	0.2675	0.2251		
Moon	-10990-11-09 10:48 J	-2292362.11	-2292362.05	-2292362.00	0.2681	0.2448		
Jupiter	-10987-04-18 22:19 J	-2291470.77	-2291470.57	-2291470.37	0.0506	0.0069		
Uranus	-10985-02-13 05:02 J	-2290805.32	-2290805.29	-2290805.23	0.0145	0.0141		
Uranus	-10985-09-26 15:50 J	-2290578.99	-2290578.84	-2290578.66	0.0145	0.0095		
Uranus	-10984-05-11 03:07 J	-2290352.57	-2290352.37	-2290352.17	0.0145	0.0049		
Mars	-10984-06-09 05:45 J	-2290323.43	-2290323.26	-2290323.09	0.1730	0.0243		

Uranus	-10984-12-23 14:09 J	-2290126.12	-2290125.91	-2290125.69	0.0145	0.0003
Uranus	-10983-08-07 01:26 J	-2289899.64	-2289899.44	-2289899.23	0.0146	0.0045
Uranus	-10982-03-21 12:28 J	-2289673.13	-2289672.98	-2289672.80	0.0146	0.0093
Uranus	-10982-11-03 00:14 J	-2289446.55	-2289446.49	-2289446.43	0.0146	0.0139
Earth	-10982-11-06 23:45 J	-2289442.65	-2289442.51	-2289442.36	0.2678	0.1085
Moon	-10982-11-07 05:31 J	-2289442.42	-2289442.27	-2289442.12	0.2678	0.0765 *
Jupiter	-10981-02-16 07:40 J	-2289341.35	-2289341.18	-2289341.00	0.0517	0.0264
Jupiter	-10981-10-11 00:57 J	-2289103.53	-2289103.46	-2289103.38	0.0522	0.0488
Mars	-10979-01-23 07:55 J	-2288634.30	-2288634.17	-2288634.03	0.1784	0.1144
Mars	-10978-11-21 12:57 J	-2287967.03	-2287966.96	-2287966.89	0.1810	0.1658
Jupiter	-10976-12-22 23:31 J	-2287204.71	-2287204.52	-2287204.32	0.0507	0.0118
Saturn	-10975-10-25 21:35 J	-2286897.75	-2286897.60	-2286897.43	0.0269	0.0178
Saturn	-10974-06-12 04:33 J	-2286668.53	-2286668.31	-2286668.10	0.0272	0.0003
Saturn	-10973-01-27 13:40 J	-2286439.08	-2286438.93	-2286438.77	0.0275	0.0192
Jupiter	-10970-10-22 00:28 J	-2285075.56	-2285075.48	-2285075.39	0.0516	0.0465
Jupiter	-10969-06-15 16:33 J	-2284837.98	-2284837.81	-2284837.63	0.0521	0.0281
Jupiter	-10964-08-27 21:50 J	-2282938.74	-2282938.59	-2282938.43	0.0508	0.0312
Jupiter	-10963-04-21 05:45 J	-2282702.40	-2282702.26	-2282702.11	0.0504	0.0355
Saturn	-10961-01-16 14:52 J	-2282066.97	-2282066.88	-2282066.77	0.0294	0.0257
Neptune	-10961-08-24 14:24 J	-2281845.96	-2281845.90	-2281845.81	0.0089	0.0083
Saturn	-10961-09-02 11:02 J	-2281837.25	-2281837.04	-2281836.83	0.0291	0.0027
Neptune	-10960-04-07 03:21 J	-2281620.47	-2281620.36	-2281620.23	0.0089	0.0075
Saturn	-10960-04-20 04:04 J	-2281607.48	-2281607.33	-2281607.17	0.0288	0.0192
Neptune	-10960-11-18 15:50 J	-2281394.96	-2281394.84	-2281394.67	0.0089	0.0067
Neptune	-10959-07-02 05:02 J	-2281169.44	-2281169.29	-2281169.11	0.0089	0.0058
Neptune	-10958-02-12 18:00 J	-2280943.92	-2280943.75	-2280943.56	0.0089	0.0049
Neptune	-10958-09-26 06:28 J	-2280718.40	-2280718.23	-2280718.01	0.0089	0.0041
Jupiter	-10957-02-19 09:35 J	-2280572.30	-2280572.10	-2280571.90	0.0520	0.0072
Neptune	-10957-05-08 19:26 J	-2280492.88	-2280492.69	-2280492.47	0.0089	0.0031
Neptune	-10957-12-20 08:24 J	-2280267.35	-2280267.15	-2280266.93	0.0089	0.0022

Neptune	-10956-08-02 21:21 J	-2280041.82	-2280041.61	-2280041.39	0.0089	0.0014
Neptune	-10955-03-16 10:04 J	-2279816.29	-2279816.08	-2279815.86	0.0089	0.0005
Neptune	-10955-10-27 23:02 J	-2279590.76	-2279590.54	-2279590.33	0.0089	0.0004
Neptune	-10954-06-10 11:45 J	-2279365.22	-2279365.01	-2279364.79	0.0089	0.0013
Neptune	-10953-01-22 00:14 J	-2279139.69	-2279139.49	-2279139.26	0.0089	0.0022
Neptune	-10953-09-03 13:11 J	-2278914.15	-2278913.95	-2278913.74	0.0089	0.0030
Neptune	-10952-04-17 01:40 J	-2278688.61	-2278688.43	-2278688.22	0.0089	0.0040
Jupiter	-10952-05-02 21:35 J	-2278672.63	-2278672.60	-2278672.56	0.0509	0.0499
Mars	-10952-06-08 08:09 J	-2278636.27	-2278636.16	-2278636.04	0.1740	0.1307
Neptune	-10952-11-28 14:24 J	-2278463.07	-2278462.90	-2278462.70	0.0089	0.0048
Jupiter	-10952-12-25 06:43 J	-2278436.40	-2278436.22	-2278436.03	0.0505	0.0173
Neptune	-10951-07-12 03:35 J	-2278237.51	-2278237.35	-2278237.18	0.0089	0.0056
Neptune	-10950-02-22 15:50 J	-2278011.97	-2278011.84	-2278011.67	0.0089	0.0066
Mars	-10950-04-07 14:09 J	-2277968.05	-2277967.91	-2277967.76	0.1717	0.0902
Neptune	-10950-10-06 04:19 J	-2277786.41	-2277786.32	-2277786.17	0.0089	0.0074
Neptune	-10949-05-18 17:16 J	-2277560.85	-2277560.78	-2277560.69	0.0089	0.0082
Jupiter	-10946-10-25 01:11 J	-2276306.65	-2276306.45	-2276306.25	0.0518	0.0137
Mars	-10946-11-21 02:52 J	-2276279.56	-2276279.38	-2276279.21	0.1799	0.0316
Saturn	-10945-05-07 02:24 J	-2276111.57	-2276111.40	-2276111.22	0.0269	0.0152
Uranus	-10945-05-31 03:50 J	-2276087.37	-2276087.34	-2276087.31	0.0134	0.0132
Saturn	-10945-12-22 09:35 J	-2275882.31	-2275882.10	-2275881.88	0.0272	0.0030
Uranus	-10944-01-12 10:33 J	-2275861.21	-2275861.06	-2275860.90	0.0133	0.0095
Saturn	-10944-08-08 18:43 J	-2275652.83	-2275652.72	-2275652.58	0.0275	0.0221
Uranus	-10944-08-26 17:02 J	-2275634.99	-2275634.79	-2275634.59	0.0133	0.0058
Uranus	-10943-04-09 23:31 J	-2275408.74	-2275408.52	-2275408.30	0.0133	0.0021
Uranus	-10943-11-22 05:45 J	-2275182.48	-2275182.26	-2275182.04	0.0133	0.0016
Uranus	-10942-07-06 11:45 J	-2274956.21	-2274956.01	-2274955.80	0.0133	0.0053
Uranus	-10941-02-17 17:31 J	-2274729.91	-2274729.77	-2274729.59	0.0133	0.0090
Uranus	-10941-09-30 23:31 J	-2274503.57	-2274503.52	-2274503.43	0.0133	0.0126
Jupiter	-10940-08-30 07:55 J	-2274170.37	-2274170.17	-2274169.97	0.0507	0.0015

Jupiter	-10934-06-29 16:33 J	-2272040.95	-2272040.81	-2272040.65	0.0517	0.0345
Jupiter	-10933-02-22 09:21 J	-2271803.23	-2271803.11	-2271802.98	0.0521	0.0407
Saturn	-10932-07-28 22:04 J	-2271280.71	-2271280.58	-2271280.44	0.0294	0.0224
Saturn	-10931-03-15 17:45 J	-2271050.97	-2271050.76	-2271050.55	0.0291	0.0007
Saturn	-10931-10-31 10:33 J	-2270821.19	-2270821.06	-2270820.92	0.0288	0.0221
Jupiter	-10928-05-05 09:21 J	-2269904.30	-2269904.11	-2269903.93	0.0508	0.0198
Jupiter	-10928-12-27 17:02 J	-2269667.86	-2269667.79	-2269667.71	0.0504	0.0467
Jupiter	-10922-10-27 23:02 J	-2267537.73	-2267537.54	-2267537.35	0.0520	0.0192
Mars	-10918-04-06 14:52 J	-2266281.05	-2266280.88	-2266280.70	0.1727	0.0109
Jupiter	-10916-01-08 10:04 J	-2265638.20	-2265638.08	-2265637.94	0.0509	0.0386
Jupiter	-10916-09-01 19:11 J	-2265401.86	-2265401.70	-2265401.53	0.0505	0.0287
Saturn	-10916-11-17 06:43 J	-2265325.41	-2265325.22	-2265325.03	0.0270	0.0127
Saturn	-10915-07-04 13:55 J	-2265096.13	-2265095.92	-2265095.71	0.0272	0.0057
Saturn	-10914-02-18 23:31 J	-2264866.61	-2264866.52	-2264866.43	0.0275	0.0248
Mars	-10914-11-20 14:52 J	-2264592.03	-2264591.88	-2264591.73	0.1788	0.0969
Jupiter	-10910-07-02 15:07 J	-2263272.07	-2263271.87	-2263271.66	0.0519	0.0020
Jupiter	-10904-05-07 18:14 J	-2261135.94	-2261135.74	-2261135.54	0.0506	0.0097
Saturn	-10902-02-08 05:02 J	-2260494.45	-2260494.29	-2260494.13	0.0294	0.0189
Saturn	-10902-09-26 00:28 J	-2260264.69	-2260264.48	-2260264.27	0.0291	0.0038
Saturn	-10901-05-12 17:02 J	-2260034.88	-2260034.79	-2260034.69	0.0288	0.0255
Uranus	-10901-05-26 23:45 J	-2260020.63	-2260020.51	-2260020.37	0.0145	0.0116
Uranus	-10900-01-08 10:33 J	-2259794.23	-2259794.06	-2259793.86	0.0145	0.0070
Uranus	-10900-08-22 22:04 J	-2259567.79	-2259567.58	-2259567.37	0.0145	0.0023
Uranus	-10899-04-06 09:07 J	-2259341.33	-2259341.12	-2259340.90	0.0146	0.0024
Uranus	-10899-11-18 20:24 J	-2259114.84	-2259114.65	-2259114.46	0.0146	0.0071
Jupiter	-10898-03-07 08:38 J	-2259006.32	-2259006.14	-2259005.95	0.0518	0.0223
Uranus	-10898-07-03 07:40 J	-2258888.30	-2258888.18	-2258888.05	0.0146	0.0118
Jupiter	-10892-01-10 19:11 J	-2256869.90	-2256869.70	-2256869.50	0.0507	0.0090
Earth	-10892-05-12 17:45 J	-2256747.92	-2256747.76	-2256747.60	0.2655	0.0683
Moon	-10892-05-12 20:38 J	-2256747.79	-2256747.64	-2256747.49	0.2661	0.0681 *

Pluto	-10891-11-05 11:02 J	-2256206.13	-2256206.04	-2256205.91	0.0064	0.0056
Pluto	-10890-06-18 15:07 J	-2255981.06	-2255980.87	-2255980.65	0.0065	0.0022
Pluto	-10889-01-29 19:40 J	-2255755.89	-2255755.68	-2255755.47	0.0065	0.0013
Pluto	-10889-09-10 23:31 J	-2255530.65	-2255530.52	-2255530.36	0.0065	0.0048
Jupiter	-10887-11-10 01:11 J	-2254740.55	-2254740.45	-2254740.33	0.0516	0.0427
Mars	-10886-04-05 17:45 J	-2254593.89	-2254593.76	-2254593.64	0.1737	0.1168
Saturn	-10886-05-30 10:04 J	-2254539.28	-2254539.08	-2254538.88	0.0270	0.0103
Jupiter	-10886-07-05 17:31 J	-2254502.93	-2254502.77	-2254502.61	0.0521	0.0325
Saturn	-10885-01-14 17:31 J	-2254309.97	-2254309.77	-2254309.56	0.0272	0.0081
Saturn	-10885-08-31 03:21 J	-2254080.39	-2254080.36	-2254080.34	0.0275	0.0273
Mars	-10884-02-02 00:00 J	-2253925.63	-2253925.50	-2253925.36	0.1714	0.1024
Jupiter	-10881-09-15 19:40 J	-2252603.85	-2252603.68	-2252603.51	0.0508	0.0278
Jupiter	-10880-05-10 03:35 J	-2252367.47	-2252367.35	-2252367.22	0.0504	0.0392
Mars	-10880-09-17 08:52 J	-2252237.30	-2252237.13	-2252236.96	0.1803	0.0509
Neptune	-10878-05-22 09:21 J	-2251625.17	-2251625.11	-2251625.03	0.0088	0.0083
Neptune	-10877-01-02 22:19 J	-2251399.66	-2251399.57	-2251399.43	0.0088	0.0075
Neptune	-10877-08-15 11:45 J	-2251174.14	-2251174.01	-2251173.85	0.0088	0.0067
Neptune	-10876-03-29 00:43 J	-2250948.61	-2250948.47	-2250948.28	0.0088	0.0058
Neptune	-10876-11-09 14:09 J	-2250723.08	-2250722.91	-2250722.71	0.0088	0.0049
Neptune	-10875-06-23 03:35 J	-2250497.54	-2250497.35	-2250497.15	0.0088	0.0041
Neptune	-10874-02-03 16:33 J	-2250272.00	-2250271.81	-2250271.59	0.0088	0.0032
Jupiter	-10874-03-10 08:38 J	-2250237.34	-2250237.14	-2250236.94	0.0520	0.0112
Neptune	-10874-09-17 06:00 J	-2250046.46	-2250046.25	-2250046.03	0.0088	0.0023
Neptune	-10873-04-29 19:11 J	-2249820.92	-2249820.70	-2249820.48	0.0088	0.0015
Saturn	-10873-08-20 10:04 J	-2249708.24	-2249708.08	-2249707.89	0.0293	0.0161
Neptune	-10873-12-11 08:38 J	-2249595.36	-2249595.14	-2249594.92	0.0088	0.0006
Saturn	-10872-04-07 05:31 J	-2249478.47	-2249478.27	-2249478.06	0.0290	0.0067
Neptune	-10872-07-24 21:50 J	-2249369.81	-2249369.59	-2249369.36	0.0088	0.0003
Saturn	-10872-11-22 21:50 J	-2249248.62	-2249248.59	-2249248.55	0.0287	0.0281
Neptune	-10871-03-07 10:48 J	-2249144.26	-2249144.05	-2249143.82	0.0088	0.0013

Neptune	-10871-10-19 00:14 J	-2248918.71	-2248918.49	-2248918.27	0.0088	0.0020
Neptune	-10870-06-01 13:11 J	-2248693.15	-2248692.95	-2248692.73	0.0088	0.0030
Neptune	-10869-01-13 02:24 J	-2248467.58	-2248467.40	-2248467.18	0.0088	0.0039
Jupiter	-10869-05-21 20:24 J	-2248337.73	-2248337.65	-2248337.57	0.0510	0.0465
Neptune	-10869-08-25 16:04 J	-2248242.02	-2248241.83	-2248241.64	0.0088	0.0047
Jupiter	-10868-01-13 06:00 J	-2248101.43	-2248101.25	-2248101.06	0.0505	0.0213
Neptune	-10868-04-08 05:02 J	-2248016.45	-2248016.29	-2248016.10	0.0088	0.0056
Neptune	-10868-11-19 18:14 J	-2247790.87	-2247790.74	-2247790.57	0.0088	0.0064
Neptune	-10867-07-03 07:40 J	-2247565.29	-2247565.18	-2247565.04	0.0088	0.0073
Neptune	-10866-02-13 20:52 J	-2247339.69	-2247339.63	-2247339.52	0.0088	0.0082
Jupiter	-10863-11-12 23:02 J	-2245971.74	-2245971.54	-2245971.34	0.0518	0.0101
Uranus	-10861-09-11 21:50 J	-2245302.71	-2245302.59	-2245302.46	0.0134	0.0110
Uranus	-10860-04-26 04:19 J	-2245076.50	-2245076.32	-2245076.13	0.0133	0.0073
Uranus	-10860-12-08 10:33 J	-2244850.27	-2244850.06	-2244849.84	0.0133	0.0036
Uranus	-10859-07-22 17:02 J	-2244624.01	-2244623.79	-2244623.57	0.0133	0.0002
Uranus	-10858-03-05 23:02 J	-2244397.75	-2244397.54	-2244397.32	0.0133	0.0038
Uranus	-10858-10-18 05:02 J	-2244171.46	-2244171.29	-2244171.10	0.0133	0.0075
Saturn	-10857-04-24 07:55 J	-2243982.23	-2243982.17	-2243982.10	0.0268	0.0255
Uranus	-10857-05-31 10:48 J	-2243945.16	-2243945.05	-2243944.92	0.0133	0.0111
Jupiter	-10857-09-18 08:09 J	-2243835.36	-2243835.16	-2243834.96	0.0507	0.0028
Saturn	-10857-12-09 13:11 J	-2243753.15	-2243752.95	-2243752.74	0.0270	0.0079
Saturn	-10856-07-26 20:38 J	-2243523.83	-2243523.64	-2243523.44	0.0273	0.0107
Mars	-10852-02-01 00:43 J	-2242238.64	-2242238.47	-2242238.29	0.1723	0.0049
Jupiter	-10851-07-18 16:04 J	-2241705.99	-2241705.83	-2241705.66	0.0517	0.0307
Jupiter	-10850-03-13 08:52 J	-2241468.22	-2241468.13	-2241468.02	0.0522	0.0450
Mars	-10848-09-16 21:50 J	-2240549.75	-2240549.59	-2240549.43	0.1791	0.0795
Jupiter	-10845-05-24 07:11 J	-2239569.39	-2239569.20	-2239569.01	0.0507	0.0166
Jupiter	-10844-01-15 14:09 J	-2239332.93	-2239332.91	-2239332.88	0.0503	0.0500
Saturn	-10843-03-02 15:50 J	-2238922.03	-2238921.84	-2238921.65	0.0293	0.0128
Saturn	-10843-10-18 10:48 J	-2238692.24	-2238692.05	-2238691.85	0.0290	0.0098

Jupiter	-10839-03-23 09:50 J	-2237440.12	-2237440.09	-2237440.05	0.0516	0.0509
Jupiter	-10839-11-16 01:40 J	-2237202.60	-2237202.43	-2237202.24	0.0521	0.0242
Jupiter	-10833-01-28 07:55 J	-2235303.31	-2235303.17	-2235303.03	0.0508	0.0354
Jupiter	-10833-09-20 16:04 J	-2235066.98	-2235066.83	-2235066.67	0.0504	0.0320
Saturn	-10828-11-04 10:33 J	-2233196.16	-2233196.06	-2233195.95	0.0267	0.0233
Saturn	-10827-06-21 15:50 J	-2232967.05	-2232966.84	-2232966.63	0.0270	0.0056
Jupiter	-10827-07-21 18:00 J	-2232936.96	-2232936.75	-2232936.55	0.0519	0.0031
Saturn	-10826-02-05 23:16 J	-2232737.71	-2232737.53	-2232737.33	0.0273	0.0130
Jupiter	-10821-05-26 17:31 J	-2230800.96	-2230800.77	-2230800.57	0.0506	0.0137
Mars	-10820-01-31 02:52 J	-2230551.52	-2230551.38	-2230551.24	0.1734	0.1027
Mars	-10819-11-30 10:19 J	-2229883.20	-2229883.07	-2229882.95	0.1711	0.1142
Uranus	-10817-01-25 05:02 J	-2229462.33	-2229462.29	-2229462.23	0.0145	0.0140
Uranus	-10817-09-07 15:50 J	-2229235.99	-2229235.84	-2229235.66	0.0145	0.0094
Uranus	-10816-04-22 03:07 J	-2229009.57	-2229009.37	-2229009.16	0.0145	0.0047
Uranus	-10816-12-04 14:09 J	-2228783.12	-2228782.91	-2228782.69	0.0146	0.0002
Jupiter	-10815-03-26 09:50 J	-2228671.28	-2228671.09	-2228670.89	0.0518	0.0179
Uranus	-10815-07-19 01:26 J	-2228556.64	-2228556.44	-2228556.23	0.0146	0.0047
Uranus	-10814-03-02 12:43 J	-2228330.13	-2228329.97	-2228329.80	0.0146	0.0094
Mars	-10814-07-15 14:38 J	-2228195.05	-2228194.89	-2228194.73	0.1806	0.0713
Saturn	-10814-09-12 19:11 J	-2228135.89	-2228135.70	-2228135.50	0.0293	0.0102
Uranus	-10814-10-14 23:45 J	-2228103.54	-2228103.51	-2228103.44	0.0146	0.0142
Saturn	-10813-04-29 13:55 J	-2227906.10	-2227905.92	-2227905.72	0.0290	0.0123
Jupiter	-10809-01-30 19:40 J	-2226534.88	-2226534.68	-2226534.48	0.0507	0.0050
Jupiter	-10804-11-29 01:11 J	-2224405.58	-2224405.45	-2224405.31	0.0516	0.0388
Jupiter	-10803-07-24 17:16 J	-2224167.92	-2224167.78	-2224167.63	0.0521	0.0367
Pluto	-10802-02-15 18:43 J	-2223961.76	-2223961.72	-2223961.63	0.0080	0.0076
Pluto	-10802-09-29 05:45 J	-2223736.47	-2223736.26	-2223736.03	0.0079	0.0011
Pluto	-10801-05-11 16:04 J	-2223510.97	-2223510.83	-2223510.65	0.0079	0.0055
Saturn	-10798-05-17 12:14 J	-2222410.11	-2222409.99	-2222409.85	0.0268	0.0212
Jupiter	-10798-10-05 21:07 J	-2222268.79	-2222268.62	-2222268.44	0.0508	0.0236

Saturn	-10797-01-01 17:45 J	-2222180.97	-2222180.76	-2222180.54	0.0270	0.0034
Jupiter	-10797-05-29 05:16 J	-2222032.38	-2222032.28	-2222032.18	0.0504	0.0437
Saturn	-10797-08-18 01:11 J	-2221951.61	-2221951.45	-2221951.26	0.0273	0.0154
Neptune	-10797-11-26 00:00 J	-2221851.51	-2221851.50	-2221851.47	0.0089	0.0089
Neptune	-10796-07-09 12:43 J	-2221626.04	-2221625.97	-2221625.85	0.0089	0.0080
Neptune	-10795-02-20 01:40 J	-2221400.54	-2221400.43	-2221400.28	0.0089	0.0071
Neptune	-10795-10-03 14:38 J	-2221175.04	-2221174.89	-2221174.73	0.0089	0.0062
Neptune	-10794-05-17 03:35 J	-2220949.52	-2220949.35	-2220949.17	0.0089	0.0054
Neptune	-10794-12-28 16:04 J	-2220724.00	-2220723.83	-2220723.62	0.0089	0.0045
Neptune	-10793-08-10 05:02 J	-2220498.48	-2220498.29	-2220498.08	0.0089	0.0036
Neptune	-10792-03-23 17:45 J	-2220272.95	-2220272.76	-2220272.54	0.0089	0.0027
Neptune	-10792-11-04 06:43 J	-2220047.43	-2220047.22	-2220047.00	0.0089	0.0018
Jupiter	-10791-03-29 09:50 J	-2219902.28	-2219902.09	-2219901.89	0.0520	0.0158
Neptune	-10791-06-17 19:40 J	-2219821.90	-2219821.68	-2219821.46	0.0089	0.0009
Neptune	-10790-01-29 08:24 J	-2219596.37	-2219596.15	-2219595.93	0.0089	0.0001
Neptune	-10790-09-11 21:07 J	-2219370.84	-2219370.62	-2219370.40	0.0089	0.0009
Neptune	-10789-04-24 09:50 J	-2219145.30	-2219145.09	-2219144.88	0.0089	0.0017
Neptune	-10789-12-05 22:33 J	-2218919.76	-2218919.56	-2218919.35	0.0089	0.0026
Neptune	-10788-07-19 11:16 J	-2218694.22	-2218694.03	-2218693.82	0.0089	0.0035
Neptune	-10787-03-02 00:00 J	-2218468.68	-2218468.50	-2218468.30	0.0089	0.0044
Neptune	-10787-10-13 12:28 J	-2218243.13	-2218242.98	-2218242.78	0.0089	0.0053
Mars	-10787-11-29 10:19 J	-2218196.24	-2218196.07	-2218195.90	0.1720	0.0154
Neptune	-10786-05-27 01:26 J	-2218017.58	-2218017.44	-2218017.27	0.0089	0.0062
Jupiter	-10786-06-10 20:24 J	-2218002.75	-2218002.65	-2218002.54	0.0509	0.0429
Neptune	-10785-01-07 14:09 J	-2217792.03	-2217791.91	-2217791.76	0.0089	0.0070
Jupiter	-10785-02-02 05:16 J	-2217766.46	-2217766.28	-2217766.11	0.0505	0.0249
Neptune	-10785-08-20 02:38 J	-2217566.46	-2217566.39	-2217566.27	0.0089	0.0079
Saturn	-10784-03-24 23:02 J	-2217349.74	-2217349.54	-2217349.34	0.0293	0.0074
Neptune	-10784-04-02 15:35 J	-2217340.88	-2217340.85	-2217340.80	0.0089	0.0087
Saturn	-10784-11-09 17:45 J	-2217119.93	-2217119.76	-2217119.58	0.0290	0.0152

Mars	-10782-07-15 04:04 J	-2216507.50	-2216507.33	-2216507.17	0.1795	0.0607
Jupiter	-10780-12-02 02:52 J	-2215636.58	-2215636.38	-2215636.17	0.0519	0.0052
Uranus	-10777-05-12 08:38 J	-2214744.20	-2214744.14	-2214744.06	0.0134	0.0126
Uranus	-10777-12-24 15:07 J	-2214518.02	-2214517.87	-2214517.69	0.0134	0.0089
Uranus	-10776-08-07 21:35 J	-2214291.79	-2214291.60	-2214291.39	0.0133	0.0052
Uranus	-10775-03-22 04:04 J	-2214065.55	-2214065.33	-2214065.11	0.0133	0.0014
Uranus	-10775-11-03 10:19 J	-2213839.29	-2213839.07	-2213838.85	0.0133	0.0023
Uranus	-10774-06-17 16:04 J	-2213613.02	-2213612.83	-2213612.62	0.0133	0.0060
Jupiter	-10774-10-08 06:57 J	-2213500.41	-2213500.21	-2213500.01	0.0506	0.0065
Uranus	-10773-01-29 22:19 J	-2213386.72	-2213386.57	-2213386.41	0.0133	0.0096
Uranus	-10773-09-12 04:04 J	-2213160.33	-2213160.33	-2213160.31	0.0133	0.0132
Saturn	-10769-11-26 14:09 J	-2211624.05	-2211623.91	-2211623.75	0.0267	0.0192
Saturn	-10768-07-13 19:40 J	-2211394.89	-2211394.68	-2211394.46	0.0270	0.0013
Jupiter	-10768-08-06 19:55 J	-2211370.84	-2211370.67	-2211370.49	0.0518	0.0259
Saturn	-10767-02-28 03:21 J	-2211165.52	-2211165.36	-2211165.19	0.0273	0.0174
Jupiter	-10767-04-01 13:11 J	-2211132.99	-2211132.95	-2211132.89	0.0522	0.0503
Jupiter	-10762-06-13 07:55 J	-2209234.36	-2209234.17	-2209233.97	0.0507	0.0124
Jupiter	-10756-04-11 12:57 J	-2207105.05	-2207104.96	-2207104.87	0.0516	0.0463
Jupiter	-10756-12-05 04:33 J	-2206867.48	-2206867.31	-2206867.13	0.0521	0.0292
Saturn	-10755-02-17 03:35 J	-2206793.40	-2206793.35	-2206793.29	0.0296	0.0284
Saturn	-10755-10-05 01:11 J	-2206563.66	-2206563.45	-2206563.24	0.0293	0.0050
Mars	-10755-11-28 12:28 J	-2206509.13	-2206508.98	-2206508.84	0.1731	0.0892
Saturn	-10754-05-22 19:40 J	-2206333.84	-2206333.68	-2206333.51	0.0290	0.0174
Mars	-10753-09-26 20:09 J	-2205840.77	-2205840.66	-2205840.55	0.1708	0.1263
Jupiter	-10750-02-16 09:21 J	-2204968.27	-2204968.11	-2204967.95	0.0509	0.0312
Jupiter	-10750-10-10 18:00 J	-2204731.89	-2204731.75	-2204731.61	0.0505	0.0366
Mars	-10748-05-11 20:24 J	-2204152.80	-2204152.65	-2204152.50	0.1810	0.0920
Moon	-10747-11-09 07:55 J	-2203606.22	-2203606.17	-2203606.11	0.2670	0.2513
Earth	-10747-11-09 09:50 J	-2203606.16	-2203606.09	-2203606.02	0.2677	0.2391 *
Jupiter	-10744-08-09 19:26 J	-2202601.89	-2202601.69	-2202601.49	0.0519	0.0076

Saturn	-10739-06-08 15:21 J	-2200838.01	-2200837.86	-2200837.69	0.0268	0.0171
Jupiter	-10739-10-22 10:19 J	-2200702.10	-2200702.07	-2200702.02	0.0510	0.0500
Moon	-10739-11-06 21:21 J	-2200686.75	-2200686.61	-2200686.48	0.2676	0.1450
Earth	-10739-11-07 02:24 J	-2200686.54	-2200686.40	-2200686.25	0.2679	0.0962 *
Saturn	-10738-01-23 21:07 J	-2200608.84	-2200608.62	-2200608.41	0.0271	0.0009
Jupiter	-10738-06-15 20:24 J	-2200465.84	-2200465.65	-2200465.46	0.0506	0.0183
Saturn	-10738-09-10 04:48 J	-2200379.44	-2200379.30	-2200379.15	0.0273	0.0196
Uranus	-10733-05-07 21:50 J	-2198677.70	-2198677.59	-2198677.45	0.0145	0.0117
Uranus	-10733-12-20 08:38 J	-2198451.31	-2198451.14	-2198450.94	0.0145	0.0071
Jupiter	-10732-04-14 12:28 J	-2198336.18	-2198335.98	-2198335.78	0.0518	0.0133
Uranus	-10732-08-03 19:55 J	-2198224.88	-2198224.67	-2198224.45	0.0145	0.0024
Uranus	-10731-03-18 06:57 J	-2197998.41	-2197998.21	-2197997.99	0.0146	0.0024
Uranus	-10731-10-30 18:00 J	-2197771.92	-2197771.75	-2197771.55	0.0146	0.0071
Uranus	-10730-06-14 05:16 J	-2197545.39	-2197545.28	-2197545.14	0.0146	0.0118
Jupiter	-10726-02-18 20:38 J	-2196199.84	-2196199.64	-2196199.44	0.0506	0.0008
Saturn	-10726-08-30 06:00 J	-2196007.33	-2196007.25	-2196007.14	0.0296	0.0259
Saturn	-10725-04-16 03:50 J	-2195777.55	-2195777.34	-2195777.13	0.0293	0.0024
Saturn	-10725-12-01 22:19 J	-2195547.72	-2195547.57	-2195547.42	0.0290	0.0200
Mars	-10721-09-25 20:38 J	-2194153.81	-2194153.64	-2194153.47	0.1717	0.0277
Jupiter	-10721-12-18 05:31 J	-2194070.43	-2194070.27	-2194070.12	0.0517	0.0341
Jupiter	-10720-08-12 22:33 J	-2193832.67	-2193832.56	-2193832.43	0.0522	0.0423
Mars	-10716-05-11 10:48 J	-2192465.22	-2192465.05	-2192464.88	0.1798	0.0428
Jupiter	-10715-10-24 22:04 J	-2191933.76	-2191933.58	-2191933.39	0.0507	0.0195
Jupiter	-10714-06-18 05:16 J	-2191697.34	-2191697.28	-2191697.22	0.0503	0.0475
Neptune	-10713-04-05 06:57 J	-2191405.29	-2191405.21	-2191405.12	0.0088	0.0080
Neptune	-10713-11-16 19:40 J	-2191179.78	-2191179.68	-2191179.53	0.0088	0.0072
Neptune	-10712-06-30 09:07 J	-2190954.26	-2190954.12	-2190953.95	0.0088	0.0063
Neptune	-10711-02-10 22:33 J	-2190728.73	-2190728.56	-2190728.39	0.0088	0.0054
Neptune	-10711-09-24 11:16 J	-2190503.20	-2190503.03	-2190502.82	0.0088	0.0046
Neptune	-10710-05-08 00:43 J	-2190277.66	-2190277.47	-2190277.26	0.0088	0.0037

Neptune	-10710-12-19 14:09 J	-2190052.11	-2190051.91	-2190051.69	0.0088	0.0028
Saturn	-10710-12-19 17:16 J	-2190051.96	-2190051.78	-2190051.60	0.0268	0.0151 *
Neptune	-10709-08-01 03:35 J	-2189826.57	-2189826.35	-2189826.13	0.0088	0.0019
Saturn	-10709-08-04 22:33 J	-2189822.77	-2189822.56	-2189822.34	0.0270	0.0029
Neptune	-10708-03-14 16:33 J	-2189601.02	-2189600.81	-2189600.58	0.0088	0.0011
Saturn	-10708-03-22 06:14 J	-2189593.36	-2189593.24	-2189593.10	0.0273	0.0216
Jupiter	-10708-04-17 15:07 J	-2189567.06	-2189566.87	-2189566.68	0.0520	0.0213
Neptune	-10708-10-26 06:00 J	-2189375.47	-2189375.25	-2189375.03	0.0088	0.0002
Neptune	-10707-06-08 19:11 J	-2189149.92	-2189149.70	-2189149.47	0.0088	0.0007
Neptune	-10706-01-20 08:24 J	-2188924.36	-2188924.15	-2188923.92	0.0088	0.0017
Neptune	-10706-09-02 21:35 J	-2188698.80	-2188698.60	-2188698.37	0.0088	0.0025
Neptune	-10705-04-15 10:48 J	-2188473.24	-2188473.05	-2188472.83	0.0088	0.0034
Neptune	-10705-11-27 00:14 J	-2188247.68	-2188247.49	-2188247.29	0.0088	0.0043
Neptune	-10704-07-10 13:26 J	-2188022.11	-2188021.94	-2188021.75	0.0088	0.0051
Neptune	-10703-02-21 02:38 J	-2187796.54	-2187796.39	-2187796.21	0.0088	0.0060
Jupiter	-10703-06-29 22:33 J	-2187667.69	-2187667.56	-2187667.43	0.0509	0.0385
Neptune	-10703-10-04 15:35 J	-2187570.96	-2187570.85	-2187570.69	0.0088	0.0070
Jupiter	-10702-02-21 07:11 J	-2187431.36	-2187431.20	-2187431.04	0.0505	0.0295
Neptune	-10702-05-18 05:16 J	-2187345.37	-2187345.28	-2187345.17	0.0088	0.0078
Neptune	-10702-12-29 18:28 J	-2187119.75	-2187119.73	-2187119.67	0.0088	0.0087
Jupiter	-10697-12-21 07:11 J	-2185301.41	-2185301.20	-2185301.00	0.0519	0.0005
Saturn	-10696-03-11 06:57 J	-2185221.32	-2185221.21	-2185221.08	0.0296	0.0238
Saturn	-10696-10-27 04:33 J	-2184991.52	-2184991.31	-2184991.10	0.0293	0.0004
Saturn	-10695-06-13 23:02 J	-2184761.67	-2184761.54	-2184761.41	0.0290	0.0220
Uranus	-10693-08-24 01:11 J	-2183959.57	-2183959.45	-2183959.30	0.0134	0.0105
Uranus	-10692-04-07 07:40 J	-2183733.36	-2183733.18	-2183732.97	0.0134	0.0068
Uranus	-10692-11-19 14:09 J	-2183507.12	-2183506.91	-2183506.69	0.0133	0.0030
Uranus	-10691-07-03 20:38 J	-2183280.86	-2183280.64	-2183280.42	0.0133	0.0007
Jupiter	-10691-10-27 09:21 J	-2183165.30	-2183165.11	-2183164.91	0.0506	0.0112
Uranus	-10690-02-15 02:38 J	-2183054.59	-2183054.39	-2183054.17	0.0133	0.0044

Uranus	-10690-09-29 08:38 J	-2182828.30	-2182828.14	-2182827.95	0.0133	0.0081
Uranus	-10689-05-12 14:52 J	-2182601.98	-2182601.88	-2182601.78	0.0133	0.0117
Mars	-10689-09-24 21:35 J	-2182466.75	-2182466.60	-2182466.44	0.1727	0.0750
Mars	-10687-07-25 06:28 J	-2181798.33	-2181798.23	-2181798.13	0.1705	0.1376
Jupiter	-10685-08-25 22:48 J	-2181035.74	-2181035.55	-2181035.36	0.0518	0.0212
Mars	-10684-05-10 22:48 J	-2180777.60	-2180777.55	-2180777.50	0.1787	0.1695
Mars	-10682-03-09 02:24 J	-2180110.54	-2180110.40	-2180110.26	0.1813	0.1124
Saturn	-10680-06-30 17:45 J	-2179265.94	-2179265.76	-2179265.56	0.0268	0.0131
Saturn	-10679-02-14 23:16 J	-2179036.73	-2179036.53	-2179036.31	0.0271	0.0051
Jupiter	-10679-07-02 11:31 J	-2178899.22	-2178899.02	-2178898.82	0.0507	0.0076
Saturn	-10679-10-02 06:57 J	-2178807.30	-2178807.21	-2178807.09	0.0273	0.0239
Jupiter	-10673-04-30 16:04 J	-2176769.95	-2176769.83	-2176769.71	0.0516	0.0417
Jupiter	-10673-12-24 08:09 J	-2176532.31	-2176532.16	-2176532.01	0.0521	0.0342
Jupiter	-10667-03-07 12:00 J	-2174633.17	-2174633.00	-2174632.83	0.0508	0.0267
Saturn	-10667-09-21 09:07 J	-2174435.26	-2174435.12	-2174434.97	0.0296	0.0213
Jupiter	-10667-10-29 19:26 J	-2174396.80	-2174396.69	-2174396.57	0.0504	0.0409
Saturn	-10666-05-09 06:28 J	-2174205.44	-2174205.23	-2174205.02	0.0293	0.0021
Saturn	-10666-12-25 00:57 J	-2173975.57	-2173975.46	-2173975.35	0.0290	0.0244
Jupiter	-10661-08-29 00:28 J	-2172266.68	-2172266.48	-2172266.28	0.0520	0.0131
Jupiter	-10656-11-10 12:57 J	-2170367.04	-2170366.96	-2170366.87	0.0509	0.0456
Jupiter	-10655-07-04 21:50 J	-2170130.77	-2170130.59	-2170130.41	0.0505	0.0226
Mars	-10655-07-24 06:00 J	-2170111.41	-2170111.25	-2170111.08	0.1714	0.0403
Saturn	-10650-01-10 19:26 J	-2168479.88	-2168479.69	-2168479.49	0.0268	0.0111
Mars	-10650-03-08 16:48 J	-2168422.97	-2168422.80	-2168422.62	0.1802	0.0235
Saturn	-10650-08-28 01:11 J	-2168250.66	-2168250.45	-2168250.25	0.0270	0.0070
Uranus	-10649-01-06 04:48 J	-2168119.36	-2168119.30	-2168119.25	0.0145	0.0139
Saturn	-10649-04-13 08:52 J	-2168021.19	-2168021.13	-2168021.06	0.0273	0.0257
Jupiter	-10649-05-03 17:31 J	-2168000.97	-2168000.77	-2168000.56	0.0519	0.0079
Moon	-10649-05-12 17:16 J	-2167991.95	-2167991.78	-2167991.61	0.2647	0.0650
Earth	-10649-05-12 17:45 J	-2167991.92	-2167991.76	-2167991.60	0.2654	0.0663 *

Uranus	-10649-08-19 15:35 J	-2167893.01	-2167892.85	-2167892.68	0.0145	0.0093
Uranus	-10648-04-03 02:09 J	-2167666.60	-2167666.41	-2167666.19	0.0145	0.0048
Uranus	-10648-11-15 13:26 J	-2167440.15	-2167439.94	-2167439.72	0.0145	0.0001
Uranus	-10647-06-30 00:28 J	-2167213.68	-2167213.48	-2167213.27	0.0146	0.0048
Uranus	-10646-02-11 11:45 J	-2166987.17	-2166987.01	-2166986.84	0.0146	0.0095
Uranus	-10646-09-25 23:02 J	-2166760.57	-2166760.54	-2166760.48	0.0146	0.0143
Jupiter	-10643-03-09 23:16 J	-2165864.73	-2165864.53	-2165864.33	0.0506	0.0041
Pluto	-10643-10-09 02:24 J	-2165651.53	-2165651.40	-2165651.21	0.0065	0.0044
Pluto	-10642-05-22 07:11 J	-2165426.42	-2165426.20	-2165425.99	0.0065	0.0009
Pluto	-10641-01-02 10:48 J	-2165201.23	-2165201.05	-2165200.83	0.0065	0.0026
Pluto	-10641-08-14 14:52 J	-2164975.92	-2164975.88	-2164975.77	0.0065	0.0062
Jupiter	-10637-01-07 10:19 J	-2163735.24	-2163735.07	-2163734.89	0.0517	0.0288
Saturn	-10637-04-02 09:50 J	-2163649.24	-2163649.09	-2163648.93	0.0296	0.0192
Jupiter	-10637-09-01 03:35 J	-2163497.43	-2163497.35	-2163497.27	0.0522	0.0478
Saturn	-10637-11-18 06:57 J	-2163419.41	-2163419.21	-2163419.00	0.0293	0.0042
Saturn	-10636-07-06 01:11 J	-2163189.52	-2163189.45	-2163189.36	0.0289	0.0264
Neptune	-10632-10-10 21:50 J	-2161631.63	-2161631.59	-2161631.52	0.0089	0.0086
Jupiter	-10632-11-13 00:43 J	-2161598.66	-2161598.47	-2161598.28	0.0508	0.0149
Neptune	-10631-05-24 11:02 J	-2161406.14	-2161406.04	-2161405.93	0.0089	0.0077
Neptune	-10630-01-04 23:31 J	-2161180.64	-2161180.52	-2161180.36	0.0089	0.0068
Neptune	-10630-08-18 12:28 J	-2160955.13	-2160954.98	-2160954.80	0.0089	0.0059
Neptune	-10629-03-31 01:11 J	-2160729.61	-2160729.45	-2160729.25	0.0089	0.0051
Neptune	-10629-11-11 14:09 J	-2160504.09	-2160503.91	-2160503.70	0.0089	0.0041
Neptune	-10628-06-25 03:07 J	-2160278.56	-2160278.37	-2160278.15	0.0089	0.0032
Neptune	-10627-02-05 15:50 J	-2160053.04	-2160052.84	-2160052.61	0.0089	0.0024
Neptune	-10627-09-19 04:48 J	-2159827.51	-2159827.30	-2159827.08	0.0089	0.0014
Neptune	-10626-05-02 17:31 J	-2159601.98	-2159601.77	-2159601.55	0.0089	0.0005
Jupiter	-10626-09-12 02:38 J	-2159469.44	-2159469.39	-2159469.33	0.0516	0.0495
Neptune	-10626-12-14 06:28 J	-2159376.45	-2159376.23	-2159376.02	0.0089	0.0004
Jupiter	-10625-05-06 18:14 J	-2159231.92	-2159231.74	-2159231.57	0.0520	0.0263

Neptune	-10625-07-26 19:11 J	-2159150.91	-2159150.70	-2159150.48	0.0089	0.0013
Neptune	-10624-03-09 07:40 J	-2158925.38	-2158925.18	-2158924.96	0.0089	0.0022
Neptune	-10624-10-20 20:24 J	-2158699.84	-2158699.65	-2158699.44	0.0089	0.0031
Neptune	-10623-06-03 09:07 J	-2158474.30	-2158474.12	-2158473.91	0.0089	0.0040
Mars	-10623-07-23 06:57 J	-2158424.37	-2158424.21	-2158424.05	0.1724	0.0612
Neptune	-10622-01-14 21:35 J	-2158248.76	-2158248.60	-2158248.40	0.0089	0.0050
Neptune	-10622-08-28 10:19 J	-2158023.21	-2158023.07	-2158022.88	0.0089	0.0058
Saturn	-10622-12-06 17:02 J	-2157922.81	-2157922.79	-2157922.77	0.0266	0.0264
Neptune	-10621-04-09 23:31 J	-2157797.66	-2157797.52	-2157797.37	0.0089	0.0066
Mars	-10621-05-21 16:33 J	-2157755.89	-2157755.81	-2157755.73	0.1702	0.1490
Saturn	-10621-07-22 20:24 J	-2157693.85	-2157693.65	-2157693.44	0.0268	0.0091
Neptune	-10621-11-21 12:00 J	-2157572.10	-2157572.00	-2157571.87	0.0089	0.0075
Saturn	-10620-03-09 02:09 J	-2157464.61	-2157464.41	-2157464.21	0.0271	0.0091
Neptune	-10620-07-05 00:43 J	-2157346.52	-2157346.47	-2157346.38	0.0089	0.0084
Jupiter	-10620-07-19 02:09 J	-2157332.55	-2157332.41	-2157332.25	0.0509	0.0338
Jupiter	-10619-03-12 11:02 J	-2157096.19	-2157096.04	-2157095.90	0.0505	0.0345
Mars	-10618-03-08 05:16 J	-2156735.37	-2156735.28	-2156735.18	0.1791	0.1521
Mars	-10616-01-03 07:40 J	-2156068.29	-2156068.18	-2156068.06	0.1817	0.1341
Jupiter	-10613-01-10 10:33 J	-2154966.26	-2154966.06	-2154965.85	0.0519	0.0052
Uranus	-10609-04-23 11:31 J	-2153401.10	-2153401.02	-2153400.91	0.0134	0.0121
Uranus	-10609-12-05 18:00 J	-2153174.90	-2153174.75	-2153174.56	0.0134	0.0084
Uranus	-10608-07-20 00:43 J	-2152948.67	-2152948.47	-2152948.26	0.0134	0.0046
Saturn	-10608-10-13 11:16 J	-2152863.20	-2152863.03	-2152862.86	0.0295	0.0169
Jupiter	-10608-11-15 12:00 J	-2152830.19	-2152830.00	-2152829.81	0.0505	0.0158
Uranus	-10607-03-03 07:11 J	-2152722.42	-2152722.20	-2152721.97	0.0133	0.0009
Saturn	-10607-05-31 08:24 J	-2152633.35	-2152633.15	-2152632.94	0.0292	0.0064
Uranus	-10607-10-15 13:26 J	-2152496.15	-2152495.94	-2152495.72	0.0133	0.0029
Saturn	-10606-01-16 02:38 J	-2152403.42	-2152403.39	-2152403.36	0.0289	0.0286
Uranus	-10606-05-29 19:26 J	-2152269.87	-2152269.69	-2152269.49	0.0133	0.0066
Uranus	-10605-01-11 01:40 J	-2152043.56	-2152043.43	-2152043.29	0.0133	0.0102

Jupiter	-10602-09-15 02:52 J	-2150700.58	-2150700.38	-2150700.19	0.0519	0.0162
Jupiter	-10596-07-21 14:09 J	-2148564.11	-2148563.91	-2148563.71	0.0506	0.0031
Saturn	-10592-06-17 18:43 J	-2147136.80	-2147136.72	-2147136.64	0.0266	0.0245
Saturn	-10591-02-01 22:19 J	-2146907.78	-2146907.57	-2146907.36	0.0268	0.0071
Mars	-10591-07-22 08:52 J	-2146737.17	-2146737.13	-2146737.08	0.1734	0.1668
Saturn	-10591-09-19 03:50 J	-2146678.53	-2146678.34	-2146678.14	0.0270	0.0111
Jupiter	-10590-05-20 20:24 J	-2146434.80	-2146434.65	-2146434.51	0.0517	0.0368
Jupiter	-10589-01-13 13:26 J	-2146197.07	-2146196.94	-2146196.81	0.0522	0.0400
Mars	-10589-05-20 16:33 J	-2146068.97	-2146068.81	-2146068.65	0.1711	0.0518
Mars	-10584-01-02 23:02 J	-2144380.72	-2144380.54	-2144380.36	0.1806	0.0040
Jupiter	-10584-03-26 14:38 J	-2144298.07	-2144297.89	-2144297.71	0.0508	0.0220
Jupiter	-10584-11-17 22:04 J	-2144061.66	-2144061.58	-2144061.50	0.0504	0.0457
Saturn	-10578-04-25 12:14 J	-2142077.17	-2142076.99	-2142076.81	0.0295	0.0147
Jupiter	-10578-09-18 05:31 J	-2141931.46	-2141931.27	-2141931.08	0.0520	0.0187
Saturn	-10578-12-11 09:07 J	-2141847.32	-2141847.12	-2141846.92	0.0292	0.0086
Jupiter	-10573-11-29 15:07 J	-2140031.98	-2140031.87	-2140031.74	0.0509	0.0412
Jupiter	-10572-07-24 00:14 J	-2139795.65	-2139795.49	-2139795.32	0.0505	0.0276
Jupiter	-10566-05-23 20:38 J	-2137665.85	-2137665.64	-2137665.44	0.0519	0.0030
Uranus	-10565-04-19 00:57 J	-2137334.58	-2137334.46	-2137334.31	0.0145	0.0112
Uranus	-10565-12-01 11:45 J	-2137108.19	-2137108.01	-2137107.81	0.0145	0.0066
Uranus	-10564-07-15 23:02 J	-2136881.75	-2136881.54	-2136881.33	0.0145	0.0019
Uranus	-10563-02-27 10:04 J	-2136655.29	-2136655.08	-2136654.87	0.0145	0.0029
Uranus	-10563-10-11 21:21 J	-2136428.79	-2136428.61	-2136428.43	0.0146	0.0076
Saturn	-10563-12-28 19:55 J	-2136350.78	-2136350.67	-2136350.56	0.0266	0.0225
Uranus	-10562-05-26 08:24 J	-2136202.25	-2136202.15	-2136202.02	0.0146	0.0124
Saturn	-10562-08-14 23:31 J	-2136121.73	-2136121.52	-2136121.30	0.0268	0.0050
Saturn	-10561-03-31 05:31 J	-2135892.46	-2135892.27	-2135892.08	0.0271	0.0133
Jupiter	-10560-03-29 02:38 J	-2135529.59	-2135529.39	-2135529.19	0.0506	0.0089
Mars	-10557-05-19 17:02 J	-2134381.96	-2134381.79	-2134381.63	0.1721	0.0485
Mars	-10555-03-19 03:21 J	-2133713.42	-2133713.36	-2133713.30	0.1699	0.1594

Pluto	-10554-01-19 13:40 J	-2133407.09	-2133406.93	-2133406.75	0.0079	0.0050
Jupiter	-10554-01-26 13:11 J	-2133400.12	-2133399.95	-2133399.76	0.0518	0.0241
Pluto	-10554-09-02 00:28 J	-2133181.69	-2133181.48	-2133181.25	0.0079	0.0016
Mars	-10552-01-02 12:00 J	-2132693.12	-2132693.00	-2132692.89	0.1794	0.1342
Mars	-10551-10-31 13:55 J	-2132026.01	-2132025.92	-2132025.83	0.1820	0.1549
Neptune	-10549-07-07 14:38 J	-2131410.91	-2131410.89	-2131410.83	0.0088	0.0086
Saturn	-10549-11-04 14:24 J	-2131291.09	-2131290.90	-2131290.71	0.0295	0.0124
Jupiter	-10549-12-02 03:50 J	-2131263.54	-2131263.34	-2131263.14	0.0507	0.0101
Neptune	-10548-02-18 04:04 J	-2131185.43	-2131185.33	-2131185.23	0.0088	0.0078
Saturn	-10548-06-22 11:16 J	-2131061.22	-2131061.03	-2131060.84	0.0292	0.0109
Neptune	-10548-10-01 16:33 J	-2130959.92	-2130959.81	-2130959.65	0.0088	0.0069
Neptune	-10547-05-15 06:00 J	-2130734.40	-2130734.25	-2130734.08	0.0088	0.0060
Neptune	-10547-12-26 19:26 J	-2130508.87	-2130508.69	-2130508.51	0.0088	0.0051
Neptune	-10546-08-09 08:38 J	-2130283.33	-2130283.14	-2130282.94	0.0088	0.0043
Neptune	-10545-03-21 21:35 J	-2130057.79	-2130057.60	-2130057.38	0.0088	0.0034
Neptune	-10545-11-02 10:48 J	-2129832.25	-2129832.05	-2129831.83	0.0088	0.0025
Neptune	-10544-06-16 00:00 J	-2129606.71	-2129606.50	-2129606.27	0.0088	0.0016
Neptune	-10543-01-27 13:26 J	-2129381.16	-2129380.94	-2129380.71	0.0088	0.0007
Neptune	-10543-09-10 02:52 J	-2129155.60	-2129155.38	-2129155.16	0.0088	0.0002
Jupiter	-10543-10-01 05:16 J	-2129134.38	-2129134.28	-2129134.18	0.0517	0.0450
Neptune	-10542-04-23 16:04 J	-2128930.05	-2128929.83	-2128929.61	0.0088	0.0011
Jupiter	-10542-05-26 21:50 J	-2128896.75	-2128896.59	-2128896.42	0.0522	0.0317
Neptune	-10542-12-05 05:16 J	-2128704.49	-2128704.28	-2128704.06	0.0088	0.0020
Neptune	-10541-07-17 18:28 J	-2128478.93	-2128478.73	-2128478.51	0.0088	0.0029
Neptune	-10540-02-28 07:40 J	-2128253.37	-2128253.18	-2128252.97	0.0088	0.0038
Neptune	-10540-10-11 20:38 J	-2128027.81	-2128027.64	-2128027.43	0.0088	0.0048
Neptune	-10539-05-25 09:50 J	-2127802.24	-2127802.09	-2127801.89	0.0088	0.0057
Neptune	-10538-01-05 23:45 J	-2127576.66	-2127576.51	-2127576.36	0.0088	0.0065
Neptune	-10538-08-19 12:57 J	-2127351.07	-2127350.96	-2127350.83	0.0088	0.0074
Neptune	-10537-04-01 02:09 J	-2127125.48	-2127125.41	-2127125.32	0.0088	0.0082

Jupiter	-10537-08-07 05:31 J	-2126997.44	-2126997.27	-2126997.11	0.0508	0.0290
Jupiter	-10536-03-31 12:43 J	-2126761.09	-2126760.97	-2126760.84	0.0504	0.0391
Saturn	-10533-07-09 22:19 J	-2125564.69	-2125564.57	-2125564.42	0.0266	0.0205
Saturn	-10532-02-24 02:24 J	-2125335.62	-2125335.40	-2125335.19	0.0268	0.0029
Saturn	-10532-10-11 08:09 J	-2125106.33	-2125106.16	-2125105.98	0.0271	0.0155
Jupiter	-10530-01-29 14:38 J	-2124631.09	-2124630.89	-2124630.69	0.0520	0.0105
Jupiter	-10525-04-12 05:02 J	-2122731.35	-2122731.29	-2122731.23	0.0509	0.0483
Mars	-10525-05-18 18:28 J	-2122694.81	-2122694.73	-2122694.65	0.1731	0.1526
Uranus	-10525-08-05 05:16 J	-2122616.42	-2122616.28	-2122616.12	0.0134	0.0099
Jupiter	-10525-12-04 14:09 J	-2122495.10	-2122494.91	-2122494.73	0.0505	0.0205
Uranus	-10524-03-19 12:00 J	-2122390.19	-2122390.00	-2122389.80	0.0134	0.0061
Uranus	-10524-10-31 18:28 J	-2122163.95	-2122163.73	-2122163.51	0.0133	0.0023
Mars	-10523-03-18 02:24 J	-2122026.56	-2122026.40	-2122026.24	0.1708	0.0640
Uranus	-10523-06-15 00:43 J	-2121937.69	-2121937.47	-2121937.25	0.0133	0.0014
Uranus	-10522-01-27 06:57 J	-2121711.40	-2121711.21	-2121711.00	0.0133	0.0052
Uranus	-10522-09-10 13:11 J	-2121485.11	-2121484.95	-2121484.78	0.0133	0.0088
Uranus	-10521-04-23 18:57 J	-2121258.76	-2121258.71	-2121258.62	0.0133	0.0125
Saturn	-10519-05-17 15:50 J	-2120505.03	-2120504.84	-2120504.64	0.0295	0.0101
Jupiter	-10519-10-04 07:11 J	-2120365.40	-2120365.20	-2120365.00	0.0519	0.0108
Mars	-10519-10-31 05:02 J	-2120338.47	-2120338.29	-2120338.12	0.1809	0.0164
Saturn	-10518-01-02 12:14 J	-2120275.17	-2120274.99	-2120274.80	0.0292	0.0131
Jupiter	-10513-08-09 15:35 J	-2118229.05	-2118228.85	-2118228.65	0.0506	0.0018
Jupiter	-10507-06-08 22:48 J	-2116099.71	-2116099.55	-2116099.39	0.0517	0.0321
Jupiter	-10506-02-01 15:35 J	-2115861.95	-2115861.85	-2115861.74	0.0521	0.0449
Moon	-10504-11-09 12:00 J	-2114850.09	-2114850.00	-2114849.92	0.2686	0.2193
Earth	-10504-11-09 12:14 J	-2114850.04	-2114849.99	-2114849.94	0.2679	0.2511 *
Saturn	-10503-01-20 00:28 J	-2114778.63	-2114778.48	-2114778.32	0.0266	0.0183
Saturn	-10503-09-06 04:33 J	-2114549.53	-2114549.31	-2114549.10	0.0269	0.0006
Saturn	-10502-04-23 10:33 J	-2114320.21	-2114320.06	-2114319.89	0.0271	0.0179
Jupiter	-10501-04-14 17:02 J	-2113962.97	-2113962.79	-2113962.59	0.0508	0.0175

Earth	-10496-11-07 04:48 J	-2111930.45	-2111930.30	-2111930.15	0.2681	0.0864
Moon	-10496-11-07 08:24 J	-2111930.30	-2111930.15	-2111930.00	0.2686	0.0262 *
Jupiter	-10495-10-07 07:26 J	-2111596.37	-2111596.19	-2111596.01	0.0520	0.0235
Mars	-10491-03-17 02:24 J	-2110339.57	-2110339.40	-2110339.24	0.1718	0.0351
Saturn	-10490-11-27 18:57 J	-2109718.91	-2109718.71	-2109718.51	0.0294	0.0075
Jupiter	-10490-12-19 18:14 J	-2109696.88	-2109696.74	-2109696.60	0.0508	0.0364
Saturn	-10489-07-14 15:21 J	-2109489.04	-2109488.86	-2109488.68	0.0292	0.0156
Jupiter	-10489-08-12 02:24 J	-2109460.55	-2109460.40	-2109460.24	0.0504	0.0322
Mars	-10487-10-30 18:28 J	-2108650.87	-2108650.73	-2108650.60	0.1798	0.1158
Mars	-10485-08-27 18:43 J	-2107983.76	-2107983.72	-2107983.68	0.1824	0.1775
Jupiter	-10483-06-11 22:04 J	-2107330.78	-2107330.58	-2107330.37	0.0520	0.0018
Uranus	-10482-12-18 10:33 J	-2106776.15	-2106776.06	-2106775.97	0.0145	0.0131
Uranus	-10481-07-31 21:07 J	-2106549.78	-2106549.62	-2106549.43	0.0145	0.0085
Uranus	-10480-03-15 08:09 J	-2106323.36	-2106323.16	-2106322.94	0.0145	0.0039
Uranus	-10480-10-27 19:26 J	-2106096.91	-2106096.69	-2106096.48	0.0145	0.0009
Uranus	-10479-06-11 06:28 J	-2105870.42	-2105870.23	-2105870.03	0.0146	0.0057
Uranus	-10478-01-23 18:00 J	-2105643.90	-2105643.75	-2105643.60	0.0146	0.0104
Jupiter	-10477-04-17 04:33 J	-2105194.50	-2105194.31	-2105194.12	0.0505	0.0135
Saturn	-10474-08-02 03:50 J	-2103992.50	-2103992.34	-2103992.16	0.0266	0.0161
Saturn	-10473-03-18 08:09 J	-2103763.37	-2103763.16	-2103762.95	0.0269	0.0016
Saturn	-10473-11-02 14:24 J	-2103534.04	-2103533.90	-2103533.75	0.0271	0.0201
Jupiter	-10471-02-14 15:07 J	-2103065.06	-2103064.87	-2103064.67	0.0518	0.0193
Neptune	-10467-08-25 19:11 J	-2101411.77	-2101411.70	-2101411.62	0.0089	0.0083
Neptune	-10466-04-08 08:09 J	-2101186.28	-2101186.16	-2101186.04	0.0089	0.0074
Neptune	-10466-11-19 21:07 J	-2100960.77	-2100960.62	-2100960.47	0.0089	0.0065
Jupiter	-10466-12-22 04:48 J	-2100928.50	-2100928.30	-2100928.10	0.0507	0.0056
Neptune	-10465-07-02 10:04 J	-2100735.25	-2100735.08	-2100734.91	0.0089	0.0056
Neptune	-10464-02-12 22:48 J	-2100509.73	-2100509.55	-2100509.36	0.0089	0.0047
Neptune	-10464-09-26 11:45 J	-2100284.20	-2100284.01	-2100283.81	0.0089	0.0037
Neptune	-10463-05-10 00:28 J	-2100058.68	-2100058.48	-2100058.27	0.0089	0.0028

Neptune	-10463-12-21 13:26 J	-2099833.15	-2099832.94	-2099832.73	0.0089	0.0019
Neptune	-10462-08-04 02:09 J	-2099607.62	-2099607.41	-2099607.19	0.0089	0.0011
Neptune	-10461-03-16 15:07 J	-2099382.09	-2099381.87	-2099381.65	0.0089	0.0001
Saturn	-10461-10-21 23:02 J	-2099162.58	-2099162.54	-2099162.49	0.0297	0.0288
Neptune	-10461-10-28 03:50 J	-2099156.56	-2099156.34	-2099156.12	0.0089	0.0008
Saturn	-10460-06-08 22:04 J	-2098932.79	-2098932.58	-2098932.38	0.0295	0.0049
Neptune	-10460-06-10 16:33 J	-2098931.02	-2098930.81	-2098930.59	0.0089	0.0017
Jupiter	-10460-10-20 08:24 J	-2098799.28	-2098799.15	-2098799.02	0.0517	0.0401
Neptune	-10459-01-22 05:16 J	-2098705.48	-2098705.28	-2098705.07	0.0089	0.0026
Saturn	-10459-01-24 17:45 J	-2098702.91	-2098702.76	-2098702.59	0.0292	0.0182
Mars	-10459-03-16 03:50 J	-2098652.43	-2098652.34	-2098652.23	0.1728	0.1392
Jupiter	-10459-06-15 00:57 J	-2098561.60	-2098561.46	-2098561.31	0.0521	0.0370
Neptune	-10459-09-04 18:00 J	-2098479.95	-2098479.75	-2098479.55	0.0089	0.0035
Neptune	-10458-04-18 06:43 J	-2098254.41	-2098254.22	-2098254.03	0.0089	0.0044
Neptune	-10458-11-29 19:26 J	-2098028.86	-2098028.69	-2098028.51	0.0089	0.0053
Mars	-10457-01-13 12:43 J	-2097984.12	-2097983.97	-2097983.81	0.1705	0.0757
Neptune	-10457-07-12 08:09 J	-2097803.31	-2097803.16	-2097803.00	0.0089	0.0062
Neptune	-10456-02-22 20:52 J	-2097577.75	-2097577.63	-2097577.49	0.0089	0.0071
Neptune	-10456-10-06 09:21 J	-2097352.19	-2097352.11	-2097352.00	0.0089	0.0080
Neptune	-10455-05-19 22:19 J	-2097126.57	-2097126.57	-2097126.56	0.0089	0.0089
Jupiter	-10454-08-27 05:31 J	-2096662.44	-2096662.27	-2096662.09	0.0508	0.0249
Jupiter	-10453-04-19 13:12 J	-2096426.04	-2096425.95	-2096425.84	0.0504	0.0435
Mars	-10453-08-27 10:19 J	-2096296.24	-2096296.07	-2096295.89	0.1813	0.0375
Jupiter	-10447-02-17 15:50 J	-2094296.04	-2094295.84	-2094295.65	0.0520	0.0151
Saturn	-10444-02-11 06:57 J	-2093206.39	-2093206.21	-2093206.02	0.0267	0.0138
Saturn	-10444-09-28 11:31 J	-2092977.23	-2092977.02	-2092976.81	0.0269	0.0041
Saturn	-10443-05-15 17:45 J	-2092747.86	-2092747.76	-2092747.63	0.0272	0.0228
Jupiter	-10442-05-02 06:00 J	-2092396.34	-2092396.25	-2092396.15	0.0509	0.0442
Jupiter	-10442-12-24 15:21 J	-2092160.03	-2092159.86	-2092159.69	0.0505	0.0250
Uranus	-10441-04-04 17:31 J	-2092057.88	-2092057.77	-2092057.64	0.0134	0.0113

Uranus	-10441-11-17 00:14 J	-2091831.67	-2091831.49	-2091831.31	0.0134	0.0075
Uranus	-10440-07-01 06:43 J	-2091605.43	-2091605.22	-2091605.01	0.0133	0.0037
Uranus	-10439-02-12 13:12 J	-2091379.17	-2091378.95	-2091378.72	0.0133	0.0002
Uranus	-10439-09-26 19:26 J	-2091152.90	-2091152.69	-2091152.47	0.0133	0.0038
Uranus	-10438-05-11 01:40 J	-2090926.61	-2090926.43	-2090926.24	0.0133	0.0074
Uranus	-10438-12-23 07:40 J	-2090700.29	-2090700.18	-2090700.05	0.0133	0.0111
Jupiter	-10436-10-23 07:26 J	-2090030.39	-2090030.19	-2090029.98	0.0519	0.0065
Saturn	-10431-05-04 03:50 J	-2088376.44	-2088376.34	-2088376.24	0.0297	0.0260
Saturn	-10431-12-20 02:24 J	-2088146.61	-2088146.40	-2088146.19	0.0294	0.0022
Saturn	-10430-08-06 22:04 J	-2087916.72	-2087916.58	-2087916.43	0.0291	0.0207
Jupiter	-10430-08-29 17:16 J	-2087893.98	-2087893.78	-2087893.58	0.0506	0.0062
Mars	-10425-01-12 12:28 J	-2086297.15	-2086296.98	-2086296.80	0.1715	0.0233
Jupiter	-10424-06-27 21:50 J	-2085764.76	-2085764.59	-2085764.41	0.0518	0.0281
Jupiter	-10423-02-20 15:50 J	-2085526.90	-2085526.84	-2085526.77	0.0522	0.0496
Mars	-10421-08-27 00:43 J	-2084608.61	-2084608.47	-2084608.32	0.1801	0.0972
Jupiter	-10418-05-04 18:28 J	-2083627.92	-2083627.73	-2083627.53	0.0507	0.0129
Saturn	-10415-08-24 11:45 J	-2082420.20	-2082420.01	-2082419.81	0.0267	0.0114
Saturn	-10414-04-10 16:33 J	-2082191.02	-2082190.81	-2082190.60	0.0269	0.0066
Moon	-10414-05-15 22:47 J	-2082155.64	-2082155.55	-2082155.46	0.2656	0.2184
Saturn	-10414-11-25 23:02 J	-2081961.60	-2081961.54	-2081961.45	0.0272	0.0253
Jupiter	-10412-03-02 15:35 J	-2081498.92	-2081498.85	-2081498.79	0.0516	0.0487
Jupiter	-10412-10-26 07:40 J	-2081261.35	-2081261.18	-2081261.00	0.0521	0.0283
Jupiter	-10406-01-07 17:45 J	-2079361.91	-2079361.76	-2079361.60	0.0508	0.0324
Moon	-10406-05-13 15:50 J	-2079235.99	-2079235.84	-2079235.70	0.2658	0.0641
Earth	-10406-05-13 17:45 J	-2079235.91	-2079235.76	-2079235.60	0.2652	0.0639 *
Jupiter	-10406-09-01 01:55 J	-2079125.55	-2079125.42	-2079125.28	0.0504	0.0364
Saturn	-10402-11-14 08:38 J	-2077590.27	-2077590.14	-2077590.01	0.0297	0.0230
Saturn	-10401-07-01 06:57 J	-2077360.42	-2077360.21	-2077360.00	0.0294	0.0009
Saturn	-10400-02-16 02:09 J	-2077130.52	-2077130.41	-2077130.28	0.0291	0.0236
Jupiter	-10400-07-01 00:00 J	-2076995.71	-2076995.50	-2076995.30	0.0520	0.0068

Uranus	-10397-03-31 07:26 J	-2075991.32	-2075991.19	-2075991.03	0.0145	0.0104
Uranus	-10397-11-12 18:28 J	-2075764.92	-2075764.73	-2075764.53	0.0145	0.0057
Uranus	-10396-06-27 05:45 J	-2075538.48	-2075538.26	-2075538.05	0.0145	0.0010
Pluto	-10395-01-29 15:50 J	-2075321.89	-2075321.84	-2075321.72	0.0065	0.0060
Uranus	-10395-02-08 16:47 J	-2075312.00	-2075311.80	-2075311.59	0.0145	0.0038
Pluto	-10395-09-11 20:52 J	-2075096.83	-2075096.63	-2075096.43	0.0065	0.0025
Uranus	-10395-09-23 04:04 J	-2075085.49	-2075085.33	-2075085.15	0.0146	0.0086
Pluto	-10394-04-25 00:57 J	-2074871.68	-2074871.46	-2074871.24	0.0065	0.0009
Jupiter	-10394-05-07 03:07 J	-2074859.56	-2074859.37	-2074859.18	0.0505	0.0176
Uranus	-10394-05-07 15:21 J	-2074858.93	-2074858.86	-2074858.76	0.0146	0.0134
Pluto	-10394-12-06 04:47 J	-2074646.44	-2074646.30	-2074646.13	0.0065	0.0045
Mars	-10393-01-11 13:40 J	-2074610.05	-2074609.93	-2074609.82	0.1724	0.1256
Mars	-10392-11-09 23:02 J	-2073941.69	-2073941.54	-2073941.39	0.1702	0.0870
Jupiter	-10388-03-05 15:07 J	-2072730.07	-2072729.87	-2072729.67	0.0518	0.0151
Mars	-10387-06-24 15:50 J	-2072254.01	-2072253.84	-2072253.67	0.1816	0.0587
Saturn	-10386-07-20 12:57 J	-2071862.99	-2071862.96	-2071862.92	0.0265	0.0261
Saturn	-10385-03-05 16:04 J	-2071634.03	-2071633.83	-2071633.63	0.0268	0.0088
Saturn	-10385-10-20 20:52 J	-2071404.83	-2071404.63	-2071404.43	0.0270	0.0094
Neptune	-10384-05-22 11:31 J	-2071191.08	-2071191.02	-2071190.95	0.0088	0.0083
Neptune	-10383-01-03 00:14 J	-2070965.58	-2070965.49	-2070965.35	0.0088	0.0075
Neptune	-10383-08-16 13:26 J	-2070740.06	-2070739.94	-2070739.77	0.0088	0.0066
Jupiter	-10382-01-10 04:19 J	-2070593.52	-2070593.32	-2070593.12	0.0507	0.0018
Neptune	-10382-03-30 02:38 J	-2070514.54	-2070514.39	-2070514.20	0.0088	0.0057
Neptune	-10382-11-10 15:50 J	-2070289.01	-2070288.84	-2070288.64	0.0088	0.0048
Neptune	-10381-06-23 05:02 J	-2070063.48	-2070063.29	-2070063.08	0.0088	0.0039
Neptune	-10380-02-03 18:14 J	-2069837.94	-2069837.74	-2069837.52	0.0088	0.0030
Neptune	-10380-09-17 07:26 J	-2069612.40	-2069612.19	-2069611.97	0.0088	0.0021
Neptune	-10379-04-30 20:52 J	-2069386.85	-2069386.63	-2069386.41	0.0088	0.0012
Neptune	-10379-12-12 10:19 J	-2069161.30	-2069161.07	-2069160.85	0.0088	0.0003
Neptune	-10378-07-25 23:31 J	-2068935.74	-2068935.52	-2068935.30	0.0088	0.0006

Neptune	-10377-03-07 12:28 J	-2068710.19	-2068709.98	-2068709.75	0.0088	0.0016
Neptune	-10377-10-19 01:40 J	-2068484.63	-2068484.43	-2068484.21	0.0088	0.0024
Jupiter	-10377-11-08 06:57 J	-2068464.35	-2068464.21	-2068464.06	0.0517	0.0364
Neptune	-10376-06-01 14:52 J	-2068259.07	-2068258.88	-2068258.66	0.0088	0.0034
Jupiter	-10376-07-03 23:31 J	-2068226.64	-2068226.52	-2068226.39	0.0521	0.0410
Neptune	-10375-01-13 04:19 J	-2068033.50	-2068033.32	-2068033.11	0.0088	0.0042
Neptune	-10375-08-26 17:31 J	-2067807.93	-2067807.77	-2067807.57	0.0088	0.0052
Neptune	-10374-04-09 06:43 J	-2067582.36	-2067582.22	-2067582.04	0.0088	0.0061
Neptune	-10374-11-20 19:55 J	-2067356.79	-2067356.67	-2067356.51	0.0088	0.0070
Neptune	-10373-07-03 09:21 J	-2067131.20	-2067131.11	-2067131.00	0.0088	0.0078
Neptune	-10372-02-13 22:33 J	-2066905.57	-2066905.56	-2066905.51	0.0088	0.0087
Saturn	-10372-05-26 15:21 J	-2066804.01	-2066803.86	-2066803.70	0.0296	0.0198
Saturn	-10371-01-11 13:12 J	-2066574.16	-2066573.95	-2066573.74	0.0293	0.0039
Saturn	-10371-08-29 08:09 J	-2066344.24	-2066344.16	-2066344.07	0.0290	0.0264
Jupiter	-10371-09-15 06:00 J	-2066327.43	-2066327.25	-2066327.06	0.0508	0.0206
Jupiter	-10370-05-09 13:12 J	-2066091.00	-2066090.95	-2066090.88	0.0503	0.0478
Jupiter	-10364-03-08 13:12 J	-2063961.14	-2063960.95	-2063960.76	0.0521	0.0191
Mars	-10360-11-08 22:19 J	-2062254.74	-2062254.57	-2062254.40	0.1712	0.0105
Jupiter	-10359-05-21 06:43 J	-2062061.34	-2062061.22	-2062061.10	0.0509	0.0399
Jupiter	-10358-01-12 15:07 J	-2061825.03	-2061824.87	-2061824.71	0.0504	0.0293
Uranus	-10358-12-04 06:00 J	-2061499.31	-2061499.25	-2061499.18	0.0134	0.0127
Uranus	-10357-07-17 12:28 J	-2061273.13	-2061272.98	-2061272.80	0.0134	0.0090
Saturn	-10356-01-29 18:28 J	-2061076.82	-2061076.73	-2061076.63	0.0266	0.0236
Uranus	-10356-02-28 19:12 J	-2061046.89	-2061046.70	-2061046.49	0.0134	0.0052
Saturn	-10356-09-15 21:50 J	-2060847.80	-2060847.59	-2060847.38	0.0268	0.0061
Uranus	-10356-10-13 01:40 J	-2060820.64	-2060820.43	-2060820.20	0.0133	0.0014
Saturn	-10355-05-03 03:07 J	-2060618.56	-2060618.37	-2060618.17	0.0270	0.0121
Uranus	-10355-05-27 08:09 J	-2060594.38	-2060594.16	-2060593.94	0.0133	0.0024
Mars	-10355-06-24 06:28 J	-2060566.39	-2060566.23	-2060566.07	0.1805	0.0774
Uranus	-10354-01-08 14:09 J	-2060368.10	-2060367.91	-2060367.70	0.0133	0.0061

Uranus	-10354-08-22 20:24 J	-2060141.79	-2060141.65	-2060141.49	0.0133	0.0098
Jupiter	-10353-11-11 05:31 J	-2059695.48	-2059695.27	-2059695.07	0.0519	0.0026
Jupiter	-10347-09-17 15:07 J	-2057559.07	-2057558.87	-2057558.68	0.0506	0.0100
Saturn	-10343-12-06 21:50 J	-2056017.76	-2056017.59	-2056017.42	0.0296	0.0164
Saturn	-10342-07-24 19:26 J	-2055787.89	-2055787.69	-2055787.49	0.0293	0.0072
Jupiter	-10341-07-16 22:19 J	-2055429.75	-2055429.57	-2055429.39	0.0518	0.0238
Jupiter	-10335-05-23 15:21 J	-2053293.06	-2053292.86	-2053292.66	0.0507	0.0094
Jupiter	-10329-03-21 14:09 J	-2051164.01	-2051163.91	-2051163.81	0.0516	0.0450
Jupiter	-10329-11-14 05:45 J	-2050926.41	-2050926.26	-2050926.09	0.0521	0.0323
Mars	-10328-11-07 23:16 J	-2050567.66	-2050567.53	-2050567.40	0.1721	0.1126
Saturn	-10327-08-12 00:00 J	-2050290.63	-2050290.50	-2050290.36	0.0266	0.0209
Saturn	-10326-03-29 03:35 J	-2050061.56	-2050061.35	-2050061.13	0.0268	0.0033
Mars	-10326-09-07 09:07 J	-2049899.26	-2049899.12	-2049898.98	0.1700	0.0991
Saturn	-10326-11-13 09:07 J	-2049832.29	-2049832.12	-2049831.93	0.0271	0.0151
Jupiter	-10323-01-26 15:35 J	-2049027.01	-2049026.85	-2049026.68	0.0508	0.0290
Jupiter	-10323-09-20 00:00 J	-2048790.62	-2048790.50	-2048790.38	0.0504	0.0402
Mars	-10321-04-20 21:07 J	-2048211.78	-2048211.62	-2048211.46	0.1820	0.0803
Jupiter	-10317-07-19 20:38 J	-2046660.84	-2046660.64	-2046660.43	0.0520	0.0103
Uranus	-10314-11-29 15:07 J	-2045432.96	-2045432.87	-2045432.75	0.0145	0.0125
Saturn	-10313-06-18 06:14 J	-2045231.43	-2045231.24	-2045231.05	0.0295	0.0129
Uranus	-10313-07-13 02:09 J	-2045206.58	-2045206.41	-2045206.22	0.0145	0.0078
Saturn	-10312-02-03 03:07 J	-2045001.56	-2045001.37	-2045001.17	0.0292	0.0105
Uranus	-10312-02-24 13:12 J	-2044980.15	-2044979.95	-2044979.73	0.0145	0.0032
Jupiter	-10312-10-01 16:33 J	-2044760.87	-2044760.81	-2044760.74	0.0510	0.0481
Uranus	-10312-10-09 00:28 J	-2044753.69	-2044753.48	-2044753.26	0.0145	0.0016
Uranus	-10311-05-23 11:31 J	-2044527.20	-2044527.02	-2044526.82	0.0146	0.0065
Jupiter	-10311-05-26 01:55 J	-2044524.60	-2044524.42	-2044524.23	0.0505	0.0217
Uranus	-10310-01-04 23:02 J	-2044300.67	-2044300.54	-2044300.40	0.0146	0.0112
Pluto	-10307-05-12 01:26 J	-2043077.51	-2043077.44	-2043077.33	0.0080	0.0073
Pluto	-10307-12-23 12:43 J	-2042852.19	-2042851.97	-2042851.75	0.0079	0.0007

Pluto	-10306-08-05 23:02 J	-2042626.68	-2042626.54	-2042626.38	0.0079	0.0057
Jupiter	-10305-03-24 10:19 J	-2042395.27	-2042395.07	-2042394.87	0.0519	0.0119
Neptune	-10303-11-27 02:52 J	-2041417.38	-2041417.38	-2041417.35	0.0089	0.0089
Neptune	-10302-07-10 15:35 J	-2041191.92	-2041191.85	-2041191.73	0.0089	0.0081
Neptune	-10301-02-21 05:02 J	-2040966.41	-2040966.29	-2040966.15	0.0089	0.0071
Neptune	-10301-10-03 18:00 J	-2040740.90	-2040740.75	-2040740.59	0.0089	0.0062
Neptune	-10300-05-17 06:43 J	-2040515.38	-2040515.22	-2040515.03	0.0089	0.0053
Neptune	-10300-12-28 19:40 J	-2040289.86	-2040289.68	-2040289.48	0.0089	0.0043
Jupiter	-10299-01-29 03:21 J	-2040258.56	-2040258.36	-2040258.16	0.0506	0.0025
Neptune	-10299-08-11 08:38 J	-2040064.33	-2040064.14	-2040063.93	0.0089	0.0034
Neptune	-10298-03-24 21:35 J	-2039838.80	-2039838.60	-2039838.39	0.0089	0.0025
Neptune	-10298-11-05 10:33 J	-2039613.28	-2039613.06	-2039612.85	0.0089	0.0015
Saturn	-10297-02-22 06:14 J	-2039504.39	-2039504.24	-2039504.08	0.0266	0.0182
Neptune	-10297-06-17 23:16 J	-2039387.74	-2039387.53	-2039387.31	0.0089	0.0006
Saturn	-10297-10-08 10:19 J	-2039275.29	-2039275.07	-2039274.86	0.0268	0.0005
Neptune	-10296-01-29 12:14 J	-2039162.21	-2039161.99	-2039161.78	0.0089	0.0003
Saturn	-10296-05-25 16:04 J	-2039045.98	-2039045.83	-2039045.66	0.0271	0.0180
Neptune	-10296-09-12 00:43 J	-2038936.68	-2038936.47	-2038936.25	0.0089	0.0013
Neptune	-10295-04-25 13:26 J	-2038711.14	-2038710.94	-2038710.72	0.0089	0.0022
Neptune	-10295-12-07 01:55 J	-2038485.61	-2038485.42	-2038485.20	0.0089	0.0031
Neptune	-10294-07-20 14:52 J	-2038260.06	-2038259.88	-2038259.67	0.0089	0.0040
Mars	-10294-09-06 08:38 J	-2038212.31	-2038212.14	-2038211.97	0.1709	0.0018
Jupiter	-10294-11-28 02:52 J	-2038129.54	-2038129.38	-2038129.22	0.0517	0.0331
Neptune	-10293-03-02 03:35 J	-2038034.52	-2038034.35	-2038034.16	0.0089	0.0049
Jupiter	-10293-07-22 19:55 J	-2037891.76	-2037891.67	-2037891.56	0.0522	0.0450
Neptune	-10293-10-13 16:04 J	-2037808.98	-2037808.83	-2037808.65	0.0089	0.0058
Neptune	-10292-05-27 04:47 J	-2037583.42	-2037583.30	-2037583.14	0.0089	0.0067
Neptune	-10291-01-07 17:31 J	-2037357.86	-2037357.77	-2037357.64	0.0089	0.0076
Neptune	-10291-08-21 06:14 J	-2037132.28	-2037132.24	-2037132.16	0.0089	0.0085
Mars	-10289-04-20 12:57 J	-2036524.12	-2036523.96	-2036523.79	0.1808	0.0586

Jupiter	-10288-10-04 02:09 J	-2035992.60	-2035992.41	-2035992.22	0.0507	0.0174
Saturn	-10284-12-29 14:09 J	-2034445.10	-2034444.91	-2034444.71	0.0295	0.0092
Saturn	-10283-08-16 10:47 J	-2034215.22	-2034215.05	-2034214.86	0.0292	0.0142
Jupiter	-10281-03-27 12:00 J	-2033626.18	-2033626.00	-2033625.81	0.0521	0.0233
Jupiter	-10276-06-09 01:40 J	-2031726.57	-2031726.43	-2031726.29	0.0509	0.0371
Jupiter	-10275-01-31 10:04 J	-2031490.22	-2031490.08	-2031489.92	0.0504	0.0325
Uranus	-10273-03-17 00:57 J	-2030714.58	-2030714.46	-2030714.30	0.0134	0.0104
Uranus	-10273-10-29 07:55 J	-2030488.36	-2030488.17	-2030487.97	0.0134	0.0066
Uranus	-10272-06-12 14:09 J	-2030262.11	-2030261.91	-2030261.68	0.0133	0.0029
Uranus	-10271-01-24 20:52 J	-2030035.85	-2030035.63	-2030035.41	0.0133	0.0010
Uranus	-10271-09-08 03:07 J	-2029809.57	-2029809.37	-2029809.16	0.0133	0.0047
Uranus	-10270-04-22 09:21 J	-2029583.27	-2029583.11	-2029582.94	0.0133	0.0084
Jupiter	-10270-12-01 02:38 J	-2029360.60	-2029360.39	-2029360.18	0.0519	0.0012
Uranus	-10270-12-04 15:21 J	-2029356.94	-2029356.86	-2029356.76	0.0133	0.0121
Saturn	-10268-09-03 12:28 J	-2028718.14	-2028717.98	-2028717.79	0.0267	0.0154
Saturn	-10267-04-20 17:02 J	-2028489.01	-2028488.79	-2028488.58	0.0269	0.0026
Saturn	-10267-12-05 23:16 J	-2028259.66	-2028259.53	-2028259.39	0.0272	0.0212
Jupiter	-10264-10-06 11:16 J	-2027224.22	-2027224.03	-2027223.83	0.0506	0.0134
Mars	-10262-09-05 08:52 J	-2026525.27	-2026525.13	-2026524.99	0.1718	0.0988
Earth	-10261-11-09 14:38 J	-2026093.92	-2026093.89	-2026093.86	0.2680	0.2623
Mars	-10260-07-04 19:40 J	-2025856.81	-2025856.68	-2025856.55	0.1697	0.1099
Jupiter	-10258-08-05 17:45 J	-2025094.95	-2025094.76	-2025094.57	0.0518	0.0207
Mars	-10255-02-16 02:38 J	-2024169.53	-2024169.39	-2024169.24	0.1823	0.1017
Saturn	-10255-11-24 00:57 J	-2023888.48	-2023888.46	-2023888.43	0.0297	0.0294
Saturn	-10254-07-12 00:00 J	-2023658.70	-2023658.50	-2023658.29	0.0294	0.0055
Saturn	-10253-02-26 20:09 J	-2023428.82	-2023428.66	-2023428.49	0.0291	0.0177
Moon	-10253-11-07 05:16 J	-2023174.42	-2023174.28	-2023174.13	0.2676	0.1272
Earth	-10253-11-07 06:57 J	-2023174.36	-2023174.21	-2023174.06	0.2683	0.0769 *
Jupiter	-10252-06-11 12:57 J	-2022958.16	-2022957.96	-2022957.76	0.0507	0.0058
Jupiter	-10246-04-10 07:40 J	-2020829.29	-2020829.18	-2020829.06	0.0516	0.0424

Jupiter	-10246-12-03 23:45 J	-2020591.66	-2020591.51	-2020591.36	0.0521	0.0354
Jupiter	-10240-02-14 13:40 J	-2018692.10	-2018691.93	-2018691.75	0.0508	0.0253
Jupiter	-10240-10-08 21:21 J	-2018455.70	-2018455.61	-2018455.51	0.0504	0.0440
Saturn	-10238-03-16 19:55 J	-2017931.86	-2017931.67	-2017931.48	0.0267	0.0124
Saturn	-10238-11-01 00:28 J	-2017702.69	-2017702.48	-2017702.27	0.0269	0.0057
Saturn	-10237-06-17 07:12 J	-2017473.28	-2017473.20	-2017473.10	0.0272	0.0243
Jupiter	-10234-08-08 15:35 J	-2016326.05	-2016325.85	-2016325.65	0.0520	0.0136
Uranus	-10229-03-12 09:50 J	-2014648.24	-2014648.09	-2014647.93	0.0145	0.0100
Jupiter	-10229-10-20 11:31 J	-2014426.10	-2014426.02	-2014425.93	0.0509	0.0454
Uranus	-10229-10-24 20:38 J	-2014421.83	-2014421.64	-2014421.43	0.0145	0.0053
Uranus	-10228-06-08 07:55 J	-2014195.39	-2014195.17	-2014194.96	0.0145	0.0006
Jupiter	-10228-06-13 20:38 J	-2014189.81	-2014189.64	-2014189.46	0.0505	0.0246
Mars	-10228-07-03 18:43 J	-2014169.90	-2014169.72	-2014169.55	0.1706	0.0146
Uranus	-10227-01-20 18:57 J	-2013968.91	-2013968.71	-2013968.50	0.0145	0.0042
Uranus	-10227-09-04 06:14 J	-2013742.39	-2013742.24	-2013742.06	0.0146	0.0090
Uranus	-10226-04-18 17:31 J	-2013515.82	-2013515.77	-2013515.68	0.0146	0.0138
Saturn	-10225-06-05 10:33 J	-2013102.16	-2013102.06	-2013101.94	0.0297	0.0254
Saturn	-10224-01-21 09:21 J	-2012872.32	-2012872.11	-2012871.90	0.0294	0.0015
Saturn	-10224-09-08 05:02 J	-2012642.43	-2012642.29	-2012642.15	0.0291	0.0215
Mars	-10223-02-15 18:28 J	-2012481.90	-2012481.73	-2012481.55	0.1812	0.0385
Jupiter	-10222-04-13 08:09 J	-2012060.36	-2012060.16	-2012059.95	0.0519	0.0081
Neptune	-10219-04-06 07:40 J	-2010971.24	-2010971.18	-2010971.07	0.0088	0.0081
Neptune	-10219-11-17 20:52 J	-2010745.74	-2010745.63	-2010745.49	0.0088	0.0072
Neptune	-10218-07-01 09:50 J	-2010520.22	-2010520.09	-2010519.92	0.0088	0.0063
Neptune	-10217-02-11 23:02 J	-2010294.70	-2010294.54	-2010294.35	0.0088	0.0054
Neptune	-10217-09-24 12:00 J	-2010069.17	-2010069.00	-2010068.79	0.0088	0.0045
Jupiter	-10216-02-16 21:07 J	-2009923.82	-2009923.62	-2009923.42	0.0506	0.0051
Neptune	-10216-05-08 01:12 J	-2009843.64	-2009843.45	-2009843.23	0.0088	0.0036
Neptune	-10216-12-19 14:38 J	-2009618.09	-2009617.89	-2009617.67	0.0088	0.0027
Neptune	-10215-08-02 03:50 J	-2009392.55	-2009392.34	-2009392.12	0.0088	0.0018

Neptune	-10214-03-15 17:02 J	-2009167.01	-2009166.79	-2009166.57	0.0088	0.0009
Neptune	-10214-10-27 06:14 J	-2008941.46	-2008941.24	-2008941.02	0.0088	0.0001
Neptune	-10213-06-08 19:26 J	-2008715.91	-2008715.69	-2008715.47	0.0088	0.0010
Neptune	-10212-01-20 08:38 J	-2008490.35	-2008490.14	-2008489.91	0.0088	0.0019
Neptune	-10212-09-02 21:50 J	-2008264.79	-2008264.59	-2008264.37	0.0088	0.0028
Neptune	-10211-04-16 11:02 J	-2008039.23	-2008039.04	-2008038.82	0.0088	0.0038
Neptune	-10211-11-28 00:28 J	-2007813.66	-2007813.48	-2007813.28	0.0088	0.0046
Jupiter	-10211-12-16 23:45 J	-2007794.68	-2007794.51	-2007794.34	0.0517	0.0298
Neptune	-10210-07-11 13:55 J	-2007588.09	-2007587.92	-2007587.74	0.0088	0.0055
Jupiter	-10210-08-11 16:04 J	-2007556.89	-2007556.83	-2007556.75	0.0521	0.0485
Neptune	-10209-02-22 03:21 J	-2007362.51	-2007362.36	-2007362.21	0.0088	0.0065
Saturn	-10209-09-26 02:24 J	-2007145.59	-2007145.40	-2007145.19	0.0267	0.0095
Neptune	-10209-10-04 15:50 J	-2007136.93	-2007136.84	-2007136.69	0.0088	0.0075
Saturn	-10208-05-13 07:26 J	-2006916.39	-2006916.19	-2006915.98	0.0270	0.0088
Neptune	-10208-05-18 05:16 J	-2006911.33	-2006911.28	-2006911.18	0.0088	0.0083
Jupiter	-10205-10-22 21:07 J	-2005657.81	-2005657.62	-2005657.42	0.0508	0.0146
Jupiter	-10199-08-21 15:21 J	-2003528.88	-2003528.86	-2003528.83	0.0515	0.0510
Jupiter	-10198-04-16 06:28 J	-2003291.40	-2003291.23	-2003291.05	0.0520	0.0263
Mars	-10196-07-02 18:28 J	-2002482.87	-2002482.73	-2002482.58	0.1715	0.0858
Saturn	-10196-12-16 21:07 J	-2002315.76	-2002315.62	-2002315.47	0.0296	0.0215
Saturn	-10195-08-03 19:26 J	-2002085.90	-2002085.69	-2002085.48	0.0293	0.0023
Saturn	-10194-03-21 14:38 J	-2001855.99	-2001855.89	-2001855.78	0.0290	0.0250
Mars	-10194-05-02 06:14 J	-2001814.36	-2001814.24	-2001814.12	0.1694	0.1212
Jupiter	-10193-06-27 22:19 J	-2001391.72	-2001391.57	-2001391.42	0.0509	0.0339
Jupiter	-10192-02-19 06:57 J	-2001155.34	-2001155.21	-2001155.07	0.0504	0.0360
Mars	-10191-02-15 08:24 J	-2000794.20	-2000794.15	-2000794.10	0.1801	0.1709
Uranus	-10190-11-15 12:43 J	-2000156.06	-2000155.97	-2000155.86	0.0134	0.0119
Mars	-10190-12-14 07:40 J	-2000127.31	-2000127.18	-2000127.05	0.1827	0.1243
Uranus	-10189-06-28 19:26 J	-1999929.85	-1999929.69	-1999929.50	0.0134	0.0081
Uranus	-10188-02-10 02:24 J	-1999703.61	-1999703.40	-1999703.19	0.0134	0.0043

Uranus	-10188-09-24 08:52 J	-1999477.35	-1999477.13	-1999476.91	0.0133	0.0005
Uranus	-10187-05-08 15:21 J	-1999251.08	-1999250.86	-1999250.65	0.0133	0.0033
Jupiter	-10187-12-19 19:26 J	-1999025.89	-1999025.69	-1999025.48	0.0519	0.0038
Uranus	-10187-12-20 21:21 J	-1999024.79	-1999024.61	-1999024.41	0.0133	0.0070
Uranus	-10186-08-04 03:21 J	-1998798.47	-1998798.36	-1998798.22	0.0133	0.0107
Jupiter	-10181-10-25 08:24 J	-1996889.34	-1996889.15	-1996888.96	0.0506	0.0169
Saturn	-10180-08-22 06:28 J	-1996588.31	-1996588.23	-1996588.13	0.0266	0.0239
Saturn	-10179-04-08 09:50 J	-1996359.29	-1996359.09	-1996358.87	0.0268	0.0064
Saturn	-10179-11-23 15:07 J	-1996130.05	-1996129.87	-1996129.67	0.0270	0.0120
Jupiter	-10175-08-24 11:45 J	-1994760.20	-1994760.01	-1994759.81	0.0518	0.0178
Jupiter	-10169-06-30 06:57 J	-1992623.41	-1992623.21	-1992623.01	0.0507	0.0032
Saturn	-10166-06-29 07:40 J	-1991529.35	-1991529.18	-1991529.01	0.0296	0.0172
Saturn	-10165-02-14 05:16 J	-1991299.48	-1991299.28	-1991299.07	0.0293	0.0065
Saturn	-10165-10-01 00:00 J	-1991069.50	-1991069.50	-1991069.48	0.0290	0.0290
Jupiter	-10163-04-29 05:16 J	-1990494.41	-1990494.28	-1990494.15	0.0517	0.0391
Earth	-10163-05-13 18:00 J	-1990479.90	-1990479.75	-1990479.59	0.2650	0.0591
Moon	-10163-05-13 22:33 J	-1990479.72	-1990479.56	-1990479.39	0.2646	0.0484 *
Jupiter	-10163-12-22 21:35 J	-1990256.74	-1990256.60	-1990256.47	0.0521	0.0393
Mars	-10162-05-01 05:16 J	-1990127.45	-1990127.28	-1990127.11	0.1703	0.0255
Mars	-10158-12-14 00:28 J	-1988439.66	-1988439.48	-1988439.31	0.1816	0.0181
Jupiter	-10157-03-05 06:43 J	-1988357.40	-1988357.22	-1988357.04	0.0508	0.0230
Jupiter	-10157-10-27 14:24 J	-1988120.97	-1988120.90	-1988120.82	0.0504	0.0466
Jupiter	-10151-08-27 12:00 J	-1985991.19	-1985991.00	-1985990.80	0.0520	0.0171
Saturn	-10150-03-04 12:57 J	-1985802.08	-1985801.96	-1985801.82	0.0266	0.0210
Saturn	-10150-10-19 16:33 J	-1985573.02	-1985572.81	-1985572.59	0.0268	0.0034
Saturn	-10149-06-04 22:19 J	-1985343.75	-1985343.57	-1985343.39	0.0271	0.0150
Pluto	-10147-01-02 12:43 J	-1984767.14	-1984766.97	-1984766.77	0.0065	0.0033
Pluto	-10147-08-15 17:16 J	-1984542.00	-1984541.78	-1984541.56	0.0065	0.0002
Pluto	-10146-03-28 21:21 J	-1984316.78	-1984316.61	-1984316.42	0.0065	0.0037
Jupiter	-10146-11-09 05:45 J	-1984091.36	-1984091.26	-1984091.14	0.0510	0.0430

Uranus	-10146-11-10 16:19 J	-1984089.93	-1984089.82	-1984089.70	0.0145	0.0123
Uranus	-10145-06-24 03:07 J	-1983863.55	-1983863.37	-1983863.18	0.0145	0.0076
Jupiter	-10145-07-02 15:35 J	-1983855.02	-1983854.85	-1983854.69	0.0505	0.0275
Uranus	-10144-02-05 14:09 J	-1983637.12	-1983636.91	-1983636.70	0.0145	0.0029
Uranus	-10144-09-20 01:12 J	-1983410.66	-1983410.45	-1983410.23	0.0145	0.0019
Uranus	-10143-05-04 12:14 J	-1983184.17	-1983183.99	-1983183.79	0.0145	0.0066
Uranus	-10143-12-16 23:31 J	-1982957.64	-1982957.52	-1982957.38	0.0146	0.0114
Jupiter	-10139-05-02 02:52 J	-1981725.59	-1981725.38	-1981725.18	0.0518	0.0052
Neptune	-10138-10-11 23:16 J	-1981197.57	-1981197.53	-1981197.46	0.0089	0.0087
Neptune	-10137-05-24 12:14 J	-1980972.08	-1980971.99	-1980971.86	0.0089	0.0077
Neptune	-10136-01-05 00:57 J	-1980746.57	-1980746.46	-1980746.29	0.0089	0.0069
Saturn	-10136-01-08 18:00 J	-1980742.93	-1980742.75	-1980742.56	0.0295	0.0133
Neptune	-10136-08-18 14:24 J	-1980521.06	-1980520.90	-1980520.73	0.0089	0.0059
Saturn	-10136-08-26 15:21 J	-1980513.05	-1980512.86	-1980512.66	0.0292	0.0102
Neptune	-10135-04-01 03:07 J	-1980295.54	-1980295.37	-1980295.17	0.0089	0.0050
Neptune	-10135-11-12 16:04 J	-1980070.01	-1980069.83	-1980069.62	0.0089	0.0040
Neptune	-10134-06-26 05:16 J	-1979844.48	-1979844.28	-1979844.07	0.0089	0.0031
Neptune	-10133-02-06 18:14 J	-1979618.95	-1979618.74	-1979618.52	0.0089	0.0021
Jupiter	-10133-03-07 17:31 J	-1979588.97	-1979588.77	-1979588.58	0.0506	0.0086
Neptune	-10133-09-19 06:57 J	-1979393.42	-1979393.21	-1979392.98	0.0089	0.0012
Neptune	-10132-05-02 19:55 J	-1979167.88	-1979167.67	-1979167.45	0.0089	0.0003
Neptune	-10132-12-14 08:52 J	-1978942.35	-1978942.13	-1978941.91	0.0089	0.0007
Neptune	-10131-07-27 21:35 J	-1978716.81	-1978716.60	-1978716.38	0.0089	0.0017
Neptune	-10130-03-10 10:33 J	-1978491.27	-1978491.06	-1978490.85	0.0089	0.0026
Mars	-10130-04-30 04:47 J	-1978440.46	-1978440.30	-1978440.14	0.1712	0.0732
Neptune	-10130-10-21 23:02 J	-1978265.73	-1978265.54	-1978265.33	0.0089	0.0035
Neptune	-10129-06-03 11:45 J	-1978040.19	-1978040.01	-1978039.81	0.0089	0.0044
Neptune	-10128-01-15 00:43 J	-1977814.64	-1977814.47	-1977814.30	0.0089	0.0053
Mars	-10128-02-26 17:02 J	-1977771.89	-1977771.79	-1977771.68	0.1691	0.1315
Neptune	-10128-08-28 12:57 J	-1977589.09	-1977588.96	-1977588.78	0.0089	0.0063

Jupiter -10127-01-04 16:33 J -1977459.98 -1977459.81 -1977459.63 0.0517 0.0274
 Neptune -10127-04-11 01:40 J -1977363.54 -1977363.43 -1977363.28 0.0089 0.0072
 Jupiter -10127-08-30 09:07 J -1977222.15 -1977222.12 -1977222.08 0.0522 0.0513
 Neptune -10127-11-22 14:24 J -1977137.97 -1977137.90 -1977137.79 0.0089 0.0081
 Mars -10126-12-13 14:38 J -1976751.98 -1976751.89 -1976751.80 0.1804 0.1521
 Mars -10124-10-10 13:26 J -1976085.05 -1976084.94 -1976084.84 0.1830 0.1460
 Jupiter -10122-11-11 18:14 J -1975322.94 -1975322.74 -1975322.54 0.0508 0.0111
 Saturn -10121-09-13 19:40 J -1975015.83 -1975015.68 -1975015.52 0.0266 0.0181
 Saturn -10120-04-30 23:45 J -1974786.73 -1974786.51 -1974786.30 0.0269 0.0005
 Saturn -10120-12-16 05:31 J -1974557.41 -1974557.27 -1974557.10 0.0271 0.0182
 Jupiter -10116-09-09 09:35 J -1973194.17 -1973194.10 -1973194.03 0.0516 0.0485
 Jupiter -10115-05-05 00:43 J -1972956.63 -1972956.47 -1972956.30 0.0521 0.0295
 Jupiter -10110-07-17 16:04 J -1971056.98 -1971056.83 -1971056.66 0.0509 0.0316
 Jupiter -10109-03-10 00:43 J -1970820.60 -1970820.47 -1970820.34 0.0504 0.0386
 Saturn -10107-07-22 03:50 J -1969956.53 -1969956.34 -1969956.14 0.0295 0.0092
 Saturn -10106-03-09 00:43 J -1969726.65 -1969726.47 -1969726.28 0.0292 0.0142
 Uranus -10105-02-27 06:14 J -1969371.37 -1969371.24 -1969371.07 0.0134 0.0097
 Uranus -10105-10-10 13:12 J -1969145.14 -1969144.95 -1969144.74 0.0134 0.0059
 Uranus -10104-05-24 19:55 J -1968918.88 -1968918.67 -1968918.45 0.0134 0.0021
 Uranus -10103-01-06 02:38 J -1968692.61 -1968692.39 -1968692.17 0.0133 0.0018
 Jupiter -10103-01-07 17:31 J -1968690.97 -1968690.77 -1968690.57 0.0519 0.0076
 Uranus -10103-08-20 08:52 J -1968466.33 -1968466.13 -1968465.92 0.0133 0.0055
 Uranus -10102-04-03 15:21 J -1968240.02 -1968239.86 -1968239.71 0.0133 0.0093
 Uranus -10102-11-15 20:52 J -1968013.65 -1968013.63 -1968013.56 0.0133 0.0130
 Jupiter -10098-11-14 01:12 J -1966554.63 -1966554.45 -1966554.26 0.0505 0.0194
 Mars -10096-02-25 15:21 J -1966085.02 -1966084.86 -1966084.69 0.1700 0.0375
 Jupiter -10092-09-12 09:07 J -1964425.31 -1964425.12 -1964424.92 0.0518 0.0144
 Mars -10092-10-10 06:00 J -1964397.43 -1964397.25 -1964397.08 0.1819 0.0039
 Saturn -10091-03-27 01:26 J -1964229.61 -1964229.44 -1964229.26 0.0267 0.0154
 Saturn -10091-11-11 05:45 J -1964000.47 -1964000.26 -1964000.05 0.0269 0.0025

Saturn	-10090-06-28 11:45 J	-1963771.13	-1963771.01	-1963770.86	0.0271	0.0212
Jupiter	-10086-07-20 01:40 J	-1962288.63	-1962288.43	-1962288.22	0.0507	0.0010
Jupiter	-10080-05-18 00:43 J	-1960159.61	-1960159.47	-1960159.32	0.0516	0.0361
Jupiter	-10079-01-10 16:33 J	-1959921.93	-1959921.81	-1959921.69	0.0521	0.0424
Saturn	-10078-06-16 13:55 J	-1959399.93	-1959399.92	-1959399.89	0.0297	0.0296
Saturn	-10077-02-01 13:26 J	-1959170.15	-1959169.94	-1959169.74	0.0295	0.0055
Saturn	-10077-09-18 09:50 J	-1958940.25	-1958940.09	-1958939.92	0.0292	0.0178
Jupiter	-10074-03-25 02:52 J	-1958022.56	-1958022.38	-1958022.19	0.0508	0.0199
Jupiter	-10074-11-16 11:02 J	-1957786.05	-1957786.04	-1957786.01	0.0504	0.0501
Jupiter	-10068-09-15 05:45 J	-1955656.45	-1955656.26	-1955656.07	0.0520	0.0199
Mars	-10064-02-24 14:24 J	-1954398.06	-1954397.90	-1954397.74	0.1709	0.0603
Jupiter	-10063-11-28 03:21 J	-1953756.49	-1953756.36	-1953756.24	0.0510	0.0397
Mars	-10063-12-25 04:04 J	-1953729.43	-1953729.33	-1953729.24	0.1688	0.1421
Uranus	-10062-07-11 01:55 J	-1953531.45	-1953531.42	-1953531.38	0.0144	0.0142
Jupiter	-10062-07-22 12:43 J	-1953520.12	-1953519.97	-1953519.81	0.0505	0.0312
Saturn	-10062-10-07 07:12 J	-1953443.38	-1953443.20	-1953443.00	0.0267	0.0125
Uranus	-10061-02-22 12:28 J	-1953305.13	-1953304.98	-1953304.81	0.0145	0.0096
Saturn	-10061-05-23 11:45 J	-1953214.22	-1953214.01	-1953213.80	0.0269	0.0056
Uranus	-10061-10-05 23:16 J	-1953078.72	-1953078.53	-1953078.32	0.0145	0.0049
Saturn	-10060-01-07 18:28 J	-1952984.82	-1952984.73	-1952984.63	0.0272	0.0242
Uranus	-10060-05-20 10:19 J	-1952852.28	-1952852.07	-1952851.85	0.0145	0.0002
Mars	-10060-10-09 20:38 J	-1952709.75	-1952709.64	-1952709.52	0.1808	0.1330
Uranus	-10059-01-01 21:07 J	-1952625.81	-1952625.62	-1952625.40	0.0145	0.0047
Pluto	-10059-04-15 03:50 J	-1952522.55	-1952522.34	-1952522.12	0.0079	0.0020
Uranus	-10059-08-16 08:38 J	-1952399.30	-1952399.14	-1952398.97	0.0146	0.0094
Pluto	-10059-11-26 13:55 J	-1952297.08	-1952296.92	-1952296.71	0.0079	0.0045
Uranus	-10058-03-30 19:40 J	-1952172.72	-1952172.68	-1952172.62	0.0146	0.0142
Mars	-10058-08-07 17:45 J	-1952042.82	-1952042.76	-1952042.69	0.1834	0.1698
Jupiter	-10056-05-20 21:50 J	-1951390.79	-1951390.59	-1951390.38	0.0519	0.0021
Neptune	-10055-07-08 15:21 J	-1950976.87	-1950976.86	-1950976.81	0.0088	0.0087

Neptune	-10054-02-19 04:19 J	-1950751.40	-1950751.32	-1950751.20	0.0088	0.0078
Neptune	-10054-10-02 17:31 J	-1950525.89	-1950525.77	-1950525.62	0.0088	0.0069
Neptune	-10053-05-15 06:28 J	-1950300.38	-1950300.23	-1950300.05	0.0088	0.0060
Neptune	-10053-12-26 19:40 J	-1950074.84	-1950074.68	-1950074.48	0.0088	0.0051
Neptune	-10052-08-09 08:52 J	-1949849.31	-1949849.13	-1949848.92	0.0088	0.0042
Neptune	-10051-03-22 21:50 J	-1949623.78	-1949623.59	-1949623.37	0.0088	0.0033
Neptune	-10051-11-03 11:16 J	-1949398.25	-1949398.03	-1949397.82	0.0088	0.0023
Jupiter	-10050-03-27 11:45 J	-1949254.21	-1949254.01	-1949253.81	0.0506	0.0111
Neptune	-10050-06-17 00:14 J	-1949172.70	-1949172.49	-1949172.27	0.0088	0.0014
Neptune	-10049-01-28 13:26 J	-1948947.16	-1948946.94	-1948946.71	0.0088	0.0005
Neptune	-10049-09-10 02:38 J	-1948721.61	-1948721.39	-1948721.16	0.0088	0.0004
Saturn	-10049-12-26 23:31 J	-1948613.62	-1948613.52	-1948613.41	0.0297	0.0255
Neptune	-10048-04-23 15:50 J	-1948496.06	-1948495.84	-1948495.62	0.0088	0.0014
Saturn	-10048-08-13 22:33 J	-1948383.77	-1948383.56	-1948383.35	0.0295	0.0014
Neptune	-10048-12-05 04:47 J	-1948270.50	-1948270.30	-1948270.07	0.0088	0.0024
Saturn	-10047-03-31 18:43 J	-1948153.86	-1948153.72	-1948153.58	0.0292	0.0217
Neptune	-10047-07-18 18:14 J	-1948044.94	-1948044.74	-1948044.53	0.0088	0.0032
Neptune	-10046-03-01 07:26 J	-1947819.38	-1947819.19	-1947818.99	0.0088	0.0041
Neptune	-10046-10-12 20:52 J	-1947593.81	-1947593.63	-1947593.45	0.0088	0.0051
Neptune	-10045-05-25 09:35 J	-1947368.24	-1947368.10	-1947367.92	0.0088	0.0060
Neptune	-10044-01-05 23:02 J	-1947142.66	-1947142.54	-1947142.38	0.0088	0.0069
Jupiter	-10044-01-23 15:21 J	-1947125.04	-1947124.86	-1947124.68	0.0517	0.0237
Neptune	-10044-08-19 12:28 J	-1946917.06	-1946916.98	-1946916.86	0.0088	0.0078
Neptune	-10043-04-02 01:40 J	-1946691.44	-1946691.43	-1946691.38	0.0088	0.0088
Jupiter	-10039-11-30 12:00 J	-1944988.20	-1944988.00	-1944987.80	0.0507	0.0087
Jupiter	-10033-09-28 08:09 J	-1942859.26	-1942859.16	-1942859.06	0.0516	0.0450
Mars	-10032-02-23 15:07 J	-1942710.92	-1942710.87	-1942710.81	0.1719	0.1625
Saturn	-10032-04-18 12:28 J	-1942657.18	-1942656.98	-1942656.78	0.0267	0.0099
Jupiter	-10032-05-23 23:16 J	-1942621.68	-1942621.53	-1942621.37	0.0520	0.0334
Saturn	-10032-12-03 17:02 J	-1942427.99	-1942427.79	-1942427.58	0.0269	0.0082

Saturn	-10031-07-21 00:00 J	-1942198.53	-1942198.50	-1942198.48	0.0272	0.0269
Mars	-10031-12-24 02:09 J	-1942042.57	-1942042.41	-1942042.24	0.1697	0.0485
Jupiter	-10027-08-05 11:45 J	-1940722.17	-1940722.01	-1940721.84	0.0509	0.0287
Jupiter	-10026-03-29 20:38 J	-1940485.75	-1940485.64	-1940485.53	0.0505	0.0419
Mars	-10026-08-07 11:02 J	-1940355.22	-1940355.04	-1940354.87	0.1823	0.0250
Uranus	-10022-10-27 17:16 J	-1938812.88	-1938812.78	-1938812.64	0.0134	0.0113
Uranus	-10021-06-10 00:14 J	-1938586.66	-1938586.49	-1938586.29	0.0134	0.0074
Uranus	-10020-01-22 07:12 J	-1938360.41	-1938360.20	-1938359.98	0.0134	0.0036
Jupiter	-10020-01-26 14:09 J	-1938356.11	-1938355.91	-1938355.70	0.0519	0.0112
Uranus	-10020-09-05 13:55 J	-1938134.14	-1938133.92	-1938133.70	0.0134	0.0003
Uranus	-10019-04-19 20:24 J	-1937907.86	-1937907.65	-1937907.44	0.0133	0.0040
Saturn	-10019-07-09 07:12 J	-1937827.33	-1937827.20	-1937827.05	0.0297	0.0221
Uranus	-10019-12-02 02:24 J	-1937681.56	-1937681.40	-1937681.21	0.0133	0.0078
Saturn	-10018-02-24 06:00 J	-1937597.46	-1937597.25	-1937597.04	0.0294	0.0019
Uranus	-10018-07-16 08:38 J	-1937455.23	-1937455.14	-1937455.02	0.0133	0.0115
Saturn	-10018-10-12 01:40 J	-1937367.53	-1937367.43	-1937367.32	0.0291	0.0248
Moon	-10018-11-10 12:43 J	-1937338.02	-1937337.97	-1937337.92	0.2686	0.2486
Jupiter	-10015-04-10 12:14 J	-1936456.05	-1936455.99	-1936455.93	0.0510	0.0484
Jupiter	-10015-12-02 22:33 J	-1936219.73	-1936219.56	-1936219.38	0.0506	0.0230
Moon	-10010-11-08 08:38 J	-1934418.28	-1934418.14	-1934417.99	0.2691	0.0528
Earth	-10010-11-08 09:21 J	-1934418.26	-1934418.11	-1934417.96	0.2684	0.0683 *
Jupiter	-10009-10-01 04:33 J	-1934090.52	-1934090.31	-1934090.11	0.0518	0.0114
Saturn	-10003-03-14 14:24 J	-1932099.97	-1932099.90	-1932099.82	0.0265	0.0246
Jupiter	-10003-08-08 00:00 J	-1931953.70	-1931953.50	-1931953.29	0.0507	0.0036
Saturn	-10003-10-29 17:16 J	-1931870.99	-1931870.78	-1931870.58	0.0267	0.0071
Saturn	-10002-06-15 21:50 J	-1931641.78	-1931641.59	-1931641.39	0.0270	0.0111

10TH MILLENNIUM BCE

This is a list of transits of Venus in the 10th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-9999-12-23 01:12 J		-1930355.62	-1930355.45	-1930355.29	0.1706	0.0486	
Jupiter	-9997-06-05 21:07 J		-1929824.77	-1929824.62	-1929824.46	0.0516	0.0329	
Mars	-9997-10-21 15:07 J		-1929686.94	-1929686.87	-1929686.80	0.1686	0.1518	
Jupiter	-9996-01-29 13:26 J		-1929587.04	-1929586.94	-1929586.85	0.0521	0.0462	
Mars	-9994-08-07 02:38 J		-1928667.53	-1928667.39	-1928667.25	0.1811	0.1134	
Jupiter	-9991-04-12 22:47 J		-1927687.74	-1927687.55	-1927687.36	0.0508	0.0170	
Saturn	-9989-01-19 15:21 J		-1927041.02	-1927040.86	-1927040.69	0.0297	0.0183	
Saturn	-9989-09-05 13:40 J		-1926811.13	-1926810.93	-1926810.72	0.0294	0.0057	
Saturn	-9988-04-23 09:07 J		-1926581.15	-1926581.12	-1926581.07	0.0291	0.0285	
Jupiter	-9985-10-04 06:14 J		-1925321.42	-1925321.24	-1925321.06	0.0520	0.0243	
Jupiter	-9980-12-16 22:47 J		-1923421.69	-1923421.55	-1923421.41	0.0509	0.0369	
Jupiter	-9979-08-10 07:55 J		-1923185.32	-1923185.17	-1923185.02	0.0505	0.0340	
Uranus	-9978-10-22 22:04 J		-1922746.69	-1922746.58	-1922746.43	0.0144	0.0115	
Uranus	-9977-06-05 08:52 J		-1922520.31	-1922520.13	-1922519.93	0.0145	0.0068	
Uranus	-9976-01-17 19:55 J		-1922293.88	-1922293.67	-1922293.46	0.0145	0.0021	
Uranus	-9976-09-01 06:57 J		-1922067.42	-1922067.21	-1922067.00	0.0145	0.0027	
Uranus	-9975-04-15 18:00 J		-1921840.93	-1921840.75	-1921840.56	0.0145	0.0075	
Uranus	-9975-11-28 04:47 J		-1921614.40	-1921614.30	-1921614.17	0.0146	0.0123	
Saturn	-9974-09-24 17:45 J		-1921313.86	-1921313.76	-1921313.64	0.0265	0.0223	
Saturn	-9973-05-10 20:52 J		-1921084.84	-1921084.63	-1921084.42	0.0267	0.0047	
Jupiter	-9973-06-08 22:04 J		-1921055.78	-1921055.58	-1921055.37	0.0519	0.0022	
Neptune	-9973-08-25 19:40 J		-1920977.74	-1920977.68	-1920977.59	0.0089	0.0084	

Saturn	-9973-12-26 01:55 J	-1920855.60	-1920855.42	-1920855.23	0.0270	0.0135
Neptune	-9972-04-08 08:24 J	-1920752.25	-1920752.15	-1920752.01	0.0089	0.0075
Neptune	-9972-11-19 21:21 J	-1920526.74	-1920526.61	-1920526.44	0.0089	0.0065
Neptune	-9971-07-03 10:47 J	-1920301.22	-1920301.05	-1920300.88	0.0089	0.0056
Neptune	-9970-02-13 23:31 J	-1920075.69	-1920075.52	-1920075.32	0.0089	0.0046
Neptune	-9970-09-27 12:43 J	-1919850.17	-1919849.97	-1919849.77	0.0089	0.0037
Neptune	-9969-05-10 01:26 J	-1919624.64	-1919624.44	-1919624.23	0.0089	0.0027
Neptune	-9969-12-21 14:24 J	-1919399.11	-1919398.90	-1919398.68	0.0089	0.0018
Neptune	-9968-08-04 03:21 J	-1919173.57	-1919173.36	-1919173.14	0.0089	0.0009
Neptune	-9967-03-17 16:19 J	-1918948.04	-1918947.82	-1918947.60	0.0089	0.0002
Jupiter	-9967-04-15 08:52 J	-1918919.33	-1918919.13	-1918918.94	0.0506	0.0146
Neptune	-9967-10-29 05:02 J	-1918722.50	-1918722.29	-1918722.07	0.0089	0.0011
Mars	-9967-12-22 01:12 J	-1918668.53	-1918668.45	-1918668.37	0.1716	0.1493
Neptune	-9966-06-11 18:00 J	-1918496.96	-1918496.75	-1918496.53	0.0089	0.0020
Neptune	-9965-01-23 06:28 J	-1918271.42	-1918271.23	-1918271.01	0.0089	0.0031
Neptune	-9965-09-04 19:26 J	-1918045.88	-1918045.69	-1918045.48	0.0089	0.0039
Mars	-9965-10-20 12:43 J	-1918000.13	-1917999.97	-1917999.81	0.1694	0.0596
Neptune	-9964-04-18 08:24 J	-1917820.33	-1917820.15	-1917819.97	0.0089	0.0049
Neptune	-9964-11-29 20:38 J	-1917594.78	-1917594.64	-1917594.45	0.0089	0.0059
Neptune	-9963-07-13 09:35 J	-1917369.22	-1917369.10	-1917368.94	0.0089	0.0068
Neptune	-9962-02-23 22:33 J	-1917143.66	-1917143.56	-1917143.44	0.0089	0.0077
Neptune	-9962-10-07 10:47 J	-1916918.08	-1916918.05	-1916917.97	0.0089	0.0086
Jupiter	-9961-02-12 14:09 J	-1916790.10	-1916789.91	-1916789.72	0.0517	0.0198
Mars	-9960-06-03 16:04 J	-1916313.00	-1916312.83	-1916312.66	0.1827	0.0475
Saturn	-9960-07-31 21:21 J	-1916254.78	-1916254.61	-1916254.43	0.0296	0.0152
Saturn	-9959-03-18 19:40 J	-1916024.88	-1916024.68	-1916024.48	0.0294	0.0087
Jupiter	-9956-12-19 10:19 J	-1914653.27	-1914653.07	-1914652.87	0.0508	0.0050
Jupiter	-9950-10-18 05:16 J	-1912524.40	-1912524.28	-1912524.16	0.0516	0.0417
Jupiter	-9949-06-11 20:24 J	-1912286.79	-1912286.65	-1912286.51	0.0520	0.0371
Saturn	-9944-04-05 21:35 J	-1910527.74	-1910527.60	-1910527.46	0.0266	0.0198

Jupiter	-9944-08-24 11:16 J	-1910387.20	-1910387.03	-1910386.85	0.0509	0.0248
Saturn	-9944-11-21 00:28 J	-1910298.69	-1910298.48	-1910298.26	0.0268	0.0022
Jupiter	-9943-04-17 20:09 J	-1910150.74	-1910150.66	-1910150.58	0.0504	0.0460
Saturn	-9943-07-08 05:31 J	-1910069.44	-1910069.27	-1910069.09	0.0270	0.0161
Uranus	-9938-06-27 04:47 J	-1908254.35	-1908254.30	-1908254.22	0.0134	0.0128
Uranus	-9937-02-08 12:00 J	-1908028.15	-1908028.00	-1908027.82	0.0134	0.0089
Jupiter	-9937-02-15 12:43 J	-1908021.17	-1908020.97	-1908020.77	0.0519	0.0151
Uranus	-9937-09-21 19:12 J	-1907801.91	-1907801.70	-1907801.50	0.0134	0.0050
Uranus	-9936-05-06 01:40 J	-1907575.65	-1907575.43	-1907575.21	0.0134	0.0012
Uranus	-9936-12-18 08:09 J	-1907349.37	-1907349.16	-1907348.94	0.0134	0.0026
Uranus	-9935-08-01 14:38 J	-1907123.08	-1907122.89	-1907122.69	0.0133	0.0064
Uranus	-9934-03-15 20:52 J	-1906896.76	-1906896.63	-1906896.48	0.0133	0.0101
Mars	-9933-10-19 11:16 J	-1906313.20	-1906313.03	-1906312.86	0.1703	0.0364
Jupiter	-9932-04-29 09:50 J	-1906121.17	-1906121.09	-1906120.99	0.0510	0.0452
Jupiter	-9932-12-21 19:40 J	-1905884.85	-1905884.68	-1905884.51	0.0505	0.0262
Mars	-9931-08-19 01:40 J	-1905644.47	-1905644.43	-1905644.38	0.1683	0.1625
Saturn	-9930-02-11 03:35 J	-1905468.54	-1905468.35	-1905468.16	0.0296	0.0118
Saturn	-9930-09-29 01:26 J	-1905238.63	-1905238.44	-1905238.25	0.0293	0.0120
Mars	-9928-06-03 08:09 J	-1904625.31	-1904625.16	-1904625.01	0.1815	0.0928
Jupiter	-9926-10-21 05:45 J	-1903755.46	-1903755.26	-1903755.05	0.0518	0.0069
Moon	-9920-05-13 12:57 J	-1901724.11	-1901723.96	-1901723.81	0.2651	0.0838
Earth	-9920-05-13 18:28 J	-1901723.89	-1901723.73	-1901723.57	0.2649	0.0541 *
Jupiter	-9920-08-26 21:07 J	-1901618.82	-1901618.62	-1901618.42	0.0506	0.0067
Saturn	-9915-10-17 00:00 J	-1899741.66	-1899741.50	-1899741.34	0.0265	0.0176
Saturn	-9914-06-03 03:07 J	-1899512.59	-1899512.37	-1899512.16	0.0267	0.0001
Jupiter	-9914-06-25 22:47 J	-1899489.72	-1899489.55	-1899489.37	0.0517	0.0285
Saturn	-9913-01-18 08:09 J	-1899283.30	-1899283.16	-1899282.99	0.0270	0.0184
Jupiter	-9913-02-18 15:21 J	-1899251.89	-1899251.86	-1899251.82	0.0521	0.0511
Jupiter	-9908-05-01 21:21 J	-1897352.80	-1897352.61	-1897352.42	0.0508	0.0132
Jupiter	-9902-02-28 16:04 J	-1895223.88	-1895223.83	-1895223.78	0.0515	0.0498

Jupiter	-9902-10-24 06:28 J	-1894986.39	-1894986.23	-1894986.05	0.0520	0.0289
Saturn	-9901-08-23 07:40 J	-1894682.38	-1894682.18	-1894681.98	0.0296	0.0091
Mars	-9901-10-18 11:16 J	-1894626.13	-1894626.03	-1894625.93	0.1713	0.1366
Saturn	-9900-04-10 05:02 J	-1894452.46	-1894452.29	-1894452.10	0.0293	0.0148
Pluto	-9900-04-25 07:12 J	-1894437.37	-1894437.20	-1894436.99	0.0065	0.0034
Pluto	-9900-12-06 11:45 J	-1894212.23	-1894212.01	-1894211.79	0.0065	0.0001
Pluto	-9899-07-19 16:04 J	-1893987.01	-1893986.83	-1893986.65	0.0065	0.0036
Mars	-9899-08-17 23:02 J	-1893957.70	-1893957.54	-1893957.38	0.1691	0.0713
Jupiter	-9896-01-04 22:04 J	-1893086.73	-1893086.58	-1893086.42	0.0509	0.0331
Jupiter	-9896-08-29 07:40 J	-1892850.31	-1892850.18	-1892850.05	0.0505	0.0383
Mars	-9894-03-31 21:07 J	-1892270.79	-1892270.62	-1892270.46	0.1830	0.0703
Uranus	-9894-06-22 09:35 J	-1892188.18	-1892188.10	-1892188.01	0.0144	0.0131
Uranus	-9893-02-03 20:24 J	-1891961.82	-1891961.65	-1891961.48	0.0145	0.0085
Uranus	-9893-09-17 07:12 J	-1891735.41	-1891735.20	-1891734.99	0.0145	0.0038
Uranus	-9892-05-01 18:00 J	-1891508.96	-1891508.75	-1891508.53	0.0145	0.0009
Uranus	-9892-12-14 04:47 J	-1891282.49	-1891282.30	-1891282.09	0.0145	0.0057
Uranus	-9891-07-28 16:04 J	-1891055.97	-1891055.83	-1891055.68	0.0145	0.0105
Neptune	-9890-05-23 12:00 J	-1890757.05	-1890757.00	-1890756.93	0.0088	0.0084
Jupiter	-9890-06-28 21:07 J	-1890720.82	-1890720.62	-1890720.41	0.0519	0.0063
Neptune	-9889-01-04 01:12 J	-1890531.55	-1890531.45	-1890531.33	0.0088	0.0075
Neptune	-9889-08-16 14:09 J	-1890306.04	-1890305.91	-1890305.75	0.0088	0.0066
Neptune	-9888-03-30 03:07 J	-1890080.52	-1890080.37	-1890080.18	0.0088	0.0057
Neptune	-9888-11-10 16:04 J	-1889854.99	-1889854.83	-1889854.62	0.0088	0.0048
Neptune	-9887-06-24 05:31 J	-1889629.46	-1889629.27	-1889629.06	0.0088	0.0038
Neptune	-9886-02-04 18:28 J	-1889403.93	-1889403.73	-1889403.51	0.0088	0.0029
Neptune	-9886-09-18 07:40 J	-1889178.39	-1889178.18	-1889177.96	0.0088	0.0020
Saturn	-9885-04-28 02:09 J	-1888955.58	-1888955.41	-1888955.23	0.0266	0.0154
Neptune	-9885-04-30 20:52 J	-1888952.85	-1888952.63	-1888952.41	0.0088	0.0010
Neptune	-9885-12-12 10:04 J	-1888727.30	-1888727.08	-1888726.85	0.0088	0.0002
Saturn	-9885-12-13 05:31 J	-1888726.48	-1888726.27	-1888726.06	0.0268	0.0024

Jupiter	-9884-05-04 09:35 J	-1888584.28	-1888584.10	-1888583.91	0.0506	0.0191
Neptune	-9884-07-25 23:16 J	-1888501.75	-1888501.53	-1888501.31	0.0088	0.0008
Saturn	-9884-07-30 10:33 J	-1888497.18	-1888497.06	-1888496.91	0.0270	0.0209
Neptune	-9883-03-08 12:14 J	-1888276.20	-1888275.99	-1888275.76	0.0088	0.0018
Neptune	-9883-10-20 01:26 J	-1888050.65	-1888050.44	-1888050.22	0.0088	0.0027
Neptune	-9882-06-02 14:38 J	-1887825.09	-1887824.89	-1887824.68	0.0088	0.0036
Neptune	-9881-01-14 03:35 J	-1887599.52	-1887599.35	-1887599.14	0.0088	0.0047
Neptune	-9881-08-26 17:02 J	-1887373.95	-1887373.79	-1887373.60	0.0088	0.0055
Neptune	-9880-04-09 06:28 J	-1887148.37	-1887148.23	-1887148.07	0.0088	0.0064
Neptune	-9880-11-20 19:55 J	-1886922.79	-1886922.67	-1886922.55	0.0088	0.0074
Neptune	-9879-07-04 08:38 J	-1886697.19	-1886697.14	-1886697.04	0.0088	0.0083
Jupiter	-9878-03-03 14:09 J	-1886455.10	-1886454.91	-1886454.71	0.0517	0.0156
Jupiter	-9872-01-07 09:21 J	-1884318.31	-1884318.11	-1884317.91	0.0507	0.0012
Saturn	-9871-03-05 12:14 J	-1883896.19	-1883895.99	-1883895.78	0.0296	0.0060
Saturn	-9871-10-21 09:50 J	-1883666.25	-1883666.09	-1883665.92	0.0293	0.0177
Mars	-9867-08-16 21:35 J	-1882270.77	-1882270.60	-1882270.43	0.1700	0.0247
Jupiter	-9867-11-06 07:26 J	-1882189.33	-1882189.19	-1882189.04	0.0517	0.0373
Jupiter	-9866-07-01 23:31 J	-1881951.63	-1881951.52	-1881951.39	0.0521	0.0425
Mars	-9862-03-31 14:24 J	-1880583.06	-1880582.90	-1880582.74	0.1819	0.0731
Jupiter	-9861-09-12 10:33 J	-1880052.24	-1880052.06	-1880051.88	0.0508	0.0210
Jupiter	-9860-05-06 18:28 J	-1879815.76	-1879815.73	-1879815.70	0.0504	0.0496
Saturn	-9856-11-08 04:04 J	-1878169.51	-1878169.33	-1878169.14	0.0265	0.0133
Saturn	-9855-06-25 07:12 J	-1877940.41	-1877940.20	-1877939.98	0.0268	0.0044
Saturn	-9854-02-09 12:43 J	-1877711.08	-1877710.97	-1877710.86	0.0270	0.0228
Jupiter	-9854-03-06 16:19 J	-1877686.01	-1877685.82	-1877685.63	0.0520	0.0204
Uranus	-9854-10-09 00:14 J	-1877469.61	-1877469.49	-1877469.33	0.0134	0.0104
Uranus	-9853-05-22 07:12 J	-1877243.38	-1877243.20	-1877243.00	0.0134	0.0065
Uranus	-9852-01-03 14:09 J	-1877017.12	-1877016.91	-1877016.69	0.0134	0.0026
Uranus	-9852-08-17 20:52 J	-1876790.85	-1876790.63	-1876790.41	0.0134	0.0012
Uranus	-9851-04-01 03:07 J	-1876564.57	-1876564.37	-1876564.16	0.0133	0.0050

Uranus	-9851-11-13 09:35 J	-1876338.27	-1876338.10	-1876337.93	0.0133	0.0088
Uranus	-9850-06-27 15:21 J	-1876111.92	-1876111.86	-1876111.77	0.0133	0.0125
Jupiter	-9849-05-18 10:19 J	-1875786.19	-1875786.07	-1875785.96	0.0510	0.0411
Jupiter	-9848-01-09 19:40 J	-1875549.83	-1875549.68	-1875549.51	0.0505	0.0307
Jupiter	-9843-11-09 08:24 J	-1873420.36	-1873420.15	-1873419.95	0.0518	0.0019
Saturn	-9842-01-28 14:09 J	-1873339.97	-1873339.91	-1873339.83	0.0298	0.0281
Saturn	-9842-09-15 14:38 J	-1873110.10	-1873109.89	-1873109.68	0.0296	0.0035
Saturn	-9841-05-02 11:45 J	-1872880.15	-1872880.01	-1872879.85	0.0293	0.0201
Jupiter	-9837-09-14 21:50 J	-1871283.78	-1871283.59	-1871283.39	0.0507	0.0113
Mars	-9835-08-15 21:07 J	-1870583.74	-1870583.62	-1870583.50	0.1709	0.1235
Mars	-9833-06-14 10:04 J	-1869915.23	-1869915.08	-1869914.93	0.1689	0.0816
Jupiter	-9831-07-15 00:00 J	-1869154.68	-1869154.50	-1869154.32	0.0517	0.0241
Mars	-9828-01-26 02:09 J	-1868228.56	-1868228.41	-1868228.26	0.1834	0.0927
Saturn	-9826-05-21 05:16 J	-1867383.47	-1867383.28	-1867383.08	0.0266	0.0112
Saturn	-9825-01-05 08:52 J	-1867154.34	-1867154.13	-1867153.92	0.0268	0.0067
Jupiter	-9825-05-20 23:31 J	-1867017.72	-1867017.52	-1867017.32	0.0508	0.0086
Saturn	-9825-08-21 14:09 J	-1866924.98	-1866924.91	-1866924.83	0.0271	0.0252
Jupiter	-9819-03-19 17:31 J	-1864888.86	-1864888.77	-1864888.67	0.0515	0.0455
Jupiter	-9819-11-12 08:24 J	-1864651.30	-1864651.15	-1864650.99	0.0520	0.0338
Jupiter	-9813-01-24 23:16 J	-1862751.69	-1862751.53	-1862751.36	0.0509	0.0289
Saturn	-9813-08-09 17:31 J	-1862553.87	-1862553.77	-1862553.65	0.0298	0.0253
Jupiter	-9813-09-17 07:55 J	-1862515.27	-1862515.17	-1862515.06	0.0504	0.0425
Pluto	-9813-12-23 13:26 J	-1862417.95	-1862417.94	-1862417.89	0.0080	0.0079
Saturn	-9812-03-27 17:45 J	-1862323.97	-1862323.76	-1862323.55	0.0296	0.0009
Pluto	-9812-08-06 00:28 J	-1862192.70	-1862192.48	-1862192.26	0.0079	0.0013
Saturn	-9812-11-12 15:07 J	-1862094.00	-1862093.87	-1862093.74	0.0293	0.0228
Pluto	-9811-03-19 10:33 J	-1861967.21	-1861967.06	-1861966.87	0.0079	0.0051
Uranus	-9810-10-04 05:45 J	-1861403.39	-1861403.26	-1861403.10	0.0144	0.0105
Uranus	-9809-05-17 16:33 J	-1861177.00	-1861176.81	-1861176.60	0.0145	0.0058
Uranus	-9809-12-30 03:21 J	-1860950.57	-1860950.36	-1860950.14	0.0145	0.0011

Neptune	-9808-07-10 15:50 J	-1860757.90	-1860757.84	-1860757.72	0.0089	0.0082
Uranus	-9808-08-13 14:24 J	-1860724.10	-1860723.90	-1860723.69	0.0145	0.0038
Neptune	-9807-02-21 05:02 J	-1860532.40	-1860532.29	-1860532.15	0.0089	0.0072
Uranus	-9807-03-28 01:12 J	-1860497.61	-1860497.45	-1860497.26	0.0145	0.0086
Jupiter	-9807-07-18 01:12 J	-1860385.65	-1860385.45	-1860385.25	0.0520	0.0117
Neptune	-9807-10-04 17:45 J	-1860306.89	-1860306.76	-1860306.58	0.0089	0.0063
Uranus	-9807-11-09 12:28 J	-1860271.06	-1860270.98	-1860270.89	0.0146	0.0133
Neptune	-9806-05-18 06:57 J	-1860081.37	-1860081.21	-1860081.02	0.0089	0.0053
Neptune	-9806-12-29 19:55 J	-1859855.85	-1859855.67	-1859855.47	0.0089	0.0043
Neptune	-9805-08-11 08:52 J	-1859630.32	-1859630.13	-1859629.91	0.0089	0.0034
Neptune	-9804-03-24 22:04 J	-1859404.79	-1859404.58	-1859404.37	0.0089	0.0024
Neptune	-9804-11-05 10:47 J	-1859179.26	-1859179.05	-1859178.83	0.0089	0.0014
Neptune	-9803-06-19 00:00 J	-1858953.72	-1858953.50	-1858953.28	0.0089	0.0004
Neptune	-9802-01-30 12:57 J	-1858728.18	-1858727.96	-1858727.75	0.0089	0.0005
Neptune	-9802-09-13 01:26 J	-1858502.64	-1858502.44	-1858502.21	0.0089	0.0016
Jupiter	-9802-09-30 00:00 J	-1858485.55	-1858485.50	-1858485.43	0.0510	0.0487
Neptune	-9801-04-25 14:24 J	-1858277.10	-1858276.90	-1858276.68	0.0089	0.0025
Jupiter	-9801-05-23 09:50 J	-1858249.26	-1858249.09	-1858248.91	0.0505	0.0233
Mars	-9801-06-13 08:09 J	-1858228.33	-1858228.16	-1858227.99	0.1697	0.0131
Neptune	-9801-12-07 03:07 J	-1858051.56	-1858051.37	-1858051.16	0.0089	0.0034
Neptune	-9800-07-20 16:19 J	-1857826.01	-1857825.82	-1857825.63	0.0089	0.0043
Neptune	-9799-03-03 04:47 J	-1857600.46	-1857600.30	-1857600.11	0.0089	0.0053
Neptune	-9799-10-14 17:31 J	-1857374.91	-1857374.77	-1857374.60	0.0089	0.0063
Neptune	-9798-05-28 06:00 J	-1857149.35	-1857149.25	-1857149.10	0.0089	0.0073
Neptune	-9797-01-08 18:57 J	-1856923.78	-1856923.71	-1856923.61	0.0089	0.0081
Saturn	-9797-11-30 06:28 J	-1856597.42	-1856597.23	-1856597.02	0.0265	0.0094
Mars	-9796-01-25 19:26 J	-1856540.86	-1856540.69	-1856540.52	0.1822	0.0516
Saturn	-9796-07-17 09:50 J	-1856368.29	-1856368.09	-1856367.88	0.0268	0.0086
Jupiter	-9795-03-22 18:28 J	-1856119.93	-1856119.73	-1856119.53	0.0518	0.0103
Jupiter	-9789-01-27 10:47 J	-1853983.25	-1853983.05	-1853982.84	0.0507	0.0037

Jupiter	-9784-11-25 11:31 J	-1851854.18	-1851854.02	-1851853.86	0.0517	0.0320
Saturn	-9783-02-19 18:57 J	-1851767.83	-1851767.71	-1851767.57	0.0298	0.0231
Jupiter	-9783-07-21 03:35 J	-1851616.43	-1851616.35	-1851616.27	0.0521	0.0479
Saturn	-9783-10-07 18:57 J	-1851537.91	-1851537.71	-1851537.50	0.0296	0.0016
Saturn	-9782-05-25 16:04 J	-1851307.93	-1851307.83	-1851307.71	0.0293	0.0250
Jupiter	-9778-10-02 12:14 J	-1849717.18	-1849716.99	-1849716.80	0.0508	0.0163
Jupiter	-9771-03-25 18:28 J	-1847350.91	-1847350.73	-1847350.55	0.0520	0.0253
Uranus	-9770-06-08 12:14 J	-1846911.08	-1846910.99	-1846910.87	0.0134	0.0118
Uranus	-9769-01-20 19:26 J	-1846684.86	-1846684.69	-1846684.50	0.0134	0.0079
Mars	-9769-06-12 07:26 J	-1846541.32	-1846541.19	-1846541.06	0.1707	0.1111
Uranus	-9769-09-03 02:24 J	-1846458.61	-1846458.40	-1846458.19	0.0134	0.0041
Uranus	-9768-04-17 09:07 J	-1846232.34	-1846232.12	-1846231.90	0.0134	0.0003
Saturn	-9768-10-26 05:45 J	-1846040.32	-1846040.26	-1846040.17	0.0264	0.0245
Uranus	-9768-11-29 15:21 J	-1846006.07	-1846005.86	-1846005.64	0.0134	0.0036
Mars	-9767-04-11 20:52 J	-1845872.78	-1845872.63	-1845872.49	0.1686	0.0926
Saturn	-9767-06-12 07:26 J	-1845811.40	-1845811.19	-1845810.98	0.0266	0.0073
Uranus	-9767-07-13 21:35 J	-1845779.77	-1845779.60	-1845779.41	0.0133	0.0074
Earth	-9767-11-08 11:02 J	-1845662.19	-1845662.04	-1845661.88	0.2686	0.0636
Moon	-9767-11-08 14:09 J	-1845662.08	-1845661.91	-1845661.75	0.2680	0.0279 *
Saturn	-9766-01-27 10:47 J	-1845582.24	-1845582.05	-1845581.85	0.0268	0.0107
Uranus	-9766-02-25 03:50 J	-1845553.44	-1845553.34	-1845553.20	0.0133	0.0111
Jupiter	-9766-06-07 13:12 J	-1845451.09	-1845450.95	-1845450.81	0.0510	0.0364
Jupiter	-9765-01-29 22:47 J	-1845214.68	-1845214.55	-1845214.40	0.0505	0.0356
Mars	-9763-11-23 06:57 J	-1844186.35	-1844186.21	-1844186.08	0.1837	0.1163
Jupiter	-9760-11-28 11:02 J	-1843085.24	-1843085.04	-1843084.83	0.0519	0.0034
Saturn	-9754-09-01 21:21 J	-1840981.75	-1840981.61	-1840981.45	0.0298	0.0205
Jupiter	-9754-10-04 23:45 J	-1840948.70	-1840948.51	-1840948.31	0.0506	0.0159
Saturn	-9753-04-18 21:21 J	-1840751.81	-1840751.61	-1840751.40	0.0295	0.0041
Saturn	-9753-12-04 18:28 J	-1840521.79	-1840521.73	-1840521.65	0.0293	0.0274
Jupiter	-9748-08-03 03:50 J	-1838819.54	-1838819.34	-1838819.15	0.0518	0.0190

Jupiter	-9742-06-10 01:40 J	-1836682.64	-1836682.43	-1836682.23	0.0507	0.0040
Saturn	-9738-05-08 06:57 J	-1835254.30	-1835254.21	-1835254.09	0.0263	0.0227
Saturn	-9738-12-23 08:52 J	-1835025.34	-1835025.13	-1835024.92	0.0265	0.0053
Saturn	-9737-08-08 12:14 J	-1834796.18	-1834795.99	-1834795.80	0.0268	0.0126
Jupiter	-9736-04-07 21:50 J	-1834553.71	-1834553.59	-1834553.46	0.0516	0.0403
Jupiter	-9736-12-01 13:40 J	-1834316.06	-1834315.93	-1834315.79	0.0521	0.0397
Mars	-9735-04-10 18:57 J	-1834185.88	-1834185.71	-1834185.53	0.1695	0.0037
Mars	-9731-11-23 01:12 J	-1832498.63	-1832498.45	-1832498.28	0.1826	0.0310
Jupiter	-9730-02-13 01:55 J	-1832416.60	-1832416.42	-1832416.24	0.0508	0.0240
Jupiter	-9730-10-07 10:19 J	-1832180.13	-1832180.07	-1832180.00	0.0504	0.0474
Uranus	-9726-06-03 14:38 J	-1830844.99	-1830844.89	-1830844.78	0.0144	0.0125
Uranus	-9725-01-16 00:57 J	-1830618.62	-1830618.46	-1830618.26	0.0145	0.0079
Neptune	-9725-04-06 09:07 J	-1830537.19	-1830537.12	-1830537.03	0.0088	0.0081
Uranus	-9725-08-29 12:14 J	-1830392.20	-1830391.99	-1830391.78	0.0145	0.0031
Neptune	-9725-11-17 22:04 J	-1830311.69	-1830311.58	-1830311.44	0.0088	0.0072
Saturn	-9724-03-13 22:04 J	-1830195.74	-1830195.58	-1830195.41	0.0298	0.0184
Uranus	-9724-04-12 23:02 J	-1830165.75	-1830165.54	-1830165.33	0.0145	0.0017
Neptune	-9724-07-01 11:02 J	-1830086.17	-1830086.04	-1830085.87	0.0088	0.0063
Jupiter	-9724-08-06 06:00 J	-1830050.44	-1830050.25	-1830050.06	0.0520	0.0174
Saturn	-9724-10-29 21:50 J	-1829965.79	-1829965.59	-1829965.38	0.0296	0.0061
Uranus	-9724-11-25 09:50 J	-1829939.28	-1829939.09	-1829938.89	0.0145	0.0064
Neptune	-9723-02-12 00:28 J	-1829860.65	-1829860.48	-1829860.30	0.0088	0.0053
Uranus	-9723-07-09 20:38 J	-1829712.76	-1829712.64	-1829712.49	0.0145	0.0113
Neptune	-9723-09-25 13:26 J	-1829635.13	-1829634.94	-1829634.74	0.0088	0.0044
Neptune	-9722-05-09 02:24 J	-1829409.59	-1829409.40	-1829409.19	0.0088	0.0035
Neptune	-9722-12-20 15:50 J	-1829184.05	-1829183.84	-1829183.63	0.0088	0.0025
Neptune	-9721-08-02 04:47 J	-1828958.51	-1828958.30	-1828958.07	0.0088	0.0016
Neptune	-9720-03-15 18:00 J	-1828732.97	-1828732.75	-1828732.53	0.0088	0.0006
Neptune	-9720-10-27 06:57 J	-1828507.43	-1828507.21	-1828506.98	0.0088	0.0003
Neptune	-9719-06-09 20:09 J	-1828281.88	-1828281.66	-1828281.44	0.0088	0.0012

Jupiter	-9719-10-19 02:09 J	-1828150.50	-1828150.41	-1828150.30	0.0510	0.0441
Neptune	-9718-01-21 09:07 J	-1828056.33	-1828056.12	-1828055.89	0.0088	0.0022
Jupiter	-9718-06-12 12:14 J	-1827914.15	-1827913.99	-1827913.82	0.0506	0.0283
Neptune	-9718-09-03 22:19 J	-1827830.77	-1827830.57	-1827830.35	0.0088	0.0031
Neptune	-9717-04-16 11:16 J	-1827605.21	-1827605.03	-1827604.82	0.0088	0.0041
Neptune	-9717-11-28 00:28 J	-1827379.65	-1827379.48	-1827379.28	0.0088	0.0050
Neptune	-9716-07-11 13:26 J	-1827154.08	-1827153.94	-1827153.75	0.0088	0.0060
Neptune	-9715-02-22 02:52 J	-1826928.50	-1826928.38	-1826928.23	0.0088	0.0069
Neptune	-9715-10-05 16:19 J	-1826702.91	-1826702.82	-1826702.71	0.0088	0.0078
Neptune	-9714-05-19 05:16 J	-1826477.28	-1826477.28	-1826477.24	0.0088	0.0088
Jupiter	-9712-04-10 21:35 J	-1825784.80	-1825784.60	-1825784.39	0.0518	0.0052
Saturn	-9709-11-17 07:40 J	-1824468.30	-1824468.18	-1824468.04	0.0264	0.0207
Saturn	-9708-07-04 09:21 J	-1824239.32	-1824239.11	-1824238.90	0.0266	0.0033
Saturn	-9707-02-18 12:43 J	-1824010.14	-1824009.97	-1824009.78	0.0268	0.0147
Jupiter	-9706-02-15 14:24 J	-1823648.09	-1823647.90	-1823647.70	0.0507	0.0087
Mars	-9703-04-09 17:45 J	-1822498.90	-1822498.76	-1822498.62	0.1704	0.0990
Mars	-9701-02-07 07:55 J	-1821830.30	-1821830.17	-1821830.03	0.1683	0.1026
Jupiter	-9701-12-14 14:52 J	-1821519.06	-1821518.88	-1821518.71	0.0517	0.0271
Mars	-9699-11-22 16:47 J	-1820810.86	-1820810.80	-1820810.74	0.1815	0.1690
Mars	-9697-09-19 12:14 J	-1820144.11	-1820143.99	-1820143.88	0.1840	0.1390
Saturn	-9695-09-24 00:00 J	-1819409.67	-1819409.50	-1819409.32	0.0298	0.0160
Jupiter	-9695-10-21 15:21 J	-1819382.05	-1819381.86	-1819381.66	0.0507	0.0114
Saturn	-9694-05-11 23:45 J	-1819179.71	-1819179.51	-1819179.31	0.0295	0.0085
Jupiter	-9689-08-19 07:12 J	-1817253.26	-1817253.20	-1817253.13	0.0516	0.0489
Jupiter	-9688-04-13 22:47 J	-1817015.71	-1817015.55	-1817015.38	0.0521	0.0311
Uranus	-9686-02-06 00:14 J	-1816352.49	-1816352.49	-1816352.44	0.0134	0.0134
Uranus	-9686-09-20 07:26 J	-1816126.33	-1816126.19	-1816126.02	0.0134	0.0095
Uranus	-9685-05-03 14:09 J	-1815900.10	-1815899.91	-1815899.69	0.0134	0.0056
Uranus	-9685-12-15 21:07 J	-1815673.84	-1815673.62	-1815673.40	0.0134	0.0017
Uranus	-9684-07-30 03:35 J	-1815447.57	-1815447.35	-1815447.13	0.0134	0.0021

Uranus	-9683-03-13 09:50 J	-1815221.28	-1815221.09	-1815220.88	0.0133	0.0059
Jupiter	-9683-06-26 16:47 J	-1815115.96	-1815115.80	-1815115.64	0.0509	0.0313
Uranus	-9683-10-25 16:19 J	-1814994.97	-1814994.82	-1814994.67	0.0133	0.0097
Jupiter	-9682-02-18 01:12 J	-1814879.56	-1814879.45	-1814879.33	0.0504	0.0404
Saturn	-9679-05-30 09:21 J	-1813682.26	-1813682.11	-1813681.96	0.0264	0.0188
Saturn	-9678-01-14 11:02 J	-1813453.25	-1813453.04	-1813452.82	0.0266	0.0014
Saturn	-9678-08-31 14:38 J	-1813224.06	-1813223.89	-1813223.72	0.0268	0.0166
Earth	-9677-05-13 18:43 J	-1812967.88	-1812967.72	-1812967.56	0.2647	0.0497
Moon	-9677-05-14 00:57 J	-1812967.63	-1812967.46	-1812967.30	0.2648	0.0138 *
Jupiter	-9677-12-17 15:50 J	-1812750.04	-1812749.84	-1812749.63	0.0519	0.0090
Jupiter	-9671-10-24 02:24 J	-1810613.58	-1810613.40	-1810613.21	0.0506	0.0210
Mars	-9669-02-06 05:31 J	-1810143.44	-1810143.27	-1810143.10	0.1692	0.0098
Saturn	-9665-04-05 00:43 J	-1808623.65	-1808623.47	-1808623.27	0.0298	0.0138
Jupiter	-9665-08-22 09:07 J	-1808484.32	-1808484.12	-1808483.92	0.0518	0.0132
Mars	-9665-09-19 06:00 J	-1808456.42	-1808456.25	-1808456.07	0.1829	0.0093
Saturn	-9665-11-21 00:28 J	-1808393.67	-1808393.48	-1808393.28	0.0295	0.0107
Jupiter	-9659-06-29 03:50 J	-1806347.54	-1806347.34	-1806347.13	0.0507	0.0016
Pluto	-9653-01-04 01:12 J	-1804332.52	-1804332.45	-1804332.37	0.0065	0.0060
Jupiter	-9653-04-27 01:26 J	-1804218.59	-1804218.44	-1804218.29	0.0516	0.0353
Pluto	-9653-08-16 05:16 J	-1804107.47	-1804107.28	-1804107.07	0.0065	0.0026
Jupiter	-9653-12-20 16:47 J	-1803980.89	-1803980.80	-1803980.69	0.0521	0.0450
Pluto	-9652-03-29 09:21 J	-1803882.31	-1803882.11	-1803881.88	0.0065	0.0010
Pluto	-9652-11-09 13:12 J	-1803657.08	-1803656.95	-1803656.76	0.0065	0.0045
Saturn	-9650-12-10 10:19 J	-1802896.23	-1802896.07	-1802895.90	0.0264	0.0168
Saturn	-9649-07-26 12:14 J	-1802667.21	-1802666.99	-1802666.78	0.0266	0.0008
Saturn	-9648-03-12 15:50 J	-1802437.99	-1802437.84	-1802437.69	0.0269	0.0189
Jupiter	-9647-03-04 05:31 J	-1802081.46	-1802081.27	-1802081.09	0.0508	0.0190
Neptune	-9644-10-11 23:45 J	-1800763.54	-1800763.51	-1800763.47	0.0089	0.0088
Neptune	-9643-05-25 12:28 J	-1800538.07	-1800537.98	-1800537.86	0.0089	0.0078
Neptune	-9642-01-06 01:40 J	-1800312.56	-1800312.43	-1800312.28	0.0089	0.0069

Neptune	-9642-08-19 14:09 J	-1800087.05	-1800086.91	-1800086.72	0.0089	0.0060
Uranus	-9642-09-15 07:55 J	-1800060.31	-1800060.17	-1800060.01	0.0144	0.0101
Neptune	-9641-04-01 03:21 J	-1799861.53	-1799861.36	-1799861.17	0.0089	0.0050
Uranus	-9641-04-28 18:28 J	-1799833.92	-1799833.73	-1799833.53	0.0145	0.0054
Jupiter	-9641-08-25 09:07 J	-1799715.30	-1799715.12	-1799714.93	0.0520	0.0227
Neptune	-9641-11-12 16:19 J	-1799636.00	-1799635.82	-1799635.61	0.0089	0.0040
Uranus	-9641-12-11 05:16 J	-1799607.50	-1799607.28	-1799607.07	0.0145	0.0007
Neptune	-9640-06-26 05:16 J	-1799410.47	-1799410.28	-1799410.06	0.0089	0.0030
Uranus	-9640-07-25 16:04 J	-1799381.03	-1799380.83	-1799380.62	0.0145	0.0041
Neptune	-9639-02-06 18:14 J	-1799184.94	-1799184.74	-1799184.52	0.0089	0.0021
Uranus	-9639-03-09 02:38 J	-1799154.54	-1799154.39	-1799154.20	0.0145	0.0089
Neptune	-9639-09-20 07:26 J	-1798959.41	-1798959.19	-1798958.98	0.0089	0.0010
Uranus	-9639-10-21 13:55 J	-1798927.98	-1798927.92	-1798927.84	0.0145	0.0137
Neptune	-9638-05-03 20:09 J	-1798733.87	-1798733.66	-1798733.44	0.0089	0.0002
Neptune	-9638-12-15 09:07 J	-1798508.33	-1798508.12	-1798507.90	0.0089	0.0009
Mars	-9637-02-05 03:50 J	-1798456.49	-1798456.34	-1798456.19	0.1701	0.0865
Neptune	-9637-07-27 22:04 J	-1798282.79	-1798282.58	-1798282.36	0.0089	0.0019
Neptune	-9636-03-10 11:02 J	-1798057.24	-1798057.04	-1798056.83	0.0089	0.0028
Saturn	-9636-10-16 03:21 J	-1797837.56	-1797837.36	-1797837.17	0.0297	0.0113
Neptune	-9636-10-21 23:45 J	-1797831.70	-1797831.51	-1797831.30	0.0089	0.0038
Jupiter	-9636-11-07 06:14 J	-1797815.36	-1797815.24	-1797815.11	0.0509	0.0390
Mars	-9636-12-04 18:57 J	-1797787.83	-1797787.71	-1797787.58	0.1681	0.1129
Saturn	-9635-06-03 02:38 J	-1797607.57	-1797607.39	-1797607.20	0.0295	0.0131
Neptune	-9635-06-04 12:28 J	-1797606.15	-1797605.98	-1797605.78	0.0089	0.0048
Jupiter	-9635-07-01 15:21 J	-1797579.01	-1797578.86	-1797578.71	0.0505	0.0333
Neptune	-9634-01-16 01:26 J	-1797380.59	-1797380.44	-1797380.26	0.0089	0.0058
Neptune	-9634-08-29 14:09 J	-1797155.03	-1797154.91	-1797154.75	0.0089	0.0067
Neptune	-9633-04-11 03:07 J	-1796929.47	-1796929.37	-1796929.25	0.0089	0.0077
Mars	-9633-09-18 22:19 J	-1796768.67	-1796768.57	-1796768.47	0.1818	0.1488
Neptune	-9633-11-22 15:35 J	-1796703.88	-1796703.85	-1796703.77	0.0089	0.0086

Mars	-9631-07-17 16:04 J	-1796101.91	-1796101.83	-1796101.75	0.1844	0.1639
Jupiter	-9629-04-30 00:43 J	-1795449.68	-1795449.47	-1795449.27	0.0519	0.0007
Jupiter	-9623-03-06 17:31 J	-1793312.96	-1793312.77	-1793312.57	0.0506	0.0138
Saturn	-9620-06-21 12:28 J	-1792110.16	-1792109.98	-1792109.80	0.0264	0.0148
Saturn	-9619-02-05 14:24 J	-1791881.12	-1791880.90	-1791880.69	0.0266	0.0027
Saturn	-9619-09-22 18:00 J	-1791651.88	-1791651.75	-1791651.61	0.0268	0.0208
Jupiter	-9617-01-03 18:14 J	-1791183.92	-1791183.74	-1791183.55	0.0518	0.0218
Jupiter	-9612-11-09 18:00 J	-1789046.95	-1789046.75	-1789046.55	0.0507	0.0064
Saturn	-9606-04-28 04:04 J	-1787051.52	-1787051.33	-1787051.12	0.0298	0.0090
Jupiter	-9606-09-08 12:14 J	-1786918.10	-1786917.99	-1786917.88	0.0516	0.0434
Saturn	-9606-12-14 03:21 J	-1786821.53	-1786821.36	-1786821.17	0.0295	0.0154
Jupiter	-9605-05-03 03:35 J	-1786680.49	-1786680.35	-1786680.20	0.0521	0.0370
Mars	-9604-12-03 16:33 J	-1786100.98	-1786100.81	-1786100.64	0.1689	0.0207
Uranus	-9602-05-20 17:16 J	-1785567.88	-1785567.78	-1785567.64	0.0135	0.0112
Uranus	-9601-01-02 00:28 J	-1785341.66	-1785341.48	-1785341.29	0.0134	0.0072
Uranus	-9601-08-15 07:26 J	-1785115.40	-1785115.19	-1785114.98	0.0134	0.0034
Uranus	-9600-03-29 13:55 J	-1784889.14	-1784888.92	-1784888.69	0.0134	0.0006
Jupiter	-9600-07-15 18:28 J	-1784780.89	-1784780.73	-1784780.55	0.0509	0.0267
Uranus	-9600-11-10 20:09 J	-1784662.85	-1784662.66	-1784662.44	0.0134	0.0044
Jupiter	-9599-03-09 03:07 J	-1784544.45	-1784544.37	-1784544.28	0.0504	0.0454
Uranus	-9599-06-25 02:38 J	-1784436.55	-1784436.39	-1784436.21	0.0133	0.0081
Mars	-9599-07-17 10:47 J	-1784414.23	-1784414.05	-1784413.88	0.1833	0.0152
Uranus	-9598-02-06 08:52 J	-1784210.21	-1784210.13	-1784210.02	0.0133	0.0119
Jupiter	-9593-01-06 18:43 J	-1782414.91	-1782414.72	-1782414.51	0.0519	0.0143
Saturn	-9590-01-01 14:09 J	-1781324.10	-1781323.91	-1781323.72	0.0264	0.0127
Saturn	-9590-08-18 16:04 J	-1781095.04	-1781094.83	-1781094.62	0.0266	0.0050
Saturn	-9589-04-03 19:55 J	-1780865.77	-1780865.67	-1780865.56	0.0269	0.0232
Jupiter	-9588-03-20 18:57 J	-1780514.78	-1780514.71	-1780514.63	0.0510	0.0470
Jupiter	-9588-11-12 05:16 J	-1780278.45	-1780278.28	-1780278.10	0.0506	0.0260
Jupiter	-9582-09-11 11:31 J	-1778149.23	-1778149.02	-1778148.82	0.0518	0.0083

Saturn	-9577-11-07 07:26 J	-1776265.39	-1776265.19	-1776264.98	0.0297	0.0064
Saturn	-9576-06-25 06:43 J	-1776035.38	-1776035.22	-1776035.05	0.0294	0.0179
Jupiter	-9576-07-18 07:12 J	-1776012.40	-1776012.20	-1776012.00	0.0506	0.0063
Mars	-9572-12-02 14:38 J	-1774414.05	-1774413.89	-1774413.74	0.1698	0.0752
Jupiter	-9570-05-17 02:24 J	-1773883.56	-1773883.40	-1773883.23	0.0517	0.0308
Mars	-9570-10-02 06:28 J	-1773745.35	-1773745.23	-1773745.12	0.1678	0.1227
Jupiter	-9569-01-09 19:12 J	-1773645.74	-1773645.70	-1773645.64	0.0522	0.0504
Mars	-9567-07-17 03:50 J	-1772726.47	-1772726.34	-1772726.22	0.1822	0.1281
Pluto	-9565-04-15 12:57 J	-1772088.08	-1772087.96	-1772087.80	0.0079	0.0062
Pluto	-9565-11-27 00:00 J	-1771862.72	-1771862.50	-1771862.28	0.0079	0.0004
Jupiter	-9564-03-23 08:38 J	-1771746.33	-1771746.14	-1771745.94	0.0507	0.0138
Pluto	-9564-07-10 09:50 J	-1771637.18	-1771637.09	-1771636.95	0.0079	0.0068
Neptune	-9561-07-08 17:31 J	-1770542.78	-1770542.77	-1770542.73	0.0088	0.0087
Saturn	-9561-07-13 17:02 J	-1770537.98	-1770537.79	-1770537.58	0.0264	0.0106
Neptune	-9560-02-19 06:14 J	-1770317.32	-1770317.24	-1770317.11	0.0088	0.0078
Saturn	-9560-02-27 19:26 J	-1770308.90	-1770308.69	-1770308.49	0.0266	0.0072
Neptune	-9560-10-02 19:12 J	-1770091.81	-1770091.70	-1770091.54	0.0088	0.0069
Saturn	-9560-10-14 23:16 J	-1770079.59	-1770079.53	-1770079.46	0.0269	0.0254
Neptune	-9559-05-16 08:38 J	-1769866.29	-1769866.14	-1769865.97	0.0088	0.0059
Neptune	-9559-12-27 21:50 J	-1769640.76	-1769640.59	-1769640.39	0.0088	0.0050
Uranus	-9558-05-15 15:21 J	-1769501.97	-1769501.86	-1769501.74	0.0144	0.0122
Neptune	-9558-08-10 11:02 J	-1769415.23	-1769415.04	-1769414.83	0.0088	0.0040
Jupiter	-9558-09-14 12:00 J	-1769380.17	-1769380.00	-1769379.83	0.0521	0.0282
Uranus	-9558-12-28 01:26 J	-1769275.60	-1769275.44	-1769275.24	0.0144	0.0077
Neptune	-9557-03-23 00:00 J	-1769189.69	-1769189.50	-1769189.28	0.0088	0.0031
Uranus	-9557-08-10 12:28 J	-1769049.19	-1769048.98	-1769048.77	0.0145	0.0029
Neptune	-9557-11-03 13:12 J	-1768964.16	-1768963.95	-1768963.73	0.0088	0.0021
Uranus	-9556-03-24 23:02 J	-1768822.75	-1768822.54	-1768822.32	0.0145	0.0019
Neptune	-9556-06-17 02:24 J	-1768738.62	-1768738.40	-1768738.18	0.0088	0.0012
Uranus	-9556-11-06 09:50 J	-1768596.28	-1768596.09	-1768595.89	0.0145	0.0066

Neptune	-9555-01-28 15:35 J	-1768513.07	-1768512.85	-1768512.63	0.0088	0.0002
Uranus	-9555-06-20 20:38 J	-1768369.76	-1768369.64	-1768369.50	0.0145	0.0114
Neptune	-9555-09-11 04:47 J	-1768287.52	-1768287.30	-1768287.08	0.0088	0.0007
Neptune	-9554-04-24 17:45 J	-1768061.98	-1768061.76	-1768061.54	0.0088	0.0017
Neptune	-9554-12-06 06:43 J	-1767836.42	-1767836.22	-1767836.00	0.0088	0.0027
Neptune	-9553-07-18 19:55 J	-1767610.86	-1767610.67	-1767610.46	0.0088	0.0036
Jupiter	-9553-11-26 08:09 J	-1767480.31	-1767480.16	-1767480.01	0.0509	0.0343
Neptune	-9552-03-01 08:52 J	-1767385.30	-1767385.13	-1767384.92	0.0088	0.0046
Jupiter	-9552-07-20 16:47 J	-1767243.92	-1767243.80	-1767243.66	0.0504	0.0382
Neptune	-9552-10-12 22:04 J	-1767159.74	-1767159.58	-1767159.40	0.0088	0.0055
Neptune	-9551-05-26 11:02 J	-1766934.17	-1766934.04	-1766933.87	0.0088	0.0065
Neptune	-9550-01-07 00:28 J	-1766708.58	-1766708.48	-1766708.35	0.0088	0.0074
Neptune	-9550-08-20 14:09 J	-1766482.98	-1766482.91	-1766482.84	0.0088	0.0084
Saturn	-9548-10-02 08:24 J	-1765709.20	-1765709.15	-1765709.09	0.0300	0.0288
Saturn	-9547-05-20 09:50 J	-1765479.29	-1765479.09	-1765478.88	0.0297	0.0038
Saturn	-9546-01-05 08:52 J	-1765249.28	-1765249.13	-1765248.98	0.0295	0.0204
Jupiter	-9546-05-20 04:33 J	-1765114.51	-1765114.31	-1765114.10	0.0519	0.0058
Jupiter	-9540-03-25 18:28 J	-1762977.92	-1762977.73	-1762977.55	0.0506	0.0184
Mars	-9538-10-01 03:21 J	-1762058.53	-1762058.36	-1762058.19	0.1686	0.0314
Jupiter	-9534-01-22 20:38 J	-1760848.84	-1760848.64	-1760848.45	0.0517	0.0169
Mars	-9533-05-13 15:35 J	-1760372.03	-1760371.85	-1760371.68	0.1837	0.0380
Saturn	-9532-06-08 18:57 J	-1759980.75	-1759980.71	-1759980.65	0.0263	0.0254
Moon	-9532-11-10 15:50 J	-1759825.87	-1759825.84	-1759825.81	0.2684	0.2614
Saturn	-9531-01-23 19:40 J	-1759751.88	-1759751.68	-1759751.47	0.0265	0.0083
Saturn	-9531-09-09 22:04 J	-1759522.77	-1759522.58	-1759522.37	0.0267	0.0096
Jupiter	-9529-11-28 19:40 J	-1758711.88	-1758711.68	-1758711.48	0.0507	0.0017
Moon	-9524-11-08 08:52 J	-1756906.27	-1756906.13	-1756906.00	0.2691	0.1294
Earth	-9524-11-08 13:12 J	-1756906.10	-1756905.95	-1756905.80	0.2687	0.0560 *
Jupiter	-9523-09-27 13:12 J	-1756583.08	-1756582.95	-1756582.81	0.0516	0.0390
Jupiter	-9522-05-23 04:33 J	-1756345.42	-1756345.31	-1756345.18	0.0521	0.0418

Uranus	-9518-01-18 02:52 J	-1755009.42	-1755009.38	-1755009.30	0.0135	0.0129
Saturn	-9518-04-14 12:57 J	-1754923.06	-1754922.96	-1754922.86	0.0299	0.0259
Uranus	-9518-09-01 10:04 J	-1754783.23	-1754783.08	-1754782.90	0.0135	0.0090
Saturn	-9518-11-30 14:09 J	-1754693.12	-1754692.91	-1754692.70	0.0297	0.0011
Uranus	-9517-04-14 17:02 J	-1754556.99	-1754556.79	-1754556.58	0.0134	0.0051
Saturn	-9517-07-17 12:43 J	-1754463.09	-1754462.97	-1754462.84	0.0294	0.0230
Jupiter	-9517-08-03 21:07 J	-1754445.80	-1754445.62	-1754445.43	0.0508	0.0217
Uranus	-9517-11-26 23:45 J	-1754330.73	-1754330.51	-1754330.29	0.0134	0.0012
Jupiter	-9516-03-28 05:02 J	-1754209.29	-1754209.29	-1754209.27	0.0504	0.0503
Uranus	-9516-07-11 06:14 J	-1754104.45	-1754104.24	-1754104.01	0.0134	0.0027
Uranus	-9515-02-22 12:57 J	-1753878.15	-1753877.96	-1753877.76	0.0134	0.0065
Uranus	-9515-10-06 19:26 J	-1753651.83	-1753651.69	-1753651.55	0.0134	0.0103
Jupiter	-9510-01-25 18:57 J	-1752079.90	-1752079.71	-1752079.52	0.0520	0.0189
Mars	-9506-09-30 00:57 J	-1750371.62	-1750371.46	-1750371.30	0.1695	0.0632
Jupiter	-9505-04-08 21:50 J	-1750179.69	-1750179.59	-1750179.47	0.0509	0.0420
Jupiter	-9505-12-01 07:12 J	-1749943.35	-1749943.20	-1749943.04	0.0505	0.0309
Mars	-9504-07-29 17:16 J	-1749702.88	-1749702.78	-1749702.68	0.1676	0.1331
Saturn	-9503-12-19 23:02 J	-1749194.63	-1749194.54	-1749194.43	0.0263	0.0230
Saturn	-9502-08-06 00:00 J	-1748965.71	-1748965.50	-1748965.29	0.0265	0.0058
Saturn	-9501-03-22 02:24 J	-1748736.58	-1748736.40	-1748736.20	0.0267	0.0120
Mars	-9501-05-13 08:52 J	-1748684.27	-1748684.13	-1748683.98	0.1825	0.1070
Jupiter	-9499-09-30 11:45 J	-1747814.21	-1747814.01	-1747813.80	0.0519	0.0037
Jupiter	-9493-08-06 07:26 J	-1745677.38	-1745677.19	-1745676.99	0.0506	0.0108
Saturn	-9489-10-24 17:02 J	-1744136.92	-1744136.79	-1744136.65	0.0299	0.0230
Saturn	-9488-06-11 18:00 J	-1743906.95	-1743906.75	-1743906.54	0.0297	0.0020
Saturn	-9487-01-27 16:19 J	-1743676.91	-1743676.82	-1743676.72	0.0294	0.0258
Jupiter	-9487-06-05 05:02 J	-1743548.46	-1743548.29	-1743548.10	0.0517	0.0257
Jupiter	-9481-04-11 07:55 J	-1741411.37	-1741411.17	-1741410.97	0.0508	0.0096
Neptune	-9479-08-26 20:38 J	-1740543.69	-1740543.64	-1740543.56	0.0089	0.0085
Neptune	-9478-04-09 09:21 J	-1740318.20	-1740318.11	-1740317.97	0.0089	0.0076

Neptune	-9478-11-20 22:33 J	-1740092.69	-1740092.56	-1740092.40	0.0089	0.0065
Neptune	-9477-07-03 11:45 J	-1739867.17	-1739867.01	-1739866.83	0.0089	0.0055
Neptune	-9476-02-14 00:43 J	-1739641.65	-1739641.47	-1739641.28	0.0089	0.0046
Neptune	-9476-09-27 13:40 J	-1739416.13	-1739415.93	-1739415.73	0.0089	0.0036
Jupiter	-9475-02-07 21:50 J	-1739282.66	-1739282.59	-1739282.51	0.0515	0.0477
Neptune	-9475-05-11 02:24 J	-1739190.60	-1739190.40	-1739190.18	0.0089	0.0026
Jupiter	-9475-10-03 12:43 J	-1739045.13	-1739044.97	-1739044.81	0.0520	0.0329
Neptune	-9475-12-22 15:21 J	-1738965.07	-1738964.86	-1738964.64	0.0089	0.0016
Uranus	-9474-01-13 00:00 J	-1738943.52	-1738943.50	-1738943.46	0.0144	0.0142
Neptune	-9474-08-05 04:33 J	-1738739.53	-1738739.31	-1738739.09	0.0089	0.0006
Uranus	-9474-08-27 10:19 J	-1738717.21	-1738717.07	-1738716.90	0.0144	0.0096
Mars	-9474-09-29 00:14 J	-1738684.54	-1738684.49	-1738684.44	0.1704	0.1617
Neptune	-9473-03-17 17:16 J	-1738513.99	-1738513.78	-1738513.56	0.0089	0.0004
Uranus	-9473-04-09 20:52 J	-1738490.82	-1738490.63	-1738490.42	0.0144	0.0049
Saturn	-9473-07-01 02:24 J	-1738408.52	-1738408.40	-1738408.26	0.0263	0.0207
Neptune	-9473-10-29 06:14 J	-1738288.46	-1738288.24	-1738288.02	0.0089	0.0013
Uranus	-9473-11-22 07:26 J	-1738264.40	-1738264.19	-1738263.97	0.0144	0.0003
Saturn	-9472-02-15 03:35 J	-1738179.56	-1738179.35	-1738179.14	0.0265	0.0034
Neptune	-9472-06-11 18:57 J	-1738062.91	-1738062.71	-1738062.49	0.0089	0.0023
Uranus	-9472-07-06 18:00 J	-1738037.94	-1738037.75	-1738037.54	0.0145	0.0046
Mars	-9472-07-28 13:55 J	-1738016.09	-1738015.92	-1738015.76	0.1684	0.0428
Saturn	-9472-10-02 06:14 J	-1737950.41	-1737950.24	-1737950.05	0.0267	0.0146
Neptune	-9471-01-23 07:40 J	-1737837.37	-1737837.18	-1737836.96	0.0089	0.0034
Uranus	-9471-02-18 05:02 J	-1737811.45	-1737811.29	-1737811.12	0.0145	0.0093
Neptune	-9471-09-05 20:24 J	-1737611.82	-1737611.65	-1737611.44	0.0089	0.0044
Uranus	-9471-10-02 15:50 J	-1737584.87	-1737584.84	-1737584.78	0.0145	0.0141
Neptune	-9470-04-19 09:35 J	-1737386.27	-1737386.10	-1737385.92	0.0089	0.0053
Neptune	-9470-11-30 22:19 J	-1737160.71	-1737160.57	-1737160.40	0.0089	0.0062
Jupiter	-9470-12-16 08:09 J	-1737145.32	-1737145.16	-1737145.00	0.0509	0.0301
Neptune	-9469-07-13 11:02 J	-1736935.14	-1736935.04	-1736934.89	0.0089	0.0072

Jupiter	-9469-08-08 17:16 J	-1736908.88	-1736908.78	-1736908.67	0.0505	0.0426
Neptune	-9468-02-24 00:14 J	-1736709.57	-1736709.49	-1736709.40	0.0089	0.0082
Mars	-9467-03-10 20:09 J	-1736329.83	-1736329.66	-1736329.49	0.1840	0.0615
Jupiter	-9463-06-08 04:04 J	-1734779.54	-1734779.33	-1734779.13	0.0519	0.0101
Saturn	-9459-05-06 23:45 J	-1733350.67	-1733350.51	-1733350.36	0.0298	0.0198
Saturn	-9459-12-23 00:14 J	-1733120.70	-1733120.49	-1733120.29	0.0296	0.0050
Saturn	-9458-08-09 21:50 J	-1732890.61	-1732890.59	-1732890.53	0.0293	0.0288
Jupiter	-9458-08-21 09:07 J	-1732879.15	-1732879.12	-1732879.08	0.0510	0.0502
Jupiter	-9457-04-13 19:26 J	-1732642.87	-1732642.69	-1732642.51	0.0505	0.0231
Jupiter	-9451-02-10 18:00 J	-1730513.95	-1730513.75	-1730513.55	0.0518	0.0131
Jupiter	-9446-12-18 20:52 J	-1728376.83	-1728376.63	-1728376.43	0.0507	0.0031
Saturn	-9443-01-11 07:26 J	-1727622.34	-1727622.19	-1727622.03	0.0264	0.0182
Saturn	-9443-08-28 08:52 J	-1727393.34	-1727393.13	-1727392.91	0.0265	0.0008
Saturn	-9442-04-14 12:00 J	-1727164.16	-1727164.00	-1727163.83	0.0267	0.0172
Mars	-9440-07-27 11:45 J	-1726329.18	-1726329.01	-1726328.85	0.1692	0.0519
Jupiter	-9440-10-16 11:16 J	-1726248.18	-1726248.03	-1726247.88	0.0517	0.0351
Jupiter	-9439-06-11 03:35 J	-1726010.44	-1726010.35	-1726010.25	0.0522	0.0465
Mars	-9438-05-27 04:47 J	-1725660.38	-1725660.30	-1725660.21	0.1674	0.1427
Mars	-9435-03-10 14:52 J	-1724642.04	-1724641.88	-1724641.73	0.1829	0.0864
Uranus	-9434-05-01 18:43 J	-1724224.83	-1724224.72	-1724224.57	0.0135	0.0108
Moon	-9434-05-14 13:40 J	-1724212.07	-1724211.93	-1724211.78	0.2643	0.1211
Earth	-9434-05-14 19:26 J	-1724211.85	-1724211.69	-1724211.53	0.2646	0.0412 *
Jupiter	-9434-08-23 19:55 J	-1724110.85	-1724110.67	-1724110.48	0.0508	0.0177
Uranus	-9434-12-14 01:55 J	-1723998.60	-1723998.42	-1723998.22	0.0135	0.0068
Uranus	-9433-07-27 08:52 J	-1723772.34	-1723772.13	-1723771.91	0.0134	0.0029
Uranus	-9432-03-10 15:50 J	-1723546.06	-1723545.84	-1723545.62	0.0134	0.0010
Uranus	-9432-10-22 22:33 J	-1723319.77	-1723319.56	-1723319.36	0.0134	0.0048
Uranus	-9431-06-06 04:47 J	-1723093.46	-1723093.30	-1723093.12	0.0134	0.0087
Uranus	-9430-01-18 11:16 J	-1722867.10	-1722867.03	-1722866.94	0.0134	0.0125
Saturn	-9430-11-17 05:02 J	-1722564.46	-1722564.29	-1722564.11	0.0299	0.0165

Saturn	-9429-07-04 05:31 J	-1722334.47	-1722334.27	-1722334.07	0.0296	0.0082
Jupiter	-9427-02-13 20:09 J	-1721744.85	-1721744.66	-1721744.48	0.0520	0.0239
Jupiter	-9422-04-28 19:26 J	-1719844.82	-1719844.69	-1719844.56	0.0509	0.0384
Jupiter	-9422-12-21 04:47 J	-1719608.44	-1719608.30	-1719608.15	0.0505	0.0348
Jupiter	-9416-10-19 11:16 J	-1717479.24	-1717479.03	-1717478.82	0.0518	0.0008
Saturn	-9414-07-24 12:00 J	-1716836.17	-1716836.00	-1716835.82	0.0264	0.0156
Saturn	-9413-03-09 13:40 J	-1716607.14	-1716606.93	-1716606.72	0.0266	0.0019
Saturn	-9413-10-24 16:47 J	-1716377.93	-1716377.80	-1716377.65	0.0268	0.0201
Jupiter	-9410-08-26 06:00 J	-1715342.44	-1715342.25	-1715342.06	0.0506	0.0147
Mars	-9408-07-26 10:19 J	-1714642.15	-1714642.07	-1714641.99	0.1701	0.1491
Pluto	-9406-04-27 00:28 J	-1714002.61	-1714002.48	-1714002.31	0.0065	0.0046
Mars	-9406-05-26 01:12 J	-1713973.61	-1713973.45	-1713973.28	0.1681	0.0529
Pluto	-9406-12-08 05:02 J	-1713777.50	-1713777.29	-1713777.07	0.0065	0.0011
Pluto	-9405-07-20 09:21 J	-1713552.31	-1713552.11	-1713551.90	0.0065	0.0024
Pluto	-9404-03-02 12:57 J	-1713327.02	-1713326.96	-1713326.84	0.0066	0.0060
Jupiter	-9404-06-24 02:52 J	-1713213.56	-1713213.38	-1713213.19	0.0517	0.0219
Mars	-9401-01-06 00:43 J	-1712287.62	-1712287.47	-1712287.31	0.1843	0.0852
Saturn	-9400-05-29 13:12 J	-1711778.13	-1711777.95	-1711777.75	0.0298	0.0130
Saturn	-9399-01-14 12:57 J	-1711548.14	-1711547.96	-1711547.76	0.0295	0.0117
Jupiter	-9398-05-01 07:40 J	-1711076.38	-1711076.18	-1711075.98	0.0507	0.0054
Neptune	-9396-05-23 15:07 J	-1710322.91	-1710322.87	-1710322.78	0.0088	0.0084
Neptune	-9395-01-04 04:33 J	-1710097.42	-1710097.31	-1710097.18	0.0088	0.0074
Neptune	-9395-08-17 17:16 J	-1709871.91	-1709871.78	-1709871.61	0.0088	0.0065
Neptune	-9394-03-31 06:43 J	-1709646.39	-1709646.22	-1709646.04	0.0088	0.0055
Neptune	-9394-11-11 19:26 J	-1709420.86	-1709420.69	-1709420.48	0.0088	0.0046
Neptune	-9393-06-24 08:52 J	-1709195.33	-1709195.13	-1709194.92	0.0088	0.0036
Neptune	-9392-02-04 21:50 J	-1708969.79	-1708969.59	-1708969.36	0.0088	0.0027
Jupiter	-9392-02-26 17:16 J	-1708947.88	-1708947.78	-1708947.68	0.0516	0.0446
Neptune	-9392-09-18 11:02 J	-1708744.25	-1708744.04	-1708743.81	0.0088	0.0017
Jupiter	-9392-10-22 08:38 J	-1708710.29	-1708710.14	-1708710.00	0.0521	0.0366

Neptune	-9391-05-02 00:14 J	-1708518.71	-1708518.49	-1708518.26	0.0088	0.0007
Neptune	-9391-12-13 13:26 J	-1708293.16	-1708292.94	-1708292.71	0.0088	0.0003
Uranus	-9390-04-26 20:09 J	-1708158.77	-1708158.66	-1708158.52	0.0144	0.0115
Neptune	-9390-07-27 02:38 J	-1708067.61	-1708067.39	-1708067.17	0.0088	0.0012
Uranus	-9390-12-09 06:43 J	-1707932.40	-1707932.22	-1707932.03	0.0144	0.0068
Neptune	-9389-03-08 15:35 J	-1707842.06	-1707841.85	-1707841.63	0.0088	0.0022
Uranus	-9389-07-22 17:16 J	-1707705.99	-1707705.78	-1707705.56	0.0144	0.0021
Neptune	-9389-10-20 04:47 J	-1707616.51	-1707616.30	-1707616.09	0.0088	0.0031
Uranus	-9388-03-06 04:04 J	-1707479.54	-1707479.33	-1707479.12	0.0145	0.0027
Neptune	-9388-06-02 17:45 J	-1707390.95	-1707390.76	-1707390.56	0.0088	0.0041
Uranus	-9388-10-18 14:52 J	-1707253.07	-1707252.88	-1707252.70	0.0145	0.0074
Neptune	-9387-01-14 06:43 J	-1707165.38	-1707165.22	-1707165.02	0.0088	0.0051
Uranus	-9387-06-02 01:26 J	-1707026.54	-1707026.44	-1707026.31	0.0145	0.0122
Neptune	-9387-08-27 20:09 J	-1706939.81	-1706939.66	-1706939.49	0.0088	0.0060
Jupiter	-9386-01-04 08:09 J	-1706810.33	-1706810.16	-1706809.98	0.0509	0.0258
Neptune	-9386-04-10 09:07 J	-1706714.24	-1706714.12	-1706713.97	0.0088	0.0070
Jupiter	-9386-08-28 16:47 J	-1706573.87	-1706573.80	-1706573.73	0.0504	0.0469
Neptune	-9386-11-21 22:33 J	-1706488.65	-1706488.56	-1706488.46	0.0088	0.0079
Saturn	-9384-02-02 17:45 J	-1706049.94	-1706049.76	-1706049.57	0.0264	0.0129
Saturn	-9384-09-19 19:40 J	-1705820.89	-1705820.68	-1705820.46	0.0266	0.0048
Saturn	-9383-05-06 23:16 J	-1705591.63	-1705591.53	-1705591.41	0.0268	0.0230
Jupiter	-9380-06-27 00:28 J	-1704444.67	-1704444.48	-1704444.28	0.0520	0.0140
Jupiter	-9375-09-09 06:28 J	-1702544.31	-1702544.23	-1702544.16	0.0510	0.0468
Jupiter	-9374-05-03 16:19 J	-1702307.99	-1702307.82	-1702307.65	0.0505	0.0268
Mars	-9374-05-24 22:33 J	-1702286.73	-1702286.56	-1702286.39	0.1689	0.0407
Mars	-9372-03-23 16:04 J	-1701617.90	-1701617.83	-1701617.76	0.1671	0.1524
Saturn	-9371-12-09 20:52 J	-1700991.83	-1700991.63	-1700991.43	0.0298	0.0092
Saturn	-9370-07-27 20:24 J	-1700761.83	-1700761.65	-1700761.47	0.0295	0.0152
Mars	-9369-01-05 19:26 J	-1700599.85	-1700599.69	-1700599.52	0.1832	0.0638
Jupiter	-9368-03-01 17:45 J	-1700178.96	-1700178.76	-1700178.56	0.0518	0.0087

Jupiter	-9362-01-06 16:33 J	-1698042.01	-1698041.81	-1698041.61	0.0507	0.0064
Jupiter	-9357-11-04 09:35 J	-1695913.26	-1695913.10	-1695912.93	0.0516	0.0313
Jupiter	-9356-06-30 01:26 J	-1695675.49	-1695675.44	-1695675.39	0.0521	0.0504
Saturn	-9355-08-15 23:16 J	-1695263.72	-1695263.53	-1695263.32	0.0265	0.0102
Saturn	-9354-04-02 01:26 J	-1695034.64	-1695034.44	-1695034.22	0.0267	0.0077
Saturn	-9354-11-17 05:45 J	-1694805.31	-1694805.26	-1694805.21	0.0269	0.0259
Jupiter	-9351-09-11 16:33 J	-1693776.00	-1693775.81	-1693775.61	0.0508	0.0143
Uranus	-9351-12-30 05:02 J	-1693666.36	-1693666.29	-1693666.19	0.0135	0.0124
Uranus	-9350-08-13 12:14 J	-1693440.15	-1693439.99	-1693439.81	0.0135	0.0085
Uranus	-9349-03-26 19:12 J	-1693213.90	-1693213.70	-1693213.48	0.0134	0.0046
Uranus	-9349-11-08 02:09 J	-1692987.63	-1692987.41	-1692987.19	0.0134	0.0007
Uranus	-9348-06-22 08:52 J	-1692761.34	-1692761.13	-1692760.91	0.0134	0.0032
Uranus	-9347-02-03 15:35 J	-1692535.03	-1692534.85	-1692534.66	0.0134	0.0071
Uranus	-9347-09-17 22:19 J	-1692308.70	-1692308.57	-1692308.44	0.0134	0.0109
Jupiter	-9344-03-04 16:04 J	-1691410.00	-1691409.83	-1691409.65	0.0520	0.0274
Mars	-9342-05-23 20:52 J	-1690599.73	-1690599.63	-1690599.53	0.1698	0.1371
Saturn	-9341-06-21 06:28 J	-1690205.44	-1690205.23	-1690205.02	0.0297	0.0055
Saturn	-9340-02-06 05:31 J	-1689975.43	-1689975.27	-1689975.11	0.0294	0.0188
Mars	-9340-03-22 12:00 J	-1689931.16	-1689931.00	-1689930.84	0.1679	0.0636
Jupiter	-9339-05-17 17:16 J	-1689509.92	-1689509.78	-1689509.63	0.0510	0.0347
Jupiter	-9338-01-09 02:52 J	-1689273.50	-1689273.38	-1689273.25	0.0505	0.0388
Mars	-9336-11-02 05:16 J	-1688245.42	-1688245.28	-1688245.14	0.1847	0.1097
Jupiter	-9333-11-07 05:02 J	-1687144.49	-1687144.29	-1687144.08	0.0519	0.0040
Jupiter	-9327-09-14 04:19 J	-1685007.50	-1685007.32	-1685007.13	0.0506	0.0188
Saturn	-9326-07-12 05:02 J	-1684706.36	-1684706.29	-1684706.20	0.0263	0.0244
Saturn	-9325-02-26 06:00 J	-1684477.45	-1684477.25	-1684477.04	0.0265	0.0072
Saturn	-9325-10-12 08:24 J	-1684248.34	-1684248.15	-1684247.95	0.0267	0.0107
Jupiter	-9321-07-12 21:35 J	-1682878.79	-1682878.60	-1682878.40	0.0517	0.0188
Pluto	-9318-08-07 18:00 J	-1681757.95	-1681757.75	-1681757.53	0.0079	0.0025
Pluto	-9317-03-20 04:33 J	-1681532.50	-1681532.31	-1681532.11	0.0079	0.0039

Jupiter	-9315-05-20 03:07 J	-1680741.57	-1680741.37	-1680741.17	0.0507	0.0023
Neptune	-9314-07-11 18:00 J	-1680323.82	-1680323.75	-1680323.64	0.0089	0.0082
Neptune	-9313-02-22 07:12 J	-1680098.32	-1680098.20	-1680098.06	0.0089	0.0072
Neptune	-9313-10-04 20:09 J	-1679872.81	-1679872.66	-1679872.49	0.0089	0.0062
Saturn	-9312-05-16 13:55 J	-1679649.01	-1679648.92	-1679648.82	0.0299	0.0265
Neptune	-9312-05-18 09:07 J	-1679647.29	-1679647.12	-1679646.93	0.0089	0.0052
Neptune	-9312-12-29 22:19 J	-1679421.76	-1679421.57	-1679421.38	0.0089	0.0042
Saturn	-9311-01-01 15:07 J	-1679419.07	-1679418.87	-1679418.66	0.0297	0.0016
Neptune	-9311-08-12 11:16 J	-1679196.23	-1679196.03	-1679195.82	0.0089	0.0032
Saturn	-9311-08-19 13:55 J	-1679189.05	-1679188.92	-1679188.79	0.0294	0.0227
Neptune	-9310-03-26 00:14 J	-1678970.70	-1678970.49	-1678970.28	0.0089	0.0022
Neptune	-9310-11-06 12:57 J	-1678745.17	-1678744.96	-1678744.74	0.0089	0.0012
Jupiter	-9309-03-17 15:21 J	-1678612.97	-1678612.86	-1678612.72	0.0516	0.0409
Neptune	-9309-06-19 02:09 J	-1678519.63	-1678519.41	-1678519.19	0.0089	0.0002
Jupiter	-9309-11-10 06:57 J	-1678375.33	-1678375.21	-1678375.08	0.0521	0.0409
Neptune	-9308-01-30 14:52 J	-1678294.09	-1678293.88	-1678293.66	0.0089	0.0008
Mars	-9308-03-21 09:35 J	-1678244.27	-1678244.10	-1678243.93	0.1687	0.0299
Neptune	-9308-09-13 03:35 J	-1678068.55	-1678068.35	-1678068.13	0.0089	0.0018
Neptune	-9307-04-26 16:19 J	-1677843.01	-1677842.82	-1677842.60	0.0089	0.0029
Neptune	-9307-12-08 05:16 J	-1677617.47	-1677617.28	-1677617.07	0.0089	0.0038
Uranus	-9307-12-25 06:14 J	-1677600.31	-1677600.24	-1677600.15	0.0144	0.0133
Mars	-9306-01-19 03:21 J	-1677575.39	-1677575.36	-1677575.32	0.1669	0.1622
Neptune	-9306-07-21 18:28 J	-1677391.91	-1677391.73	-1677391.54	0.0089	0.0048
Uranus	-9306-08-08 16:33 J	-1677373.97	-1677373.81	-1677373.63	0.0144	0.0087
Neptune	-9305-03-03 07:12 J	-1677166.36	-1677166.20	-1677166.03	0.0089	0.0058
Uranus	-9305-03-22 03:07 J	-1677147.57	-1677147.37	-1677147.16	0.0144	0.0040
Neptune	-9305-10-14 19:55 J	-1676940.80	-1676940.67	-1676940.52	0.0089	0.0068
Uranus	-9305-11-03 13:40 J	-1676921.14	-1676920.93	-1676920.71	0.0144	0.0009
Neptune	-9304-05-28 08:38 J	-1676715.23	-1676715.14	-1676715.01	0.0089	0.0077
Uranus	-9304-06-18 00:14 J	-1676694.68	-1676694.49	-1676694.28	0.0145	0.0056

Mars	-9304-11-02 00:43 J	-1676557.64	-1676557.47	-1676557.29	0.1836	0.0422
Neptune	-9303-01-08 21:21 J	-1676489.63	-1676489.61	-1676489.54	0.0089	0.0087
Jupiter	-9303-01-23 02:24 J	-1676475.58	-1676475.40	-1676475.22	0.0509	0.0231
Uranus	-9303-01-30 11:16 J	-1676468.17	-1676468.03	-1676467.87	0.0145	0.0103
Jupiter	-9303-09-16 11:02 J	-1676239.06	-1676239.04	-1676239.01	0.0504	0.0499
Jupiter	-9297-07-15 21:35 J	-1674109.79	-1674109.60	-1674109.40	0.0519	0.0177
Saturn	-9296-01-21 10:33 J	-1673920.17	-1673920.06	-1673919.93	0.0263	0.0218
Saturn	-9296-09-07 12:00 J	-1673691.21	-1673691.00	-1673690.79	0.0265	0.0044
Saturn	-9295-04-24 14:52 J	-1673462.07	-1673461.88	-1673461.70	0.0267	0.0136
Jupiter	-9292-09-28 01:26 J	-1672209.54	-1672209.44	-1672209.34	0.0510	0.0440
Jupiter	-9291-05-22 11:45 J	-1671973.17	-1671973.01	-1671972.85	0.0506	0.0301
Jupiter	-9285-03-20 12:57 J	-1669844.17	-1669843.96	-1669843.76	0.0518	0.0056
Saturn	-9283-11-27 00:43 J	-1668862.60	-1668862.47	-1668862.32	0.0299	0.0224
Saturn	-9282-07-15 01:55 J	-1668632.63	-1668632.42	-1668632.21	0.0296	0.0025
Saturn	-9281-03-01 00:14 J	-1668402.58	-1668402.49	-1668402.41	0.0294	0.0264
Earth	-9281-11-08 14:38 J	-1668150.04	-1668149.89	-1668149.73	0.2689	0.0553
Moon	-9281-11-08 19:55 J	-1668149.83	-1668149.67	-1668149.51	0.2689	0.0307 *
Jupiter	-9279-01-25 13:26 J	-1667707.14	-1667706.94	-1667706.74	0.0507	0.0100
Mars	-9276-03-20 07:26 J	-1666557.31	-1666557.19	-1666557.08	0.1695	0.1253
Mars	-9274-01-17 23:31 J	-1665888.67	-1665888.52	-1665888.36	0.1676	0.0732
Jupiter	-9274-11-24 02:24 J	-1665578.57	-1665578.40	-1665578.22	0.0516	0.0288
Mars	-9270-08-30 09:50 J	-1664203.21	-1664203.09	-1664202.97	0.1850	0.1338
Jupiter	-9268-09-30 14:09 J	-1663441.11	-1663440.91	-1663440.71	0.0508	0.0106
Saturn	-9267-08-03 17:31 J	-1663133.91	-1663133.77	-1663133.62	0.0264	0.0188
Saturn	-9266-03-20 18:57 J	-1662904.92	-1662904.71	-1662904.49	0.0266	0.0014
Uranus	-9266-04-12 22:04 J	-1662881.71	-1662881.58	-1662881.42	0.0135	0.0102
Saturn	-9266-11-04 22:04 J	-1662675.74	-1662675.58	-1662675.41	0.0268	0.0168
Uranus	-9266-11-25 05:02 J	-1662655.47	-1662655.29	-1662655.08	0.0135	0.0063
Uranus	-9265-07-08 12:14 J	-1662429.21	-1662428.99	-1662428.77	0.0134	0.0023
Uranus	-9264-02-19 19:12 J	-1662202.92	-1662202.70	-1662202.48	0.0134	0.0016

Uranus	-9264-10-04 01:40 J	-1661976.62	-1661976.43	-1661976.22	0.0134	0.0055
Uranus	-9263-05-18 08:24 J	-1661750.30	-1661750.15	-1661749.99	0.0134	0.0093
Uranus	-9263-12-30 14:38 J	-1661523.91	-1661523.89	-1661523.83	0.0133	0.0131
Jupiter	-9262-07-29 19:40 J	-1661312.71	-1661312.68	-1661312.65	0.0515	0.0508
Jupiter	-9261-03-23 10:04 J	-1661075.24	-1661075.08	-1661074.91	0.0520	0.0306
Jupiter	-9256-06-05 12:00 J	-1659175.15	-1659175.00	-1659174.84	0.0509	0.0320
Jupiter	-9255-01-27 21:07 J	-1658938.73	-1658938.62	-1658938.50	0.0505	0.0417
Saturn	-9253-06-08 11:16 J	-1658076.19	-1658076.03	-1658075.86	0.0299	0.0180
Saturn	-9252-01-24 11:31 J	-1657846.22	-1657846.02	-1657845.81	0.0296	0.0069
Jupiter	-9250-11-27 02:52 J	-1656809.58	-1656809.38	-1656809.17	0.0519	0.0077
Jupiter	-9244-10-02 21:35 J	-1654672.78	-1654672.60	-1654672.42	0.0506	0.0214
Mars	-9242-01-16 20:24 J	-1654201.82	-1654201.65	-1654201.48	0.1684	0.0190
Jupiter	-9238-08-01 18:43 J	-1652543.92	-1652543.72	-1652543.52	0.0517	0.0153
Mars	-9238-08-30 05:16 J	-1652515.46	-1652515.28	-1652515.11	0.1839	0.0183
Saturn	-9237-02-13 23:16 J	-1652347.69	-1652347.53	-1652347.35	0.0264	0.0160
Saturn	-9237-09-30 01:12 J	-1652118.67	-1652118.45	-1652118.24	0.0266	0.0016
Saturn	-9236-05-17 04:33 J	-1651889.45	-1651889.31	-1651889.16	0.0268	0.0198
Jupiter	-9232-06-07 21:35 J	-1650406.81	-1650406.60	-1650406.40	0.0507	0.0013
Neptune	-9231-04-07 13:55 J	-1650102.99	-1650102.92	-1650102.81	0.0088	0.0080
Neptune	-9231-11-19 03:07 J	-1649877.49	-1649877.37	-1649877.22	0.0088	0.0070
Neptune	-9230-07-02 15:50 J	-1649651.97	-1649651.84	-1649651.65	0.0088	0.0061
Neptune	-9229-02-13 05:02 J	-1649426.45	-1649426.29	-1649426.09	0.0088	0.0051
Neptune	-9229-09-25 18:28 J	-1649200.92	-1649200.73	-1649200.53	0.0088	0.0041
Neptune	-9228-05-09 07:12 J	-1648975.39	-1648975.20	-1648974.98	0.0088	0.0032
Neptune	-9228-12-20 20:38 J	-1648749.85	-1648749.64	-1648749.42	0.0088	0.0022
Neptune	-9227-08-03 09:50 J	-1648524.30	-1648524.09	-1648523.86	0.0088	0.0012
Neptune	-9226-03-16 23:02 J	-1648298.76	-1648298.54	-1648298.32	0.0088	0.0002
Jupiter	-9226-04-06 10:33 J	-1648278.20	-1648278.06	-1648277.92	0.0516	0.0379
Neptune	-9226-10-28 12:00 J	-1648073.22	-1648073.00	-1648072.77	0.0088	0.0008
Jupiter	-9226-11-30 01:12 J	-1648040.55	-1648040.45	-1648040.33	0.0521	0.0441

Neptune	-9225-06-10 01:12 J	-1647847.67	-1647847.45	-1647847.23	0.0088	0.0017
Neptune	-9224-01-21 14:24 J	-1647622.11	-1647621.90	-1647621.68	0.0088	0.0027
Neptune	-9224-09-04 03:21 J	-1647396.55	-1647396.36	-1647396.15	0.0088	0.0037
Saturn	-9224-12-19 21:50 J	-1647289.77	-1647289.59	-1647289.40	0.0298	0.0140
Neptune	-9223-04-17 16:19 J	-1647170.99	-1647170.82	-1647170.61	0.0088	0.0047
Saturn	-9223-08-06 22:04 J	-1647059.77	-1647059.58	-1647059.38	0.0295	0.0107
Neptune	-9223-11-29 05:45 J	-1646945.43	-1646945.26	-1646945.09	0.0088	0.0056
Uranus	-9222-04-08 01:40 J	-1646815.56	-1646815.43	-1646815.28	0.0144	0.0107
Neptune	-9222-07-12 18:28 J	-1646719.85	-1646719.73	-1646719.56	0.0088	0.0067
Uranus	-9222-11-20 12:00 J	-1646589.19	-1646589.00	-1646588.80	0.0144	0.0060
Neptune	-9221-02-23 07:40 J	-1646494.27	-1646494.18	-1646494.05	0.0088	0.0076
Uranus	-9221-07-03 22:47 J	-1646362.77	-1646362.55	-1646362.34	0.0144	0.0013
Neptune	-9221-10-05 20:52 J	-1646268.66	-1646268.63	-1646268.56	0.0088	0.0086
Jupiter	-9220-02-10 22:19 J	-1646140.75	-1646140.57	-1646140.38	0.0509	0.0199
Uranus	-9220-02-15 09:21 J	-1646136.31	-1646136.11	-1646135.90	0.0144	0.0035
Uranus	-9220-09-29 19:55 J	-1645909.83	-1645909.67	-1645909.48	0.0145	0.0083
Uranus	-9219-05-14 07:12 J	-1645683.29	-1645683.20	-1645683.11	0.0145	0.0130
Jupiter	-9214-08-04 14:24 J	-1643775.09	-1643774.90	-1643774.71	0.0519	0.0203
Mars	-9210-01-15 18:00 J	-1642514.88	-1642514.75	-1642514.63	0.1693	0.1133
Jupiter	-9209-10-16 22:19 J	-1641874.69	-1641874.57	-1641874.45	0.0510	0.0408
Mars	-9209-11-14 10:47 J	-1641846.20	-1641846.05	-1641845.90	0.1674	0.0833
Jupiter	-9208-06-10 08:38 J	-1641638.29	-1641638.14	-1641637.99	0.0505	0.0337
Saturn	-9208-08-26 06:00 J	-1641561.43	-1641561.25	-1641561.06	0.0265	0.0130
Saturn	-9207-04-12 07:55 J	-1641332.38	-1641332.17	-1641331.95	0.0266	0.0047
Saturn	-9207-11-27 11:31 J	-1641103.12	-1641103.02	-1641102.90	0.0268	0.0230
Mars	-9206-08-29 22:47 J	-1640827.63	-1640827.55	-1640827.48	0.1828	0.1629
Mars	-9204-06-26 13:26 J	-1640161.02	-1640160.94	-1640160.85	0.1853	0.1602
Jupiter	-9202-04-09 06:28 J	-1639509.43	-1639509.23	-1639509.02	0.0518	0.0027
Jupiter	-9196-02-13 07:26 J	-1637372.39	-1637372.19	-1637372.00	0.0506	0.0126
Saturn	-9194-07-02 08:38 J	-1636503.33	-1636503.14	-1636502.93	0.0298	0.0096

Saturn	-9193-02-17 08:09 J	-1636273.33	-1636273.16	-1636272.97	0.0295	0.0151
Earth	-9191-05-14 19:55 J	-1635455.83	-1635455.67	-1635455.51	0.2644	0.0366
Moon	-9191-05-15 00:14 J	-1635455.65	-1635455.49	-1635455.34	0.2649	0.0425 *
Jupiter	-9191-12-13 00:00 J	-1635243.68	-1635243.50	-1635243.32	0.0517	0.0253
Jupiter	-9185-10-19 07:12 J	-1633106.40	-1633106.20	-1633106.00	0.0508	0.0082
Uranus	-9183-12-11 09:07 J	-1632323.23	-1632323.12	-1632323.02	0.0135	0.0118
Uranus	-9182-07-25 16:04 J	-1632097.01	-1632096.83	-1632096.65	0.0135	0.0079
Uranus	-9181-03-07 23:02 J	-1631870.74	-1631870.54	-1631870.32	0.0134	0.0040
Uranus	-9181-10-20 06:00 J	-1631644.47	-1631644.25	-1631644.03	0.0134	0.0001
Uranus	-9180-06-03 12:28 J	-1631418.18	-1631417.98	-1631417.76	0.0134	0.0039
Uranus	-9179-01-15 19:12 J	-1631191.87	-1631191.70	-1631191.51	0.0134	0.0078
Jupiter	-9179-08-17 16:47 J	-1630977.87	-1630977.80	-1630977.71	0.0515	0.0476
Uranus	-9179-08-30 01:40 J	-1630965.52	-1630965.43	-1630965.30	0.0134	0.0116
Saturn	-9178-03-08 11:45 J	-1630775.21	-1630775.01	-1630774.81	0.0265	0.0103
Jupiter	-9178-04-12 07:12 J	-1630740.35	-1630740.20	-1630740.04	0.0520	0.0343
Saturn	-9178-10-23 13:40 J	-1630546.13	-1630545.93	-1630545.72	0.0267	0.0076
Saturn	-9177-06-08 17:45 J	-1630316.81	-1630316.76	-1630316.70	0.0269	0.0259
Mars	-9177-11-13 07:26 J	-1630159.36	-1630159.19	-1630159.01	0.1682	0.0092
Jupiter	-9173-06-24 06:14 J	-1628840.40	-1628840.24	-1628840.07	0.0509	0.0294
Jupiter	-9172-02-15 15:50 J	-1628603.93	-1628603.84	-1628603.75	0.0505	0.0447
Mars	-9172-06-26 09:21 J	-1628473.28	-1628473.11	-1628472.93	0.1843	0.0077
Jupiter	-9167-12-15 22:04 J	-1626474.78	-1626474.58	-1626474.38	0.0519	0.0109
Saturn	-9164-01-11 18:57 J	-1625716.92	-1625716.71	-1625716.51	0.0297	0.0056
Saturn	-9164-08-29 18:14 J	-1625486.90	-1625486.74	-1625486.58	0.0295	0.0188
Jupiter	-9161-02-28 06:14 J	-1624574.27	-1624574.24	-1624574.20	0.0511	0.0502
Jupiter	-9161-10-21 17:31 J	-1624337.94	-1624337.77	-1624337.59	0.0506	0.0249
Pluto	-9159-01-04 22:47 J	-1623897.63	-1623897.55	-1623897.44	0.0065	0.0058
Pluto	-9159-08-18 03:07 J	-1623672.56	-1623672.37	-1623672.15	0.0065	0.0024
Pluto	-9158-03-31 07:26 J	-1623447.39	-1623447.19	-1623446.96	0.0065	0.0011
Pluto	-9158-11-11 11:31 J	-1623222.15	-1623222.02	-1623221.85	0.0066	0.0047

Jupiter	-9155-08-20 12:00 J	-1622209.20	-1622209.00	-1622208.80	0.0517	0.0127
Neptune	-9150-10-13 02:52 J	-1620329.40	-1620329.38	-1620329.31	0.0089	0.0088
Saturn	-9149-02-01 17:02 J	-1620217.85	-1620217.79	-1620217.70	0.0263	0.0245
Neptune	-9149-05-25 16:04 J	-1620103.92	-1620103.83	-1620103.70	0.0089	0.0078
Jupiter	-9149-06-26 18:28 J	-1620071.93	-1620071.73	-1620071.53	0.0507	0.0042
Saturn	-9149-09-17 18:00 J	-1619988.96	-1619988.75	-1619988.54	0.0265	0.0073
Neptune	-9148-01-06 05:16 J	-1619878.41	-1619878.28	-1619878.13	0.0089	0.0068
Saturn	-9148-05-04 20:24 J	-1619759.85	-1619759.65	-1619759.45	0.0267	0.0106
Neptune	-9148-08-19 18:14 J	-1619652.89	-1619652.74	-1619652.56	0.0089	0.0058
Neptune	-9147-04-02 07:12 J	-1619427.37	-1619427.20	-1619427.00	0.0089	0.0048
Neptune	-9147-11-13 20:09 J	-1619201.85	-1619201.66	-1619201.45	0.0089	0.0038
Neptune	-9146-06-27 09:21 J	-1618976.31	-1618976.11	-1618975.90	0.0089	0.0027
Neptune	-9145-02-07 22:19 J	-1618750.78	-1618750.57	-1618750.35	0.0089	0.0017
Neptune	-9145-09-20 11:02 J	-1618525.25	-1618525.04	-1618524.81	0.0089	0.0008
Mars	-9145-11-12 04:47 J	-1618472.43	-1618472.30	-1618472.16	0.1690	0.1025
Neptune	-9144-05-04 00:00 J	-1618299.71	-1618299.50	-1618299.28	0.0089	0.0003
Neptune	-9144-12-15 12:43 J	-1618074.18	-1618073.97	-1618073.74	0.0089	0.0014
Jupiter	-9143-04-25 04:47 J	-1617943.45	-1617943.30	-1617943.15	0.0516	0.0353
Neptune	-9143-07-29 01:40 J	-1617848.63	-1617848.43	-1617848.21	0.0089	0.0024
Mars	-9143-09-11 22:19 J	-1617803.71	-1617803.57	-1617803.43	0.1671	0.0931
Jupiter	-9143-12-18 19:55 J	-1617705.75	-1617705.67	-1617705.58	0.0521	0.0472
Neptune	-9142-03-11 14:24 J	-1617623.09	-1617622.90	-1617622.68	0.0089	0.0034
Neptune	-9142-10-23 03:07 J	-1617397.54	-1617397.37	-1617397.16	0.0089	0.0044
Neptune	-9141-06-04 16:04 J	-1617171.99	-1617171.83	-1617171.64	0.0089	0.0053
Neptune	-9140-01-16 04:47 J	-1616946.43	-1616946.30	-1616946.12	0.0089	0.0064
Mars	-9140-06-26 03:50 J	-1616785.45	-1616785.34	-1616785.23	0.1832	0.1411
Neptune	-9140-08-29 17:45 J	-1616720.86	-1616720.76	-1616720.62	0.0089	0.0073
Neptune	-9139-04-12 06:57 J	-1616495.28	-1616495.21	-1616495.13	0.0089	0.0083
Uranus	-9139-12-06 08:52 J	-1616257.21	-1616257.13	-1616257.02	0.0144	0.0129
Mars	-9138-04-23 17:45 J	-1616118.77	-1616118.76	-1616118.75	0.1857	0.1852

Uranus	-9138-07-20 19:26 J	-1616030.86	-1616030.69	-1616030.51	0.0144	0.0082
Jupiter	-9137-03-01 16:47 J	-1615805.99	-1615805.80	-1615805.61	0.0509	0.0173
Uranus	-9137-03-03 06:00 J	-1615804.46	-1615804.25	-1615804.04	0.0144	0.0035
Uranus	-9137-10-15 16:33 J	-1615578.02	-1615577.81	-1615577.59	0.0144	0.0012
Uranus	-9136-05-30 03:21 J	-1615351.56	-1615351.36	-1615351.17	0.0145	0.0060
Saturn	-9136-12-07 03:21 J	-1615160.45	-1615160.36	-1615160.26	0.0299	0.0265
Uranus	-9135-01-11 13:55 J	-1615125.05	-1615124.92	-1615124.77	0.0145	0.0108
Saturn	-9135-07-25 05:02 J	-1614930.50	-1614930.29	-1614930.08	0.0297	0.0014
Saturn	-9134-03-12 03:35 J	-1614700.47	-1614700.35	-1614700.21	0.0295	0.0230
Jupiter	-9131-08-23 12:43 J	-1613440.15	-1613439.97	-1613439.79	0.0520	0.0243
Jupiter	-9126-11-05 16:04 J	-1611539.95	-1611539.83	-1611539.69	0.0510	0.0384
Jupiter	-9125-06-29 01:55 J	-1611303.55	-1611303.42	-1611303.27	0.0505	0.0363
Saturn	-9120-08-13 21:50 J	-1609431.70	-1609431.59	-1609431.46	0.0263	0.0220
Saturn	-9119-03-30 22:47 J	-1609202.76	-1609202.55	-1609202.34	0.0265	0.0047
Jupiter	-9119-04-28 04:47 J	-1609174.51	-1609174.30	-1609174.10	0.0518	0.0014
Saturn	-9119-11-15 01:12 J	-1608973.63	-1608973.45	-1608973.25	0.0267	0.0133
Jupiter	-9113-03-04 02:24 J	-1607037.59	-1607037.40	-1607037.21	0.0507	0.0158
Mars	-9111-09-10 18:28 J	-1606116.90	-1606116.73	-1606116.56	0.1679	0.0032
Jupiter	-9108-12-31 20:38 J	-1604908.83	-1604908.64	-1604908.46	0.0516	0.0218
Mars	-9106-04-23 13:55 J	-1604431.10	-1604430.92	-1604430.75	0.1846	0.0303
Saturn	-9106-06-19 12:14 J	-1604374.12	-1604373.99	-1604373.85	0.0299	0.0227
Saturn	-9105-02-04 13:40 J	-1604144.14	-1604143.93	-1604143.72	0.0297	0.0024
Saturn	-9105-09-21 12:14 J	-1603914.08	-1603913.99	-1603913.90	0.0294	0.0264
Jupiter	-9102-11-08 03:21 J	-1602771.56	-1602771.36	-1602771.15	0.0508	0.0050
Uranus	-9098-03-25 01:12 J	-1601538.59	-1601538.45	-1601538.29	0.0135	0.0097
Uranus	-9098-11-06 08:09 J	-1601312.35	-1601312.16	-1601311.95	0.0135	0.0058
Uranus	-9097-06-19 15:21 J	-1601086.08	-1601085.86	-1601085.64	0.0134	0.0018
Uranus	-9096-01-31 22:19 J	-1600859.78	-1600859.57	-1600859.35	0.0134	0.0021
Jupiter	-9096-09-05 11:45 J	-1600643.11	-1600643.01	-1600642.91	0.0515	0.0448
Uranus	-9096-09-15 05:02 J	-1600633.48	-1600633.29	-1600633.09	0.0134	0.0060

Uranus	-9095-04-29 11:31 J	-1600407.16	-1600407.02	-1600406.86	0.0134	0.0099
Jupiter	-9095-05-01 01:26 J	-1600405.57	-1600405.44	-1600405.29	0.0520	0.0374
Saturn	-9090-02-24 03:21 J	-1598645.51	-1598645.36	-1598645.22	0.0264	0.0192
Jupiter	-9090-07-14 03:50 J	-1598505.51	-1598505.34	-1598505.16	0.0510	0.0259
Saturn	-9090-10-11 04:19 J	-1598416.54	-1598416.32	-1598416.11	0.0265	0.0018
Jupiter	-9089-03-06 13:26 J	-1598268.99	-1598268.94	-1598268.88	0.0505	0.0485
Saturn	-9089-05-27 06:57 J	-1598187.38	-1598187.21	-1598187.04	0.0267	0.0163
Jupiter	-9083-01-03 17:45 J	-1596139.96	-1596139.76	-1596139.56	0.0519	0.0142
Mars	-9079-09-09 15:21 J	-1594430.01	-1594429.86	-1594429.72	0.1687	0.0904
Jupiter	-9078-03-19 01:55 J	-1594239.49	-1594239.42	-1594239.34	0.0511	0.0475
Jupiter	-9078-11-10 12:43 J	-1594003.14	-1594002.97	-1594002.80	0.0506	0.0277
Mars	-9077-07-09 09:21 J	-1593761.24	-1593761.11	-1593760.98	0.1669	0.1033
Saturn	-9077-12-29 21:35 J	-1593587.76	-1593587.60	-1593587.43	0.0299	0.0187
Saturn	-9076-08-16 22:47 J	-1593357.76	-1593357.55	-1593357.35	0.0297	0.0064
Mars	-9074-04-23 08:38 J	-1592743.27	-1592743.14	-1592743.00	0.1835	0.1189
Jupiter	-9072-09-08 11:02 J	-1591874.24	-1591874.04	-1591873.83	0.0518	0.0087
Pluto	-9071-04-17 14:09 J	-1591653.07	-1591652.91	-1591652.71	0.0079	0.0046
Pluto	-9071-11-29 00:57 J	-1591427.67	-1591427.46	-1591427.24	0.0079	0.0019
Neptune	-9067-07-10 00:00 J	-1590108.53	-1590108.50	-1590108.43	0.0088	0.0085
Neptune	-9066-02-20 13:12 J	-1589883.05	-1589882.95	-1589882.83	0.0088	0.0075
Jupiter	-9066-07-16 13:26 J	-1589737.14	-1589736.94	-1589736.74	0.0507	0.0071
Neptune	-9066-10-04 01:55 J	-1589657.55	-1589657.42	-1589657.26	0.0088	0.0066
Neptune	-9065-05-16 15:07 J	-1589432.03	-1589431.87	-1589431.69	0.0088	0.0056
Neptune	-9065-12-28 04:19 J	-1589206.50	-1589206.32	-1589206.12	0.0088	0.0046
Neptune	-9064-08-10 17:16 J	-1588980.97	-1588980.78	-1588980.56	0.0088	0.0037
Neptune	-9063-03-24 06:14 J	-1588755.43	-1588755.24	-1588755.01	0.0088	0.0027
Neptune	-9063-11-04 19:26 J	-1588529.90	-1588529.69	-1588529.46	0.0088	0.0017
Neptune	-9062-06-18 08:52 J	-1588304.35	-1588304.13	-1588303.91	0.0088	0.0007
Neptune	-9061-01-29 22:04 J	-1588078.80	-1588078.58	-1588078.36	0.0088	0.0003
Saturn	-9061-09-05 07:12 J	-1587859.36	-1587859.20	-1587859.03	0.0263	0.0168

Neptune	-9061-09-11 11:02 J	-1587853.25	-1587853.04	-1587852.81	0.0088	0.0013
Saturn	-9060-04-22 08:24 J	-1587630.36	-1587630.15	-1587629.93	0.0265	0.0007
Neptune	-9060-04-25 00:00 J	-1587627.70	-1587627.50	-1587627.27	0.0088	0.0023
Jupiter	-9060-05-14 04:04 J	-1587608.49	-1587608.33	-1587608.16	0.0516	0.0313
Neptune	-9060-12-06 13:12 J	-1587402.14	-1587401.95	-1587401.73	0.0088	0.0033
Saturn	-9060-12-07 11:16 J	-1587401.18	-1587401.03	-1587400.87	0.0267	0.0187
Jupiter	-9059-01-06 19:26 J	-1587370.71	-1587370.69	-1587370.66	0.0521	0.0517
Neptune	-9059-07-20 02:38 J	-1587176.58	-1587176.39	-1587176.19	0.0088	0.0043
Neptune	-9058-03-02 15:50 J	-1586951.02	-1586950.84	-1586950.66	0.0088	0.0052
Neptune	-9058-10-14 04:47 J	-1586725.45	-1586725.30	-1586725.14	0.0088	0.0062
Neptune	-9057-05-26 17:45 J	-1586499.87	-1586499.76	-1586499.62	0.0088	0.0072
Neptune	-9056-01-07 06:57 J	-1586274.27	-1586274.21	-1586274.11	0.0088	0.0082
Uranus	-9054-03-20 01:26 J	-1585472.58	-1585472.44	-1585472.29	0.0144	0.0106
Jupiter	-9054-03-21 12:57 J	-1585471.15	-1585470.96	-1585470.76	0.0509	0.0140
Uranus	-9054-11-01 11:45 J	-1585246.20	-1585246.01	-1585245.81	0.0144	0.0059
Uranus	-9053-06-14 22:19 J	-1585019.79	-1585019.57	-1585019.36	0.0144	0.0012
Uranus	-9052-01-27 08:52 J	-1584793.34	-1584793.13	-1584792.92	0.0144	0.0035
Uranus	-9052-09-10 19:26 J	-1584566.85	-1584566.69	-1584566.50	0.0145	0.0084
Uranus	-9051-04-25 06:28 J	-1584340.31	-1584340.23	-1584340.14	0.0145	0.0131
Jupiter	-9048-09-11 10:33 J	-1583105.23	-1583105.06	-1583104.88	0.0519	0.0284
Saturn	-9047-07-12 04:33 J	-1582801.48	-1582801.31	-1582801.12	0.0299	0.0153
Saturn	-9046-02-27 05:31 J	-1582571.47	-1582571.27	-1582571.07	0.0296	0.0097
Moon	-9046-11-11 22:33 J	-1582313.61	-1582313.56	-1582313.50	0.2682	0.2512
Mars	-9045-07-08 05:16 J	-1582074.45	-1582074.28	-1582074.11	0.1676	0.0138
Jupiter	-9043-11-24 13:12 J	-1581205.09	-1581204.95	-1581204.80	0.0510	0.0350
Jupiter	-9042-07-18 23:45 J	-1580968.63	-1580968.51	-1580968.39	0.0506	0.0401
Mars	-9040-02-17 18:00 J	-1580388.92	-1580388.75	-1580388.59	0.1850	0.0554
Moon	-9038-11-09 11:31 J	-1579394.16	-1579394.02	-1579393.88	0.2688	0.1170
Earth	-9038-11-09 16:33 J	-1579393.97	-1579393.81	-1579393.66	0.2690	0.0500 *
Jupiter	-9036-05-17 00:57 J	-1578839.66	-1578839.46	-1578839.25	0.0518	0.0047

Saturn	-9031-03-18 11:31 J	-1577073.20	-1577073.02	-1577072.84	0.0264	0.0142
Saturn	-9031-11-02 12:43 J	-1576844.18	-1576843.97	-1576843.76	0.0266	0.0034
Jupiter	-9030-03-24 01:12 J	-1576702.63	-1576702.45	-1576702.26	0.0507	0.0197
Saturn	-9030-06-19 15:50 J	-1576614.97	-1576614.84	-1576614.72	0.0268	0.0215
Jupiter	-9024-01-19 18:00 J	-1574573.94	-1574573.75	-1574573.56	0.0517	0.0183
Jupiter	-9019-11-27 00:28 J	-1572436.69	-1572436.48	-1572436.28	0.0508	0.0019
Saturn	-9017-01-22 12:14 J	-1572015.19	-1572014.99	-1572014.80	0.0299	0.0116
Saturn	-9017-09-08 12:43 J	-1571785.16	-1571784.97	-1571784.78	0.0296	0.0133
Uranus	-9015-11-22 09:50 J	-1570980.20	-1570980.09	-1570979.97	0.0135	0.0115
Uranus	-9014-07-06 17:02 J	-1570753.96	-1570753.79	-1570753.60	0.0135	0.0076
Uranus	-9013-02-18 00:14 J	-1570527.69	-1570527.49	-1570527.27	0.0135	0.0036
Mars	-9013-07-07 02:24 J	-1570387.55	-1570387.40	-1570387.25	0.1684	0.0796
Jupiter	-9013-09-24 11:31 J	-1570308.14	-1570308.02	-1570307.89	0.0516	0.0408
Uranus	-9013-10-01 07:26 J	-1570301.41	-1570301.19	-1570300.97	0.0134	0.0003
Uranus	-9012-05-15 14:09 J	-1570075.11	-1570074.91	-1570074.70	0.0134	0.0042
Jupiter	-9012-05-20 02:24 J	-1570070.51	-1570070.40	-1570070.28	0.0521	0.0421
Uranus	-9012-12-27 20:52 J	-1569848.80	-1569848.63	-1569848.45	0.0134	0.0081
Mars	-9011-05-06 21:07 J	-1569718.74	-1569718.62	-1569718.49	0.1667	0.1128
Uranus	-9011-08-11 03:21 J	-1569622.45	-1569622.36	-1569622.25	0.0134	0.0120
Mars	-9008-02-17 13:55 J	-1568701.07	-1568700.92	-1568700.77	0.1839	0.0970
Jupiter	-9007-08-02 00:43 J	-1568170.65	-1568170.47	-1568170.29	0.0509	0.0226
Saturn	-9002-09-28 14:24 J	-1566287.08	-1566286.90	-1566286.70	0.0263	0.0120
Saturn	-9001-05-14 15:50 J	-1566058.05	-1566057.84	-1566057.63	0.0265	0.0056
Saturn	-9001-12-29 18:57 J	-1565828.80	-1565828.71	-1565828.61	0.0267	0.0238

9TH MILLENNIUM BCE

This is a list of transits of Venus in the 9th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-9000-01-22 18:57 J		-1565804.90	-1565804.71	-1565804.52	0.0519	0.0191	
Jupiter	-8995-04-06 23:45 J		-1563904.61	-1563904.51	-1563904.40	0.0511	0.0439	
Jupiter	-8995-11-29 10:33 J		-1563668.22	-1563668.06	-1563667.90	0.0506	0.0316	
Jupiter	-8989-09-27 11:02 J		-1561539.24	-1561539.04	-1561538.83	0.0518	0.0043	
Saturn	-8988-08-03 17:16 J		-1561228.98	-1561228.78	-1561228.58	0.0299	0.0086	
Saturn	-8987-03-21 17:31 J		-1560998.94	-1560998.77	-1560998.59	0.0296	0.0163	
Neptune	-8985-08-27 01:40 J		-1560109.49	-1560109.43	-1560109.33	0.0089	0.0083	
Neptune	-8984-04-09 14:38 J		-1559883.99	-1559883.89	-1559883.74	0.0089	0.0074	
Neptune	-8984-11-21 04:19 J		-1559658.47	-1559658.32	-1559658.17	0.0089	0.0063	
Neptune	-8983-07-04 17:16 J		-1559432.95	-1559432.78	-1559432.60	0.0089	0.0053	
Jupiter	-8983-08-04 12:00 J		-1559402.19	-1559402.00	-1559401.80	0.0507	0.0112	
Neptune	-8982-02-15 06:14 J		-1559207.42	-1559207.24	-1559207.04	0.0089	0.0043	
Neptune	-8982-09-28 19:12 J		-1558981.90	-1558981.70	-1558981.49	0.0089	0.0032	
Neptune	-8981-05-11 08:09 J		-1558756.36	-1558756.16	-1558755.94	0.0089	0.0022	
Neptune	-8981-12-22 21:07 J		-1558530.83	-1558530.62	-1558530.40	0.0089	0.0012	
Neptune	-8980-08-05 10:19 J		-1558305.29	-1558305.07	-1558304.85	0.0089	0.0002	
Neptune	-8979-03-18 23:02 J		-1558079.75	-1558079.54	-1558079.32	0.0089	0.0009	
Mars	-8979-05-05 16:47 J		-1558031.97	-1558031.80	-1558031.63	0.1674	0.0241	
Neptune	-8979-10-30 12:00 J		-1557854.21	-1557854.00	-1557853.79	0.0089	0.0019	
Neptune	-8978-06-13 00:57 J		-1557628.67	-1557628.46	-1557628.26	0.0089	0.0029	
Neptune	-8977-01-24 13:26 J		-1557403.12	-1557402.94	-1557402.73	0.0089	0.0039	
Jupiter	-8977-06-02 02:38 J		-1557273.56	-1557273.39	-1557273.21	0.0516	0.0275	
Neptune	-8977-09-06 02:09 J		-1557177.57	-1557177.41	-1557177.21	0.0089	0.0049	
Neptune	-8976-04-19 14:52 J		-1556952.02	-1556951.88	-1556951.70	0.0089	0.0060	
Neptune	-8976-12-01 03:35 J		-1556726.46	-1556726.35	-1556726.19	0.0089	0.0070	

Neptune	-8975-07-14 16:33 J	-1556500.88	-1556500.81	-1556500.69	0.0089	0.0080
Mars	-8975-12-15 22:04 J	-1556346.74	-1556346.58	-1556346.42	0.1853	0.0802
Neptune	-8974-02-25 05:31 J	-1556275.27	-1556275.27	-1556275.23	0.0089	0.0089
Saturn	-8972-04-09 17:45 J	-1555500.96	-1555500.76	-1555500.56	0.0264	0.0095
Saturn	-8972-11-24 18:57 J	-1555271.91	-1555271.71	-1555271.50	0.0266	0.0082
Jupiter	-8971-04-09 13:12 J	-1555136.15	-1555135.95	-1555135.76	0.0509	0.0098
Saturn	-8971-07-11 22:04 J	-1555042.60	-1555042.58	-1555042.54	0.0268	0.0264
Uranus	-8971-11-17 08:09 J	-1554914.24	-1554914.16	-1554914.05	0.0143	0.0128
Uranus	-8970-07-01 18:28 J	-1554687.90	-1554687.73	-1554687.55	0.0144	0.0082
Uranus	-8969-02-13 04:47 J	-1554461.50	-1554461.30	-1554461.08	0.0144	0.0035
Uranus	-8969-09-26 15:21 J	-1554235.07	-1554234.86	-1554234.64	0.0144	0.0013
Uranus	-8968-05-11 01:40 J	-1554008.61	-1554008.43	-1554008.22	0.0144	0.0061
Uranus	-8968-12-23 12:28 J	-1553782.11	-1553781.98	-1553781.83	0.0145	0.0108
Jupiter	-8965-02-05 20:24 J	-1553007.69	-1553007.65	-1553007.60	0.0515	0.0497
Jupiter	-8965-09-30 09:50 J	-1552770.24	-1552770.09	-1552769.92	0.0520	0.0327
Jupiter	-8960-12-13 12:14 J	-1550870.14	-1550869.99	-1550869.83	0.0510	0.0312
Jupiter	-8959-08-06 21:50 J	-1550633.68	-1550633.59	-1550633.49	0.0505	0.0439
Saturn	-8958-02-13 23:16 J	-1550442.74	-1550442.53	-1550442.33	0.0298	0.0052
Saturn	-8958-10-01 23:16 J	-1550212.68	-1550212.53	-1550212.37	0.0296	0.0196
Jupiter	-8953-06-05 02:38 J	-1548504.59	-1548504.39	-1548504.18	0.0519	0.0095
Moon	-8948-05-14 18:28 J	-1546699.89	-1546699.73	-1546699.57	0.2636	0.0780
Earth	-8948-05-14 20:52 J	-1546699.79	-1546699.63	-1546699.46	0.2643	0.0262 *
Jupiter	-8947-04-11 23:31 J	-1546367.70	-1546367.52	-1546367.34	0.0506	0.0235
Mars	-8947-05-04 13:26 J	-1546345.10	-1546344.94	-1546344.78	0.1682	0.0685
Mars	-8945-03-03 08:24 J	-1545676.26	-1545676.15	-1545676.03	0.1664	0.1226
Saturn	-8943-03-05 20:09 J	-1544943.72	-1544943.66	-1544943.58	0.0262	0.0245
Saturn	-8943-10-20 19:55 J	-1544714.87	-1544714.67	-1544714.46	0.0263	0.0074
Mars	-8943-12-15 18:14 J	-1544658.90	-1544658.74	-1544658.58	0.1842	0.0734
Saturn	-8942-06-06 21:21 J	-1544485.81	-1544485.61	-1544485.42	0.0265	0.0103
Jupiter	-8941-02-08 20:09 J	-1544238.85	-1544238.66	-1544238.46	0.0517	0.0133

Jupiter	-8936-12-15 23:45 J	-1542101.71	-1542101.51	-1542101.30	0.0508	0.0030
Uranus	-8930-03-06 00:00 J	-1540195.64	-1540195.50	-1540195.33	0.0135	0.0096
Jupiter	-8930-10-14 13:26 J	-1539973.08	-1539972.94	-1539972.79	0.0516	0.0360
Uranus	-8930-10-18 07:26 J	-1539969.38	-1539969.19	-1539968.98	0.0135	0.0056
Saturn	-8929-01-08 23:16 J	-1539886.60	-1539886.53	-1539886.46	0.0301	0.0282
Uranus	-8929-05-31 14:38 J	-1539743.11	-1539742.89	-1539742.67	0.0135	0.0016
Jupiter	-8929-06-08 04:19 J	-1539735.40	-1539735.32	-1539735.24	0.0520	0.0472
Saturn	-8929-08-26 01:55 J	-1539656.63	-1539656.42	-1539656.21	0.0298	0.0026
Uranus	-8928-01-12 21:35 J	-1539516.81	-1539516.60	-1539516.38	0.0134	0.0024
Saturn	-8928-04-13 01:55 J	-1539426.55	-1539426.42	-1539426.28	0.0296	0.0221
Uranus	-8928-08-27 04:33 J	-1539290.50	-1539290.31	-1539290.11	0.0134	0.0062
Uranus	-8927-04-10 11:16 J	-1539064.17	-1539064.03	-1539063.88	0.0134	0.0101
Jupiter	-8924-08-21 00:43 J	-1537835.66	-1537835.47	-1537835.28	0.0509	0.0183
Jupiter	-8917-02-11 19:12 J	-1535469.88	-1535469.70	-1535469.52	0.0519	0.0236
Mars	-8915-05-03 11:02 J	-1534658.08	-1534658.04	-1534658.00	0.1690	0.1635
Saturn	-8914-09-15 22:04 J	-1534157.69	-1534157.58	-1534157.47	0.0262	0.0223
Mars	-8913-03-02 03:50 J	-1533989.51	-1533989.34	-1533989.17	0.1671	0.0346
Saturn	-8913-05-01 21:50 J	-1533928.80	-1533928.59	-1533928.38	0.0264	0.0052
Saturn	-8913-12-16 23:31 J	-1533699.71	-1533699.52	-1533699.33	0.0266	0.0126
Jupiter	-8912-04-26 00:57 J	-1533569.58	-1533569.46	-1533569.33	0.0511	0.0395
Pluto	-8912-04-28 02:24 J	-1533567.58	-1533567.40	-1533567.20	0.0065	0.0032
Pluto	-8912-12-09 06:57 J	-1533342.43	-1533342.21	-1533341.99	0.0065	0.0003
Jupiter	-8912-12-18 12:00 J	-1533333.14	-1533333.00	-1533332.86	0.0506	0.0363
Pluto	-8911-07-22 10:47 J	-1533117.20	-1533117.05	-1533116.85	0.0066	0.0039
Mars	-8909-10-12 02:09 J	-1532304.55	-1532304.41	-1532304.27	0.1856	0.1059
Jupiter	-8906-10-17 12:00 J	-1531204.21	-1531204.00	-1531203.80	0.0518	0.0006
Neptune	-8902-05-25 00:00 J	-1529888.58	-1529888.50	-1529888.41	0.0088	0.0080
Neptune	-8901-01-05 12:43 J	-1529663.08	-1529662.97	-1529662.82	0.0088	0.0071
Neptune	-8901-08-18 01:40 J	-1529437.57	-1529437.43	-1529437.25	0.0088	0.0061
Neptune	-8900-03-31 14:52 J	-1529212.05	-1529211.88	-1529211.69	0.0088	0.0051

Saturn	-8900-07-21 03:35 J	-1529100.45	-1529100.35	-1529100.23	0.0300	0.0253
Jupiter	-8900-08-23 12:28 J	-1529067.17	-1529066.98	-1529066.79	0.0507	0.0155
Neptune	-8900-11-12 03:50 J	-1528986.52	-1528986.34	-1528986.13	0.0088	0.0041
Saturn	-8899-03-08 06:14 J	-1528870.45	-1528870.24	-1528870.03	0.0298	0.0004
Neptune	-8899-06-25 17:02 J	-1528760.99	-1528760.79	-1528760.58	0.0088	0.0031
Saturn	-8899-10-24 06:14 J	-1528640.35	-1528640.24	-1528640.13	0.0296	0.0250
Neptune	-8898-02-06 06:14 J	-1528535.46	-1528535.24	-1528535.02	0.0088	0.0021
Neptune	-8898-09-19 19:12 J	-1528309.92	-1528309.70	-1528309.48	0.0088	0.0011
Neptune	-8897-05-02 08:24 J	-1528084.37	-1528084.15	-1528083.93	0.0088	0.0002
Neptune	-8897-12-13 21:21 J	-1527858.82	-1527858.61	-1527858.38	0.0088	0.0009
Neptune	-8896-07-27 10:33 J	-1527633.27	-1527633.06	-1527632.84	0.0088	0.0019
Neptune	-8895-03-09 23:31 J	-1527407.72	-1527407.52	-1527407.30	0.0088	0.0029
Neptune	-8895-10-21 12:28 J	-1527182.16	-1527181.98	-1527181.76	0.0088	0.0039
Neptune	-8894-06-04 01:40 J	-1526956.60	-1526956.43	-1526956.23	0.0088	0.0049
Jupiter	-8894-06-22 04:47 J	-1526938.48	-1526938.30	-1526938.11	0.0517	0.0226
Neptune	-8893-01-15 15:21 J	-1526731.02	-1526730.86	-1526730.69	0.0088	0.0059
Neptune	-8893-08-28 04:33 J	-1526505.44	-1526505.31	-1526505.17	0.0088	0.0068
Neptune	-8892-04-10 17:31 J	-1526279.86	-1526279.77	-1526279.66	0.0088	0.0078
Jupiter	-8888-04-28 13:40 J	-1524801.13	-1524800.93	-1524800.73	0.0508	0.0053
Uranus	-8886-03-01 02:38 J	-1524129.54	-1524129.39	-1524129.24	0.0143	0.0103
Uranus	-8886-10-13 12:43 J	-1523903.16	-1523902.97	-1523902.77	0.0144	0.0056
Uranus	-8885-05-26 23:02 J	-1523676.75	-1523676.54	-1523676.32	0.0144	0.0009
Uranus	-8884-01-08 09:21 J	-1523450.31	-1523450.11	-1523449.90	0.0144	0.0039
Saturn	-8884-03-27 23:45 J	-1523371.64	-1523371.51	-1523371.37	0.0262	0.0204
Uranus	-8884-08-22 19:55 J	-1523223.83	-1523223.67	-1523223.49	0.0144	0.0086
Saturn	-8884-11-11 23:31 J	-1523142.73	-1523142.52	-1523142.31	0.0263	0.0032
Uranus	-8883-04-06 06:43 J	-1522997.29	-1522997.22	-1522997.14	0.0145	0.0134
Saturn	-8883-06-29 00:43 J	-1522913.64	-1522913.47	-1522913.28	0.0265	0.0146
Jupiter	-8882-02-24 23:16 J	-1522672.62	-1522672.53	-1522672.43	0.0515	0.0448
Jupiter	-8882-10-20 13:55 J	-1522435.06	-1522434.92	-1522434.78	0.0520	0.0384

Mars	-8881-03-01 00:28 J	-1522302.64	-1522302.48	-1522302.32	0.1679	0.0578
Mars	-8880-12-29 20:09 J	-1521633.76	-1521633.66	-1521633.56	0.1662	0.1322
Mars	-8877-10-11 23:02 J	-1520616.71	-1520616.54	-1520616.37	0.1846	0.0504
Jupiter	-8876-01-01 13:26 J	-1520535.11	-1520534.94	-1520534.77	0.0509	0.0265
Jupiter	-8876-08-25 22:47 J	-1520298.59	-1520298.55	-1520298.49	0.0505	0.0486
Saturn	-8870-01-31 05:16 J	-1518314.41	-1518314.28	-1518314.14	0.0301	0.0228
Jupiter	-8870-06-25 06:14 J	-1518169.44	-1518169.24	-1518169.04	0.0519	0.0151
Saturn	-8870-09-18 07:40 J	-1518084.38	-1518084.18	-1518083.97	0.0298	0.0029
Saturn	-8869-05-05 07:40 J	-1517854.26	-1517854.18	-1517854.10	0.0296	0.0273
Jupiter	-8865-09-06 13:26 J	-1516269.00	-1516268.94	-1516268.87	0.0511	0.0477
Jupiter	-8864-05-01 00:43 J	-1516032.63	-1516032.47	-1516032.30	0.0506	0.0284
Jupiter	-8858-02-27 22:19 J	-1513903.78	-1513903.57	-1513903.37	0.0517	0.0084
Saturn	-8855-10-08 00:43 J	-1512585.62	-1512585.47	-1512585.31	0.0262	0.0184
Saturn	-8854-05-25 00:43 J	-1512356.68	-1512356.47	-1512356.26	0.0264	0.0011
Saturn	-8853-01-09 02:09 J	-1512127.56	-1512127.41	-1512127.23	0.0266	0.0168
Jupiter	-8852-01-04 02:24 J	-1511766.60	-1511766.40	-1511766.20	0.0508	0.0077
Mars	-8849-02-28 21:35 J	-1510615.67	-1510615.60	-1510615.53	0.1688	0.1519
Mars	-8848-12-28 15:35 J	-1509947.02	-1509946.85	-1509946.69	0.1669	0.0440
Jupiter	-8847-11-02 15:35 J	-1509638.01	-1509637.85	-1509637.69	0.0516	0.0312
Uranus	-8847-11-03 07:55 J	-1509637.26	-1509637.17	-1509637.03	0.0135	0.0115
Uranus	-8846-06-17 15:21 J	-1509411.03	-1509410.86	-1509410.66	0.0135	0.0075
Uranus	-8845-01-29 23:02 J	-1509184.75	-1509184.54	-1509184.32	0.0135	0.0035
Uranus	-8845-09-12 06:14 J	-1508958.46	-1508958.24	-1508958.02	0.0134	0.0005
Uranus	-8844-04-26 12:57 J	-1508732.16	-1508731.96	-1508731.75	0.0134	0.0044
Uranus	-8844-12-08 19:40 J	-1508505.85	-1508505.68	-1508505.50	0.0134	0.0083
Uranus	-8843-07-23 02:09 J	-1508279.48	-1508279.41	-1508279.31	0.0134	0.0122
Mars	-8843-08-09 06:14 J	-1508262.36	-1508262.24	-1508262.11	0.1859	0.1314
Saturn	-8841-08-12 08:09 J	-1507528.31	-1507528.16	-1507528.00	0.0300	0.0202
Jupiter	-8841-09-09 02:52 J	-1507500.57	-1507500.38	-1507500.18	0.0508	0.0134
Saturn	-8840-03-30 10:33 J	-1507298.26	-1507298.06	-1507297.85	0.0298	0.0053

Jupiter	-8834-03-02 22:33 J	-1505134.72	-1505134.56	-1505134.38	0.0520	0.0293
Jupiter	-8829-05-15 03:50 J	-1503234.49	-1503234.34	-1503234.19	0.0510	0.0344
Jupiter	-8828-01-06 13:26 J	-1502998.05	-1502997.94	-1502997.82	0.0505	0.0411
Saturn	-8825-04-19 01:55 J	-1501799.58	-1501799.42	-1501799.24	0.0262	0.0165
Saturn	-8825-12-04 02:09 J	-1501570.63	-1501570.41	-1501570.20	0.0264	0.0010
Pluto	-8825-12-26 14:09 J	-1501548.06	-1501547.91	-1501547.72	0.0079	0.0052
Saturn	-8824-07-21 03:21 J	-1501341.50	-1501341.36	-1501341.20	0.0266	0.0186
Pluto	-8824-08-09 00:57 J	-1501322.67	-1501322.46	-1501322.23	0.0079	0.0013
Pluto	-8823-03-22 11:31 J	-1501097.07	-1501097.02	-1501096.96	0.0079	0.0076
Jupiter	-8823-11-05 16:04 J	-1500869.03	-1500868.83	-1500868.62	0.0519	0.0063
Neptune	-8821-11-28 12:00 J	-1500115.01	-1500115.00	-1500114.96	0.0089	0.0089
Neptune	-8820-07-12 00:57 J	-1499889.54	-1499889.46	-1499889.34	0.0089	0.0079
Neptune	-8819-02-22 13:55 J	-1499664.04	-1499663.92	-1499663.76	0.0089	0.0069
Neptune	-8819-10-06 02:52 J	-1499438.52	-1499438.38	-1499438.19	0.0089	0.0059
Neptune	-8818-05-19 16:33 J	-1499213.00	-1499212.81	-1499212.63	0.0089	0.0048
Neptune	-8818-12-31 05:16 J	-1498987.47	-1498987.28	-1498987.07	0.0089	0.0038
Neptune	-8817-08-12 18:28 J	-1498761.93	-1498761.73	-1498761.52	0.0089	0.0027
Jupiter	-8817-09-11 14:24 J	-1498732.08	-1498731.90	-1498731.71	0.0506	0.0206
Neptune	-8816-03-26 07:26 J	-1498536.40	-1498536.19	-1498535.97	0.0089	0.0017
Neptune	-8816-11-06 20:24 J	-1498310.86	-1498310.65	-1498310.43	0.0089	0.0007
Mars	-8816-12-27 11:45 J	-1498260.18	-1498260.01	-1498259.85	0.1677	0.0471
Neptune	-8815-06-20 09:35 J	-1498085.32	-1498085.10	-1498084.88	0.0089	0.0004
Neptune	-8814-01-31 22:19 J	-1497859.78	-1497859.57	-1497859.35	0.0089	0.0014
Neptune	-8814-09-14 11:16 J	-1497634.24	-1497634.03	-1497633.82	0.0089	0.0024
Mars	-8814-10-27 07:55 J	-1497591.26	-1497591.17	-1497591.08	0.1660	0.1411
Neptune	-8813-04-27 00:00 J	-1497408.69	-1497408.50	-1497408.29	0.0089	0.0035
Neptune	-8813-12-08 12:28 J	-1497183.15	-1497182.98	-1497182.77	0.0089	0.0046
Neptune	-8812-07-22 01:40 J	-1496957.59	-1496957.43	-1496957.25	0.0089	0.0055
Saturn	-8811-02-22 08:52 J	-1496742.29	-1496742.13	-1496741.96	0.0300	0.0180
Neptune	-8811-03-04 14:24 J	-1496732.03	-1496731.90	-1496731.73	0.0089	0.0065

Jupiter	-8811-07-11 09:35 J	-1496603.30	-1496603.10	-1496602.91	0.0517	0.0168
Mars	-8811-08-09 02:52 J	-1496574.55	-1496574.38	-1496574.20	0.1849	0.0257
Saturn	-8811-10-10 11:02 J	-1496512.24	-1496512.04	-1496511.83	0.0298	0.0076
Neptune	-8811-10-16 03:07 J	-1496506.47	-1496506.37	-1496506.24	0.0089	0.0076
Neptune	-8810-05-29 16:04 J	-1496280.88	-1496280.83	-1496280.75	0.0089	0.0085
Jupiter	-8805-05-17 15:35 J	-1494466.05	-1494465.85	-1494465.65	0.0508	0.0003
Uranus	-8803-10-29 11:31 J	-1493571.12	-1493571.02	-1493570.90	0.0143	0.0123
Uranus	-8802-06-12 21:21 J	-1493344.77	-1493344.61	-1493344.41	0.0144	0.0077
Uranus	-8801-01-25 07:55 J	-1493118.38	-1493118.17	-1493117.96	0.0144	0.0029
Uranus	-8801-09-07 18:28 J	-1492891.94	-1492891.73	-1492891.52	0.0144	0.0018
Uranus	-8800-04-22 04:33 J	-1492665.49	-1492665.31	-1492665.10	0.0144	0.0067
Uranus	-8800-12-04 15:07 J	-1492438.99	-1492438.87	-1492438.73	0.0144	0.0114
Jupiter	-8799-03-16 02:38 J	-1492337.52	-1492337.39	-1492337.26	0.0515	0.0397
Jupiter	-8799-11-08 16:47 J	-1492099.91	-1492099.80	-1492099.69	0.0520	0.0438
Saturn	-8796-10-30 02:38 J	-1491013.57	-1491013.39	-1491013.21	0.0262	0.0145
Saturn	-8795-06-16 02:38 J	-1490784.61	-1490784.39	-1490784.18	0.0264	0.0029
Earth	-8795-11-09 18:00 J	-1490637.91	-1490637.75	-1490637.60	0.2692	0.0498
Moon	-8795-11-09 21:35 J	-1490637.75	-1490637.60	-1490637.45	0.2697	0.0263 *
Saturn	-8794-01-31 04:19 J	-1490555.45	-1490555.32	-1490555.19	0.0266	0.0208
Jupiter	-8793-01-21 16:33 J	-1490199.99	-1490199.81	-1490199.63	0.0509	0.0215
Jupiter	-8787-07-14 09:07 J	-1487834.31	-1487834.12	-1487833.93	0.0519	0.0205
Mars	-8784-12-26 08:24 J	-1486573.25	-1486573.15	-1486573.06	0.1685	0.1401
Saturn	-8782-09-04 11:31 J	-1485956.20	-1485956.02	-1485955.84	0.0300	0.0154
Jupiter	-8782-09-26 17:02 J	-1485933.90	-1485933.79	-1485933.68	0.0510	0.0425
Mars	-8782-10-26 02:52 J	-1485904.54	-1485904.38	-1485904.22	0.1667	0.0538
Saturn	-8781-04-21 13:26 J	-1485726.13	-1485725.94	-1485725.74	0.0298	0.0101
Jupiter	-8781-05-20 03:35 J	-1485697.50	-1485697.35	-1485697.20	0.0505	0.0336
Mars	-8779-08-08 21:50 J	-1484886.65	-1484886.59	-1484886.54	0.1839	0.1746
Mars	-8777-06-05 09:21 J	-1484220.20	-1484220.11	-1484220.02	0.1863	0.1592
Jupiter	-8775-03-19 01:12 J	-1483568.65	-1483568.45	-1483568.24	0.0518	0.0030

Jupiter	-8769-01-24 05:31 J	-1481431.47	-1481431.27	-1481431.08	0.0507	0.0130
Saturn	-8766-05-12 03:35 J	-1480227.52	-1480227.35	-1480227.15	0.0262	0.0127
Saturn	-8766-12-27 04:04 J	-1479998.54	-1479998.33	-1479998.12	0.0264	0.0047
Saturn	-8765-08-12 05:31 J	-1479769.37	-1479769.27	-1479769.15	0.0266	0.0226
Jupiter	-8764-11-21 19:26 J	-1479302.87	-1479302.69	-1479302.51	0.0517	0.0257
Uranus	-8763-07-03 16:04 J	-1479078.84	-1479078.83	-1479078.79	0.0135	0.0134
Uranus	-8762-02-14 23:45 J	-1478852.66	-1478852.51	-1478852.34	0.0135	0.0094
Uranus	-8762-09-29 07:12 J	-1478626.40	-1478626.20	-1478625.99	0.0135	0.0054
Uranus	-8761-05-12 14:24 J	-1478400.12	-1478399.90	-1478399.68	0.0135	0.0014
Uranus	-8761-12-24 21:21 J	-1478173.83	-1478173.61	-1478173.39	0.0134	0.0026
Uranus	-8760-08-08 03:50 J	-1477947.52	-1477947.34	-1477947.13	0.0134	0.0065
Uranus	-8759-03-22 10:33 J	-1477721.18	-1477721.06	-1477720.90	0.0134	0.0104
Jupiter	-8758-09-29 05:45 J	-1477165.46	-1477165.26	-1477165.06	0.0508	0.0081
Saturn	-8752-03-16 11:45 J	-1475170.20	-1475170.01	-1475169.82	0.0300	0.0133
Jupiter	-8752-07-27 13:55 J	-1475036.99	-1475036.92	-1475036.85	0.0515	0.0481
Saturn	-8752-11-01 13:40 J	-1474940.12	-1474939.93	-1474939.74	0.0298	0.0122
Jupiter	-8751-03-22 03:50 J	-1474799.48	-1474799.34	-1474799.18	0.0520	0.0355
Mars	-8750-10-24 23:02 J	-1474217.71	-1474217.54	-1474217.38	0.1674	0.0368
Mars	-8748-08-23 19:12 J	-1473548.77	-1473548.70	-1473548.63	0.1658	0.1510
Jupiter	-8746-06-04 06:00 J	-1472899.41	-1472899.25	-1472899.09	0.0510	0.0294
Jupiter	-8745-01-26 15:50 J	-1472662.92	-1472662.84	-1472662.76	0.0505	0.0463
Mars	-8745-06-05 06:43 J	-1472532.40	-1472532.22	-1472532.04	0.1853	0.0004
Jupiter	-8740-11-24 19:40 J	-1470533.88	-1470533.68	-1470533.48	0.0518	0.0118
Neptune	-8738-08-26 11:02 J	-1469894.08	-1469894.04	-1469893.98	0.0088	0.0085
Neptune	-8737-04-08 00:00 J	-1469668.60	-1469668.50	-1469668.38	0.0088	0.0075
Neptune	-8737-11-19 13:12 J	-1469443.09	-1469442.95	-1469442.80	0.0088	0.0065
Saturn	-8737-11-21 04:19 J	-1469441.51	-1469441.32	-1469441.12	0.0262	0.0108
Neptune	-8736-07-03 01:40 J	-1469217.58	-1469217.43	-1469217.24	0.0088	0.0056
Saturn	-8736-07-08 04:33 J	-1469212.51	-1469212.31	-1469212.10	0.0264	0.0068
Neptune	-8735-02-13 14:52 J	-1468992.05	-1468991.88	-1468991.68	0.0088	0.0046

Saturn	-8735-02-22 06:14 J	-1468983.31	-1468983.24	-1468983.15	0.0266	0.0248
Neptune	-8735-09-27 03:50 J	-1468766.53	-1468766.34	-1468766.12	0.0088	0.0036
Jupiter	-8734-02-07 06:00 J	-1468633.26	-1468633.25	-1468633.22	0.0511	0.0508
Neptune	-8734-05-10 16:47 J	-1468540.99	-1468540.80	-1468540.57	0.0088	0.0026
Jupiter	-8734-10-01 17:45 J	-1468396.93	-1468396.76	-1468396.58	0.0506	0.0260
Neptune	-8734-12-22 06:14 J	-1468315.45	-1468315.24	-1468315.01	0.0088	0.0016
Neptune	-8733-08-03 19:26 J	-1468089.91	-1468089.69	-1468089.47	0.0088	0.0005
Neptune	-8732-03-17 08:24 J	-1467864.37	-1467864.15	-1467863.92	0.0088	0.0005
Neptune	-8732-10-28 21:21 J	-1467638.82	-1467638.61	-1467638.38	0.0088	0.0015
Neptune	-8731-06-11 10:19 J	-1467413.27	-1467413.07	-1467412.84	0.0088	0.0025
Neptune	-8730-01-22 23:45 J	-1467187.71	-1467187.51	-1467187.30	0.0088	0.0035
Neptune	-8730-09-05 12:43 J	-1466962.14	-1466961.97	-1466961.76	0.0088	0.0045
Neptune	-8729-04-18 01:55 J	-1466736.58	-1466736.42	-1466736.23	0.0088	0.0055
Neptune	-8729-11-29 15:07 J	-1466511.00	-1466510.87	-1466510.71	0.0088	0.0065
Neptune	-8728-07-13 04:19 J	-1466285.42	-1466285.32	-1466285.19	0.0088	0.0075
Jupiter	-8728-07-30 12:43 J	-1466268.17	-1466267.97	-1466267.77	0.0517	0.0116
Neptune	-8727-02-23 17:31 J	-1466059.81	-1466059.77	-1466059.70	0.0088	0.0085
Saturn	-8723-09-26 13:55 J	-1464384.11	-1464383.92	-1464383.72	0.0300	0.0108
Saturn	-8722-05-14 15:50 J	-1464154.02	-1464153.84	-1464153.66	0.0297	0.0146
Jupiter	-8722-06-06 19:12 J	-1464130.90	-1464130.70	-1464130.50	0.0507	0.0052
Uranus	-8719-06-28 20:09 J	-1463012.66	-1463012.66	-1463012.64	0.0143	0.0143
Uranus	-8718-02-10 06:14 J	-1462786.39	-1462786.24	-1462786.08	0.0143	0.0097
Uranus	-8718-09-24 16:33 J	-1462560.01	-1462559.81	-1462559.61	0.0144	0.0050
Mars	-8718-10-23 19:26 J	-1462530.79	-1462530.69	-1462530.58	0.1682	0.1295
Uranus	-8717-05-08 02:52 J	-1462333.60	-1462333.38	-1462333.17	0.0144	0.0003
Uranus	-8717-12-20 12:57 J	-1462107.15	-1462106.96	-1462106.75	0.0144	0.0045
Jupiter	-8716-04-04 04:33 J	-1462002.46	-1462002.31	-1462002.16	0.0516	0.0348
Uranus	-8716-08-03 23:45 J	-1461880.67	-1461880.51	-1461880.34	0.0144	0.0093
Mars	-8716-08-22 14:24 J	-1461862.06	-1461861.90	-1461861.74	0.1664	0.0637
Jupiter	-8716-11-27 20:09 J	-1461764.72	-1461764.66	-1461764.60	0.0521	0.0497

Uranus	-8715-03-18 10:04 J	-1461654.11	-1461654.08	-1461654.02	0.0145	0.0141
Mars	-8713-06-05 02:24 J	-1460844.50	-1460844.40	-1460844.30	0.1842	0.1515
Mars	-8711-04-02 13:12 J	-1460177.96	-1460177.95	-1460177.93	0.1866	0.1856
Jupiter	-8710-02-09 20:38 J	-1459864.83	-1459864.64	-1459864.44	0.0508	0.0158
Saturn	-8708-10-17 06:57 J	-1458884.23	-1458884.21	-1458884.16	0.0261	0.0257
Saturn	-8707-06-03 06:00 J	-1458655.45	-1458655.25	-1458655.05	0.0262	0.0088
Saturn	-8706-01-18 06:14 J	-1458426.44	-1458426.24	-1458426.04	0.0264	0.0087
Earth	-8705-05-14 21:50 J	-1457943.75	-1457943.59	-1457943.43	0.2641	0.0171
Moon	-8705-05-14 22:04 J	-1457943.74	-1457943.58	-1457943.43	0.2647	0.0155 *
Jupiter	-8704-08-02 13:12 J	-1457499.13	-1457498.95	-1457498.77	0.0520	0.0265
Jupiter	-8699-10-15 19:55 J	-1455598.80	-1455598.67	-1455598.53	0.0510	0.0374
Jupiter	-8698-06-09 06:00 J	-1455362.37	-1455362.25	-1455362.12	0.0505	0.0389
Saturn	-8693-04-07 14:38 J	-1453598.09	-1453597.89	-1453597.68	0.0300	0.0085
Saturn	-8693-11-23 16:19 J	-1453367.99	-1453367.82	-1453367.64	0.0298	0.0169
Jupiter	-8692-04-07 06:28 J	-1453233.43	-1453233.23	-1453233.02	0.0518	0.0032
Jupiter	-8686-02-12 07:26 J	-1451096.38	-1451096.19	-1451096.00	0.0507	0.0181
Mars	-8684-08-21 09:50 J	-1450175.26	-1450175.09	-1450174.92	0.1672	0.0259
Mars	-8682-06-21 07:12 J	-1449506.24	-1449506.20	-1449506.16	0.1655	0.1598
Jupiter	-8681-12-10 23:02 J	-1448967.73	-1448967.54	-1448967.35	0.0517	0.0203
Mars	-8679-04-02 10:33 J	-1448490.23	-1448490.06	-1448489.88	0.1856	0.0264
Uranus	-8679-10-15 08:52 J	-1448294.23	-1448294.13	-1448293.99	0.0135	0.0112
Saturn	-8678-04-29 08:09 J	-1448098.25	-1448098.16	-1448098.07	0.0261	0.0238
Uranus	-8678-05-29 16:19 J	-1448068.00	-1448067.82	-1448067.62	0.0135	0.0072
Saturn	-8678-12-14 06:57 J	-1447869.41	-1447869.21	-1447869.00	0.0263	0.0068
Uranus	-8677-01-10 23:45 J	-1447841.73	-1447841.51	-1447841.30	0.0135	0.0032
Saturn	-8677-07-30 07:12 J	-1447640.39	-1447640.20	-1447640.00	0.0265	0.0109
Uranus	-8677-08-24 06:43 J	-1447615.44	-1447615.22	-1447615.00	0.0134	0.0008
Uranus	-8676-04-07 13:26 J	-1447389.14	-1447388.94	-1447388.73	0.0134	0.0048
Uranus	-8676-11-19 20:09 J	-1447162.82	-1447162.66	-1447162.49	0.0134	0.0087
Uranus	-8675-07-04 02:38 J	-1446936.45	-1446936.39	-1446936.30	0.0134	0.0125

Jupiter	-8675-10-18 08:38 J	-1446830.34	-1446830.14	-1446829.94	0.0508	0.0029
Jupiter	-8669-08-15 16:33 J	-1444701.92	-1444701.81	-1444701.69	0.0515	0.0431
Jupiter	-8668-04-10 06:43 J	-1444464.34	-1444464.22	-1444464.09	0.0520	0.0409
Pluto	-8665-01-07 03:35 J	-1443462.52	-1443462.35	-1443462.15	0.0065	0.0034
Pluto	-8665-08-19 08:24 J	-1443237.37	-1443237.15	-1443236.93	0.0065	0.0001
Pluto	-8664-04-01 12:14 J	-1443012.15	-1443011.99	-1443011.79	0.0066	0.0037
Saturn	-8664-10-18 17:45 J	-1442811.96	-1442811.76	-1442811.55	0.0299	0.0059
Saturn	-8663-06-05 19:12 J	-1442581.85	-1442581.70	-1442581.54	0.0297	0.0194
Jupiter	-8663-06-23 09:50 J	-1442564.26	-1442564.09	-1442563.91	0.0509	0.0240
Jupiter	-8657-12-13 21:21 J	-1440198.80	-1440198.61	-1440198.41	0.0519	0.0171
Neptune	-8656-10-13 12:00 J	-1439895.06	-1439895.00	-1439894.91	0.0089	0.0084
Neptune	-8655-05-27 00:57 J	-1439669.57	-1439669.46	-1439669.32	0.0089	0.0074
Neptune	-8654-01-07 13:55 J	-1439444.05	-1439443.92	-1439443.74	0.0089	0.0064
Neptune	-8654-08-21 03:21 J	-1439218.53	-1439218.36	-1439218.18	0.0089	0.0053
Neptune	-8653-04-02 16:04 J	-1438993.01	-1438992.83	-1438992.62	0.0089	0.0043
Neptune	-8653-11-14 05:31 J	-1438767.48	-1438767.27	-1438767.07	0.0089	0.0032
Neptune	-8652-06-27 18:28 J	-1438541.94	-1438541.73	-1438541.51	0.0089	0.0021
Mars	-8652-08-20 06:00 J	-1438488.37	-1438488.25	-1438488.13	0.1679	0.1176
Neptune	-8651-02-08 07:26 J	-1438316.40	-1438316.19	-1438315.97	0.0089	0.0011
Jupiter	-8651-02-26 10:47 J	-1438298.14	-1438298.05	-1438297.96	0.0510	0.0451
Neptune	-8651-09-21 20:24 J	-1438090.86	-1438090.65	-1438090.43	0.0089	0.0002
Jupiter	-8651-10-20 21:07 J	-1438061.77	-1438061.62	-1438061.46	0.0505	0.0315
Neptune	-8650-05-05 09:21 J	-1437865.32	-1437865.11	-1437864.89	0.0089	0.0010
Mars	-8650-06-20 01:55 J	-1437819.58	-1437819.42	-1437819.27	0.1662	0.0736
Neptune	-8650-12-16 22:19 J	-1437639.78	-1437639.57	-1437639.36	0.0089	0.0020
Neptune	-8649-07-29 11:16 J	-1437414.23	-1437414.03	-1437413.82	0.0089	0.0031
Saturn	-8649-11-08 10:04 J	-1437312.18	-1437312.08	-1437311.95	0.0261	0.0217
Neptune	-8648-03-11 23:45 J	-1437188.68	-1437188.51	-1437188.30	0.0089	0.0042
Saturn	-8648-06-25 09:21 J	-1437083.32	-1437083.11	-1437082.90	0.0263	0.0047
Neptune	-8648-10-23 12:43 J	-1436963.13	-1436962.97	-1436962.78	0.0089	0.0052

Saturn	-8647-02-09 09:50 J	-1436854.27	-1436854.09	-1436853.90	0.0264	0.0129
Mars	-8647-04-02 06:43 J	-1436802.34	-1436802.22	-1436802.09	0.1845	0.1280
Neptune	-8647-06-06 01:40 J	-1436737.58	-1436737.43	-1436737.26	0.0089	0.0062
Neptune	-8646-01-17 14:52 J	-1436512.01	-1436511.88	-1436511.76	0.0089	0.0072
Neptune	-8646-08-31 03:07 J	-1436286.43	-1436286.37	-1436286.27	0.0089	0.0082
Jupiter	-8645-08-18 15:07 J	-1435933.07	-1435932.87	-1435932.67	0.0518	0.0061
Jupiter	-8639-06-25 21:35 J	-1433795.80	-1433795.60	-1433795.41	0.0507	0.0104
Saturn	-8635-09-12 15:35 J	-1432255.89	-1432255.85	-1432255.80	0.0302	0.0294
Uranus	-8635-10-10 13:55 J	-1432228.03	-1432227.92	-1432227.79	0.0143	0.0119
Saturn	-8634-04-30 19:12 J	-1432025.91	-1432025.70	-1432025.49	0.0300	0.0034
Uranus	-8634-05-25 00:00 J	-1432001.68	-1432001.50	-1432001.31	0.0144	0.0072
Saturn	-8634-12-16 20:24 J	-1431795.78	-1431795.65	-1431795.50	0.0297	0.0218
Uranus	-8633-01-06 10:19 J	-1431775.28	-1431775.07	-1431774.85	0.0144	0.0025
Jupiter	-8633-04-23 09:07 J	-1431667.28	-1431667.12	-1431666.94	0.0516	0.0291
Uranus	-8633-08-19 20:52 J	-1431548.84	-1431548.63	-1431548.42	0.0144	0.0023
Uranus	-8632-04-03 07:12 J	-1431322.38	-1431322.20	-1431322.01	0.0144	0.0071
Uranus	-8632-11-15 17:31 J	-1431095.88	-1431095.77	-1431095.63	0.0144	0.0119
Jupiter	-8627-02-28 21:50 J	-1429529.78	-1429529.59	-1429529.39	0.0508	0.0111
Jupiter	-8621-08-21 15:50 J	-1427163.99	-1427163.84	-1427163.67	0.0520	0.0320
Saturn	-8619-05-21 11:31 J	-1426526.15	-1426526.02	-1426525.87	0.0261	0.0197
Saturn	-8618-01-05 11:02 J	-1426297.25	-1426297.04	-1426296.83	0.0263	0.0025
Mars	-8618-06-18 21:07 J	-1426132.79	-1426132.62	-1426132.45	0.1669	0.0151
Saturn	-8618-08-22 11:31 J	-1426068.19	-1426068.02	-1426067.84	0.0265	0.0152
Jupiter	-8616-11-03 22:04 J	-1425263.73	-1425263.58	-1425263.43	0.0510	0.0325
Jupiter	-8615-06-28 08:09 J	-1425027.25	-1425027.16	-1425027.06	0.0505	0.0440
Mars	-8613-01-28 14:09 J	-1424448.08	-1424447.91	-1424447.74	0.1859	0.0523
Jupiter	-8609-04-26 08:09 J	-1422898.36	-1422898.16	-1422897.95	0.0518	0.0083
Saturn	-8605-03-24 20:24 J	-1421469.75	-1421469.65	-1421469.55	0.0301	0.0264
Saturn	-8605-11-09 23:45 J	-1421239.72	-1421239.51	-1421239.30	0.0299	0.0007
Saturn	-8604-06-28 00:43 J	-1421009.58	-1421009.47	-1421009.35	0.0297	0.0245

Jupiter	-8603-03-03 10:19 J	-1420761.24	-1420761.07	-1420760.89	0.0506	0.0236
Jupiter	-8598-12-30 22:47 J	-1418632.74	-1418632.55	-1418632.35	0.0517	0.0157
Uranus	-8595-06-14 17:31 J	-1417735.80	-1417735.77	-1417735.70	0.0135	0.0131
Uranus	-8594-01-27 00:57 J	-1417509.61	-1417509.46	-1417509.28	0.0135	0.0091
Uranus	-8594-09-10 08:24 J	-1417283.35	-1417283.15	-1417282.94	0.0135	0.0051
Uranus	-8593-04-23 15:35 J	-1417057.07	-1417056.85	-1417056.63	0.0135	0.0011
Uranus	-8593-12-05 22:19 J	-1416830.79	-1416830.57	-1416830.35	0.0134	0.0029
Uranus	-8592-07-20 04:47 J	-1416604.48	-1416604.30	-1416604.10	0.0134	0.0068
Jupiter	-8592-11-06 12:00 J	-1416495.20	-1416495.00	-1416494.80	0.0507	0.0027
Uranus	-8591-03-03 11:31 J	-1416378.14	-1416378.02	-1416377.87	0.0134	0.0107
Saturn	-8590-12-01 15:07 J	-1415740.03	-1415739.87	-1415739.71	0.0261	0.0174
Saturn	-8589-07-17 14:24 J	-1415511.11	-1415510.90	-1415510.69	0.0263	0.0002
Saturn	-8588-03-03 15:07 J	-1415282.03	-1415281.87	-1415281.71	0.0265	0.0175
Mars	-8586-06-17 17:31 J	-1414445.90	-1414445.77	-1414445.64	0.1677	0.1073
Jupiter	-8586-09-04 17:02 J	-1414366.92	-1414366.79	-1414366.65	0.0516	0.0385
Jupiter	-8585-04-29 08:09 J	-1414129.25	-1414129.16	-1414129.07	0.0521	0.0464
Mars	-8584-04-16 13:40 J	-1413777.08	-1413776.93	-1413776.78	0.1660	0.0830
Mars	-8581-01-28 11:31 J	-1412760.16	-1412760.02	-1412759.87	0.1849	0.1049
Jupiter	-8580-07-12 11:16 J	-1412229.22	-1412229.03	-1412228.84	0.0509	0.0191
Pluto	-8578-09-06 16:19 J	-1411442.98	-1411442.82	-1411442.65	0.0079	0.0053
Pluto	-8577-04-19 02:52 J	-1411217.60	-1411217.38	-1411217.16	0.0079	0.0011
Pluto	-8577-11-30 12:28 J	-1410992.02	-1410991.98	-1410991.88	0.0079	0.0075
Saturn	-8576-10-04 23:16 J	-1410683.65	-1410683.53	-1410683.39	0.0301	0.0236
Saturn	-8575-05-23 02:38 J	-1410453.60	-1410453.39	-1410453.18	0.0299	0.0023
Saturn	-8574-01-08 03:21 J	-1410223.43	-1410223.36	-1410223.27	0.0297	0.0273
Jupiter	-8573-01-03 00:57 J	-1409863.64	-1409863.46	-1409863.27	0.0519	0.0228
Neptune	-8573-07-10 11:16 J	-1409674.10	-1409674.03	-1409673.93	0.0088	0.0080
Neptune	-8572-02-21 00:14 J	-1409448.61	-1409448.49	-1409448.34	0.0088	0.0070
Neptune	-8572-10-04 13:12 J	-1409223.10	-1409222.95	-1409222.78	0.0088	0.0060
Neptune	-8571-05-18 02:09 J	-1408997.58	-1408997.41	-1408997.21	0.0088	0.0050

Neptune	-8571-12-29 15:21 J	-1408772.04	-1408771.86	-1408771.65	0.0088	0.0040
Neptune	-8570-08-12 04:19 J	-1408546.51	-1408546.32	-1408546.10	0.0088	0.0030
Neptune	-8569-03-24 17:31 J	-1408320.98	-1408320.77	-1408320.55	0.0088	0.0020
Neptune	-8569-11-05 06:28 J	-1408095.44	-1408095.23	-1408095.00	0.0088	0.0010
Jupiter	-8568-03-17 10:47 J	-1407963.17	-1407963.05	-1407962.93	0.0510	0.0409
Neptune	-8568-06-18 19:40 J	-1407869.90	-1407869.68	-1407869.46	0.0088	0.0001
Jupiter	-8568-11-08 21:07 J	-1407726.76	-1407726.62	-1407726.48	0.0505	0.0361
Neptune	-8567-01-30 08:38 J	-1407644.35	-1407644.14	-1407643.91	0.0088	0.0011
Neptune	-8567-09-12 21:50 J	-1407418.80	-1407418.59	-1407418.37	0.0088	0.0021
Neptune	-8566-04-26 10:47 J	-1407193.25	-1407193.05	-1407192.83	0.0088	0.0031
Neptune	-8566-12-08 00:00 J	-1406967.69	-1406967.50	-1406967.30	0.0088	0.0041
Neptune	-8565-07-20 12:43 J	-1406742.12	-1406741.97	-1406741.77	0.0088	0.0052
Neptune	-8564-03-03 01:55 J	-1406516.55	-1406516.42	-1406516.24	0.0088	0.0062
Neptune	-8564-10-14 15:07 J	-1406290.98	-1406290.87	-1406290.72	0.0088	0.0072
Neptune	-8563-05-28 04:19 J	-1406065.38	-1406065.32	-1406065.22	0.0088	0.0082
Jupiter	-8562-09-07 17:02 J	-1405597.99	-1405597.79	-1405597.58	0.0518	0.0011
Saturn	-8560-06-12 17:31 J	-1404953.94	-1404953.77	-1404953.59	0.0262	0.0152
Saturn	-8559-01-27 17:16 J	-1404725.00	-1404724.78	-1404724.57	0.0263	0.0022
Saturn	-8559-09-13 18:14 J	-1404495.88	-1404495.74	-1404495.60	0.0265	0.0199
Jupiter	-8556-07-14 22:19 J	-1403460.77	-1403460.57	-1403460.38	0.0507	0.0151
Mars	-8552-04-15 08:38 J	-1402090.31	-1402090.14	-1402089.96	0.1667	0.0070
Moon	-8552-11-09 17:16 J	-1401881.94	-1401881.78	-1401881.61	0.2687	0.0380
Earth	-8552-11-09 19:26 J	-1401881.84	-1401881.69	-1401881.54	0.2694	0.0488 *
Uranus	-8551-06-09 19:40 J	-1401669.68	-1401669.68	-1401669.65	0.0143	0.0143
Uranus	-8550-01-22 05:31 J	-1401443.41	-1401443.27	-1401443.09	0.0143	0.0097
Jupiter	-8550-05-13 09:35 J	-1401332.28	-1401332.10	-1401331.92	0.0516	0.0246
Uranus	-8550-09-05 16:04 J	-1401217.03	-1401216.83	-1401216.62	0.0144	0.0049
Uranus	-8549-04-19 02:24 J	-1400990.61	-1400990.40	-1400990.18	0.0144	0.0002
Uranus	-8549-12-01 12:28 J	-1400764.17	-1400763.98	-1400763.76	0.0144	0.0047
Uranus	-8548-07-15 23:16 J	-1400537.69	-1400537.53	-1400537.36	0.0144	0.0094

Mars	-8548-11-24 18:14 J	-1400405.90	-1400405.74	-1400405.58	0.1862	0.0784
Uranus	-8547-02-27 09:50 J	-1400311.12	-1400311.09	-1400311.04	0.0145	0.0142
Saturn	-8546-04-17 05:45 J	-1399897.41	-1399897.26	-1399897.11	0.0300	0.0204
Saturn	-8546-12-03 08:24 J	-1399667.35	-1399667.15	-1399666.94	0.0298	0.0054
Jupiter	-8544-03-19 23:45 J	-1399194.70	-1399194.51	-1399194.30	0.0508	0.0060
Jupiter	-8538-01-16 00:14 J	-1397066.55	-1397066.49	-1397066.41	0.0515	0.0481
Jupiter	-8538-09-10 14:24 J	-1396829.04	-1396828.90	-1396828.75	0.0520	0.0365
Jupiter	-8533-11-23 00:28 J	-1394928.64	-1394928.48	-1394928.30	0.0509	0.0274
Jupiter	-8532-07-17 10:04 J	-1394692.13	-1394692.08	-1394692.04	0.0504	0.0491
Saturn	-8531-12-23 21:50 J	-1394167.77	-1394167.59	-1394167.40	0.0262	0.0127
Saturn	-8530-08-09 21:35 J	-1393938.81	-1393938.60	-1393938.39	0.0263	0.0047
Saturn	-8529-03-25 22:33 J	-1393709.66	-1393709.56	-1393709.43	0.0265	0.0226
Jupiter	-8526-05-16 07:26 J	-1392563.39	-1392563.19	-1392562.99	0.0519	0.0129
Jupiter	-8521-07-28 22:47 J	-1390662.59	-1390662.55	-1390662.49	0.0511	0.0494
Jupiter	-8520-03-22 09:50 J	-1390426.25	-1390426.09	-1390425.91	0.0506	0.0281
Mars	-8520-04-14 04:33 J	-1390403.45	-1390403.31	-1390403.17	0.1674	0.0963
Mars	-8518-02-12 01:12 J	-1389734.59	-1389734.45	-1389734.31	0.1658	0.0926
Saturn	-8517-10-27 10:19 J	-1389111.23	-1389111.07	-1389110.89	0.0301	0.0172
Saturn	-8516-06-14 13:12 J	-1388881.15	-1388880.95	-1388880.75	0.0299	0.0086
Mars	-8516-11-24 15:35 J	-1388718.01	-1388717.85	-1388717.69	0.1852	0.0800
Jupiter	-8514-01-19 00:57 J	-1388297.66	-1388297.46	-1388297.26	0.0517	0.0105
Uranus	-8511-09-26 09:21 J	-1386951.22	-1386951.11	-1386950.96	0.0135	0.0111
Uranus	-8510-05-10 16:47 J	-1386724.98	-1386724.80	-1386724.60	0.0135	0.0070
Uranus	-8510-12-23 00:00 J	-1386498.71	-1386498.50	-1386498.28	0.0135	0.0030
Uranus	-8509-08-05 06:57 J	-1386272.43	-1386272.21	-1386271.99	0.0135	0.0010
Jupiter	-8509-11-25 10:19 J	-1386160.27	-1386160.07	-1386159.87	0.0507	0.0067
Uranus	-8508-03-19 13:55 J	-1386046.13	-1386045.92	-1386045.72	0.0134	0.0050
Uranus	-8508-10-31 20:09 J	-1385819.81	-1385819.66	-1385819.48	0.0134	0.0089
Uranus	-8507-06-15 02:38 J	-1385593.43	-1385593.39	-1385593.30	0.0134	0.0128
Jupiter	-8503-09-23 17:45 J	-1384031.91	-1384031.76	-1384031.60	0.0516	0.0340

Jupiter	-8502-05-19 08:24 J	-1383794.18	-1383794.15	-1383794.11	0.0521	0.0512
Saturn	-8501-07-05 01:26 J	-1383381.63	-1383381.44	-1383381.24	0.0262	0.0103
Saturn	-8500-02-19 01:26 J	-1383152.64	-1383152.44	-1383152.23	0.0264	0.0072
Saturn	-8500-10-06 02:38 J	-1382923.44	-1382923.39	-1382923.31	0.0266	0.0252
Jupiter	-8497-07-31 10:19 J	-1381894.26	-1381894.07	-1381893.88	0.0509	0.0150
Neptune	-8491-01-14 23:16 J	-1379900.54	-1379900.53	-1379900.49	0.0089	0.0089
Neptune	-8491-08-28 12:00 J	-1379675.08	-1379675.00	-1379674.87	0.0089	0.0079
Jupiter	-8490-01-21 23:31 J	-1379528.69	-1379528.52	-1379528.34	0.0519	0.0272
Neptune	-8490-04-11 01:26 J	-1379449.58	-1379449.44	-1379449.29	0.0089	0.0068
Neptune	-8490-11-22 14:09 J	-1379224.06	-1379223.91	-1379223.73	0.0089	0.0058
Neptune	-8489-07-05 03:21 J	-1378998.53	-1378998.36	-1378998.16	0.0089	0.0047
Neptune	-8488-02-15 16:33 J	-1378773.00	-1378772.81	-1378772.61	0.0089	0.0036
Neptune	-8488-09-29 05:16 J	-1378547.47	-1378547.28	-1378547.06	0.0089	0.0027
Saturn	-8487-05-09 18:28 J	-1378324.91	-1378324.73	-1378324.53	0.0300	0.0136
Neptune	-8487-05-12 18:28 J	-1378321.94	-1378321.73	-1378321.51	0.0089	0.0016
Neptune	-8487-12-24 07:40 J	-1378096.40	-1378096.18	-1378095.96	0.0089	0.0005
Saturn	-8487-12-25 20:52 J	-1378094.82	-1378094.63	-1378094.44	0.0298	0.0120
Mars	-8486-02-10 19:55 J	-1378047.85	-1378047.67	-1378047.50	0.1665	0.0061
Neptune	-8486-08-06 20:38 J	-1377870.85	-1377870.64	-1377870.42	0.0089	0.0006
Neptune	-8485-03-19 09:35 J	-1377645.31	-1377645.10	-1377644.88	0.0089	0.0016
Jupiter	-8485-04-05 11:02 J	-1377628.18	-1377628.04	-1377627.90	0.0510	0.0364
Neptune	-8485-10-30 22:33 J	-1377419.76	-1377419.56	-1377419.35	0.0089	0.0027
Jupiter	-8485-11-27 21:21 J	-1377391.72	-1377391.61	-1377391.49	0.0505	0.0409
Neptune	-8484-06-13 11:16 J	-1377194.21	-1377194.03	-1377193.82	0.0089	0.0038
Neptune	-8483-01-25 00:28 J	-1376968.66	-1376968.48	-1376968.29	0.0089	0.0048
Neptune	-8483-09-07 13:12 J	-1376743.10	-1376742.95	-1376742.77	0.0089	0.0058
Neptune	-8482-04-21 02:09 J	-1376517.54	-1376517.41	-1376517.26	0.0089	0.0069
Mars	-8482-09-21 21:35 J	-1376363.75	-1376363.60	-1376363.46	0.1865	0.1055
Neptune	-8482-12-02 14:38 J	-1376291.97	-1376291.89	-1376291.77	0.0089	0.0079
Neptune	-8481-07-15 03:50 J	-1376066.34	-1376066.34	-1376066.32	0.0089	0.0089

Jupiter	-8479-09-26 13:12 J	-1375263.15	-1375262.95	-1375262.74	0.0518	0.0028
Jupiter	-8473-08-02 23:02 J	-1373125.73	-1373125.54	-1373125.36	0.0506	0.0200
Saturn	-8472-05-31 07:55 J	-1372824.23	-1372824.17	-1372824.09	0.0261	0.0245
Saturn	-8471-01-15 06:57 J	-1372595.41	-1372595.21	-1372595.00	0.0263	0.0075
Saturn	-8471-09-01 07:12 J	-1372366.39	-1372366.20	-1372366.00	0.0264	0.0100
Jupiter	-8467-06-01 06:28 J	-1370997.42	-1370997.23	-1370997.05	0.0517	0.0208
Uranus	-8467-09-21 11:16 J	-1370885.14	-1370885.03	-1370884.92	0.0143	0.0121
Uranus	-8466-05-05 20:52 J	-1370658.80	-1370658.63	-1370658.43	0.0143	0.0075
Uranus	-8466-12-18 07:26 J	-1370432.40	-1370432.19	-1370431.98	0.0144	0.0027
Uranus	-8465-07-31 17:31 J	-1370205.97	-1370205.77	-1370205.55	0.0144	0.0021
Uranus	-8464-03-15 04:04 J	-1369979.51	-1369979.33	-1369979.14	0.0144	0.0068
Uranus	-8464-10-27 14:24 J	-1369753.01	-1369752.90	-1369752.76	0.0144	0.0117
Earth	-8462-05-15 23:02 J	-1369187.70	-1369187.54	-1369187.38	0.2640	0.0065
Moon	-8462-05-16 01:26 J	-1369187.61	-1369187.44	-1369187.28	0.2634	0.0418 *
Jupiter	-8461-04-07 22:04 J	-1368859.79	-1368859.58	-1368859.38	0.0508	0.0022
Saturn	-8458-11-20 01:26 J	-1367538.63	-1367538.44	-1367538.24	0.0300	0.0099
Saturn	-8457-07-07 03:21 J	-1367308.53	-1367308.36	-1367308.17	0.0298	0.0157
Jupiter	-8455-02-04 00:43 J	-1366731.57	-1366731.47	-1366731.36	0.0515	0.0437
Jupiter	-8455-09-29 15:07 J	-1366493.99	-1366493.87	-1366493.75	0.0520	0.0414
Mars	-8454-02-09 15:50 J	-1366360.98	-1366360.84	-1366360.69	0.1672	0.0860
Mars	-8453-12-09 12:57 J	-1365692.09	-1365691.96	-1365691.83	0.1656	0.1022
Mars	-8450-09-21 19:55 J	-1364675.84	-1364675.67	-1364675.50	0.1855	0.0558
Jupiter	-8450-12-12 21:07 J	-1364593.79	-1364593.62	-1364593.44	0.0509	0.0239
Jupiter	-8443-06-04 06:28 J	-1362228.43	-1362228.23	-1362228.04	0.0519	0.0173
Saturn	-8443-12-11 12:28 J	-1362038.08	-1362037.98	-1362037.86	0.0261	0.0221
Saturn	-8442-07-28 11:45 J	-1361809.22	-1361809.01	-1361808.80	0.0263	0.0049
Saturn	-8441-03-13 12:00 J	-1361580.18	-1361580.00	-1361579.80	0.0265	0.0128
Jupiter	-8438-08-17 19:55 J	-1360327.75	-1360327.67	-1360327.58	0.0511	0.0459
Jupiter	-8437-04-10 07:26 J	-1360091.34	-1360091.19	-1360091.03	0.0506	0.0319
Jupiter	-8431-02-06 22:04 J	-1357962.78	-1357962.58	-1357962.37	0.0517	0.0068

Saturn	-8428-06-01 10:47 J	-1356752.25	-1356752.05	-1356751.84	0.0299	0.0061
Saturn	-8427-01-17 12:28 J	-1356522.14	-1356521.98	-1356521.82	0.0297	0.0192
Uranus	-8427-05-26 16:19 J	-1356392.87	-1356392.82	-1356392.76	0.0135	0.0131
Uranus	-8426-01-07 23:45 J	-1356166.67	-1356166.51	-1356166.35	0.0135	0.0090
Uranus	-8426-08-22 06:57 J	-1355940.41	-1355940.21	-1355940.00	0.0135	0.0050
Jupiter	-8426-12-15 08:52 J	-1355825.32	-1355825.13	-1355824.93	0.0507	0.0111
Uranus	-8425-04-04 13:55 J	-1355714.14	-1355713.92	-1355713.70	0.0135	0.0010
Uranus	-8425-11-16 20:52 J	-1355487.85	-1355487.63	-1355487.42	0.0134	0.0030
Uranus	-8424-07-01 03:21 J	-1355261.54	-1355261.36	-1355261.16	0.0134	0.0070
Uranus	-8423-02-12 10:19 J	-1355035.19	-1355035.07	-1355034.93	0.0134	0.0108
Mars	-8421-12-08 07:40 J	-1354005.35	-1354005.18	-1354005.01	0.1662	0.0150
Jupiter	-8420-10-12 12:00 J	-1353697.16	-1353697.00	-1353696.83	0.0516	0.0310
Pluto	-8419-09-17 06:00 J	-1353357.42	-1353357.25	-1353357.04	0.0065	0.0034
Pluto	-8418-04-30 10:47 J	-1353132.27	-1353132.05	-1353131.84	0.0065	0.0002
Pluto	-8418-12-11 14:38 J	-1352907.05	-1352906.89	-1352906.69	0.0066	0.0037
Mars	-8416-07-19 01:12 J	-1352321.57	-1352321.45	-1352321.32	0.1868	0.1322
Jupiter	-8414-08-20 09:35 J	-1351559.29	-1351559.10	-1351558.90	0.0509	0.0107
Saturn	-8413-06-22 18:28 J	-1351251.86	-1351251.73	-1351251.58	0.0262	0.0192
Saturn	-8412-02-06 18:00 J	-1351022.96	-1351022.75	-1351022.53	0.0263	0.0020
Saturn	-8412-09-23 18:28 J	-1350793.89	-1350793.73	-1350793.54	0.0265	0.0158
Neptune	-8409-10-11 22:33 J	-1349679.59	-1349679.56	-1349679.48	0.0088	0.0085
Neptune	-8408-05-25 11:31 J	-1349454.11	-1349454.02	-1349453.88	0.0088	0.0075
Neptune	-8407-01-06 00:43 J	-1349228.59	-1349228.47	-1349228.29	0.0088	0.0065
Jupiter	-8407-02-09 19:12 J	-1349193.87	-1349193.70	-1349193.54	0.0520	0.0309
Neptune	-8407-08-19 14:24 J	-1349003.07	-1349002.90	-1349002.72	0.0088	0.0054
Neptune	-8406-04-02 03:07 J	-1348777.55	-1348777.37	-1348777.17	0.0088	0.0044
Neptune	-8406-11-13 16:04 J	-1348552.02	-1348551.83	-1348551.61	0.0088	0.0034
Neptune	-8405-06-26 05:16 J	-1348326.49	-1348326.28	-1348326.06	0.0088	0.0024
Neptune	-8404-02-06 18:28 J	-1348100.95	-1348100.73	-1348100.51	0.0088	0.0013
Neptune	-8404-09-20 07:26 J	-1347875.41	-1347875.19	-1347874.96	0.0088	0.0004

Neptune	-8403-05-03 20:38 J	-1347649.86	-1347649.64	-1347649.42	0.0088	0.0007
Neptune	-8403-12-15 09:21 J	-1347424.31	-1347424.11	-1347423.88	0.0088	0.0018
Jupiter	-8402-04-25 07:40 J	-1347293.33	-1347293.18	-1347293.03	0.0510	0.0330
Neptune	-8402-07-28 22:33 J	-1347198.76	-1347198.56	-1347198.34	0.0088	0.0028
Jupiter	-8402-12-17 17:45 J	-1347056.85	-1347056.76	-1347056.67	0.0505	0.0443
Neptune	-8401-03-10 11:31 J	-1346973.21	-1346973.02	-1346972.81	0.0088	0.0038
Neptune	-8401-10-22 00:43 J	-1346747.65	-1346747.47	-1346747.28	0.0088	0.0048
Neptune	-8400-06-04 13:26 J	-1346522.08	-1346521.94	-1346521.75	0.0088	0.0059
Neptune	-8399-01-16 02:52 J	-1346296.50	-1346296.38	-1346296.22	0.0088	0.0069
Saturn	-8399-04-26 15:50 J	-1346195.91	-1346195.84	-1346195.76	0.0301	0.0280
Neptune	-8399-08-29 16:04 J	-1346070.91	-1346070.83	-1346070.72	0.0088	0.0079
Saturn	-8399-12-12 19:26 J	-1345965.90	-1345965.69	-1345965.48	0.0299	0.0020
Saturn	-8398-07-30 20:38 J	-1345735.76	-1345735.64	-1345735.50	0.0297	0.0232
Jupiter	-8396-10-15 12:14 J	-1344928.19	-1344927.99	-1344927.78	0.0518	0.0071
Jupiter	-8390-08-22 18:00 J	-1342790.93	-1342790.75	-1342790.57	0.0506	0.0231
Mars	-8389-12-07 03:07 J	-1342318.52	-1342318.37	-1342318.21	0.1670	0.0755
Mars	-8387-10-07 00:57 J	-1341649.59	-1341649.46	-1341649.33	0.1654	0.1111
Jupiter	-8384-06-20 04:19 J	-1340662.51	-1340662.32	-1340662.12	0.0517	0.0169
Mars	-8384-07-18 23:16 J	-1340633.71	-1340633.53	-1340633.36	0.1859	0.0293
Saturn	-8383-01-02 23:45 J	-1340465.67	-1340465.51	-1340465.34	0.0262	0.0166
Saturn	-8383-08-19 23:31 J	-1340236.73	-1340236.52	-1340236.31	0.0263	0.0008
Uranus	-8382-01-03 03:07 J	-1340100.53	-1340100.37	-1340100.22	0.0143	0.0098
Saturn	-8382-04-06 00:14 J	-1340007.63	-1340007.49	-1340007.32	0.0265	0.0187
Uranus	-8382-08-17 13:12 J	-1339874.15	-1339873.95	-1339873.75	0.0143	0.0051
Uranus	-8381-03-30 23:16 J	-1339647.74	-1339647.53	-1339647.31	0.0144	0.0004
Uranus	-8381-11-12 09:35 J	-1339421.30	-1339421.10	-1339420.89	0.0144	0.0044
Uranus	-8380-06-26 19:55 J	-1339194.83	-1339194.67	-1339194.50	0.0144	0.0092
Uranus	-8379-02-08 06:43 J	-1338968.27	-1338968.22	-1338968.17	0.0144	0.0140
Jupiter	-8378-04-27 17:45 J	-1338524.96	-1338524.76	-1338524.56	0.0508	0.0015
Jupiter	-8372-02-22 20:52 J	-1336396.75	-1336396.63	-1336396.50	0.0515	0.0404

Jupiter	-8372-10-18 10:47 J	-1336159.15	-1336159.05	-1336158.95	0.0520	0.0450
Saturn	-8370-11-07 02:52 J	-1335409.51	-1335409.38	-1335409.25	0.0301	0.0238
Saturn	-8369-06-24 06:00 J	-1335179.45	-1335179.25	-1335179.04	0.0299	0.0022
Saturn	-8368-02-09 06:43 J	-1334949.29	-1334949.22	-1334949.13	0.0296	0.0271
Jupiter	-8367-12-31 18:14 J	-1334258.92	-1334258.74	-1334258.55	0.0510	0.0202
Jupiter	-8360-06-22 23:31 J	-1331893.71	-1331893.52	-1331893.33	0.0519	0.0202
Mars	-8357-12-05 23:16 J	-1330631.54	-1330631.53	-1330631.52	0.1677	0.1673
Jupiter	-8355-09-05 18:00 J	-1329992.85	-1329992.75	-1329992.63	0.0511	0.0422
Mars	-8355-10-05 19:26 J	-1329962.86	-1329962.69	-1329962.52	0.1660	0.0249
Jupiter	-8354-04-30 05:31 J	-1329756.41	-1329756.27	-1329756.13	0.0506	0.0360
Saturn	-8354-07-16 06:28 J	-1329679.41	-1329679.23	-1329679.04	0.0262	0.0136
Saturn	-8353-03-01 06:28 J	-1329450.44	-1329450.23	-1329450.02	0.0264	0.0039
Saturn	-8353-10-16 07:40 J	-1329221.30	-1329221.18	-1329221.06	0.0266	0.0218
Mars	-8352-07-18 19:26 J	-1328945.71	-1328945.69	-1328945.67	0.1848	0.1832
Mars	-8350-05-16 04:04 J	-1328279.42	-1328279.33	-1328279.24	0.1871	0.1609
Jupiter	-8348-02-25 16:04 J	-1327628.03	-1327627.83	-1327627.62	0.0517	0.0040
Uranus	-8343-09-07 06:00 J	-1325608.35	-1325608.25	-1325608.11	0.0135	0.0112
Jupiter	-8342-01-03 04:04 J	-1325490.52	-1325490.33	-1325490.14	0.0507	0.0140
Uranus	-8342-04-21 13:26 J	-1325382.12	-1325381.94	-1325381.74	0.0135	0.0071
Uranus	-8342-12-03 20:38 J	-1325155.85	-1325155.64	-1325155.42	0.0135	0.0031
Uranus	-8341-07-17 03:50 J	-1324929.56	-1324929.34	-1324929.12	0.0135	0.0010
Uranus	-8340-02-28 10:33 J	-1324703.25	-1324703.06	-1324702.84	0.0134	0.0050
Saturn	-8340-05-19 12:43 J	-1324623.12	-1324622.97	-1324622.80	0.0301	0.0195
Uranus	-8340-10-12 17:45 J	-1324476.93	-1324476.76	-1324476.60	0.0134	0.0089
Saturn	-8339-01-04 15:35 J	-1324393.05	-1324392.85	-1324392.64	0.0299	0.0063
Uranus	-8339-05-27 00:00 J	-1324250.55	-1324250.50	-1324250.42	0.0134	0.0128
Jupiter	-8337-10-31 10:04 J	-1323362.26	-1323362.08	-1323361.91	0.0516	0.0272
Pluto	-8331-05-17 19:55 J	-1321337.84	-1321337.67	-1321337.48	0.0079	0.0046
Jupiter	-8331-09-08 03:35 J	-1321224.55	-1321224.35	-1321224.15	0.0508	0.0079
Pluto	-8331-12-29 06:14 J	-1321112.44	-1321112.24	-1321112.01	0.0079	0.0019

Neptune	-8327-11-29 23:45 J	-1319680.57	-1319680.51	-1319680.41	0.0089	0.0083
Neptune	-8326-07-13 13:12 J	-1319455.07	-1319454.95	-1319454.82	0.0089	0.0073
Neptune	-8325-02-24 01:55 J	-1319229.56	-1319229.42	-1319229.25	0.0089	0.0062
Jupiter	-8325-07-06 03:07 J	-1319096.40	-1319096.37	-1319096.32	0.0514	0.0504
Neptune	-8325-10-06 15:07 J	-1319004.04	-1319003.87	-1319003.68	0.0089	0.0052
Saturn	-8324-01-25 12:00 J	-1318893.19	-1318893.00	-1318892.80	0.0262	0.0109
Jupiter	-8324-02-28 16:19 J	-1318858.97	-1318858.82	-1318858.66	0.0519	0.0348
Neptune	-8324-05-20 03:50 J	-1318778.51	-1318778.34	-1318778.13	0.0089	0.0042
Saturn	-8324-09-11 12:00 J	-1318664.20	-1318664.00	-1318663.79	0.0264	0.0067
Neptune	-8324-12-31 17:02 J	-1318552.98	-1318552.79	-1318552.57	0.0089	0.0031
Saturn	-8323-04-28 13:26 J	-1318435.00	-1318434.94	-1318434.85	0.0266	0.0247
Neptune	-8323-08-14 06:14 J	-1318327.45	-1318327.24	-1318327.02	0.0089	0.0020
Mars	-8323-10-04 14:38 J	-1318276.04	-1318275.89	-1318275.73	0.1667	0.0651
Neptune	-8322-03-27 19:12 J	-1318101.91	-1318101.70	-1318101.48	0.0089	0.0009
Neptune	-8322-11-08 08:09 J	-1317876.38	-1317876.16	-1317875.94	0.0089	0.0002
Neptune	-8321-06-20 21:07 J	-1317650.83	-1317650.62	-1317650.40	0.0089	0.0012
Mars	-8321-08-03 12:14 J	-1317607.10	-1317606.99	-1317606.87	0.1652	0.1211
Neptune	-8320-02-01 10:04 J	-1317425.28	-1317425.08	-1317424.86	0.0089	0.0023
Neptune	-8320-09-14 23:02 J	-1317199.74	-1317199.54	-1317199.33	0.0089	0.0034
Neptune	-8319-04-28 11:45 J	-1316974.19	-1316974.01	-1316973.81	0.0089	0.0044
Jupiter	-8319-05-14 01:55 J	-1316958.57	-1316958.42	-1316958.25	0.0510	0.0303
Neptune	-8319-12-10 00:43 J	-1316748.63	-1316748.47	-1316748.29	0.0089	0.0055
Jupiter	-8318-01-05 12:28 J	-1316722.04	-1316721.98	-1316721.91	0.0505	0.0476
Mars	-8318-05-16 02:38 J	-1316591.57	-1316591.39	-1316591.21	0.1862	0.0032
Neptune	-8318-07-23 13:40 J	-1316523.06	-1316522.93	-1316522.77	0.0089	0.0065
Neptune	-8317-03-05 02:38 J	-1316297.49	-1316297.39	-1316297.26	0.0089	0.0076
Neptune	-8317-10-16 15:07 J	-1316071.90	-1316071.87	-1316071.79	0.0089	0.0086
Moon	-8317-11-12 01:12 J	-1316045.48	-1316045.45	-1316045.42	0.2698	0.2635
Jupiter	-8313-11-03 07:26 J	-1314593.39	-1314593.19	-1314592.99	0.0518	0.0104
Saturn	-8311-11-29 23:45 J	-1313836.68	-1313836.51	-1313836.32	0.0300	0.0153

Saturn	-8310-07-18 02:24 J	-1313606.59	-1313606.40	-1313606.20	0.0298	0.0104
Earth	-8309-11-09 20:38 J	-1313125.79	-1313125.64	-1313125.48	0.2695	0.0498
Moon	-8309-11-09 20:38 J	-1313125.78	-1313125.64	-1313125.50	0.2702	0.0842 *
Jupiter	-8307-09-10 14:09 J	-1312456.08	-1312455.91	-1312455.73	0.0507	0.0268
Jupiter	-8301-07-08 21:07 J	-1310327.81	-1310327.62	-1310327.42	0.0516	0.0143
Uranus	-8299-09-02 10:04 J	-1309542.18	-1309542.08	-1309541.95	0.0143	0.0120
Uranus	-8298-04-16 20:09 J	-1309315.84	-1309315.66	-1309315.47	0.0143	0.0073
Uranus	-8298-11-29 06:28 J	-1309089.44	-1309089.23	-1309089.02	0.0144	0.0026
Uranus	-8297-07-12 16:47 J	-1308863.01	-1308862.80	-1308862.59	0.0144	0.0022
Uranus	-8296-02-24 02:52 J	-1308636.55	-1308636.38	-1308636.18	0.0144	0.0070
Uranus	-8296-10-08 13:40 J	-1308410.05	-1308409.93	-1308409.80	0.0144	0.0118
Saturn	-8296-12-21 19:55 J	-1308335.73	-1308335.67	-1308335.60	0.0262	0.0248
Jupiter	-8295-05-16 14:52 J	-1308190.08	-1308189.88	-1308189.68	0.0508	0.0052
Saturn	-8295-08-07 18:57 J	-1308106.92	-1308106.71	-1308106.51	0.0263	0.0077
Saturn	-8294-03-24 19:12 J	-1307877.90	-1307877.70	-1307877.50	0.0264	0.0099
Mars	-8291-10-03 10:33 J	-1306589.11	-1306589.06	-1306589.00	0.1675	0.1567
Jupiter	-8289-03-13 14:24 J	-1306062.04	-1306061.90	-1306061.76	0.0515	0.0378
Mars	-8289-08-02 06:57 J	-1305920.38	-1305920.21	-1305920.04	0.1658	0.0343
Jupiter	-8289-11-06 04:19 J	-1305824.39	-1305824.32	-1305824.24	0.0520	0.0481
Mars	-8286-05-15 23:45 J	-1304903.60	-1304903.51	-1304903.42	0.1852	0.1595
Jupiter	-8283-01-19 12:43 J	-1303924.16	-1303923.97	-1303923.78	0.0509	0.0175
Saturn	-8281-06-11 11:02 J	-1303050.23	-1303050.04	-1303049.84	0.0300	0.0107
Saturn	-8280-01-27 12:57 J	-1302820.13	-1302819.96	-1302819.77	0.0298	0.0149
Jupiter	-8277-07-11 21:07 J	-1301558.80	-1301558.62	-1301558.43	0.0519	0.0242
Jupiter	-8272-09-24 11:31 J	-1299658.14	-1299658.02	-1299657.89	0.0511	0.0398
Jupiter	-8271-05-18 22:33 J	-1299421.69	-1299421.56	-1299421.43	0.0506	0.0386
Saturn	-8266-07-04 00:57 J	-1297549.56	-1297549.46	-1297549.34	0.0261	0.0222
Saturn	-8265-02-18 00:14 J	-1297320.70	-1297320.49	-1297320.28	0.0263	0.0051
Jupiter	-8265-03-16 13:26 J	-1297293.14	-1297292.94	-1297292.73	0.0517	0.0004
Saturn	-8265-10-04 00:43 J	-1297091.66	-1297091.47	-1297091.28	0.0265	0.0126

Jupiter	-8259-01-21 22:19 J	-1295155.76	-1295155.57	-1295155.38	0.0507	0.0170
Uranus	-8259-05-07 12:28 J	-1295050.00	-1295049.98	-1295049.91	0.0135	0.0133
Uranus	-8259-12-19 20:09 J	-1294823.81	-1294823.66	-1294823.49	0.0135	0.0092
Uranus	-8258-08-03 03:21 J	-1294597.55	-1294597.36	-1294597.15	0.0135	0.0051
Uranus	-8257-03-16 10:47 J	-1294371.27	-1294371.05	-1294370.83	0.0135	0.0011
Mars	-8257-08-01 01:55 J	-1294233.58	-1294233.42	-1294233.26	0.1665	0.0544
Uranus	-8257-10-28 17:31 J	-1294144.97	-1294144.77	-1294144.54	0.0135	0.0030
Uranus	-8256-06-12 00:14 J	-1293918.66	-1293918.49	-1293918.28	0.0134	0.0070
Uranus	-8255-01-24 07:26 J	-1293692.31	-1293692.19	-1293692.06	0.0134	0.0108
Mars	-8255-06-01 00:43 J	-1293564.58	-1293564.47	-1293564.37	0.1650	0.1296
Jupiter	-8254-11-20 05:31 J	-1293027.46	-1293027.27	-1293027.09	0.0516	0.0240
Mars	-8252-03-12 06:28 J	-1292549.41	-1292549.23	-1292549.06	0.1865	0.0244
Saturn	-8252-12-22 21:07 J	-1292263.82	-1292263.62	-1292263.41	0.0300	0.0067
Saturn	-8251-08-09 23:02 J	-1292033.70	-1292033.54	-1292033.37	0.0297	0.0188
Jupiter	-8248-09-26 23:02 J	-1290889.74	-1290889.54	-1290889.34	0.0509	0.0047
Neptune	-8244-08-26 23:45 J	-1289459.60	-1289459.51	-1289459.41	0.0088	0.0079
Neptune	-8243-04-09 12:28 J	-1289234.10	-1289233.98	-1289233.83	0.0088	0.0069
Neptune	-8243-11-21 01:26 J	-1289008.58	-1289008.44	-1289008.25	0.0088	0.0059
Neptune	-8242-07-04 14:38 J	-1288783.06	-1288782.89	-1288782.69	0.0088	0.0049
Jupiter	-8242-07-25 20:24 J	-1288761.71	-1288761.65	-1288761.57	0.0514	0.0480
Neptune	-8241-02-15 03:50 J	-1288557.53	-1288557.34	-1288557.13	0.0088	0.0038
Jupiter	-8241-03-19 09:21 J	-1288524.26	-1288524.11	-1288523.97	0.0519	0.0375
Neptune	-8241-09-27 16:47 J	-1288332.00	-1288331.80	-1288331.58	0.0088	0.0028
Neptune	-8240-05-11 06:14 J	-1288106.46	-1288106.24	-1288106.03	0.0088	0.0017
Neptune	-8240-12-22 19:12 J	-1287880.91	-1287880.70	-1287880.47	0.0088	0.0008
Neptune	-8239-08-05 08:24 J	-1287655.37	-1287655.15	-1287654.93	0.0088	0.0003
Neptune	-8238-03-18 21:21 J	-1287429.83	-1287429.61	-1287429.39	0.0088	0.0014
Neptune	-8238-10-30 10:19 J	-1287204.28	-1287204.07	-1287203.85	0.0088	0.0024
Neptune	-8237-06-11 23:02 J	-1286978.72	-1286978.54	-1286978.31	0.0088	0.0036
Saturn	-8236-01-13 07:26 J	-1286763.33	-1286763.19	-1286763.04	0.0262	0.0192

Neptune	-8236-01-23 12:28 J	-1286753.16	-1286752.98	-1286752.78	0.0088	0.0045
Jupiter	-8236-06-01 22:47 J	-1286623.72	-1286623.55	-1286623.38	0.0510	0.0268
Saturn	-8236-08-30 06:43 J	-1286534.43	-1286534.22	-1286534.00	0.0263	0.0021
Neptune	-8236-09-06 01:40 J	-1286527.59	-1286527.43	-1286527.25	0.0088	0.0055
Saturn	-8235-04-16 07:26 J	-1286305.36	-1286305.19	-1286305.01	0.0265	0.0158
Neptune	-8235-04-19 14:24 J	-1286302.02	-1286301.90	-1286301.73	0.0088	0.0066
Neptune	-8235-12-01 03:35 J	-1286076.44	-1286076.35	-1286076.22	0.0088	0.0076
Neptune	-8234-07-14 16:47 J	-1285850.82	-1285850.80	-1285850.74	0.0088	0.0087
Jupiter	-8230-11-23 01:12 J	-1284258.65	-1284258.45	-1284258.25	0.0518	0.0133
Mars	-8225-07-30 21:21 J	-1282546.69	-1282546.61	-1282546.53	0.1672	0.1451
Jupiter	-8224-02-04 20:24 J	-1282357.69	-1282357.65	-1282357.60	0.0511	0.0496
Jupiter	-8224-09-29 08:24 J	-1282121.31	-1282121.15	-1282120.99	0.0506	0.0295
Mars	-8223-05-30 18:43 J	-1281877.88	-1281877.72	-1281877.55	0.1656	0.0438
Saturn	-8223-11-17 04:19 J	-1281707.39	-1281707.32	-1281707.25	0.0301	0.0282
Saturn	-8222-07-05 08:09 J	-1281477.37	-1281477.16	-1281476.96	0.0299	0.0023
Saturn	-8221-02-20 09:21 J	-1281247.24	-1281247.11	-1281246.98	0.0297	0.0231
Mars	-8220-03-12 03:50 J	-1280861.46	-1280861.34	-1280861.22	0.1855	0.1348
Moon	-8219-05-15 20:09 J	-1280431.81	-1280431.66	-1280431.51	0.2642	0.0681
Earth	-8219-05-16 00:14 J	-1280431.65	-1280431.49	-1280431.33	0.2638	0.0063 *
Jupiter	-8218-07-28 18:43 J	-1279992.92	-1279992.72	-1279992.51	0.0517	0.0106
Uranus	-8215-05-02 18:00 J	-1278983.77	-1278983.75	-1278983.71	0.0143	0.0141
Uranus	-8215-12-15 04:04 J	-1278757.49	-1278757.33	-1278757.17	0.0143	0.0094
Uranus	-8214-07-29 14:09 J	-1278531.11	-1278530.91	-1278530.70	0.0143	0.0048
Uranus	-8213-03-12 00:28 J	-1278304.69	-1278304.48	-1278304.26	0.0144	0.0003
Uranus	-8213-10-24 10:47 J	-1278078.25	-1278078.05	-1278077.84	0.0144	0.0048
Jupiter	-8212-06-04 08:24 J	-1277855.35	-1277855.15	-1277854.95	0.0508	0.0077
Uranus	-8212-06-07 21:07 J	-1277851.77	-1277851.62	-1277851.45	0.0144	0.0096
Uranus	-8211-01-20 08:09 J	-1277625.18	-1277625.16	-1277625.15	0.0144	0.0144
Saturn	-8207-07-26 12:14 J	-1275977.16	-1275976.99	-1275976.83	0.0262	0.0167
Saturn	-8206-03-12 11:31 J	-1275748.23	-1275748.02	-1275747.80	0.0263	0.0007

Jupiter	-8206-04-02 12:00 J	-1275727.15	-1275727.00	-1275726.84	0.0515	0.0342
Saturn	-8206-10-27 12:28 J	-1275519.14	-1275518.98	-1275518.83	0.0265	0.0184
Jupiter	-8200-02-07 07:12 J	-1273589.39	-1273589.20	-1273589.00	0.0509	0.0147
Jupiter	-8194-07-31 17:16 J	-1271223.96	-1271223.78	-1271223.61	0.0519	0.0277
Saturn	-8193-05-29 13:40 J	-1270921.04	-1270920.93	-1270920.79	0.0301	0.0243
Saturn	-8192-01-14 17:31 J	-1270690.98	-1270690.77	-1270690.57	0.0299	0.0019
Saturn	-8192-09-01 18:28 J	-1270460.81	-1270460.73	-1270460.64	0.0297	0.0269
Mars	-8191-05-29 13:26 J	-1270191.11	-1270190.94	-1270190.77	0.1663	0.0441
Mars	-8189-03-28 12:28 J	-1269522.07	-1269521.98	-1269521.89	0.1648	0.1387
Jupiter	-8189-10-13 06:57 J	-1269323.34	-1269323.21	-1269323.07	0.0511	0.0367
Jupiter	-8188-06-06 18:28 J	-1269086.84	-1269086.73	-1269086.62	0.0506	0.0422
Mars	-8186-01-07 09:21 J	-1268507.28	-1268507.11	-1268506.94	0.1868	0.0517
Jupiter	-8182-04-05 07:26 J	-1266958.39	-1266958.19	-1266957.98	0.0517	0.0029
Saturn	-8177-02-05 17:45 J	-1265190.94	-1265190.76	-1265190.57	0.0262	0.0138
Saturn	-8177-09-21 17:16 J	-1264961.99	-1264961.78	-1264961.56	0.0264	0.0037
Jupiter	-8176-02-09 19:26 J	-1264820.87	-1264820.69	-1264820.50	0.0507	0.0207
Saturn	-8176-05-08 18:14 J	-1264732.85	-1264732.74	-1264732.61	0.0265	0.0215
Uranus	-8175-08-19 03:50 J	-1264265.44	-1264265.34	-1264265.20	0.0135	0.0112
Uranus	-8174-04-02 11:16 J	-1264039.20	-1264039.03	-1264038.83	0.0135	0.0071
Uranus	-8174-11-14 18:43 J	-1263812.93	-1263812.72	-1263812.50	0.0135	0.0030
Uranus	-8173-06-28 01:40 J	-1263586.64	-1263586.43	-1263586.20	0.0135	0.0011
Pluto	-8173-10-15 06:14 J	-1263477.29	-1263477.24	-1263477.14	0.0065	0.0061
Uranus	-8172-02-09 08:38 J	-1263360.33	-1263360.14	-1263359.92	0.0134	0.0051
Pluto	-8172-05-28 10:47 J	-1263252.24	-1263252.05	-1263251.84	0.0065	0.0026
Uranus	-8172-09-23 15:50 J	-1263134.00	-1263133.84	-1263133.67	0.0134	0.0090
Pluto	-8171-01-08 15:21 J	-1263027.08	-1263026.86	-1263026.64	0.0066	0.0009
Uranus	-8171-05-07 22:19 J	-1262907.61	-1262907.57	-1262907.50	0.0134	0.0129
Pluto	-8171-08-21 19:12 J	-1262801.83	-1262801.70	-1262801.51	0.0066	0.0045
Jupiter	-8171-12-09 00:14 J	-1262692.67	-1262692.49	-1262692.30	0.0516	0.0211
Jupiter	-8165-10-15 18:14 J	-1260554.94	-1260554.74	-1260554.54	0.0508	0.0019

Saturn	-8164-12-09 23:45 J	-1260134.66	-1260134.51	-1260134.35	0.0301	0.0201
Saturn	-8163-07-28 03:07 J	-1259904.57	-1259904.37	-1259904.16	0.0299	0.0060
Neptune	-8162-03-03 12:14 J	-1259686.03	-1259685.99	-1259685.95	0.0089	0.0088
Neptune	-8162-10-15 00:43 J	-1259460.56	-1259460.47	-1259460.34	0.0089	0.0078
Neptune	-8161-05-27 13:55 J	-1259235.05	-1259234.92	-1259234.76	0.0089	0.0067
Neptune	-8160-01-08 02:52 J	-1259009.53	-1259009.38	-1259009.19	0.0089	0.0056
Neptune	-8160-08-21 16:04 J	-1258784.01	-1258783.83	-1258783.63	0.0089	0.0045
Neptune	-8159-04-04 05:02 J	-1258558.48	-1258558.29	-1258558.08	0.0089	0.0035
Mars	-8159-05-28 09:07 J	-1258504.22	-1258504.12	-1258504.02	0.1670	0.1351
Jupiter	-8159-08-13 18:14 J	-1258426.83	-1258426.74	-1258426.63	0.0515	0.0445
Neptune	-8159-11-15 18:14 J	-1258332.95	-1258332.74	-1258332.53	0.0089	0.0024
Jupiter	-8158-04-08 07:40 J	-1258189.29	-1258189.18	-1258189.05	0.0520	0.0418
Neptune	-8158-06-29 07:12 J	-1258107.41	-1258107.20	-1258106.98	0.0089	0.0013
Neptune	-8157-02-09 20:09 J	-1257881.87	-1257881.66	-1257881.44	0.0089	0.0003
Mars	-8157-03-27 06:43 J	-1257835.39	-1257835.22	-1257835.06	0.1654	0.0532
Neptune	-8157-09-22 09:07 J	-1257656.34	-1257656.12	-1257655.90	0.0089	0.0008
Neptune	-8156-05-05 21:50 J	-1257430.79	-1257430.59	-1257430.37	0.0089	0.0020
Neptune	-8156-12-17 10:47 J	-1257205.25	-1257205.05	-1257204.83	0.0089	0.0030
Neptune	-8155-07-31 00:00 J	-1256979.69	-1256979.50	-1256979.30	0.0089	0.0041
Mars	-8154-01-07 08:09 J	-1256819.30	-1256819.16	-1256819.02	0.1858	0.1105
Neptune	-8154-03-13 12:43 J	-1256754.13	-1256753.97	-1256753.78	0.0089	0.0051
Neptune	-8154-10-25 01:55 J	-1256528.58	-1256528.42	-1256528.26	0.0089	0.0062
Neptune	-8153-06-06 14:38 J	-1256303.01	-1256302.89	-1256302.75	0.0089	0.0072
Jupiter	-8153-06-20 17:45 J	-1256288.94	-1256288.76	-1256288.58	0.0510	0.0240
Neptune	-8152-01-18 03:07 J	-1256077.42	-1256077.37	-1256077.26	0.0089	0.0084
Saturn	-8148-08-17 21:50 J	-1254404.78	-1254404.59	-1254404.39	0.0262	0.0114
Saturn	-8147-04-03 21:35 J	-1254175.81	-1254175.60	-1254175.39	0.0263	0.0061
Saturn	-8147-11-18 22:33 J	-1253946.64	-1253946.56	-1253946.46	0.0265	0.0240
Jupiter	-8147-12-12 00:14 J	-1253923.68	-1253923.49	-1253923.30	0.0518	0.0176
Jupiter	-8141-02-24 16:04 J	-1252022.91	-1252022.83	-1252022.75	0.0511	0.0465

Jupiter	-8141-10-18 03:50 J	-1251786.48	-1251786.34	-1251786.18	0.0506	0.0330
Jupiter	-8135-08-16 16:19 J	-1249658.02	-1249657.82	-1249657.61	0.0517	0.0068
Saturn	-8134-06-22 07:26 J	-1249348.36	-1249348.19	-1249348.01	0.0301	0.0165
Saturn	-8133-02-07 10:33 J	-1249118.26	-1249118.06	-1249117.86	0.0299	0.0095
Uranus	-8131-08-14 11:45 J	-1248199.12	-1248199.01	-1248198.88	0.0143	0.0116
Uranus	-8130-03-28 21:50 J	-1247972.77	-1247972.59	-1247972.39	0.0143	0.0070
Uranus	-8130-11-10 08:09 J	-1247746.37	-1247746.16	-1247745.95	0.0144	0.0022
Jupiter	-8129-06-23 04:47 J	-1247520.49	-1247520.30	-1247520.10	0.0508	0.0113
Uranus	-8129-06-23 18:28 J	-1247519.94	-1247519.73	-1247519.52	0.0144	0.0026
Uranus	-8128-02-05 04:47 J	-1247293.47	-1247293.30	-1247293.11	0.0144	0.0074
Uranus	-8128-09-19 15:21 J	-1247066.95	-1247066.86	-1247066.73	0.0144	0.0122
Mars	-8125-03-26 01:12 J	-1246148.62	-1246148.45	-1246148.28	0.1660	0.0345
Mars	-8123-01-24 00:43 J	-1245479.55	-1245479.47	-1245479.40	0.1646	0.1471
Jupiter	-8123-04-21 07:55 J	-1245392.33	-1245392.17	-1245392.00	0.0515	0.0310
Mars	-8121-11-03 13:12 J	-1244465.11	-1244464.95	-1244464.79	0.1871	0.0788
Saturn	-8119-07-14 03:50 J	-1243847.37	-1243847.34	-1243847.30	0.0261	0.0257
Saturn	-8118-02-28 02:24 J	-1243618.60	-1243618.40	-1243618.20	0.0262	0.0087
Saturn	-8118-10-15 01:55 J	-1243389.61	-1243389.42	-1243389.21	0.0264	0.0089
Jupiter	-8117-02-27 05:16 J	-1243254.47	-1243254.28	-1243254.08	0.0510	0.0108
Jupiter	-8111-08-19 13:40 J	-1240889.09	-1240888.93	-1240888.76	0.0519	0.0314
Jupiter	-8106-11-02 03:50 J	-1238988.49	-1238988.34	-1238988.19	0.0511	0.0335
Jupiter	-8105-06-25 14:38 J	-1238751.98	-1238751.89	-1238751.80	0.0505	0.0454
Saturn	-8104-01-01 16:19 J	-1238562.00	-1238561.82	-1238561.62	0.0300	0.0125
Saturn	-8104-08-19 19:12 J	-1238331.88	-1238331.70	-1238331.51	0.0298	0.0134
Jupiter	-8099-04-24 06:43 J	-1236623.42	-1236623.22	-1236623.01	0.0518	0.0073
Jupiter	-8093-02-29 15:35 J	-1234486.03	-1234485.85	-1234485.67	0.0507	0.0240
Mars	-8093-03-24 20:24 J	-1234461.77	-1234461.65	-1234461.54	0.1667	0.1245
Mars	-8091-01-22 18:28 J	-1233792.89	-1233792.73	-1233792.57	0.1652	0.0624
Uranus	-8091-04-18 12:14 J	-1233707.03	-1233706.99	-1233706.93	0.0135	0.0131
Uranus	-8091-11-30 19:26 J	-1233480.84	-1233480.69	-1233480.51	0.0135	0.0091

Uranus	-8090-07-15 02:52 J	-1233254.58	-1233254.38	-1233254.17	0.0135	0.0050
Saturn	-8089-01-24 06:57 J	-1233061.29	-1233061.21	-1233061.11	0.0261	0.0235
Uranus	-8089-02-26 10:19 J	-1233028.29	-1233028.07	-1233027.85	0.0135	0.0009
Saturn	-8089-09-09 05:45 J	-1232832.47	-1232832.26	-1232832.06	0.0262	0.0064
Uranus	-8089-10-09 17:16 J	-1232801.99	-1232801.78	-1232801.56	0.0134	0.0031
Mars	-8089-11-03 11:45 J	-1232777.16	-1232777.01	-1232776.85	0.1861	0.0846
Saturn	-8088-04-26 05:16 J	-1232603.47	-1232603.28	-1232603.08	0.0264	0.0112
Uranus	-8088-05-24 00:14 J	-1232575.68	-1232575.49	-1232575.30	0.0134	0.0071
Jupiter	-8088-12-28 00:14 J	-1232357.68	-1232357.49	-1232357.29	0.0516	0.0166
Uranus	-8087-01-05 06:43 J	-1232349.33	-1232349.22	-1232349.08	0.0134	0.0110
Pluto	-8084-01-26 01:55 J	-1231232.61	-1231232.42	-1231232.20	0.0079	0.0032
Pluto	-8084-09-08 12:28 J	-1231007.17	-1231006.98	-1231006.76	0.0079	0.0032
Jupiter	-8082-11-04 15:07 J	-1230220.07	-1230219.87	-1230219.66	0.0508	0.0023
Neptune	-8080-11-28 11:16 J	-1229465.07	-1229465.03	-1229464.94	0.0088	0.0084
Neptune	-8079-07-12 00:57 J	-1229239.58	-1229239.46	-1229239.34	0.0088	0.0073
Neptune	-8078-02-22 13:40 J	-1229014.07	-1229013.93	-1229013.77	0.0088	0.0063
Neptune	-8078-10-06 02:24 J	-1228788.56	-1228788.40	-1228788.20	0.0088	0.0053
Neptune	-8077-05-18 15:50 J	-1228563.03	-1228562.84	-1228562.64	0.0088	0.0042
Neptune	-8077-12-30 04:47 J	-1228337.49	-1228337.30	-1228337.08	0.0088	0.0032
Neptune	-8076-08-12 18:14 J	-1228111.95	-1228111.74	-1228111.52	0.0088	0.0021
Jupiter	-8076-09-01 17:45 J	-1228091.88	-1228091.76	-1228091.63	0.0515	0.0402
Neptune	-8075-03-26 07:12 J	-1227886.42	-1227886.20	-1227885.98	0.0088	0.0011
Jupiter	-8075-04-27 06:57 J	-1227854.29	-1227854.21	-1227854.11	0.0520	0.0464
Saturn	-8075-07-14 22:04 J	-1227775.78	-1227775.58	-1227775.38	0.0300	0.0092
Neptune	-8075-11-06 20:09 J	-1227660.88	-1227660.66	-1227660.43	0.0088	0.0002
Saturn	-8074-03-02 00:43 J	-1227545.64	-1227545.47	-1227545.30	0.0298	0.0166
Neptune	-8074-06-20 09:21 J	-1227435.33	-1227435.11	-1227434.89	0.0088	0.0010
Neptune	-8073-01-31 22:19 J	-1227209.78	-1227209.57	-1227209.34	0.0088	0.0021
Neptune	-8073-09-13 11:31 J	-1226984.22	-1226984.02	-1226983.81	0.0088	0.0031
Neptune	-8072-04-27 00:14 J	-1226758.67	-1226758.49	-1226758.28	0.0088	0.0042

Neptune	-8072-12-08 13:26 J	-1226533.10	-1226532.94	-1226532.75	0.0088	0.0052
Neptune	-8071-07-22 02:52 J	-1226307.53	-1226307.38	-1226307.22	0.0088	0.0063
Neptune	-8070-03-04 15:35 J	-1226081.96	-1226081.85	-1226081.71	0.0088	0.0073
Jupiter	-8070-07-10 15:21 J	-1225954.04	-1225953.86	-1225953.67	0.0510	0.0202
Neptune	-8070-10-16 04:47 J	-1225856.36	-1225856.30	-1225856.22	0.0088	0.0084
Earth	-8066-11-10 21:50 J	-1224369.74	-1224369.59	-1224369.43	0.2696	0.0522
Moon	-8066-11-11 00:00 J	-1224369.66	-1224369.50	-1224369.33	0.2690	0.0162 *
Jupiter	-8064-12-30 21:50 J	-1223588.78	-1223588.59	-1223588.41	0.0518	0.0215
Saturn	-8060-08-05 10:33 J	-1222275.17	-1222275.06	-1222274.92	0.0261	0.0210
Mars	-8059-01-21 12:43 J	-1222106.14	-1222105.97	-1222105.80	0.1658	0.0246
Saturn	-8059-03-22 09:21 J	-1222046.33	-1222046.11	-1222045.90	0.0263	0.0039
Saturn	-8059-11-06 08:52 J	-1221817.30	-1221817.13	-1221816.94	0.0264	0.0139
Jupiter	-8058-03-15 15:07 J	-1221687.98	-1221687.87	-1221687.76	0.0512	0.0426
Jupiter	-8058-11-07 03:21 J	-1221451.50	-1221451.36	-1221451.23	0.0507	0.0372
Mars	-8058-11-21 12:43 J	-1221437.02	-1221436.97	-1221436.92	0.1644	0.1558
Mars	-8055-08-31 16:04 J	-1220422.98	-1220422.83	-1220422.69	0.1874	0.1072
Jupiter	-8052-09-04 14:38 J	-1219323.09	-1219322.89	-1219322.68	0.0517	0.0028
Uranus	-8047-04-13 18:14 J	-1217640.77	-1217640.74	-1217640.68	0.0143	0.0140
Uranus	-8047-11-26 04:19 J	-1217414.47	-1217414.32	-1217414.15	0.0143	0.0093
Uranus	-8046-07-10 14:38 J	-1217188.09	-1217187.89	-1217187.68	0.0143	0.0046
Jupiter	-8046-07-13 02:52 J	-1217185.57	-1217185.38	-1217185.18	0.0507	0.0152
Saturn	-8045-01-25 05:02 J	-1216989.50	-1216989.29	-1216989.08	0.0300	0.0057
Uranus	-8045-02-22 01:12 J	-1216961.67	-1216961.45	-1216961.24	0.0144	0.0003
Saturn	-8045-09-11 07:26 J	-1216759.34	-1216759.19	-1216759.03	0.0298	0.0200
Uranus	-8045-10-05 11:31 J	-1216735.22	-1216735.02	-1216734.81	0.0144	0.0050
Uranus	-8044-05-19 22:04 J	-1216508.73	-1216508.58	-1216508.42	0.0144	0.0098
Jupiter	-8040-05-10 07:55 J	-1215057.34	-1215057.17	-1215056.99	0.0516	0.0266
Jupiter	-8034-03-18 03:35 J	-1212919.55	-1212919.35	-1212919.15	0.0509	0.0069
Saturn	-8030-02-15 12:57 J	-1211489.10	-1211488.96	-1211488.81	0.0261	0.0189
Saturn	-8030-10-02 11:31 J	-1211260.23	-1211260.02	-1211259.81	0.0262	0.0018

Saturn	-8029-05-18 11:16 J	-1211031.20	-1211031.03	-1211030.86	0.0264	0.0159
Jupiter	-8028-01-13 02:38 J	-1210791.44	-1210791.39	-1210791.34	0.0514	0.0497
Jupiter	-8028-09-07 15:21 J	-1210554.00	-1210553.86	-1210553.71	0.0520	0.0368
Mars	-8027-01-20 08:09 J	-1210419.29	-1210419.16	-1210419.04	0.1665	0.1146
Mars	-8026-11-20 06:28 J	-1209750.39	-1209750.23	-1209750.08	0.1650	0.0717
Mars	-8023-08-31 15:35 J	-1208735.01	-1208734.85	-1208734.68	0.1865	0.0592
Jupiter	-8023-11-21 02:38 J	-1208653.55	-1208653.39	-1208653.22	0.0510	0.0293
Jupiter	-8022-07-15 13:12 J	-1208416.97	-1208416.95	-1208416.91	0.0505	0.0498
Saturn	-8017-12-19 04:04 J	-1206433.37	-1206433.33	-1206433.27	0.0302	0.0292
Jupiter	-8016-05-13 07:55 J	-1206288.36	-1206288.17	-1206287.96	0.0518	0.0124
Saturn	-8016-08-06 08:52 J	-1206203.34	-1206203.13	-1206202.92	0.0300	0.0028
Saturn	-8015-03-24 11:02 J	-1205973.17	-1205973.04	-1205972.90	0.0298	0.0229
Jupiter	-8010-03-20 14:38 J	-1204151.05	-1204150.89	-1204150.72	0.0507	0.0285
Uranus	-8007-07-31 04:19 J	-1202922.44	-1202922.32	-1202922.19	0.0135	0.0109
Uranus	-8006-03-14 11:31 J	-1202696.20	-1202696.02	-1202695.82	0.0135	0.0069
Uranus	-8006-10-26 18:43 J	-1202469.93	-1202469.72	-1202469.49	0.0135	0.0029
Uranus	-8005-06-09 01:55 J	-1202243.64	-1202243.42	-1202243.20	0.0135	0.0012
Jupiter	-8004-01-16 00:00 J	-1202022.70	-1202022.50	-1202022.30	0.0516	0.0122
Uranus	-8004-01-21 08:52 J	-1202017.32	-1202017.13	-1202016.92	0.0134	0.0052
Uranus	-8004-09-04 15:35 J	-1201790.99	-1201790.85	-1201790.67	0.0134	0.0092
Uranus	-8003-04-18 22:19 J	-1201564.60	-1201564.57	-1201564.51	0.0134	0.0131
Saturn	-8001-08-27 15:35 J	-1200703.01	-1200702.85	-1200702.69	0.0261	0.0166

8TH MILLENNIUM BCE

This is a list of transits of Venus in the 8th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-8000-04-13	14:09 J	-1200474.13	-1200473.91	-1200473.70	0.0263	0.0006	
Saturn	-8000-11-28	13:55 J	-1200245.07	-1200244.92	-1200244.76	0.0264	0.0184	
Jupiter	-7999-11-23	15:50 J	-1199885.04	-1199884.84	-1199884.64	0.0508	0.0067	
Neptune	-7997-01-16	12:28 J	-1199466.04	-1199465.98	-1199465.87	0.0089	0.0083	
Neptune	-7997-08-29	01:40 J	-1199240.54	-1199240.43	-1199240.28	0.0089	0.0072	
Neptune	-7996-04-11	14:52 J	-1199015.03	-1199014.88	-1199014.71	0.0089	0.0061	
Neptune	-7996-11-23	04:04 J	-1198789.51	-1198789.33	-1198789.15	0.0089	0.0050	
Neptune	-7995-07-06	16:47 J	-1198563.98	-1198563.80	-1198563.59	0.0089	0.0040	
Neptune	-7994-02-17	06:00 J	-1198338.45	-1198338.25	-1198338.04	0.0089	0.0028	
Neptune	-7994-09-30	18:57 J	-1198112.92	-1198112.71	-1198112.49	0.0089	0.0017	
Mars	-7994-11-19	00:43 J	-1198063.64	-1198063.47	-1198063.30	0.1656	0.0153	
Neptune	-7993-05-13	07:55 J	-1197887.38	-1197887.17	-1197886.95	0.0089	0.0007	
Jupiter	-7993-09-20	17:45 J	-1197756.90	-1197756.76	-1197756.61	0.0515	0.0359	
Neptune	-7993-12-24	20:52 J	-1197661.84	-1197661.63	-1197661.41	0.0089	0.0005	
Jupiter	-7992-05-16	07:12 J	-1197519.24	-1197519.20	-1197519.17	0.0520	0.0510	
Neptune	-7992-08-07	09:50 J	-1197436.30	-1197436.09	-1197435.87	0.0089	0.0015	
Neptune	-7991-03-20	22:33 J	-1197210.75	-1197210.56	-1197210.34	0.0089	0.0027	
Neptune	-7991-11-01	11:45 J	-1196985.21	-1196985.01	-1196984.81	0.0089	0.0037	
Neptune	-7990-06-15	00:43 J	-1196759.65	-1196759.47	-1196759.28	0.0089	0.0048	
Neptune	-7989-01-26	13:26 J	-1196534.09	-1196533.94	-1196533.76	0.0089	0.0059	
Mars	-7989-06-27	19:26 J	-1196380.81	-1196380.69	-1196380.57	0.1877	0.1353	
Neptune	-7989-09-08	02:09 J	-1196308.52	-1196308.41	-1196308.25	0.0089	0.0070	
Neptune	-7988-04-21	15:35 J	-1196082.95	-1196082.85	-1196082.76	0.0089	0.0080	
Saturn	-7987-07-01	09:35 J	-1195647.19	-1195647.10	-1195646.98	0.0302	0.0261	
Jupiter	-7987-07-29	15:35 J	-1195619.04	-1195618.85	-1195618.66	0.0509	0.0157	
Saturn	-7986-02-16	14:24 J	-1195417.11	-1195416.90	-1195416.69	0.0300	0.0004	
Saturn	-7986-10-04	16:19 J	-1195186.91	-1195186.82	-1195186.71	0.0298	0.0260	

Jupiter	-7980-01-18 23:31 J	-1193253.70	-1193253.52	-1193253.34	0.0519	0.0268
Earth	-7976-05-16 01:26 J	-1191675.60	-1191675.44	-1191675.28	0.2637	0.0166
Moon	-7976-05-16 06:57 J	-1191675.37	-1191675.21	-1191675.06	0.2636	0.0885 *
Jupiter	-7975-04-03 15:50 J	-1191352.97	-1191352.84	-1191352.70	0.0511	0.0379
Jupiter	-7975-11-26 02:52 J	-1191116.49	-1191116.38	-1191116.26	0.0506	0.0416
Saturn	-7971-03-09 17:31 J	-1189916.95	-1189916.77	-1189916.59	0.0261	0.0146
Saturn	-7971-10-24 15:50 J	-1189688.05	-1189687.84	-1189687.62	0.0262	0.0027
Saturn	-7970-06-10 15:50 J	-1189458.97	-1189458.84	-1189458.70	0.0264	0.0203
Jupiter	-7969-09-23 17:16 J	-1188987.99	-1188987.78	-1188987.57	0.0518	0.0028
Uranus	-7963-07-26 09:21 J	-1186856.21	-1186856.11	-1186855.97	0.0143	0.0118
Jupiter	-7963-08-01 03:21 J	-1186850.54	-1186850.36	-1186850.17	0.0507	0.0200
Uranus	-7962-03-09 19:26 J	-1186629.86	-1186629.69	-1186629.49	0.0143	0.0072
Uranus	-7962-10-22 06:00 J	-1186403.46	-1186403.25	-1186403.04	0.0144	0.0023
Mars	-7962-11-17 19:40 J	-1186376.82	-1186376.68	-1186376.55	0.1663	0.1045
Uranus	-7961-06-04 16:19 J	-1186177.03	-1186176.82	-1186176.61	0.0144	0.0024
Uranus	-7960-01-17 02:24 J	-1185950.57	-1185950.40	-1185950.20	0.0144	0.0074
Uranus	-7960-08-31 13:12 J	-1185724.05	-1185723.95	-1185723.82	0.0144	0.0121
Mars	-7960-09-16 18:28 J	-1185707.88	-1185707.73	-1185707.58	0.1648	0.0808
Saturn	-7957-01-11 11:45 J	-1184861.13	-1184861.01	-1184860.87	0.0302	0.0235
Jupiter	-7957-05-29 10:47 J	-1184722.23	-1184722.05	-1184721.86	0.0516	0.0212
Mars	-7957-06-27 18:43 J	-1184692.89	-1184692.72	-1184692.54	0.1868	0.0313
Saturn	-7957-08-28 16:19 J	-1184631.03	-1184630.82	-1184630.61	0.0300	0.0030
Saturn	-7956-04-15 18:14 J	-1184400.79	-1184400.74	-1184400.67	0.0298	0.0285
Jupiter	-7951-04-06 04:04 J	-1182584.53	-1182584.33	-1182584.13	0.0509	0.0021
Jupiter	-7945-02-02 04:19 J	-1180456.42	-1180456.32	-1180456.22	0.0514	0.0449
Jupiter	-7945-09-26 16:47 J	-1180218.92	-1180218.80	-1180218.68	0.0519	0.0418
Saturn	-7942-09-19 18:43 J	-1179130.90	-1179130.72	-1179130.52	0.0261	0.0125
Saturn	-7941-05-05 17:31 J	-1178901.98	-1178901.77	-1178901.56	0.0263	0.0048
Saturn	-7941-12-20 17:16 J	-1178672.87	-1178672.78	-1178672.65	0.0264	0.0227
Jupiter	-7940-12-10 04:19 J	-1178318.50	-1178318.32	-1178318.14	0.0510	0.0244

Jupiter	-7933-06-01 09:21 J	-1175953.30	-1175953.11	-1175952.91	0.0518	0.0174
Saturn	-7928-07-23 15:50 J	-1174074.98	-1174074.84	-1174074.68	0.0302	0.0207
Jupiter	-7928-08-15 04:04 J	-1174052.41	-1174052.33	-1174052.25	0.0511	0.0467
Mars	-7928-09-15 12:28 J	-1174021.16	-1174020.98	-1174020.81	0.1654	0.0069
Saturn	-7927-03-10 20:24 J	-1173844.86	-1173844.65	-1173844.45	0.0300	0.0058
Jupiter	-7927-04-08 16:04 J	-1173815.98	-1173815.83	-1173815.68	0.0506	0.0334
Pluto	-7926-06-26 12:00 J	-1173372.11	-1173372.00	-1173371.83	0.0065	0.0051
Pluto	-7925-02-06 16:47 J	-1173147.01	-1173146.80	-1173146.58	0.0065	0.0015
Pluto	-7925-09-18 21:07 J	-1172921.81	-1172921.62	-1172921.40	0.0066	0.0021
Pluto	-7924-05-02 01:26 J	-1172696.53	-1172696.44	-1172696.31	0.0066	0.0056
Uranus	-7923-03-30 11:45 J	-1172364.05	-1172364.01	-1172363.93	0.0135	0.0130
Mars	-7923-04-24 21:50 J	-1172338.67	-1172338.59	-1172338.50	0.1880	0.1648
Uranus	-7923-11-11 19:12 J	-1172137.85	-1172137.70	-1172137.52	0.0135	0.0089
Uranus	-7922-06-26 02:38 J	-1171911.59	-1171911.39	-1171911.18	0.0135	0.0048
Jupiter	-7921-02-05 01:55 J	-1171687.62	-1171687.42	-1171687.21	0.0517	0.0070
Uranus	-7921-02-07 10:04 J	-1171685.30	-1171685.08	-1171684.86	0.0135	0.0008
Uranus	-7921-09-20 17:02 J	-1171459.00	-1171458.79	-1171458.57	0.0134	0.0033
Uranus	-7920-05-04 23:45 J	-1171232.69	-1171232.51	-1171232.32	0.0134	0.0073
Uranus	-7920-12-17 06:14 J	-1171006.34	-1171006.24	-1171006.10	0.0134	0.0112
Jupiter	-7916-12-12 17:31 J	-1169549.96	-1169549.77	-1169549.57	0.0507	0.0118
Neptune	-7915-10-13 12:28 J	-1169245.07	-1169244.98	-1169244.87	0.0088	0.0078
Neptune	-7914-05-27 01:12 J	-1169019.57	-1169019.45	-1169019.29	0.0088	0.0068
Neptune	-7913-01-07 14:38 J	-1168794.05	-1168793.89	-1168793.71	0.0088	0.0057
Neptune	-7913-08-20 03:35 J	-1168568.52	-1168568.35	-1168568.15	0.0088	0.0047
Saturn	-7912-03-31 20:24 J	-1168344.84	-1168344.65	-1168344.45	0.0261	0.0106
Neptune	-7912-04-02 16:47 J	-1168343.00	-1168342.80	-1168342.59	0.0088	0.0036
Neptune	-7912-11-14 05:45 J	-1168117.46	-1168117.26	-1168117.04	0.0088	0.0026
Saturn	-7912-11-15 19:12 J	-1168115.91	-1168115.70	-1168115.50	0.0262	0.0068
Neptune	-7911-06-27 18:57 J	-1167891.92	-1167891.71	-1167891.49	0.0088	0.0015
Saturn	-7911-07-02 19:12 J	-1167886.78	-1167886.70	-1167886.62	0.0264	0.0244

Neptune	-7910-02-08 08:09 J	-1167666.38	-1167666.16	-1167665.94	0.0088	0.0004
Neptune	-7910-09-21 21:21 J	-1167440.83	-1167440.61	-1167440.39	0.0088	0.0006
Jupiter	-7910-10-10 20:24 J	-1167421.81	-1167421.65	-1167421.48	0.0516	0.0306
Neptune	-7909-05-04 10:19 J	-1167215.28	-1167215.07	-1167214.85	0.0088	0.0017
Neptune	-7909-12-15 23:16 J	-1166989.73	-1166989.53	-1166989.31	0.0088	0.0028
Neptune	-7908-07-29 12:28 J	-1166764.17	-1166763.98	-1166763.77	0.0088	0.0038
Neptune	-7907-03-12 01:26 J	-1166538.61	-1166538.44	-1166538.24	0.0088	0.0049
Neptune	-7907-10-23 14:52 J	-1166313.04	-1166312.88	-1166312.72	0.0088	0.0059
Neptune	-7906-06-06 03:35 J	-1166087.47	-1166087.35	-1166087.20	0.0088	0.0070
Neptune	-7905-01-17 17:16 J	-1165861.87	-1165861.78	-1165861.69	0.0088	0.0081
Jupiter	-7904-08-17 17:31 J	-1165283.97	-1165283.77	-1165283.58	0.0509	0.0106
Saturn	-7898-02-02 17:16 J	-1163288.95	-1163288.78	-1163288.61	0.0302	0.0182
Saturn	-7898-09-20 21:21 J	-1163058.81	-1163058.61	-1163058.41	0.0300	0.0082
Jupiter	-7897-02-08 03:50 J	-1162918.50	-1162918.34	-1162918.18	0.0519	0.0329
Mars	-7896-09-14 07:12 J	-1162334.34	-1162334.20	-1162334.06	0.1661	0.0942
Mars	-7894-07-15 06:14 J	-1161665.39	-1161665.24	-1161665.10	0.1646	0.0904
Jupiter	-7892-04-22 17:02 J	-1161017.93	-1161017.79	-1161017.63	0.0511	0.0331
Jupiter	-7892-12-15 04:19 J	-1160781.39	-1160781.32	-1160781.24	0.0506	0.0468
Mars	-7891-04-24 21:50 J	-1160650.76	-1160650.59	-1160650.41	0.1871	0.0063
Jupiter	-7886-10-13 19:55 J	-1158652.87	-1158652.67	-1158652.46	0.0517	0.0083
Saturn	-7883-02-25 00:00 J	-1157787.54	-1157787.50	-1157787.45	0.0260	0.0254
Saturn	-7883-10-11 21:21 J	-1157558.81	-1157558.61	-1157558.40	0.0261	0.0085
Saturn	-7882-05-28 20:09 J	-1157329.86	-1157329.66	-1157329.46	0.0263	0.0089
Jupiter	-7880-08-20 06:00 J	-1156515.42	-1156515.25	-1156515.07	0.0507	0.0253
Uranus	-7879-11-07 00:14 J	-1156071.64	-1156071.49	-1156071.32	0.0143	0.0097
Uranus	-7878-06-21 10:19 J	-1155845.26	-1155845.07	-1155844.86	0.0143	0.0050
Uranus	-7877-02-02 20:52 J	-1155618.85	-1155618.63	-1155618.42	0.0144	0.0003
Uranus	-7877-09-16 06:57 J	-1155392.40	-1155392.21	-1155391.99	0.0144	0.0047
Uranus	-7876-04-30 17:16 J	-1155165.92	-1155165.78	-1155165.60	0.0144	0.0095
Uranus	-7876-12-13 03:50 J	-1154939.35	-1154939.34	-1154939.30	0.0144	0.0143

Jupiter	-7874-06-18 13:12 J	-1154387.14	-1154386.95	-1154386.75	0.0516	0.0160
Saturn	-7869-08-14 20:38 J	-1152502.82	-1152502.64	-1152502.46	0.0301	0.0155
Saturn	-7868-04-02 00:28 J	-1152272.67	-1152272.48	-1152272.28	0.0300	0.0109
Jupiter	-7868-04-25 06:57 J	-1152249.41	-1152249.21	-1152249.01	0.0508	0.0034
Jupiter	-7862-02-21 05:45 J	-1150121.38	-1150121.26	-1150121.13	0.0515	0.0401
Mars	-7862-07-14 00:14 J	-1149978.66	-1149978.49	-1149978.32	0.1652	0.0040
Jupiter	-7862-10-16 19:40 J	-1149883.76	-1149883.68	-1149883.60	0.0520	0.0476
Mars	-7859-04-24 20:24 J	-1148962.73	-1148962.65	-1148962.57	0.1861	0.1655
Jupiter	-7857-12-29 07:55 J	-1147983.35	-1147983.17	-1147982.98	0.0509	0.0187
Saturn	-7854-09-07 01:26 J	-1147001.52	-1147001.44	-1147001.34	0.0260	0.0235
Saturn	-7853-04-22 23:02 J	-1146772.75	-1146772.54	-1146772.33	0.0261	0.0066
Saturn	-7853-12-07 21:35 J	-1146543.79	-1146543.60	-1146543.40	0.0262	0.0108
Jupiter	-7850-06-21 13:12 J	-1145618.13	-1145617.95	-1145617.77	0.0519	0.0235
Jupiter	-7845-09-03 06:57 J	-1143717.32	-1143717.21	-1143717.09	0.0511	0.0414
Jupiter	-7844-04-27 18:43 J	-1143480.85	-1143480.72	-1143480.60	0.0506	0.0388
Saturn	-7839-02-24 20:38 J	-1141716.83	-1141716.64	-1141716.45	0.0302	0.0133
Uranus	-7839-07-12 02:09 J	-1141579.53	-1141579.41	-1141579.27	0.0135	0.0110
Saturn	-7839-10-13 00:28 J	-1141486.66	-1141486.48	-1141486.29	0.0300	0.0131
Uranus	-7838-02-23 09:35 J	-1141353.28	-1141353.10	-1141352.90	0.0135	0.0069
Pluto	-7838-02-24 00:14 J	-1141352.56	-1141352.49	-1141352.36	0.0079	0.0071
Jupiter	-7838-02-24 06:57 J	-1141352.41	-1141352.21	-1141352.00	0.0517	0.0013 *
Pluto	-7838-10-07 11:31 J	-1141127.24	-1141127.02	-1141126.80	0.0079	0.0006
Uranus	-7838-10-07 17:02 J	-1141127.00	-1141126.79	-1141126.57	0.0135	0.0028 *
Pluto	-7837-05-19 21:50 J	-1140901.74	-1140901.59	-1140901.44	0.0079	0.0057
Uranus	-7837-05-21 00:14 J	-1140900.71	-1140900.49	-1140900.27	0.0135	0.0012
Uranus	-7836-01-02 06:57 J	-1140674.40	-1140674.21	-1140674.00	0.0134	0.0053
Uranus	-7836-08-16 13:40 J	-1140448.07	-1140447.93	-1140447.75	0.0134	0.0093
Uranus	-7835-03-30 20:24 J	-1140221.67	-1140221.65	-1140221.59	0.0134	0.0132
Neptune	-7833-04-19 00:14 J	-1139471.51	-1139471.49	-1139471.41	0.0089	0.0088
Neptune	-7833-11-30 13:26 J	-1139246.03	-1139245.94	-1139245.80	0.0089	0.0077

Jupiter	-7833-12-31 19:26 J	-1139214.88	-1139214.69	-1139214.50	0.0507	0.0171
Neptune	-7832-07-14 02:52 J	-1139020.51	-1139020.38	-1139020.22	0.0089	0.0065
Neptune	-7831-02-24 15:50 J	-1138794.99	-1138794.84	-1138794.65	0.0089	0.0055
Neptune	-7831-10-08 05:02 J	-1138569.47	-1138569.29	-1138569.09	0.0089	0.0043
Moon	-7831-11-13 02:09 J	-1138533.51	-1138533.41	-1138533.32	0.2697	0.2103
Neptune	-7830-05-21 18:00 J	-1138343.94	-1138343.75	-1138343.54	0.0089	0.0033
Mars	-7830-07-12 18:43 J	-1138291.87	-1138291.72	-1138291.57	0.1658	0.0840
Neptune	-7829-01-02 07:12 J	-1138118.41	-1138118.20	-1138117.99	0.0089	0.0021
Neptune	-7829-08-14 20:09 J	-1137892.87	-1137892.66	-1137892.44	0.0089	0.0011
Neptune	-7828-03-28 09:07 J	-1137667.34	-1137667.12	-1137666.90	0.0089	0.0001
Mars	-7828-05-11 18:43 J	-1137622.86	-1137622.72	-1137622.58	0.1644	0.0988
Neptune	-7828-11-08 22:04 J	-1137441.80	-1137441.58	-1137441.36	0.0089	0.0011
Neptune	-7827-06-22 11:02 J	-1137216.25	-1137216.04	-1137215.83	0.0089	0.0022
Jupiter	-7827-10-30 00:14 J	-1137086.67	-1137086.49	-1137086.31	0.0515	0.0250
Neptune	-7826-02-02 23:45 J	-1136990.70	-1136990.51	-1136990.30	0.0089	0.0033
Neptune	-7826-09-16 12:28 J	-1136765.15	-1136764.98	-1136764.77	0.0089	0.0045
Mars	-7825-02-20 01:12 J	-1136608.63	-1136608.45	-1136608.27	0.1874	0.0240
Neptune	-7825-04-29 01:12 J	-1136539.60	-1136539.45	-1136539.26	0.0089	0.0056
Neptune	-7825-12-10 14:38 J	-1136314.04	-1136313.89	-1136313.74	0.0089	0.0066
Saturn	-7824-03-19 01:55 J	-1136215.52	-1136215.42	-1136215.29	0.0260	0.0216
Neptune	-7824-07-24 03:21 J	-1136088.46	-1136088.36	-1136088.24	0.0089	0.0077
Saturn	-7824-11-02 23:45 J	-1135986.72	-1135986.51	-1135986.30	0.0261	0.0046
Neptune	-7823-03-06 16:04 J	-1135862.85	-1135862.83	-1135862.77	0.0089	0.0088
Saturn	-7823-06-19 22:19 J	-1135757.75	-1135757.57	-1135757.38	0.0263	0.0129
Moon	-7823-11-10 19:12 J	-1135613.85	-1135613.70	-1135613.56	0.2703	0.0852
Earth	-7823-11-10 22:47 J	-1135613.70	-1135613.55	-1135613.39	0.2698	0.0567 *
Jupiter	-7821-09-05 20:24 J	-1134948.85	-1134948.65	-1134948.45	0.0509	0.0051
Jupiter	-7815-07-04 18:14 J	-1132820.80	-1132820.74	-1132820.67	0.0514	0.0485
Jupiter	-7814-02-27 06:43 J	-1132583.35	-1132583.22	-1132583.08	0.0519	0.0386
Saturn	-7810-09-07 00:00 J	-1130930.70	-1130930.50	-1130930.31	0.0301	0.0107

Saturn	-7809-04-24 03:35 J	-1130700.52	-1130700.35	-1130700.17	0.0299	0.0156
Jupiter	-7809-05-11 21:07 J	-1130682.79	-1130682.62	-1130682.45	0.0510	0.0273
Jupiter	-7803-11-01 22:04 J	-1128317.78	-1128317.58	-1128317.38	0.0518	0.0138
Jupiter	-7797-01-15 21:35 J	-1126416.65	-1126416.60	-1126416.55	0.0511	0.0496
Jupiter	-7797-09-08 09:35 J	-1126180.25	-1126180.10	-1126179.93	0.0506	0.0311
Mars	-7796-05-10 12:14 J	-1125936.16	-1125935.99	-1125935.81	0.1650	0.0140
Uranus	-7795-07-07 06:00 J	-1125513.35	-1125513.25	-1125513.13	0.0143	0.0120
Saturn	-7795-09-29 03:35 J	-1125429.48	-1125429.35	-1125429.20	0.0260	0.0196
Uranus	-7794-02-18 16:04 J	-1125287.01	-1125286.83	-1125286.64	0.0143	0.0073
Saturn	-7794-05-16 01:26 J	-1125200.65	-1125200.44	-1125200.23	0.0261	0.0026
Uranus	-7794-10-03 02:24 J	-1125060.61	-1125060.40	-1125060.19	0.0143	0.0026
Saturn	-7794-12-31 00:14 J	-1124971.66	-1124971.49	-1124971.31	0.0262	0.0149
Mars	-7793-02-20 00:00 J	-1124920.62	-1124920.50	-1124920.39	0.1864	0.1396
Uranus	-7793-05-16 12:28 J	-1124834.19	-1124833.98	-1124833.77	0.0144	0.0022
Uranus	-7793-12-28 22:33 J	-1124607.74	-1124607.56	-1124607.36	0.0144	0.0070
Uranus	-7792-08-12 09:07 J	-1124381.23	-1124381.12	-1124380.99	0.0144	0.0118
Jupiter	-7791-07-07 16:04 J	-1124052.03	-1124051.83	-1124051.62	0.0517	0.0103
Jupiter	-7785-05-14 09:50 J	-1121914.29	-1121914.09	-1121913.89	0.0508	0.0089
Saturn	-7780-03-19 00:14 J	-1120144.69	-1120144.49	-1120144.28	0.0302	0.0084
Saturn	-7780-11-04 03:50 J	-1119914.50	-1119914.34	-1119914.16	0.0300	0.0180
Jupiter	-7779-03-12 11:02 J	-1119786.19	-1119786.04	-1119785.88	0.0515	0.0340
Jupiter	-7773-01-18 09:50 J	-1117648.28	-1117648.09	-1117647.89	0.0509	0.0136
Jupiter	-7767-07-10 16:47 J	-1115282.97	-1115282.80	-1115282.63	0.0519	0.0294
Saturn	-7765-04-10 04:33 J	-1114643.46	-1114643.31	-1114643.15	0.0260	0.0177
Saturn	-7765-11-25 02:24 J	-1114414.61	-1114414.40	-1114414.19	0.0261	0.0006
Mars	-7764-05-09 06:28 J	-1114249.38	-1114249.23	-1114249.07	0.1656	0.0739
Saturn	-7764-07-12 01:12 J	-1114185.61	-1114185.45	-1114185.28	0.0263	0.0170
Mars	-7762-03-09 06:28 J	-1113580.35	-1113580.23	-1113580.10	0.1642	0.1079
Jupiter	-7762-09-23 09:50 J	-1113382.23	-1113382.09	-1113381.95	0.0511	0.0362
Jupiter	-7761-05-16 21:21 J	-1113145.70	-1113145.61	-1113145.51	0.0506	0.0444

Mars	-7760-12-17 04:04 J	-1112566.50	-1112566.33	-1112566.16	0.1877	0.0527
Uranus	-7755-03-11 08:38 J	-1111021.19	-1111021.14	-1111021.08	0.0135	0.0131
Jupiter	-7755-03-15 09:50 J	-1111017.30	-1111017.09	-1111016.89	0.0517	0.0048
Uranus	-7755-10-23 15:50 J	-1110794.99	-1110794.84	-1110794.66	0.0135	0.0091
Uranus	-7754-06-06 23:31 J	-1110568.72	-1110568.52	-1110568.31	0.0135	0.0049
Uranus	-7753-01-19 06:43 J	-1110342.43	-1110342.22	-1110341.99	0.0135	0.0009
Uranus	-7753-09-01 13:55 J	-1110116.13	-1110115.92	-1110115.70	0.0135	0.0032
Uranus	-7752-04-15 20:38 J	-1109889.82	-1109889.64	-1109889.44	0.0134	0.0072
Uranus	-7752-11-28 03:07 J	-1109663.47	-1109663.37	-1109663.23	0.0134	0.0113
Saturn	-7751-09-29 03:21 J	-1109358.56	-1109358.36	-1109358.15	0.0301	0.0058
Neptune	-7750-01-15 00:14 J	-1109250.53	-1109250.49	-1109250.39	0.0088	0.0084
Saturn	-7750-05-17 06:43 J	-1109128.36	-1109128.22	-1109128.06	0.0299	0.0204
Neptune	-7750-08-28 13:40 J	-1109025.05	-1109024.93	-1109024.80	0.0088	0.0072
Jupiter	-7749-01-20 23:02 J	-1108879.71	-1108879.54	-1108879.35	0.0507	0.0229
Neptune	-7749-04-10 02:24 J	-1108799.54	-1108799.40	-1108799.23	0.0088	0.0062
Neptune	-7749-11-21 15:35 J	-1108574.02	-1108573.85	-1108573.66	0.0088	0.0051
Neptune	-7748-07-05 04:47 J	-1108348.50	-1108348.30	-1108348.10	0.0088	0.0040
Neptune	-7747-02-15 17:31 J	-1108122.97	-1108122.77	-1108122.55	0.0088	0.0030
Neptune	-7747-09-29 06:43 J	-1107897.43	-1107897.22	-1107897.00	0.0088	0.0019
Neptune	-7746-05-12 19:40 J	-1107671.89	-1107671.68	-1107671.45	0.0088	0.0009
Neptune	-7746-12-24 09:07 J	-1107446.34	-1107446.12	-1107445.90	0.0088	0.0003
Neptune	-7745-08-05 22:04 J	-1107220.80	-1107220.58	-1107220.36	0.0088	0.0013
Neptune	-7744-03-19 11:02 J	-1106995.25	-1106995.04	-1106994.82	0.0088	0.0024
Neptune	-7744-10-31 00:14 J	-1106769.69	-1106769.49	-1106769.28	0.0088	0.0035
Jupiter	-7744-11-18 00:57 J	-1106751.64	-1106751.46	-1106751.27	0.0516	0.0200
Neptune	-7743-06-13 13:12 J	-1106544.13	-1106543.95	-1106543.75	0.0088	0.0045
Neptune	-7742-01-25 02:24 J	-1106318.56	-1106318.40	-1106318.22	0.0088	0.0056
Neptune	-7742-09-07 15:21 J	-1106092.98	-1106092.86	-1106092.70	0.0088	0.0067
Neptune	-7741-04-20 04:33 J	-1105867.40	-1105867.31	-1105867.19	0.0088	0.0078
Neptune	-7741-12-01 17:45 J	-1105641.76	-1105641.76	-1105641.74	0.0088	0.0088

Jupiter	-7738-09-26 00:43 J	-1104613.67	-1104613.47	-1104613.26	0.0508	0.0013
Saturn	-7736-10-21 06:28 J	-1103857.39	-1103857.23	-1103857.05	0.0260	0.0156
Saturn	-7735-06-07 04:33 J	-1103628.53	-1103628.31	-1103628.10	0.0261	0.0016
Saturn	-7734-01-22 03:21 J	-1103399.49	-1103399.36	-1103399.20	0.0263	0.0191
Moon	-7733-05-15 21:21 J	-1102919.77	-1102919.61	-1102919.44	0.2634	0.0188
Earth	-7733-05-16 02:52 J	-1102919.54	-1102919.38	-1102919.22	0.2635	0.0314 *
Mars	-7732-05-08 01:26 J	-1102562.46	-1102562.44	-1102562.41	0.1663	0.1640
Jupiter	-7732-07-23 19:55 J	-1102485.77	-1102485.67	-1102485.56	0.0515	0.0435
Jupiter	-7731-03-18 09:21 J	-1102248.20	-1102248.11	-1102248.00	0.0520	0.0447
Mars	-7730-03-08 00:14 J	-1101893.66	-1101893.49	-1101893.32	0.1648	0.0229
Mars	-7728-12-17 04:04 J	-1100878.47	-1100878.33	-1100878.19	0.1867	0.1144
Jupiter	-7726-06-01 00:00 J	-1100347.68	-1100347.50	-1100347.32	0.0510	0.0219
Saturn	-7722-08-23 23:02 J	-1098802.56	-1098802.54	-1098802.51	0.0303	0.0300
Saturn	-7721-04-10 04:33 J	-1098572.52	-1098572.31	-1098572.10	0.0301	0.0032
Saturn	-7721-11-26 07:40 J	-1098342.30	-1098342.18	-1098342.04	0.0299	0.0229
Jupiter	-7720-11-21 02:52 J	-1097982.57	-1097982.38	-1097982.19	0.0519	0.0202
Jupiter	-7714-02-03 23:02 J	-1096081.63	-1096081.54	-1096081.44	0.0511	0.0447
Jupiter	-7714-09-28 11:02 J	-1095845.17	-1095845.04	-1095844.89	0.0506	0.0363
Uranus	-7711-03-06 12:57 J	-1094954.96	-1094954.96	-1094954.93	0.0143	0.0143
Uranus	-7711-10-18 22:47 J	-1094728.69	-1094728.55	-1094728.37	0.0143	0.0096
Uranus	-7710-06-02 09:07 J	-1094502.32	-1094502.12	-1094501.91	0.0143	0.0048
Uranus	-7709-01-14 19:26 J	-1094275.91	-1094275.69	-1094275.48	0.0144	0.0003
Uranus	-7709-08-28 05:45 J	-1094049.46	-1094049.26	-1094049.06	0.0144	0.0047
Uranus	-7708-04-11 16:04 J	-1093822.99	-1093822.83	-1093822.67	0.0144	0.0095
Jupiter	-7708-07-26 19:40 J	-1093716.88	-1093716.68	-1093716.47	0.0517	0.0046
Uranus	-7708-11-24 02:24 J	-1093596.41	-1093596.40	-1093596.38	0.0144	0.0144
Saturn	-7706-05-03 07:40 J	-1093071.36	-1093071.18	-1093070.99	0.0260	0.0136
Saturn	-7706-12-18 05:45 J	-1092842.47	-1092842.26	-1092842.04	0.0262	0.0037
Saturn	-7705-08-03 05:02 J	-1092613.41	-1092613.29	-1092613.16	0.0263	0.0212
Jupiter	-7702-06-03 12:00 J	-1091579.19	-1091579.00	-1091578.81	0.0508	0.0143

Mars	-7698-03-06 18:14 J	-1090206.89	-1090206.74	-1090206.58	0.1654	0.0646
Mars	-7696-01-03 19:12 J	-1089537.82	-1089537.70	-1089537.58	0.1641	0.1161
Jupiter	-7696-03-31 12:57 J	-1089451.12	-1089450.96	-1089450.78	0.0515	0.0289
Mars	-7694-10-14 07:26 J	-1088524.35	-1088524.19	-1088524.03	0.1879	0.0808
Saturn	-7692-03-05 03:50 J	-1088016.42	-1088016.34	-1088016.24	0.0302	0.0270
Saturn	-7692-10-21 09:07 J	-1087786.33	-1087786.12	-1087785.91	0.0301	0.0007
Saturn	-7691-06-08 12:00 J	-1087556.10	-1087556.00	-1087555.89	0.0299	0.0256
Jupiter	-7690-02-06 13:26 J	-1087313.14	-1087312.94	-1087312.74	0.0509	0.0078
Jupiter	-7684-07-29 17:02 J	-1084947.94	-1084947.79	-1084947.63	0.0520	0.0346
Pluto	-7679-03-06 20:52 J	-1083266.80	-1083266.63	-1083266.42	0.0065	0.0031
Jupiter	-7679-10-12 14:09 J	-1083047.07	-1083046.91	-1083046.75	0.0510	0.0302
Pluto	-7679-10-18 01:40 J	-1083041.65	-1083041.43	-1083041.21	0.0066	0.0004
Pluto	-7678-05-31 05:45 J	-1082816.42	-1082816.26	-1082816.07	0.0066	0.0040
Jupiter	-7678-06-06 00:43 J	-1082810.49	-1082810.47	-1082810.44	0.0505	0.0501
Saturn	-7677-11-12 10:33 J	-1082285.25	-1082285.06	-1082284.86	0.0260	0.0114
Saturn	-7676-06-29 08:52 J	-1082056.34	-1082056.13	-1082055.92	0.0262	0.0059
Saturn	-7675-02-13 07:55 J	-1081827.25	-1081827.17	-1081827.06	0.0263	0.0235
Jupiter	-7672-04-03 10:47 J	-1080682.25	-1080682.05	-1080681.85	0.0518	0.0102
Uranus	-7671-06-22 23:16 J	-1080236.65	-1080236.53	-1080236.39	0.0135	0.0110
Uranus	-7670-02-04 06:57 J	-1080010.39	-1080010.21	-1080010.02	0.0135	0.0069
Uranus	-7670-09-18 14:09 J	-1079784.12	-1079783.91	-1079783.69	0.0135	0.0029
Uranus	-7669-05-01 21:21 J	-1079557.83	-1079557.61	-1079557.39	0.0135	0.0012
Uranus	-7669-12-14 04:04 J	-1079331.52	-1079331.33	-1079331.11	0.0135	0.0053
Neptune	-7668-03-04 00:57 J	-1079251.52	-1079251.46	-1079251.34	0.0089	0.0082
Uranus	-7668-07-28 11:02 J	-1079105.19	-1079105.04	-1079104.87	0.0134	0.0092
Neptune	-7668-10-15 14:09 J	-1079026.02	-1079025.91	-1079025.76	0.0089	0.0071
Uranus	-7667-03-11 17:45 J	-1078878.78	-1078878.76	-1078878.71	0.0134	0.0132
Neptune	-7667-05-29 03:21 J	-1078800.50	-1078800.36	-1078800.18	0.0089	0.0060
Neptune	-7666-01-09 16:33 J	-1078574.98	-1078574.81	-1078574.61	0.0089	0.0048
Jupiter	-7666-02-09 00:57 J	-1078544.63	-1078544.46	-1078544.29	0.0507	0.0281

Mars	-7666-03-05 12:57 J	-1078520.02	-1078519.96	-1078519.90	0.1661	0.1535
Neptune	-7666-08-23 05:31 J	-1078349.45	-1078349.27	-1078349.05	0.0089	0.0038
Neptune	-7665-04-04 18:43 J	-1078123.92	-1078123.72	-1078123.50	0.0089	0.0026
Neptune	-7665-11-16 07:40 J	-1077898.38	-1077898.18	-1077897.95	0.0089	0.0016
Mars	-7664-01-02 12:28 J	-1077851.15	-1077850.98	-1077850.81	0.1646	0.0317
Neptune	-7664-06-29 20:52 J	-1077672.84	-1077672.63	-1077672.40	0.0089	0.0005
Neptune	-7663-02-10 10:04 J	-1077447.30	-1077447.08	-1077446.86	0.0089	0.0007
Saturn	-7663-09-15 05:45 J	-1077230.37	-1077230.26	-1077230.12	0.0302	0.0244
Neptune	-7663-09-23 22:47 J	-1077221.76	-1077221.55	-1077221.33	0.0089	0.0018
Saturn	-7662-05-03 11:02 J	-1077000.25	-1077000.04	-1076999.83	0.0301	0.0024
Neptune	-7662-05-07 11:31 J	-1076996.21	-1076996.02	-1076995.80	0.0089	0.0030
Mars	-7662-10-14 07:26 J	-1076836.35	-1076836.19	-1076836.03	0.1870	0.0874
Neptune	-7662-12-19 00:28 J	-1076770.66	-1076770.48	-1076770.28	0.0089	0.0041
Saturn	-7662-12-19 13:40 J	-1076769.99	-1076769.93	-1076769.86	0.0299	0.0283
Neptune	-7661-07-31 13:26 J	-1076545.10	-1076544.94	-1076544.75	0.0089	0.0052
Jupiter	-7661-12-07 05:02 J	-1076416.49	-1076416.29	-1076416.09	0.0517	0.0141
Neptune	-7660-03-14 02:09 J	-1076319.55	-1076319.41	-1076319.24	0.0089	0.0063
Neptune	-7660-10-25 15:07 J	-1076093.98	-1076093.87	-1076093.73	0.0089	0.0073
Neptune	-7659-06-08 03:50 J	-1075868.39	-1075868.34	-1075868.25	0.0089	0.0084
Jupiter	-7655-10-15 01:12 J	-1074278.65	-1074278.45	-1074278.25	0.0508	0.0057
Jupiter	-7649-08-11 22:47 J	-1072150.68	-1072150.55	-1072150.41	0.0515	0.0382
Jupiter	-7648-04-06 11:45 J	-1071913.05	-1071913.01	-1071912.95	0.0520	0.0502
Saturn	-7647-05-25 12:28 J	-1071499.18	-1071498.98	-1071498.78	0.0261	0.0092
Saturn	-7646-01-09 11:02 J	-1071270.25	-1071270.04	-1071269.84	0.0262	0.0081
Saturn	-7646-08-26 10:33 J	-1071041.10	-1071041.06	-1071041.02	0.0264	0.0258
Jupiter	-7643-06-20 00:43 J	-1070012.65	-1070012.47	-1070012.27	0.0510	0.0171
Jupiter	-7637-12-10 03:50 J	-1067647.52	-1067647.34	-1067647.16	0.0519	0.0253
Saturn	-7633-03-27 12:00 J	-1066444.14	-1066444.00	-1066443.85	0.0302	0.0211
Saturn	-7633-11-12 16:33 J	-1066214.01	-1066213.81	-1066213.60	0.0300	0.0055
Mars	-7632-01-01 06:00 J	-1066164.41	-1066164.25	-1066164.08	0.1652	0.0546

Jupiter	-7631-02-23 01:26 J	-1065746.56	-1065746.44	-1065746.31	0.0511	0.0395
Jupiter	-7631-10-17 13:12 J	-1065510.05	-1065509.95	-1065509.83	0.0506	0.0418
Mars	-7631-11-01 07:26 J	-1065495.30	-1065495.19	-1065495.08	0.1639	0.1245
Mars	-7628-08-10 10:04 J	-1064482.23	-1064482.08	-1064481.94	0.1882	0.1106
Uranus	-7627-06-18 06:14 J	-1064170.34	-1064170.24	-1064170.10	0.0143	0.0118
Uranus	-7626-01-30 16:47 J	-1063943.99	-1063943.80	-1063943.62	0.0143	0.0071
Uranus	-7626-09-14 02:52 J	-1063717.59	-1063717.38	-1063717.17	0.0143	0.0023
Uranus	-7625-04-27 12:57 J	-1063491.17	-1063490.96	-1063490.74	0.0144	0.0025
Jupiter	-7625-08-14 18:14 J	-1063381.95	-1063381.74	-1063381.54	0.0517	0.0012
Uranus	-7625-12-09 23:16 J	-1063264.71	-1063264.53	-1063264.34	0.0144	0.0073
Uranus	-7624-07-24 09:35 J	-1063038.20	-1063038.10	-1063037.97	0.0144	0.0122
Jupiter	-7619-06-22 14:52 J	-1061244.07	-1061243.88	-1061243.70	0.0507	0.0199
Saturn	-7618-04-20 18:28 J	-1060941.80	-1060941.73	-1060941.63	0.0260	0.0237
Saturn	-7618-12-05 16:04 J	-1060713.03	-1060712.83	-1060712.61	0.0261	0.0068
Saturn	-7617-07-21 14:38 J	-1060484.08	-1060483.89	-1060483.69	0.0262	0.0106
Jupiter	-7613-04-19 12:00 J	-1059116.17	-1059116.00	-1059115.81	0.0516	0.0244
Jupiter	-7607-02-25 14:09 J	-1056978.12	-1056977.91	-1056977.71	0.0509	0.0031
Saturn	-7604-10-07 16:19 J	-1055657.99	-1055657.82	-1055657.65	0.0302	0.0179
Saturn	-7603-05-25 20:38 J	-1055427.84	-1055427.64	-1055427.44	0.0300	0.0086
Jupiter	-7602-12-24 07:12 J	-1054850.27	-1054850.20	-1054850.12	0.0514	0.0480
Jupiter	-7601-08-17 19:55 J	-1054612.79	-1054612.67	-1054612.54	0.0520	0.0403
Mars	-7601-12-31 00:57 J	-1054477.54	-1054477.46	-1054477.38	0.1659	0.1438
Mars	-7599-10-31 00:43 J	-1053808.64	-1053808.47	-1053808.31	0.1644	0.0407
Mars	-7596-08-10 10:47 J	-1052794.21	-1052794.05	-1052793.88	0.1873	0.0608
Jupiter	-7596-10-31 13:12 J	-1052712.12	-1052711.95	-1052711.78	0.0510	0.0260
Pluto	-7592-11-04 13:12 J	-1051247.15	-1051246.95	-1051246.75	0.0079	0.0032
Pluto	-7591-06-17 23:31 J	-1051021.72	-1051021.52	-1051021.31	0.0079	0.0031
Jupiter	-7589-04-22 12:14 J	-1050347.19	-1050346.99	-1050346.79	0.0518	0.0154
Saturn	-7589-10-30 21:07 J	-1050155.73	-1050155.62	-1050155.49	0.0260	0.0215
Saturn	-7588-06-16 18:57 J	-1049926.92	-1049926.71	-1049926.50	0.0261	0.0045

Saturn	-7587-01-31 17:45 J	-1049697.94	-1049697.76	-1049697.57	0.0262	0.0130
Uranus	-7587-02-20 07:40 J	-1049678.23	-1049678.18	-1049678.11	0.0135	0.0130
Uranus	-7587-10-04 14:52 J	-1049452.03	-1049451.88	-1049451.70	0.0135	0.0089
Neptune	-7586-04-18 12:43 J	-1049255.98	-1049255.97	-1049255.94	0.0088	0.0087
Uranus	-7586-05-18 22:19 J	-1049225.77	-1049225.57	-1049225.35	0.0135	0.0048
Neptune	-7586-11-30 01:26 J	-1049030.53	-1049030.44	-1049030.32	0.0088	0.0077
Uranus	-7586-12-31 05:31 J	-1048999.48	-1048999.27	-1048999.04	0.0135	0.0008
Neptune	-7585-07-12 14:38 J	-1048805.03	-1048804.89	-1048804.74	0.0088	0.0066
Uranus	-7585-08-13 12:28 J	-1048773.19	-1048772.98	-1048772.76	0.0135	0.0034
Neptune	-7584-02-23 03:50 J	-1048579.52	-1048579.34	-1048579.17	0.0088	0.0055
Uranus	-7584-03-27 19:26 J	-1048546.87	-1048546.69	-1048546.50	0.0134	0.0073
Jupiter	-7584-07-06 11:45 J	-1048446.06	-1048446.01	-1048445.96	0.0512	0.0491
Neptune	-7584-10-06 16:19 J	-1048354.00	-1048353.82	-1048353.62	0.0088	0.0045
Uranus	-7584-11-09 01:55 J	-1048320.52	-1048320.42	-1048320.29	0.0134	0.0114
Jupiter	-7583-02-28 00:28 J	-1048209.63	-1048209.48	-1048209.32	0.0507	0.0327
Neptune	-7583-05-20 05:31 J	-1048128.47	-1048128.27	-1048128.06	0.0088	0.0034
Neptune	-7583-12-31 18:43 J	-1047902.93	-1047902.72	-1047902.50	0.0088	0.0023
Neptune	-7582-08-14 07:40 J	-1047677.39	-1047677.18	-1047676.95	0.0088	0.0013
Neptune	-7581-03-26 20:52 J	-1047451.85	-1047451.63	-1047451.41	0.0088	0.0002
Neptune	-7581-11-07 09:50 J	-1047226.31	-1047226.09	-1047225.87	0.0088	0.0009
Neptune	-7580-06-20 22:47 J	-1047000.76	-1047000.55	-1047000.33	0.0088	0.0020
Earth	-7580-11-10 23:45 J	-1046857.66	-1046857.51	-1046857.36	0.2699	0.0612
Moon	-7580-11-11 05:02 J	-1046857.45	-1046857.29	-1046857.13	0.2696	0.0405 *
Neptune	-7579-02-01 11:45 J	-1046775.20	-1046775.01	-1046774.79	0.0088	0.0031
Neptune	-7579-09-15 00:43 J	-1046549.64	-1046549.47	-1046549.25	0.0088	0.0042
Neptune	-7578-04-28 14:09 J	-1046324.08	-1046323.91	-1046323.72	0.0088	0.0053
Neptune	-7578-12-10 03:07 J	-1046098.51	-1046098.37	-1046098.20	0.0088	0.0064
Jupiter	-7578-12-27 04:33 J	-1046081.51	-1046081.31	-1046081.11	0.0516	0.0096
Neptune	-7577-07-22 16:19 J	-1045872.92	-1045872.82	-1045872.69	0.0088	0.0074
Neptune	-7576-03-05 05:16 J	-1045647.31	-1045647.28	-1045647.20	0.0088	0.0085

Saturn	-7574-04-19 23:31 J	-1044871.69	-1044871.52	-1044871.33	0.0301	0.0145
Saturn	-7574-12-06 03:50 J	-1044641.53	-1044641.34	-1044641.15	0.0300	0.0120
Jupiter	-7572-11-03 01:55 J	-1043943.61	-1043943.42	-1043943.22	0.0508	0.0109
Mars	-7567-10-29 18:28 J	-1042121.90	-1042121.73	-1042121.57	0.1650	0.0458
Jupiter	-7566-08-31 19:26 J	-1041815.85	-1041815.69	-1041815.54	0.0515	0.0346
Mars	-7565-08-28 19:55 J	-1041452.77	-1041452.67	-1041452.57	0.1637	0.1331
Mars	-7562-06-07 12:57 J	-1040440.07	-1040439.96	-1040439.84	0.1885	0.1398
Jupiter	-7560-07-09 02:38 J	-1039677.58	-1039677.39	-1039677.19	0.0509	0.0118
Saturn	-7559-05-13 01:55 J	-1039369.56	-1039369.42	-1039369.27	0.0260	0.0188
Saturn	-7559-12-28 00:00 J	-1039140.72	-1039140.50	-1039140.29	0.0261	0.0018
Saturn	-7558-08-13 22:47 J	-1038911.72	-1038911.55	-1038911.38	0.0263	0.0157
Jupiter	-7554-12-30 01:26 J	-1037312.60	-1037312.44	-1037312.27	0.0519	0.0297
Jupiter	-7548-03-14 00:43 J	-1035411.61	-1035411.47	-1035411.32	0.0511	0.0352
Jupiter	-7548-11-05 12:00 J	-1035175.07	-1035175.00	-1035174.91	0.0506	0.0461
Saturn	-7545-10-30 05:31 J	-1034085.46	-1034085.27	-1034085.07	0.0301	0.0109
Saturn	-7544-06-17 09:21 J	-1033855.28	-1033855.11	-1033854.92	0.0300	0.0156
Uranus	-7543-02-15 13:55 J	-1033611.95	-1033611.92	-1033611.87	0.0143	0.0140
Uranus	-7543-09-29 23:45 J	-1033385.66	-1033385.51	-1033385.33	0.0143	0.0094
Uranus	-7542-05-14 10:04 J	-1033159.28	-1033159.08	-1033158.87	0.0143	0.0046
Jupiter	-7542-09-03 19:26 J	-1033046.90	-1033046.69	-1033046.49	0.0518	0.0051
Uranus	-7542-12-26 20:23 J	-1032932.87	-1032932.65	-1032932.44	0.0144	0.0003
Uranus	-7541-08-09 06:28 J	-1032706.42	-1032706.23	-1032706.02	0.0144	0.0051
Uranus	-7540-03-23 16:47 J	-1032479.94	-1032479.80	-1032479.63	0.0144	0.0099
Jupiter	-7536-07-11 12:14 J	-1030909.17	-1030908.99	-1030908.81	0.0507	0.0238
Mars	-7535-10-28 12:43 J	-1030435.07	-1030434.97	-1030434.87	0.1657	0.1340
Mars	-7533-08-27 12:43 J	-1029766.13	-1029765.97	-1029765.80	0.1642	0.0497
Jupiter	-7530-05-09 12:14 J	-1028781.17	-1028780.99	-1028780.79	0.0516	0.0197
Mars	-7530-06-07 13:40 J	-1028752.11	-1028751.93	-1028751.76	0.1876	0.0316
Saturn	-7530-11-23 05:16 J	-1028583.44	-1028583.28	-1028583.11	0.0260	0.0165
Saturn	-7529-07-09 03:21 J	-1028354.57	-1028354.36	-1028354.14	0.0262	0.0008

Saturn	-7528-02-23 02:23 J	-1028125.54	-1028125.40	-1028125.24	0.0263	0.0183
Jupiter	-7524-03-16 11:45 J	-1026643.21	-1026643.01	-1026642.81	0.0509	0.0013
Jupiter	-7518-01-12 05:31 J	-1024515.37	-1024515.27	-1024515.17	0.0514	0.0440
Jupiter	-7518-09-06 17:45 J	-1024277.86	-1024277.76	-1024277.65	0.0519	0.0446
Saturn	-7515-05-12 14:52 J	-1023299.08	-1023298.88	-1023298.67	0.0301	0.0070
Saturn	-7515-12-28 18:28 J	-1023068.89	-1023068.73	-1023068.57	0.0299	0.0192
Jupiter	-7513-11-19 12:14 J	-1022377.17	-1022376.99	-1022376.80	0.0510	0.0216
Jupiter	-7506-05-12 07:12 J	-1020012.39	-1020012.20	-1020012.01	0.0518	0.0188
Neptune	-7504-06-05 12:43 J	-1019257.00	-1019256.97	-1019256.90	0.0089	0.0087
Neptune	-7503-01-17 01:40 J	-1019031.52	-1019031.43	-1019031.29	0.0089	0.0076
Uranus	-7503-06-04 00:14 J	-1018893.62	-1018893.49	-1018893.36	0.0135	0.0108
Neptune	-7503-08-30 14:52 J	-1018806.01	-1018805.88	-1018805.71	0.0089	0.0065
Uranus	-7502-01-16 07:12 J	-1018667.37	-1018667.20	-1018666.99	0.0135	0.0067
Neptune	-7502-04-13 03:50 J	-1018580.49	-1018580.34	-1018580.14	0.0089	0.0054
Uranus	-7502-08-30 14:38 J	-1018441.10	-1018440.89	-1018440.67	0.0135	0.0026
Neptune	-7502-11-24 17:31 J	-1018354.96	-1018354.77	-1018354.58	0.0089	0.0042
Uranus	-7501-04-12 21:36 J	-1018214.81	-1018214.60	-1018214.37	0.0135	0.0015
Neptune	-7501-07-07 06:28 J	-1018129.43	-1018129.23	-1018129.02	0.0089	0.0031
Jupiter	-7501-07-25 12:00 J	-1018111.10	-1018111.00	-1018110.90	0.0512	0.0446
Mars	-7501-08-26 06:00 J	-1018079.42	-1018079.25	-1018079.08	0.1648	0.0359
Uranus	-7501-11-25 04:33 J	-1017988.51	-1017988.31	-1017988.11	0.0134	0.0055
Neptune	-7500-02-17 19:26 J	-1017903.89	-1017903.69	-1017903.47	0.0089	0.0020
Jupiter	-7500-03-19 00:28 J	-1017874.61	-1017874.48	-1017874.34	0.0506	0.0375
Saturn	-7500-06-04 10:47 J	-1017797.22	-1017797.05	-1017796.86	0.0261	0.0137
Uranus	-7500-07-09 11:02 J	-1017762.18	-1017762.04	-1017761.87	0.0134	0.0095
Neptune	-7500-10-01 08:38 J	-1017678.36	-1017678.14	-1017677.92	0.0089	0.0008
Saturn	-7499-01-19 09:21 J	-1017568.32	-1017568.11	-1017567.90	0.0262	0.0036
Neptune	-7499-05-14 21:36 J	-1017452.82	-1017452.60	-1017452.38	0.0089	0.0003
Mars	-7499-06-26 07:55 J	-1017410.25	-1017410.17	-1017410.08	0.1636	0.1419
Saturn	-7499-09-05 08:38 J	-1017339.26	-1017339.14	-1017339.01	0.0263	0.0212

Neptune	-7499-12-26 10:33 J	-1017227.27	-1017227.06	-1017226.84	0.0089	0.0014
Neptune	-7498-08-08 23:31 J	-1017001.72	-1017001.52	-1017001.30	0.0089	0.0025
Neptune	-7497-03-21 12:14 J	-1016776.18	-1016775.99	-1016775.78	0.0089	0.0037
Neptune	-7497-11-02 01:12 J	-1016550.63	-1016550.45	-1016550.26	0.0089	0.0048
Mars	-7496-04-03 15:21 J	-1016397.93	-1016397.86	-1016397.79	0.1887	0.1704
Neptune	-7496-06-15 14:09 J	-1016325.07	-1016324.91	-1016324.74	0.0089	0.0059
Neptune	-7495-01-27 03:07 J	-1016099.50	-1016099.37	-1016099.23	0.0089	0.0070
Neptune	-7495-09-09 15:50 J	-1015873.92	-1015873.84	-1015873.74	0.0089	0.0081
Jupiter	-7494-01-15 00:14 J	-1015746.69	-1015746.49	-1015746.28	0.0517	0.0060
Earth	-7490-05-17 04:19 J	-1014163.48	-1014163.32	-1014163.16	0.2634	0.0436
Moon	-7490-05-17 08:52 J	-1014163.28	-1014163.13	-1014162.98	0.2639	0.0576 *
Jupiter	-7489-11-21 23:16 J	-1013608.72	-1013608.53	-1013608.33	0.0508	0.0146
Saturn	-7486-04-06 18:00 J	-1012742.79	-1012742.75	-1012742.71	0.0302	0.0295
Saturn	-7486-11-22 23:02 J	-1012512.75	-1012512.54	-1012512.33	0.0301	0.0029
Saturn	-7485-07-10 02:09 J	-1012282.53	-1012282.41	-1012282.27	0.0299	0.0232
Jupiter	-7483-09-19 18:43 J	-1011480.88	-1011480.72	-1011480.55	0.0515	0.0303
Moon	-7482-05-15 01:26 J	-1011243.49	-1011243.44	-1011243.39	0.2632	0.2502
Jupiter	-7477-07-27 22:33 J	-1009342.76	-1009342.56	-1009342.36	0.0509	0.0084
Saturn	-7471-12-15 15:07 J	-1007011.05	-1007010.87	-1007010.66	0.0261	0.0112
Jupiter	-7470-01-18 00:14 J	-1006977.64	-1006977.49	-1006977.33	0.0519	0.0341
Saturn	-7470-08-01 13:55 J	-1006782.13	-1006781.92	-1006781.71	0.0262	0.0062
Saturn	-7469-03-17 13:12 J	-1006553.02	-1006552.95	-1006552.85	0.0264	0.0240
Mars	-7469-08-25 00:14 J	-1006392.60	-1006392.49	-1006392.37	0.1655	0.1239
Mars	-7467-06-25 00:43 J	-1005723.63	-1005723.47	-1005723.31	0.1641	0.0591
Jupiter	-7465-04-01 20:38 J	-1005076.79	-1005076.64	-1005076.47	0.0511	0.0319
Jupiter	-7465-11-24 08:23 J	-1004840.18	-1004840.15	-1004840.12	0.0506	0.0498
Mars	-7464-04-03 16:33 J	-1004709.99	-1004709.81	-1004709.63	0.1879	0.0032
Uranus	-7459-05-30 06:00 J	-1002827.36	-1002827.25	-1002827.11	0.0143	0.0117
Jupiter	-7459-09-22 16:04 J	-1002712.04	-1002711.83	-1002711.63	0.0517	0.0089
Uranus	-7458-01-11 16:19 J	-1002601.01	-1002600.82	-1002600.63	0.0143	0.0070

Uranus	-7458-08-26 02:38 J	-1002374.60	-1002374.39	-1002374.18	0.0144	0.0022
Uranus	-7457-04-08 12:57 J	-1002148.17	-1002147.96	-1002147.75	0.0144	0.0026
Saturn	-7457-10-17 04:19 J	-1001956.43	-1001956.32	-1001956.21	0.0302	0.0255
Uranus	-7457-11-20 23:02 J	-1001921.71	-1001921.54	-1001921.35	0.0144	0.0075
Saturn	-7456-06-04 09:07 J	-1001726.33	-1001726.12	-1001725.91	0.0300	0.0013
Uranus	-7456-07-05 09:36 J	-1001695.20	-1001695.10	-1001694.98	0.0144	0.0123
Saturn	-7455-01-20 12:00 J	-1001496.08	-1001496.00	-1001495.90	0.0299	0.0271
Jupiter	-7453-07-30 09:50 J	-1000574.25	-1000574.09	-1000573.92	0.0507	0.0280
Jupiter	-7447-05-28 06:00 J	-998446.44	-998446.25	-998446.06	0.0516	0.0169
Saturn	-7442-11-10 23:45 J	-996453.55	-996453.51	-996453.44	0.0260	0.0251
Jupiter	-7441-04-04 10:33 J	-996308.26	-996308.06	-996307.86	0.0509	0.0054
Saturn	-7441-06-26 21:36 J	-996224.80	-996224.60	-996224.40	0.0261	0.0081
Saturn	-7440-02-10 20:09 J	-995995.85	-995995.66	-995995.45	0.0262	0.0094
Jupiter	-7435-01-30 23:45 J	-994180.63	-994180.51	-994180.39	0.0514	0.0412
Mars	-7435-06-23 18:14 J	-994036.91	-994036.74	-994036.57	0.1646	0.0269
Jupiter	-7435-09-25 12:28 J	-993943.06	-993942.98	-993942.91	0.0520	0.0480
Pluto	-7433-04-04 01:55 J	-993386.57	-993386.42	-993386.25	0.0065	0.0045
Mars	-7433-04-22 20:38 J	-993367.70	-993367.64	-993367.58	0.1634	0.1504
Pluto	-7433-11-15 06:14 J	-993161.45	-993161.24	-993161.01	0.0066	0.0010
Mars	-7432-04-03 16:19 J	-993021.90	-993021.82	-993021.75	0.1870	0.1697
Pluto	-7432-06-28 10:47 J	-992936.25	-992936.05	-992935.85	0.0066	0.0026
Pluto	-7431-02-08 14:52 J	-992710.93	-992710.88	-992710.79	0.0066	0.0062
Jupiter	-7430-12-09 08:23 J	-992042.34	-992042.15	-992041.96	0.0510	0.0183
Saturn	-7427-04-29 14:23 J	-991170.05	-991169.90	-991169.75	0.0302	0.0211
Saturn	-7427-12-15 18:57 J	-990939.92	-990939.71	-990939.51	0.0300	0.0055
Jupiter	-7423-05-31 05:31 J	-989677.45	-989677.27	-989677.08	0.0518	0.0231
Neptune	-7421-03-02 12:43 J	-989036.02	-989035.97	-989035.86	0.0088	0.0082
Neptune	-7421-10-14 01:55 J	-988810.53	-988810.42	-988810.28	0.0088	0.0071
Neptune	-7420-05-27 15:07 J	-988585.03	-988584.87	-988584.70	0.0088	0.0060
Neptune	-7419-01-08 04:19 J	-988359.50	-988359.32	-988359.14	0.0088	0.0049

Uranus	-7419-02-01 09:07 J	-988335.18	-988335.12	-988335.03	0.0135	0.0127
Neptune	-7419-08-21 16:47 J	-988133.98	-988133.80	-988133.58	0.0088	0.0039
Uranus	-7419-09-15 16:33 J	-988108.97	-988108.81	-988108.63	0.0135	0.0086
Neptune	-7418-04-04 06:00 J	-987908.45	-987908.25	-987908.03	0.0088	0.0028
Uranus	-7418-04-29 23:31 J	-987882.72	-987882.52	-987882.30	0.0135	0.0045
Jupiter	-7418-08-14 06:43 J	-987776.33	-987776.22	-987776.11	0.0512	0.0418
Neptune	-7418-11-15 18:57 J	-987682.92	-987682.71	-987682.48	0.0088	0.0017
Uranus	-7418-12-12 06:43 J	-987656.44	-987656.22	-987656.00	0.0135	0.0004
Jupiter	-7417-04-06 18:57 J	-987539.83	-987539.71	-987539.59	0.0506	0.0405
Neptune	-7417-06-28 08:09 J	-987457.38	-987457.16	-987456.94	0.0088	0.0006
Uranus	-7417-07-25 13:26 J	-987430.14	-987429.94	-987429.72	0.0135	0.0037
Neptune	-7416-02-08 21:07 J	-987231.84	-987231.62	-987231.39	0.0088	0.0005
Uranus	-7416-03-08 20:23 J	-987203.82	-987203.65	-987203.46	0.0134	0.0077
Neptune	-7416-09-22 10:04 J	-987006.29	-987006.08	-987005.85	0.0088	0.0016
Uranus	-7416-10-21 03:07 J	-986977.47	-986977.37	-986977.26	0.0134	0.0116
Neptune	-7415-05-05 23:02 J	-986780.74	-986780.54	-986780.32	0.0088	0.0027
Neptune	-7415-12-17 12:00 J	-986555.18	-986555.00	-986554.78	0.0088	0.0039
Neptune	-7414-07-31 01:12 J	-986329.62	-986329.45	-986329.25	0.0088	0.0049
Neptune	-7413-03-12 14:38 J	-986104.05	-986103.89	-986103.72	0.0088	0.0060
Neptune	-7413-10-24 03:36 J	-985878.47	-985878.35	-985878.21	0.0088	0.0070
Saturn	-7412-05-23 04:33 J	-985667.41	-985667.31	-985667.20	0.0260	0.0226
Neptune	-7412-06-06 16:33 J	-985652.88	-985652.81	-985652.71	0.0088	0.0082
Saturn	-7411-01-07 02:38 J	-985438.60	-985438.39	-985438.18	0.0261	0.0055
Jupiter	-7411-02-02 22:19 J	-985411.78	-985411.57	-985411.37	0.0517	0.0019
Saturn	-7411-08-24 01:26 J	-985209.63	-985209.44	-985209.25	0.0263	0.0120
Jupiter	-7406-12-11 18:14 J	-983273.93	-983273.74	-983273.55	0.0508	0.0179
Mars	-7403-06-22 12:14 J	-982350.11	-982349.99	-982349.87	0.1652	0.1141
Mars	-7401-04-21 13:12 J	-981681.10	-981680.95	-981680.79	0.1639	0.0676
Jupiter	-7400-10-08 14:38 J	-981146.06	-981145.89	-981145.71	0.0515	0.0269
Mars	-7398-01-29 19:26 J	-980667.87	-980667.69	-980667.52	0.1882	0.0262

Saturn	-7398-11-10 01:26 J	-980383.61	-980383.44	-980383.26	0.0301	0.0168
Saturn	-7397-06-27 06:00 J	-980153.45	-980153.25	-980153.05	0.0300	0.0097
Jupiter	-7394-08-16 18:43 J	-979007.92	-979007.72	-979007.52	0.0510	0.0049
Jupiter	-7387-02-05 17:16 J	-976642.93	-976642.78	-976642.64	0.0519	0.0369
Saturn	-7383-12-03 11:31 J	-974881.16	-974881.02	-974880.88	0.0261	0.0195
Jupiter	-7382-04-21 18:14 J	-974741.91	-974741.74	-974741.57	0.0511	0.0282
Saturn	-7382-07-20 09:21 J	-974652.32	-974652.11	-974651.89	0.0262	0.0024
Saturn	-7381-03-05 08:23 J	-974423.32	-974423.15	-974422.97	0.0263	0.0153
Jupiter	-7376-10-11 09:36 J	-972377.30	-972377.10	-972376.90	0.0517	0.0117
Uranus	-7375-01-27 11:02 J	-972269.04	-972269.04	-972269.00	0.0143	0.0142
Uranus	-7375-09-10 21:07 J	-972042.76	-972042.62	-972042.44	0.0143	0.0095
Uranus	-7374-04-25 07:26 J	-971816.39	-971816.19	-971815.98	0.0143	0.0047
Uranus	-7374-12-07 17:45 J	-971589.98	-971589.76	-971589.55	0.0144	0.0001
Uranus	-7373-07-21 04:04 J	-971363.53	-971363.33	-971363.13	0.0144	0.0049
Uranus	-7372-03-04 14:23 J	-971137.05	-971136.90	-971136.73	0.0144	0.0098
Jupiter	-7370-08-19 04:47 J	-970239.46	-970239.30	-970239.14	0.0507	0.0310
Mars	-7369-04-20 06:28 J	-969994.40	-969994.23	-969994.06	0.1644	0.0176
Saturn	-7368-05-22 12:43 J	-969597.16	-969596.97	-969596.78	0.0301	0.0122
Saturn	-7367-01-07 16:33 J	-969366.99	-969366.81	-969366.62	0.0300	0.0142
Mars	-7367-02-18 08:52 J	-969325.16	-969325.13	-969325.09	0.1633	0.1588
Mars	-7366-01-29 19:26 J	-968979.81	-968979.69	-968979.58	0.1873	0.1424
Jupiter	-7364-06-16 03:21 J	-968111.56	-968111.36	-968111.16	0.0516	0.0131
Jupiter	-7358-04-24 04:04 J	-965973.52	-965973.33	-965973.13	0.0508	0.0082
Saturn	-7353-06-14 16:04 J	-964094.98	-964094.83	-964094.66	0.0261	0.0170
Saturn	-7352-01-29 14:23 J	-963866.11	-963865.90	-963865.68	0.0262	0.0006
Jupiter	-7352-02-18 21:07 J	-963845.75	-963845.62	-963845.47	0.0514	0.0375
Saturn	-7352-09-15 13:40 J	-963637.08	-963636.93	-963636.77	0.0263	0.0179
Jupiter	-7347-12-28 02:23 J	-961707.59	-961707.40	-961707.20	0.0510	0.0154
Pluto	-7346-12-03 17:45 J	-961366.93	-961366.76	-961366.59	0.0079	0.0051
Pluto	-7345-07-16 04:04 J	-961141.55	-961141.33	-961141.11	0.0079	0.0013

Moon	-7345-11-13 05:45 J	-961021.31	-961021.26	-961021.22	0.2694	0.2566
Pluto	-7344-02-26 13:55 J	-960915.95	-960915.92	-960915.84	0.0078	0.0076
Jupiter	-7340-06-19 00:57 J	-959342.63	-959342.46	-959342.28	0.0518	0.0266
Neptune	-7339-04-20 12:57 J	-959037.03	-959036.96	-959036.85	0.0089	0.0081
Neptune	-7339-12-02 02:09 J	-958811.53	-958811.41	-958811.26	0.0089	0.0069
Saturn	-7339-12-02 23:16 J	-958810.73	-958810.53	-958810.33	0.0301	0.0080
Neptune	-7338-07-15 15:07 J	-958586.01	-958585.87	-958585.68	0.0089	0.0059
Saturn	-7338-07-21 03:07 J	-958580.53	-958580.37	-958580.20	0.0299	0.0183
Neptune	-7337-02-26 04:47 J	-958360.49	-958360.30	-958360.12	0.0089	0.0047
Mars	-7337-04-19 00:00 J	-958307.63	-958307.50	-958307.36	0.1650	0.1042
Neptune	-7337-10-08 17:31 J	-958134.96	-958134.77	-958134.56	0.0089	0.0036
Moon	-7337-11-10 18:57 J	-958101.86	-958101.71	-958101.56	0.2701	0.0926
Earth	-7337-11-11 00:28 J	-958101.63	-958101.48	-958101.33	0.2700	0.0691 *
Neptune	-7336-05-22 06:43 J	-957909.42	-957909.22	-957909.00	0.0089	0.0024
Neptune	-7335-01-02 19:40 J	-957683.88	-957683.68	-957683.45	0.0089	0.0014
Mars	-7335-02-17 01:12 J	-957638.60	-957638.45	-957638.30	0.1637	0.0766
Uranus	-7335-05-16 00:43 J	-957550.59	-957550.47	-957550.32	0.0135	0.0105
Neptune	-7335-08-16 09:07 J	-957458.34	-957458.12	-957457.90	0.0089	0.0002
Jupiter	-7335-09-02 01:55 J	-957441.55	-957441.42	-957441.29	0.0512	0.0387
Uranus	-7335-12-28 08:09 J	-957324.35	-957324.16	-957323.96	0.0135	0.0064
Neptune	-7334-03-29 22:04 J	-957232.80	-957232.58	-957232.36	0.0089	0.0010
Jupiter	-7334-04-26 14:23 J	-957204.99	-957204.90	-957204.79	0.0507	0.0442
Uranus	-7334-08-11 15:21 J	-957098.08	-957097.86	-957097.64	0.0135	0.0023
Neptune	-7334-11-10 10:47 J	-957007.25	-957007.05	-957006.83	0.0089	0.0021
Uranus	-7333-03-24 22:19 J	-956871.78	-956871.57	-956871.35	0.0135	0.0018
Neptune	-7333-06-22 23:45 J	-956781.70	-956781.51	-956781.29	0.0089	0.0033
Uranus	-7333-11-06 05:16 J	-956645.48	-956645.28	-956645.08	0.0134	0.0058
Mars	-7333-11-25 21:50 J	-956625.76	-956625.59	-956625.42	0.1885	0.0562
Neptune	-7332-02-03 12:57 J	-956556.15	-956555.96	-956555.77	0.0089	0.0044
Uranus	-7332-06-20 11:31 J	-956419.15	-956419.02	-956418.85	0.0134	0.0099

Neptune	-7332-09-17 01:55 J	-956330.59	-956330.42	-956330.25	0.0089	0.0055
Neptune	-7331-04-30 14:23 J	-956105.03	-956104.90	-956104.74	0.0089	0.0066
Neptune	-7331-12-12 03:07 J	-955879.45	-955879.37	-955879.24	0.0089	0.0078
Neptune	-7330-07-25 16:04 J	-955653.84	-955653.83	-955653.77	0.0089	0.0089
Jupiter	-7328-02-21 15:21 J	-955077.07	-955076.86	-955076.66	0.0516	0.0011
Saturn	-7324-12-25 23:16 J	-953308.71	-953308.53	-953308.35	0.0261	0.0138
Saturn	-7323-08-11 21:21 J	-953079.82	-953079.61	-953079.40	0.0262	0.0035
Jupiter	-7323-12-30 15:07 J	-952939.05	-952938.87	-952938.69	0.0508	0.0216
Saturn	-7322-03-28 20:38 J	-952850.76	-952850.64	-952850.51	0.0263	0.0212
Jupiter	-7317-10-27 08:23 J	-950811.33	-950811.15	-950810.97	0.0515	0.0242
Jupiter	-7311-09-04 13:26 J	-948673.14	-948672.94	-948672.74	0.0509	0.0021
Saturn	-7310-10-28 05:45 J	-948254.28	-948254.26	-948254.25	0.0302	0.0300
Saturn	-7309-06-14 10:47 J	-948024.25	-948024.05	-948023.84	0.0301	0.0034
Saturn	-7308-01-30 14:09 J	-947794.04	-947793.91	-947793.77	0.0299	0.0229
Jupiter	-7305-07-02 02:38 J	-946545.45	-946545.39	-946545.32	0.0514	0.0484
Jupiter	-7304-02-24 14:38 J	-946308.01	-946307.89	-946307.76	0.0519	0.0410
Mars	-7303-02-15 18:28 J	-945951.90	-945951.73	-945951.55	0.1643	0.0092
Mars	-7301-11-25 23:02 J	-944937.67	-944937.54	-944937.40	0.1876	0.1160
Jupiter	-7299-05-10 12:14 J	-944407.17	-944406.99	-944406.82	0.0511	0.0255
Saturn	-7294-07-08 03:50 J	-942522.53	-942522.34	-942522.15	0.0261	0.0113
Saturn	-7293-02-22 02:09 J	-942293.62	-942293.41	-942293.20	0.0262	0.0061
Saturn	-7293-10-08 01:40 J	-942064.52	-942064.43	-942064.34	0.0263	0.0238
Jupiter	-7293-10-30 07:12 J	-942042.39	-942042.20	-942042.00	0.0518	0.0158
Uranus	-7291-05-11 02:09 J	-941484.50	-941484.41	-941484.27	0.0143	0.0120
Uranus	-7291-12-23 12:28 J	-941258.16	-941257.98	-941257.79	0.0143	0.0072
Uranus	-7290-08-06 22:47 J	-941031.76	-941031.55	-941031.34	0.0144	0.0025
Uranus	-7289-03-20 09:07 J	-940805.33	-940805.12	-940804.91	0.0144	0.0024
Uranus	-7289-11-01 19:26 J	-940578.87	-940578.69	-940578.50	0.0144	0.0072
Uranus	-7288-06-16 05:45 J	-940352.36	-940352.26	-940352.13	0.0144	0.0121
Jupiter	-7287-01-13 09:36 J	-940141.15	-940141.10	-940141.05	0.0512	0.0493

Jupiter	-7287-09-06 23:02 J	-939904.68	-939904.54	-939904.39	0.0507	0.0342
Jupiter	-7281-07-04 23:31 J	-937776.72	-937776.52	-937776.32	0.0516	0.0095
Saturn	-7280-05-09 15:36 J	-937467.95	-937467.85	-937467.74	0.0302	0.0260
Saturn	-7280-12-25 20:38 J	-937237.85	-937237.64	-937237.43	0.0301	0.0009
Saturn	-7279-08-13 00:00 J	-937007.59	-937007.50	-937007.41	0.0299	0.0268
Jupiter	-7275-05-12 23:31 J	-935638.72	-935638.52	-935638.32	0.0509	0.0115
Mars	-7271-02-14 12:00 J	-934265.14	-934265.00	-934264.86	0.1648	0.0949
Mars	-7270-12-15 13:55 J	-933596.06	-933595.92	-933595.77	0.1636	0.0849
Jupiter	-7269-03-09 15:07 J	-933511.02	-933510.87	-933510.71	0.0514	0.0348
Mars	-7267-09-23 00:43 J	-932583.63	-932583.47	-932583.31	0.1887	0.0856
Saturn	-7265-06-02 12:28 J	-931965.02	-931964.98	-931964.92	0.0260	0.0253
Saturn	-7264-01-17 10:04 J	-931736.28	-931736.08	-931735.87	0.0261	0.0083
Saturn	-7264-09-03 08:38 J	-931507.34	-931507.14	-931506.94	0.0262	0.0092
Jupiter	-7263-01-15 23:02 J	-931372.73	-931372.54	-931372.34	0.0510	0.0119
Neptune	-7257-06-04 00:14 J	-929041.50	-929041.49	-929041.44	0.0088	0.0087
Jupiter	-7257-07-07 19:12 J	-929007.86	-929007.70	-929007.53	0.0518	0.0298
Neptune	-7256-01-15 13:26 J	-928816.03	-928815.94	-928815.81	0.0088	0.0076
Neptune	-7256-08-29 02:38 J	-928590.53	-928590.39	-928590.24	0.0088	0.0065
Neptune	-7255-04-11 15:36 J	-928365.02	-928364.85	-928364.67	0.0088	0.0054
Neptune	-7255-11-23 04:33 J	-928139.50	-928139.31	-928139.11	0.0088	0.0043
Neptune	-7254-07-06 17:31 J	-927913.97	-927913.77	-927913.56	0.0088	0.0032
Neptune	-7253-02-17 06:28 J	-927688.44	-927688.23	-927688.01	0.0088	0.0022
Neptune	-7253-09-29 19:26 J	-927462.91	-927462.69	-927462.46	0.0088	0.0011
Neptune	-7252-05-13 08:23 J	-927237.37	-927237.15	-927236.92	0.0088	0.0002
Jupiter	-7252-09-20 21:07 J	-927106.76	-927106.62	-927106.48	0.0512	0.0358
Neptune	-7252-12-24 21:21 J	-927011.82	-927011.61	-927011.38	0.0088	0.0013
Uranus	-7251-01-13 08:09 J	-926992.23	-926992.16	-926992.06	0.0136	0.0126
Jupiter	-7251-05-15 09:21 J	-926870.18	-926870.11	-926870.04	0.0506	0.0472
Neptune	-7251-08-07 10:19 J	-926786.27	-926786.07	-926785.84	0.0088	0.0023
Uranus	-7251-08-27 15:36 J	-926766.01	-926765.85	-926765.67	0.0135	0.0084

Saturn	-7251-11-20 02:09 J	-926681.55	-926681.41	-926681.26	0.0302	0.0216
Neptune	-7250-03-20 23:16 J	-926560.72	-926560.53	-926560.31	0.0088	0.0034
Uranus	-7250-04-10 22:47 J	-926539.75	-926539.55	-926539.33	0.0135	0.0043
Saturn	-7250-07-08 07:12 J	-926451.40	-926451.20	-926450.99	0.0300	0.0052
Neptune	-7250-11-01 12:14 J	-926335.16	-926334.99	-926334.78	0.0088	0.0045
Uranus	-7250-11-23 06:00 J	-926313.47	-926313.25	-926313.03	0.0135	0.0003
Neptune	-7249-06-14 01:40 J	-926109.60	-926109.43	-926109.26	0.0088	0.0056
Uranus	-7249-07-06 12:57 J	-926087.17	-926086.96	-926086.75	0.0135	0.0039
Neptune	-7248-01-25 14:52 J	-925884.02	-925883.88	-925883.73	0.0088	0.0067
Uranus	-7248-02-17 20:09 J	-925860.84	-925860.66	-925860.49	0.0134	0.0079
Neptune	-7248-09-08 04:04 J	-925658.43	-925658.33	-925658.23	0.0088	0.0077
Uranus	-7248-10-02 02:23 J	-925634.48	-925634.40	-925634.28	0.0134	0.0119
Moon	-7247-05-17 02:52 J	-925407.54	-925407.38	-925407.22	0.2627	0.0599
Earth	-7247-05-17 06:00 J	-925407.41	-925407.25	-925407.09	0.2633	0.0570 *
Jupiter	-7245-03-12 12:43 J	-924742.17	-924741.97	-924741.76	0.0517	0.0048
Jupiter	-7239-01-18 09:21 J	-922604.28	-922604.11	-922603.93	0.0508	0.0246
Mars	-7238-12-14 06:57 J	-921909.39	-921909.21	-921909.04	0.1641	0.0044
Saturn	-7236-12-13 16:47 J	-921178.89	-921178.80	-921178.69	0.0260	0.0229
Saturn	-7235-07-30 14:23 J	-920950.10	-920949.90	-920949.69	0.0261	0.0058
Mars	-7235-09-23 01:55 J	-920895.58	-920895.42	-920895.26	0.1879	0.0874
Saturn	-7234-03-16 12:57 J	-920721.15	-920720.96	-920720.77	0.0262	0.0116
Jupiter	-7234-11-16 06:28 J	-920476.42	-920476.23	-920476.04	0.0515	0.0201
Jupiter	-7228-09-23 08:23 J	-918338.35	-918338.15	-918337.94	0.0509	0.0016
Jupiter	-7222-07-22 00:00 J	-916210.59	-916210.50	-916210.39	0.0513	0.0447
Jupiter	-7221-03-15 11:31 J	-915973.11	-915973.02	-915972.91	0.0519	0.0451
Saturn	-7221-06-01 10:47 J	-915895.22	-915895.05	-915894.88	0.0302	0.0178
Saturn	-7220-01-17 15:36 J	-915665.05	-915664.85	-915664.65	0.0300	0.0090
Jupiter	-7216-05-29 07:40 J	-914072.36	-914072.18	-914071.99	0.0511	0.0222
Jupiter	-7210-11-19 02:09 J	-911707.60	-911707.41	-911707.21	0.0517	0.0192
Uranus	-7207-01-08 08:52 J	-910926.13	-910926.13	-910926.12	0.0143	0.0143

Uranus	-7207-08-22 18:57 J	-910699.87	-910699.71	-910699.55	0.0143	0.0096
Uranus	-7206-04-06 04:47 J	-910473.49	-910473.30	-910473.09	0.0143	0.0049
Saturn	-7206-06-25 21:50 J	-910392.71	-910392.59	-910392.44	0.0260	0.0202
Uranus	-7206-11-18 15:21 J	-910247.08	-910246.86	-910246.65	0.0144	0.0003
Mars	-7206-12-13 00:00 J	-910222.65	-910222.50	-910222.35	0.1646	0.0850
Saturn	-7205-02-09 19:40 J	-910163.89	-910163.68	-910163.46	0.0261	0.0030
Uranus	-7205-07-02 01:26 J	-910020.63	-910020.44	-910020.23	0.0144	0.0049
Saturn	-7205-09-25 18:14 J	-909934.91	-909934.74	-909934.56	0.0263	0.0146
Jupiter	-7204-02-01 06:28 J	-909806.31	-909806.23	-909806.13	0.0513	0.0459
Uranus	-7204-02-13 12:00 J	-909794.15	-909794.00	-909793.84	0.0144	0.0097
Jupiter	-7204-09-25 20:23 J	-909569.77	-909569.65	-909569.51	0.0507	0.0381
Mars	-7204-10-12 02:23 J	-909553.54	-909553.40	-909553.26	0.1634	0.0934
Mars	-7201-07-20 02:52 J	-908541.51	-908541.38	-908541.24	0.1890	0.1167
Jupiter	-7198-07-24 19:12 J	-907441.90	-907441.70	-907441.49	0.0516	0.0062
Jupiter	-7192-05-31 19:26 J	-905303.88	-905303.69	-905303.49	0.0508	0.0149
Saturn	-7192-12-12 20:38 J	-905108.83	-905108.64	-905108.45	0.0302	0.0136
Saturn	-7191-07-31 01:12 J	-904878.63	-904878.45	-904878.26	0.0300	0.0131
Pluto	-7187-05-03 09:21 J	-903506.23	-903506.11	-903505.97	0.0065	0.0052
Pluto	-7187-12-14 13:40 J	-903281.13	-903280.93	-903280.71	0.0066	0.0017
Jupiter	-7186-03-29 12:57 J	-903176.12	-903175.96	-903175.79	0.0515	0.0309
Pluto	-7186-07-27 18:14 J	-903055.94	-903055.74	-903055.52	0.0066	0.0019
Pluto	-7185-03-08 22:33 J	-902830.66	-902830.56	-902830.43	0.0066	0.0055
Jupiter	-7180-02-03 19:26 J	-901037.89	-901037.69	-901037.49	0.0510	0.0084
Saturn	-7176-01-05 01:40 J	-899606.57	-899606.43	-899606.26	0.0260	0.0178
Saturn	-7176-08-21 23:31 J	-899377.74	-899377.52	-899377.31	0.0261	0.0007
Saturn	-7175-04-07 21:50 J	-899148.74	-899148.59	-899148.42	0.0262	0.0169
Neptune	-7175-07-23 00:28 J	-899042.53	-899042.48	-899042.42	0.0089	0.0086
Neptune	-7174-03-05 13:26 J	-898817.05	-898816.94	-898816.81	0.0089	0.0075
Jupiter	-7174-07-27 18:57 J	-898672.86	-898672.71	-898672.56	0.0519	0.0346
Neptune	-7174-10-17 02:09 J	-898591.54	-898591.41	-898591.24	0.0089	0.0064

Neptune	-7173-05-29 15:07 J	-898366.02	-898365.87	-898365.67	0.0089	0.0053
Neptune	-7172-01-10 04:33 J	-898140.50	-898140.31	-898140.11	0.0089	0.0041
Neptune	-7172-08-23 17:31 J	-897914.96	-897914.77	-897914.55	0.0089	0.0030
Mars	-7172-10-10 19:12 J	-897866.87	-897866.70	-897866.53	0.1639	0.0097
Neptune	-7171-04-06 06:28 J	-897689.43	-897689.23	-897689.00	0.0089	0.0019
Neptune	-7171-11-17 19:40 J	-897463.89	-897463.68	-897463.46	0.0089	0.0007
Neptune	-7170-07-01 08:52 J	-897238.35	-897238.13	-897237.91	0.0089	0.0005
Neptune	-7169-02-11 21:50 J	-897012.80	-897012.59	-897012.37	0.0089	0.0016
Mars	-7169-07-20 05:02 J	-896853.46	-896853.29	-896853.12	0.1882	0.0593
Neptune	-7169-09-24 10:33 J	-896787.25	-896787.06	-896786.84	0.0089	0.0028
Jupiter	-7169-10-09 17:31 J	-896771.92	-896771.77	-896771.61	0.0511	0.0322
Neptune	-7168-05-07 23:31 J	-896561.70	-896561.52	-896561.31	0.0089	0.0040
Neptune	-7168-12-19 12:28 J	-896336.14	-896335.98	-896335.79	0.0089	0.0051
Uranus	-7167-04-26 23:02 J	-896207.66	-896207.54	-896207.38	0.0135	0.0105
Neptune	-7167-08-02 01:55 J	-896110.58	-896110.42	-896110.26	0.0089	0.0062
Uranus	-7167-12-09 06:28 J	-895981.41	-895981.23	-895981.02	0.0135	0.0063
Neptune	-7166-03-15 14:09 J	-895885.01	-895884.91	-895884.76	0.0089	0.0074
Uranus	-7166-07-23 13:55 J	-895755.13	-895754.92	-895754.70	0.0135	0.0022
Neptune	-7166-10-27 03:07 J	-895659.42	-895659.37	-895659.28	0.0089	0.0085
Uranus	-7165-03-05 21:07 J	-895528.83	-895528.62	-895528.40	0.0135	0.0019
Uranus	-7165-10-18 04:04 J	-895302.52	-895302.33	-895302.13	0.0135	0.0060
Uranus	-7164-06-01 10:33 J	-895076.19	-895076.06	-895075.89	0.0134	0.0101
Jupiter	-7162-04-01 11:31 J	-894407.22	-894407.02	-894406.81	0.0517	0.0093
Saturn	-7162-06-25 02:38 J	-894322.58	-894322.39	-894322.19	0.0302	0.0102
Saturn	-7161-02-10 06:57 J	-894092.38	-894092.21	-894092.03	0.0300	0.0165
Jupiter	-7156-02-06 06:28 J	-892269.40	-892269.23	-892269.06	0.0508	0.0285
Jupiter	-7151-12-05 03:36 J	-890141.54	-890141.35	-890141.15	0.0515	0.0164
Saturn	-7147-07-18 06:00 J	-888820.42	-888820.25	-888820.08	0.0260	0.0152
Saturn	-7146-03-04 03:36 J	-888591.57	-888591.35	-888591.14	0.0261	0.0021
Saturn	-7146-10-19 02:09 J	-888362.55	-888362.41	-888362.27	0.0263	0.0197

Jupiter	-7145-10-12 06:43 J	-888003.42	-888003.22	-888003.02	0.0509	0.0055
Mars	-7140-10-09 12:28 J	-886180.13	-886179.98	-886179.83	0.1645	0.0761
Jupiter	-7139-08-09 21:36 J	-885875.72	-885875.60	-885875.47	0.0513	0.0409
Jupiter	-7138-04-04 09:07 J	-885638.18	-885638.12	-885638.05	0.0519	0.0491
Mars	-7138-08-09 14:38 J	-885511.02	-885510.89	-885510.75	0.1633	0.1022
Mars	-7135-05-17 05:31 J	-884499.38	-884499.27	-884499.16	0.1892	0.1470
Jupiter	-7133-06-17 05:45 J	-883737.45	-883737.26	-883737.07	0.0511	0.0182
Saturn	-7132-01-04 10:47 J	-883536.25	-883536.05	-883535.84	0.0301	0.0065
Saturn	-7132-08-22 15:07 J	-883306.02	-883305.87	-883305.71	0.0300	0.0201
Jupiter	-7127-12-08 01:40 J	-881372.61	-881372.43	-881372.24	0.0518	0.0239
Uranus	-7123-04-22 02:38 J	-880141.50	-880141.39	-880141.26	0.0143	0.0117
Uranus	-7123-12-04 12:28 J	-879915.15	-879914.98	-879914.77	0.0143	0.0071
Uranus	-7122-07-18 23:02 J	-879688.75	-879688.54	-879688.32	0.0143	0.0022
Jupiter	-7121-02-21 05:16 J	-879471.39	-879471.28	-879471.16	0.0512	0.0417
Uranus	-7121-03-01 09:21 J	-879462.32	-879462.11	-879461.89	0.0144	0.0027
Uranus	-7121-10-13 19:55 J	-879235.85	-879235.67	-879235.49	0.0144	0.0075
Jupiter	-7121-10-14 18:00 J	-879234.86	-879234.75	-879234.64	0.0506	0.0421
Uranus	-7120-05-28 06:14 J	-879009.34	-879009.24	-879009.12	0.0144	0.0124
Saturn	-7117-01-28 08:38 J	-878034.32	-878034.14	-878033.95	0.0260	0.0130
Saturn	-7117-09-13 06:14 J	-877805.45	-877805.24	-877805.03	0.0261	0.0042
Saturn	-7116-04-30 04:47 J	-877576.41	-877576.30	-877576.17	0.0262	0.0218
Jupiter	-7115-08-12 19:40 J	-877106.88	-877106.68	-877106.47	0.0517	0.0014
Jupiter	-7109-06-19 17:31 J	-874968.95	-874968.77	-874968.58	0.0508	0.0191
Mars	-7108-10-08 06:14 J	-874493.26	-874493.24	-874493.22	0.1651	0.1635
Mars	-7106-08-08 07:12 J	-873824.37	-873824.20	-873824.03	0.1637	0.0189
Jupiter	-7103-04-17 13:40 J	-872841.10	-872840.93	-872840.75	0.0515	0.0260
Mars	-7103-05-17 07:12 J	-872811.37	-872811.20	-872811.02	0.1884	0.0294
Saturn	-7103-07-17 15:21 J	-872750.07	-872749.86	-872749.65	0.0302	0.0033
Saturn	-7102-03-04 19:12 J	-872519.82	-872519.70	-872519.56	0.0300	0.0232
Pluto	-7099-01-01 00:14 J	-871486.61	-871486.49	-871486.33	0.0079	0.0060

Pluto	-7099-08-14 11:02 J	-871261.26	-871261.04	-871260.81	0.0079	0.0004
Pluto	-7098-03-27 20:52 J	-871035.73	-871035.63	-871035.49	0.0078	0.0066
Jupiter	-7097-02-23 17:45 J	-870702.96	-870702.76	-870702.56	0.0510	0.0043
Earth	-7094-11-12 01:12 J	-869345.60	-869345.45	-869345.30	0.2702	0.0762
Moon	-7094-11-12 06:00 J	-869345.40	-869345.25	-869345.10	0.2705	0.0380 *
Neptune	-7092-04-18 23:45 J	-868821.56	-868821.51	-868821.40	0.0088	0.0082
Neptune	-7092-11-30 12:43 J	-868596.07	-868595.97	-868595.81	0.0088	0.0071
Jupiter	-7092-12-21 07:26 J	-868575.22	-868575.19	-868575.16	0.0513	0.0506
Neptune	-7091-07-14 01:55 J	-868370.56	-868370.42	-868370.24	0.0088	0.0060
Jupiter	-7091-08-15 17:45 J	-868337.89	-868337.76	-868337.62	0.0518	0.0391
Neptune	-7090-02-24 14:52 J	-868145.04	-868144.88	-868144.67	0.0088	0.0049
Neptune	-7090-10-08 04:19 J	-867919.52	-867919.32	-867919.12	0.0088	0.0037
Neptune	-7089-05-20 17:16 J	-867693.99	-867693.78	-867693.57	0.0088	0.0026
Neptune	-7088-01-01 06:28 J	-867468.45	-867468.23	-867468.01	0.0088	0.0015
Saturn	-7088-08-09 11:31 J	-867248.21	-867248.02	-867247.82	0.0260	0.0107
Neptune	-7088-08-14 19:26 J	-867242.91	-867242.69	-867242.47	0.0088	0.0004
Saturn	-7087-03-26 09:07 J	-867019.32	-867019.12	-867018.90	0.0261	0.0068
Neptune	-7087-03-28 08:23 J	-867017.37	-867017.15	-867016.93	0.0088	0.0007
Neptune	-7087-11-08 21:21 J	-866791.83	-866791.61	-866791.39	0.0088	0.0018
Saturn	-7087-11-10 08:09 J	-866790.24	-866790.16	-866790.08	0.0263	0.0243
Neptune	-7086-06-22 10:19 J	-866566.28	-866566.07	-866565.86	0.0088	0.0029
Jupiter	-7086-10-29 17:02 J	-866436.96	-866436.79	-866436.62	0.0512	0.0278
Neptune	-7085-02-02 23:16 J	-866340.72	-866340.53	-866340.32	0.0088	0.0041
Neptune	-7085-09-15 12:28 J	-866115.15	-866114.98	-866114.80	0.0088	0.0051
Neptune	-7084-04-29 01:26 J	-865889.59	-865889.44	-865889.28	0.0088	0.0063
Neptune	-7084-12-10 14:38 J	-865664.01	-865663.89	-865663.77	0.0088	0.0074
Uranus	-7084-12-25 07:26 J	-865649.25	-865649.19	-865649.08	0.0136	0.0124
Neptune	-7083-07-24 03:50 J	-865438.40	-865438.34	-865438.28	0.0088	0.0085
Uranus	-7083-08-08 15:07 J	-865423.03	-865422.87	-865422.68	0.0135	0.0082
Uranus	-7082-03-22 22:33 J	-865196.76	-865196.56	-865196.34	0.0135	0.0041

Uranus	-7082-11-04 05:45 J	-864970.48	-864970.26	-864970.03	0.0135	0.0003
Uranus	-7081-06-17 12:43 J	-864744.17	-864743.97	-864743.75	0.0135	0.0042
Uranus	-7080-01-29 19:55 J	-864517.84	-864517.67	-864517.49	0.0134	0.0082
Uranus	-7080-09-13 02:23 J	-864291.47	-864291.40	-864291.29	0.0134	0.0122
Jupiter	-7079-04-20 10:47 J	-864072.25	-864072.05	-864071.85	0.0517	0.0137
Saturn	-7074-06-11 15:36 J	-862193.94	-862193.85	-862193.75	0.0302	0.0271
Mars	-7074-08-07 00:00 J	-862137.66	-862137.50	-862137.34	0.1643	0.0661
Saturn	-7073-01-27 21:21 J	-861963.82	-861963.61	-861963.40	0.0301	0.0006
Jupiter	-7073-02-26 05:45 J	-861934.41	-861934.26	-861934.11	0.0507	0.0330
Saturn	-7073-09-14 01:26 J	-861733.54	-861733.44	-861733.34	0.0300	0.0264
Mars	-7072-06-06 03:07 J	-861468.49	-861468.37	-861468.24	0.1631	0.1107
Mars	-7069-03-13 07:40 J	-860457.24	-860457.18	-860457.13	0.1894	0.1788
Jupiter	-7068-12-24 03:36 J	-859806.55	-859806.35	-859806.15	0.0516	0.0116
Jupiter	-7062-11-01 06:43 J	-857668.42	-857668.22	-857668.02	0.0509	0.0102
Saturn	-7059-07-05 17:02 J	-856690.82	-856690.79	-856690.75	0.0259	0.0255
Saturn	-7058-02-19 13:40 J	-856462.13	-856461.93	-856461.73	0.0260	0.0086
Saturn	-7058-10-06 11:16 J	-856233.23	-856233.03	-856232.83	0.0261	0.0087
Jupiter	-7056-08-28 22:47 J	-855540.70	-855540.55	-855540.40	0.0514	0.0360
Jupiter	-7050-07-07 05:45 J	-853402.45	-853402.26	-853402.07	0.0510	0.0134
Saturn	-7045-12-21 18:00 J	-851407.87	-851407.75	-851407.62	0.0303	0.0244
Saturn	-7044-08-08 23:45 J	-851177.72	-851177.51	-851177.30	0.0302	0.0027
Jupiter	-7044-12-27 04:04 J	-851037.49	-851037.33	-851037.16	0.0518	0.0296
Saturn	-7043-03-27 03:36 J	-850947.39	-850947.35	-850947.30	0.0300	0.0291
Mars	-7042-08-05 17:45 J	-850450.82	-850450.76	-850450.70	0.1649	0.1535
Mars	-7040-06-04 19:26 J	-849781.86	-849781.69	-849781.52	0.1636	0.0280
Uranus	-7040-12-20 11:02 J	-849583.09	-849583.04	-849582.99	0.0143	0.0138
Uranus	-7039-08-03 20:52 J	-849356.78	-849356.63	-849356.45	0.0143	0.0091
Jupiter	-7038-03-12 04:47 J	-849136.43	-849136.30	-849136.16	0.0512	0.0372
Uranus	-7038-03-18 07:12 J	-849130.40	-849130.20	-849129.99	0.0143	0.0043
Uranus	-7038-10-30 17:31 J	-848903.98	-848903.77	-848903.55	0.0144	0.0005

Jupiter	-7038-11-03 17:31 J	-848899.83	-848899.77	-848899.69	0.0507	0.0469
Mars	-7037-03-13 09:50 J	-848769.26	-848769.09	-848768.91	0.1887	0.0036
Uranus	-7037-06-13 03:50 J	-848677.53	-848677.34	-848677.13	0.0144	0.0054
Uranus	-7036-01-25 14:23 J	-848451.04	-848450.90	-848450.74	0.0144	0.0103
Jupiter	-7032-08-31 20:38 J	-846771.84	-846771.64	-846771.43	0.0516	0.0041
Saturn	-7029-01-15 18:43 J	-845904.80	-845904.72	-845904.62	0.0259	0.0234
Saturn	-7029-08-31 15:21 J	-845676.06	-845675.86	-845675.64	0.0260	0.0065
Saturn	-7028-04-17 13:12 J	-845447.14	-845446.95	-845446.76	0.0261	0.0110
Jupiter	-7026-07-09 18:43 J	-844633.90	-844633.72	-844633.55	0.0508	0.0242
Jupiter	-7020-05-06 14:23 J	-842506.08	-842505.90	-842505.71	0.0515	0.0212
Saturn	-7015-07-03 23:02 J	-840621.68	-840621.54	-840621.38	0.0302	0.0214
Saturn	-7014-02-19 04:47 J	-840391.50	-840391.30	-840391.09	0.0301	0.0058
Jupiter	-7014-03-14 18:57 J	-840367.91	-840367.71	-840367.51	0.0509	0.0010
Neptune	-7010-06-07 00:00 J	-838822.58	-838822.50	-838822.39	0.0089	0.0080
Neptune	-7009-01-18 13:26 J	-838597.07	-838596.94	-838596.80	0.0089	0.0069
Neptune	-7009-08-31 02:09 J	-838371.56	-838371.41	-838371.23	0.0089	0.0058
Jupiter	-7008-01-09 07:40 J	-838240.27	-838240.18	-838240.09	0.0514	0.0460
Neptune	-7008-04-13 15:36 J	-838146.04	-838145.85	-838145.67	0.0089	0.0046
Mars	-7008-06-03 12:28 J	-838095.14	-838094.98	-838094.82	0.1641	0.0575
Jupiter	-7008-09-03 19:26 J	-838002.79	-838002.69	-838002.59	0.0519	0.0447
Neptune	-7008-11-25 04:19 J	-837920.51	-837920.32	-837920.11	0.0089	0.0035
Neptune	-7007-07-08 17:16 J	-837694.98	-837694.78	-837694.55	0.0089	0.0024
Neptune	-7006-02-19 06:28 J	-837469.44	-837469.23	-837469.01	0.0089	0.0012
Mars	-7006-04-03 15:50 J	-837425.96	-837425.84	-837425.73	0.1630	0.1192
Neptune	-7006-10-02 19:40 J	-837243.90	-837243.68	-837243.46	0.0089	0.0001
Mars	-7005-03-13 10:33 J	-837081.13	-837081.06	-837080.98	0.1878	0.1707
Neptune	-7005-05-15 08:38 J	-837018.36	-837018.14	-837017.93	0.0089	0.0012
Neptune	-7005-12-26 21:21 J	-836792.81	-836792.61	-836792.39	0.0089	0.0023
Earth	-7004-05-17 07:55 J	-836651.33	-836651.17	-836651.02	0.2632	0.0734
Moon	-7004-05-17 08:52 J	-836651.28	-836651.13	-836650.99	0.2639	0.0647 *

Neptune	-7004-08-09 10:33 J	-836567.25	-836567.06	-836566.85	0.0089	0.0035
Neptune	-7003-03-22 23:16 J	-836341.70	-836341.53	-836341.33	0.0089	0.0046
Neptune	-7003-11-03 12:14 J	-836116.14	-836115.99	-836115.81	0.0089	0.0058
Jupiter	-7003-11-17 19:26 J	-836101.87	-836101.69	-836101.51	0.0511	0.0223
Neptune	-7002-06-17 01:26 J	-835890.57	-835890.44	-835890.29	0.0089	0.0069
Neptune	-7001-01-28 13:55 J	-835664.99	-835664.92	-835664.80	0.0089	0.0081

7TH MILLENNIUM BCE

This is a list of transits of Venus in the 7th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Saturn	-7000-07-27 20:09 J	-835118.76	-835118.66	-835118.53	0.0259	0.0214		
Saturn	-6999-03-13 17:02 J	-834890.00	-834889.79	-834889.58	0.0260	0.0044		
Uranus	-6999-04-08 01:12 J	-834864.59	-834864.45	-834864.30	0.0135	0.0100		
Saturn	-6999-10-28 14:38 J	-834661.07	-834660.89	-834660.70	0.0261	0.0129		
Uranus	-6999-11-20 08:23 J	-834638.34	-834638.15	-834637.95	0.0135	0.0059		
Uranus	-6998-07-04 15:36 J	-834412.06	-834411.85	-834411.62	0.0135	0.0018		
Uranus	-6997-02-15 23:02 J	-834185.76	-834185.54	-834185.32	0.0135	0.0024		
Uranus	-6997-09-29 05:45 J	-833959.44	-833959.26	-833959.05	0.0134	0.0065		
Jupiter	-6996-05-09 13:26 J	-833737.13	-833736.94	-833736.75	0.0518	0.0196		
Uranus	-6996-05-13 12:43 J	-833733.10	-833732.97	-833732.83	0.0134	0.0105		
Moon	-6996-05-15 03:50 J	-833731.44	-833731.34	-833731.23	0.2634	0.1894		
Jupiter	-6991-07-23 17:45 J	-831835.84	-831835.76	-831835.67	0.0512	0.0462		
Jupiter	-6990-03-17 06:57 J	-831599.33	-831599.21	-831599.07	0.0507	0.0383		

Saturn	-6985-01-14 00:14 J	-829835.65	-829835.49	-829835.33	0.0303	0.0189
Saturn	-6985-08-31 05:45 J	-829605.46	-829605.26	-829605.06	0.0302	0.0082
Jupiter	-6984-01-12 07:40 J	-829471.39	-829471.18	-829470.98	0.0516	0.0056
Jupiter	-6979-11-20 07:26 J	-827333.38	-827333.19	-827332.99	0.0509	0.0153
Mars	-6976-06-02 06:00 J	-826408.33	-826408.25	-826408.17	0.1647	0.1440
Mars	-6974-04-02 07:55 J	-825739.33	-825739.17	-825739.00	0.1634	0.0366
Jupiter	-6973-09-17 01:26 J	-825205.60	-825205.44	-825205.28	0.0514	0.0306
Mars	-6971-01-08 12:14 J	-824727.17	-824726.99	-824726.81	0.1889	0.0315
Saturn	-6970-02-06 21:07 J	-824332.75	-824332.62	-824332.47	0.0259	0.0195
Saturn	-6970-09-23 18:00 J	-824103.96	-824103.75	-824103.53	0.0260	0.0024
Saturn	-6969-05-09 15:36 J	-823875.01	-823874.85	-823874.67	0.0261	0.0151
Jupiter	-6967-07-26 07:40 J	-823067.38	-823067.18	-823066.98	0.0510	0.0081
Jupiter	-6960-01-15 06:14 J	-820702.39	-820702.24	-820702.09	0.0518	0.0351
Saturn	-6956-07-26 04:04 J	-819049.50	-819049.33	-819049.15	0.0302	0.0161
Saturn	-6955-03-13 09:36 J	-818819.30	-818819.10	-818818.90	0.0301	0.0109
Jupiter	-6955-03-31 07:40 J	-818801.33	-818801.18	-818801.02	0.0511	0.0316
Uranus	-6955-04-03 05:16 J	-818798.40	-818798.28	-818798.14	0.0143	0.0113
Uranus	-6955-11-15 15:21 J	-818572.04	-818571.86	-818571.66	0.0143	0.0065
Uranus	-6954-06-30 01:55 J	-818345.64	-818345.42	-818345.21	0.0143	0.0017
Uranus	-6953-02-11 12:14 J	-818119.20	-818118.99	-818118.78	0.0144	0.0032
Uranus	-6953-09-24 22:33 J	-817892.72	-817892.56	-817892.37	0.0144	0.0081
Uranus	-6952-05-09 09:21 J	-817666.20	-817666.11	-817666.01	0.0144	0.0130
Jupiter	-6949-09-19 22:19 J	-816436.77	-816436.57	-816436.37	0.0517	0.0094
Jupiter	-6943-07-28 21:36 J	-814298.75	-814298.60	-814298.43	0.0507	0.0301
Mars	-6942-04-01 00:43 J	-814052.64	-814052.47	-814052.31	0.1639	0.0482
Pluto	-6941-05-31 16:19 J	-813625.89	-813625.82	-813625.70	0.0065	0.0059
Saturn	-6941-08-18 22:47 J	-813546.71	-813546.55	-813546.39	0.0259	0.0174
Pluto	-6940-01-11 20:52 J	-813400.82	-813400.63	-813400.41	0.0066	0.0024
Mars	-6940-01-29 04:19 J	-813383.43	-813383.32	-813383.22	0.1628	0.1276
Saturn	-6940-04-04 19:26 J	-813317.90	-813317.69	-813317.48	0.0260	0.0004

Pluto	-6940-08-25 01:40 J	-813175.64	-813175.43	-813175.21	0.0066	0.0013
Saturn	-6940-11-19 17:02 J	-813088.95	-813088.79	-813088.63	0.0261	0.0169
Mars	-6939-01-08 13:12 J	-813039.06	-813038.95	-813038.83	0.1881	0.1420
Pluto	-6939-04-07 06:14 J	-812950.38	-812950.24	-812950.09	0.0066	0.0049
Jupiter	-6937-05-25 17:02 J	-812170.99	-812170.79	-812170.59	0.0516	0.0155
Jupiter	-6931-04-02 21:36 J	-810032.80	-810032.60	-810032.40	0.0509	0.0066
Neptune	-6928-07-21 10:19 J	-808827.08	-808827.07	-808827.02	0.0088	0.0087
Neptune	-6927-03-03 23:16 J	-808601.62	-808601.53	-808601.40	0.0088	0.0076
Neptune	-6927-10-15 12:14 J	-808376.12	-808375.99	-808375.83	0.0088	0.0065
Saturn	-6926-02-05 04:19 J	-808263.50	-808263.32	-808263.13	0.0303	0.0138
Neptune	-6926-05-29 01:12 J	-808150.61	-808150.45	-808150.26	0.0088	0.0054
Saturn	-6926-09-23 09:36 J	-808033.28	-808033.10	-808032.90	0.0301	0.0134
Neptune	-6925-01-09 14:23 J	-807925.08	-807924.90	-807924.69	0.0088	0.0043
Jupiter	-6925-01-29 12:28 J	-807905.11	-807904.98	-807904.85	0.0514	0.0399
Neptune	-6925-08-22 03:21 J	-807699.55	-807699.36	-807699.14	0.0088	0.0032
Jupiter	-6925-09-23 00:28 J	-807667.51	-807667.48	-807667.45	0.0519	0.0513
Neptune	-6924-04-04 16:19 J	-807474.02	-807473.82	-807473.59	0.0088	0.0021
Neptune	-6924-11-16 05:45 J	-807248.48	-807248.26	-807248.04	0.0088	0.0009
Neptune	-6923-06-29 18:43 J	-807022.94	-807022.72	-807022.50	0.0088	0.0002
Neptune	-6922-02-10 07:40 J	-806797.40	-806797.18	-806796.96	0.0088	0.0013
Neptune	-6922-09-23 20:38 J	-806571.85	-806571.64	-806571.42	0.0088	0.0024
Neptune	-6921-05-06 09:21 J	-806346.30	-806346.11	-806345.89	0.0088	0.0036
Neptune	-6921-12-17 22:19 J	-806120.74	-806120.57	-806120.36	0.0088	0.0048
Neptune	-6920-07-31 11:31 J	-805895.17	-805895.02	-805894.84	0.0088	0.0058
Jupiter	-6920-12-06 21:07 J	-805766.81	-805766.62	-805766.43	0.0511	0.0170
Neptune	-6919-03-14 00:28 J	-805669.60	-805669.48	-805669.33	0.0088	0.0069
Neptune	-6919-10-25 13:26 J	-805444.01	-805443.94	-805443.83	0.0088	0.0081
Uranus	-6916-12-06 11:16 J	-804306.12	-804306.03	-804305.91	0.0135	0.0118
Uranus	-6915-07-20 18:43 J	-804079.89	-804079.72	-804079.53	0.0135	0.0076
Uranus	-6914-03-04 02:09 J	-803853.61	-803853.41	-803853.19	0.0135	0.0035

Uranus	-6914-10-16 09:36 J	-803627.32	-803627.10	-803626.88	0.0135	0.0007
Jupiter	-6913-05-28 16:47 J	-803401.98	-803401.80	-803401.62	0.0518	0.0256
Uranus	-6913-05-29 16:19 J	-803401.02	-803400.82	-803400.60	0.0135	0.0047
Uranus	-6912-01-10 23:16 J	-803174.69	-803174.53	-803174.36	0.0134	0.0088
Uranus	-6912-08-25 05:45 J	-802948.30	-802948.26	-802948.18	0.0134	0.0128
Saturn	-6911-02-28 23:02 J	-802760.70	-802760.54	-802760.36	0.0259	0.0156
Saturn	-6911-10-15 19:55 J	-802531.88	-802531.67	-802531.45	0.0260	0.0016
Mars	-6910-03-30 17:45 J	-802365.85	-802365.76	-802365.66	0.1645	0.1341
Saturn	-6910-06-01 17:45 J	-802302.91	-802302.76	-802302.61	0.0262	0.0190
Mars	-6908-01-27 20:09 J	-801696.83	-801696.66	-801696.50	0.1633	0.0454
Jupiter	-6908-08-11 20:23 J	-801500.77	-801500.65	-801500.53	0.0512	0.0409
Jupiter	-6907-04-05 09:50 J	-801264.19	-801264.09	-801263.99	0.0507	0.0439
Mars	-6906-11-05 14:23 J	-800685.06	-800684.90	-800684.73	0.1892	0.0629
Jupiter	-6901-02-01 10:19 J	-799136.28	-799136.07	-799135.86	0.0516	0.0001
Saturn	-6897-08-17 08:09 J	-797477.36	-797477.16	-797476.97	0.0302	0.0110
Saturn	-6896-04-04 13:12 J	-797247.13	-797246.95	-797246.77	0.0301	0.0159
Jupiter	-6896-12-09 11:02 J	-796998.22	-796998.04	-796997.86	0.0508	0.0213
Jupiter	-6890-10-07 02:23 J	-794870.58	-794870.40	-794870.22	0.0515	0.0255
Jupiter	-6884-08-14 12:14 J	-792732.19	-792731.99	-792731.78	0.0509	0.0021
Saturn	-6882-09-11 00:43 J	-791974.65	-791974.47	-791974.29	0.0259	0.0135
Saturn	-6881-04-26 21:21 J	-791745.82	-791745.61	-791745.39	0.0260	0.0036
Saturn	-6881-12-11 19:12 J	-791516.82	-791516.70	-791516.56	0.0261	0.0210
Jupiter	-6878-06-11 21:50 J	-790604.63	-790604.59	-790604.54	0.0514	0.0497
Jupiter	-6877-02-04 09:21 J	-790367.22	-790367.11	-790366.98	0.0519	0.0415
Mars	-6876-01-26 12:57 J	-790010.12	-790009.96	-790009.79	0.1638	0.0393
Mars	-6875-11-26 16:47 J	-789340.90	-789340.80	-789340.71	0.1627	0.1363
Mars	-6874-11-05 16:47 J	-788996.94	-788996.80	-788996.66	0.1884	0.1140
Jupiter	-6872-04-19 11:02 J	-788466.21	-788466.04	-788465.86	0.0511	0.0258
Uranus	-6872-12-01 12:00 J	-788240.05	-788240.00	-788239.93	0.0143	0.0136
Uranus	-6871-07-15 22:19 J	-788013.74	-788013.57	-788013.40	0.0143	0.0088

Uranus	-6870-02-27 08:23 J	-787787.35	-787787.15	-787786.94	0.0143	0.0041
Uranus	-6870-10-11 18:57 J	-787560.93	-787560.71	-787560.50	0.0144	0.0008
Uranus	-6869-05-25 05:16 J	-787334.47	-787334.28	-787334.08	0.0144	0.0057
Uranus	-6868-01-06 15:36 J	-787107.98	-787107.85	-787107.69	0.0144	0.0106
Saturn	-6867-02-27 07:55 J	-786691.37	-786691.17	-786690.97	0.0303	0.0088
Saturn	-6867-10-15 12:57 J	-786461.12	-786460.96	-786460.79	0.0301	0.0182
Jupiter	-6866-10-10 03:36 J	-786101.55	-786101.35	-786101.15	0.0517	0.0160
Jupiter	-6861-12-23 09:50 J	-784200.13	-784200.09	-784200.04	0.0513	0.0497
Jupiter	-6860-08-16 23:45 J	-783963.65	-783963.51	-783963.37	0.0507	0.0355
Jupiter	-6854-06-14 21:07 J	-781835.82	-781835.62	-781835.42	0.0516	0.0094
Pluto	-6853-01-30 08:09 J	-781606.27	-781606.16	-781606.02	0.0079	0.0066
Pluto	-6853-09-11 18:57 J	-781380.93	-781380.71	-781380.49	0.0079	0.0002
Saturn	-6852-03-23 00:57 J	-781188.65	-781188.46	-781188.27	0.0259	0.0117
Pluto	-6852-04-25 04:47 J	-781155.42	-781155.30	-781155.14	0.0078	0.0061
Saturn	-6852-11-06 21:50 J	-780959.80	-780959.59	-780959.38	0.0260	0.0055
Saturn	-6851-06-23 19:40 J	-780730.77	-780730.68	-780730.57	0.0262	0.0230
Moon	-6851-11-11 22:19 J	-780589.71	-780589.57	-780589.43	0.2698	0.1344
Earth	-6851-11-12 01:40 J	-780589.58	-780589.43	-780589.28	0.2703	0.0853 *
Jupiter	-6848-04-22 00:14 J	-779697.69	-779697.49	-779697.29	0.0509	0.0123
Neptune	-6846-09-08 10:04 J	-778828.11	-778828.08	-778828.00	0.0089	0.0086
Neptune	-6845-04-20 23:16 J	-778602.63	-778602.53	-778602.40	0.0089	0.0075
Neptune	-6845-12-02 12:14 J	-778377.13	-778376.99	-778376.82	0.0089	0.0063
Mars	-6844-01-25 06:00 J	-778323.36	-778323.25	-778323.14	0.1643	0.1250
Neptune	-6844-07-16 01:40 J	-778151.60	-778151.43	-778151.25	0.0089	0.0052
Neptune	-6843-02-26 14:23 J	-777926.08	-777925.90	-777925.69	0.0089	0.0040
Neptune	-6843-10-10 03:36 J	-777700.55	-777700.35	-777700.14	0.0089	0.0028
Mars	-6843-11-25 08:52 J	-777654.29	-777654.13	-777653.97	0.1631	0.0537
Jupiter	-6842-02-17 15:21 J	-777570.01	-777569.86	-777569.71	0.0514	0.0344
Neptune	-6842-05-23 16:47 J	-777475.02	-777474.80	-777474.59	0.0089	0.0017
Neptune	-6841-01-04 05:45 J	-777249.48	-777249.26	-777249.04	0.0089	0.0005

Neptune	-6841-08-16 18:43 J	-777023.93	-777023.72	-777023.50	0.0089	0.0007
Neptune	-6840-03-30 07:40 J	-776798.39	-776798.18	-776797.96	0.0089	0.0018
Mars	-6840-09-01 16:47 J	-776642.95	-776642.80	-776642.65	0.1894	0.0938
Neptune	-6840-11-10 20:38 J	-776572.84	-776572.64	-776572.43	0.0089	0.0030
Neptune	-6839-06-24 09:21 J	-776347.29	-776347.11	-776346.90	0.0089	0.0042
Neptune	-6838-02-04 22:33 J	-776121.73	-776121.56	-776121.37	0.0089	0.0053
Saturn	-6838-09-09 11:31 J	-775905.22	-775905.02	-775904.81	0.0302	0.0060
Neptune	-6838-09-18 11:16 J	-775896.16	-775896.03	-775895.86	0.0089	0.0065
Saturn	-6837-04-26 16:33 J	-775674.96	-775674.81	-775674.66	0.0301	0.0209
Neptune	-6837-05-01 00:28 J	-775670.58	-775670.48	-775670.36	0.0089	0.0076
Neptune	-6837-12-12 12:57 J	-775444.98	-775444.96	-775444.88	0.0089	0.0088
Jupiter	-6837-12-26 00:57 J	-775431.65	-775431.46	-775431.26	0.0510	0.0110
Uranus	-6832-08-05 22:19 J	-773747.59	-773747.57	-773747.55	0.0136	0.0135
Uranus	-6831-03-20 05:31 J	-773521.42	-773521.27	-773521.10	0.0135	0.0094
Uranus	-6831-11-01 12:57 J	-773295.16	-773294.96	-773294.75	0.0135	0.0052
Uranus	-6830-06-15 20:09 J	-773068.87	-773068.66	-773068.43	0.0135	0.0011
Jupiter	-6830-06-17 18:00 J	-773066.91	-773066.75	-773066.58	0.0519	0.0312
Uranus	-6829-01-28 03:21 J	-772842.57	-772842.36	-772842.14	0.0135	0.0030
Uranus	-6829-09-10 10:19 J	-772616.25	-772616.07	-772615.88	0.0134	0.0071
Uranus	-6828-04-24 16:47 J	-772389.91	-772389.80	-772389.66	0.0134	0.0112
Jupiter	-6825-08-31 01:40 J	-771165.58	-771165.43	-771165.28	0.0512	0.0344
Jupiter	-6824-04-24 13:55 J	-770928.94	-770928.92	-770928.89	0.0506	0.0501
Saturn	-6823-10-03 02:52 J	-770402.58	-770402.38	-770402.18	0.0259	0.0096
Saturn	-6822-05-19 23:45 J	-770173.71	-770173.51	-770173.30	0.0260	0.0076
Saturn	-6821-01-03 21:50 J	-769944.64	-769944.59	-769944.52	0.0261	0.0250
Jupiter	-6818-02-20 12:28 J	-768801.19	-768800.98	-768800.78	0.0517	0.0059
Jupiter	-6813-12-28 13:55 J	-766663.08	-766662.92	-766662.74	0.0508	0.0271
Mars	-6811-11-24 01:12 J	-765967.61	-765967.45	-765967.28	0.1636	0.0305
Mars	-6809-09-23 05:31 J	-765298.34	-765298.27	-765298.19	0.1626	0.1443
Saturn	-6808-03-21 12:14 J	-765119.20	-765118.99	-765118.78	0.0302	0.0035

Mars	-6808-09-01 18:57 J	-764954.87	-764954.71	-764954.55	0.1886	0.0840
Saturn	-6808-11-06 17:02 J	-764888.92	-764888.79	-764888.66	0.0301	0.0233
Jupiter	-6807-10-26 07:26 J	-764535.38	-764535.19	-764535.00	0.0515	0.0191
Jupiter	-6801-09-02 14:09 J	-762397.11	-762396.91	-762396.71	0.0509	0.0036
Jupiter	-6795-07-01 01:55 J	-760269.52	-760269.42	-760269.31	0.0513	0.0439
Jupiter	-6794-02-23 13:12 J	-760032.02	-760031.95	-760031.86	0.0519	0.0476
Saturn	-6794-08-29 06:57 J	-759845.26	-759845.21	-759845.13	0.0259	0.0246
Saturn	-6793-04-14 03:36 J	-759616.55	-759616.35	-759616.14	0.0260	0.0077
Saturn	-6793-11-29 00:43 J	-759387.66	-759387.47	-759387.27	0.0261	0.0096
Jupiter	-6789-05-08 13:26 J	-758131.13	-758130.94	-758130.76	0.0511	0.0203
Uranus	-6787-03-15 04:47 J	-757455.43	-757455.30	-757455.17	0.0143	0.0112
Uranus	-6787-10-27 14:38 J	-757229.08	-757228.89	-757228.69	0.0143	0.0065
Uranus	-6786-06-11 00:57 J	-757002.67	-757002.46	-757002.25	0.0144	0.0016
Uranus	-6785-01-23 11:16 J	-756776.24	-756776.03	-756775.82	0.0144	0.0032
Uranus	-6785-09-05 21:50 J	-756549.76	-756549.59	-756549.41	0.0144	0.0081
Uranus	-6784-04-20 08:09 J	-756323.24	-756323.16	-756323.06	0.0144	0.0131
Jupiter	-6783-10-29 06:00 J	-755766.44	-755766.25	-755766.06	0.0517	0.0218
Saturn	-6779-02-13 10:19 J	-754563.14	-754563.07	-754562.98	0.0303	0.0279
Saturn	-6779-10-01 16:47 J	-754333.01	-754332.80	-754332.59	0.0302	0.0009
Mars	-6779-11-22 18:00 J	-754280.87	-754280.75	-754280.63	0.1641	0.1153
Saturn	-6778-05-19 21:07 J	-754102.71	-754102.62	-754102.51	0.0300	0.0261
Jupiter	-6777-01-12 13:40 J	-753865.04	-753864.93	-753864.83	0.0512	0.0439
Jupiter	-6777-09-05 03:21 J	-753628.48	-753628.36	-753628.25	0.0507	0.0415
Mars	-6777-09-21 21:21 J	-753611.77	-753611.61	-753611.45	0.1630	0.0625
Mars	-6774-06-29 18:28 J	-752600.86	-752600.73	-752600.59	0.1896	0.1265
Jupiter	-6771-07-03 20:52 J	-751500.83	-751500.63	-751500.42	0.0516	0.0044
Jupiter	-6765-05-11 04:47 J	-749362.49	-749362.30	-749362.12	0.0508	0.0187
Saturn	-6764-03-10 09:36 J	-749059.19	-749059.10	-749058.98	0.0259	0.0223
Saturn	-6764-10-25 06:14 J	-748830.45	-748830.24	-748830.03	0.0260	0.0053
Neptune	-6763-06-05 08:52 J	-748607.19	-748607.13	-748607.03	0.0088	0.0082

Saturn	-6763-06-11 03:21 J	-748601.55	-748601.36	-748601.17	0.0261	0.0119
Neptune	-6762-01-16 22:04 J	-748381.69	-748381.58	-748381.44	0.0088	0.0071
Neptune	-6762-08-30 11:02 J	-748156.19	-748156.04	-748155.86	0.0088	0.0060
Neptune	-6761-04-12 00:00 J	-747930.67	-747930.50	-747930.30	0.0088	0.0049
Earth	-6761-05-17 09:36 J	-747895.25	-747895.10	-747894.95	0.2631	0.0876
Moon	-6761-05-17 10:47 J	-747895.21	-747895.05	-747894.89	0.2624	0.0912 *
Neptune	-6761-11-23 13:12 J	-747705.14	-747704.95	-747704.74	0.0088	0.0037
Neptune	-6760-07-07 02:09 J	-747479.61	-747479.41	-747479.19	0.0088	0.0026
Neptune	-6759-02-17 15:21 J	-747254.08	-747253.86	-747253.64	0.0088	0.0015
Jupiter	-6759-03-08 15:50 J	-747235.00	-747234.84	-747234.67	0.0515	0.0294
Neptune	-6759-10-01 04:19 J	-747028.54	-747028.32	-747028.09	0.0088	0.0004
Neptune	-6758-05-14 17:31 J	-746802.99	-746802.77	-746802.55	0.0088	0.0008
Neptune	-6758-12-26 06:28 J	-746577.44	-746577.23	-746577.01	0.0088	0.0019
Neptune	-6757-08-07 19:26 J	-746351.89	-746351.69	-746351.47	0.0088	0.0031
Neptune	-6756-03-21 08:23 J	-746126.33	-746126.15	-746125.94	0.0088	0.0042
Neptune	-6756-11-01 21:21 J	-745900.77	-745900.61	-745900.42	0.0088	0.0053
Neptune	-6755-06-15 10:33 J	-745675.21	-745675.06	-745674.91	0.0088	0.0065
Neptune	-6754-01-26 23:16 J	-745449.62	-745449.53	-745449.39	0.0088	0.0076
Neptune	-6754-09-09 12:28 J	-745223.99	-745223.98	-745223.93	0.0088	0.0087
Jupiter	-6753-01-15 03:50 J	-745096.54	-745096.34	-745096.14	0.0510	0.0054
Earth	-6753-05-15 01:26 J	-744975.49	-744975.44	-744975.39	0.2629	0.2496
Saturn	-6750-08-26 11:31 J	-743777.12	-743777.02	-743776.89	0.0303	0.0254
Saturn	-6749-04-12 18:00 J	-743546.96	-743546.75	-743546.54	0.0302	0.0020
Saturn	-6749-11-28 22:19 J	-743316.62	-743316.57	-743316.50	0.0301	0.0287
Uranus	-6748-11-17 15:07 J	-742962.98	-742962.87	-742962.73	0.0136	0.0112
Uranus	-6747-07-01 22:33 J	-742736.74	-742736.56	-742736.36	0.0135	0.0070
Jupiter	-6747-07-06 22:33 J	-742731.70	-742731.56	-742731.42	0.0519	0.0376
Uranus	-6746-02-13 06:00 J	-742510.45	-742510.25	-742510.02	0.0135	0.0029
Uranus	-6746-09-27 13:26 J	-742284.16	-742283.94	-742283.72	0.0135	0.0013
Uranus	-6745-05-10 20:09 J	-742057.85	-742057.66	-742057.45	0.0135	0.0054

Mars	-6745-09-20 13:40 J	-741925.10	-741924.93	-741924.76	0.1634	0.0210
Uranus	-6745-12-23 02:38 J	-741831.52	-741831.39	-741831.21	0.0134	0.0095
Uranus	-6744-08-06 09:50 J	-741605.09	-741605.09	-741605.08	0.0134	0.0134
Mars	-6743-07-21 17:31 J	-741255.82	-741255.77	-741255.71	0.1624	0.1534
Mars	-6742-06-29 21:36 J	-740912.77	-740912.60	-740912.43	0.1889	0.0543
Jupiter	-6742-09-20 02:38 J	-740830.55	-740830.39	-740830.22	0.0511	0.0294
Jupiter	-6735-03-11 15:50 J	-738466.04	-738465.84	-738465.64	0.0517	0.0119
Saturn	-6735-09-20 11:02 J	-738273.17	-738273.04	-738272.91	0.0259	0.0203
Saturn	-6734-05-07 07:26 J	-738044.40	-738044.19	-738043.97	0.0260	0.0034
Saturn	-6734-12-22 05:02 J	-737815.47	-737815.29	-737815.11	0.0261	0.0140
Jupiter	-6729-01-17 15:21 J	-736328.01	-736327.86	-736327.70	0.0508	0.0324
Jupiter	-6724-11-14 08:52 J	-734200.32	-734200.13	-734199.93	0.0515	0.0138
Saturn	-6720-03-07 17:45 J	-732990.90	-732990.76	-732990.61	0.0303	0.0221
Saturn	-6720-10-23 23:45 J	-732760.72	-732760.51	-732760.30	0.0302	0.0051
Jupiter	-6718-09-22 16:47 J	-732062.00	-732061.80	-732061.60	0.0509	0.0094
Mars	-6713-09-19 06:28 J	-730238.36	-730238.23	-730238.10	0.1639	0.1063
Jupiter	-6712-07-20 00:28 J	-729934.61	-729934.48	-729934.35	0.0514	0.0397
Mars	-6711-07-20 09:36 J	-729569.25	-729569.10	-729568.94	0.1628	0.0713
Mars	-6708-04-25 20:52 J	-728558.73	-728558.63	-728558.53	0.1898	0.1578
Jupiter	-6706-05-28 17:16 J	-727795.97	-727795.78	-727795.58	0.0511	0.0143
Saturn	-6705-04-01 14:23 J	-727487.05	-727486.90	-727486.74	0.0259	0.0179
Saturn	-6705-11-16 11:02 J	-727258.25	-727258.04	-727257.82	0.0260	0.0009
Saturn	-6704-07-03 08:23 J	-727029.31	-727029.15	-727028.98	0.0261	0.0165
Uranus	-6704-11-12 10:33 J	-726897.11	-726897.06	-726896.99	0.0143	0.0136
Uranus	-6703-06-26 20:23 J	-726670.81	-726670.65	-726670.47	0.0143	0.0089
Uranus	-6702-02-08 06:43 J	-726444.42	-726444.22	-726444.01	0.0143	0.0041
Uranus	-6702-09-22 17:02 J	-726218.00	-726217.79	-726217.57	0.0144	0.0008
Uranus	-6701-05-06 03:07 J	-725991.55	-725991.37	-725991.16	0.0144	0.0057
Uranus	-6701-12-18 13:40 J	-725765.07	-725764.93	-725764.78	0.0144	0.0106
Jupiter	-6700-11-17 05:45 J	-725431.44	-725431.26	-725431.09	0.0518	0.0269

Pluto	-6695-06-30 02:09 J	-723745.50	-723745.41	-723745.30	0.0065	0.0058
Jupiter	-6694-01-31 15:21 J	-723529.99	-723529.86	-723529.73	0.0512	0.0388
Pluto	-6694-02-10 06:28 J	-723520.42	-723520.23	-723520.01	0.0066	0.0023
Pluto	-6694-09-23 11:31 J	-723295.23	-723295.02	-723294.81	0.0066	0.0013
Jupiter	-6694-09-25 04:19 J	-723293.39	-723293.32	-723293.24	0.0506	0.0468
Pluto	-6693-05-05 15:36 J	-723069.97	-723069.85	-723069.69	0.0066	0.0050
Saturn	-6691-09-17 21:07 J	-722204.78	-722204.62	-722204.45	0.0303	0.0190
Saturn	-6690-05-06 02:52 J	-721974.58	-721974.38	-721974.18	0.0302	0.0082
Jupiter	-6688-07-23 00:14 J	-721165.70	-721165.49	-721165.28	0.0516	0.0014
Jupiter	-6682-05-31 04:19 J	-719027.50	-719027.32	-719027.14	0.0508	0.0234
Neptune	-6681-07-23 09:21 J	-718608.19	-718608.11	-718608.01	0.0089	0.0081
Neptune	-6680-03-05 22:19 J	-718382.69	-718382.57	-718382.42	0.0089	0.0069
Neptune	-6680-10-17 11:31 J	-718157.18	-718157.02	-718156.84	0.0089	0.0057
Neptune	-6679-05-31 00:43 J	-717931.65	-717931.47	-717931.28	0.0089	0.0046
Mars	-6679-07-19 01:55 J	-717882.60	-717882.42	-717882.25	0.1633	0.0124
Neptune	-6678-01-11 13:26 J	-717706.13	-717705.94	-717705.72	0.0089	0.0035
Neptune	-6678-08-25 02:38 J	-717480.59	-717480.39	-717480.17	0.0089	0.0023
Neptune	-6677-04-06 15:50 J	-717255.06	-717254.84	-717254.62	0.0089	0.0011
Mars	-6677-05-18 06:43 J	-717213.24	-717213.22	-717213.20	0.1623	0.1611
Neptune	-6677-11-18 04:47 J	-717029.52	-717029.30	-717029.08	0.0089	0.0001
Jupiter	-6676-03-27 18:14 J	-716899.92	-716899.74	-716899.55	0.0515	0.0239
Mars	-6676-04-25 23:45 J	-716870.69	-716870.51	-716870.34	0.1892	0.0233
Neptune	-6676-07-01 17:45 J	-716803.97	-716803.76	-716803.54	0.0089	0.0013
Saturn	-6676-10-12 16:04 J	-716700.99	-716700.83	-716700.65	0.0259	0.0158
Neptune	-6675-02-12 06:28 J	-716578.43	-716578.23	-716578.01	0.0089	0.0025
Saturn	-6675-05-29 13:12 J	-716472.17	-716471.95	-716471.74	0.0260	0.0013
Neptune	-6675-09-25 19:26 J	-716352.88	-716352.69	-716352.48	0.0089	0.0036
Saturn	-6674-01-13 11:02 J	-716243.18	-716243.04	-716242.89	0.0261	0.0188
Neptune	-6674-05-09 08:23 J	-716127.33	-716127.15	-716126.96	0.0089	0.0048
Neptune	-6674-12-20 21:07 J	-715901.77	-715901.62	-715901.44	0.0089	0.0060

Neptune	-6673-08-02 10:33 J	-715676.19	-715676.06	-715675.93	0.0089	0.0071
Neptune	-6672-03-15 23:02 J	-715450.60	-715450.54	-715450.44	0.0089	0.0083
Jupiter	-6670-02-03 03:36 J	-714761.55	-714761.35	-714761.14	0.0510	0.0011
Jupiter	-6665-11-30 12:14 J	-712634.04	-712633.99	-712633.93	0.0513	0.0489
Uranus	-6664-07-18 00:00 J	-712404.54	-712404.50	-712404.42	0.0136	0.0131
Jupiter	-6664-07-25 22:47 J	-712396.66	-712396.55	-712396.44	0.0519	0.0427
Uranus	-6663-03-01 07:55 J	-712178.33	-712178.17	-712178.00	0.0135	0.0089
Uranus	-6663-10-13 15:21 J	-711952.06	-711951.86	-711951.65	0.0135	0.0047
Uranus	-6662-05-27 22:47 J	-711725.77	-711725.55	-711725.33	0.0135	0.0006
Uranus	-6661-01-09 05:31 J	-711499.47	-711499.27	-711499.05	0.0135	0.0036
Saturn	-6661-03-30 04:04 J	-711418.51	-711418.33	-711418.15	0.0302	0.0156
Uranus	-6661-08-22 12:28 J	-711273.15	-711272.98	-711272.79	0.0135	0.0076
Saturn	-6661-11-15 09:36 J	-711188.29	-711188.10	-711187.90	0.0301	0.0115
Uranus	-6660-04-05 19:26 J	-711046.79	-711046.69	-711046.58	0.0134	0.0117
Jupiter	-6659-10-09 04:04 J	-710495.51	-710495.33	-710495.15	0.0511	0.0241
Jupiter	-6652-03-30 12:43 J	-708131.16	-708130.97	-708130.77	0.0517	0.0161
Jupiter	-6647-06-14 03:21 J	-706229.42	-706229.36	-706229.29	0.0513	0.0483
Mars	-6647-07-17 18:14 J	-706195.88	-706195.74	-706195.60	0.1637	0.0966
Jupiter	-6646-02-05 17:45 J	-705992.89	-705992.76	-705992.63	0.0507	0.0380
Saturn	-6646-04-24 20:38 J	-705914.82	-705914.64	-705914.45	0.0260	0.0131
Saturn	-6646-12-09 17:45 J	-705685.97	-705685.76	-705685.55	0.0260	0.0041
Mars	-6645-05-16 22:19 J	-705526.72	-705526.57	-705526.42	0.1627	0.0798
Saturn	-6645-07-25 15:36 J	-705456.97	-705456.85	-705456.73	0.0261	0.0215
Jupiter	-6641-12-03 06:43 J	-703865.42	-703865.22	-703865.01	0.0516	0.0096
Jupiter	-6635-10-11 16:47 J	-701726.99	-701726.80	-701726.61	0.0509	0.0142
Saturn	-6632-10-10 09:36 J	-700632.29	-700632.10	-700631.91	0.0302	0.0120
Saturn	-6631-05-28 14:52 J	-700402.06	-700401.88	-700401.70	0.0301	0.0150
Jupiter	-6629-08-08 02:09 J	-699599.56	-699599.41	-699599.26	0.0514	0.0346
Jupiter	-6623-06-16 15:36 J	-697461.05	-697460.85	-697460.65	0.0510	0.0101
Uranus	-6619-02-24 04:33 J	-696112.43	-696112.31	-696112.16	0.0143	0.0110

Uranus	-6619-10-08 14:38 J	-695886.07	-695885.89	-695885.69	0.0143	0.0062
Uranus	-6618-05-23 00:57 J	-695659.68	-695659.46	-695659.25	0.0143	0.0014
Uranus	-6617-01-04 11:02 J	-695433.24	-695433.04	-695432.83	0.0144	0.0035
Uranus	-6617-08-17 21:36 J	-695206.77	-695206.60	-695206.43	0.0144	0.0083
Saturn	-6617-11-03 23:16 J	-695128.72	-695128.53	-695128.33	0.0260	0.0109
Jupiter	-6617-12-06 06:43 J	-695096.38	-695096.22	-695096.06	0.0518	0.0322
Uranus	-6616-04-01 07:55 J	-694980.25	-694980.17	-694980.08	0.0144	0.0133
Saturn	-6616-06-20 20:38 J	-694899.85	-694899.64	-694899.43	0.0261	0.0064
Moon	-6616-11-14 08:09 J	-694753.24	-694753.16	-694753.08	0.2708	0.2290
Saturn	-6615-02-04 18:43 J	-694670.80	-694670.72	-694670.63	0.0262	0.0239
Mars	-6613-05-15 14:09 J	-693840.08	-693839.91	-693839.74	0.1631	0.0039
Jupiter	-6611-02-19 13:40 J	-693195.08	-693194.93	-693194.78	0.0512	0.0346
Mars	-6610-02-21 01:55 J	-692828.60	-692828.42	-692828.24	0.1894	0.0083
Earth	-6608-11-12 02:09 J	-691833.56	-691833.41	-691833.26	0.2704	0.0957
Moon	-6608-11-12 03:07 J	-691833.51	-691833.37	-691833.22	0.2711	0.0531 *
Pluto	-6607-02-27 18:57 J	-691725.84	-691725.71	-691725.57	0.0079	0.0061
Pluto	-6607-10-11 05:31 J	-691500.49	-691500.27	-691500.05	0.0079	0.0002
Pluto	-6606-05-24 15:07 J	-691274.97	-691274.87	-691274.72	0.0078	0.0065
Jupiter	-6605-08-10 23:02 J	-690830.74	-690830.54	-690830.33	0.0516	0.0061
Saturn	-6602-04-22 18:14 J	-689845.94	-689845.74	-689845.54	0.0302	0.0082
Saturn	-6602-12-08 23:16 J	-689615.69	-689615.53	-689615.36	0.0301	0.0187
Jupiter	-6599-06-19 04:04 J	-688692.49	-688692.33	-688692.16	0.0508	0.0284
Neptune	-6598-04-20 07:12 J	-688387.29	-688387.20	-688387.08	0.0088	0.0077
Neptune	-6598-12-01 20:09 J	-688161.79	-688161.66	-688161.50	0.0088	0.0066
Neptune	-6597-07-14 08:52 J	-687936.28	-687936.13	-687935.94	0.0088	0.0055
Neptune	-6596-02-24 22:19 J	-687710.76	-687710.57	-687710.38	0.0088	0.0043
Neptune	-6596-10-08 11:02 J	-687485.24	-687485.04	-687484.82	0.0088	0.0032
Neptune	-6595-05-22 00:00 J	-687259.70	-687259.50	-687259.27	0.0088	0.0021
Neptune	-6594-01-02 13:26 J	-687034.16	-687033.94	-687033.72	0.0088	0.0009
Neptune	-6594-08-16 02:23 J	-686808.62	-686808.40	-686808.17	0.0088	0.0003

Neptune	-6593-03-28 15:21 J	-686583.07	-686582.86	-686582.64	0.0088	0.0014
Jupiter	-6593-04-15 13:55 J	-686565.11	-686564.92	-686564.73	0.0515	0.0205
Neptune	-6593-11-09 04:19 J	-686357.53	-686357.32	-686357.10	0.0088	0.0025
Neptune	-6592-06-22 17:31 J	-686131.97	-686131.77	-686131.57	0.0088	0.0036
Neptune	-6591-02-03 06:14 J	-685906.41	-685906.24	-685906.03	0.0088	0.0048
Neptune	-6591-09-16 19:26 J	-685680.84	-685680.69	-685680.51	0.0088	0.0060
Neptune	-6590-04-30 08:09 J	-685455.26	-685455.16	-685455.00	0.0088	0.0071
Neptune	-6590-12-11 21:21 J	-685229.67	-685229.61	-685229.51	0.0088	0.0082
Saturn	-6588-09-30 08:09 J	-684571.21	-684571.16	-684571.11	0.0260	0.0250
Jupiter	-6587-02-22 04:33 J	-684426.51	-684426.31	-684426.10	0.0510	0.0048
Saturn	-6587-05-17 04:47 J	-684342.50	-684342.30	-684342.10	0.0260	0.0080
Saturn	-6586-01-01 02:23 J	-684113.60	-684113.40	-684113.20	0.0261	0.0093
Jupiter	-6582-12-20 08:23 J	-682299.24	-682299.15	-682299.06	0.0513	0.0455
Mars	-6581-05-14 06:57 J	-682153.36	-682153.21	-682153.07	0.1636	0.0879
Jupiter	-6581-08-13 19:12 J	-682061.78	-682061.70	-682061.61	0.0519	0.0468
Uranus	-6580-10-29 16:47 J	-681619.92	-681619.80	-681619.65	0.0136	0.0108
Mars	-6579-03-14 10:47 J	-681484.19	-681484.05	-681483.90	0.1626	0.0885
Uranus	-6579-06-13 00:28 J	-681393.67	-681393.48	-681393.28	0.0135	0.0066
Uranus	-6578-01-25 07:55 J	-681167.38	-681167.17	-681166.95	0.0135	0.0024
Mars	-6578-02-21 03:36 J	-681140.43	-681140.35	-681140.27	0.1886	0.1681
Uranus	-6578-09-08 15:07 J	-680941.09	-680940.87	-680940.65	0.0135	0.0017
Uranus	-6577-04-21 21:50 J	-680714.77	-680714.59	-680714.38	0.0135	0.0059
Uranus	-6577-12-04 04:33 J	-680488.44	-680488.31	-680488.14	0.0134	0.0100
Jupiter	-6576-10-28 02:38 J	-680160.58	-680160.39	-680160.21	0.0511	0.0200
Saturn	-6573-11-02 01:26 J	-679059.65	-679059.44	-679059.23	0.0302	0.0043
Saturn	-6572-06-20 06:14 J	-678829.38	-678829.24	-678829.10	0.0301	0.0225
Jupiter	-6569-04-18 13:12 J	-677796.14	-677795.95	-677795.76	0.0517	0.0211
Jupiter	-6564-07-03 00:28 J	-675894.58	-675894.48	-675894.38	0.0513	0.0447
Jupiter	-6563-02-24 14:23 J	-675658.01	-675657.90	-675657.79	0.0507	0.0418
Saturn	-6558-04-12 11:31 J	-673785.12	-673785.02	-673784.92	0.0260	0.0227

Saturn	-6558-11-27 08:23 J	-673556.36	-673556.15	-673555.94	0.0260	0.0056
Jupiter	-6558-12-23 06:28 J	-673530.43	-673530.23	-673530.02	0.0516	0.0048
Saturn	-6557-07-13 06:00 J	-673327.44	-673327.25	-673327.06	0.0261	0.0117
Jupiter	-6552-10-30 13:26 J	-671392.13	-671391.94	-671391.75	0.0509	0.0181
Mars	-6547-03-13 02:38 J	-669797.56	-669797.39	-669797.21	0.1630	0.0072
Jupiter	-6546-08-27 23:45 J	-669264.67	-669264.51	-669264.34	0.0514	0.0305
Mars	-6545-12-18 03:50 J	-668786.51	-668786.34	-668786.16	0.1896	0.0402
Saturn	-6544-09-27 05:02 J	-668503.37	-668503.29	-668503.19	0.0302	0.0275
Saturn	-6543-05-15 11:16 J	-668273.24	-668273.03	-668272.82	0.0302	0.0003
Saturn	-6543-12-31 15:36 J	-668042.94	-668042.85	-668042.74	0.0300	0.0264
Jupiter	-6540-07-05 13:40 J	-667126.13	-667125.93	-667125.73	0.0511	0.0058
Uranus	-6536-10-24 13:12 J	-665554.03	-665553.95	-665553.87	0.0143	0.0131
Uranus	-6535-06-07 22:47 J	-665327.71	-665327.55	-665327.36	0.0143	0.0084
Uranus	-6534-01-20 09:07 J	-665101.33	-665101.12	-665100.91	0.0143	0.0036
Uranus	-6534-09-03 19:26 J	-664874.91	-664874.69	-664874.48	0.0144	0.0013
Jupiter	-6534-12-26 00:43 J	-664761.61	-664761.47	-664761.31	0.0518	0.0355
Uranus	-6533-04-17 05:31 J	-664648.46	-664648.27	-664648.07	0.0144	0.0062
Uranus	-6533-11-29 15:50 J	-664421.96	-664421.84	-664421.69	0.0144	0.0111
Saturn	-6529-10-22 17:16 J	-662998.91	-662998.78	-662998.63	0.0260	0.0197
Jupiter	-6528-03-10 12:57 J	-662860.12	-662859.96	-662859.80	0.0512	0.0302
Saturn	-6528-06-08 14:23 J	-662770.11	-662769.90	-662769.69	0.0261	0.0026
Saturn	-6527-01-23 12:14 J	-662541.16	-662540.99	-662540.81	0.0261	0.0149
Jupiter	-6522-08-30 18:00 J	-660495.95	-660495.75	-660495.55	0.0516	0.0094
Moon	-6518-05-18 08:52 J	-659139.27	-659139.13	-659138.99	0.2635	0.1058
Earth	-6518-05-18 11:45 J	-659139.15	-659139.01	-659138.86	0.2629	0.1065 *
Neptune	-6517-10-24 18:14 J	-658613.77	-658613.74	-658613.68	0.0089	0.0087
Neptune	-6516-06-07 07:26 J	-658388.29	-658388.19	-658388.06	0.0089	0.0076
Jupiter	-6516-07-08 00:43 J	-658357.62	-658357.47	-658357.31	0.0508	0.0321
Neptune	-6515-01-18 20:52 J	-658162.78	-658162.63	-658162.47	0.0089	0.0064
Mars	-6515-03-11 18:57 J	-658110.86	-658110.71	-658110.56	0.1634	0.0785

Neptune	-6515-09-01 09:36 J	-657937.26	-657937.10	-657936.90	0.0089	0.0053
Saturn	-6514-04-09 14:52 J	-657717.00	-657716.88	-657716.73	0.0302	0.0231
Neptune	-6514-04-14 22:47 J	-657711.73	-657711.55	-657711.34	0.0089	0.0040
Saturn	-6514-11-25 20:38 J	-657486.85	-657486.64	-657486.43	0.0301	0.0041
Neptune	-6514-11-26 12:00 J	-657486.20	-657486.00	-657485.79	0.0089	0.0028
Mars	-6513-01-09 23:31 J	-657441.65	-657441.52	-657441.38	0.1624	0.0968
Neptune	-6513-07-09 01:12 J	-657260.66	-657260.45	-657260.23	0.0089	0.0017
Mars	-6513-12-18 06:00 J	-657098.37	-657098.25	-657098.13	0.1889	0.1381
Neptune	-6512-02-19 14:09 J	-657035.12	-657034.91	-657034.69	0.0089	0.0005
Neptune	-6512-10-03 03:07 J	-656809.59	-656809.37	-656809.15	0.0089	0.0007
Neptune	-6511-05-16 15:50 J	-656584.04	-656583.84	-656583.61	0.0089	0.0019
Neptune	-6511-12-28 05:02 J	-656358.49	-656358.29	-656358.08	0.0089	0.0031
Jupiter	-6510-05-05 12:43 J	-656230.17	-656229.97	-656229.78	0.0515	0.0162
Earth	-6510-05-16 03:21 J	-656219.43	-656219.36	-656219.29	0.2628	0.2332
Moon	-6510-05-16 04:33 J	-656219.40	-656219.31	-656219.22	0.2635	0.2122 *
Neptune	-6510-08-10 18:00 J	-656132.94	-656132.75	-656132.55	0.0089	0.0042
Neptune	-6509-03-23 06:43 J	-655907.38	-655907.22	-655907.03	0.0089	0.0054
Neptune	-6509-11-03 19:55 J	-655681.81	-655681.67	-655681.52	0.0089	0.0066
Neptune	-6508-06-17 08:38 J	-655456.23	-655456.14	-655456.02	0.0089	0.0077
Neptune	-6507-01-28 21:21 J	-655230.61	-655230.61	-655230.57	0.0089	0.0089
Jupiter	-6504-03-13 00:00 J	-654091.70	-654091.50	-654091.30	0.0509	0.0080
Saturn	-6499-05-04 21:21 J	-652212.76	-652212.61	-652212.45	0.0260	0.0173
Saturn	-6499-12-19 18:43 J	-651983.93	-651983.72	-651983.51	0.0261	0.0001
Jupiter	-6498-01-08 06:57 J	-651964.33	-651964.21	-651964.09	0.0513	0.0414
Saturn	-6498-08-05 16:33 J	-651754.96	-651754.81	-651754.64	0.0261	0.0174
Jupiter	-6498-09-02 17:45 J	-651726.78	-651726.76	-651726.73	0.0519	0.0514
Uranus	-6496-06-29 03:21 J	-651061.44	-651061.36	-651061.27	0.0136	0.0125
Uranus	-6495-02-10 10:47 J	-650835.21	-650835.05	-650834.86	0.0136	0.0084
Uranus	-6495-09-24 18:28 J	-650608.94	-650608.73	-650608.52	0.0135	0.0041
Uranus	-6494-05-09 01:40 J	-650382.65	-650382.43	-650382.21	0.0135	0.0000

Uranus	-6494-12-21 08:38 J	-650156.35	-650156.14	-650155.93	0.0135	0.0041
Uranus	-6493-08-03 15:07 J	-649930.02	-649929.87	-649929.68	0.0135	0.0083
Jupiter	-6493-11-15 21:50 J	-649825.78	-649825.59	-649825.40	0.0511	0.0167
Uranus	-6492-03-17 22:19 J	-649703.65	-649703.57	-649703.47	0.0134	0.0123
Jupiter	-6486-05-08 09:36 J	-647461.28	-647461.10	-647460.92	0.0517	0.0250
Saturn	-6485-10-20 01:26 J	-646930.60	-646930.44	-646930.27	0.0302	0.0189
Saturn	-6484-06-07 06:57 J	-646700.41	-646700.21	-646700.00	0.0301	0.0083
Mars	-6481-01-08 15:07 J	-645755.04	-645754.87	-645754.70	0.1628	0.0146
Jupiter	-6481-07-21 20:38 J	-645559.75	-645559.64	-645559.52	0.0513	0.0412
Jupiter	-6480-03-15 11:02 J	-645323.12	-645323.04	-645322.95	0.0507	0.0459
Mars	-6479-10-15 05:45 J	-644744.42	-644744.26	-644744.09	0.1899	0.0726
Jupiter	-6474-01-11 00:00 J	-643195.71	-643195.50	-643195.29	0.0515	0.0020
Saturn	-6470-11-15 03:50 J	-641426.51	-641426.34	-641426.15	0.0260	0.0142
Saturn	-6469-07-01 01:26 J	-641197.66	-641197.44	-641197.23	0.0261	0.0031
Jupiter	-6469-11-18 11:16 J	-641057.21	-641057.03	-641056.85	0.0509	0.0222
Saturn	-6468-02-14 23:16 J	-640968.65	-640968.53	-640968.39	0.0262	0.0207
Jupiter	-6463-09-15 17:45 J	-638929.93	-638929.76	-638929.58	0.0514	0.0277
Jupiter	-6457-07-24 09:21 J	-636791.31	-636791.11	-636790.91	0.0510	0.0025
Saturn	-6455-05-02 12:28 J	-636144.16	-636143.98	-636143.79	0.0302	0.0142
Saturn	-6455-12-18 17:31 J	-635913.95	-635913.77	-635913.57	0.0301	0.0128
Uranus	-6451-02-05 08:38 J	-634769.28	-634769.14	-634768.98	0.0143	0.0104
Uranus	-6451-09-19 18:57 J	-634542.91	-634542.71	-634542.51	0.0143	0.0056
Jupiter	-6450-01-13 22:47 J	-634426.68	-634426.55	-634426.42	0.0518	0.0398
Uranus	-6450-05-04 05:02 J	-634316.50	-634316.29	-634316.07	0.0143	0.0007
Uranus	-6450-12-16 15:07 J	-634090.07	-634089.87	-634089.66	0.0144	0.0042
Mars	-6449-01-07 07:40 J	-634068.34	-634068.18	-634068.03	0.1633	0.0699
Pluto	-6449-07-28 11:45 J	-633865.09	-633865.01	-633864.89	0.0065	0.0058
Uranus	-6449-07-30 01:26 J	-633863.59	-633863.44	-633863.26	0.0144	0.0091
Pluto	-6448-03-10 16:04 J	-633640.01	-633639.83	-633639.60	0.0066	0.0023
Uranus	-6448-03-13 11:45 J	-633637.04	-633637.01	-633636.94	0.0144	0.0141

Pluto	-6448-10-21 21:07 J	-633414.84	-633414.62	-633414.41	0.0066	0.0013
Mars	-6448-11-06 12:14 J	-633399.12	-633398.99	-633398.86	0.1623	0.1052
Pluto	-6447-06-04 01:26 J	-633189.57	-633189.44	-633189.29	0.0066	0.0050
Mars	-6447-10-15 09:07 J	-633056.26	-633056.12	-633055.97	0.1891	0.1090
Jupiter	-6445-03-29 07:26 J	-632525.36	-632525.19	-632525.02	0.0512	0.0273
Saturn	-6440-05-27 08:09 J	-630640.34	-630640.16	-630639.96	0.0260	0.0117
Saturn	-6439-01-11 05:45 J	-630411.46	-630411.26	-630411.05	0.0261	0.0057
Saturn	-6439-08-28 04:04 J	-630182.42	-630182.33	-630182.23	0.0262	0.0232
Jupiter	-6439-09-18 15:50 J	-630161.04	-630160.84	-630160.64	0.0516	0.0137
Neptune	-6434-07-22 15:50 J	-628392.88	-628392.84	-628392.75	0.0088	0.0084
Neptune	-6433-03-04 05:16 J	-628167.40	-628167.28	-628167.15	0.0088	0.0072
Jupiter	-6433-07-26 19:26 J	-628022.83	-628022.69	-628022.55	0.0508	0.0354
Neptune	-6433-10-15 17:45 J	-627941.90	-627941.76	-627941.59	0.0088	0.0061
Neptune	-6432-05-29 06:43 J	-627716.39	-627716.22	-627716.02	0.0088	0.0050
Neptune	-6431-01-09 20:09 J	-627490.86	-627490.66	-627490.46	0.0088	0.0038
Neptune	-6431-08-23 08:52 J	-627265.33	-627265.13	-627264.91	0.0088	0.0027
Neptune	-6430-04-05 22:04 J	-627039.80	-627039.58	-627039.36	0.0088	0.0015
Neptune	-6430-11-17 11:02 J	-626814.26	-626814.04	-626813.82	0.0088	0.0004
Neptune	-6429-06-30 00:00 J	-626588.72	-626588.50	-626588.28	0.0088	0.0008
Neptune	-6428-02-10 12:57 J	-626363.17	-626362.96	-626362.74	0.0088	0.0019
Neptune	-6428-09-24 01:55 J	-626137.62	-626137.42	-626137.20	0.0088	0.0031
Neptune	-6427-05-07 14:52 J	-625912.06	-625911.88	-625911.67	0.0088	0.0042
Jupiter	-6427-05-24 08:38 J	-625895.34	-625895.14	-625894.94	0.0515	0.0126
Neptune	-6427-12-19 03:50 J	-625686.50	-625686.34	-625686.15	0.0088	0.0054
Neptune	-6426-08-01 17:02 J	-625460.92	-625460.79	-625460.63	0.0088	0.0065
Saturn	-6426-11-12 23:16 J	-625357.73	-625357.53	-625357.33	0.0302	0.0099
Neptune	-6425-03-14 05:45 J	-625235.34	-625235.26	-625235.13	0.0088	0.0077
Saturn	-6425-06-30 04:19 J	-625127.49	-625127.32	-625127.14	0.0301	0.0171
Jupiter	-6421-03-31 19:26 J	-623756.89	-623756.69	-623756.49	0.0510	0.0115
Mars	-6417-01-06 00:14 J	-622381.54	-622381.49	-622381.44	0.1638	0.1550

Mars	-6416-11-05 04:04 J	-621712.50	-621712.33	-621712.16	0.1627	0.0229
Jupiter	-6415-01-27 00:28 J	-621629.61	-621629.48	-621629.35	0.0513	0.0388
Mars	-6413-08-11 07:55 J	-620702.32	-620702.17	-620702.03	0.1900	0.1048
Uranus	-6412-10-10 21:50 J	-620276.72	-620276.59	-620276.43	0.0136	0.0101
Saturn	-6411-04-22 18:00 J	-620082.77	-620082.75	-620082.71	0.0260	0.0257
Uranus	-6411-05-25 05:16 J	-620050.46	-620050.28	-620050.07	0.0135	0.0059
Saturn	-6411-12-07 15:07 J	-619854.07	-619853.87	-619853.67	0.0261	0.0086
Uranus	-6410-01-06 12:43 J	-619824.18	-619823.97	-619823.75	0.0135	0.0017
Saturn	-6410-07-24 12:43 J	-619625.17	-619624.97	-619624.77	0.0261	0.0089
Uranus	-6410-08-20 19:55 J	-619597.89	-619597.67	-619597.45	0.0135	0.0025
Jupiter	-6410-12-05 18:28 J	-619490.92	-619490.73	-619490.53	0.0512	0.0131
Uranus	-6409-04-03 02:52 J	-619371.57	-619371.38	-619371.19	0.0135	0.0066
Uranus	-6409-11-15 09:21 J	-619145.23	-619145.11	-619144.96	0.0134	0.0107
Jupiter	-6403-05-27 03:07 J	-617126.54	-617126.37	-617126.20	0.0517	0.0279
Jupiter	-6398-08-10 15:50 J	-615224.97	-615224.84	-615224.70	0.0513	0.0382
Jupiter	-6397-04-03 05:45 J	-614988.30	-614988.26	-614988.21	0.0507	0.0490
Saturn	-6396-05-25 10:47 J	-614571.25	-614571.05	-614570.84	0.0302	0.0053
Saturn	-6395-01-10 15:36 J	-614340.99	-614340.85	-614340.70	0.0300	0.0216
Jupiter	-6391-01-29 21:07 J	-612860.83	-612860.62	-612860.42	0.0516	0.0020
Jupiter	-6386-12-08 05:16 J	-610722.45	-610722.28	-610722.10	0.0508	0.0251
Mars	-6384-11-03 20:09 J	-610025.82	-610025.66	-610025.50	0.1631	0.0611
Mars	-6382-09-04 00:57 J	-609356.58	-609356.46	-609356.34	0.1622	0.1134
Saturn	-6382-11-02 22:33 J	-609296.65	-609296.56	-609296.46	0.0260	0.0232
Saturn	-6381-06-18 19:26 J	-609067.89	-609067.69	-609067.48	0.0260	0.0061
Mars	-6381-08-11 11:02 J	-609014.20	-609014.04	-609013.88	0.1894	0.0775
Saturn	-6380-02-02 17:02 J	-608838.97	-608838.79	-608838.59	0.0261	0.0114
Jupiter	-6380-10-04 15:07 J	-608595.05	-608594.87	-608594.68	0.0514	0.0238
Jupiter	-6374-08-13 03:36 J	-606456.55	-606456.35	-606456.15	0.0510	0.0007
Earth	-6373-11-14 11:45 J	-605997.03	-605997.01	-605996.98	0.2704	0.2658
Jupiter	-6368-06-09 09:07 J	-604329.17	-604329.12	-604329.06	0.0512	0.0491

Uranus	-6368-10-05 17:16 J	-604210.88	-604210.78	-604210.68	0.0143	0.0125
Jupiter	-6367-02-01 18:43 J	-604091.83	-604091.72	-604091.61	0.0518	0.0436
Saturn	-6367-04-19 14:52 J	-604014.95	-604014.88	-604014.81	0.0302	0.0283
Uranus	-6367-05-20 03:07 J	-603984.55	-603984.37	-603984.19	0.0143	0.0077
Saturn	-6367-12-05 20:52 J	-603784.84	-603784.63	-603784.42	0.0302	0.0012
Uranus	-6366-01-01 13:12 J	-603758.16	-603757.95	-603757.74	0.0143	0.0029
Saturn	-6366-07-24 01:12 J	-603554.54	-603554.45	-603554.33	0.0300	0.0258
Uranus	-6366-08-15 23:31 J	-603531.73	-603531.52	-603531.30	0.0144	0.0020
Uranus	-6365-03-29 09:36 J	-603305.27	-603305.10	-603304.90	0.0144	0.0069
Uranus	-6365-11-10 20:09 J	-603078.77	-603078.66	-603078.53	0.0144	0.0118
Earth	-6365-11-12 02:23 J	-603077.54	-603077.40	-603077.25	0.2705	0.1074
Moon	-6365-11-12 03:50 J	-603077.49	-603077.34	-603077.19	0.2699	0.1189 *
Jupiter	-6362-04-18 02:09 J	-602190.58	-602190.41	-602190.23	0.0512	0.0241
Pluto	-6361-03-28 05:31 J	-601845.40	-601845.27	-601845.09	0.0079	0.0056
Pluto	-6361-11-08 16:19 J	-601620.04	-601619.82	-601619.60	0.0079	0.0008
Pluto	-6360-06-22 02:23 J	-601394.49	-601394.40	-601394.30	0.0078	0.0070
Jupiter	-6356-10-07 09:21 J	-599826.30	-599826.11	-599825.91	0.0516	0.0165
Saturn	-6352-05-15 04:47 J	-598510.43	-598510.30	-598510.16	0.0260	0.0202
Neptune	-6352-09-08 16:04 J	-598393.90	-598393.83	-598393.73	0.0089	0.0083
Mars	-6352-11-02 12:28 J	-598339.06	-598338.98	-598338.91	0.1636	0.1457
Saturn	-6352-12-30 01:55 J	-598281.63	-598281.42	-598281.20	0.0261	0.0030
Neptune	-6351-04-22 05:16 J	-598168.40	-598168.28	-598168.14	0.0089	0.0071
Saturn	-6351-08-15 23:31 J	-598052.69	-598052.52	-598052.33	0.0262	0.0146
Neptune	-6351-12-03 18:28 J	-597942.89	-597942.73	-597942.56	0.0089	0.0059
Jupiter	-6351-12-22 00:14 J	-597924.54	-597924.49	-597924.43	0.0514	0.0491
Neptune	-6350-07-17 07:55 J	-597717.36	-597717.17	-597716.99	0.0089	0.0047
Jupiter	-6350-08-15 16:04 J	-597687.96	-597687.83	-597687.71	0.0508	0.0392
Mars	-6350-09-02 16:19 J	-597669.98	-597669.82	-597669.65	0.1626	0.0317
Neptune	-6349-02-27 20:38 J	-597491.83	-597491.64	-597491.43	0.0089	0.0035
Neptune	-6349-10-10 09:36 J	-597266.30	-597266.10	-597265.87	0.0089	0.0024

Neptune	-6348-05-23 22:47 J	-597040.76	-597040.55	-597040.33	0.0089	0.0011
Neptune	-6347-01-04 12:00 J	-596815.22	-596815.00	-596814.78	0.0089	0.0001
Mars	-6347-06-08 09:21 J	-596660.23	-596660.11	-596659.99	0.1902	0.1386
Neptune	-6347-08-18 00:57 J	-596589.67	-596589.46	-596589.24	0.0089	0.0013
Neptune	-6346-03-31 13:55 J	-596364.13	-596363.92	-596363.71	0.0089	0.0025
Neptune	-6346-11-12 02:52 J	-596138.58	-596138.38	-596138.18	0.0089	0.0037
Neptune	-6345-06-24 15:36 J	-595913.02	-595912.85	-595912.65	0.0089	0.0049
Neptune	-6344-02-05 04:33 J	-595687.46	-595687.31	-595687.14	0.0089	0.0060
Jupiter	-6344-06-12 02:38 J	-595560.59	-595560.39	-595560.19	0.0515	0.0096
Neptune	-6344-09-18 17:16 J	-595461.89	-595461.78	-595461.63	0.0089	0.0072
Neptune	-6343-05-02 06:28 J	-595236.30	-595236.23	-595236.15	0.0089	0.0084
Jupiter	-6338-04-20 14:23 J	-593422.09	-593421.90	-593421.71	0.0509	0.0147
Saturn	-6338-10-31 02:23 J	-593228.52	-593228.40	-593228.27	0.0302	0.0237
Saturn	-6337-06-17 08:23 J	-592998.36	-592998.15	-592997.94	0.0301	0.0035
Jupiter	-6332-02-14 20:52 J	-591294.77	-591294.63	-591294.47	0.0513	0.0353
Uranus	-6328-06-10 09:36 J	-589718.19	-589718.10	-589717.97	0.0136	0.0117
Uranus	-6327-01-22 17:16 J	-589491.95	-589491.78	-589491.58	0.0136	0.0075
Uranus	-6327-09-06 00:43 J	-589265.68	-589265.47	-589265.25	0.0135	0.0033
Jupiter	-6327-12-24 13:26 J	-589156.14	-589155.94	-589155.75	0.0511	0.0099
Uranus	-6326-04-20 07:55 J	-589039.39	-589039.17	-589038.95	0.0135	0.0009
Uranus	-6326-12-02 14:52 J	-588813.08	-588812.88	-588812.68	0.0135	0.0050
Uranus	-6325-07-15 21:36 J	-588586.75	-588586.60	-588586.43	0.0135	0.0091
Uranus	-6324-02-27 04:19 J	-588360.35	-588360.32	-588360.26	0.0134	0.0132
Saturn	-6323-11-25 09:07 J	-587724.27	-587724.12	-587723.96	0.0260	0.0178
Saturn	-6322-07-12 06:14 J	-587495.45	-587495.24	-587495.03	0.0260	0.0005
Saturn	-6321-02-26 03:50 J	-587266.50	-587266.34	-587266.17	0.0261	0.0170
Jupiter	-6320-06-15 00:57 J	-586791.62	-586791.46	-586791.30	0.0518	0.0323
Mars	-6318-09-01 08:23 J	-585983.31	-585983.15	-585982.99	0.1630	0.0519
Mars	-6316-07-01 13:12 J	-585314.06	-585313.95	-585313.83	0.1621	0.1223
Mars	-6315-06-08 13:26 J	-584972.11	-584971.94	-584971.77	0.1896	0.0466

Jupiter	-6315-08-29 10:33 J	-584890.20	-584890.06	-584889.91	0.0513	0.0350
Jupiter	-6308-02-17 18:00 J	-582525.95	-582525.75	-582525.55	0.0516	0.0059
Saturn	-6308-05-12 11:16 J	-582442.18	-582442.03	-582441.87	0.0302	0.0198
Saturn	-6308-12-28 17:02 J	-582211.99	-582211.79	-582211.58	0.0302	0.0075
Jupiter	-6303-12-27 00:43 J	-580387.64	-580387.47	-580387.31	0.0509	0.0287
Jupiter	-6297-10-23 10:04 J	-578260.26	-578260.08	-578259.89	0.0514	0.0206
Saturn	-6293-06-06 14:52 J	-576938.05	-576937.88	-576937.70	0.0260	0.0148
Saturn	-6292-01-21 12:00 J	-576709.21	-576709.00	-576708.78	0.0261	0.0025
Saturn	-6292-09-07 09:50 J	-576480.22	-576480.09	-576479.95	0.0262	0.0201
Jupiter	-6291-09-01 00:14 J	-576121.69	-576121.49	-576121.29	0.0511	0.0043
Mars	-6286-08-31 00:43 J	-574296.56	-574296.47	-574296.38	0.1634	0.1367
Jupiter	-6285-06-28 04:19 J	-573994.41	-573994.32	-573994.23	0.0512	0.0460
Jupiter	-6284-02-20 13:40 J	-573757.01	-573756.93	-573756.84	0.0518	0.0470
Mars	-6284-06-30 05:02 J	-573627.46	-573627.29	-573627.12	0.1624	0.0400
Uranus	-6283-01-17 11:31 J	-573426.17	-573426.02	-573425.87	0.0143	0.0099
Uranus	-6283-08-31 21:36 J	-573199.80	-573199.60	-573199.40	0.0143	0.0051
Uranus	-6282-04-15 07:40 J	-572973.39	-572973.18	-572972.96	0.0143	0.0004
Uranus	-6282-11-27 17:45 J	-572746.95	-572746.76	-572746.54	0.0144	0.0047
Mars	-6281-04-04 11:31 J	-572618.10	-572618.02	-572617.94	0.1904	0.1708
Uranus	-6281-07-11 04:19 J	-572520.47	-572520.32	-572520.15	0.0144	0.0096
Jupiter	-6279-05-06 22:19 J	-571855.76	-571855.57	-571855.39	0.0512	0.0206
Saturn	-6279-11-22 22:04 J	-571655.76	-571655.58	-571655.40	0.0302	0.0154
Saturn	-6278-07-11 03:36 J	-571425.54	-571425.35	-571425.15	0.0301	0.0118
Earth	-6275-05-18 13:40 J	-570383.07	-570382.93	-570382.79	0.2628	0.1216
Moon	-6275-05-18 18:28 J	-570382.87	-570382.73	-570382.59	0.2625	0.1352 *
Jupiter	-6273-10-26 06:57 J	-569491.40	-569491.21	-569491.02	0.0517	0.0208
Neptune	-6269-06-05 13:26 J	-568173.03	-568172.94	-568172.85	0.0088	0.0079
Neptune	-6268-01-17 02:09 J	-567947.53	-567947.41	-567947.26	0.0088	0.0068
Neptune	-6268-08-30 14:52 J	-567722.03	-567721.88	-567721.69	0.0088	0.0057
Jupiter	-6267-01-09 20:38 J	-567589.73	-567589.64	-567589.54	0.0513	0.0454

Neptune	-6267-04-13 04:04 J	-567496.51	-567496.33	-567496.13	0.0088	0.0045
Earth	-6267-05-16 05:45 J	-567463.35	-567463.26	-567463.17	0.2627	0.2141
Moon	-6267-05-16 06:43 J	-567463.34	-567463.22	-567463.11	0.2621	0.1874 *
Jupiter	-6267-09-03 11:31 J	-567353.13	-567353.02	-567352.91	0.0508	0.0426
Neptune	-6267-11-24 16:47 J	-567270.99	-567270.80	-567270.58	0.0088	0.0034
Neptune	-6266-07-08 05:45 J	-567045.46	-567045.26	-567045.03	0.0088	0.0022
Neptune	-6265-02-18 18:57 J	-566819.93	-566819.71	-566819.49	0.0088	0.0010
Neptune	-6265-10-01 07:55 J	-566594.39	-566594.17	-566593.95	0.0088	0.0001
Neptune	-6264-05-14 20:52 J	-566368.85	-566368.63	-566368.41	0.0088	0.0013
Saturn	-6264-12-17 18:43 J	-566151.90	-566151.72	-566151.53	0.0260	0.0125
Neptune	-6264-12-26 10:04 J	-566143.29	-566143.08	-566142.87	0.0088	0.0024
Saturn	-6263-08-03 15:50 J	-565923.05	-565922.84	-565922.63	0.0260	0.0048
Neptune	-6263-08-08 22:47 J	-565917.74	-565917.55	-565917.33	0.0088	0.0036
Saturn	-6262-03-20 13:26 J	-565694.04	-565693.94	-565693.82	0.0261	0.0224
Neptune	-6262-03-22 11:45 J	-565692.18	-565692.01	-565691.81	0.0088	0.0048
Neptune	-6262-11-03 00:57 J	-565466.61	-565466.46	-565466.29	0.0088	0.0059
Neptune	-6261-06-15 13:40 J	-565241.04	-565240.93	-565240.78	0.0088	0.0071
Jupiter	-6261-07-01 00:57 J	-565225.66	-565225.46	-565225.25	0.0515	0.0052
Neptune	-6260-01-27 03:21 J	-565015.43	-565015.36	-565015.28	0.0088	0.0082
Jupiter	-6255-05-09 10:19 J	-563087.26	-563087.07	-563086.88	0.0509	0.0184
Mars	-6252-06-28 20:52 J	-561940.79	-561940.63	-561940.46	0.1628	0.0431
Mars	-6250-04-29 02:23 J	-561271.50	-561271.40	-561271.30	0.1620	0.1302
Jupiter	-6249-03-05 19:12 J	-560959.86	-560959.70	-560959.53	0.0513	0.0310
Mars	-6249-04-04 15:21 J	-560930.04	-560929.86	-560929.68	0.1898	0.0143
Saturn	-6249-06-04 04:47 J	-560869.49	-560869.30	-560869.10	0.0303	0.0118
Saturn	-6248-01-20 10:19 J	-560639.24	-560639.07	-560638.88	0.0301	0.0155
Uranus	-6244-02-07 21:21 J	-559159.64	-559159.61	-559159.56	0.0136	0.0133
Uranus	-6244-09-22 04:47 J	-558933.45	-558933.30	-558933.12	0.0136	0.0092
Jupiter	-6243-01-12 09:21 J	-558821.31	-558821.11	-558820.91	0.0511	0.0062
Uranus	-6243-05-06 12:14 J	-558707.19	-558706.99	-558706.78	0.0135	0.0049

Uranus	-6243-12-18 19:26 J	-558480.91	-558480.69	-558480.47	0.0135	0.0008
Uranus	-6242-08-02 02:23 J	-558254.61	-558254.40	-558254.18	0.0135	0.0034
Uranus	-6241-03-15 09:36 J	-558028.28	-558028.10	-558027.92	0.0135	0.0075
Uranus	-6241-10-27 16:19 J	-557801.92	-557801.82	-557801.70	0.0134	0.0116
Jupiter	-6237-07-03 21:21 J	-556456.76	-556456.61	-556456.46	0.0517	0.0361
Saturn	-6234-06-29 23:31 J	-555365.71	-555365.52	-555365.32	0.0260	0.0098
Saturn	-6233-02-13 20:38 J	-555136.84	-555136.64	-555136.43	0.0261	0.0077
Saturn	-6233-09-29 18:28 J	-554907.78	-554907.73	-554907.67	0.0262	0.0252
Jupiter	-6232-09-17 07:55 J	-554555.33	-554555.17	-554555.01	0.0513	0.0312
Jupiter	-6225-03-08 14:38 J	-552191.09	-552190.89	-552190.69	0.0516	0.0098
Mars	-6220-06-27 12:57 J	-550254.07	-550253.96	-550253.86	0.1633	0.1274
Saturn	-6220-12-15 14:23 J	-550083.10	-550082.90	-550082.70	0.0302	0.0078
Jupiter	-6219-01-14 21:36 J	-550052.75	-550052.60	-550052.44	0.0508	0.0327
Saturn	-6219-08-02 19:40 J	-549852.83	-549852.68	-549852.51	0.0301	0.0194
Mars	-6218-04-27 17:45 J	-549584.92	-549584.76	-549584.59	0.1623	0.0486
Jupiter	-6214-11-12 07:55 J	-547925.36	-547925.17	-547924.97	0.0515	0.0164
Jupiter	-6208-09-19 21:50 J	-545786.79	-545786.59	-545786.39	0.0510	0.0085
Saturn	-6205-05-25 06:14 J	-544808.29	-544808.24	-544808.16	0.0259	0.0246
Saturn	-6204-01-09 02:52 J	-544579.58	-544579.38	-544579.17	0.0260	0.0075
Saturn	-6204-08-26 00:00 J	-544350.70	-544350.50	-544350.30	0.0260	0.0099
Pluto	-6203-08-27 00:14 J	-543984.62	-543984.49	-543984.33	0.0066	0.0050
Pluto	-6202-04-09 05:02 J	-543759.51	-543759.29	-543759.08	0.0066	0.0014
Jupiter	-6202-07-18 03:21 J	-543659.48	-543659.36	-543659.24	0.0513	0.0416
Pluto	-6202-11-20 09:07 J	-543534.31	-543534.12	-543533.90	0.0066	0.0022
Pluto	-6201-07-02 13:26 J	-543309.02	-543308.94	-543308.81	0.0066	0.0059
Uranus	-6200-09-16 18:00 J	-542867.85	-542867.75	-542867.63	0.0143	0.0123
Uranus	-6199-05-01 03:50 J	-542641.51	-542641.34	-542641.15	0.0143	0.0075
Uranus	-6199-12-13 13:55 J	-542415.12	-542414.92	-542414.70	0.0143	0.0027
Uranus	-6198-07-28 00:14 J	-542188.70	-542188.49	-542188.27	0.0144	0.0022
Uranus	-6197-03-10 10:47 J	-541962.24	-541962.05	-541961.87	0.0144	0.0071

Uranus	-6197-10-22 21:21 J	-541735.73	-541735.61	-541735.50	0.0144	0.0121
Jupiter	-6196-05-25 19:55 J	-541520.86	-541520.67	-541520.48	0.0511	0.0164
Saturn	-6190-06-27 19:26 J	-539296.90	-539296.69	-539296.48	0.0302	0.0045
Jupiter	-6190-11-15 06:43 J	-539156.39	-539156.22	-539156.04	0.0517	0.0259
Saturn	-6189-02-13 00:43 J	-539066.60	-539066.47	-539066.33	0.0301	0.0227
Neptune	-6187-07-24 13:40 J	-538174.03	-538173.93	-538173.82	0.0089	0.0078
Neptune	-6186-03-07 02:52 J	-537948.53	-537948.38	-537948.23	0.0089	0.0066
Mars	-6186-04-26 09:21 J	-537898.28	-537898.11	-537897.94	0.1627	0.0340
Neptune	-6186-10-18 15:50 J	-537723.01	-537722.84	-537722.66	0.0089	0.0054
Neptune	-6185-05-31 05:02 J	-537497.48	-537497.29	-537497.09	0.0089	0.0042
Neptune	-6184-01-11 18:14 J	-537271.95	-537271.74	-537271.53	0.0089	0.0030
Jupiter	-6184-01-28 18:00 J	-537254.86	-537254.75	-537254.63	0.0513	0.0415
Mars	-6184-02-23 14:52 J	-537228.96	-537228.88	-537228.79	0.1619	0.1387
Neptune	-6184-08-25 07:26 J	-537046.41	-537046.19	-537045.98	0.0089	0.0018
Jupiter	-6184-09-22 09:07 J	-537018.20	-537018.12	-537018.05	0.0508	0.0469
Mars	-6183-01-30 17:16 J	-536887.96	-536887.78	-536887.61	0.1901	0.0187
Neptune	-6183-04-07 20:23 J	-536820.87	-536820.65	-536820.43	0.0089	0.0006
Neptune	-6183-11-19 09:21 J	-536595.32	-536595.11	-536594.89	0.0089	0.0007
Neptune	-6182-07-02 22:33 J	-536369.77	-536369.56	-536369.34	0.0089	0.0018
Neptune	-6181-02-13 11:31 J	-536144.22	-536144.02	-536143.81	0.0089	0.0030
Neptune	-6181-09-26 00:14 J	-535918.67	-535918.49	-535918.29	0.0089	0.0043
Neptune	-6180-05-09 13:12 J	-535693.11	-535692.95	-535692.77	0.0089	0.0055
Neptune	-6180-12-21 01:55 J	-535467.54	-535467.42	-535467.26	0.0089	0.0067
Neptune	-6179-08-03 14:52 J	-535241.96	-535241.88	-535241.75	0.0089	0.0079
Jupiter	-6178-07-20 23:31 J	-534890.73	-534890.52	-534890.32	0.0515	0.0010
Saturn	-6176-12-05 10:19 J	-534022.18	-534022.07	-534021.96	0.0259	0.0221
Saturn	-6175-07-22 06:43 J	-533793.43	-533793.22	-533793.01	0.0260	0.0049
Saturn	-6174-03-08 03:36 J	-533564.53	-533564.35	-533564.16	0.0261	0.0125
Jupiter	-6172-05-28 08:52 J	-532752.30	-532752.13	-532751.94	0.0510	0.0230
Jupiter	-6166-03-25 17:31 J	-530624.94	-530624.77	-530624.59	0.0513	0.0267

Saturn	-6161-05-21 20:09 J	-528740.72	-528740.66	-528740.59	0.0303	0.0285
Saturn	-6160-01-07 02:52 J	-528510.59	-528510.38	-528510.17	0.0302	0.0011
Jupiter	-6160-01-31 08:23 J	-528486.35	-528486.15	-528485.95	0.0511	0.0018
Uranus	-6160-05-22 15:21 J	-528374.98	-528374.86	-528374.72	0.0136	0.0109
Saturn	-6160-08-25 08:09 J	-528280.26	-528280.16	-528280.06	0.0301	0.0261
Uranus	-6159-01-03 22:47 J	-528148.73	-528148.55	-528148.35	0.0136	0.0067
Uranus	-6159-08-18 06:14 J	-527922.45	-527922.24	-527922.02	0.0135	0.0025
Uranus	-6158-04-01 13:26 J	-527696.15	-527695.94	-527695.71	0.0135	0.0018
Uranus	-6158-11-13 20:23 J	-527469.84	-527469.65	-527469.44	0.0135	0.0059
Uranus	-6157-06-27 03:21 J	-527243.50	-527243.36	-527243.20	0.0135	0.0100
Mars	-6154-04-25 01:40 J	-526211.55	-526211.43	-526211.32	0.1631	0.1187
Jupiter	-6154-07-23 20:38 J	-526121.76	-526121.64	-526121.51	0.0518	0.0412
Mars	-6152-02-22 06:28 J	-525542.39	-525542.23	-525542.07	0.1622	0.0572
Mars	-6151-01-30 19:55 J	-525199.76	-525199.67	-525199.58	0.1894	0.1631
Jupiter	-6149-10-06 07:55 J	-524220.34	-524220.17	-524219.99	0.0512	0.0262
Saturn	-6146-06-17 12:43 J	-523236.09	-523235.97	-523235.82	0.0259	0.0199
Saturn	-6145-02-01 09:21 J	-523007.32	-523007.11	-523006.90	0.0259	0.0028
Saturn	-6145-09-17 06:00 J	-522778.41	-522778.25	-522778.06	0.0260	0.0147
Jupiter	-6142-03-28 15:07 J	-521856.07	-521855.87	-521855.67	0.0517	0.0152
Jupiter	-6136-02-02 20:52 J	-519717.77	-519717.63	-519717.50	0.0508	0.0374
Saturn	-6132-12-01 23:31 J	-517954.63	-517954.52	-517954.41	0.0303	0.0256
Saturn	-6131-07-20 06:14 J	-517724.45	-517724.24	-517724.03	0.0303	0.0021
Jupiter	-6131-12-01 09:36 J	-517590.30	-517590.10	-517589.90	0.0515	0.0109
Saturn	-6130-03-07 11:16 J	-517494.08	-517494.03	-517493.97	0.0301	0.0291
Moon	-6130-11-15 06:28 J	-517241.31	-517241.23	-517241.15	0.2706	0.2287
Earth	-6130-11-15 12:14 J	-517241.04	-517240.99	-517240.94	0.2705	0.2556
Jupiter	-6125-10-08 20:38 J	-515451.83	-515451.64	-515451.44	0.0510	0.0132
Moon	-6122-11-12 23:31 J	-514321.65	-514321.52	-514321.40	0.2712	0.1493
Earth	-6122-11-13 02:38 J	-514321.53	-514321.39	-514321.24	0.2706	0.1196 *
Mars	-6120-02-20 22:04 J	-513855.75	-513855.58	-513855.41	0.1626	0.0256

Jupiter	-6119-08-06 03:50 J	-513324.48	-513324.34	-513324.20	0.0513	0.0367
Mars	-6119-12-22 04:04 J	-513186.40	-513186.33	-513186.26	0.1618	0.1466
Mars	-6118-11-27 19:11 J	-512845.87	-512845.70	-512845.53	0.1902	0.0508
Saturn	-6117-12-27 15:21 J	-512450.00	-512449.86	-512449.69	0.0259	0.0177
Saturn	-6116-08-13 12:00 J	-512221.22	-512221.00	-512220.79	0.0260	0.0006
Uranus	-6116-12-29 12:28 J	-512083.14	-512082.98	-512082.82	0.0143	0.0096
Saturn	-6115-03-30 08:52 J	-511992.29	-511992.13	-511991.97	0.0261	0.0170
Pluto	-6115-04-26 20:23 J	-511964.84	-511964.65	-511964.45	0.0079	0.0038
Uranus	-6115-08-12 22:19 J	-511856.77	-511856.57	-511856.36	0.0143	0.0048
Pluto	-6115-12-08 06:43 J	-511739.43	-511739.22	-511739.00	0.0078	0.0025
Uranus	-6114-03-27 08:38 J	-511630.36	-511630.14	-511629.93	0.0143	0.0002
Uranus	-6114-11-08 18:28 J	-511403.92	-511403.73	-511403.51	0.0144	0.0050
Jupiter	-6113-06-13 19:40 J	-511185.87	-511185.68	-511185.48	0.0512	0.0116
Uranus	-6113-06-22 04:48 J	-511177.44	-511177.30	-511177.13	0.0144	0.0099
Jupiter	-6107-12-04 06:43 J	-508821.38	-508821.22	-508821.06	0.0517	0.0309
Neptune	-6105-09-06 21:07 J	-508178.63	-508178.62	-508178.56	0.0088	0.0087
Neptune	-6104-04-20 10:04 J	-507953.17	-507953.08	-507952.95	0.0088	0.0075
Neptune	-6104-12-01 22:48 J	-507727.68	-507727.55	-507727.37	0.0088	0.0064
Neptune	-6103-07-15 12:00 J	-507502.17	-507502.00	-507501.81	0.0088	0.0052
Neptune	-6102-02-26 00:57 J	-507276.65	-507276.46	-507276.26	0.0088	0.0040
Saturn	-6102-06-14 05:45 J	-507168.40	-507168.26	-507168.11	0.0303	0.0223
Neptune	-6102-10-09 13:40 J	-507051.13	-507050.93	-507050.71	0.0088	0.0029
Saturn	-6101-01-30 12:14 J	-506938.19	-506937.99	-506937.78	0.0302	0.0053
Jupiter	-6101-02-17 18:57 J	-506919.85	-506919.71	-506919.57	0.0513	0.0363
Neptune	-6101-05-22 02:38 J	-506825.60	-506825.39	-506825.16	0.0088	0.0017
Neptune	-6100-01-02 15:50 J	-506600.06	-506599.84	-506599.62	0.0088	0.0005
Neptune	-6100-08-16 04:48 J	-506374.52	-506374.30	-506374.08	0.0088	0.0006
Neptune	-6099-03-29 17:31 J	-506148.98	-506148.77	-506148.54	0.0088	0.0018
Neptune	-6099-11-10 06:14 J	-505923.43	-505923.24	-505923.01	0.0088	0.0030
Neptune	-6098-06-23 19:26 J	-505697.88	-505697.69	-505697.49	0.0088	0.0041

Neptune	-6097-02-04 08:23 J	-505472.31	-505472.15	-505471.96	0.0088	0.0053
Neptune	-6097-09-16 21:21 J	-505246.74	-505246.61	-505246.44	0.0088	0.0065
Neptune	-6096-04-30 10:33 J	-505021.16	-505021.06	-505020.94	0.0088	0.0076
Neptune	-6096-12-11 23:45 J	-504795.51	-504795.51	-504795.49	0.0088	0.0088
Jupiter	-6095-08-08 23:16 J	-504555.74	-504555.53	-504555.33	0.0516	0.0043
Jupiter	-6089-06-16 10:19 J	-502417.24	-502417.07	-502416.90	0.0509	0.0284
Mars	-6088-02-19 13:55 J	-502169.04	-502168.92	-502168.79	0.1630	0.1097
Saturn	-6087-07-09 17:45 J	-501663.93	-501663.76	-501663.59	0.0259	0.0155
Mars	-6087-12-20 19:11 J	-501499.85	-501499.70	-501499.54	0.1621	0.0656
Saturn	-6086-02-23 14:09 J	-501435.13	-501434.91	-501434.70	0.0259	0.0017
Saturn	-6086-10-10 10:48 J	-501206.19	-501206.05	-501205.90	0.0260	0.0190
Mars	-6086-11-27 22:19 J	-501157.70	-501157.57	-501157.45	0.1896	0.1320
Jupiter	-6083-04-13 18:28 J	-500289.91	-500289.73	-500289.54	0.0514	0.0214
Jupiter	-6077-02-20 09:21 J	-498151.31	-498151.11	-498150.91	0.0510	0.0037
Uranus	-6076-01-20 00:57 J	-497816.52	-497816.46	-497816.37	0.0136	0.0127
Uranus	-6076-09-03 08:23 J	-497590.30	-497590.15	-497589.96	0.0136	0.0085
Uranus	-6075-04-17 16:04 J	-497364.03	-497363.83	-497363.61	0.0136	0.0043
Uranus	-6075-11-29 23:31 J	-497137.74	-497137.52	-497137.30	0.0135	0.0001
Uranus	-6074-07-14 06:43 J	-496911.43	-496911.22	-496911.01	0.0135	0.0041
Uranus	-6073-02-25 13:40 J	-496685.09	-496684.93	-496684.74	0.0135	0.0083
Uranus	-6073-10-08 20:38 J	-496458.71	-496458.64	-496458.54	0.0135	0.0124
Saturn	-6073-12-24 06:43 J	-496382.37	-496382.22	-496382.05	0.0303	0.0198
Saturn	-6072-08-11 13:26 J	-496152.14	-496151.94	-496151.74	0.0302	0.0078
Jupiter	-6072-12-17 14:23 J	-496023.98	-496023.90	-496023.81	0.0512	0.0466
Jupiter	-6071-08-12 00:00 J	-495786.58	-495786.50	-495786.42	0.0518	0.0474
Jupiter	-6066-10-26 08:09 J	-493885.34	-493885.16	-493884.97	0.0512	0.0212
Jupiter	-6059-04-16 17:02 J	-491520.98	-491520.79	-491520.60	0.0516	0.0208
Saturn	-6057-01-19 19:11 J	-490877.88	-490877.70	-490877.51	0.0259	0.0134
Saturn	-6057-09-04 15:36 J	-490649.06	-490648.85	-490648.64	0.0260	0.0038
Saturn	-6056-04-21 12:28 J	-490420.09	-490419.98	-490419.85	0.0261	0.0213

Mars	-6055-12-19 10:33 J	-489813.23	-489813.06	-489812.89	0.1624	0.0168
Jupiter	-6054-07-01 06:28 J	-489619.32	-489619.23	-489619.15	0.0514	0.0464
Jupiter	-6053-02-22 22:04 J	-489382.69	-489382.58	-489382.47	0.0508	0.0428
Mars	-6053-10-18 17:02 J	-489143.84	-489143.79	-489143.74	0.1617	0.1545
Mars	-6052-09-23 20:38 J	-488803.79	-488803.64	-488803.48	0.1904	0.0844
Jupiter	-6048-12-20 10:48 J	-487255.25	-487255.05	-487254.84	0.0515	0.0057
Saturn	-6043-07-06 12:00 J	-485596.17	-485596.00	-485595.82	0.0303	0.0167
Saturn	-6042-02-21 18:28 J	-485365.93	-485365.73	-485365.54	0.0302	0.0108
Jupiter	-6042-10-28 22:33 J	-485116.74	-485116.56	-485116.37	0.0509	0.0190
Jupiter	-6036-08-25 03:50 J	-482989.50	-482989.34	-482989.18	0.0513	0.0318
Moon	-6032-05-18 10:33 J	-481627.20	-481627.06	-481626.91	0.2629	0.1069
Earth	-6032-05-18 16:04 J	-481626.97	-481626.83	-481626.70	0.2627	0.1407 *
Uranus	-6032-08-28 21:07 J	-481524.73	-481524.62	-481524.49	0.0142	0.0117
Uranus	-6031-04-12 07:11 J	-481298.39	-481298.20	-481298.02	0.0143	0.0069
Uranus	-6031-11-24 17:02 J	-481072.00	-481071.79	-481071.58	0.0143	0.0021
Jupiter	-6030-07-03 23:16 J	-480850.73	-480850.53	-480850.33	0.0511	0.0054
Uranus	-6030-07-09 03:07 J	-480845.58	-480845.37	-480845.15	0.0143	0.0028
Uranus	-6029-02-20 13:26 J	-480619.12	-480618.94	-480618.75	0.0144	0.0077
Uranus	-6029-10-04 00:00 J	-480392.60	-480392.50	-480392.39	0.0144	0.0126
Saturn	-6028-07-31 21:07 J	-480091.81	-480091.62	-480091.43	0.0259	0.0113
Saturn	-6027-03-17 17:16 J	-479862.98	-479862.78	-479862.57	0.0259	0.0059
Saturn	-6027-11-01 14:09 J	-479634.00	-479633.91	-479633.81	0.0260	0.0232
Moon	-6024-05-16 05:02 J	-478707.32	-478707.29	-478707.26	0.2631	0.2569
Earth	-6024-05-16 07:55 J	-478707.28	-478707.17	-478707.06	0.2626	0.1949 *
Jupiter	-6024-12-23 08:52 J	-478486.27	-478486.13	-478485.98	0.0518	0.0371
Neptune	-6023-10-25 20:38 J	-478179.68	-478179.64	-478179.56	0.0089	0.0086
Mars	-6023-12-18 02:38 J	-478126.52	-478126.39	-478126.25	0.1628	0.1010
Neptune	-6022-06-08 09:50 J	-477954.19	-477954.09	-477953.95	0.0089	0.0074
Neptune	-6021-01-19 23:02 J	-477728.68	-477728.54	-477728.36	0.0089	0.0062
Neptune	-6021-09-01 12:14 J	-477503.16	-477502.99	-477502.79	0.0089	0.0050

Mars	-6021-10-17 08:09 J	-477457.31	-477457.16	-477457.01	0.1620	0.0739
Neptune	-6020-04-15 01:26 J	-477277.63	-477277.44	-477277.23	0.0089	0.0037
Mars	-6020-09-24 00:57 J	-477115.61	-477115.46	-477115.31	0.1898	0.1017
Neptune	-6020-11-26 14:38 J	-477052.09	-477051.89	-477051.67	0.0089	0.0025
Neptune	-6019-07-10 04:04 J	-476826.55	-476826.33	-476826.11	0.0089	0.0013
Neptune	-6018-02-20 17:02 J	-476601.00	-476600.79	-476600.57	0.0089	0.0002
Jupiter	-6018-03-08 21:36 J	-476584.76	-476584.60	-476584.44	0.0512	0.0306
Neptune	-6018-10-04 06:14 J	-476375.46	-476375.24	-476375.03	0.0089	0.0012
Neptune	-6017-05-16 19:11 J	-476149.91	-476149.70	-476149.49	0.0089	0.0024
Neptune	-6017-12-28 07:55 J	-475924.36	-475924.17	-475923.96	0.0089	0.0036
Neptune	-6016-08-10 20:52 J	-475698.79	-475698.63	-475698.42	0.0089	0.0049
Neptune	-6015-03-24 09:50 J	-475473.23	-475473.09	-475472.91	0.0089	0.0061
Neptune	-6015-11-04 22:48 J	-475247.66	-475247.55	-475247.40	0.0089	0.0072
Neptune	-6014-06-18 11:45 J	-475022.06	-475022.01	-475021.92	0.0089	0.0084
Saturn	-6013-01-16 12:28 J	-474810.16	-474809.98	-474809.79	0.0303	0.0143
Saturn	-6013-09-02 18:43 J	-474579.90	-474579.72	-474579.53	0.0302	0.0133
Jupiter	-6012-08-28 03:36 J	-474220.55	-474220.35	-474220.14	0.0516	0.0109
Jupiter	-6006-07-06 11:31 J	-472082.17	-472082.02	-472081.87	0.0508	0.0338

6TH MILLENNIUM BCE

This is a list of transits of Venus in the 6th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
TRANSIT								
TIME								
Jupiter	-6000-05-02 22:04 J	-469954.78	-469954.58	-469954.39	0.0514	0.0154		

Saturn	-5998-02-10 21:50 J	-469305.79	-469305.59	-469305.39	0.0259	0.0094
Saturn	-5998-09-27 18:14 J	-469076.94	-469076.74	-469076.54	0.0260	0.0079
Saturn	-5997-05-13 15:07 J	-468847.91	-468847.87	-468847.81	0.0261	0.0253
Jupiter	-5994-03-11 11:16 J	-467816.22	-467816.03	-467815.83	0.0510	0.0094
Uranus	-5992-05-03 18:28 J	-467031.85	-467031.73	-467031.57	0.0136	0.0103
Uranus	-5992-12-16 02:23 J	-466805.59	-466805.40	-466805.20	0.0136	0.0060
Uranus	-5991-07-30 09:50 J	-466579.30	-466579.09	-466578.87	0.0136	0.0018
Uranus	-5990-03-13 17:16 J	-466352.99	-466352.78	-466352.56	0.0135	0.0024
Uranus	-5990-10-26 00:28 J	-466126.66	-466126.48	-466126.28	0.0135	0.0066
Uranus	-5989-06-08 07:26 J	-465900.31	-465900.19	-465900.05	0.0135	0.0107
Mars	-5989-10-15 23:45 J	-465770.69	-465770.51	-465770.34	0.1623	0.0095
Jupiter	-5988-01-05 16:48 J	-465688.92	-465688.80	-465688.68	0.0512	0.0411
Mars	-5986-07-21 22:33 J	-464761.70	-464761.56	-464761.42	0.1906	0.1175
Saturn	-5984-07-28 16:33 J	-464024.00	-464023.81	-464023.61	0.0303	0.0115
Saturn	-5983-03-15 22:33 J	-463793.73	-463793.56	-463793.38	0.0302	0.0160
Jupiter	-5983-11-14 11:31 J	-463550.21	-463550.02	-463549.83	0.0512	0.0151
Jupiter	-5976-05-05 18:00 J	-461185.93	-461185.75	-461185.58	0.0517	0.0264
Jupiter	-5971-07-20 11:31 J	-459284.14	-459284.02	-459283.89	0.0513	0.0398
Jupiter	-5970-03-14 02:09 J	-459047.46	-459047.41	-459047.36	0.0507	0.0492
Saturn	-5969-01-07 03:36 J	-458748.41	-458748.35	-458748.27	0.0259	0.0243
Saturn	-5969-08-22 23:31 J	-458519.72	-458519.52	-458519.31	0.0259	0.0073
Saturn	-5968-04-08 19:55 J	-458290.87	-458290.67	-458290.47	0.0260	0.0099
Jupiter	-5964-01-08 12:57 J	-456920.17	-456919.96	-456919.76	0.0516	0.0005
Jupiter	-5959-11-17 01:40 J	-454781.60	-454781.43	-454781.25	0.0509	0.0249
Pluto	-5957-09-24 12:00 J	-454104.15	-454104.00	-454103.82	0.0066	0.0043
Mars	-5957-10-14 15:21 J	-454084.00	-454083.86	-454083.72	0.1627	0.0923
Pluto	-5956-05-07 16:48 J	-453879.02	-453878.80	-453878.58	0.0066	0.0007
Pluto	-5956-12-18 20:52 J	-453653.81	-453653.63	-453653.41	0.0066	0.0030
Pluto	-5955-08-01 01:40 J	-453428.45	-453428.43	-453428.38	0.0066	0.0066
Mars	-5955-08-14 20:52 J	-453414.78	-453414.63	-453414.48	0.1619	0.0821

Saturn	-5954-02-07 16:19 J	-453238.02	-453237.82	-453237.62	0.0303	0.0092
Mars	-5954-07-22 02:38 J	-453073.55	-453073.39	-453073.22	0.1900	0.0693
Saturn	-5954-09-25 22:19 J	-453007.73	-453007.57	-453007.40	0.0302	0.0184
Jupiter	-5953-09-13 08:38 J	-452654.31	-452654.14	-452653.96	0.0514	0.0255
Uranus	-5948-04-28 07:55 J	-450966.22	-450966.17	-450966.09	0.0142	0.0135
Uranus	-5948-12-10 17:45 J	-450739.92	-450739.76	-450739.58	0.0143	0.0088
Jupiter	-5947-07-23 01:11 J	-450515.65	-450515.45	-450515.25	0.0511	0.0004
Uranus	-5947-07-25 03:50 J	-450513.54	-450513.34	-450513.13	0.0143	0.0040
Uranus	-5946-03-08 14:09 J	-450287.13	-450286.91	-450286.70	0.0143	0.0009
Uranus	-5946-10-21 00:00 J	-450060.68	-450060.50	-450060.29	0.0143	0.0059
Uranus	-5945-06-03 10:19 J	-449834.20	-449834.07	-449833.91	0.0144	0.0108
Jupiter	-5941-05-19 04:04 J	-448388.34	-448388.33	-448388.30	0.0512	0.0508
Jupiter	-5940-01-11 12:57 J	-448151.07	-448150.96	-448150.85	0.0518	0.0434
Saturn	-5940-07-19 03:36 J	-447962.44	-447962.35	-447962.23	0.0259	0.0225
Neptune	-5940-07-22 18:14 J	-447958.81	-447958.74	-447958.66	0.0088	0.0082
Saturn	-5939-03-04 23:45 J	-447733.72	-447733.51	-447733.30	0.0259	0.0054
Neptune	-5939-03-05 06:43 J	-447733.33	-447733.22	-447733.07	0.0088	0.0071 *
Neptune	-5939-10-16 19:40 J	-447507.83	-447507.68	-447507.50	0.0088	0.0059
Saturn	-5939-10-19 20:09 J	-447504.85	-447504.66	-447504.47	0.0260	0.0119
Neptune	-5938-05-30 08:52 J	-447282.32	-447282.13	-447281.94	0.0088	0.0047
Neptune	-5937-01-10 21:36 J	-447056.79	-447056.60	-447056.38	0.0088	0.0036
Neptune	-5937-08-23 10:33 J	-446831.26	-446831.06	-446830.84	0.0088	0.0024
Neptune	-5936-04-05 23:31 J	-446605.73	-446605.52	-446605.29	0.0088	0.0012
Neptune	-5936-11-17 12:28 J	-446380.20	-446379.98	-446379.76	0.0088	0.0001
Jupiter	-5935-03-27 23:45 J	-446249.68	-446249.51	-446249.33	0.0513	0.0250
Neptune	-5935-07-01 01:26 J	-446154.66	-446154.44	-446154.22	0.0088	0.0011
Neptune	-5934-02-11 14:23 J	-445929.11	-445928.90	-445928.68	0.0088	0.0023
Neptune	-5934-09-25 03:07 J	-445703.56	-445703.37	-445703.16	0.0088	0.0035
Neptune	-5933-05-07 15:50 J	-445478.01	-445477.84	-445477.63	0.0088	0.0047
Neptune	-5933-12-19 05:16 J	-445252.44	-445252.28	-445252.11	0.0088	0.0058

Neptune	-5932-08-01 18:00 J	-445026.87	-445026.75	-445026.60	0.0088	0.0070
Neptune	-5931-03-15 06:57 J	-444801.27	-444801.21	-444801.11	0.0088	0.0082
Jupiter	-5929-09-16 06:28 J	-443885.42	-443885.23	-443885.04	0.0516	0.0168
Saturn	-5925-08-19 20:38 J	-442451.85	-442451.64	-442451.43	0.0302	0.0063
Saturn	-5924-04-07 02:23 J	-442221.54	-442221.40	-442221.24	0.0302	0.0211
Jupiter	-5924-11-30 23:16 J	-441983.57	-441983.53	-441983.48	0.0514	0.0498
Jupiter	-5923-07-25 15:07 J	-441746.99	-441746.87	-441746.74	0.0508	0.0402
Mars	-5923-08-13 12:00 J	-441728.17	-441728.00	-441727.83	0.1622	0.0016
Mars	-5920-05-17 23:45 J	-440719.61	-440719.51	-440719.40	0.1907	0.1521
Jupiter	-5917-05-21 22:19 J	-439619.77	-439619.57	-439619.37	0.0515	0.0103
Jupiter	-5911-03-30 16:19 J	-437481.01	-437480.82	-437480.62	0.0510	0.0161
Saturn	-5910-01-29 05:31 J	-437176.39	-437176.27	-437176.13	0.0259	0.0203
Saturn	-5910-09-15 01:40 J	-436947.64	-436947.43	-436947.22	0.0259	0.0032
Saturn	-5909-04-30 22:04 J	-436718.76	-436718.58	-436718.40	0.0260	0.0140
Uranus	-5908-01-01 05:31 J	-436473.35	-436473.27	-436473.14	0.0136	0.0121
Uranus	-5908-08-15 13:40 J	-436247.11	-436246.93	-436246.75	0.0136	0.0077
Uranus	-5907-03-29 21:07 J	-436020.82	-436020.62	-436020.40	0.0136	0.0035
Uranus	-5907-11-11 04:48 J	-435794.52	-435794.30	-435794.08	0.0135	0.0008
Uranus	-5906-06-25 12:00 J	-435568.20	-435568.00	-435567.79	0.0135	0.0050
Jupiter	-5905-01-25 18:00 J	-435353.89	-435353.75	-435353.60	0.0513	0.0358
Uranus	-5905-02-06 19:11 J	-435341.85	-435341.70	-435341.53	0.0135	0.0091
Uranus	-5905-09-20 02:23 J	-435115.44	-435115.40	-435115.36	0.0135	0.0132
Jupiter	-5900-12-03 15:07 J	-433215.07	-433214.87	-433214.67	0.0511	0.0091
Saturn	-5895-03-01 20:23 J	-431665.86	-431665.65	-431665.44	0.0303	0.0039
Saturn	-5895-10-18 01:55 J	-431435.54	-431435.42	-431435.27	0.0302	0.0235
Jupiter	-5893-05-24 23:02 J	-430850.69	-430850.54	-430850.38	0.0517	0.0333
Mars	-5891-08-12 03:36 J	-430041.49	-430041.35	-430041.20	0.1626	0.0833
Mars	-5889-06-11 09:36 J	-429372.24	-429372.10	-429371.96	0.1618	0.0907
Mars	-5888-05-18 04:48 J	-429031.47	-429031.30	-429031.12	0.1902	0.0374
Jupiter	-5888-08-08 13:26 J	-428949.08	-428948.94	-428948.78	0.0513	0.0344

Earth	-5887-11-15 12:14 J	-428485.06	-428484.99	-428484.92	0.2706	0.2426
Moon	-5887-11-15 18:00 J	-428484.77	-428484.75	-428484.73	0.2708	0.2682
Jupiter	-5881-01-28 17:02 J	-426584.99	-426584.79	-426584.58	0.0515	0.0069
Saturn	-5881-08-10 05:45 J	-426390.40	-426390.26	-426390.11	0.0259	0.0185
Saturn	-5880-03-27 01:55 J	-426161.63	-426161.42	-426161.21	0.0259	0.0014
Saturn	-5880-11-10 22:33 J	-425932.73	-425932.56	-425932.39	0.0260	0.0159
Earth	-5879-11-13 02:38 J	-425565.53	-425565.39	-425565.25	0.2707	0.1361
Moon	-5879-11-13 07:40 J	-425565.34	-425565.18	-425565.02	0.2703	0.0595 *
Jupiter	-5876-12-06 03:50 J	-424446.50	-424446.34	-424446.18	0.0509	0.0307
Jupiter	-5870-10-03 11:16 J	-422319.21	-422319.03	-422318.83	0.0514	0.0197
Pluto	-5869-05-25 10:48 J	-422084.26	-422084.05	-422083.83	0.0079	0.0021
Pluto	-5868-01-05 20:52 J	-421858.81	-421858.63	-421858.43	0.0078	0.0042
Saturn	-5866-01-24 18:00 J	-421109.81	-421109.75	-421109.68	0.0303	0.0286
Saturn	-5866-09-12 00:57 J	-420879.67	-420879.46	-420879.25	0.0302	0.0010
Saturn	-5865-04-29 06:28 J	-420649.33	-420649.23	-420649.12	0.0301	0.0262
Uranus	-5864-08-10 03:50 J	-420181.46	-420181.34	-420181.18	0.0142	0.0107
Jupiter	-5864-08-11 04:48 J	-420180.50	-420180.30	-420180.10	0.0510	0.0066
Uranus	-5863-03-24 13:40 J	-419955.11	-419954.93	-419954.72	0.0143	0.0060
Uranus	-5863-11-06 00:00 J	-419728.71	-419728.50	-419728.28	0.0143	0.0011
Uranus	-5862-06-20 10:04 J	-419502.29	-419502.08	-419501.87	0.0143	0.0038
Uranus	-5861-02-01 20:09 J	-419275.82	-419275.66	-419275.48	0.0144	0.0087
Uranus	-5861-09-15 06:57 J	-419049.27	-419049.21	-419049.14	0.0144	0.0136
Jupiter	-5858-06-08 03:36 J	-418053.43	-418053.35	-418053.26	0.0512	0.0462
Neptune	-5858-09-09 17:16 J	-417959.85	-417959.78	-417959.67	0.0089	0.0081
Jupiter	-5857-01-31 12:57 J	-417816.01	-417815.96	-417815.88	0.0518	0.0490
Neptune	-5857-04-22 06:57 J	-417734.35	-417734.21	-417734.08	0.0089	0.0069
Mars	-5857-06-10 00:57 J	-417685.63	-417685.46	-417685.29	0.1621	0.0085
Neptune	-5857-12-03 19:55 J	-417508.84	-417508.67	-417508.50	0.0089	0.0057
Neptune	-5856-07-17 08:52 J	-417283.31	-417283.13	-417282.93	0.0089	0.0045
Neptune	-5855-02-27 22:04 J	-417057.77	-417057.58	-417057.37	0.0089	0.0032

Neptune	-5855-10-11 11:02 J	-416832.24	-416832.04	-416831.81	0.0089	0.0021
Mars	-5854-03-15 01:55 J	-416677.45	-416677.42	-416677.37	0.1908	0.1850
Neptune	-5854-05-25 00:28 J	-416606.70	-416606.48	-416606.26	0.0089	0.0008
Neptune	-5853-01-05 13:40 J	-416381.15	-416380.93	-416380.71	0.0089	0.0005
Neptune	-5853-08-18 02:52 J	-416155.60	-416155.38	-416155.17	0.0089	0.0017
Neptune	-5852-03-31 15:36 J	-415930.05	-415929.85	-415929.63	0.0089	0.0029
Jupiter	-5852-04-16 05:02 J	-415914.47	-415914.29	-415914.10	0.0512	0.0183
Neptune	-5852-11-12 04:33 J	-415704.49	-415704.31	-415704.10	0.0089	0.0041
Saturn	-5851-02-20 07:55 J	-415604.33	-415604.17	-415604.00	0.0259	0.0162
Neptune	-5851-06-25 17:45 J	-415478.93	-415478.76	-415478.58	0.0089	0.0053
Saturn	-5851-10-07 04:04 J	-415375.54	-415375.33	-415375.11	0.0259	0.0009
Neptune	-5850-02-06 06:43 J	-415253.36	-415253.22	-415253.06	0.0089	0.0066
Saturn	-5850-05-24 00:43 J	-415146.62	-415146.47	-415146.31	0.0260	0.0182
Neptune	-5850-09-19 19:55 J	-415027.77	-415027.67	-415027.56	0.0089	0.0078
Jupiter	-5846-10-06 07:26 J	-413550.37	-413550.19	-413550.00	0.0517	0.0225
Jupiter	-5841-12-20 02:52 J	-411648.48	-411648.38	-411648.28	0.0514	0.0439
Jupiter	-5840-08-13 18:00 J	-411411.83	-411411.75	-411411.66	0.0508	0.0460
Saturn	-5837-08-05 19:11 J	-410323.80	-410323.70	-410323.59	0.0303	0.0260
Saturn	-5836-03-24 01:55 J	-410093.63	-410093.42	-410093.21	0.0303	0.0016
Saturn	-5836-11-09 07:11 J	-409863.25	-409863.20	-409863.13	0.0302	0.0289
Jupiter	-5834-06-11 02:52 J	-409284.59	-409284.38	-409284.18	0.0515	0.0038
Jupiter	-5828-04-18 17:45 J	-407145.94	-407145.76	-407145.58	0.0509	0.0215
Mars	-5825-06-08 16:33 J	-405998.96	-405998.81	-405998.66	0.1624	0.0747
Uranus	-5825-08-31 17:45 J	-405914.76	-405914.76	-405914.75	0.0136	0.0136
Uranus	-5824-04-15 01:40 J	-405688.59	-405688.43	-405688.27	0.0136	0.0093
Uranus	-5824-11-27 09:07 J	-405462.32	-405462.12	-405461.91	0.0136	0.0051
Mars	-5823-04-08 22:33 J	-405329.69	-405329.56	-405329.42	0.1617	0.0987
Uranus	-5823-07-11 16:48 J	-405236.02	-405235.80	-405235.58	0.0136	0.0008
Jupiter	-5822-02-13 21:50 J	-405018.75	-405018.59	-405018.42	0.0513	0.0298
Uranus	-5822-02-23 00:14 J	-405009.70	-405009.49	-405009.27	0.0135	0.0034

Mars	-5822-03-15 06:43 J	-404989.40	-404989.22	-404989.05	0.1904	0.0059
Saturn	-5822-09-02 08:23 J	-404818.32	-404818.15	-404817.97	0.0259	0.0144
Uranus	-5822-10-07 07:40 J	-404783.36	-404783.18	-404783.00	0.0135	0.0076
Saturn	-5821-04-18 04:48 J	-404589.51	-404589.30	-404589.09	0.0260	0.0028
Uranus	-5821-05-20 14:23 J	-404556.99	-404556.90	-404556.78	0.0135	0.0117
Saturn	-5821-12-03 01:26 J	-404360.56	-404360.44	-404360.30	0.0260	0.0202
Jupiter	-5817-12-22 16:33 J	-402880.01	-402879.81	-402879.61	0.0511	0.0035
Jupiter	-5810-06-14 01:11 J	-400515.59	-400515.45	-400515.32	0.0517	0.0391
Saturn	-5807-02-16 00:28 J	-399537.60	-399537.48	-399537.33	0.0303	0.0229
Saturn	-5807-10-04 07:11 J	-399307.40	-399307.20	-399306.99	0.0302	0.0048
Jupiter	-5805-08-27 16:33 J	-398613.98	-398613.81	-398613.64	0.0513	0.0284
Jupiter	-5798-02-16 16:04 J	-396250.03	-396249.83	-396249.63	0.0516	0.0115
Mars	-5793-06-07 08:09 J	-394312.19	-394312.16	-394312.12	0.1628	0.1587
Jupiter	-5793-12-25 08:09 J	-394111.30	-394111.16	-394111.03	0.0508	0.0372
Saturn	-5792-03-14 11:16 J	-394032.21	-394032.03	-394031.83	0.0259	0.0120
Saturn	-5792-10-29 07:40 J	-393803.38	-393803.18	-393802.96	0.0260	0.0054
Mars	-5791-04-07 13:40 J	-393643.10	-393642.93	-393642.75	0.1620	0.0173
Saturn	-5791-06-15 04:33 J	-393574.40	-393574.31	-393574.20	0.0260	0.0227
Mars	-5790-03-15 09:50 J	-393301.12	-393301.09	-393301.07	0.1898	0.1878
Earth	-5789-05-18 18:00 J	-392870.87	-392870.75	-392870.62	0.2626	0.1566
Moon	-5789-05-18 23:02 J	-392870.62	-392870.54	-392870.45	0.2629	0.2180 *
Jupiter	-5787-10-22 11:02 J	-391984.24	-391984.04	-391983.85	0.0514	0.0148
Earth	-5781-05-16 10:04 J	-389951.19	-389951.08	-389950.96	0.2625	0.1777
Moon	-5781-05-16 14:52 J	-389951.03	-389950.88	-389950.73	0.2623	0.1049 *
Jupiter	-5781-08-30 06:57 J	-389845.40	-389845.21	-389845.01	0.0510	0.0122
Uranus	-5780-04-09 14:38 J	-389622.98	-389622.89	-389622.78	0.0142	0.0126
Uranus	-5780-11-22 00:28 J	-389396.66	-389396.48	-389396.30	0.0143	0.0079
Uranus	-5779-07-06 10:19 J	-389170.27	-389170.07	-389169.85	0.0143	0.0031
Uranus	-5778-02-17 20:38 J	-388943.86	-388943.64	-388943.43	0.0143	0.0018
Saturn	-5778-08-29 03:07 J	-388751.52	-388751.37	-388751.21	0.0303	0.0199

Uranus	-5778-10-02 06:43 J	-388717.40	-388717.22	-388717.02	0.0143	0.0068
Saturn	-5777-04-15 09:36 J	-388521.31	-388521.10	-388520.90	0.0302	0.0077
Uranus	-5777-05-15 16:48 J	-388490.91	-388490.80	-388490.66	0.0144	0.0117
Neptune	-5775-06-06 14:38 J	-387738.98	-387738.89	-387738.78	0.0088	0.0078
Jupiter	-5775-06-27 06:57 J	-387718.33	-387718.21	-387718.08	0.0513	0.0404
Neptune	-5774-01-18 03:50 J	-387513.48	-387513.34	-387513.20	0.0088	0.0066
Neptune	-5774-08-31 16:19 J	-387287.97	-387287.82	-387287.63	0.0088	0.0055
Neptune	-5773-04-13 05:16 J	-387062.46	-387062.28	-387062.07	0.0088	0.0043
Neptune	-5773-11-24 18:14 J	-386836.94	-386836.74	-386836.53	0.0088	0.0031
Neptune	-5772-07-08 07:11 J	-386611.41	-386611.20	-386610.98	0.0088	0.0019
Neptune	-5771-02-18 20:09 J	-386385.88	-386385.66	-386385.44	0.0088	0.0007
Neptune	-5771-10-02 09:07 J	-386160.34	-386160.12	-386159.90	0.0088	0.0005
Neptune	-5770-05-15 21:36 J	-385934.80	-385934.60	-385934.37	0.0088	0.0017
Neptune	-5770-12-27 10:48 J	-385709.25	-385709.05	-385708.83	0.0088	0.0028
Jupiter	-5769-05-05 05:31 J	-385579.46	-385579.27	-385579.07	0.0512	0.0133
Neptune	-5769-08-08 23:45 J	-385483.70	-385483.51	-385483.31	0.0088	0.0040
Neptune	-5768-03-22 12:28 J	-385258.15	-385257.98	-385257.79	0.0088	0.0052
Neptune	-5768-11-03 01:11 J	-385032.58	-385032.45	-385032.28	0.0088	0.0064
Neptune	-5767-06-16 13:55 J	-384807.00	-384806.92	-384806.78	0.0088	0.0076
Neptune	-5766-01-28 03:36 J	-384581.36	-384581.35	-384581.32	0.0088	0.0087
Saturn	-5763-09-24 12:14 J	-383246.18	-383245.99	-383245.78	0.0259	0.0100
Jupiter	-5763-10-25 10:19 J	-383215.23	-383215.07	-383214.89	0.0517	0.0286
Saturn	-5762-05-11 08:52 J	-383017.33	-383017.13	-383016.92	0.0260	0.0073
Saturn	-5762-12-26 06:00 J	-382788.30	-382788.25	-382788.17	0.0260	0.0247
Mars	-5759-04-06 05:02 J	-381956.45	-381956.29	-381956.13	0.1623	0.0657
Jupiter	-5757-01-09 03:07 J	-381313.50	-381313.37	-381313.24	0.0514	0.0390
Mars	-5757-02-04 11:16 J	-381287.15	-381287.03	-381286.90	0.1616	0.1071
Mars	-5756-01-09 08:23 J	-380947.33	-380947.15	-380946.98	0.1906	0.0293
Jupiter	-5751-06-30 03:50 J	-378949.55	-378949.34	-378949.14	0.0515	0.0016
Saturn	-5748-03-10 09:50 J	-377965.26	-377965.09	-377964.91	0.0302	0.0165

Saturn	-5748-10-26 16:04 J	-377735.02	-377734.83	-377734.63	0.0302	0.0110
Jupiter	-5745-05-07 19:26 J	-376810.85	-376810.69	-376810.51	0.0509	0.0274
Uranus	-5741-12-13 13:55 J	-375130.04	-375129.92	-375129.78	0.0136	0.0110
Uranus	-5740-07-27 21:36 J	-374903.78	-374903.60	-374903.40	0.0136	0.0067
Jupiter	-5739-03-04 19:26 J	-374683.87	-374683.69	-374683.51	0.0513	0.0257
Uranus	-5739-03-11 05:31 J	-374677.49	-374677.27	-374677.05	0.0136	0.0024
Uranus	-5739-10-23 12:57 J	-374451.18	-374450.96	-374450.74	0.0135	0.0018
Uranus	-5738-06-06 20:09 J	-374224.85	-374224.66	-374224.46	0.0135	0.0060
Uranus	-5737-01-19 03:07 J	-373998.50	-373998.37	-373998.21	0.0135	0.0102
Saturn	-5734-08-20 20:23 J	-372688.72	-372688.65	-372688.58	0.0260	0.0244
Jupiter	-5733-01-11 19:55 J	-372544.88	-372544.67	-372544.47	0.0511	0.0028
Saturn	-5733-04-05 16:33 J	-372460.01	-372459.81	-372459.60	0.0260	0.0073
Saturn	-5733-11-20 13:11 J	-372231.15	-372230.95	-372230.76	0.0260	0.0100
Mars	-5727-04-04 20:52 J	-370269.69	-370269.63	-370269.56	0.1627	0.1502
Jupiter	-5727-07-02 23:31 J	-370180.62	-370180.52	-370180.41	0.0518	0.0439
Mars	-5725-02-03 02:38 J	-369600.56	-369600.39	-369600.22	0.1619	0.0253
Mars	-5724-01-09 12:00 J	-369259.10	-369259.00	-369258.90	0.1900	0.1566
Jupiter	-5722-09-16 17:45 J	-368278.94	-368278.76	-368278.58	0.0512	0.0233
Saturn	-5719-09-20 14:38 J	-367179.08	-367178.89	-367178.70	0.0302	0.0131
Saturn	-5718-05-08 20:23 J	-366948.83	-366948.65	-366948.46	0.0302	0.0144
Jupiter	-5715-03-07 18:28 J	-365914.92	-365914.73	-365914.54	0.0516	0.0174
Pluto	-5711-03-12 21:21 J	-364448.63	-364448.61	-364448.56	0.0066	0.0065
Pluto	-5711-10-24 01:40 J	-364223.60	-364223.43	-364223.21	0.0066	0.0030
Jupiter	-5710-05-22 15:07 J	-364012.92	-364012.87	-364012.81	0.0514	0.0491
Pluto	-5710-06-06 06:43 J	-363998.44	-363998.22	-363998.00	0.0066	0.0006
Jupiter	-5709-01-14 06:57 J	-363776.32	-363776.21	-363776.09	0.0508	0.0418
Pluto	-5709-01-17 10:48 J	-363773.19	-363773.05	-363772.86	0.0066	0.0044
Saturn	-5704-03-01 21:50 J	-361902.69	-361902.59	-361902.48	0.0259	0.0224
Saturn	-5704-10-16 18:14 J	-361673.95	-361673.74	-361673.53	0.0260	0.0052
Jupiter	-5704-11-10 12:43 J	-361649.17	-361648.97	-361648.77	0.0514	0.0092

Saturn	-5703-06-02 14:52 J	-361445.06	-361444.88	-361444.68	0.0260	0.0122
Jupiter	-5698-09-19 06:00 J	-359510.44	-359510.25	-359510.06	0.0510	0.0169
Uranus	-5696-07-22 08:52 J	-358838.27	-358838.13	-358837.97	0.0142	0.0100
Uranus	-5695-03-05 18:43 J	-358611.91	-358611.72	-358611.51	0.0143	0.0052
Uranus	-5695-10-18 04:48 J	-358385.52	-358385.30	-358385.08	0.0143	0.0004
Uranus	-5694-06-01 14:38 J	-358159.09	-358158.89	-358158.68	0.0143	0.0045
Neptune	-5694-12-12 00:28 J	-357965.48	-357965.48	-357965.46	0.0089	0.0089
Uranus	-5693-01-14 00:43 J	-357932.62	-357932.47	-357932.30	0.0144	0.0095
Mars	-5693-02-01 18:00 J	-357913.91	-357913.75	-357913.59	0.1622	0.0575
Neptune	-5693-07-24 13:26 J	-357740.03	-357739.94	-357739.81	0.0089	0.0077
Uranus	-5693-08-27 11:16 J	-357706.03	-357706.03	-357706.01	0.0144	0.0144
Neptune	-5692-03-07 02:52 J	-357514.52	-357514.38	-357514.22	0.0089	0.0065
Jupiter	-5692-07-16 06:57 J	-357383.36	-357383.21	-357383.06	0.0512	0.0356
Neptune	-5692-10-18 15:50 J	-357289.00	-357288.84	-357288.65	0.0089	0.0053
Mars	-5692-12-02 00:28 J	-357244.60	-357244.48	-357244.36	0.1615	0.1151
Neptune	-5691-06-01 05:02 J	-357063.47	-357063.29	-357063.08	0.0089	0.0040
Mars	-5691-11-06 10:19 J	-356905.24	-356905.07	-356904.91	0.1907	0.0630
Neptune	-5690-01-12 18:28 J	-356837.94	-356837.73	-356837.52	0.0089	0.0028
Neptune	-5690-08-26 07:26 J	-356612.40	-356612.19	-356611.97	0.0089	0.0016
Saturn	-5689-04-01 22:33 J	-356392.76	-356392.56	-356392.36	0.0302	0.0094
Neptune	-5689-04-07 20:38 J	-356386.86	-356386.64	-356386.42	0.0089	0.0003
Saturn	-5689-11-18 04:19 J	-356162.48	-356162.32	-356162.15	0.0302	0.0180
Neptune	-5689-11-19 09:50 J	-356161.31	-356161.09	-356160.87	0.0089	0.0009
Neptune	-5688-07-02 23:02 J	-355935.75	-355935.54	-355935.33	0.0089	0.0022
Neptune	-5687-02-13 11:45 J	-355710.20	-355710.01	-355709.79	0.0089	0.0035
Neptune	-5687-09-27 00:57 J	-355484.64	-355484.46	-355484.26	0.0089	0.0047
Neptune	-5686-05-10 14:09 J	-355259.07	-355258.91	-355258.74	0.0089	0.0059
Jupiter	-5686-05-25 05:45 J	-355244.46	-355244.26	-355244.06	0.0512	0.0081
Neptune	-5686-12-22 02:38 J	-355033.49	-355033.39	-355033.23	0.0089	0.0072
Neptune	-5685-08-03 15:50 J	-354807.89	-354807.84	-354807.74	0.0089	0.0084

Jupiter	-5680-11-13 06:28 J	-352880.38	-352880.23	-352880.07	0.0517	0.0325
Saturn	-5675-09-12 02:52 J	-351116.51	-351116.38	-351116.24	0.0260	0.0196
Jupiter	-5674-01-28 04:48 J	-350978.45	-350978.30	-350978.15	0.0514	0.0337
Saturn	-5674-04-28 23:16 J	-350887.74	-350887.53	-350887.31	0.0260	0.0024
Saturn	-5674-12-13 20:23 J	-350658.83	-350658.65	-350658.48	0.0260	0.0151
Jupiter	-5668-07-19 00:28 J	-348614.68	-348614.48	-348614.27	0.0515	0.0057
Jupiter	-5662-05-27 18:43 J	-346475.88	-346475.72	-346475.56	0.0509	0.0320
Mars	-5661-01-31 09:36 J	-346227.18	-346227.10	-346227.02	0.1626	0.1413
Saturn	-5660-10-13 05:16 J	-345606.49	-345606.28	-345606.08	0.0302	0.0056
Mars	-5660-11-30 15:36 J	-345558.02	-345557.85	-345557.69	0.1618	0.0337
Saturn	-5659-05-31 10:33 J	-345376.19	-345376.06	-345375.90	0.0302	0.0218
Mars	-5659-11-06 14:09 J	-345217.05	-345216.91	-345216.78	0.1902	0.1243
Uranus	-5657-08-13 01:11 J	-344571.52	-344571.45	-344571.36	0.0136	0.0127
Jupiter	-5656-03-23 20:09 J	-344348.85	-344348.66	-344348.47	0.0514	0.0206
Uranus	-5656-03-27 09:07 J	-344345.28	-344345.12	-344344.94	0.0136	0.0084
Uranus	-5656-11-08 16:48 J	-344119.00	-344118.80	-344118.58	0.0136	0.0041
Uranus	-5655-06-23 00:28 J	-343892.70	-343892.48	-343892.26	0.0136	0.0003
Uranus	-5654-02-04 07:55 J	-343666.37	-343666.17	-343665.96	0.0135	0.0044
Uranus	-5654-09-18 15:07 J	-343440.03	-343439.87	-343439.69	0.0135	0.0086
Uranus	-5653-05-01 21:50 J	-343213.64	-343213.59	-343213.50	0.0135	0.0128
Jupiter	-5650-01-30 17:31 J	-342209.97	-342209.77	-342209.57	0.0511	0.0067
Saturn	-5645-03-24 05:31 J	-340330.42	-340330.27	-340330.11	0.0260	0.0173
Saturn	-5645-11-08 02:09 J	-340101.62	-340101.41	-340101.20	0.0260	0.0001
Jupiter	-5645-11-26 15:21 J	-340082.94	-340082.86	-340082.77	0.0512	0.0464
Saturn	-5644-06-24 23:16 J	-339872.69	-339872.53	-339872.37	0.0260	0.0174
Jupiter	-5644-07-22 00:00 J	-339845.56	-339845.50	-339845.44	0.0518	0.0492
Moon	-5644-11-15 07:11 J	-339729.31	-339729.20	-339729.08	0.2704	0.1954
Earth	-5644-11-15 12:28 J	-339729.06	-339728.98	-339728.90	0.2707	0.2297
Jupiter	-5639-10-05 14:52 J	-337944.06	-337943.88	-337943.69	0.0513	0.0192
Moon	-5636-11-12 21:07 J	-336809.68	-336809.62	-336809.56	0.2711	0.2474

Earth	-5636-11-13 02:38 J	-336809.52	-336809.39	-336809.25	0.2708	0.1494
Jupiter	-5632-03-26 16:48 J	-335579.99	-335579.80	-335579.62	0.0516	0.0220
Saturn	-5631-09-07 07:55 J	-335050.21	-335050.17	-335050.10	0.0302	0.0291
Saturn	-5630-04-25 14:38 J	-334820.10	-334819.89	-334819.68	0.0302	0.0016
Saturn	-5630-12-11 20:09 J	-334589.77	-334589.66	-334589.55	0.0301	0.0256
Mars	-5628-11-29 06:28 J	-333871.39	-333871.23	-333871.06	0.1621	0.0488
Jupiter	-5627-06-10 13:11 J	-333678.04	-333677.95	-333677.85	0.0514	0.0449
Jupiter	-5626-02-02 05:45 J	-333441.34	-333441.26	-333441.18	0.0508	0.0466
Mars	-5626-09-29 13:26 J	-333202.05	-333201.94	-333201.83	0.1615	0.1233
Mars	-5625-09-02 11:31 J	-332863.18	-332863.02	-332862.87	0.1909	0.0977
Pluto	-5624-11-10 17:02 J	-332428.92	-332428.79	-332428.61	0.0079	0.0056
Pluto	-5623-06-24 03:50 J	-332203.56	-332203.34	-332203.12	0.0079	0.0007
Pluto	-5622-02-04 13:26 J	-331978.02	-331977.94	-331977.81	0.0078	0.0069
Jupiter	-5621-11-29 07:40 J	-331314.39	-331314.18	-331313.98	0.0514	0.0059
Saturn	-5616-10-04 11:16 J	-329544.20	-329544.03	-329543.85	0.0260	0.0144
Saturn	-5615-05-21 08:09 J	-329315.37	-329315.16	-329314.95	0.0260	0.0030
Jupiter	-5615-10-08 05:45 J	-329175.44	-329175.26	-329175.07	0.0510	0.0219
Saturn	-5614-01-05 05:31 J	-329086.40	-329086.27	-329086.14	0.0261	0.0205
Uranus	-5612-03-21 17:31 J	-328279.86	-328279.77	-328279.64	0.0142	0.0121
Uranus	-5612-11-03 03:21 J	-328053.54	-328053.36	-328053.17	0.0142	0.0073
Uranus	-5611-06-17 12:57 J	-327827.16	-327826.96	-327826.74	0.0143	0.0026
Neptune	-5611-09-07 22:19 J	-327744.59	-327744.57	-327744.49	0.0088	0.0086
Uranus	-5610-01-29 23:02 J	-327600.75	-327600.54	-327600.32	0.0143	0.0023
Neptune	-5610-04-21 11:16 J	-327519.13	-327519.03	-327518.89	0.0088	0.0074
Uranus	-5610-09-13 09:07 J	-327374.30	-327374.12	-327373.93	0.0143	0.0072
Neptune	-5610-12-03 00:14 J	-327293.63	-327293.49	-327293.31	0.0088	0.0062
Uranus	-5609-04-26 18:57 J	-327147.80	-327147.71	-327147.57	0.0144	0.0122
Neptune	-5609-07-15 13:11 J	-327068.11	-327067.95	-327067.75	0.0088	0.0050
Jupiter	-5609-08-04 02:23 J	-327048.56	-327048.40	-327048.24	0.0512	0.0323
Neptune	-5608-02-26 02:23 J	-326842.60	-326842.40	-326842.20	0.0088	0.0038

Neptune	-5608-10-09 15:07 J	-326617.07	-326616.87	-326616.65	0.0088	0.0026
Neptune	-5607-05-23 04:04 J	-326391.54	-326391.33	-326391.11	0.0088	0.0014
Neptune	-5606-01-03 17:16 J	-326166.00	-326165.78	-326165.56	0.0088	0.0002
Neptune	-5606-08-17 06:00 J	-325940.46	-325940.25	-325940.02	0.0088	0.0010
Neptune	-5605-03-29 18:43 J	-325714.92	-325714.72	-325714.49	0.0088	0.0022
Neptune	-5605-11-10 07:26 J	-325489.38	-325489.19	-325488.97	0.0088	0.0034
Neptune	-5604-06-23 20:23 J	-325263.83	-325263.65	-325263.45	0.0088	0.0046
Neptune	-5603-02-04 09:21 J	-325038.26	-325038.11	-325037.93	0.0088	0.0058
Jupiter	-5603-06-13 03:36 J	-324909.55	-324909.35	-324909.15	0.0512	0.0040
Neptune	-5603-09-17 22:33 J	-324812.69	-324812.56	-324812.42	0.0088	0.0069
Neptune	-5602-05-01 11:16 J	-324587.10	-324587.03	-324586.93	0.0088	0.0081
Saturn	-5601-03-19 17:16 J	-324263.89	-324263.78	-324263.65	0.0302	0.0248
Saturn	-5601-11-04 23:31 J	-324033.73	-324033.52	-324033.31	0.0302	0.0027
Saturn	-5600-06-23 04:33 J	-323803.33	-323803.31	-323803.27	0.0301	0.0298
Jupiter	-5597-12-02 06:00 J	-322545.39	-322545.25	-322545.11	0.0517	0.0374
Mars	-5596-11-27 22:19 J	-322184.67	-322184.57	-322184.47	0.1624	0.1329
Mars	-5594-09-28 04:19 J	-321515.48	-321515.32	-321515.15	0.1617	0.0423
Mars	-5593-09-02 16:19 J	-321174.97	-321174.82	-321174.66	0.1904	0.0928
Jupiter	-5591-02-16 01:11 J	-320643.61	-320643.45	-320643.28	0.0513	0.0300
Saturn	-5586-04-16 14:52 J	-318758.06	-318757.88	-318757.69	0.0260	0.0120
Saturn	-5586-12-01 11:45 J	-318529.22	-318529.01	-318528.80	0.0260	0.0054
Saturn	-5585-07-17 09:07 J	-318300.22	-318300.12	-318300.02	0.0261	0.0229
Jupiter	-5585-08-06 23:45 J	-318279.71	-318279.51	-318279.31	0.0515	0.0105
Jupiter	-5579-06-15 14:38 J	-316141.03	-316140.89	-316140.75	0.0509	0.0358
Jupiter	-5573-04-11 17:31 J	-314013.97	-314013.77	-314013.58	0.0513	0.0165
Uranus	-5573-11-24 19:11 J	-313786.83	-313786.70	-313786.53	0.0136	0.0102
Uranus	-5572-07-09 03:21 J	-313560.55	-313560.36	-313560.15	0.0136	0.0058
Saturn	-5572-09-30 02:52 J	-313477.52	-313477.38	-313477.21	0.0302	0.0208
Uranus	-5571-02-20 11:16 J	-313334.25	-313334.03	-313333.81	0.0136	0.0015
Saturn	-5571-05-18 09:21 J	-313247.32	-313247.11	-313246.91	0.0302	0.0068

Uranus	-5571-10-04 18:43 J	-313107.93	-313107.72	-313107.50	0.0136	0.0028
Uranus	-5570-05-19 01:55 J	-312881.60	-312881.42	-312881.22	0.0135	0.0070
Uranus	-5570-12-31 08:52 J	-312655.23	-312655.13	-312654.99	0.0135	0.0112
Jupiter	-5567-02-18 14:23 J	-311875.10	-311874.90	-311874.71	0.0511	0.0108
Mars	-5562-09-26 19:40 J	-309828.85	-309828.68	-309828.51	0.1620	0.0406
Jupiter	-5562-12-16 09:50 J	-309748.20	-309748.09	-309747.99	0.0511	0.0436
Mars	-5560-07-27 02:23 J	-309159.50	-309159.40	-309159.31	0.1614	0.1318
Mars	-5559-06-30 13:11 J	-308821.08	-308820.95	-308820.82	0.1910	0.1318
Saturn	-5557-10-26 21:21 J	-307971.80	-307971.61	-307971.40	0.0260	0.0089
Saturn	-5556-06-12 18:14 J	-307742.93	-307742.74	-307742.53	0.0261	0.0087
Jupiter	-5556-10-24 12:57 J	-307609.15	-307608.96	-307608.76	0.0513	0.0150
Jupiter	-5549-04-14 11:02 J	-305245.22	-305245.04	-305244.86	0.0516	0.0252
Moon	-5546-05-19 16:48 J	-304114.96	-304114.80	-304114.65	0.2621	0.1091
Earth	-5546-05-19 20:38 J	-304114.76	-304114.64	-304114.53	0.2626	0.1768 *
Jupiter	-5544-06-29 09:50 J	-303343.20	-303343.09	-303342.97	0.0514	0.0413
Jupiter	-5543-02-21 01:55 J	-303106.45	-303106.42	-303106.39	0.0508	0.0502
Saturn	-5542-04-12 14:09 J	-302691.08	-302690.91	-302690.73	0.0302	0.0161
Saturn	-5542-11-28 20:09 J	-302460.86	-302460.66	-302460.47	0.0302	0.0114
Moon	-5538-05-17 07:26 J	-301195.28	-301195.19	-301195.10	0.2625	0.2136
Earth	-5538-05-17 12:43 J	-301195.10	-301194.97	-301194.84	0.2624	0.1563 *
Jupiter	-5538-12-19 05:31 J	-300979.47	-300979.27	-300979.06	0.0515	0.0019
Jupiter	-5532-10-27 00:43 J	-298840.64	-298840.47	-298840.29	0.0510	0.0253
Mars	-5530-09-25 11:02 J	-298142.15	-298142.04	-298141.93	0.1623	0.1241
Neptune	-5529-10-25 20:23 J	-297745.68	-297745.65	-297745.56	0.0089	0.0086
Uranus	-5529-11-19 02:38 J	-297721.40	-297721.39	-297721.36	0.0142	0.0141
Neptune	-5528-06-08 10:04 J	-297520.20	-297520.08	-297519.94	0.0089	0.0073
Uranus	-5528-07-03 12:00 J	-297495.15	-297495.00	-297494.83	0.0142	0.0094
Mars	-5528-07-25 17:02 J	-297472.95	-297472.79	-297472.62	0.1616	0.0507
Saturn	-5528-09-22 04:48 J	-297414.38	-297414.30	-297414.21	0.0260	0.0237
Neptune	-5527-01-19 23:02 J	-297294.68	-297294.54	-297294.36	0.0089	0.0061

Uranus	-5527-02-14 21:36 J	-297268.79	-297268.60	-297268.39	0.0142	0.0047
Saturn	-5527-05-09 01:26 J	-297185.64	-297185.44	-297185.23	0.0260	0.0064
Mars	-5527-06-30 18:00 J	-297132.92	-297132.75	-297132.58	0.1906	0.0587
Neptune	-5527-09-02 12:28 J	-297069.16	-297068.98	-297068.79	0.0089	0.0048
Uranus	-5527-09-29 07:40 J	-297042.40	-297042.18	-297041.97	0.0143	0.0002
Saturn	-5527-12-23 22:48 J	-296956.75	-296956.55	-296956.36	0.0260	0.0111
Neptune	-5526-04-16 01:26 J	-296843.63	-296843.44	-296843.23	0.0089	0.0036
Uranus	-5526-05-13 17:16 J	-296815.97	-296815.78	-296815.57	0.0143	0.0051
Jupiter	-5526-08-24 00:28 J	-296713.65	-296713.48	-296713.31	0.0513	0.0280
Neptune	-5526-11-27 14:23 J	-296618.10	-296617.90	-296617.67	0.0089	0.0024
Uranus	-5526-12-26 03:21 J	-296589.51	-296589.36	-296589.20	0.0143	0.0100
Neptune	-5525-07-10 03:50 J	-296392.55	-296392.34	-296392.12	0.0089	0.0011
Neptune	-5524-02-20 17:02 J	-296167.01	-296166.79	-296166.57	0.0089	0.0002
Neptune	-5524-10-04 06:00 J	-295941.46	-295941.25	-295941.03	0.0089	0.0014
Neptune	-5523-05-17 18:43 J	-295715.91	-295715.72	-295715.50	0.0089	0.0028
Neptune	-5523-12-29 07:55 J	-295490.35	-295490.17	-295489.96	0.0089	0.0040
Neptune	-5522-08-11 21:07 J	-295264.79	-295264.62	-295264.43	0.0089	0.0052
Neptune	-5521-03-24 09:50 J	-295039.22	-295039.09	-295038.91	0.0089	0.0065
Neptune	-5521-11-04 23:02 J	-294813.63	-294813.54	-294813.41	0.0089	0.0077
Neptune	-5520-06-18 12:14 J	-294588.00	-294587.99	-294587.95	0.0089	0.0089
Jupiter	-5520-07-01 22:19 J	-294574.77	-294574.57	-294574.36	0.0512	0.0010
Jupiter	-5514-12-22 02:23 J	-292210.52	-292210.40	-292210.28	0.0517	0.0414
Saturn	-5513-10-23 00:43 J	-291904.66	-291904.47	-291904.28	0.0302	0.0118
Saturn	-5512-06-10 06:28 J	-291674.41	-291674.23	-291674.05	0.0302	0.0156
Jupiter	-5508-03-06 20:38 J	-290308.81	-290308.64	-290308.46	0.0514	0.0265
Jupiter	-5502-08-26 17:16 J	-287944.97	-287944.78	-287944.58	0.0515	0.0134
Saturn	-5498-04-04 11:45 J	-286628.13	-286628.01	-286627.88	0.0260	0.0205
Saturn	-5498-11-19 08:23 J	-286399.36	-286399.15	-286398.93	0.0260	0.0032
Saturn	-5497-07-05 05:31 J	-286170.44	-286170.27	-286170.09	0.0261	0.0144
Jupiter	-5496-07-04 11:45 J	-285806.13	-285806.01	-285805.89	0.0509	0.0399

Mars	-5496-07-24 08:09 J	-285786.33	-285786.16	-285786.00	0.1619	0.0319
Mars	-5494-05-24 15:21 J	-285116.94	-285116.86	-285116.77	0.1613	0.1399
Mars	-5493-04-26 14:09 J	-284778.99	-284778.91	-284778.83	0.1911	0.1672
Jupiter	-5490-05-01 11:16 J	-283679.22	-283679.03	-283678.83	0.0513	0.0136
Uranus	-5489-07-25 04:04 J	-283228.41	-283228.33	-283228.21	0.0137	0.0121
Uranus	-5488-03-08 12:28 J	-283002.15	-283001.98	-283001.79	0.0136	0.0077
Uranus	-5488-10-20 20:23 J	-282775.86	-282775.65	-282775.43	0.0136	0.0034
Uranus	-5487-06-04 04:04 J	-282549.55	-282549.33	-282549.11	0.0136	0.0009
Uranus	-5486-01-16 11:31 J	-282323.22	-282323.02	-282322.81	0.0136	0.0051
Uranus	-5486-08-30 18:43 J	-282096.87	-282096.72	-282096.55	0.0135	0.0094
Uranus	-5485-04-13 01:55 J	-281870.42	-281870.42	-281870.40	0.0135	0.0135
Jupiter	-5484-03-09 09:50 J	-281540.29	-281540.09	-281539.90	0.0511	0.0142
Saturn	-5483-05-05 12:14 J	-281118.20	-281117.99	-281117.79	0.0302	0.0071
Saturn	-5483-12-21 17:31 J	-280887.91	-280887.77	-280887.61	0.0301	0.0202
Jupiter	-5478-01-04 06:28 J	-279413.36	-279413.23	-279413.10	0.0512	0.0399
Jupiter	-5473-11-12 07:55 J	-277274.37	-277274.17	-277273.97	0.0512	0.0117
Saturn	-5469-10-14 15:50 J	-275841.98	-275841.84	-275841.68	0.0260	0.0181
Saturn	-5468-05-31 12:43 J	-275613.18	-275612.97	-275612.75	0.0260	0.0008
Saturn	-5467-01-15 09:50 J	-275384.24	-275384.09	-275383.91	0.0261	0.0169
Jupiter	-5466-05-04 08:38 J	-274910.30	-274910.14	-274909.97	0.0516	0.0297
Pluto	-5465-04-10 10:04 J	-274568.18	-274568.08	-274567.94	0.0066	0.0055
Pluto	-5465-11-21 14:52 J	-274343.08	-274342.88	-274342.67	0.0066	0.0019
Pluto	-5464-07-04 19:11 J	-274117.90	-274117.70	-274117.47	0.0066	0.0017
Mars	-5464-07-22 23:31 J	-274099.64	-274099.52	-274099.40	0.1622	0.1150
Pluto	-5463-02-14 23:45 J	-273892.62	-273892.51	-273892.36	0.0066	0.0054
Mars	-5462-05-23 06:00 J	-273430.41	-273430.25	-273430.09	0.1615	0.0591
Mars	-5461-04-26 19:55 J	-273090.85	-273090.67	-273090.49	0.1907	0.0259
Jupiter	-5461-07-18 04:19 J	-273008.45	-273008.32	-273008.18	0.0514	0.0382
Jupiter	-5454-01-07 01:55 J	-270644.62	-270644.42	-270644.21	0.0514	0.0025
Saturn	-5454-11-15 22:19 J	-270331.78	-270331.57	-270331.36	0.0302	0.0029

Saturn	-5453-07-03 03:36 J	-270101.46	-270101.35	-270101.22	0.0301	0.0245
Jupiter	-5449-11-14 19:40 J	-268505.84	-268505.68	-268505.51	0.0510	0.0288
Neptune	-5446-07-23 19:40 J	-267524.75	-267524.68	-267524.58	0.0088	0.0081
Neptune	-5445-03-05 08:23 J	-267299.27	-267299.15	-267299.00	0.0088	0.0069
Neptune	-5445-10-16 21:21 J	-267073.77	-267073.61	-267073.43	0.0088	0.0057
Uranus	-5444-03-02 22:19 J	-266936.69	-266936.57	-266936.43	0.0142	0.0113
Neptune	-5444-05-30 10:19 J	-266848.25	-266848.07	-266847.87	0.0088	0.0045
Uranus	-5444-10-15 07:55 J	-266710.36	-266710.17	-266709.97	0.0142	0.0065
Neptune	-5443-01-10 23:31 J	-266622.72	-266622.52	-266622.31	0.0088	0.0033
Uranus	-5443-05-29 17:31 J	-266483.98	-266483.77	-266483.55	0.0143	0.0018
Neptune	-5443-08-24 12:28 J	-266397.20	-266396.98	-266396.77	0.0088	0.0021
Jupiter	-5443-09-11 18:28 J	-266378.90	-266378.73	-266378.55	0.0512	0.0251
Uranus	-5442-01-11 03:21 J	-266257.57	-266257.36	-266257.15	0.0143	0.0031
Neptune	-5442-04-07 01:11 J	-266171.67	-266171.45	-266171.23	0.0088	0.0009
Uranus	-5442-08-25 13:11 J	-266031.12	-266030.95	-266030.76	0.0143	0.0080
Neptune	-5442-11-18 14:09 J	-265946.13	-265945.91	-265945.69	0.0088	0.0003
Uranus	-5441-04-07 23:16 J	-265804.61	-265804.53	-265804.43	0.0143	0.0129
Neptune	-5441-07-01 02:52 J	-265720.59	-265720.38	-265720.15	0.0088	0.0015
Neptune	-5440-02-11 16:04 J	-265495.04	-265494.83	-265494.62	0.0088	0.0027
Neptune	-5440-09-25 04:48 J	-265269.49	-265269.30	-265269.09	0.0088	0.0039
Saturn	-5439-04-26 22:48 J	-265055.72	-265055.55	-265055.38	0.0260	0.0150
Neptune	-5439-05-08 17:45 J	-265043.93	-265043.76	-265043.58	0.0088	0.0051
Saturn	-5439-12-11 19:26 J	-264826.90	-264826.69	-264826.47	0.0261	0.0026
Neptune	-5439-12-20 06:43 J	-264818.37	-264818.22	-264818.06	0.0088	0.0063
Saturn	-5438-07-28 16:33 J	-264597.93	-264597.81	-264597.66	0.0261	0.0201
Neptune	-5438-08-02 19:26 J	-264592.79	-264592.69	-264592.56	0.0088	0.0075
Neptune	-5437-03-15 08:23 J	-264367.16	-264367.15	-264367.11	0.0088	0.0087
Jupiter	-5437-07-20 18:43 J	-264239.92	-264239.72	-264239.52	0.0512	0.0032
Jupiter	-5430-01-09 20:09 J	-261875.75	-261875.66	-261875.55	0.0517	0.0446
Mars	-5430-05-21 21:07 J	-261743.79	-261743.62	-261743.45	0.1618	0.0237

Mars	-5428-03-21 04:19 J	-261074.39	-261074.32	-261074.26	0.1613	0.1484
Jupiter	-5425-03-25 16:04 J	-259974.01	-259973.83	-259973.65	0.0513	0.0232
Saturn	-5425-10-10 04:04 J	-259775.44	-259775.33	-259775.22	0.0302	0.0257
Saturn	-5424-05-28 10:19 J	-259545.28	-259545.07	-259544.86	0.0302	0.0018
Saturn	-5423-01-13 15:21 J	-259314.90	-259314.86	-259314.80	0.0301	0.0290
Jupiter	-5419-09-14 14:09 J	-257610.10	-257609.91	-257609.72	0.0515	0.0175
Jupiter	-5414-11-29 13:26 J	-255707.99	-255707.94	-255707.88	0.0515	0.0495
Jupiter	-5413-07-23 06:14 J	-255471.34	-255471.24	-255471.13	0.0509	0.0432
Saturn	-5410-11-07 02:52 J	-254269.56	-254269.38	-254269.19	0.0260	0.0125
Saturn	-5409-06-22 23:45 J	-254040.72	-254040.51	-254040.30	0.0260	0.0049
Saturn	-5408-02-06 21:07 J	-253811.72	-253811.62	-253811.51	0.0261	0.0225
Jupiter	-5407-05-20 08:38 J	-253344.34	-253344.14	-253343.93	0.0514	0.0094
Uranus	-5405-11-05 22:19 J	-252443.71	-252443.57	-252443.40	0.0137	0.0096
Uranus	-5404-06-20 06:14 J	-252217.43	-252217.24	-252217.03	0.0136	0.0053
Uranus	-5403-02-01 14:24 J	-251991.12	-251990.90	-251990.68	0.0136	0.0009
Uranus	-5403-09-15 21:50 J	-251764.80	-251764.59	-251764.37	0.0136	0.0034
Uranus	-5402-04-30 05:16 J	-251538.46	-251538.28	-251538.10	0.0136	0.0076
Uranus	-5402-12-12 12:28 J	-251312.09	-251311.98	-251311.87	0.0135	0.0118
Jupiter	-5401-03-28 04:19 J	-251205.51	-251205.32	-251205.13	0.0511	0.0176
Earth	-5401-11-15 12:14 J	-250973.09	-250972.99	-250972.90	0.2708	0.2131
Moon	-5401-11-15 15:35 J	-250972.89	-250972.85	-250972.81	0.2714	0.2592
Mars	-5398-05-20 12:28 J	-250057.11	-250056.98	-250056.85	0.1621	0.1065
Mars	-5396-03-19 18:57 J	-249387.86	-249387.71	-249387.55	0.1615	0.0673
Jupiter	-5395-01-23 03:21 J	-249078.50	-249078.36	-249078.21	0.0512	0.0359
Mars	-5395-02-21 21:21 J	-249048.79	-249048.61	-249048.43	0.1909	0.0084
Saturn	-5395-04-22 12:43 J	-248989.11	-248988.97	-248988.82	0.0302	0.0217
Saturn	-5395-12-08 18:57 J	-248758.92	-248758.71	-248758.50	0.0302	0.0058
Earth	-5393-11-13 02:24 J	-248053.52	-248053.40	-248053.28	0.2709	0.1699
Moon	-5393-11-13 08:09 J	-248053.31	-248053.16	-248053.01	0.2710	0.0749 *
Jupiter	-5390-12-02 02:38 J	-246939.59	-246939.39	-246939.19	0.0513	0.0084

Jupiter	-5383-05-23 03:21 J	-244575.52	-244575.36	-244575.21	0.0516	0.0329
Saturn	-5380-05-19 08:52 J	-243483.32	-243483.13	-243482.92	0.0260	0.0096
Saturn	-5379-01-03 06:00 J	-243254.45	-243254.25	-243254.04	0.0261	0.0081
Saturn	-5379-08-20 03:21 J	-243025.39	-243025.36	-243025.32	0.0261	0.0256
Jupiter	-5378-08-07 00:14 J	-242673.63	-242673.49	-242673.34	0.0515	0.0347
Pluto	-5378-12-10 08:52 J	-242548.31	-242548.13	-242547.91	0.0079	0.0034
Pluto	-5377-07-22 19:11 J	-242322.89	-242322.70	-242322.48	0.0078	0.0030
Jupiter	-5371-01-25 20:52 J	-240309.84	-240309.63	-240309.43	0.0514	0.0057
Saturn	-5366-11-03 00:00 J	-238202.67	-238202.50	-238202.32	0.0302	0.0173
Jupiter	-5366-12-04 15:21 J	-238171.01	-238170.86	-238170.70	0.0510	0.0324
Saturn	-5365-06-20 06:14 J	-237972.44	-237972.24	-237972.04	0.0302	0.0102
Mars	-5364-03-18 09:50 J	-237701.26	-237701.09	-237700.92	0.1617	0.0150
Neptune	-5364-09-09 17:16 J	-237525.86	-237525.78	-237525.67	0.0089	0.0081
Mars	-5363-02-22 01:11 J	-237360.50	-237360.45	-237360.39	0.1904	0.1796
Neptune	-5363-04-23 06:14 J	-237300.36	-237300.24	-237300.08	0.0089	0.0069
Neptune	-5363-12-04 19:40 J	-237074.84	-237074.68	-237074.50	0.0089	0.0056
Mars	-5362-01-16 17:16 J	-237031.81	-237031.78	-237031.74	0.1612	0.1564
Neptune	-5362-07-18 08:52 J	-236849.31	-236849.13	-236848.93	0.0089	0.0043
Neptune	-5361-02-28 22:04 J	-236623.78	-236623.58	-236623.37	0.0089	0.0031
Neptune	-5361-10-11 11:02 J	-236398.24	-236398.04	-236397.81	0.0089	0.0019
Uranus	-5361-10-31 08:38 J	-236378.20	-236378.14	-236378.04	0.0142	0.0132
Neptune	-5360-05-25 00:28 J	-236172.70	-236172.48	-236172.26	0.0089	0.0005
Uranus	-5360-06-14 18:14 J	-236151.90	-236151.74	-236151.56	0.0142	0.0084
Jupiter	-5360-09-30 14:52 J	-236044.06	-236043.88	-236043.69	0.0513	0.0213
Neptune	-5359-01-05 13:26 J	-235947.15	-235946.94	-235946.72	0.0089	0.0007
Uranus	-5359-01-27 03:50 J	-235925.54	-235925.34	-235925.13	0.0142	0.0037
Neptune	-5359-08-19 02:38 J	-235721.60	-235721.39	-235721.17	0.0089	0.0020
Uranus	-5359-09-10 13:40 J	-235699.14	-235698.93	-235698.71	0.0143	0.0012
Neptune	-5358-04-01 15:35 J	-235496.05	-235495.85	-235495.64	0.0089	0.0032
Uranus	-5358-04-24 23:16 J	-235472.71	-235472.53	-235472.32	0.0143	0.0061

Neptune	-5358-11-13 04:48 J	-235270.49	-235270.30	-235270.11	0.0089	0.0045
Uranus	-5358-12-07 09:21 J	-235246.24	-235246.11	-235245.97	0.0143	0.0109
Neptune	-5357-06-25 17:31 J	-235044.92	-235044.77	-235044.58	0.0089	0.0058
Neptune	-5356-02-06 06:57 J	-234819.34	-234819.21	-234819.07	0.0089	0.0070
Neptune	-5356-09-19 19:40 J	-234593.74	-234593.68	-234593.58	0.0089	0.0082
Jupiter	-5354-08-09 14:38 J	-233905.09	-233904.89	-233904.69	0.0511	0.0069
Saturn	-5351-04-14 16:33 J	-232925.87	-232925.81	-232925.73	0.0260	0.0244
Saturn	-5351-11-29 13:11 J	-232697.16	-232696.95	-232696.75	0.0260	0.0071
Saturn	-5350-07-16 09:50 J	-232468.28	-232468.09	-232467.89	0.0260	0.0104
Jupiter	-5348-06-05 10:33 J	-231778.13	-231778.06	-231777.98	0.0511	0.0473
Jupiter	-5347-01-28 18:43 J	-231540.78	-231540.72	-231540.67	0.0517	0.0494
Jupiter	-5342-04-14 11:45 J	-229639.20	-229639.01	-229638.83	0.0513	0.0196
Saturn	-5336-05-15 07:26 J	-227416.37	-227416.19	-227416.00	0.0302	0.0136
Jupiter	-5336-10-03 12:00 J	-227275.18	-227275.00	-227274.81	0.0515	0.0220
Saturn	-5336-12-31 13:26 J	-227186.12	-227185.94	-227185.75	0.0302	0.0141
Mars	-5332-03-17 00:57 J	-226014.60	-226014.46	-226014.32	0.1620	0.0974
Jupiter	-5331-12-18 08:52 J	-225373.22	-225373.13	-225373.04	0.0515	0.0460
Mars	-5330-01-15 07:55 J	-225345.32	-225345.17	-225345.02	0.1614	0.0756
Jupiter	-5330-08-12 02:09 J	-225136.49	-225136.41	-225136.34	0.0509	0.0470
Mars	-5330-12-19 22:48 J	-225006.72	-225006.55	-225006.37	0.1911	0.0429
Jupiter	-5324-06-08 04:48 J	-223009.50	-223009.30	-223009.09	0.0513	0.0058
Saturn	-5322-10-25 21:35 J	-222139.71	-222139.60	-222139.47	0.0260	0.0216
Saturn	-5321-06-10 18:14 J	-221910.95	-221910.74	-221910.53	0.0260	0.0042
Uranus	-5321-07-06 08:09 J	-221885.27	-221885.16	-221885.03	0.0137	0.0114
Saturn	-5320-01-25 15:07 J	-221682.05	-221681.87	-221681.68	0.0261	0.0133
Uranus	-5320-02-17 16:19 J	-221659.00	-221658.82	-221658.62	0.0137	0.0071
Uranus	-5320-10-02 00:14 J	-221432.70	-221432.49	-221432.27	0.0136	0.0028
Uranus	-5319-05-16 07:55 J	-221206.39	-221206.17	-221205.95	0.0136	0.0016
Uranus	-5319-12-28 15:07 J	-220980.06	-220979.87	-220979.66	0.0136	0.0059
Jupiter	-5318-04-17 01:11 J	-220870.63	-220870.45	-220870.27	0.0511	0.0216

Uranus	-5318-08-11 22:19 J	-220753.70	-220753.57	-220753.41	0.0135	0.0101
Jupiter	-5312-02-10 23:31 J	-218743.67	-218743.52	-218743.36	0.0512	0.0323
Saturn	-5307-11-25 17:31 J	-216629.97	-216629.77	-216629.57	0.0302	0.0094
Jupiter	-5307-12-20 23:31 J	-216604.72	-216604.52	-216604.32	0.0512	0.0043
Saturn	-5306-07-13 23:31 J	-216399.68	-216399.52	-216399.35	0.0301	0.0182
Earth	-5303-05-19 23:02 J	-215358.65	-215358.54	-215358.44	0.2625	0.1943
Moon	-5303-05-20 00:28 J	-215358.54	-215358.48	-215358.42	0.2631	0.2400 *
Jupiter	-5300-06-11 00:43 J	-214240.61	-214240.47	-214240.33	0.0517	0.0375
Mars	-5298-01-13 22:48 J	-213658.72	-213658.55	-213658.37	0.1616	0.0072
Mars	-5298-12-20 03:07 J	-213318.48	-213318.37	-213318.25	0.1906	0.1470
Earth	-5295-05-17 15:07 J	-212439.01	-212438.87	-212438.74	0.2624	0.1375
Moon	-5295-05-17 19:55 J	-212438.81	-212438.67	-212438.53	0.2627	0.1140 *
Jupiter	-5295-08-25 22:19 J	-212338.73	-212338.57	-212338.41	0.0514	0.0303
Saturn	-5292-05-07 01:11 J	-211353.58	-211353.45	-211353.30	0.0259	0.0193
Saturn	-5292-12-21 21:50 J	-211124.80	-211124.59	-211124.37	0.0260	0.0019
Saturn	-5291-08-07 18:43 J	-210895.89	-210895.72	-210895.55	0.0260	0.0155
Jupiter	-5288-02-13 19:26 J	-209974.89	-209974.69	-209974.49	0.0515	0.0105
Jupiter	-5283-12-23 12:28 J	-207836.12	-207835.98	-207835.84	0.0509	0.0366
Neptune	-5282-10-25 04:48 J	-207530.30	-207530.30	-207530.29	0.0088	0.0088
Neptune	-5281-06-06 17:16 J	-207304.87	-207304.78	-207304.66	0.0088	0.0076
Neptune	-5280-01-18 06:14 J	-207079.38	-207079.24	-207079.07	0.0088	0.0064
Neptune	-5280-08-31 19:11 J	-206853.87	-206853.70	-206853.51	0.0088	0.0052
Neptune	-5279-04-14 07:55 J	-206628.35	-206628.17	-206627.96	0.0088	0.0040
Neptune	-5279-11-25 20:52 J	-206402.83	-206402.63	-206402.41	0.0088	0.0028
Neptune	-5278-07-09 09:50 J	-206177.30	-206177.09	-206176.87	0.0088	0.0016
Neptune	-5277-02-19 22:48 J	-205951.77	-205951.55	-205951.32	0.0088	0.0004
Saturn	-5277-06-06 22:48 J	-205843.75	-205843.55	-205843.34	0.0303	0.0061
Neptune	-5277-10-02 11:45 J	-205726.23	-205726.01	-205725.79	0.0088	0.0009
Jupiter	-5277-10-19 14:09 J	-205709.10	-205708.91	-205708.71	0.0513	0.0165
Saturn	-5276-01-23 04:48 J	-205613.44	-205613.30	-205613.15	0.0302	0.0215

Uranus	-5276-02-12 05:02 J	-205593.43	-205593.29	-205593.14	0.0142	0.0103
Neptune	-5276-05-16 00:28 J	-205500.69	-205500.48	-205500.26	0.0088	0.0021
Uranus	-5276-09-26 14:38 J	-205367.09	-205366.89	-205366.69	0.0142	0.0056
Neptune	-5276-12-27 13:26 J	-205275.13	-205274.94	-205274.72	0.0088	0.0033
Uranus	-5275-05-11 00:14 J	-205140.71	-205140.49	-205140.27	0.0142	0.0007
Neptune	-5275-08-10 02:24 J	-205049.58	-205049.40	-205049.20	0.0088	0.0045
Uranus	-5275-12-23 09:50 J	-204914.29	-204914.09	-204913.88	0.0143	0.0041
Neptune	-5274-03-23 15:21 J	-204824.02	-204823.86	-204823.69	0.0088	0.0057
Uranus	-5274-08-06 19:40 J	-204687.83	-204687.68	-204687.50	0.0143	0.0090
Neptune	-5274-11-04 04:19 J	-204598.45	-204598.32	-204598.18	0.0088	0.0069
Uranus	-5273-03-20 05:45 J	-204461.29	-204461.26	-204461.20	0.0143	0.0139
Neptune	-5273-06-16 17:16 J	-204372.86	-204372.78	-204372.70	0.0088	0.0081
Jupiter	-5271-08-28 11:16 J	-203570.22	-203570.03	-203569.83	0.0511	0.0110
Mars	-5266-01-12 13:55 J	-201972.06	-201971.92	-201971.77	0.1619	0.0893
Jupiter	-5265-06-24 08:52 J	-201443.24	-201443.13	-201443.02	0.0511	0.0430
Mars	-5265-11-11 21:07 J	-201302.77	-201302.62	-201302.48	0.1613	0.0836
Mars	-5264-10-16 00:28 J	-200964.64	-200964.48	-200964.32	0.1912	0.0775
Saturn	-5263-11-17 05:31 J	-200567.43	-200567.27	-200567.11	0.0260	0.0167
Saturn	-5262-07-04 01:40 J	-200338.64	-200338.43	-200338.21	0.0260	0.0008
Saturn	-5261-02-17 22:19 J	-200109.71	-200109.57	-200109.41	0.0260	0.0183
Jupiter	-5259-05-03 09:21 J	-199304.30	-199304.11	-199303.92	0.0513	0.0153
Jupiter	-5253-10-22 09:35 J	-196940.28	-196940.10	-196939.92	0.0515	0.0263
Saturn	-5248-05-02 00:57 J	-195287.49	-195287.46	-195287.43	0.0302	0.0298
Saturn	-5248-12-18 07:40 J	-195057.39	-195057.18	-195056.97	0.0302	0.0022
Jupiter	-5247-01-06 07:11 J	-195038.31	-195038.20	-195038.07	0.0515	0.0415
Saturn	-5247-08-05 13:26 J	-194827.05	-194826.94	-194826.82	0.0301	0.0253
Jupiter	-5241-06-27 02:38 J	-192674.59	-192674.39	-192674.18	0.0514	0.0012
Uranus	-5237-03-05 19:11 J	-191326.73	-191326.70	-191326.62	0.0137	0.0132
Uranus	-5237-10-18 03:35 J	-191100.51	-191100.35	-191100.17	0.0137	0.0088
Uranus	-5236-06-01 11:31 J	-190874.22	-190874.02	-190873.81	0.0136	0.0045

Uranus	-5235-01-13 19:11 J	-190647.92	-190647.70	-190647.48	0.0136	0.0003
Jupiter	-5235-05-06 00:28 J	-190535.65	-190535.48	-190535.31	0.0510	0.0266
Uranus	-5235-08-28 02:38 J	-190421.59	-190421.39	-190421.17	0.0136	0.0042
Uranus	-5234-04-11 10:04 J	-190195.25	-190195.08	-190194.90	0.0136	0.0084
Uranus	-5234-11-23 17:16 J	-189968.85	-189968.78	-189968.69	0.0135	0.0126
Saturn	-5233-05-29 08:24 J	-189781.32	-189781.15	-189780.97	0.0259	0.0144
Mars	-5233-11-10 12:00 J	-189616.18	-189616.00	-189615.83	0.1615	0.0042
Saturn	-5232-01-13 04:48 J	-189552.51	-189552.30	-189552.09	0.0259	0.0030
Saturn	-5232-08-30 01:11 J	-189323.57	-189323.45	-189323.30	0.0260	0.0204
Mars	-5232-10-16 04:48 J	-189276.44	-189276.30	-189276.15	0.1907	0.1136
Jupiter	-5229-03-01 22:33 J	-188408.73	-188408.56	-188408.39	0.0513	0.0275
Jupiter	-5223-01-08 22:19 J	-186269.77	-186269.57	-186269.36	0.0512	0.0011
Pluto	-5219-05-10 00:00 J	-184687.64	-184687.50	-184687.31	0.0066	0.0042
Saturn	-5219-11-12 04:19 J	-184501.41	-184501.32	-184501.22	0.0303	0.0269
Pluto	-5219-12-21 05:02 J	-184462.51	-184462.29	-184462.07	0.0066	0.0006
Saturn	-5218-06-30 11:16 J	-184271.24	-184271.03	-184270.82	0.0303	0.0010
Pluto	-5218-08-03 09:50 J	-184237.29	-184237.09	-184236.90	0.0066	0.0031
Saturn	-5217-02-15 16:48 J	-184040.86	-184040.80	-184040.72	0.0302	0.0284
Jupiter	-5217-06-30 01:40 J	-183905.54	-183905.43	-183905.32	0.0517	0.0432
Jupiter	-5212-09-13 20:24 J	-182003.82	-182003.65	-182003.47	0.0514	0.0258
Jupiter	-5205-03-04 19:11 J	-179639.90	-179639.70	-179639.50	0.0515	0.0156
Saturn	-5204-12-09 11:16 J	-178995.21	-178995.03	-178994.84	0.0260	0.0121
Saturn	-5203-07-26 07:40 J	-178766.39	-178766.18	-178765.97	0.0260	0.0053
Saturn	-5202-03-12 04:19 J	-178537.42	-178537.32	-178537.22	0.0260	0.0228
Mars	-5201-11-09 02:38 J	-177929.54	-177929.39	-177929.24	0.1618	0.0807
Neptune	-5200-12-12 00:43 J	-177531.48	-177531.47	-177531.43	0.0089	0.0089
Jupiter	-5199-01-11 11:31 J	-177501.13	-177501.02	-177500.90	0.0510	0.0415
Neptune	-5199-07-25 13:55 J	-177306.01	-177305.92	-177305.79	0.0089	0.0077
Mars	-5199-09-09 09:50 J	-177260.22	-177260.09	-177259.94	0.1612	0.0921
Neptune	-5198-03-08 03:21 J	-177080.50	-177080.36	-177080.20	0.0089	0.0064

Mars	-5198-08-13 01:26 J	-176922.58	-176922.44	-176922.30	0.1913	0.1133
Neptune	-5198-10-19 16:33 J	-176854.98	-176854.81	-176854.62	0.0089	0.0051
Neptune	-5197-06-01 05:31 J	-176629.45	-176629.27	-176629.06	0.0089	0.0039
Neptune	-5196-01-12 18:57 J	-176403.92	-176403.71	-176403.50	0.0089	0.0026
Neptune	-5196-08-26 08:09 J	-176178.37	-176178.16	-176177.94	0.0089	0.0013
Neptune	-5195-04-08 21:21 J	-175952.83	-175952.61	-175952.39	0.0089	0.0001
Neptune	-5195-11-20 10:19 J	-175727.28	-175727.07	-175726.85	0.0089	0.0013
Neptune	-5194-07-03 23:16 J	-175501.73	-175501.53	-175501.31	0.0089	0.0026
Jupiter	-5194-11-08 13:26 J	-175374.14	-175373.94	-175373.74	0.0513	0.0116
Neptune	-5193-02-14 12:14 J	-175276.17	-175275.99	-175275.78	0.0089	0.0038
Neptune	-5193-09-27 01:26 J	-175050.61	-175050.44	-175050.25	0.0089	0.0051
Uranus	-5193-10-12 14:52 J	-175034.99	-175034.88	-175034.78	0.0142	0.0123
Neptune	-5192-05-10 14:09 J	-174825.04	-174824.91	-174824.74	0.0089	0.0064
Uranus	-5192-05-27 00:00 J	-174808.67	-174808.50	-174808.31	0.0142	0.0076
Neptune	-5192-12-22 03:21 J	-174599.46	-174599.36	-174599.23	0.0089	0.0076
Uranus	-5191-01-08 09:35 J	-174582.31	-174582.10	-174581.89	0.0142	0.0028
Neptune	-5191-08-04 16:19 J	-174373.83	-174373.82	-174373.76	0.0089	0.0089
Uranus	-5191-08-22 19:26 J	-174355.90	-174355.69	-174355.47	0.0143	0.0021
Uranus	-5190-04-06 05:16 J	-174129.47	-174129.28	-174129.09	0.0143	0.0069
Uranus	-5190-11-18 15:07 J	-173902.98	-173902.87	-173902.74	0.0143	0.0118
Saturn	-5189-05-24 11:31 J	-173715.15	-173715.02	-173714.89	0.0302	0.0234
Saturn	-5188-01-09 18:14 J	-173484.95	-173484.74	-173484.54	0.0302	0.0043
Jupiter	-5188-09-16 11:16 J	-173235.22	-173235.03	-173234.84	0.0511	0.0162
Jupiter	-5182-07-14 06:57 J	-171108.34	-171108.21	-171108.07	0.0512	0.0386
Jupiter	-5176-05-22 10:48 J	-168969.24	-168969.05	-168968.85	0.0512	0.0096
Saturn	-5174-06-21 13:55 J	-168209.12	-168208.92	-168208.73	0.0259	0.0099
Saturn	-5173-02-05 10:04 J	-167980.29	-167980.08	-167979.88	0.0259	0.0075
Saturn	-5173-09-21 06:28 J	-167751.28	-167751.23	-167751.16	0.0260	0.0249
Jupiter	-5170-11-11 10:04 J	-166605.24	-166605.08	-166604.92	0.0516	0.0321
Mars	-5167-09-08 00:43 J	-165573.65	-165573.47	-165573.30	0.1614	0.0109

Mars	-5166-08-13 06:57 J	-165234.37	-165234.21	-165234.05	0.1909	0.0805
Jupiter	-5164-01-25 08:09 J	-164703.30	-164703.16	-164703.01	0.0514	0.0362
Saturn	-5160-12-04 13:11 J	-162929.10	-162928.95	-162928.80	0.0303	0.0208
Saturn	-5159-07-22 19:55 J	-162698.87	-162698.67	-162698.46	0.0303	0.0070
Jupiter	-5158-07-17 05:02 J	-162339.49	-162339.29	-162339.08	0.0514	0.0051
Moon	-5158-11-16 10:48 J	-162217.19	-162217.05	-162216.92	0.2702	0.1533
Earth	-5158-11-16 12:14 J	-162217.10	-162216.99	-162216.89	0.2709	0.1991 *
Uranus	-5153-06-17 13:55 J	-160542.06	-160541.92	-160541.78	0.0137	0.0106
Uranus	-5152-01-29 21:50 J	-160315.78	-160315.59	-160315.39	0.0137	0.0063
Jupiter	-5152-05-25 00:00 J	-160200.66	-160200.50	-160200.35	0.0510	0.0317
Uranus	-5152-09-13 05:45 J	-160089.48	-160089.26	-160089.05	0.0136	0.0019
Uranus	-5151-04-27 13:11 J	-159863.16	-159862.95	-159862.73	0.0136	0.0024
Uranus	-5151-12-09 20:24 J	-159636.83	-159636.65	-159636.45	0.0136	0.0067
Uranus	-5150-07-24 03:50 J	-159410.46	-159410.34	-159410.20	0.0135	0.0109
Moon	-5150-11-13 21:07 J	-159297.67	-159297.62	-159297.57	0.2707	0.2547
Earth	-5150-11-14 02:24 J	-159297.52	-159297.40	-159297.29	0.2710	0.1845
Jupiter	-5146-03-22 00:00 J	-158073.68	-158073.50	-158073.31	0.0512	0.0220
Saturn	-5145-05-16 19:26 J	-157651.74	-157651.69	-157651.62	0.0259	0.0250
Saturn	-5145-12-31 15:35 J	-157423.05	-157422.85	-157422.64	0.0259	0.0077
Saturn	-5144-08-17 12:00 J	-157194.20	-157194.00	-157193.80	0.0260	0.0097
Jupiter	-5140-01-27 22:33 J	-155934.76	-155934.56	-155934.35	0.0512	0.0060
Mars	-5135-09-06 15:35 J	-153887.00	-153886.85	-153886.70	0.1617	0.0723
Jupiter	-5135-11-24 19:26 J	-153807.75	-153807.69	-153807.62	0.0511	0.0484
Jupiter	-5134-07-20 02:24 J	-153570.47	-153570.40	-153570.34	0.0517	0.0487
Mars	-5133-07-06 22:48 J	-153217.69	-153217.55	-153217.42	0.1612	0.1006
Pluto	-5132-05-27 16:04 J	-152892.92	-152892.83	-152892.69	0.0079	0.0068
Mars	-5132-06-09 02:38 J	-152880.50	-152880.39	-152880.27	0.1914	0.1490
Pluto	-5131-01-08 02:52 J	-152667.60	-152667.38	-152667.16	0.0078	0.0005
Pluto	-5131-08-21 12:28 J	-152442.11	-152441.98	-152441.80	0.0078	0.0057
Saturn	-5130-06-16 19:11 J	-152142.86	-152142.70	-152142.52	0.0302	0.0176

Saturn	-5129-02-02 01:55 J	-151912.62	-151912.42	-151912.22	0.0302	0.0102
Jupiter	-5129-10-02 22:04 J	-151668.77	-151668.58	-151668.40	0.0513	0.0200
Jupiter	-5122-03-24 18:43 J	-149304.91	-149304.72	-149304.53	0.0516	0.0209
Jupiter	-5117-06-07 20:52 J	-147402.71	-147402.63	-147402.53	0.0515	0.0462
Neptune	-5117-09-08 02:24 J	-147310.45	-147310.40	-147310.30	0.0088	0.0083
Jupiter	-5116-01-30 14:09 J	-147165.98	-147165.91	-147165.84	0.0509	0.0476
Neptune	-5116-04-21 15:07 J	-147084.97	-147084.87	-147084.71	0.0088	0.0071
Saturn	-5116-11-26 21:50 J	-146865.68	-146865.59	-146865.48	0.0259	0.0227
Neptune	-5116-12-03 04:04 J	-146859.48	-146859.33	-146859.15	0.0088	0.0059
Saturn	-5115-07-13 17:45 J	-146636.96	-146636.76	-146636.55	0.0259	0.0056
Neptune	-5115-07-16 16:48 J	-146633.96	-146633.80	-146633.59	0.0088	0.0047
Neptune	-5114-02-27 06:00 J	-146408.45	-146408.25	-146408.04	0.0088	0.0034
Saturn	-5114-02-27 13:55 J	-146408.10	-146407.92	-146407.73	0.0259	0.0119 *
Neptune	-5114-10-10 18:57 J	-146182.92	-146182.71	-146182.49	0.0088	0.0022
Neptune	-5113-05-23 07:55 J	-145957.39	-145957.17	-145956.95	0.0088	0.0010
Neptune	-5112-01-03 20:52 J	-145731.85	-145731.63	-145731.41	0.0088	0.0003
Neptune	-5112-08-17 09:35 J	-145506.31	-145506.10	-145505.87	0.0088	0.0015
Neptune	-5111-03-30 22:33 J	-145280.76	-145280.56	-145280.34	0.0088	0.0027
Neptune	-5111-11-11 11:31 J	-145055.21	-145055.02	-145054.82	0.0088	0.0039
Jupiter	-5111-11-27 14:09 J	-145039.11	-145038.91	-145038.70	0.0514	0.0061
Neptune	-5110-06-25 00:28 J	-144829.66	-144829.48	-144829.30	0.0088	0.0051
Neptune	-5109-02-05 13:11 J	-144604.08	-144603.95	-144603.78	0.0088	0.0064
Neptune	-5109-09-18 02:09 J	-144378.50	-144378.41	-144378.28	0.0088	0.0076
Uranus	-5108-01-24 08:09 J	-144250.30	-144250.16	-144249.99	0.0142	0.0098
Uranus	-5108-09-07 17:45 J	-144023.95	-144023.76	-144023.55	0.0142	0.0050
Uranus	-5107-04-22 03:35 J	-143797.57	-143797.35	-143797.14	0.0142	0.0002
Uranus	-5107-12-04 13:11 J	-143571.15	-143570.95	-143570.74	0.0143	0.0047
Uranus	-5106-07-18 22:48 J	-143344.69	-143344.55	-143344.37	0.0143	0.0096
Jupiter	-5105-10-05 13:11 J	-142900.13	-142899.95	-142899.77	0.0510	0.0221
Mars	-5103-09-05 06:43 J	-142200.26	-142200.22	-142200.17	0.1620	0.1555

Mars	-5101-07-05 13:26 J	-141531.11	-141530.94	-141530.77	0.1614	0.0190
Saturn	-5101-12-26 19:40 J	-141356.86	-141356.68	-141356.50	0.0303	0.0151
Mars	-5100-06-09 07:55 J	-141192.34	-141192.17	-141191.99	0.1910	0.0452
Saturn	-5100-08-14 02:09 J	-141126.59	-141126.41	-141126.21	0.0303	0.0128
Jupiter	-5099-08-02 10:33 J	-140773.21	-140773.06	-140772.90	0.0512	0.0325
Jupiter	-5093-06-10 11:45 J	-138634.21	-138634.01	-138633.81	0.0512	0.0041
Jupiter	-5087-11-30 12:57 J	-136270.10	-136269.96	-136269.82	0.0516	0.0383
Saturn	-5086-06-08 22:33 J	-136079.67	-136079.56	-136079.42	0.0259	0.0208
Saturn	-5085-01-23 18:57 J	-135850.92	-135850.71	-135850.50	0.0259	0.0035
Saturn	-5085-09-08 15:07 J	-135622.05	-135621.87	-135621.69	0.0260	0.0139
Jupiter	-5081-02-14 09:35 J	-134368.26	-134368.10	-134367.94	0.0514	0.0306
Jupiter	-5075-08-05 06:57 J	-132004.41	-132004.21	-132004.01	0.0514	0.0108
Saturn	-5071-07-09 00:43 J	-130570.66	-130570.47	-130570.28	0.0302	0.0121
Saturn	-5070-02-24 07:12 J	-130340.38	-130340.20	-130340.02	0.0302	0.0157
Uranus	-5069-02-15 23:31 J	-129983.59	-129983.52	-129983.41	0.0137	0.0126
Jupiter	-5069-06-13 02:24 J	-129865.53	-129865.40	-129865.26	0.0510	0.0380
Mars	-5069-07-04 04:04 J	-129844.48	-129844.33	-129844.17	0.1616	0.0635
Uranus	-5069-09-29 07:55 J	-129757.34	-129757.17	-129756.99	0.0137	0.0081
Uranus	-5068-05-13 15:50 J	-129531.05	-129530.84	-129530.63	0.0136	0.0038
Uranus	-5068-12-25 23:31 J	-129304.74	-129304.52	-129304.30	0.0136	0.0006
Mars	-5067-05-04 12:00 J	-129175.13	-129175.00	-129174.88	0.1611	0.1090
Uranus	-5067-08-09 06:57 J	-129078.41	-129078.21	-129078.00	0.0136	0.0049
Uranus	-5066-03-23 14:38 J	-128852.05	-128851.89	-128851.73	0.0136	0.0091
Mars	-5066-04-06 03:35 J	-128838.39	-128838.35	-128838.31	0.1914	0.1854
Uranus	-5066-11-04 21:35 J	-128625.62	-128625.60	-128625.55	0.0135	0.0134
Jupiter	-5063-04-09 23:45 J	-127738.70	-127738.51	-127738.32	0.0513	0.0169
Earth	-5060-05-20 01:26 J	-126602.53	-126602.44	-126602.35	0.2624	0.2149
Moon	-5060-05-20 02:09 J	-126602.51	-126602.41	-126602.31	0.2617	0.2123 *
Jupiter	-5057-02-17 03:07 J	-125599.56	-125599.37	-125599.17	0.0511	0.0126
Saturn	-5057-12-19 01:12 J	-125293.59	-125293.45	-125293.30	0.0259	0.0185

Saturn	-5056-08-04 21:07 J	-125064.84	-125064.62	-125064.41	0.0259	0.0013
Saturn	-5055-03-21 17:02 J	-124835.95	-124835.79	-124835.62	0.0259	0.0161
Moon	-5052-05-17 14:09 J	-123683.06	-123682.91	-123682.76	0.2618	0.1186
Earth	-5052-05-17 17:45 J	-123682.90	-123682.76	-123682.61	0.2623	0.1164 *
Jupiter	-5052-12-13 20:24 J	-123472.76	-123472.65	-123472.55	0.0511	0.0432
Jupiter	-5046-10-23 01:12 J	-121333.64	-121333.45	-121333.25	0.0513	0.0139
Saturn	-5041-01-19 00:43 J	-119784.67	-119784.47	-119784.27	0.0303	0.0097
Saturn	-5041-09-05 06:57 J	-119554.37	-119554.21	-119554.03	0.0303	0.0182
Jupiter	-5039-04-12 23:16 J	-118969.70	-118969.53	-118969.35	0.0516	0.0278
Mars	-5037-07-02 19:26 J	-118157.76	-118157.69	-118157.62	0.1619	0.1467
Mars	-5035-05-03 02:24 J	-117488.57	-117488.40	-117488.23	0.1613	0.0278
Neptune	-5035-10-26 22:19 J	-117311.63	-117311.57	-117311.48	0.0089	0.0084
Mars	-5034-04-06 09:50 J	-117150.26	-117150.09	-117149.91	0.1912	0.0119
Neptune	-5034-06-09 11:45 J	-117086.14	-117086.01	-117085.87	0.0089	0.0071
Jupiter	-5034-06-27 22:47 J	-117067.67	-117067.55	-117067.42	0.0515	0.0406
Neptune	-5033-01-21 00:43 J	-116860.62	-116860.47	-116860.29	0.0089	0.0059
Neptune	-5033-09-02 14:09 J	-116635.09	-116634.91	-116634.71	0.0089	0.0045
Neptune	-5032-04-16 03:21 J	-116409.56	-116409.36	-116409.15	0.0089	0.0033
Neptune	-5032-11-27 16:33 J	-116184.02	-116183.81	-116183.59	0.0089	0.0020
Neptune	-5031-07-11 05:45 J	-115958.47	-115958.26	-115958.04	0.0089	0.0007
Neptune	-5030-02-21 18:57 J	-115732.93	-115732.71	-115732.49	0.0089	0.0006
Neptune	-5030-10-05 07:55 J	-115507.38	-115507.17	-115506.95	0.0089	0.0019
Neptune	-5029-05-17 20:52 J	-115281.83	-115281.63	-115281.42	0.0089	0.0032
Neptune	-5029-12-29 09:50 J	-115056.27	-115056.09	-115055.89	0.0089	0.0044
Neptune	-5028-08-11 23:16 J	-114830.70	-114830.53	-114830.36	0.0089	0.0057
Jupiter	-5028-12-16 18:14 J	-114703.95	-114703.74	-114703.54	0.0514	0.0009
Neptune	-5027-03-25 12:00 J	-114605.12	-114605.00	-114604.85	0.0089	0.0070
Saturn	-5027-07-01 01:12 J	-114507.60	-114507.45	-114507.28	0.0259	0.0167
Neptune	-5027-11-06 00:43 J	-114379.53	-114379.47	-114379.36	0.0089	0.0083
Saturn	-5026-02-14 21:21 J	-114278.82	-114278.61	-114278.40	0.0259	0.0006

Saturn	-5026-10-01 17:31 J	-114049.92	-114049.77	-114049.61	0.0260	0.0180
Uranus	-5025-09-23 16:04 J	-113691.92	-113691.83	-113691.69	0.0141	0.0120
Uranus	-5024-05-08 01:40 J	-113465.61	-113465.43	-113465.24	0.0142	0.0072
Uranus	-5024-12-20 11:16 J	-113239.24	-113239.03	-113238.82	0.0142	0.0024
Uranus	-5023-08-03 20:52 J	-113012.84	-113012.63	-113012.41	0.0142	0.0025
Uranus	-5022-03-18 06:43 J	-112786.40	-112786.22	-112786.03	0.0143	0.0073
Jupiter	-5022-10-25 15:07 J	-112565.04	-112564.87	-112564.70	0.0511	0.0280
Uranus	-5022-10-30 16:33 J	-112559.91	-112559.81	-112559.69	0.0143	0.0122
Jupiter	-5016-08-21 13:12 J	-110438.12	-110437.95	-110437.77	0.0512	0.0266
Saturn	-5012-07-31 05:31 J	-108998.47	-108998.27	-108998.06	0.0302	0.0067
Saturn	-5011-03-18 11:45 J	-108768.16	-108768.01	-108767.86	0.0302	0.0210
Jupiter	-5010-06-30 15:07 J	-108299.07	-108298.87	-108298.67	0.0512	0.0025
Jupiter	-5004-12-19 13:12 J	-105935.06	-105934.95	-105934.84	0.0517	0.0439
Mars	-5003-05-01 17:16 J	-105801.94	-105801.78	-105801.62	0.1615	0.0551
Mars	-5001-03-01 00:43 J	-105132.59	-105132.47	-105132.36	0.1611	0.1177

5TH MILLENNIUM BCE

This is a list of transits of Venus in the 5th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Jupiter	-4998-03-05 15:07 J	-104033.05	-104032.87	-104032.69	0.0514	0.0236		
Saturn	-4997-01-11 03:35 J	-103721.52	-103721.35	-103721.16	0.0259	0.0144		
Saturn	-4997-08-26 23:45 J	-103492.72	-103492.51	-103492.30	0.0259	0.0029		
Saturn	-4996-04-12 19:40 J	-103263.80	-103263.68	-103263.54	0.0260	0.0202		

Jupiter	-4992-08-24 08:24 J	-101669.34	-101669.15	-101668.96	0.0515	0.0167
Jupiter	-4987-11-08 12:14 J	-99767.02	-99766.99	-99766.95	0.0515	0.0506
Jupiter	-4986-07-03 05:45 J	-99530.35	-99530.26	-99530.16	0.0509	0.0442
Uranus	-4985-05-29 15:07 J	-99199.00	-99198.87	-99198.71	0.0137	0.0102
Uranus	-4984-01-10 23:31 J	-98972.72	-98972.52	-98972.32	0.0137	0.0058
Uranus	-4984-08-25 07:26 J	-98746.41	-98746.19	-98745.97	0.0136	0.0015
Uranus	-4983-04-08 14:52 J	-98520.08	-98519.88	-98519.65	0.0136	0.0030
Uranus	-4983-11-20 22:19 J	-98293.74	-98293.57	-98293.37	0.0136	0.0072
Saturn	-4982-02-10 05:02 J	-98212.50	-98212.29	-98212.08	0.0303	0.0044
Uranus	-4982-07-05 06:14 J	-98067.36	-98067.24	-98067.12	0.0136	0.0114
Saturn	-4982-09-28 11:02 J	-97982.16	-97982.04	-97981.90	0.0302	0.0234
Jupiter	-4980-04-29 04:33 J	-97403.51	-97403.31	-97403.11	0.0513	0.0103
Jupiter	-4974-03-08 05:02 J	-95264.48	-95264.29	-95264.10	0.0511	0.0184
Pluto	-4973-06-07 12:28 J	-94807.16	-94806.98	-94806.78	0.0066	0.0033
Pluto	-4972-01-18 17:16 J	-94581.99	-94581.78	-94581.56	0.0066	0.0003
Pluto	-4972-08-31 21:50 J	-94356.75	-94356.59	-94356.40	0.0066	0.0040
Mars	-4971-04-30 08:09 J	-94115.24	-94115.16	-94115.07	0.1618	0.1382
Mars	-4969-02-28 15:21 J	-93446.03	-93445.86	-93445.70	0.1612	0.0361
Jupiter	-4968-01-02 00:28 J	-93137.61	-93137.48	-93137.33	0.0511	0.0369
Mars	-4968-01-31 11:02 J	-93108.22	-93108.04	-93107.87	0.1913	0.0247
Saturn	-4968-07-23 03:35 J	-92935.53	-92935.35	-92935.16	0.0259	0.0127
Saturn	-4967-03-08 23:45 J	-92706.72	-92706.51	-92706.30	0.0259	0.0047
Saturn	-4967-10-23 20:09 J	-92477.77	-92477.66	-92477.55	0.0260	0.0221
Jupiter	-4963-11-11 03:07 J	-90998.57	-90998.37	-90998.17	0.0513	0.0081
Jupiter	-4956-05-02 01:55 J	-88634.57	-88634.42	-88634.26	0.0516	0.0340
Saturn	-4953-01-05 02:52 J	-87656.42	-87656.38	-87656.32	0.0302	0.0291
Saturn	-4953-08-22 10:04 J	-87426.29	-87426.08	-87425.87	0.0302	0.0015
Saturn	-4952-04-09 16:19 J	-87195.93	-87195.82	-87195.72	0.0302	0.0262
Neptune	-4952-07-24 01:12 J	-87090.54	-87090.45	-87090.33	0.0088	0.0077
Neptune	-4951-03-06 13:55 J	-86865.05	-86864.92	-86864.75	0.0088	0.0065

Jupiter	-4951-07-17 02:38 J	-86732.54	-86732.39	-86732.24	0.0515	0.0342
Neptune	-4951-10-18 02:38 J	-86639.55	-86639.39	-86639.20	0.0088	0.0053
Neptune	-4950-05-31 15:21 J	-86414.04	-86413.86	-86413.64	0.0088	0.0041
Neptune	-4949-01-12 04:47 J	-86188.51	-86188.30	-86188.09	0.0088	0.0028
Neptune	-4949-08-24 17:31 J	-85962.98	-85962.77	-85962.55	0.0088	0.0016
Neptune	-4948-04-07 06:28 J	-85737.45	-85737.23	-85737.01	0.0088	0.0004
Neptune	-4948-11-18 19:12 J	-85511.92	-85511.70	-85511.48	0.0088	0.0009
Neptune	-4947-07-02 08:09 J	-85286.37	-85286.16	-85285.94	0.0088	0.0021
Neptune	-4946-02-12 20:52 J	-85060.82	-85060.63	-85060.41	0.0088	0.0034
Neptune	-4946-09-26 09:50 J	-84835.27	-84835.09	-84834.89	0.0088	0.0046
Neptune	-4945-05-08 22:47 J	-84609.71	-84609.55	-84609.37	0.0088	0.0058
Neptune	-4945-12-20 12:00 J	-84384.13	-84384.00	-84383.87	0.0088	0.0070
Jupiter	-4944-01-04 17:45 J	-84368.96	-84368.76	-84368.56	0.0514	0.0056
Neptune	-4944-08-03 00:28 J	-84158.53	-84158.48	-84158.39	0.0088	0.0083
Uranus	-4941-05-24 00:28 J	-83133.49	-83133.48	-83133.43	0.0141	0.0140
Uranus	-4940-01-05 10:04 J	-82907.24	-82907.08	-82906.91	0.0141	0.0093
Uranus	-4940-08-19 19:26 J	-82680.89	-82680.69	-82680.48	0.0142	0.0046
Uranus	-4939-04-03 05:02 J	-82454.50	-82454.29	-82454.07	0.0142	0.0004
Jupiter	-4939-11-13 20:09 J	-82229.80	-82229.66	-82229.51	0.0510	0.0349
Uranus	-4939-11-15 14:38 J	-82228.09	-82227.89	-82227.68	0.0142	0.0051
Saturn	-4938-02-02 06:14 J	-82149.43	-82149.24	-82149.04	0.0259	0.0102
Uranus	-4938-06-30 00:28 J	-82001.63	-82001.48	-82001.32	0.0143	0.0100
Saturn	-4938-09-19 02:24 J	-81920.61	-81920.40	-81920.20	0.0259	0.0071
Mars	-4937-02-27 06:00 J	-81759.42	-81759.25	-81759.09	0.1614	0.0464
Saturn	-4937-05-04 22:33 J	-81691.62	-81691.56	-81691.48	0.0260	0.0245
Mars	-4936-01-31 15:21 J	-81419.94	-81419.86	-81419.77	0.1909	0.1675
Mars	-4936-12-27 13:55 J	-81090.03	-81089.92	-81089.82	0.1611	0.1259
Jupiter	-4933-09-09 13:40 J	-80103.11	-80102.93	-80102.74	0.0513	0.0213
Jupiter	-4927-07-19 18:43 J	-77963.92	-77963.72	-77963.52	0.0512	0.0088
Saturn	-4924-07-17 03:50 J	-76870.43	-76870.34	-76870.24	0.0302	0.0265

Saturn	-4923-03-04 10:33 J	-76640.27	-76640.06	-76639.85	0.0303	0.0012
Saturn	-4923-10-20 16:19 J	-76409.87	-76409.82	-76409.75	0.0302	0.0288
Jupiter	-4921-05-15 10:47 J	-75837.12	-75837.05	-75836.97	0.0511	0.0475
Jupiter	-4920-01-07 18:00 J	-75599.78	-75599.75	-75599.71	0.0517	0.0508
Jupiter	-4915-03-24 17:02 J	-73697.98	-73697.79	-73697.61	0.0513	0.0180
Moon	-4915-11-16 11:02 J	-73461.14	-73461.04	-73460.95	0.2716	0.2057
Earth	-4915-11-16 12:00 J	-73461.12	-73461.00	-73460.89	0.2710	0.1810 *
Saturn	-4910-12-29 10:19 J	-71592.09	-71592.07	-71592.04	0.0260	0.0257
Saturn	-4909-08-14 06:28 J	-71363.43	-71363.23	-71363.03	0.0259	0.0084
Jupiter	-4909-09-12 12:28 J	-71334.16	-71333.98	-71333.79	0.0515	0.0233
Saturn	-4908-03-31 02:38 J	-71134.59	-71134.39	-71134.19	0.0259	0.0090
Earth	-4907-11-14 01:40 J	-70541.53	-70541.43	-70541.32	0.2711	0.2060
Moon	-4907-11-14 05:16 J	-70541.39	-70541.28	-70541.17	0.2716	0.1844 *
Mars	-4905-02-25 20:52 J	-70072.74	-70072.63	-70072.53	0.1617	0.1291
Jupiter	-4904-11-27 13:40 J	-69432.02	-69431.93	-69431.83	0.0515	0.0450
Mars	-4904-12-26 04:04 J	-69403.49	-69403.33	-69403.16	0.1612	0.0446
Jupiter	-4903-07-22 07:26 J	-69195.22	-69195.19	-69195.15	0.0509	0.0500
Mars	-4903-11-28 12:28 J	-69066.15	-69065.98	-69065.81	0.1914	0.0599
Uranus	-4901-01-27 22:47 J	-68640.63	-68640.55	-68640.44	0.0137	0.0123
Uranus	-4901-09-10 07:12 J	-68414.37	-68414.20	-68414.02	0.0137	0.0079
Uranus	-4900-04-24 15:21 J	-68188.07	-68187.86	-68187.65	0.0137	0.0035
Uranus	-4900-12-06 23:02 J	-67961.76	-67961.54	-67961.32	0.0136	0.0009
Uranus	-4899-07-21 06:43 J	-67735.42	-67735.22	-67735.01	0.0136	0.0052
Uranus	-4898-03-04 14:24 J	-67509.04	-67508.90	-67508.73	0.0136	0.0095
Jupiter	-4897-05-18 06:57 J	-67068.42	-67068.21	-67068.01	0.0513	0.0043
Saturn	-4894-01-27 09:07 J	-66084.25	-66084.12	-66083.99	0.0302	0.0235
Saturn	-4894-09-14 15:35 J	-65854.06	-65853.85	-65853.64	0.0302	0.0043
Jupiter	-4891-03-27 08:09 J	-64929.34	-64929.16	-64928.98	0.0511	0.0248
Pluto	-4886-06-26 06:14 J	-63012.40	-63012.24	-63012.06	0.0079	0.0051
Jupiter	-4885-01-21 23:16 J	-62802.68	-62802.53	-62802.36	0.0512	0.0323

Pluto	-4885-02-06 16:33 J	-62787.03	-62786.81	-62786.58	0.0078	0.0012
Pluto	-4885-09-19 02:09 J	-62561.46	-62561.41	-62561.31	0.0078	0.0073
Saturn	-4880-07-10 13:12 J	-60806.03	-60805.95	-60805.84	0.0260	0.0232
Jupiter	-4880-11-30 08:09 J	-60663.37	-60663.16	-60662.96	0.0513	0.0014
Saturn	-4879-02-24 09:36 J	-60577.31	-60577.10	-60576.89	0.0260	0.0059
Saturn	-4879-10-11 05:45 J	-60348.45	-60348.26	-60348.07	0.0260	0.0115
Jupiter	-4873-05-21 02:09 J	-58299.54	-58299.41	-58299.28	0.0516	0.0394
Mars	-4872-12-24 18:57 J	-57716.88	-57716.71	-57716.54	0.1614	0.0379
Mars	-4871-11-28 17:16 J	-57377.90	-57377.78	-57377.65	0.1910	0.1338
Neptune	-4870-09-10 19:55 J	-57091.75	-57091.67	-57091.54	0.0089	0.0079
Mars	-4870-10-25 02:38 J	-57047.48	-57047.39	-57047.29	0.1610	0.1344
Neptune	-4869-04-23 09:21 J	-56866.24	-56866.11	-56865.95	0.0089	0.0065
Neptune	-4869-12-04 22:33 J	-56640.72	-56640.56	-56640.37	0.0089	0.0053
Neptune	-4868-07-18 12:00 J	-56415.18	-56415.00	-56414.79	0.0089	0.0040
Jupiter	-4868-08-05 05:45 J	-56397.43	-56397.26	-56397.09	0.0514	0.0282
Neptune	-4867-03-01 01:26 J	-56189.65	-56189.44	-56189.23	0.0089	0.0027
Neptune	-4867-10-12 14:38 J	-55964.11	-55963.89	-55963.67	0.0089	0.0014
Neptune	-4866-05-26 03:50 J	-55738.56	-55738.34	-55738.12	0.0089	0.0001
Neptune	-4865-01-06 16:47 J	-55513.01	-55512.80	-55512.58	0.0089	0.0012
Saturn	-4865-08-08 11:02 J	-55298.19	-55298.04	-55297.88	0.0302	0.0206
Neptune	-4865-08-19 06:00 J	-55287.45	-55287.25	-55287.03	0.0089	0.0025
Saturn	-4864-03-26 17:31 J	-55067.97	-55067.77	-55067.56	0.0302	0.0072
Neptune	-4864-04-01 19:12 J	-55061.90	-55061.70	-55061.50	0.0089	0.0038
Neptune	-4864-11-13 08:09 J	-54836.33	-54836.16	-54835.98	0.0089	0.0051
Neptune	-4863-06-26 21:07 J	-54610.76	-54610.62	-54610.46	0.0089	0.0064
Neptune	-4862-02-07 10:04 J	-54385.18	-54385.08	-54384.95	0.0089	0.0076
Neptune	-4862-09-20 23:02 J	-54159.54	-54159.54	-54159.50	0.0089	0.0089
Jupiter	-4861-01-24 21:50 J	-54033.79	-54033.59	-54033.39	0.0515	0.0121
Uranus	-4857-09-04 19:40 J	-52348.81	-52348.68	-52348.55	0.0141	0.0113
Uranus	-4856-04-19 04:47 J	-52122.48	-52122.30	-52122.10	0.0142	0.0066

Uranus	-4856-12-01 14:23 J	-51896.11	-51895.90	-51895.69	0.0142	0.0018
Jupiter	-4856-12-02 20:52 J	-51894.74	-51894.63	-51894.50	0.0510	0.0404
Uranus	-4855-07-15 23:45 J	-51669.71	-51669.51	-51669.29	0.0142	0.0031
Uranus	-4854-02-27 09:21 J	-51443.27	-51443.11	-51442.92	0.0142	0.0080
Uranus	-4854-10-11 19:26 J	-51216.77	-51216.69	-51216.59	0.0143	0.0128
Saturn	-4850-01-20 13:40 J	-50020.04	-50019.93	-50019.80	0.0260	0.0214
Saturn	-4850-09-06 10:04 J	-49791.29	-49791.08	-49790.87	0.0260	0.0040
Jupiter	-4850-09-29 17:16 J	-49767.98	-49767.78	-49767.59	0.0513	0.0151
Saturn	-4849-04-22 06:28 J	-49562.41	-49562.23	-49562.05	0.0260	0.0134
Jupiter	-4844-08-07 19:26 J	-47628.88	-47628.69	-47628.50	0.0512	0.0142
Mars	-4840-12-23 09:50 J	-46030.20	-46030.09	-46029.98	0.1616	0.1207
Jupiter	-4838-06-04 12:28 J	-45502.09	-45501.98	-45501.86	0.0511	0.0420
Mars	-4838-10-23 17:16 J	-45360.94	-45360.78	-45360.61	0.1611	0.0528
Mars	-4837-09-24 13:40 J	-45024.08	-45023.93	-45023.78	0.1915	0.0956
Saturn	-4835-02-18 17:31 J	-44511.94	-44511.77	-44511.60	0.0302	0.0172
Saturn	-4835-10-07 00:00 J	-44281.70	-44281.50	-44281.31	0.0302	0.0105
Jupiter	-4832-04-12 18:57 J	-43362.91	-43362.71	-43362.52	0.0513	0.0121
Jupiter	-4826-10-02 10:19 J	-40999.23	-40999.07	-40998.89	0.0515	0.0280
Saturn	-4821-08-01 17:31 J	-39233.91	-39233.77	-39233.61	0.0260	0.0187
Jupiter	-4821-12-16 17:31 J	-39096.90	-39096.77	-39096.63	0.0515	0.0388
Saturn	-4820-03-18 13:55 J	-39005.13	-39004.92	-39004.70	0.0260	0.0013
Saturn	-4820-11-02 10:04 J	-38776.23	-38776.08	-38775.90	0.0260	0.0162
Uranus	-4817-05-10 14:38 J	-37856.04	-37855.89	-37855.74	0.0137	0.0101
Moon	-4817-05-20 01:26 J	-37846.54	-37846.44	-37846.33	0.2629	0.1925
Earth	-4817-05-20 04:04 J	-37846.40	-37846.33	-37846.26	0.2623	0.2349 *
Uranus	-4817-12-22 22:19 J	-37629.76	-37629.57	-37629.36	0.0137	0.0057
Uranus	-4816-08-06 06:43 J	-37403.44	-37403.22	-37403.00	0.0137	0.0013
Uranus	-4815-03-20 14:23 J	-37177.10	-37176.90	-37176.68	0.0136	0.0032
Uranus	-4815-11-01 22:19 J	-36950.75	-36950.57	-36950.38	0.0136	0.0074
Jupiter	-4814-06-07 05:31 J	-36733.48	-36733.27	-36733.07	0.0514	0.0008

Uranus	-4814-06-16 05:45 J	-36724.36	-36724.26	-36724.14	0.0136	0.0117
Earth	-4809-05-17 20:38 J	-34926.79	-34926.64	-34926.50	0.2622	0.0950
Moon	-4809-05-17 22:04 J	-34926.72	-34926.58	-34926.44	0.2629	0.1026 *
Jupiter	-4808-04-15 09:36 J	-34594.25	-34594.10	-34593.93	0.0510	0.0304
Saturn	-4806-08-31 21:21 J	-33725.79	-33725.61	-33725.42	0.0302	0.0139
Mars	-4806-10-22 08:09 J	-33674.33	-33674.16	-33673.99	0.1613	0.0298
Saturn	-4805-04-18 03:36 J	-33495.54	-33495.35	-33495.17	0.0302	0.0137
Mars	-4805-09-24 18:43 J	-33335.88	-33335.72	-33335.57	0.1912	0.0988
Mars	-4804-08-21 15:50 J	-33004.92	-33004.84	-33004.76	0.1610	0.1425
Jupiter	-4802-02-10 01:55 J	-32467.59	-32467.42	-32467.24	0.0512	0.0265
Jupiter	-4797-12-19 07:55 J	-30328.37	-30328.17	-30327.96	0.0512	0.0040
Saturn	-4791-02-11 18:28 J	-28447.89	-28447.73	-28447.56	0.0260	0.0168
Saturn	-4791-09-28 15:07 J	-28219.08	-28218.87	-28218.66	0.0260	0.0007
Saturn	-4790-05-15 11:45 J	-27990.16	-27990.01	-27989.86	0.0260	0.0181
Jupiter	-4790-06-10 04:33 J	-27964.41	-27964.31	-27964.22	0.0516	0.0455
Neptune	-4788-10-25 11:31 J	-27096.07	-27096.02	-27095.93	0.0088	0.0083
Neptune	-4787-06-08 00:14 J	-26870.60	-26870.49	-26870.34	0.0088	0.0071
Neptune	-4786-01-19 13:11 J	-26645.09	-26644.95	-26644.77	0.0088	0.0059
Neptune	-4786-09-02 02:23 J	-26419.58	-26419.40	-26419.21	0.0088	0.0046
Neptune	-4785-04-14 14:52 J	-26194.07	-26193.88	-26193.66	0.0088	0.0034
Jupiter	-4785-08-24 05:02 J	-26062.47	-26062.29	-26062.11	0.0514	0.0233
Neptune	-4785-11-26 03:36 J	-25968.55	-25968.35	-25968.12	0.0088	0.0022
Neptune	-4784-07-09 16:48 J	-25743.02	-25742.80	-25742.58	0.0088	0.0009
Neptune	-4783-02-20 05:31 J	-25517.48	-25517.27	-25517.04	0.0088	0.0004
Neptune	-4783-10-03 18:14 J	-25291.95	-25291.74	-25291.51	0.0088	0.0016
Neptune	-4782-05-17 07:11 J	-25066.40	-25066.20	-25065.98	0.0088	0.0028
Neptune	-4782-12-28 19:55 J	-24840.85	-24840.67	-24840.45	0.0088	0.0041
Neptune	-4781-08-10 08:52 J	-24615.29	-24615.13	-24614.94	0.0088	0.0053
Neptune	-4780-03-23 22:04 J	-24389.72	-24389.58	-24389.43	0.0088	0.0065
Neptune	-4780-11-04 10:33 J	-24164.14	-24164.06	-24163.93	0.0088	0.0078

Jupiter	-4778-02-12 22:04 J	-23698.77	-23698.58	-23698.38	0.0514	0.0175
Saturn	-4776-03-13 04:33 J	-22939.50	-22939.31	-22939.11	0.0302	0.0104
Saturn	-4776-10-29 10:33 J	-22709.22	-22709.06	-22708.88	0.0302	0.0173
Mars	-4774-10-20 22:33 J	-21987.68	-21987.56	-21987.44	0.1615	0.1120
Jupiter	-4773-04-29 02:52 J	-21796.42	-21796.38	-21796.33	0.0516	0.0502
Uranus	-4773-05-05 04:48 J	-21790.35	-21790.30	-21790.21	0.0141	0.0133
Uranus	-4773-12-17 14:23 J	-21564.07	-21563.90	-21563.73	0.0141	0.0086
Jupiter	-4773-12-21 21:36 J	-21559.68	-21559.60	-21559.51	0.0510	0.0460
Uranus	-4772-07-31 23:31 J	-21337.71	-21337.52	-21337.30	0.0142	0.0039
Mars	-4772-08-20 06:14 J	-21318.40	-21318.24	-21318.08	0.1611	0.0612
Uranus	-4771-03-15 09:21 J	-21111.32	-21111.11	-21110.89	0.0142	0.0010
Mars	-4771-07-22 14:23 J	-20982.02	-20981.90	-20981.77	0.1916	0.1325
Uranus	-4771-10-27 18:57 J	-20884.90	-20884.71	-20884.51	0.0142	0.0058
Uranus	-4770-06-11 04:19 J	-20658.44	-20658.32	-20658.16	0.0143	0.0108
Jupiter	-4767-10-18 13:55 J	-19433.12	-19432.92	-19432.72	0.0512	0.0111
Saturn	-4762-08-24 23:16 J	-17661.70	-17661.53	-17661.35	0.0260	0.0139
Saturn	-4761-04-09 19:55 J	-17432.88	-17432.67	-17432.46	0.0260	0.0036
Jupiter	-4761-08-26 21:36 J	-17293.78	-17293.60	-17293.41	0.0512	0.0201
Saturn	-4761-11-24 16:33 J	-17203.93	-17203.81	-17203.69	0.0260	0.0211
Jupiter	-4755-06-23 09:35 J	-15167.23	-15167.10	-15166.96	0.0511	0.0381
Jupiter	-4749-05-01 19:11 J	-13027.90	-13027.70	-13027.50	0.0513	0.0070
Saturn	-4747-09-23 11:02 J	-12153.25	-12153.04	-12152.83	0.0302	0.0066
Saturn	-4746-05-11 16:33 J	-11922.95	-11922.81	-11922.65	0.0302	0.0210
Jupiter	-4743-10-21 11:45 J	-10664.16	-10664.01	-10663.85	0.0516	0.0336
Mars	-4740-08-18 20:38 J	-9631.81	-9631.64	-9631.47	0.1612	0.0208
Mars	-4739-07-22 20:24 J	-9293.82	-9293.65	-9293.48	0.1913	0.0646
Mars	-4738-06-19 04:33 J	-8962.36	-8962.31	-8962.25	0.1609	0.1514
Jupiter	-4737-01-05 16:19 J	-8761.97	-8761.82	-8761.67	0.0515	0.0342
Uranus	-4733-01-08 23:16 J	-7297.62	-7297.53	-7297.42	0.0137	0.0121
Uranus	-4733-08-22 07:40 J	-7071.36	-7071.18	-7071.00	0.0137	0.0076

Saturn	-4732-03-06 01:12 J	-6875.64	-6875.45	-6875.26	0.0260	0.0118
Uranus	-4732-04-05 15:35 J	-6845.05	-6844.85	-6844.63	0.0137	0.0033
Saturn	-4732-10-20 21:35 J	-6646.80	-6646.60	-6646.39	0.0260	0.0057
Uranus	-4732-11-17 23:45 J	-6618.73	-6618.51	-6618.29	0.0136	0.0011
Saturn	-4731-06-06 18:28 J	-6417.82	-6417.73	-6417.63	0.0260	0.0232
Jupiter	-4731-06-26 06:28 J	-6398.43	-6398.23	-6398.02	0.0514	0.0060
Uranus	-4731-07-02 07:26 J	-6392.39	-6392.19	-6391.98	0.0136	0.0055
Uranus	-4730-02-13 15:07 J	-6166.01	-6165.87	-6165.71	0.0136	0.0098
Pluto	-4728-11-23 20:52 J	-5151.71	-5151.63	-5151.49	0.0066	0.0057
Pluto	-4727-07-07 01:40 J	-4926.62	-4926.43	-4926.20	0.0066	0.0021
Pluto	-4726-02-17 06:43 J	-4701.43	-4701.22	-4701.00	0.0066	0.0016
Pluto	-4726-09-30 11:02 J	-4476.15	-4476.04	-4475.88	0.0067	0.0053
Jupiter	-4725-05-04 07:40 J	-4259.33	-4259.18	-4259.04	0.0510	0.0350
Jupiter	-4719-03-01 01:12 J	-2132.63	-2132.45	-2132.26	0.0512	0.0216
Saturn	-4717-04-04 19:26 J	-1366.90	-1366.69	-1366.48	0.0302	0.0028
Saturn	-4717-11-21 00:57 J	-1136.57	-1136.46	-1136.33	0.0301	0.0248
Jupiter	-4713-01-08 06:43 J	6.59	6.78	6.98	0.0512	0.0089
Mars	-4708-08-17 11:31 J	2054.85	2054.98	2055.11	0.1614	0.1036
Jupiter	-4708-11-03 18:14 J	2133.21	2133.26	2133.31	0.0510	0.0494
Jupiter	-4707-06-28 23:45 J	2370.43	2370.49	2370.55	0.0516	0.0492
Mars	-4706-06-17 19:12 J	2724.14	2724.30	2724.45	0.1610	0.0697
Neptune	-4706-12-13 05:45 J	2902.68	2902.74	2902.82	0.0089	0.0085
Mars	-4705-05-18 15:36 J	3060.06	3060.15	3060.23	0.1916	0.1688
Neptune	-4705-07-25 18:43 J	3128.18	3128.28	3128.43	0.0089	0.0073
Neptune	-4704-03-08 07:55 J	3353.69	3353.83	3354.02	0.0089	0.0060
Neptune	-4704-10-19 21:21 J	3579.22	3579.39	3579.59	0.0089	0.0046
Neptune	-4703-06-02 10:33 J	3804.75	3804.94	3805.16	0.0089	0.0034
Saturn	-4703-09-16 06:28 J	3910.58	3910.77	3910.98	0.0261	0.0089
Neptune	-4702-01-14 00:00 J	4030.29	4030.50	4030.72	0.0089	0.0020
Saturn	-4702-05-03 03:21 J	4139.44	4139.64	4139.84	0.0260	0.0087

Neptune	-4702-08-27 13:12 J	4255.84	4256.05	4256.28	0.0089	0.0008
Jupiter	-4702-09-13 05:31 J	4272.54	4272.73	4272.92	0.0514	0.0182
Neptune	-4701-04-09 02:24 J	4481.39	4481.60	4481.82	0.0089	0.0006
Neptune	-4701-11-20 15:21 J	4706.94	4707.14	4707.37	0.0089	0.0020
Neptune	-4700-07-04 04:33 J	4932.50	4932.69	4932.91	0.0089	0.0032
Neptune	-4699-02-14 18:00 J	5158.06	5158.25	5158.44	0.0089	0.0045
Neptune	-4699-09-28 06:57 J	5383.63	5383.79	5383.96	0.0089	0.0058
Neptune	-4698-05-11 19:55 J	5609.21	5609.33	5609.47	0.0089	0.0071
Neptune	-4698-12-23 08:52 J	5834.81	5834.87	5834.96	0.0089	0.0084
Jupiter	-4695-03-03 18:00 J	6636.06	6636.25	6636.44	0.0515	0.0213
Jupiter	-4690-05-19 01:40 J	8538.49	8538.57	8538.67	0.0516	0.0458
Jupiter	-4689-01-10 20:09 J	8775.32	8775.34	8775.36	0.0509	0.0505
Uranus	-4689-08-16 23:45 J	8994.36	8994.49	8994.64	0.0141	0.0106
Saturn	-4688-02-27 21:35 J	9189.31	9189.40	9189.51	0.0301	0.0262
Uranus	-4688-03-31 09:07 J	9220.69	9220.88	9221.08	0.0142	0.0059
Saturn	-4688-10-16 03:35 J	9419.44	9419.65	9419.86	0.0301	0.0014
Uranus	-4688-11-12 18:28 J	9447.06	9447.27	9447.49	0.0142	0.0011
Saturn	-4687-06-03 08:52 J	9649.82	9649.87	9649.94	0.0301	0.0288
Uranus	-4687-06-27 04:04 J	9673.46	9673.67	9673.88	0.0142	0.0038
Uranus	-4686-02-08 13:26 J	9899.91	9900.06	9900.25	0.0142	0.0087
Uranus	-4686-09-22 23:31 J	10126.43	10126.48	10126.56	0.0143	0.0135
Jupiter	-4684-11-06 13:26 J	10901.86	10902.06	10902.27	0.0513	0.0062
Jupiter	-4678-09-15 18:43 J	13041.10	13041.28	13041.46	0.0511	0.0242
Mars	-4674-06-16 09:50 J	14410.74	14410.91	14411.08	0.1611	0.0126
Saturn	-4674-08-12 12:14 J	14467.95	14468.01	14468.10	0.0260	0.0242
Saturn	-4673-03-28 09:07 J	14696.68	14696.88	14697.09	0.0260	0.0067
Mars	-4673-05-18 21:07 J	14748.21	14748.38	14748.56	0.1914	0.0284
Saturn	-4673-11-12 06:00 J	14925.56	14925.75	14925.95	0.0260	0.0110
Mars	-4672-04-15 17:45 J	15080.22	15080.24	15080.26	0.1609	0.1597
Jupiter	-4672-07-12 09:07 J	15167.73	15167.88	15168.04	0.0511	0.0333

Earth	-4672-11-16 11:31 J	15294.86	15294.98	15295.11	0.2711	0.1639
Moon	-4672-11-16 14:52 J	15295.00	15295.12	15295.24	0.2705	0.1848 *
Jupiter	-4666-05-21 15:36 J	17306.95	17307.15	17307.35	0.0513	0.0029
Moon	-4664-11-14 00:00 J	18214.39	18214.50	18214.61	0.2705	0.2081
Earth	-4664-11-14 01:40 J	18214.48	18214.57	18214.65	0.2712	0.2242 *
Jupiter	-4660-11-09 09:36 J	19670.77	19670.90	19671.04	0.0515	0.0382
Saturn	-4659-09-10 06:57 J	19975.66	19975.79	19975.94	0.0301	0.0222
Saturn	-4658-04-28 13:11 J	20205.84	20206.05	20206.26	0.0302	0.0055
Jupiter	-4654-01-24 13:11 J	21572.89	21573.05	21573.22	0.0515	0.0302
Uranus	-4649-04-21 16:04 J	23487.03	23487.17	23487.34	0.0137	0.0097
Uranus	-4649-12-04 00:14 J	23713.32	23713.51	23713.72	0.0137	0.0053
Jupiter	-4648-07-15 00:57 J	23936.34	23936.54	23936.75	0.0513	0.0093
Uranus	-4648-07-18 08:23 J	23939.64	23939.85	23940.07	0.0137	0.0009
Uranus	-4647-03-01 16:19 J	24165.98	24166.18	24166.40	0.0136	0.0036
Uranus	-4647-10-14 00:14 J	24392.33	24392.51	24392.69	0.0136	0.0078
Uranus	-4646-05-28 07:40 J	24618.73	24618.82	24618.93	0.0136	0.0121
Saturn	-4644-02-21 18:43 J	25254.16	25254.28	25254.41	0.0261	0.0210
Saturn	-4644-10-08 15:36 J	25482.94	25483.15	25483.36	0.0261	0.0035
Saturn	-4643-05-25 12:28 J	25711.84	25712.02	25712.20	0.0261	0.0142
Jupiter	-4642-05-24 06:14 J	26075.64	26075.76	26075.89	0.0511	0.0398
Mars	-4642-06-15 00:14 J	26097.37	26097.51	26097.65	0.1613	0.0949
Mars	-4640-04-14 08:09 J	26766.69	26766.84	26766.99	0.1610	0.0782
Pluto	-4640-07-24 22:04 J	26868.23	26868.42	26868.65	0.0079	0.0028
Pluto	-4639-03-07 08:38 J	27093.66	27093.86	27094.06	0.0078	0.0035
Jupiter	-4636-03-19 19:55 J	28202.14	28202.33	28202.53	0.0512	0.0184
Jupiter	-4630-01-27 03:50 J	30341.47	30341.66	30341.86	0.0512	0.0129
Saturn	-4629-03-22 17:31 J	30762.07	30762.23	30762.41	0.0301	0.0177
Saturn	-4629-11-07 23:16 J	30992.28	30992.47	30992.68	0.0301	0.0099
Jupiter	-4625-11-22 16:04 J	32468.08	32468.17	32468.26	0.0510	0.0452
Neptune	-4623-09-09 11:02 J	33123.87	33123.96	33124.08	0.0088	0.0077

Neptune	-4622-04-22 23:45 J	33349.36	33349.49	33349.66	0.0088	0.0065
Neptune	-4622-12-04 12:43 J	33574.86	33575.03	33575.22	0.0088	0.0052
Neptune	-4621-07-17 01:26 J	33800.38	33800.56	33800.77	0.0088	0.0040
Neptune	-4620-02-27 14:23 J	34025.90	34026.10	34026.32	0.0088	0.0027
Neptune	-4620-10-11 03:07 J	34251.42	34251.63	34251.86	0.0088	0.0015
Neptune	-4619-05-24 16:04 J	34476.95	34477.17	34477.40	0.0088	0.0003
Jupiter	-4619-10-02 01:26 J	34607.37	34607.56	34607.76	0.0514	0.0144
Neptune	-4618-01-05 05:02 J	34702.50	34702.71	34702.94	0.0088	0.0011
Neptune	-4618-08-18 17:45 J	34928.04	34928.24	34928.47	0.0088	0.0023
Neptune	-4617-03-31 06:43 J	35153.58	35153.78	35153.99	0.0088	0.0035
Neptune	-4617-11-11 19:26 J	35379.13	35379.31	35379.51	0.0088	0.0048
Neptune	-4616-06-25 08:23 J	35604.70	35604.85	35605.02	0.0088	0.0060
Neptune	-4615-02-05 21:07 J	35830.28	35830.38	35830.53	0.0088	0.0073
Saturn	-4615-09-03 22:04 J	36040.28	36040.42	36040.57	0.0260	0.0187
Neptune	-4615-09-19 10:19 J	36055.89	36055.93	36055.99	0.0088	0.0085
Saturn	-4614-04-20 18:57 J	36269.08	36269.29	36269.51	0.0260	0.0012
Saturn	-4614-12-05 15:50 J	36498.01	36498.16	36498.33	0.0260	0.0165
Jupiter	-4612-03-22 16:33 J	36971.02	36971.19	36971.37	0.0515	0.0261
Mars	-4608-04-12 22:33 J	38453.27	38453.44	38453.61	0.1611	0.0040
Mars	-4607-03-15 23:02 J	38790.29	38790.46	38790.64	0.1915	0.0083
Jupiter	-4607-06-06 21:07 J	38873.26	38873.38	38873.49	0.0516	0.0423
Uranus	-4605-04-16 07:55 J	39552.75	39552.83	39552.92	0.0141	0.0128
Uranus	-4605-11-28 17:02 J	39779.04	39779.21	39779.39	0.0141	0.0081
Uranus	-4604-07-13 02:23 J	40005.40	40005.60	40005.82	0.0142	0.0034
Uranus	-4603-02-24 12:00 J	40231.79	40232.00	40232.22	0.0142	0.0015
Uranus	-4603-10-08 21:36 J	40458.21	40458.40	40458.60	0.0142	0.0063
Uranus	-4602-05-23 07:26 J	40684.68	40684.81	40684.94	0.0143	0.0112
Jupiter	-4601-11-25 10:33 J	41236.73	41236.94	41237.15	0.0513	0.0019
Saturn	-4600-10-03 03:21 J	41548.46	41548.64	41548.83	0.0301	0.0135
Saturn	-4599-05-21 09:07 J	41778.70	41778.88	41779.07	0.0301	0.0141

Jupiter	-4595-10-04 14:38 J	43375.94	43376.11	43376.27	0.0511	0.0282
Jupiter	-4589-07-31 03:36 J	45502.49	45502.65	45502.82	0.0510	0.0302
Saturn	-4585-03-16 04:47 J	46826.53	46826.70	46826.88	0.0261	0.0155
Saturn	-4585-10-31 01:40 J	47055.36	47055.57	47055.79	0.0261	0.0021
Saturn	-4584-06-16 22:33 J	47284.31	47284.44	47284.59	0.0261	0.0198
Jupiter	-4583-06-09 12:43 J	47641.82	47642.03	47642.23	0.0514	0.0015
Jupiter	-4577-11-28 03:36 J	50005.53	50005.65	50005.77	0.0515	0.0414
Mars	-4576-04-11 13:12 J	50139.91	50140.05	50140.20	0.1613	0.0865
Mars	-4575-03-16 04:04 J	50478.64	50478.67	50478.69	0.1912	0.1883
Mars	-4574-02-09 21:07 J	50809.23	50809.38	50809.52	0.1610	0.0870
Earth	-4574-05-21 06:57 J	50909.75	50909.79	50909.82	0.2623	0.2551
Jupiter	-4571-02-12 09:21 J	51907.72	51907.89	51908.07	0.0515	0.0265
Saturn	-4570-04-15 15:07 J	52334.93	52335.13	52335.33	0.0301	0.0089
Saturn	-4570-12-01 20:38 J	52565.20	52565.36	52565.53	0.0301	0.0187
Earth	-4566-05-18 23:16 J	53829.32	53829.47	53829.62	0.2622	0.0741
Moon	-4566-05-18 23:45 J	53829.33	53829.49	53829.65	0.2615	0.0701 *
Uranus	-4566-12-21 01:26 J	54045.46	54045.56	54045.69	0.0137	0.0117
Jupiter	-4565-08-02 22:19 J	54271.23	54271.43	54271.63	0.0514	0.0135
Uranus	-4565-08-03 09:50 J	54271.73	54271.91	54272.10	0.0137	0.0072
Uranus	-4564-03-17 18:14 J	54498.04	54498.26	54498.47	0.0137	0.0028
Uranus	-4564-10-30 02:09 J	54724.37	54724.59	54724.81	0.0136	0.0016
Uranus	-4563-06-13 09:36 J	54950.71	54950.90	54951.11	0.0136	0.0059
Uranus	-4562-01-25 17:16 J	55177.09	55177.22	55177.37	0.0136	0.0102
Jupiter	-4559-06-12 01:12 J	56410.45	56410.55	56410.66	0.0510	0.0433
Saturn	-4556-09-26 08:52 J	57612.69	57612.87	57613.06	0.0260	0.0131
Saturn	-4555-05-13 05:45 J	57841.53	57841.74	57841.95	0.0260	0.0045
Saturn	-4555-12-28 02:52 J	58070.52	58070.62	58070.74	0.0260	0.0222
Jupiter	-4553-04-07 17:31 J	58537.03	58537.23	58537.43	0.0512	0.0140
Jupiter	-4547-02-14 22:33 J	60676.25	60676.44	60676.63	0.0512	0.0163
Mars	-4542-02-08 11:31 J	62495.81	62495.98	62496.16	0.1611	0.0060

Jupiter	-4542-12-12 12:43 J	62802.92	62803.03	62803.15	0.0510	0.0414
Mars	-4541-01-11 00:00 J	62832.33	62832.50	62832.68	0.1916	0.0431
Saturn	-4541-10-26 00:57 J	63121.33	63121.54	63121.75	0.0302	0.0046
Neptune	-4541-10-27 04:47 J	63122.62	63122.70	63122.82	0.0089	0.0079
Neptune	-4540-06-09 18:00 J	63348.12	63348.25	63348.42	0.0089	0.0066
Saturn	-4540-06-13 06:43 J	63351.65	63351.78	63351.91	0.0301	0.0230
Neptune	-4539-01-21 07:26 J	63573.65	63573.81	63574.00	0.0089	0.0053
Neptune	-4539-09-03 20:38 J	63799.18	63799.36	63799.57	0.0089	0.0040
Neptune	-4538-04-17 09:50 J	64024.71	64024.91	64025.13	0.0089	0.0027
Neptune	-4538-11-28 23:16 J	64250.26	64250.47	64250.69	0.0089	0.0013
Neptune	-4537-07-11 12:43 J	64475.81	64476.03	64476.25	0.0089	0.0000
Neptune	-4536-02-22 01:40 J	64701.36	64701.57	64701.80	0.0089	0.0014
Neptune	-4536-10-05 14:52 J	64926.92	64927.12	64927.34	0.0089	0.0026
Jupiter	-4536-10-20 20:09 J	64942.15	64942.34	64942.54	0.0514	0.0110
Neptune	-4535-05-19 03:50 J	65152.48	65152.66	65152.87	0.0089	0.0040
Neptune	-4535-12-30 17:02 J	65378.05	65378.21	65378.40	0.0089	0.0053
Neptune	-4534-08-13 06:14 J	65603.63	65603.76	65603.92	0.0089	0.0066
Neptune	-4533-03-25 19:12 J	65829.22	65829.30	65829.42	0.0089	0.0079
Jupiter	-4529-04-10 10:33 J	67305.77	67305.94	67306.11	0.0514	0.0293
Saturn	-4526-04-08 15:50 J	68398.96	68399.16	68399.36	0.0261	0.0099
Saturn	-4526-11-23 12:43 J	68627.83	68628.03	68628.23	0.0261	0.0078
Saturn	-4525-07-09 09:50 J	68856.87	68856.91	68856.96	0.0261	0.0254
Jupiter	-4524-06-25 16:47 J	69208.07	69208.20	69208.34	0.0516	0.0388
Uranus	-4521-07-29 00:14 J	70337.38	70337.51	70337.67	0.0141	0.0104
Uranus	-4520-03-12 09:35 J	70563.71	70563.90	70564.10	0.0142	0.0057
Uranus	-4520-10-24 18:57 J	70790.08	70790.29	70790.51	0.0142	0.0009
Uranus	-4519-06-08 04:19 J	71016.48	71016.68	71016.89	0.0142	0.0040
Uranus	-4518-01-20 13:40 J	71242.92	71243.07	71243.25	0.0142	0.0089
Uranus	-4518-09-03 23:45 J	71469.44	71469.49	71469.55	0.0143	0.0137
Jupiter	-4518-12-15 04:33 J	71571.49	71571.69	71571.90	0.0512	0.0015

Saturn	-4512-09-20 07:12 J	73677.72	73677.80	73677.89	0.0301	0.0275
Jupiter	-4512-10-23 09:50 J	73710.75	73710.91	73711.07	0.0511	0.0318
Saturn	-4511-05-08 13:12 J	73907.84	73908.05	73908.26	0.0301	0.0001
Saturn	-4511-12-24 18:43 J	74138.20	74138.28	74138.36	0.0301	0.0275
Mars	-4510-02-07 02:09 J	74182.44	74182.59	74182.74	0.1612	0.0779
Mars	-4509-01-11 05:02 J	74520.61	74520.71	74520.82	0.1913	0.1528
Mars	-4509-12-07 10:19 J	74851.79	74851.93	74852.07	0.1609	0.0952
Jupiter	-4506-08-19 23:45 J	75837.31	75837.49	75837.67	0.0511	0.0264
Jupiter	-4500-06-28 07:55 J	77976.63	77976.83	77977.03	0.0513	0.0049
Saturn	-4497-03-03 23:16 J	78956.42	78956.47	78956.53	0.0261	0.0250
Saturn	-4497-10-18 20:09 J	79185.13	79185.34	79185.54	0.0260	0.0074
Saturn	-4496-06-04 16:47 J	79414.01	79414.20	79414.40	0.0260	0.0103
Jupiter	-4494-12-18 00:57 J	80340.46	80340.54	80340.64	0.0516	0.0461
Jupiter	-4488-03-03 04:04 J	82242.49	82242.67	82242.86	0.0515	0.0231
Saturn	-4482-04-02 15:50 J	84464.04	84464.16	84464.30	0.0302	0.0235
Jupiter	-4482-08-22 18:57 J	84606.10	84606.29	84606.49	0.0514	0.0178
Saturn	-4482-11-18 21:50 J	84694.21	84694.41	84694.62	0.0302	0.0043
Pluto	-4482-12-23 09:35 J	84728.77	84728.90	84729.07	0.0066	0.0048
Uranus	-4481-04-02 17:31 J	84830.07	84830.23	84830.39	0.0137	0.0093
Pluto	-4481-08-04 14:24 J	84953.89	84954.10	84954.32	0.0066	0.0012
Uranus	-4481-11-15 01:40 J	85056.37	85056.57	85056.78	0.0137	0.0049
Pluto	-4480-03-17 19:12 J	85179.10	85179.30	85179.51	0.0066	0.0025
Uranus	-4480-06-29 09:50 J	85282.69	85282.91	85283.13	0.0137	0.0006
Pluto	-4480-10-28 23:31 J	85404.42	85404.48	85404.58	0.0067	0.0062
Uranus	-4479-02-10 17:45 J	85509.03	85509.24	85509.45	0.0136	0.0039
Uranus	-4479-09-25 01:12 J	85735.38	85735.55	85735.73	0.0136	0.0082
Mars	-4478-02-05 16:47 J	85869.19	85869.20	85869.21	0.1614	0.1606
Uranus	-4478-05-09 08:38 J	85961.79	85961.86	85961.96	0.0136	0.0125
Jupiter	-4477-11-06 00:14 J	86508.49	86508.51	86508.55	0.0517	0.0510
Mars	-4477-12-06 00:28 J	86538.35	86538.52	86538.69	0.1610	0.0133

Jupiter	-4476-06-30 20:09 J	86745.26	86745.34	86745.41	0.0510	0.0469
Mars	-4476-11-07 01:26 J	86874.40	86874.56	86874.73	0.1917	0.0791
Jupiter	-4470-04-27 12:28 J	88871.82	88872.02	88872.22	0.0511	0.0106
Saturn	-4468-09-14 05:45 J	89742.64	89742.74	89742.86	0.0261	0.0220
Saturn	-4467-05-01 02:38 J	89971.41	89971.61	89971.83	0.0261	0.0044
Saturn	-4467-12-15 23:45 J	90200.31	90200.49	90200.67	0.0261	0.0134
Jupiter	-4464-03-05 18:28 J	91011.08	91011.27	91011.45	0.0513	0.0202
Neptune	-4459-12-11 22:04 J	93118.37	93118.42	93118.52	0.0088	0.0083
Jupiter	-4459-12-31 07:40 J	93137.68	93137.82	93137.95	0.0510	0.0381
Neptune	-4458-07-25 11:02 J	93343.84	93343.96	93344.11	0.0088	0.0070
Neptune	-4457-03-06 23:45 J	93569.34	93569.49	93569.68	0.0088	0.0058
Neptune	-4457-10-18 12:43 J	93794.85	93795.03	93795.23	0.0088	0.0045
Neptune	-4456-06-01 01:26 J	94020.37	94020.56	94020.78	0.0088	0.0033
Neptune	-4455-01-12 14:38 J	94245.90	94246.11	94246.33	0.0088	0.0020
Neptune	-4455-08-26 03:35 J	94471.43	94471.65	94471.87	0.0088	0.0007
Neptune	-4454-04-08 16:19 J	94696.96	94697.18	94697.40	0.0088	0.0006
Neptune	-4454-11-20 05:02 J	94922.50	94922.71	94922.93	0.0088	0.0018
Neptune	-4453-07-02 17:45 J	95148.04	95148.24	95148.46	0.0088	0.0031
Saturn	-4453-10-13 04:04 J	95250.51	95250.67	95250.84	0.0301	0.0189
Jupiter	-4453-11-08 15:50 J	95276.96	95277.16	95277.36	0.0514	0.0072
Neptune	-4452-02-13 06:43 J	95373.60	95373.78	95373.98	0.0088	0.0043
Saturn	-4452-05-31 10:04 J	95480.72	95480.92	95481.12	0.0301	0.0087
Neptune	-4452-09-26 19:26 J	95599.16	95599.31	95599.50	0.0088	0.0056
Neptune	-4451-05-10 08:24 J	95824.72	95824.85	95825.00	0.0088	0.0068
Neptune	-4451-12-21 21:07 J	96050.32	96050.38	96050.49	0.0088	0.0081
Jupiter	-4446-04-30 06:57 J	97640.63	97640.79	97640.94	0.0515	0.0335
Mars	-4445-12-04 15:07 J	98224.98	98225.13	98225.29	0.1611	0.0695
Mars	-4444-11-07 06:43 J	98562.64	98562.78	98562.92	0.1914	0.1180
Mars	-4443-10-04 23:16 J	98894.34	98894.47	98894.60	0.1609	0.1040
Jupiter	-4441-07-14 13:26 J	99542.91	99543.06	99543.21	0.0516	0.0347

Saturn	-4438-03-27 10:19 J	100528.79	100528.93	100529.08	0.0260	0.0194
Saturn	-4438-11-11 06:57 J	100757.58	100757.79	100758.01	0.0260	0.0019
Uranus	-4437-03-28 07:12 J	100895.71	100895.80	100895.90	0.0141	0.0127
Saturn	-4437-06-27 03:35 J	100986.49	100986.65	100986.83	0.0260	0.0158
Uranus	-4437-11-09 16:04 J	101122.00	101122.17	101122.36	0.0141	0.0080
Uranus	-4436-06-24 01:26 J	101348.35	101348.56	101348.77	0.0142	0.0033
Uranus	-4435-02-05 10:47 J	101574.74	101574.95	101575.16	0.0142	0.0015
Uranus	-4435-09-19 20:09 J	101801.16	101801.34	101801.54	0.0142	0.0064
Jupiter	-4434-01-03 01:55 J	101906.38	101906.58	101906.79	0.0513	0.0057
Uranus	-4434-05-04 05:45 J	102027.62	102027.74	102027.88	0.0142	0.0113
Jupiter	-4429-11-11 05:02 J	104045.57	104045.71	104045.86	0.0511	0.0356
Moon	-4429-11-16 06:28 J	104050.63	104050.77	104050.92	0.2715	0.0830
Earth	-4429-11-16 11:16 J	104050.84	104050.97	104051.10	0.2711	0.1451 *
Saturn	-4423-04-25 11:45 J	106036.81	106036.99	106037.17	0.0302	0.0151
Jupiter	-4423-09-07 21:21 J	106172.20	106172.39	106172.57	0.0511	0.0220
Saturn	-4423-12-11 17:45 J	106267.05	106267.24	106267.43	0.0302	0.0127
Earth	-4421-11-14 00:57 J	106970.48	106970.54	106970.60	0.2712	0.2460
Jupiter	-4417-07-17 03:07 J	108311.43	108311.63	108311.83	0.0513	0.0085
Mars	-4413-12-03 06:00 J	109911.69	109911.75	109911.80	0.1613	0.1525
Jupiter	-4411-05-13 16:19 J	110438.14	110438.18	110438.23	0.0509	0.0494
Mars	-4411-10-03 13:40 J	110580.90	110581.07	110581.25	0.1610	0.0220
Jupiter	-4410-01-05 20:52 J	110675.32	110675.37	110675.42	0.0515	0.0499
Mars	-4410-09-04 02:24 J	110916.46	110916.60	110916.75	0.1917	0.1158
Saturn	-4409-10-06 16:04 J	111315.01	111315.17	111315.34	0.0261	0.0165
Saturn	-4408-05-23 12:57 J	111543.82	111544.04	111544.25	0.0260	0.0012
Saturn	-4407-01-07 09:35 J	111772.77	111772.90	111773.06	0.0261	0.0189
Jupiter	-4405-03-22 00:14 J	112577.32	112577.51	112577.69	0.0515	0.0193
Jupiter	-4399-09-10 14:38 J	114940.93	114941.11	114941.30	0.0514	0.0216
Uranus	-4398-12-02 00:00 J	115388.40	115388.50	115388.63	0.0137	0.0116
Uranus	-4397-07-15 08:24 J	115614.67	115614.85	115615.05	0.0137	0.0071

Uranus	-4396-02-26 16:47 J	115840.99	115841.20	115841.42	0.0137	0.0027
Uranus	-4396-10-11 00:43 J	116067.32	116067.53	116067.75	0.0137	0.0018
Uranus	-4395-05-25 08:38 J	116293.66	116293.86	116294.06	0.0136	0.0061
Uranus	-4394-01-06 15:50 J	116520.04	116520.16	116520.32	0.0136	0.0104
Pluto	-4394-01-10 01:55 J	116523.53	116523.58	116523.67	0.0079	0.0075
Pluto	-4394-08-23 12:43 J	116748.81	116749.03	116749.25	0.0078	0.0012
Saturn	-4394-11-05 22:33 J	116823.24	116823.44	116823.63	0.0301	0.0109
Jupiter	-4394-11-25 20:52 J	116843.29	116843.37	116843.46	0.0517	0.0470
Pluto	-4393-04-04 22:19 J	116974.28	116974.43	116974.62	0.0078	0.0050
Saturn	-4393-06-23 04:33 J	117053.51	117053.69	117053.86	0.0301	0.0169
Jupiter	-4387-05-16 08:38 J	119206.66	119206.86	119207.07	0.0512	0.0066
Jupiter	-4381-03-24 15:35 J	121345.98	121346.15	121346.33	0.0512	0.0246
Saturn	-4379-04-18 20:24 J	122101.17	122101.35	122101.53	0.0260	0.0140
Mars	-4379-10-02 04:19 J	122267.52	122267.68	122267.84	0.1611	0.0611
Saturn	-4379-12-03 16:47 J	122330.00	122330.20	122330.42	0.0260	0.0036
Saturn	-4378-07-20 13:40 J	122558.95	122559.07	122559.19	0.0260	0.0211
Mars	-4378-09-04 07:55 J	122604.67	122604.83	122604.99	0.1915	0.0818
Mars	-4377-08-01 12:14 J	122936.89	122937.01	122937.13	0.1609	0.1124
Neptune	-4376-01-28 15:35 J	123117.10	123117.15	123117.24	0.0089	0.0085
Neptune	-4376-09-11 04:47 J	123342.59	123342.70	123342.85	0.0089	0.0072
Jupiter	-4375-01-19 05:02 J	123472.56	123472.71	123472.86	0.0511	0.0338
Neptune	-4375-04-24 18:00 J	123568.10	123568.25	123568.43	0.0089	0.0058
Neptune	-4375-12-06 07:12 J	123793.62	123793.80	123794.00	0.0089	0.0045
Neptune	-4374-07-19 20:52 J	124019.16	124019.37	124019.57	0.0089	0.0032
Neptune	-4373-03-01 09:50 J	124244.70	124244.91	124245.13	0.0089	0.0019
Neptune	-4373-10-12 23:02 J	124470.24	124470.46	124470.68	0.0089	0.0006
Neptune	-4372-05-26 12:14 J	124695.79	124696.01	124696.23	0.0089	0.0008
Neptune	-4371-01-07 01:26 J	124921.35	124921.56	124921.77	0.0089	0.0021
Neptune	-4371-08-20 14:24 J	125146.91	125147.10	125147.31	0.0089	0.0034
Neptune	-4370-04-03 03:21 J	125372.47	125372.64	125372.84	0.0089	0.0048

Neptune	-4370-11-14 16:33 J	125598.05	125598.19	125598.37	0.0089	0.0061
Jupiter	-4370-11-28 12:28 J	125611.82	125612.02	125612.23	0.0514	0.0032
Neptune	-4369-06-27 05:45 J	125823.63	125823.74	125823.88	0.0089	0.0074
Neptune	-4368-02-07 18:57 J	126049.25	126049.29	126049.36	0.0089	0.0087
Saturn	-4364-05-18 04:19 J	127609.48	127609.68	127609.89	0.0302	0.0073
Saturn	-4363-01-03 10:19 J	127839.78	127839.93	127840.09	0.0302	0.0205
Jupiter	-4363-05-19 05:45 J	127975.61	127975.74	127975.87	0.0515	0.0386
Jupiter	-4358-08-03 09:21 J	129877.74	129877.89	129878.06	0.0516	0.0309
Uranus	-4353-07-09 23:45 J	131680.35	131680.49	131680.64	0.0141	0.0102
Uranus	-4352-02-21 08:38 J	131906.67	131906.86	131907.07	0.0141	0.0056
Uranus	-4352-10-05 18:14 J	132133.04	132133.26	132133.47	0.0142	0.0007
Jupiter	-4351-01-21 23:31 J	132241.28	132241.48	132241.68	0.0513	0.0101
Uranus	-4351-05-20 03:21 J	132359.44	132359.64	132359.85	0.0142	0.0041
Uranus	-4350-01-01 12:57 J	132585.88	132586.04	132586.21	0.0142	0.0089
Uranus	-4350-08-15 22:19 J	132812.40	132812.43	132812.50	0.0143	0.0139
Saturn	-4350-10-30 00:57 J	132887.35	132887.54	132887.73	0.0260	0.0114
Saturn	-4349-06-14 21:21 J	133116.19	133116.39	133116.60	0.0260	0.0064
Saturn	-4348-01-29 18:14 J	133345.19	133345.26	133345.35	0.0260	0.0240
Mars	-4347-09-30 18:43 J	133954.21	133954.28	133954.36	0.1612	0.1437
Jupiter	-4346-12-01 02:09 J	134380.47	134380.59	134380.72	0.0511	0.0400
Mars	-4345-07-31 02:38 J	134623.44	134623.61	134623.78	0.1609	0.0304
Mars	-4344-07-01 03:35 J	134958.54	134958.65	134958.75	0.1917	0.1530
Jupiter	-4340-09-26 18:28 J	136507.08	136507.27	136507.46	0.0511	0.0178
Saturn	-4335-11-28 14:09 J	138395.88	138396.09	138396.30	0.0301	0.0033
Saturn	-4334-07-16 19:55 J	138626.22	138626.33	138626.46	0.0301	0.0245
Jupiter	-4334-08-06 00:57 J	138646.34	138646.54	138646.73	0.0513	0.0132
Moon	-4331-05-21 04:19 J	139665.58	139665.68	139665.79	0.2624	0.1928
Jupiter	-4328-06-01 12:43 J	140772.95	140773.03	140773.13	0.0510	0.0455
Moon	-4323-05-18 23:45 J	142585.34	142585.49	142585.64	0.2627	0.0510
Earth	-4323-05-19 02:09 J	142585.44	142585.59	142585.75	0.2621	0.0517 *

Jupiter	-4322-04-10 23:31 J	142912.29	142912.48	142912.68	0.0514	0.0140
Saturn	-4320-05-11 04:48 J	143673.50	143673.70	143673.90	0.0260	0.0089
Saturn	-4320-12-26 01:11 J	143902.35	143902.55	143902.75	0.0260	0.0087
Jupiter	-4316-09-29 13:26 J	145275.89	145276.06	145276.24	0.0514	0.0267
Uranus	-4313-03-14 14:24 J	146172.95	146173.10	146173.27	0.0137	0.0095
Mars	-4313-07-29 17:02 J	146310.05	146310.21	146310.37	0.1610	0.0521
Uranus	-4313-10-26 22:33 J	146399.25	146399.44	146399.66	0.0137	0.0050
Uranus	-4312-06-10 06:57 J	146625.57	146625.79	146626.01	0.0137	0.0006
Mars	-4312-07-01 09:50 J	146646.73	146646.91	146647.08	0.1916	0.0470
Uranus	-4311-01-22 14:38 J	146851.90	146852.11	146852.33	0.0136	0.0038
Mars	-4311-05-30 01:11 J	146979.44	146979.55	146979.67	0.1609	0.1211
Uranus	-4311-09-05 22:33 J	147078.26	147078.44	147078.61	0.0136	0.0082
Jupiter	-4311-12-14 19:40 J	147178.21	147178.32	147178.44	0.0516	0.0422
Uranus	-4310-04-20 05:45 J	147304.67	147304.74	147304.84	0.0136	0.0125
Saturn	-4306-10-23 11:16 J	148951.90	148951.97	148952.05	0.0302	0.0279
Saturn	-4305-06-09 17:45 J	149182.03	149182.24	149182.45	0.0302	0.0003
Saturn	-4304-01-25 23:31 J	149412.41	149412.48	149412.57	0.0302	0.0276
Jupiter	-4304-06-04 08:52 J	149541.67	149541.87	149542.08	0.0513	0.0013
Jupiter	-4298-04-13 13:11 J	151680.88	151681.05	151681.21	0.0512	0.0291
Neptune	-4294-10-26 22:04 J	153338.33	153338.42	153338.55	0.0088	0.0076
Neptune	-4293-06-08 11:02 J	153563.82	153563.96	153564.13	0.0088	0.0063
Neptune	-4292-01-20 00:00 J	153789.34	153789.50	153789.70	0.0088	0.0051
Jupiter	-4292-02-07 04:33 J	153807.52	153807.69	153807.86	0.0510	0.0288
Neptune	-4292-09-02 12:57 J	154014.86	154015.04	154015.25	0.0088	0.0038
Saturn	-4291-04-06 11:31 J	154230.91	154230.98	154231.07	0.0260	0.0240
Neptune	-4291-04-16 01:55 J	154240.38	154240.58	154240.80	0.0088	0.0025
Saturn	-4291-11-21 07:55 J	154459.63	154459.83	154460.05	0.0260	0.0066
Neptune	-4291-11-27 14:38 J	154465.90	154466.11	154466.34	0.0088	0.0013
Saturn	-4290-07-08 04:19 J	154688.50	154688.68	154688.88	0.0260	0.0113
Neptune	-4290-07-11 03:50 J	154691.44	154691.66	154691.88	0.0088	0.0001

Neptune	-4289-02-21 16:33 J	154916.98	154917.19	154917.42	0.0088	0.0013
Neptune	-4289-10-04 05:16 J	155142.52	155142.72	155142.94	0.0088	0.0026
Neptune	-4288-05-17 18:00 J	155368.07	155368.25	155368.47	0.0088	0.0039
Neptune	-4288-12-29 07:11 J	155593.63	155593.80	155593.99	0.0088	0.0051
Neptune	-4287-08-11 19:55 J	155819.19	155819.33	155819.49	0.0088	0.0064
Jupiter	-4287-12-17 10:48 J	155946.75	155946.95	155947.15	0.0514	0.0019
Neptune	-4286-03-25 08:24 J	156044.77	156044.85	156044.99	0.0088	0.0077
Mars	-4281-07-28 07:40 J	157996.73	157996.82	157996.91	0.1612	0.1352
Jupiter	-4280-06-07 04:04 J	158310.57	158310.67	158310.79	0.0515	0.0435
Mars	-4279-05-28 15:50 J	158665.99	158666.16	158666.33	0.1609	0.0387
Mars	-4278-04-28 04:33 J	159000.67	159000.69	159000.71	0.1917	0.1896
Saturn	-4276-05-04 19:40 J	159738.20	159738.32	159738.44	0.0301	0.0242
Saturn	-4276-12-21 01:55 J	159968.37	159968.58	159968.79	0.0302	0.0035
Jupiter	-4275-08-22 08:52 J	160212.70	160212.87	160213.05	0.0515	0.0256
Uranus	-4269-03-09 07:40 J	162238.73	162238.82	162238.93	0.0141	0.0124
Uranus	-4269-10-21 16:33 J	162465.03	162465.19	162465.39	0.0141	0.0078
Jupiter	-4268-02-09 21:21 J	162576.19	162576.39	162576.59	0.0514	0.0149
Uranus	-4268-06-05 01:55 J	162691.37	162691.58	162691.80	0.0141	0.0030
Uranus	-4267-01-17 11:16 J	162917.76	162917.97	162918.18	0.0142	0.0019
Uranus	-4267-08-31 20:38 J	163144.18	163144.36	163144.56	0.0142	0.0067
Uranus	-4266-04-15 06:14 J	163370.64	163370.76	163370.89	0.0142	0.0116
Jupiter	-4263-12-20 02:52 J	164715.53	164715.62	164715.71	0.0510	0.0456
Saturn	-4262-10-17 14:38 J	165017.01	165017.11	165017.24	0.0260	0.0216
Saturn	-4261-06-02 11:16 J	165245.76	165245.97	165246.18	0.0260	0.0041
Saturn	-4260-01-17 07:26 J	165474.64	165474.81	165475.00	0.0260	0.0135
Jupiter	-4257-10-15 17:31 J	166842.03	166842.23	166842.43	0.0512	0.0128
Jupiter	-4251-08-25 00:57 J	168981.35	168981.54	168981.73	0.0512	0.0186
Mars	-4247-05-27 06:14 J	170352.60	170352.76	170352.93	0.1610	0.0440
Saturn	-4247-11-14 21:35 J	170524.26	170524.40	170524.55	0.0302	0.0215
Mars	-4246-04-28 10:33 J	170688.76	170688.94	170689.12	0.1916	0.0101

Saturn	-4246-07-03 04:04 J	170754.47	170754.67	170754.88	0.0302	0.0064
Mars	-4245-03-26 14:24 J	171022.00	171022.10	171022.20	0.1609	0.1296
Jupiter	-4245-06-20 14:09 J	171107.97	171108.09	171108.23	0.0510	0.0399
Jupiter	-4239-04-29 22:33 J	173247.24	173247.44	173247.64	0.0514	0.0090
Pluto	-4235-01-20 23:31 J	174609.30	174609.48	174609.67	0.0066	0.0036
Pluto	-4235-09-03 04:19 J	174834.47	174834.68	174834.90	0.0066	0.0001
Pluto	-4234-04-16 08:52 J	175059.70	175059.87	175060.06	0.0067	0.0037
Jupiter	-4233-10-18 14:24 J	175610.94	175611.10	175611.26	0.0514	0.0325
Saturn	-4232-04-28 17:02 J	175803.07	175803.21	175803.35	0.0260	0.0194
Saturn	-4232-12-13 13:26 J	176031.85	176032.06	176032.27	0.0260	0.0019
Saturn	-4231-07-30 09:50 J	176260.74	176260.91	176261.08	0.0260	0.0157
Uranus	-4230-11-12 21:21 J	176731.28	176731.39	176731.51	0.0137	0.0117
Uranus	-4229-06-26 05:31 J	176957.56	176957.73	176957.93	0.0137	0.0072
Uranus	-4228-02-07 13:55 J	177183.87	177184.08	177184.30	0.0137	0.0028
Uranus	-4228-09-21 21:50 J	177410.20	177410.41	177410.64	0.0137	0.0017
Jupiter	-4227-01-02 18:57 J	177513.15	177513.29	177513.43	0.0516	0.0371
Uranus	-4227-05-06 05:31 J	177636.54	177636.73	177636.94	0.0136	0.0061
Uranus	-4227-12-18 13:11 J	177862.92	177863.05	177863.20	0.0136	0.0104
Jupiter	-4221-06-23 09:07 J	179876.67	179876.88	179877.08	0.0512	0.0044
Saturn	-4217-05-27 04:19 J	181310.52	181310.68	181310.85	0.0301	0.0181
Saturn	-4216-01-12 10:48 J	181540.75	181540.95	181541.15	0.0302	0.0097
Jupiter	-4215-05-02 13:55 J	182015.94	182016.08	182016.23	0.0511	0.0350
Mars	-4215-05-25 20:38 J	182039.26	182039.36	182039.47	0.1611	0.1266
Mars	-4213-03-25 04:48 J	182708.54	182708.70	182708.86	0.1609	0.0473
Neptune	-4212-12-13 15:50 J	183337.07	183337.16	183337.29	0.0089	0.0078
Neptune	-4211-07-27 05:31 J	183562.59	183562.73	183562.89	0.0089	0.0064
Neptune	-4210-03-09 18:43 J	183788.11	183788.28	183788.47	0.0089	0.0051
Neptune	-4210-10-21 07:40 J	184013.63	184013.82	184014.03	0.0089	0.0038
Jupiter	-4209-02-27 02:38 J	184142.43	184142.61	184142.79	0.0511	0.0242
Neptune	-4209-06-02 20:52 J	184239.17	184239.37	184239.59	0.0089	0.0024

Neptune	-4208-01-14 10:19 J	184464.71	184464.93	184465.15	0.0089	0.0011
Neptune	-4208-08-27 23:31 J	184690.26	184690.48	184690.70	0.0089	0.0003
Neptune	-4207-04-10 12:43 J	184915.81	184916.03	184916.24	0.0089	0.0016
Neptune	-4207-11-22 01:26 J	185141.37	185141.56	185141.78	0.0089	0.0030
Neptune	-4206-07-05 14:38 J	185366.93	185367.11	185367.32	0.0089	0.0043
Neptune	-4205-02-16 03:50 J	185592.50	185592.66	185592.84	0.0089	0.0056
Neptune	-4205-09-28 17:02 J	185818.08	185818.21	185818.36	0.0089	0.0069
Neptune	-4204-05-12 06:14 J	186043.68	186043.76	186043.85	0.0089	0.0082
Jupiter	-4203-01-05 13:40 J	186281.87	186282.07	186282.27	0.0513	0.0083
Saturn	-4203-11-08 19:26 J	186589.17	186589.31	186589.49	0.0260	0.0171
Saturn	-4202-06-25 16:04 J	186817.95	186818.17	186818.38	0.0260	0.0007
Saturn	-4201-02-09 12:14 J	187046.86	187047.01	187047.17	0.0260	0.0180
Jupiter	-4197-06-26 04:48 J	188645.64	188645.70	188645.75	0.0516	0.0494
Jupiter	-4192-09-10 11:02 J	190547.77	190547.96	190548.14	0.0515	0.0197
Saturn	-4188-12-07 04:48 J	192096.52	192096.70	192096.88	0.0302	0.0156
Saturn	-4187-07-25 11:16 J	192326.78	192326.97	192327.16	0.0302	0.0122
Earth	-4186-11-17 10:33 J	192806.80	192806.94	192807.08	0.2712	0.1227
Moon	-4186-11-17 16:04 J	192807.08	192807.17	192807.26	0.2712	0.2176 *
Jupiter	-4185-03-01 00:28 J	192911.34	192911.52	192911.71	0.0514	0.0214
Uranus	-4185-06-21 00:57 J	193023.40	193023.54	193023.70	0.0141	0.0099
Uranus	-4184-02-02 10:04 J	193249.73	193249.92	193250.13	0.0141	0.0052
Uranus	-4184-09-16 19:40 J	193476.10	193476.32	193476.54	0.0142	0.0003
Uranus	-4183-05-01 04:48 J	193702.51	193702.70	193702.91	0.0142	0.0045
Uranus	-4183-12-13 14:24 J	193928.95	193929.10	193929.27	0.0142	0.0094
Uranus	-4182-07-28 00:14 J	194155.51	194155.51	194155.52	0.0142	0.0142
Mars	-4181-03-23 18:57 J	194395.13	194395.29	194395.46	0.1609	0.0351
Mars	-4180-02-22 12:28 J	194730.84	194731.02	194731.19	0.1917	0.0256
Jupiter	-4180-05-16 07:26 J	194813.74	194813.81	194813.89	0.0517	0.0478
Mars	-4179-01-22 03:21 J	195064.56	195064.64	195064.73	0.1609	0.1382
Earth	-4178-11-15 00:14 J	195726.50	195726.51	195726.53	0.2713	0.2684

Moon	-4178-11-15 03:50 J	195726.57	195726.66	195726.75	0.2708	0.2269
Jupiter	-4174-11-04 19:55 J	197177.13	197177.33	197177.54	0.0512	0.0067
Saturn	-4173-05-20 20:38 J	197375.19	197375.36	197375.53	0.0260	0.0151
Saturn	-4172-01-04 17:02 J	197604.00	197604.21	197604.42	0.0260	0.0025
Saturn	-4172-08-21 13:26 J	197832.93	197833.06	197833.20	0.0260	0.0200
Jupiter	-4168-09-13 01:40 J	199316.39	199316.57	199316.75	0.0512	0.0243
Jupiter	-4162-07-10 15:50 J	201443.01	201443.16	201443.31	0.0510	0.0342
Saturn	-4158-06-19 10:48 J	202882.76	202882.95	202883.15	0.0302	0.0124
Saturn	-4157-02-04 17:02 J	203113.03	203113.21	203113.40	0.0302	0.0154
Jupiter	-4156-05-19 00:43 J	203582.33	203582.53	203582.73	0.0514	0.0027
Jupiter	-4150-11-07 13:40 J	205945.93	205946.07	205946.21	0.0515	0.0379
Mars	-4149-03-22 09:35 J	206081.79	206081.90	206082.02	0.1611	0.1183
Pluto	-4148-02-07 18:57 J	206404.12	206404.29	206404.47	0.0079	0.0049
Mars	-4148-02-22 17:45 J	206419.16	206419.24	206419.31	0.1915	0.1729
Pluto	-4148-09-21 05:02 J	206629.50	206629.71	206629.93	0.0078	0.0013
Mars	-4147-01-20 17:45 J	206751.08	206751.24	206751.41	0.1609	0.0560
Pluto	-4147-05-04 14:52 J	206855.06	206855.12	206855.20	0.0078	0.0074
Uranus	-4145-02-24 12:57 J	207515.90	207516.04	207516.22	0.0137	0.0095
Uranus	-4145-10-07 21:35 J	207742.19	207742.40	207742.60	0.0137	0.0050
Jupiter	-4144-01-21 23:45 J	207848.32	207848.49	207848.65	0.0516	0.0302
Uranus	-4144-05-22 05:31 J	207968.51	207968.73	207968.95	0.0137	0.0005
Saturn	-4144-11-30 23:16 J	208161.28	208161.47	208161.65	0.0260	0.0127
Uranus	-4143-01-03 13:11 J	208194.84	208195.05	208195.26	0.0136	0.0039
Saturn	-4143-07-17 19:26 J	208390.10	208390.31	208390.52	0.0260	0.0048
Uranus	-4143-08-17 20:38 J	208421.20	208421.36	208421.55	0.0136	0.0083
Saturn	-4142-03-03 15:35 J	208619.05	208619.15	208619.26	0.0260	0.0223
Uranus	-4142-04-01 04:33 J	208647.61	208647.69	208647.78	0.0136	0.0125
Jupiter	-4138-07-13 09:35 J	210211.70	210211.90	210212.10	0.0513	0.0100
Jupiter	-4132-05-21 16:48 J	212351.08	212351.20	212351.32	0.0511	0.0413
Neptune	-4129-01-28 10:04 J	213332.85	213332.92	213333.02	0.0088	0.0081

Neptune	-4129-09-09 23:16 J	213558.33	213558.47	213558.60	0.0088	0.0068
Saturn	-4129-12-29 10:19 J	213668.74	213668.93	213669.14	0.0302	0.0101
Neptune	-4128-04-23 11:31 J	213783.83	213783.98	213784.17	0.0088	0.0056
Saturn	-4128-08-16 16:33 J	213899.03	213899.19	213899.37	0.0302	0.0178
Neptune	-4128-12-05 00:28 J	214009.34	214009.52	214009.73	0.0088	0.0043
Neptune	-4127-07-18 13:40 J	214234.86	214235.07	214235.28	0.0088	0.0030
Neptune	-4126-03-01 02:38 J	214460.39	214460.61	214460.83	0.0088	0.0017
Jupiter	-4126-03-18 06:28 J	214477.58	214477.77	214477.97	0.0511	0.0177
Neptune	-4126-10-12 15:21 J	214685.92	214686.14	214686.36	0.0088	0.0005
Neptune	-4125-05-25 04:19 J	214911.46	214911.68	214911.90	0.0088	0.0008
Neptune	-4124-01-05 17:16 J	215137.01	215137.22	215137.44	0.0088	0.0021
Neptune	-4124-08-19 06:00 J	215362.55	215362.75	215362.96	0.0088	0.0034
Neptune	-4123-04-01 18:28 J	215588.11	215588.27	215588.48	0.0088	0.0047
Neptune	-4123-11-13 07:11 J	215813.66	215813.80	215813.99	0.0088	0.0060
Neptune	-4122-06-26 20:24 J	216039.24	216039.35	216039.49	0.0088	0.0072
Neptune	-4121-02-07 09:21 J	216264.85	216264.89	216264.96	0.0088	0.0085
Jupiter	-4120-01-24 14:52 J	216616.93	216617.12	216617.32	0.0513	0.0142
Mars	-4115-01-19 08:24 J	218437.68	218437.85	218438.02	0.1609	0.0270
Jupiter	-4115-11-21 03:21 J	218743.55	218743.64	218743.74	0.0509	0.0447
Mars	-4115-12-20 13:26 J	218772.89	218773.06	218773.23	0.1917	0.0623
Saturn	-4114-06-12 23:02 J	218947.27	218947.46	218947.66	0.0260	0.0110
Mars	-4114-11-19 16:33 J	219107.12	219107.19	219107.26	0.1609	0.1466
Saturn	-4113-01-27 19:40 J	219176.11	219176.32	219176.53	0.0260	0.0066
Saturn	-4113-09-12 15:50 J	219405.10	219405.16	219405.25	0.0260	0.0242
Jupiter	-4109-09-29 12:14 J	220882.82	220883.01	220883.21	0.0515	0.0138
Jupiter	-4102-03-21 02:38 J	223246.44	223246.61	223246.79	0.0514	0.0277
Uranus	-4101-02-19 09:07 J	223581.78	223581.88	223581.99	0.0141	0.0121
Uranus	-4101-10-02 18:00 J	223808.08	223808.25	223808.45	0.0141	0.0074
Uranus	-4100-05-17 03:21 J	224034.43	224034.64	224034.86	0.0142	0.0026
Uranus	-4100-12-29 12:43 J	224260.82	224261.03	224261.25	0.0142	0.0022

Saturn	-4099-07-11 15:21 J	224454.94	224455.14	224455.35	0.0302	0.0071
Uranus	-4099-08-12 22:04 J	224487.25	224487.42	224487.62	0.0142	0.0071
Saturn	-4098-02-26 21:35 J	224685.25	224685.40	224685.56	0.0302	0.0208
Uranus	-4098-03-27 07:55 J	224713.72	224713.83	224713.95	0.0142	0.0120
Jupiter	-4097-06-04 10:33 J	225148.82	225148.94	225149.06	0.0517	0.0414
Jupiter	-4091-11-23 19:26 J	227512.10	227512.31	227512.51	0.0512	0.0018
Saturn	-4085-05-08 05:16 J	229504.72	229504.72	229504.73	0.0261	0.0260
Jupiter	-4085-10-02 06:43 J	229651.62	229651.78	229651.94	0.0512	0.0315
Saturn	-4085-12-23 01:40 J	229733.37	229733.57	229733.77	0.0260	0.0085
Saturn	-4084-08-08 21:50 J	229962.21	229962.41	229962.61	0.0260	0.0090
Mars	-4083-01-17 22:48 J	230124.32	230124.45	230124.57	0.1610	0.1099
Mars	-4083-12-20 18:43 J	230461.16	230461.28	230461.41	0.1916	0.1366
Mars	-4082-11-18 07:11 J	230793.64	230793.80	230793.96	0.1608	0.0641
Earth	-4080-05-19 05:02 J	231341.55	231341.71	231341.87	0.2621	0.0313
Moon	-4080-05-19 09:21 J	231341.72	231341.89	231342.05	0.2616	0.0233 *
Jupiter	-4079-07-29 16:04 J	231778.01	231778.17	231778.35	0.0511	0.0290
Jupiter	-4073-06-07 04:33 J	233917.49	233917.69	233917.89	0.0513	0.0039
Saturn	-4069-01-21 15:07 J	235240.92	235241.13	235241.34	0.0302	0.0047
Saturn	-4069-09-07 21:07 J	235471.25	235471.38	235471.52	0.0302	0.0232
Jupiter	-4067-11-26 18:14 J	236281.17	236281.26	236281.37	0.0515	0.0451
Uranus	-4062-10-24 21:21 J	238074.29	238074.39	238074.53	0.0137	0.0116
Jupiter	-4061-02-11 01:55 J	238183.40	238183.58	238183.76	0.0515	0.0242
Uranus	-4061-06-07 05:45 J	238300.56	238300.74	238300.94	0.0137	0.0071
Uranus	-4060-01-19 13:55 J	238526.87	238527.08	238527.30	0.0137	0.0026
Uranus	-4060-09-02 21:50 J	238753.19	238753.41	238753.63	0.0137	0.0018
Uranus	-4059-04-17 05:16 J	238979.54	238979.72	238979.93	0.0136	0.0063
Uranus	-4059-11-29 13:11 J	239205.92	239206.05	239206.19	0.0136	0.0105
Saturn	-4056-11-18 04:48 J	240290.63	240290.70	240290.77	0.0260	0.0244
Saturn	-4055-07-05 01:11 J	240519.35	240519.55	240519.76	0.0260	0.0068
Jupiter	-4055-08-01 13:40 J	240546.88	240547.07	240547.27	0.0513	0.0168

Saturn	-4054-02-18 21:35 J	240748.21	240748.40	240748.60	0.0260	0.0108
Mars	-4050-11-16 21:21 J	242480.22	242480.39	242480.56	0.1609	0.0185
Jupiter	-4049-06-09 18:28 J	242686.20	242686.27	242686.34	0.0511	0.0474
Mars	-4049-10-16 14:52 J	242814.97	242815.12	242815.27	0.1918	0.0985
Mars	-4048-09-16 05:45 J	243149.70	243149.74	243149.79	0.1609	0.1552
Neptune	-4047-03-17 03:35 J	243331.58	243331.65	243331.74	0.0089	0.0083
Neptune	-4047-10-28 16:33 J	243557.07	243557.19	243557.34	0.0089	0.0070
Neptune	-4046-06-11 05:45 J	243782.59	243782.74	243782.93	0.0089	0.0057
Neptune	-4045-01-22 19:11 J	244008.12	244008.30	244008.50	0.0089	0.0043
Neptune	-4045-09-04 08:24 J	244233.65	244233.85	244234.07	0.0089	0.0030
Neptune	-4044-04-17 21:35 J	244459.19	244459.40	244459.62	0.0089	0.0016
Neptune	-4044-11-29 10:48 J	244684.73	244684.95	244685.17	0.0089	0.0003
Jupiter	-4043-04-06 09:21 J	244812.69	244812.89	244813.09	0.0511	0.0114
Neptune	-4043-07-13 00:00 J	244910.29	244910.50	244910.72	0.0089	0.0011
Neptune	-4042-02-23 12:57 J	245135.84	245136.04	245136.26	0.0089	0.0024
Neptune	-4042-10-07 02:09 J	245361.40	245361.59	245361.79	0.0089	0.0038
Neptune	-4041-05-19 15:21 J	245586.96	245587.14	245587.32	0.0089	0.0051
Saturn	-4041-12-15 13:26 J	245797.03	245797.06	245797.12	0.0301	0.0293
Neptune	-4041-12-31 04:04 J	245812.54	245812.67	245812.84	0.0089	0.0064
Saturn	-4040-08-02 20:09 J	246027.13	246027.34	246027.55	0.0302	0.0016
Neptune	-4040-08-13 17:16 J	246038.13	246038.22	246038.35	0.0089	0.0078
Saturn	-4039-03-21 02:09 J	246257.49	246257.59	246257.70	0.0302	0.0261
Jupiter	-4037-02-13 18:14 J	246952.08	246952.26	246952.45	0.0513	0.0209
Jupiter	-4032-12-10 02:38 J	249078.49	249078.61	249078.74	0.0510	0.0399
Saturn	-4026-05-31 07:26 J	251076.70	251076.81	251076.92	0.0261	0.0219
Jupiter	-4026-10-19 18:00 J	251218.05	251218.25	251218.45	0.0515	0.0065
Saturn	-4025-01-15 03:50 J	251305.46	251305.66	251305.88	0.0260	0.0044
Saturn	-4025-08-31 00:14 J	251534.33	251534.51	251534.70	0.0260	0.0132
Jupiter	-4019-04-09 03:21 J	253581.49	253581.64	253581.80	0.0515	0.0334
Mars	-4018-11-15 12:00 J	254166.87	254167.00	254167.13	0.1610	0.1017

Uranus	-4017-06-02 01:11 J	254366.40	254366.55	254366.71	0.0141	0.0098
Mars	-4017-10-16 20:24 J	254503.20	254503.35	254503.50	0.1917	0.1013
Uranus	-4016-01-14 10:04 J	254592.73	254592.92	254593.13	0.0141	0.0050
Uranus	-4016-08-28 19:40 J	254819.11	254819.32	254819.54	0.0142	0.0003
Mars	-4016-09-14 20:09 J	254836.19	254836.34	254836.49	0.1608	0.0730
Uranus	-4015-04-12 05:02 J	255045.52	255045.71	255045.92	0.0142	0.0047
Uranus	-4015-11-24 14:38 J	255271.96	255272.11	255272.28	0.0142	0.0096
Jupiter	-4014-06-24 14:52 J	255483.97	255484.12	255484.27	0.0516	0.0348
Saturn	-4011-06-27 13:55 J	256583.00	256583.08	256583.19	0.0301	0.0268
Saturn	-4010-02-12 20:09 J	256813.13	256813.34	256813.55	0.0302	0.0009
Saturn	-4010-10-01 01:55 J	257043.52	257043.58	257043.65	0.0302	0.0286
Jupiter	-4008-12-13 00:00 J	257847.29	257847.50	257847.70	0.0513	0.0055
Jupiter	-4002-10-22 08:38 J	259986.72	259986.86	259986.99	0.0511	0.0375

4TH MILLENNIUM BCE

This is a list of transits of Venus in the 4th millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	-3997-12-10 06:43 J	261862.66	261862.78	261862.92	0.0260	0.0203		
Saturn	-3996-07-27 03:21 J	262091.43	262091.64	262091.86	0.0260	0.0027		
Jupiter	-3996-08-17 20:38 J	262113.17	262113.36	262113.54	0.0511	0.0223		
Saturn	-3995-03-12 23:45 J	262320.32	262320.49	262320.67	0.0260	0.0150		
Jupiter	-3990-06-27 06:00 J	264252.56	264252.75	264252.95	0.0513	0.0099		
Pluto	-3990-07-09 06:14 J	264264.75	264264.76	264264.83	0.0066	0.0065		

Pluto	-3989-02-19 11:02 J	264489.78	264489.96	264490.18	0.0066	0.0029
Pluto	-3989-10-01 16:19 J	264714.96	264715.18	264715.40	0.0066	0.0008
Pluto	-3988-05-14 20:52 J	264940.22	264940.37	264940.54	0.0067	0.0045
Jupiter	-3984-04-22 17:02 J	266379.17	266379.21	266379.25	0.0509	0.0496
Mars	-3984-09-13 10:33 J	266522.77	266522.94	266523.11	0.1609	0.0102
Jupiter	-3984-12-15 20:52 J	266616.36	266616.37	266616.39	0.0515	0.0514
Mars	-3983-08-13 15:50 J	266857.04	266857.16	266857.29	0.1918	0.1356
Saturn	-3981-01-07 18:43 J	267369.16	267369.28	267369.42	0.0301	0.0238
Saturn	-3981-08-25 01:11 J	267599.34	267599.55	267599.76	0.0302	0.0040
Jupiter	-3978-03-02 05:02 J	268518.52	268518.71	268518.90	0.0515	0.0177
Uranus	-3978-06-24 05:16 J	268632.71	268632.72	268632.76	0.0138	0.0137
Uranus	-3977-02-05 13:55 J	268858.92	268859.08	268859.25	0.0137	0.0092
Uranus	-3977-09-18 22:04 J	269085.22	269085.42	269085.63	0.0137	0.0047
Uranus	-3976-05-03 06:00 J	269311.53	269311.75	269311.97	0.0137	0.0003
Uranus	-3976-12-15 13:40 J	269537.87	269538.07	269538.28	0.0136	0.0041
Uranus	-3975-07-29 21:07 J	269764.22	269764.38	269764.57	0.0136	0.0085
Uranus	-3974-03-13 04:48 J	269990.65	269990.70	269990.79	0.0136	0.0128
Jupiter	-3972-08-20 12:43 J	270881.85	270882.03	270882.22	0.0514	0.0219
Saturn	-3967-06-22 09:50 J	272648.76	272648.91	272649.07	0.0261	0.0177
Jupiter	-3967-11-05 03:07 J	272784.54	272784.63	272784.73	0.0517	0.0458
Saturn	-3966-02-06 06:43 J	272877.56	272877.78	272877.99	0.0260	0.0003
Saturn	-3966-09-23 03:07 J	273106.47	273106.63	273106.79	0.0260	0.0175
Neptune	-3965-04-30 22:04 J	273327.39	273327.42	273327.46	0.0088	0.0086
Neptune	-3965-12-12 10:33 J	273552.84	273552.94	273553.08	0.0088	0.0074
Neptune	-3964-07-25 23:31 J	273778.34	273778.48	273778.65	0.0088	0.0061
Neptune	-3963-03-08 12:28 J	274003.85	274004.02	274004.21	0.0088	0.0048
Neptune	-3963-10-20 01:26 J	274229.36	274229.56	274229.77	0.0088	0.0035
Neptune	-3962-06-02 14:23 J	274454.89	274455.10	274455.31	0.0088	0.0022
Neptune	-3961-01-14 03:21 J	274680.42	274680.64	274680.86	0.0088	0.0010
Neptune	-3961-08-26 16:19 J	274905.96	274906.18	274906.40	0.0088	0.0004

Neptune	-3960-04-09 05:02 J	275131.50	275131.71	275131.93	0.0088	0.0017
Jupiter	-3960-04-25 09:07 J	275147.67	275147.88	275148.08	0.0512	0.0063
Neptune	-3960-11-20 18:00 J	275357.04	275357.25	275357.46	0.0088	0.0029
Neptune	-3959-07-04 06:43 J	275582.60	275582.78	275582.98	0.0088	0.0042
Neptune	-3958-02-14 19:40 J	275808.16	275808.32	275808.50	0.0088	0.0055
Neptune	-3958-09-28 08:23 J	276033.73	276033.85	276034.01	0.0088	0.0068
Neptune	-3957-05-10 21:21 J	276259.32	276259.39	276259.49	0.0088	0.0081
Jupiter	-3954-03-04 21:50 J	277287.24	277287.41	277287.58	0.0512	0.0272
Saturn	-3952-07-19 20:52 J	278155.22	278155.37	278155.52	0.0301	0.0209
Mars	-3952-09-12 00:57 J	278209.40	278209.54	278209.68	0.1609	0.0933
Saturn	-3951-03-07 02:52 J	278385.41	278385.62	278385.82	0.0302	0.0068
Mars	-3951-08-13 21:36 J	278545.23	278545.40	278545.56	0.1917	0.0645
Mars	-3950-07-13 09:07 J	278878.73	278878.88	278879.03	0.1608	0.0815
Jupiter	-3949-12-29 06:28 J	279413.62	279413.77	279413.93	0.0510	0.0336
Jupiter	-3943-11-07 19:40 J	281553.11	281553.32	281553.52	0.0514	0.0013
Moon	-3943-11-17 04:33 J	281562.53	281562.69	281562.85	0.2710	0.0108
Earth	-3943-11-17 10:04 J	281562.77	281562.92	281563.07	0.2713	0.1026 *
Saturn	-3937-01-02 09:50 J	283434.75	283434.91	283435.08	0.0261	0.0160
Saturn	-3937-08-18 06:28 J	283663.56	283663.77	283663.99	0.0260	0.0018
Saturn	-3936-04-04 03:07 J	283892.49	283892.63	283892.77	0.0260	0.0193
Jupiter	-3936-04-28 07:11 J	283916.68	283916.80	283916.93	0.0515	0.0402
Uranus	-3933-01-31 06:57 J	284924.70	284924.79	284924.91	0.0141	0.0122
Uranus	-3933-09-13 16:19 J	285151.01	285151.18	285151.37	0.0141	0.0075
Uranus	-3932-04-28 01:40 J	285377.36	285377.57	285377.78	0.0141	0.0027
Uranus	-3932-12-10 11:02 J	285603.75	285603.96	285604.18	0.0142	0.0022
Jupiter	-3931-07-13 15:50 J	285818.99	285819.16	285819.33	0.0516	0.0292
Uranus	-3931-07-24 20:38 J	285830.17	285830.36	285830.55	0.0142	0.0070
Uranus	-3930-03-08 06:14 J	286056.65	286056.76	286056.88	0.0142	0.0119
Jupiter	-3924-01-01 01:55 J	288182.38	288182.58	288182.78	0.0513	0.0115
Saturn	-3922-01-30 02:23 J	288941.44	288941.60	288941.78	0.0301	0.0177

Saturn	-3922-09-17 08:23 J	289171.66	289171.85	289172.05	0.0301	0.0100
Jupiter	-3919-11-10 10:33 J	290321.85	290321.94	290322.05	0.0511	0.0439
Mars	-3918-07-11 23:31 J	290565.30	290565.48	290565.65	0.1608	0.0046
Mars	-3917-06-09 16:48 J	290899.13	290899.20	290899.27	0.1918	0.1736
Jupiter	-3913-09-05 18:57 J	292448.10	292448.29	292448.48	0.0511	0.0177
Saturn	-3908-07-14 13:26 J	294220.89	294221.06	294221.25	0.0261	0.0133
Saturn	-3907-02-28 10:19 J	294449.72	294449.93	294450.14	0.0260	0.0045
Jupiter	-3907-07-16 10:19 J	294587.74	294587.93	294588.12	0.0513	0.0167
Saturn	-3907-10-15 06:57 J	294678.68	294678.79	294678.90	0.0260	0.0221
Pluto	-3902-03-09 08:09 J	296284.66	296284.84	296285.06	0.0078	0.0035
Pluto	-3902-10-20 18:14 J	296510.07	296510.26	296510.49	0.0078	0.0028
Jupiter	-3901-05-11 15:50 J	296714.07	296714.16	296714.25	0.0509	0.0451
Jupiter	-3895-03-21 07:40 J	298853.62	298853.82	298854.02	0.0515	0.0116
Uranus	-3894-10-05 20:52 J	299417.26	299417.37	299417.51	0.0137	0.0114
Uranus	-3893-05-19 05:02 J	299643.53	299643.71	299643.91	0.0137	0.0069
Saturn	-3893-08-11 05:45 J	299727.56	299727.74	299727.93	0.0301	0.0146
Uranus	-3893-12-31 13:26 J	299869.84	299870.06	299870.27	0.0137	0.0024
Saturn	-3892-03-29 11:31 J	299957.79	299957.98	299958.17	0.0301	0.0131
Uranus	-3892-08-14 21:21 J	300096.17	300096.39	300096.61	0.0137	0.0020
Uranus	-3891-03-29 05:02 J	300322.53	300322.71	300322.91	0.0136	0.0064
Uranus	-3891-11-10 12:43 J	300548.91	300549.03	300549.17	0.0136	0.0107
Jupiter	-3889-09-08 16:04 J	301217.00	301217.17	301217.34	0.0514	0.0283
Mars	-3886-07-10 13:55 J	302251.93	302252.08	302252.22	0.1609	0.0843
Mars	-3885-06-09 23:02 J	302587.29	302587.46	302587.64	0.1918	0.0286
Mars	-3884-05-09 22:19 J	302921.28	302921.43	302921.57	0.1608	0.0904
Jupiter	-3884-11-24 04:04 J	303119.55	303119.67	303119.80	0.0517	0.0403
Neptune	-3883-06-18 14:52 J	303326.11	303326.12	303326.17	0.0089	0.0089
Neptune	-3882-01-30 04:04 J	303551.58	303551.67	303551.81	0.0089	0.0076
Neptune	-3882-09-12 17:45 J	303777.09	303777.24	303777.41	0.0089	0.0062
Neptune	-3881-04-25 06:43 J	304002.61	304002.78	304002.98	0.0089	0.0049

Neptune	-3881-12-06 20:09 J	304228.14	304228.34	304228.55	0.0089	0.0035
Neptune	-3880-07-20 09:21 J	304453.69	304453.89	304454.11	0.0089	0.0021
Neptune	-3879-03-02 22:48 J	304679.23	304679.45	304679.67	0.0089	0.0008
Neptune	-3879-10-14 11:45 J	304904.77	304904.99	304905.21	0.0089	0.0006
Saturn	-3878-01-24 14:09 J	305006.90	305007.09	305007.28	0.0261	0.0114
Neptune	-3878-05-28 00:43 J	305130.32	305130.53	305130.75	0.0089	0.0020
Saturn	-3878-09-10 11:02 J	305235.75	305235.96	305236.17	0.0260	0.0063
Neptune	-3877-01-08 13:55 J	305355.88	305356.08	305356.29	0.0089	0.0033
Saturn	-3877-04-26 07:40 J	305464.75	305464.82	305464.91	0.0260	0.0239
Jupiter	-3877-05-14 12:00 J	305482.80	305483.00	305483.21	0.0512	0.0004
Neptune	-3877-08-21 02:52 J	305581.45	305581.62	305581.82	0.0089	0.0046
Neptune	-3876-04-03 16:04 J	305807.02	305807.17	305807.34	0.0089	0.0060
Neptune	-3876-11-15 05:16 J	306032.60	306032.72	306032.85	0.0089	0.0073
Neptune	-3875-06-28 18:00 J	306258.22	306258.25	306258.33	0.0089	0.0086
Jupiter	-3871-03-23 21:36 J	307622.25	307622.40	307622.56	0.0512	0.0327
Jupiter	-3865-01-18 07:55 J	309748.65	309748.83	309749.00	0.0510	0.0280
Saturn	-3863-02-21 12:43 J	310513.83	310514.03	310514.22	0.0301	0.0111
Saturn	-3863-10-09 18:28 J	310744.09	310744.27	310744.44	0.0301	0.0166
Jupiter	-3860-11-26 20:23 J	311888.15	311888.35	311888.55	0.0514	0.0051
Jupiter	-3853-05-17 04:33 J	314251.59	314251.69	314251.79	0.0515	0.0446
Mars	-3852-05-08 12:43 J	314607.86	314608.03	314608.20	0.1608	0.0072
Uranus	-3849-05-13 22:33 J	315709.29	315709.44	315709.60	0.0141	0.0098
Saturn	-3849-08-05 18:43 J	315793.08	315793.28	315793.48	0.0261	0.0085
Uranus	-3849-12-26 07:26 J	315935.62	315935.81	315936.03	0.0141	0.0052
Saturn	-3848-03-22 15:21 J	316021.95	316022.14	316022.35	0.0261	0.0093
Jupiter	-3848-08-01 18:43 J	316154.10	316154.28	316154.46	0.0516	0.0231
Uranus	-3848-08-09 17:16 J	316162.00	316162.22	316162.43	0.0142	0.0003
Uranus	-3847-03-24 02:23 J	316388.41	316388.60	316388.81	0.0142	0.0046
Uranus	-3847-11-05 12:14 J	316614.85	316615.01	316615.17	0.0142	0.0095
Jupiter	-3841-01-20 23:45 J	318517.30	318517.49	318517.69	0.0513	0.0161

Moon	-3837-05-19 02:52 J	320097.47	320097.62	320097.78	0.2623	0.0330
Earth	-3837-05-19 08:09 J	320097.68	320097.84	320098.00	0.2620	0.0080 *
Jupiter	-3836-11-29 11:45 J	320656.94	320656.99	320657.04	0.0511	0.0493
Saturn	-3834-09-03 18:14 J	321300.06	321300.26	321300.47	0.0301	0.0076
Saturn	-3833-04-20 23:45 J	321530.34	321530.49	321530.65	0.0301	0.0201
Jupiter	-3830-09-25 20:38 J	322783.16	322783.36	322783.56	0.0511	0.0120
Jupiter	-3824-08-04 09:50 J	324922.73	324922.91	324923.09	0.0513	0.0218
Mars	-3820-05-07 03:07 J	326294.48	326294.63	326294.79	0.1608	0.0762
Saturn	-3820-07-01 22:33 J	326350.37	326350.44	326350.52	0.0261	0.0244
Saturn	-3819-02-15 19:55 J	326579.13	326579.33	326579.54	0.0261	0.0066
Mars	-3819-04-07 00:14 J	326629.33	326629.51	326629.68	0.1918	0.0100
Saturn	-3819-10-02 16:48 J	326808.01	326808.20	326808.40	0.0260	0.0112
Mars	-3818-03-07 11:16 J	326963.84	326963.97	326964.11	0.1608	0.0989
Jupiter	-3818-05-31 17:16 J	327049.10	327049.22	327049.35	0.0509	0.0396
Jupiter	-3812-04-09 06:14 J	329188.56	329188.76	329188.96	0.0515	0.0068
Uranus	-3810-06-05 02:38 J	329975.60	329975.61	329975.64	0.0138	0.0137
Uranus	-3809-01-17 11:16 J	330201.81	330201.97	330202.13	0.0137	0.0092
Uranus	-3809-08-30 19:26 J	330428.11	330428.31	330428.52	0.0137	0.0047
Uranus	-3808-04-14 03:36 J	330654.43	330654.65	330654.87	0.0137	0.0003
Uranus	-3808-11-26 11:16 J	330880.77	330880.97	330881.19	0.0137	0.0042
Uranus	-3807-07-10 19:11 J	331107.13	331107.30	331107.48	0.0136	0.0085
Uranus	-3806-02-22 02:38 J	331333.56	331333.61	331333.70	0.0136	0.0129
Jupiter	-3806-09-28 16:04 J	331552.02	331552.17	331552.32	0.0514	0.0337
Saturn	-3804-03-16 01:40 J	332086.36	332086.57	332086.78	0.0301	0.0039
Saturn	-3804-11-01 07:11 J	332316.68	332316.80	332316.93	0.0301	0.0237
Jupiter	-3801-12-13 03:21 J	333454.49	333454.64	333454.79	0.0517	0.0353
Neptune	-3800-03-15 22:33 J	333547.37	333547.44	333547.56	0.0088	0.0079
Neptune	-3800-10-27 11:31 J	333772.85	333772.98	333773.14	0.0088	0.0066
Neptune	-3799-06-10 00:28 J	333998.35	333998.52	333998.70	0.0088	0.0053
Neptune	-3798-01-21 13:26 J	334223.87	334224.06	334224.26	0.0088	0.0040

Neptune	-3798-09-04 02:23 J	334449.39	334449.60	334449.81	0.0088	0.0027
Neptune	-3797-04-16 14:52 J	334674.92	334675.12	334675.35	0.0088	0.0015
Neptune	-3797-11-28 04:04 J	334900.45	334900.67	334900.89	0.0088	0.0002
Neptune	-3796-07-11 16:48 J	335125.99	335126.20	335126.42	0.0088	0.0012
Neptune	-3795-02-22 05:31 J	335351.53	335351.73	335351.96	0.0088	0.0025
Neptune	-3795-10-05 18:28 J	335577.08	335577.27	335577.48	0.0088	0.0038
Neptune	-3794-05-19 07:11 J	335802.64	335802.80	335803.00	0.0088	0.0051
Jupiter	-3794-06-03 08:23 J	335817.64	335817.85	335818.05	0.0512	0.0041
Neptune	-3794-12-30 20:09 J	336028.21	336028.34	336028.51	0.0088	0.0064
Neptune	-3793-08-12 09:07 J	336253.80	336253.88	336254.01	0.0088	0.0077
Saturn	-3790-01-12 04:04 J	337136.56	337136.67	337136.80	0.0262	0.0214
Saturn	-3790-08-29 01:26 J	337365.35	337365.56	337365.78	0.0261	0.0035
Saturn	-3789-04-13 22:33 J	337594.26	337594.44	337594.62	0.0261	0.0143
Jupiter	-3788-04-11 22:48 J	337957.32	337957.45	337957.58	0.0512	0.0384
Mars	-3788-05-05 17:31 J	337981.21	337981.23	337981.25	0.1609	0.1591
Mars	-3786-03-06 01:40 J	338650.40	338650.57	338650.74	0.1608	0.0159
Jupiter	-3782-02-06 04:19 J	340083.50	340083.68	340083.86	0.0510	0.0242
Jupiter	-3777-12-15 19:55 J	342223.14	342223.33	342223.53	0.0514	0.0103
Saturn	-3775-02-08 04:19 J	342642.60	342642.68	342642.77	0.0300	0.0273
Saturn	-3775-09-26 09:36 J	342872.69	342872.90	342873.11	0.0301	0.0005
Saturn	-3774-05-14 14:38 J	343103.04	343103.11	343103.20	0.0301	0.0277
Jupiter	-3770-06-06 04:48 J	344586.67	344586.70	344586.75	0.0515	0.0502
Uranus	-3765-01-12 05:31 J	346267.62	346267.73	346267.84	0.0141	0.0121
Jupiter	-3765-08-20 17:02 J	346489.02	346489.21	346489.40	0.0516	0.0184
Uranus	-3765-08-25 14:23 J	346493.93	346494.10	346494.30	0.0141	0.0074
Uranus	-3764-04-08 23:45 J	346720.29	346720.49	346720.71	0.0141	0.0027
Uranus	-3764-11-21 09:07 J	346946.67	346946.88	346947.10	0.0142	0.0022
Uranus	-3763-07-05 18:28 J	347173.09	347173.27	347173.47	0.0142	0.0071
Uranus	-3762-02-17 04:19 J	347399.57	347399.68	347399.80	0.0142	0.0120
Saturn	-3761-07-24 06:14 J	347922.62	347922.76	347922.91	0.0261	0.0192

Saturn	-3760-03-10 03:36 J	348151.43	348151.65	348151.86	0.0261	0.0014
Saturn	-3760-10-25 00:43 J	348380.36	348380.53	348380.69	0.0261	0.0164
Jupiter	-3758-02-09 00:14 J	348852.32	348852.51	348852.70	0.0513	0.0216
Mars	-3754-03-04 15:50 J	350337.01	350337.16	350337.32	0.1608	0.0671
Mars	-3753-02-02 01:55 J	350671.41	350671.58	350671.75	0.1918	0.0448
Jupiter	-3753-04-25 11:45 J	350754.92	350754.99	350755.07	0.0518	0.0477
Mars	-3752-01-02 00:28 J	351006.39	351006.52	351006.64	0.1608	0.1077
Jupiter	-3747-10-14 19:11 J	353118.10	353118.30	353118.51	0.0511	0.0072
Saturn	-3746-08-21 12:57 J	353428.91	353429.04	353429.18	0.0300	0.0234
Saturn	-3745-04-07 18:14 J	353659.06	353659.26	353659.48	0.0301	0.0042
Pluto	-3744-08-06 18:57 J	354145.19	354145.29	354145.41	0.0066	0.0056
Pluto	-3743-03-19 23:31 J	354370.29	354370.48	354370.70	0.0066	0.0021
Pluto	-3743-10-31 04:33 J	354595.48	354595.69	354595.91	0.0066	0.0017
Pluto	-3742-06-13 08:52 J	354820.77	354820.87	354821.02	0.0067	0.0054
Jupiter	-3741-08-23 07:26 J	355257.64	355257.81	355257.99	0.0513	0.0265
Jupiter	-3735-06-19 12:57 J	357383.90	357384.04	357384.19	0.0509	0.0360
Saturn	-3731-02-03 12:14 J	358708.85	358709.01	358709.19	0.0262	0.0162
Saturn	-3731-09-20 09:50 J	358937.69	358937.91	358938.12	0.0261	0.0018
Saturn	-3730-05-07 06:43 J	359166.65	359166.78	359166.93	0.0261	0.0197
Jupiter	-3729-04-28 05:16 J	359523.52	359523.72	359523.92	0.0515	0.0019
Uranus	-3726-09-16 17:02 J	360760.11	360760.21	360760.34	0.0138	0.0115
Uranus	-3725-04-30 01:26 J	360986.38	360986.56	360986.76	0.0137	0.0070
Uranus	-3725-12-12 09:36 J	361212.69	361212.90	361213.12	0.0137	0.0026
Uranus	-3724-07-26 17:45 J	361439.02	361439.24	361439.46	0.0137	0.0019
Uranus	-3723-03-10 01:40 J	361665.39	361665.57	361665.77	0.0136	0.0063
Jupiter	-3723-10-17 11:16 J	361886.83	361886.97	361887.11	0.0514	0.0374
Uranus	-3723-10-22 09:36 J	361891.77	361891.90	361892.04	0.0136	0.0107
Mars	-3722-03-03 06:28 J	362023.71	362023.77	362023.83	0.1609	0.1507
Mars	-3721-02-02 07:26 J	362359.71	362359.81	362359.91	0.1918	0.1561
Mars	-3721-12-31 14:52 J	362692.95	362693.12	362693.29	0.1608	0.0246

Neptune	-3718-05-03 15:50 J	363546.08	363546.16	363546.26	0.0089	0.0081
Neptune	-3718-12-15 04:48 J	363771.58	363771.70	363771.87	0.0089	0.0068
Jupiter	-3717-01-02 01:26 J	363789.40	363789.56	363789.72	0.0517	0.0308
Neptune	-3717-07-27 18:28 J	363997.11	363997.27	363997.46	0.0089	0.0054
Saturn	-3716-03-02 22:48 J	364215.29	364215.45	364215.61	0.0300	0.0191
Neptune	-3716-03-10 07:40 J	364222.64	364222.82	364223.03	0.0089	0.0040
Saturn	-3716-10-19 03:50 J	364445.46	364445.66	364445.87	0.0301	0.0084
Neptune	-3716-10-21 20:52 J	364448.17	364448.37	364448.59	0.0089	0.0027
Neptune	-3715-06-04 10:19 J	364673.71	364673.93	364674.15	0.0089	0.0013
Neptune	-3714-01-15 23:31 J	364899.26	364899.48	364899.70	0.0089	0.0001
Neptune	-3714-08-29 12:43 J	365124.82	365125.03	365125.25	0.0089	0.0015
Neptune	-3713-04-11 01:40 J	365350.37	365350.57	365350.79	0.0089	0.0028
Neptune	-3713-11-22 14:52 J	365575.93	365576.12	365576.32	0.0089	0.0042
Neptune	-3712-07-06 03:50 J	365801.50	365801.66	365801.85	0.0089	0.0055
Neptune	-3711-02-16 17:02 J	366027.08	366027.21	366027.36	0.0089	0.0069
Jupiter	-3711-06-22 06:57 J	366152.59	366152.79	366152.99	0.0512	0.0089
Neptune	-3711-09-30 05:45 J	366252.68	366252.74	366252.85	0.0089	0.0083
Jupiter	-3705-04-30 19:11 J	368292.20	368292.30	368292.42	0.0512	0.0426
Saturn	-3702-08-16 15:21 J	369494.96	369495.14	369495.32	0.0261	0.0139
Saturn	-3701-04-01 12:43 J	369723.82	369724.03	369724.24	0.0261	0.0040
Saturn	-3701-11-16 09:36 J	369952.80	369952.90	369953.03	0.0261	0.0219
Earth	-3700-11-17 09:07 J	370318.73	370318.88	370319.04	0.2713	0.0786
Moon	-3700-11-17 13:26 J	370318.93	370319.06	370319.19	0.2718	0.1395 *
Jupiter	-3699-02-25 03:07 J	370418.44	370418.63	370418.82	0.0510	0.0193
Jupiter	-3693-01-04 15:50 J	372557.97	372558.16	372558.35	0.0514	0.0142
Mars	-3689-12-30 05:16 J	374379.56	374379.72	374379.88	0.1608	0.0589
Jupiter	-3688-10-30 23:16 J	374684.40	374684.47	374684.55	0.0508	0.0471
Mars	-3688-11-29 03:07 J	374713.47	374713.63	374713.79	0.1918	0.0823
Saturn	-3687-09-13 07:55 J	375001.65	375001.83	375002.01	0.0300	0.0150
Mars	-3687-10-30 13:40 J	375048.95	375049.07	375049.19	0.1609	0.1161

Saturn	-3686-05-01 12:57 J	375231.86	375232.04	375232.24	0.0301	0.0126
Jupiter	-3682-09-09 12:57 J	376823.85	376824.04	376824.24	0.0516	0.0144
Uranus	-3681-04-24 21:50 J	377052.27	377052.41	377052.58	0.0141	0.0097
Uranus	-3681-12-07 07:11 J	377278.60	377278.80	377279.01	0.0141	0.0049
Uranus	-3680-07-21 16:33 J	377504.98	377505.19	377505.41	0.0141	0.0003
Uranus	-3679-03-05 01:55 J	377731.38	377731.58	377731.79	0.0142	0.0048
Uranus	-3679-10-17 11:45 J	377957.83	377957.99	377958.15	0.0142	0.0096
Jupiter	-3675-02-27 18:43 J	379187.11	379187.28	379187.47	0.0512	0.0251
Saturn	-3672-02-25 21:50 J	380281.22	380281.41	380281.61	0.0262	0.0107
Saturn	-3672-10-12 19:11 J	380510.10	380510.30	380510.51	0.0261	0.0073
Saturn	-3671-05-29 16:33 J	380739.14	380739.19	380739.25	0.0261	0.0251
Jupiter	-3670-05-15 08:52 J	381089.77	381089.87	381089.98	0.0518	0.0436
Jupiter	-3664-11-02 13:55 J	383452.87	383453.08	383453.28	0.0511	0.0038
Jupiter	-3658-09-12 04:04 J	385592.51	385592.67	385592.83	0.0513	0.0306
Saturn	-3657-03-25 19:26 J	385788.12	385788.31	385788.51	0.0300	0.0105
Pluto	-3657-08-24 13:11 J	385940.02	385940.05	385940.11	0.0079	0.0077
Saturn	-3657-11-11 00:28 J	386018.35	386018.52	386018.70	0.0300	0.0171
Mars	-3657-12-28 19:40 J	386066.24	386066.32	386066.39	0.1608	0.1422
Pluto	-3656-04-06 23:45 J	386165.27	386165.49	386165.71	0.0078	0.0014
Pluto	-3656-11-18 09:21 J	386390.73	386390.89	386391.08	0.0078	0.0047
Mars	-3656-11-29 08:38 J	386401.72	386401.86	386402.00	0.1918	0.1191
Mars	-3655-10-29 04:19 J	386735.51	386735.68	386735.84	0.1608	0.0329
Jupiter	-3652-07-08 09:50 J	387718.76	387718.91	387719.07	0.0509	0.0319
Jupiter	-3646-05-18 01:26 J	389858.35	389858.56	389858.76	0.0515	0.0024
Saturn	-3643-01-22 04:19 J	390838.68	390838.68	390838.68	0.0262	0.0262
Saturn	-3643-09-08 01:40 J	391067.37	391067.57	391067.78	0.0261	0.0083
Saturn	-3642-04-24 23:02 J	391296.26	391296.46	391296.66	0.0261	0.0096
Uranus	-3642-12-29 08:23 J	391544.69	391544.85	391545.01	0.0137	0.0093
Uranus	-3641-08-11 16:33 J	391770.99	391771.19	391771.40	0.0137	0.0048
Uranus	-3640-03-26 00:57 J	391997.32	391997.54	391997.76	0.0137	0.0003

Jupiter	-3640-11-05 09:21 J	392221.78	392221.89	392222.01	0.0514	0.0423
Uranus	-3640-11-07 08:52 J	392223.66	392223.87	392224.08	0.0137	0.0041
Uranus	-3639-06-21 16:19 J	392450.03	392450.18	392450.37	0.0136	0.0085
Uranus	-3638-02-03 00:14 J	392676.45	392676.51	392676.59	0.0136	0.0128
Neptune	-3636-06-17 11:02 J	393541.92	393541.96	393542.04	0.0088	0.0084
Neptune	-3635-01-29 00:00 J	393767.39	393767.50	393767.64	0.0088	0.0071
Neptune	-3635-09-11 12:57 J	393992.88	393993.04	393993.21	0.0088	0.0058
Jupiter	-3634-01-20 20:23 J	394124.18	394124.35	394124.53	0.0517	0.0272
Neptune	-3634-04-25 01:40 J	394218.39	394218.57	394218.77	0.0088	0.0045
Neptune	-3634-12-06 14:23 J	394443.90	394444.10	394444.31	0.0088	0.0032
Neptune	-3633-07-19 03:21 J	394669.43	394669.64	394669.86	0.0088	0.0019
Neptune	-3632-03-01 16:19 J	394894.96	394895.18	394895.40	0.0088	0.0006
Neptune	-3632-10-13 05:02 J	395120.49	395120.71	395120.93	0.0088	0.0007
Neptune	-3631-05-26 17:45 J	395346.03	395346.24	395346.46	0.0088	0.0020
Neptune	-3630-01-07 06:43 J	395571.58	395571.78	395571.99	0.0088	0.0033
Neptune	-3630-08-20 19:40 J	395797.14	395797.32	395797.51	0.0088	0.0046
Neptune	-3629-04-02 08:38 J	396022.70	396022.86	396023.03	0.0088	0.0059
Neptune	-3629-11-13 21:21 J	396248.28	396248.39	396248.52	0.0088	0.0072
Neptune	-3628-06-27 10:19 J	396473.89	396473.93	396473.99	0.0088	0.0085
Jupiter	-3628-07-11 03:50 J	396487.47	396487.66	396487.86	0.0512	0.0133
Saturn	-3628-10-06 04:33 J	396574.49	396574.69	396574.90	0.0300	0.0063
Saturn	-3627-05-24 09:36 J	396804.76	396804.90	396805.06	0.0301	0.0213
Mars	-3623-10-27 18:28 J	398422.10	398422.27	398422.43	0.1608	0.0506
Jupiter	-3622-05-20 14:23 J	398627.03	398627.10	398627.19	0.0512	0.0465
Mars	-3622-09-26 04:19 J	398755.55	398755.68	398755.82	0.1918	0.1192
Mars	-3621-08-27 02:38 J	399091.51	399091.61	399091.72	0.1609	0.1250
Jupiter	-3616-03-15 22:04 J	400753.22	400753.42	400753.61	0.0510	0.0159
Saturn	-3614-08-04 11:02 J	401624.86	401624.96	401625.06	0.0262	0.0231
Saturn	-3613-03-20 08:38 J	401853.65	401853.86	401854.07	0.0262	0.0051
Saturn	-3613-11-04 05:45 J	402082.56	402082.74	402082.93	0.0261	0.0129

Jupiter	-3610-01-23 12:00 J	402892.81	402893.00	402893.19	0.0514	0.0183
Jupiter	-3605-11-18 18:00 J	405019.15	405019.25	405019.35	0.0508	0.0439
Saturn	-3599-08-31 11:45 J	407130.95	407130.99	407131.04	0.0299	0.0290
Jupiter	-3599-09-28 08:38 J	407158.67	407158.86	407159.06	0.0516	0.0106
Saturn	-3598-04-18 16:48 J	407360.99	407361.20	407361.41	0.0300	0.0017
Saturn	-3598-12-04 21:36 J	407591.31	407591.40	407591.52	0.0300	0.0258
Uranus	-3598-12-24 05:45 J	407610.63	407610.74	407610.86	0.0141	0.0119
Uranus	-3597-08-06 14:52 J	407836.94	407837.12	407837.32	0.0141	0.0072
Uranus	-3596-03-21 00:14 J	408063.30	408063.51	408063.73	0.0141	0.0024
Uranus	-3596-11-02 09:36 J	408289.69	408289.90	408290.12	0.0142	0.0025
Uranus	-3595-06-16 19:11 J	408516.11	408516.30	408516.48	0.0142	0.0073
Uranus	-3594-01-29 04:33 J	408742.59	408742.69	408742.81	0.0142	0.0122
Earth	-3594-05-20 10:48 J	408853.79	408853.95	408854.11	0.2620	0.0129
Moon	-3594-05-20 16:19 J	408854.02	408854.18	408854.33	0.2620	0.0666 *
Jupiter	-3592-03-18 15:21 J	409521.97	409522.14	409522.30	0.0513	0.0293
Mars	-3591-10-26 08:52 J	410108.78	410108.87	410108.96	0.1608	0.1340
Mars	-3590-09-26 10:04 J	410443.76	410443.92	410444.08	0.1919	0.0826
Mars	-3589-08-25 17:02 J	410778.04	410778.21	410778.38	0.1608	0.0418
Jupiter	-3587-06-03 05:02 J	411424.59	411424.71	411424.84	0.0518	0.0396
Moon	-3586-05-18 07:40 J	411773.76	411773.82	411773.88	0.2615	0.2414
Saturn	-3584-02-13 14:52 J	412411.01	412411.12	412411.27	0.0262	0.0206
Saturn	-3584-09-30 12:43 J	412639.82	412640.03	412640.24	0.0261	0.0026
Saturn	-3583-05-17 09:50 J	412868.74	412868.91	412869.09	0.0261	0.0153
Jupiter	-3581-11-21 11:02 J	413787.75	413787.96	413788.16	0.0511	0.0014
Jupiter	-3575-09-30 22:48 J	415927.30	415927.45	415927.60	0.0513	0.0343
Saturn	-3569-03-12 20:38 J	417917.24	417917.36	417917.47	0.0300	0.0251
Jupiter	-3569-07-27 06:57 J	418053.62	418053.79	418053.96	0.0509	0.0277
Saturn	-3569-10-29 01:40 J	418147.36	418147.57	418147.78	0.0301	0.0025
Saturn	-3568-06-16 06:43 J	418377.77	418377.78	418377.80	0.0301	0.0300
Jupiter	-3563-06-05 19:55 J	420193.12	420193.33	420193.53	0.0515	0.0059

Uranus	-3558-08-28 16:04 J	422103.06	422103.17	422103.30	0.0137	0.0115
Uranus	-3557-04-11 00:28 J	422329.34	422329.52	422329.72	0.0137	0.0070
Mars	-3557-08-24 07:26 J	422464.64	422464.81	422464.98	0.1608	0.0419
Uranus	-3557-11-23 08:38 J	422555.65	422555.86	422556.08	0.0137	0.0025
Jupiter	-3557-11-24 04:04 J	422556.58	422556.67	422556.76	0.0513	0.0459
Uranus	-3556-07-07 16:48 J	422781.99	422782.20	422782.42	0.0137	0.0020
Mars	-3556-07-23 05:31 J	422797.63	422797.73	422797.83	0.1918	0.1566
Uranus	-3555-02-19 00:57 J	423008.34	423008.54	423008.73	0.0136	0.0064
Mars	-3555-06-24 15:36 J	423134.06	423134.15	423134.25	0.1609	0.1341
Saturn	-3555-08-26 21:50 J	423197.26	423197.41	423197.57	0.0262	0.0175
Uranus	-3555-10-03 08:38 J	423234.73	423234.86	423234.99	0.0136	0.0107
Saturn	-3554-04-12 19:26 J	423426.09	423426.31	423426.52	0.0261	0.0006
Neptune	-3554-08-05 03:21 J	423540.60	423540.64	423540.71	0.0089	0.0087
Saturn	-3554-11-27 16:33 J	423655.05	423655.19	423655.34	0.0261	0.0185
Neptune	-3553-03-17 16:48 J	423766.08	423766.20	423766.33	0.0089	0.0073
Neptune	-3553-10-29 05:45 J	423991.60	423991.74	423991.92	0.0089	0.0060
Neptune	-3552-06-11 19:11 J	424217.12	424217.30	424217.50	0.0089	0.0046
Neptune	-3551-01-23 08:38 J	424442.66	424442.86	424443.07	0.0089	0.0032
Jupiter	-3551-02-08 15:50 J	424458.98	424459.16	424459.34	0.0517	0.0235
Neptune	-3551-09-05 21:50 J	424668.20	424668.41	424668.63	0.0089	0.0018
Neptune	-3550-04-19 11:16 J	424893.75	424893.97	424894.19	0.0089	0.0004
Neptune	-3550-12-01 00:14 J	425119.30	425119.51	425119.73	0.0089	0.0010
Neptune	-3549-07-13 13:26 J	425344.86	425345.06	425345.28	0.0089	0.0023
Neptune	-3548-02-24 02:38 J	425570.42	425570.61	425570.82	0.0089	0.0037
Neptune	-3548-10-07 15:36 J	425795.98	425796.15	425796.34	0.0089	0.0051
Neptune	-3547-05-21 04:19 J	426021.55	426021.68	426021.86	0.0089	0.0065
Neptune	-3546-01-01 17:45 J	426247.14	426247.24	426247.36	0.0089	0.0078
Jupiter	-3545-07-29 22:33 J	426822.24	426822.44	426822.63	0.0512	0.0168
Saturn	-3540-09-23 08:52 J	428703.72	428703.87	428704.02	0.0300	0.0205
Saturn	-3539-05-11 13:55 J	428933.87	428934.08	428934.28	0.0300	0.0070

Jupiter	-3539-06-08 10:04 J	428961.89	428961.92	428961.95	0.0512	0.0504
Jupiter	-3533-04-03 17:31 J	431088.03	431088.23	431088.43	0.0510	0.0120
Jupiter	-3527-02-11 08:09 J	433227.66	433227.84	433228.02	0.0514	0.0225
Saturn	-3525-03-08 02:09 J	433983.42	433983.59	433983.77	0.0261	0.0149
Mars	-3525-08-22 21:50 J	434151.30	434151.41	434151.52	0.1608	0.1253
Saturn	-3525-10-22 23:31 J	434212.27	434212.48	434212.70	0.0261	0.0031
Saturn	-3524-06-08 20:52 J	434441.24	434441.37	434441.49	0.0261	0.0209
Mars	-3524-07-23 11:02 J	434485.79	434485.96	434486.13	0.1919	0.0448
Mars	-3523-06-23 06:14 J	434820.59	434820.76	434820.92	0.1608	0.0504
Jupiter	-3522-12-08 14:23 J	435353.97	435354.10	435354.22	0.0509	0.0399
Jupiter	-3516-10-17 04:04 J	437493.47	437493.67	437493.87	0.0516	0.0067
Uranus	-3513-04-05 22:04 J	438395.28	438395.42	438395.59	0.0141	0.0095
Uranus	-3513-11-18 07:26 J	438621.61	438621.81	438622.02	0.0141	0.0047
Uranus	-3512-07-02 16:48 J	438847.98	438848.20	438848.41	0.0142	0.0001
Uranus	-3511-02-14 01:55 J	439074.39	439074.58	439074.79	0.0142	0.0050
Uranus	-3511-09-28 11:45 J	439300.84	439300.99	439301.15	0.0142	0.0099
Saturn	-3510-04-05 16:04 J	439490.00	439490.17	439490.35	0.0300	0.0167
Saturn	-3510-11-21 21:21 J	439720.20	439720.39	439720.59	0.0301	0.0110
Jupiter	-3509-04-06 12:28 J	439856.87	439857.02	439857.18	0.0513	0.0340
Jupiter	-3504-06-21 23:45 J	441759.35	441759.49	441759.64	0.0518	0.0361
Pluto	-3498-09-05 05:31 J	444025.63	444025.73	444025.89	0.0066	0.0053
Jupiter	-3498-12-11 06:43 J	444122.58	444122.78	444122.99	0.0511	0.0047
Pluto	-3497-04-17 10:48 J	444250.74	444250.95	444251.17	0.0066	0.0016
Pluto	-3497-11-28 15:21 J	444475.94	444476.14	444476.36	0.0067	0.0021
Pluto	-3496-07-11 20:09 J	444701.24	444701.34	444701.46	0.0067	0.0058
Saturn	-3496-09-18 08:09 J	444769.66	444769.84	444770.04	0.0262	0.0120
Saturn	-3495-05-05 05:31 J	444998.53	444998.73	444998.94	0.0261	0.0061
Saturn	-3495-12-20 02:52 J	445227.54	445227.62	445227.71	0.0261	0.0240
Jupiter	-3492-10-19 18:28 J	446262.14	446262.27	446262.40	0.0513	0.0384
Mars	-3491-06-21 20:23 J	446507.18	446507.35	446507.52	0.1607	0.0332

Mars	-3489-04-21 04:48 J	447176.63	447176.70	447176.78	0.1609	0.1429
Jupiter	-3486-08-16 02:23 J	448388.42	448388.60	448388.78	0.0509	0.0239
Saturn	-3481-10-16 03:50 J	450276.47	450276.66	450276.85	0.0300	0.0123
Saturn	-3480-06-03 08:52 J	450506.70	450506.87	450507.06	0.0300	0.0154
Jupiter	-3480-06-24 15:50 J	450527.96	450528.16	450528.36	0.0515	0.0100
Uranus	-3474-04-28 00:28 J	452661.50	452661.52	452661.57	0.0138	0.0136
Uranus	-3474-12-10 08:52 J	452887.72	452887.87	452888.04	0.0137	0.0091
Jupiter	-3474-12-13 23:45 J	452891.46	452891.49	452891.54	0.0514	0.0504
Uranus	-3473-07-23 17:02 J	453114.01	453114.21	453114.43	0.0137	0.0046
Uranus	-3472-03-07 01:26 J	453340.34	453340.56	453340.78	0.0137	0.0002
Uranus	-3472-10-19 09:21 J	453566.68	453566.89	453567.10	0.0136	0.0043
Neptune	-3471-05-02 11:45 J	453761.91	453761.99	453762.12	0.0088	0.0077
Uranus	-3471-06-02 16:48 J	453793.05	453793.20	453793.38	0.0136	0.0088
Neptune	-3471-12-14 00:28 J	453987.39	453987.52	453987.70	0.0088	0.0064
Uranus	-3470-01-15 00:43 J	454019.47	454019.53	454019.59	0.0136	0.0130
Neptune	-3470-07-27 13:55 J	454212.90	454213.08	454213.26	0.0088	0.0050
Neptune	-3469-03-09 02:38 J	454438.41	454438.61	454438.81	0.0088	0.0037
Neptune	-3469-10-20 15:21 J	454663.93	454664.14	454664.35	0.0088	0.0024
Jupiter	-3468-02-27 13:26 J	454793.87	454794.06	454794.25	0.0517	0.0188
Neptune	-3468-06-03 04:04 J	454889.46	454889.67	454889.89	0.0088	0.0011
Neptune	-3467-01-14 17:02 J	455114.99	455115.21	455115.44	0.0088	0.0003
Neptune	-3467-08-28 06:00 J	455340.53	455340.75	455340.97	0.0088	0.0015
Saturn	-3466-03-31 12:43 J	455555.84	455556.03	455556.24	0.0261	0.0093
Neptune	-3466-04-10 18:28 J	455566.07	455566.27	455566.49	0.0088	0.0029
Saturn	-3466-11-15 09:50 J	455784.71	455784.91	455785.11	0.0261	0.0086
Neptune	-3466-11-22 07:11 J	455791.62	455791.80	455792.01	0.0088	0.0042
Neptune	-3465-07-04 20:09 J	456017.18	456017.34	456017.53	0.0088	0.0055
Neptune	-3464-02-15 09:07 J	456242.76	456242.88	456243.04	0.0088	0.0068
Neptune	-3464-09-28 22:04 J	456468.35	456468.42	456468.52	0.0088	0.0081
Jupiter	-3462-08-18 19:40 J	457157.13	457157.32	457157.51	0.0512	0.0215

Mars	-3459-06-20 10:48 J	458193.83	458193.95	458194.07	0.1608	0.1166
Mars	-3458-05-20 12:28 J	458527.84	458528.02	458528.20	0.1919	0.0086
Mars	-3457-04-19 19:11 J	458863.14	458863.30	458863.46	0.1608	0.0596
Jupiter	-3457-11-02 08:23 J	459059.78	459059.85	459059.92	0.0518	0.0485
Moon	-3457-11-17 05:16 J	459074.56	459074.72	459074.89	0.2707	0.0334
Earth	-3457-11-17 08:23 J	459074.70	459074.85	459075.01	0.2714	0.0549 *
Saturn	-3451-04-28 09:50 J	461062.71	461062.91	461063.11	0.0301	0.0087
Saturn	-3451-12-14 15:07 J	461292.97	461293.13	461293.30	0.0301	0.0190
Jupiter	-3450-04-23 15:50 J	461422.95	461423.16	461423.36	0.0510	0.0072
Jupiter	-3444-03-02 03:50 J	463562.49	463562.66	463562.83	0.0514	0.0265
Jupiter	-3439-12-27 11:45 J	465688.85	465688.99	465689.14	0.0508	0.0355
Saturn	-3437-02-24 20:23 J	466113.28	466113.35	466113.43	0.0262	0.0245
Saturn	-3437-10-10 17:45 J	466342.04	466342.24	466342.45	0.0261	0.0066
Saturn	-3436-05-27 14:52 J	466570.93	466571.12	466571.32	0.0261	0.0114
Jupiter	-3433-11-05 00:14 J	467828.31	467828.51	467828.71	0.0516	0.0026
Uranus	-3430-12-05 04:33 J	468953.58	468953.69	468953.81	0.0141	0.0119
Uranus	-3429-07-18 13:26 J	469179.89	469180.06	469180.26	0.0141	0.0072
Uranus	-3428-03-01 23:02 J	469406.25	469406.46	469406.67	0.0141	0.0024
Uranus	-3428-10-14 08:23 J	469632.64	469632.85	469633.06	0.0142	0.0025
Uranus	-3427-05-28 17:31 J	469859.06	469859.23	469859.43	0.0142	0.0074
Uranus	-3426-01-10 03:21 J	470085.54	470085.64	470085.75	0.0142	0.0123
Jupiter	-3426-04-26 08:52 J	470191.74	470191.87	470192.01	0.0513	0.0383
Mars	-3425-04-18 09:36 J	470549.73	470549.90	470550.07	0.1608	0.0245
Mars	-3423-02-16 17:31 J	471219.18	471219.23	471219.29	0.1610	0.1525
Saturn	-3422-11-08 20:23 J	471849.14	471849.35	471849.56	0.0300	0.0046
Saturn	-3421-06-26 01:40 J	472079.44	472079.57	472079.71	0.0301	0.0231
Jupiter	-3421-07-10 21:07 J	472094.22	472094.38	472094.54	0.0518	0.0315
Jupiter	-3415-12-30 02:52 J	474457.42	474457.62	474457.82	0.0511	0.0089
Pluto	-3411-09-23 01:26 J	475820.46	475820.56	475820.66	0.0079	0.0069
Pluto	-3410-05-06 11:16 J	476045.76	476045.97	476046.20	0.0078	0.0007

Pluto	-3410-12-17 21:21 J	476271.23	476271.39	476271.55	0.0078	0.0054
Jupiter	-3409-11-07 17:02 J	476597.11	476597.21	476597.32	0.0512	0.0435
Saturn	-3408-09-06 00:57 J	476899.43	476899.54	476899.66	0.0262	0.0219
Saturn	-3407-04-22 22:04 J	477128.21	477128.42	477128.63	0.0261	0.0040
Saturn	-3407-12-07 18:57 J	477357.11	477357.29	477357.47	0.0261	0.0139
Jupiter	-3403-09-03 23:45 J	478723.30	478723.49	478723.68	0.0510	0.0194
Jupiter	-3397-07-13 13:55 J	480862.89	480863.08	480863.27	0.0514	0.0148
Mars	-3393-04-17 00:00 J	482236.37	482236.50	482236.63	0.1608	0.1081
Saturn	-3393-10-02 18:43 J	482405.24	482405.28	482405.35	0.0300	0.0290
Mars	-3392-03-16 13:26 J	482569.89	482570.06	482570.24	0.1918	0.0301
Saturn	-3392-05-21 00:28 J	482635.31	482635.52	482635.73	0.0301	0.0014
Saturn	-3391-01-06 05:45 J	482865.65	482865.74	482865.85	0.0301	0.0264
Mars	-3391-02-15 08:09 J	482905.69	482905.84	482906.00	0.1609	0.0683
Jupiter	-3391-05-09 21:07 J	482989.31	482989.38	482989.46	0.0508	0.0472
Uranus	-3390-08-09 17:16 J	483446.10	483446.22	483446.36	0.0137	0.0112
Uranus	-3389-03-23 01:40 J	483672.39	483672.57	483672.77	0.0137	0.0067
Neptune	-3389-06-19 04:04 J	483760.59	483760.67	483760.79	0.0089	0.0079
Uranus	-3389-11-04 09:50 J	483898.70	483898.91	483899.13	0.0137	0.0022
Neptune	-3388-01-30 17:31 J	483986.09	483986.23	483986.39	0.0089	0.0065
Uranus	-3388-06-18 17:45 J	484125.03	484125.24	484125.46	0.0137	0.0023
Neptune	-3388-09-13 06:28 J	484211.62	484211.77	484211.98	0.0089	0.0052
Uranus	-3387-01-31 01:40 J	484351.38	484351.57	484351.76	0.0136	0.0067
Neptune	-3387-04-26 19:55 J	484437.15	484437.33	484437.54	0.0089	0.0038
Uranus	-3387-09-14 09:07 J	484577.76	484577.88	484578.02	0.0136	0.0111
Neptune	-3387-12-08 09:21 J	484662.69	484662.89	484663.11	0.0089	0.0024
Neptune	-3386-07-21 22:48 J	484888.24	484888.45	484888.67	0.0089	0.0010
Neptune	-3385-03-03 12:00 J	485113.79	485114.00	485114.22	0.0089	0.0005
Jupiter	-3385-03-18 10:19 J	485128.74	485128.93	485129.13	0.0516	0.0144
Neptune	-3385-10-15 00:57 J	485339.34	485339.54	485339.77	0.0089	0.0019
Neptune	-3384-05-28 14:23 J	485564.90	485565.10	485565.31	0.0089	0.0032

Neptune	-3383-01-09 03:21 J	485790.46	485790.64	485790.84	0.0089	0.0046
Neptune	-3383-08-22 16:33 J	486016.04	486016.19	486016.37	0.0089	0.0059
Neptune	-3382-04-05 06:00 J	486241.62	486241.75	486241.87	0.0089	0.0073
Neptune	-3382-11-16 18:43 J	486467.24	486467.28	486467.34	0.0089	0.0087
Jupiter	-3379-09-06 18:28 J	487492.10	487492.27	487492.45	0.0512	0.0266
Saturn	-3378-03-19 04:48 J	487685.56	487685.70	487685.85	0.0261	0.0194
Saturn	-3378-11-03 01:55 J	487914.37	487914.58	487914.80	0.0261	0.0015
Saturn	-3377-06-18 22:48 J	488143.29	488143.45	488143.62	0.0261	0.0165
Jupiter	-3374-11-22 05:31 J	489394.63	489394.73	489394.83	0.0519	0.0442
Jupiter	-3367-05-12 13:55 J	491757.87	491758.08	491758.28	0.0510	0.0026
Saturn	-3363-04-15 04:19 J	493191.57	493191.68	493191.80	0.0300	0.0250
Saturn	-3363-12-01 09:50 J	493421.70	493421.91	493422.12	0.0300	0.0026
Jupiter	-3361-03-21 02:23 J	493897.44	493897.60	493897.76	0.0514	0.0318
Mars	-3360-03-16 19:40 J	494258.25	494258.32	494258.39	0.1919	0.1745
Mars	-3359-02-13 22:33 J	494592.27	494592.44	494592.61	0.1608	0.0157
Jupiter	-3355-01-15 08:09 J	496023.69	496023.84	496024.01	0.0509	0.0314
Moon	-3351-05-20 09:21 J	497609.73	497609.89	497610.06	0.2617	0.0327
Earth	-3351-05-20 14:09 J	497609.93	497610.09	497610.25	0.2619	0.0365 *
Jupiter	-3350-11-25 00:57 J	498163.34	498163.54	498163.74	0.0515	0.0034
Saturn	-3349-09-28 08:52 J	498471.71	498471.87	498472.04	0.0261	0.0167
Saturn	-3348-05-15 05:45 J	498700.53	498700.74	498700.96	0.0261	0.0012
Saturn	-3348-12-30 02:38 J	498929.47	498929.61	498929.76	0.0260	0.0189
Uranus	-3345-03-17 19:40 J	499738.16	499738.32	499738.48	0.0141	0.0096
Uranus	-3345-10-30 04:48 J	499964.49	499964.70	499964.90	0.0141	0.0049
Uranus	-3344-06-13 13:55 J	500190.86	500191.08	500191.29	0.0142	0.0001
Uranus	-3343-01-25 23:02 J	500417.27	500417.46	500417.67	0.0142	0.0048
Jupiter	-3343-05-15 07:40 J	500526.72	500526.82	500526.93	0.0514	0.0437
Uranus	-3343-09-09 08:38 J	500643.71	500643.86	500644.03	0.0142	0.0097
Jupiter	-3338-07-30 21:07 J	502429.21	502429.38	502429.56	0.0517	0.0260
Saturn	-3334-10-26 06:28 J	503977.64	503977.77	503977.92	0.0300	0.0222

Saturn	-3333-06-12 12:14 J	504207.80	504208.01	504208.22	0.0301	0.0055
Jupiter	-3331-01-18 03:50 J	504792.47	504792.66	504792.86	0.0512	0.0149
Mars	-3327-02-12 12:43 J	506278.90	506279.03	506279.17	0.1607	0.0992
Mars	-3326-01-11 15:07 J	506611.96	506612.13	506612.30	0.1918	0.0663
Jupiter	-3326-11-27 15:21 J	506932.08	506932.14	506932.20	0.0512	0.0484
Mars	-3326-12-13 21:07 J	506948.23	506948.38	506948.53	0.1609	0.0773
Jupiter	-3320-09-23 00:14 J	509058.32	509058.51	509058.71	0.0510	0.0138
Saturn	-3319-04-10 11:16 J	509257.80	509257.97	509258.16	0.0261	0.0145
Saturn	-3319-11-25 08:23 J	509486.64	509486.85	509487.07	0.0261	0.0035
Saturn	-3318-07-12 05:16 J	509715.60	509715.72	509715.85	0.0260	0.0212
Jupiter	-3314-08-02 12:28 J	511197.84	511198.02	511198.21	0.0515	0.0200
Jupiter	-3308-05-28 20:52 J	513324.26	513324.37	513324.48	0.0508	0.0420
Neptune	-3307-08-04 00:00 J	513756.44	513756.50	513756.60	0.0088	0.0082
Neptune	-3306-03-17 12:43 J	513981.91	513982.03	513982.19	0.0088	0.0069
Uranus	-3306-04-09 00:14 J	514004.48	514004.51	514004.58	0.0138	0.0134
Neptune	-3306-10-29 01:26 J	514207.41	514207.56	514207.75	0.0088	0.0056
Uranus	-3306-11-21 08:38 J	514230.71	514230.86	514231.04	0.0137	0.0089
Neptune	-3305-06-10 14:09 J	514432.92	514433.09	514433.31	0.0088	0.0043
Uranus	-3305-07-04 17:02 J	514457.01	514457.21	514457.43	0.0137	0.0043
Neptune	-3304-01-22 03:36 J	514658.44	514658.65	514658.86	0.0088	0.0029
Uranus	-3304-02-16 01:26 J	514683.34	514683.56	514683.78	0.0137	0.0002
Saturn	-3304-05-07 13:55 J	514763.93	514764.08	514764.26	0.0300	0.0188
Neptune	-3304-09-04 16:19 J	514883.97	514884.18	514884.40	0.0088	0.0016
Uranus	-3304-09-30 09:07 J	514909.68	514909.88	514910.09	0.0137	0.0046
Saturn	-3304-12-23 19:40 J	514994.12	514994.32	514994.52	0.0301	0.0090
Neptune	-3303-04-18 05:02 J	515109.49	515109.71	515109.94	0.0088	0.0003
Uranus	-3303-05-14 16:48 J	515136.04	515136.20	515136.37	0.0136	0.0090
Neptune	-3303-11-29 17:45 J	515335.03	515335.24	515335.47	0.0088	0.0011
Uranus	-3303-12-27 00:00 J	515362.48	515362.50	515362.56	0.0136	0.0133
Jupiter	-3302-04-07 10:33 J	515463.74	515463.94	515464.14	0.0516	0.0087

Neptune	-3302-07-13 06:28 J	515560.57	515560.77	515560.99	0.0088	0.0024
Neptune	-3301-02-23 19:26 J	515786.12	515786.31	515786.52	0.0088	0.0037
Neptune	-3301-10-06 08:09 J	516011.67	516011.84	516012.03	0.0088	0.0050
Neptune	-3300-05-19 21:07 J	516237.23	516237.38	516237.54	0.0088	0.0063
Neptune	-3300-12-31 09:36 J	516462.82	516462.90	516463.03	0.0088	0.0077
Jupiter	-3296-09-25 16:04 J	517827.01	517827.17	517827.34	0.0513	0.0316
Mars	-3294-01-11 20:38 J	518300.24	518300.36	518300.48	0.1919	0.1368
Mars	-3294-12-12 11:45 J	518634.81	518634.99	518635.16	0.1608	0.0077
Jupiter	-3291-12-11 08:09 J	519729.71	519729.84	519729.99	0.0518	0.0376
Saturn	-3290-10-21 15:07 J	520043.94	520044.13	520044.32	0.0261	0.0119
Saturn	-3289-06-06 12:00 J	520272.79	520273.00	520273.21	0.0261	0.0060
Saturn	-3288-01-21 08:52 J	520501.78	520501.87	520501.95	0.0260	0.0237
Jupiter	-3284-05-31 12:43 J	522092.83	522093.03	522093.24	0.0511	0.0029
Jupiter	-3278-04-10 03:36 J	524232.52	524232.65	524232.79	0.0513	0.0377
Saturn	-3275-11-17 15:07 J	525549.96	525550.13	525550.31	0.0301	0.0161
Saturn	-3274-07-05 20:52 J	525780.18	525780.37	525780.57	0.0301	0.0117
Jupiter	-3272-02-03 10:33 J	526358.76	526358.94	526359.11	0.0509	0.0253
Jupiter	-3267-12-14 00:43 J	528498.34	528498.53	528498.73	0.0515	0.0090
Uranus	-3262-11-16 01:12 J	530296.46	530296.55	530296.67	0.0141	0.0121
Mars	-3262-12-11 01:55 J	530321.44	530321.58	530321.73	0.1607	0.0910
Uranus	-3261-06-29 10:19 J	530522.75	530522.93	530523.12	0.0141	0.0073
Mars	-3261-11-07 16:19 J	530654.03	530654.18	530654.33	0.1918	0.1044
Uranus	-3260-02-10 19:26 J	530749.11	530749.31	530749.53	0.0141	0.0026
Saturn	-3260-05-02 16:19 J	530829.99	530830.18	530830.38	0.0261	0.0099
Jupiter	-3260-06-03 09:36 J	530861.86	530861.90	530861.95	0.0514	0.0500
Uranus	-3260-09-25 04:47 J	530975.50	530975.70	530975.92	0.0142	0.0024
Mars	-3260-10-10 10:19 J	530990.79	530990.93	530991.08	0.1609	0.0861
Saturn	-3260-12-17 13:26 J	531058.86	531059.06	531059.26	0.0261	0.0080
Uranus	-3259-05-09 14:09 J	531201.91	531202.09	531202.29	0.0142	0.0072
Saturn	-3259-08-03 10:04 J	531287.90	531287.92	531287.96	0.0260	0.0258

Uranus	-3259-12-21 23:31 J	531428.39	531428.48	531428.61	0.0142	0.0121
Jupiter	-3255-08-18 20:52 J	532764.19	532764.37	532764.56	0.0517	0.0206
Pluto	-3252-10-03 16:47 J	533906.07	533906.20	533906.37	0.0066	0.0049
Pluto	-3251-05-16 21:50 J	534131.20	534131.41	534131.63	0.0066	0.0012
Pluto	-3251-12-28 02:23 J	534356.41	534356.60	534356.82	0.0067	0.0026
Pluto	-3250-08-10 07:12 J	534581.74	534581.80	534581.89	0.0067	0.0063
Jupiter	-3248-02-06 04:47 J	535127.51	535127.70	535127.89	0.0512	0.0207
Saturn	-3245-05-29 21:50 J	536336.22	536336.41	536336.61	0.0300	0.0127
Saturn	-3244-01-15 03:21 J	536566.47	536566.64	536566.83	0.0301	0.0151
Jupiter	-3243-04-23 17:45 J	537030.20	537030.24	537030.30	0.0519	0.0498
Jupiter	-3237-10-11 22:33 J	539393.23	539393.44	539393.64	0.0510	0.0090
Saturn	-3231-03-28 22:33 J	541387.39	541387.44	541387.51	0.0262	0.0252
Jupiter	-3231-08-21 16:19 J	541533.01	541533.18	541533.36	0.0514	0.0271
Saturn	-3231-11-12 19:40 J	541616.12	541616.32	541616.53	0.0261	0.0073
Saturn	-3230-06-29 16:33 J	541844.99	541845.19	541845.38	0.0260	0.0105
Mars	-3229-11-07 21:36 J	542342.25	542342.40	542342.56	0.1919	0.0988
Mars	-3228-10-09 00:57 J	542677.37	542677.54	542677.71	0.1608	0.0020
Jupiter	-3225-06-16 19:55 J	543659.20	543659.33	543659.48	0.0508	0.0370
Neptune	-3225-09-20 15:21 J	543755.09	543755.14	543755.23	0.0089	0.0085
Neptune	-3224-05-04 04:47 J	543980.58	543980.70	543980.84	0.0089	0.0071
Neptune	-3224-12-15 18:00 J	544206.09	544206.25	544206.43	0.0089	0.0057
Neptune	-3223-07-29 07:12 J	544431.62	544431.80	544432.01	0.0089	0.0043
Neptune	-3222-03-11 20:23 J	544657.16	544657.35	544657.57	0.0089	0.0030
Uranus	-3222-07-21 15:21 J	544789.01	544789.14	544789.27	0.0138	0.0111
Neptune	-3222-10-23 09:50 J	544882.70	544882.91	544883.13	0.0089	0.0015
Uranus	-3221-03-03 23:31 J	545015.30	545015.48	545015.69	0.0137	0.0066
Neptune	-3221-06-04 23:02 J	545108.25	545108.46	545108.68	0.0089	0.0002
Uranus	-3221-10-16 07:55 J	545241.62	545241.83	545242.05	0.0137	0.0021
Neptune	-3220-01-16 12:14 J	545333.80	545334.01	545334.23	0.0089	0.0013
Uranus	-3220-05-30 15:50 J	545467.95	545468.16	545468.38	0.0137	0.0024

Neptune	-3220-08-30 01:26 J	545559.36	545559.56	545559.78	0.0089	0.0027
Uranus	-3219-01-11 23:31 J	545694.30	545694.48	545694.68	0.0137	0.0068
Neptune	-3219-04-12 14:38 J	545784.92	545785.11	545785.31	0.0089	0.0040
Jupiter	-3219-04-26 13:26 J	545798.86	545799.06	545799.26	0.0516	0.0021
Uranus	-3219-08-26 07:12 J	545920.68	545920.80	545920.93	0.0136	0.0111
Neptune	-3219-11-24 03:36 J	546010.49	546010.65	546010.84	0.0089	0.0055
Neptune	-3218-07-07 16:47 J	546236.08	546236.20	546236.36	0.0089	0.0068
Neptune	-3217-02-18 06:14 J	546461.68	546461.76	546461.85	0.0089	0.0082
Saturn	-3216-12-09 21:36 J	547122.20	547122.40	547122.60	0.0301	0.0103
Saturn	-3215-07-28 03:07 J	547352.46	547352.63	547352.81	0.0301	0.0175
Earth	-3214-11-18 07:40 J	547830.66	547830.82	547830.98	0.2714	0.0315
Moon	-3214-11-18 08:38 J	547830.71	547830.86	547831.01	0.2721	0.0113 *
Jupiter	-3213-10-14 19:40 J	548162.19	548162.32	548162.46	0.0513	0.0384
Jupiter	-3208-12-30 09:36 J	550064.74	550064.90	550065.06	0.0518	0.0317
Saturn	-3202-10-08 22:33 J	552173.36	552173.44	552173.55	0.0262	0.0234
Saturn	-3201-05-24 20:09 J	552402.13	552402.34	552402.55	0.0261	0.0054
Jupiter	-3201-06-19 15:50 J	552427.96	552428.16	552428.37	0.0511	0.0096
Saturn	-3200-01-08 17:02 J	552631.03	552631.21	552631.40	0.0260	0.0125
Mars	-3196-10-07 15:07 J	554363.98	554364.13	554364.27	0.1607	0.0820
Jupiter	-3195-04-29 04:19 J	554567.58	554567.68	554567.79	0.0513	0.0437
Mars	-3195-09-04 17:31 J	554696.11	554696.23	554696.35	0.1917	0.1419
Mars	-3194-08-07 23:16 J	555033.33	555033.47	555033.61	0.1609	0.0953
Jupiter	-3189-02-23 12:14 J	556693.83	556694.01	556694.21	0.0509	0.0193
Saturn	-3186-06-22 03:21 J	557908.44	557908.64	557908.85	0.0300	0.0071
Saturn	-3185-02-07 08:52 J	558138.73	558138.87	558139.03	0.0301	0.0206
Jupiter	-3183-01-02 03:07 J	558833.44	558833.63	558833.83	0.0515	0.0156
Jupiter	-3178-10-29 06:43 J	560959.72	560959.78	560959.84	0.0507	0.0483
Uranus	-3177-02-27 17:31 J	561081.07	561081.23	561081.38	0.0141	0.0096
Uranus	-3177-10-11 02:23 J	561307.40	561307.60	561307.81	0.0141	0.0049
Uranus	-3176-05-25 11:45 J	561533.77	561533.99	561534.20	0.0141	0.0002

Uranus	-3175-01-06 20:38 J	561760.17	561760.36	561760.58	0.0142	0.0049
Uranus	-3175-08-21 06:14 J	561986.62	561986.76	561986.93	0.0142	0.0097
Saturn	-3172-04-20 01:55 J	562959.46	562959.58	562959.72	0.0262	0.0208
Jupiter	-3172-09-07 01:55 J	563099.39	563099.58	563099.78	0.0517	0.0132
Saturn	-3172-12-04 23:16 J	563188.26	563188.47	563188.68	0.0261	0.0029
Saturn	-3171-07-21 19:55 J	563417.16	563417.33	563417.51	0.0260	0.0149
Jupiter	-3165-02-26 05:02 J	565462.53	565462.71	565462.88	0.0512	0.0264
Pluto	-3165-10-21 14:09 J	565700.95	565701.09	565701.26	0.0078	0.0057
Pluto	-3164-06-04 00:28 J	565926.30	565926.52	565926.74	0.0078	0.0006
Pluto	-3163-01-15 09:36 J	566151.82	566151.90	566152.05	0.0078	0.0067
Mars	-3163-09-04 22:47 J	566384.29	566384.45	566384.62	0.1919	0.0613
Mars	-3162-08-06 13:40 J	566719.89	566720.07	566720.24	0.1608	0.0117
Jupiter	-3160-05-12 22:04 J	567365.31	567365.42	567365.54	0.0518	0.0430
Saturn	-3156-01-01 03:07 J	568694.43	568694.63	568694.85	0.0301	0.0048
Saturn	-3156-08-19 08:38 J	568924.73	568924.86	568925.00	0.0301	0.0230
Jupiter	-3154-11-01 02:23 J	569728.40	569728.60	569728.81	0.0511	0.0022
Jupiter	-3148-09-09 18:14 J	571868.11	571868.26	571868.41	0.0513	0.0332
Saturn	-3143-10-31 01:26 J	573745.42	573745.56	573745.71	0.0262	0.0191
Neptune	-3143-11-05 11:31 J	573750.98	573750.98	573751.01	0.0088	0.0088
Saturn	-3142-06-16 22:47 J	573974.24	573974.45	573974.66	0.0261	0.0011
Neptune	-3142-06-19 00:14 J	573976.42	573976.51	573976.65	0.0088	0.0075
Jupiter	-3142-07-06 23:45 J	573994.34	573994.49	573994.66	0.0508	0.0304
Neptune	-3141-01-30 13:26 J	574201.91	574202.06	574202.23	0.0088	0.0061
Saturn	-3141-01-31 19:40 J	574203.17	574203.32	574203.49	0.0260	0.0167
Neptune	-3141-09-12 02:09 J	574427.42	574427.59	574427.79	0.0088	0.0048
Neptune	-3140-04-25 14:52 J	574652.94	574653.12	574653.34	0.0088	0.0035
Neptune	-3140-12-07 04:04 J	574878.46	574878.67	574878.89	0.0088	0.0021
Neptune	-3139-07-20 16:47 J	575103.98	575104.20	575104.43	0.0088	0.0008
Neptune	-3138-03-03 05:45 J	575329.52	575329.74	575329.96	0.0088	0.0005
Uranus	-3138-03-20 21:50 J	575347.37	575347.41	575347.47	0.0138	0.0134

Neptune	-3138-10-14 18:28 J	575555.06	575555.27	575555.49	0.0088	0.0019
Uranus	-3138-11-02 06:14 J	575573.60	575573.76	575573.94	0.0137	0.0089
Neptune	-3137-05-27 07:12 J	575780.60	575780.80	575781.01	0.0088	0.0032
Uranus	-3137-06-15 14:38 J	575799.90	575800.11	575800.32	0.0137	0.0044
Neptune	-3136-01-07 19:55 J	576006.16	576006.33	576006.53	0.0088	0.0046
Uranus	-3136-01-27 22:47 J	576026.23	576026.45	576026.67	0.0137	0.0002
Jupiter	-3136-05-15 14:38 J	576133.91	576134.11	576134.32	0.0516	0.0042
Neptune	-3136-08-21 08:38 J	576231.72	576231.86	576232.04	0.0088	0.0059
Uranus	-3136-09-11 06:28 J	576252.57	576252.77	576252.98	0.0137	0.0046
Neptune	-3135-04-03 21:36 J	576457.29	576457.40	576457.54	0.0088	0.0072
Uranus	-3135-04-25 14:09 J	576478.93	576479.09	576479.26	0.0136	0.0090
Neptune	-3135-11-15 10:33 J	576682.90	576682.94	576683.00	0.0088	0.0085
Uranus	-3135-12-07 21:36 J	576705.37	576705.40	576705.45	0.0136	0.0133
Mars	-3130-08-05 04:04 J	578406.51	578406.67	578406.82	0.1607	0.0732
Jupiter	-3130-11-03 22:04 J	578497.33	578497.42	578497.52	0.0513	0.0449
Mars	-3129-07-01 18:43 J	578738.22	578738.28	578738.34	0.1917	0.1799
Mars	-3128-06-04 12:14 J	579075.88	579076.01	579076.14	0.1610	0.1046
Saturn	-3128-11-26 02:38 J	579250.57	579250.61	579250.67	0.0299	0.0291
Saturn	-3127-07-14 08:09 J	579480.63	579480.84	579481.05	0.0300	0.0017
Saturn	-3126-03-01 13:40 J	579710.97	579711.07	579711.18	0.0301	0.0260
Jupiter	-3124-01-18 12:28 J	580399.85	580400.02	580400.20	0.0518	0.0251
Jupiter	-3118-07-09 14:52 J	582762.93	582763.12	582763.32	0.0511	0.0147
Saturn	-3113-05-12 04:33 J	584531.53	584531.69	584531.86	0.0262	0.0165
Saturn	-3113-12-27 01:55 J	584760.37	584760.58	584760.80	0.0261	0.0016
Jupiter	-3112-05-18 09:36 J	584902.89	584902.90	584902.91	0.0513	0.0511
Saturn	-3112-08-12 22:47 J	584989.31	584989.45	584989.60	0.0261	0.0193
Earth	-3108-05-20 17:16 J	586366.06	586366.22	586366.37	0.2619	0.0578
Moon	-3108-05-20 19:55 J	586366.19	586366.33	586366.46	0.2624	0.1146 *
Jupiter	-3106-03-14 12:14 J	587028.81	587029.01	587029.21	0.0510	0.0140
Jupiter	-3100-01-21 07:26 J	589168.62	589168.81	589168.99	0.0514	0.0225

Moon	-3100-05-18 15:07 J	589286.06	589286.13	589286.20	0.2620	0.2320
Saturn	-3098-06-08 03:21 J	590036.55	590036.64	590036.74	0.0299	0.0266
Mars	-3098-08-03 18:14 J	590093.23	590093.26	590093.30	0.1607	0.1571
Saturn	-3097-01-24 08:23 J	590266.64	590266.85	590267.06	0.0300	0.0010
Mars	-3097-07-02 00:00 J	590426.32	590426.50	590426.67	0.1919	0.0230
Saturn	-3097-09-10 13:26 J	590497.00	590497.06	590497.13	0.0301	0.0285
Mars	-3096-06-03 02:52 J	590762.45	590762.62	590762.79	0.1608	0.0199
Jupiter	-3095-11-17 10:33 J	591294.83	591294.94	591295.06	0.0508	0.0418
Uranus	-3094-10-28 00:43 J	591639.42	591639.53	591639.65	0.0141	0.0119
Uranus	-3093-06-10 09:50 J	591865.72	591865.91	591866.10	0.0141	0.0071
Uranus	-3092-01-22 18:57 J	592092.08	592092.29	592092.50	0.0141	0.0023
Uranus	-3092-09-06 04:19 J	592318.47	592318.68	592318.90	0.0142	0.0025
Uranus	-3091-04-20 13:40 J	592544.89	592545.07	592545.26	0.0142	0.0074
Uranus	-3091-12-02 23:02 J	592771.37	592771.46	592771.58	0.0142	0.0123
Jupiter	-3089-09-26 04:19 J	593434.48	593434.68	593434.88	0.0516	0.0069
Saturn	-3084-11-22 03:50 J	595317.49	595317.66	595317.84	0.0262	0.0148
Saturn	-3083-07-09 01:12 J	595546.34	595546.55	595546.76	0.0261	0.0031
Saturn	-3082-02-22 22:04 J	595775.30	595775.42	595775.55	0.0260	0.0210
Jupiter	-3082-03-17 09:07 J	595797.73	595797.88	595798.04	0.0513	0.0336
Jupiter	-3077-05-31 23:31 J	597700.34	597700.48	597700.62	0.0518	0.0370
Jupiter	-3071-11-20 05:02 J	600063.50	600063.71	600063.91	0.0510	0.0043
Saturn	-3069-12-18 07:55 J	600822.72	600822.83	600822.97	0.0299	0.0236
Saturn	-3068-08-05 13:26 J	601052.85	601053.06	601053.27	0.0300	0.0040
Jupiter	-3065-09-28 20:52 J	602203.25	602203.37	602203.50	0.0514	0.0400
Mars	-3064-06-01 17:02 J	602449.06	602449.21	602449.37	0.1607	0.0644
Mars	-3062-04-02 01:26 J	603118.44	603118.56	603118.68	0.1610	0.1137
Neptune	-3060-08-05 16:04 J	603975.08	603975.17	603975.30	0.0089	0.0077
Neptune	-3059-03-19 05:16 J	604200.58	604200.72	604200.89	0.0089	0.0063
Jupiter	-3059-07-25 22:47 J	604329.28	604329.45	604329.63	0.0508	0.0255
Neptune	-3059-10-30 18:43 J	604426.10	604426.28	604426.47	0.0089	0.0049

Neptune	-3058-06-13 07:55 J	604651.63	604651.83	604652.04	0.0089	0.0035
Neptune	-3057-01-24 21:21 J	604877.17	604877.39	604877.60	0.0089	0.0021
Neptune	-3057-09-06 10:33 J	605102.72	605102.94	605103.16	0.0089	0.0007
Neptune	-3056-04-19 23:31 J	605328.27	605328.48	605328.70	0.0089	0.0007
Neptune	-3056-12-01 12:28 J	605553.82	605554.02	605554.25	0.0089	0.0022
Neptune	-3055-07-15 01:40 J	605779.39	605779.57	605779.79	0.0089	0.0036
Neptune	-3054-02-25 14:52 J	606004.96	606005.12	606005.32	0.0089	0.0049
Saturn	-3054-06-04 06:57 J	606103.61	606103.79	606103.99	0.0262	0.0122
Uranus	-3054-07-02 13:40 J	606131.96	606132.07	606132.21	0.0138	0.0111
Neptune	-3054-10-09 03:50 J	606230.53	606230.66	606230.84	0.0089	0.0064
Saturn	-3053-01-19 04:33 J	606332.48	606332.69	606332.90	0.0261	0.0058
Uranus	-3053-02-13 22:19 J	606358.24	606358.43	606358.63	0.0137	0.0065
Neptune	-3053-05-21 17:16 J	606456.12	606456.22	606456.34	0.0089	0.0077
Jupiter	-3053-06-03 19:55 J	606469.14	606469.33	606469.53	0.0516	0.0115
Saturn	-3053-09-04 01:26 J	606561.48	606561.56	606561.65	0.0261	0.0236
Uranus	-3053-09-27 06:28 J	606584.55	606584.77	606584.99	0.0137	0.0020
Uranus	-3052-05-11 14:23 J	606810.88	606811.10	606811.32	0.0137	0.0024
Uranus	-3052-12-23 21:50 J	607037.23	607037.41	607037.61	0.0137	0.0069
Uranus	-3051-08-07 05:31 J	607263.62	607263.73	607263.87	0.0136	0.0113
Jupiter	-3047-11-22 22:04 J	608832.39	608832.42	608832.45	0.0514	0.0505
Jupiter	-3041-02-07 16:47 J	610735.01	610735.20	610735.39	0.0517	0.0183
Saturn	-3039-06-30 09:36 J	611608.76	611608.90	611609.06	0.0299	0.0208
Saturn	-3038-02-15 14:38 J	611838.90	611839.11	611839.31	0.0300	0.0067
Jupiter	-3035-07-28 18:57 J	613098.11	613098.29	613098.48	0.0512	0.0216
Mars	-3032-05-31 07:26 J	614135.75	614135.81	614135.87	0.1607	0.1482
Mars	-3031-04-29 01:12 J	614468.37	614468.55	614468.73	0.1918	0.0152
Mars	-3030-03-31 15:36 J	614804.98	614805.15	614805.32	0.1609	0.0293
Jupiter	-3030-10-13 12:28 J	615000.95	615001.02	615001.10	0.0519	0.0483
Saturn	-3025-12-14 06:14 J	616889.58	616889.76	616889.97	0.0262	0.0106
Saturn	-3024-07-31 03:50 J	617118.46	617118.66	617118.87	0.0261	0.0075

Saturn	-3023-03-17 00:57 J	617347.50	617347.54	617347.59	0.0261	0.0253
Jupiter	-3023-04-02 16:04 J	617363.97	617364.17	617364.38	0.0510	0.0072
Jupiter	-3017-02-10 08:23 J	619503.68	619503.85	619504.02	0.0514	0.0285
Jupiter	-3012-12-06 12:57 J	621629.90	621630.04	621630.19	0.0508	0.0357
Saturn	-3009-01-10 14:52 J	622394.95	622395.12	622395.29	0.0299	0.0177
Uranus	-3009-02-08 17:31 J	622424.08	622424.23	622424.40	0.0141	0.0094
Saturn	-3009-08-27 19:55 J	622625.13	622625.33	622625.53	0.0300	0.0099
Uranus	-3009-09-22 02:52 J	622650.42	622650.62	622650.83	0.0141	0.0046
Uranus	-3008-05-06 12:14 J	622876.79	622877.01	622877.22	0.0141	0.0003
Uranus	-3008-12-18 21:36 J	623103.20	623103.40	623103.60	0.0142	0.0051
Uranus	-3007-08-02 06:57 J	623329.65	623329.79	623329.95	0.0142	0.0100
Jupiter	-3006-10-16 06:28 J	623769.57	623769.77	623769.97	0.0516	0.0005
Pluto	-3006-11-02 02:38 J	623786.47	623786.61	623786.77	0.0066	0.0048
Pluto	-3005-06-14 07:26 J	624011.60	624011.81	624012.04	0.0066	0.0011
Pluto	-3004-01-25 12:00 J	624236.82	624237.00	624237.22	0.0067	0.0027
Pluto	-3004-09-07 16:47 J	624462.17	624462.20	624462.29	0.0067	0.0064

3RD MILLENNIUM BCE

This is a list of transits of Venus in the 3rd millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-2999-04-05 07:40 J		626132.69	626132.82	626132.95	0.0513	0.0385	
Mars	-2999-04-29 07:12 J		626156.78	626156.80	626156.82	0.1920	0.1905	
Mars	-2998-03-30 06:00 J		626491.59	626491.75	626491.91	0.1608	0.0554	

Mars	-2996-01-27 14:09 J	627160.98	627161.09	627161.20	0.1611	0.1234
Saturn	-2996-11-09 12:00 J	627446.98	627447.00	627447.05	0.0263	0.0259
Saturn	-2995-06-26 10:04 J	627675.72	627675.92	627676.13	0.0262	0.0078
Saturn	-2994-02-10 07:40 J	627904.62	627904.82	627905.01	0.0261	0.0103
Jupiter	-2994-06-21 04:04 J	628035.50	628035.67	628035.83	0.0519	0.0300
Jupiter	-2988-12-09 04:04 J	630398.47	630398.67	630398.87	0.0511	0.0094
Jupiter	-2982-10-19 00:00 J	632538.42	632538.50	632538.59	0.0513	0.0464
Saturn	-2980-07-22 18:00 J	633181.07	633181.25	633181.44	0.0299	0.0146
Saturn	-2979-03-09 22:47 J	633411.26	633411.45	633411.64	0.0300	0.0129
Neptune	-2978-09-20 12:00 J	633970.92	633971.00	633971.09	0.0088	0.0080
Neptune	-2977-05-03 00:43 J	634196.40	634196.53	634196.68	0.0088	0.0067
Neptune	-2977-12-14 13:12 J	634421.90	634422.05	634422.25	0.0088	0.0054
Neptune	-2976-07-28 02:38 J	634647.41	634647.61	634647.80	0.0088	0.0040
Jupiter	-2976-08-14 01:55 J	634664.39	634664.58	634664.77	0.0509	0.0192
Neptune	-2975-03-10 15:07 J	634872.93	634873.13	634873.35	0.0088	0.0027
Neptune	-2975-10-22 03:50 J	635098.45	635098.66	635098.89	0.0088	0.0014
Neptune	-2974-06-04 17:02 J	635323.99	635324.21	635324.43	0.0088	0.0001
Neptune	-2973-01-16 06:00 J	635549.53	635549.75	635549.97	0.0088	0.0013
Neptune	-2973-08-28 18:28 J	635775.07	635775.27	635775.49	0.0088	0.0027
Neptune	-2972-04-11 07:26 J	636000.62	636000.81	636001.01	0.0088	0.0040
Neptune	-2972-11-22 19:55 J	636226.17	636226.33	636226.52	0.0088	0.0054
Neptune	-2971-07-06 08:52 J	636451.74	636451.87	636452.02	0.0088	0.0067
Earth	-2971-11-18 06:43 J	636586.62	636586.78	636586.94	0.2714	0.0072
Moon	-2971-11-18 07:40 J	636586.65	636586.82	636586.98	0.2707	0.0506 *
Neptune	-2970-02-16 22:04 J	636677.34	636677.42	636677.51	0.0088	0.0080
Uranus	-2970-03-01 22:19 J	636690.39	636690.43	636690.51	0.0138	0.0132
Jupiter	-2970-06-23 21:21 J	636804.20	636804.39	636804.58	0.0515	0.0174
Uranus	-2970-10-14 06:43 J	636916.63	636916.78	636916.97	0.0137	0.0087
Uranus	-2969-05-27 15:07 J	637142.92	637143.13	637143.34	0.0137	0.0041
Uranus	-2968-01-08 23:02 J	637369.24	637369.46	637369.68	0.0137	0.0004

Uranus	-2968-08-23 06:43 J	637595.59	637595.78	637596.00	0.0137	0.0049
Uranus	-2967-04-06 14:38 J	637821.96	637822.11	637822.28	0.0136	0.0092
Uranus	-2967-11-18 22:19 J	638048.43	638048.43	638048.44	0.0136	0.0136
Mars	-2966-03-28 20:23 J	638178.27	638178.35	638178.43	0.1607	0.1396
Saturn	-2966-05-22 11:45 J	638232.92	638232.99	638233.08	0.0263	0.0242
Saturn	-2965-01-06 09:50 J	638461.71	638461.91	638462.13	0.0262	0.0061
Mars	-2965-02-24 02:09 J	638510.42	638510.59	638510.76	0.1918	0.0533
Saturn	-2965-08-22 07:26 J	638690.63	638690.81	638691.00	0.0261	0.0120
Mars	-2964-01-26 04:33 J	638847.53	638847.69	638847.86	0.1609	0.0384
Jupiter	-2964-04-19 00:00 J	638930.43	638930.50	638930.58	0.0507	0.0471
Jupiter	-2958-02-26 17:02 J	641070.01	641070.21	641070.40	0.0517	0.0126
Jupiter	-2952-08-16 20:23 J	643433.19	643433.35	643433.53	0.0512	0.0277
Saturn	-2950-02-02 00:00 J	643967.31	643967.50	643967.70	0.0299	0.0113
Saturn	-2950-09-20 04:47 J	644197.53	644197.70	644197.88	0.0300	0.0163
Jupiter	-2947-11-01 13:26 J	645335.95	645336.06	645336.18	0.0519	0.0425
Jupiter	-2940-04-21 13:55 J	647698.88	647699.08	647699.29	0.0509	0.0028
Saturn	-2937-12-01 16:04 J	649019.06	649019.17	649019.31	0.0263	0.0214
Saturn	-2936-07-18 14:23 J	649247.89	649248.10	649248.31	0.0262	0.0032
Saturn	-2935-03-04 11:45 J	649476.82	649476.99	649477.17	0.0262	0.0149
Jupiter	-2934-03-01 11:31 J	649838.84	649838.98	649839.13	0.0514	0.0351
Mars	-2933-02-24 08:09 J	650198.74	650198.84	650198.95	0.1920	0.1529
Mars	-2932-01-24 19:12 J	650534.13	650534.30	650534.46	0.1608	0.0467
Mars	-2931-11-25 03:07 J	651203.54	651203.63	651203.73	0.1611	0.1324
Jupiter	-2929-12-25 11:16 J	651964.81	651964.97	651965.13	0.0508	0.0312
Uranus	-2926-10-09 00:57 J	652982.43	652982.54	652982.66	0.0141	0.0117
Uranus	-2925-05-22 10:04 J	653208.73	653208.92	653209.11	0.0141	0.0069
Uranus	-2924-01-03 19:12 J	653435.09	653435.30	653435.52	0.0141	0.0022
Uranus	-2924-08-18 04:47 J	653661.49	653661.70	653661.91	0.0142	0.0028
Uranus	-2923-04-01 14:09 J	653887.92	653888.09	653888.28	0.0142	0.0077
Jupiter	-2923-11-04 08:23 J	654104.65	654104.85	654105.05	0.0516	0.0057

Uranus	-2923-11-13 23:45 J	654114.41	654114.49	654114.60	0.0142	0.0126
Saturn	-2921-08-14 05:02 J	654753.51	654753.71	654753.92	0.0299	0.0079
Saturn	-2920-04-01 09:21 J	654983.74	654983.89	654984.06	0.0300	0.0196
Pluto	-2919-11-20 00:14 J	655581.36	655581.51	655581.67	0.0078	0.0055
Pluto	-2918-07-03 10:19 J	655806.71	655806.93	655807.15	0.0078	0.0007
Pluto	-2917-02-13 19:40 J	656032.23	656032.32	656032.45	0.0078	0.0068
Jupiter	-2916-04-24 09:50 J	656467.81	656467.91	656468.01	0.0513	0.0448
Jupiter	-2911-07-10 04:33 J	658370.52	658370.69	658370.87	0.0518	0.0244
Saturn	-2907-06-13 16:33 J	659805.06	659805.19	659805.34	0.0263	0.0195
Saturn	-2906-01-28 14:52 J	660033.91	660034.12	660034.33	0.0262	0.0013
Saturn	-2906-09-14 12:28 J	660262.86	660263.02	660263.19	0.0261	0.0167
Jupiter	-2905-12-28 06:14 J	660733.56	660733.76	660733.95	0.0511	0.0156
Mars	-2900-01-23 09:21 J	662220.79	662220.89	662220.99	0.1607	0.1306
Mars	-2900-12-21 04:04 J	662552.51	662552.67	662552.82	0.1917	0.0900
Mars	-2899-11-23 17:45 J	662890.07	662890.24	662890.40	0.1609	0.0474
Neptune	-2896-11-07 03:07 J	663969.55	663969.63	663969.72	0.0089	0.0083
Neptune	-2895-06-20 16:19 J	664195.05	664195.18	664195.33	0.0089	0.0069
Neptune	-2894-02-01 05:31 J	664420.57	664420.73	664420.91	0.0089	0.0055
Neptune	-2894-09-14 18:43 J	664646.09	664646.28	664646.49	0.0089	0.0041
Neptune	-2893-04-27 07:55 J	664871.63	664871.83	664872.05	0.0089	0.0027
Jupiter	-2893-09-02 02:38 J	664999.41	664999.61	664999.80	0.0509	0.0136
Neptune	-2893-12-08 21:07 J	665097.17	665097.38	665097.60	0.0089	0.0013
Neptune	-2892-07-22 10:33 J	665322.72	665322.94	665323.16	0.0089	0.0001
Saturn	-2891-02-24 11:45 J	665539.79	665539.99	665540.21	0.0299	0.0044
Neptune	-2891-03-04 23:31 J	665548.27	665548.48	665548.71	0.0089	0.0016
Saturn	-2891-10-12 16:19 J	665770.06	665770.18	665770.32	0.0300	0.0232
Neptune	-2891-10-16 12:43 J	665773.83	665774.03	665774.24	0.0089	0.0030
Neptune	-2890-05-30 01:40 J	665999.39	665999.57	665999.77	0.0089	0.0044
Neptune	-2889-01-10 14:52 J	666224.97	666225.12	666225.30	0.0089	0.0058
Neptune	-2889-08-23 04:04 J	666450.56	666450.67	666450.82	0.0089	0.0072

Neptune	-2888-04-05 17:02 J	666676.17	666676.21	666676.30	0.0089	0.0086
Jupiter	-2887-07-12 20:52 J	667139.19	667139.37	667139.55	0.0515	0.0230
Uranus	-2886-06-13 16:04 J	667475.05	667475.17	667475.32	0.0138	0.0107
Uranus	-2885-01-26 00:28 J	667701.33	667701.52	667701.73	0.0137	0.0061
Uranus	-2885-09-08 08:38 J	667927.65	667927.86	667928.08	0.0137	0.0016
Uranus	-2884-04-22 16:33 J	668153.98	668154.19	668154.41	0.0137	0.0029
Uranus	-2884-12-05 00:00 J	668380.33	668380.50	668380.70	0.0136	0.0074
Uranus	-2883-07-19 07:40 J	668606.73	668606.82	668606.95	0.0136	0.0117
Jupiter	-2881-05-07 21:21 J	669265.29	669265.39	669265.50	0.0507	0.0429
Saturn	-2878-12-24 22:04 J	670591.26	670591.42	670591.59	0.0263	0.0165
Saturn	-2877-08-09 20:09 J	670820.13	670820.34	670820.55	0.0262	0.0017
Saturn	-2876-03-26 17:45 J	671049.10	671049.24	671049.38	0.0262	0.0198
Jupiter	-2875-03-17 18:14 J	671405.06	671405.26	671405.46	0.0518	0.0067
Jupiter	-2869-09-04 17:31 J	673768.08	673768.23	673768.40	0.0512	0.0321
Mars	-2868-12-21 09:21 J	674240.75	674240.89	674241.03	0.1920	0.1146
Mars	-2867-11-22 08:09 J	674576.67	674576.84	674577.01	0.1608	0.0377
Moon	-2865-05-20 19:55 J	675122.17	675122.33	675122.50	0.2613	0.0622
Earth	-2865-05-20 20:23 J	675122.20	675122.35	675122.50	0.2619	0.0818 *
Mars	-2865-09-21 16:04 J	675246.09	675246.17	675246.25	0.1612	0.1421
Jupiter	-2864-11-20 13:55 J	675670.94	675671.08	675671.23	0.0519	0.0371
Saturn	-2862-01-19 15:07 J	676096.06	676096.13	676096.22	0.0298	0.0276
Saturn	-2862-09-06 19:26 J	676326.09	676326.31	676326.52	0.0299	0.0008
Saturn	-2861-04-23 23:45 J	676556.40	676556.49	676556.58	0.0300	0.0269
Jupiter	-2857-05-10 14:23 J	678033.90	678034.10	678034.31	0.0510	0.0032
Moon	-2857-05-18 09:07 J	678041.84	678041.88	678041.92	0.2615	0.2529
Earth	-2857-05-18 13:26 J	678042.00	678042.06	678042.12	0.2618	0.2419
Jupiter	-2851-03-20 10:19 J	680173.81	680173.93	680174.06	0.0514	0.0403
Saturn	-2848-07-05 23:16 J	681377.30	681377.47	681377.65	0.0263	0.0146
Saturn	-2847-02-19 21:36 J	681606.19	681606.40	681606.61	0.0262	0.0037
Saturn	-2847-10-06 19:12 J	681835.19	681835.30	681835.42	0.0261	0.0218

Jupiter	-2845-01-14 11:45 J	682299.82	682299.99	682300.17	0.0508	0.0257
Uranus	-2842-06-08 07:55 J	683540.83	683540.83	683540.84	0.0141	0.0141
Uranus	-2841-01-20 16:47 J	683767.05	683767.20	683767.37	0.0141	0.0093
Uranus	-2841-09-03 02:09 J	683993.39	683993.59	683993.80	0.0141	0.0045
Uranus	-2840-04-17 11:45 J	684219.77	684219.99	684220.20	0.0141	0.0004
Jupiter	-2840-11-23 06:00 J	684439.56	684439.75	684439.95	0.0516	0.0105
Uranus	-2840-11-29 20:52 J	684446.18	684446.37	684446.58	0.0142	0.0053
Uranus	-2839-07-14 06:43 J	684672.63	684672.78	684672.93	0.0142	0.0102
Mars	-2835-11-20 22:33 J	686263.33	686263.44	686263.55	0.1607	0.1224
Mars	-2834-10-18 05:02 J	686594.58	686594.71	686594.84	0.1916	0.1283
Jupiter	-2833-05-13 09:07 J	686802.85	686802.88	686802.92	0.0513	0.0502
Saturn	-2833-07-31 22:33 J	686882.33	686882.44	686882.58	0.0298	0.0239
Mars	-2833-09-20 06:43 J	686932.62	686932.78	686932.94	0.1610	0.0565
Saturn	-2832-03-19 02:52 J	687112.41	687112.62	687112.83	0.0299	0.0034
Jupiter	-2828-07-29 02:38 J	688705.42	688705.61	688705.80	0.0518	0.0196
Jupiter	-2821-01-17 02:23 J	691068.41	691068.60	691068.79	0.0510	0.0196
Saturn	-2818-01-16 05:31 J	692163.54	692163.73	692163.92	0.0263	0.0114
Saturn	-2818-09-02 03:36 J	692392.45	692392.65	692392.86	0.0262	0.0069
Saturn	-2817-04-18 01:26 J	692621.50	692621.56	692621.62	0.0262	0.0249
Jupiter	-2816-04-02 21:50 J	692971.37	692971.41	692971.47	0.0521	0.0503
Neptune	-2814-12-22 22:33 J	693965.43	693965.44	693965.50	0.0088	0.0087
Neptune	-2813-08-04 11:45 J	694190.88	694190.99	694191.12	0.0088	0.0073
Neptune	-2812-03-18 00:14 J	694416.37	694416.51	694416.69	0.0088	0.0060
Neptune	-2812-10-29 13:26 J	694641.87	694642.06	694642.25	0.0088	0.0046
Neptune	-2811-06-12 01:55 J	694867.39	694867.58	694867.80	0.0088	0.0033
Neptune	-2810-01-23 15:21 J	695092.92	695093.14	695093.35	0.0088	0.0019
Neptune	-2810-09-06 04:04 J	695318.45	695318.67	695318.89	0.0088	0.0006
Jupiter	-2810-09-21 22:47 J	695334.24	695334.45	695334.65	0.0509	0.0097
Neptune	-2809-04-18 16:47 J	695543.99	695544.20	695544.43	0.0088	0.0008
Neptune	-2809-11-30 05:45 J	695769.52	695769.74	695769.95	0.0088	0.0021

Neptune	-2808-07-13 18:14 J	695995.07	695995.26	695995.48	0.0088	0.0035
Neptune	-2807-02-24 07:26 J	696220.63	696220.81	696221.00	0.0088	0.0048
Neptune	-2807-10-07 19:55 J	696446.19	696446.33	696446.50	0.0088	0.0062
Neptune	-2806-05-21 09:07 J	696671.77	696671.88	696671.99	0.0088	0.0075
Jupiter	-2804-07-31 19:40 J	697474.15	697474.32	697474.49	0.0515	0.0280
Saturn	-2803-02-11 08:09 J	697668.68	697668.84	697669.00	0.0298	0.0198
Saturn	-2803-09-29 12:14 J	697898.80	697899.01	697899.21	0.0299	0.0074
Uranus	-2802-02-11 01:26 J	698033.48	698033.56	698033.65	0.0138	0.0126
Uranus	-2802-09-25 09:50 J	698259.73	698259.91	698260.09	0.0137	0.0081
Mars	-2802-10-18 10:19 J	698282.77	698282.93	698283.09	0.1919	0.0758
Uranus	-2801-05-08 18:00 J	698486.04	698486.25	698486.46	0.0137	0.0036
Mars	-2801-09-18 21:21 J	698619.22	698619.39	698619.56	0.1608	0.0288
Uranus	-2801-12-21 01:55 J	698712.36	698712.58	698712.80	0.0137	0.0009
Uranus	-2800-08-04 09:36 J	698938.71	698938.90	698939.11	0.0137	0.0054
Uranus	-2799-03-18 17:16 J	699165.09	699165.22	699165.39	0.0136	0.0098
Mars	-2799-07-20 04:47 J	699288.65	699288.70	699288.76	0.1613	0.1516
Jupiter	-2798-05-27 19:55 J	699600.20	699600.33	699600.47	0.0507	0.0382
Jupiter	-2792-04-05 16:19 J	701739.98	701740.18	701740.38	0.0517	0.0020
Saturn	-2789-07-28 07:55 J	702949.64	702949.83	702950.03	0.0263	0.0092
Saturn	-2788-03-14 06:00 J	703178.55	703178.75	703178.95	0.0262	0.0091
Jupiter	-2786-09-24 17:02 J	704103.08	704103.21	704103.36	0.0512	0.0376
Jupiter	-2781-12-09 10:19 J	706005.78	706005.93	706006.09	0.0519	0.0328
Jupiter	-2774-05-30 12:43 J	708368.83	708369.03	708369.24	0.0510	0.0079
Saturn	-2774-08-24 16:33 J	708455.01	708455.19	708455.37	0.0299	0.0159
Saturn	-2773-04-10 20:52 J	708685.17	708685.37	708685.56	0.0300	0.0115
Mars	-2769-09-17 11:31 J	710305.86	710305.98	710306.10	0.1607	0.1133
Jupiter	-2768-04-08 06:57 J	710508.70	710508.79	710508.89	0.0514	0.0447
Mars	-2768-08-14 06:14 J	710636.68	710636.76	710636.85	0.1916	0.1660
Mars	-2767-07-18 19:26 J	710975.16	710975.31	710975.47	0.1610	0.0660
Jupiter	-2762-02-02 07:40 J	712634.63	712634.82	712635.00	0.0507	0.0219

Saturn	-2760-06-23 16:04 J	713507.09	713507.17	713507.24	0.0264	0.0244
Pluto	-2760-11-30 12:00 J	713666.87	713667.00	713667.18	0.0066	0.0048
Saturn	-2759-02-07 14:38 J	713735.90	713736.11	713736.32	0.0263	0.0060
Pluto	-2759-07-13 17:02 J	713892.01	713892.21	713892.44	0.0066	0.0011
Saturn	-2759-09-24 12:43 J	713964.85	713965.03	713965.22	0.0262	0.0123
Pluto	-2758-02-23 22:04 J	714117.22	714117.42	714117.62	0.0067	0.0027
Uranus	-2758-09-19 23:16 J	714325.36	714325.47	714325.60	0.0141	0.0117
Pluto	-2758-10-07 02:38 J	714342.58	714342.61	714342.68	0.0067	0.0065
Uranus	-2757-05-03 08:23 J	714551.67	714551.85	714552.04	0.0141	0.0069
Jupiter	-2757-12-12 03:50 J	714774.47	714774.66	714774.85	0.0517	0.0151
Uranus	-2757-12-15 17:45 J	714778.03	714778.24	714778.45	0.0141	0.0021
Uranus	-2756-07-30 03:07 J	715004.42	715004.63	715004.85	0.0142	0.0028
Uranus	-2755-03-13 12:28 J	715230.85	715231.02	715231.21	0.0142	0.0077
Uranus	-2755-10-25 22:04 J	715457.34	715457.42	715457.54	0.0142	0.0127
Jupiter	-2751-10-08 04:33 J	716900.68	716900.69	716900.71	0.0506	0.0504
Jupiter	-2745-08-16 23:45 J	719040.30	719040.49	719040.69	0.0518	0.0151
Saturn	-2744-03-06 03:50 J	719241.46	719241.66	719241.85	0.0298	0.0115
Saturn	-2744-10-22 07:55 J	719471.65	719471.83	719472.01	0.0299	0.0159
Jupiter	-2738-02-05 00:00 J	721403.32	721403.50	721403.68	0.0511	0.0244
Mars	-2736-08-14 11:31 J	722324.81	722324.98	722325.15	0.1918	0.0378
Mars	-2735-07-17 10:04 J	722661.75	722661.92	722662.09	0.1608	0.0195
Jupiter	-2733-04-21 19:12 J	723306.21	723306.30	723306.40	0.0520	0.0457
Mars	-2733-05-16 17:45 J	723331.24	723331.24	723331.24	0.1613	0.1613
Neptune	-2731-02-08 13:40 J	723964.07	723964.07	723964.09	0.0089	0.0089
Neptune	-2731-09-22 02:38 J	724189.51	724189.61	724189.75	0.0089	0.0076
Saturn	-2730-01-03 19:40 J	724293.21	724293.32	724293.43	0.0263	0.0220
Neptune	-2730-05-05 15:50 J	724415.02	724415.16	724415.34	0.0089	0.0062
Saturn	-2730-08-20 18:00 J	724522.05	724522.25	724522.47	0.0263	0.0037
Neptune	-2730-12-17 05:02 J	724640.54	724640.71	724640.92	0.0089	0.0048
Saturn	-2729-04-05 16:04 J	724751.00	724751.17	724751.35	0.0262	0.0146

Neptune	-2729-07-29 18:43 J	724866.08	724866.28	724866.49	0.0089	0.0033
Neptune	-2728-03-12 07:55 J	725091.62	725091.83	725092.05	0.0089	0.0019
Neptune	-2728-10-23 21:07 J	725317.16	725317.38	725317.60	0.0089	0.0005
Moon	-2728-11-18 03:07 J	725342.48	725342.63	725342.77	0.2721	0.0707
Earth	-2728-11-18 05:45 J	725342.59	725342.74	725342.90	0.2714	0.0202 *
Neptune	-2727-06-06 10:04 J	725542.71	725542.92	725543.14	0.0089	0.0010
Jupiter	-2727-10-10 20:38 J	725669.16	725669.36	725669.56	0.0509	0.0048
Neptune	-2726-01-17 23:16 J	725768.26	725768.47	725768.69	0.0089	0.0024
Neptune	-2726-08-31 12:28 J	725993.83	725994.02	725994.22	0.0089	0.0038
Neptune	-2725-04-13 01:40 J	726219.39	726219.57	726219.75	0.0089	0.0052
Neptune	-2725-11-24 14:38 J	726444.97	726445.11	726445.26	0.0089	0.0066
Neptune	-2724-07-08 03:50 J	726670.57	726670.66	726670.76	0.0089	0.0080
Jupiter	-2721-08-19 15:07 J	727808.98	727809.13	727809.29	0.0515	0.0321
Uranus	-2718-05-25 17:45 J	728818.11	728818.24	728818.40	0.0138	0.0102
Uranus	-2717-01-07 02:09 J	729044.40	729044.59	729044.80	0.0137	0.0056
Uranus	-2717-08-20 10:33 J	729270.72	729270.94	729271.16	0.0137	0.0011
Uranus	-2716-04-03 18:28 J	729497.06	729497.27	729497.49	0.0137	0.0034
Uranus	-2716-11-16 02:09 J	729723.42	729723.59	729723.78	0.0137	0.0078
Jupiter	-2715-06-15 17:31 J	729935.08	729935.23	729935.38	0.0507	0.0337
Uranus	-2715-06-30 09:50 J	729949.83	729949.91	729950.02	0.0136	0.0122
Saturn	-2715-09-16 12:00 J	730027.80	730028.00	730028.21	0.0299	0.0075
Saturn	-2714-05-04 16:19 J	730258.03	730258.18	730258.34	0.0300	0.0200
Jupiter	-2709-04-24 11:31 J	732074.77	732074.98	732075.18	0.0517	0.0022
Mars	-2703-07-16 00:28 J	734348.39	734348.52	734348.65	0.1607	0.1044
Jupiter	-2703-10-13 12:00 J	734437.89	734438.00	734438.13	0.0511	0.0413
Mars	-2701-05-15 08:38 J	735017.71	735017.86	735018.01	0.1611	0.0753
Saturn	-2701-07-16 02:38 J	735079.47	735079.61	735079.76	0.0264	0.0188
Saturn	-2700-03-02 01:12 J	735308.34	735308.55	735308.76	0.0263	0.0004
Saturn	-2700-10-16 23:02 J	735537.31	735537.46	735537.62	0.0262	0.0179
Jupiter	-2698-12-29 06:28 J	736340.60	736340.77	736340.94	0.0520	0.0288

Jupiter	-2691-06-18 07:26 J	738703.61	738703.81	738704.01	0.0509	0.0115
Saturn	-2685-03-29 00:28 J	740814.31	740814.52	740814.73	0.0299	0.0029
Jupiter	-2685-04-27 02:52 J	740843.57	740843.62	740843.69	0.0514	0.0491
Saturn	-2685-11-14 04:19 J	741044.57	741044.68	741044.81	0.0299	0.0246
Jupiter	-2679-02-21 03:36 J	742969.46	742969.65	742969.85	0.0508	0.0178
Uranus	-2674-05-20 06:28 J	744883.76	744883.77	744883.82	0.0140	0.0140
Jupiter	-2673-01-01 00:14 J	745109.32	745109.51	745109.70	0.0516	0.0196
Uranus	-2673-01-01 15:36 J	745110.00	745110.15	745110.33	0.0141	0.0092
Uranus	-2673-08-15 00:57 J	745336.34	745336.54	745336.75	0.0141	0.0044
Pluto	-2673-12-18 11:02 J	745461.81	745461.96	745462.15	0.0078	0.0049
Uranus	-2672-03-29 10:19 J	745562.72	745562.93	745563.15	0.0141	0.0006
Pluto	-2672-07-31 21:07 J	745687.17	745687.38	745687.61	0.0078	0.0013
Uranus	-2672-11-10 19:40 J	745789.13	745789.32	745789.53	0.0142	0.0054
Saturn	-2671-01-26 06:57 J	745865.63	745865.79	745865.96	0.0263	0.0162
Pluto	-2671-03-14 06:43 J	745912.73	745912.78	745912.88	0.0078	0.0074
Uranus	-2671-06-25 05:02 J	746015.58	746015.71	746015.87	0.0142	0.0103
Saturn	-2671-09-12 05:16 J	746094.51	746094.72	746094.93	0.0262	0.0021
Saturn	-2670-04-29 03:07 J	746323.50	746323.63	746323.77	0.0262	0.0203
Mars	-2670-06-11 12:28 J	746366.84	746367.02	746367.20	0.1918	0.0030
Mars	-2669-05-13 23:16 J	746704.30	746704.47	746704.64	0.1609	0.0107
Jupiter	-2668-10-27 01:12 J	747235.48	747235.55	747235.64	0.0506	0.0462
Jupiter	-2662-09-05 19:12 J	749375.10	749375.30	749375.49	0.0518	0.0112
Saturn	-2656-02-21 05:02 J	751370.61	751370.71	751370.82	0.0298	0.0260
Saturn	-2656-10-09 08:52 J	751600.66	751600.87	751601.08	0.0299	0.0013
Jupiter	-2655-02-23 21:07 J	751738.21	751738.38	751738.55	0.0511	0.0290
Saturn	-2655-05-27 12:57 J	751830.99	751831.04	751831.11	0.0300	0.0287
Jupiter	-2650-05-11 13:40 J	753640.96	753641.07	753641.19	0.0520	0.0422
Neptune	-2649-11-05 21:36 J	754185.34	754185.40	754185.52	0.0088	0.0080
Neptune	-2648-06-19 10:47 J	754410.81	754410.95	754411.10	0.0088	0.0066
Neptune	-2647-01-30 23:31 J	754636.32	754636.48	754636.67	0.0088	0.0053

Neptune	-2647-09-13 12:28 J	754861.83	754862.02	754862.23	0.0088	0.0039
Neptune	-2646-04-27 01:12 J	755087.35	755087.55	755087.77	0.0088	0.0026
Neptune	-2646-12-08 14:09 J	755312.88	755313.09	755313.31	0.0088	0.0012
Neptune	-2645-07-21 03:07 J	755538.41	755538.63	755538.85	0.0088	0.0002
Neptune	-2644-03-03 16:04 J	755763.95	755764.17	755764.39	0.0088	0.0015
Neptune	-2644-10-15 04:33 J	755989.50	755989.69	755989.91	0.0088	0.0029
Jupiter	-2644-10-29 16:04 J	756003.96	756004.17	756004.37	0.0509	0.0012
Neptune	-2643-05-28 17:16 J	756215.05	756215.22	756215.43	0.0088	0.0043
Neptune	-2642-01-09 06:28 J	756440.61	756440.77	756440.95	0.0088	0.0056
Saturn	-2642-08-08 13:55 J	756651.90	756652.08	756652.27	0.0263	0.0131
Neptune	-2642-08-22 19:12 J	756666.18	756666.30	756666.45	0.0088	0.0070
Saturn	-2641-03-24 12:14 J	756880.80	756881.01	756881.22	0.0263	0.0053
Neptune	-2641-04-04 08:09 J	756891.78	756891.84	756891.92	0.0088	0.0083
Saturn	-2641-11-08 10:04 J	757109.83	757109.92	757110.02	0.0262	0.0235
Jupiter	-2638-09-08 10:33 J	758143.80	758143.94	758144.09	0.0515	0.0361
Mars	-2637-05-12 13:40 J	758390.93	758391.07	758391.20	0.1607	0.0955
Mars	-2635-03-12 21:36 J	759060.25	759060.40	759060.54	0.1611	0.0848
Uranus	-2634-01-23 01:40 J	759376.48	759376.57	759376.67	0.0138	0.0123
Uranus	-2634-09-06 09:50 J	759602.74	759602.91	759603.10	0.0138	0.0078
Uranus	-2633-04-19 18:14 J	759829.05	759829.26	759829.48	0.0137	0.0032
Uranus	-2633-12-02 02:23 J	760055.38	760055.60	760055.82	0.0137	0.0013
Jupiter	-2632-07-04 12:28 J	760269.85	760270.02	760270.18	0.0507	0.0301
Uranus	-2632-07-16 10:19 J	760281.74	760281.93	760282.14	0.0137	0.0058
Uranus	-2631-02-27 18:28 J	760508.13	760508.27	760508.42	0.0136	0.0102
Saturn	-2627-09-03 17:02 J	762157.08	762157.21	762157.37	0.0298	0.0215
Saturn	-2626-04-21 21:07 J	762387.17	762387.38	762387.59	0.0299	0.0057
Jupiter	-2626-05-14 07:12 J	762409.60	762409.80	762410.00	0.0517	0.0063
Moon	-2622-05-21 21:50 J	763878.27	763878.41	763878.56	0.2625	0.0758
Earth	-2622-05-21 23:45 J	763878.34	763878.49	763878.63	0.2619	0.1043 *
Jupiter	-2620-11-01 07:55 J	764772.74	764772.83	764772.92	0.0512	0.0456

Jupiter	-2614-01-17 03:21 J	766675.46	766675.64	766675.82	0.0519	0.0242
Earth	-2614-05-19 16:33 J	766798.11	766798.19	766798.28	0.2618	0.2195
Moon	-2614-05-19 18:57 J	766798.21	766798.29	766798.37	0.2624	0.2246 *
Saturn	-2612-02-17 18:43 J	767438.08	767438.28	767438.47	0.0263	0.0104
Saturn	-2612-10-04 16:47 J	767667.00	767667.20	767667.40	0.0262	0.0079
Saturn	-2611-05-21 14:38 J	767896.09	767896.11	767896.13	0.0262	0.0260
Jupiter	-2608-07-07 04:04 J	769038.48	769038.67	769038.86	0.0510	0.0161
Mars	-2604-04-07 14:09 J	770408.91	770409.09	770409.26	0.1917	0.0393
Mars	-2603-03-11 12:00 J	770746.83	770747.00	770747.17	0.1609	0.0023
Saturn	-2597-03-16 00:28 J	772943.36	772943.52	772943.70	0.0299	0.0177
Saturn	-2597-11-01 04:33 J	773173.50	773173.69	773173.90	0.0300	0.0097
Jupiter	-2596-03-12 00:57 J	773304.34	773304.54	773304.74	0.0508	0.0133
Jupiter	-2590-01-19 18:43 J	775444.10	775444.28	775444.46	0.0516	0.0233
Uranus	-2590-08-31 23:16 J	775668.36	775668.47	775668.61	0.0141	0.0115
Uranus	-2589-04-14 08:23 J	775894.67	775894.85	775895.05	0.0141	0.0067
Uranus	-2589-11-26 17:45 J	776121.03	776121.24	776121.46	0.0141	0.0018
Uranus	-2588-07-11 03:07 J	776347.42	776347.63	776347.84	0.0141	0.0030
Uranus	-2587-02-22 12:14 J	776573.85	776574.01	776574.21	0.0142	0.0080
Uranus	-2587-10-06 21:50 J	776800.34	776800.41	776800.52	0.0142	0.0129
Jupiter	-2585-11-14 21:36 J	777570.29	777570.40	777570.51	0.0506	0.0421
Saturn	-2583-01-14 02:23 J	777995.57	777995.60	777995.65	0.0264	0.0258
Saturn	-2583-08-31 00:57 J	778224.34	778224.54	778224.75	0.0263	0.0074
Saturn	-2582-04-16 23:02 J	778453.27	778453.46	778453.66	0.0262	0.0110
Jupiter	-2579-09-24 14:09 J	779709.89	779710.09	779710.29	0.0518	0.0074
Jupiter	-2572-03-14 16:04 J	782073.02	782073.17	782073.33	0.0511	0.0330
Mars	-2572-04-07 19:55 J	782097.25	782097.33	782097.41	0.1920	0.1681
Mars	-2571-03-10 02:23 J	782433.46	782433.60	782433.75	0.1608	0.0865
Mars	-2569-01-08 10:19 J	783102.79	783102.93	783103.07	0.1612	0.0945
Saturn	-2568-09-26 12:57 J	783729.85	783730.04	783730.23	0.0298	0.0132
Saturn	-2567-05-14 16:47 J	783960.02	783960.20	783960.39	0.0299	0.0142

Jupiter	-2567-05-30 09:36 J	783975.76	783975.90	783976.04	0.0520	0.0380
Neptune	-2567-12-24 12:28 J	784183.96	784184.02	784184.13	0.0089	0.0083
Neptune	-2566-08-07 02:23 J	784409.46	784409.60	784409.75	0.0089	0.0068
Neptune	-2565-03-19 15:36 J	784634.98	784635.15	784635.33	0.0089	0.0054
Neptune	-2565-10-31 04:33 J	784860.51	784860.69	784860.90	0.0089	0.0040
Neptune	-2564-06-13 18:00 J	785086.05	785086.25	785086.47	0.0089	0.0025
Neptune	-2563-01-25 07:12 J	785311.59	785311.80	785312.03	0.0089	0.0011
Neptune	-2563-09-07 20:38 J	785537.14	785537.36	785537.58	0.0089	0.0003
Neptune	-2562-04-21 09:36 J	785762.69	785762.90	785763.12	0.0089	0.0018
Neptune	-2562-12-02 22:47 J	785988.25	785988.45	785988.66	0.0089	0.0032
Neptune	-2561-07-15 11:45 J	786213.82	786213.99	786214.19	0.0089	0.0046
Jupiter	-2561-11-17 11:02 J	786338.76	786338.96	786339.17	0.0509	0.0031
Neptune	-2560-02-26 00:43 J	786439.39	786439.53	786439.71	0.0089	0.0061
Neptune	-2560-10-09 13:55 J	786664.98	786665.08	786665.22	0.0089	0.0074
Neptune	-2559-05-23 02:52 J	786890.61	786890.62	786890.67	0.0089	0.0089
Jupiter	-2555-09-27 07:55 J	788478.71	788478.83	788478.95	0.0515	0.0409
Saturn	-2554-07-27 07:26 J	788781.72	788781.81	788781.92	0.0263	0.0230
Saturn	-2553-03-12 05:45 J	789010.54	789010.74	789010.95	0.0263	0.0046
Saturn	-2553-10-27 03:36 J	789239.47	789239.65	789239.84	0.0262	0.0136
Uranus	-2550-05-06 18:14 J	790161.12	790161.26	790161.42	0.0138	0.0099
Uranus	-2550-12-19 02:38 J	790387.42	790387.61	790387.82	0.0137	0.0053
Jupiter	-2549-07-23 08:23 J	790604.68	790604.85	790605.03	0.0507	0.0260
Uranus	-2549-08-01 11:02 J	790613.74	790613.96	790614.18	0.0137	0.0008
Uranus	-2548-03-15 19:12 J	790840.09	790840.30	790840.52	0.0137	0.0037
Uranus	-2548-10-28 03:07 J	791066.46	791066.63	791066.81	0.0137	0.0082
Uranus	-2547-06-11 10:47 J	791292.88	791292.95	791293.04	0.0136	0.0126
Jupiter	-2543-06-02 03:21 J	792744.44	792744.64	792744.84	0.0517	0.0106
Mars	-2538-02-02 15:07 J	794450.97	794451.13	794451.29	0.1916	0.0776
Saturn	-2538-04-08 18:28 J	794516.08	794516.27	794516.47	0.0299	0.0097
Saturn	-2538-11-24 22:33 J	794746.28	794746.44	794746.62	0.0300	0.0179

Mars	-2537-01-07 01:12 J	794789.38	794789.55	794789.72	0.1610	0.0085
Jupiter	-2537-11-20 05:45 J	795107.72	795107.74	795107.77	0.0512	0.0506
Jupiter	-2531-02-04 22:33 J	797010.26	797010.44	797010.63	0.0519	0.0203
Jupiter	-2525-07-26 00:57 J	799373.36	799373.54	799373.73	0.0510	0.0206
Saturn	-2524-02-05 12:57 J	799567.91	799568.04	799568.18	0.0263	0.0202
Saturn	-2524-09-22 11:16 J	799796.76	799796.97	799797.18	0.0263	0.0018
Saturn	-2523-05-09 09:07 J	800025.72	800025.88	800026.05	0.0262	0.0165
Jupiter	-2520-10-10 16:19 J	801276.17	801276.18	801276.21	0.0521	0.0517
Pluto	-2514-12-29 20:38 J	803547.24	803547.36	803547.52	0.0066	0.0050
Jupiter	-2513-03-30 21:21 J	803639.18	803639.39	803639.59	0.0508	0.0090
Pluto	-2513-08-11 01:40 J	803772.36	803772.57	803772.79	0.0066	0.0014
Pluto	-2512-03-24 06:28 J	803997.57	803997.77	803997.98	0.0067	0.0024
Pluto	-2512-11-04 11:02 J	804222.90	804222.96	804223.07	0.0067	0.0062
Saturn	-2509-10-19 05:45 J	805302.53	805302.74	805302.95	0.0299	0.0054
Saturn	-2508-06-06 10:04 J	805532.78	805532.92	805533.06	0.0299	0.0221
Jupiter	-2507-02-07 15:21 J	805778.97	805779.14	805779.31	0.0516	0.0280
Mars	-2506-02-02 21:07 J	806139.25	806139.38	806139.51	0.1919	0.1299
Uranus	-2506-05-01 08:23 J	806226.81	806226.85	806226.92	0.0140	0.0135
Uranus	-2506-12-13 17:31 J	806453.07	806453.23	806453.41	0.0141	0.0088
Mars	-2505-01-05 15:36 J	806476.00	806476.15	806476.30	0.1608	0.0775
Uranus	-2505-07-27 02:38 J	806679.41	806679.61	806679.83	0.0141	0.0040
Uranus	-2504-03-10 12:00 J	806905.79	806906.00	806906.22	0.0141	0.0009
Uranus	-2504-10-22 21:21 J	807132.20	807132.39	807132.59	0.0142	0.0058
Mars	-2504-11-04 23:31 J	807145.35	807145.48	807145.62	0.1613	0.1034
Uranus	-2503-06-06 06:43 J	807358.65	807358.78	807358.93	0.0142	0.0107
Jupiter	-2502-12-04 16:33 J	807905.06	807905.19	807905.33	0.0506	0.0384
Jupiter	-2496-10-13 12:57 J	810044.84	810045.04	810045.24	0.0518	0.0019
Saturn	-2495-08-18 18:00 J	810354.09	810354.25	810354.41	0.0263	0.0173
Saturn	-2494-04-04 16:04 J	810582.95	810583.17	810583.38	0.0262	0.0011
Saturn	-2494-11-19 13:26 J	810811.92	810812.06	810812.21	0.0262	0.0191

Jupiter	-2489-04-02 13:12 J	812407.92	812408.05	812408.19	0.0511	0.0378
Earth	-2485-11-18 04:33 J	814098.54	814098.69	814098.85	0.2715	0.0483
Moon	-2485-11-18 09:21 J	814098.72	814098.89	814099.05	0.2710	0.0075 *
Neptune	-2484-02-07 07:55 J	814179.82	814179.83	814179.89	0.0088	0.0087
Jupiter	-2484-06-18 07:40 J	814310.67	814310.82	814310.98	0.0519	0.0331
Neptune	-2484-09-20 20:52 J	814405.27	814405.37	814405.51	0.0088	0.0073
Neptune	-2483-05-04 10:04 J	814630.75	814630.92	814631.08	0.0088	0.0059
Neptune	-2483-12-15 22:19 J	814856.26	814856.43	814856.64	0.0088	0.0046
Neptune	-2482-07-29 11:16 J	815081.77	815081.97	815082.18	0.0088	0.0032
Neptune	-2481-03-11 00:00 J	815307.30	815307.50	815307.73	0.0088	0.0019
Neptune	-2481-10-22 12:57 J	815532.82	815533.04	815533.26	0.0088	0.0005
Neptune	-2480-06-05 01:40 J	815758.36	815758.57	815758.80	0.0088	0.0009
Saturn	-2480-09-13 06:14 J	815858.72	815858.76	815858.80	0.0298	0.0292
Neptune	-2479-01-16 14:38 J	815983.90	815984.11	815984.33	0.0088	0.0023
Saturn	-2479-05-01 10:04 J	816088.71	816088.92	816089.13	0.0299	0.0021
Neptune	-2479-08-30 03:36 J	816209.45	816209.65	816209.85	0.0088	0.0036
Saturn	-2479-12-17 14:23 J	816319.00	816319.10	816319.22	0.0300	0.0255
Neptune	-2478-04-12 16:19 J	816435.01	816435.18	816435.37	0.0088	0.0050
Neptune	-2478-11-24 04:47 J	816660.57	816660.70	816660.87	0.0088	0.0064
Jupiter	-2478-12-07 10:04 J	816673.72	816673.92	816674.12	0.0509	0.0083
Neptune	-2477-07-06 18:00 J	816886.16	816886.25	816886.36	0.0088	0.0077
Mars	-2473-11-29 17:16 J	818493.08	818493.22	818493.36	0.1915	0.1140
Jupiter	-2472-10-16 04:19 J	818813.59	818813.68	818813.77	0.0515	0.0454
Mars	-2472-11-03 14:09 J	818831.92	818832.09	818832.26	0.1610	0.0172
Uranus	-2466-01-04 03:36 J	820719.54	820719.65	820719.76	0.0138	0.0119
Jupiter	-2466-08-12 07:12 J	820939.61	820939.80	820939.99	0.0507	0.0209
Uranus	-2466-08-18 11:45 J	820945.82	820945.99	820946.19	0.0138	0.0074
Saturn	-2465-02-28 21:50 J	821140.24	821140.41	821140.59	0.0263	0.0148
Uranus	-2465-03-31 20:23 J	821172.14	821172.35	821172.57	0.0137	0.0028
Saturn	-2465-10-14 20:09 J	821369.13	821369.34	821369.55	0.0262	0.0036

Uranus	-2465-11-13 04:33 J	821398.48	821398.69	821398.91	0.0137	0.0018
Saturn	-2464-05-31 17:45 J	821598.13	821598.24	821598.36	0.0262	0.0217
Uranus	-2464-06-27 12:43 J	821624.83	821625.03	821625.22	0.0137	0.0062
Uranus	-2463-02-08 20:23 J	821851.22	821851.35	821851.49	0.0136	0.0107
Jupiter	-2460-06-20 23:45 J	823079.30	823079.49	823079.69	0.0517	0.0152
Jupiter	-2454-04-17 04:33 J	825205.66	825205.69	825205.73	0.0505	0.0496
Saturn	-2450-03-26 15:50 J	826645.06	826645.16	826645.28	0.0298	0.0253
Saturn	-2450-11-11 19:55 J	826875.12	826875.33	826875.54	0.0299	0.0020
Saturn	-2449-06-29 00:14 J	827105.48	827105.51	827105.56	0.0300	0.0294
Jupiter	-2448-02-23 20:38 J	827345.17	827345.36	827345.55	0.0519	0.0151
Jupiter	-2442-08-14 21:07 J	829708.20	829708.38	829708.56	0.0510	0.0250
Mars	-2441-11-29 22:19 J	830181.28	830181.43	830181.59	0.1919	0.0915
Mars	-2440-11-02 04:47 J	830518.55	830518.70	830518.86	0.1608	0.0687
Mars	-2438-09-02 12:14 J	831187.89	831188.01	831188.13	0.1613	0.1134
Jupiter	-2437-10-29 17:16 J	831611.13	831611.22	831611.32	0.0521	0.0457
Saturn	-2436-09-10 02:38 J	831926.42	831926.61	831926.80	0.0263	0.0120
Saturn	-2435-04-27 00:28 J	832155.32	832155.52	832155.73	0.0262	0.0063
Saturn	-2435-12-11 22:04 J	832384.34	832384.42	832384.49	0.0261	0.0243
Jupiter	-2430-04-19 18:28 J	833974.07	833974.27	833974.48	0.0509	0.0043
Pluto	-2426-01-16 19:26 J	835342.17	835342.31	835342.49	0.0078	0.0054
Pluto	-2426-08-30 05:45 J	835567.52	835567.74	835567.96	0.0078	0.0008
Pluto	-2425-04-11 15:36 J	835793.05	835793.15	835793.26	0.0078	0.0068
Jupiter	-2424-02-26 14:38 J	836113.97	836114.11	836114.27	0.0515	0.0336
Uranus	-2422-08-13 01:55 J	837011.46	837011.58	837011.73	0.0141	0.0110
Uranus	-2421-03-26 11:02 J	837237.78	837237.96	837238.17	0.0141	0.0062
Saturn	-2421-10-05 18:14 J	837431.13	837431.26	837431.40	0.0298	0.0225
Uranus	-2421-11-07 20:23 J	837464.14	837464.35	837464.57	0.0141	0.0013
Saturn	-2420-05-23 22:19 J	837661.23	837661.43	837661.64	0.0300	0.0050
Uranus	-2420-06-22 05:31 J	837690.53	837690.73	837690.95	0.0142	0.0036
Uranus	-2419-02-03 14:52 J	837916.96	837917.12	837917.30	0.0142	0.0085

Uranus	-2419-09-18 00:28 J	838143.47	838143.52	838143.61	0.0142	0.0134
Jupiter	-2419-12-23 16:47 J	838240.05	838240.20	838240.36	0.0507	0.0330
Jupiter	-2413-11-01 10:47 J	840379.75	840379.95	840380.16	0.0517	0.0033
Mars	-2408-10-31 19:26 J	842205.26	842205.31	842205.35	0.1607	0.1541
Mars	-2407-09-26 18:28 J	842535.16	842535.27	842535.38	0.1914	0.1522
Saturn	-2406-03-23 05:16 J	842712.53	842712.72	842712.92	0.0263	0.0097
Jupiter	-2406-04-22 13:12 J	842742.95	842743.05	842743.16	0.0511	0.0436
Mars	-2406-09-01 03:07 J	842874.46	842874.63	842874.80	0.1611	0.0266
Saturn	-2406-11-07 03:07 J	842941.43	842941.63	842941.84	0.0262	0.0086
Neptune	-2402-03-27 22:33 J	844178.44	844178.44	844178.44	0.0089	0.0089
Neptune	-2402-11-08 11:16 J	844403.87	844403.97	844404.11	0.0089	0.0076
Neptune	-2401-06-21 00:57 J	844629.39	844629.54	844629.71	0.0089	0.0061
Jupiter	-2401-07-07 05:31 J	844645.56	844645.73	844645.90	0.0520	0.0282
Neptune	-2400-02-01 14:09 J	844854.92	844855.09	844855.29	0.0089	0.0047
Neptune	-2400-09-15 03:21 J	845080.45	845080.64	845080.86	0.0089	0.0033
Neptune	-2399-04-28 16:47 J	845305.99	845306.20	845306.42	0.0089	0.0018
Neptune	-2399-12-10 06:00 J	845531.53	845531.75	845531.97	0.0089	0.0004
Neptune	-2398-07-23 19:12 J	845757.09	845757.30	845757.53	0.0089	0.0011
Neptune	-2397-03-05 08:23 J	845982.65	845982.85	845983.07	0.0089	0.0025
Neptune	-2397-10-16 21:36 J	846208.21	846208.40	846208.60	0.0089	0.0040
Neptune	-2396-05-30 10:47 J	846433.77	846433.95	846434.12	0.0089	0.0054
Neptune	-2395-01-10 23:16 J	846659.35	846659.47	846659.64	0.0089	0.0069
Neptune	-2395-08-24 12:28 J	846884.96	846885.02	846885.13	0.0089	0.0083
Jupiter	-2395-12-26 09:07 J	847008.68	847008.88	847009.08	0.0509	0.0136
Saturn	-2391-04-18 02:52 J	848217.46	848217.62	848217.78	0.0298	0.0187
Saturn	-2391-12-04 06:57 J	848447.59	848447.79	848448.00	0.0299	0.0087
Jupiter	-2389-11-04 03:21 J	849148.63	849148.64	849148.67	0.0514	0.0512
Jupiter	-2383-08-31 03:50 J	851274.47	851274.66	851274.85	0.0508	0.0166
Uranus	-2382-04-17 22:19 J	851504.29	851504.43	851504.61	0.0138	0.0093
Uranus	-2382-11-30 06:57 J	851730.59	851730.79	851731.00	0.0137	0.0047

Uranus	-2381-07-13 15:21 J	851956.92	851957.14	851957.36	0.0137	0.0002
Uranus	-2380-02-24 23:16 J	852183.27	852183.47	852183.69	0.0137	0.0044
Uranus	-2380-10-09 06:57 J	852409.64	852409.79	852409.97	0.0137	0.0089
Earth	-2379-05-22 02:52 J	852634.48	852634.62	852634.76	0.2619	0.1262
Moon	-2379-05-22 06:57 J	852634.68	852634.79	852634.89	0.2614	0.1956 *
Uranus	-2379-05-23 14:38 J	852636.08	852636.11	852636.18	0.0136	0.0133
Saturn	-2377-02-16 11:16 J	853269.92	853269.97	853270.03	0.0264	0.0253
Jupiter	-2377-07-10 01:55 J	853414.40	853414.58	853414.77	0.0516	0.0218
Saturn	-2377-10-02 09:36 J	853498.69	853498.90	853499.10	0.0263	0.0069
Saturn	-2376-05-19 07:12 J	853727.61	853727.80	853727.99	0.0262	0.0113
Mars	-2375-09-26 23:31 J	854223.30	854223.48	854223.65	0.1918	0.0526
Mars	-2374-08-30 18:00 J	854561.09	854561.25	854561.41	0.1609	0.0598
Mars	-2372-06-30 01:12 J	855230.44	855230.55	855230.66	0.1614	0.1230
Jupiter	-2371-05-06 02:09 J	855540.51	855540.59	855540.69	0.0506	0.0451
Moon	-2371-05-19 19:40 J	855554.21	855554.32	855554.44	0.2612	0.1923
Earth	-2371-05-19 19:55 J	855554.23	855554.33	855554.44	0.2618	0.1965 *
Jupiter	-2365-03-14 22:04 J	857680.22	857680.42	857680.62	0.0518	0.0090
Saturn	-2362-10-29 03:50 J	859003.49	859003.66	859003.84	0.0299	0.0161
Saturn	-2361-06-15 08:09 J	859233.65	859233.84	859234.04	0.0300	0.0113
Jupiter	-2359-09-02 22:47 J	860043.30	860043.45	860043.62	0.0511	0.0314
Jupiter	-2354-11-18 17:02 J	861946.08	861946.21	861946.34	0.0520	0.0402
Saturn	-2348-08-28 12:28 J	864055.93	864056.02	864056.13	0.0263	0.0233
Saturn	-2347-04-14 10:47 J	864284.75	864284.95	864285.17	0.0262	0.0050
Jupiter	-2347-05-08 20:09 J	864309.13	864309.34	864309.54	0.0509	0.0020
Saturn	-2347-11-29 08:38 J	864513.68	864513.86	864514.05	0.0262	0.0133
Mars	-2342-08-29 08:09 J	866247.77	866247.84	866247.91	0.1607	0.1449
Jupiter	-2341-03-17 13:55 J	866448.95	866449.08	866449.21	0.0515	0.0391
Mars	-2341-07-23 20:09 J	866577.32	866577.34	866577.36	0.1913	0.1894
Mars	-2340-06-28 16:04 J	866917.00	866917.17	866917.34	0.1611	0.0359
Uranus	-2338-04-12 11:02 J	867569.89	867569.96	867570.05	0.0140	0.0131

Uranus	-2338-11-24 20:09 J	867796.17	867796.34	867796.51	0.0141	0.0083
Uranus	-2337-07-08 05:02 J	868022.51	868022.71	868022.93	0.0141	0.0035
Uranus	-2336-02-19 14:23 J	868248.89	868249.10	868249.32	0.0141	0.0013
Uranus	-2336-10-03 23:45 J	868475.30	868475.49	868475.69	0.0142	0.0063
Jupiter	-2335-01-11 17:16 J	868575.05	868575.22	868575.39	0.0507	0.0273
Uranus	-2335-05-18 09:07 J	868701.76	868701.88	868702.02	0.0142	0.0112
Saturn	-2332-05-10 11:02 J	869789.77	869789.96	869790.15	0.0298	0.0127
Saturn	-2332-12-26 15:21 J	870019.95	870020.14	870020.32	0.0299	0.0148
Jupiter	-2330-11-21 11:31 J	870714.78	870714.98	870715.18	0.0517	0.0093
Jupiter	-2323-05-11 11:02 J	873077.90	873077.96	873078.02	0.0512	0.0486
Neptune	-2320-12-23 06:28 J	874399.69	874399.77	874399.87	0.0088	0.0080
Neptune	-2319-08-05 18:57 J	874625.17	874625.29	874625.46	0.0088	0.0067
Saturn	-2318-03-10 16:33 J	874842.06	874842.19	874842.32	0.0263	0.0205
Neptune	-2318-03-19 07:55 J	874850.67	874850.83	874851.02	0.0088	0.0053
Jupiter	-2318-07-27 09:21 J	874980.70	874980.89	874981.07	0.0519	0.0210
Saturn	-2318-10-25 14:38 J	875070.90	875071.11	875071.32	0.0262	0.0022
Neptune	-2318-10-30 20:38 J	875076.17	875076.36	875076.57	0.0088	0.0039
Saturn	-2317-06-10 12:14 J	875299.84	875300.01	875300.18	0.0262	0.0160
Neptune	-2317-06-12 09:21 J	875301.69	875301.89	875302.11	0.0088	0.0026
Neptune	-2316-01-23 22:19 J	875527.22	875527.43	875527.66	0.0088	0.0012
Neptune	-2316-09-06 11:16 J	875752.75	875752.97	875753.19	0.0088	0.0002
Neptune	-2315-04-20 00:00 J	875978.29	875978.50	875978.72	0.0088	0.0016
Neptune	-2315-12-01 12:28 J	876203.83	876204.02	876204.24	0.0088	0.0030
Neptune	-2314-07-15 01:40 J	876429.38	876429.57	876429.76	0.0088	0.0043
Neptune	-2313-02-25 14:23 J	876654.95	876655.10	876655.28	0.0088	0.0057
Neptune	-2313-10-08 03:07 J	876880.52	876880.63	876880.78	0.0088	0.0071
Neptune	-2312-05-21 15:50 J	877106.13	877106.16	877106.24	0.0088	0.0085
Jupiter	-2311-01-14 08:09 J	877343.65	877343.84	877344.03	0.0510	0.0190
Mars	-2309-07-24 00:57 J	878265.36	878265.54	878265.72	0.1917	0.0145
Mars	-2308-06-27 06:43 J	878603.62	878603.78	878603.94	0.1609	0.0502

Mars	-2306-04-27 14:09 J	879272.99	879273.09	879273.18	0.1615	0.1329
Saturn	-2303-11-20 11:02 J	880575.76	880575.96	880576.16	0.0299	0.0102
Saturn	-2302-07-08 15:21 J	880805.97	880806.14	880806.32	0.0300	0.0173
Jupiter	-2300-09-19 06:28 J	881609.57	881609.77	881609.97	0.0508	0.0101
Uranus	-2299-12-16 09:07 J	882062.77	882062.88	882063.02	0.0138	0.0111
Uranus	-2298-07-30 17:31 J	882289.05	882289.23	882289.44	0.0138	0.0066
Uranus	-2297-03-13 02:23 J	882515.38	882515.60	882515.81	0.0137	0.0020
Uranus	-2297-10-25 10:19 J	882741.72	882741.93	882742.15	0.0137	0.0026
Uranus	-2296-06-08 18:00 J	882968.07	882968.25	882968.45	0.0137	0.0071
Uranus	-2295-01-21 01:40 J	883194.47	883194.57	883194.70	0.0136	0.0115
Jupiter	-2294-07-30 02:52 J	883749.45	883749.62	883749.79	0.0516	0.0278
Saturn	-2289-09-19 16:33 J	885628.06	885628.19	885628.35	0.0263	0.0187
Saturn	-2288-05-06 15:07 J	885856.92	885857.13	885857.34	0.0262	0.0003
Jupiter	-2288-05-25 05:02 J	885875.58	885875.71	885875.84	0.0506	0.0387
Saturn	-2288-12-21 12:43 J	886085.88	886086.03	886086.19	0.0261	0.0179
Jupiter	-2282-04-03 22:04 J	888015.22	888015.42	888015.63	0.0518	0.0033
Mars	-2276-06-25 21:21 J	890290.30	890290.39	890290.48	0.1608	0.1363
Jupiter	-2276-09-22 00:28 J	890378.38	890378.52	890378.66	0.0511	0.0377
Mars	-2274-04-26 05:02 J	890959.55	890959.71	890959.88	0.1612	0.0456
Saturn	-2273-06-01 17:02 J	891362.01	891362.21	891362.42	0.0299	0.0070
Saturn	-2272-01-17 21:36 J	891592.25	891592.40	891592.55	0.0300	0.0205
Jupiter	-2271-12-07 18:43 J	892281.13	892281.28	892281.43	0.0520	0.0338
Pluto	-2267-01-27 04:33 J	893427.58	893427.69	893427.80	0.0066	0.0057
Pluto	-2267-09-09 09:07 J	893652.69	893652.88	893653.10	0.0066	0.0020
Pluto	-2266-04-22 13:55 J	893877.88	893878.08	893878.31	0.0067	0.0018
Pluto	-2266-12-03 18:57 J	894103.18	894103.29	894103.42	0.0067	0.0055
Jupiter	-2264-05-27 18:14 J	894644.06	894644.26	894644.47	0.0509	0.0070
Saturn	-2259-04-01 20:23 J	896414.19	896414.35	896414.52	0.0263	0.0159
Saturn	-2259-11-16 18:28 J	896643.06	896643.27	896643.49	0.0262	0.0024
Jupiter	-2258-04-06 18:28 J	896784.19	896784.27	896784.36	0.0515	0.0466

Saturn	-2258-07-03 16:04 J	896872.04	896872.17	896872.30	0.0262	0.0205
Uranus	-2254-07-25 03:07 J	898354.51	898354.63	898354.79	0.0141	0.0107
Uranus	-2253-03-07 12:14 J	898580.83	898581.01	898581.22	0.0141	0.0059
Uranus	-2253-10-19 21:36 J	898807.19	898807.40	898807.62	0.0141	0.0010
Jupiter	-2252-01-30 16:33 J	898910.01	898910.19	898910.38	0.0507	0.0222
Uranus	-2252-06-03 06:43 J	899033.58	899033.78	899033.99	0.0142	0.0039
Uranus	-2251-01-15 16:04 J	899260.01	899260.17	899260.35	0.0142	0.0088
Uranus	-2251-08-30 01:26 J	899486.53	899486.56	899486.64	0.0142	0.0138
Moon	-2250-11-21 09:36 J	899934.83	899934.90	899934.97	0.2711	0.2442
Jupiter	-2247-12-10 15:21 J	901049.95	901050.14	901050.33	0.0517	0.0163
Saturn	-2244-12-12 17:02 J	902148.00	902148.21	902148.42	0.0299	0.0046
Mars	-2243-05-21 01:40 J	902307.40	902307.57	902307.75	0.1916	0.0255
Saturn	-2243-07-30 21:21 J	902378.26	902378.39	902378.52	0.0300	0.0229
Mars	-2242-04-24 19:55 J	902646.17	902646.33	902646.50	0.1610	0.0414
Moon	-2242-11-18 22:19 J	902854.28	902854.43	902854.57	0.2717	0.1042
Earth	-2242-11-19 03:36 J	902854.50	902854.65	902854.81	0.2715	0.0743 *
Jupiter	-2241-10-05 16:04 J	903176.16	903176.17	903176.18	0.0505	0.0505
Mars	-2240-02-22 02:52 J	903315.54	903315.62	903315.70	0.1616	0.1429
Neptune	-2237-02-09 20:38 J	904398.29	904398.36	904398.45	0.0089	0.0083
Neptune	-2237-09-22 09:50 J	904623.79	904623.91	904624.07	0.0089	0.0068
Neptune	-2236-05-05 23:31 J	904849.30	904849.48	904849.65	0.0089	0.0054
Neptune	-2236-12-17 12:28 J	905074.83	905075.02	905075.23	0.0089	0.0040
Neptune	-2235-07-31 01:55 J	905300.38	905300.58	905300.80	0.0089	0.0025
Jupiter	-2235-08-15 11:16 J	905315.78	905315.97	905316.17	0.0519	0.0146
Neptune	-2234-03-13 15:21 J	905525.92	905526.14	905526.36	0.0089	0.0011
Neptune	-2234-10-25 04:33 J	905751.47	905751.69	905751.91	0.0089	0.0004
Neptune	-2233-06-06 17:31 J	905977.03	905977.23	905977.46	0.0089	0.0019
Neptune	-2232-01-18 06:57 J	906202.59	906202.79	906202.99	0.0089	0.0033
Neptune	-2232-08-31 19:55 J	906428.16	906428.33	906428.53	0.0089	0.0047
Neptune	-2231-04-14 09:07 J	906653.73	906653.88	906654.05	0.0089	0.0062

Neptune	-2231-11-25 22:19 J	906879.32	906879.43	906879.55	0.0089	0.0076
Saturn	-2230-10-12 19:55 J	907200.15	907200.33	907200.51	0.0263	0.0143
Saturn	-2229-05-28 18:14 J	907429.05	907429.26	907429.47	0.0262	0.0041
Saturn	-2228-01-12 15:50 J	907658.06	907658.16	907658.28	0.0261	0.0222
Jupiter	-2228-02-02 12:00 J	907678.82	907679.00	907679.17	0.0510	0.0261
Jupiter	-2223-04-20 05:16 J	909581.64	909581.72	909581.81	0.0521	0.0464
Jupiter	-2217-10-08 08:52 J	911944.66	911944.87	911945.07	0.0508	0.0037
Uranus	-2215-08-15 19:26 J	912621.26	912621.31	912621.41	0.0138	0.0131
Saturn	-2215-11-06 18:00 J	912704.20	912704.25	912704.31	0.0297	0.0285
Uranus	-2214-03-30 04:19 J	912847.52	912847.68	912847.87	0.0138	0.0084
Saturn	-2214-06-24 22:04 J	912934.21	912934.42	912934.63	0.0299	0.0015
Uranus	-2214-11-11 12:57 J	913073.83	913074.04	913074.25	0.0138	0.0038
Saturn	-2213-02-10 02:23 J	913164.50	913164.60	913164.71	0.0300	0.0260
Uranus	-2213-06-24 21:07 J	913300.16	913300.38	913300.60	0.0137	0.0007
Uranus	-2212-02-06 04:47 J	913526.51	913526.70	913526.92	0.0137	0.0053
Uranus	-2212-09-20 12:57 J	913752.89	913753.04	913753.19	0.0137	0.0097
Mars	-2211-05-21 08:09 J	913995.80	913995.84	913995.89	0.1919	0.1852
Jupiter	-2211-08-18 05:16 J	914084.57	914084.72	914084.87	0.0516	0.0346
Mars	-2210-04-23 10:19 J	914332.83	914332.93	914333.03	0.1608	0.1272
Mars	-2208-02-20 18:00 J	915002.09	915002.25	915002.41	0.1613	0.0551
Jupiter	-2205-06-13 03:36 J	916210.50	916210.65	916210.81	0.0506	0.0339
Saturn	-2200-04-23 23:31 J	917986.30	917986.48	917986.68	0.0263	0.0115
Saturn	-2200-12-08 21:50 J	918215.20	918215.41	918215.61	0.0262	0.0068
Jupiter	-2199-04-23 03:36 J	918350.45	918350.65	918350.85	0.0518	0.0046
Saturn	-2199-07-25 19:12 J	918444.25	918444.30	918444.37	0.0262	0.0249
Jupiter	-2193-10-11 00:14 J	920713.41	920713.51	920713.62	0.0511	0.0434
Jupiter	-2188-12-26 23:16 J	922616.30	922616.47	922616.65	0.0520	0.0266
Saturn	-2185-05-18 18:43 J	923490.19	923490.28	923490.39	0.0297	0.0260
Saturn	-2184-01-03 22:19 J	923720.22	923720.43	923720.65	0.0299	0.0012
Saturn	-2184-08-22 02:23 J	923950.55	923950.60	923950.68	0.0300	0.0285

Jupiter	-2181-06-15 22:19 J	924979.23	924979.43	924979.63	0.0509	0.0139
Pluto	-2180-02-14 03:21 J	925222.52	925222.64	925222.81	0.0078	0.0059
Pluto	-2180-09-27 13:40 J	925447.85	925448.07	925448.30	0.0078	0.0003
Pluto	-2179-05-10 23:31 J	925673.36	925673.48	925673.61	0.0078	0.0063
Mars	-2177-03-17 03:50 J	926349.49	926349.66	926349.83	0.1914	0.0621
Mars	-2176-02-19 08:38 J	926688.69	926688.86	926689.03	0.1610	0.0317
Mars	-2175-12-20 15:50 J	927358.11	927358.16	927358.21	0.1617	0.1529
Saturn	-2171-11-03 22:33 J	928772.25	928772.44	928772.64	0.0263	0.0099
Uranus	-2170-03-24 11:45 J	928912.91	928912.99	928913.09	0.0140	0.0128
Saturn	-2170-06-20 20:52 J	929001.17	929001.37	929001.57	0.0262	0.0084
Uranus	-2170-11-05 20:23 J	929139.19	929139.35	929139.54	0.0141	0.0081
Jupiter	-2169-02-19 20:38 J	929245.17	929245.36	929245.56	0.0507	0.0152
Uranus	-2169-06-19 05:45 J	929365.53	929365.74	929365.95	0.0141	0.0032
Uranus	-2168-01-31 14:52 J	929591.90	929592.12	929592.33	0.0141	0.0016
Uranus	-2168-09-15 00:14 J	929818.32	929818.51	929818.70	0.0142	0.0065
Uranus	-2167-04-29 09:36 J	930044.78	930044.90	930045.03	0.0142	0.0114
Jupiter	-2164-12-29 16:33 J	931385.01	931385.19	931385.38	0.0517	0.0227
Jupiter	-2158-10-25 18:28 J	933511.18	933511.27	933511.37	0.0505	0.0442
Saturn	-2156-11-28 23:31 J	934276.35	934276.48	934276.62	0.0297	0.0230
Neptune	-2155-03-26 15:36 J	934394.15	934394.15	934394.17	0.0088	0.0088
Saturn	-2155-07-17 03:21 J	934506.43	934506.64	934506.85	0.0299	0.0042
Neptune	-2155-11-07 04:04 J	934619.57	934619.67	934619.80	0.0088	0.0074
Neptune	-2154-06-20 17:02 J	934845.06	934845.21	934845.38	0.0088	0.0060
Neptune	-2153-02-01 05:45 J	935070.57	935070.74	935070.94	0.0088	0.0047
Neptune	-2153-09-13 18:28 J	935296.08	935296.27	935296.49	0.0088	0.0033
Neptune	-2152-04-27 07:26 J	935521.60	935521.81	935522.03	0.0088	0.0019
Jupiter	-2152-09-03 13:55 J	935650.88	935651.08	935651.28	0.0519	0.0079
Neptune	-2152-12-08 20:09 J	935747.12	935747.34	935747.56	0.0088	0.0005
Neptune	-2151-07-22 08:52 J	935972.65	935972.87	935973.09	0.0088	0.0009
Neptune	-2150-03-04 21:21 J	936198.19	936198.39	936198.62	0.0088	0.0023

Neptune	-2150-10-16 10:33 J	936423.74	936423.94	936424.14	0.0088	0.0036
Neptune	-2149-05-28 23:02 J	936649.29	936649.46	936649.65	0.0088	0.0050
Neptune	-2148-01-09 12:00 J	936874.86	936875.00	936875.16	0.0088	0.0064
Neptune	-2148-08-23 00:43 J	937100.45	937100.53	937100.65	0.0088	0.0078
Jupiter	-2145-02-22 10:47 J	938013.79	938013.95	938014.11	0.0510	0.0313
Mars	-2145-03-17 09:21 J	938037.78	938037.89	938038.01	0.1918	0.1460
Mars	-2144-02-17 23:16 J	938375.36	938375.47	938375.59	0.1608	0.1183
Mars	-2143-12-19 06:57 J	939044.63	939044.79	939044.95	0.1614	0.0649
Saturn	-2142-09-30 03:21 J	939329.60	939329.64	939329.69	0.0265	0.0257
Saturn	-2141-05-16 02:23 J	939558.39	939558.60	939558.80	0.0263	0.0071
Saturn	-2141-12-31 00:28 J	939787.33	939787.52	939787.72	0.0262	0.0113
Jupiter	-2140-05-09 10:33 J	939916.81	939916.94	939917.08	0.0521	0.0389
Moon	-2136-05-22 01:12 J	941390.40	941390.55	941390.70	0.2621	0.0671
Earth	-2136-05-22 06:14 J	941390.63	941390.76	941390.89	0.2618	0.1491 *
Jupiter	-2134-10-28 08:23 J	942279.64	942279.85	942280.05	0.0508	0.0017
Uranus	-2131-11-27 13:12 J	943405.93	943406.05	943406.21	0.0138	0.0104
Uranus	-2130-07-11 22:04 J	943632.22	943632.42	943632.62	0.0138	0.0058
Uranus	-2129-02-23 06:28 J	943858.56	943858.77	943858.99	0.0137	0.0012
Uranus	-2129-10-06 14:38 J	944084.90	944085.11	944085.33	0.0137	0.0033
Moon	-2128-05-19 21:21 J	944310.28	944310.39	944310.50	0.2625	0.1736
Earth	-2128-05-19 23:16 J	944310.35	944310.47	944310.59	0.2618	0.1737 *
Uranus	-2128-05-20 22:19 J	944311.26	944311.43	944311.62	0.0137	0.0078
Jupiter	-2128-09-06 09:36 J	944419.78	944419.90	944420.01	0.0515	0.0418
Uranus	-2127-01-02 06:00 J	944537.67	944537.75	944537.86	0.0137	0.0123
Saturn	-2126-06-11 00:43 J	945062.38	945062.53	945062.69	0.0297	0.0204
Saturn	-2125-01-27 04:19 J	945292.47	945292.68	945292.88	0.0299	0.0067
Jupiter	-2122-07-03 07:12 J	946545.63	946545.80	946545.97	0.0507	0.0272
Jupiter	-2116-05-12 06:00 J	948685.55	948685.75	948685.95	0.0517	0.0112
Saturn	-2112-04-11 02:38 J	950115.52	950115.61	950115.69	0.0264	0.0241
Saturn	-2112-11-26 01:26 J	950344.35	950344.56	950344.77	0.0263	0.0055

Mars	-2111-01-12 05:02 J	950391.56	950391.71	950391.86	0.1913	0.1006
Saturn	-2111-07-12 23:45 J	950573.31	950573.49	950573.68	0.0262	0.0128
Mars	-2111-12-17 21:50 J	950731.24	950731.41	950731.58	0.1611	0.0227
Jupiter	-2110-10-31 04:33 J	951048.67	951048.69	951048.71	0.0512	0.0507
Jupiter	-2104-01-15 00:28 J	952951.34	952951.52	952951.71	0.0520	0.0204
Jupiter	-2098-07-06 00:43 J	955314.34	955314.53	955314.72	0.0509	0.0205
Saturn	-2097-12-21 05:45 J	955848.57	955848.74	955848.91	0.0297	0.0173
Saturn	-2096-08-08 09:21 J	956078.69	956078.89	956079.09	0.0299	0.0099
Jupiter	-2093-09-19 20:09 J	957217.33	957217.34	957217.37	0.0522	0.0518
Jupiter	-2086-03-10 19:26 J	959580.11	959580.31	959580.51	0.0507	0.0103
Uranus	-2086-07-06 04:19 J	959697.55	959697.68	959697.84	0.0140	0.0103
Uranus	-2085-02-17 13:26 J	959923.86	959924.06	959924.26	0.0141	0.0055
Uranus	-2085-09-30 22:33 J	960150.23	960150.44	960150.66	0.0141	0.0007
Uranus	-2084-05-15 07:40 J	960376.62	960376.82	960377.03	0.0141	0.0042
Uranus	-2084-12-27 16:47 J	960603.05	960603.20	960603.38	0.0142	0.0091
Uranus	-2083-08-11 02:38 J	960829.58	960829.61	960829.64	0.0142	0.0140
Saturn	-2083-10-22 06:14 J	960901.64	960901.76	960901.89	0.0265	0.0213
Saturn	-2082-06-08 05:16 J	961130.51	961130.72	961130.93	0.0263	0.0027
Saturn	-2081-01-23 03:50 J	961359.49	961359.66	961359.83	0.0263	0.0157
Jupiter	-2080-01-17 21:07 J	961720.22	961720.38	961720.55	0.0517	0.0301
Mars	-2079-01-12 10:47 J	962079.80	962079.95	962080.09	0.1918	0.1076
Mars	-2079-12-16 12:28 J	962417.90	962418.02	962418.15	0.1609	0.1093
Mars	-2077-10-15 20:09 J	963087.19	963087.34	963087.49	0.1614	0.0741
Jupiter	-2075-11-13 17:45 J	963846.11	963846.24	963846.37	0.0505	0.0392
Neptune	-2073-12-24 18:00 J	964618.16	964618.25	964618.38	0.0089	0.0077
Neptune	-2072-08-07 07:40 J	964843.67	964843.82	964843.98	0.0089	0.0062
Neptune	-2071-03-20 20:52 J	965069.19	965069.37	965069.56	0.0089	0.0047
Neptune	-2071-11-01 10:19 J	965294.73	965294.93	965295.13	0.0089	0.0033
Neptune	-2070-06-14 23:31 J	965520.27	965520.48	965520.70	0.0089	0.0018
Neptune	-2069-01-26 12:57 J	965745.82	965746.04	965746.26	0.0089	0.0004

Neptune	-2069-09-08 02:09 J	965971.38	965971.59	965971.81	0.0089	0.0011
Jupiter	-2069-09-22 17:45 J	965986.03	965986.24	965986.44	0.0519	0.0011
Neptune	-2068-04-21 15:21 J	966196.93	966197.14	966197.35	0.0089	0.0025
Neptune	-2068-12-03 04:19 J	966422.50	966422.68	966422.89	0.0089	0.0040
Saturn	-2067-07-03 08:52 J	966634.68	966634.87	966635.05	0.0297	0.0143
Neptune	-2067-07-16 17:45 J	966648.08	966648.24	966648.42	0.0089	0.0054
Saturn	-2066-02-18 12:00 J	966864.82	966865.00	966865.20	0.0299	0.0128
Neptune	-2066-02-27 07:12 J	966873.66	966873.80	966873.94	0.0089	0.0069
Neptune	-2066-10-10 19:40 J	967099.27	967099.32	967099.42	0.0089	0.0084
Jupiter	-2062-03-13 14:09 J	968348.96	968349.09	968349.23	0.0511	0.0382
Jupiter	-2057-05-28 12:57 J	970251.88	970252.04	970252.20	0.0520	0.0324
Saturn	-2053-05-03 05:31 J	971687.60	971687.73	971687.88	0.0264	0.0197
Saturn	-2053-12-18 04:47 J	971916.49	971916.70	971916.91	0.0263	0.0010
Saturn	-2052-08-04 03:07 J	972145.48	972145.63	972145.79	0.0262	0.0173
Jupiter	-2051-11-16 11:45 J	972614.79	972614.99	972615.19	0.0509	0.0086
Uranus	-2047-07-27 22:19 J	973964.35	973964.43	973964.53	0.0138	0.0125
Uranus	-2046-03-11 07:12 J	974190.62	974190.80	974190.98	0.0138	0.0078
Uranus	-2046-10-23 15:21 J	974416.94	974417.14	974417.37	0.0138	0.0033
Mars	-2046-11-09 07:40 J	974433.70	974433.82	974433.94	0.1912	0.1366
Uranus	-2045-06-05 23:45 J	974643.27	974643.49	974643.71	0.0137	0.0013
Jupiter	-2045-09-25 10:04 J	974754.84	974754.92	974754.99	0.0515	0.0478
Mars	-2045-10-14 10:47 J	974773.78	974773.95	974774.13	0.1612	0.0137
Uranus	-2044-01-18 07:55 J	974869.63	974869.83	974870.03	0.0137	0.0058
Uranus	-2044-09-01 15:36 J	975096.02	975096.15	975096.30	0.0137	0.0103
Jupiter	-2039-07-22 09:07 J	976880.70	976880.88	976881.07	0.0507	0.0210
Saturn	-2037-01-13 13:40 J	977420.88	977421.07	977421.27	0.0297	0.0112
Saturn	-2037-08-30 17:16 J	977651.05	977651.22	977651.40	0.0299	0.0161
Jupiter	-2033-05-31 07:12 J	979020.61	979020.80	979020.99	0.0518	0.0175
Saturn	-2024-11-13 10:04 J	982473.76	982473.92	982474.09	0.0265	0.0167
Saturn	-2023-06-30 09:21 J	982702.67	982702.89	982703.10	0.0264	0.0020

Saturn	-2022-02-14 07:40 J	982931.69	982931.82	982931.96	0.0263	0.0203
Jupiter	-2021-02-04 03:50 J	983286.46	983286.66	983286.86	0.0520	0.0136
Pluto	-2021-10-07 14:52 J	983532.93	983533.12	983533.32	0.0066	0.0032
Pluto	-2020-05-20 19:40 J	983758.11	983758.32	983758.54	0.0067	0.0006
Pluto	-2019-01-01 00:43 J	983983.36	983983.53	983983.69	0.0067	0.0043
Jupiter	-2015-07-24 23:02 J	985649.29	985649.46	985649.64	0.0509	0.0256
Mars	-2014-11-09 12:14 J	986121.85	986122.01	986122.18	0.1917	0.0691
Mars	-2013-10-13 01:40 J	986460.44	986460.57	986460.70	0.1609	0.1002
Mars	-2011-08-13 08:38 J	987129.72	987129.86	987130.01	0.1615	0.0845
Jupiter	-2010-10-09 23:02 J	987552.37	987552.46	987552.56	0.0522	0.0453
Saturn	-2008-07-25 18:43 J	988207.07	988207.28	988207.48	0.0297	0.0079
Saturn	-2007-03-12 21:50 J	988437.25	988437.41	988437.57	0.0298	0.0193
Jupiter	-2003-03-29 21:21 J	989915.19	989915.39	989915.60	0.0508	0.0040
Uranus	-2002-03-05 14:09 J	990256.00	990256.09	990256.21	0.0140	0.0123
Uranus	-2002-10-17 23:16 J	990482.29	990482.47	990482.66	0.0141	0.0075
Uranus	-2001-05-31 08:09 J	990708.63	990708.84	990709.06	0.0141	0.0027

2ND MILLENNIUM BCE

This is a list of transits of Venus in the 2nd millennium BCE.

FROM	MAX- TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	-2000-01-12 17:16 J	990935.01	990935.22	990935.44	0.0141	0.0022		
Uranus	-2000-08-27 02:38 J	991161.43	991161.61	991161.80	0.0141	0.0071		
Uranus	-1999-04-10 12:00 J	991387.90	991388.00	991388.12	0.0142	0.0120		

Earth	-1999-11-19 02:23 J	991610.45	991610.60	991610.74	0.2715	0.1046
Moon	-1999-11-19 07:55 J	991610.68	991610.83	991610.98	0.2716	0.0794 *
Jupiter	-1997-02-06 22:04 J	992055.28	992055.42	992055.57	0.0516	0.0361
Saturn	-1994-05-26 10:04 J	993259.75	993259.92	993260.09	0.0264	0.0150
Saturn	-1993-01-10 09:21 J	993488.68	993488.89	993489.10	0.0263	0.0037
Saturn	-1993-08-26 07:40 J	993717.72	993717.82	993717.94	0.0262	0.0220
Jupiter	-1992-12-02 19:55 J	994181.18	994181.33	994181.48	0.0506	0.0330
Neptune	-1990-02-08 12:43 J	994613.98	994614.03	994614.13	0.0088	0.0082
Neptune	-1990-09-22 01:40 J	994839.44	994839.57	994839.72	0.0088	0.0068
Neptune	-1989-05-04 14:38 J	995064.94	995065.11	995065.28	0.0088	0.0054
Neptune	-1989-12-16 03:21 J	995290.45	995290.64	995290.84	0.0088	0.0040
Neptune	-1988-07-29 15:50 J	995515.96	995516.16	995516.38	0.0088	0.0027
Neptune	-1987-03-12 04:47 J	995741.48	995741.70	995741.92	0.0088	0.0013
Neptune	-1987-10-23 17:31 J	995967.01	995967.23	995967.45	0.0088	0.0002
Neptune	-1986-06-06 06:14 J	996192.55	996192.76	996192.98	0.0088	0.0015
Jupiter	-1986-10-12 17:16 J	996321.01	996321.22	996321.42	0.0518	0.0049
Neptune	-1985-01-17 19:12 J	996418.09	996418.30	996418.51	0.0088	0.0029
Neptune	-1985-08-30 07:40 J	996643.64	996643.82	996644.02	0.0088	0.0043
Neptune	-1984-04-12 20:23 J	996869.20	996869.35	996869.53	0.0088	0.0057
Neptune	-1984-11-24 09:07 J	997094.77	997094.88	997095.02	0.0088	0.0071
Neptune	-1983-07-07 21:36 J	997320.37	997320.40	997320.48	0.0088	0.0085
Mars	-1980-09-05 08:52 J	998475.80	998475.87	998475.94	0.1910	0.1749
Jupiter	-1979-04-01 15:07 J	998684.03	998684.13	998684.23	0.0511	0.0443
Mars	-1979-08-11 23:45 J	998816.32	998816.49	998816.66	0.1612	0.0039
Saturn	-1978-02-05 00:43 J	998993.32	998993.53	998993.74	0.0298	0.0044
Saturn	-1978-09-23 04:04 J	999223.54	999223.67	999223.81	0.0299	0.0228
Jupiter	-1974-06-17 12:43 J	1000586.86	1000587.03	1000587.21	0.0521	0.0268
Jupiter	-1968-12-05 09:21 J	1002949.69	1002949.89	1002950.09	0.0508	0.0132
Saturn	-1965-12-05 15:21 J	1004045.95	1004046.14	1004046.33	0.0265	0.0120
Saturn	-1964-07-22 14:23 J	1004274.90	1004275.10	1004275.31	0.0264	0.0067

Saturn	-1963-03-08 12:43 J	1004503.98	1004504.03	1004504.10	0.0263	0.0251
Uranus	-1963-11-08 16:19 J	1004749.04	1004749.18	1004749.34	0.0138	0.0099
Uranus	-1962-06-23 00:57 J	1004975.34	1004975.54	1004975.75	0.0138	0.0052
Uranus	-1961-02-04 09:21 J	1005201.67	1005201.89	1005202.11	0.0138	0.0007
Uranus	-1961-09-17 17:16 J	1005428.02	1005428.22	1005428.44	0.0137	0.0040
Uranus	-1960-05-02 01:26 J	1005654.39	1005654.56	1005654.74	0.0137	0.0084
Uranus	-1960-12-14 08:52 J	1005880.82	1005880.87	1005880.96	0.0137	0.0129
Jupiter	-1956-08-10 06:57 J	1007215.59	1007215.79	1007215.98	0.0506	0.0165
Jupiter	-1950-06-20 08:09 J	1009355.66	1009355.84	1009356.02	0.0517	0.0236
Saturn	-1950-12-31 05:02 J	1009549.64	1009549.71	1009549.79	0.0296	0.0275
Saturn	-1949-08-17 07:26 J	1009779.60	1009779.81	1009780.02	0.0297	0.0009
Saturn	-1948-04-04 10:33 J	1010009.85	1010009.94	1010010.04	0.0298	0.0263
Mars	-1948-09-05 13:26 J	1010163.88	1010164.06	1010164.23	0.1916	0.0300
Mars	-1947-08-10 14:38 J	1010502.97	1010503.11	1010503.25	0.1610	0.0911
Mars	-1945-06-09 21:50 J	1011172.27	1011172.41	1011172.55	0.1616	0.0940
Jupiter	-1944-04-15 05:31 J	1011481.65	1011481.73	1011481.82	0.0505	0.0453
Jupiter	-1938-02-23 04:04 J	1013621.47	1013621.67	1013621.87	0.0519	0.0078
Saturn	-1935-06-17 16:04 J	1014831.97	1014832.17	1014832.37	0.0264	0.0100
Saturn	-1934-02-01 15:21 J	1015060.94	1015061.14	1015061.34	0.0263	0.0086
Pluto	-1934-10-26 17:31 J	1015328.02	1015328.23	1015328.46	0.0078	0.0017
Pluto	-1933-06-08 03:21 J	1015553.46	1015553.64	1015553.83	0.0078	0.0044
Jupiter	-1932-08-13 00:28 J	1015984.36	1015984.52	1015984.68	0.0510	0.0317
Jupiter	-1927-10-28 21:36 J	1017887.27	1017887.40	1017887.53	0.0521	0.0402
Jupiter	-1920-04-17 21:21 J	1020250.19	1020250.39	1020250.60	0.0508	0.0017
Saturn	-1920-07-12 11:45 J	1020335.87	1020335.99	1020336.11	0.0296	0.0240
Saturn	-1919-02-27 14:23 J	1020565.89	1020566.10	1020566.31	0.0298	0.0029
Uranus	-1918-06-17 08:23 J	1021040.71	1021040.85	1021041.02	0.0140	0.0096
Uranus	-1917-01-29 17:31 J	1021267.03	1021267.23	1021267.44	0.0141	0.0048
Uranus	-1917-09-12 02:52 J	1021493.40	1021493.62	1021493.83	0.0141	0.0003
Uranus	-1916-04-26 12:00 J	1021719.80	1021720.00	1021720.20	0.0141	0.0049

Uranus	-1916-12-08 21:07 J	1021946.23	1021946.38	1021946.54	0.0142	0.0099
Jupiter	-1914-02-25 20:38 J	1022390.24	1022390.36	1022390.48	0.0516	0.0414
Mars	-1913-06-08 12:43 J	1022858.86	1022859.03	1022859.21	0.1613	0.0069
Jupiter	-1909-12-21 17:02 J	1024516.05	1024516.21	1024516.38	0.0505	0.0287
Neptune	-1908-03-28 02:23 J	1024612.54	1024612.60	1024612.68	0.0089	0.0085
Neptune	-1908-11-08 15:21 J	1024838.02	1024838.14	1024838.29	0.0089	0.0071
Neptune	-1907-06-22 04:47 J	1025063.54	1025063.70	1025063.89	0.0089	0.0056
Neptune	-1906-02-02 18:00 J	1025289.07	1025289.25	1025289.46	0.0089	0.0042
Saturn	-1906-05-13 21:50 J	1025389.37	1025389.41	1025389.47	0.0266	0.0259
Neptune	-1906-09-16 07:26 J	1025514.61	1025514.81	1025515.03	0.0089	0.0027
Saturn	-1906-12-28 22:04 J	1025618.21	1025618.42	1025618.62	0.0265	0.0069
Neptune	-1905-04-28 20:52 J	1025740.15	1025740.37	1025740.59	0.0089	0.0012
Saturn	-1905-08-13 21:07 J	1025847.19	1025847.38	1025847.57	0.0264	0.0118
Neptune	-1905-12-10 10:04 J	1025965.70	1025965.92	1025966.14	0.0089	0.0003
Neptune	-1904-07-23 23:31 J	1026191.26	1026191.48	1026191.69	0.0089	0.0018
Neptune	-1903-03-06 12:28 J	1026416.83	1026417.02	1026417.24	0.0089	0.0032
Neptune	-1903-10-18 01:55 J	1026642.40	1026642.58	1026642.77	0.0089	0.0047
Jupiter	-1903-10-31 17:02 J	1026656.01	1026656.21	1026656.41	0.0519	0.0104
Neptune	-1902-05-31 14:38 J	1026867.97	1026868.11	1026868.29	0.0089	0.0062
Neptune	-1901-01-12 04:04 J	1027093.57	1027093.67	1027093.80	0.0089	0.0076
Jupiter	-1896-04-20 11:31 J	1029018.93	1029018.98	1029019.05	0.0510	0.0486
Earth	-1893-05-22 09:21 J	1030146.78	1030146.89	1030147.01	0.2618	0.1712
Moon	-1893-05-22 15:07 J	1030147.07	1030147.13	1030147.19	0.2618	0.2409
Jupiter	-1891-07-06 12:14 J	1030921.83	1030922.01	1030922.20	0.0521	0.0213
Saturn	-1890-01-22 20:52 J	1031122.21	1031122.37	1031122.52	0.0296	0.0200
Saturn	-1890-09-09 23:16 J	1031352.27	1031352.47	1031352.68	0.0297	0.0068
Earth	-1885-05-20 02:23 J	1033066.47	1033066.60	1033066.73	0.2618	0.1521
Moon	-1885-05-20 06:28 J	1033066.63	1033066.77	1033066.90	0.2613	0.1470 *
Jupiter	-1885-12-24 08:38 J	1033284.67	1033284.86	1033285.05	0.0509	0.0186
Mars	-1882-07-03 15:07 J	1034205.95	1034206.13	1034206.31	0.1914	0.0085

Mars	-1881-06-07 03:36 J	1034545.50	1034545.65	1034545.80	0.1610	0.0816
Mars	-1879-04-07 10:33 J	1035214.81	1035214.94	1035215.07	0.1617	0.1043
Uranus	-1879-07-09 02:52 J	1035307.51	1035307.62	1035307.73	0.0138	0.0118
Uranus	-1878-02-20 11:31 J	1035533.80	1035533.98	1035534.17	0.0138	0.0072
Uranus	-1878-10-04 19:55 J	1035760.12	1035760.33	1035760.55	0.0138	0.0026
Uranus	-1877-05-18 04:04 J	1035986.46	1035986.67	1035986.89	0.0137	0.0021
Saturn	-1877-11-23 00:00 J	1036175.41	1036175.50	1036175.60	0.0265	0.0237
Uranus	-1877-12-30 12:14 J	1036212.82	1036213.01	1036213.20	0.0137	0.0066
Saturn	-1876-07-09 23:45 J	1036404.29	1036404.49	1036404.70	0.0264	0.0049
Uranus	-1876-08-13 19:40 J	1036439.22	1036439.32	1036439.47	0.0137	0.0111
Saturn	-1875-02-23 23:02 J	1036633.28	1036633.46	1036633.64	0.0263	0.0138
Jupiter	-1873-08-29 06:28 J	1037550.57	1037550.77	1037550.97	0.0507	0.0110
Jupiter	-1867-07-09 05:16 J	1039690.55	1039690.72	1039690.89	0.0517	0.0284
Jupiter	-1861-05-04 04:33 J	1041816.57	1041816.69	1041816.81	0.0505	0.0403
Saturn	-1861-08-04 04:04 J	1041908.50	1041908.67	1041908.85	0.0297	0.0163
Saturn	-1860-03-22 06:43 J	1042138.59	1042138.78	1042138.98	0.0298	0.0107
Jupiter	-1855-03-14 00:57 J	1043956.34	1043956.54	1043956.74	0.0519	0.0032
Jupiter	-1849-08-31 20:23 J	1046319.21	1046319.35	1046319.50	0.0509	0.0359
Mars	-1847-04-06 01:40 J	1046901.40	1046901.57	1046901.74	0.1614	0.0156
Saturn	-1847-06-05 06:14 J	1046961.64	1046961.76	1046961.90	0.0266	0.0206
Saturn	-1846-01-20 06:28 J	1047190.56	1047190.77	1047190.98	0.0264	0.0016
Saturn	-1846-09-06 05:31 J	1047419.57	1047419.73	1047419.89	0.0264	0.0170
Jupiter	-1844-11-16 19:12 J	1048222.15	1048222.30	1048222.44	0.0522	0.0355
Jupiter	-1837-05-06 17:16 J	1050585.01	1050585.22	1050585.42	0.0507	0.0057
Uranus	-1834-02-14 18:57 J	1051599.19	1051599.29	1051599.43	0.0140	0.0115
Uranus	-1834-09-29 04:04 J	1051825.49	1051825.67	1051825.87	0.0140	0.0067
Uranus	-1833-05-12 13:12 J	1052051.84	1052052.05	1052052.27	0.0141	0.0019
Uranus	-1833-12-24 22:19 J	1052278.22	1052278.43	1052278.65	0.0141	0.0030
Uranus	-1832-08-08 07:40 J	1052504.65	1052504.82	1052505.00	0.0141	0.0079
Saturn	-1831-02-14 14:52 J	1052694.93	1052695.12	1052695.31	0.0296	0.0121

Jupiter	-1831-03-16 18:28 J	1052725.19	1052725.27	1052725.36	0.0516	0.0465
Uranus	-1831-03-22 17:02 J	1052731.13	1052731.21	1052731.31	0.0142	0.0128
Saturn	-1831-10-02 17:16 J	1052925.04	1052925.22	1052925.41	0.0297	0.0149
Neptune	-1826-12-24 10:04 J	1054833.81	1054833.92	1054834.03	0.0088	0.0076
Jupiter	-1825-01-10 14:38 J	1054850.93	1054851.11	1054851.29	0.0506	0.0240
Neptune	-1825-08-05 22:19 J	1055059.30	1055059.43	1055059.60	0.0088	0.0063
Neptune	-1824-03-19 11:02 J	1055284.80	1055284.96	1055285.16	0.0088	0.0049
Neptune	-1824-10-30 23:45 J	1055510.31	1055510.49	1055510.71	0.0088	0.0035
Neptune	-1823-06-13 12:43 J	1055735.83	1055736.03	1055736.25	0.0088	0.0021
Neptune	-1822-01-25 01:40 J	1055961.36	1055961.57	1055961.80	0.0088	0.0007
Neptune	-1822-09-07 14:24 J	1056186.89	1056187.10	1056187.33	0.0088	0.0008
Neptune	-1821-04-20 02:52 J	1056412.42	1056412.62	1056412.85	0.0088	0.0022
Neptune	-1821-12-01 15:35 J	1056637.96	1056638.15	1056638.37	0.0088	0.0036
Neptune	-1820-07-15 04:19 J	1056863.51	1056863.68	1056863.88	0.0088	0.0050
Jupiter	-1820-11-19 14:38 J	1056990.92	1056991.11	1056991.30	0.0518	0.0154
Neptune	-1819-02-25 17:31 J	1057089.08	1057089.23	1057089.38	0.0088	0.0063
Neptune	-1819-10-09 06:14 J	1057314.66	1057314.76	1057314.87	0.0088	0.0077
Saturn	-1818-12-16 09:35 J	1057747.75	1057747.90	1057748.06	0.0265	0.0182
Saturn	-1817-08-01 09:21 J	1057976.68	1057976.89	1057977.10	0.0264	0.0007
Saturn	-1816-03-18 08:09 J	1058205.70	1058205.84	1058205.99	0.0263	0.0193
Mars	-1816-04-29 16:04 J	1058248.00	1058248.17	1058248.34	0.1913	0.0481
Mars	-1815-04-04 16:47 J	1058588.04	1058588.20	1058588.35	0.1611	0.0726
Mars	-1813-02-02 23:16 J	1059257.35	1059257.47	1059257.59	0.1618	0.1144
Jupiter	-1808-07-25 08:24 J	1061256.66	1061256.85	1061257.05	0.0520	0.0170
Saturn	-1802-08-27 22:33 J	1063481.24	1063481.44	1063481.65	0.0297	0.0081
Jupiter	-1801-01-13 06:28 J	1063619.59	1063619.77	1063619.95	0.0509	0.0236
Saturn	-1801-04-14 01:26 J	1063711.40	1063711.56	1063711.72	0.0298	0.0189
Jupiter	-1796-03-30 02:24 J	1065522.54	1065522.60	1065522.66	0.0522	0.0494
Uranus	-1795-03-08 13:40 J	1065866.06	1065866.07	1065866.13	0.0139	0.0137
Uranus	-1795-10-20 22:33 J	1066092.29	1066092.44	1066092.62	0.0138	0.0090

Uranus	-1794-06-04 06:57 J	1066318.60	1066318.79	1066319.01	0.0138	0.0044
Uranus	-1793-01-16 15:35 J	1066544.93	1066545.15	1066545.37	0.0138	0.0002
Uranus	-1793-08-29 23:31 J	1066771.29	1066771.48	1066771.70	0.0137	0.0048
Uranus	-1792-04-13 07:40 J	1066997.67	1066997.82	1066997.99	0.0137	0.0093
Jupiter	-1790-09-18 02:24 J	1067885.40	1067885.60	1067885.81	0.0506	0.0069
Saturn	-1788-06-27 16:33 J	1068534.01	1068534.19	1068534.36	0.0265	0.0150
Saturn	-1787-02-11 16:19 J	1068762.97	1068763.18	1068763.39	0.0264	0.0039
Saturn	-1787-09-28 15:07 J	1068992.03	1068992.13	1068992.25	0.0263	0.0226
Mars	-1784-04-29 22:04 J	1069936.33	1069936.42	1069936.51	0.1917	0.1625
Jupiter	-1784-07-28 01:40 J	1070025.42	1070025.57	1070025.73	0.0518	0.0329
Mars	-1783-04-03 07:12 J	1070274.78	1070274.80	1070274.82	0.1609	0.1592
Mars	-1781-02-01 14:38 J	1070943.94	1070944.11	1070944.28	0.1615	0.0251
Jupiter	-1778-05-23 23:45 J	1072151.36	1072151.49	1072151.64	0.0504	0.0366
Pluto	-1775-11-05 17:45 J	1073413.12	1073413.24	1073413.40	0.0066	0.0051
Pluto	-1774-06-18 22:33 J	1073638.24	1073638.44	1073638.67	0.0067	0.0014
Pluto	-1773-01-30 03:35 J	1073863.45	1073863.65	1073863.86	0.0067	0.0024
Pluto	-1773-09-11 08:24 J	1074088.79	1074088.85	1074088.94	0.0067	0.0062
Saturn	-1772-03-09 10:33 J	1074267.74	1074267.94	1074268.16	0.0296	0.0038
Jupiter	-1772-04-01 21:21 J	1074291.19	1074291.39	1074291.59	0.0520	0.0016
Saturn	-1772-10-25 13:12 J	1074497.93	1074498.05	1074498.19	0.0298	0.0234
Jupiter	-1766-09-20 17:02 J	1076654.09	1076654.21	1076654.34	0.0510	0.0405
Earth	-1764-11-21 12:00 J	1077446.97	1077447.00	1077447.02	0.2715	0.2681
Jupiter	-1761-12-05 16:33 J	1078557.03	1078557.19	1078557.35	0.0521	0.0306
Saturn	-1758-01-07 20:38 J	1079320.17	1079320.36	1079320.55	0.0265	0.0124
Saturn	-1758-08-24 20:09 J	1079549.13	1079549.34	1079549.55	0.0264	0.0064
Saturn	-1757-04-09 18:57 J	1079778.23	1079778.29	1079778.36	0.0263	0.0249
Moon	-1756-11-18 20:24 J	1080366.22	1080366.35	1080366.48	0.2711	0.1640
Earth	-1756-11-19 01:12 J	1080366.41	1080366.55	1080366.69	0.2715	0.1324 *
Jupiter	-1754-05-26 14:24 J	1080919.90	1080920.10	1080920.30	0.0508	0.0104
Uranus	-1751-10-15 04:47 J	1082157.65	1082157.70	1082157.75	0.0140	0.0135

Mars	-1750-02-24 18:14 J	1082290.10	1082290.26	1082290.42	0.1911	0.0849
Uranus	-1750-05-29 13:12 J	1082383.90	1082384.05	1082384.23	0.0140	0.0088
Uranus	-1749-01-10 22:19 J	1082610.23	1082610.43	1082610.64	0.0141	0.0040
Mars	-1749-01-31 05:31 J	1082630.57	1082630.73	1082630.88	0.1612	0.0629
Uranus	-1749-08-24 07:26 J	1082836.60	1082836.81	1082837.03	0.0141	0.0009
Jupiter	-1748-04-04 13:55 J	1083060.05	1083060.08	1083060.12	0.0516	0.0506
Uranus	-1748-04-07 16:33 J	1083063.00	1083063.19	1083063.40	0.0141	0.0057
Uranus	-1748-11-20 01:40 J	1083289.45	1083289.57	1083289.73	0.0142	0.0107
Mars	-1748-11-30 12:00 J	1083299.90	1083300.00	1083300.11	0.1619	0.1246
Saturn	-1743-02-01 16:04 J	1084824.08	1084824.17	1084824.27	0.0296	0.0265
Neptune	-1743-02-09 22:47 J	1084832.37	1084832.45	1084832.57	0.0089	0.0079
Saturn	-1743-09-19 18:28 J	1085054.06	1085054.27	1085054.48	0.0297	0.0005
Neptune	-1743-09-23 12:14 J	1085057.87	1085058.01	1085058.18	0.0089	0.0065
Jupiter	-1742-01-29 12:00 J	1085185.81	1085186.00	1085186.19	0.0506	0.0194
Neptune	-1742-05-07 01:40 J	1085283.39	1085283.57	1085283.76	0.0089	0.0050
Saturn	-1742-05-07 21:07 J	1085284.31	1085284.38	1085284.47	0.0298	0.0274
Neptune	-1742-12-18 14:38 J	1085508.93	1085509.11	1085509.33	0.0089	0.0036
Neptune	-1741-07-31 04:19 J	1085734.47	1085734.68	1085734.90	0.0089	0.0020
Neptune	-1740-03-13 17:45 J	1085960.02	1085960.24	1085960.46	0.0089	0.0006
Neptune	-1740-10-25 06:43 J	1086185.57	1086185.78	1086186.01	0.0089	0.0010
Neptune	-1739-06-07 19:55 J	1086411.13	1086411.33	1086411.55	0.0089	0.0024
Neptune	-1738-01-19 09:21 J	1086636.70	1086636.89	1086637.09	0.0089	0.0039
Neptune	-1738-09-01 22:19 J	1086862.27	1086862.43	1086862.62	0.0089	0.0054
Neptune	-1737-04-14 11:31 J	1087087.86	1087087.98	1087088.14	0.0089	0.0068
Neptune	-1737-11-26 00:43 J	1087313.47	1087313.53	1087313.63	0.0089	0.0083
Jupiter	-1737-12-08 09:21 J	1087325.70	1087325.89	1087326.08	0.0518	0.0193
Jupiter	-1731-10-04 09:35 J	1089451.85	1089451.90	1089451.95	0.0503	0.0487
Saturn	-1729-07-20 03:35 J	1090106.45	1090106.65	1090106.85	0.0265	0.0092
Saturn	-1728-03-06 03:07 J	1090335.43	1090335.63	1090335.83	0.0264	0.0096
Jupiter	-1725-08-13 03:35 J	1091591.45	1091591.65	1091591.84	0.0521	0.0130

Jupiter	-1718-02-01 01:26 J	1093954.39	1093954.56	1093954.74	0.0508	0.0275
Mars	-1718-02-24 23:16 J	1093978.34	1093978.47	1093978.61	0.1916	0.1232
Mars	-1717-01-29 20:09 J	1094317.28	1094317.34	1094317.40	0.1609	0.1502
Mars	-1716-11-29 03:35 J	1094986.48	1094986.65	1094986.81	0.1616	0.0354
Saturn	-1714-08-15 04:33 J	1095610.55	1095610.69	1095610.83	0.0295	0.0220
Saturn	-1713-04-01 06:43 J	1095840.58	1095840.78	1095840.99	0.0297	0.0048
Jupiter	-1713-04-17 22:04 J	1095857.32	1095857.42	1095857.52	0.0523	0.0453
Uranus	-1711-06-20 10:04 J	1096650.78	1096650.92	1096651.06	0.0138	0.0108
Uranus	-1710-02-01 18:43 J	1096877.09	1096877.28	1096877.48	0.0138	0.0061
Uranus	-1710-09-16 03:07 J	1097103.42	1097103.63	1097103.85	0.0138	0.0015
Uranus	-1709-04-29 11:31 J	1097329.77	1097329.98	1097330.19	0.0138	0.0031
Uranus	-1709-12-11 19:26 J	1097556.14	1097556.31	1097556.50	0.0137	0.0076
Uranus	-1708-07-26 03:21 J	1097782.55	1097782.64	1097782.75	0.0137	0.0121
Jupiter	-1707-10-06 21:50 J	1098220.20	1098220.41	1098220.61	0.0507	0.0030
Jupiter	-1701-08-15 22:33 J	1100360.31	1100360.44	1100360.58	0.0517	0.0378
Saturn	-1700-06-15 08:24 J	1100663.80	1100663.85	1100663.92	0.0266	0.0254
Saturn	-1699-01-30 08:38 J	1100892.65	1100892.86	1100893.06	0.0265	0.0064
Saturn	-1699-09-16 07:40 J	1101121.64	1101121.82	1101122.01	0.0264	0.0123
Jupiter	-1695-06-11 19:55 J	1102486.17	1102486.33	1102486.49	0.0505	0.0324
Jupiter	-1689-04-20 17:02 J	1104626.01	1104626.21	1104626.41	0.0519	0.0057
Pluto	-1688-11-23 19:40 J	1105208.14	1105208.32	1105208.51	0.0078	0.0043
Pluto	-1687-07-07 05:31 J	1105433.52	1105433.73	1105433.95	0.0078	0.0018
Mars	-1685-12-21 19:55 J	1106332.19	1106332.33	1106332.46	0.1909	0.1232
Saturn	-1684-02-24 11:45 J	1106396.82	1106396.99	1106397.16	0.0296	0.0183
Saturn	-1684-10-12 14:09 J	1106626.89	1106627.09	1106627.30	0.0298	0.0087
Mars	-1684-11-27 18:43 J	1106673.11	1106673.28	1106673.44	0.1613	0.0538
Jupiter	-1683-10-09 14:24 J	1106989.01	1106989.10	1106989.20	0.0510	0.0454
Mars	-1682-09-28 00:57 J	1107342.45	1107342.54	1107342.63	0.1621	0.1349
Jupiter	-1678-12-25 11:02 J	1108891.79	1108891.96	1108892.14	0.0521	0.0268
Jupiter	-1671-06-14 10:19 J	1111254.74	1111254.93	1111255.13	0.0507	0.0148

Saturn	-1671-12-26 15:21 J	1111450.02	1111450.14	1111450.25	0.0266	0.0223
Saturn	-1670-08-12 15:07 J	1111678.92	1111679.13	1111679.34	0.0264	0.0034
Saturn	-1669-03-28 14:09 J	1111907.93	1111908.09	1111908.27	0.0264	0.0154
Uranus	-1666-01-26 23:02 J	1112942.33	1112942.46	1112942.61	0.0140	0.0108
Uranus	-1666-09-10 08:09 J	1113168.65	1113168.84	1113169.04	0.0140	0.0061
Uranus	-1665-04-23 17:02 J	1113395.00	1113395.21	1113395.43	0.0141	0.0013
Uranus	-1665-12-06 02:09 J	1113621.38	1113621.59	1113621.80	0.0141	0.0036
Uranus	-1664-07-20 11:02 J	1113847.81	1113847.96	1113848.15	0.0141	0.0086
Uranus	-1663-03-03 20:52 J	1114074.31	1114074.37	1114074.44	0.0142	0.0134
Neptune	-1661-03-26 17:45 J	1114828.20	1114828.24	1114828.32	0.0088	0.0085
Neptune	-1661-11-07 06:28 J	1115053.66	1115053.77	1115053.92	0.0088	0.0071
Neptune	-1660-06-20 19:12 J	1115279.15	1115279.30	1115279.49	0.0088	0.0057
Neptune	-1659-02-01 08:09 J	1115504.67	1115504.84	1115505.05	0.0088	0.0043
Jupiter	-1659-02-17 07:26 J	1115520.62	1115520.81	1115521.01	0.0505	0.0154
Neptune	-1659-09-14 21:07 J	1115730.18	1115730.38	1115730.60	0.0088	0.0029
Neptune	-1658-04-28 09:50 J	1115955.70	1115955.91	1115956.13	0.0088	0.0015
Neptune	-1658-12-09 22:47 J	1116181.23	1116181.45	1116181.67	0.0088	0.0002
Neptune	-1657-07-22 11:16 J	1116406.76	1116406.97	1116407.20	0.0088	0.0014
Neptune	-1656-03-05 00:00 J	1116632.30	1116632.50	1116632.72	0.0088	0.0028
Neptune	-1656-10-16 12:43 J	1116857.85	1116858.03	1116858.23	0.0088	0.0042
Neptune	-1655-05-30 01:26 J	1117083.40	1117083.56	1117083.74	0.0088	0.0056
Saturn	-1655-09-07 00:00 J	1117183.32	1117183.50	1117183.69	0.0296	0.0138
Neptune	-1654-01-10 14:09 J	1117308.97	1117309.09	1117309.24	0.0088	0.0070
Saturn	-1654-04-25 02:24 J	1117413.42	1117413.60	1117413.80	0.0297	0.0133
Neptune	-1654-08-24 02:52 J	1117534.57	1117534.62	1117534.70	0.0088	0.0084
Jupiter	-1654-12-28 05:02 J	1117660.53	1117660.71	1117660.89	0.0518	0.0238
Mars	-1653-12-22 00:57 J	1118020.38	1118020.54	1118020.70	0.1915	0.0848
Mars	-1652-11-26 09:21 J	1118359.81	1118359.89	1118359.97	0.1610	0.1413
Moon	-1650-05-23 07:26 J	1118902.67	1118902.81	1118902.94	0.2617	0.1473
Earth	-1650-05-23 12:43 J	1118902.93	1118903.03	1118903.14	0.2618	0.1931 *

Mars	-1650-09-26 16:33 J	1119029.03	1119029.19	1119029.36	0.1617	0.0448
Jupiter	-1648-10-23 04:04 J	1119786.58	1119786.67	1119786.76	0.0504	0.0452
Moon	-1642-05-21 00:57 J	1121822.42	1121822.54	1121822.67	0.2622	0.1479
Earth	-1642-05-21 06:00 J	1121822.61	1121822.75	1121822.89	0.2618	0.1283 *
Jupiter	-1642-09-02 01:12 J	1121926.35	1121926.55	1121926.75	0.0520	0.0079
Saturn	-1641-07-07 20:52 J	1122236.23	1122236.37	1122236.51	0.0265	0.0193
Saturn	-1640-02-21 20:24 J	1122465.14	1122465.35	1122465.56	0.0264	0.0005
Saturn	-1640-10-08 19:12 J	1122694.15	1122694.30	1122694.46	0.0263	0.0181
Jupiter	-1635-02-19 21:50 J	1124289.25	1124289.41	1124289.57	0.0509	0.0321
Jupiter	-1630-05-07 18:43 J	1126192.16	1126192.28	1126192.41	0.0522	0.0407
Uranus	-1627-02-17 20:24 J	1127209.28	1127209.35	1127209.45	0.0139	0.0127
Uranus	-1627-10-02 05:31 J	1127435.55	1127435.73	1127435.91	0.0138	0.0080
Uranus	-1626-05-16 13:55 J	1127661.87	1127662.08	1127662.30	0.0138	0.0033
Uranus	-1626-12-28 22:19 J	1127888.22	1127888.43	1127888.65	0.0138	0.0013
Saturn	-1625-03-19 05:45 J	1127969.54	1127969.74	1127969.94	0.0297	0.0103
Uranus	-1625-08-11 06:28 J	1128114.58	1128114.77	1128114.98	0.0137	0.0059
Saturn	-1625-11-04 08:24 J	1128199.68	1128199.85	1128200.03	0.0298	0.0168
Uranus	-1624-03-25 14:38 J	1128340.98	1128341.11	1128341.27	0.0137	0.0104
Jupiter	-1624-10-25 19:26 J	1128555.10	1128555.31	1128555.51	0.0507	0.0022
Mars	-1619-10-18 22:19 J	1130374.34	1130374.43	1130374.53	0.1907	0.1592
Jupiter	-1618-09-04 17:31 J	1130695.12	1130695.23	1130695.36	0.0517	0.0418
Mars	-1618-09-25 07:26 J	1130715.65	1130715.81	1130715.98	0.1613	0.0440
Mars	-1616-07-25 13:40 J	1131384.99	1131385.07	1131385.14	0.1622	0.1455
Jupiter	-1612-06-30 17:02 J	1132821.04	1132821.21	1132821.38	0.0505	0.0277
Saturn	-1611-01-18 02:52 J	1133022.45	1133022.62	1133022.78	0.0265	0.0164
Saturn	-1611-09-04 02:24 J	1133251.39	1133251.60	1133251.81	0.0264	0.0024
Saturn	-1610-04-21 01:12 J	1133480.43	1133480.55	1133480.68	0.0263	0.0210
Jupiter	-1606-05-10 12:00 J	1134960.80	1134961.00	1134961.20	0.0520	0.0098
Jupiter	-1600-10-28 10:19 J	1137323.89	1137323.93	1137323.97	0.0509	0.0497
Saturn	-1596-09-29 17:45 J	1138756.03	1138756.24	1138756.44	0.0297	0.0059

Saturn	-1595-05-17 20:24 J	1138986.21	1138986.35	1138986.50	0.0298	0.0212
Jupiter	-1594-01-13 07:12 J	1139226.62	1139226.80	1139226.98	0.0521	0.0222
Jupiter	-1588-07-03 05:16 J	1141589.53	1141589.72	1141589.91	0.0508	0.0188
Mars	-1587-10-19 02:24 J	1142062.43	1142062.60	1142062.77	0.1914	0.0457
Mars	-1586-09-23 22:19 J	1142402.33	1142402.43	1142402.53	0.1611	0.1318
Mars	-1584-07-24 05:02 J	1143071.55	1143071.71	1143071.87	0.1618	0.0555
Uranus	-1583-09-26 07:55 J	1143500.77	1143500.83	1143500.94	0.0140	0.0129
Uranus	-1582-05-10 17:02 J	1143727.04	1143727.21	1143727.39	0.0140	0.0081
Saturn	-1582-07-31 08:24 J	1143808.67	1143808.85	1143809.03	0.0265	0.0134
Uranus	-1582-12-23 01:55 J	1143953.37	1143953.58	1143953.79	0.0140	0.0034
Saturn	-1581-03-16 07:40 J	1144037.61	1144037.82	1144038.03	0.0264	0.0054
Uranus	-1581-08-05 10:47 J	1144179.74	1144179.95	1144180.17	0.0141	0.0015
Saturn	-1581-10-31 06:00 J	1144266.67	1144266.75	1144266.85	0.0263	0.0238
Uranus	-1580-03-19 19:55 J	1144406.14	1144406.33	1144406.53	0.0141	0.0063
Uranus	-1580-11-01 05:02 J	1144632.59	1144632.71	1144632.85	0.0141	0.0112
Neptune	-1579-05-14 05:45 J	1144826.73	1144826.74	1144826.80	0.0089	0.0089
Neptune	-1579-12-25 19:12 J	1145052.20	1145052.30	1145052.44	0.0089	0.0074
Neptune	-1578-08-08 08:52 J	1145277.71	1145277.87	1145278.04	0.0089	0.0059
Neptune	-1577-03-20 22:19 J	1145503.24	1145503.43	1145503.62	0.0089	0.0044
Neptune	-1577-11-01 11:16 J	1145728.77	1145728.97	1145729.19	0.0089	0.0029
Jupiter	-1576-03-08 03:21 J	1145855.44	1145855.64	1145855.84	0.0506	0.0111
Neptune	-1576-06-15 00:28 J	1145954.31	1145954.52	1145954.75	0.0089	0.0015
Neptune	-1575-01-26 13:55 J	1146179.86	1146180.08	1146180.30	0.0089	0.0001
Neptune	-1575-09-09 03:07 J	1146405.42	1146405.63	1146405.85	0.0089	0.0015
Neptune	-1574-04-22 16:04 J	1146630.98	1146631.17	1146631.39	0.0089	0.0031
Neptune	-1574-12-04 05:31 J	1146856.55	1146856.73	1146856.93	0.0089	0.0045
Neptune	-1573-07-16 18:43 J	1147082.13	1147082.28	1147082.45	0.0089	0.0060
Neptune	-1572-02-27 07:40 J	1147307.72	1147307.82	1147307.96	0.0089	0.0075
Neptune	-1572-10-10 21:07 J	1147533.38	1147533.38	1147533.41	0.0089	0.0089
Jupiter	-1570-01-16 02:38 J	1147995.44	1147995.61	1147995.77	0.0518	0.0288

Saturn	-1567-08-24 19:40 J	1149312.30	1149312.32	1149312.36	0.0296	0.0293
Saturn	-1566-04-11 22:04 J	1149542.21	1149542.42	1149542.63	0.0297	0.0026
Saturn	-1566-11-28 00:57 J	1149772.43	1149772.54	1149772.66	0.0298	0.0246
Jupiter	-1565-11-11 02:24 J	1150121.47	1150121.60	1150121.72	0.0504	0.0404
Jupiter	-1559-09-20 21:21 J	1152261.19	1152261.39	1152261.59	0.0520	0.0034
Saturn	-1552-02-09 12:57 J	1154594.85	1154595.04	1154595.24	0.0265	0.0108
Jupiter	-1552-03-10 19:40 J	1154624.19	1154624.32	1154624.47	0.0509	0.0373
Mars	-1552-07-22 20:09 J	1154758.17	1154758.34	1154758.51	0.1614	0.0341
Saturn	-1552-09-26 12:14 J	1154823.81	1154824.01	1154824.22	0.0264	0.0080
Mars	-1550-05-23 02:09 J	1155427.55	1155427.59	1155427.64	0.1623	0.1564
Jupiter	-1547-05-26 14:09 J	1156526.95	1156527.09	1156527.24	0.0522	0.0365
Uranus	-1543-06-01 14:24 J	1157993.95	1157994.10	1157994.26	0.0139	0.0100
Uranus	-1542-01-13 23:02 J	1158220.27	1158220.46	1158220.67	0.0138	0.0053
Uranus	-1542-08-28 07:55 J	1158446.61	1158446.83	1158447.05	0.0138	0.0007
Uranus	-1541-04-10 16:19 J	1158672.97	1158673.18	1158673.40	0.0138	0.0040
Jupiter	-1541-11-13 16:33 J	1158889.98	1158890.19	1158890.39	0.0507	0.0068
Uranus	-1541-11-23 00:28 J	1158899.36	1158899.52	1158899.70	0.0137	0.0085
Uranus	-1540-07-07 08:38 J	1159125.81	1159125.86	1159125.94	0.0137	0.0130
Saturn	-1537-03-06 06:00 J	1160098.65	1160098.75	1160098.86	0.0296	0.0252
Saturn	-1537-10-22 08:24 J	1160328.64	1160328.85	1160329.06	0.0297	0.0015
Saturn	-1536-06-09 11:31 J	1160558.93	1160558.98	1160559.04	0.0298	0.0286
Jupiter	-1535-09-23 14:52 J	1161030.04	1161030.12	1161030.20	0.0517	0.0469
Jupiter	-1529-07-19 12:00 J	1163155.82	1163156.00	1163156.18	0.0505	0.0239
Pluto	-1528-07-16 23:45 J	1163518.33	1163518.49	1163518.69	0.0066	0.0039
Pluto	-1527-02-27 05:02 J	1163743.49	1163743.71	1163743.93	0.0067	0.0001
Pluto	-1527-10-10 09:50 J	1163968.74	1163968.91	1163969.10	0.0067	0.0037
Saturn	-1523-01-05 18:57 J	1165152.29	1165152.29	1165152.29	0.0266	0.0266
Jupiter	-1523-05-29 12:00 J	1165295.81	1165296.00	1165296.20	0.0519	0.0159
Saturn	-1523-08-22 18:28 J	1165381.08	1165381.27	1165381.48	0.0264	0.0078
Saturn	-1522-04-08 17:31 J	1165610.04	1165610.23	1165610.43	0.0263	0.0110

Mars	-1521-08-15 03:21 J	1166104.47	1166104.64	1166104.82	0.1912	0.0075
Moon	-1521-11-21 09:07 J	1166202.78	1166202.88	1166202.99	0.2721	0.1897
Earth	-1521-11-21 10:47 J	1166202.88	1166202.95	1166203.02	0.2714	0.2417 *
Mars	-1520-07-21 11:16 J	1166444.86	1166444.97	1166445.08	0.1611	0.1225
Mars	-1518-05-21 18:00 J	1167114.09	1167114.25	1167114.41	0.1619	0.0654
Earth	-1513-11-18 23:45 J	1169122.37	1169122.49	1169122.62	0.2714	0.1633
Moon	-1513-11-19 02:38 J	1169122.48	1169122.61	1169122.75	0.2720	0.1227 *
Jupiter	-1511-02-01 06:43 J	1169561.59	1169561.78	1169561.97	0.0521	0.0166
Saturn	-1508-09-16 08:52 J	1170884.74	1170884.87	1170885.01	0.0296	0.0223
Saturn	-1507-05-04 11:31 J	1171114.77	1171114.98	1171115.18	0.0298	0.0046
Jupiter	-1505-07-22 04:47 J	1171924.53	1171924.70	1171924.88	0.0508	0.0245
Jupiter	-1500-10-07 00:14 J	1173827.46	1173827.51	1173827.58	0.0523	0.0496
Uranus	-1498-01-08 03:21 J	1174285.49	1174285.64	1174285.79	0.0140	0.0100
Uranus	-1498-08-22 12:00 J	1174511.81	1174512.00	1174512.21	0.0140	0.0053
Uranus	-1497-04-04 21:07 J	1174738.16	1174738.38	1174738.59	0.0140	0.0005
Uranus	-1497-11-17 05:45 J	1174964.54	1174964.74	1174964.95	0.0141	0.0044
Neptune	-1496-02-08 14:52 J	1175048.03	1175048.12	1175048.22	0.0088	0.0079
Uranus	-1496-07-01 14:52 J	1175190.97	1175191.12	1175191.29	0.0141	0.0092
Neptune	-1496-09-22 03:35 J	1175273.51	1175273.65	1175273.80	0.0088	0.0065
Uranus	-1495-02-13 00:00 J	1175417.50	1175417.50	1175417.53	0.0141	0.0141
Neptune	-1495-05-05 16:19 J	1175499.01	1175499.18	1175499.36	0.0088	0.0051
Neptune	-1495-12-17 05:02 J	1175724.51	1175724.71	1175724.91	0.0088	0.0037
Saturn	-1494-07-18 21:50 J	1175938.33	1175938.41	1175938.50	0.0265	0.0242
Neptune	-1494-07-30 17:45 J	1175950.03	1175950.24	1175950.46	0.0088	0.0023
Saturn	-1493-03-03 21:50 J	1176167.20	1176167.41	1176167.61	0.0264	0.0053
Neptune	-1493-03-12 06:28 J	1176175.56	1176175.77	1176176.00	0.0088	0.0009
Jupiter	-1493-03-27 02:52 J	1176190.42	1176190.62	1176190.83	0.0506	0.0056
Saturn	-1493-10-18 20:38 J	1176396.18	1176396.36	1176396.55	0.0263	0.0134
Neptune	-1493-10-23 19:26 J	1176401.09	1176401.31	1176401.53	0.0088	0.0006
Neptune	-1492-06-06 07:55 J	1176626.63	1176626.83	1176627.06	0.0088	0.0020

Neptune	-1491-01-17 20:52 J	1176852.17	1176852.37	1176852.58	0.0088	0.0034
Neptune	-1491-08-31 09:35 J	1177077.73	1177077.90	1177078.09	0.0088	0.0048
Neptune	-1490-04-13 22:19 J	1177303.28	1177303.43	1177303.59	0.0088	0.0062
Neptune	-1490-11-25 11:16 J	1177528.86	1177528.97	1177529.07	0.0088	0.0076
Jupiter	-1487-02-03 23:31 J	1178330.33	1178330.48	1178330.64	0.0518	0.0338
Mars	-1486-05-20 09:07 J	1178800.71	1178800.88	1178801.05	0.1615	0.0246
Jupiter	-1482-12-01 00:57 J	1180456.39	1180456.54	1180456.68	0.0504	0.0352
Saturn	-1478-03-29 18:00 J	1181671.09	1181671.25	1181671.42	0.0296	0.0185
Saturn	-1478-11-14 20:38 J	1181901.16	1181901.36	1181901.57	0.0297	0.0085
Jupiter	-1476-10-09 19:55 J	1182596.13	1182596.33	1182596.53	0.0520	0.0022
Jupiter	-1469-03-29 15:50 J	1184959.05	1184959.16	1184959.28	0.0509	0.0418
Saturn	-1464-01-28 03:21 J	1186724.52	1186724.64	1186724.77	0.0265	0.0212
Jupiter	-1464-06-14 16:04 J	1186862.01	1186862.17	1186862.34	0.0522	0.0299
Saturn	-1464-09-14 02:52 J	1186953.41	1186953.62	1186953.83	0.0264	0.0024
Saturn	-1463-05-01 01:40 J	1187182.40	1187182.57	1187182.74	0.0263	0.0162
Uranus	-1459-01-29 23:45 J	1188552.38	1188552.49	1188552.60	0.0139	0.0120
Uranus	-1459-09-13 08:24 J	1188778.68	1188778.85	1188779.05	0.0138	0.0074
Uranus	-1458-04-27 17:31 J	1189005.01	1189005.23	1189005.44	0.0138	0.0027
Jupiter	-1458-12-03 13:55 J	1189224.88	1189225.08	1189225.28	0.0507	0.0116
Uranus	-1458-12-10 01:55 J	1189231.37	1189231.58	1189231.80	0.0138	0.0020
Uranus	-1457-07-23 10:19 J	1189457.74	1189457.93	1189458.13	0.0138	0.0066
Uranus	-1456-03-06 18:28 J	1189684.16	1189684.27	1189684.41	0.0137	0.0112
Mars	-1455-06-12 05:16 J	1190146.54	1190146.72	1190146.89	0.1910	0.0324
Mars	-1454-05-19 00:14 J	1190487.39	1190487.51	1190487.63	0.1612	0.1127
Mars	-1452-03-18 06:28 J	1191156.62	1191156.77	1191156.92	0.1620	0.0762
Saturn	-1449-10-08 19:12 J	1192457.13	1192457.30	1192457.49	0.0296	0.0159
Saturn	-1448-05-26 21:50 J	1192687.22	1192687.41	1192687.61	0.0298	0.0112
Jupiter	-1446-08-08 12:57 J	1193490.85	1193491.04	1193491.23	0.0506	0.0181
Pluto	-1441-08-04 02:52 J	1195313.42	1195313.62	1195313.84	0.0078	0.0025
Pluto	-1440-03-17 12:43 J	1195538.84	1195539.03	1195539.24	0.0078	0.0036

Jupiter	-1440-06-17 11:02 J	1195630.78	1195630.96	1195631.15	0.0519	0.0215
Saturn	-1435-08-10 05:02 J	1197510.57	1197510.71	1197510.86	0.0265	0.0191
Saturn	-1434-03-27 04:33 J	1197739.48	1197739.69	1197739.91	0.0264	0.0006
Jupiter	-1434-04-13 12:14 J	1197756.95	1197757.01	1197757.09	0.0504	0.0470
Saturn	-1434-11-11 03:21 J	1197968.50	1197968.64	1197968.80	0.0263	0.0184
Jupiter	-1428-02-20 05:02 J	1199896.51	1199896.71	1199896.91	0.0521	0.0113
Mars	-1423-06-12 09:50 J	1201834.85	1201834.91	1201834.98	0.1916	0.1764
Jupiter	-1422-08-11 04:47 J	1202259.54	1202259.70	1202259.86	0.0508	0.0303
Mars	-1420-03-16 21:50 J	1202843.24	1202843.41	1202843.58	0.1616	0.0140
Saturn	-1419-04-21 02:52 J	1203243.43	1203243.62	1203243.82	0.0296	0.0123
Saturn	-1419-12-07 05:45 J	1203473.56	1203473.74	1203473.92	0.0298	0.0148
Jupiter	-1417-10-26 00:14 J	1204162.40	1204162.51	1204162.62	0.0523	0.0437
Uranus	-1415-09-07 13:40 J	1204843.98	1204844.07	1204844.20	0.0140	0.0120
Neptune	-1414-03-29 02:38 J	1205046.53	1205046.61	1205046.69	0.0089	0.0083
Uranus	-1414-04-21 22:33 J	1205070.26	1205070.44	1205070.63	0.0140	0.0072
Neptune	-1414-11-09 15:21 J	1205272.03	1205272.14	1205272.31	0.0089	0.0069
Uranus	-1414-12-04 07:12 J	1205296.59	1205296.80	1205297.02	0.0140	0.0025
Neptune	-1413-06-22 04:47 J	1205497.55	1205497.70	1205497.90	0.0089	0.0054
Uranus	-1413-07-17 16:04 J	1205522.96	1205523.17	1205523.38	0.0141	0.0024
Neptune	-1412-02-02 18:14 J	1205723.08	1205723.26	1205723.48	0.0089	0.0039
Uranus	-1412-03-01 00:57 J	1205749.36	1205749.54	1205749.73	0.0141	0.0072
Neptune	-1412-09-16 07:40 J	1205948.62	1205948.82	1205949.04	0.0089	0.0024
Uranus	-1412-10-13 09:50 J	1205975.82	1205975.91	1205976.04	0.0141	0.0122
Neptune	-1411-04-29 21:07 J	1206174.16	1206174.38	1206174.60	0.0089	0.0008
Neptune	-1411-12-11 10:19 J	1206399.71	1206399.93	1206400.15	0.0089	0.0007
Jupiter	-1410-04-15 23:45 J	1206525.29	1206525.49	1206525.70	0.0506	0.0012
Neptune	-1410-07-24 23:31 J	1206625.28	1206625.48	1206625.70	0.0089	0.0022
Neptune	-1409-03-06 12:43 J	1206850.84	1206851.03	1206851.24	0.0089	0.0036
Neptune	-1409-10-18 01:40 J	1207076.41	1207076.57	1207076.77	0.0089	0.0052
Neptune	-1408-05-31 15:21 J	1207301.99	1207302.14	1207302.28	0.0089	0.0066

Neptune	-1407-01-12 04:19 J	1207527.60	1207527.68	1207527.78	0.0089	0.0081
Earth	-1407-05-23 16:04 J	1207659.09	1207659.17	1207659.26	0.2618	0.2163
Moon	-1407-05-23 20:24 J	1207659.27	1207659.35	1207659.42	0.2623	0.2287
Saturn	-1405-02-20 09:35 J	1208296.74	1208296.90	1208297.08	0.0265	0.0161
Saturn	-1405-10-06 09:07 J	1208525.67	1208525.88	1208526.10	0.0264	0.0028
Jupiter	-1404-02-23 02:38 J	1208665.49	1208665.61	1208665.73	0.0518	0.0409
Saturn	-1404-05-23 07:40 J	1208754.70	1208754.82	1208754.95	0.0263	0.0212
Earth	-1399-05-21 09:07 J	1210578.74	1210578.88	1210579.03	0.2618	0.1075
Moon	-1399-05-21 14:38 J	1210578.96	1210579.11	1210579.27	0.2618	0.0593 *
Jupiter	-1399-12-19 22:47 J	1210791.29	1210791.45	1210791.61	0.0505	0.0305
Jupiter	-1393-10-28 22:33 J	1212931.24	1212931.44	1212931.64	0.0519	0.0090
Saturn	-1390-11-01 03:35 J	1214029.45	1214029.65	1214029.85	0.0296	0.0097
Mars	-1389-04-08 06:28 J	1214188.60	1214188.77	1214188.93	0.1908	0.0721
Saturn	-1389-06-18 06:28 J	1214259.60	1214259.77	1214259.94	0.0298	0.0173
Mars	-1388-03-15 12:57 J	1214529.91	1214530.04	1214530.17	0.1613	0.1032
Mars	-1386-01-13 19:12 J	1215199.15	1215199.30	1215199.44	0.1621	0.0866
Jupiter	-1386-04-18 18:14 J	1215294.20	1215294.26	1215294.32	0.0510	0.0485
Jupiter	-1381-07-03 17:02 J	1217197.03	1217197.21	1217197.39	0.0521	0.0237
Saturn	-1376-09-01 10:19 J	1219082.75	1219082.93	1219083.11	0.0265	0.0142
Saturn	-1375-04-18 09:50 J	1219311.70	1219311.91	1219312.12	0.0264	0.0046
Uranus	-1375-05-13 17:45 J	1219337.09	1219337.24	1219337.41	0.0139	0.0094
Saturn	-1375-12-03 08:24 J	1219540.76	1219540.85	1219540.95	0.0263	0.0231
Jupiter	-1375-12-22 16:04 J	1219559.98	1219560.17	1219560.36	0.0508	0.0183
Uranus	-1375-12-26 02:38 J	1219563.41	1219563.61	1219563.82	0.0138	0.0047
Uranus	-1374-08-09 11:31 J	1219789.76	1219789.98	1219790.20	0.0138	0.0002
Uranus	-1373-03-22 20:09 J	1220016.13	1220016.34	1220016.55	0.0138	0.0046
Uranus	-1373-11-04 04:33 J	1220242.53	1220242.69	1220242.85	0.0138	0.0092
Uranus	-1372-06-18 12:43 J	1220469.03	1220469.03	1220469.04	0.0137	0.0137
Jupiter	-1363-08-27 13:55 J	1223825.88	1223826.08	1223826.28	0.0505	0.0120
Saturn	-1360-05-13 09:35 J	1224815.70	1224815.90	1224816.11	0.0297	0.0065

Saturn	-1360-12-29 12:28 J	1225045.88	1225046.02	1225046.18	0.0298	0.0207
Mars	-1357-04-08 11:45 J	1225876.87	1225876.99	1225877.11	0.1914	0.1382
Jupiter	-1357-07-06 12:14 J	1225965.84	1225966.01	1225966.18	0.0519	0.0280
Mars	-1354-01-12 10:47 J	1226885.77	1226885.95	1226886.12	0.1617	0.0048
Jupiter	-1351-05-02 10:04 J	1228091.81	1228091.92	1228092.03	0.0504	0.0425
Saturn	-1346-03-14 14:24 J	1229868.91	1229869.10	1229869.30	0.0265	0.0113
Saturn	-1346-10-29 13:40 J	1230097.87	1230098.07	1230098.28	0.0264	0.0075
Jupiter	-1345-03-11 09:21 J	1230231.69	1230231.89	1230232.10	0.0521	0.0038
Saturn	-1345-06-14 12:14 J	1230326.98	1230327.01	1230327.05	0.0263	0.0259
Jupiter	-1339-08-30 03:35 J	1232594.51	1232594.65	1232594.80	0.0509	0.0358
Jupiter	-1334-11-15 04:19 J	1234497.53	1234497.68	1234497.82	0.0522	0.0365
Neptune	-1332-05-12 23:02 J	1235042.46	1235042.46	1235042.49	0.0088	0.0088
Neptune	-1332-12-24 11:31 J	1235267.88	1235267.98	1235268.12	0.0088	0.0074
Uranus	-1331-05-08 00:57 J	1235402.53	1235402.54	1235402.59	0.0139	0.0138
Neptune	-1331-08-07 00:43 J	1235493.37	1235493.53	1235493.69	0.0088	0.0059
Saturn	-1331-11-23 09:50 J	1235601.70	1235601.91	1235602.12	0.0297	0.0040
Uranus	-1331-12-20 09:35 J	1235628.75	1235628.90	1235629.07	0.0140	0.0091
Neptune	-1330-03-20 13:12 J	1235718.87	1235719.05	1235719.25	0.0088	0.0045
Saturn	-1330-07-11 12:28 J	1235831.90	1235832.02	1235832.16	0.0298	0.0231
Uranus	-1330-08-03 18:28 J	1235855.06	1235855.27	1235855.48	0.0140	0.0043
Neptune	-1330-11-01 01:55 J	1235944.38	1235944.58	1235944.79	0.0088	0.0031
Uranus	-1329-03-17 03:21 J	1236081.42	1236081.64	1236081.85	0.0140	0.0006
Neptune	-1329-06-13 14:38 J	1236169.90	1236170.11	1236170.33	0.0088	0.0017
Uranus	-1329-10-29 12:14 J	1236307.81	1236308.01	1236308.21	0.0141	0.0053
Neptune	-1328-01-25 03:35 J	1236395.43	1236395.65	1236395.87	0.0088	0.0003
Uranus	-1328-06-12 20:52 J	1236534.23	1236534.37	1236534.53	0.0141	0.0102
Neptune	-1328-09-07 16:19 J	1236620.97	1236621.18	1236621.40	0.0088	0.0012
Neptune	-1327-04-21 05:02 J	1236846.50	1236846.71	1236846.92	0.0088	0.0026
Jupiter	-1327-05-05 02:38 J	1236860.41	1236860.61	1236860.82	0.0507	0.0059
Neptune	-1327-12-02 17:45 J	1237072.05	1237072.24	1237072.44	0.0088	0.0040

Neptune	-1326-07-16 06:00 J	1237297.60	1237297.75	1237297.95	0.0088	0.0055
Neptune	-1325-02-26 18:57 J	1237523.17	1237523.29	1237523.45	0.0088	0.0069
Neptune	-1325-10-09 07:40 J	1237748.77	1237748.82	1237748.91	0.0088	0.0083
Mars	-1323-02-03 08:38 J	1238230.71	1238230.86	1238231.00	0.1906	0.1090
Mars	-1322-01-11 01:40 J	1238572.43	1238572.57	1238572.71	0.1614	0.0932
Jupiter	-1321-03-14 04:04 J	1239000.60	1239000.67	1239000.76	0.0517	0.0474
Mars	-1321-11-10 07:55 J	1239241.69	1239241.83	1239241.97	0.1622	0.0969
Saturn	-1317-09-23 13:55 J	1240654.88	1240655.08	1240655.28	0.0265	0.0096
Saturn	-1316-05-10 13:12 J	1240883.86	1240884.05	1240884.26	0.0264	0.0092
Jupiter	-1315-01-08 01:55 J	1241126.40	1241126.58	1241126.76	0.0505	0.0237
Jupiter	-1310-11-17 23:02 J	1243266.26	1243266.46	1243266.65	0.0519	0.0153
Saturn	-1302-10-18 12:57 J	1246157.98	1246158.04	1246158.13	0.0295	0.0274
Saturn	-1301-06-04 15:07 J	1246387.92	1246388.13	1246388.35	0.0297	0.0011
Saturn	-1300-01-20 18:14 J	1246618.16	1246618.26	1246618.36	0.0298	0.0262
Jupiter	-1298-07-23 18:43 J	1247532.10	1247532.28	1247532.48	0.0522	0.0171
Jupiter	-1291-01-10 14:38 J	1249894.93	1249895.11	1249895.29	0.0508	0.0234
Uranus	-1291-01-11 04:19 J	1249895.57	1249895.68	1249895.82	0.0139	0.0113
Mars	-1291-02-03 12:57 J	1249918.89	1249919.04	1249919.19	0.1913	0.0983
Uranus	-1291-08-25 13:26 J	1250121.87	1250122.06	1250122.26	0.0139	0.0066
Uranus	-1290-04-08 22:19 J	1250348.22	1250348.43	1250348.65	0.0138	0.0019
Uranus	-1290-11-21 06:57 J	1250574.58	1250574.79	1250575.01	0.0138	0.0028
Uranus	-1289-07-04 15:21 J	1250800.96	1250801.14	1250801.33	0.0138	0.0074
Mars	-1289-11-08 23:31 J	1250928.31	1250928.48	1250928.65	0.1618	0.0060
Uranus	-1288-02-15 23:31 J	1251027.39	1251027.48	1251027.60	0.0137	0.0120
Saturn	-1288-08-19 17:45 J	1251212.19	1251212.24	1251212.29	0.0267	0.0258
Saturn	-1287-04-05 17:45 J	1251441.04	1251441.24	1251441.45	0.0265	0.0068
Saturn	-1287-11-20 17:02 J	1251670.03	1251670.21	1251670.40	0.0264	0.0120
Jupiter	-1286-03-28 14:52 J	1251798.06	1251798.12	1251798.18	0.0524	0.0496
Pluto	-1281-03-27 04:04 J	1253623.49	1253623.67	1253623.87	0.0066	0.0033
Pluto	-1281-11-07 09:07 J	1253848.67	1253848.88	1253849.10	0.0067	0.0005

Pluto	-1280-06-20 13:40 J	1254073.92	1254074.07	1254074.26	0.0067	0.0043
Jupiter	-1280-09-15 13:26 J	1254160.85	1254161.06	1254161.26	0.0506	0.0067
Earth	-1278-11-22 09:21 J	1254958.80	1254958.89	1254958.99	0.2714	0.2108
Jupiter	-1274-07-26 16:33 J	1256301.04	1256301.19	1256301.34	0.0518	0.0355
Saturn	-1272-04-29 13:55 J	1256943.97	1256944.08	1256944.19	0.0295	0.0249
Saturn	-1272-12-15 15:35 J	1257173.94	1257174.15	1257174.36	0.0297	0.0016
Saturn	-1271-08-02 18:00 J	1257404.21	1257404.25	1257404.32	0.0298	0.0287
Moon	-1270-11-19 21:50 J	1257878.32	1257878.41	1257878.50	0.2707	0.2295
Earth	-1270-11-19 22:47 J	1257878.33	1257878.45	1257878.56	0.2714	0.1908 *
Jupiter	-1268-05-21 13:12 J	1258426.91	1258427.05	1258427.19	0.0504	0.0359
Jupiter	-1262-03-31 12:00 J	1260566.80	1260567.00	1260567.21	0.0520	0.0034
Saturn	-1258-03-01 16:19 J	1261998.10	1261998.18	1261998.27	0.0266	0.0242
Saturn	-1258-10-16 16:33 J	1262226.98	1262227.19	1262227.40	0.0265	0.0052
Mars	-1258-12-01 10:33 J	1262272.82	1262272.94	1262273.05	0.1904	0.1471
Saturn	-1257-06-01 15:50 J	1262455.99	1262456.16	1262456.35	0.0264	0.0136
Mars	-1257-11-07 14:52 J	1262614.97	1262615.12	1262615.26	0.1615	0.0840
Jupiter	-1256-09-18 07:40 J	1262929.72	1262929.82	1262929.93	0.0509	0.0432
Mars	-1255-09-07 20:24 J	1263284.23	1263284.35	1263284.48	0.1624	0.1079
Jupiter	-1251-12-04 05:16 J	1264832.56	1264832.72	1264832.89	0.0522	0.0302
Neptune	-1249-02-10 22:33 J	1265266.34	1265266.44	1265266.56	0.0089	0.0078
Neptune	-1249-09-23 11:45 J	1265491.85	1265491.99	1265492.16	0.0089	0.0063
Neptune	-1248-05-07 01:12 J	1265717.37	1265717.55	1265717.74	0.0089	0.0048
Neptune	-1248-12-18 14:24 J	1265942.91	1265943.10	1265943.32	0.0089	0.0033
Neptune	-1247-08-01 04:04 J	1266168.46	1266168.67	1266168.89	0.0089	0.0018
Uranus	-1247-08-19 20:24 J	1266187.23	1266187.35	1266187.50	0.0140	0.0110
Neptune	-1246-03-14 17:16 J	1266394.00	1266394.22	1266394.44	0.0089	0.0003
Uranus	-1246-04-03 05:16 J	1266413.53	1266413.72	1266413.91	0.0140	0.0062
Neptune	-1246-10-26 06:28 J	1266619.56	1266619.77	1266619.99	0.0089	0.0013
Uranus	-1246-11-15 13:55 J	1266639.86	1266640.08	1266640.29	0.0140	0.0015
Neptune	-1245-06-07 19:40 J	1266845.11	1266845.32	1266845.53	0.0089	0.0028

Uranus	-1245-06-28 22:33 J	1266866.23	1266866.44	1266866.65	0.0141	0.0034
Neptune	-1244-01-19 08:38 J	1267070.68	1267070.86	1267071.07	0.0089	0.0043
Uranus	-1244-02-10 07:26 J	1267092.64	1267092.81	1267092.99	0.0141	0.0082
Jupiter	-1244-05-24 05:16 J	1267195.52	1267195.72	1267195.92	0.0507	0.0125
Neptune	-1244-09-01 21:50 J	1267296.26	1267296.41	1267296.60	0.0089	0.0058
Uranus	-1244-09-24 16:47 J	1267319.12	1267319.20	1267319.28	0.0141	0.0131
Neptune	-1243-04-15 11:02 J	1267521.85	1267521.96	1267522.11	0.0089	0.0073
Saturn	-1243-11-09 18:14 J	1267730.12	1267730.26	1267730.40	0.0295	0.0220
Neptune	-1243-11-27 00:00 J	1267747.48	1267747.50	1267747.58	0.0089	0.0088
Saturn	-1242-06-27 20:09 J	1267960.14	1267960.34	1267960.55	0.0297	0.0047
Jupiter	-1232-01-27 00:57 J	1271461.35	1271461.54	1271461.73	0.0505	0.0186
Saturn	-1229-09-10 20:09 J	1272784.22	1272784.34	1272784.47	0.0267	0.0215
Saturn	-1228-04-27 20:24 J	1273013.14	1273013.35	1273013.57	0.0265	0.0024
Saturn	-1228-12-12 19:40 J	1273242.16	1273242.32	1273242.49	0.0264	0.0164
Jupiter	-1227-12-07 04:04 J	1273601.49	1273601.67	1273601.85	0.0519	0.0231
Mars	-1226-12-01 14:38 J	1273960.94	1273961.11	1273961.28	0.1912	0.0598
Mars	-1223-09-06 12:28 J	1274970.84	1274971.02	1274971.19	0.1619	0.0166
Jupiter	-1221-10-02 00:28 J	1275727.47	1275727.52	1275727.59	0.0503	0.0479
Jupiter	-1215-08-11 23:45 J	1277867.29	1277867.49	1277867.69	0.0521	0.0094
Saturn	-1213-05-21 19:40 J	1278516.16	1278516.32	1278516.48	0.0295	0.0194
Saturn	-1212-01-06 21:21 J	1278746.18	1278746.39	1278746.59	0.0297	0.0072
Jupiter	-1208-01-29 18:14 J	1280230.10	1280230.26	1280230.42	0.0508	0.0306
Uranus	-1208-09-10 14:52 J	1280454.07	1280454.12	1280454.20	0.0139	0.0132
Uranus	-1207-04-25 00:00 J	1280680.33	1280680.50	1280680.68	0.0139	0.0085
Uranus	-1207-12-07 08:52 J	1280906.66	1280906.87	1280907.09	0.0138	0.0038
Uranus	-1206-07-21 17:45 J	1281133.02	1281133.24	1281133.46	0.0138	0.0009
Uranus	-1205-03-04 02:24 J	1281359.40	1281359.60	1281359.80	0.0138	0.0055
Uranus	-1205-10-16 10:19 J	1281585.80	1281585.93	1281586.09	0.0138	0.0102
Jupiter	-1203-04-16 18:00 J	1282133.14	1282133.25	1282133.37	0.0523	0.0425
Saturn	-1199-03-23 18:43 J	1283570.15	1283570.28	1283570.42	0.0266	0.0199

Saturn	-1199-11-07 19:12 J	1283799.08	1283799.30	1283799.51	0.0265	0.0009
Saturn	-1198-06-24 18:28 J	1284028.12	1284028.27	1284028.43	0.0264	0.0179
Jupiter	-1197-10-04 17:16 J	1284496.01	1284496.22	1284496.42	0.0506	0.0012
Pluto	-1195-09-01 22:19 J	1285193.38	1285193.43	1285193.49	0.0078	0.0076
Pluto	-1194-04-15 08:24 J	1285418.64	1285418.85	1285419.07	0.0078	0.0014
Pluto	-1194-11-26 18:00 J	1285644.08	1285644.25	1285644.44	0.0077	0.0047
Mars	-1192-09-27 12:57 J	1286315.00	1286315.04	1286315.09	0.1902	0.1831
Jupiter	-1191-08-14 17:45 J	1286636.12	1286636.24	1286636.36	0.0518	0.0419
Mars	-1191-09-05 03:21 J	1286657.49	1286657.64	1286657.80	0.1615	0.0739
Mars	-1189-07-05 09:07 J	1287326.76	1287326.88	1287326.99	0.1625	0.1188
Jupiter	-1185-06-09 15:35 J	1288761.99	1288762.15	1288762.32	0.0504	0.0294
Saturn	-1184-12-02 00:00 J	1289302.33	1289302.50	1289302.68	0.0295	0.0163
Saturn	-1183-07-20 02:09 J	1289532.39	1289532.59	1289532.79	0.0297	0.0104
Jupiter	-1179-04-19 14:09 J	1290901.89	1290902.09	1290902.29	0.0520	0.0100
Jupiter	-1173-10-07 06:28 J	1293264.72	1293264.77	1293264.84	0.0509	0.0484
Saturn	-1170-10-03 22:47 J	1294356.29	1294356.45	1294356.61	0.0267	0.0171
Saturn	-1169-05-19 23:02 J	1294585.25	1294585.46	1294585.68	0.0265	0.0021
Saturn	-1168-01-03 22:33 J	1294814.32	1294814.44	1294814.58	0.0264	0.0208
Jupiter	-1168-12-23 09:50 J	1295167.73	1295167.91	1295168.10	0.0523	0.0226
Neptune	-1167-03-27 20:09 J	1295262.29	1295262.34	1295262.45	0.0088	0.0082
Neptune	-1167-11-08 09:21 J	1295487.75	1295487.89	1295488.03	0.0088	0.0067
Neptune	-1166-06-21 21:50 J	1295713.24	1295713.41	1295713.59	0.0088	0.0053
Neptune	-1165-02-02 10:33 J	1295938.76	1295938.94	1295939.15	0.0088	0.0039
Neptune	-1165-09-14 23:16 J	1296164.27	1296164.47	1296164.69	0.0088	0.0025
Neptune	-1164-04-28 12:00 J	1296389.79	1296390.00	1296390.23	0.0088	0.0011
Moon	-1164-05-23 17:02 J	1296415.16	1296415.21	1296415.27	0.2613	0.2425
Earth	-1164-05-23 19:26 J	1296415.25	1296415.31	1296415.38	0.2619	0.2380 *
Neptune	-1164-12-10 00:57 J	1296615.32	1296615.54	1296615.76	0.0088	0.0004
Uranus	-1163-04-19 07:12 J	1296745.72	1296745.80	1296745.88	0.0139	0.0129
Neptune	-1163-07-23 13:40 J	1296840.85	1296841.07	1296841.28	0.0088	0.0018

Uranus	-1163-12-01 15:21 J	1296971.97	1296972.14	1296972.32	0.0140	0.0082
Neptune	-1162-03-06 02:09 J	1297066.40	1297066.59	1297066.81	0.0088	0.0033
Uranus	-1162-07-16 00:00 J	1297198.29	1297198.50	1297198.71	0.0140	0.0035
Neptune	-1162-10-17 14:52 J	1297291.95	1297292.12	1297292.32	0.0088	0.0047
Uranus	-1161-02-27 08:38 J	1297424.65	1297424.86	1297425.08	0.0140	0.0014
Neptune	-1161-05-30 03:50 J	1297517.51	1297517.66	1297517.82	0.0088	0.0061
Jupiter	-1161-06-12 04:33 J	1297530.50	1297530.69	1297530.88	0.0507	0.0179
Uranus	-1161-10-10 17:31 J	1297651.04	1297651.23	1297651.43	0.0141	0.0062
Neptune	-1160-01-10 16:19 J	1297743.09	1297743.18	1297743.31	0.0088	0.0076
Uranus	-1160-05-25 02:24 J	1297877.48	1297877.60	1297877.74	0.0141	0.0111
Mars	-1160-09-27 16:19 J	1298003.00	1298003.18	1298003.35	0.1910	0.0211
Mars	-1157-07-04 00:43 J	1299013.36	1299013.53	1299013.70	0.1620	0.0271
Moon	-1156-05-21 07:40 J	1299334.69	1299334.82	1299334.95	0.2617	0.1497
Earth	-1156-05-21 12:43 J	1299334.88	1299335.03	1299335.19	0.2619	0.0831 *
Saturn	-1154-06-14 02:38 J	1300088.43	1300088.61	1300088.80	0.0295	0.0136
Saturn	-1153-01-30 04:19 J	1300318.49	1300318.68	1300318.87	0.0296	0.0131
Jupiter	-1149-02-16 03:50 J	1301796.47	1301796.66	1301796.86	0.0505	0.0120
Jupiter	-1144-12-26 06:28 J	1303936.61	1303936.77	1303936.94	0.0519	0.0300
Saturn	-1140-04-14 21:35 J	1305142.23	1305142.40	1305142.58	0.0266	0.0155
Saturn	-1140-11-29 22:04 J	1305371.21	1305371.42	1305371.63	0.0265	0.0036
Saturn	-1139-07-16 21:35 J	1305600.29	1305600.40	1305600.51	0.0264	0.0223
Jupiter	-1138-10-22 03:35 J	1306062.54	1306062.65	1306062.77	0.0503	0.0412
Jupiter	-1132-08-31 00:28 J	1308202.32	1308202.52	1308202.72	0.0521	0.0031
Jupiter	-1125-02-18 20:24 J	1310565.22	1310565.35	1310565.49	0.0508	0.0373
Mars	-1125-07-02 16:04 J	1310700.02	1310700.17	1310700.33	0.1616	0.0640
Saturn	-1125-12-24 06:57 J	1310874.60	1310874.79	1310875.00	0.0295	0.0105
Saturn	-1124-08-11 09:07 J	1311104.70	1311104.88	1311105.06	0.0297	0.0163
Uranus	-1124-12-23 11:02 J	1311238.82	1311238.96	1311239.12	0.0139	0.0103
Mars	-1123-05-02 21:35 J	1311369.30	1311369.40	1311369.50	0.1626	0.1300
Uranus	-1123-08-06 20:09 J	1311465.14	1311465.34	1311465.54	0.0139	0.0056

Uranus	-1122-03-21 05:02 J	1311691.49	1311691.71	1311691.93	0.0138	0.0009
Uranus	-1122-11-02 13:26 J	1311917.86	1311918.06	1311918.28	0.0138	0.0038
Uranus	-1121-06-15 21:50 J	1312144.25	1312144.41	1312144.59	0.0138	0.0084
Uranus	-1120-01-28 05:45 J	1312370.69	1312370.74	1312370.84	0.0137	0.0130
Jupiter	-1120-05-05 19:12 J	1312468.16	1312468.30	1312468.45	0.0523	0.0362
Jupiter	-1114-10-24 15:50 J	1314830.96	1314831.16	1314831.36	0.0506	0.0056
Saturn	-1111-10-26 02:09 J	1315928.40	1315928.59	1315928.78	0.0267	0.0126
Saturn	-1110-06-12 02:24 J	1316157.40	1316157.60	1316157.81	0.0265	0.0066
Saturn	-1109-01-27 01:55 J	1316386.54	1316386.58	1316386.65	0.0264	0.0254
Jupiter	-1108-09-02 21:21 J	1316971.33	1316971.39	1316971.45	0.0518	0.0492
Jupiter	-1102-06-29 14:38 J	1319096.93	1319097.11	1319097.29	0.0504	0.0243
Jupiter	-1096-05-08 17:16 J	1321237.03	1321237.22	1321237.41	0.0520	0.0171
Saturn	-1095-07-06 11:45 J	1321660.79	1321660.99	1321661.20	0.0295	0.0074
Saturn	-1094-02-21 13:12 J	1321890.90	1321891.05	1321891.22	0.0296	0.0194
Mars	-1094-07-25 17:31 J	1322045.06	1322045.23	1322045.41	0.1908	0.0192
Mars	-1093-07-01 07:26 J	1322386.76	1322386.81	1322386.86	0.1613	0.1533
Mars	-1091-05-01 13:40 J	1323055.90	1323056.07	1323056.23	0.1622	0.0374
Neptune	-1085-05-14 05:45 J	1325260.69	1325260.74	1325260.79	0.0089	0.0087
Neptune	-1085-12-25 18:57 J	1325486.17	1325486.29	1325486.43	0.0089	0.0072
Jupiter	-1084-01-11 12:00 J	1325502.81	1325503.00	1325503.19	0.0522	0.0158
Neptune	-1084-08-08 08:24 J	1325711.69	1325711.85	1325712.03	0.0089	0.0057
Neptune	-1083-03-21 21:50 J	1325937.22	1325937.41	1325937.61	0.0089	0.0042
Neptune	-1083-11-02 11:02 J	1326162.76	1326162.96	1326163.18	0.0089	0.0027
Neptune	-1082-06-16 00:28 J	1326388.31	1326388.52	1326388.74	0.0089	0.0012
Neptune	-1081-01-27 13:55 J	1326613.86	1326614.08	1326614.30	0.0089	0.0004
Saturn	-1081-05-07 01:26 J	1326714.37	1326714.56	1326714.76	0.0266	0.0110
Neptune	-1081-09-09 03:07 J	1326839.42	1326839.63	1326839.85	0.0089	0.0019
Saturn	-1081-12-22 02:09 J	1326943.39	1326943.59	1326943.79	0.0265	0.0082
Neptune	-1080-04-22 16:19 J	1327064.98	1327065.18	1327065.39	0.0089	0.0034
Neptune	-1080-12-04 05:31 J	1327290.55	1327290.73	1327290.92	0.0089	0.0049

Neptune	-1079-07-17 18:57 J	1327516.14	1327516.29	1327516.44	0.0089	0.0064
Uranus	-1079-08-01 00:57 J	1327530.41	1327530.54	1327530.70	0.0139	0.0102
Neptune	-1078-02-28 07:55 J	1327741.74	1327741.83	1327741.94	0.0089	0.0079
Uranus	-1078-03-15 09:21 J	1327756.71	1327756.89	1327757.10	0.0140	0.0055
Jupiter	-1078-07-02 07:12 J	1327865.62	1327865.80	1327865.98	0.0507	0.0248
Uranus	-1078-10-27 18:14 J	1327983.04	1327983.26	1327983.48	0.0140	0.0007
Uranus	-1077-06-10 02:38 J	1328209.41	1328209.61	1328209.83	0.0140	0.0042
Uranus	-1076-01-22 11:16 J	1328435.82	1328435.97	1328436.15	0.0141	0.0090
Uranus	-1076-09-05 20:24 J	1328662.33	1328662.35	1328662.41	0.0141	0.0139
Jupiter	-1073-09-16 04:33 J	1329768.64	1329768.69	1329768.76	0.0524	0.0499
Jupiter	-1066-03-07 05:31 J	1332131.52	1332131.73	1332131.93	0.0505	0.0057
Saturn	-1065-01-16 16:47 J	1332447.00	1332447.20	1332447.42	0.0295	0.0042
Saturn	-1065-09-02 18:43 J	1332677.15	1332677.28	1332677.42	0.0297	0.0227
Mars	-1062-07-25 22:19 J	1333733.42	1333733.43	1333733.43	0.1914	0.1911
Jupiter	-1060-01-14 06:43 J	1334271.64	1334271.78	1334271.92	0.0519	0.0361
Mars	-1059-04-30 05:02 J	1334742.55	1334742.71	1334742.87	0.1617	0.0537
Mars	-1057-02-28 09:50 J	1335411.83	1335411.91	1335412.00	0.1628	0.1414
Jupiter	-1055-11-10 02:09 J	1336397.45	1336397.59	1336397.73	0.0503	0.0363
Saturn	-1052-11-17 06:43 J	1337500.58	1337500.78	1337500.98	0.0266	0.0079
Saturn	-1051-07-04 07:12 J	1337729.61	1337729.80	1337729.99	0.0265	0.0112
Jupiter	-1049-09-19 02:24 J	1338537.40	1338537.60	1338537.80	0.0522	0.0035
Jupiter	-1042-03-09 18:28 J	1340900.16	1340900.27	1340900.39	0.0508	0.0422
Uranus	-1040-08-22 19:55 J	1341797.24	1341797.33	1341797.43	0.0139	0.0124
Uranus	-1039-04-06 05:02 J	1342023.53	1342023.71	1342023.90	0.0139	0.0076
Uranus	-1039-11-18 13:55 J	1342249.87	1342250.08	1342250.30	0.0139	0.0029
Uranus	-1038-07-02 22:33 J	1342476.23	1342476.44	1342476.66	0.0138	0.0018
Uranus	-1037-02-14 07:12 J	1342702.61	1342702.80	1342703.00	0.0138	0.0064
Jupiter	-1037-05-24 20:52 J	1342803.21	1342803.37	1342803.54	0.0523	0.0297
Uranus	-1037-09-27 15:35 J	1342929.02	1342929.15	1342929.28	0.0138	0.0110
Saturn	-1037-12-10 22:19 J	1343003.36	1343003.43	1343003.52	0.0293	0.0269

Saturn	-1036-07-28 23:16 J	1343233.25	1343233.47	1343233.68	0.0295	0.0009
Saturn	-1035-03-16 00:28 J	1343463.43	1343463.52	1343463.63	0.0296	0.0261
Moon	-1035-11-22 03:21 J	1343714.50	1343714.64	1343714.77	0.2718	0.1280
Earth	-1035-11-22 08:24 J	1343714.74	1343714.85	1343714.97	0.2714	0.1843 *
Pluto	-1035-12-06 06:28 J	1343728.60	1343728.77	1343728.98	0.0066	0.0032
Pluto	-1034-07-19 11:31 J	1343953.77	1343953.98	1343954.21	0.0067	0.0007
Pluto	-1033-02-29 16:04 J	1344179.04	1344179.17	1344179.36	0.0067	0.0045
Jupiter	-1031-11-12 16:47 J	1345166.00	1345166.20	1345166.40	0.0506	0.0118
Mars	-1028-05-21 19:12 J	1346087.13	1346087.30	1346087.47	0.1905	0.0576
Mars	-1027-04-28 20:09 J	1346429.26	1346429.34	1346429.42	0.1614	0.1432
Moon	-1027-11-19 20:09 J	1346634.24	1346634.34	1346634.44	0.2721	0.2014
Earth	-1027-11-19 21:21 J	1346634.30	1346634.39	1346634.48	0.2714	0.2219 *
Mars	-1025-02-27 01:40 J	1347098.41	1347098.57	1347098.74	0.1623	0.0488
Saturn	-1023-10-13 05:45 J	1348057.68	1348057.74	1348057.81	0.0268	0.0254
Saturn	-1022-05-30 07:12 J	1348286.60	1348286.80	1348287.01	0.0266	0.0060
Saturn	-1021-01-14 07:40 J	1348515.64	1348515.82	1348516.01	0.0265	0.0131
Jupiter	-1019-07-18 15:50 J	1349431.97	1349432.16	1349432.35	0.0504	0.0181
Jupiter	-1013-05-27 16:04 J	1351571.99	1351572.17	1351572.35	0.0520	0.0228
Jupiter	-1007-03-23 15:07 J	1353698.07	1353698.13	1353698.19	0.0502	0.0477
Saturn	-1007-06-23 04:19 J	1353789.56	1353789.68	1353789.81	0.0294	0.0235
Saturn	-1006-02-08 05:16 J	1354019.51	1354019.72	1354019.93	0.0296	0.0028
Saturn	-1006-09-26 06:57 J	1354249.79	1354249.79	1354249.81	0.0297	0.0296
Neptune	-1002-02-09 18:28 J	1355482.16	1355482.27	1355482.38	0.0088	0.0075
Neptune	-1002-09-23 06:57 J	1355707.64	1355707.79	1355707.96	0.0088	0.0061
Jupiter	-1001-01-31 10:47 J	1355837.75	1355837.95	1355838.15	0.0522	0.0104
Neptune	-1001-05-05 19:26 J	1355933.14	1355933.31	1355933.51	0.0088	0.0047
Neptune	-1001-12-17 07:55 J	1356158.64	1356158.83	1356159.05	0.0088	0.0033

1ST MILLENNIUM BCE

This is a list of transits of Venus in the 1st millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S
	TRANSIT							
	TIME							
Neptune	-1000-07-30 20:52 J		1356384.16	1356384.37	1356384.59	0.0088	0.0018	
Neptune	-999-03-13 09:35 J		1356609.68	1356609.90	1356610.13	0.0088	0.0004	
Neptune	-999-10-24 22:19 J		1356835.21	1356835.43	1356835.65	0.0088	0.0011	
Neptune	-998-06-07 11:02 J		1357060.75	1357060.96	1357061.17	0.0088	0.0025	
Neptune	-997-01-18 23:31 J		1357286.30	1357286.48	1357286.70	0.0088	0.0040	
Neptune	-997-08-31 12:28 J		1357511.86	1357512.02	1357512.20	0.0088	0.0054	
Neptune	-996-04-14 01:26 J		1357737.42	1357737.56	1357737.70	0.0088	0.0068	
Mars	-996-05-21 23:16 J		1357775.36	1357775.47	1357775.57	0.1912	0.1505	
Neptune	-996-11-25 13:40 J		1357963.02	1357963.07	1357963.16	0.0088	0.0083	
Uranus	-995-03-31 10:47 J		1358088.86	1358088.95	1358089.07	0.0139	0.0121	
Jupiter	-995-07-21 04:33 J		1358200.53	1358200.69	1358200.86	0.0507	0.0296	
Uranus	-995-11-12 18:57 J		1358315.12	1358315.29	1358315.49	0.0140	0.0075	
Uranus	-994-06-27 03:35 J		1358541.44	1358541.65	1358541.86	0.0140	0.0027	
Uranus	-993-02-08 12:14 J		1358767.79	1358768.01	1358768.22	0.0140	0.0020	
Mars	-993-02-25 17:31 J		1358785.06	1358785.23	1358785.40	0.1619	0.0431	
Saturn	-993-04-24 11:31 J		1358843.88	1358843.98	1358844.11	0.0268	0.0224	
Uranus	-993-09-21 20:52 J		1358994.19	1358994.37	1358994.57	0.0140	0.0069	
Saturn	-993-12-09 13:12 J		1359072.83	1359073.05	1359073.26	0.0266	0.0030	
Uranus	-992-05-06 05:45 J		1359220.63	1359220.74	1359220.87	0.0141	0.0117	
Saturn	-992-07-26 13:12 J		1359301.90	1359302.05	1359302.23	0.0265	0.0163	
Mars	-992-12-25 22:19 J		1359454.37	1359454.43	1359454.48	0.1629	0.1531	
Jupiter	-990-10-06 04:19 J		1360103.58	1360103.68	1360103.79	0.0525	0.0442	

Jupiter	-983-03-26 02:38 J	1362466.41	1362466.61	1362466.82	0.0505	0.0016
Saturn	-977-01-03 12:57 J	1364575.89	1364576.04	1364576.20	0.0293	0.0197
Jupiter	-977-02-03 06:43 J	1364606.67	1364606.78	1364606.90	0.0519	0.0422
Saturn	-977-08-20 13:40 J	1364805.87	1364806.07	1364806.28	0.0295	0.0066
Jupiter	-972-11-29 01:26 J	1366732.40	1366732.56	1366732.72	0.0503	0.0309
Jupiter	-966-10-09 02:09 J	1368872.39	1368872.59	1368872.79	0.0521	0.0096
Saturn	-964-11-04 13:26 J	1369629.92	1369630.06	1369630.20	0.0267	0.0202
Saturn	-963-06-21 14:38 J	1369858.90	1369859.11	1369859.32	0.0266	0.0008
Saturn	-962-02-05 15:07 J	1370087.98	1370088.13	1370088.28	0.0265	0.0182
Mars	-962-03-18 20:52 J	1370129.22	1370129.37	1370129.52	0.1903	0.0966
Mars	-961-02-24 08:52 J	1370471.78	1370471.87	1370471.97	0.1615	0.1337
Mars	-960-12-24 14:24 J	1371140.94	1371141.10	1371141.27	0.1624	0.0595
Jupiter	-959-03-28 18:43 J	1371235.22	1371235.28	1371235.34	0.0508	0.0483
Uranus	-956-12-04 13:26 J	1372581.91	1372582.06	1372582.22	0.0139	0.0097
Uranus	-955-07-18 22:33 J	1372808.24	1372808.44	1372808.65	0.0139	0.0050
Uranus	-954-03-02 07:40 J	1373034.60	1373034.82	1373035.04	0.0139	0.0003
Jupiter	-954-06-13 18:57 J	1373138.11	1373138.29	1373138.47	0.0523	0.0245
Uranus	-954-10-14 16:04 J	1373260.97	1373261.17	1373261.39	0.0138	0.0044
Uranus	-953-05-28 00:28 J	1373487.36	1373487.52	1373487.69	0.0138	0.0090
Uranus	-952-01-09 08:38 J	1373713.84	1373713.86	1373713.91	0.0138	0.0136
Pluto	-948-05-13 00:43 J	1375298.48	1375298.53	1375298.59	0.0078	0.0075
Saturn	-948-07-15 19:12 J	1375362.13	1375362.30	1375362.48	0.0294	0.0162
Jupiter	-948-12-01 16:04 J	1375500.98	1375501.17	1375501.37	0.0506	0.0175
Pluto	-948-12-24 10:33 J	1375523.73	1375523.94	1375524.17	0.0078	0.0014
Saturn	-947-03-02 20:09 J	1375592.15	1375592.34	1375592.54	0.0296	0.0103
Pluto	-947-08-06 20:09 J	1375749.17	1375749.34	1375749.53	0.0077	0.0047
Jupiter	-936-08-06 12:57 J	1379766.85	1379767.04	1379767.24	0.0504	0.0136
Saturn	-934-05-17 19:40 J	1380416.17	1380416.32	1380416.49	0.0268	0.0171
Saturn	-933-01-01 21:07 J	1380645.17	1380645.38	1380645.60	0.0266	0.0025
Saturn	-933-08-17 21:35 J	1380874.28	1380874.40	1380874.52	0.0265	0.0214

Mars	-930-03-19 01:26 J	1381817.42	1381817.56	1381817.70	0.1910	0.1126
Jupiter	-930-06-16 14:24 J	1381906.93	1381907.10	1381907.27	0.0520	0.0281
Mars	-928-12-23 06:28 J	1382827.60	1382827.77	1382827.93	0.1620	0.0332
Jupiter	-924-04-11 12:00 J	1384032.90	1384033.00	1384033.10	0.0502	0.0433
Moon	-921-05-23 22:47 J	1385171.41	1385171.45	1385171.49	0.2625	0.2509
Earth	-921-05-23 23:02 J	1385171.45	1385171.46	1385171.47	0.2619	0.2612 *
Neptune	-920-03-29 01:55 J	1385480.52	1385480.58	1385480.70	0.0089	0.0082
Neptune	-920-11-09 15:50 J	1385706.02	1385706.16	1385706.31	0.0089	0.0066
Neptune	-919-06-23 05:02 J	1385931.54	1385931.71	1385931.90	0.0089	0.0051
Saturn	-918-01-26 05:31 J	1386148.55	1386148.73	1386148.93	0.0294	0.0122
Neptune	-918-02-03 18:28 J	1386157.08	1386157.27	1386157.48	0.0089	0.0036
Jupiter	-918-02-19 09:07 J	1386172.68	1386172.88	1386173.09	0.0522	0.0051
Saturn	-918-09-13 06:28 J	1386378.59	1386378.77	1386378.96	0.0295	0.0144
Neptune	-918-09-17 07:55 J	1386382.63	1386382.83	1386383.05	0.0089	0.0021
Neptune	-917-04-29 21:21 J	1386608.17	1386608.39	1386608.61	0.0089	0.0005
Neptune	-917-12-11 10:33 J	1386833.73	1386833.94	1386834.17	0.0089	0.0011
Neptune	-916-07-25 00:00 J	1387059.30	1387059.50	1387059.72	0.0089	0.0026
Neptune	-915-03-07 13:12 J	1387284.86	1387285.05	1387285.26	0.0089	0.0041
Neptune	-915-10-19 02:24 J	1387510.44	1387510.60	1387510.78	0.0089	0.0056
Neptune	-914-06-01 15:50 J	1387736.03	1387736.16	1387736.29	0.0089	0.0071
Neptune	-913-01-13 05:02 J	1387961.65	1387961.71	1387961.77	0.0089	0.0086
Earth	-913-05-21 16:04 J	1388091.02	1388091.17	1388091.33	0.2619	0.0624
Moon	-913-05-21 19:40 J	1388091.17	1388091.32	1388091.48	0.2623	0.0070 *
Jupiter	-912-08-09 02:38 J	1388535.47	1388535.61	1388535.76	0.0507	0.0348
Uranus	-911-07-13 05:16 J	1388873.56	1388873.72	1388873.88	0.0139	0.0094
Uranus	-910-02-24 13:26 J	1389099.86	1389100.06	1389100.27	0.0140	0.0047
Uranus	-910-10-08 22:04 J	1389326.21	1389326.42	1389326.64	0.0140	0.0003
Uranus	-909-05-22 06:28 J	1389552.58	1389552.77	1389552.99	0.0140	0.0049
Uranus	-908-01-03 15:35 J	1389778.99	1389779.15	1389779.30	0.0140	0.0097
Jupiter	-907-10-25 03:21 J	1390438.51	1390438.64	1390438.78	0.0524	0.0385

Saturn	-905-11-26 22:47 J	1391202.27	1391202.45	1391202.63	0.0267	0.0147
Saturn	-904-07-13 23:45 J	1391431.28	1391431.49	1391431.70	0.0266	0.0047
Saturn	-903-02-27 23:45 J	1391660.41	1391660.49	1391660.60	0.0265	0.0237
Jupiter	-900-04-14 01:12 J	1392801.35	1392801.55	1392801.75	0.0505	0.0044
Mars	-896-01-12 23:16 J	1394171.35	1394171.47	1394171.60	0.1901	0.1332
Mars	-896-12-21 21:35 J	1394514.29	1394514.40	1394514.51	0.1616	0.1234
Jupiter	-894-02-22 03:21 J	1394941.56	1394941.64	1394941.73	0.0519	0.0470
Mars	-894-10-22 03:07 J	1395183.48	1395183.63	1395183.79	0.1626	0.0701
Saturn	-889-08-07 12:43 J	1396934.83	1396935.03	1396935.24	0.0295	0.0084
Jupiter	-889-12-17 23:45 J	1397067.32	1397067.49	1397067.67	0.0503	0.0259
Saturn	-888-03-25 13:55 J	1397164.91	1397165.08	1397165.24	0.0296	0.0182
Jupiter	-883-10-27 22:04 J	1399207.23	1399207.42	1399207.62	0.0521	0.0141
Saturn	-875-06-09 05:31 J	1401988.54	1401988.73	1401988.93	0.0267	0.0115
Saturn	-874-01-24 06:43 J	1402217.58	1402217.78	1402217.99	0.0266	0.0079
Uranus	-872-08-03 20:24 J	1403140.25	1403140.35	1403140.47	0.0139	0.0121
Uranus	-871-03-18 05:31 J	1403366.56	1403366.73	1403366.93	0.0139	0.0073
Jupiter	-871-07-02 15:07 J	1403472.95	1403473.13	1403473.32	0.0524	0.0200
Uranus	-871-10-30 14:38 J	1403592.90	1403593.11	1403593.33	0.0139	0.0026
Uranus	-870-06-13 23:31 J	1403819.27	1403819.48	1403819.70	0.0138	0.0022
Uranus	-869-01-26 07:55 J	1404045.65	1404045.83	1404046.03	0.0138	0.0069
Uranus	-869-09-08 16:33 J	1404272.07	1404272.19	1404272.32	0.0138	0.0114
Jupiter	-865-12-20 12:00 J	1405835.81	1405836.00	1405836.18	0.0506	0.0217
Mars	-864-01-13 02:38 J	1405859.45	1405859.61	1405859.78	0.1908	0.0731
Mars	-862-10-20 18:57 J	1406870.12	1406870.29	1406870.47	0.1621	0.0228
Saturn	-859-02-18 00:14 J	1407721.30	1407721.51	1407721.72	0.0294	0.0041
Saturn	-859-10-06 01:12 J	1407951.42	1407951.55	1407951.69	0.0296	0.0225
Jupiter	-853-08-25 09:35 J	1410101.69	1410101.90	1410102.10	0.0504	0.0091
Jupiter	-847-07-05 12:00 J	1412241.85	1412242.00	1412242.16	0.0520	0.0334
Saturn	-846-12-20 09:35 J	1412774.70	1412774.90	1412775.11	0.0267	0.0088
Saturn	-845-08-05 10:19 J	1413003.74	1413003.93	1413004.13	0.0266	0.0105

Jupiter	-841-04-30 08:38 J	1414367.74	1414367.86	1414368.00	0.0502	0.0389
Neptune	-838-05-14 03:35 J	1415476.60	1415476.65	1415476.74	0.0088	0.0083
Neptune	-838-12-25 16:19 J	1415702.06	1415702.18	1415702.34	0.0088	0.0069
Neptune	-837-08-07 05:16 J	1415927.55	1415927.72	1415927.90	0.0088	0.0054
Neptune	-836-03-20 17:45 J	1416153.06	1416153.24	1416153.45	0.0088	0.0040
Neptune	-836-11-01 06:43 J	1416378.57	1416378.78	1416378.99	0.0088	0.0025
Jupiter	-835-03-10 05:31 J	1416507.53	1416507.73	1416507.93	0.0522	0.0003
Neptune	-835-06-14 19:12 J	1416604.08	1416604.30	1416604.52	0.0088	0.0011
Neptune	-834-01-26 08:09 J	1416829.62	1416829.84	1416830.06	0.0088	0.0004
Neptune	-834-09-08 20:38 J	1417055.15	1417055.36	1417055.58	0.0088	0.0018
Neptune	-833-04-21 09:07 J	1417280.69	1417280.88	1417281.10	0.0088	0.0033
Neptune	-833-12-02 21:50 J	1417506.23	1417506.41	1417506.60	0.0088	0.0047
Neptune	-832-07-16 10:47 J	1417731.79	1417731.95	1417732.11	0.0088	0.0061
Neptune	-831-02-26 23:16 J	1417957.38	1417957.47	1417957.60	0.0088	0.0076
Mars	-831-11-10 01:26 J	1418213.49	1418213.56	1418213.64	0.1898	0.1708
Saturn	-830-01-13 06:57 J	1418277.70	1418277.79	1418277.88	0.0293	0.0264
Saturn	-830-08-31 07:26 J	1418507.59	1418507.81	1418508.02	0.0295	0.0007
Mars	-830-10-19 10:33 J	1418556.82	1418556.94	1418557.06	0.1617	0.1139
Saturn	-829-04-17 08:24 J	1418737.77	1418737.85	1418737.95	0.0296	0.0265
Jupiter	-829-08-28 00:28 J	1418870.40	1418870.52	1418870.65	0.0507	0.0399
Mars	-828-08-18 15:35 J	1419226.00	1419226.15	1419226.30	0.1627	0.0814
Uranus	-827-03-12 15:21 J	1419432.03	1419432.14	1419432.28	0.0139	0.0113
Uranus	-827-10-24 23:45 J	1419658.31	1419658.49	1419658.69	0.0139	0.0066
Uranus	-826-06-08 08:09 J	1419884.63	1419884.84	1419885.06	0.0140	0.0019
Uranus	-825-01-20 16:47 J	1420110.99	1420111.20	1420111.41	0.0140	0.0029
Uranus	-825-09-03 01:26 J	1420337.39	1420337.56	1420337.75	0.0140	0.0077
Uranus	-824-04-17 10:04 J	1420563.85	1420563.92	1420564.04	0.0141	0.0126
Jupiter	-824-11-12 22:33 J	1420773.29	1420773.44	1420773.59	0.0524	0.0345
Jupiter	-817-05-02 21:21 J	1423136.19	1423136.39	1423136.60	0.0505	0.0089
Saturn	-817-11-14 14:38 J	1423332.05	1423332.11	1423332.19	0.0268	0.0252

Saturn	-816-07-01 16:33 J	1423560.98	1423561.19	1423561.40	0.0267	0.0056
Saturn	-815-02-15 17:16 J	1423790.05	1423790.22	1423790.41	0.0266	0.0137
Jupiter	-811-03-12 22:47 J	1425276.43	1425276.45	1425276.48	0.0519	0.0514
Jupiter	-805-01-06 19:40 J	1427402.13	1427402.32	1427402.50	0.0503	0.0217
Saturn	-801-07-25 19:26 J	1429064.18	1429064.31	1429064.46	0.0293	0.0220
Saturn	-800-03-12 19:55 J	1429294.12	1429294.33	1429294.54	0.0295	0.0042
Jupiter	-800-11-15 18:00 J	1429542.06	1429542.25	1429542.44	0.0521	0.0187
Mars	-799-11-10 04:47 J	1429901.53	1429901.70	1429901.88	0.1907	0.0348
Mars	-796-08-17 07:40 J	1430912.65	1430912.82	1430912.99	0.1622	0.0124
Earth	-792-11-22 06:57 J	1432470.66	1432470.79	1432470.92	0.2714	0.1531
Moon	-792-11-22 13:12 J	1432470.94	1432471.05	1432471.16	0.2713	0.1922
Jupiter	-788-07-21 12:57 J	1433807.85	1433808.04	1433808.24	0.0523	0.0146
Pluto	-788-08-16 06:57 J	1433833.61	1433833.79	1433833.97	0.0066	0.0038
Uranus	-788-11-15 14:09 J	1433924.94	1433925.09	1433925.26	0.0139	0.0095
Pluto	-787-03-29 11:45 J	1434058.78	1434058.99	1434059.21	0.0067	0.0001
Saturn	-787-05-27 19:55 J	1434118.23	1434118.33	1434118.46	0.0268	0.0223
Uranus	-787-06-29 23:16 J	1434151.27	1434151.47	1434151.69	0.0139	0.0047
Pluto	-787-11-09 16:33 J	1434284.03	1434284.19	1434284.39	0.0067	0.0038
Saturn	-786-01-11 21:35 J	1434347.19	1434347.40	1434347.61	0.0266	0.0028
Uranus	-786-02-11 08:24 J	1434377.63	1434377.85	1434378.07	0.0139	0.0002
Saturn	-786-08-28 22:04 J	1434576.26	1434576.42	1434576.59	0.0265	0.0163
Uranus	-786-09-25 17:02 J	1434604.01	1434604.21	1434604.42	0.0138	0.0048
Uranus	-785-05-09 01:26 J	1434830.41	1434830.56	1434830.73	0.0138	0.0094
Earth	-784-11-19 20:09 J	1435390.28	1435390.34	1435390.40	0.2714	0.2504
Moon	-784-11-19 23:31 J	1435390.40	1435390.48	1435390.57	0.2707	0.2318 *
Jupiter	-781-01-09 08:24 J	1436170.67	1436170.85	1436171.02	0.0506	0.0264
Jupiter	-776-03-26 05:16 J	1438073.66	1438073.72	1438073.79	0.0525	0.0492
Saturn	-771-02-05 01:55 J	1439850.42	1439850.58	1439850.75	0.0294	0.0184
Saturn	-771-09-23 02:24 J	1440080.40	1440080.60	1440080.81	0.0296	0.0080
Jupiter	-770-09-14 06:57 J	1440436.58	1440436.79	1440436.99	0.0504	0.0042

Jupiter	-764-07-24 06:43 J	1442576.65	1442576.78	1442576.93	0.0520	0.0375
Mars	-764-08-15 23:02 J	1442599.33	1442599.46	1442599.59	0.1618	0.1035
Mars	-762-06-16 04:04 J	1443268.53	1443268.67	1443268.81	0.1628	0.0924
Jupiter	-758-05-20 05:31 J	1444702.58	1444702.73	1444702.88	0.0502	0.0343
Saturn	-758-12-08 02:38 J	1444904.47	1444904.61	1444904.77	0.0268	0.0192
Saturn	-757-07-24 04:04 J	1445133.46	1445133.67	1445133.89	0.0266	0.0007
Saturn	-756-03-10 04:33 J	1445362.56	1445362.69	1445362.84	0.0265	0.0195
Neptune	-755-02-10 23:45 J	1445700.38	1445700.49	1445700.62	0.0089	0.0075
Neptune	-755-09-24 12:57 J	1445925.89	1445926.04	1445926.22	0.0089	0.0060
Neptune	-754-05-08 02:38 J	1446151.42	1446151.61	1446151.80	0.0089	0.0044
Neptune	-754-12-19 15:50 J	1446376.96	1446377.16	1446377.38	0.0089	0.0029
Neptune	-753-08-01 05:16 J	1446602.51	1446602.72	1446602.95	0.0089	0.0014
Neptune	-752-03-14 18:43 J	1446828.07	1446828.28	1446828.51	0.0089	0.0003
Jupiter	-752-03-29 00:00 J	1446842.30	1446842.50	1446842.70	0.0522	0.0037
Neptune	-752-10-26 07:55 J	1447053.62	1447053.83	1447054.05	0.0089	0.0018
Neptune	-751-06-08 21:07 J	1447279.19	1447279.38	1447279.60	0.0089	0.0033
Neptune	-750-01-20 10:33 J	1447504.76	1447504.94	1447505.13	0.0089	0.0048
Neptune	-750-09-02 23:31 J	1447730.35	1447730.48	1447730.66	0.0089	0.0064
Neptune	-749-04-15 12:43 J	1447955.95	1447956.03	1447956.16	0.0089	0.0079
Jupiter	-746-09-16 19:55 J	1449205.24	1449205.33	1449205.43	0.0507	0.0442
Uranus	-744-11-10 01:55 J	1449990.53	1449990.58	1449990.66	0.0139	0.0132
Uranus	-743-06-24 10:19 J	1450216.76	1450216.93	1450217.10	0.0139	0.0086
Uranus	-742-02-05 18:28 J	1450443.07	1450443.27	1450443.49	0.0140	0.0039
Saturn	-742-08-18 14:24 J	1450636.91	1450637.10	1450637.29	0.0294	0.0140
Uranus	-742-09-20 03:21 J	1450669.42	1450669.64	1450669.86	0.0140	0.0009
Saturn	-741-04-04 14:52 J	1450866.94	1450867.12	1450867.32	0.0295	0.0125
Uranus	-741-05-03 12:00 J	1450895.80	1450896.00	1450896.20	0.0140	0.0057
Jupiter	-741-12-01 17:45 J	1451108.08	1451108.24	1451108.41	0.0524	0.0302
Uranus	-741-12-15 20:38 J	1451122.23	1451122.36	1451122.51	0.0140	0.0106
Jupiter	-734-05-22 16:04 J	1453470.98	1453471.17	1453471.37	0.0505	0.0129

Mars	-733-09-06 06:28 J	1453943.60	1453943.77	1453943.95	0.1904	0.0060
Mars	-730-06-14 20:09 J	1454955.17	1454955.34	1454955.52	0.1623	0.0032
Saturn	-728-06-19 08:38 J	1455690.69	1455690.86	1455691.03	0.0267	0.0161
Saturn	-727-02-03 09:50 J	1455919.70	1455919.91	1455920.12	0.0266	0.0033
Saturn	-727-09-20 09:35 J	1456148.80	1456148.90	1456149.03	0.0265	0.0223
Jupiter	-722-01-25 15:07 J	1457736.94	1457737.13	1457737.32	0.0504	0.0175
Jupiter	-717-12-04 14:38 J	1459876.93	1459877.11	1459877.29	0.0521	0.0234
Saturn	-712-02-27 19:55 J	1461423.14	1461423.33	1461423.53	0.0294	0.0105
Saturn	-712-10-15 20:52 J	1461653.20	1461653.37	1461653.55	0.0296	0.0161
Jupiter	-711-09-30 14:52 J	1462003.06	1462003.12	1462003.19	0.0502	0.0473
Jupiter	-705-08-09 08:09 J	1464142.64	1464142.84	1464143.04	0.0523	0.0105
Uranus	-704-07-15 22:19 J	1464483.33	1464483.43	1464483.57	0.0139	0.0117
Uranus	-703-02-27 07:55 J	1464709.64	1464709.83	1464710.02	0.0139	0.0069
Uranus	-703-10-11 16:47 J	1464935.99	1464936.20	1464936.42	0.0139	0.0021
Uranus	-702-05-26 01:26 J	1465162.35	1465162.56	1465162.78	0.0139	0.0027
Uranus	-701-01-07 09:50 J	1465388.74	1465388.91	1465389.11	0.0138	0.0074
Uranus	-701-08-20 18:28 J	1465615.17	1465615.27	1465615.39	0.0138	0.0119
Pluto	-701-09-03 10:33 J	1465628.73	1465628.94	1465629.16	0.0078	0.0021
Pluto	-700-04-16 20:24 J	1465854.17	1465854.35	1465854.55	0.0077	0.0040
Saturn	-699-12-30 14:38 J	1466476.93	1466477.11	1466477.30	0.0267	0.0131
Jupiter	-698-01-28 05:16 J	1466505.56	1466505.72	1466505.88	0.0506	0.0312
Mars	-698-06-13 12:00 J	1466641.86	1466642.00	1466642.14	0.1619	0.0934
Saturn	-698-08-16 15:35 J	1466705.95	1466706.15	1466706.36	0.0266	0.0062
Saturn	-697-04-01 15:35 J	1466935.10	1466935.15	1466935.22	0.0265	0.0252
Mars	-696-04-12 16:33 J	1467311.06	1467311.19	1467311.32	0.1630	0.1040
Jupiter	-693-04-13 23:16 J	1468408.38	1468408.47	1468408.58	0.0525	0.0456
Jupiter	-687-10-03 03:07 J	1470771.42	1470771.63	1470771.83	0.0504	0.0009
Saturn	-683-09-10 07:55 J	1472209.63	1472209.83	1472210.04	0.0294	0.0061
Saturn	-682-04-28 09:07 J	1472439.73	1472439.88	1472440.03	0.0296	0.0205
Jupiter	-681-08-12 02:38 J	1472911.50	1472911.61	1472911.73	0.0520	0.0423

Jupiter	-675-06-07 23:45 J	1475037.33	1475037.49	1475037.65	0.0502	0.0307
Neptune	-673-03-28 02:09 J	1475696.50	1475696.59	1475696.71	0.0088	0.0076
Neptune	-673-11-08 14:38 J	1475921.98	1475922.11	1475922.29	0.0088	0.0062
Neptune	-672-06-22 03:35 J	1476147.47	1476147.65	1476147.85	0.0088	0.0047
Neptune	-671-02-02 16:19 J	1476372.99	1476373.18	1476373.40	0.0088	0.0033
Neptune	-671-09-16 05:16 J	1476598.50	1476598.72	1476598.94	0.0088	0.0018
Neptune	-670-04-29 17:45 J	1476824.03	1476824.24	1476824.47	0.0088	0.0004
Moon	-670-05-22 18:00 J	1476847.09	1476847.25	1476847.41	0.2614	0.0774
Earth	-670-05-22 19:40 J	1476847.16	1476847.32	1476847.48	0.2619	0.0387 *
Neptune	-670-12-11 06:28 J	1477049.55	1477049.77	1477049.99	0.0088	0.0011
Jupiter	-669-04-16 22:33 J	1477177.24	1477177.44	1477177.64	0.0522	0.0094
Saturn	-669-07-11 20:38 J	1477263.17	1477263.36	1477263.56	0.0267	0.0100
Neptune	-669-07-23 18:57 J	1477275.09	1477275.29	1477275.51	0.0088	0.0026
Saturn	-668-02-25 21:21 J	1477492.19	1477492.39	1477492.59	0.0266	0.0092
Neptune	-668-03-06 07:55 J	1477500.64	1477500.83	1477501.03	0.0088	0.0040
Neptune	-668-10-17 20:09 J	1477726.19	1477726.34	1477726.53	0.0088	0.0055
Neptune	-667-05-31 09:07 J	1477951.76	1477951.88	1477952.02	0.0088	0.0069
Mars	-667-07-04 08:24 J	1477985.68	1477985.85	1477986.02	0.1902	0.0435
Neptune	-666-01-11 21:35 J	1478177.36	1478177.40	1478177.49	0.0088	0.0084
Mars	-664-04-11 08:52 J	1478997.70	1478997.87	1478998.05	0.1625	0.0100
Jupiter	-663-10-05 15:50 J	1479540.11	1479540.16	1479540.22	0.0508	0.0488
Uranus	-659-02-21 19:55 J	1480775.21	1480775.33	1480775.49	0.0139	0.0106
Uranus	-659-10-06 04:33 J	1481001.50	1481001.69	1481001.89	0.0139	0.0059
Uranus	-658-05-20 12:57 J	1481227.83	1481228.04	1481228.26	0.0140	0.0012
Jupiter	-658-12-21 15:50 J	1481442.98	1481443.16	1481443.34	0.0524	0.0249
Uranus	-657-01-01 21:35 J	1481454.20	1481454.40	1481454.61	0.0140	0.0037
Uranus	-657-08-15 06:14 J	1481680.60	1481680.76	1481680.95	0.0140	0.0085
Uranus	-656-03-29 15:07 J	1481907.08	1481907.13	1481907.21	0.0141	0.0134
Saturn	-654-08-05 12:00 J	1482765.97	1482766.00	1482766.03	0.0293	0.0289
Saturn	-653-03-22 12:14 J	1482995.80	1482996.01	1482996.22	0.0295	0.0028

Saturn	-653-11-07 13:26 J	1483225.94	1483226.06	1483226.19	0.0296	0.0238
Jupiter	-651-06-10 14:09 J	1483805.90	1483806.09	1483806.29	0.0506	0.0180
Saturn	-640-06-06 23:45 J	1487820.49	1487820.49	1487820.50	0.0268	0.0268
Saturn	-639-01-22 01:40 J	1488049.36	1488049.57	1488049.77	0.0267	0.0073
Jupiter	-639-02-13 13:12 J	1488071.85	1488072.05	1488072.25	0.0503	0.0124
Saturn	-639-09-08 02:09 J	1488278.41	1488278.59	1488278.78	0.0265	0.0120
Mars	-635-07-04 12:14 J	1489673.92	1489674.01	1489674.10	0.1909	0.1655
Jupiter	-634-12-24 09:35 J	1490211.74	1490211.90	1490212.08	0.0521	0.0279
Mars	-632-04-10 00:43 J	1490684.38	1490684.53	1490684.67	0.1620	0.0831
Mars	-630-02-08 05:02 J	1491353.59	1491353.71	1491353.83	0.1632	0.1155
Jupiter	-628-10-19 12:00 J	1492337.89	1492338.00	1492338.11	0.0501	0.0426
Saturn	-624-02-14 22:47 J	1493552.34	1493552.45	1493552.56	0.0293	0.0248
Saturn	-624-10-02 23:16 J	1493782.26	1493782.47	1493782.68	0.0295	0.0014
Saturn	-623-05-21 00:43 J	1494012.47	1494012.53	1494012.60	0.0296	0.0281
Jupiter	-622-08-29 04:33 J	1494477.49	1494477.69	1494477.89	0.0523	0.0056
Uranus	-620-03-15 08:09 J	1495041.81	1495041.84	1495041.90	0.0140	0.0137
Uranus	-620-10-27 17:16 J	1495268.07	1495268.22	1495268.40	0.0139	0.0089
Uranus	-619-06-11 02:38 J	1495494.40	1495494.61	1495494.82	0.0139	0.0041
Uranus	-618-01-23 11:31 J	1495720.76	1495720.98	1495721.20	0.0139	0.0006
Uranus	-618-09-06 19:55 J	1495947.14	1495947.33	1495947.55	0.0138	0.0054
Uranus	-617-04-20 04:33 J	1496173.55	1496173.69	1496173.85	0.0138	0.0100
Jupiter	-615-02-16 00:14 J	1496840.37	1496840.51	1496840.66	0.0506	0.0353
Saturn	-611-12-18 06:14 J	1498606.67	1498606.76	1498606.87	0.0268	0.0235
Jupiter	-610-05-03 23:31 J	1498743.35	1498743.48	1498743.61	0.0525	0.0394
Saturn	-610-08-04 07:40 J	1498835.61	1498835.82	1498836.03	0.0266	0.0041
Saturn	-609-03-20 07:55 J	1499064.66	1499064.83	1499065.01	0.0265	0.0150
Jupiter	-604-10-21 23:02 J	1501106.25	1501106.46	1501106.66	0.0505	0.0047
Mars	-601-04-30 10:19 J	1502027.77	1502027.93	1502028.09	0.1900	0.0816
Mars	-598-02-06 21:07 J	1503040.21	1503040.38	1503040.55	0.1626	0.0209
Jupiter	-598-09-01 01:40 J	1503246.49	1503246.57	1503246.64	0.0519	0.0478

Saturn	-595-08-28 01:55 J	1504338.44	1504338.58	1504338.72	0.0294	0.0219
Saturn	-594-04-15 02:24 J	1504568.39	1504568.60	1504568.81	0.0295	0.0044
Jupiter	-592-06-26 22:33 J	1505372.26	1505372.44	1505372.62	0.0503	0.0255
Neptune	-591-05-15 08:24 J	1505694.78	1505694.85	1505694.95	0.0089	0.0083
Neptune	-591-12-26 21:35 J	1505920.28	1505920.40	1505920.56	0.0089	0.0068
Neptune	-590-08-09 11:31 J	1506145.80	1506145.98	1506146.16	0.0089	0.0052
Neptune	-589-03-22 00:43 J	1506371.34	1506371.53	1506371.74	0.0089	0.0037
Neptune	-589-11-02 13:55 J	1506596.88	1506597.08	1506597.30	0.0089	0.0022
Neptune	-588-06-16 03:21 J	1506822.43	1506822.64	1506822.87	0.0089	0.0006
Neptune	-587-01-27 16:47 J	1507047.98	1507048.20	1507048.42	0.0089	0.0010
Neptune	-587-09-10 06:14 J	1507273.55	1507273.76	1507273.97	0.0089	0.0025
Neptune	-586-04-23 19:12 J	1507499.12	1507499.30	1507499.51	0.0089	0.0041
Jupiter	-586-05-06 19:40 J	1507512.13	1507512.32	1507512.52	0.0521	0.0144
Neptune	-586-12-05 08:38 J	1507724.70	1507724.86	1507725.04	0.0089	0.0056
Neptune	-585-07-17 22:19 J	1507950.30	1507950.43	1507950.56	0.0089	0.0071
Neptune	-584-02-28 11:02 J	1508175.93	1508175.96	1508176.04	0.0089	0.0087
Saturn	-581-06-29 09:35 J	1509392.77	1509392.90	1509393.03	0.0268	0.0211
Saturn	-580-02-13 11:02 J	1509621.75	1509621.96	1509622.17	0.0266	0.0017
Saturn	-580-09-30 11:31 J	1509850.82	1509850.98	1509851.14	0.0265	0.0174
Uranus	-576-10-22 05:31 J	1511333.65	1511333.73	1511333.83	0.0139	0.0126
Uranus	-575-06-05 13:55 J	1511559.91	1511560.08	1511560.26	0.0139	0.0079
Jupiter	-574-01-09 11:45 J	1511777.81	1511777.99	1511778.18	0.0524	0.0203
Uranus	-574-01-17 22:04 J	1511786.22	1511786.42	1511786.64	0.0140	0.0033
Uranus	-574-09-01 06:57 J	1512012.58	1512012.79	1512013.01	0.0140	0.0016
Uranus	-573-04-14 15:21 J	1512238.96	1512239.14	1512239.35	0.0140	0.0064
Uranus	-573-11-27 00:28 J	1512465.39	1512465.52	1512465.65	0.0140	0.0112
Mars	-569-04-30 13:26 J	1513715.93	1513716.06	1513716.20	0.1907	0.1253
Jupiter	-568-06-29 12:14 J	1514140.83	1514141.01	1514141.20	0.0505	0.0233
Mars	-566-02-05 13:12 J	1514726.90	1514727.05	1514727.20	0.1622	0.0725
Saturn	-565-03-09 11:16 J	1515124.80	1515124.97	1515125.14	0.0294	0.0180

Saturn	-565-10-25 12:00 J	1515354.80	1515355.00	1515355.20	0.0295	0.0084
Mars	-565-12-05 17:16 J	1515396.11	1515396.22	1515396.32	0.1633	0.1274
Jupiter	-556-03-04 08:38 J	1518406.65	1518406.86	1518407.06	0.0504	0.0085
Saturn	-551-01-09 15:50 J	1520179.01	1520179.16	1520179.32	0.0268	0.0178
Saturn	-551-08-26 17:02 J	1520407.99	1520408.21	1520408.42	0.0266	0.0016
Jupiter	-550-01-12 10:47 J	1520546.81	1520546.95	1520547.11	0.0520	0.0346
Saturn	-550-04-12 16:47 J	1520637.07	1520637.20	1520637.34	0.0265	0.0205
Moon	-549-11-21 23:45 J	1521226.34	1521226.49	1521226.64	0.2713	0.0959
Earth	-549-11-22 06:00 J	1521226.60	1521226.75	1521226.89	0.2713	0.1250 *
Jupiter	-545-11-07 08:09 J	1522672.72	1522672.84	1522672.98	0.0502	0.0384
Pluto	-541-04-26 05:31 J	1523938.58	1523938.73	1523938.88	0.0066	0.0049
Pluto	-541-12-07 10:04 J	1524163.72	1524163.92	1524164.15	0.0067	0.0012
Pluto	-540-07-20 14:52 J	1524388.93	1524389.12	1524389.34	0.0067	0.0027
Pluto	-539-03-02 19:55 J	1524614.30	1524614.33	1524614.39	0.0067	0.0066
Jupiter	-539-09-17 05:31 J	1524812.52	1524812.73	1524812.93	0.0522	0.0010
Uranus	-536-06-27 01:26 J	1525826.44	1525826.56	1525826.71	0.0139	0.0111
Saturn	-536-09-19 12:57 J	1525910.86	1525911.04	1525911.22	0.0294	0.0153
Uranus	-535-02-08 11:02 J	1526052.76	1526052.96	1526053.15	0.0139	0.0063
Mars	-535-02-25 12:28 J	1526069.88	1526070.02	1526070.16	0.1897	0.1196
Saturn	-535-05-07 13:26 J	1526140.87	1526141.06	1526141.26	0.0296	0.0112
Uranus	-535-09-22 19:55 J	1526279.12	1526279.33	1526279.55	0.0139	0.0015
Uranus	-534-05-07 04:47 J	1526505.49	1526505.70	1526505.92	0.0139	0.0032
Uranus	-534-12-19 13:12 J	1526731.88	1526732.05	1526732.24	0.0138	0.0079
Uranus	-533-08-01 21:50 J	1526958.33	1526958.41	1526958.51	0.0138	0.0125
Mars	-533-12-04 09:50 J	1527082.74	1527082.91	1527083.08	0.1628	0.0317
Jupiter	-532-03-07 00:28 J	1527175.41	1527175.52	1527175.64	0.0507	0.0414
Jupiter	-527-05-22 22:33 J	1529078.29	1529078.44	1529078.60	0.0524	0.0337
Saturn	-522-07-22 18:00 J	1530965.08	1530965.25	1530965.42	0.0267	0.0156
Saturn	-521-03-07 18:57 J	1531194.08	1531194.29	1531194.50	0.0266	0.0038
Saturn	-521-10-22 19:12 J	1531423.19	1531423.30	1531423.41	0.0265	0.0227

Jupiter	-521-11-09 23:16 J	1531441.27	1531441.47	1531441.67	0.0505	0.0108
Neptune	-509-06-29 12:28 J	1535690.97	1535691.02	1535691.10	0.0088	0.0083
Jupiter	-509-07-15 22:04 J	1535707.23	1535707.42	1535707.60	0.0503	0.0199
Neptune	-508-02-10 01:12 J	1535916.43	1535916.55	1535916.71	0.0088	0.0069
Neptune	-508-09-23 13:55 J	1536141.92	1536142.08	1536142.27	0.0088	0.0054
Neptune	-507-05-07 02:52 J	1536367.43	1536367.62	1536367.82	0.0088	0.0039
Neptune	-507-12-18 15:21 J	1536592.94	1536593.14	1536593.36	0.0088	0.0025
Saturn	-506-04-01 20:52 J	1536697.18	1536697.37	1536697.57	0.0294	0.0117
Neptune	-506-08-01 04:19 J	1536818.46	1536818.68	1536818.90	0.0088	0.0010
Saturn	-506-11-17 21:50 J	1536927.24	1536927.41	1536927.60	0.0296	0.0149
Neptune	-505-03-13 17:02 J	1537043.99	1537044.21	1537044.43	0.0088	0.0005
Neptune	-505-10-25 05:45 J	1537269.52	1537269.74	1537269.95	0.0088	0.0019
Neptune	-504-06-07 18:00 J	1537495.06	1537495.25	1537495.47	0.0088	0.0034
Neptune	-503-01-19 06:43 J	1537720.61	1537720.78	1537720.98	0.0088	0.0049
Mars	-503-02-25 16:04 J	1537758.01	1537758.17	1537758.33	0.1905	0.0881
Jupiter	-503-05-25 18:57 J	1537847.10	1537847.29	1537847.47	0.0522	0.0204
Neptune	-503-09-01 19:26 J	1537946.17	1537946.31	1537946.48	0.0088	0.0063
Neptune	-502-04-15 07:55 J	1538171.75	1538171.83	1538171.95	0.0088	0.0078
Mars	-501-12-03 02:09 J	1538769.43	1538769.59	1538769.75	0.1623	0.0624
Mars	-499-10-03 06:00 J	1539438.66	1539438.75	1539438.84	0.1635	0.1388
Saturn	-492-01-31 23:45 J	1541751.30	1541751.49	1541751.67	0.0267	0.0125
Saturn	-492-09-18 00:14 J	1541980.31	1541980.51	1541980.72	0.0266	0.0069
Jupiter	-491-01-28 14:38 J	1542112.92	1542113.11	1542113.31	0.0524	0.0131
Uranus	-491-02-02 22:04 J	1542118.29	1542118.42	1542118.59	0.0139	0.0101
Saturn	-491-05-05 00:14 J	1542209.47	1542209.51	1542209.56	0.0265	0.0257
Uranus	-491-09-17 06:57 J	1542344.59	1542344.79	1542344.99	0.0139	0.0054
Uranus	-490-05-01 15:21 J	1542570.92	1542571.14	1542571.36	0.0140	0.0006
Uranus	-490-12-13 23:31 J	1542797.29	1542797.48	1542797.70	0.0140	0.0042
Uranus	-489-07-27 08:24 J	1543023.69	1543023.85	1543024.02	0.0140	0.0090
Uranus	-488-03-10 17:16 J	1543250.19	1543250.22	1543250.27	0.0141	0.0138

Jupiter	-485-07-18 09:50 J	1544475.74	1544475.91	1544476.08	0.0506	0.0282
Jupiter	-480-10-03 08:24 J	1546378.77	1546378.85	1546378.94	0.0525	0.0475
Saturn	-477-10-11 22:04 J	1547483.22	1547483.42	1547483.62	0.0294	0.0091
Saturn	-476-05-29 22:47 J	1547713.28	1547713.45	1547713.62	0.0296	0.0174
Jupiter	-473-03-23 09:35 J	1548741.70	1548741.90	1548742.11	0.0504	0.0024
Mars	-470-12-23 15:21 J	1550112.04	1550112.14	1550112.24	0.1894	0.1554
Mars	-469-12-01 17:45 J	1550456.19	1550456.24	1550456.29	0.1618	0.1542
Jupiter	-467-01-31 11:02 J	1550881.84	1550881.96	1550882.09	0.0520	0.0407
Mars	-467-10-01 22:33 J	1551125.27	1551125.44	1551125.60	0.1629	0.0430
Saturn	-463-08-14 00:28 J	1552537.32	1552537.52	1552537.71	0.0267	0.0105
Saturn	-462-03-31 01:12 J	1552766.35	1552766.55	1552766.75	0.0266	0.0088
Jupiter	-462-11-27 09:50 J	1553007.75	1553007.91	1553008.07	0.0502	0.0320
Jupiter	-456-10-06 04:19 J	1555147.48	1555147.68	1555147.88	0.0522	0.0066
Pluto	-454-05-15 07:55 J	1555733.64	1555733.83	1555734.02	0.0078	0.0040
Pluto	-454-12-26 17:31 J	1555959.02	1555959.23	1555959.45	0.0077	0.0021
Uranus	-452-02-24 09:07 J	1556384.83	1556384.88	1556384.97	0.0140	0.0133
Uranus	-452-10-08 18:43 J	1556611.11	1556611.28	1556611.46	0.0139	0.0085
Uranus	-451-05-23 03:50 J	1556837.45	1556837.66	1556837.88	0.0139	0.0037
Uranus	-450-01-04 12:57 J	1557063.82	1557064.04	1557064.26	0.0139	0.0011
Uranus	-450-08-18 21:50 J	1557290.21	1557290.41	1557290.61	0.0138	0.0058
Jupiter	-449-03-26 00:57 J	1557510.48	1557510.54	1557510.61	0.0507	0.0477
Uranus	-449-04-01 06:28 J	1557516.63	1557516.77	1557516.92	0.0138	0.0104
Saturn	-447-04-24 04:19 J	1558269.47	1558269.68	1558269.89	0.0294	0.0057
Saturn	-447-12-10 05:31 J	1558499.58	1558499.73	1558499.88	0.0296	0.0208
Jupiter	-444-06-10 22:47 J	1559413.28	1559413.45	1559413.62	0.0524	0.0275
Jupiter	-438-11-29 20:38 J	1561776.16	1561776.36	1561776.55	0.0505	0.0155
Mars	-438-12-23 18:00 J	1561800.08	1561800.25	1561800.42	0.1903	0.0491
Mars	-435-09-30 14:38 J	1562811.95	1562812.11	1562812.28	0.1624	0.0517
Saturn	-433-02-24 05:31 J	1563323.53	1563323.73	1563323.94	0.0267	0.0074
Mars	-433-07-30 17:45 J	1563481.18	1563481.24	1563481.31	0.1637	0.1511

Saturn	-433-10-10 06:00 J	1563552.57	1563552.75	1563552.95	0.0266	0.0119
Moon	-427-05-22 22:19 J	1565603.28	1565603.43	1565603.58	0.2626	0.0279
Earth	-427-05-22 23:02 J	1565603.30	1565603.46	1565603.62	0.2620	0.0179 *
Neptune	-426-03-30 06:57 J	1565914.70	1565914.79	1565914.93	0.0089	0.0076
Jupiter	-426-08-04 20:09 J	1566042.15	1566042.34	1566042.54	0.0503	0.0149
Neptune	-426-11-10 20:24 J	1566140.20	1566140.35	1566140.53	0.0089	0.0060
Neptune	-425-06-23 09:50 J	1566365.73	1566365.91	1566366.11	0.0089	0.0044
Neptune	-424-02-03 23:16 J	1566591.27	1566591.47	1566591.69	0.0089	0.0029
Neptune	-424-09-17 12:43 J	1566816.82	1566817.03	1566817.25	0.0089	0.0013
Neptune	-423-05-01 02:09 J	1567042.37	1567042.59	1567042.81	0.0089	0.0003
Neptune	-423-12-12 15:21 J	1567267.92	1567268.14	1567268.36	0.0089	0.0018
Neptune	-422-07-26 04:33 J	1567493.50	1567493.69	1567493.90	0.0089	0.0033
Neptune	-421-03-07 17:45 J	1567719.07	1567719.24	1567719.44	0.0089	0.0049
Neptune	-421-10-19 07:26 J	1567944.66	1567944.81	1567944.96	0.0089	0.0064
Neptune	-420-06-01 20:09 J	1568170.26	1568170.34	1568170.46	0.0089	0.0080
Jupiter	-420-06-13 22:19 J	1568182.26	1568182.43	1568182.60	0.0521	0.0278
Saturn	-418-03-19 05:16 J	1568825.72	1568825.72	1568825.73	0.0292	0.0292
Saturn	-418-11-04 05:02 J	1569055.50	1569055.71	1569055.92	0.0294	0.0033
Saturn	-417-06-21 06:00 J	1569285.63	1569285.75	1569285.88	0.0296	0.0233
Jupiter	-414-04-09 20:52 J	1570308.29	1570308.37	1570308.47	0.0501	0.0445
Jupiter	-408-02-16 16:33 J	1572447.99	1572448.19	1572448.39	0.0523	0.0063
Uranus	-408-10-03 07:26 J	1572676.71	1572676.81	1572676.91	0.0139	0.0121
Uranus	-407-05-17 15:21 J	1572902.97	1572903.14	1572903.33	0.0139	0.0075
Uranus	-407-12-29 23:45 J	1573129.28	1573129.49	1573129.71	0.0139	0.0028
Uranus	-406-08-13 08:24 J	1573355.63	1573355.85	1573356.06	0.0140	0.0020
Uranus	-405-03-26 16:47 J	1573582.02	1573582.20	1573582.39	0.0140	0.0068
Uranus	-405-11-08 01:12 J	1573808.45	1573808.55	1573808.69	0.0140	0.0117
Saturn	-404-01-19 03:07 J	1573880.57	1573880.63	1573880.71	0.0268	0.0253
Saturn	-404-09-05 05:16 J	1574109.51	1574109.72	1574109.92	0.0267	0.0057
Saturn	-403-04-22 06:00 J	1574338.57	1574338.75	1574338.93	0.0265	0.0136

Mars	-403-09-29 06:43 J	1574498.70	1574498.78	1574498.85	0.1620	0.1445
Jupiter	-402-08-07 12:28 J	1574810.88	1574811.02	1574811.17	0.0506	0.0354
Mars	-401-07-29 10:47 J	1575167.78	1575167.95	1575168.11	0.1631	0.0544
Jupiter	-397-10-22 08:24 J	1576713.73	1576713.85	1576713.98	0.0525	0.0414
Jupiter	-390-04-12 11:16 J	1579076.76	1579076.97	1579077.17	0.0504	0.0044
Saturn	-389-09-28 10:19 J	1579611.85	1579611.93	1579612.04	0.0293	0.0261
Saturn	-388-05-16 10:33 J	1579841.73	1579841.94	1579842.15	0.0294	0.0004
Saturn	-387-01-01 11:31 J	1580071.90	1580071.98	1580072.09	0.0296	0.0266
Jupiter	-384-02-19 12:14 J	1581216.94	1581217.01	1581217.10	0.0520	0.0474
Jupiter	-379-12-16 07:55 J	1583342.66	1583342.83	1583343.00	0.0502	0.0272
Saturn	-375-08-01 07:55 J	1584666.72	1584666.83	1584666.96	0.0269	0.0223
Saturn	-374-03-18 09:50 J	1584895.70	1584895.91	1584896.12	0.0267	0.0026
Saturn	-374-11-02 10:19 J	1585124.77	1585124.93	1585125.10	0.0266	0.0166
Jupiter	-373-10-25 08:52 J	1585482.68	1585482.87	1585483.07	0.0522	0.0145
Mars	-372-10-19 20:24 J	1585842.17	1585842.35	1585842.52	0.1901	0.0117
Mars	-369-07-28 03:21 J	1586854.47	1586854.64	1586854.81	0.1625	0.0410
Uranus	-368-06-08 00:43 J	1587169.40	1587169.53	1587169.67	0.0140	0.0109
Uranus	-367-01-20 09:35 J	1587395.72	1587395.90	1587396.11	0.0139	0.0062
Mars	-367-05-28 06:14 J	1587523.75	1587523.76	1587523.77	0.1639	0.1630
Uranus	-367-09-03 18:57 J	1587622.08	1587622.29	1587622.51	0.0139	0.0014
Uranus	-366-04-18 03:50 J	1587848.46	1587848.66	1587848.88	0.0139	0.0035
Uranus	-366-11-30 12:43 J	1588074.86	1588075.03	1588075.21	0.0138	0.0081
Uranus	-365-07-13 21:35 J	1588301.32	1588301.40	1588301.48	0.0138	0.0128
Jupiter	-361-06-30 03:21 J	1589748.45	1589748.64	1589748.83	0.0524	0.0197
Saturn	-359-04-10 11:16 J	1590397.85	1590397.97	1590398.10	0.0292	0.0236
Saturn	-359-11-26 11:02 J	1590627.75	1590627.96	1590628.17	0.0294	0.0024
Saturn	-358-07-14 12:00 J	1590857.96	1590858.00	1590858.05	0.0296	0.0289
Jupiter	-355-12-18 23:16 J	1592111.29	1592111.47	1592111.66	0.0505	0.0225
Saturn	-345-02-11 06:43 J	1595452.66	1595452.78	1595452.93	0.0268	0.0207
Saturn	-345-09-27 08:52 J	1595681.65	1595681.87	1595682.08	0.0267	0.0011

Saturn	-344-05-14 09:35 J	1595910.75	1595910.90	1595911.05	0.0265	0.0181
Neptune	-344-05-14 12:00 J	1595910.89	1595911.00	1595911.12	0.0088	0.0075 *
Neptune	-344-12-26 00:28 J	1596136.38	1596136.52	1596136.70	0.0088	0.0061
Neptune	-343-08-08 13:26 J	1596361.88	1596362.06	1596362.25	0.0088	0.0046
Jupiter	-343-08-23 23:31 J	1596377.28	1596377.48	1596377.68	0.0503	0.0079
Neptune	-342-03-22 02:09 J	1596587.39	1596587.59	1596587.80	0.0088	0.0031
Neptune	-342-11-02 14:52 J	1596812.91	1596813.12	1596813.34	0.0088	0.0017
Neptune	-341-06-15 03:35 J	1597038.43	1597038.65	1597038.88	0.0088	0.0003
Neptune	-340-01-26 16:33 J	1597263.97	1597264.19	1597264.41	0.0088	0.0013
Neptune	-340-09-09 05:02 J	1597489.51	1597489.71	1597489.93	0.0088	0.0028
Neptune	-339-04-22 17:31 J	1597715.05	1597715.23	1597715.44	0.0088	0.0043
Neptune	-339-12-04 06:28 J	1597940.61	1597940.77	1597940.94	0.0088	0.0057
Neptune	-338-07-17 18:43 J	1598166.18	1598166.28	1598166.43	0.0088	0.0072
Neptune	-337-02-28 07:26 J	1598391.80	1598391.81	1598391.88	0.0088	0.0087
Jupiter	-337-07-02 23:02 J	1598517.31	1598517.46	1598517.61	0.0521	0.0343
Mars	-337-07-26 18:57 J	1598541.20	1598541.29	1598541.39	0.1621	0.1339
Mars	-335-05-26 23:16 J	1599210.32	1599210.47	1599210.63	0.1632	0.0657
Jupiter	-331-04-28 23:16 J	1600643.34	1600643.47	1600643.60	0.0501	0.0380
Saturn	-330-10-21 15:50 J	1601184.01	1601184.16	1601184.31	0.0293	0.0206
Saturn	-329-06-07 15:50 J	1601413.95	1601414.16	1601414.37	0.0295	0.0055
Jupiter	-325-03-07 18:14 J	1602783.06	1602783.26	1602783.46	0.0523	0.0006
Uranus	-323-01-15 00:00 J	1603461.36	1603461.50	1603461.67	0.0139	0.0096
Uranus	-323-08-29 08:24 J	1603687.65	1603687.85	1603688.06	0.0139	0.0049
Uranus	-322-04-12 16:47 J	1603913.99	1603914.20	1603914.42	0.0139	0.0003
Uranus	-322-11-25 01:12 J	1604140.35	1604140.55	1604140.76	0.0140	0.0046
Uranus	-321-07-08 09:35 J	1604366.75	1604366.90	1604367.07	0.0140	0.0094
Jupiter	-319-08-26 11:16 J	1605145.85	1605145.97	1605146.09	0.0506	0.0406
Saturn	-316-08-23 11:16 J	1606238.82	1606238.97	1606239.14	0.0269	0.0177
Saturn	-315-04-09 13:12 J	1606467.84	1606468.05	1606468.26	0.0267	0.0019
Saturn	-315-11-24 13:55 J	1606696.95	1606697.08	1606697.21	0.0266	0.0211

Jupiter	-314-11-11 13:12 J	1607048.89	1607049.05	1607049.20	0.0525	0.0337
Jupiter	-307-05-01 10:33 J	1609411.74	1609411.94	1609412.14	0.0504	0.0098
Mars	-306-08-16 22:33 J	1609884.26	1609884.44	1609884.61	0.1898	0.0273
Earth	-306-11-23 04:19 J	1609982.53	1609982.68	1609982.83	0.2713	0.0926
Moon	-306-11-23 09:35 J	1609982.76	1609982.90	1609983.04	0.2716	0.1194 *
Mars	-303-05-25 15:50 J	1610896.99	1610897.16	1610897.33	0.1627	0.0297
Saturn	-300-05-02 17:31 J	1611970.07	1611970.23	1611970.40	0.0292	0.0181
Saturn	-300-12-18 17:16 J	1612200.02	1612200.22	1612200.42	0.0294	0.0080
Moon	-298-11-20 23:02 J	1612902.37	1612902.46	1612902.56	0.2710	0.2200
Jupiter	-295-01-04 10:47 J	1613677.77	1613677.95	1613678.14	0.0502	0.0204
Pluto	-294-08-18 05:31 J	1614268.55	1614268.73	1614268.93	0.0067	0.0033
Pluto	-293-03-30 10:33 J	1614493.72	1614493.94	1614494.16	0.0067	0.0005
Pluto	-293-11-10 15:21 J	1614718.98	1614719.14	1614719.32	0.0067	0.0043
Jupiter	-290-11-14 12:00 J	1615817.81	1615818.00	1615818.18	0.0522	0.0218
Saturn	-286-03-05 09:50 J	1617024.74	1617024.91	1617025.08	0.0268	0.0162
Saturn	-286-10-20 11:45 J	1617253.78	1617253.99	1617254.20	0.0267	0.0035
Saturn	-285-06-05 12:14 J	1617482.91	1617483.01	1617483.13	0.0265	0.0227
Uranus	-284-02-05 06:57 J	1617727.74	1617727.79	1617727.87	0.0140	0.0133
Jupiter	-284-09-09 12:00 J	1617943.99	1617944.00	1617944.01	0.0501	0.0499
Uranus	-284-09-19 16:33 J	1617954.02	1617954.19	1617954.37	0.0139	0.0085
Uranus	-283-05-04 01:40 J	1618180.37	1618180.57	1618180.79	0.0139	0.0037
Uranus	-283-12-16 10:47 J	1618406.74	1618406.95	1618407.17	0.0139	0.0011
Uranus	-282-07-30 19:26 J	1618633.13	1618633.31	1618633.52	0.0138	0.0059
Uranus	-281-03-13 04:19 J	1618859.56	1618859.68	1618859.84	0.0138	0.0105
Jupiter	-278-07-20 04:33 J	1620083.50	1620083.69	1620083.89	0.0524	0.0131
Mars	-274-08-17 00:57 J	1621572.48	1621572.54	1621572.60	0.1906	0.1798
Jupiter	-271-01-07 01:55 J	1622446.42	1622446.58	1622446.75	0.0505	0.0294
Mars	-271-05-24 07:55 J	1622583.72	1622583.83	1622583.94	0.1622	0.1237
Saturn	-271-11-12 21:21 J	1622756.21	1622756.39	1622756.58	0.0293	0.0151
Saturn	-270-06-30 21:35 J	1622986.20	1622986.40	1622986.59	0.0295	0.0111

Mars	-269-03-23 11:31 J	1623252.83	1623252.98	1623253.13	0.1634	0.0777
Jupiter	-266-03-24 22:19 J	1624349.35	1624349.43	1624349.51	0.0526	0.0478
Neptune	-262-07-01 17:16 J	1625909.16	1625909.22	1625909.33	0.0089	0.0082
Neptune	-261-02-12 06:43 J	1626134.65	1626134.78	1626134.94	0.0089	0.0067
Neptune	-261-09-24 19:55 J	1626360.17	1626360.33	1626360.53	0.0089	0.0052
Neptune	-260-05-08 09:21 J	1626585.70	1626585.89	1626586.10	0.0089	0.0036
Jupiter	-260-09-11 22:33 J	1626712.24	1626712.44	1626712.65	0.0503	0.0026
Neptune	-260-12-19 22:47 J	1626811.24	1626811.45	1626811.67	0.0089	0.0020
Neptune	-259-08-02 12:14 J	1627036.79	1627037.01	1627037.23	0.0089	0.0005
Neptune	-258-03-16 01:40 J	1627262.35	1627262.57	1627262.79	0.0089	0.0011
Neptune	-258-10-27 14:38 J	1627487.91	1627488.11	1627488.33	0.0089	0.0027
Neptune	-257-06-09 04:04 J	1627713.48	1627713.67	1627713.86	0.0089	0.0042
Saturn	-257-09-14 14:09 J	1627810.92	1627811.09	1627811.28	0.0269	0.0133
Neptune	-256-01-20 17:02 J	1627939.06	1627939.21	1627939.39	0.0089	0.0058
Saturn	-256-05-01 16:04 J	1628039.97	1628040.17	1628040.38	0.0267	0.0064
Neptune	-256-09-03 06:28 J	1628164.66	1628164.77	1628164.91	0.0089	0.0073
Saturn	-256-12-16 16:47 J	1628269.15	1628269.20	1628269.26	0.0266	0.0256
Neptune	-255-04-16 19:26 J	1628390.30	1628390.31	1628390.37	0.0089	0.0089
Jupiter	-254-07-23 03:21 J	1628852.53	1628852.64	1628852.76	0.0521	0.0422
Jupiter	-248-05-17 22:33 J	1630978.29	1630978.44	1630978.60	0.0501	0.0328
Jupiter	-242-03-27 22:47 J	1633118.25	1633118.45	1633118.65	0.0523	0.0085
Saturn	-241-05-25 00:00 J	1633542.32	1633542.50	1633542.70	0.0292	0.0125
Saturn	-240-01-10 00:00 J	1633772.31	1633772.50	1633772.68	0.0294	0.0137
Mars	-240-06-13 00:43 J	1633926.36	1633926.53	1633926.69	0.1896	0.0656
Uranus	-240-09-14 09:21 J	1634019.78	1634019.89	1634020.01	0.0139	0.0117
Uranus	-239-04-28 17:31 J	1634246.05	1634246.23	1634246.42	0.0139	0.0070
Uranus	-239-12-11 01:40 J	1634472.36	1634472.57	1634472.79	0.0139	0.0023
Uranus	-238-07-25 10:04 J	1634698.71	1634698.92	1634699.14	0.0140	0.0025
Uranus	-237-03-07 18:43 J	1634925.10	1634925.28	1634925.46	0.0140	0.0072
Mars	-237-03-22 04:19 J	1634939.51	1634939.68	1634939.86	0.1629	0.0192

Uranus	-237-10-20 03:07 J	1635151.53	1635151.63	1635151.75	0.0140	0.0121
Jupiter	-236-09-14 14:24 J	1635481.04	1635481.10	1635481.17	0.0507	0.0478
Jupiter	-231-11-30 16:19 J	1637384.01	1637384.18	1637384.36	0.0525	0.0263
Saturn	-227-03-27 12:43 J	1638596.85	1638597.03	1638597.23	0.0268	0.0117
Saturn	-227-11-11 14:38 J	1638825.91	1638826.11	1638826.31	0.0267	0.0079
Jupiter	-224-05-20 13:40 J	1639746.88	1639747.07	1639747.27	0.0505	0.0171
Jupiter	-212-01-23 13:12 J	1644012.85	1644013.05	1644013.25	0.0503	0.0137
Saturn	-212-12-05 04:19 J	1644328.48	1644328.68	1644328.89	0.0293	0.0093
Saturn	-211-07-23 04:19 J	1644558.52	1644558.68	1644558.86	0.0295	0.0170
Mars	-208-06-13 03:21 J	1645614.53	1645614.64	1645614.76	0.1904	0.1420
Pluto	-207-01-23 00:57 J	1645838.48	1645838.54	1645838.65	0.0078	0.0072
Pluto	-207-09-05 11:02 J	1646063.75	1646063.96	1646064.19	0.0078	0.0011
Jupiter	-207-12-03 13:12 J	1646152.88	1646153.05	1646153.22	0.0522	0.0285
Pluto	-206-04-18 20:38 J	1646289.21	1646289.36	1646289.54	0.0077	0.0051
Mars	-205-03-20 20:24 J	1646626.23	1646626.35	1646626.47	0.1623	0.1130
Mars	-203-01-19 00:00 J	1647295.36	1647295.50	1647295.65	0.1636	0.0892
Jupiter	-201-09-28 11:16 J	1648278.88	1648278.97	1648279.06	0.0500	0.0446
Uranus	-200-05-19 23:16 J	1648512.33	1648512.47	1648512.60	0.0140	0.0109
Uranus	-199-01-01 08:09 J	1648738.66	1648738.84	1648739.05	0.0139	0.0061
Uranus	-199-08-15 17:31 J	1648965.01	1648965.23	1648965.45	0.0139	0.0013
Uranus	-198-03-30 02:24 J	1649191.40	1649191.60	1649191.82	0.0139	0.0035
Saturn	-198-10-07 17:16 J	1649383.03	1649383.22	1649383.43	0.0269	0.0088
Uranus	-198-11-11 11:16 J	1649417.80	1649417.97	1649418.15	0.0138	0.0082
Saturn	-197-05-23 19:12 J	1649612.11	1649612.30	1649612.50	0.0267	0.0109
Uranus	-197-06-24 19:40 J	1649644.26	1649644.32	1649644.42	0.0138	0.0128
Jupiter	-195-08-08 07:55 J	1650418.63	1650418.83	1650419.03	0.0524	0.0057
Jupiter	-188-01-26 00:57 J	1652781.40	1652781.54	1652781.69	0.0505	0.0349
Earth	-184-05-23 02:24 J	1654359.44	1654359.60	1654359.76	0.2620	0.0025
Moon	-184-05-23 05:31 J	1654359.57	1654359.73	1654359.89	0.2615	0.0598 *
Jupiter	-183-04-13 01:55 J	1654684.45	1654684.58	1654684.71	0.0526	0.0404

Saturn	-182-06-17 08:38 J	1655114.66	1655114.86	1655115.07	0.0292	0.0064
Saturn	-181-02-02 08:09 J	1655344.70	1655344.84	1655345.01	0.0294	0.0198
Neptune	-180-08-15 22:47 J	1655905.39	1655905.45	1655905.54	0.0088	0.0082
Neptune	-179-03-29 11:31 J	1656130.85	1656130.98	1656131.13	0.0088	0.0067
Neptune	-179-11-10 00:28 J	1656356.34	1656356.52	1656356.70	0.0088	0.0052
Neptune	-178-06-23 12:57 J	1656581.85	1656582.04	1656582.25	0.0088	0.0038
Neptune	-177-02-04 01:55 J	1656807.38	1656807.58	1656807.80	0.0088	0.0023
Neptune	-177-09-16 14:52 J	1657032.90	1657033.12	1657033.34	0.0088	0.0008
Jupiter	-177-10-01 00:43 J	1657047.33	1657047.53	1657047.73	0.0504	0.0042
Neptune	-176-04-30 03:21 J	1657258.43	1657258.64	1657258.87	0.0088	0.0007
Neptune	-176-12-11 15:50 J	1657483.96	1657484.16	1657484.39	0.0088	0.0022
Neptune	-175-07-25 04:33 J	1657709.50	1657709.69	1657709.91	0.0088	0.0037
Neptune	-174-03-07 17:45 J	1657935.06	1657935.24	1657935.42	0.0088	0.0051
Mars	-174-04-10 03:07 J	1657968.48	1657968.63	1657968.77	0.1893	0.1031
Neptune	-174-10-19 06:14 J	1658160.62	1658160.76	1658160.91	0.0088	0.0066
Neptune	-173-05-31 18:43 J	1658386.21	1658386.28	1658386.38	0.0088	0.0081
Mars	-171-01-17 16:47 J	1658982.02	1658982.20	1658982.37	0.1630	0.0085
Jupiter	-171-08-11 05:45 J	1659187.68	1659187.74	1659187.81	0.0520	0.0493
Saturn	-168-04-18 16:19 J	1660168.98	1660169.18	1660169.39	0.0268	0.0072
Saturn	-168-12-03 18:14 J	1660398.08	1660398.26	1660398.45	0.0267	0.0125
Jupiter	-165-06-06 00:57 J	1661313.37	1661313.54	1661313.72	0.0502	0.0261
Jupiter	-159-04-15 23:02 J	1663453.27	1663453.46	1663453.66	0.0523	0.0148
Uranus	-156-05-14 18:14 J	1664578.25	1664578.26	1664578.28	0.0139	0.0138
Uranus	-156-12-27 02:09 J	1664804.44	1664804.59	1664804.76	0.0139	0.0092
Uranus	-155-08-10 10:19 J	1665030.74	1665030.93	1665031.15	0.0139	0.0045
Uranus	-154-03-24 18:57 J	1665257.07	1665257.29	1665257.50	0.0139	0.0003
Uranus	-154-11-06 03:07 J	1665483.44	1665483.63	1665483.84	0.0140	0.0051
Saturn	-153-05-11 14:09 J	1665671.07	1665671.09	1665671.13	0.0291	0.0288
Uranus	-153-06-19 11:45 J	1665709.84	1665709.99	1665710.15	0.0140	0.0098
Saturn	-153-12-27 12:57 J	1665900.83	1665901.04	1665901.25	0.0293	0.0032

Saturn	-152-08-14 12:57 J	1666130.92	1666131.04	1666131.18	0.0295	0.0231
Jupiter	-148-12-19 16:47 J	1667719.01	1667719.20	1667719.39	0.0525	0.0200
Mars	-142-04-10 05:16 J	1669656.57	1669656.72	1669656.87	0.1902	0.1021
Jupiter	-141-06-08 12:28 J	1670081.84	1670082.02	1670082.20	0.0504	0.0223
Mars	-139-01-16 09:07 J	1670668.74	1670668.88	1670669.01	0.1625	0.1024
Saturn	-139-03-14 18:14 J	1670726.18	1670726.26	1670726.37	0.0270	0.0241
Saturn	-139-10-29 21:21 J	1670955.19	1670955.39	1670955.61	0.0268	0.0042
Saturn	-138-06-15 23:16 J	1671184.30	1671184.47	1671184.65	0.0267	0.0155
Mars	-138-11-16 12:14 J	1671337.88	1671338.01	1671338.15	0.1638	0.1013
Jupiter	-129-02-12 12:00 J	1674347.80	1674348.00	1674348.20	0.0502	0.0085
Saturn	-124-11-21 20:24 J	1676457.26	1676457.35	1676457.46	0.0291	0.0256
Jupiter	-124-12-22 15:21 J	1676487.99	1676488.14	1676488.28	0.0522	0.0356
Saturn	-123-07-09 19:12 J	1676687.09	1676687.30	1676687.52	0.0293	0.0006
Saturn	-122-02-24 18:57 J	1676917.20	1676917.29	1676917.39	0.0294	0.0263
Jupiter	-118-10-18 12:00 J	1678613.87	1678614.00	1678614.13	0.0501	0.0386
Uranus	-116-01-17 06:43 J	1679070.73	1679070.78	1679070.87	0.0140	0.0132
Uranus	-116-08-31 16:19 J	1679297.01	1679297.18	1679297.36	0.0139	0.0084
Uranus	-115-04-15 01:40 J	1679523.36	1679523.57	1679523.78	0.0139	0.0036
Uranus	-115-11-27 10:33 J	1679749.72	1679749.94	1679750.16	0.0139	0.0012
Uranus	-114-07-11 19:12 J	1679976.11	1679976.30	1679976.51	0.0139	0.0060
Uranus	-113-02-23 03:50 J	1680202.54	1680202.66	1680202.81	0.0138	0.0106
Jupiter	-112-08-27 09:50 J	1680753.70	1680753.91	1680754.11	0.0524	0.0016
Saturn	-110-09-24 18:14 J	1681512.16	1681512.26	1681512.39	0.0270	0.0223
Saturn	-109-05-10 21:35 J	1681741.18	1681741.40	1681741.61	0.0268	0.0024
Saturn	-109-12-25 23:16 J	1681970.31	1681970.47	1681970.64	0.0267	0.0173
Mars	-108-02-04 05:31 J	1682010.61	1682010.73	1682010.84	0.1890	0.1405
Mars	-106-11-15 05:16 J	1683024.55	1683024.72	1683024.90	0.1632	0.0046
Jupiter	-105-02-15 02:38 J	1683116.50	1683116.61	1683116.73	0.0506	0.0417
Jupiter	-100-05-02 01:26 J	1685019.41	1685019.56	1685019.72	0.0526	0.0344
Neptune	-98-10-03 03:50 J	1685903.66	1685903.66	1685903.69	0.0089	0.0089

Neptune	-97-05-15 17:02 J	1686129.11	1686129.21	1686129.35	0.0089	0.0074
Neptune	-97-12-27 06:43 J	1686354.62	1686354.78	1686354.95	0.0089	0.0058
Neptune	-96-08-09 19:55 J	1686580.15	1686580.33	1686580.54	0.0089	0.0043
Neptune	-95-03-23 09:21 J	1686805.69	1686805.89	1686806.11	0.0089	0.0027
Neptune	-95-11-03 22:33 J	1687031.23	1687031.44	1687031.67	0.0089	0.0012
Saturn	-94-06-04 01:26 J	1687243.44	1687243.56	1687243.71	0.0291	0.0224
Neptune	-94-06-17 12:00 J	1687256.78	1687257.00	1687257.22	0.0089	0.0005
Jupiter	-94-10-21 01:40 J	1687382.37	1687382.57	1687382.77	0.0504	0.0105
Saturn	-93-01-20 00:28 J	1687473.31	1687473.52	1687473.73	0.0293	0.0034
Neptune	-93-01-29 01:12 J	1687482.34	1687482.55	1687482.77	0.0089	0.0020
Neptune	-93-09-10 14:24 J	1687707.91	1687708.10	1687708.31	0.0089	0.0036
Neptune	-92-04-24 03:35 J	1687933.48	1687933.65	1687933.84	0.0089	0.0051
Neptune	-92-12-05 16:47 J	1688159.07	1688159.20	1688159.36	0.0089	0.0067
Neptune	-91-07-19 06:00 J	1688384.69	1688384.75	1688384.86	0.0089	0.0083
Jupiter	-82-06-25 23:16 J	1691648.29	1691648.47	1691648.66	0.0501	0.0209
Saturn	-80-04-06 00:14 J	1692298.36	1692298.51	1692298.66	0.0270	0.0192
Saturn	-80-11-21 03:07 J	1692527.41	1692527.63	1692527.84	0.0268	0.0009
Saturn	-79-07-08 04:47 J	1692756.57	1692756.70	1692756.84	0.0267	0.0203
Mars	-76-02-04 07:55 J	1693698.67	1693698.83	1693699.00	0.1900	0.0655
Jupiter	-76-05-04 23:16 J	1693788.29	1693788.47	1693788.66	0.0523	0.0212
Mars	-74-11-13 21:50 J	1694711.27	1694711.41	1694711.56	0.1626	0.0922
Uranus	-72-08-26 10:33 J	1695362.83	1695362.94	1695363.08	0.0139	0.0114
Mars	-72-09-13 00:43 J	1695380.41	1695380.53	1695380.66	0.1639	0.1130
Uranus	-71-04-09 18:43 J	1695589.10	1695589.28	1695589.48	0.0139	0.0067
Uranus	-71-11-22 03:07 J	1695815.42	1695815.63	1695815.85	0.0139	0.0020
Uranus	-70-07-06 11:31 J	1696041.77	1696041.98	1696042.19	0.0140	0.0028
Uranus	-69-02-17 19:40 J	1696268.15	1696268.32	1696268.52	0.0140	0.0076
Uranus	-69-10-01 04:19 J	1696494.60	1696494.68	1696494.80	0.0140	0.0125
Saturn	-65-12-14 09:21 J	1698029.74	1698029.89	1698030.06	0.0291	0.0188
Jupiter	-64-01-07 17:16 J	1698054.03	1698054.22	1698054.42	0.0525	0.0135

Saturn	-64-08-01 08:24 J	1698259.64	1698259.85	1698260.05	0.0293	0.0070
Moon	-63-11-22 23:02 J	1698738.30	1698738.46	1698738.63	0.2708	0.0297
Earth	-63-11-23 03:07 J	1698738.48	1698738.63	1698738.79	0.2713	0.0633 *
Jupiter	-58-06-28 12:14 J	1700416.84	1700417.01	1700417.18	0.0505	0.0283
Jupiter	-53-09-12 10:33 J	1702319.87	1702319.94	1702320.02	0.0527	0.0487
Saturn	-51-10-17 01:26 J	1703084.40	1703084.56	1703084.72	0.0270	0.0171
Saturn	-50-06-03 04:04 J	1703313.46	1703313.67	1703313.88	0.0268	0.0028
Saturn	-49-01-18 06:00 J	1703542.64	1703542.75	1703542.87	0.0267	0.0223
Pluto	-47-04-27 23:02 J	1704373.39	1704373.46	1704373.58	0.0066	0.0060
Pluto	-47-12-09 04:04 J	1704598.48	1704598.67	1704598.89	0.0067	0.0022
Jupiter	-46-03-03 12:00 J	1704682.79	1704683.00	1704683.20	0.0503	0.0025
Pluto	-46-07-22 08:52 J	1704823.67	1704823.87	1704824.10	0.0067	0.0017
Pluto	-45-03-03 13:55 J	1705048.97	1705049.08	1705049.22	0.0067	0.0055
Mars	-43-12-02 08:52 J	1706052.81	1706052.87	1706052.93	0.1887	0.1752
Jupiter	-40-01-10 13:40 J	1706822.95	1706823.07	1706823.19	0.0521	0.0412
Mars	-40-09-11 17:45 J	1707067.07	1707067.24	1707067.41	0.1633	0.0151
Saturn	-35-06-26 15:07 J	1708815.96	1708816.13	1708816.31	0.0292	0.0154
Jupiter	-35-11-06 11:45 J	1708948.84	1708948.99	1708949.15	0.0501	0.0330
Saturn	-34-02-11 14:09 J	1709045.89	1709046.09	1709046.29	0.0294	0.0105
Uranus	-32-05-01 00:14 J	1709855.37	1709855.51	1709855.65	0.0140	0.0106
Uranus	-32-12-13 09:07 J	1710081.69	1710081.88	1710082.09	0.0139	0.0059
Uranus	-31-07-27 18:28 J	1710308.05	1710308.27	1710308.49	0.0139	0.0010
Uranus	-30-03-11 03:21 J	1710534.43	1710534.64	1710534.86	0.0139	0.0037
Uranus	-30-10-23 11:45 J	1710760.83	1710760.99	1710761.18	0.0138	0.0085
Uranus	-29-06-05 20:24 J	1710987.29	1710987.35	1710987.43	0.0138	0.0131
Jupiter	-29-09-15 07:26 J	1711088.61	1711088.81	1711089.01	0.0524	0.0066
Jupiter	-22-03-06 00:00 J	1713451.43	1713451.50	1713451.59	0.0505	0.0467
Saturn	-21-04-28 07:40 J	1713870.64	1713870.82	1713871.00	0.0270	0.0140
Saturn	-21-12-13 10:19 J	1714099.73	1714099.93	1714100.15	0.0268	0.0060
Saturn	-20-07-30 12:14 J	1714328.95	1714329.01	1714329.07	0.0267	0.0254

Jupiter	-17-05-20 23:31 J	1715354.31	1715354.48	1715354.65	0.0526	0.0290
Neptune	-15-06-30 23:16 J	1716125.35	1716125.47	1716125.59	0.0088	0.0073
Neptune	-14-02-11 11:45 J	1716350.84	1716350.99	1716351.17	0.0088	0.0059
Neptune	-14-09-25 00:28 J	1716576.34	1716576.52	1716576.73	0.0088	0.0044
Neptune	-13-05-07 13:12 J	1716801.86	1716802.05	1716802.27	0.0088	0.0029
Neptune	-13-12-19 02:09 J	1717027.37	1717027.59	1717027.81	0.0088	0.0014
Neptune	-12-08-01 14:52 J	1717252.90	1717253.12	1717253.34	0.0088	0.0002
Neptune	-11-03-15 03:35 J	1717478.44	1717478.65	1717478.87	0.0088	0.0016
Neptune	-11-10-26 16:19 J	1717703.98	1717704.18	1717704.39	0.0088	0.0031
Jupiter	-11-11-08 22:33 J	1717717.25	1717717.44	1717717.64	0.0503	0.0152
Mars	-11-12-02 10:19 J	1717740.76	1717740.93	1717741.11	0.1897	0.0271
Neptune	-10-06-09 04:47 J	1717929.53	1717929.70	1717929.91	0.0088	0.0046
Neptune	-9-01-20 17:31 J	1718155.10	1718155.23	1718155.41	0.0088	0.0061
Neptune	-9-09-02 06:14 J	1718380.67	1718380.76	1718380.90	0.0088	0.0076
Mars	-8-09-10 10:19 J	1718753.78	1718753.93	1718754.08	0.1628	0.0811
Mars	-6-07-11 12:43 J	1719422.92	1719423.03	1719423.14	0.1641	0.1259
Saturn	-5-01-07 00:57 J	1719602.35	1719602.54	1719602.74	0.0291	0.0115
Saturn	-5-08-24 00:00 J	1719832.32	1719832.50	1719832.69	0.0293	0.0144